

Sheerwater Regeneration

Area 3

Stage 2 Interim Report

29th January 2018

SHE-BDP-30-XX-RP-A-00-201_P02



| Rev | Reason for issue | By | Checked | Date |
|------------|-------------------------|-----------|----------------|-------------|
| PO1 | DRAFT Issue | CK | | 25.01.18 |
| PO2 | First issue for comment | CK | YCT | 29.01.18 |
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Introduction

Thamesway Developments Limited (Thamesway) have commissioned BDP Architects to undertake the RIBA Stage 2+ design of Area 3 of the Sheerwater Regeneration Masterplan.

Thamesway has been appointed by Woking Borough Council as their 'preferred developer' for the delivery of the Sheerwater Regeneration project.

Area 3, located to the south of the Park consists of mostly medium rise residential units, retail and community facilities.

This report sets out the design approach for Area 3 and presents the current progress of the Stage 2+ designs for each of the development parcels contained within Area 3.

The report comprises the following sections:

- Section 1 - describes the brief and key goals for the project.
- Section 2 - presents the urban design principles for Area 3
- Section 3 - details the design approach for each of the development parcels
- Section 4 - summarises the engineering approach for each parcel
- Section 5 - provides an overview of the statutory consultation undertaken
- Section 6 - concludes the report
- Appendix - includes all parcel and unit type drawings

The report makes reference and should be read in conjunction with the Stage 2 Site Wide Masterplan and Landscape design report prepared by BDP Landscape Architects.

1.0 The Brief

1.1 Key Goals

1.1.1 Site wide goals

- Deliver for a diverse community
- Create a new Identity
- Increase public open space and provide high quality public realm
- Promote health and wellbeing
- Phase development to minimise disruption to residents
- Increase unit numbers and change unit mix from consented masterplan

1.1.2 Area 3 Key Goals

- Increase density
- Increase quality of public space by concealing surface car parking and reducing the need for roads
- Co-locate community facilities to create a community hub
- Provide a gateway and transition from the wider area into the new development
- High quality, robust and sustainable design approach to minimise life cycle costs
- Create a strong identity and



1.2 Planning context

A hybrid application received planning consent in July 2016 for up to 922 residential units and associated facilities.

The Council subsequently set Thamesway two key targets regarding housing numbers:

1. to increase the total number of units by around 20%
2. revise the housing mix to increase the number of smaller properties

The scale of change from the consented masterplan requires that Thamesway submit a new hybrid planning application.

To minimise risk for the new application BDP have been asked to:

- Develop Area 3 to a detailed planning stage to provide greater clarity on how the increase in density will be achieved
- To work within the maximum heights of the approved masterplan
- To work within the spirit of the approved parameter heights plans
- To work within the spirit of the approved design code for each of the character areas set out in the approved masterplan
- Improve the quality of public and private amenity space.



1.3 Accommodation Brief

The accommodation brief is to increase the number of residential units from the base consented land use parameter plan and unit type and tenure drawing A-XX-XX-SK-051 to contribute to the targeted 20% increase site wide.

For Area 3 the base schedule is summarised below.

Retail
1650m²

Community Centre
900m²*

Nursery & Childrens Centre**
800m²

422 Residential units comprising:
12% 1 bed
41% 2 bed
47% 3 bed

In addition to the following has been added to the brief:

Health Centre
400m²

Energy Centre
300m²

60 Elderly Care units comprising:
90% 1 bed
10% 2 bed

* Excludes 200m² from consented parameter plan as existing youth centre retained within the new masterplan.

** Includes 200m² added to original outline area for Childrens centre function - January 2018.

2.0 Concept

2.1 Site Wide Concept

2.1.1 Green Threads

The site wide masterplan concept links existing canalside ecology across Sheerwater to a central heathland heart and onward to the urban centre and gateway to Sheerwater, with landscaped 'green threads'.

2.1.2 Neighbourhoods

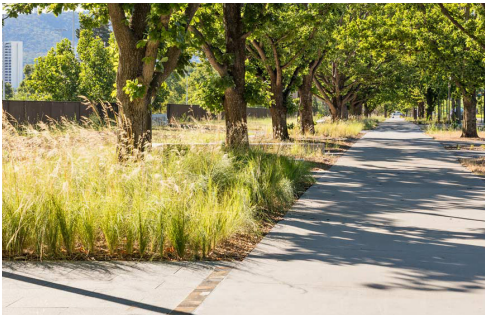
These landscaped pathways in turn define distinct neighbourhood urban parcels.



2.2 A Bridging Role

Area 3 bridges between the formal urban entrance to Sheerwater and the heathland heart.

The 'green threads' streets are the bridging links between the two landscapes. These are pedestrianised and characterised by rain garden planting, and provide residents with valuable shared amenity space.



2.0 Concept

2.3 Distinct Neighbourhoods

Area 3 comprises four distinct neighbourhoods each responding to their individual contexts and functions, and bounded by the landscaped streets, rain gardens and heathland park.

1. Central square
2. Neighbourhood Spine
3. Central neighbourhood
4. Park edge



2.3.1 Central square

This neighbourhood is the focal point for Sheerwater and the gateway to the Park.

Central square brings together retail, medium rise apartments and community facilities which together distinguish its important civic role.

Buildings of up to 6 storeys enclose the square and transition down to 4 storeys along the Park and to 3 storeys adjacent to existing homes along Albert Drive and Murray Green.

Apartments will have private balconies and access to communal podium gardens.



2.0 Concept

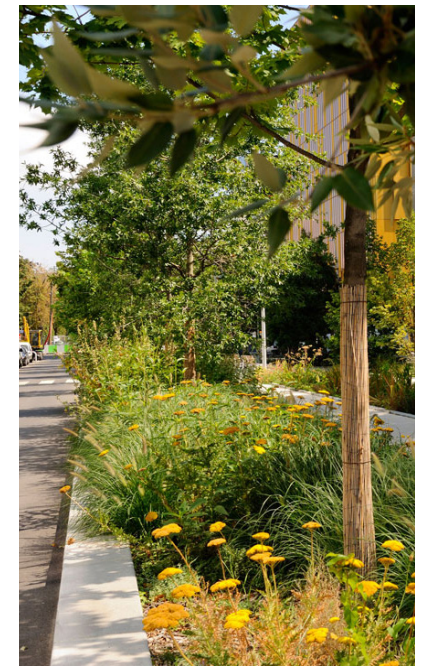
2.3.2 Neighbourhood spine

The Neighbourhood spine is the main east-west route through Sheerwater.

It is a long tree lined avenue that is broken into smaller character areas defined by the green threads running north to south.

The buildings are less civic in nature from the main square but formal in character rising from two storey mews houses to four storey maisonettes and five storey apartment blocks.

The spine will accommodate a new bus route and an energy centre serving Area 3.



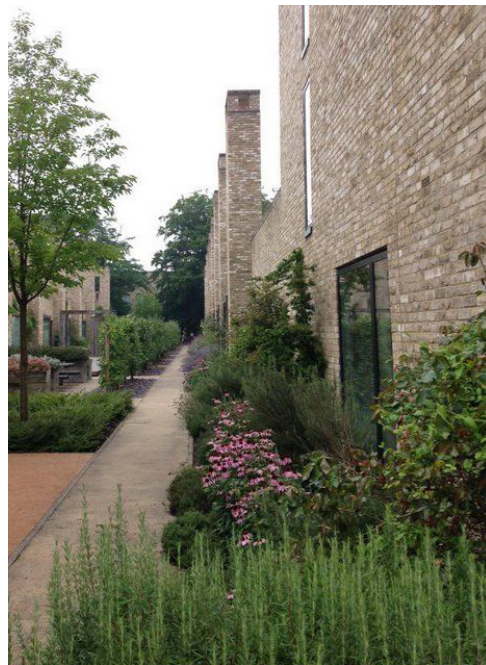
2.3.3 Central Neighbourhood

These parcels enjoy a central location yet are surrounded by a rich and green multi-use public realm.

This is made possible by locating parking below podium gardens and a podium mews street.

Vehicular traffic is removed from the neighbourhood rain garden spine, allowing residents to occupy the 'streets' that link to the park. Secure by Design principles will be applied including designing for passive surveillance.

This neighbourhood contains a mix of mews and townhouses with private gardens at podium level and access to the pedestrianised green streets and park beyond.



2.0 Concept

2.3.4 Park edge

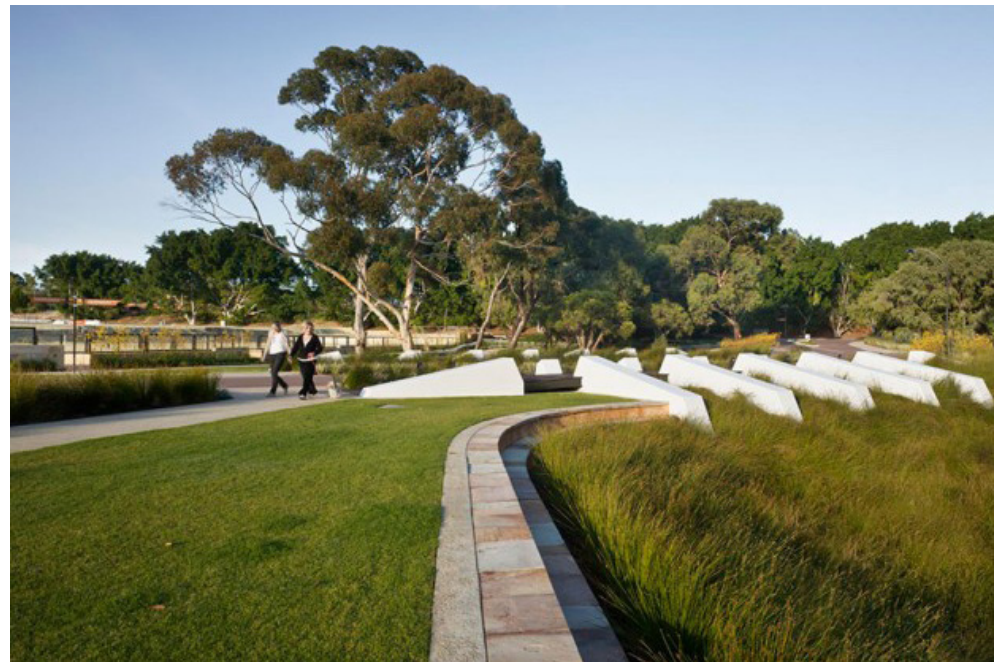
Area 3 borders the southern edge of the heathland park.

By locating parking for park facing houses and apartments the park edge is pedestrian only allowing the housing to define and contain the green heart.

These homes will follow the curved lines of the park and maximise views and encourage passive surveillance over the park by having living spaces at first floor level.

The elevation along the park will be broken up with taller 4 storey buildings at key nodal points and balconies or large windows to capture views.

The community hub building will also be located on the park edge allowing free flow between cafe, and function rooms to park facilities.

