

# SUSTAINABLE DESIGN STATEMENT

---

LAND AT  
29 BROADWATER ROAD  
WELWYN GARDEN CITY

## APPROVALS

---

This document requires the following approvals:

NAME	TITLE
JITHIN DEV	Associate Director

Signed JD

Dated 19.11.2019

For and on behalf of McBains Limited

# CONTENTS



## Disclaimer

Images and site layout are intended for illustrative purposes only and should be treated as general guidance only.

Site layout including parking arrangements, [social/ affordable housing, community buildings, play areas and public open spaces] may change to reflect changes in the planning permission for the development. Please speak to your solicitor to whom full details of any planning consents including layout plans will be available.

Site layouts and landscaping are not intended to form part of any contract or warranty unless specifically incorporated in writing into the contract.

<b>1.0</b>	<b>Introduction</b>	<b>03</b>
1.1	Purpose of this document	05
1.2	Background & Strategy	05
<b>2.0</b>	<b>Appraisal and Context Analysis</b>	<b>07</b>
2.1	Site Location	08
2.2	Movements and Connections Analysis	09
2.3	Welwyn Garden City: Heritage character and listed buildings	10 12
2.4	Local contemporary residential architecture	14
2.5	Future contemporary residential architecture	16
2.6	The site	17
<b>3.0</b>	<b>Architecture and Design Evolution</b>	<b>21</b>
3.1	Design evolution	22
3.2	Opportunities and constraints	24
3.3	Concept	23
3.4	Design Proposal	26
3.5	Use, Amount and Scale of the development	26
3.6	Proposed residential distribution	28
3.7	Proposed Elevations	30
3.8	Material palette and heritage principles	32
3.9	Unit type layout	34
3.10	Illustrative views	36
3.11	Landscape strategy	40
<b>4.0</b>	<b>Access Statement</b>	<b>43</b>
4.1	Access and circulation	44
4.2	Parking Strategy	45
4.3	Refuse Collection Strategy	46
<b>5.0</b>	<b>Fire Safety</b>	<b>47</b>
5.1	Design Approach	48
5.2	Key Features and Fire Safety Design	49
<b>6.0</b>	<b>Aspect of Sustainability</b>	<b>53</b>
6.1	Sustainability strategy in land procurement	54
6.2	Greening the site	55
6.3	Orientation and built form	55
6.4	Daylight and Sunlight	56
6.5	Energy	57
6.6	Water	58
6.7	Flood Risk Assessment and sustainable drainage	59
6.8	Air quality	60
6.9	Ecology and biodiversity	60



1.0

---

# INTRODUCTION



## 1.1 PURPOSE OF THIS DOCUMENT

This Sustainable Design Statement has been prepared in support of the Planning Application, submitted on behalf of Hightown Housing Association, for the development of 128 new-build apartments at 29 Broadwater Road, Welwyn Garden City.

The purpose of this document is to explain how the design has evolved in response to its context, and to illustrate the sustainable design principles and concepts that have been applied to the proposed development, and to show how such issues relating to the site have been addressed. Its broad structure consists of:

- 1\_Introduction
- 2\_Appraisal and Context
- 3\_Architecture and Design Evolution
- 4\_Access Statement
- 5\_Fire Safety
- 6\_Aspects of Sustainability

## 1.2 BACKGROUND & STRATEGY

Hightown acquired the building in December 2018. The design, detailed and explained within this document, has been developed as part of a process, in partnership with a project team of consultants as detailed below, and with the local authority. Prior to this application we engaged with members and officers of Welwyn Hatfield Borough Council through two pre-application submissions, feedback from which has informed the current proposals.

The proposals involve the demolition of the existing five storey commercial/office building and the erection of a four storey block of 128 affordable, one and two bedroom apartments, with landscaping and associated basement car parking. In April 2019 prior approval for change of use of the offices to 72 residential flats was given (Reference: application 6/2019/0108/PN11).

herrington  
CONSULTING LIMITED

MO  
THE CONSULTANCY

alban  
landscape\_

MARKS  
HEELEY

THOMASONS  
1201 North Road, Luton, Bedfordshire, LU1 3JH. Tel: 01582 555111

B  
BARKER  
PARRY



2.0

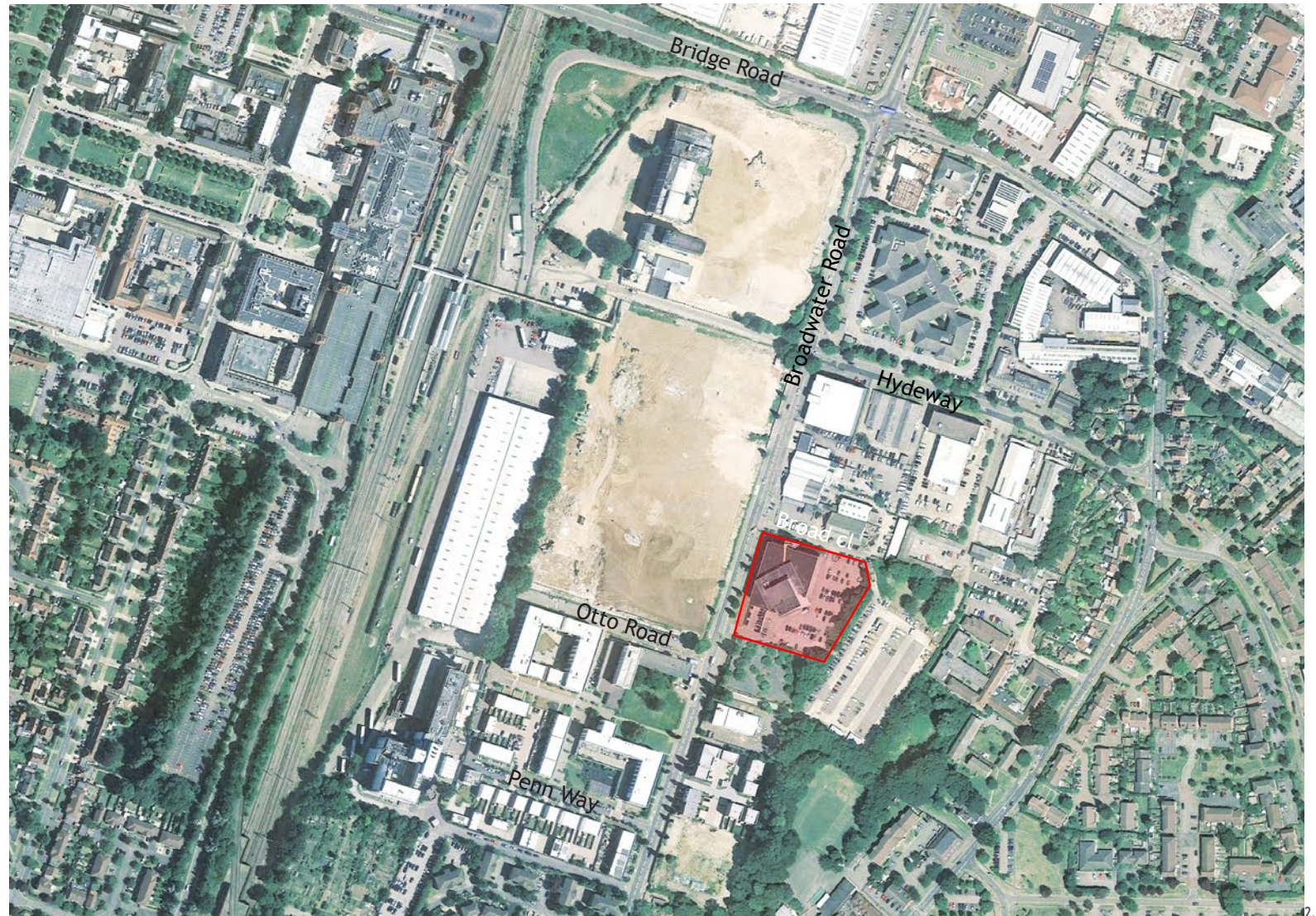
---

# APPRAISAL AND CONTEXT ANALYSIS

## 2.1 SITE LOCATION

The site is located on the east side of the civic heart of Welwyn Garden City, close to the railway station; and on the east side of Broadwater Road, which runs approximately north south, parallel to the railway.

