



NMP | Landscape Architecture

HOLY CROSS COLLEGE SHD

Landscape Design Statement

Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9.

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01 Introduction



The residential buildings are arranged around a number of proposed public open spaces and routes throughout the site with extensive landscaping and tree planting proposed. Communal amenity spaces will be located adjacent to residential buildings and at roof level throughout the scheme. To facilitate the proposed development the scheme will involve the removal of some existing trees on the site.

The site is proposed to be accessed by vehicles, cyclists and pedestrians from a widened entrance on Clonliffe Road, at the junction with Jones's Road and through the opening up of an unused access point on Drumcondra Road Lower at the junction with Hollybank Rd. An additional cyclist and pedestrian access is proposed through an existing access point on Holy Cross Avenue. Access from the Clonliffe Road entrance will also facilitate vehicular access to future proposed GAA pitches and clubhouse to the north of the site and to a permitted hotel on Clonliffe Road.

The proposed application includes all site landscaping works, green roofs, boundary treatments, PV panels at roof level, ESB Substations, lighting, servicing and utilities, signage, and associated and ancillary works, including site development works above and below ground.

Niall Montgomery + Partners Landscape Architects were engaged by Hines Real Estate Developments to collaborate with Henry J Lyons, O'Mahony Pike, O'Donnell Twomey and McCullough Mulvin to develop lands at Clonliffe Seminary College, Drumcondra.

The development will consist of the construction of a Build To Rent residential development set out in 12 no. blocks, ranging in height from 2 to 18 storeys, to accommodate 1614 no. apartments including a retail unit, a café unit, a crèche, and residential tenant amenity spaces. The development will include a single level basement under Blocks B2, B3 & C1, a single level basement under Block D2 and a podium level and single level basement under Block A1 to accommodate car parking spaces, bicycle parking, storage, services and plant areas. To facilitate the proposed development the scheme will involve the demolition of a number of existing structures on the site.

The proposed development sits as part of a wider Site Masterplan for the entire Holy Cross College lands which includes a permitted hotel development and future proposed GAA pitches and clubhouse.

The site contains a number of Protected Structures including The Seminary Building, Holy Cross Chapel, South Link Building, The Assembly Hall and The Ambulatory. The application proposes the renovation and extension of the Seminary Building to accommodate residential units and the renovation of the existing Holy Cross Chapel and Assembly Hall buildings for use as residential tenant amenity. The wider Holy Cross College lands also includes Protected Structures including The Red House and the Archbishop's House (no works are proposed to these Structures).

01 Response to DCC & An Bord Pleanála Opinion - Summary

DCC Opinion: ADDENDUM B - Report from Parks - ABP 308744 20

A stronger focus of public recreation should be provided to the Formal Green: A destination playground has been proposed for the area

3.3 Trees- The City Council promotes the sustainable design of new development and the retention of existing trees is a benchmark of

3.4 Public art- the application proposes the introduction of public art: Refer to art consultantants report

3.5 Residential landscape boundaries-Private/communal open space at ground levels should be clearly defined from public open space so that privacy and security is maintained: Refer to detail drawing series no.900 for information

3.6 Plant materials – Tree planting should reflect the existing key species make up where practicable: Refer to planting schedule L1-003

3.7 Landscape management- the potential for supporting biodiversity within amenity landscapes includes both planting types and their subsequent management. Clover removal in lawns indicated in Appendix 3 or other controls should be reviewed with this objective in mind: Refer to revised landscape management schedule in Appendix 3

DCC Opinion: ADDENDUM B - Report from Conservation - ABP 308744 20

Red House: Refer to section 05 of this report and note design response which addresses the space to the west of the Red House.

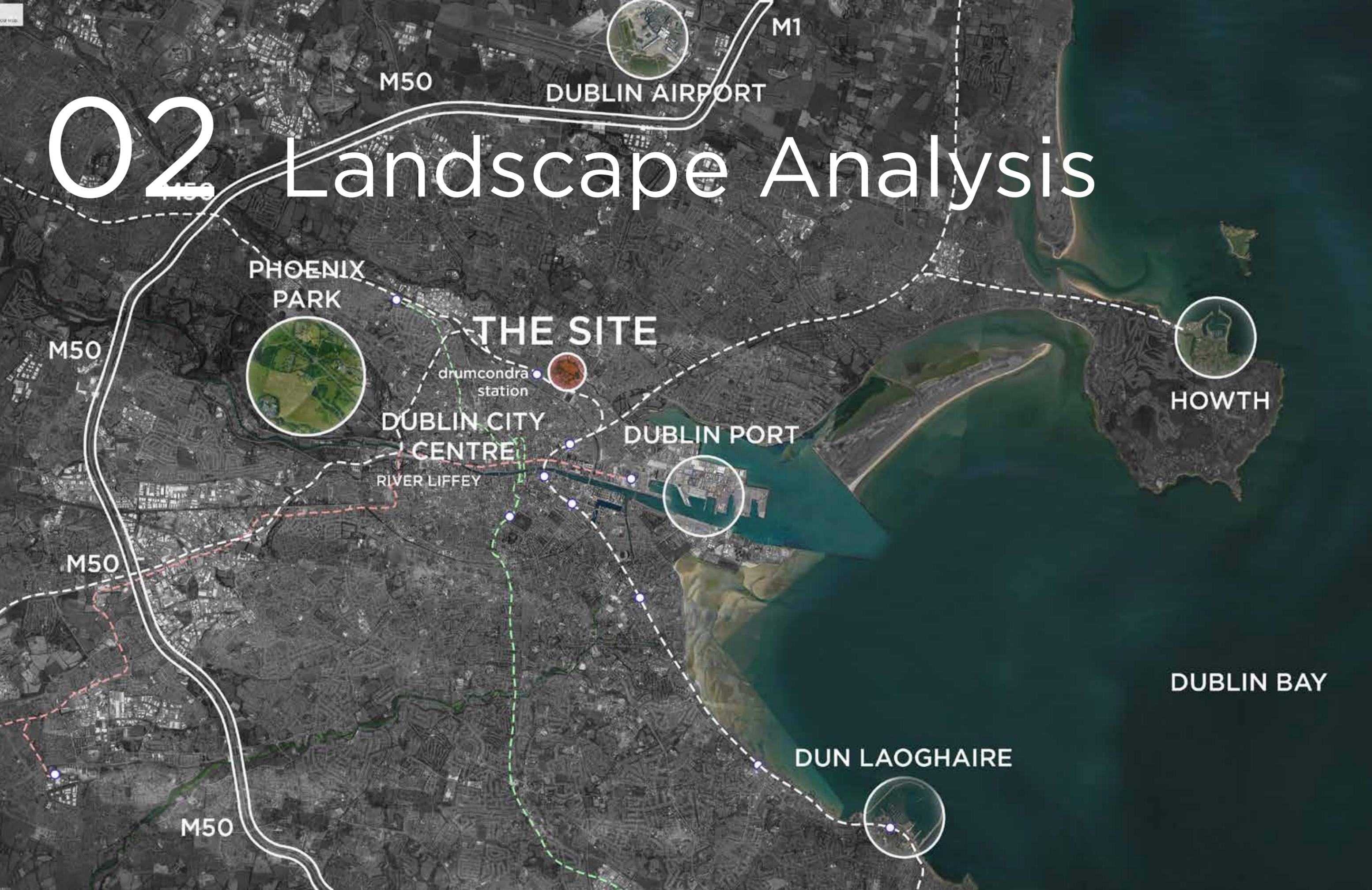
Archbishop's House: A future connection has been prprovided for a per master agreement.

ABP-308744-20 Inspector's Report Page 22 of 24

Refer to revised landscape open space plan L1-301, detailed plans indicating functionality of space and this report.

02

Landscape Analysis



M50

DUBLIN AIRPORT

M1

02

Landscape Analysis

PHOENIX
PARK

THE SITE

drumcondra
station

DUBLIN CITY
CENTRE

DUBLIN PORT

HOWTH

RIVER LIFFEY

DUBLIN BAY

DUN LAOGHAIRE

M50

M50

M50

02 Landscape Analysis - Site Context



Site Context

The Site is located on the north side of the city and occupies a parcel of land in general bound by the N1, Drumcondra Road to its west, Clonliffe Road to its south, the River Tolka to its north and Belvedere Training facilities to its east.

The site was previously in the ownership of The Roman Catholic Church and was used as a training College and Seminary for Priests, with several buildings having boarding functions, an assembly hall, church and ancillary buildings to support. The Red House of note to the eastern boundary of the site which requires specific views to be retained from the seminary building. It is significant as it is the oldest structure on the site. The Seminary building itself and the church are protected structures. There is an existing ambulatory / cloister garden to the rear of the Seminary which is also to be retained. In addition to this the historic arrivals route and existing trees will form a key driver of the masterplan.

The lands are defined by Z9 and Z12. The GAA have ownership over parts of the wider Holy Cross College Lands and it is intended that in the future they will construct 2no. GAA pitches, a club house and provision of a river walk subject to a separate application.

The western side of the site is also bound by the Archbishops residences, interfaces which will need to be considered in boundary treatment proposals. Currently access to the site is from Clonliffe Road, with secondary access form Holy Cross Avenue. The Site can also be accessed from the adjacent Mater Dei Institute, albeit an informal one. In addition, there is an access from Drumcondra Road which has been blocked up in recent years.

The site has a significant number of trees and includes those surveyed on adjacent lands. The trees for the most part exist in clusters as avenues or wooded areas with some specimens planted throughout. These are of ecological, environmental, historical and aesthetic value and are noted as one of the sites key assets and features.

The City Centre is in close proximity to the south, The GPO being just a 25 minute walk. It is well served by Bus Corridors and the rail network, Drumcondra Station to the south west less than a five minute walk. The Royal Canal, Croke Park, The River Tolka all fall within the immediate catchment offering a variety of amenity in addition to well-established coffee shops and stores on Drumcondra Road.



Seminary Building



The Red House



Holy Cross Church



Existing Trees



Cloister Garden

02 Landscape Analysis - Existing Trees + Levels + Micro-Climate



Existing Trees + Grades + Micro-climate

With the exception of the interface between the Archbishops Lands to the west of the site which sits at +15m over +11m within the site there is no significant level changes of note. Some retaining structures will be proposed in order to maintain the longevity of existing trees. In addition to this the Cloister Garden interface with the Seminary building has almost a 3m level difference - again this will require some changes in grades, potentially in terraces.

The site is reasonably well sheltered with prevailing winds from the south and orientation of most spaces in a southerly direction.

The existing trees on the site add considerable character to it. The tree survey identifies 664 trees in total. The survey notes that the Holy Cross lands supports 518 trees, 296 of which lie within the "red line" area.

Refer to Arborists Report for further detail.



Level Change at Cloister



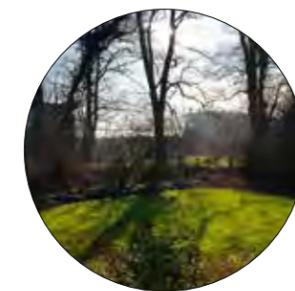
Avenue Trees



Woodland Trees



Specimen Trees on Lawn



Poor Quality Tree Group



Level Change at GAA

02 Landscape Analysis - Existing Views



View Analysis



View Point 1



View Point 2



View Point 3



View Point 4



View Point 8

Understanding the site and its existing character provides clues as to how it should be developed as amenity for residential use. The existing characteristics should be retained, enhanced and protected as a parkland setting in which multiple landscape types can define mini neighbourhoods. The following views capture some of these components.

View Point 1: Facing West looking at the existing woodland

View Point 2: View looking west onto the Tolka

View Point 3: View looking north from arrivals lawn

View Point 4: Facing west, across pitches with adjacent development in the background

View Point 5: View looking west along the Tolka

View Point 6: Facing north east across the arrivals lawn

View Point 7: View facing South, along western boundary

View Point 8: Facing East along historic route.

View Point 9: Archbishops entrance

View Point 10: Clonliffe Road entrance

View Point 11: Drumcondra Road facing South



View Point 5



View Point 6



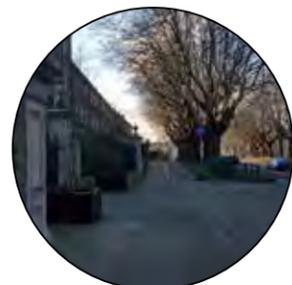
View Point 7



View Point 9



View Point 10



View Point 11

02 Landscape Character Analysis



Landscape Character



1. Formal



2. Parkland



3. Woodland



4. Riverside



5. Open Grassland

The design approach for Clonliffe Residential Development is strongly influenced by the existing site character defined by the historic structures, routes and trees.

The key drivers of the design are to protect and enhance these characteristics whilst creating welcoming and permeable masterplan proposal.

5no. landscape character types have been identified on the site as a whole including both lands subject to this application for residential development + GAA lands which are summarised as follows:

1. Formal Seminary Walk

Influenced largely by the seminary building and ambulatory, the seminary walk will be of a formal character responding to the rhythm of the buildings bays with formal spaces of varying sizes creating nodes or responding to building programme.

2. Parkland

Stretching from the Clonliffe road and encompassing the front lawn, the parkland landscape is typified with large single species avenue trees punctuated with informal specimen tree planting.

3. Woodland

Predominantly on the northwest of the site, this landscape will create a sense of wilderness as tree planting bleeds into the courtyards and creates a transition between public and private realms protecting its current status for walkers.

4. Riverside

Characterised by Willow, Poplar and overhanging trees, the riverside landscape will largely remain unchanged and protected with a path proposed to be routed adjacent to it with seating and exercise opportunities enabling it to become more useable as a linear park amenity for the wider community in the context of the masterplan of the lands. This area is not subject to this application.

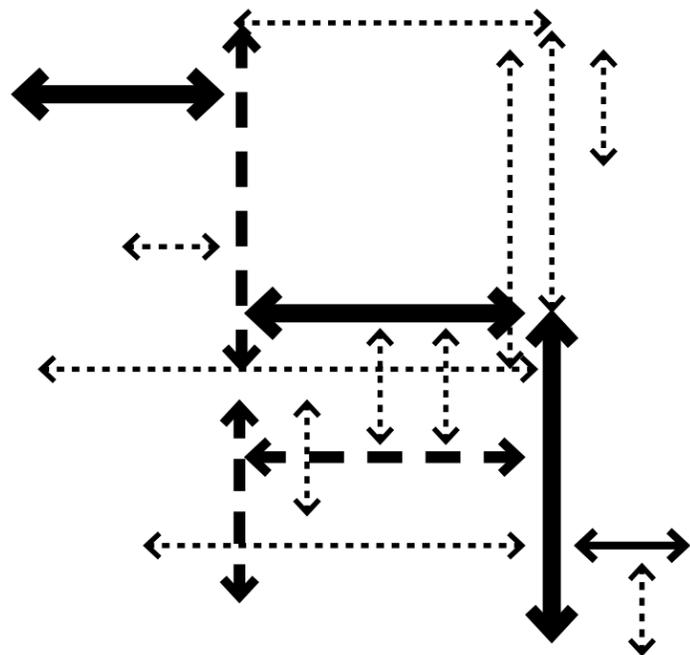
5. Open Grassland

Currently in use as amenity fields for sports it is proposed to be utilised in this way in the future and so have limited impact on the overall character of the site. This area is not subject to this application.



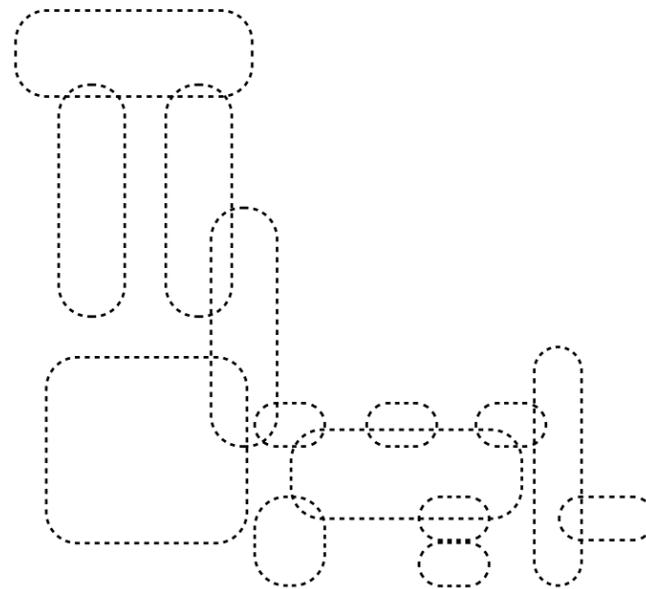
03 Landscape Vision

CREATE THE CONNECTIONS



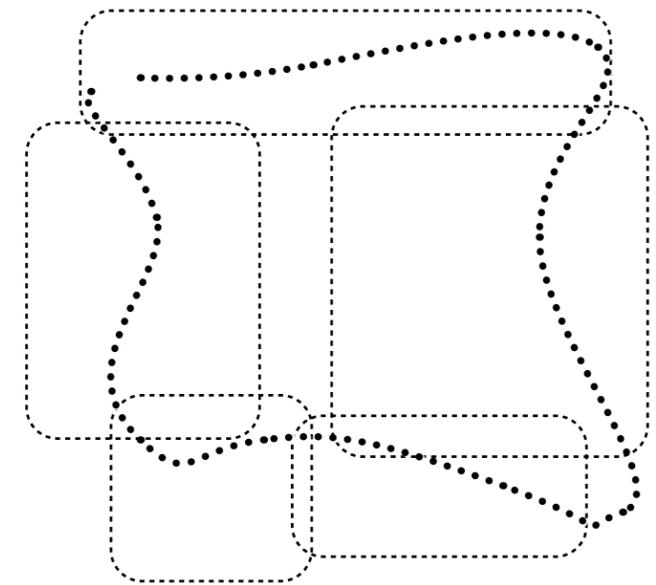
Creating ease of movement between public, semi-private and private space allows for greater flexibility in how spaces are used and viewed as a sequence of experiences and creating opportunities for more human interactions - underpinning and encouraging a sense of community in the neighborhood.

BLURRING THE EDGES



The transitioning of spaces to remove physical barriers and blurring the edges by way of subtle landscape interventions encourages the idea of exploration and discovery. Sunken gardens, visual permeability and low walls with tiered planting all contribute to this design approach.

A NECKLACE OF SPACE



The public open space will seamlessly knit together like a necklace of spaces, a variety of spatial experience guided by existing tree planting, landscape character and historical buildings and routes in a celebration of nature.

ENHANCED BIO-DIVERSITY



The use of native tree and shrub planting and wildflower meadow grass areas to respond to, support and promote the national pollination plan will have a positive net gain for bio-diversity. This will enhance the existing ecological system, creating more habitat and diversity.

CARBON SEQUESTRATION



Additional tree planting to promote Carbon Sequestration as well as a varied habitat, roosting for bird life and screening the development. The sites character is very much in tune with tree planting and this is a unique selling point for it.

THE TREATMENT TRAIL



The provision of SUDs systems such as green roofs and rain gardens, surface water attenuation and bio-retention tree pits to capture, cleanse and re-use/release water sensitively to surrounding areas or to re-charge the water table.

PROTECT + RESPECT



The sites greatest natural assets are its existing trees. The design works to protect and celebrate these as part of its character. Furthermore, the design is enhanced with additional tree planting to all boundaries and its internal space, creating a variety of spatial experiences.

CONNECTING WITH CONTEXT



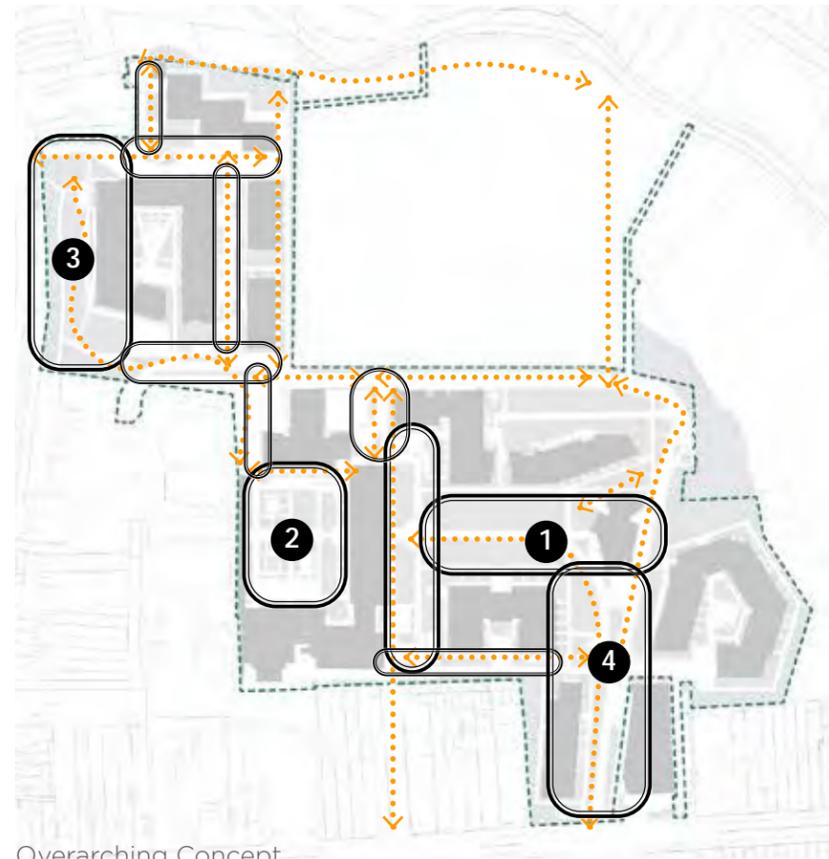
Given its central location the site connects very well with key destinations and transport. It promotes walking and cycling at its heart and the provision of amenities to support these drivers have been allowed for as has connectivity to the wider community and a sense of welcomeness for all.

CURATE THE COMMUNITY



Clonliffe offers an opportunity to curate community. The masterplan has been crafted in such a way so as to promote Placemaking, creating opportunity for interactions on a social level and generating a sense of neighbourhood and connection. The simplest of interventions such as a bench on the corner of an intersecting path can create friendships in a time of social isolation.

04 Design Strategies



Overarching Concept

The masterplan has evolved to protect and enhance the historic buildings and structures, arrivals route and to retain as many existing trees as is possible. The 25% public open space requirement has been conceived as a necklace of spaces which seamlessly blend together, unifying the public realm whilst transitioning from one landscape character typology to another. This approach creates a variety of memorable spatial experiences, diversity of use and a celebration of place.

- 1 Formal Green
- 2 Cloister Garden
- 3 Woodland
- 4 Arrival Gardens
- Routes

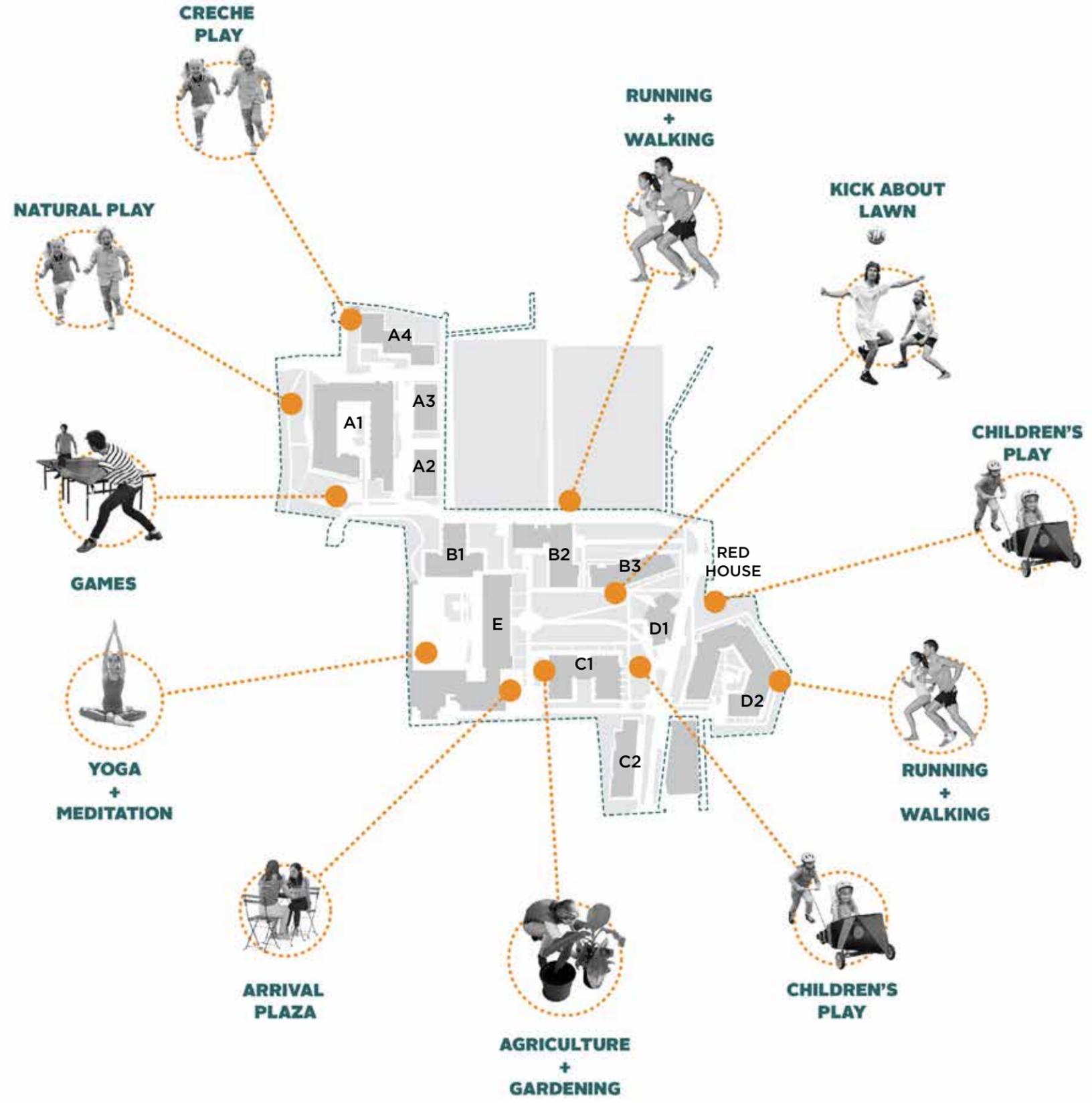
04 Design Strategies: Programme

The masterplan promotes health and well-being through active and passive measures including the provision of allotment gardens, nature trails, dog parks and the variety of spatial typologies, which have a positive mental impact both to look upon and to be in. These are the key building blocks to encourage a healthy neighbourhood, located in close proximity and appropriately to adjacent ground floor programme.

The landscape programme for Clonliffe is diverse and appropriate to its location in terms of responding to specific character areas. For example, woodland play is proposed in the woodland areas and kickabout or frisbee for the formal lawn. Flexibility of space provides residents and visitors to use space informally and invent programme.

A series of Mugas or multi-use games areas have been located throughout the development area to cater for basketball shooting, single goals for kickabouts, climbing walls or walls to hit a tennis ball against. Exercise stations are dotted along the various walking and jogging loops, as is sculpture, picnic tables and BBQ area as well as areas for yoga, meditation or quiet contemplation to read a book on a bench.

Play is an important part of a multi family development and not only caters for the coming together of children but also encourages parents to socialise - essentially ingredients to creating a community.



