### 01

## Brunswick Park Centre Site context































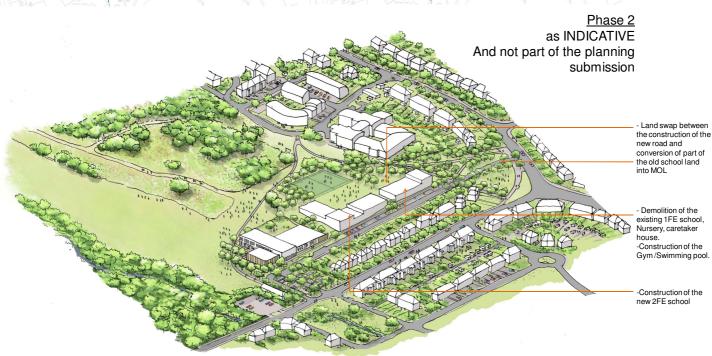




# Brunswick Park Centre Phasing Strategy

















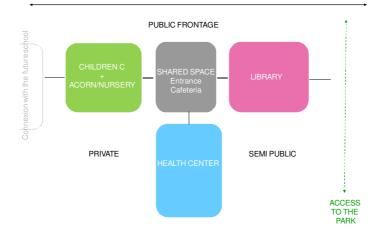




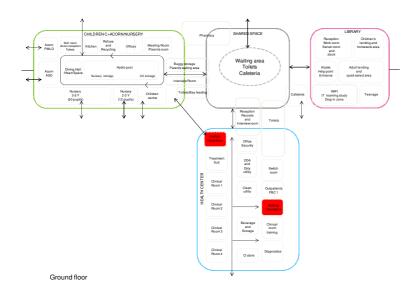


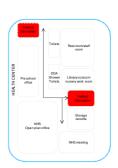


# Brunswick Park Centre Concept Approach

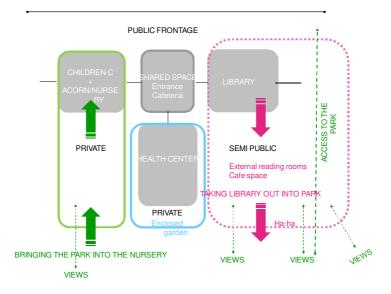


Public Private





Internal layout



Landscape















First floor







# Brunswick Park Centre Proposal, Ground floor level & first floor

















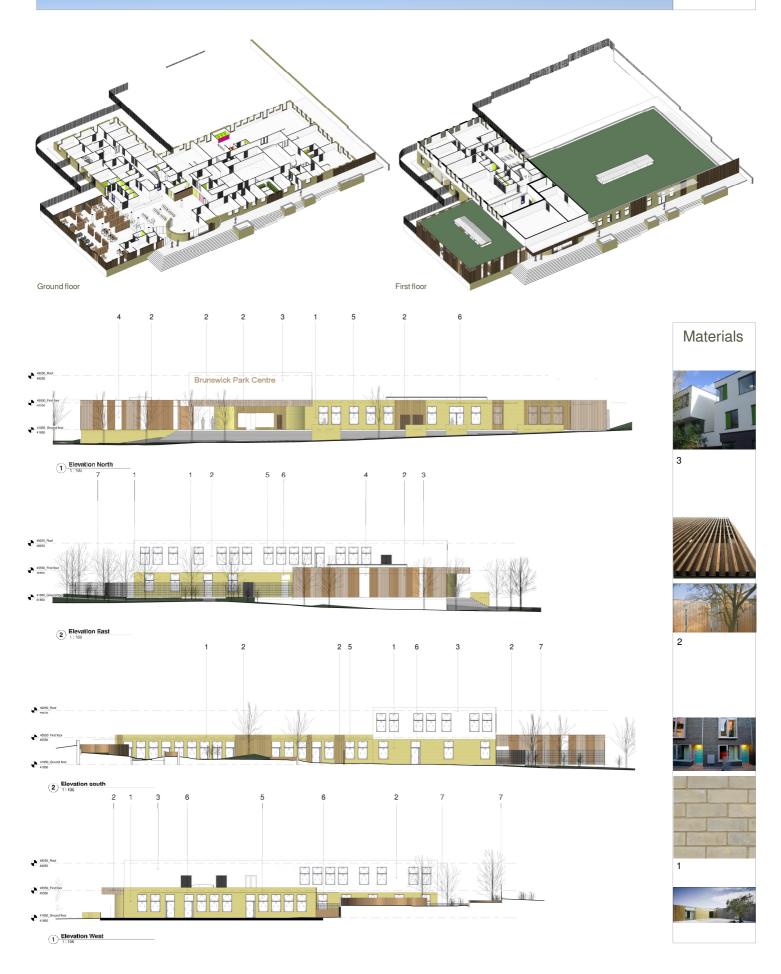






### **Brunswick Park Centre**

#### Elevation, internal view





















### Brunswick Park Centre **Appearance**







Atrium, waiting area

































### 07

Materials

### Brunswick Park Centre Landscape

































## Brunswick Park Centre Environmental and Energy Strategy

#### **REGULATORY REQUIREMENTS**

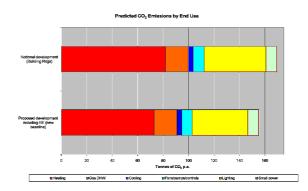
The London Plan and the London Borough of Barnet's (LBB) planning requirements stipulate a minimum 20% reduction in carbon dioxide emissions compared to the requirements of Part L of the Building Regulations 2006.

#### PASSIVE DESIGN & ENERGY EFFICIENCY MEASURES

Passive design and energy performance measures will be incorporated to minimise carbon dioxide emissions including:

- · Improved building fabric thermal performance
- · Improved air tightness
- · Use of natural and mixed mode ventilation systems
- · Use of natural daylight.

The above measures are estimated to reduce the predicted carbon dioxide emissions by approximately 8.5% (as illustrated in the graph opposite)



#### PREDICTED INFLUENCE OF LOW AND ZERO CARBON (LZC) FUELS AND TECHNOLOGIES ON THIS DEVELOPMENT'S CO., EMISSIONS

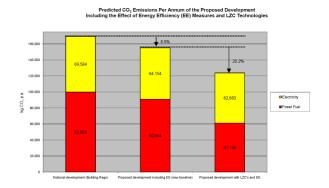