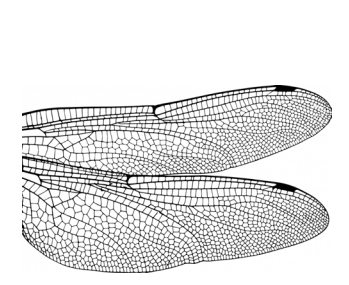
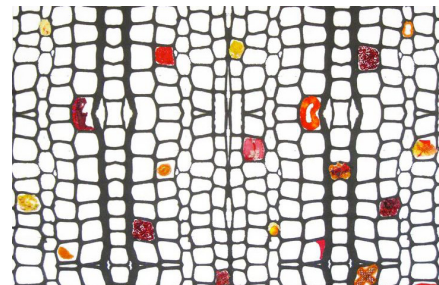
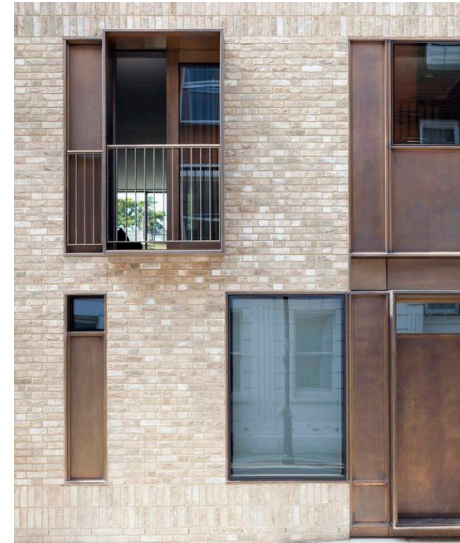
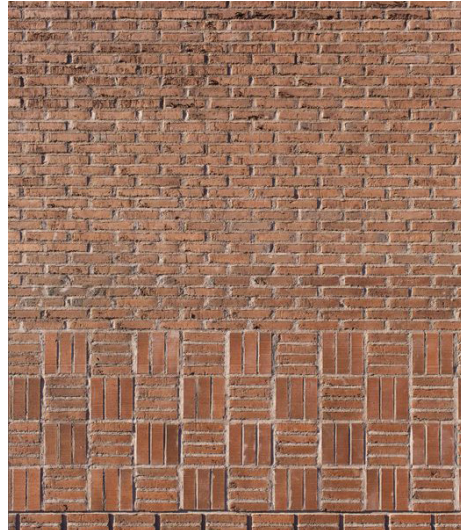


2.4 Creating an identity

The scale of redevelopment provides an opportunity to create a unique identity for Sheerwater.

The identity will be contemporary - an exemplar of 21st century architectural and landscape design making reference to the local Arts and Crafts tradition and to the ecology of the Park.

The selection of a signature source of brick will be important and equally care in its use alongside metal cladding. This will be accented by patterned fretted metalwork inspired by the heath.



3.0 Design approach

3.1 Land use

Key to the successful delivery of the regeneration is the provision of a mixed use environment that balances community facilities with residential development to promote activity and a sense of community.

With the exception of the leisure centre Area 3 contains all of the non-residential uses.

Retail uses are clustered around the central square with a southerly aspect to promote 'al fresco' dining and activity within the square and to take advantage of anticipated high levels of footfall to and from ASDA.

Community facilities (Health centre, community centre, nursery and pharmacy) have been co located adjacent to the park to promote collaboration and access to the park

To maximise the unit density and improve the quality of public and private amenity space 5 parking podiums with raised garden or streets above are proposed.



Land uses:

- Retail
- Community hub
- Energy centre
- Residential
- Elderly care

3.2 Amount

By adopting a podium parking approach to 5 of the development parcels the unit density has increased by 197 units* whilst also accommodating:

- Energy Centre
- Health Centre
- Community Car Park

The adjacent table summarises the consented and proposed unit and area figures.

*It should be noted that on investigation the medium rise residential unit figures taken from the outline plan could not be supported by the number of parking spaces drawn when measured against the emerging Woking Borough Council Parking standards.

Since the previous application new nationally prescribed housing size standards have been released which has increased unit sizes by around 10% from those used in the consented outline plan.

It is likely therefore that a surface parking scheme implemented with these standards would result in much fewer unit numbers than consented.

Outline area consent

| | |
|-----------------------------------|--------------------|
| Retail | 1650m ² |
| Community Centre | 1100m ² |
| Nursery & Childrens Centre | 600m ² |
| 422 Residential units comprising: | |
| 51 | 1 bed |
| 173 | 2 bed |
| 197 | 3 bed |
| 1 | 5 bed |

Proposed

| | |
|-----------------------------------|--------------------|
| Retail | 1889m ² |
| Community and Health Centre | 1248m ² |
| Nursery & Childrens Centre | 800m ² |
| 619 Residential units comprising: | |
| 207 | 1 bed |
| 321 | 2 bed |
| 178 | 3 bed |
| 3 | 4 bed |
| 53 | 1 bed Elderly care |
| 10 | 2 bed Elderly care |
| Energy centre | 328m ² |

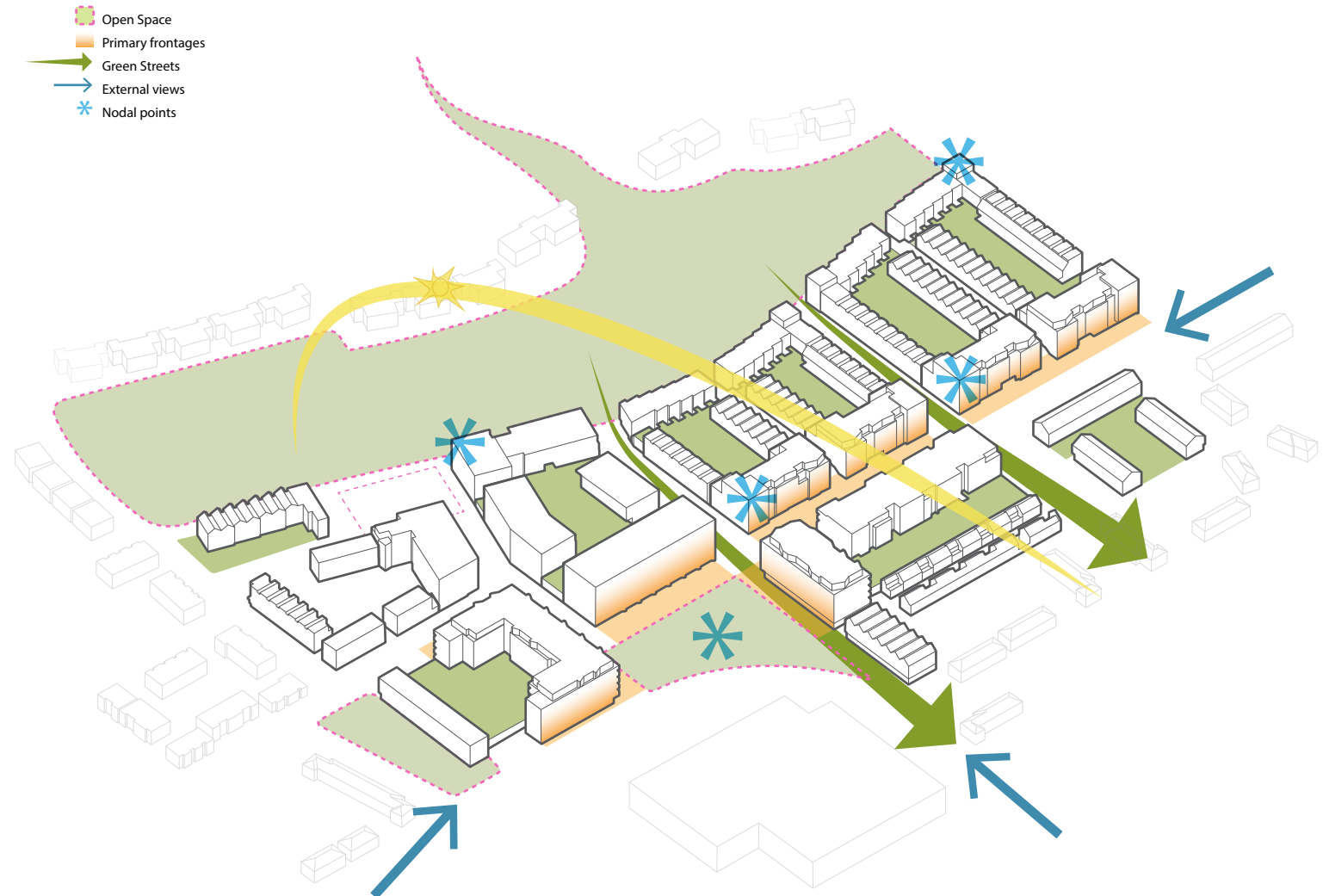
3.0 Design approach

3.3 Townscape

The adjacent townscape strategy provides the framework for developing the scheme design for each parcel.

The strategy considers:

- Surrounding context
- Masterplan concept
- Orientation
- Primary and secondary frontages
- Key pedestrian only routes
- Nodal points
- Open space



