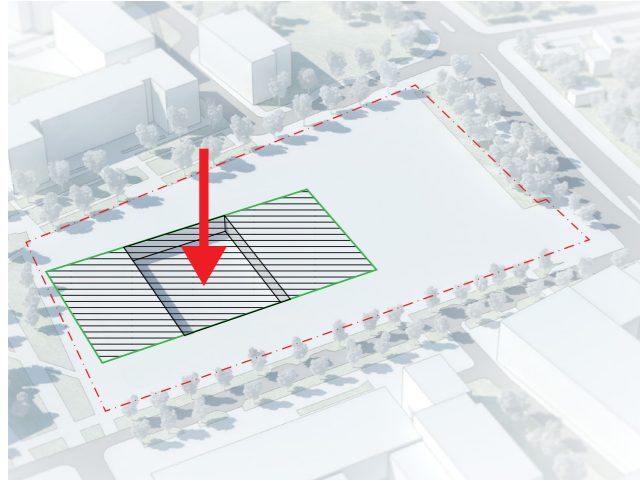
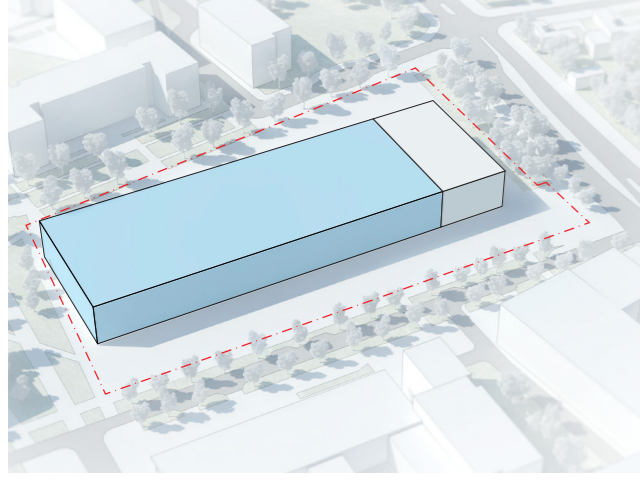