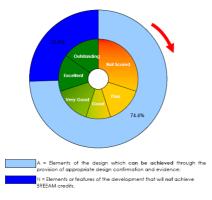
Subject to confirmation of the ground conditions and cost implications, it is proposed to utilise a ground-source heat pump solution in order to significantly contribute towards the required emission reduction, by providing an estimated 19.2% reduction in carbon dioxide emissions (based on a 65% contribution to the annual heating load).

To achieve the require 20% reduction in carbon dioxide target, it is proposed to utilise roof-mounted photovoltaic (PV) panels, and it is estimated that a further 1% reduction in carbon dioxide emissions will be achieved by a 30m<sup>2</sup> PV array.

The overall carbon dioxide savings for the proposed development are detailed within the graph opposite. This demonstrates that predicted reduction in carbon dioxide emissions in combining the ground-source heat pump and PV is 20.2%, which is over and above the 8.5% reduction expected to be achieved by passive design and energy efficiency measures.

The use of a combined heat and power (CHP) system has also been investigated; however, the base heat load is insufficient to make this a viable proposal for a standalone building of this nature. Biofuel or airsource heat pumps are other technologies that could be utilised, but these are currently unacceptable to the LBB due to emissions and noise respectively.





A BREEAM pre-assessment was carried out for the proposed development at an early stage to be used as a design tool. The assessment identified that the development is likely to achieve the required 'Excellent' rating with a score of 74.4%. This score also includes all the mandatory credits for an 'Excellent' rating. The BREEAM score is summarised in the 'donut' to the left.

