To immediate east of the site is the Peartree neighbourhood, with its houses, a primary school and local centre, and to the north of the site is Welwyn Garden City's main employment zone.

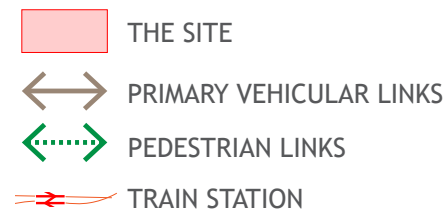


2.1 Aerial view of the site in a wider context (source Google Earth)

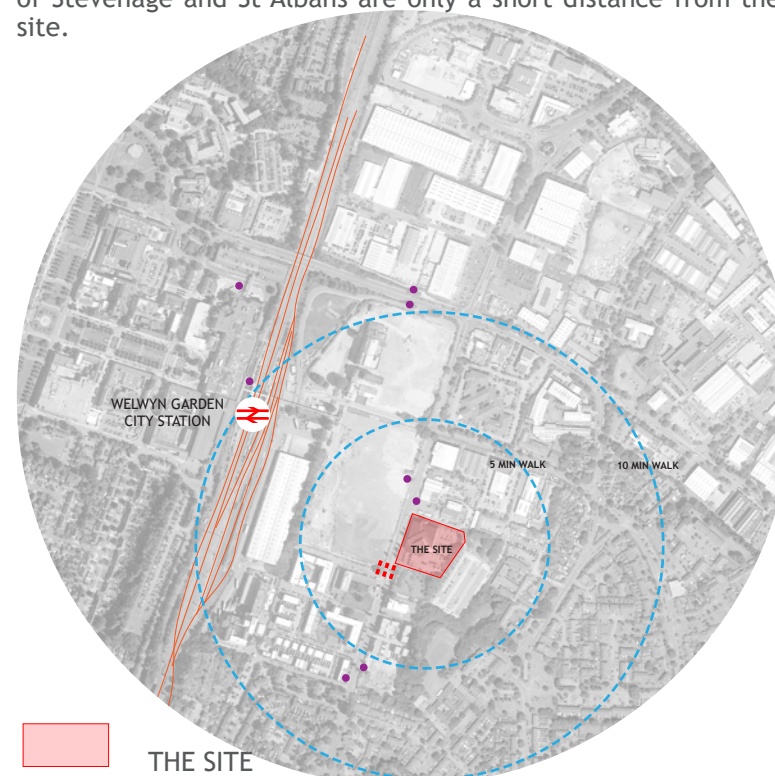
## 2.2 MOVEMENT & CONNECTION ANALYSIS

The site is in Broadwater Road (A1000) which provides direct access to the local road network, and beyond, via easy access to the A1(M), to Stevenage and the North, and via the M25, to London and the South. The A414 can also be accessed providing connections to Hertford and routes to the East.

The site is within walking distance of Welwyn Garden City station, and Great Northern Railway provides fast connections to central London to the South (20-25min to Kings Cross) and Cambridge to the North. Other trains connect the town to North London suburbs. London Luton Airport is 13 miles, London Stansted is 30 miles and London Heathrow is 33 miles, all easily accessible from the town. Prominent local employment centres of Stevenage and St Albans are only a short distance from the site.



2.2



2.3

2.2 Movement diagram

2.3 Connection diagram

Aerial view source Google Earth

## APPRAISAL & CONTEXT ANALYSIS

### 2.3 WELWYN GARDEN CITY: HERITAGE CHARACTERS

The architectural character of the town centre of Welwyn Garden City is neo-Georgian in style, most notably in its 3-5 storey public buildings, along the tree lined boulevard of Parkway, and facing The Campus and the town's principal streets.

This style is marked by symmetry and proportion, based on classical architecture, but typically restrained in ornamentation. Regularity along a street was a desirable feature of Georgian town planning. These buildings display the following pleasing characteristics:

- The symmetry and regularity of the fenestration, mostly white vertical sash windows, which articulate the street frontage.
- The roof of these buildings typically consists of a mansard with dormers.
- The facades have horizontal emphasis layered by a solid base in stone contrasting with the orange brick work above.



2.4



orange bricks &amp; orange tiles



white windows



stone basement

2.5

2.4 Welwyn Garden City key (aerial view source Google Earth)

2.5 Pictures of materials reference in Welwyn Garden City

## APPRAISAL & CONTEXT ANALYSIS



Rosanne House (1)



Peel Court (2)



John Lewis (3)



(1)



Council Office (4)



Parkway

2.6

2.6 Pictures of local building in  
Welwyn Garden City

## APPRAISAL & CONTEXT ANALYSIS

### LISTED BUILDING

In the vicinity of the site are located two listed building: the Roche Office Building by Otto Salvisburg at 40 Broadwater Rd and the Grain Silos on the Shredded Wheat Site.



2.7 ROCHE BUILDING from Broadwater Road



ROCHE BUILDING and SALVISBURG COURT



GRAIN SILOS SHREDDED WHEAT SITE

2.7 Welwyn Garden City key (aerial view source Google Earth)

Pictures of Roche Building source Google Earth

## ROCHE PRODUCT FACTORY

This is a Grade II listed building and as per the listing by Historic England:

*“1938-40 by Otto R Salvisberg of Zurich in association with C.Stanley Brown, with later additions. The original factory buildings lie in axis with but behind and to the left of the original administration block whose entrance is on its short end. The construction is of reinforced concrete and the factory buildings are steel framed; external surfaces are rendered in an off-white colour.*

*The administration block is 2-storeyed with the bronze entrance doors set well back behind pilotis and with 7 narrow, deeply set vertical windows in the wall above. To the right, the principal staircase in a glazed door, the only feature to break the austere white cubic form of the group of buildings.*

*The factory buildings 4-storeyed with single-storeyed spurs. Metal casement windows Georgian in proportion but closely set in long horizontal bands and the general horizontality of the building is further emphasized by the widely projecting flat roof.”*

This building lies on the western side of Broadwater road, opposite to the proposed site and has the potential to influence any design in this site.

The horizontal emphasis of this Bauhaus inspired building is a common architectural language adopted in public buildings around Welwyn Garden City.

This presents an opportunity to be respectful of this language and adopt this horizontal emphasis in the design proposal.

## THE NABISCO SHREDDED WHEAT FACTORY

This is a Grade II listed building and the listing by Historic England is as follows:

*“1925. Architect Louis de Soissons. Two concrete ranges, at right angles with links. Southern range consists of giant range of cylindrical concrete drums 15 bays long with flat oversailing capping with railings right over the whole top. Behind this is a plain attic storey with 28 plain windows with plain capping over. On one end elevation is a 3 bay projecting tower rising just above the main roof level.*

*At the west end of the range is a 2 bay wing with large windows, the southern bay of 3 storeys and the northern of 4. Flatroofs. Adjacent is a 7 bay, 4 storey block, with large windows divided by narrow piers and small scale structural divisions between the storeys, making it almost wholly glass. Flat oversailing capping at roof level.”*

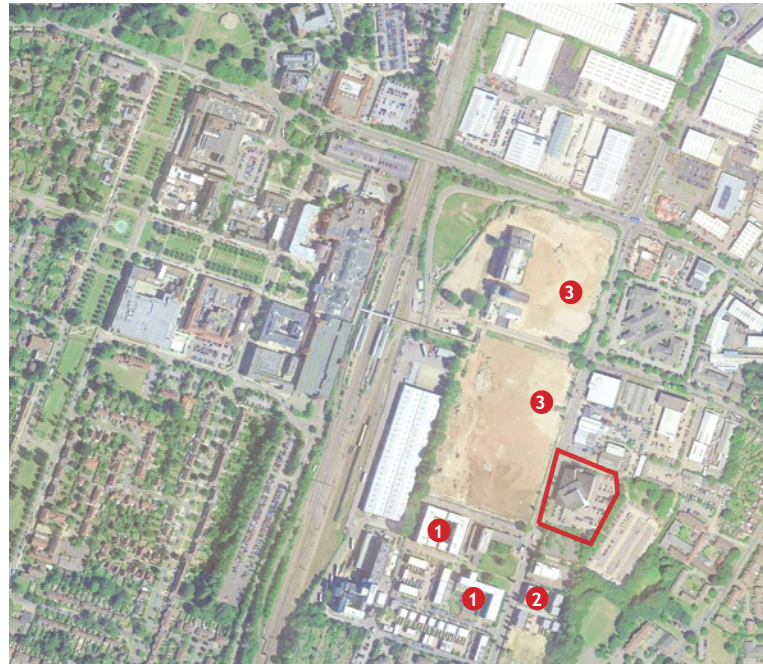
This building lies south of Bridge road which is to the North-West of the proposed site. This location is too far to have any appreciable influence on any design in this site.