MUGA + Exercise



Kick About Lawn



Dog Park



Play



Picnic + BBQ



Allotments



Nature Trails

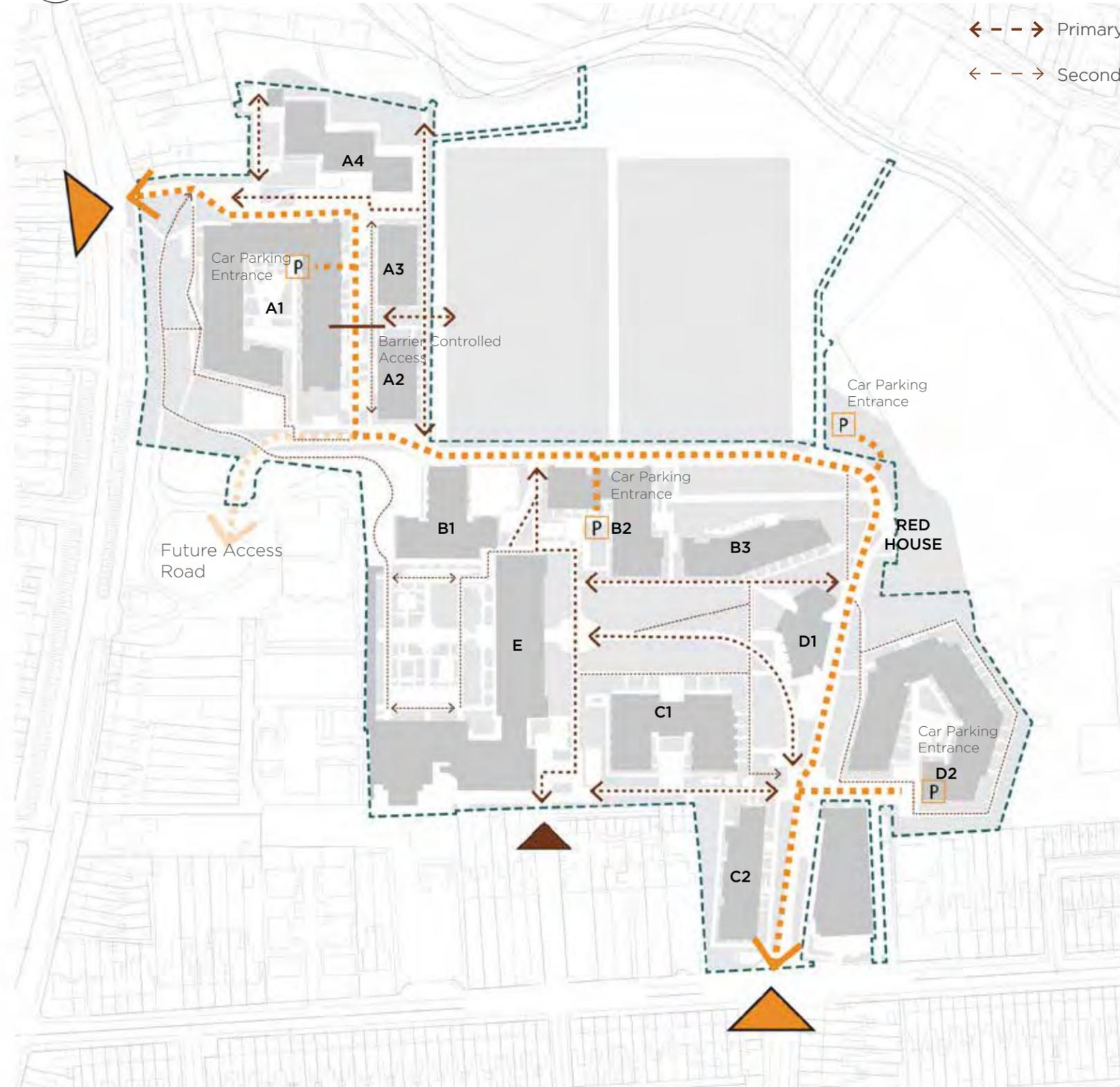


Yoga



Exercise Routes

04 Landscape Strategies - Accessibility + Circulation



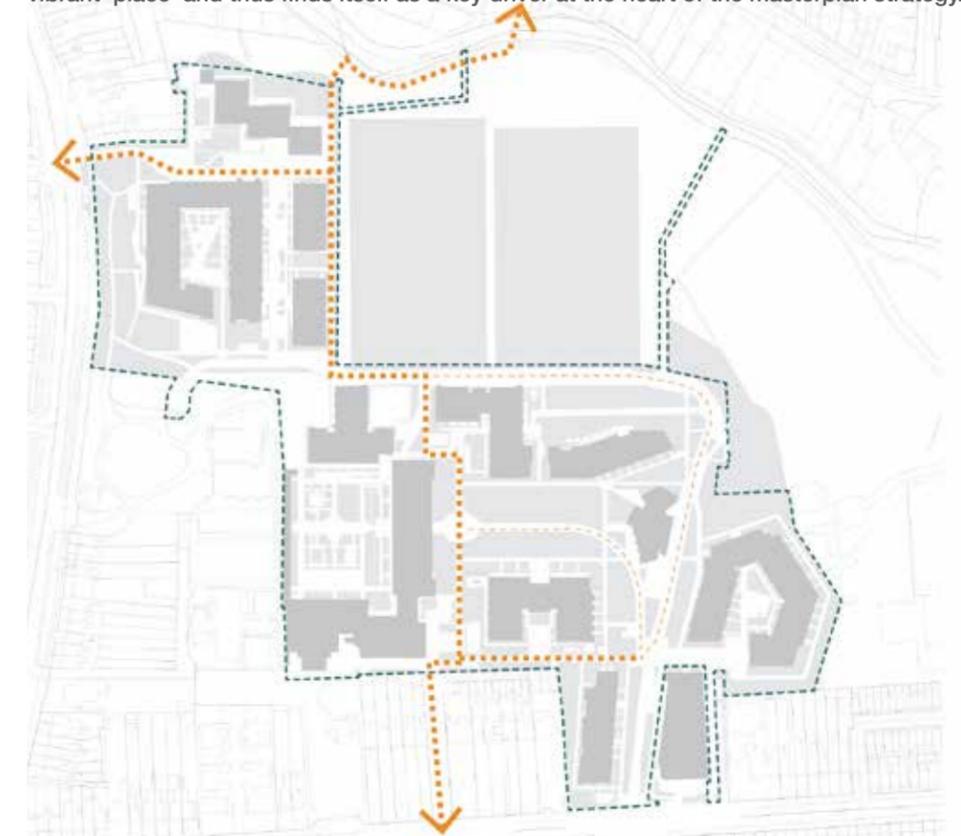
Legend

- Car Route
- Primary Pedestrian Route
- Secondary Pedestrian Route

By the nature of its location the site is well connected to its context, public transport and key arteries into and out of the city centre. It has access to rail and bus networks within walking distance. The site is positioned as a suitable development and so leans more on cycle, walking and car clubs than the provision of parking to facilitate car ownership - refer to transport consultants' documentation. As such high-quality secure bike parking has been provided for each block with visitor parking provided as Sheffield stands at grade. Primary access to the site is from Clonliffe Road through the existing gates. This will require the gates to be removed and pillars relocated to provide for adequate sightlines and upgrades to the junction layout which will be signalised. A second access point has been proposed from Drumcondra Road as a left in and left out. This is an existing entrance which has been closed for some time and will also require upgrades. The site will also be accessed from Holy Cross Avenue for pedestrians and cyclist only.

An internal road provides access to both parts of the lands from the Clonliffe Road and Drumcondra Road entrances. A control point located on the homezone between the A blocks prevents the road been used as a 'rat run'. This will give fob access to residents only. Service and emergency vehicles will also have access to this area. Parking provision for residents is proposed in two number basements beneath the A, B and D Blocks, both with access from the main internal road. The historic route which runs from Clonliffe Road dissects the Formal Green before looping back around to the south and east, will be retained and will also have limited access with a control point located after the arrival's gardens providing an opportunity for vehicle turn around. The seminary building will have access for drop off and delivery only.

Cycle and pedestrian access and circulation is provided throughout placing the cyclist and pedestrian at the top of the movement hierarchy. A key North south route from Holy Cross Avenue, in front of the seminary building and up along the edge of the proposed GAA pitches and A blocks will link with the Drumcondra Road entrance and a future proposed bridge link across the Tolka. Pedestrian permeability public or resident, is critical to the success of a vibrant 'place' and thus finds itself as a key driver at the heart of the masterplan strategy.



Access + Circulation

Primary Cycle Routes

04 Landscape Strategies - Public + Communal Open Space Quantum



Legend

- Public
- Communal
- Primary Space
- Secondary Space
- Transitional Space

The Open Space for Clonliffe has been planned without boundaries as an open permeable and welcoming piece of public realm. The semi-private space bleeds into the public open space with a series of smaller pocket spaces designed for seating, exercise or play. Some roof garden has been proposed to capture views and create a unique amenity for the development. Communal open space - whilst visually permeable - will have defined boundaries to secure it - a 1.1m railing with hedge either side to ensure residents safety and tree planting with pergola surrounding it. The hierarchy of space radiates out from The Formal Lawn, the primary space. With highly active areas, secondary spaces and a series of smaller tertiary spaces arranged throughout the masterplan as connective tissue, tying the entire development together as one cohesive masterplan and a series of interconnected spaces.

PUBLIC OPEN SPACE QUANTUM	
POS.1	2105sq.m
POS.2	3929sq.m
POS.3	1751sq.m
POS.4	3412sq.m
POS.5	1992sq.m
POS.6	2944sq.m
POS.7	1059sq.m
POS.8	1133sq.m
POS.9	2085sq.m
Measured Public Open Space	20410sq.m
Site Development Area	80089sq.m
Percentage	25%

COMMUNAL OPEN SPACE QUANTUM			
	REQUIRED	ACTUAL	BALANCE
Blocks A			
A1- Courtyard - Roof	1604sq.m	1866sq.m 202sq.m total: 2068sq.m	464sq.m
A2- Roof	363sq.m	498sq.m	135sq.m
A3- Roof	436sq.m	514sq.m	78sq.m
A4- Courtyard - Roof	592sq.m	359sq.m 283sq.m total: 642sq.m	50sq.m
Blocks B			
B1	513sq.m	546sq.m	33sq.m
B2	767sq.m	457sq.m	-310sq.m
B3	465sq.m	2370sq.m	1905sq.m
B2 + B3	1232sq.m	total:2827sq.m	1595sq.m
NOTE: B2 and B3 measured as 1 communal space			
Blocks C			
C1	746sq.m	1242sq.m	496sq.m
C2	466sq.m	1127sq.m	661sq.m
Blocks D			
D1- GF Level - Roof	859sq.m	427sq.m 285sq.m total: 712sqm	-147sq.m
D2	1269sq.m	2528sq.m	1259sq.m
Blocks E			
E1+ E2	439sq.m	1025sq.m	586sq.m

Open Space Hierarchy

04 Landscape Strategies - Play Rationale + Quantum



Legend

- Playground for 4-11 y.o.
- Natural / Informal Play 0-11 y.o.
- Games for 10-17 y.o.
- Communal Playscape

Inclusive play spaces have been proposed to provide opportunities for everyone to play together. The play spaces are accessible, engage children of all ages and abilities and encourage them to interact with each other. These will promote health and wellbeing, learning, and social interactions. Play is provided throughout the site and responds to age, context and ability. Several principles have driven the design all of which underpin creating a well-integrated community:

- equipment that stimulates the senses such as sound play
- equipment that is accessible to all such as rockr's with the width for wheelchair access and part M compliant and space for children who do not like to be touched
- surface materials meet EN 1176 and EN 1177 standards, to be safe and visually pleasing
- play for all has been provided for with play equipment that has similar tasks but different levels of challenge for age groups and abilities, such as the climbing frame, providing children with choice.
- Providing for calm and landscaped areas with seating, or cubby holes in tree houses.
- A variety of routes to encourage exploration but also allowing for solitary play, onlooker play, parallel play (playing beside one another), associative play (playing close by and mimicking other children).



Flexible Play



Natural Play



Tot Lot



Informal Play



Programmed Play



Climbing



Climbing Net



Obstacle Course



Sound Play

Play Diagram

04 Landscape Strategies - Exercise Loops + Stations



Legend

- Running Loop 1.5 km
(Subject to future application where fall outside of applicants lands)
- Exercise Station



The existing site character of the Clonliffe grounds encourages active engagement with nature. Informally locals utilise the space for running, walking, dog walking on well-established routes which the masterplan (refer to masterplan document) has looked to retain and enhance. These principles have been drawn through into the landscape design proposals for Clonliffe. Ultimately this will encourage greater use of the outdoor environment, greater opportunities for interactions and places health and wellbeing at the forefront of spatial planning.

A series of exercise routes for walking or running or dog walking have been identified and will be sign posted accordingly. The main route is 1.5km in length, transitioning form various landscape typologies such as formal gardens to woodland. These safe, active routes will be appropriately lit and overlooked to ensure passive surveillance. Dotted along the route will be exercise stations in the form of single items of equipment or clusters. It is proposed to include pullup bars, rope climbs, monkey bars and elements to compliment the calisthenic workout. Nature becomes the gym!

In addition, as previously noted there will be opportunities for Multi Use Games Areas, to kick a ball, shoot some hoops or mini walls tennis to hit a ball against even including potential for climbing walls.



MUGA + Exercise



Kick About Lawn



Running Circuit



Woodland Workout



Commuinty Exercise



Bouldering



Tennis Wall



Yoga



Exercise Stations

04 Landscape Strategies - Planting



Legend

- Evergreen
- Herbaceous
- Wild Flower
- Lawn
- Connections to the existing Habitat

Planting styles and types will vary depending on use. Within the semi-private courtyards, the palette should be softer, colorful and generally more shade tolerant. Within the public realm, plants will be more robust, evergreen and require less maintenance. Street trees will be tried and tested urban species. Roof gardens will be low water usage and wind tolerant species.

Scale of planting and transition in shrub planting from low medium and high to create defensible space has been planned according to programme, thresholds and spatial hierarchy.

The pollinator plan 2020 has richly informed the planting pallet and soft landscape approach. This in conjunction with a selection of native plant species will characterise the landscape design. Planting will inform and define public routes to differentiate from communal or private space.

Planting will respond to the existing character in which it is located and enhance the sense of place to compliment it and not compete with it.



Hedge Deliniation



Native Wildflowers



Woodland Planting



Seasonal Bulbs



Formality



Allotments



Colour Accent Planting



Courtyard Planting



Conceal + Reveal

Planting + Habitat

04 Landscape Strategies - Existing + Proposed Trees



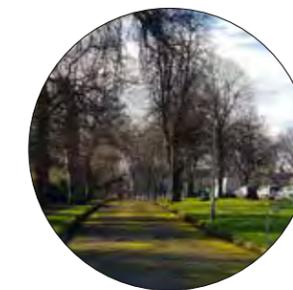
● Existing Trees To Be Retained
● Proposed Trees

The existing trees can be found in clusters of woodland on the western boundary of the site, in avenue trees as with the entrance road from Clonliffe and the stand of trees leading to the Red House. Some specimen trees can be found on the lawn in front of the Seminary Building.

Refer to below table for summary of tree's to be removed and those to be retained and Arborists Report.

It is proposed to re-plant 616no. new trees to compensate these losses as well as define spaces, enhance character and bio-diverse credentials. These will vary in specification of size and species. There will be a majority selected from native tree species and they will be deciduous and evergreen in nature and varying habit.

Trees on Application Site (red line area)	Number of Trees/Groups	Percentage
Total number	296	100%
Total retained	179	60.5%
Total removed	117	39.5%
Total compensatory (new planting)	616	N/A
Trees off site:		
Total public trees	2	N/A



Access Road Trees



Specimen Trees



Western Boundary



Quercus robur



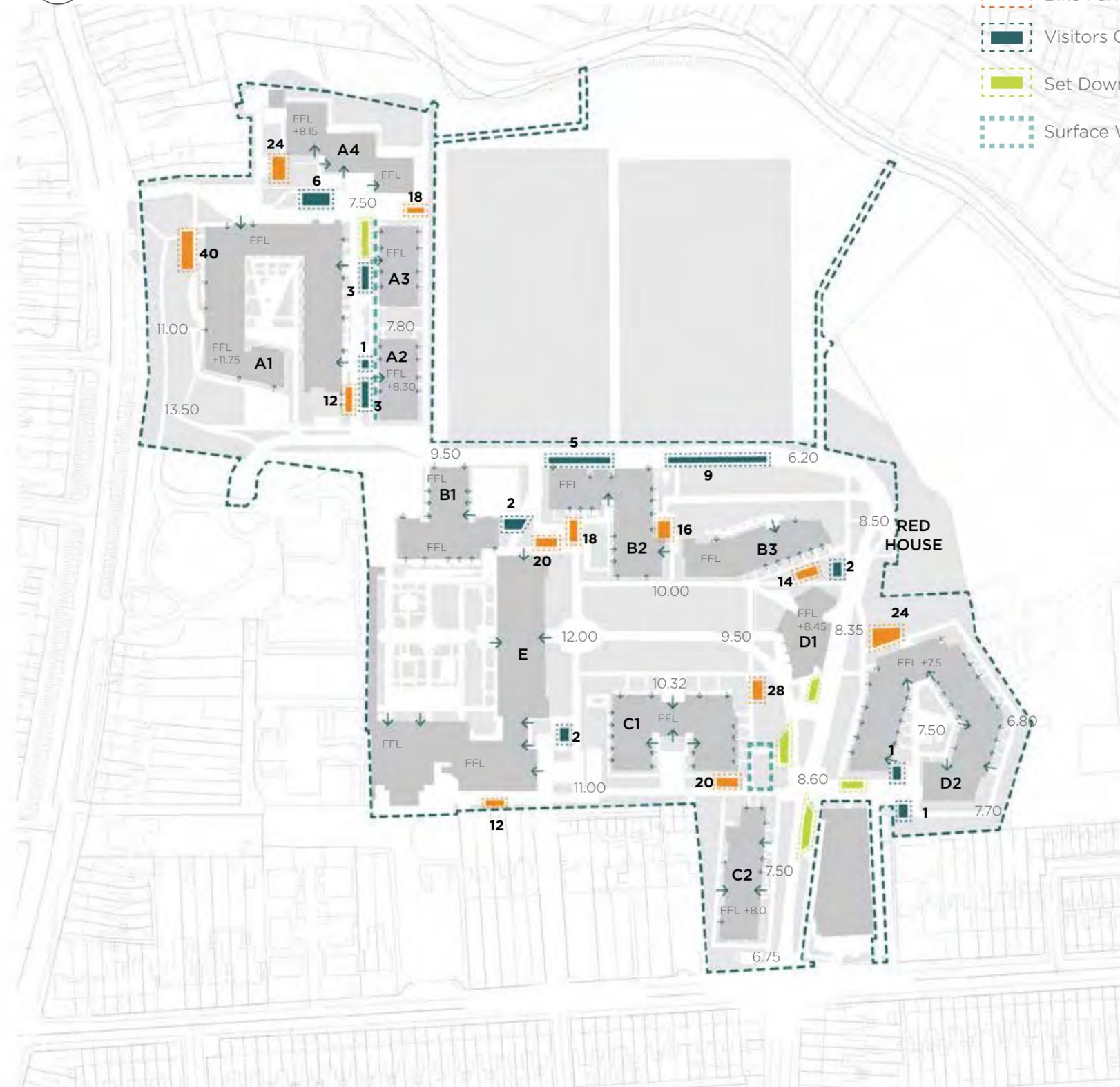
Pinus sylvestris



Betula utilis

Existing + Proposed Trees

04 Landscape Strategies - Levels Thresholds + Bike Parking + Car Parking + Attenuation



Legend

-  Bike Parking - Tot. 246
-  Visitors Car Parking - Tot. 35
-  Set Down - Tot. 5
-  Surface Water Attenuation

Part M requirements of the building regulations require all block entrances to have level access in order to be compliant and key routes around the site provide for access for all. 1:21 slopes have been integrated throughout with access to the west of the A blocks by platform lift. As many own door access points have been designed into the landscape and building interfaces as is possible - not all of these have level thresholds, but for the most part are above or at grade with the immediate interface.

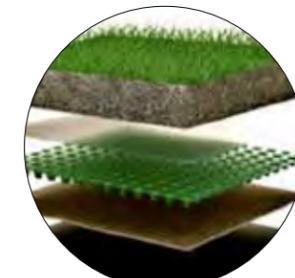
The landscape surface water drainage strategy is limited in its pure SuDs approach by existing tree roots, services and access requirements, regardless of the size of the site. However, the soft landscape percentage will allow water to drain freely if not captured by flirter drains before release into the Tolka. A swale to the front of the A Blocks on the western side of the home zone has been designed into the landscape. In addition, it is proposed to create 1no. rain garden adjacent to the arrival's gardens. Currently green roofs have been planned for 60% of the roof area. In addition, permeable paving has been specified for all parking bays and lightly pedestrianised trafficked zones.

On street parking has been provided for mobility impaired users, set down and car clubs - limited parking is available at grade for visitors. Service vehicles can be accommodated with pull in areas and turning heads as well as emergency vehicles.

Bike parking for visitors is also provided in the public realm to approximately 250no. spaces.



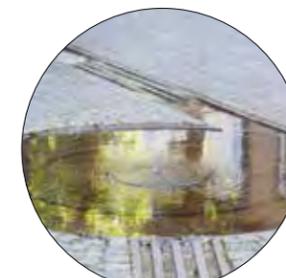
Woodland



Green Roof



Rain Garden



Surface Water Attenuation



Permeable Parking Bays



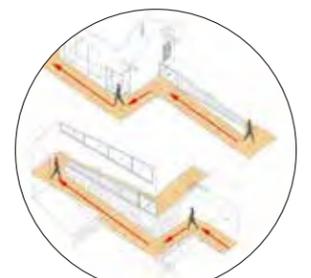
Filter Drains



Visitor Bike Parking

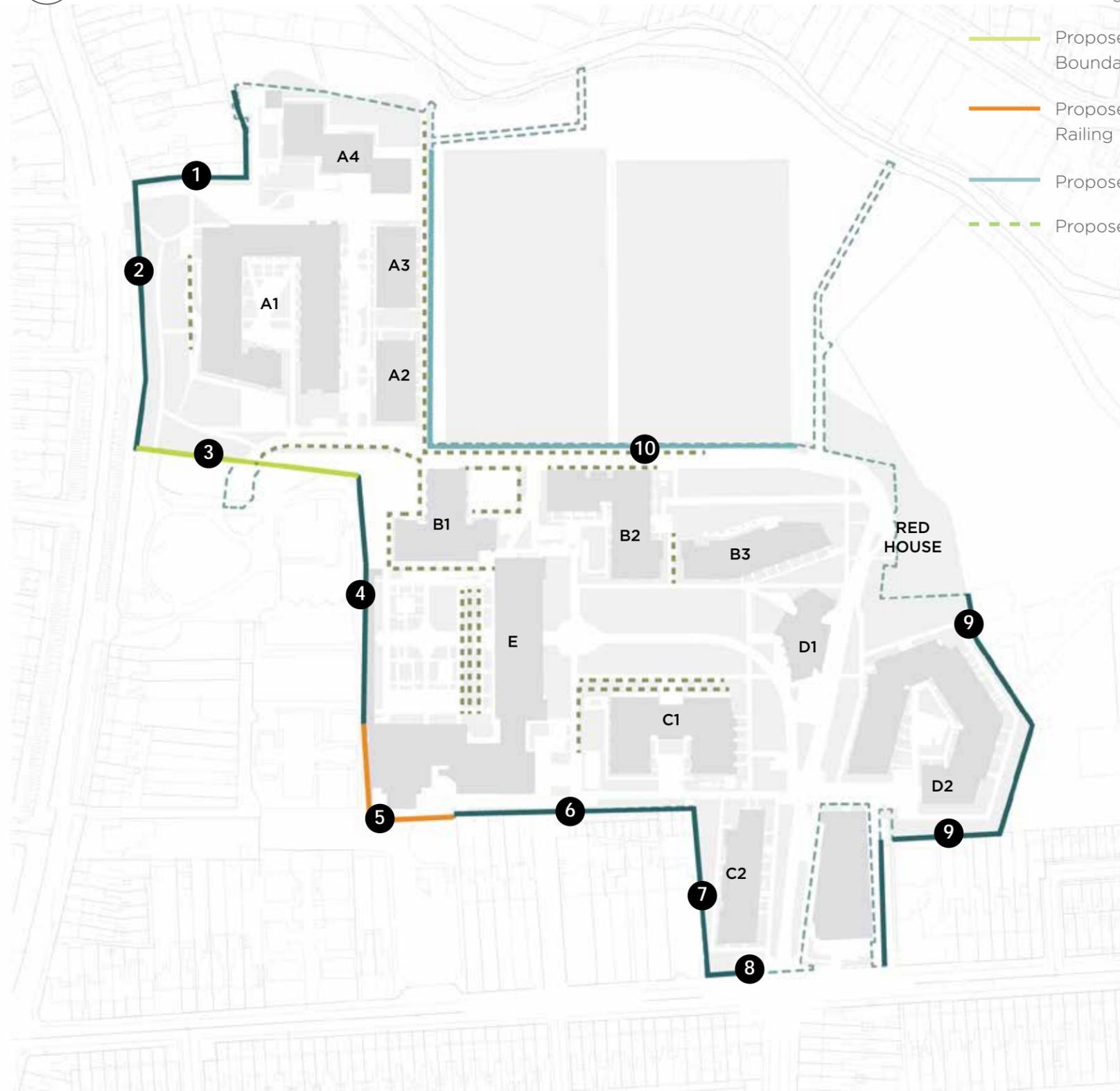


Mobility Impaired



Part M Access

04 Landscape Strategies - Boundaries



Legend

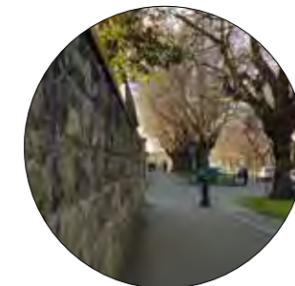
- Existing Boundary To be
- Proposed 2250mm High Brick Boundary Wall
- Proposed 2000mm High Brick & Railing Boundary Wall
- Proposed Fence
- - - Proposed Retaining Wall

For the most part the boundary conditions for Clonliffe will be retained and repaired where required. However, some alterations and interventions will be required as follows:

1. Existing Block Wall to be retained
2. Existing stone wall to be retained with access for pedestrian to be provided and vehicles
3. New metal fence and post detail to be proposed appropriate to setting
4. Existing wall to be retained
5. New wall and railing detail to be proposed
6. Existing Stone wall to be retained
7. Existing Wall to be retained
8. Existing red brick wall to be re-built as 450mm butt wall with railing on top to match existing height. Gate Piers to be relocated to allow for vehicular access.
9. Existing Block Wall to be retained
10. Retaining wall with Armco barrier fence and hedge planting to screen



1. Existing Block Wall



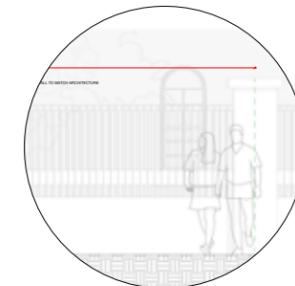
2. Existing Stone Wall



3. Fence + Pier



4. Existing Wall to be Retained



5. New Wall + Railing



6. Existing Stone Wall



7. Existing Wall to be Retained



8. Existing Wall



9. Existing Block Wall to be Retained

04 Landscape Strategies - Seating + Furniture Strategy



Legend

-  Bench
-  Picnic / Outdoor Table
-  Seating Wall

Seating has been provided throughout the landscape masterplan in line with age friendly guidance. Typically, seats are located on 50m intervals to provide rest points. These seats will be designed to have back rests, arm rests and space to kick legs back at a level of 450mm above the FL.

Seating opportunities have been provided at key locations around attractions such as play, exercise or key thresholds to allow residence and public meeting points at key nodes or moments in the landscape. This provides opportunity to read books, provide passive surveillance or simply people watch, in any case it will bring life to the streets and spaces creating moments to interact with neighbours and passersby and further enhancing the community feel.

Where possible seating has been integrates as part of terrace walls and landscape features and planters. In some instances these are 'perches' merely to stop and wait, whilst in others they are more sculptural opportunities or places to work remotely in the great outdoors.



Picnic Tables



Seat Walls



Fixed Seating



Stand Alone Seating



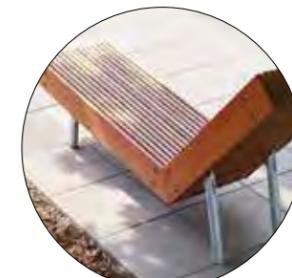
Feature Seating



Integrated Edge Seating



Sculptural Seating



Reclined Seating



Planter Seating

04 Landscape Strategies - Public Art Strategy + Wayfinding



Legend

- FD - Fingerpost
- TD - Totem Directional
- ES - Entrance Sign
- TM - Totem Map
- TV - Totem Vehicular Parking
- TB - Totem Bicycle Parking
- BS - Bollard Sign
- WS - Walkway Marker Sign

Qt. The Public Art Strategy for Clonliffe Residential Development will follow best practice guidance and be curated through a number of different channels; local artists, student artist and international artists. This can form part of the applicant's portfolio, support the local cultural and heritage groups and add value to the open space.

09

03 Art can be isolated stand alone or permanent pieces, or installations during certain times of the year. Art can also be integrated as part of the building fabric in subtle areas. The opportunity to weave sculpture and play together creates a much more stimulating environment for children, encouraging creativity and imagination.

03

04 The level of detail applied in the ground plane can also provide spaces of interest and moments to stop, pause and appreciate. In general, an art strategy can go some way towards a supporting wayfinding, intuitively or otherwise. Pieces can be 'happened' upon as part of a sculptural trail. No matter how it morphs, It should represent and be sensitive to its surroundings.

06

10

17 Wayfinding and signage will be an important art of the masterplan narrative and will be further developed in the later stages of the project.

10



Woodland Giants



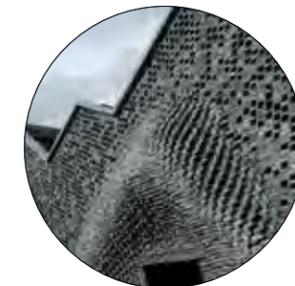
Mosaic



Irish Artists



Sound + Play Art



Building Integrated Art



Accent Paving



Building Signage



Finger Posts



Information Signage

05 Concept Design



05 Landscape Masterplan



Illustrative Plan



The Clonliffe landscape design draws together a cohesive series of spaces driven by historical and ecological influences, experienced sequentially as routes of discovery and exploration weave themselves across the lands revealing a sensorium of spatial typologies.

The landscape design has been planned in such a way so as to maximise of the sites orientation and anticipated microclimate to create habitable, quality spaces which respond to human comfort encouraging residents and public into a safe and surveilled space. A number of potential routes through the site have been identified to benefit connections with its surroundings and provide a better amenity for adjacent residential dwellings. Pedestrian and cycle routes complement this strategy underpinning the sustainable credentials associated with the development.

In addition, it is anticipated that the development will offer a net gain to biodiversity through the development of additional habitat connecting existing surrounding ecological stands with continuous tree canopies for bat and bird roosting and provision of specific plants for wildlife to forage through.

An increased number of trees, areas for surface water treatment and wildflower meadows coupled with best practice maintenance will ensure a sustainable landscape for the future. Edge conditions and relationships with neighboring developments are sensitively integrated and screened.

The primary objectives of the design are to encourage biodiversity through varied tree and shrub planting, create a series of interlinking spaces which 'blur' the boundaries and create 'moments' for interactions crafting a sense and extension of the community for the wider Clonliffe neighbourhood.

The following pages will demonstrate through illustrations and narrative the spatial experience for each area of significance.

