



The Nalanda University
A Motherplan for the 21st Century Campus



Structure of presentation

1. Film on field trip to India
2. 21st century studio by Tay Kheng Soon
3. What is a 21st century education?
4. What is a mother plan?
5. Background research on Bihar
6. The site
7. The mother plan

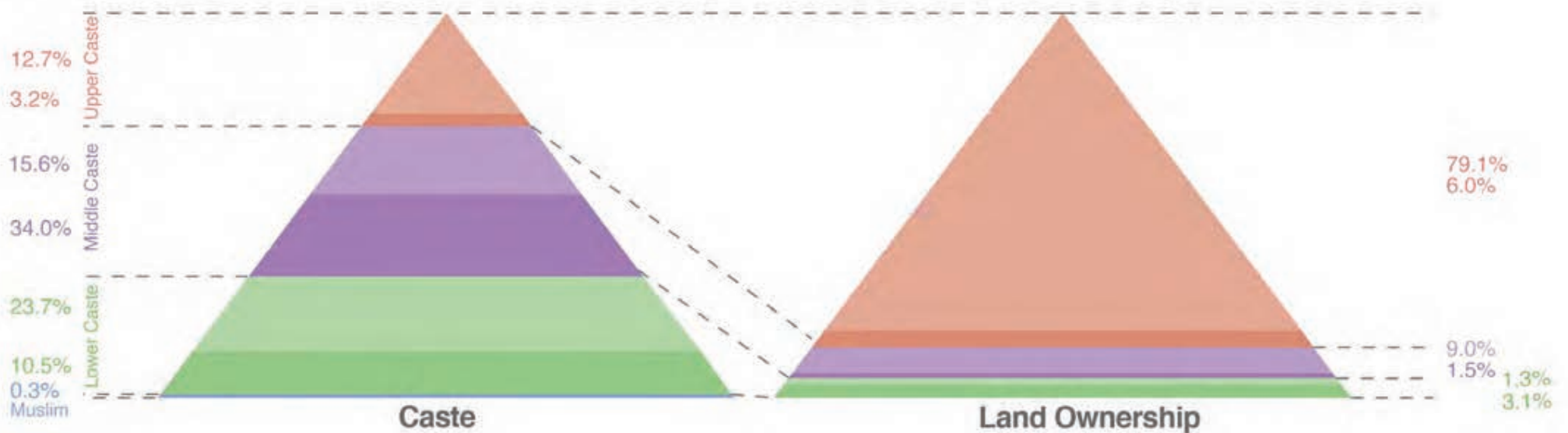
The overall mother plan defines the **principles, guidelines, strategies and initiatives** applied to Nalanda as a whole. This part sets the context for the mother plan and concludes with a series of tools and recommendations to support the implementation of the plan.

8. The quads

Distinct quads derived from the overall framework and vision of the mother plan. The design of each quad **supports the mother plan** with further detail and **suggests coordinations** between various parts of the plan.