## 2.4 LOCAL CONTEMPORARY RESIDENTIAL ARCHITECTURE

The area is currently undergoing re-development to provide residential and mixed use buildings, and two new build residential schemes by Taylor Wimpey and Wheatley Homes have already been completed.

The large Taylor Wimpey development of the former Roche works, along the western side of the Broadwater Road, is a mix of town houses, and four storey apartments with their parking hidden within the building; and at Salvisburg Court includes a wraparound block enclosing a quiet inner podium courtyard for the residents.

To the south of the site, on the same side of Broadwater Road, the smaller and more recent Wheatley Homes development comprised three storey flats and houses. Both developments are contemporary in materials and idiom, but aspects of the form, such as flat facades and vertical windows, offer a hint of an older, classical formality.



2.8 Welwyn Garden City key (aerial view source Google Earth)

2.8

## APPRAISAL & CONTEXT ANALYSIS



TAYLOR WIMPEY HOMES (1) PENN WAY AND BROADWATER ROAD



TAYLOR WIMPEY HOMES (1)  
SALVISBURG COURT\_External view



SALVISBURG COURT\_Inner podium Courtyard



WHEATLEY HOMES (2) BIRKIN COURT



2.9

2.9 Pictures of contemporary  
residential building next to the site

## APPRAISAL & CONTEXT ANALYSIS

### 2.5 FUTURE CONTEMPORARY RESIDENTIAL ARCHITECTURE

To the west of the site, located on the site of the former Shredded Wheat factory in Broadwater Road, a major residential-led project has received planning permission. Its masterplan arrangement will provide apartments, and some mixed use buildings, with a generous green open space connecting the various blocks and the existing warehouse buildings.



2.10 Collado Collins Architects (3)  
THE WHEAT QUARTER PROJECT.  
( images from D&A Shredded Wheat  
Appl N6\_2015\_0294)



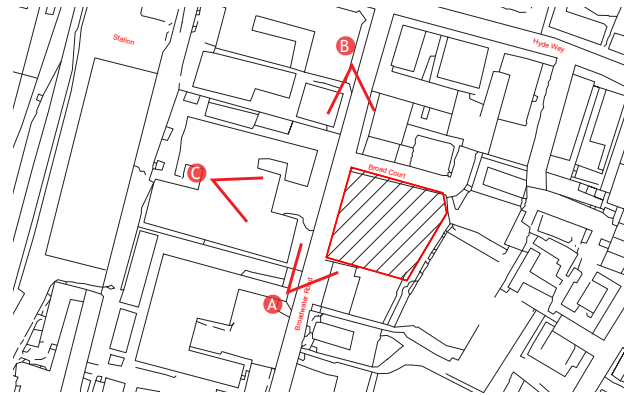
2.10

## 2.6 THE SITE

The site is a brownfield site located to the east of Welwyn Garden City centre, currently used for commercial purposes. It contains an imposing office building of 5 to 6 storeys with associated car parking at ground floor level.

The access to the site is from the south west corner by Broadwater Road, with a secondary exit via Broad Court.

To the rear and south of the site are located car parking courts, enclosed by substantial vegetation that includes trees, hedges and shrubs. To the north are the commercial units providing a range of services including retail, motor vehicle repairs and self storage.