Legend

- 1 Drumcondra Road Entrance
- 2 Clonliffe Road Entrance
- 3 Holy Cross Avenue Entrance
- 4 A Blocks
- 5 B Blocks
- 6 C Blocks
- 7 D Blocks
- 8 E Blocks (Seminary)
- 9 Formal Green
- 10 Cloister Garden
- 11 GAA Pitches (future separate application)
- 12 Woodland Walk

05 Clonliffe Arrivals

The key arrivals point to the development will be from the existing entrance on Clonliffe Road. In order to facilitate access both to it and the permitted hotel (subject to separate application), it is proposed to widen the road. As such, the existing gate piers will be required to be relocated several metres east and west of their current positions. This will also facilitate sightlines and traffic signals. ref engineers + conservation report.

In part, the proposals for the hotel plaza, will frame the entrance space with the western side of the road more enclosed to protect residents from visual intrusion and noise of the street. The existing wall alignment will be retained. However, it will be rebuilt, using the retained brick as a butt wall with coping 450mm-600mm in height with a railing on top.

As the site enjoys a modest level change from approx. 6.5m to the south and 8.4m to the north the C1 Block FFL has been fixed at +8m. This creates a sunken garden with tiered landscape planters along the edges and the retained and re-purposed wall. It makes it a useable space with a degree of privacy. In essence the alterations to the existing boundary and entrance have been proposed to make the site more open and welcoming to the general public that is currently the case. This in turn will go some way towards creating a vibrant and safe piece of public realm.



Gate Pillars



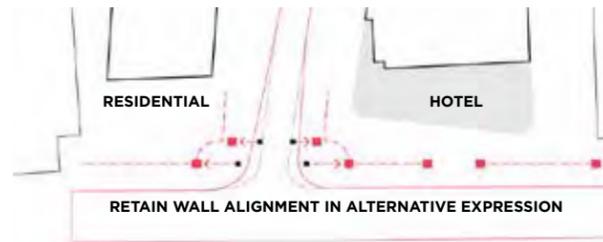
Street Furniture



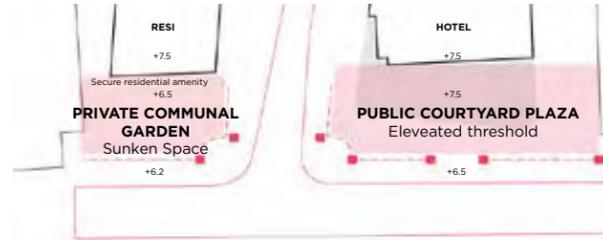
Existing Gate



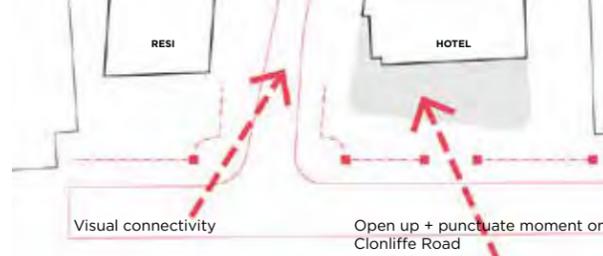
Crossing Point



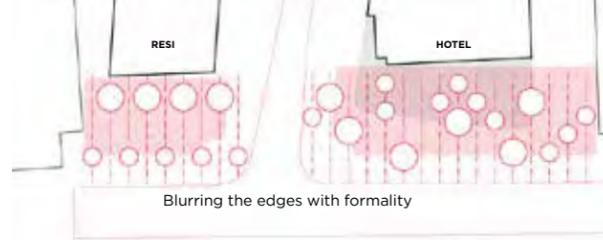
Retain + Relocate Gate Pillars



Spatial Definition & Typology



Open Threshold + Welcoming Arrival



Formal + Unified Representation of Landscape Context



Illustrative Plan



Illustrative Elevation

05 Clonliffe Arrivals Indicative View Facing North West V1



Illustrative Plan

05 Clonliffe Arrivals Gardens

The arrivals gardens are a point on the entry sequence where a choice is made to carry on straight to the Seminary Building on the historic route (limited to taxis, bikes and pedestrians) or continue right to underground parking below the B Blocks accessed from the road binding the site adjacent to the proposed GAA pitches. This road also provides access to the GAA pitches (subject to planning application) for vehicles, pedestrians and cyclists. It utilizes the existing retained tree lined avenue and culminates in a junction which has been designed to be inferred as a square or formal plaza. The road surface at the point will be of a high quality material using the ground plane to intuitively move visitors through the site to their destinations. Critically this is the first point where the church can be viewed at least as a glimpse looking westwards down the pedestrian axis between the C Blocks. Well-chosen wayfinding will support decision making at this point. In summary, this is the point of arrival, where a sense of anticipation comes together to celebrate the sites natural characteristics, revealing its historical influences. First impressions last. The existing trees will be retained and supplemented with new tree planting in a more natural arrangements whilst the ground plane hard and soft materials will be more formal in design but of a simplified selection.



Sketch



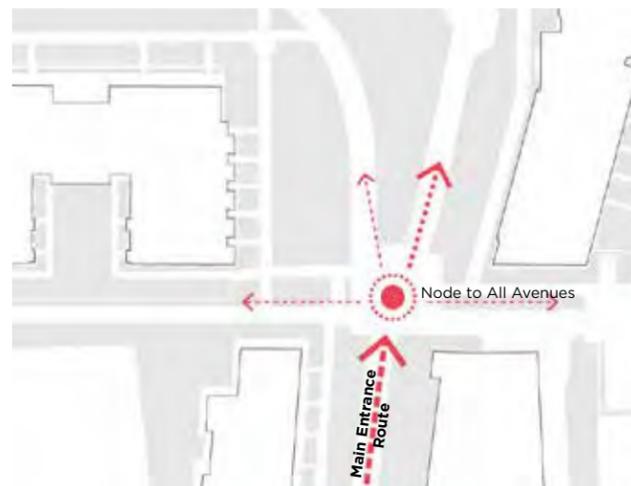
Existing Tree To Be Retiend



Existing Route To Be Retined



Avenue Trees



Decision Point



Retain the Historical Route and Enhance With Arrivals Square

Retained Historical Routes



Illustrative Plan

- Legend**
- 1 Arrival Plaza
 - 2 Gateway Garden
 - 3 Sunken Lawn
 - 4 Communal Gardens
 - 5 Private Amenity Space
 - 6 Nature Garden
 - 7 Footpath (over webcell)
 - 8 Footpath + Bike Path
 - 9 Exercise Station
 - 10 Seating
 - 11 Existing Tree Lined Avenue
 - 12 Proposd Hotel
 - 13 Proposd Shrub Planting
 - 14 Defensible Space
 - 15 Asphalt over Existing Road



Formal Walk



Shared Surface



Seating Opportunites

05 Clonliffe Arrivals Gardens



Illustrative Section



Street Feeling



Landscaped Walks



Conceal and Reveal - Understated Arrivals Experience



Durable Materials

05 Clonliffe Arrivals Gardens - Indicative View Facing North V1



05 Clonliffe Arrivals Gardens - Indicative View Facing West V2



05 The Formal Green

The Formal Green is a large expanse of open space which will be the heart of the development. It is framed on both sides by new buildings somewhat symmetrical in alignment. A double row of tree planting further emphasizes this formality, creating a strong axial symmetry. Low level shrub planting softens this design and occasional specimen trees are dotted through the lawn. The design is careful to retain visual links to the Red House and provides own door access to ground floor units, creating further activity.

The existing route surface will be scraped off and re-laid with a High Friction finish in a buff color. This will help to ensure pedestrians are priority for the occasional vehicular traffic which traverses this road. The road edges will be traditional triple row of sets to capture water runoff.

The space has been designed to be the focal point of the development. Play as been incorporated to the eastern end, the lawn itself will be flexible is anticipated that the space will be flexible for use such as kick abouts, picnics, Frisbee throwing, small community events, art programmes etc.

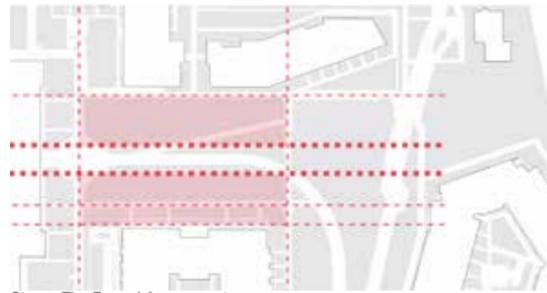
Ultimately the Formal Green will celebrate the coming together of the old and the new, a wide open space to frame the seminary building and welcome the public and residents.



Illustrative Plan



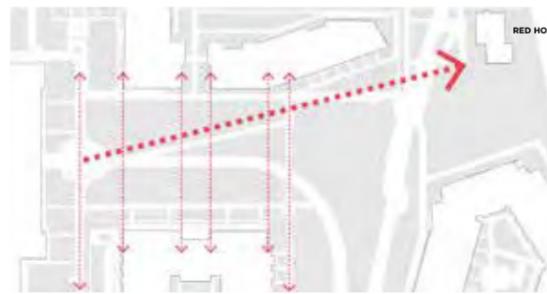
Existing Trees To Be Retained



Strong The Formal Arrangement



Existing Route To Be Retained



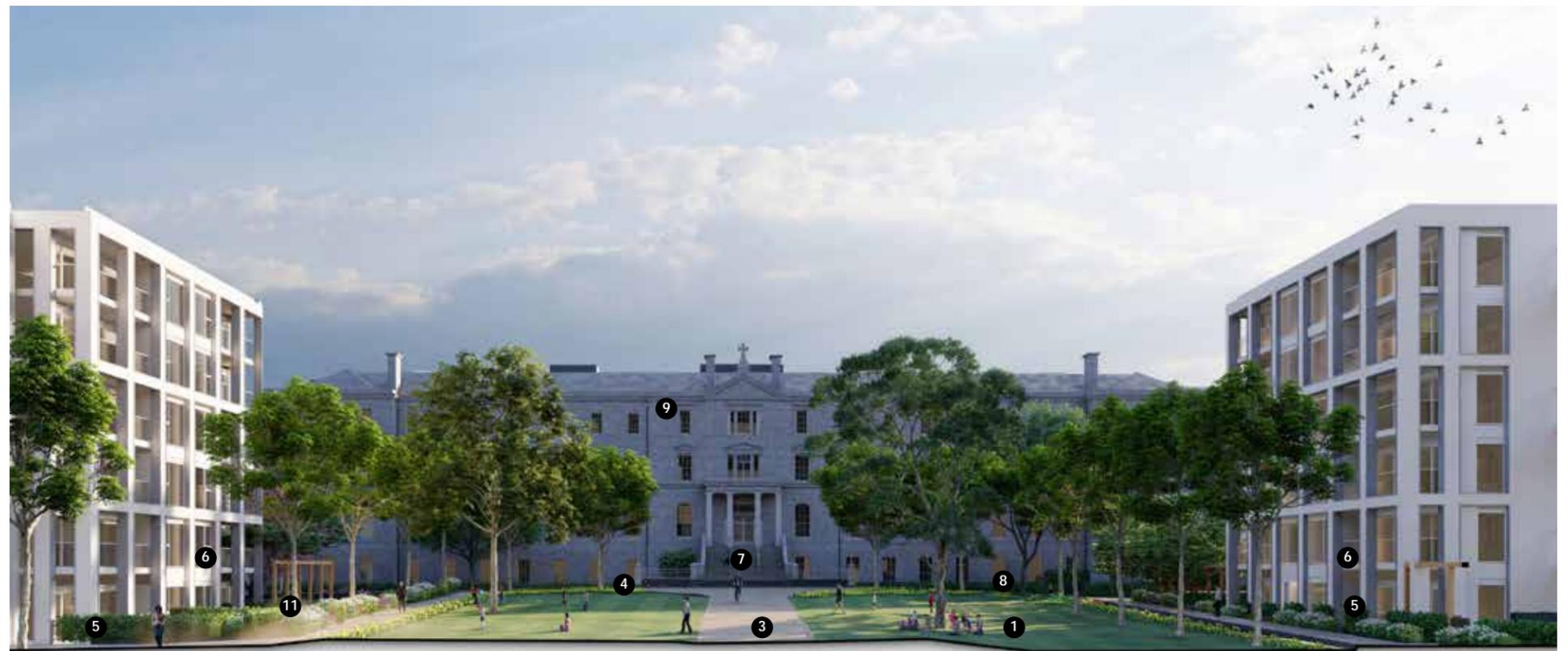
Visual Connections



Avenue Trees



Physical Connections and Nodes



Illustrative Section

05 The Great Lawn - Indicative View V1

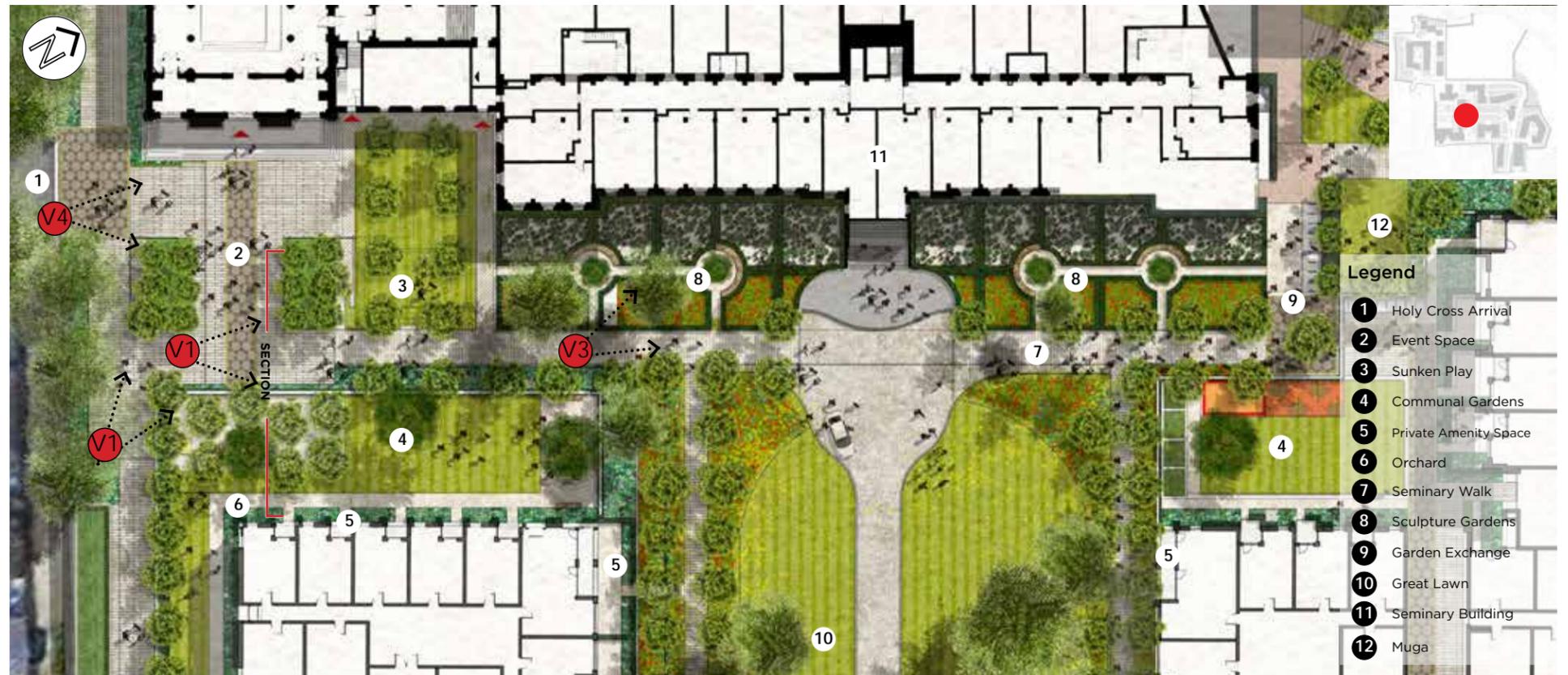


05 Seminary Walk

The Seminary Walk is one of the most important zones in the landscape plan. It forms part of the key pedestrian and cycle access through the site on a North South Axis. A crucial piece of connective tissue linking the masterplan to its wider surroundings. As such it enables the community to leverage this route and populate the space on the way to or from work or other destinations. It also has some distinct programme.

Entering from Holy Cross Avenue one is immediately greeted by the Church and an active plaza space for events, or meeting. Immediately to the north of this there is a play area, seating dotted along the route before it opens up onto the great lawn. Moving further north a small area of sculpture has been allocated before a nodal space turns the user west directing them to the Cloister Gardens, GAA pitches, Tolka River Walk, The Woodland or Drumcondra Road.

The Seminary Walk has a strong linear axis with tree planting responding to the bays of the Seminary. It embraces classical design with focal points, changes of direction, moments for seating and the idea of concealing before a wide-open space is revealed, it is open and welcoming and clearly a public route with elegant, high quality material finishes and lush shrub planting.



Illustrative Plan



Existing Tree To Be Retiend



Existing Route To Be Retiend



Avenue Trees



Circulation + Nodes



Spatial Sequence



Illustrative View 1

05 Seminary Walk



Illustrative Section



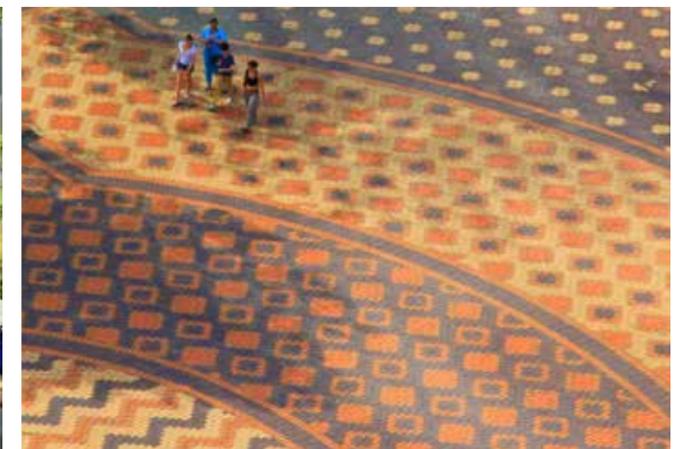
Street Feeling



Landscaped Walks



Conceal and Reveal - Understated Arrivals Experience



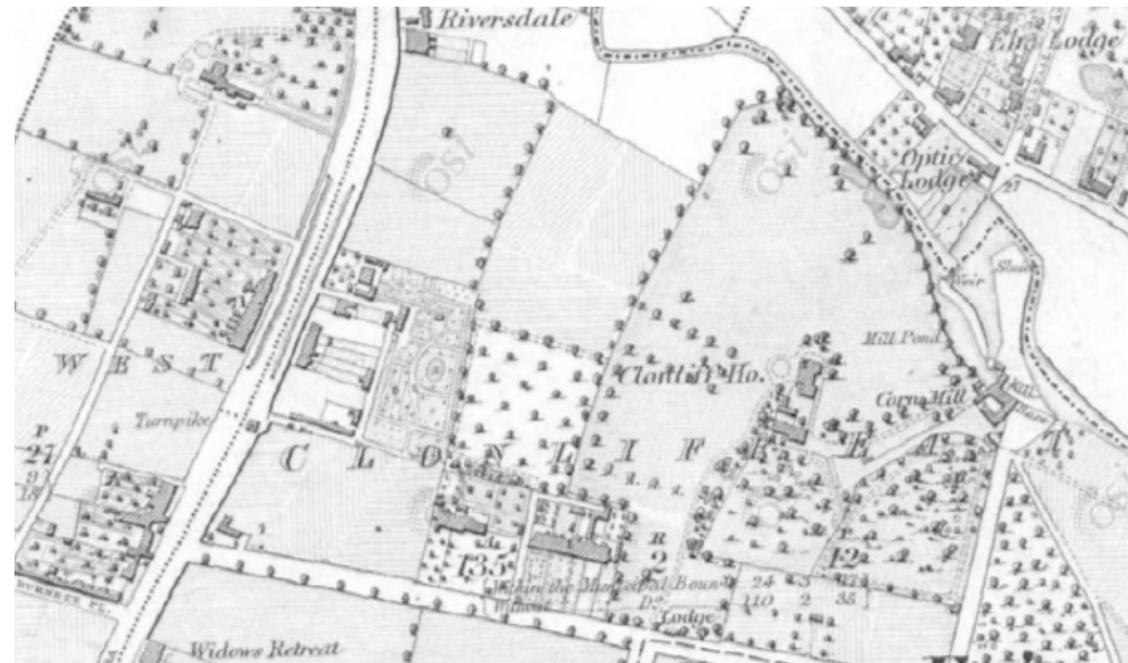
Durable Materials

05 Seminary Walk V4



05 Seminary Walk V3





“Beauty is the moment of transition...”

- Ralph Waldo Emerson

05 Cloister Garden



The Cloister Garden or Ambulatory was not completed until the late 1950's. The original layout for the grounds were an orchard associated with the Archbishops lands. As is currently the case, the center of the garden is aligned with a formal avenue of trees in the Archbishops Residence. It is not aligned on the center of the Seminary access and it is raised above this point. A door exists leading into the Gardens from the Archbishops Gardens.

The grounds were initially utilized for sports until the formal quadrilateral layout was applied, a traditional approach to the cloister arrangement, breaking the garden up into four sections which often were then programmed for vegetables, fruits, flowers and garden like activities. These were very functional spaces as well as spiritual and are heavily influenced by Islamic garden design often centered around flowing water.



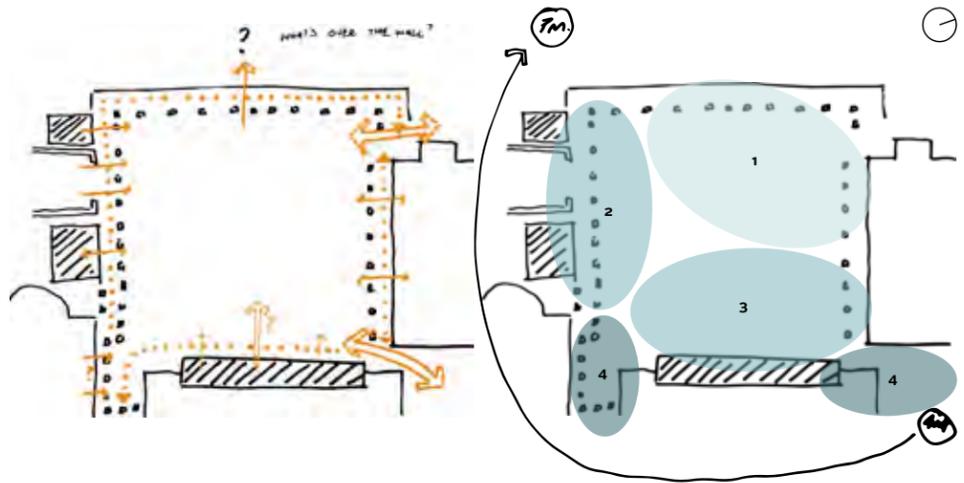
Peeping over the western cloister the archbishops tree planting lends itself to the overall ambiance and sense of serenity associated with the gardens. The eastern side is the Seminary itself, a four story building with a heavy presence. The Southern end is bound by the assembly Hall and the Library, whilst the northern end is overlooked by accommodation - soon to be removed and replaced with Residential Apartments on three of the four sides (to exclude the Archbishops boundary).

Today the gardens remain largely disused with minimal maintenance. The central area is split into four grassed quadrants by a cinder gravel path with a 150mm precast concrete kerb and water feature to it's center of little aesthetic value given is block and concrete finish. Some shrubs have been planted or are overgrown on the perimeter of the garden, disconnecting it from the space.

05 Cloister Garden - Vision + Concept + Principles

Enclosed on all four sides the gardens present a unique opportunity to contribute to the public realm of Clonliffe and open a new chapter in creating memories and celebrating a special moment in time. Ultimately, viewed in the wider context of the masterplan the Cloister was conceived as a 'secret garden'. Fully accessible to the public but of an altogether different scale and typology. It will be an active space for residents and visitors

The existing level change of nearly 3m in the cloister gardens lends itself well to the gardens been public on the upper level and the lower level been communal open space for the ground floor amenity of the E Blocks. This will be broken up by a series of terraces. It is anticipated that the upper cloister will be public realm and the lower garden private amenity space for residents' orientation of the gardens mean that it will have a positive solar gain. The main access routes will be to the north - the arrival space on the north east been curated as a courtyard to precede the Cloister, beneath an Undercroft of the E Block - adding to the sense of anticipation and framing a glimpse only of the secret garden upon which to happen across.



The Cloister Garden follows the theme of the Hortus Conclusus, latin for enclosed garden. This will remain central to the design of the garden. it creates enclosure, anticipation and curiosity, a revealing transition through spaces with cues to follow, gardens within gardens and visual permeability.

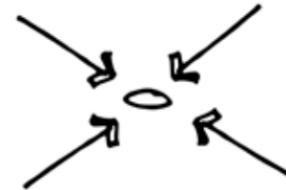


In essence, the concept design respects what is existing and integrates into the garden. In search of privacy, the secret gardens pursue a sense of separation from the outer world. The discovery of unexpected spaces, the excitement of new adventures, the comfort of secret corners. The exploration can be social or individual and different feelings are time to time the companions.

AXIALITY



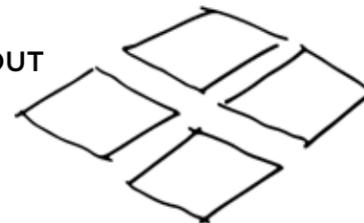
FOCAL POINT



ENCLOSURE



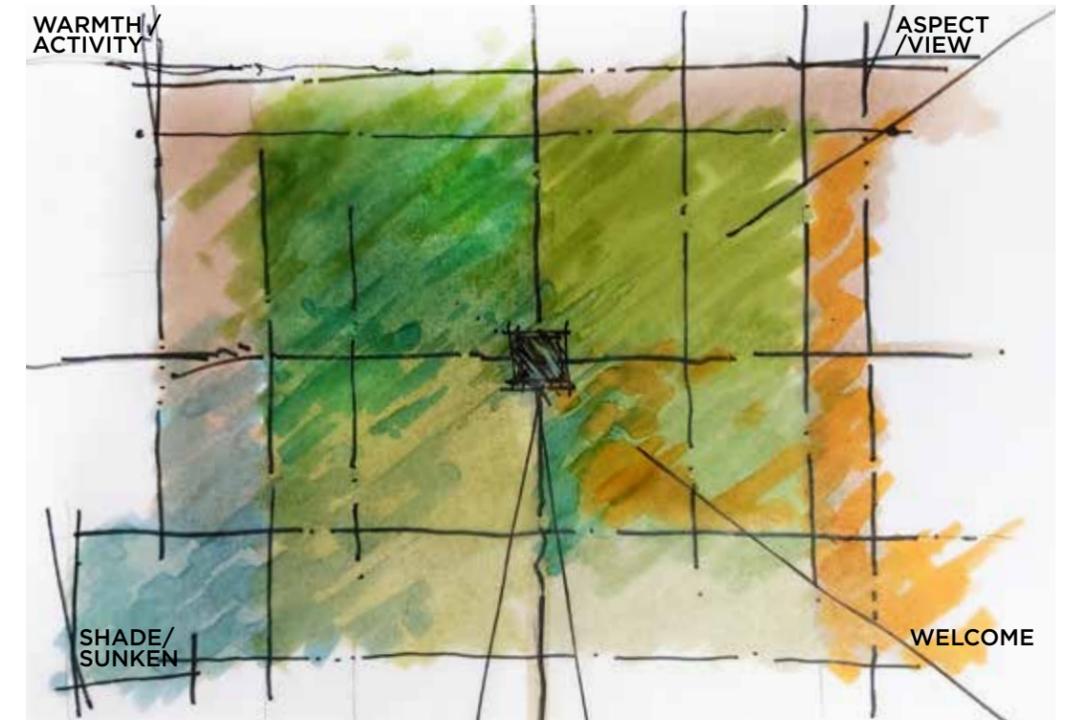
QUADRIPARTITE LAYOUT



TRANQUILITY



Concept: Respect for what already exists and therefore cannot be just erased from the memory. Preserving the historic arrangement and integrating it into the garden with a completely new meaning becomes a representation of the site stratification rather than a need.

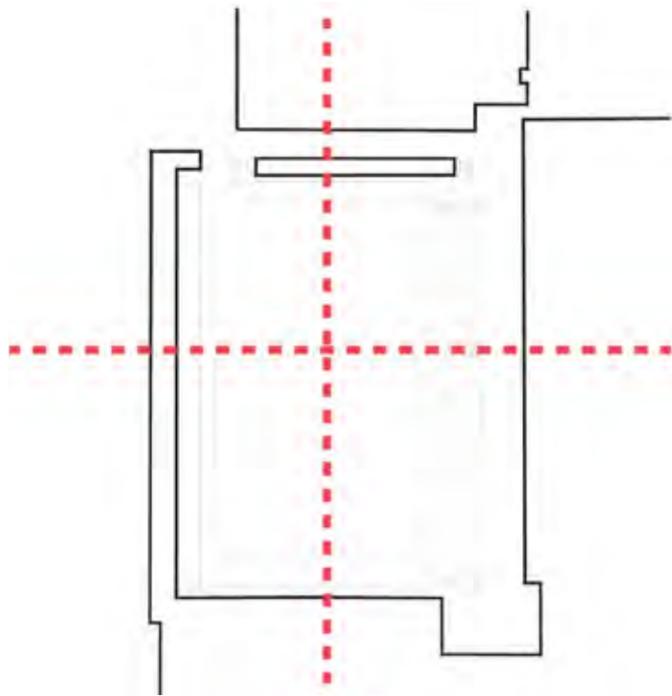


A Contemporary Cloister Garden: Different spaces are alternating inside the project. The design generates a game of contrasting atmospheres, views, roles, that raise diverse emotions, summarized in keywords useful to give an idea of the character of each of these places.