Demographics

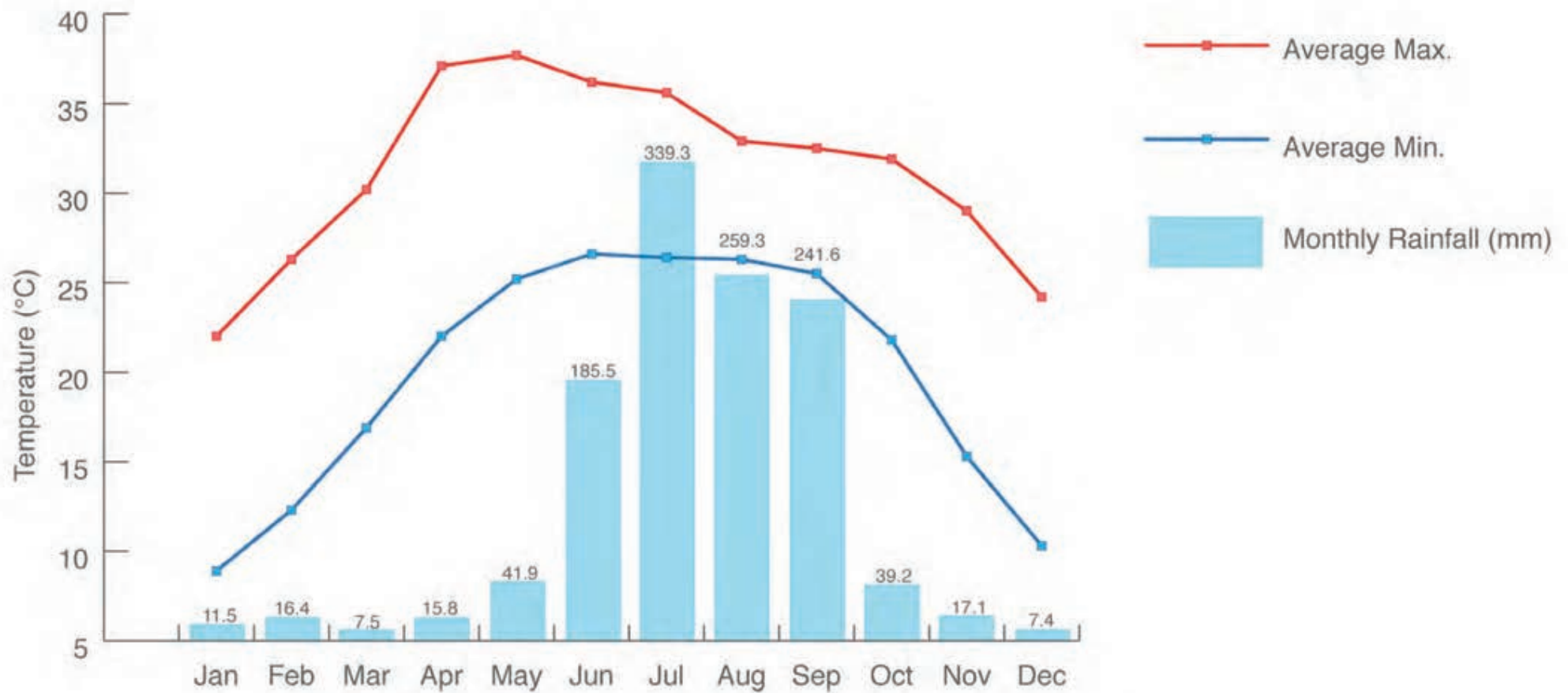
Caste and Class of Bihar



A small percentage of upper caste holding a large percentage of land, the lower caste have almost negligible land ownership.

Climate in Bihar

Average Temperature against Average Monthly Rainfall



Challenges in Bihar

Health

Poor health coverage with doctor to patient and nurse to doctor ratios well below W.H.O. recommended figures. There are only 0.25 hospital beds per 1000 population.

Energy

Bihar ranks second on the list of least electrified Indian states. Only 52.8% of villages and 6% of households of the state are electrified, leaving about 85% of the population with no access to electricity.

Waste

The management problems of collection, transport, proper use and disposal of waste have become a gigantic task, straining both the financial resources of the civic bodies and their physical capabilities, not to mention the problem of availability of disposal sites.

Water

There is shortage of water in the dry season with a heavy dependence on the collection of rainwater in the wet season for irrigation.

Nalanda University



Nalanda University will have these seven schools:

1. **Historical Studies**
2. **Ecology and Environment Studies**
3. Buddhist Studies, Philosophy and Comparative Religion
4. Languages and Literature
5. International Relations and Peace Studies
6. Information Sciences and Technology
7. Business Management in relation to Public Policy and Development Studies

7 Schools for postgraduate education

Postgraduate Students	5000
Professors	500
Accompanying Spouses	2200
Academic Staffs	200
General Staffs	100

Total Residential Population 8000

Calculations

Professor	:	Student		
1	:	10		
		Student	:	Academic Staffs
		25	:	1
		Student	:	General Staffs
		50	:	1
Single	:	Married		
3	:	2		

Nalanda is a word known across the world and for centuries. It stands for a university which attracted **students and scholars from across Asia** and even farther away. It was a centre of excellence for Buddhist studies, philosophy, medicine and mathematics as well. After teaching thousands of students for centuries, Nalanda ceased its existence just as universities were opening up in Bologna, Paris and Oxford at the beginning of the second millennium CE. The shift of centres of knowledge from East to West was symbolic of the eventual transfer of power which followed within half a millennium.

There is now a perfect opportunity to recreate the hallowed universalism of Nalanda as a centre of knowledge. The second millennium CE ended with a tremendous resurgence of Asia after centuries of stagnation, division and decline. Asia is today synonymous with a dynamic entrepreneurial and innovative culture, based on knowledge and enterprise not forgetful of its past yet not afraid to face the future. Asian countries are coming together to forge a continent based on the foundations of peace and harmony. The decision of the East Asian Summit in 2007, at its meeting in Cebu, Philippines, to endorse the plan to re-establish the Nalanda University underscores the commitment to these values.

Our challenge is to match the excellence of Nalanda of the first millennium CE for the third millennium CE. A university of the third millennium has to be universalist in its outlook, open to currents of thought and practice from around the globe, and it has to **respond to the needs of a world** which has miles to travel before it can ensure peace and prosperity with equity and hope for all the people of the world.

Above all, Nalanda must be a centre of knowledge and a most excellent one. Its primary function must be to harness the best talents for the **creation and dissemination of new knowledge** as well as for the **recovery and restoration of valuable old insights** which have suffered unintended neglect. Nalanda has to be open to students from across the world chosen for their desire for and capacity to absorb **knowledge in diverse fields**. It must have once again, as it did before, the best scholars and researchers to create and recreate knowledge. It must afford them a vibrant living environment which will also be suitable for the nurture of the next generation – the children of those creating and recreating the centre of excellence. It must be adapted to the rhythm of Nature where it is located and **enrich the lives of the people** in the neighbourhood. Nalanda will be new but it will aspire to be as good as its old self, if not better. Its name must reverberate across the world as a place where people go to seek as well as to add to the fund of knowledge and to go away from it disseminating its fruits everywhere. It must draw upon the best resources of Asia and indeed the world and repay manifold in the coinage of new and valuable insights on **making the world better for all**.