3.4 Massing

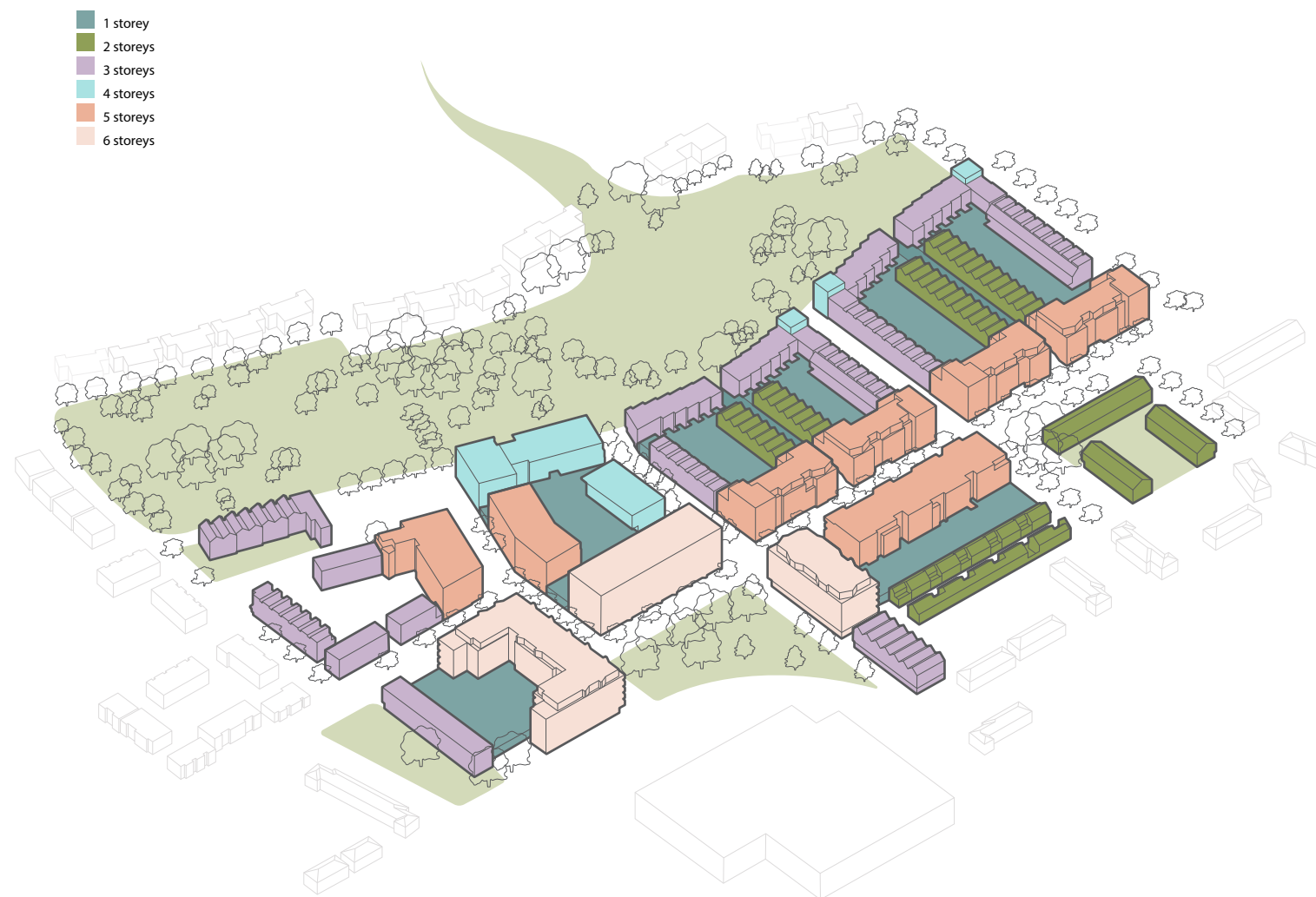
The massing approach follows the principles set out in the consented outline masterplan and the site wide concept.

The taller and bigger blocks (6 storey) are clustered around the central square providing a civic presence and a gateway into the development.

The neighbourhood spine contains buildings of up to 5 storeys with the mass broken up vertically to reduce their scale and provide a more residential presence in keeping with the character area.

Adjacent existing or proposed low rise housing the massing transitions down to 2-3 storeys.

Along the park edge the massing varies from 3-4 storeys provide a crescent enclosing the southern boundary of the park.



3.0 Design approach

3.5 Materials palette

The choice of materials references the Arts and Crafts tradition of the area and will be an integral factor in creating a lasting identity for Sheerwater and for defining each of the character areas.

1. Brick

The bricks will be rich in variation and texture and will be detailed with care to soften the contemporary architectural forms.

2. Metal

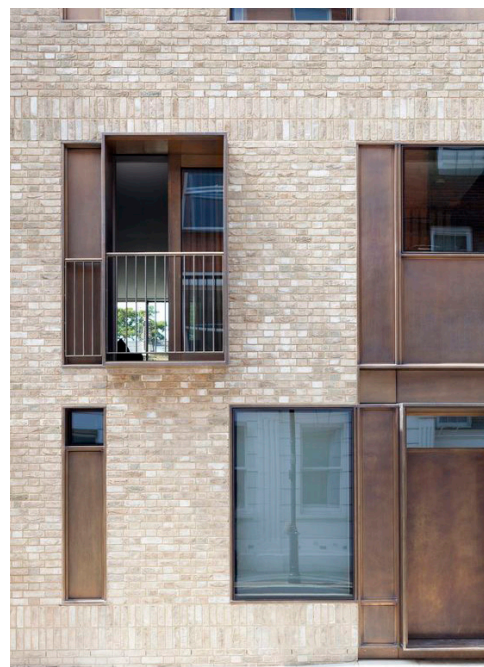
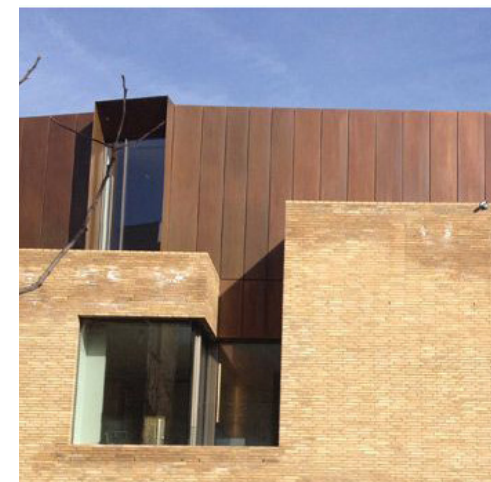
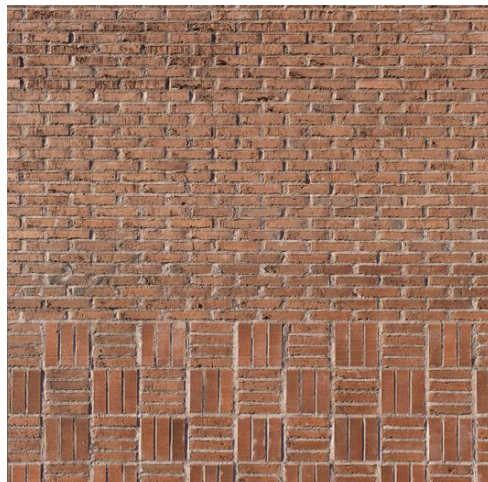
Zinc or copper alloy panels used alongside the brick will bring an extra depth and variation to the elevations and unlike painted metal cladding will through time develop a rich patina.

3. Patterned fretted metalwork

Allows patterns from the heath to define character areas adding depth and beauty to the facades whilst masking functional louvres on apartment buildings.

3. Clay plain tiles

Used in the transition buildings to reference materials found in the area. Clay plain tiles provide texture and warmth.



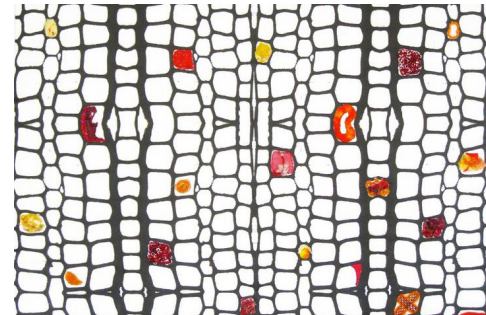
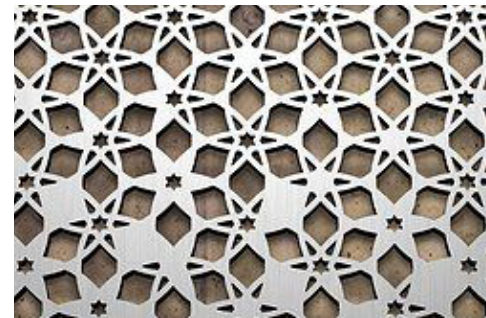
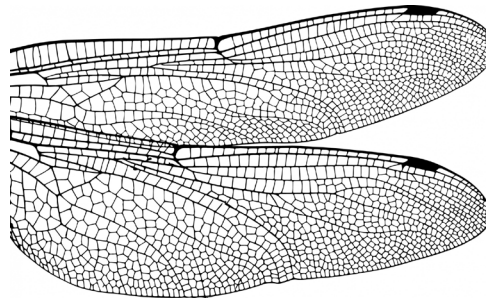
3.6 Landscape patterns

The park and landscape of Sheerwater will be special. It will have a character that reflects the unique landscapes of the area and will be rich in ecology.

There is fantastic opportunity to use the patterns found in this landscape to inform the design and detailing of the architecture.

The approach would be to adopt a single pattern for each of the neighbourhoods and incorporate it in fretted metal work, fenestration or brickwork.

This would serve to create distinct identities for each of the neighbourhood parcels and give Sheerwater its own special architectural identity.



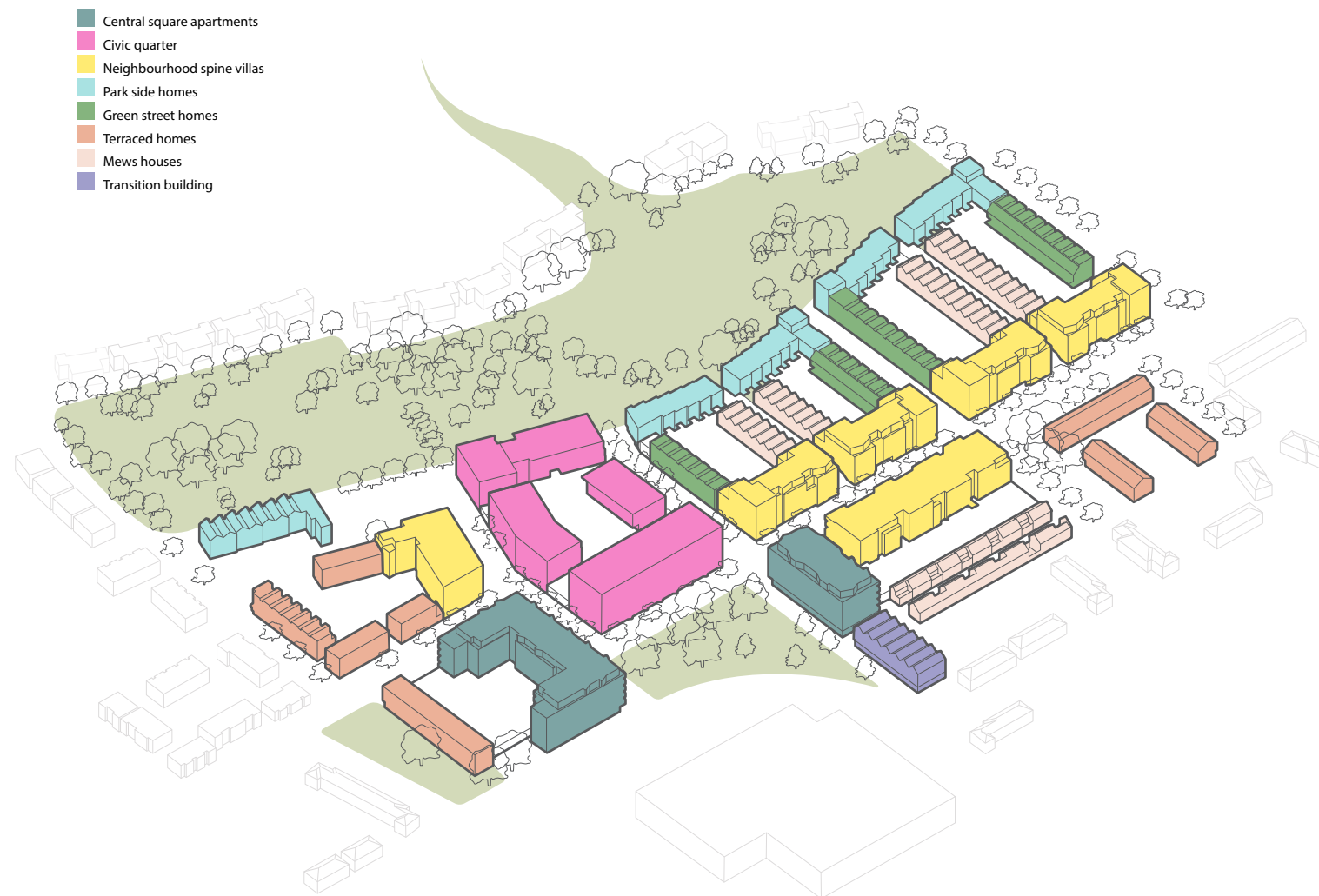
3.0 Design approach

3.7 Building typologies

The proposals include a variety of building typologies to cater for a diverse and evolving community.