A



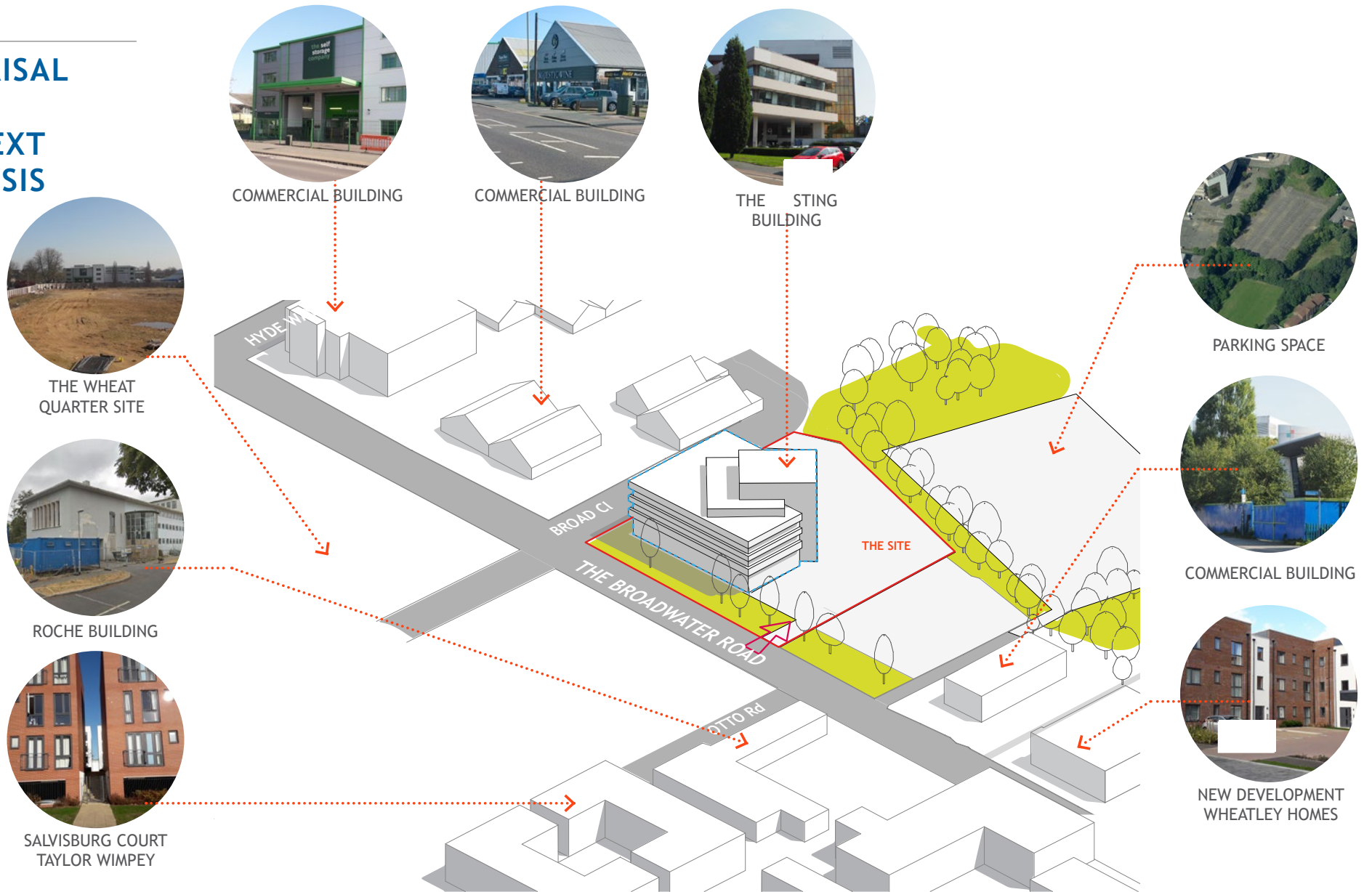
B



C

2.11 2.11 A-C Photos of the site

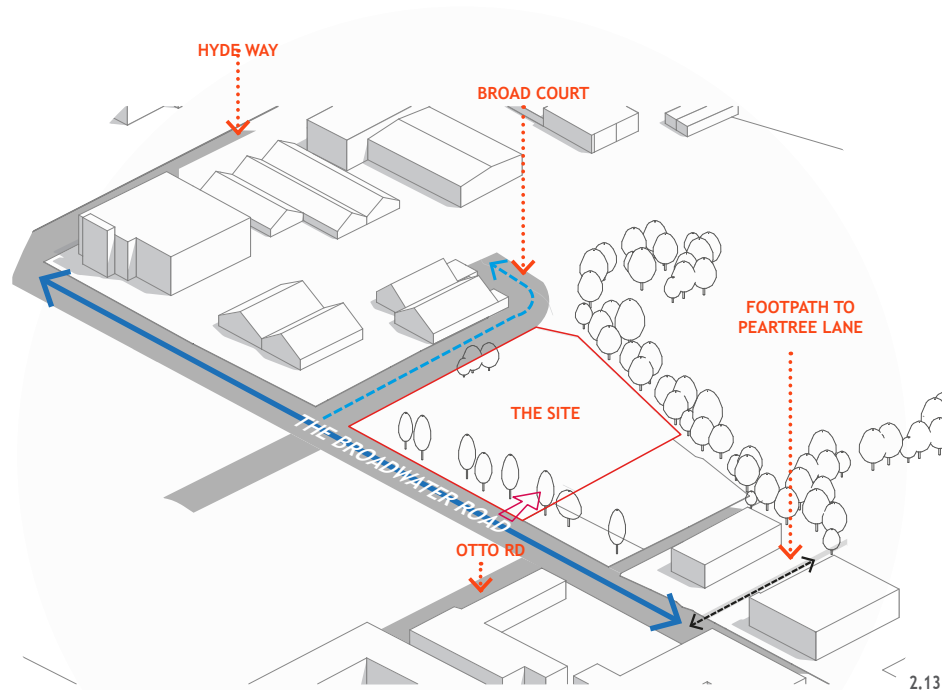
## APPRAISAL & CONTEXT ANALYSIS



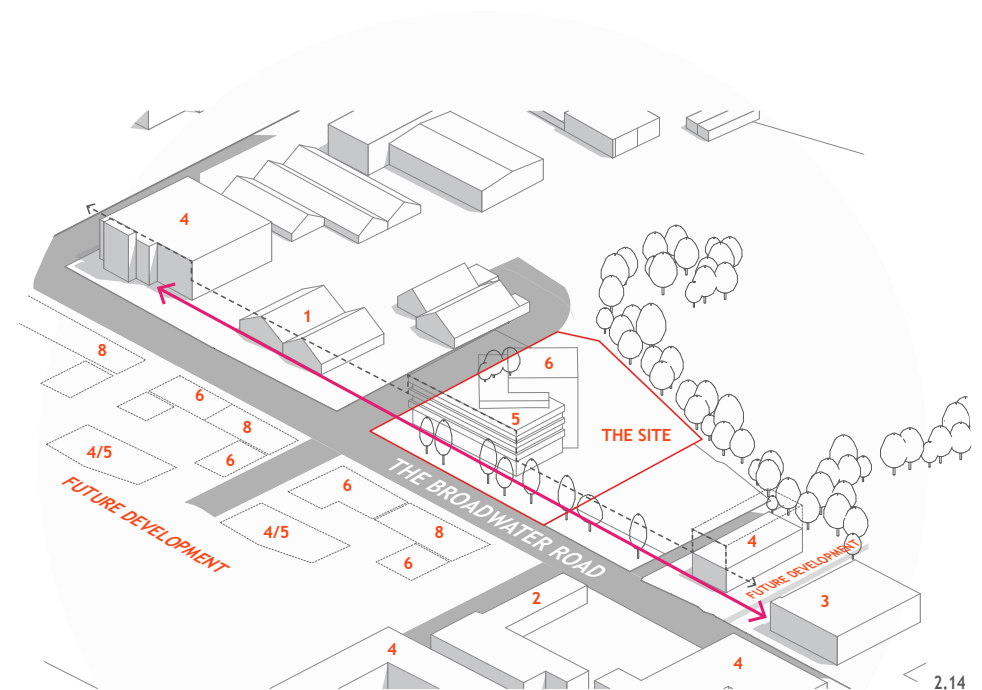
### 2.12 Site Context Analysis

Parking space and Roche building photo  
copyrights Google Earth

# APPRAISAL & CONTEXT ANALYSIS



- SITE BOUNDARY
- ↔ PRIMARY STREET
- ↔ SECONDARY STREET
- ↔ PUBLIC FOOTPATH
- ↔ EXISTING VEHICULAR ACCESS TO THE SITE

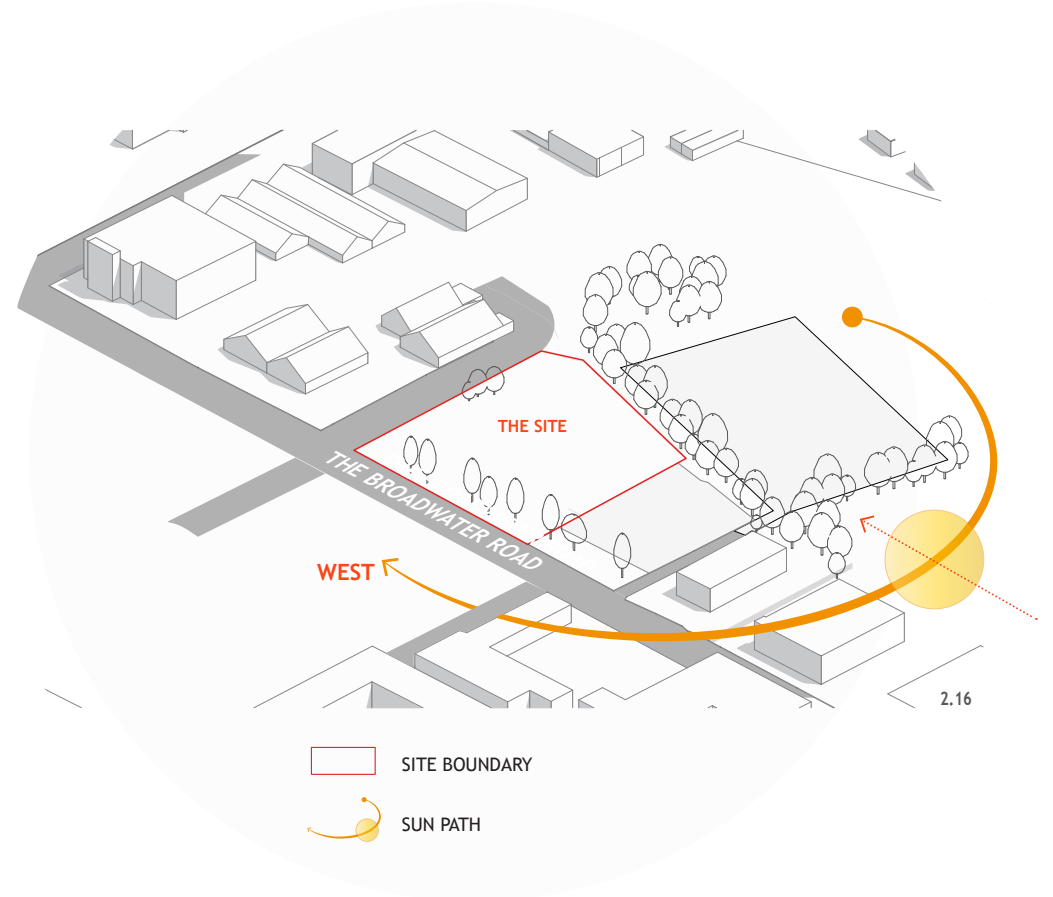


- SITE BOUNDARY
- ↔ BUILDING HEIGHTS
- ↔ BUILDING FRONTAGE LINE
- ↔ STOREYS HEIGHT

2.13 Movement diagram

2.14 Building Heights diagram

# APPRAISAL & CONTEXT ANALYSIS



2.15 Landscape diagram