Role of the Nalanda Studio

1. To determine the **vision and strategy** that ensures the best future for Nalanda University.
2. To create a **mother plan** that,
 - provides the university with integrated framework to guide its long-term physical development.
 - provides set of guidelines for decisions about where to locate the university's research, teaching, residential and recreational priorities and programs.
 - links campus plan to broader district plans.



Current master planning

1. **Excessive zoning** limits the wants and needs of users.
2. **Focus on implementation** unable to keep up to evolving priorities.
3. **Short term endeavour** that aims to rationalise all aspects of urban life in a build urban form, failing to address unquantifiable aspects of life.
4. **Large scale planning** fails to promote responsible growth in all levels of society.

Current master planning





The mother plan

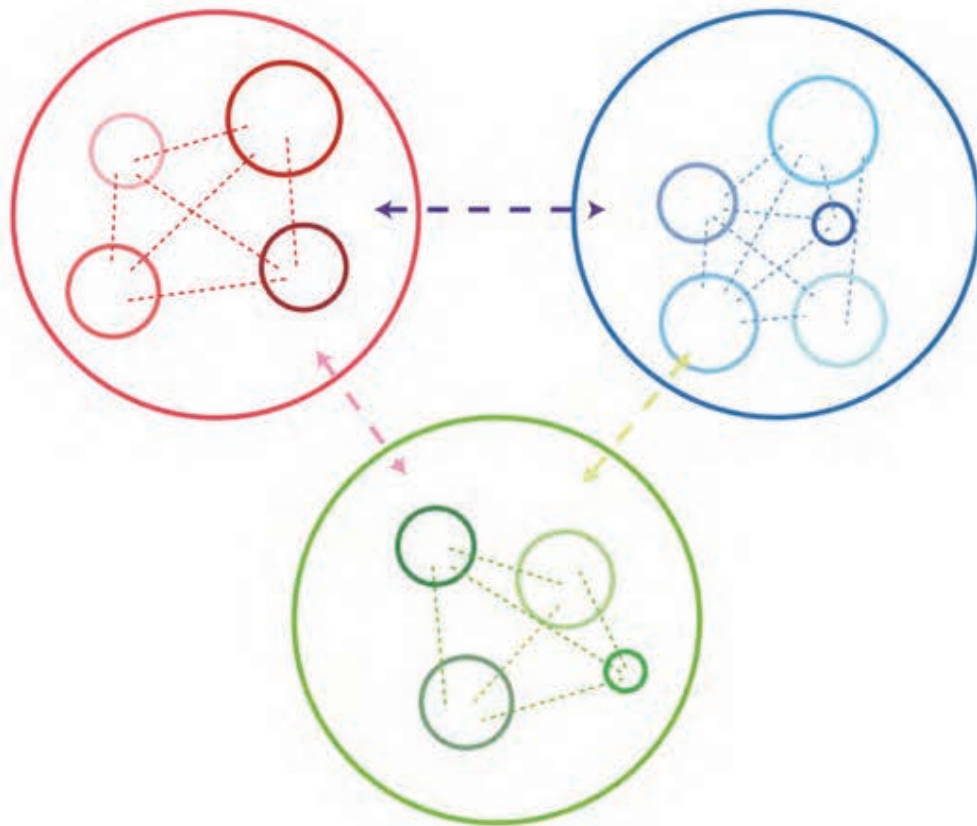
Details of the plan's implementation will vary as Nalanda's academic, financial and social needs and **priorities evolve**. Its **vision, principle and essential features will remain constant**.

No master plan can identify every opportunity and circumstance the university will face.

A **mother plan is a long term relationship** that provides a clear and integrated framework within which the future decisions about the development of the campus can be effectively made. A **multi-scalar** plan that promotes responsible growth in all levels of society.