The typologies will offer different tenures and houses of different sizes that will comply with the latest nationally prescribed space standards.

1. Central square apartments
2. Civic quarter
3. Neighbourhood spine villas
4. Park side homes
5. Green street houses
6. Terraced houses
7. Mews houses
8. Transition building - the pub





3.0 Design approach

3.7 Building typologies

3.7.1 Central square apartments

The central square apartment buildings provide a key role in fronting and framing the central square and providing a gateway into Sheerwater.

The apartment typology:

- uses podium gardens to hide car parking providing valuable communal amenity space for residents and an attractive outlook from apartments
- provides private amenity space in the form of recessed balconies or small front gardens
- has been designed to current nationally prescribed housing standards
- includes a set back 6th floor to reduce the visual impact on the surrounding area
- maximises day lighting with generous floor to floor heights, tall windows and angled recesses to address the best orientation for each apartment
- is contemporary in language using brick accented by solid and fretted metalwork.





3.0 Design approach

3.7 Building typologies

3.7.2 Civic quarter

Located between the central square and park this podium co locates the community facilities with residential and retail.

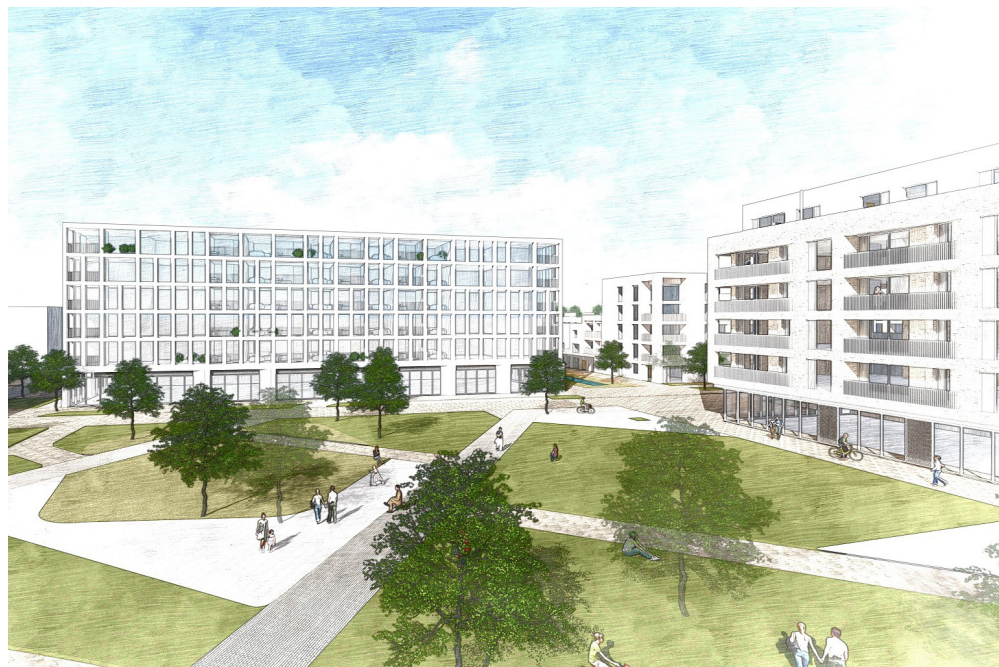
The uses and location distinguishes its important civic role within the masterplan.

Its civic presence and identity is recognised from all sides as special and different to its adjacent residential neighbourhood parcels.

Composed of four buildings sharing a podium garden each of the buildings reduce in scale as they transition from the central square to the park.

The community facilities located on the park edge are expressed as well proportioned 4 storey block on the north west corner adjacent to the community car park.

To provide privacy and security the nursery is located at first floor level with its own private podium garden. Elevations from adjacent buildings will be careful designed to ensure no overlooking.



3.5.3 Neighbourhood spine villas

The neighbourhood spine typology of four to five storey apartment and maisonettes mark a change in scale and formality from the buildings framing the central square.

The designs for these blocks are therefore less formal and civic and are based on a series of 'villas' that line the street edges stepping in and out with breaks in between.

These homes have private balconies or terraces, overlooking the street or podium gardens. The ground level homes have a small private garden area that acts as a 'buffer' to their interior space.

The width of this spine is key, as it allows for roadway, parking, cycling and walking through landscaped zones that support social interaction and movement with ease and safety.



3.0 Design approach

3.7 Building typologies

3.5.4 Park side

The character of the homes along the southern side of the park will be different to those on the north as the buildings transition from the scale and formality of those along the neighbourhood spine and central square to the park edge.

The contemporary park facing typology is derived from Georgian crescents - sweeping to following the form of the park and well proportioned to capture views and take advantage of the northerly aspect.

There are three park facing typologies that will bring variety and scale and depth to the crescent:

1. Three storey three bed homes with double height living spaces
2. Three storey four bed homes with recessed terraces
3. four storey corner apartments





3.0 Design approach

3.7 Building typologies

3.5.5 Green street houses

The homes that line the rain garden pedestrian streets will collectively form the side 'walls' of this linear garden, which in turn serves as an extension to the residents private and public space.

The homes are three bedroom family town houses with gardens at podium level above the secure communal car parking. A small courtyard located at ground level at the back the house provides a physical buffer

from the car park and brings daylight to the back of the ground floor and space for cycle storage.

The special connection to the green street from the houses is strengthened by locating living spaces at ground level and through the articulation of the front elevations which feature balconies at second floor level, large openings at ground level and through the expression of the rainwater pipes

that feed the rain gardens.

Bridging the neighbourhood spine and park side the architectural style is recognisable but distinct as a result of their relationship with the green streets.





3.0 Design approach

3.7 Building typologies

3.5.6 Terraced houses

The terraced houses mark the transition from the medium rise typologies to the low rise.

Murray Green Terrace

Facing Murray Green and lining the back of the gateway six storey central square apartment block these three storey terraced houses have private gardens and access to communal gardens at podium level.

The main living spaces are located at first floor level providing direct access to the podium gardens and providing a private outlook onto Murray Green.

This relationship is expressed on the front elevation with the principle window proud of the facade, forming window seat at first floor level and the ground floor facade recessed for privacy.

The architecture is contemporary and in keeping with the apartment block to provide visual consistency as the development reduces down in scale to the existing two storey homes on the other side of Murray Green.

Dartmouth Green Terrace

A parcel of 18 three bedroomed homes located between Dartmouth Green and Dartmouth Path.

Forming a continuation of the existing grain of two storey houses accessed from St. Michaels Road the Dartmouth Green Terrace typology is based on a traditional two storey pitched roof terrace house.

The architectural language however is still recognisable as being part of the redevelopment with fretted metalwork, patterned brick and large aluminium framed window openings.

A key consideration of the front elevation is the concealment of utility meter boxes in a dummy side panel to the front door and the integration of bin storage in the front garden wall.





3.0 Design approach

3.7 Building typologies

3.5.6 Mews Street Typology

There are three mews streets proposed within Area Three. Two are located at podium level between the Neighbourhood Spine and the park and the third runs parallel to the neighbourhood spine bordering some existing properties on St. Michaels road and the podium garden of the elderly care apartments.

The proposed street widths of between 6 and 8 meters provide an intimate community environment in contrast to the neighbourhood spine and are derived from traditional non trafficked village streets found in many towns and villages in the area.

Podium Mews street

Raised on a podium concealing parked cars below, these two bedroomed gable fronted terraced homes have private rear gardens at podium level and enclose a private pedestrianised podium level street.

These houses have been carefully designed to maintain privacy between dwellings with facing windows at first floor level projected to angle views up the street or flush to project views to the screened projected windows.

At street level raised planters in the centre of the street and in front of principle ground floor windows provide natural screening and entrance doors are recessed for privacy and shelter.

The architectural approach is similar to that of the Dartmouth Green Terrace Typology where contemporary detailing and materiality has been used to update the traditional building form.

Neighbourhood Mews Street

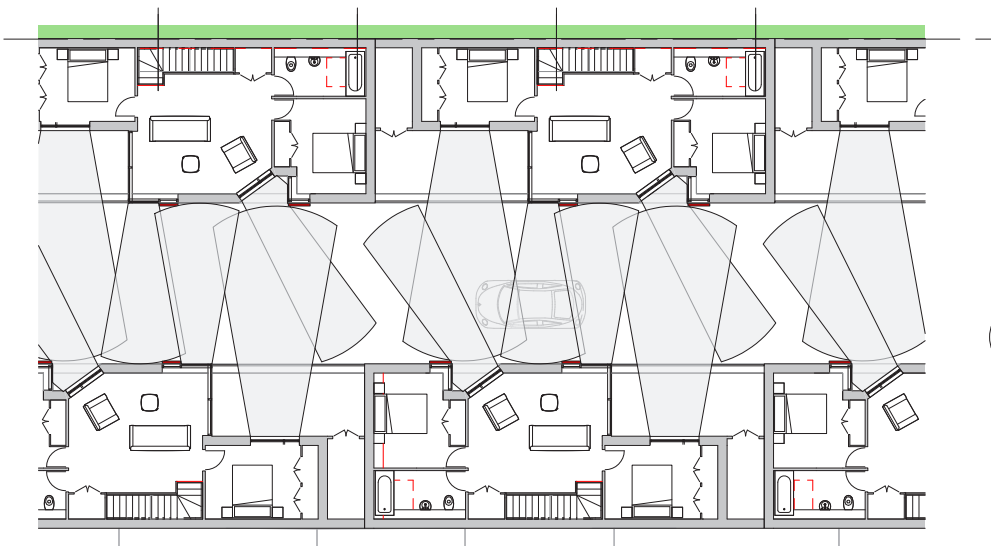
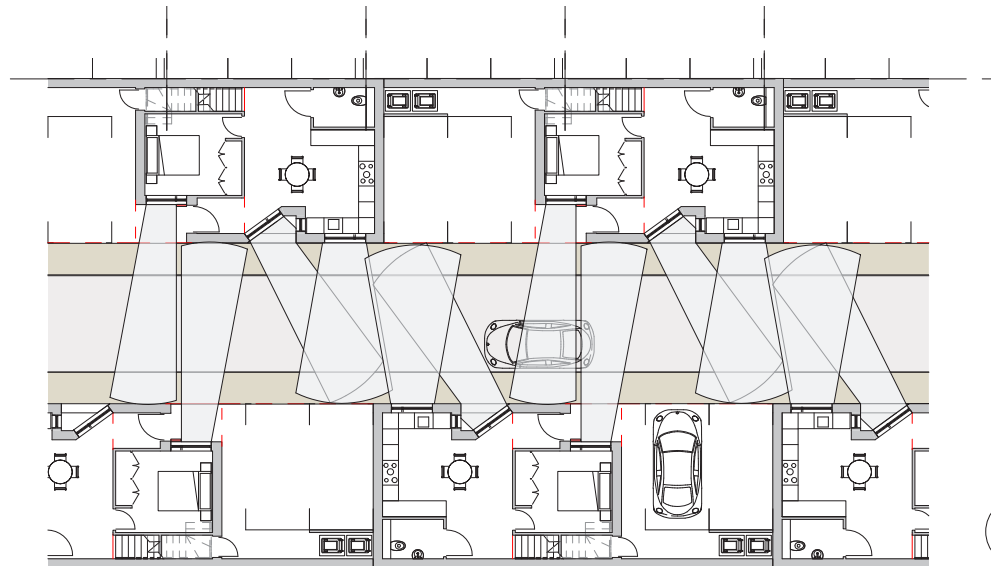
The Neighbourhood Mews typology integrates parking, outside space and three bedrooms within a small footprint by locating parking below a large first floor terrace and master bedroom.