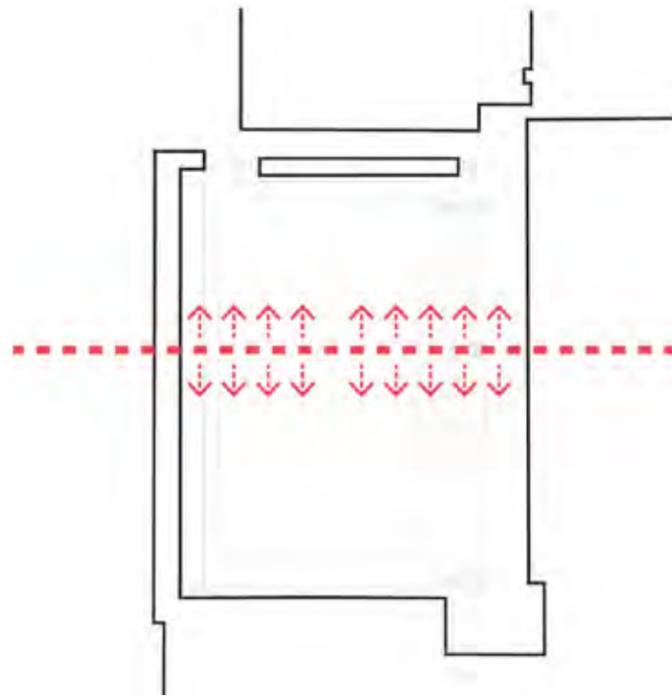
05 Cloister Garden - Illustrative Plan



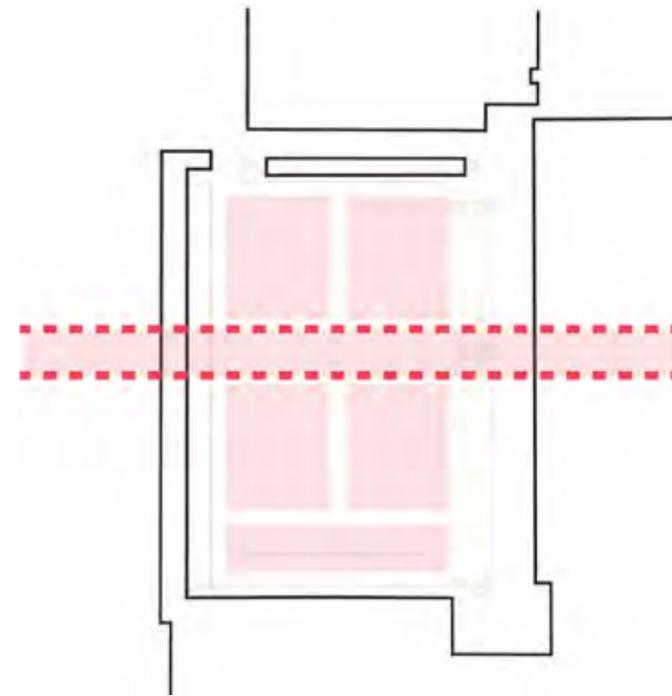
05 Cloister Garden - Design Intent



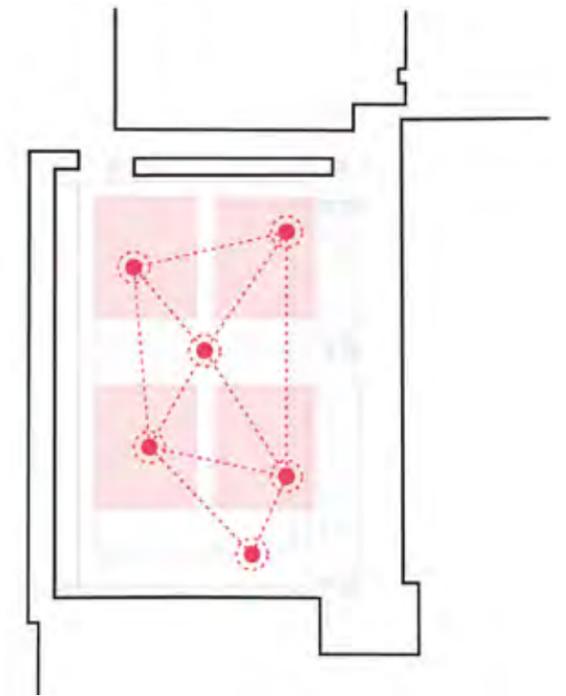
Responding to and integrating with the historical nature of the past - not to erase it but to build upon it.



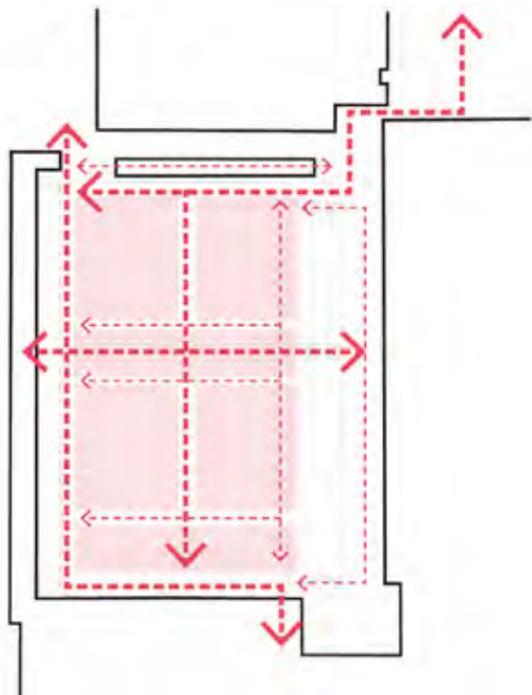
Axial arrangement off from which programme and occurs and happening happen!



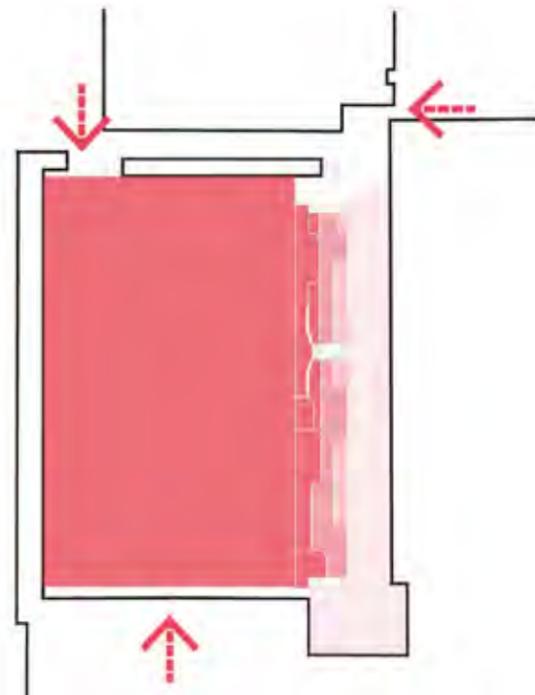
The Corridor and relationship to the seminary is critical to the spatial scale and sequence.



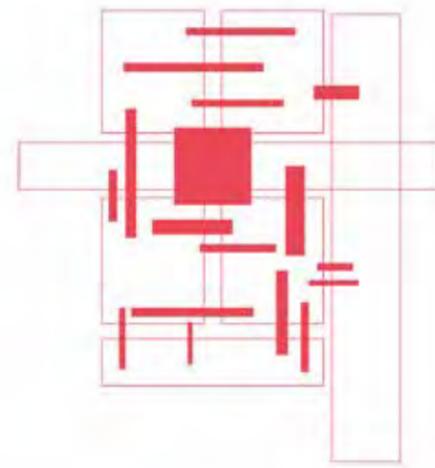
Each garden within the garden is a node and moment bringing life and people together.



Defined access and circulation. The cloister is an ideal space to amble slowly, sit, people watch read or lose yourself in thought...



Thresholds defined as arrivals, departures, subtle moments or to demarcate space.



An arrangement of components working together traversing the gap.



A patch work of open space neatly arranged around the quadrants, full of character and diversity.

05 Cloister Garden - Indicative View Facing North From The Library Building V1



05 Cloister Garden - Indicative View Facing North From The Sunken Garden V2



05 Cloister Garden - Indicative View Facing North West The Seminary Building V3



05 Cloister Garden - Cross Section



Privacy + contemplation



Opportunity for water, historical component + ambiance



Movement in Plants



Serenity + Calmness

05 Cloister Garden - Cross Section



Natural Free Play



Integrated + Simple



Bold Paving Tones



Ornate + Fun



“Forests were the first temples of the divinity,
and it is in the forests that men have
grasped the first idea of architecture.

- Francois-Rene de Chateaubriand

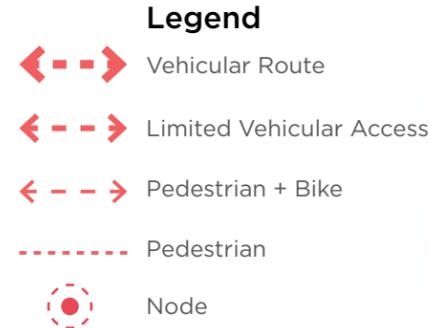
05 Drumcondra Gardens - Vision + Principles

The landscape design for Drumcondra Gardens is influenced by its woodland character. It is intended to enhance this typology by pulling the woodland around the blocks to wrap them in trees. As in nature, the succession from woodland to glade and edge habitat creates positive opportunities for ecology. The woodland will grade out, west to east from woodland to glade, to pasture. The Glades providing pocket spaces to be programmed and the pasture opening up over the adjacent public home zone and playing fields.

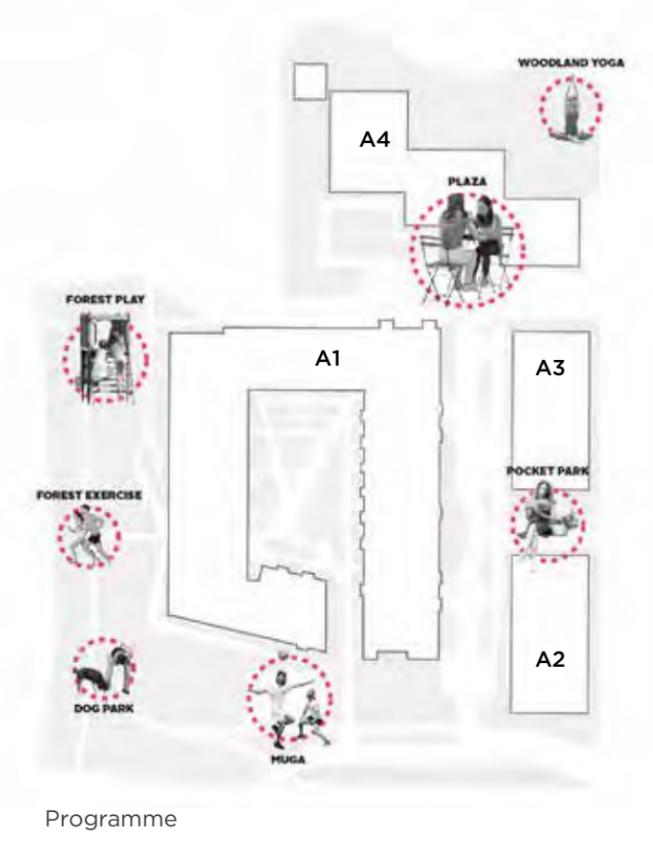
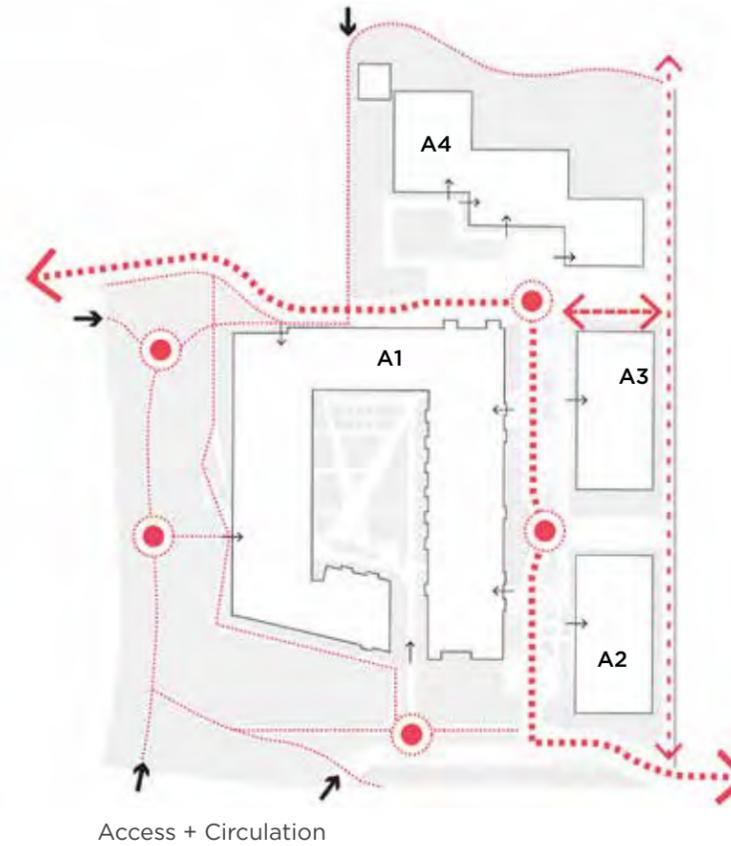
Access to Drumcondra gardens will predominantly be from Drumcondra Road. The Arrivals Road will meander in through existing trees, with some in poor condition identified for removal to facilitate access. An arrivals Plaza opens up the space in front of the taller A4 building in a welcoming way with amenity spill out providing activation and the woodland character spilling across the paved surface.

The road is designed as a shared surface, with low bollards to allow spill out for community events and prevent cars moving through the plaza space. The home zone running north south will have a control point to prevent traffic using the site as a through route but allowing service vehicles and local traffic requiring basement parking, access through a fobbed gated barrier. Some on street parking for visitors will be provided here. The existing woodland path will be enhanced and connect across the main access road west of block A1 to the linear river park.

The route to the linear park is 3.7m in width, providing a wide access point for the general public, pedestrians and cyclists and occasional maintenance vehicle access. A second pedestrian and cycle route has been identified on the eastern edge of blocks A3 and A2 running adjacent to the future proposed GAA pitches. Each ground floor unit will have own door access, providing greater activity on the street adding to the neighbourhoods vibrancy.



add access through



Protect + Enhance



Living In a Forest



Woodland Glade



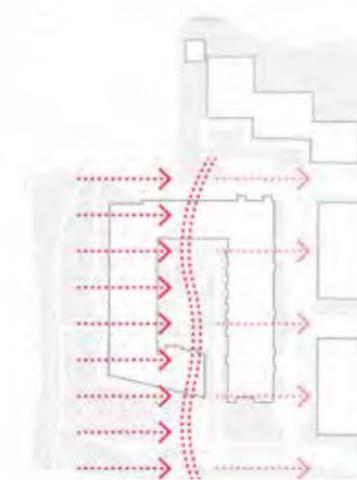
Allotments



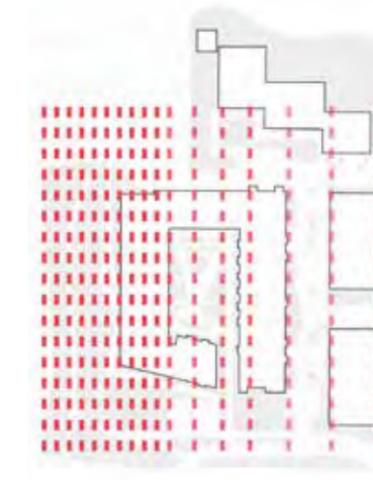
Filtration Ponds



Link to River Walk



From Natural to Functional, Protecting, Engaging With Context



Progressive, Transitional, Gradual



Diversified Character of Green, Heterogeneity, Multifunctional

05 Drumcondra Gardens - Landscape Masterplan



Forest Play



Woodland Yoga



Forest Exercise



Nature Trail



Dog Park



Plaza



Muga



Home Zone



Education



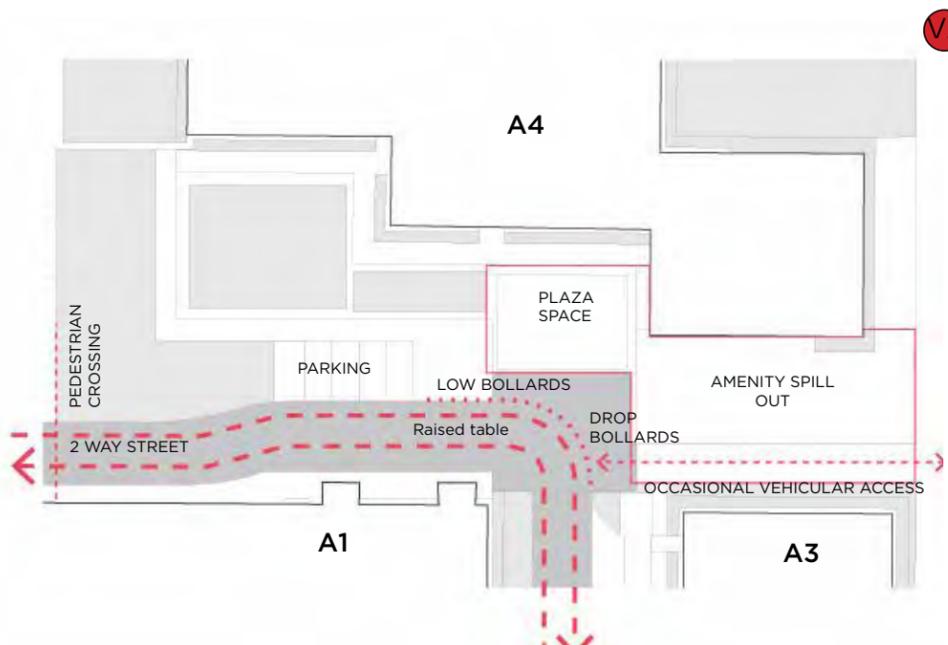
Bee Hives



05 Drumcondra Gardens - Woodland Plaza

Drumcondra Gardens arrivals point will be a welcoming 'Woodland' Garden Plaza. It will be flexible space capable of hosting small events, day to day gatherings, creating a threshold for the A Block Entrances and responding to adjacent retail programme for spill out F+B. The plaza itself will be of high quality materials, dotted with circular seating planters around trees. It will be bound with collapsible bollards to provide emergency vehicle access. The north west will provide an access also with collapsible bollards for occasional vehicle access to the route running north south adjacent to the GAA pitches.

It will be a vibrant space, safe and active, a spot to sit and people watch, read, meet or pass through on another moment of transition as part of the wider masterplan.



Illustrative Plan



Illustrative View 1

05 Drumcondra Gardens - Woodland Plaza



Illustrative Section



Drumcondra Road Elevation - Retained Stone Wall, Re-pointed, Right Hand Gate Pillar moved South to allow access V2



Woodland Walk Illustrative View

05 Drumcondra Gardens - Walled Garden

The internal Courtyard for Block A1 will cater for the communal open space needs for the residents of this block only. All the ground floor units onto the podium will have own door access (also from within an internal corridor accessed by cores.) The design has been arranged on the key desire lines to core positions. This has created a splaying type geometry, connecting the architectural 'cut' through the building at podium level with the woodland and residential block. The lines of vision clearly indicate the access points to the building. The space will be secured and only accessed by key or fob owned by residents.

Programmatically the open space function as an amenity to cater for all ages, abilities and family groups. With play, allotment gardens, exercise and BBQ area all provided for enriched with high quality planting, furniture and materials. An informal 'mini' woodland will bind the western portion of the courtyard before it becomes more open and more formal in character.

Natural Functional

Transition

Movement

Informal Formal

Character

- Wildlife in the Garden
- Play
- Calisthenics
- Allotments
- Flexible Lawn
- Tiny Forest
- Enclosed Parkland Feel
- Woodland Glade



05 Drumcondra Gardens - Walled Garden Indicative View Facing South V1



Informal Seating



Tilted Lawn



Forest Feel



BBQ Area



Informal paths



Woodland Planting



Formal Axis Route



Planted Seating Edges



Communal Terrace Spaces



Woodland Walk



05 Drumcondra Gardens - Homezone

Whilst the home zone will provide a functional need in the working of the character zone and overall masterplan it is envisaged as a space to be prioritized and used by pedestrians and cyclists. It is also proposed that it will be an ecological corridor - heavily planted with native shrub species whilst the tree layer is more formal in arrangement. The western edge of the A2 and A3 blocks will incorporate a formal swale to capture rain water from the south to north before retention and cleansing and discharge to the River Tolka. Small bridges will straddle the swale to provide access for residents where own door units are to be provided.

The street will be a shared surface - high friction finish, with permeable paved areas for set down and parking for mobility impaired drivers. It will be narrow in width with a small pinch point at the gated control point. It will provide access only for residents of blocks A to E , service and emergency vehicles as well as pedestrians and cyclists. The homezone will be an active vibrant space and a positive for the masterplan.



Street as a Space



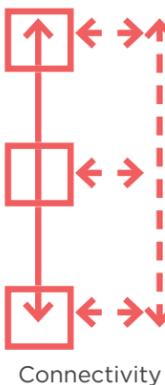
Street for Play



Wildlife in the Garden



Play



Calisthenics



Allotments



Flexible Lawn



Tiny Forest



- Legend**
- 1 Car Park Entrance
 - 2 Visitor Parking (Permeable)
 - 3 Bio Retention Tree Pits
 - 4 Pocket Connecting Space
 - 5 Native Dense Tree Planting
 - 6 Bike + Pedestrian Promenade
 - 7 Shared Surface
 - 8 Block Entrance
 - 9 Waste Collection
 - 10 Control Point (Boom Gate)

Illustrative Plan



Section

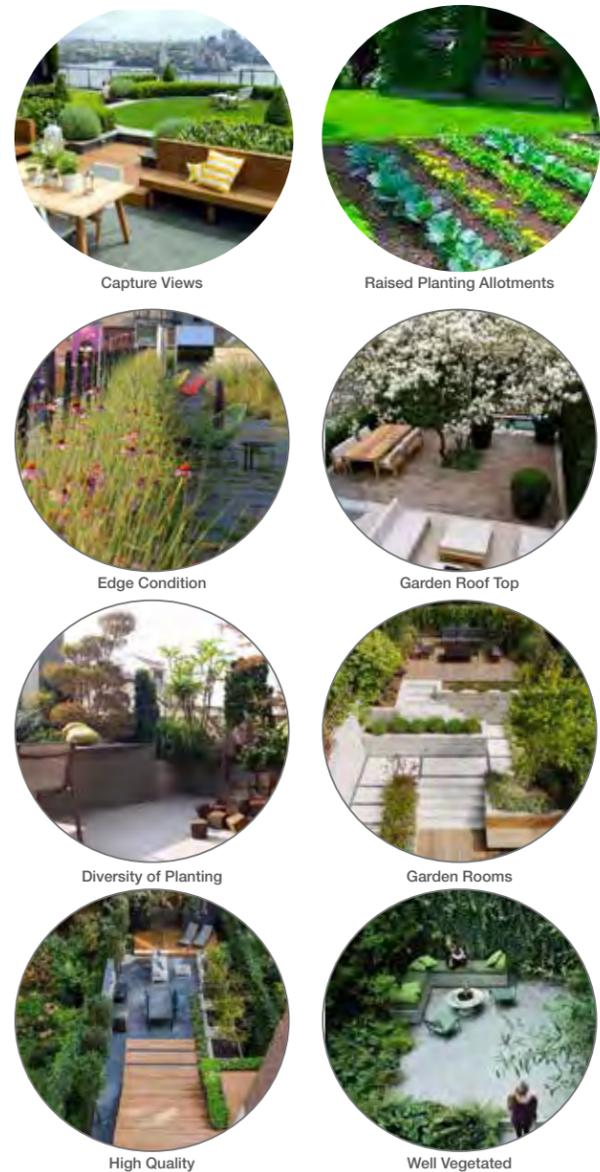
05 Drumcondra Gardens - Homezone



05 Drumcondra Gardens - Roof Gardens

The roof gardens for Clonliffe A Blocks will benefit from panoramic views across the tree tops of the surrounding grounds to the city and up to the Dublin Mountains in the distance to the south. The Gardens will be fully enclosed with glazed balustrades up to 1.5-1.8m in height according to recommendations by the micro-climate consultant in order to meet human comfort standards.

Each roof garden will have programme such as play, seating and small areas for boules, BBQ's and small gatherings. The spaces will be well planted with hardy shrubs in raised planters. In addition to this, some allotment programme can be provided, managed by the community. The provision of roof gardens is a benefit to the residents of the blocks and contributes in part to meeting the communal open space requirements.



- Legend**
- 1 Flexible Space
 - 2 Access
 - 3 Edge Planting + Protection



Typical Detail Plan



Section



Roof Plan Location Plan

05 Drumcondra Gardens - Woodland Walk Indicative View V1



Woodland Walk

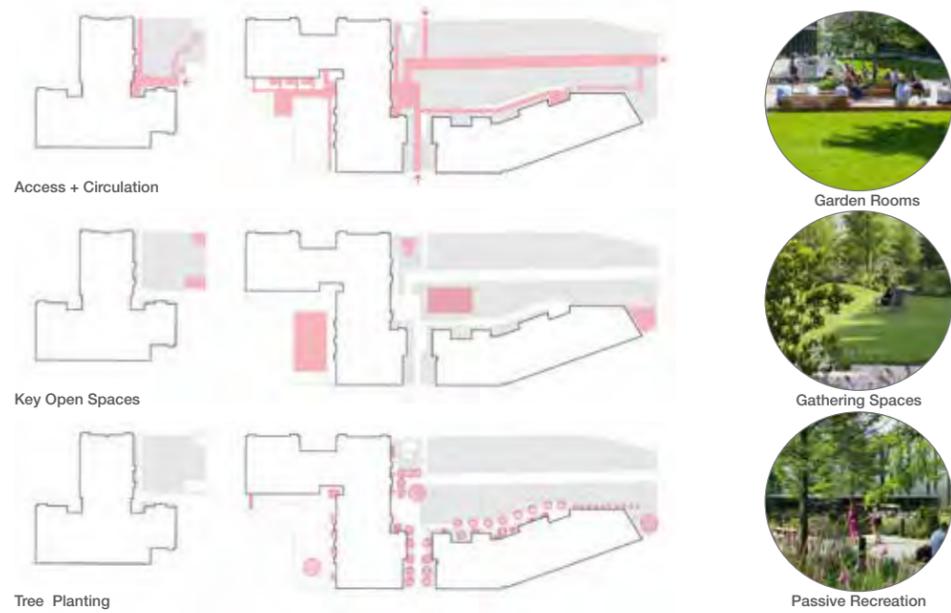
River Walk North West Link

05 B Blocks - Illustrative Plan

The B Blocks consist of 3no. Residential blocks which bind the northern edge of the formal lawn. The northern side of these blocks is where the access road and interface with future planned GAA pitches runs in an east west direction. At this point, beneath B2 there is car park access. Dissecting this linear group of buildings between B1 and B2 the seminary walk links to the woodland character area or A Blocks, transitioning at the 'Garden of Exchange'. This is a point where visitors and guests can move into the Cloister Garden or choose to move north linking up with the pedestrian route to the river walk or west to the woodland gardens.

The Garden of exchange also has a 1.8m level change to control over a 1:21 slope in addition to providing access for mobility impaired users, fire tender access and occasional maintenance vehicle access. An angular approach to the Cloister garden has been planned in order to articulate the sense of anticipation on entering the gardens themselves.

Each of the B Blocks have been planned with BBQ, seating, terrace, play, exercise allotment gardens. Block B1 has retained the existing trees by forming terrace walls. these, complimented with a low hedge, railing and pergola also provide a sense of security. Block B2 is linked to Block B3 with a break in the building at ground level. B3 incorporates the existing avenue trees as a landscape feature. In addition the sloping lawn incorporates play in order to utilise the topography. Both spaces are enclosed and protected with a low hedge, railing and pergola. All courtyards have provision for own door access.



Indicative view facing B1 access on the seminary walk



Illustrative Plan





05 B1 - Cross Section



05 B2 - Indicative Aerial View V2



05 B2 - Cross Section



- The Great Lawn
- Public Path
- Shrub Planting
- 1.1m hedge and railing with 1.8m Pergola
- Allotments
- Compacted Gravel Path
- Exercise
- Sunken Lawn
- Childrens Play
- Yoga Lawn + Flexible Space
- Seating Steps
- High Quality Paving
- Defensible Edge Planting
- Access to Block



05 B3 - Cross Section



- GF Terrace Access
- Steps to level difference
- Informal Lawn
- Wildflower Area
- Existing Trees To Be Retained
- Existing Avenue Trees retained and route retained. Road Re-surfaced (top dressed)
- Childrens Play with integrated existing topography
- Steps to lower lever
- 1.1m hedge and railing
- Parking
- Access Road
- Hedge + Railing to GAA pitch edge

05 C1 Block

Binding the great lawn to the south block C1 benefits from a generous amount of landscape to its west and north in addition to its setting against the back drop of existing trees on its east. The courtyards have provision for fire tender access from the public route to the south and are bound by a low hedge with railing, pergola and gated access with a key / fob control. It has allotment, orchard, play, bocce, BBQ and terrace gathering areas. In addition to seating it has some smaller spaces for reflection and passive recreation.