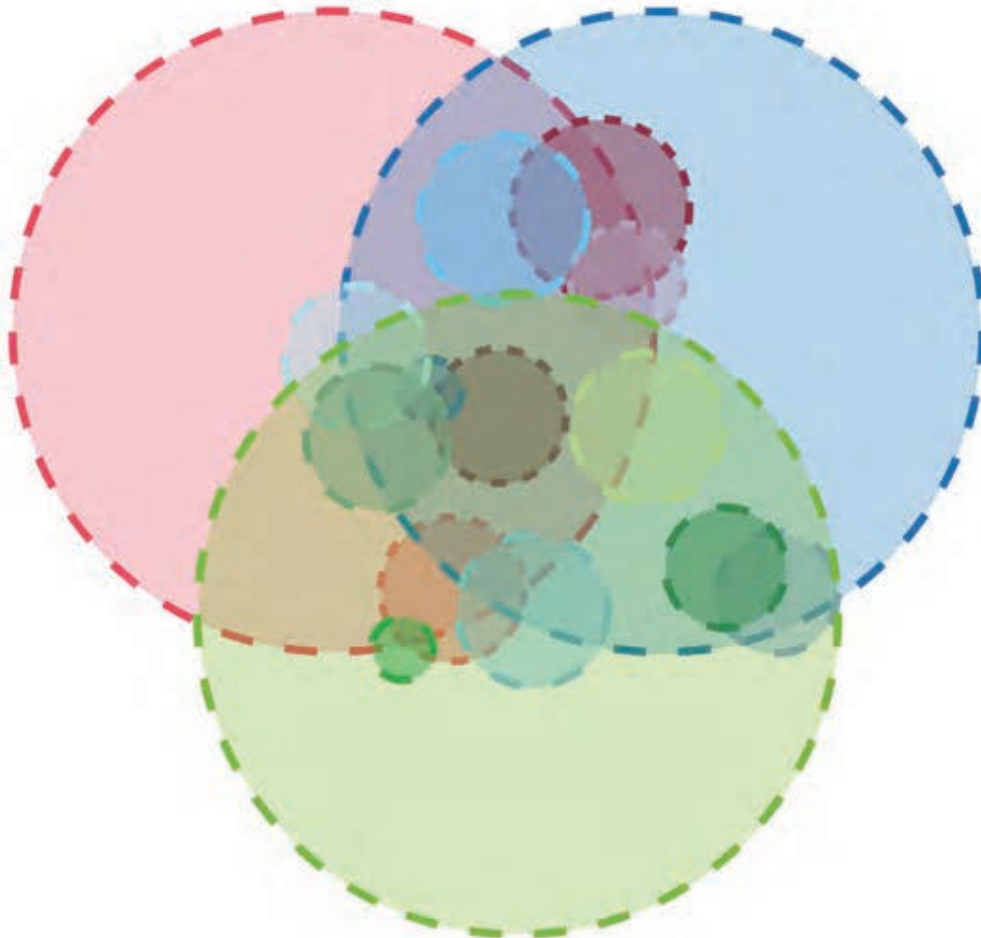
The mother plan





Current education system

1. Disciplines categorised **based on differences** rather than being grouped together based on similarities
2. **imbalance** between individual academic, social, cultural, athletic, environmental and economic priorities
3. Academia **disconnect** with surrounding communities and real world problems



21st century education

1. **Experiential**
2. **Self directed**
3. **Multi-disciplinary**
 - strong cross discipline ties
4. **Bridge** academia and real problems and concerns of the region
5. **Balance** individual academic, social, cultural, athletic, environmental and economic priorities

5 principles

The Nalanda campus mother plan should be guided by 5 interrelated and **mutually supportive** principles.

These principles describe an integrated approach to a 21st century education, recognising that the **stewardship** and development of the Nalanda University must **balance academic, social, cultural, atheletic, environmental and economic priorities**, improving over time for the benefit of all people and ecosystems.