2.16 Sun Path diagram

3.0

---

ARCHITECTURE  
AND DESIGN  
EVOLUTION

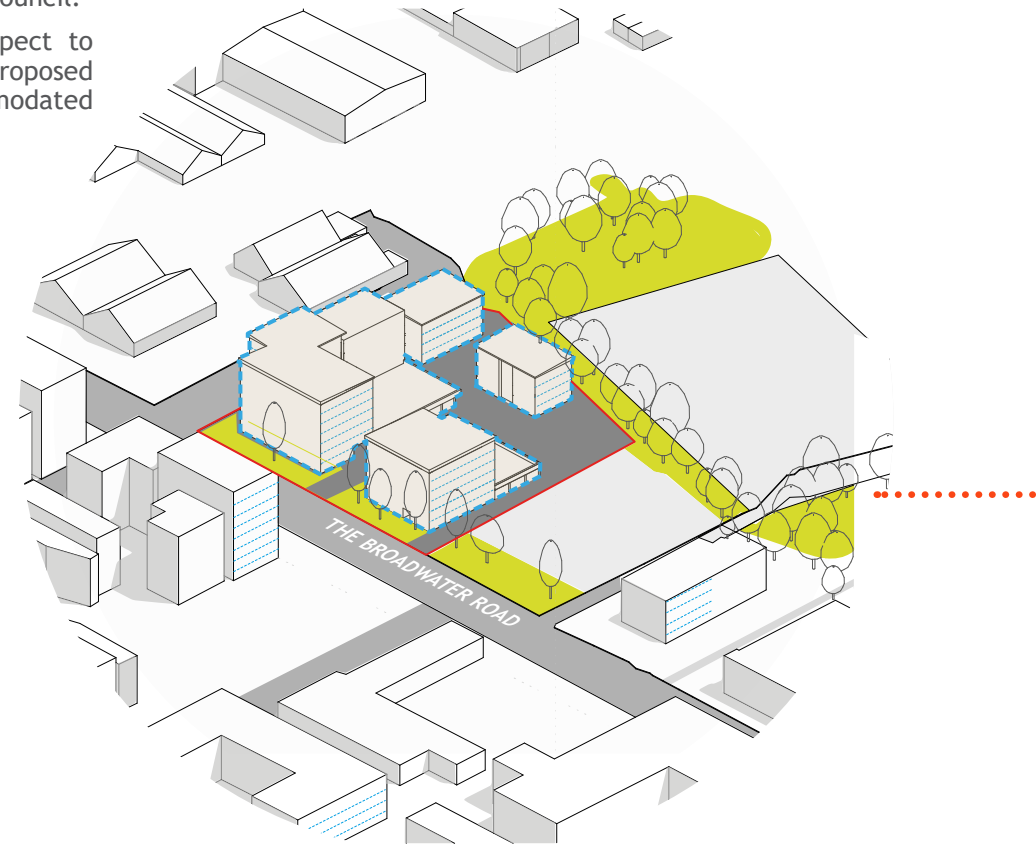
## ARCHITECTURE & DESIGN EVOLUTION

### 3.1 DESIGN EVOLUTION

This section demonstrates the concept behind the masterplan design evolution, including consultation inputs which have shaped the final submitted layout.

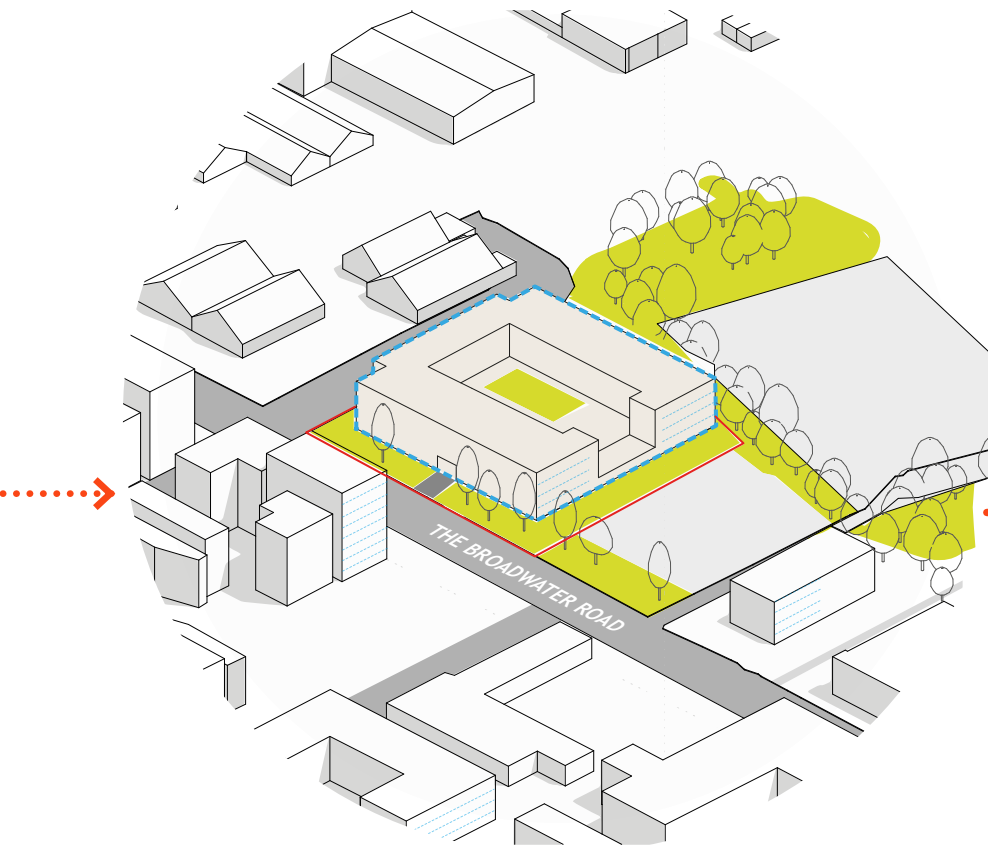
A positive and constructive pre-planning process of 2 pre-application meetings took place with Welwyn Hatfield Council.

Design aspirations were discussed in detail with respect to viability, management and maintenance issues. The proposed scheme has considered all of these factors and has accommodated them in the best possible manner.