The block has own door access both onto the formal lawn and internally around the courtyard, for the most part this is at grade and meets part M requirements.



Spaces from above



Simplicity in Planting



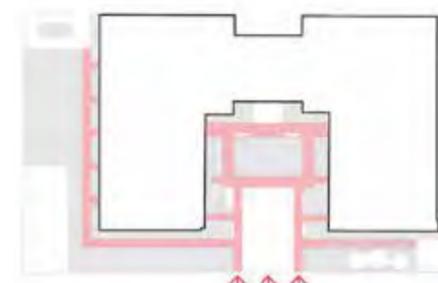
Pocket Spaces



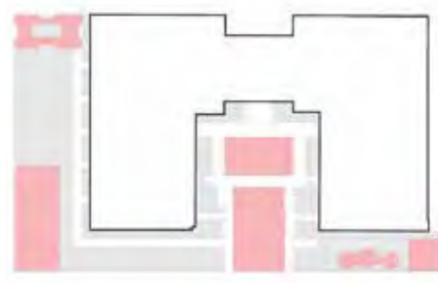
Diverse Planting

Legend

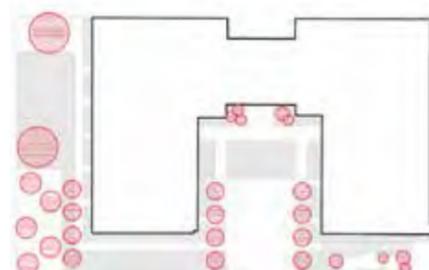
- 1 Garden Access
- 2 Event Space
- 3 Sunken Play
- 4 Communal Gardens
- 5 Private Amenity Space
- 6 Orchard
- 7 Garden of Reflection
- 8 Core Entrance
- 9 Terrace
- 10 Lawn
- 11 Pergola + 1.1m hedge and rail



Access + Circulation



Core Space



Tree Planting



Illustrative Plan

05 C1 Block - Indicative View



05 C2 Block

Framing the Clonliffe Road Arrivals point, C2 is in essence a Gateway Building. The western boundary is lined with existing trees which form part of the character of this area. The main communal open space is bound by the re-purposed boundary wall. A 2m tall hedge on the communal space side softens the edge condition whilst a railing on the public realm to the south provides a sense of security.

The space is entered from the north and the east (off the main arrivals avenue). It is a sunken garden, creating more of a sense of enclosure and secretness. In addition, it has BBQ, gathering terrace and play facilities. A wild flower and woodland planted garden winds its way along the western boundary, to the lawn space on the northern end of the plot where an additional gated entrance is located.



Discrete Seating Areas



Blurring the Boundaries

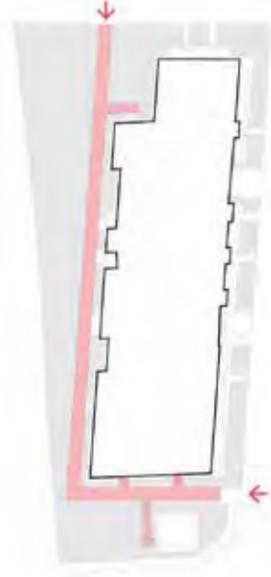


Layering

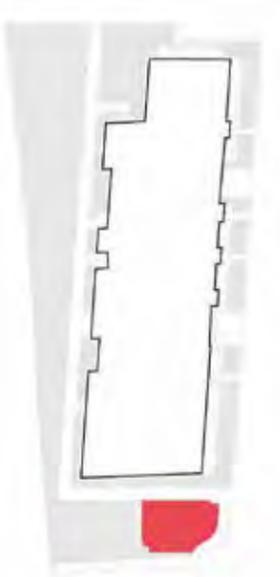


Legend

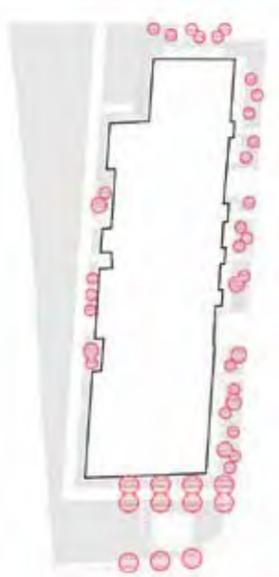
- 1 Folly
- 2 Play Area
- 3 Woodland Walk
- 4 Entrance
- 5 Private Amenity Space



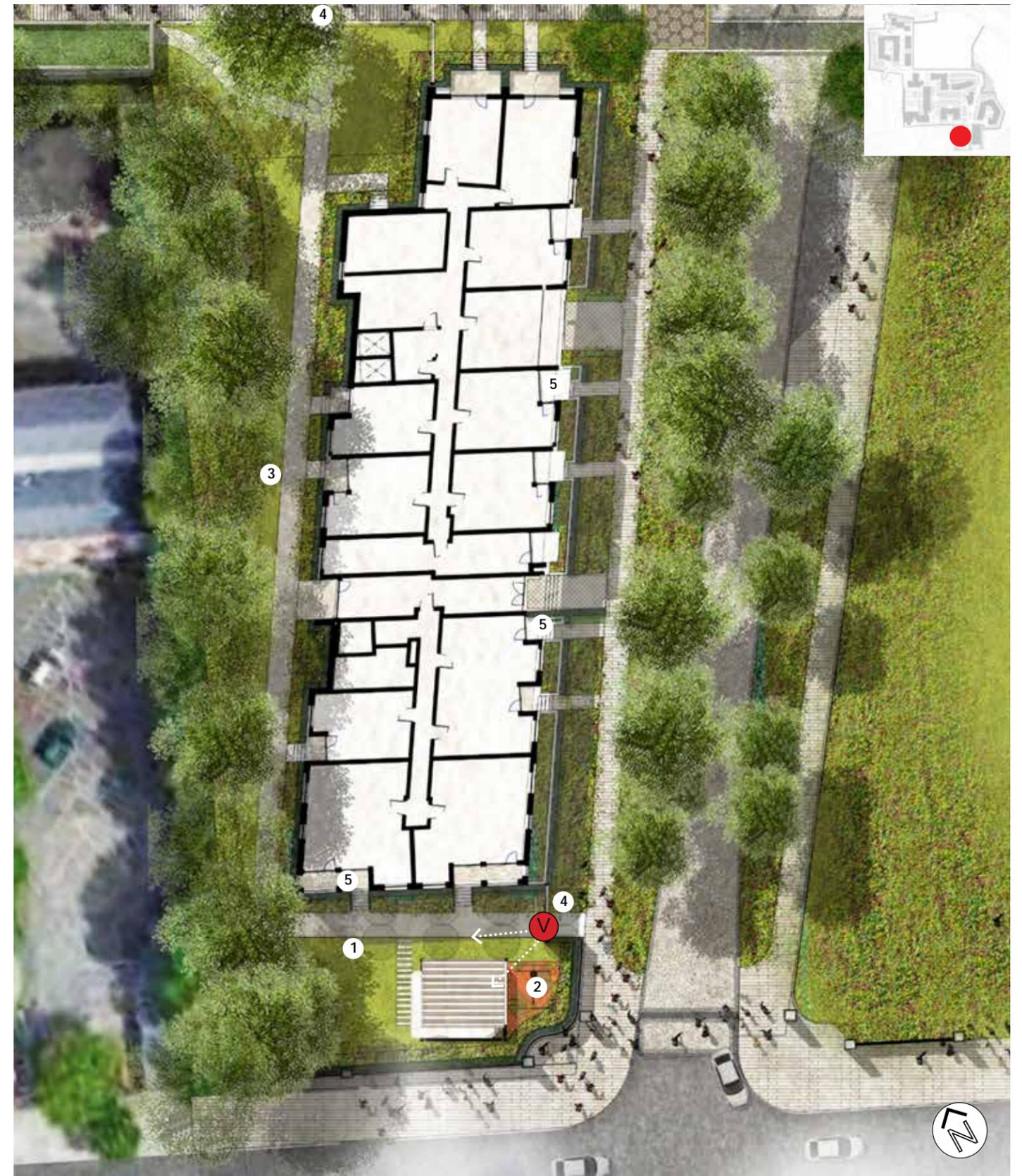
Access + Circulation



Core Space



Tree Planting



Illustrative Plan

05 C2 Block - Indicative View



05 D1 Block Ground Floor

Building D1 as designed by ODT is a landmark building. It is located on axis with the seminary building and Clonliffe Road Entrance. As such it is crucially important in terms of the arrivals experience and how it sits in the landscape. Human scale is critical in this scenario, reducing the potential for an overbearing effect by sensitive planting of trees and large specimen shrubs will help soften the edges. The communal open space will be gated with a low 1.1m gate, an elevated entrance straddles a tilted sunken lawn on one side and a depressed terrace garden on the other side – creating a bridge effect. The garden is enclosed with a railing hidden in dense planting.

Materials will compliment the building architecture in red tones falling as 'cut out' shapes on the ground plane around the tower as a representation of the conceptual approach to the architecture.

Legend

- 1 Sunken Terrace
- 2 Tilted Lawn
- 3 F+B Terrace
- 4 Entrance Path
- 5 Gated Entrance
- 6 Vehicle Set Down
- 7 Mobility Impaired Parking



Robust Specimens



Plant Texture



Plant + Paving Contrast



Complimentary Paving



Section

05 D1 Block Roof Gardens

The roof gardens for D1 are arranged in such a way so as to take full advantage of capturing views across the city. They will be planted abundantly around the periphery to enclose and protect the space from exposed conditions using hardy plant species. The plants will 'pop' up behind the parapet creating a sense that the plants have inhabited the space over a long period of time. Activities on the roof will provide for sitting, some small amount of allotment with herb planting, power points for charging devices and wifi. Refer to planning drawings for additional terraces.

Legend

- 1 Seating Terrace
- 2 Raised Planter
- 3 Stepping Stones
- 4 Steps
- 5 Tree Planting



Abundance of Plants



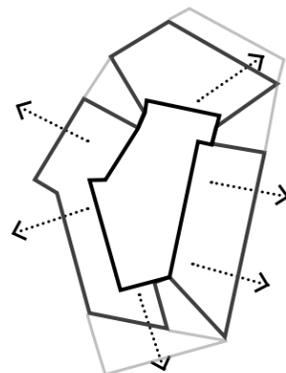
Edge Space Protected



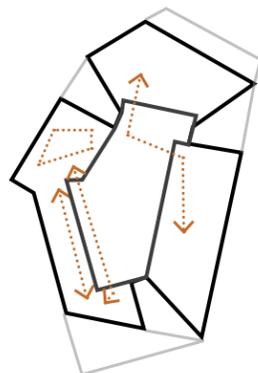
Relaxing Pockets



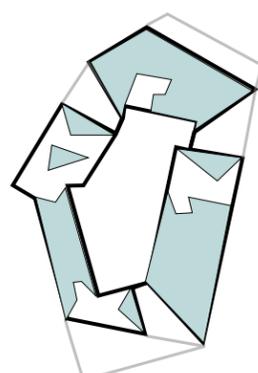
Warm Complimentary Building materials



Celebrate the Views



Circulation



Planting



Section

05 D2 Block

This enclosed courtyard is located on the eastern portion of the site. A generous buffer of communal open space also surrounds the building creating a route dotted with exercise amongst a wealth of plant material. The northern portion of this 'edge' space is predominantly active with exercise equipment and an area for yoga.

The central courtyard provides access for fire tender turning movements. As such the spatial arrangement has to some degree been driven by this. A sunken central gathering space with BBQ welcomes residents and visitors. Play has been programmed in close proximity to this in a sunken with lawn to the northern portion opposite the main core entrances. Circulation allows for access to the cores and own door access has been provided within the courtyard and externally.

Legend

- 1 BBQ Space
- 2 Play Area
- 3 Exercise
- 4 Entrance
- 5 Lawn



Allotments



Incidental Space



Diversity of Planting



Flexible Paving



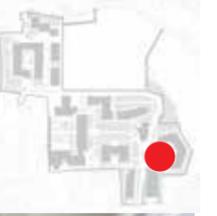
Access + Circulation



Core Space



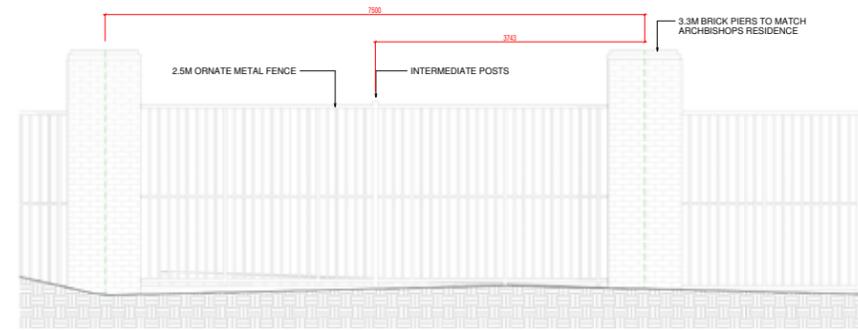
Tree Planting



Section

05 Archbishops Palace Entrance

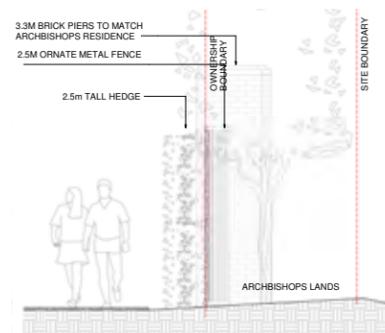
The proposals for the boundary interface at the Archbishops Palace and the applicants land has been designed to facilitate a future access road as part of the purchase agreement between the two landowners. The access road will have a gentle slope following existing contours in order to avoid impacting existing tree roots. A railing and pier boundary has been proposed in order to reduce impact on tree roots from excavation which a traditional wall require. The piers will be clad in brick to match the existing house. Refer to detail drawings.



Elevation



Railing + Brick Piers Boundary



Cross Section



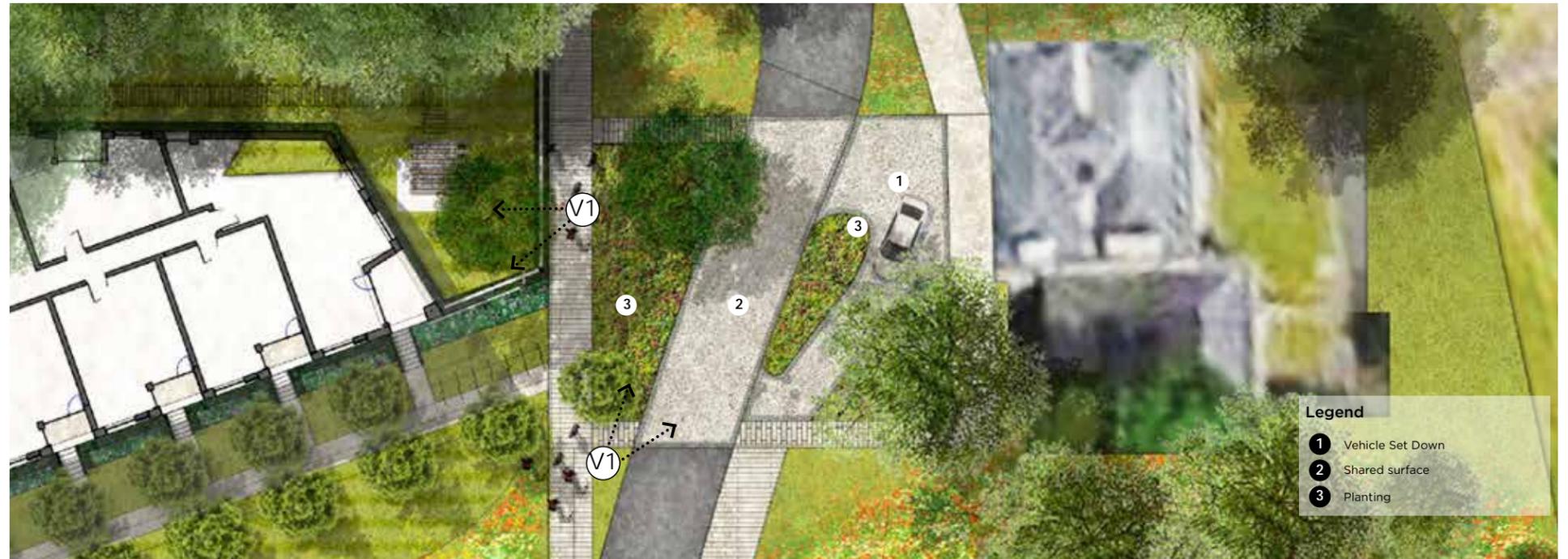
Illustrative Plan



Illustrative View 1

05 Red House Square

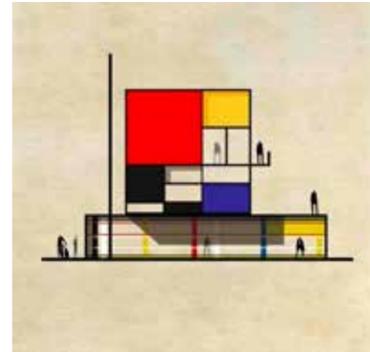
The proposals for the space addressing the western facade of the Red House will provide for a vehicle movement and retention of existing trees. Large areas of perennial and herbaceous planting will accentuate this area with a change in the surface material also proposed to indicate its significance and further strengthen its relationship with the seminary building. The layout has been arranged as a square in order to put some order on a variety of competing geometry's. With crossing points to the north and south and the primary vehicular road crossing at an angle the masterplan principles of permeability and connectivity have been enabled as part of an integrated design response. Area is outside the application boundary but landscape proposals frame it in context.



Illustrative Plan



Illustrative View 1



“Vertical and horizontal lines are the expression of two opposing forces; they exist everywhere and dominate everything; their reciprocal action constitutes ‘life’.

- Piet Mondrian

06 Public Private Thresholds + Interfaces - Courtyard Garden Design Principles

Semi-private communal courtyards are distributed throughout the site. These courtyards offer significant amenity potential for the residents. Courtyards will be programmed with BBQ areas, play areas, lawns, orchards, vegetable patches, water features and follies.

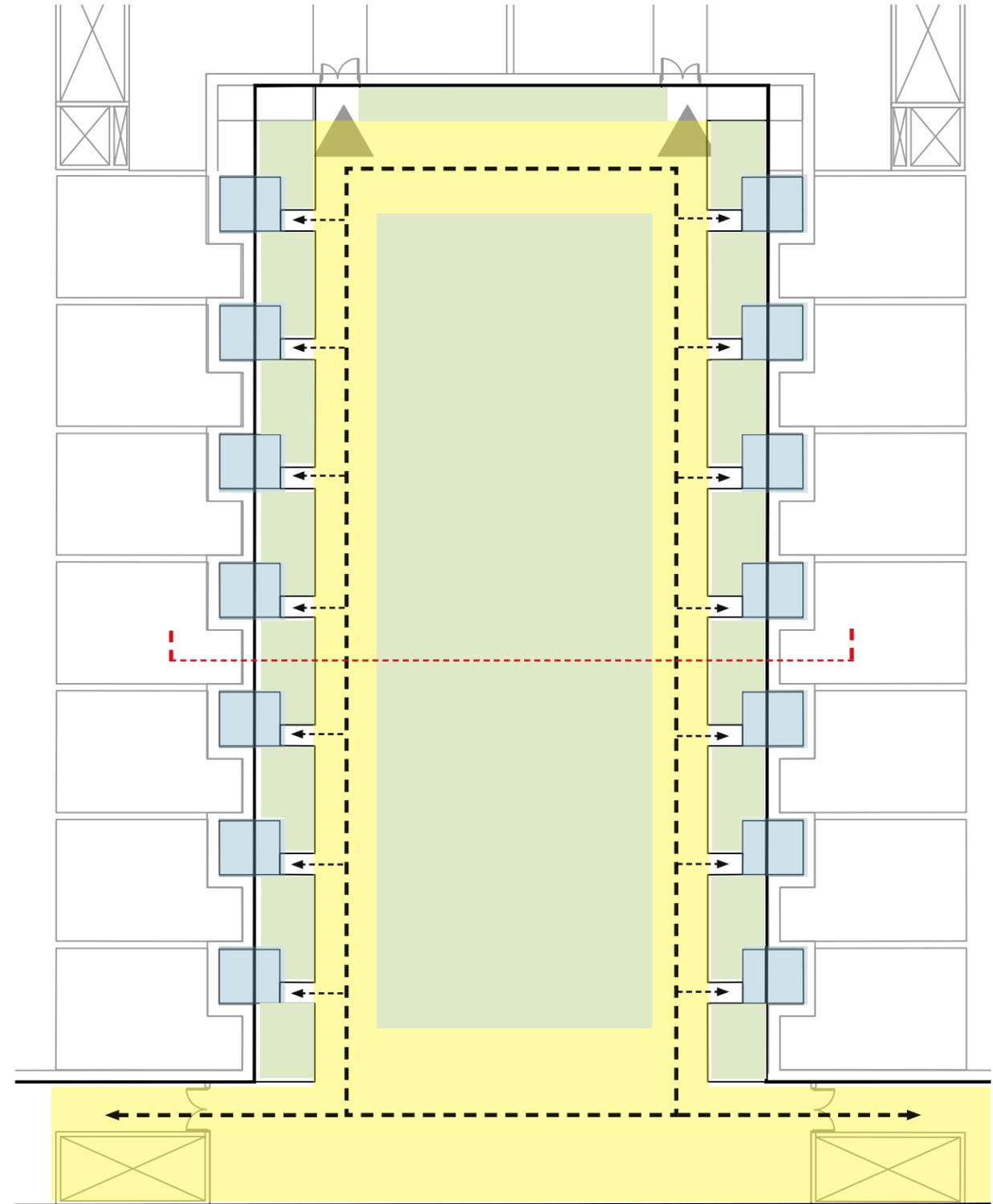
Typically the the ground floor apartments will have a terrace with 1.5m planted defensible space, a railing and latched gate access to define the threshold.



01 COURTYARD ENTRANCE - PRIVATE AMENITY SPACE PLAN
SCALE: 1:20 (A1)



Section

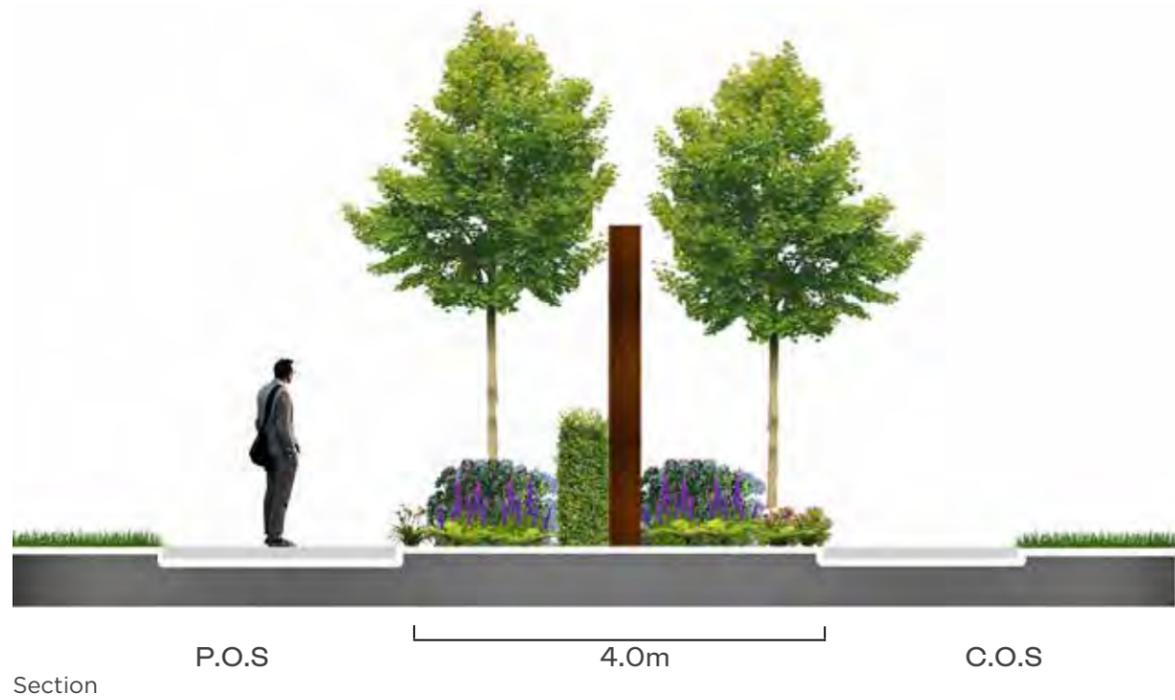


- Communal Amenity Space
- Circulation
- Private Terraces

Section

06 Public Private Thresholds + Interfaces

The boundary between private communal open space and public open space where courtyards are not enclosed by the building itself will be visually permeable to the public and residents. This practice creates a sense of welcomeness for users in the public realm and generates more engagement for residents in the communal open space. It also negates the need for unsightly railings and barriers. The Courtyards will be secured with low hedge 1.1m-1.2m in height. a railing will be incorporated in the middle of the hedge, creating a visual screen. Tree planting will also be provided on regular centres with the canopy raised, creating a panoramic view in and out of the courtyard. All courtyards will be securely gated to provide access for residence, create vibrancy, activity and opportunities for interactions.