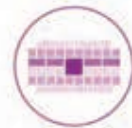
Support 21st century education



Promote stewardship,
reinforce communities



Enhance campus experience



Ensure integrated and compact
planning and design



Sustainability



Support 21st century education

Experiential, self directed learning

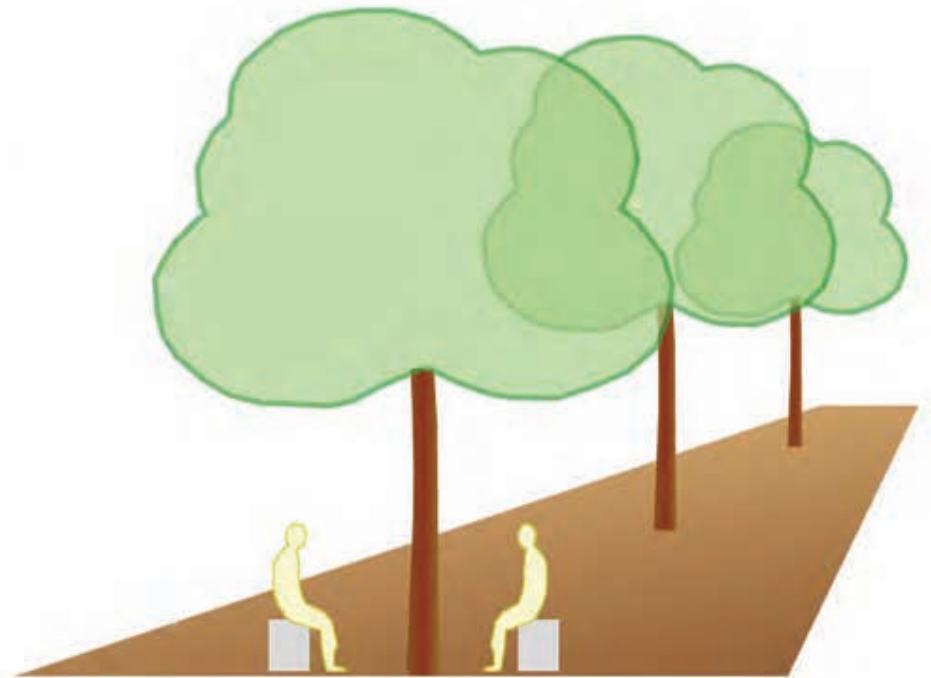
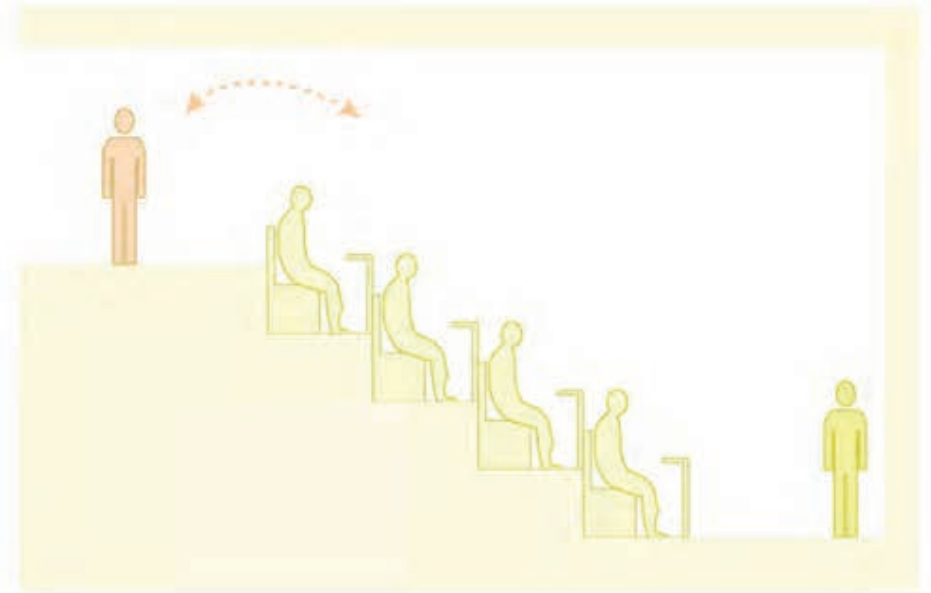
- agriculture school integrated with agrarian cycles of people
- hospital and training schools run by locals and students

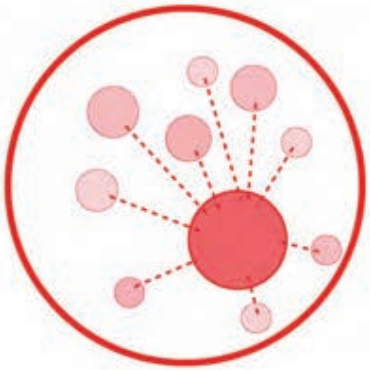
Varied informal learning spaces to support formal learning facilities

- openness
- multi-scalar cultural and learning spaces

Integration

- sharing of knowledge between faculties
- faculties integration
- respect for surrounding people and environment

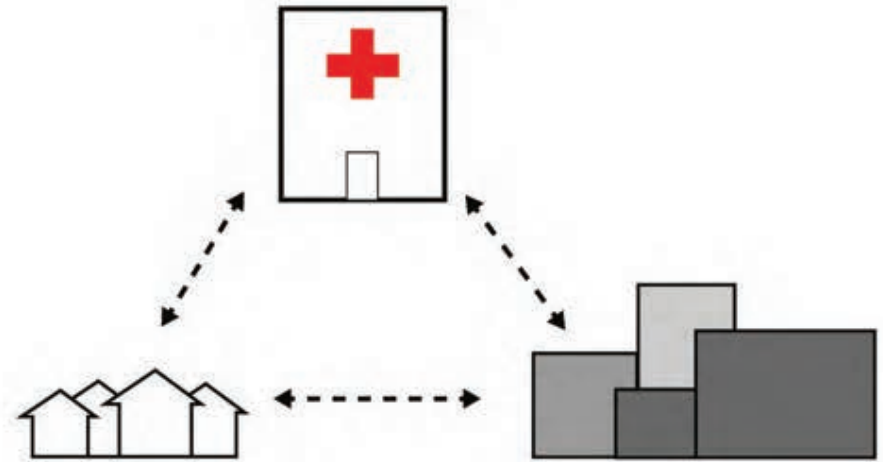


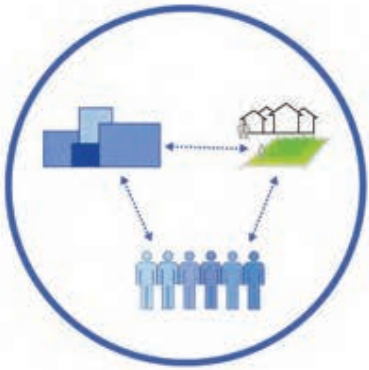


Promote stewardship, reinforce communities

Mutually beneficial relationships

- agriculture school and surrounding farming communities to share new techniques and technologies
- provide livelihood for local inhabitants
- hospital to provide for district and school, training mid-wives, nurses and doctors
- promote responsible long term growth for district and school