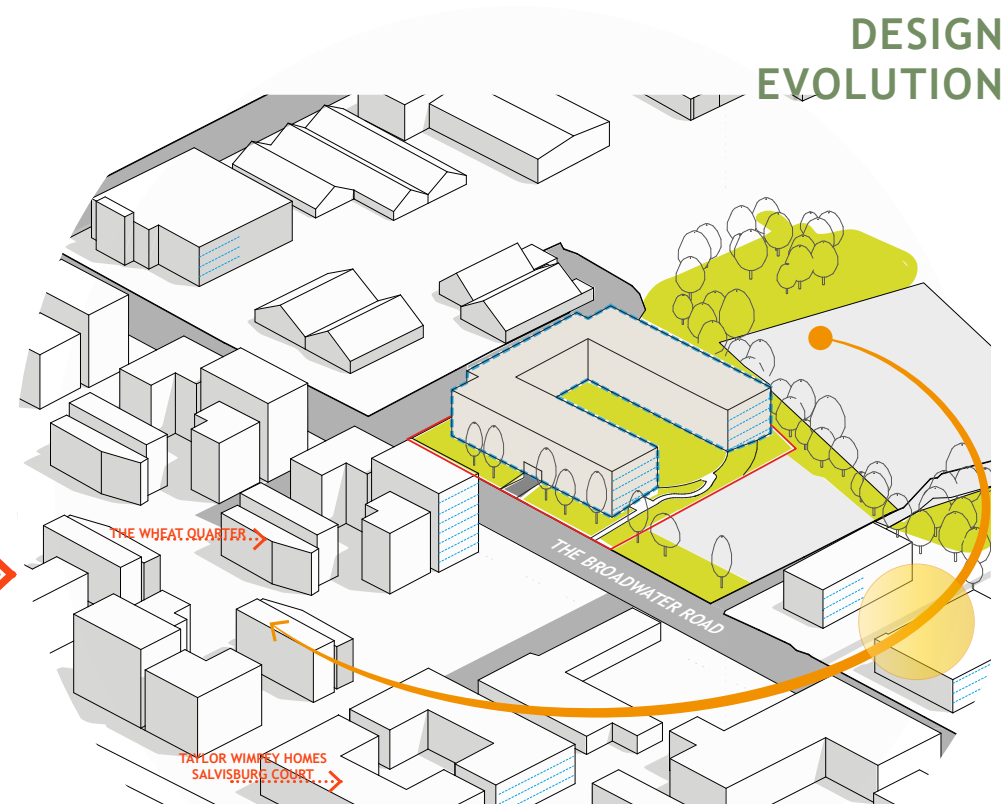


- FRAGMENTED BLOCK
- DIRECT ACCESS FOR GROUND FLOOR DWELLINGS, BUT THIS SIGNIFICANTLY REDUCES THE OPPORTUNITY TO PROVIDE A HIGH CLASS LANDSCAPED RESPONSE TO THE STREET
- ON-GRADE PARKING, UNDESIRABLE VIEW OF PARKING THAT HAMPER THE QUALITY OF THE COMMUNAL AREAS
- FRAGMENTED OPEN SPACE
- LACK OF LEGIBILITY
- LACK OF SIGNIFICANT AND QUALITY AMENITY / COMMUNAL SPACE

# ARCHITECTURE & DESIGN EVOLUTION



- CONTINUOUS STREET FRONTAGE
- DIRECT ACCESS FOR GROUND FLOOR DWELLINGS, BUT THIS SIGNIFICANTLY REDUCES THE OPPORTUNITY TO PROVIDE A HIGH CLASS LANDSCAPED RESPONSE TO THE STREET
- ON-GRADE PARKING, PART OF IT IS SCREENED OFF UNDER A PODIUM THAT SERVES AS COMMUNAL COURTYARD. SOME OPEN PARKING SPACES PROVIDED OUTSIDE THE BUILDING, THIS REDUCES THE EXTERNAL SPACE AVAILABLE FOR LANDSCAPING
- CONSOLIDATED OPEN SPACE OVER THE PODIUM
- LACK OF LEGIBILITY



## PROPOSED LAYOUT

3.1

- CONTINUOUS STREET FRONTAGE
- PARKING IN SEMI-BASEMENT, SCREENED OFF UNDER A PODIUM THAT SERVES AS COMMUNAL COURTYARD
- DIRECT ACCESS FROM STREET IS ONLY TO THE CORES AND TO THE COURTYARD. DWELLINGS HAVE ACCESS FROM THIS INTERNAL COURTYARD. THIS PROVIDES THE OPPORTUNITY TO PROVIDE A HIGH CLASS LANDSCAPED RESPONSE TO THE STREET, DEVOID OF VEHICULAR ACCESS AND LIMITED PEDESTRIAN PATHS
- IMPROVED LEGIBILITY
- SOUTH-FACING COURTYARD, HARNESSING THE SUN
- CONSOLIDATED OPEN SPACE PROVIDING QUALITY AMENITY / COMMUNAL SPACE

3.1 Diagrams showing the evolution of the proposal during the consultations

## ARCHITECTURE & DESIGN EVOLUTION

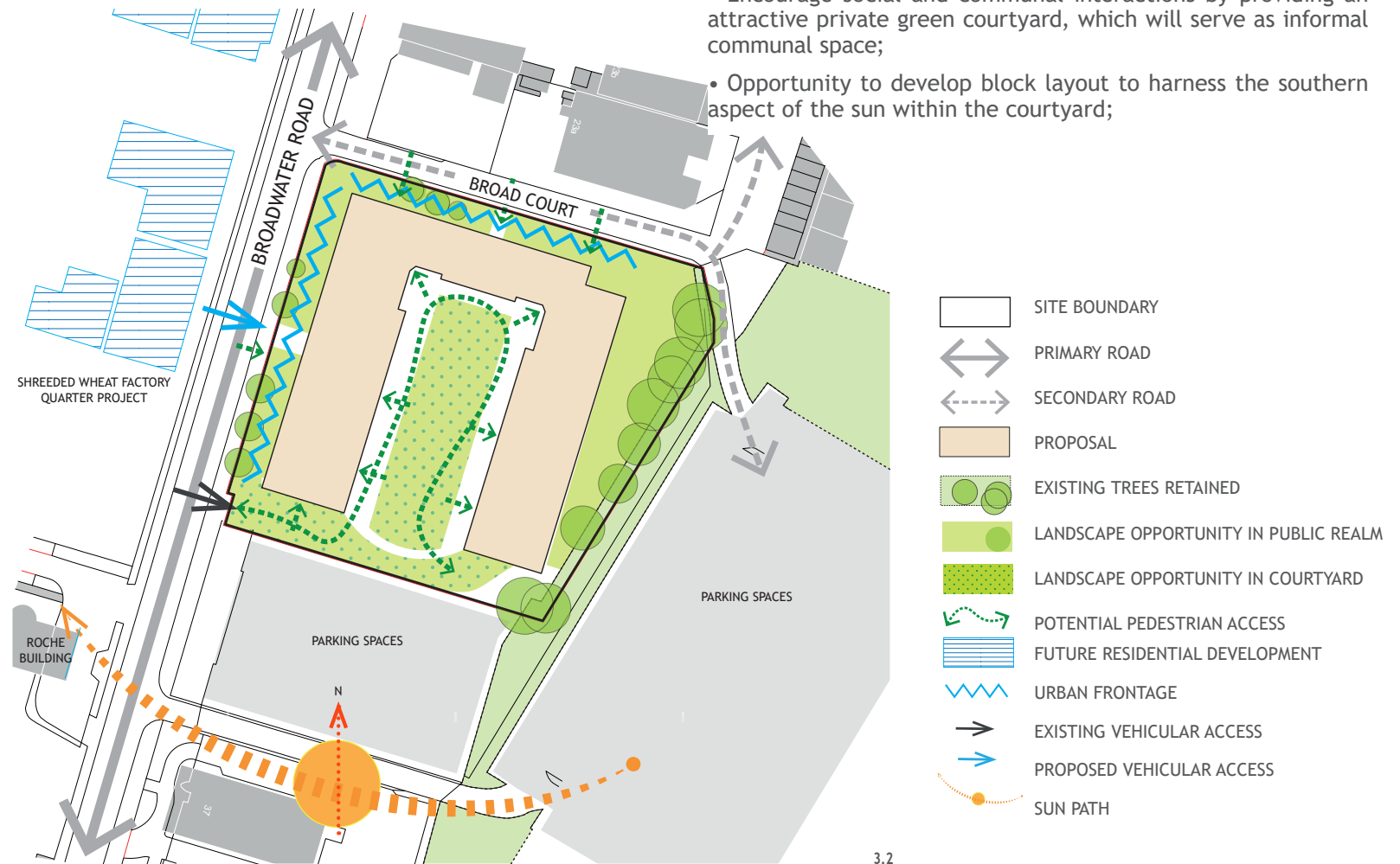
### 3.2 OPPORTUNITIES AND CONSTRAINTS

At the design stage the site parameters were determined in response to an assessment of local character and site analysis.