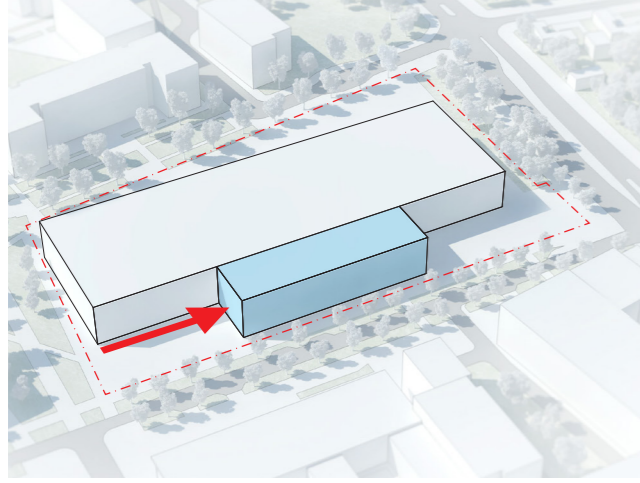
Cavendish III Project Overview



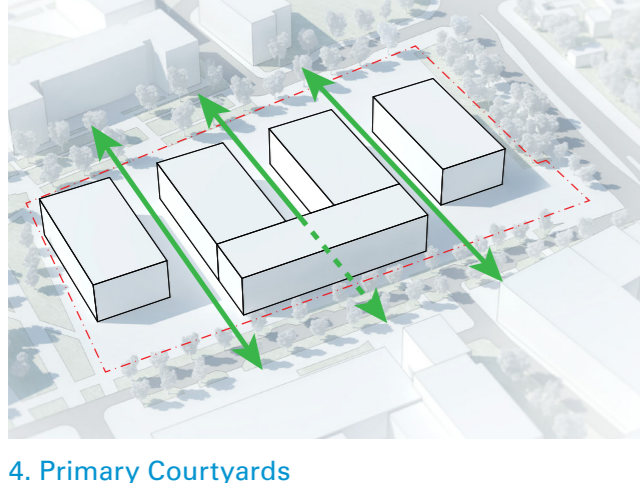
1. Low Vibration Basement



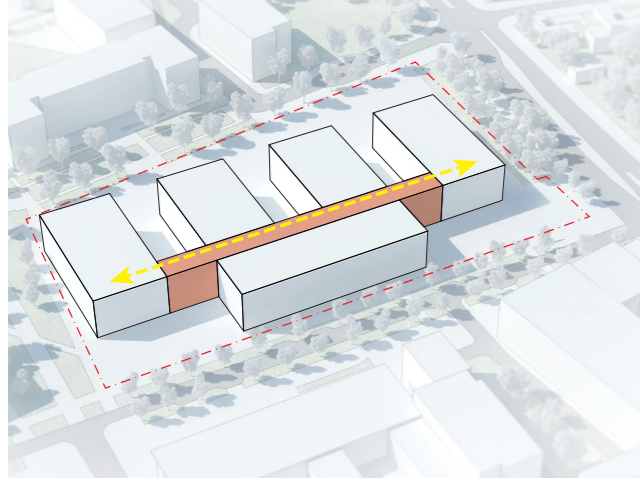
2. Research Zone



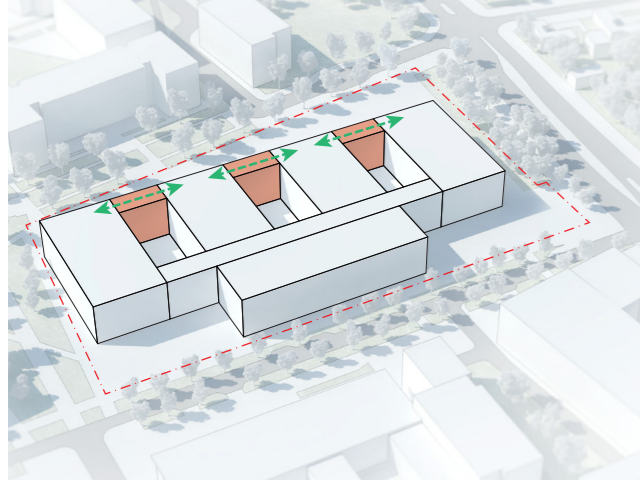
3. Public Zone



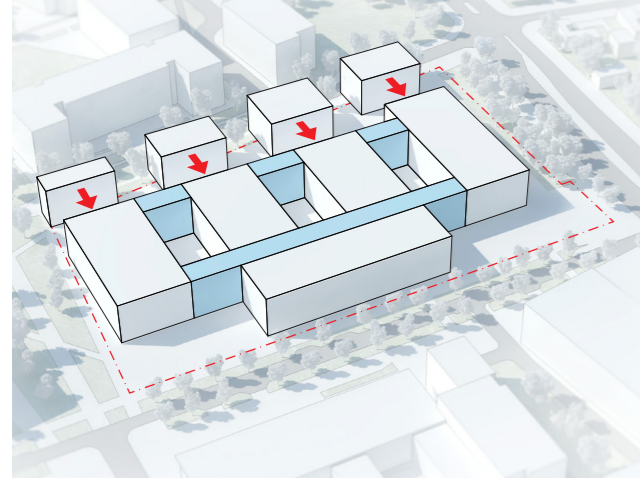
4. Primary Courtyards



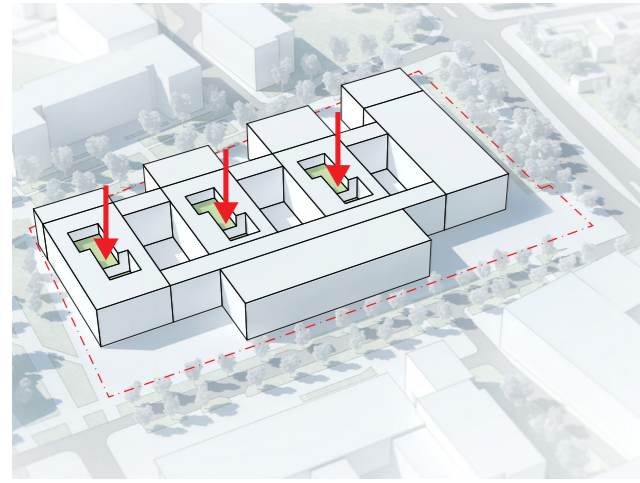
5. The Street



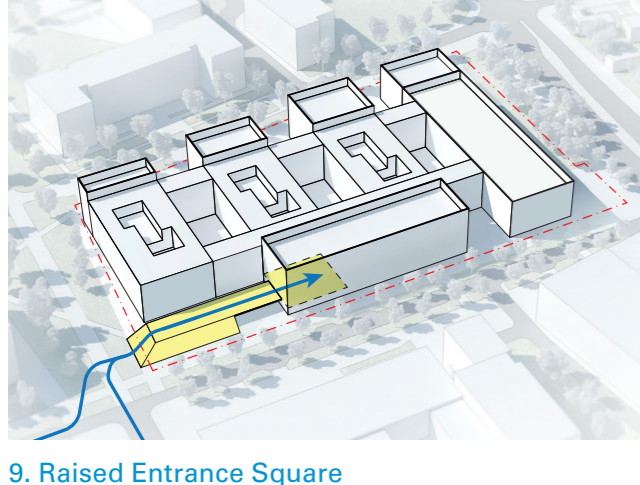
6. Secondary Link



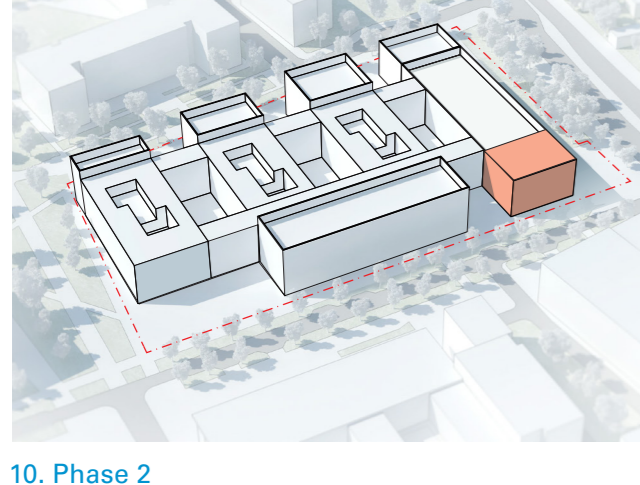
7. Service Wings



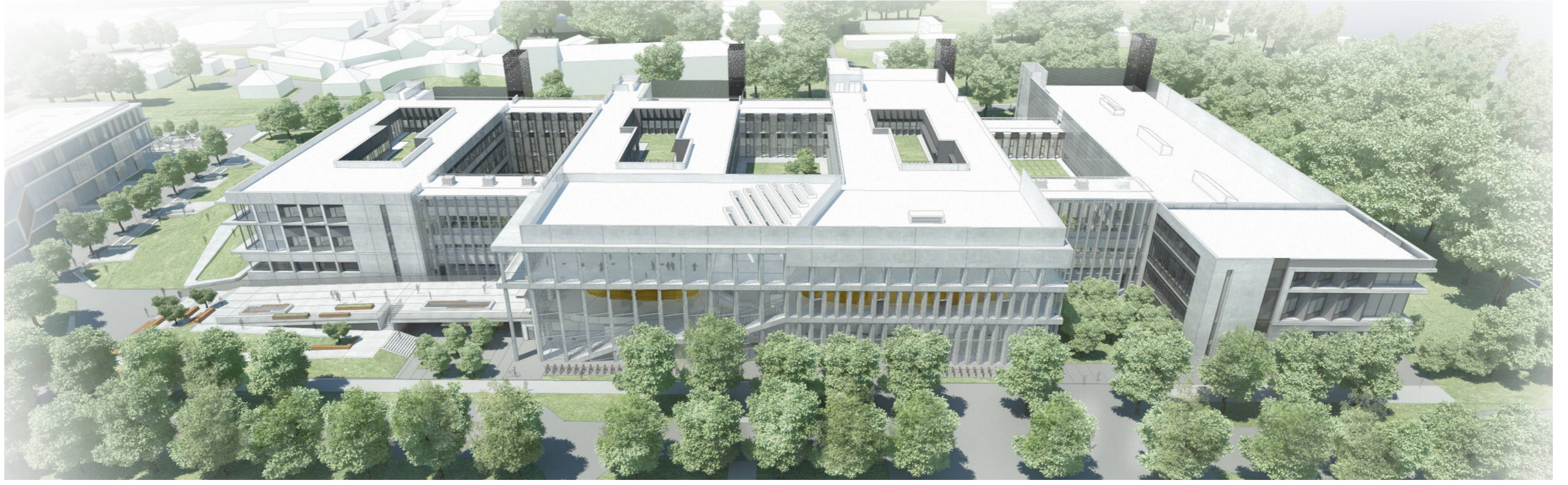
8. Secondary Courtyards



9. Raised Entrance Square



10. Phase 2



Aerial View, East Elevation

Introduction

The Cavendish is arguably the most famous physics laboratory in the world, being consistently ranked as one of the top physics laboratories world-wide on the basis of the excellence of the current research and teaching programme. The Department has produced 29 Nobel Prize winners. It is where JJ Thomson discovered the electron, where James Chadwick discovered the neutron, where Rutherford split the atom and where Crick and Watson first discovered the structure of DNA.

Key aims of the new Cavendish III Laboratory include encouraging collaboration between users and providing highly flexible and adaptable research and teaching space. With a total Gross Internal Floor Area of around 35,000sqm, the proposed building will need to accommodate 900 staff and 560 full time equivalent students including 15 research groups.