Enhance campus experience

Varied informal learning spaces to support formal learning facilities

- amphitheatres instead of lecture halls
- outdoor learning spaces instead of classrooms

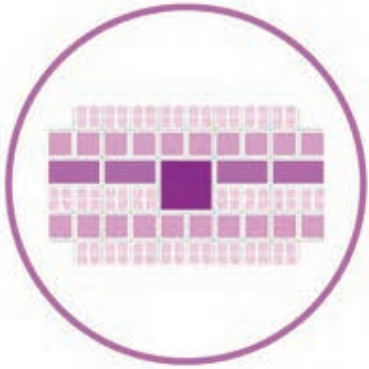
Connection to people

- surrounding communities important part of school learning environment
- knowledge put to practice

Connection to environment

- agricultural surroundings
- rajgir hills nature sanctuary





Ensure integrated and compact planning and design

Density

- encourages social and intellectual interactions

Symbiosis

- free up large tracts of agricultural land and green spaces
- provide livelihood for local inhabitants
- promote responsible long term growth for district and school





Sustainability

Food

- the university as an agriculture co-operative
- communal gardens, experimental farms, and agriculture school to support community

Water

- water collection and storage
- rejuvenate water table
- watershed management

Waste

- bio-gas
- algae treatment

Energy

- solar energy
- passive bioclimatic features





Rajgir Hills
Rajgir Wildlife Sanctuary

Railway

Railway

Highway 71

Highway 71

1km to
Rajgir city

98km to
Patna airport

62km to
Gaya airport

Site Plan

1000m 500 100





Rajgir Hills
Rajgir Wildlife Sanctuary

Railway

1 storey
220000m²

Railway

1km to
Rajgir city
98km to
Patna airport

Highway 71



Highway 71

62km to
Gaya airport

Site Plan

1000m 500 100





Rajgir Hills
Rajgir Wildlife Sanctuary

Railway

4 storeys
55000m²

Railway

1km to
Rajgir city
98km to
Patna airport

Highway 71

Highway 71

62km to
Gaya airport

Site Plan

1000m 500 100





Rajgir Hills
Rajgir Wildlife Sanctuary

4 storeys, **scattered**
55000m²

1km to
Rajgir city
98km to
Patna airport

Highway 71

Railway

Highway 71

62km to
Gaya airport

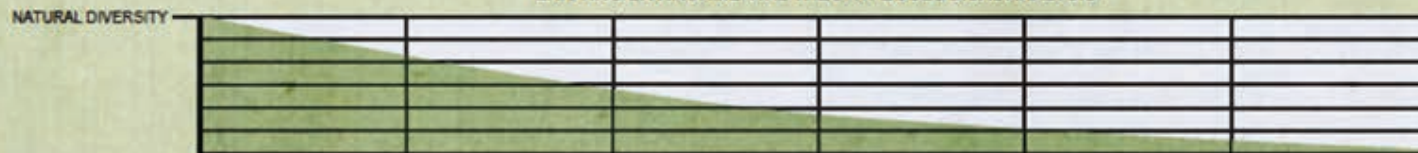
Site Plan

1000m 500 100

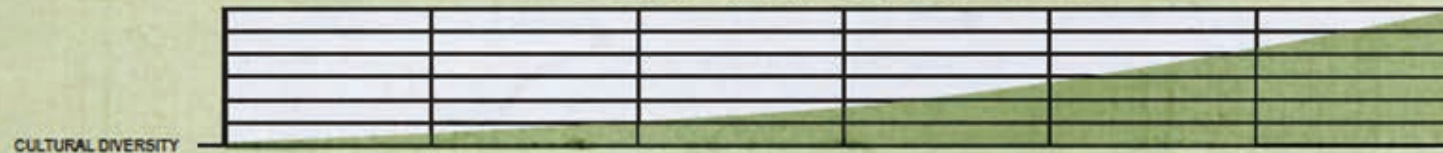




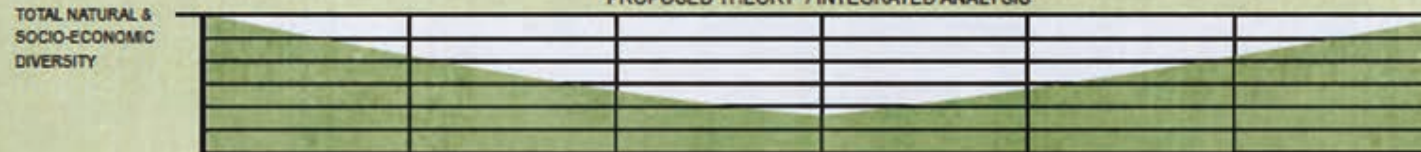
EXISTING ENVIRONMENTAL THEORY/ ECOLOGICAL ANALYSIS