The opportunities and constraints are identified below:

- Trees adjoining car park to be retained;
- Opportunity to provide ample parking free landscape around the building;

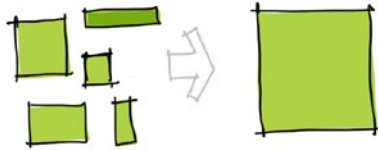
- Active street frontage designed to address to the surrounding developments in scale and character;
- Opportunity to respond to the local character and aspirations set up by the existing buildings in Welwyn Garden City;
- Screen off the undesirable parking that usually blights the quality of the communal realm in apartment developments;
- Encourage social and communal interactions by providing an attractive private green courtyard, which will serve as informal communal space;
- Opportunity to develop block layout to harness the southern aspect of the sun within the courtyard;



3.2 Opportunities and constraints diagrams

## 3.3 CONCEPT

The sketches below show the concept behind the proposal.



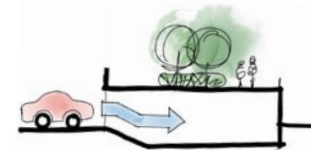
### 1. CONSOLIDATION OF OPEN SPACE

The key design concept was to configure the residential units in a manner that facilitates creation of a single open space, large enough to perform the functions of a central communal space that also provides for amenity. Conceptually consolidation was preferred over fragmented open spaces.



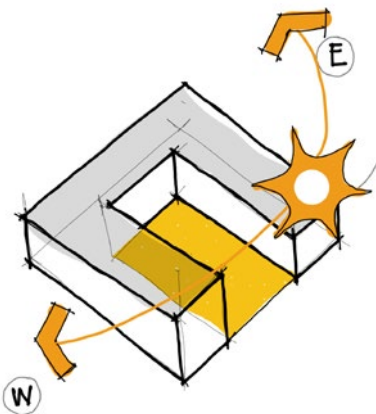
### 2. LANDSCAPE STRATEGY

The strategy adopted is envisaged in concentric rings. The peripheral one involves retention of vegetation along the site boundaries, augmenting it with new planting to soften the building edge and articulate the horizontal emphasis presented by its architecture. The inner core is visualised as a communal, central landscaped courtyard inspired by the garden designs of Welwyn Garden City.



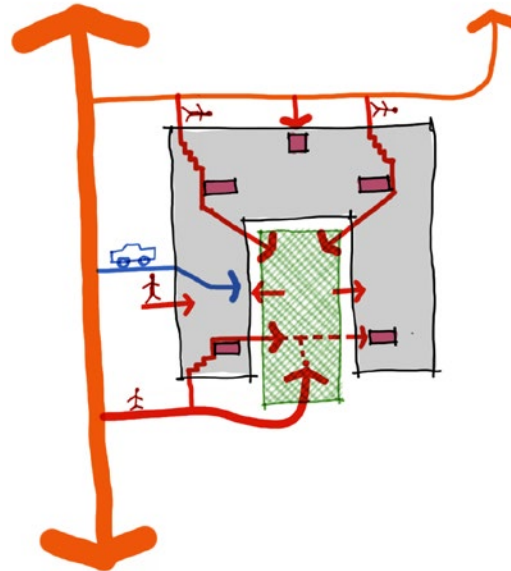
### 3. HIDING THE CAR

Parking is kept off from the public realm in the basement to provide for an attractive no vehicle, landscaped, communal courtyard over it at the ground floor level.



### 4. HARNESSING THE SUN

Building is oriented and configured to create a courtyard with southern aspect that traps the sun within it.



### 5. LEGIBILITY STRATEGY

The building is accessed by foot at street level from Broadwater Road through stairs at the western and the south-western corner and from Broad Court through the three stairs located in its Northern flank.

The central communal courtyard is accessed from street level by stair cores located in the north-east, north-west and south-west, this is in addition to the south-western external ramp. The two stairs in its eastern flank are accessed from the courtyard.

Vehicular access is from Broadwater Road into the basement. Three stairs located in the north-east, north-west and south-west connects the basement to the floors above. Two platform lifts in the basement, located in the northern flank provides step free access to the courtyard level.<sup>3,3</sup>

3.3 Concept

## 3.4 DESIGN PROPOSAL

The proposed building is designed to wrap around a south facing courtyard in a U-shaped form, providing attractive amenity and communal space that is free of parking and vehicular access. This courtyard is set above a semi-basement covered parking area forming a raised attractive landscaped podium exclusively designed as a communal space for the residents.

The apartment units are plotted to face either on to the adjacent streets or the communal courtyard, the north facing dwellings are dual aspect units that have views to both Broad Court and to the internal communal courtyard.

The building consists of 4 floors of residential accommodation and a naturally ventilated semi-basement predominantly set aside for parking.

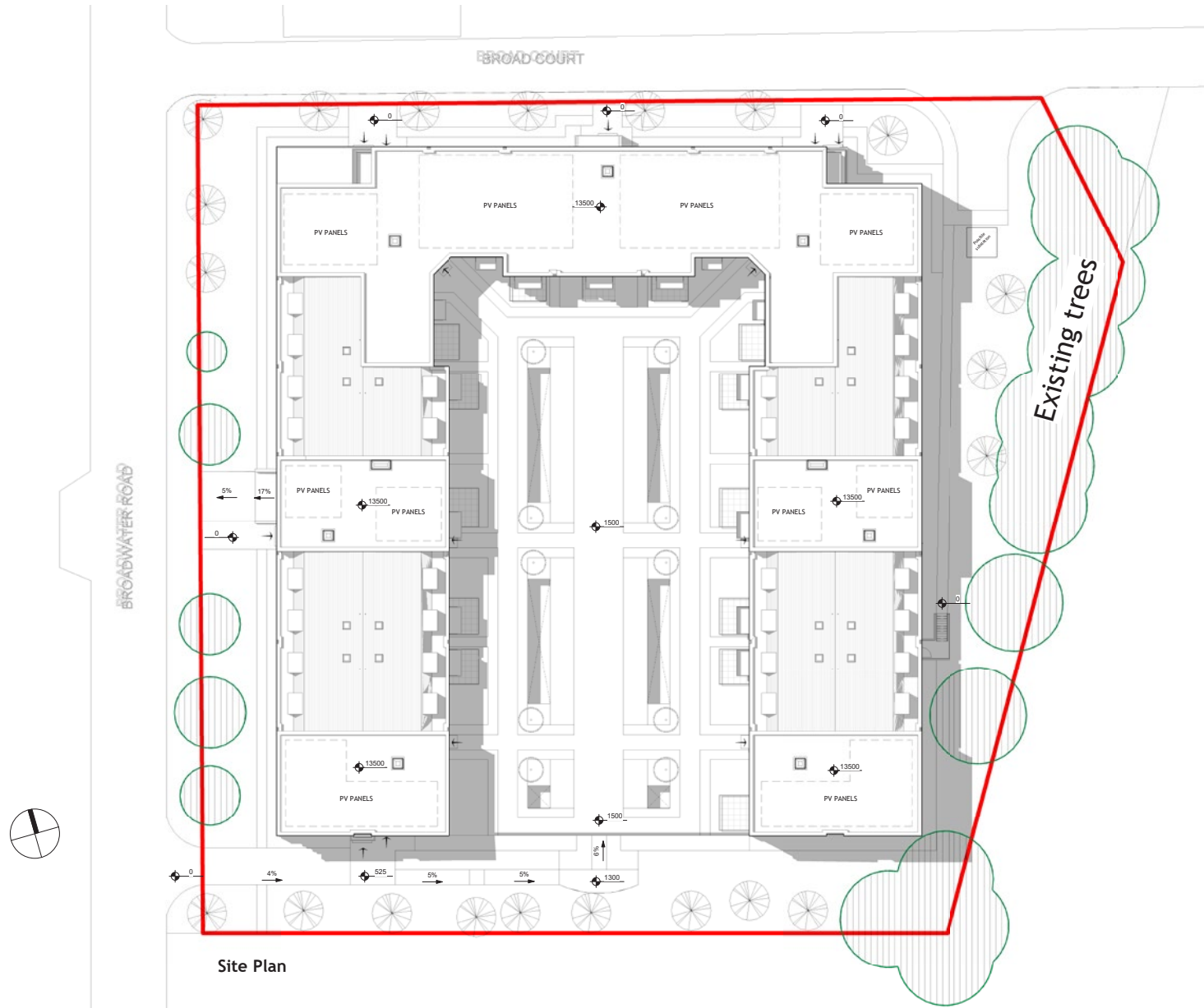
The ground floor is level with the podium, which is around a metre and half above and the basement floor is about a metre below the grade. Parking, services etc. are accommodated within the basement and are neatly screened off from the public realm.