Located on the University's emerging West Cambridge campus, Cavendish III will also provide major teaching and learning facilities both for the Department of Physics and the wider University community, as well as public outreach and conferencing programmes. The building will therefore include a diverse range of spaces including cleanrooms, laboratories, offices, reception, exhibition, lecture theatres, seminar rooms, learning resource centre, outreach, computer room, common room, meeting rooms, supervision rooms, teaching laboratories, workshops and stores.

General Arrangement

The proposed building arrangement aims to resolve the complex and sometimes conflicting considerations presented by the brief and the site into a simple, elegant and coherent design solution. The facility is therefore organised into four principle zones: a utility zone to the west, a research zone in the centre, a public zone to the east and a 'Street' which links the zones together. The proposals have been heavily influenced by the highly technical requirements needed to host physics experiments, where environmental influences can distort the results. The building has been designed to provide highly controlled vibration performance, which has led to an ultra-low vibration basement located in the quietest part of the site.

External Envelope

The brief for the design of the building elevations outlined both functional and qualitative considerations. The latter included responding to the sense of place, defining the identity of the Cavendish, expressing the cutting-edge science being carried out in the Department and creating a timeless appearance. The architecture seeks a sense of permanence and visual weight, which responds beautifully to movements in sunlight and shade, and using durable materials in a way which is coherent and true to its construction. The Architects took inspiration from Cambridge City Centre which has a distinct identity and rich history which is reflected in its architecture. This approach led to a simple contemporary material palette for the new Cavendish comprising reconstituted stone, metal, render and glass. The same palette of materials is employed across the building to give a unified sense of identity, but the balance of this palette is subtly adjusted in response to function and solar orientation.

In contrast to some of the more inward looking institutions which exist on the West Cambridge campus, views into the internal courtyards are created along JJ Thomson Avenue. This helps to break down the apparent mass of the building. Active frontages are also created on the south and east facades by creating a vibrant new public entrance square and introducing large picture windows into the public wing and some of the laboratories, thus revealing some of the cutting edge scientific research carried out at the Cavendish. The landscape treatment around the perimeter of the building ties in with this architectural approach and also provides three publicly accessible 'pocket gardens'.

Programme

The University submitted the planning application in October and, further to lengthy and detailed consultations both prior to and following the submission, it is anticipated that a decision will be made by Cambridge City Council in early February. If planning permission is granted, construction works are likely to commence in 2019.