EXISTING URBAN THEORY/ SOCIO-ECONOMIC ANALYSIS



PROPOSED THEORY / INTEGRATED ANALYSIS



PROPOSED CULTURAL ADJUSTMENT





Rajgir Hills
Rajgir Wildlife Sanctuary

Railway

Railway

4 storeys, **compact**
55000m²

microclimate
integrated education

1km to
Rajgir city

98km to
Patna airport

Highway 71



Highway 71

62km to
Gaya airport

Site Plan

1000m 500 100





Rajgir Hills
Rajgir Wildlife Sanctuary

4 storeys, **compact**
55000m²

green spine

forested area
contemplative circuit
connection to proposed
railway station

1km to
Rajgir city
98km to
Patna airport

62km to
Gaya airport

Site Plan

1000m 500 100





Rajgir Hills
Rajgir Wildlife Sanctuary

Railway

Railway

4 storeys, **compact**
55000m²

green spine

preserve
agricultural land

70% of total land
double agricultural
output

1km to
Rajgir city

98km to
Patna airport

Highway 71

Highway 71

62km to
Gaya airport

Site Plan

1000m 500 100





Rajgir Hills
Rajgir Wildlife Sanctuary

Railway

4 storeys, **compact**
55000m²

green spine

preserve
agricultural land

future expansion

1km to
Rajgir city

98km to
Patna airport

Highway 71

Railway

Highway 71

62km to
Gaya airport

Site Plan

1000m 500 100





Rajgir Hills
Rajgir Wildlife Sanctuary

Railway

Railway

Highway 71

Highway 71

1km to
Rajgir city

98km to
Patna airport

how to grow nalanda
without affecting
surroundings
adversely?