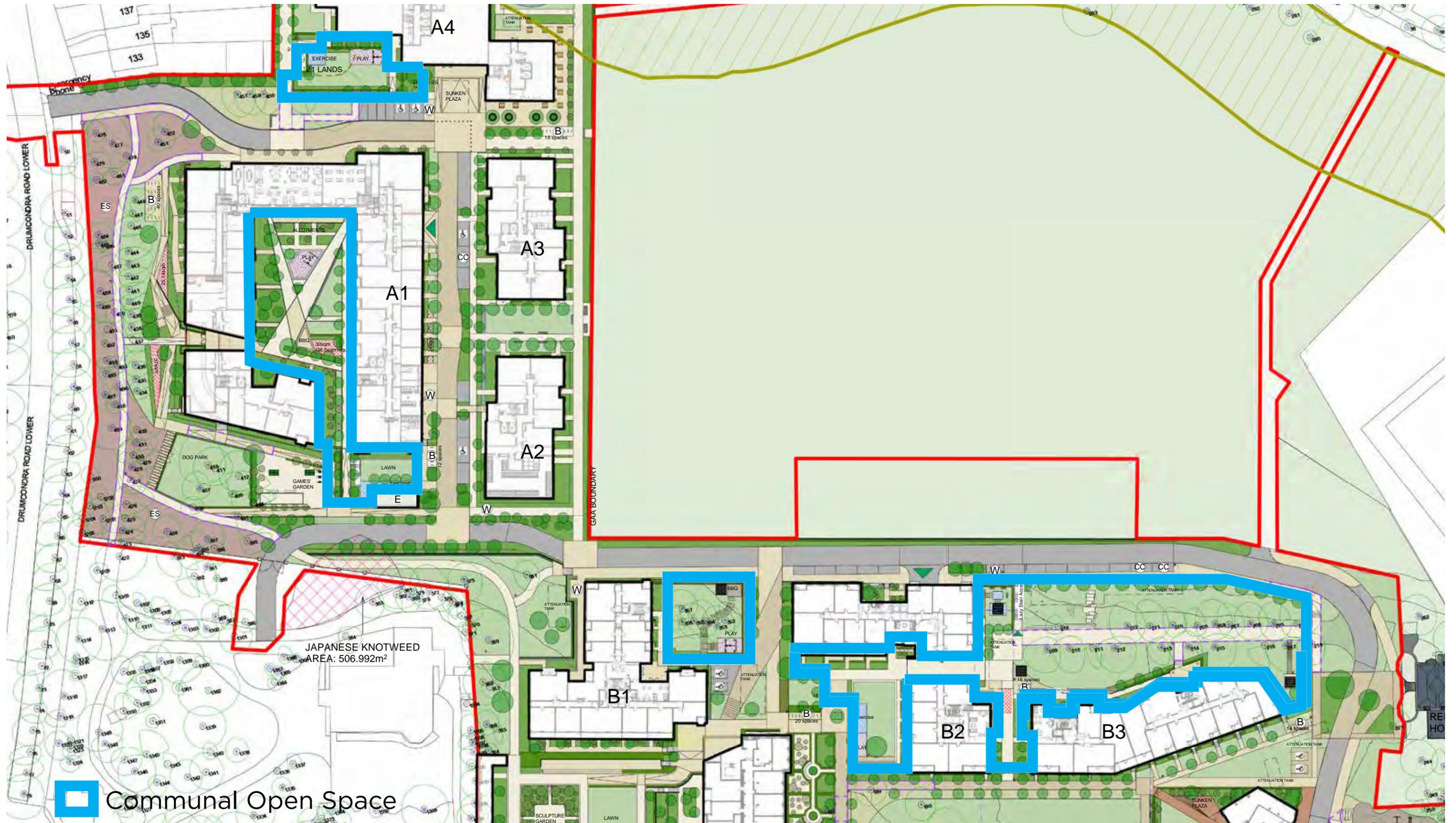


Overall Public Private Plan Illustrating Private Communal Space

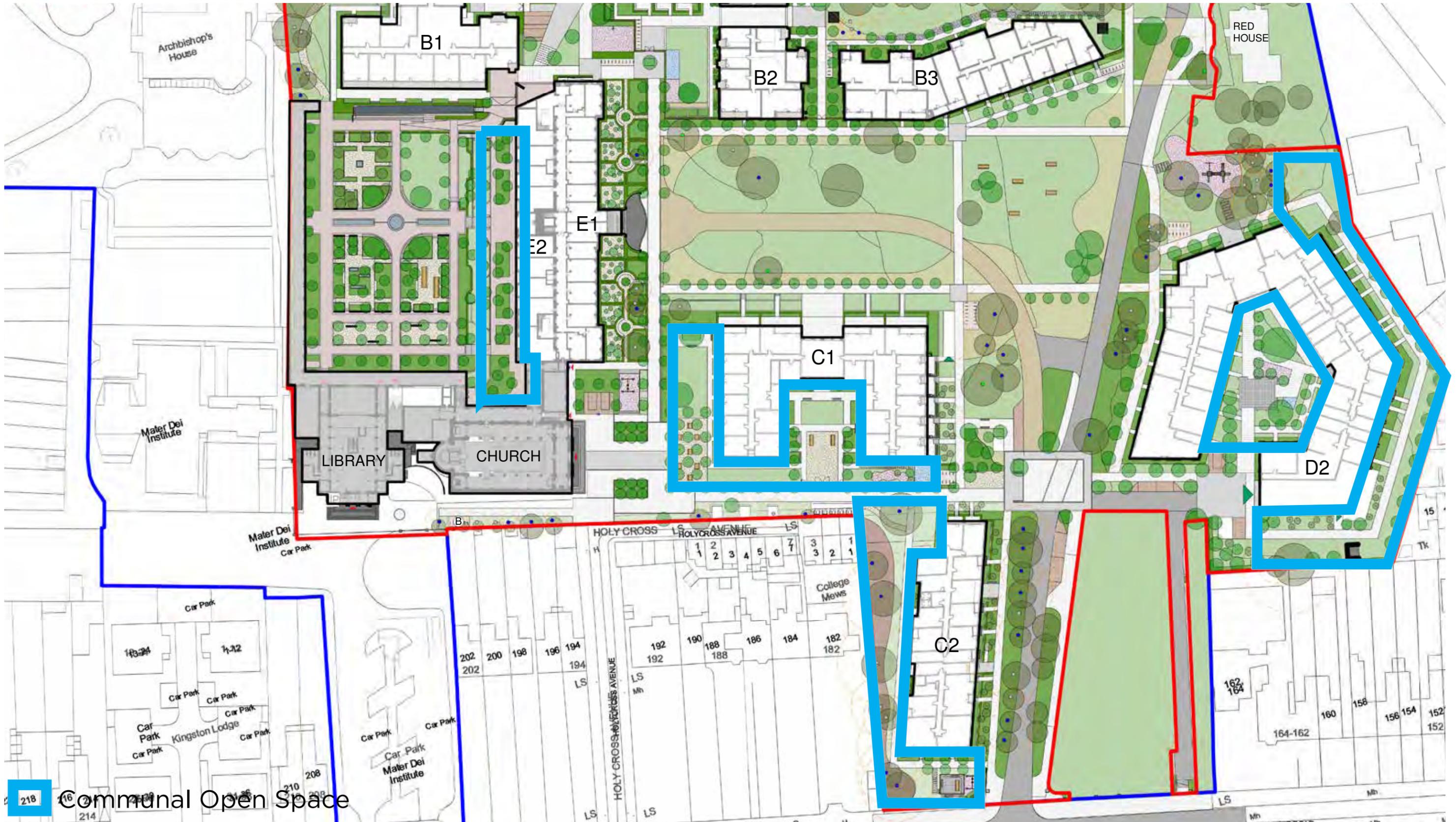


Indicative Elevation

06 Public Private Thresholds + Interfaces - Overall Plan 1/2

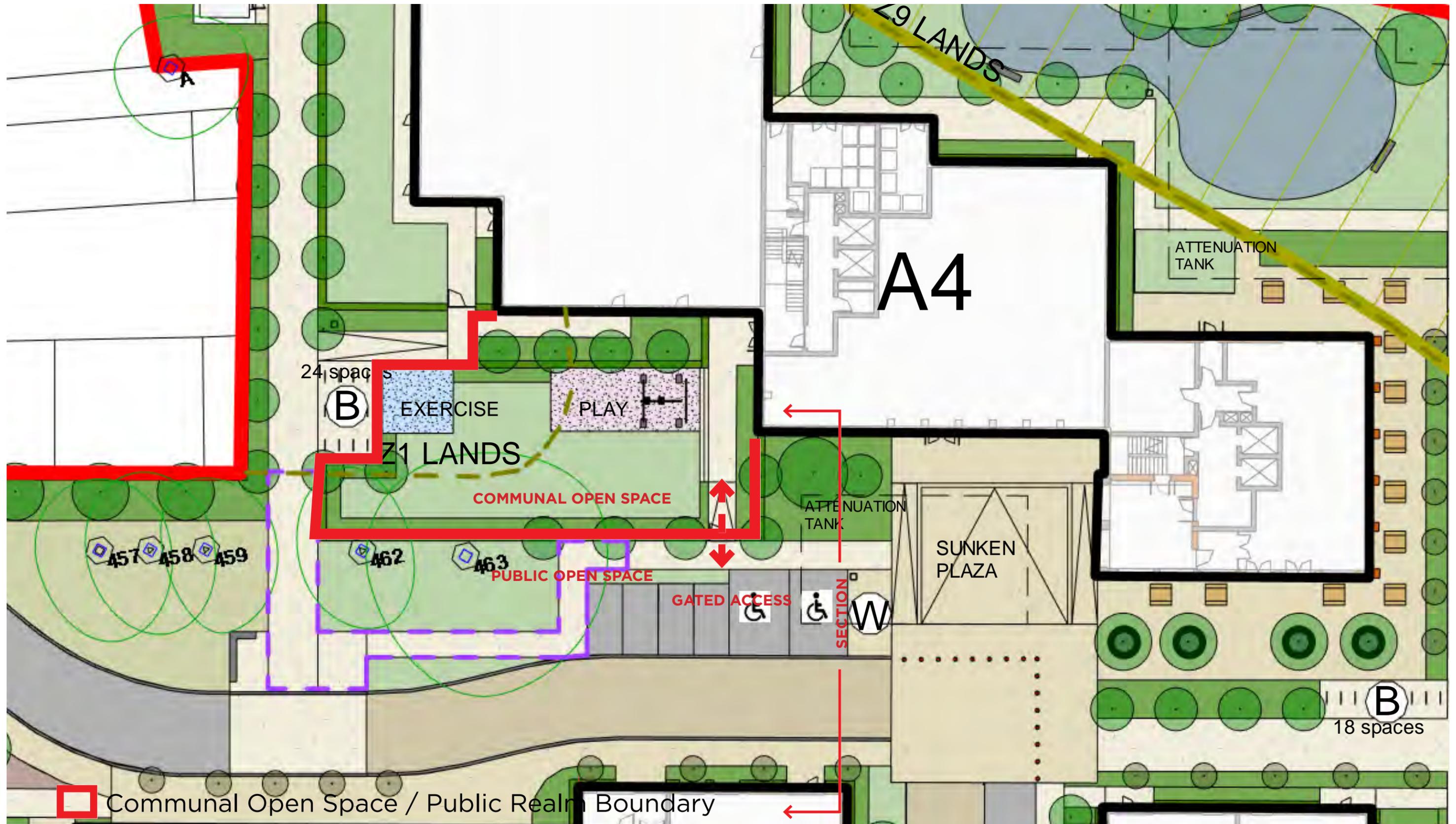


06 Public Private Thresholds + Interfaces - Overall Plan 2/2



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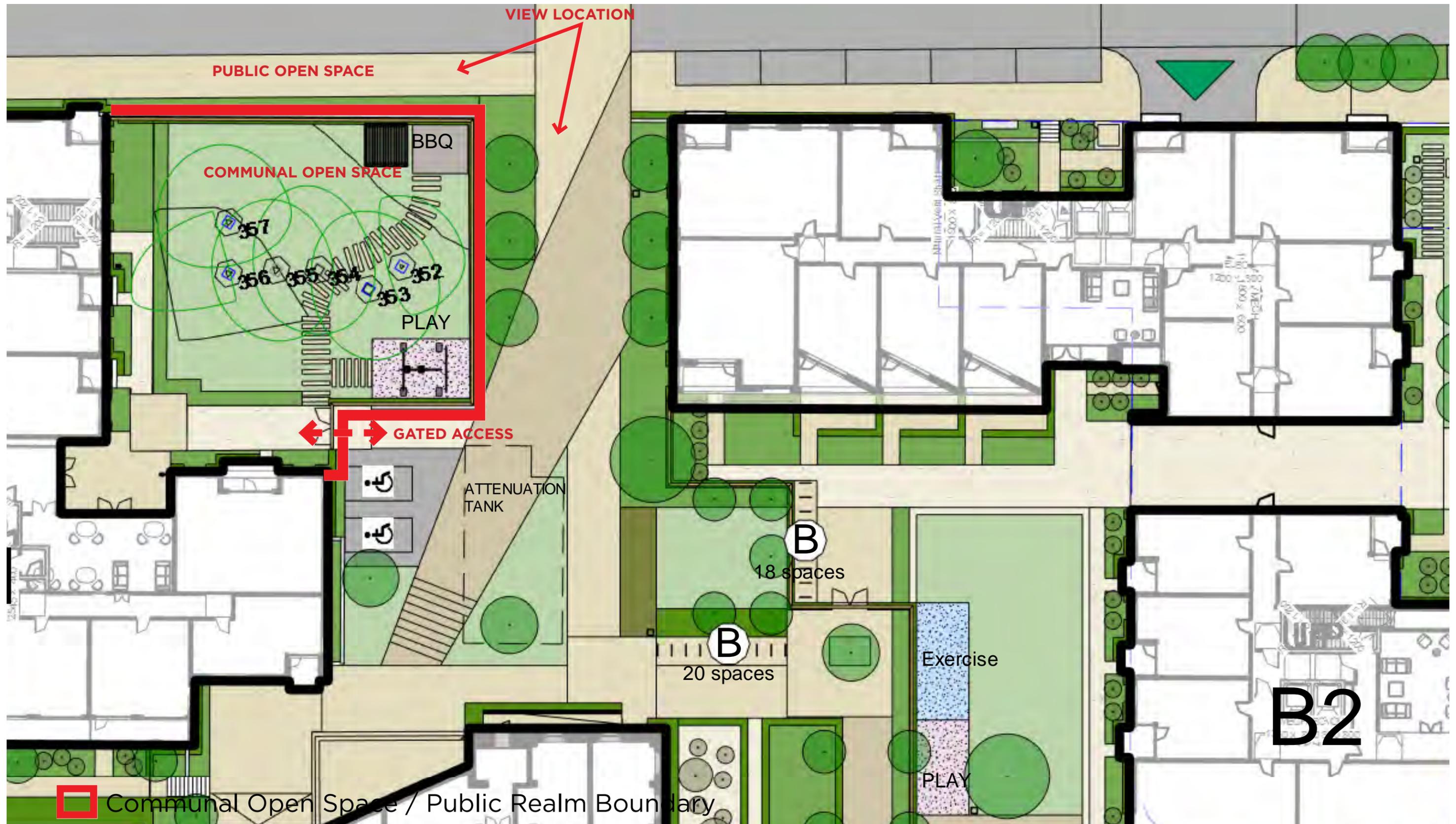
06 Public Private Thresholds + Interfaces - A4 Block



06 Public Private Thresholds + Interfaces - A4 Block



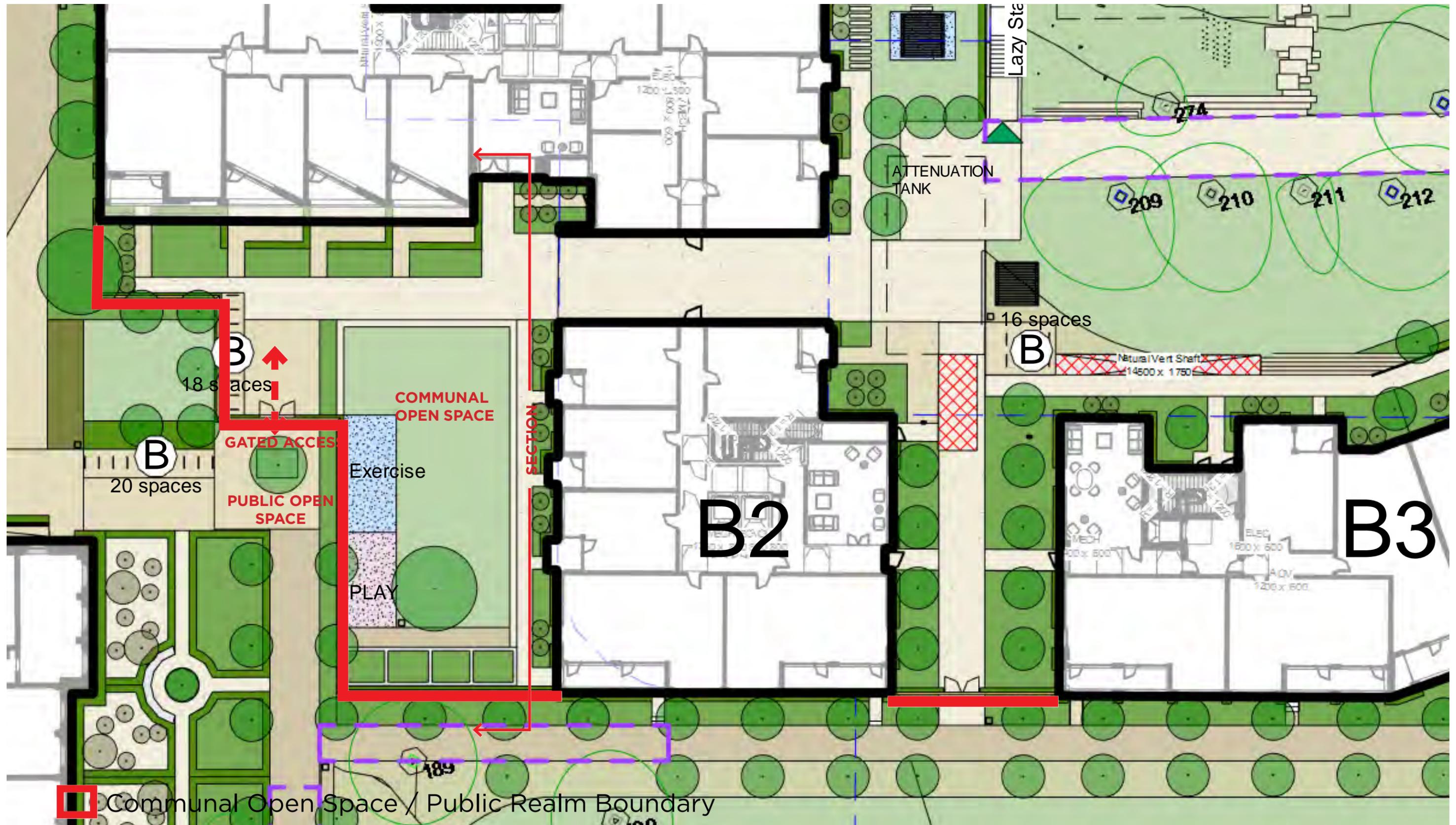
06 Public Private Thresholds + Interfaces - B1 Block



06 Public Private Thresholds + Interfaces - B1 Block



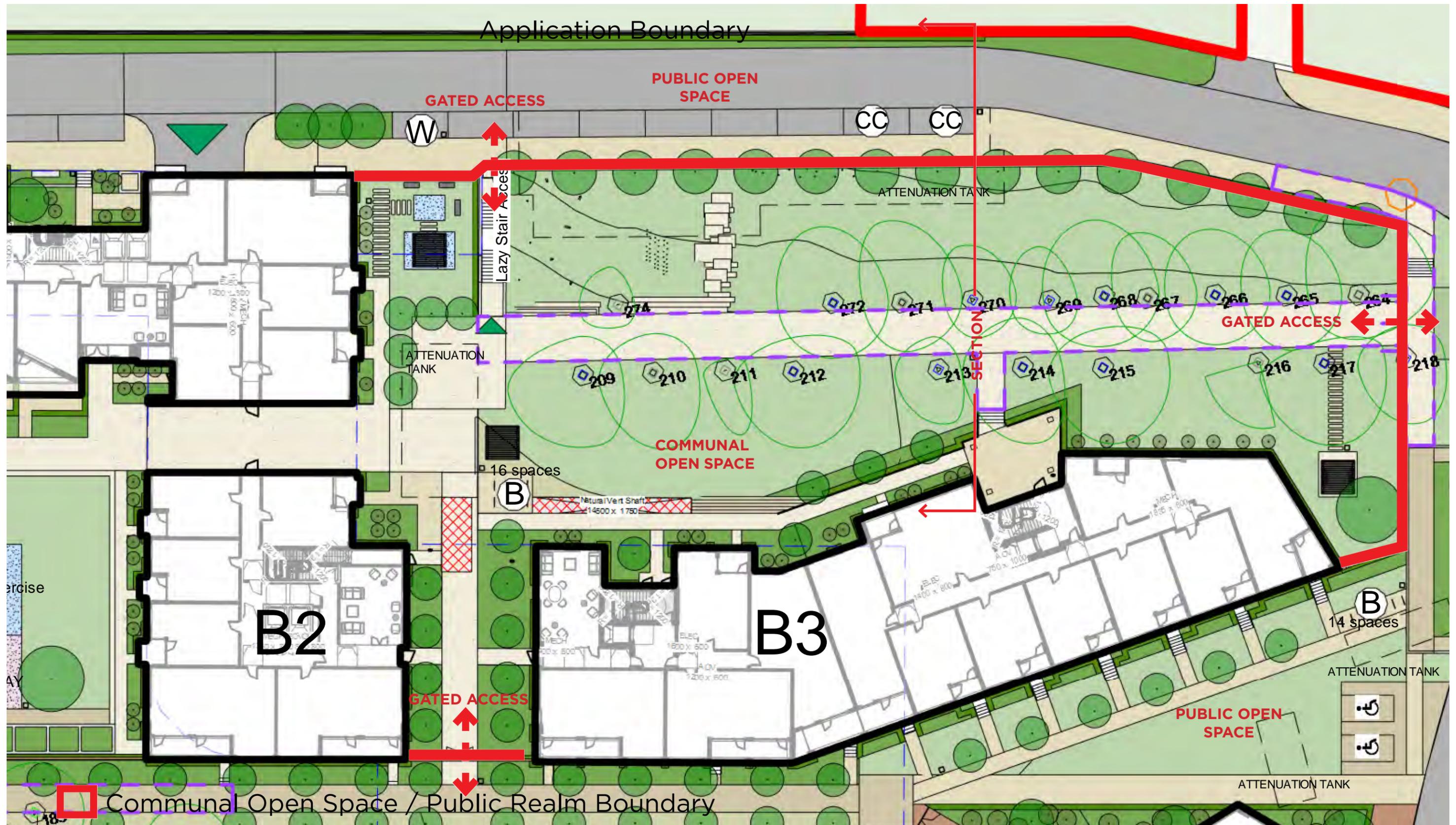
06 Public Private Thresholds + Interfaces - B2 Block



O6 Public Private Thresholds + Interfaces - B2 Block



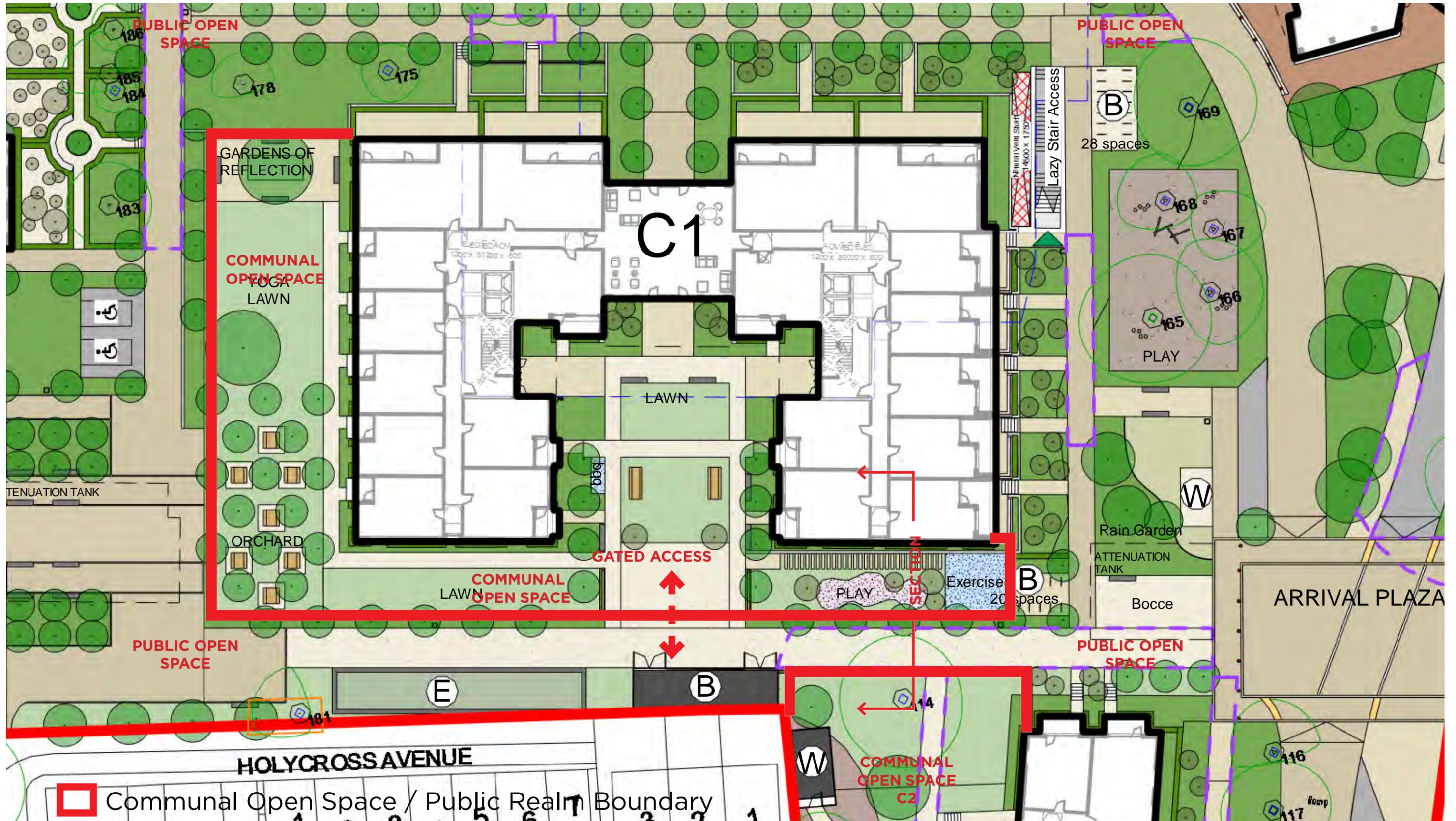
06 Public Private Thresholds + Interfaces - B3 Block



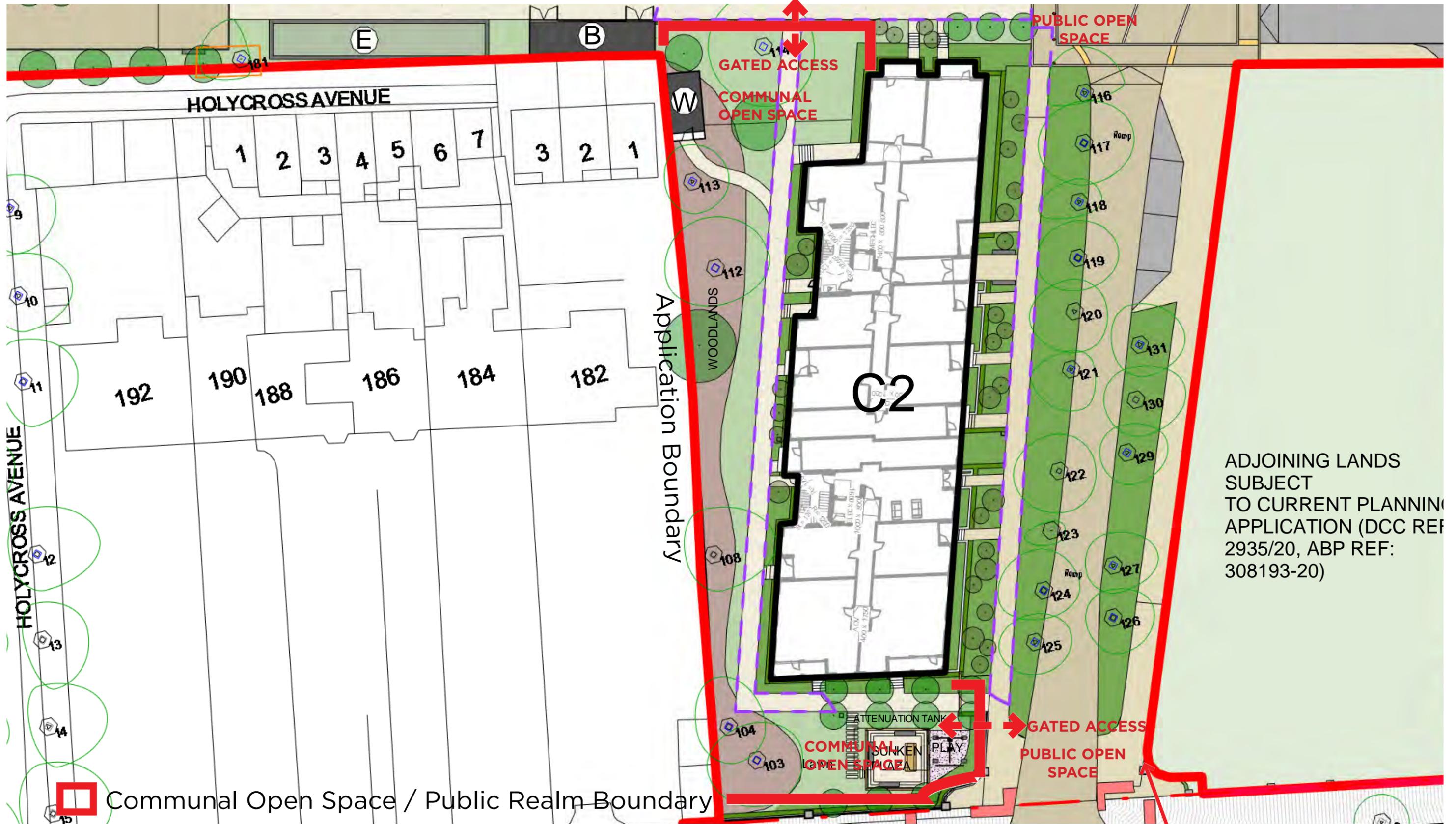
06 Public Private Thresholds + Interfaces - B3 Block



06 Public Private Thresholds + Interfaces - C1 Block



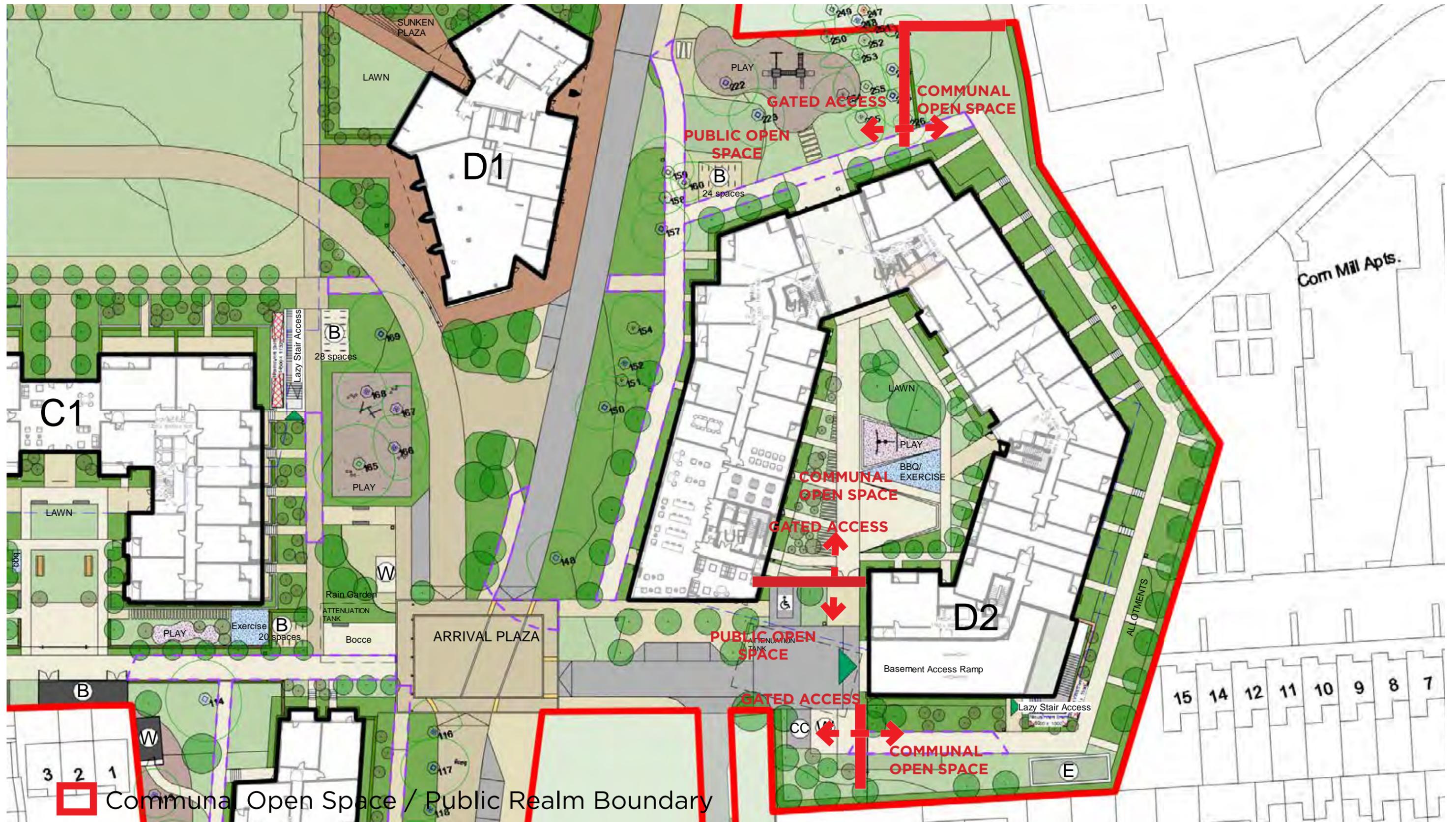
06 Public Private Thresholds + Interfaces - C2 Block



06 Public Private Thresholds + Interfaces - C2 Block



06 Public Private Thresholds + Interfaces - D2 Block



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06

Landscape Material Palette



Landscape Plans and schedules included in the application, prepared by NMP Landscape Architects includes a detailed schedule of proposed planting and illustrates the location and extent of mown grass, managed long grass, reinforced grass, low ground cover, hedge and tree planting as well as existing trees to be retained.