To create active frontages along the street the kitchen and dining space is located at ground level with an ‘inverted bay window’ creating an open aspect to the street whilst providing privacy between properties.

As with the podium mews typology privacy between dwellings has been carefully considered. The approach sees adjacent homes ‘handed’ to avoid direct views between rooms, terraces providing additional privacy to the living room and master bedroom and the ‘inverted bay window’ directing views down the street.

The impact on the properties along St. Michaels road has also been a key consideration with the roof orientated to reduce the eaves height and the rear elevation split horizontally to break up the height of the party wall.

A two bedroomed typology has also been created which omits the accommodation above the car port to create a visual break between houses. This typology is used at the north end of the street to reduce the visual impact on the existing properties along Dartmouth Green.



3.0 Design approach

3.7 Building typologies

3.5.6 The transition building

The 'transition building' provides the architectural link between the existing properties on Albert Drive, the mews lining the gardens of St. Michaels Road and the central square.

At ground level the design retains the same retail plinth detail found around the square to reinforce the character of the public realm. Above the form of the building moves to a series of 2 storey gable ends containing maisonettes that address and animate the square.

The materiality of the principle elevation matches that of the central square apartments.

On the eaves elevations the traditional clay plain tiles used on the roofs of the mews and pitched roof terrace house typologies wraps onto the vertical elevation. This serves to reduce the scale further and provides a contemporary reference to the local vernacular architecture.





3.0 Design approach

3.8 Access Strategy

The following improvements to the consented masterplan have been made within Area Three:

- All roads are designed to 20mph or less by the integration of landscaping and speed management features.
- A clearer hierarchy of streets with many shared spaces giving pedestrians priority over cars.
- Roads fronting the southern edge of the Park have been omitted
- Fully pedestrian 'green streets' linking the Park to the neighbourhood spine and beyond
- Removal of the western primary road crossing the Park, resulting in the removal of traffic across the park and around the Community Hub

These changes will encourage walking, cycling and activate the streets providing the opportunity for communities to flourish.



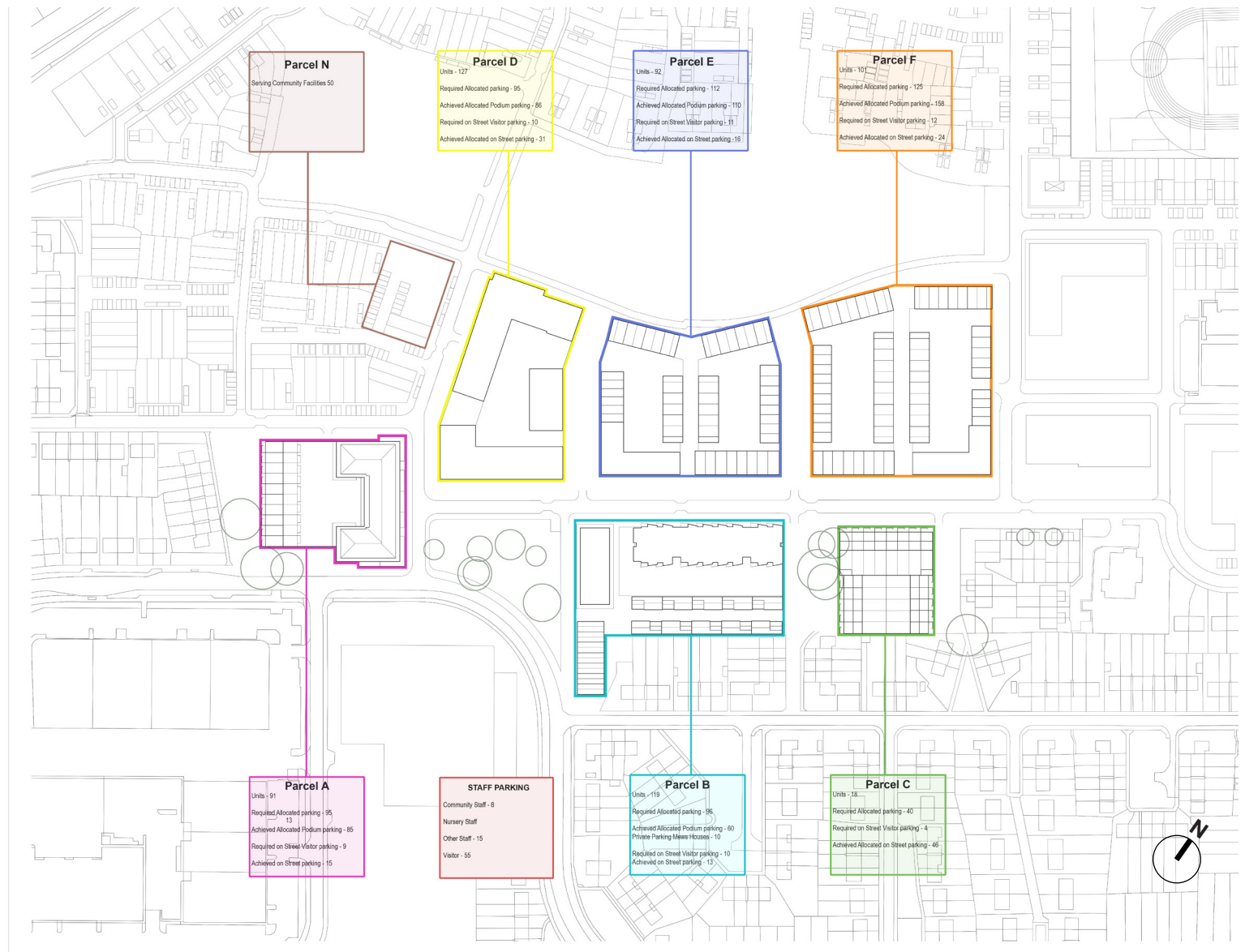
3.9 Parking Strategy

The consented scheme was based on Woking Borough Council parking standards published in July 2006 providing an average of 1.5 spaces per dwelling. Since that scheme was approved in July 2016, Woking Borough Council has consulted on new draft parking standards (March 2017).

While these standards have not yet been adopted by the Council they reflect national policy regarding local car ownership levels to ensure that sufficient parking is provided to meet the needs of residents.

In consultation with the Council we have taken the opportunity to reflect these standards in the developed scheme.

In addition to on street visitor parking a community car park is proposed adjacent to the Community Hub and Park. This will serve the needs of visitors to the Park, Community Hub and to the nearby retail units.



3.0 Design approach

3.10 Refuse Strategy

The refuse strategy has been developed in consultation with the councils waste management company Joint Waste Solutions Surrey County Councils Highways department and Thamesway.

Refuse vehicle route:

- No reversing required
- Stopping points on street and within 10m of communal bin store entrances or 25m from dwellings
- On 'eurobin' collection routes curbs will be flush and gaps in landscaping and parking provided

Podium apartments and houses:

- Communal 'eurobin' storage within 30m of dwelling entrances
- Where communal bin stores cannot be accessed from 10m of the highway (Green street podiums) bins will be moved by a facilities management company to a store than can be accessed for collection
- Podium mews streets will have bin chutes down to car park level

Commercial refuse:

- Detail requirements to be established



4.0 Engineering Approach

4.1 Drainage

Price and Myres have been commissioned to carry out the site wide drainage design.

4.1.1 Foul Water

Foul water connections will be made directly to the existing public sewers along the existing roads and to new sewers, proposed for adoption, underneath the new private and adoptable roads.

4.1.2 Rain Gardens

A number of rain gardens will be constructed along the pedestrianised streets and within the park. These will provide storage for surface water run-off.

4.1.3 Public Sewers

The proposed site wide surface and foul water drainage network which runs underneath the roads will connect to the existing on-site public sewers. They will be offered to Thames Water for Adoption. Some of the existing public sewers will be required to be demolished and diverted. The diverted sewers will be constructed in accordance with Sewers for Adoption and Thames Water guidelines.

4.1.3 Surface water

A pond is proposed within the central park. This can provide storage for surface water during the larger storm events.