The third floor has a mansard roof as a response that is sympathetic to the strong design language exhibited by prominent public buildings in Welwyn Garden city.

## 3.5 USE, AMOUNT & SCALE OF THE DEVELOPMENT

The proposal comprises 128 dwellings, including one and two bedroom apartments. The proposal provides also parking space a total of 136 parking spaces including 10 disables and 10 electric spaces.

# ARCHITECTURE & DESIGN EVOLUTION



3.4

3.4 Site Layout proposal

## 3.6 PROPOSED RESIDENTIAL DISTRIBUTION

The majority of the apartment units facing the northern site of the development benefits of dual site aspect; the single aspect units are located on the wings of the development where the west/east orientation ensure the quantity of light (refer to daylight and sunlight assessments for details para 6.4).

In addition to the shared amenity space on the ground floor (the podium courtyard), the proposal provides private amenity spaces in form of garden on the ground floor level, external and inset balcony for the upper floor.

Garden vary in size from 8.75 mq2

Balconies vary in size from 2.5 mq2

The U-shaped block provides 1 and 2 bedroom units (shared between 2 bed 3 person layout and 2 bed 4 person layout) complying with the Nationally Described Space Standards.

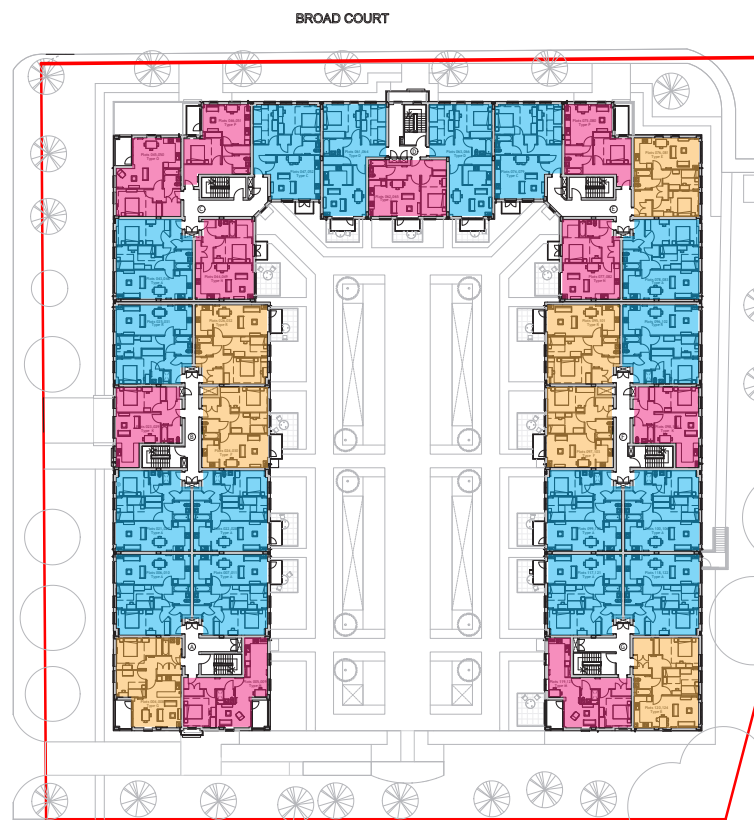
The majority of the units located on ground floor level, comprising 20% of the total of 128 units, have been designed for the less able, as accessible and adaptable dwellings following Building Regulations Part M4(2) standards.



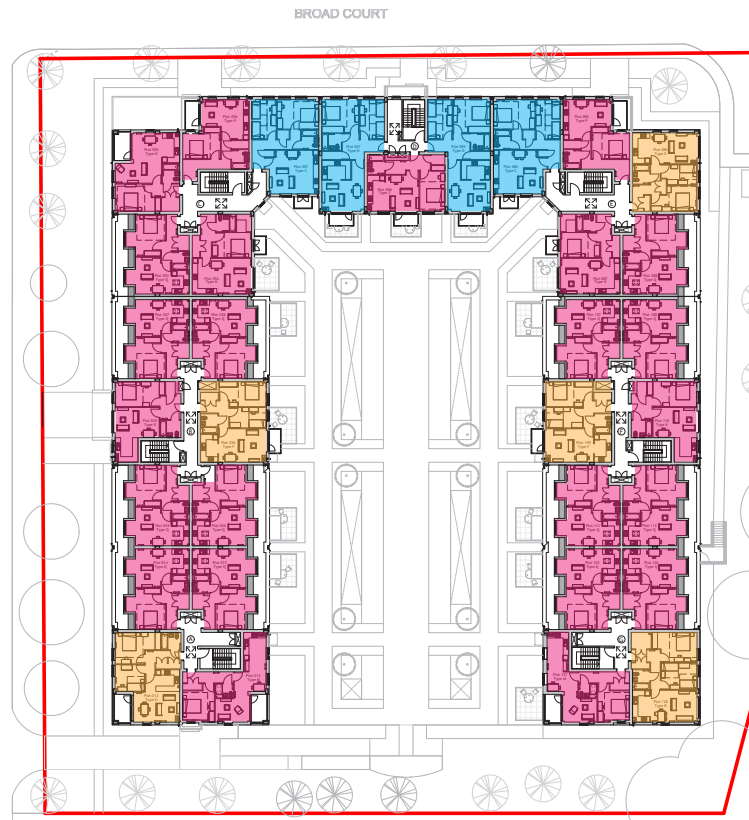
- 1 BED 2 PEOPLE
- 2 BED 3 PEOPLE
- 2 BED 4 PEOPLE
- SERVICES

3.5 Residential distribution GF plan

# ARCHITECTURE & DESIGN EVOLUTION



First & Second Floor Plan



Third Floor Plan

3.6

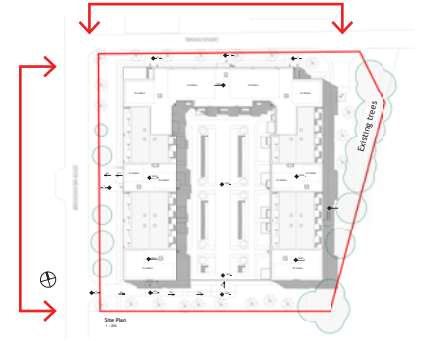
3.6 Upper floor plan distribution

## ARCHITECTURE & DESIGN EVOLUTION

### 3.7 PROPOSED ELEVATION

The elevation treatment adopted in this scheme is heavily influenced by the architectural character of the Welwyn Garden City town centre buildings.

This style is based on the principles of classical architecture which emphasise symmetry and proportion with restrained ornamentation. Some of the principles adopted are:



WEST ELEVATION

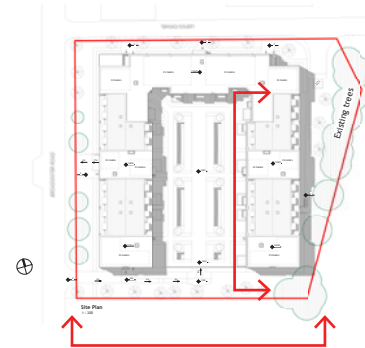
NORTH ELEVATION



3.7 West and North elevations

## ARCHITECTURE & DESIGN EVOLUTION

- Horizontal emphasis by layering. Base layer comprising the basement and ground floor is elevated on a solid stone base, contrasting orange bricks for the middle first and second floors, and topping it in the third floor with a mansard roof complete with dormers.
- Well-proportioned fenestrations typically in contrasting stone surrounds and white windows.
- Symmetry and regularity in the arrangement of fenestrations on facades.



WESTERN PATIO ELEVATION

SOUTH ELEVATION



3.8

3.8 Western patio and south elevation