Entrance Hall, First Floor



Atrium from Entrance Level, First Floor



Large Lecture Theatre, Event Mode



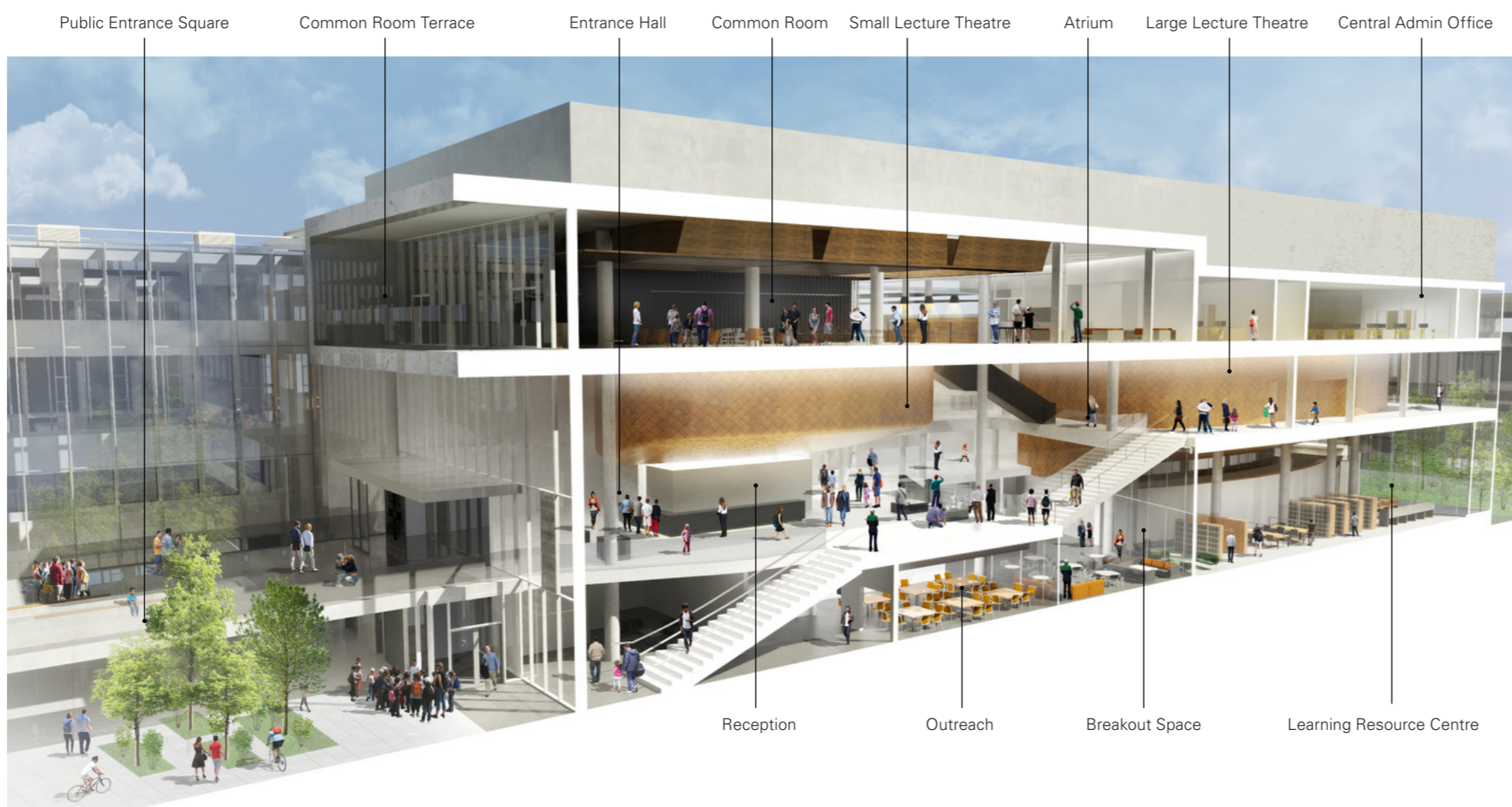
Common Room



The Street, Views into Organic Cleanroom



Cryostat Hall



Section through Public Block



Lower Entrance



Raised Entrance Square