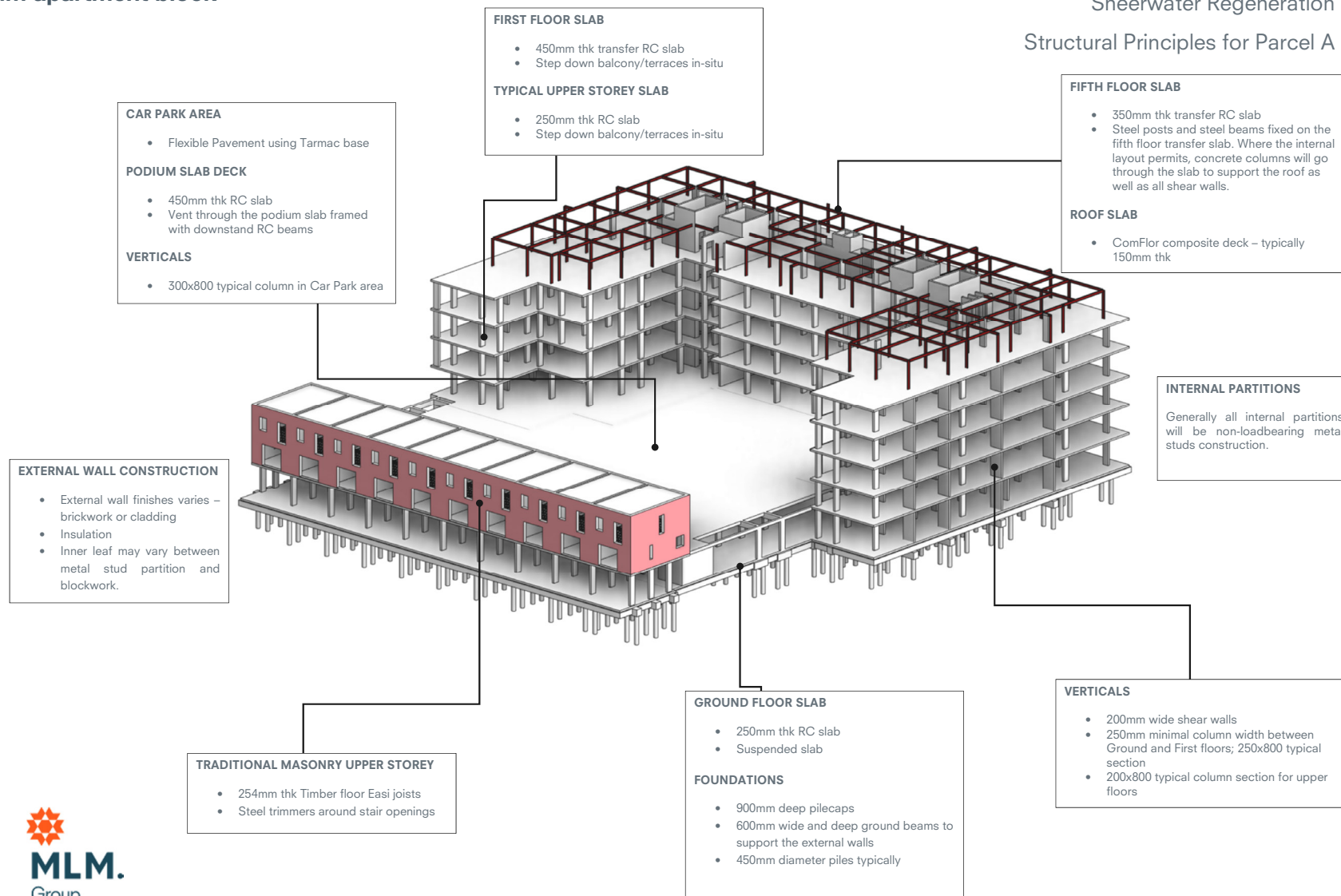
Podum parcels will utilise surface water storage within the plot boundaries and oversized surface water pipes within the roads in order to reduce the peak discharge rate to the existing surface water public sewer.

The private roads and car parking bays either side of the low rise housing will feature permeable paving and attenuation tanks to provide surface water storage prior to discharging to the Thames Water public sewer at a reduced rate.

4.2 Structural engineering

4.3.1 Podium apartment block

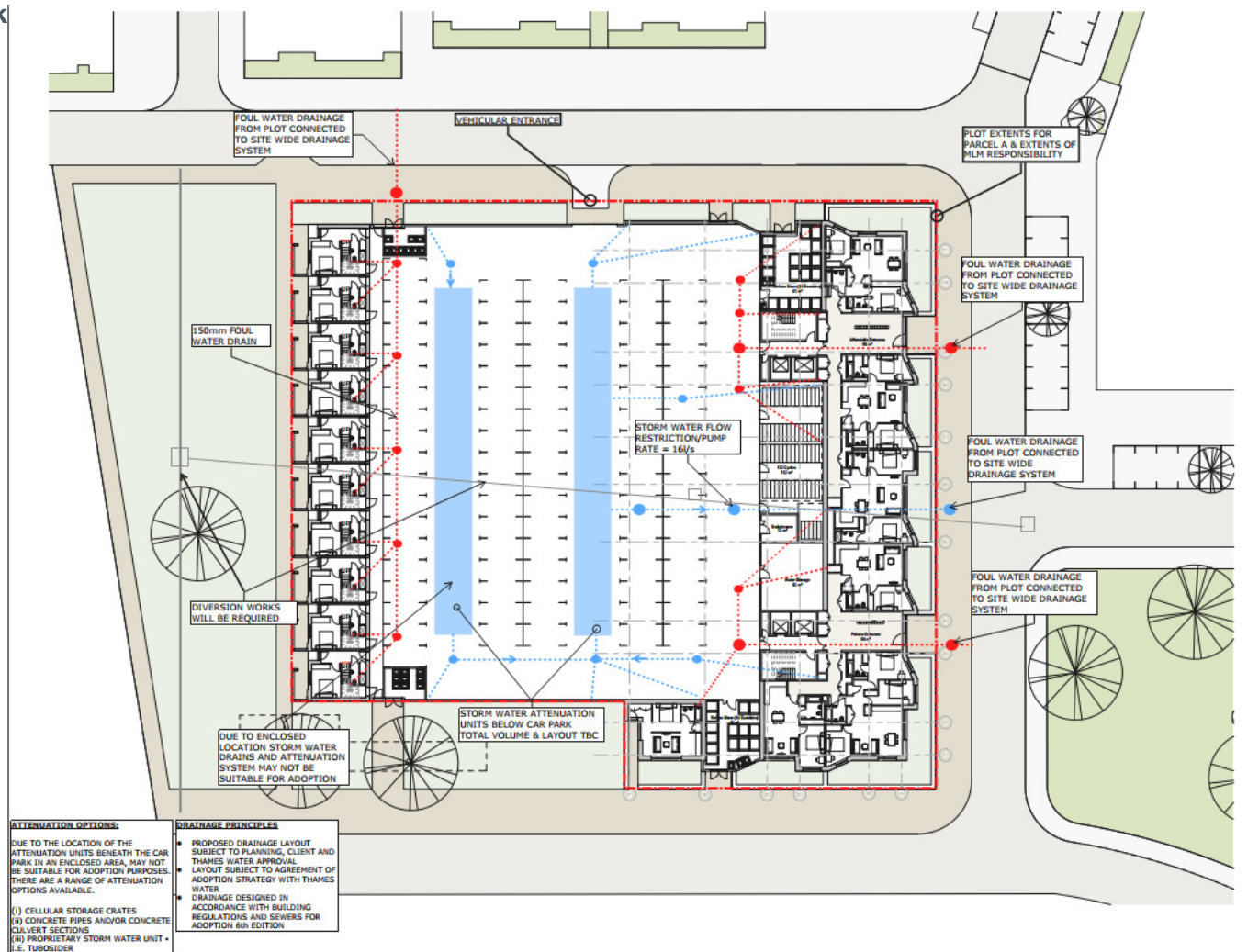
Sheerwater Regeneration Structural Principles for Parcel A