Tree species are selected for longevity, suitability to local soil conditions and micro-climate, biodiversity (native species) and where required suitability for proximity to residential buildings. Proposed tree sizes range from heavy standards and multi-stemmed trees to native whip and forestry transplants. A total of 450 new individual trees are proposed in order to improve the species mix and the proportion of native species on site. Typical species are illustrated on the following pages.

Low planting is utilized to make and reinforce sub-spaces within the larger landscape spaces, for visual screening, defensible space, visual interest, ecological purposes and to guide or direct people's movement. The low planting is conceived as subtle layering of greens within the open spaces. The planting is layered as follows; lowest - bulb planting, ground cover planting, highest - clipped hedge planting.

The selection of hard landscape materials is determined by function but also to provide a cohesive palette of materials throughout. Materials are chosen for durability, but where practical are proposed to be constructed in a way which is sensitively integrated with lawn and soft landscape, in order to minimise the impact of hard landscape surfaces. Primary vehicular, pedestrian and cycle circulation are proposed as a durable, limited range of neutral materials with robust construction. Typically, roads in bituminous macadam and all other roads in a selected coloured or High Friction asphalt. Self-binding gravel and large format reconstituted stone slabs are proposed for pedestrian routes in open space.

07 Indicative Hard Landscape Material Approach

Surface Finishes

The hard materials palettes have been selected to represent and respond to use and character of specific spaces. They will be durable and of high quality with patterning developed in the latter stages to indicate moments and celebrate thresholds.



Walls + Fences

The boundaries between the site both external and internal will be of high quality and provide a degree of visual transparency.



Furniture

Bins, bollards and seating have been selected as appropriate to the design language and surroundings within which they fit. These for the most part, will be off the shelf products and specified accordingly.



07 Indicative Soft Landscape Material Approach

Woodland Tree Planting

Informed by the existing and formative tree planting and a native palette the tree planting will bleed into the site and grade out from north to south.



Street Trees + Small Feature Trees + Podium Trees Planting

Specimen tree planting will provide year long interest and beauty - landmarks in the landscape, to celebrate and identify with.



Wildflower & Shrub Planting

To enhance bio-diverse credentials wildflower planting will occupy edges and large swathes of the sites periphery along with shade tolerant understory planting.



Woodland Understory & Shade Loving Planting

Woodland areas and shaded gardens will be planted with mix of shade loving plants.



06 Planting Palette - Planting Approach



Shade loving plants for Woodlands



Shade loving plants for Woodlands



Shade loving plants for Woodlands



Woodlands with ferns understory



Bulbs to add seasonal interest



Native trees planting including birches and pines



Wildflower meadow



Podium planting with small feature trees

06 Planting Schedule

PLANTING - TREES				
STREET TREES				
	NAME	SIZE	NATIVE	No.
Ls	Liquidambar styraciflua	WRB 18-20cm girth	No	11
Ph	Platanus x hispanica	300-350cm	No	20
Qr	Quercus robur	WRB 20-25cm girth	Yes	43
Tc	Tilia cordata 'Greenspire'	WRB 200-250cm	Yes	85
WOODLAND TREES				
Ag	Alnus glutinosa	WRB 150-175cm Multi-stem	No	19
Bu	Betula utilis Multistem	WRB 300-350cm Multi-stem	No	49
Ps	Pinus sylvestris	WRB 200-250cm	Yes	51
Pa	Prunus avellana	WRB 200-250cm	Yes	97
Sa	Sorbus aria	WRB 20-25cm girth	Yes	14
So	Sorbus aucuparia	8-10cm girth, 3m tall	Yes	6
FEATURE TREES				
	NAME	SIZE	NATIVE	No.
Agr	Acer griseum	WRB 150-175cm Multi-stem	No	21
Af	Acer x freemanii 'Autumn Blaze'	50-80	No	67
Cj	Cercidiphyllum japonicum	40-50	No	38
Cc	Cercis canadensis 'Forest Pansy'	WRB 150-175cm Multi-stem	No	32
Cl	Crateagus laevigata 'Paul's Scarlet'	WRB 150-175cm	Yes	1
Lt	Lirodendron tulipifera	50-60	No	8
Mg	Magnolia Grandiflora	WRB 150-175cm	No	43
Psm	Prunus serrula Multi-Stem	WRB 150-175cm Multi-stem	No	2
Py	Prunus yedoensis Multistem	WRB 150-175cm Multi-stem	No	1
HEDGE				
	Buxus sempervirens	5Lt	No	
	Fagus sylvatica	2Lt 80-100cm tall	Yes	
	Ilex crenata - clipped	5Lt	No	
CLIMBERS				
	Clematis 'Blue Eclipse'	3Lt	No	
	Hedera helix	3Lt	Yes	

SPECIMEN SHRUBS			
	NAME	SIZE	NATIVE
ae	Aralia elata	5Lt	No
bs	Buxus sempervirens ball pruned	5Lt	No
ce	Ceanothus spp.	5Lt	No
db	Daphne bholua	5Lt	No
ms	Magnolia stellata	5Lt	No
ob	Osmanthus burkwoodii	5Lt	Yes
tb	Taxus bacatta clipped ball	5Lt	No
vp	Viburnum plicatum	5Lt	No

PLANTING MIX 1- SHADE PLANTING MIX		
NAME	SIZE	NATIVE
PERENNIALS & GROUNDCOVERS		
Heuchera fireworks	2Lt	No
Hosta sp.	2Lt	No
Liriope muscari	2Lt	No
Orchis mascula	2Lt	Yes
Pachysandra terminalis	2Lt	No
Petasites fragrans	2Lt	Yes
Primula vulgaris	2Lt	Yes
Pulmonaria 'Diana Clare'	2Lt	Yes
Teucrium scorodonia	2Lt	Yes
Viola odorata	2Lt	Yes
Viola riviniana	2Lt	Yes
SHRUBS		
Camellia japonica 'Grand Prix'	3Lt	No
Cyathea australis	5Lt	No
Dryopteris filix-mas	2Lt	Yes
Polystichum aculeatum	2Lt	Yes
Viburnum davidii	2Lt	No
GRASSES		
Anemanthele lessoniana	2Lt	No
Chionochloa rubra	2Lt	No
Stipa tenuissima	2Lt	No
BULBS		
Anemone sylvestris		Yes
Crocus banaticus		No
Galanthus plicatus		No
Uvularia grandiflora		No

PLANTING MIX 2 - PERENNIAL PLANTING MIX		
SHRUBS		
Buxus sempervirens	2Lt	No
Euonymus fortunei 'Emerald 'n' Gold'	2Lt	No
Lavandula x intermedia 'Provence'	2Lt	Yes
Salvia officinalis	2Lt	Yes
GRASSES		
Carex elata 'Aurea'	2Lt	Yes
Carex morowii	2Lt	No
Carex 'Red Rooster'	2Lt	No
Festuca glauca	2Lt	No
Imperata 'Red Baron'	2Lt	No
Molinia caerulea 'Karl Forester'	2Lt	Yes
Pennisetum sp.	2Lt	No
Pennisetum golden	2Lt	No
Pennisetum rubrum	2Lt	No
Stipa tenuissima	2Lt	No
PERENNIALS & GROUND COVERS		
Ajuga reptans	2Lt	Yes
Echinaces purpurea 'Rubinstern'	2Lt	No
Hedera helix	2Lt	Yes
Hosta sp.	2Lt	No
Pachysandra terminalis	2Lt	No
Phormium 'Firebird'	2Lt	No
Phlox subulata	2Lt	No
Rudbeckia maxima	2Lt	No
Tradescantia pallida	2Lt	No
Verbena bonariensis	2Lt	No
BULBS		
Allium sphaerocephalon	2Lt	
Allium 'Everest'	2Lt	
Allium Globemaster	2Lt	
Allium Purple Sensation	2Lt	
Crocus sp.	2Lt	
Crocus tommasinianus 'Whitewell Purple'	2Lt	
Narcissus Petrel		
Erythronium Pagoda		
Gaulthonia canadensis		
Camssia leichtinii	-	
Tulipa sp.		

PLANTING MIX 3- WILDFLOWER		
NAME	SIZE	NATIVE
ALL-IRELAND POLLINATOR PLAN WILDFLOWER MIXTURE SEED MIX		
Birdsfoot Trefoil, Black Meddock, Cowslip, Devil's Bit Scabious, Meadow Buttercup, Field Scabious, Hemp Agrimony, Kidney Vetch, Lady's Bedstraw, Lady's Ann lace, Lesser Knapweed, Meadowsweet, Mullein, Ox-eye Daisy, Purple Loosestrife, Ragged Robin, Red Campion, Red Clover, Ribwort Plantain, Rough Hawksbit, Sorrel, St Johnswort, Wild Angelica, Wild Carrot, Yarrow, Yellow Agrimony, Yellow Rattle, Teasel and more. Also includes 35% annuals: Corn Marigold, Corn Poppy, Corncockle, Cornflower, Scented Mayweed,	Seed Mix	Yes
PERENNIALS		
Echinaces purpurea 'Rubinstern'	2Lt	No
Heuchera fireworks	2Lt	No
Rudbeckia maxima	2Lt	No
Verbena bonariensis	2Lt	No
SHRUBS		
Lavandula x intermedia 'Provence'	2Lt	Yes
Salvia officinalis	2Lt	Yes
GRASSES		
Carex elata 'Aurea'	2Lt	Yes
Pennisetum sp.	2Lt	No
BULBS		
Alium giganteum		No
Crocospmia 'Lucifer'		No
Crocospmia 'Paul's Best Yellow'		No
Erythronium pagoda		Yes

PLANTING MIX 4 - WATER PLANTING MIX	
NAME	Stock
POND PLANTING	
Nymphaea sub Attraction	3L 5L cg
Nymphaea sub Charles de Meurville	3L 5L cg
Phragmites australis	3L 5L cg
Carex Secta	2L 5L cg
Cyperus longus	9cm 3L cg
Spartina pectinata	9cm 3L cg
Glyceria maxima variegata	3L cg

Appendix

01 Response to DCC & An Bord Pleanála Opinion

DCC Opinion: ADDENDUM B - Report from Parks - ABP 308744 20

3.1 Public open space-The proposals indicate a distribution of public open space and built development that is a response to the existing spatial structure of the college campus, which is a satisfactory approach. The individual unit of open space are to be connected by paths that the public can use. The access rights by the public along defined public paths requires safeguarding into the future and the applicant shall clarify how this will be achieved (e.g. public right of way).

The key public park spaces proposed include the Formal Green and the Cloister Garden. A stronger focus of public recreation should be provided to the Formal Green with the inclusion of a destination playground to the east side of the green.

The proposed public open spaces will not be taken in charge. It is likely that the Tolka River Corridor Z9 lands will be taken in charge therefore a defined secure boundary allowing passive surveillance will be required to the rear of block A4

3.2 Wayfinding- The proposed wayfinding signage will be important to guide visitors and should include maps at key locations showing public routes and public spaces. Further details of the wayfinding should be included. The intended public routes should have design characteristics to distinguish them as different from private areas/routes.

3.3 Trees- The City Council promotes the sustainable design of new development and the retention of existing trees is a benchmark of sustainable design. The applicant shall present coordinated information on trees across all submission documentation. The following summary table should be included in the tree survey & landscape report :

The tree impacts plans include 'trees under review' which will require to be confirmed to be retained or removed. The applicant is advised to seek retention where practicable and adjust the development layout to achieve this.

A plan showing the existing older or original historic tree planting areas should be included in the tree survey with reference to relevant OS mapping.

A tree bond relating to conservation of trees to be retained will be requested for this application.

3.4 Public art- the application proposes the introduction of public art in the scheme which is welcomed. The quality of art is important and the applicant is advised to liaise with DCC Public Arts Officer with regard to procurement process advice.

3.5 Residential landscape boundaries-Private/communal open space at ground levels should be clearly defined from public open space so that privacy and security is maintained. Where possible planting only providing this boundary should be reinforced with railings / knee rails or low walls.

3.6 Plant materials – Tree planting should reflect the existing key species make up where practicable. Large canopy trees and those that are more rare in the tree survey (walnut, redwood, cedars) should also be considered as well as possibly extending the arboricultural range with more unusual species or varieties.

3.7 Landscape management- the potential for supporting biodiversity within amenity landscapes includes both planting types and their subsequent management. Clover removal in lawns indicated in Appendix 3 or other controls should be reviewed with this objective in mind.

An urban tree management programme should be presented including a programme to carry out arboricultural works recommended in the tree survey, managing tree risk assessment and future succession planting that will in the long term maintain the tree population and structure.

Applicants Response

All parts of the site indicated as public open space will be fully accessible to the public. The design ensures that there are no proposals for any form of restriction to access in the form of gates or similar. The applicant would be content to accept a condition to the planning permission requiring that the public open space be maintained as fully accessible to the public

A destination playground has been proposed for the area adjacent to C1 on its eastern side and in close proximity to the cafe terrace of D1. As was suggested by DCC parks, this will create a greater focus of public activity without compromising the design intent of the formal lan and its relationship to the seminary building.

A planted edge with bollards has been proposed to the north of A4 defining only the boundary. Upon detailed design and application stage for the design of lands within the Z9 lands this interface can be further developed in consideration of access and security arrangements.

A wayfinding consultant has been appointed by the applicant - please refer to wayfinding design statement as submitted. Note, the design of public routes responds to the characteristics of each 'character area' so as not to enforce a design typology on the existing landscape. The communal spaces, which are for residents use only, are defined with allow hedge and railing (screened within the hedge)

Refer to arborists report and section 04 Landscape Strategies - Existing + Proposed Trees, of this report

Refer to art consultant's report

Refer to detail drawing series no.900 for information

Refer to planting schedule L1-003

Refer to revised landscape management schedule in Appendix 3

Refer to arborists report

01 Response to DCC & An Bord Pleanála Opinion

DCC Opinion: ADDENDUM B - Report from Conservation - ABP 308744 20

Red House: I am concerned firstly that as the Red House, a Protected Structure and the earliest building on the site, is not part of the proposed works and thus is at risk of becoming sidelined. I am also concerned that all traffic seeking access to Block D and beyond, including buses for parking on the sports pitches on big match days in Croke Park, could have a significantly adverse impact on the building – how can this be alleviated? This could also have an adverse impact on the setting of the Red House.

Archbishop's House: Insufficient information or justification has been provided for the introduction of a new connection onto the driveway of Archbishop's House – this needs to be clarified so that a proper assessment can be made.

Impacts on the mature landscaping and trees

I am concerned that the proposed courtyard to the rear of the former Seminary, and the proposed subdivided gardens directly in front of the former Seminary are a bit busy/fussy as currently indicated.

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6. A quantitative and qualitative assessment which provides a breakdown of the public open space. The assessment shall detail the functionality of the public space and shall disregard any areas required for circulation space such as footpaths between buildings etc.

02 Sustainable Drainage Systems (SuDS)

Sustainable Drainage Systems are a collection of water management practices that aim to align modern drainage systems with natural water processes. Integration of SuDS make urban drainage systems more compatible with components of the natural water cycle such as storm surge overflows, soil percolation, and bio-filtration, mitigating the effect human development may have on the natural water cycle, particularly surface runoff and water pollution trends. In the context of this predominantly green field Masterplan area, the provision of the following sustainable drainage systems, along with the

construction of separate foul and surface water networks, will result in a significant improvement on the public drainage system from current conditions.

Direct Infiltration To Ground

Ground level courtyards shall discharge surface water directly to ground. Hard landscaping zones within paved areas shall be drained to adjacent infiltration trenches within soft landscaped areas.



Roof Gardens



Permeable surface to tree pits



Example of Sustainable Drainage Systems (SuDS)



SUDS Tree Pits

Paved Areas:

The road and paved surfaces will be finished in impermeable surfacing, either flexible bituminous pavement, rigid bound paving, impermeable concrete paver or stone pavers. Typically, all streets are provided with trees and soft landscaping zones, with car parking on at least one side. The roads and footpaths will be drained by gullies that connect to tree pits which are interlinked with perforated distribution pipes to create infiltration trenches.

The perforated pipes will allow discharge directly to the ground through the surrounding gravel bed. Due to the limited

permeability which can be achieved through the sub-surface boulder clays, these pipes will also be connected to the surface water network via silt trap manholes. Notwithstanding the poor sub soil permeability, the gravel bed beneath the tree pits and surrounding the perforated pipes will provide good interception storage, which will retain, filter and attenuate run-off.



Street Planting



03 Green and blue roof systems

Green Roofs:

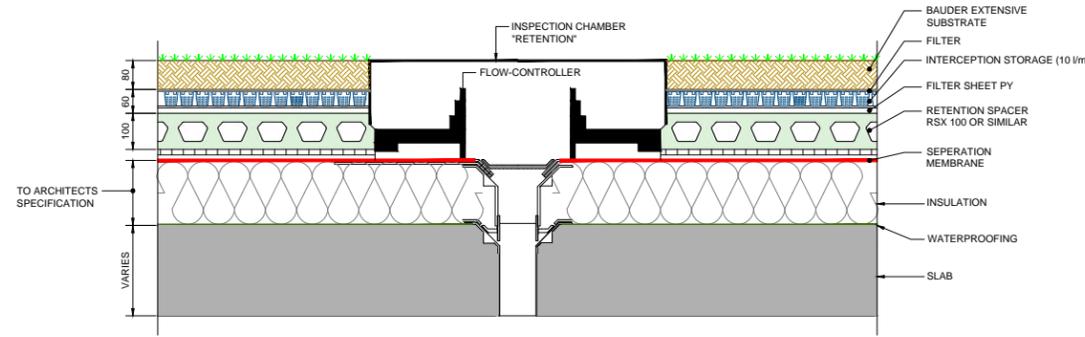
Intensive – All roof terraces and podium terraces over basements shall be provided with a proprietary cellular drainage mat under the hard and soft landscaping to give a minimum interception storage volume of 10l/m² as well as contributing to filtration and attenuation of surface water. **Extensive** – All roofs accessed only for maintenance and repair will be provided with a sedum blanket over a proprietary cellular drainage mat to give a minimum interception storage volume of 10l/m², as well as contributing to filtration and attenuation of surface water.

Blue Roof Attenuation:

Certain roof areas, generally those areas adjacent higher green roofs, have been selected to provide blue roof attenuation storage beneath the interception storage mat. Once the cellular drainage mat has filled, the surface water will enter the open crate storage cells below and spread across the area of the roof. Isolated flow control outlets will restrict flow to discharge at a rate of 2l/s/ha based on the blue roof catchment area.

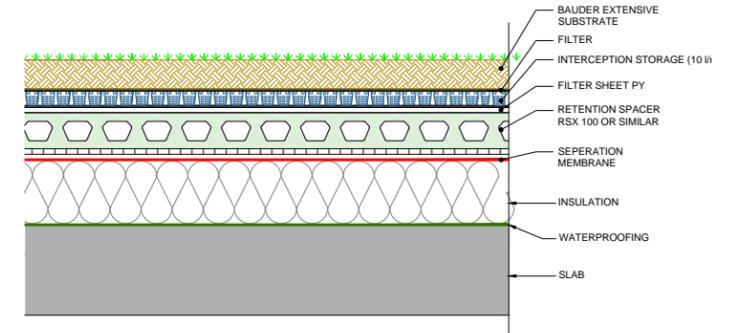
Rainwater Harvesting:

Surface water shall be harvested from certain roof surfaces to provide water supply to landscaped areas.



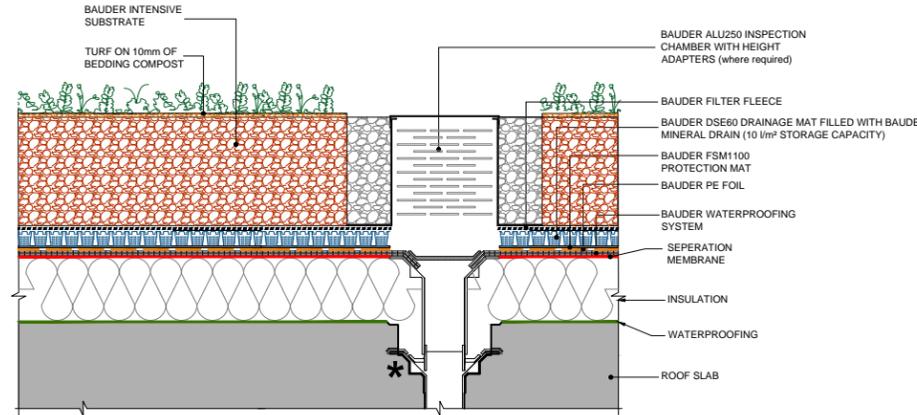
BLUE ROOF - RETENTION FLOW CONTROL SET

SCALE @ A1: 1:10
SCALE @ A3: 1:20



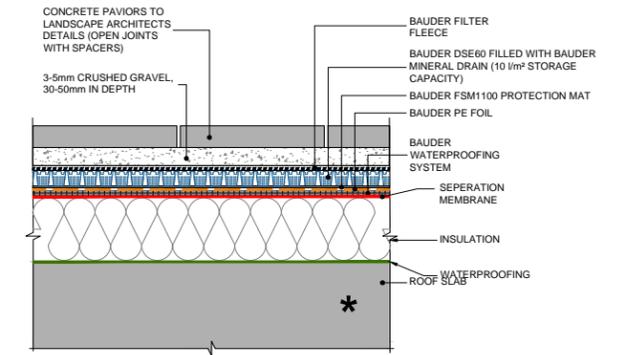
BLUE ROOF DETAIL

SCALE @ A1: 1:10
SCALE @ A3: 1:20



ROOF INTENSIVE SOFT LANDSCAPING SUDS DETAIL

* NOTE: BAUDER DETAILS SHOWN BUT APPROVED EQUAL SYSTEM WILL BE ACCEPTABLE



ROOF HARD LANDSCAPING SUDS DETAIL

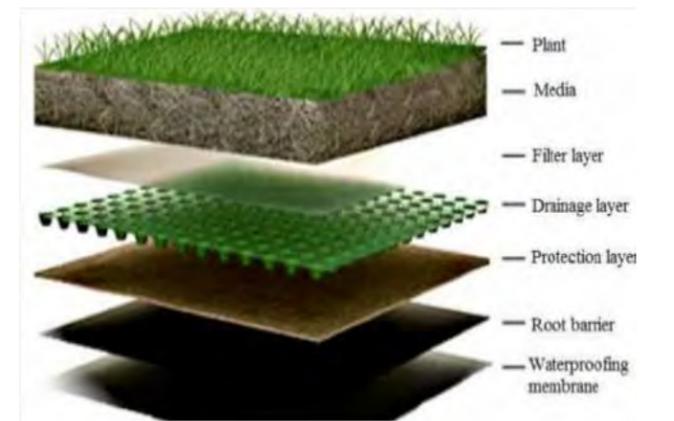
* FOR AREAS TRAFFICKED FILTER FLEECE TO BE OMITTED & 200mm R.C. SLAB TO BE CAST OVER DSE60 DRAINAGE MAT & SURFACE FINISH TO LANDSCAPE ARCHITECTS REQUIREMENTS PLACED OVER CONCRETE.



Typical blue roof section



Typical blue roof details



04 SUDS Tree Pits

Tree Pits

Typically, street and footpath surfaces shall be impermeable surfacing, with finishes of bitumen, stone pavers, concrete. To provide interception storage of surface water from these impermeable surfaces, they shall be drained to Bio-retention tree pits via a series of road gulleys and linear drains.



A

Type A:

Covered tree pit with connecting trench. – Typical Soil Volume = 6m³ excluding trench and 8.5m³ including trench – Drained Area typically 30-50m² per individual tree pit



B

Type B:

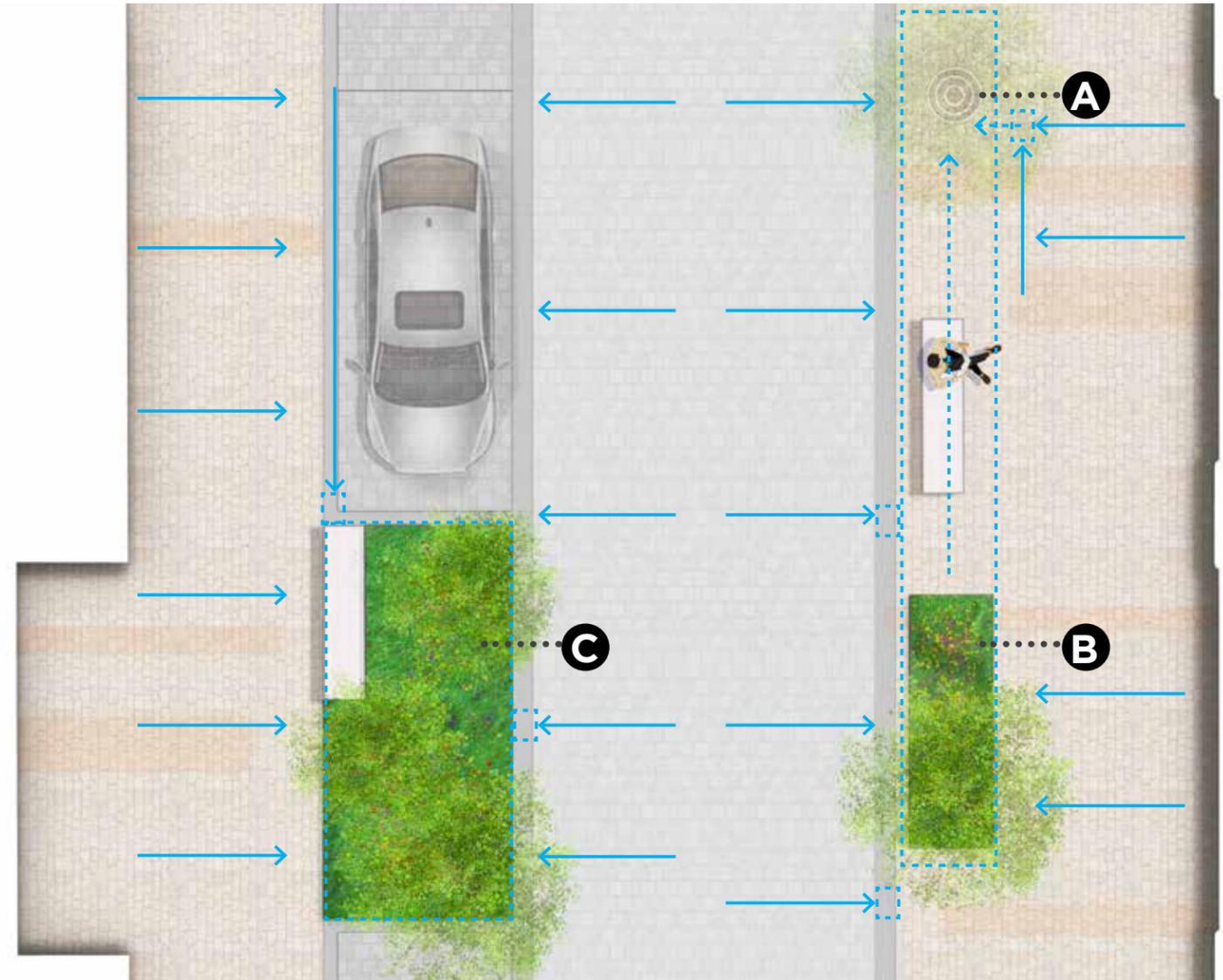
Open tree pit with connecting trench. – Typical Soil Volume = 5.7m³ excluding trench and 7.5m³ including trench – Drained Area typically 30-50m² per individual tree pit



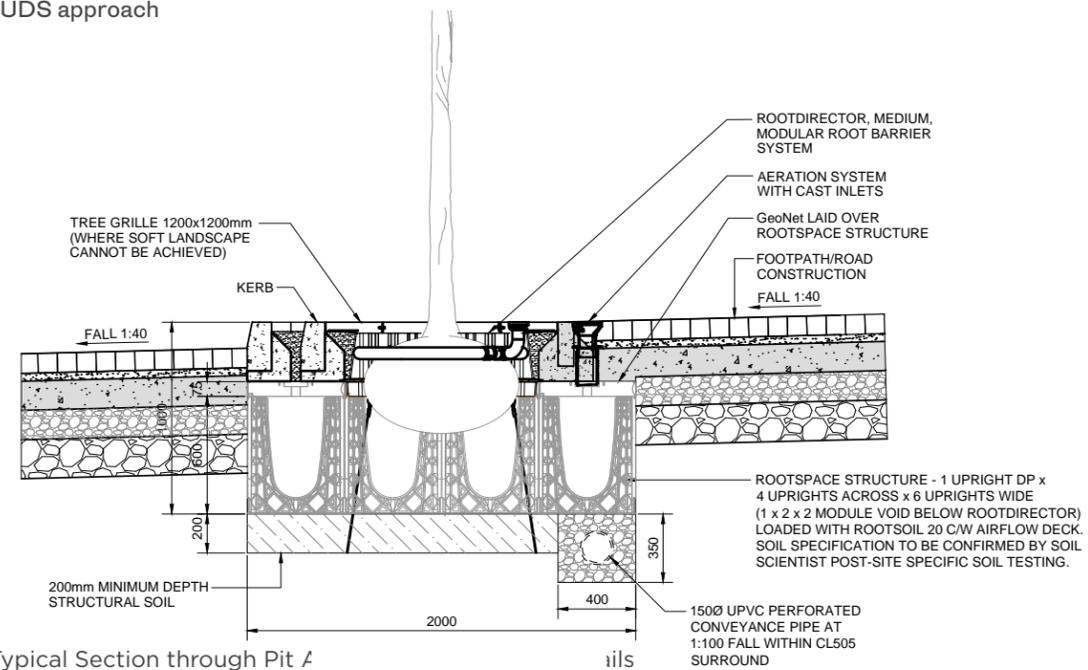
C

Type C:

Standalone open tree pit. – Typical Soil Volume = 15m³ – Drained Area typically 60-90m²



SUDS approach



Typical Section through Pit A

Tree Pit Types - Refer to Engineer's Details

05 No Dig Tree Protection Build Up

Every effort is been made to conserve existing trees, the very principles of the masterplan have been underpinned by it. As such, in certain scenarios where pedestrian or vehicular access is required, a no dig construction methodology has been proposed. By scrapping off the top 100mm of topsoil and not altering levels in or around tree root protection zones it is envisaged that this can be achieved. A web cell system will be used as part of the build up, allowing air and water to percolate through the top surface and into the native soil where tree roots will search for it.