4.0 Engineering Approach

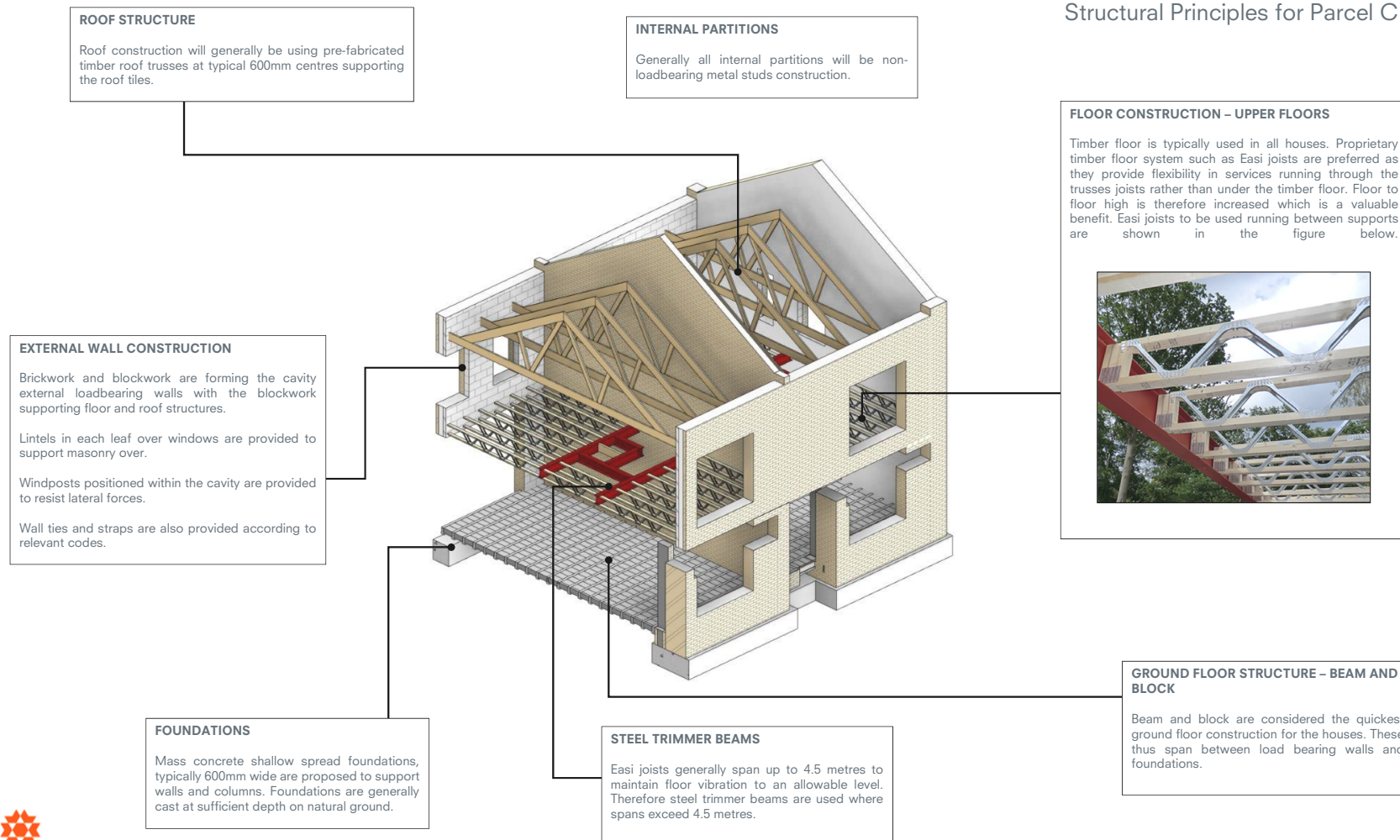
4.3 Structural engineering

4.3.1 Podium apartment block



4.4 Structural engineering

4.3.1 Terraced house typology



Sheerwater Regeneration Structural Principles for Parcel C



4.0 Engineering Approach

4.5 Service Engineering

4.3.1 Low rise utilities

TELECOMMUNICATIONS

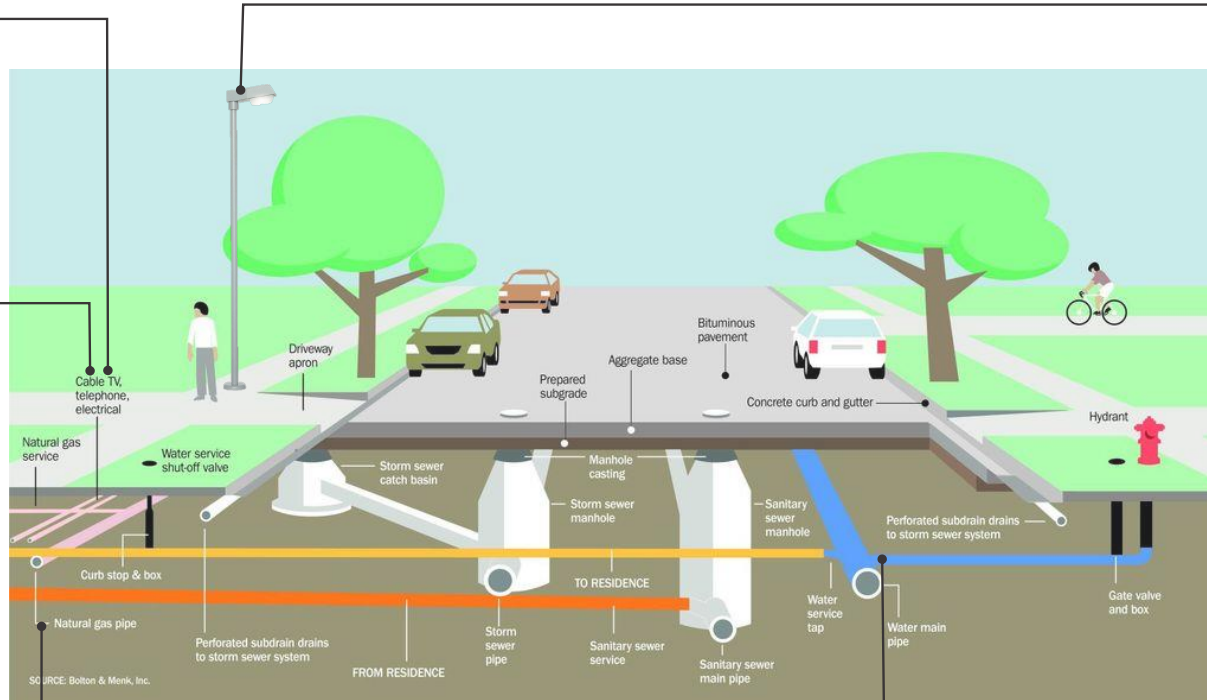
The development will be provided with a site wide communications network, which will consist of 3no. supplies from BT Openreach, Virgin Media and a third party. Each dwelling will be connected off the site-wide infrastructure.

ELECTRICAL SUPPLY

4 no. of UK Power Networks substations will be strategically installed in the development to provide power to the development. Underground low voltage cables will supply all dwellings, commercial units and community areas.

STREETLIGHTING

Streetlighting in accordance with Surrey County Council standards will be provided to main highways and park areas footpaths.



GAS SUPPLY

Gas supplies to branch off the low pressure (LP) mains pipework within road and route to serve individual dwellings. Gas meters for each dwelling to be located within semi-recessed enclosures at the front of each property.

MAINS COLD WATER SUPPLY

1 no. mains cold water supply (MCWS) pipework to route within pavement and branch off to serve each dwelling/ apartment block. Additional MCWS branches to be provided for each commercial area. Individual meters to be provided for each branch off the mains and to be located within the pavement.

- GAS
- WATER
- ELECTRICITY
- SUSTAINABILITY
- HEATING
- VENTILATION
- STREETLIGHTING



4.6 Service Engineering

4.3.1 Medium rise utilities

The development will be provided with a site wide communications network, which will consist of 3no. supplies from BT Openreach, Virgin Media and a third party. Each dwelling will be connected off the site-wide infrastructure.



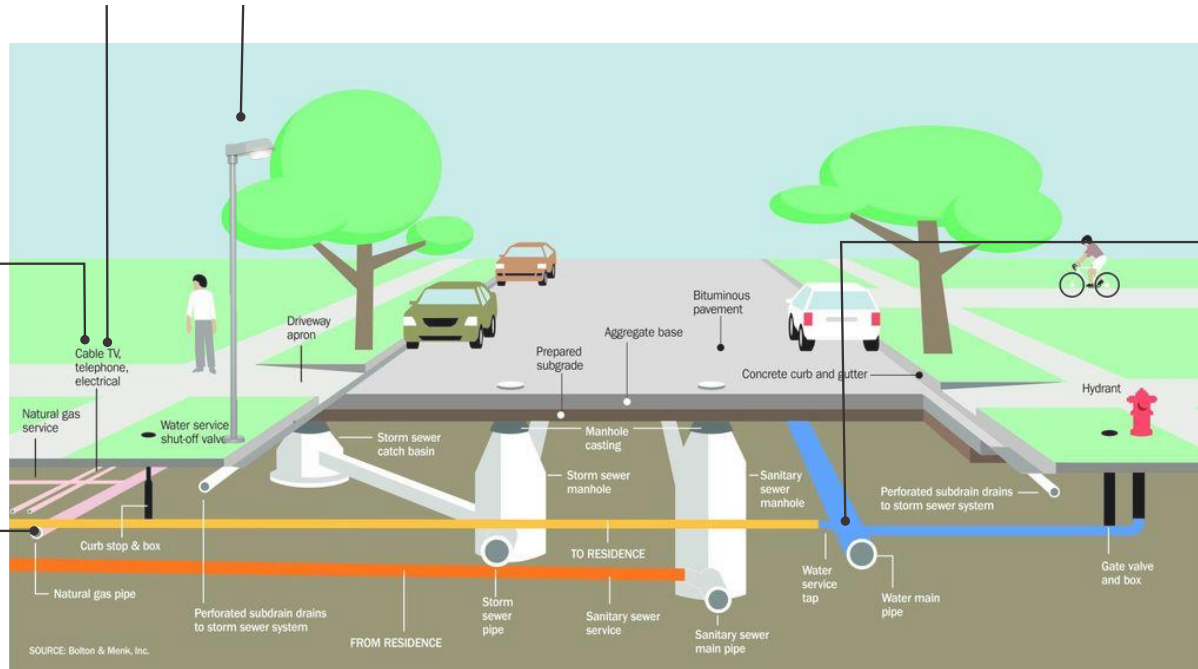
ELECTRICAL SUPPLY

4 no. of UK Power Networks substations will be strategically installed in the development to provide power to the development. Underground low voltage cables will supply all dwellings, commercial units and community areas.



GAS SUPPLY

Gas supplies to be provided to main energy centre and to each commercial unit. Gas meters to be located within internal rooms and ventilation according to Part J of the Building Regulations.

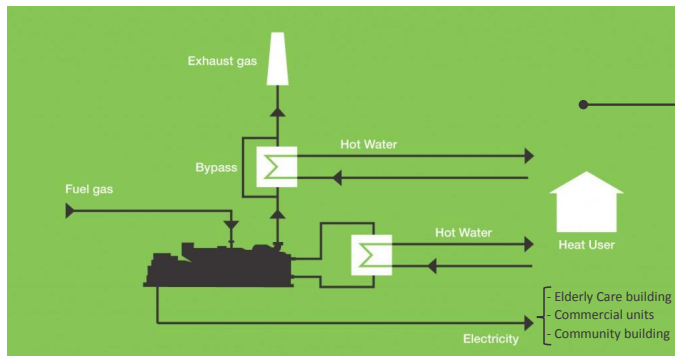


Streetlighting in accordance with Surrey County Council standards will be provided to main highways and park areas footpaths.

MAINS COLD WATER SUPPLY

1 no. mains cold water supply (MCWS) pipework to route within pavement and branch off to serve each dwelling/ apartment block. Additional MCWS branches to be provided for each commercial area. Individual meters to be provided for each branch off the mains and to be located within the pavement.

- GAS
- WATER
- ELECTRICITY
- SUSTAINABILITY
- HEATING
- VENTILATION
- STREETLIGHTING



ENERGY CENTRE



District heating will be provided to all the apartments in the Medium Rise development. And will be supplied from the main energy centre located within Parcel B.

The electricity will be supplied to Elderly Care Building, commercial units and community building.



4.0 Engineering Approach

4.7 Service Engineering

4.3.1 Medium rise services

 HEATING & DOMESTIC WATER

Incoming mains cold water pipework (MCWS) to serve bulk storage tank on ground level and serve commercial areas directly.

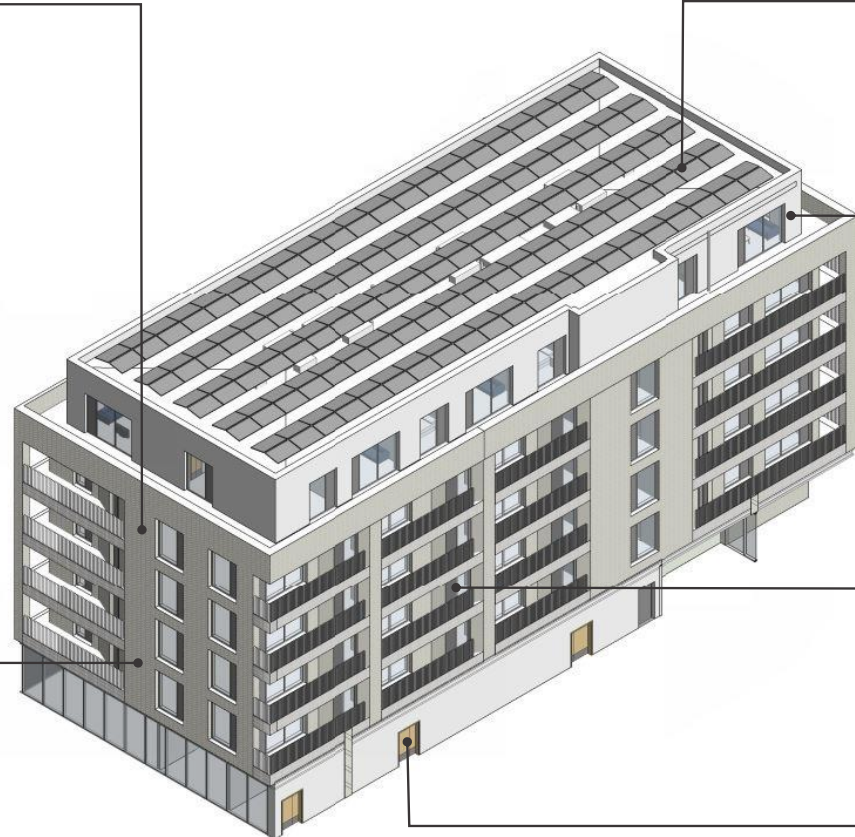
Boosted Cold Water (BCWS) to be supplied from bulk storage to each apartment.

Incoming district heating from external network to serve each apartment Heat Interface Unit (HIU) located within each utility cupboard. HIUs are to serve each apartment with hot water (HWS) and heating in the form of underfloor heating.

 SERVICES DISTRIBUTION

Services will be distributed from plant and switch rooms through risers and suspended ceilings in communal areas. Utility cupboards are to be provided for each apartment, located adjacent to the apartment they serve and with access provided onto the communal corridor.

-  GAS
-  WATER
-  ELECTRICITY
-  SUSTAINABILITY
-  HEATING
-  VENTILATION
-  STREETLIGHTING



PV PANELS 

Photovoltaic Cells mounted on the roof will provide clean and sustainable energy to the energy centre and retail units.

VENTILATION 

Ventilation to apartments to be provided via vertical, wall mounted MVHR units situated within the utility cupboard. Extract to be provided to bathrooms, kitchens and utility rooms, air to be supplied to living rooms and bedrooms. Ventilation terminations to be provided on the façade above windows for intake and exhaust vent.

Concealed, horizontal MVHRs to be provided to communal areas with louvres at high level on the façade.

ELECTRICAL DISTRIBUTION 

Low voltage circuits from the dwelling's Mains Consumer Unit (MCU) will be distributed throughout the apartments to serve light fittings, white goods and equipment.

INCOMING UTILITIES 

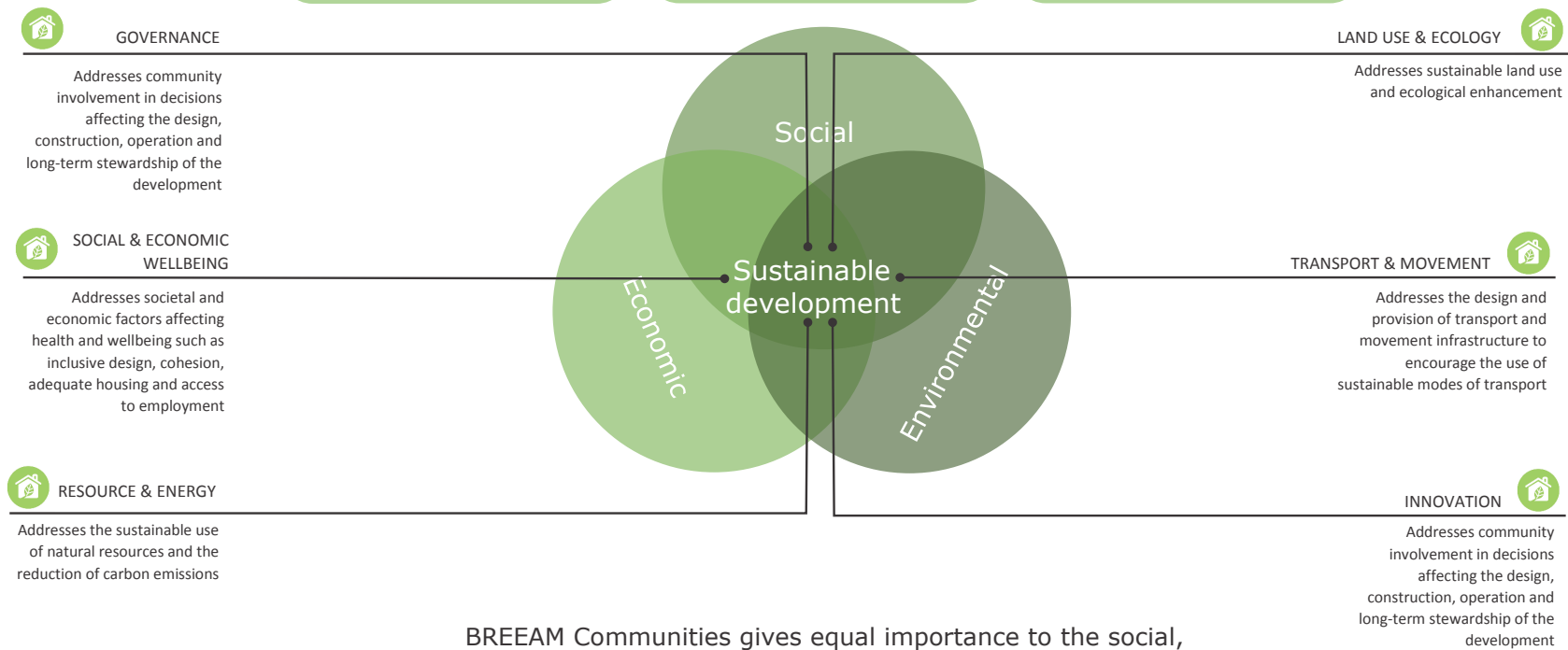
Incoming utilities serving each apartment and landlord areas will be connected off the site-wide infrastructure for the development.



4.8 Service Engineering

4.3.1 BREEAM

BREEAM Communities is a way to improve, measure and certify the social, environmental and economic sustainability of the plans for large-scale developments by integrating sustainable design into the masterplanning process.



BREEAM Communities gives equal importance to the social, economic and environmental dimensions of sustainability



4.0 Engineering Approach

4.9 Fire engineering

The proposed solutions have been developed based on a combination of fire engineering principles and the guidance given principally in BS 9991: 2015, BS 9999: 2017 and Approved Document B Volume 1.

The key points to consider are as follows:

- Actuated Opening Vents (AOVs) are provided in ground floor protected corridors and lobbies where they serve more than one apartment.
- 1m² AOV are provided at the top of each protected stair for ventilation.
- Sprinkler protection to medium rise residential units and commercial accommodation.

4.10 Day lighting

A Daylight, Sunlight and Overshadowing (DSO) report has been prepared by Rambol relating to the Parcels A, B & C. A second report is currently being prepared by MLM for parcels D, E, F, and N.

The methodology adopted in assessing the performance is in accordance with BRE Report BR209, Site layout planning for daylight and sunlight and BS 8206-1992 Lighting for Buildings Part 2 Code of Practice for Daylighting.

These documents encourage designers to apply the content therein so that it is sensitive to the development being assessed. As such, the design criteria described is meant to provide guidance rather than a regulatory requirement.

The works completed required calculations to be performed for all applicable windows and rooms.

Access to daylight and sunlight is one of several factors driving the design of the Sheerwater Regeneration project. As the design has developed recommendations have been made with a view to optimising the daylight access of the development such as position and orientation of rooms and glazing,

areas of glazing, balcony forms and optical properties of building surfaces.

Maintaining these results relies on no significant detrimental that would decrease sun and sky access be made to the architectural design information assumed in the report. The

primary conclusions of the assessment are as follows:

- All parcels achieve between 80-100% compliance with the good practice criteria for access to light from the sky (VSC) in the new buildings and sunlight (AASH) in external amenity spaces.

- Good practice guidance for access to sunlight is achieved in approximately half the assessed windows (those facing south) in Parcels A and B. This illustrates the common trade-off between dwelling density and sunlight access.

Achieving higher sunlight access results than reported would require all dwellings to be made dual aspect which would significantly reduce dwelling density.

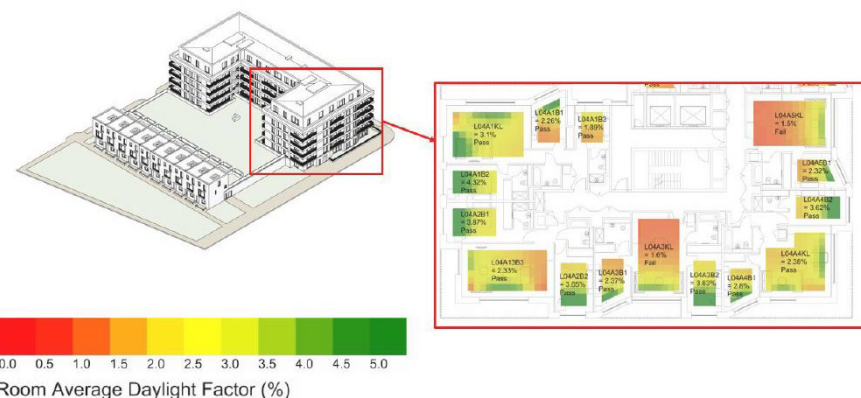
- Sunlight access in Parcel C is lower than A and B due to the northern orientation many of the living rooms. Houses that have little sunlight access in the living room, instead achieve good practice guidance for sunlight access in the kitchen/dining room.

- Kitchen/living rooms which are open plan interconnected spaces have been assessed to the more conservative 2.0% ADF criteria for Kitchens. Although not all kitchen/living areas achieve the 2.0% criteria most of these spaces (68%) do achieve the 1.5% target for living rooms and therefore would be perceived by occupants to be day lit;

- In higher density buildings such as the apartments, occupant expectation for access to light from the sky and sunlight will be less than those in less densely occupied buildings such as the houses.

For this reason, achieving >75% compliant development in terms of both access to light from the sky (VSC & ADF) and sunlight (APSH) as well >89% sunlight access in amenity spaces (AASH) is an excellent result.

- The reduced compliance in the apartments is offset by the provision of desirable external spaces in the form of balconies.



5.0 Parcel JK

5.1 Area 3 outline

As part of the updated outline masterplan the medium rise area to the south west of Broadmere Primary School was re-designed to provide the following improvements:

- Dedicated drop off area for the school
- New classrooms with key worker accommodation above (located on the existing staff car park)
- New staff car park
- Park extended to the northern school boundary and playing fields providing pedestrian and cycle access to the schools and leisure centre
- Additional 0.2 ha of green space including a green buffer between the existing properties on Dartmouth Avenue and the proposed 4 storey apartment blocks



6.0 Consultation

6.1 Statutory consultation

During the course of the design development the following meetings with statutory consultees have been held:

Surrey CC Highways Dept

03.11.17, 08.12.17 and 06.01.18

Woking Borough Council Planning

13.12.17 and 04.01.18

Joint Waste Solutions

17.11.17

Broadmere Primary School

16.11.17

Woking Borough Council Communities and People

09.01.18

6.1 Public consultation

A major public consultation event was hosted at the Parkview community centre on the 18th January 2018 where local residents were invited to discuss and share their views on the emerging design proposals.



7.0 Summary and Next Steps

Summary

The report provides a summary of the design approach for Area Three and captures the current status of the Stage 2 design for Parcels A, B, C, D, E, F and N.

Further design development is programmed for February across all parcels to finalise the Stage 2+ designs and prepare for the hybrid planning submission - planned for Spring 2018.

Outcomes from the Gateway 2 presentation (planned 8th February) will be reviewed and briefed by Thamesway for the next stages of design development.

Next Steps

Continued design development with consultant team to RIBA Stage 2+ and submission of a Hybrid detailed planning application.

BDP.

Contact

Chris Kenny, Architect Associate

BDP

7 Hill Street

Bristol

BS1 5RW

t +44 (0)117 373 0749

e chris.kenny@bdp.com