No Dig / Webcell Build Up Approach



No Dig / Web Cell Location Plan

06 Soft Landscape Outline Specification

1. Specifications for supply.

1.0 Schedule of supply:

The nursery stock material will be delivered following consultation between the Landscape Architect, landscape contractor and the selected nursery, and the Engineer. Delivery will be at all times by means of covered vehicles, and all plant material will be clearly labeled. The source of origin must be from the selected nursery as no other additional stock from other nurseries will be permitted without prior inspection and approval.

1.1 Programme of Works

The planting works shall be executed at the earliest opportunity.

1.2 Nursery stock:

All plant material shall be good quality nursery stock, free from fungal, bacterial or viral infection, aphids, red spider or other insect pests and any physical damage. It shall comply with the requirements of B.S. 3936: Parts 1-10: 1965 Specification for Nursery Stock, where applicable.

All plants shall have been nursery grown in accordance with good practice and shall be supplied through the normal channels of the wholesale nursery trade. They shall have the habit of growth that is normal for the species. Country of origin must be shown in all cases for species grown from seed.

Unless otherwise stated, the plant materials shall be supplied in accordance with the following codes where stated:

1+0	1 Year old seedling
1+1	1 Year old seedling lined out for 1 year
1+2	1 Year old seedling lined out for 2 years
1+1+1	1 Year old seedling lined out for 1 year, lifted and lined out for one further year
1u1	1 Year old seedling undercut then 1 more year in seedbed.
1u2	1 Year old seedling undercut then 2 more years in seedbed.
0/1	1 Year old Hardwood cutting
0/2	2 Year old Hardwood cutting
2X	Twice transplanted tree
3X	Three times transplanted tree
4X	Four times transplanted tree
P9	Containerised plant in 9cm pot

1.3 Species:

All plants supplied shall be exactly true to name as shown in the plant schedules. Unless stipulated, varieties with variegated and/or coloured leaves will not be accepted, and any plant found to be of this type upon leafing out shall be replaced by the contractor at his/her own expense. Bundles of plants shall be marked in conformity with B.S. 3936: Part 1: 1965 and B.S. 3936: part 4: 1966. The nursery supplier shall replace any plants which, on leafing out, are found not to conform to the labels. Definitions of all terms used are in accordance with the following British Standards: -

B.S. No. 3936: Part 1: 1965 entitled "Nursery Stock- Trees and Shrubs"

B.S. No. 3936: Part 4: 1966 entitled "Nursery Stock- Forest Trees"

B.S. No. 3936: 1967 entitled "Specification for Nursery Stock"

2.0 Tree specifications:

Trees shall have a sturdy, reasonably straight stem, and a well-defined straight and upright central leader, with branches growing out of the stem with reasonable symmetry. The crown and root systems shall be well formed. Roots shall be in reasonable balance with the crown and shall be conducive to successful transplantation.

2.1 Standard trees shall have a clear stem 1.70m in height from ground level to the lowest branch, a minimum girth of 8cm measured at 1.00m above ground level and a total height of 2.75-3.00 m.

2.2 Light Standard trees have a clear stem 1.30m in height from ground level to the lowest branch, a minimum girth of 6cm measured at 1.00m above ground level and a total height of 1.80-2.40m.

2.3 Select standard trees shall have a clear stem 1.70 m in height from ground level to the lowest branch, a minimum girth of 10 cm. Measured at 1.00m. Above ground level and a total height of 3.0 to 3.5 meters.

2.4 Heavy standard trees shall have a clear stem 1.80-1.90m in height from ground level to the lowest branch, a minimum girth of 14 cm. measured at 1.00m. above ground level and a total height of 4.0 to 4.5 metres. All trees shall have been undercut a minimum of three times.

2.5 Extra Heavy standard trees shall have a clear stem 2.0m in height from ground level to the lowest branch, a minimum girth of 16 cm. measured at 1.00m. above ground level and a total height of 4.5 to 5 metres. All trees shall have been undercut a minimum of three times.

2.6 Semi-mature trees shall have a clear stem 2.0m in height from ground level to the lowest branch, a minimum girth, as specified in the Bill of Quantities, measured at 1.00m. above ground level and a total height of min. 5 metres. All trees shall have been undercut a minimum of three times.

All standards shall be clearly labeled.

2.7 Feathered Trees 180-240cm

Feathered trees shall be not less than four years old, and shall have been transplanted at least three times. Trees of species not listed in BS 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules.

Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be wrapped in polythene in bundles of 50 no. And clearly labeled from the time of lifting until planting to conserve moisture.

06 Soft Landscape Outline Specification

4.0 Specifications for Planting and Plant Materials

4.1.1 Stakes:

Round stakes shall be of peeled larch, pine or Douglas fir, preserved with a water-borne copper chrome arsenic composition in accordance with I.S. 131. For standard and select standards stakes shall be 1.8m long, 75mm in diameter. Stake all whips and transplants greater than 120cm in height. For all transplants exceeding 120cm height stakes shall be 1.2m long, 37mm x 37mm square. Stakes shall be pointed at the butt end. Set stakes vertically in the pit, to the western side of the tree station, and drive before planting. Drive stake with a wooden maul or cast-iron headed drive. Stakes shall be driven into the excavated planting pit to a depth of:

800mm for Standards/Light Standards/Feathered Trees

1000mm for Heavy Standards

500mm for Whips/Transplants

4.1.2 Canes:

Bamboo canes or similar approved shall be used to provide spot spraying location markers for small plants including Pinus, species. The canes are not to be attached to the plants.

4.2 Tree ties:

For standard and select standards, tree ties shall be of rubber, PVC or proprietary fabric laminate composition and shall be strong and durable enough to hold the tree securely in all weather conditions for a period of three years. They shall be flexible enough to allow proper tightening of the tie. Ties shall be min. 25mm wide for 120cms height trees and min. 38mm for larger sizes. They shall be fitted with a simple collar spacer to prevent chafing. Two ties per tree shall be applied to standards; for staked transplants, one tie per tree is required. Ties shall be nailed to the stake with one galvanised nail.

4.3 Protection:

The interval between the lifting of stock at the heeling-in area and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting planting on site shall be stored in a sheltered place protected from the wind and frost and from drying out.

All transplants shall be wrapped in polythene from the time of lifting to conserve moisture. Except when heeled-in, they shall be protected in polythene at all times until planted into their final position on site.

4.4 Damage:

On completion of planting any broken branches shall be pruned, areas of damaged bark neatly pared back to sound tissue.

4.5 Watering / Alginure / Fertilisers:

All bare rooted light standards and select standards shall be soaked in water overnight, on site, before planting in a liquid solution containing "Alginure" at the recommended dilution rate. Fertilisers shall conform to BS 5581: 1981. In the case of granular fertiliser being added to plantings, it must be mixed through and incorporated into the base of the planting hole and covered over in order to avoid roots of plants coming in direct contact.

4.6 Setting out:

Setting out shall be in accordance with site meetings with the Landscape Architect. Transplants in mixtures shall be planted in staggered rows. Species shall be planted in groups, as indicated in the planting drawings.

No planting shall take place until all planting holes (with ameliorants) have been inspected and approved by the Landscape Architect, or a person appointed by him as a representative, to ensure accordance with the specifications. No planting shall take place when ground conditions are frozen or waterlogged. All planting holes shall be opened and closed on the same day.

4.7 Tree planting:

Trees shall be planted at the same depth as in the nursery, indicated by the soil mark on the stem of the tree. They shall be planted in the centre of the planting pit and planted upright. Stones or other rubbish over 75mm shall be removed. Supply and drive the stake 800mm into the ground for standards, 500mm for other transplants. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position

4.7.1. Select Standards/Standards

Excavate tree pits to 800mm x 800mm x 600mm deep, or as approved. The base of the pit shall be broken up to a depth of 80mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.7.2 Heavy and Extra Heavy Standards

Excavate tree pits to 1000mm x 1000mm x 800mm deep, or as approved. The base of the pit shall be broken up to a depth of 100mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.7.2 Semi-mature trees

Excavate tree pits to 1200mm x 1200mm x 1000mm deep, or as approved. The base of the pit shall be broken up to a depth of 200mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.7.3. Light Standard Trees

Excavate tree pits to 500mmx500mmx500mm deep, or as approved. The base of the pit shall be broken up to a depth of 80mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.8 Feathered Trees 180-240cm, container grown conifers (>2l)

Excavate tree pits to 400mm x 400mm x 400 mm deep, or as approved (slit or notch planting are not acceptable planting methods). The base of the pit shall be broken up to a depth of 80mm and glazed sides roughened. Trees shall be planted at the same depth as in the nursery and backfilled with compound fertiliser 0.10.20 at the rate of 50gm per tree and 0.020m³ of Mushroom Compost or similar approved. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.9 Feathered Whips 120-150 cm:

Excavate tree pit to depth of 300mm x 300mm x 300mm deep, or as approved (slit or notch planting are not acceptable planting methods). Excavation to be achieved by machine digging or augering methods, approved by the Landscape Architect. The base to be broken up to a depth of 60mm and glazed sides roughened. Whips to be planted at same size as in the nursery. Apply 60gm 0.10.20 and 0.020m³ of Mushroom Compost or similar approved. per tree pit to plants. Stakes 1.2m high x 37mm dia. Backfill planting hole with excavated topsoil, and remove all

06 Soft Landscape Outline Specification

stones and debris, firming plant into position.

4.10 Feathered Whips and Transplants 90-120cm, 60-90 cm, 40-60cm, 30-40cm, container grown conifers (<2l size) and container grown shrubs (<2l size):

Excavate planting hole to a depth of 300mm x 300mm x 300mm deep; the base to be broken to a depth of 50mm and glazed sides roughened (slit or notch planting are not acceptable planting methods). Excavation to be achieved by machine digging or augering methods, approved by the Landscape Architect. Apply 30gm 0.10.20.per planting pit. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.11 C. G. Shrubs / C. G. Wall Shrubs / C.G. Climbers:

Excavate planting hole to a depth of 300mm x 300mm x 300mm deep; the base to be broken to a depth of 50mm and glazed sides roughened. The following products are to be supplied and incorporated in to the bottom 100mm of topsoil at the base of the planting pit and in to the topsoil for backfilling around each plant: (1) Seanure soilbuilder as supplied by Farmura @ 1.5Kg per cu.m of topsoil, (2) clean and friable green waste compost @ 25 Kg per cu.m of topsoil and (3) Sierrablen Flora 15:9:9 slow release fertiliser @ 70 grams per m2 Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.12 Grassing

All grass areas to be ripped with a tractor mounted tine prior to rotovating. The contractor shall grade off all areas to smooth flowing contours, removing all stones greater than 10mm diameter and tip off site. All hollows to be filled in. Roll all areas with a roller as approved. Following the completion of final grading and raking, the area is to be left fallow for a period of 14 days. Spray with 'Basta' at recommended rates, and seed with fine grass mix at a rate of 35gr/Sq.m together with fertilizer 10:10:20 at a rate of 50gr/Sq.m use Coburns Irish premier low maintenance mixture or other as approved by the Landscape Architect.

4.12.1 Grass cutting

Grass cutting shall be carried out during the three year maintenance period and is defined into three categories:

4.12.2 Regular grass cutting

Shall be carried out to the frequencies indicated in the Bill of Quantities. Attention to neat and tidy cutting shall be required to all areas. Sight-lines, as set out with the Engineer, at junctions and roundabouts must be kept clear of vegetation at all times.

GENERAL

Upon completion of planting, all pits shall be raked over lightly to leave an even surface and neat appearance. All stones greater than 50mm dia. to be removed. Provision should be made for the watering of light and select standards during periods of prolonged drought in the first year following planting.

4.13 Inspections:

The Landscape Architect will inspect the site with the Landscape Contractor during the execution of the works and following maintenance visits.

4.14 Presentation of certificates:

The Landscape Contractor shall present for the Landscape Architect's inspection, all seed and fertiliser bags, together with their markings. If requested, the contractor shall furnish the Landscape Architect with receipts of purchase for these respective materials.

4.15 Spraying:

1) Following planting of embankments, slopes etc., weed free circles to be formed around individual plants, as directed, using an approved

broad-spectrum contact herbicide, as approved by the landscape architect, in mid-spring following planting. Herbicide to be applied using controlled drop applicator containing a dye to indicate areas sprayed. In areas where grass is excessively long, such grass will be strimmed off and collected prior to spraying. The contractor shall be responsible for keeping the ground (1m diameter circle) around all planted material weed free by means of herbicidal application, using approved sprays, during the course of the contract. Weeds to be removed include grasses ,broad-leaved annual and perennial weeds and all noxious weeds.

2) Selective spot spraying will be carried out to all grassed areas, whether planted or unplanted through the application of contact herbicide to control broad-leaved annual and perennial weeds, including thistle, dock and ragwort. Contact herbicide to be approved by the landscape architect prior to application. Herbicide to be applied using controlled drop applicator containing a dye to indicate areas sprayed. The contractor shall allow for the removal of gorse by cutting, as required prior to spraying to ensure its eradication from all grassed areas for the duration of the contract.

d prior to spraying to ensure its eradication from all grassed areas for the duration of the contract.

3) The boundary hedgerows shall be kept weed free by herbicidal application by forming a 300mm wide sprayed strip along the full length of each respective hedgerow. Approved herbicide (broad-spectrum contact herbicide) to be applied using controlled drop applicator containing a dye to indicate areas sprayed. Spraying of planted areas on roundabouts is also included in this spraying application.

4) Such routine spraying (1, 2 and 3 above) shall be carried out during maintenance visits over the three-year period. No spraying shall take place during adverse weather conditions or at times not recommended by the manufacturer.

4.16 Cutting back:

Plants for cutting back/tip pruning shall be cut back after inspection by the Landscape Architect. This work to be carried out initially following planting for plants suffering from wind damage.

4.17 Mulching

Mulching may be considered as an optional factor that may be implemented. Mulch shall be from coniferous trees. It shall be shredded, but not pulverised, so that no dimension exceeds 75mm. Bark shall have been composted for a min. of 3mths. In the case of areas requiring mulch the depth of bark shall measure 30 mm.

4.18 Ground finish:

Upon completion of planting, all ground finish shall include for the removal of stones greater than 50mm excavated during the course of the digging for planting purposes.

07 Hard Landscape Outline Specification

PAVING & KERBS

FOOTPATHS

General: Public footpaths, roadways, kerbs etc. shall be constructed in accordance with the requirements of the Roads Maintenance Dun Laoghaire Rathdown County Council.

Accuracy of Levels and Alignment: The levels of paths and paving shall be carefully set out and frequently checked. All care shall be taken to ensure that the correct cross sections are maintained. The finished face of paths shall be formed so as to provide adequate fall and satisfactory run off to surface water outlets, gullies, etc. Cross-falls of paths shall be carried without break across verges and kerbs to prevent ponding of water between back of kerb and path.

Sub-Base: Granular material shall comply with Clause 804 of the D.o.E. Specification for Roadwork's and shall be spread uniformly over the formation and compacted by vibrator roller. Rolling shall continue until there is no movement under the roller. The finished surface of the compacted sub-base shall be parallel to the proposed finished surface of the footpath. The surface levels for each layer shall not deviate from the design levels by more than +15mm or -15mm.

For sub-base thickness in paved areas see area engineers spec. and attached following schedule. Each contractor shall do all necessary tests to ensure a well compacted, plain even surface on all areas with traffic movement. If paving shows settling after 1 year which normally is related to an insufficient depth and compaction of the sub-base the contractor shall rebuilt the failed area to his own cost.

Use of Surfaces by Construction Traffic:

Constructional traffic used on pavements under construction shall be suitable in relation to the courses it traverses so that damage is not caused to the sub-grade. Where damage is caused to the formation of the sub- grade in strength or level the damaged area shall be excavated for an area and depth which shall be determined by the Architect and this area shall be filled to the required levels with crushed rock of 50mm maximum size. The degree of compaction for this area shall be the same as that specified for the remainder of the formation. All this excavation and making good of damaged areas shall be carried out at the expense of the Contractor. Where damage is caused to the sub-base, the damaged area shall be made good as noted above, using the material of which the sub-base is composed. The wheels or tracks of plant moving over the various pavement courses shall be kept free from deleterious materials.

MODULAR PAVING

Concrete Pavers Precast concrete pavers shall conform to the requirements of BS 6717 Part 1.

Ensure that sub-bases are suitably accurate and to specified gradients before being laid.

Sample: Before placing orders submit representative samples for approval.

Ensure that delivered materials match sample.

Laying Generally:

1. Laying Specification

1.1 Paving blocks/bricks shall be laid to the requirements of Part 3: 1997, BS 7533, except that the lip onto gully gratings is modified to 5 - 6 mm.

Note, in particular, the following requirements of Part 3.

i. The difference in level between two adjacent blocks shall not exceed 2 mm.

ii. The finished pavement surface shall not deviate more than 10 mm under a 3m straight edge.

iii. The accuracy of cutting a block should be such that the resulting joint should not exceed 5 mm.

iv. The surface course should be between

(a) 3 - 6 mm above drainage channels

(b) 5 - 10 mm above gullies (*BRL modify this to 5 - 7 mm above gullies to reduce "trips")

v. The surface course should be inspected soon after completion and at regular intervals thereafter - additional sand should be brushed in where necessary.

1.2 The surface course for chamfered units should be 3 - 5 mm above the kerb to

facilitate surface drainage. The surface course for non-chamfered units should be 2 mm above the kerb to facilitate surface drainage.

1.3 When paving units need to be trimmed, pieces with a dimension less than 50 mm should not be used.

2. Drainage Channels

2.1 Where paving blocks are used in a channel, they shall be laid on freshly mixed moist 3:1 sand-cement mortar. The mortar should have thickness between 10 mm and 40 mm. Vertical joints should be filled with 3:1 wet sand-cement mix.

2.2 Mortar, which has been mixed for over 2 hours, should be discarded.

2.3 The mortar should be laid on a previously prepared concrete base as per construction drawing detail. Select blocks/paviors vertically from at least 3 separate packs in rotation, or as recommended by manufacturer, to avoid colour banding. Lay blocks/paviors on a well graded sand bed and vibrate to produce a thoroughly interlocked paving of even overall appearance with sharp sand filled joints and accurate to line, level and profile. Refill joints once a week three weeks after first fill. Commencing from an edge restraint lay blocks/paviors hand tight with a joint width of 2-3mm for pedestrian use and 3-5 mm for areas with traffic. Maintain an open working face and do not use mechanical force to obtain tight joints. Place blocks/pavers squarely with minimum disturbance to bedding. Supply blocks/paviors to laying face over newly laid paving but stack at least 1 m back from laying face. Do not allow plant to traverse areas of uncompacted paving. Continually check alignment of pavers with string lines as work proceeds to ensure maintenance of accurate bond. Infill at edge restraints as work proceeds. Wherever the type of bond and angle of edging permit, avoid very small infill pieces at edges by breaking bond on the next course in from the edge, using cut blocks/pavers not less than 1/3 full size. Cut stones shall be rectangular or trapezoidal; the smallest point shall be a minimum of 35mm. (May be pavers have to be turned by 90 deg.) Half stones shall be cut at manufacture. Thoroughly compact blocks/pavers with vibrating plate compactor as laying proceeds but after infilling at edges. Apply the same compacting effort over the whole surface.

Do not compact within 1 m of the working face. Do not leave uncompacted areas of paving at the end of working periods, except within 1 m of unrestrained edges. Check paving after compacting first few metres, then at frequent intervals to ensure that surface levels are as specified; if they are not, lift blocks/pavers and relay. Brush sharp sand into joints, revibrate surface and repeat as required to completely fill joints. Make sure that paving is held by a kerb on both sides before vibration to avoid uneven joints. Avoid damaging kerb haunching and adjacent work during vibration. Do not begin vibration until kerbs have matured. The paving pattern will be stretcher bond, make sure that the joints will be in straight line after vibrating. Also ensure joints are off equal width. The block pavement shall have a surface regularity/ flatness tolerance of less than 10 mm under a 3 m straight edge.

Sample: Before placing orders submit representative samples for approval.

Ensure that delivered materials match sample.

PRECAST CONCRETE FLAGS

Pre-cast Concrete Flags:

07 Hard Landscape Outline Specification

1. Precast concrete flags shall be laid to the requirements of BS 7533 Part 4.

Note the following selected items from BS 7533, Part 4.

- The difference in level between two adjacent flags should not exceed 3 mm.
- The top surface of the paving units should stand 3 - 6 mm above the drainage channel.
- A 30 - 50 mm (compacted thickness) of the sand laying course is given as suitable (for narrow joints)

2. Flags should be laid with narrow joints (2 - 5 mm). Joints should be filled with dried sand (conforming to table 4 of the code), or as determined by the Landscape Architect.

KERBS

Kerbing General: Kerb radii shall be in accordance with Architects and Engineers drawings. Use radius kerbs for all new kerbs.

Laying Generally:

Natural stone and precast concrete kerbs shall meet the requirements of BS 435 and BS 7263-1.

1. Precast concrete kerbs shall be laid to the requirements of BS 7533, Part 6.
2. Units shall be laid on fresh concrete or mortar bed and adjusted to line and level.
3. Concrete for foundations and haunching shall be to BS 5328.
4. Bedding mortar shall be freshly mixed, moist 3:1 sand-cement between 12 and 40 mm thick.
5. Kerbs shall be backed with concrete as per drawing.
6. Radius kerbs shall be used on radii of 12 m or less.
7. Kerbs should not deviate from the required level by more than 6mm.
8. Kerbs should not deviate by more than 3 mm under a 3 m straight edge.
9. Open-jointed kerbs should have joints of 2 - 4 mm wide.

Mortar jointed kerbs should have joints of 7 - 10 mm wide filled completely with 3:1 sand-cement mortar, and finished to give a smooth flush joint or as specified by the Landscape Architect.

08 Programme For Implementation, Maintenance + Defects Period

5.0 Maintenance:

5.1 Period:

The Contractor shall be responsible for aftercare of the completed works for 1 Year from the date of completion of planting. Subject to satisfactory performance the maintenance contract may be extended for two further periods of 12 months. Maintenance in years 2 and 3 shall be provisional. Maintenance during years 2 and 3 may be assigned directly to the Management. This will include grass cutting, weed control of all planted areas, litter clearance and watering of Select Standard trees during dry weather.

5.2 Organisation:

The aftercare programme will be organised as follows:-

(1) Scheduled operations, in whose timing the contractor will be permitted some flexibility and which will be the basis of payment to the Contractor.

(2) Performance standards, which the Contractor is required to meet at all times, and on which his performance will be assessed.

(3) Critical dates, by which time scheduled operations, shall have been completed, and at which performance will be assessed.

5.3 Performance standards:

Shrub, woodland and hedgerow planting to be maintained in accordance with specifications e.g. spraying, firming, tree tie adjustment. Weeds shall not cover more than 20% of the ground surface within planting areas and the maintained 1m diameter weed free circles at any time, and neither shall they exceed 100mm in height. Weeds shall be treated before they establish.

Within grass areas noxious and competitive weeds shall not be allowed to establish and all perennial weeds shall be spot treated at each maintenance visit, 3 times per year.

5.4 Watering:

The contractor is responsible for the survival of all plants during the maintenance period. Apply water to moisten full depth of root run using proprietary irrigation system. Avoid washing or compaction of the soil surface. The Landscape Contractor is responsible for informing the Landscape Architect if the plants require watering. A minimum of 16 no. waterings year 1, 8 no. year 2, 4 no. year 3. Prior notification to the landscape architect and a record of attendance will be requested for each visit. Spot checks will be made to ensure full compliance with this condition.

5.5 PROGRAMME

Year One (After Planting): Period of 12 months from date of practical completion

5.5.1 By end of May (Year One):

Application of herbicide agreed with Landscape Architect to all planting areas. Protect all plants. Hand weed all large weeds too close to nursery stock for safe treatment. Strim long grass prior to spray application. Provision for 1 no. visit for spot weed control application to areas where perennial weeds are apparent in the grass sward. Tip prune, firm plants. Grass cutting. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water select standard trees.

Critical date: 30 May (Year One)

5.5.2 By end August (Year One):

Application of herbicide agreed with Landscape Architect to all planting areas. Protect all plants. Hand weed all large weeds too close to nursery stock for safe treatment. Provision for 1 no. visit for spot weed control application to areas where perennial weeds are apparent in the

grass sward. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Grass cutting. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water select standard trees.

Critical Date: 30 August (Year One)

5.5.3 October (Year One):

Remove dead plants after Landscape Architect's inspection.

5.5.4 November (Year One):

Replacement planting. Tree care shall mean pruning deciduous trees including those of hedgerow form when dormant to promote open frame works in the crown. Remove all suckers and dead branches, and branches that are encroaching on to footpaths should be cut back to point of branching.

5.5.5 By end December:

Application of herbicide agreed with Landscape Architect to all planting areas. Grass cutting. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water extra heavy standard trees, standard trees.

Critical Date: 30 December (Year One).

5.5.6 Year 2

As year 1.

5.5.7 Year 3

As year 1 . Hedgerow to be fully pruned at end of season.

5.5.8 Sweeping and Cleaning

Sweeping shall mean sweeping of the footpaths, playing courts, car parks and the road network and removal of all grit rubbish moss and leaves, keeping the hard landscaped areas of the site in a neat and tidy manner. Number of sweepings per annum -12no.

Cleaning shall mean the removal of paper, plastic bags and all other rubbish from grassed areas, roads, car parks, playing courts, shrubbery's, hedging etc. or any part of the school grounds. This operation shall be carried out twice a month.

All dirt and rubbish to be removed off site to a tip to be provided by the Landscape contractor.

Autumn leaves shall be swept on a weekly basis from end of October to mid-November (three weeks). Any additional cleaning and sweeping deemed necessary, during the year, and requested by the management for any part of the grounds will be paid for at a pro rata basis to the rates for the programmed maintenance schedule.

5.5.9 Other Maintenance Works

All grassed areas are to be edged 3 times a year using a machine and are not to be sprayed.

Carry out any other maintenance to ensure the works are kept in a satisfactory state during the defects liability period.

5.6 Grass Cutting

Grass cutting shall be deemed to include for:

[a] Removal of lodged grass.

[b] Removal and disposal of grass cuttings from adjoining roads and paving.

08 Programme For Implementation, Maintenance + Defects Period

[c] Removal and disposal of stones and other obstructions from area of grass to be cut.

The lawn areas Fine cut. Fine cutting shall mean mowing to 25mm high. This operation is to be carried out in each location shown on the landscape drawings and in locations as directed on site by a representative of the management. A rough schedule is as follows-

March: 1 cut

April: 3 cuts

May: 4 cuts

June: 4 cuts

July: 4 cuts

August: 4 cuts

September: 4 cuts

October: 4 cuts

November - February: 1 cut

Total 29 cuts

Fine cutting shall be deemed to include for grass cut to 25mm high evenly over the whole area, with cuttings left evenly spread over the surfaces. Grass not to exceed 50mm between cuts.

Other grass areas of which are less high profile are to be cut 16 times a year. These will include the grassed areas around the woodland areas and periphery.

Areas indicated as wildflower mix shall be cut three times per annum. Cuts shall be carried out at specified times as agreed with landscape architect and recommended by the wildflower seed producer. Remove cuttings after each cut and remove offsite to tip.

Leave cuttings evenly spread. This operation is to be carried out in each location shown on the landscape drawings and in locations as directed on site by a representative of the Management.

At every second grass cut, grass shall be trimmed from around the base of walls and fences, back of footpaths and kerbs, litter bins, sluice valves and hydrant markers, trees, shrubberies poles and public lighting columns etc., and kept in a neat and tidy condition.

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