62km to
Gaya airport

Site Plan

1000m 500 100









Rajgir Hills
Rajgir Wildlife Sanctuary

1km to
Rajgir city
98km to
Patna airport

anticipate growth
of surrounding
villages

promote
stewardship,
reinforce community

62km to
Gaya airport

- village expansion
- agriculture support facilities
- hospital
- village school

Site Plan

1000m 500 100



Influence - 10km

Legend

Growth of Village Area



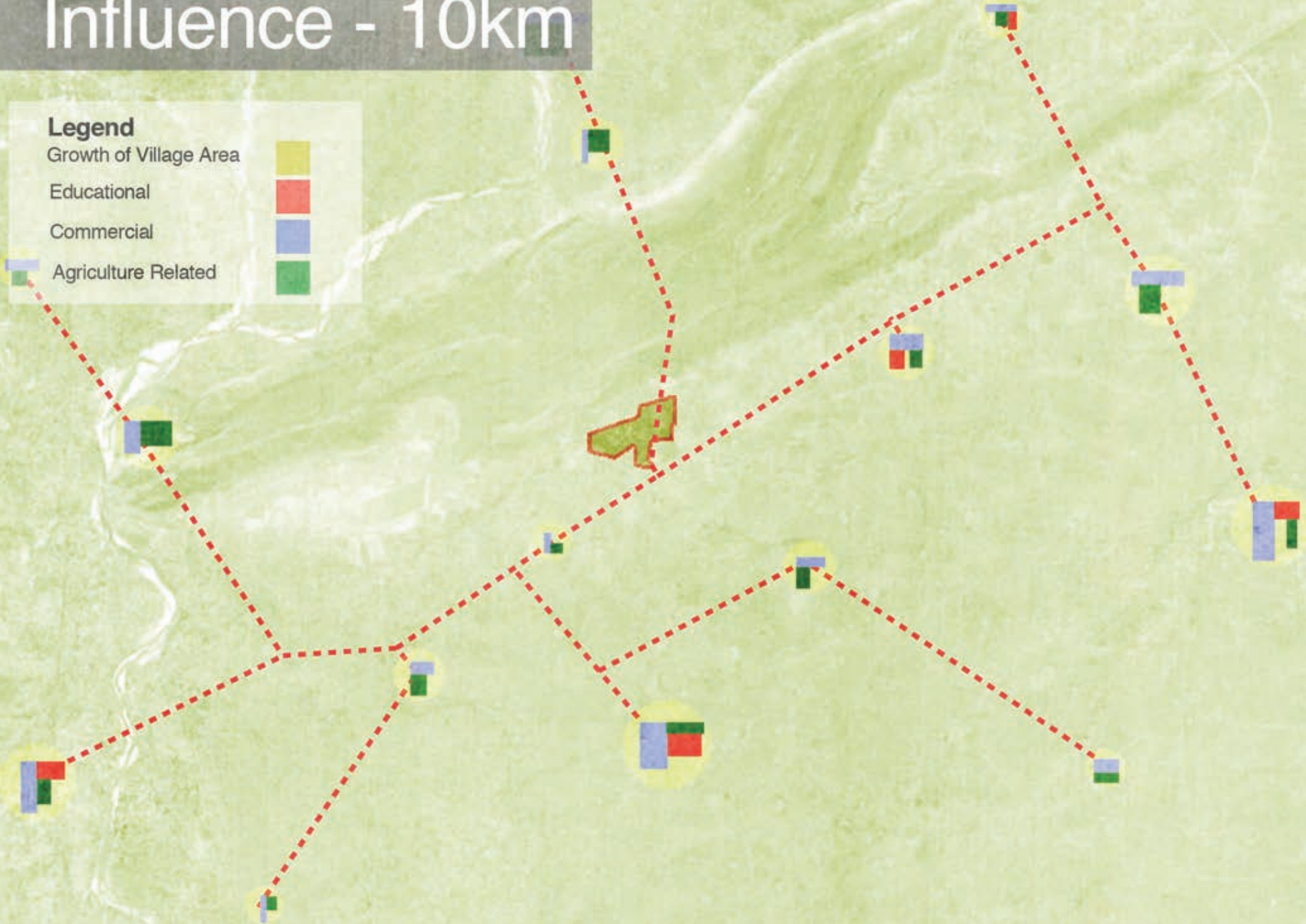
Educational



Commercial



Agriculture Related



Phase I
Quantification



5000 students
500 professors

Post-graduate education

1. Historical studies
2. Ecology & environmental studies
3. Buddhist studies, philosophy & comparative studies
4. Language & literature
5. International relations & peace studies
6. Information science & technology
7. Business management in relation to public policy & development studies

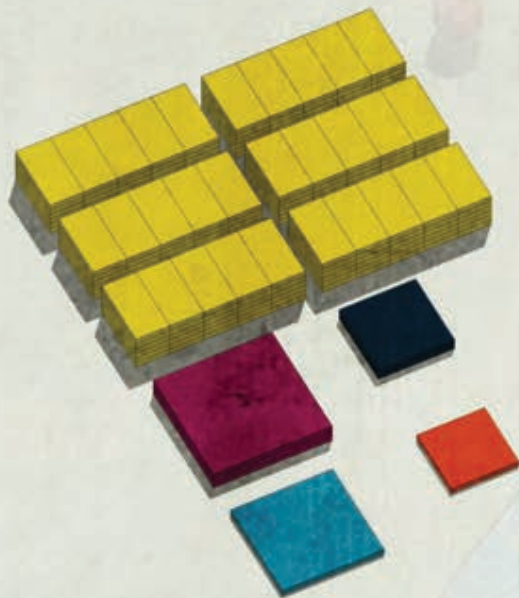
1. Education	15000m ²
2. Culture	4000m ²
3. Administration	5500m ²
4. Commercial	3000m ²
5. Residential	165000m ²
6. Recreation	2500m ²
7. Others	2500m ²

Total 220000m²

1 storey	220000m ²
4 storeys	55000m ²



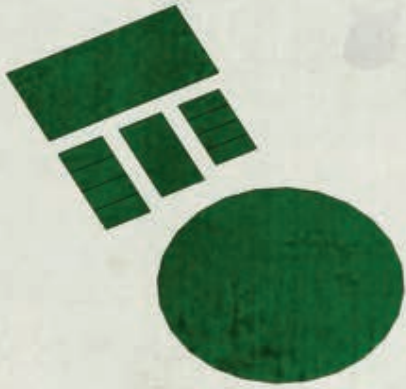
Phase I
Quantification



● 1. Education	15000m ²
● 2. Culture	4000m ²
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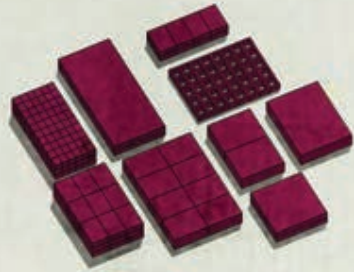
Phase I
Quantification



- Recreation
- 1. Cricket field x 1
- 2. Tennis courts x 4
- 3. Soccer field x 1
- 4. Multi-purpose hall x 1
- 5. Swimming pool x 1
- 6. Basketball court x 4
- 7. Playground x 1
- 8. Meditative circuit
- 9. Green network
- 10. Informal quads



Phase I
Quantification



● Education

- 1. Lecture halls
 - L 1 x 800 pax (1200m²)
 - M 2 x 300 pax (500m²)
 - S 8 x 150 pax (300m²)

- 2. Classrooms
150 x 15 pax (20m²)

- 3. Amphitheatre
8 x 80 pax (150m²)

- 4. Laboratories
8 x 20 pax (60m²)

- 5. Library
1 x 2000 pax (3800m²)

- 6. Informal learning spaces
20 x 15 pax (25 - 40m²)

● Cultural

- 7. Performance space @ library
1 x 1200 pax (1200m²)

- 8. Performance space @ fields
1 x 500 pax (800m²)

- 9. Informal performance spaces (variable)



Phase I
Quantification



● Administration

1. Offices

L 3 x 150 pax (250m²)
S 300 x 1 pax (15 - 20m²)

2. Meeting rooms

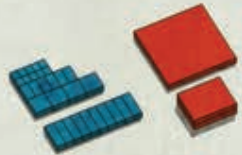
4 x 20 pax (40m²)

3. Informal meeting spaces

2 x 5 pax (15 - 20m²)



Phase I
Quantification



● Commercial

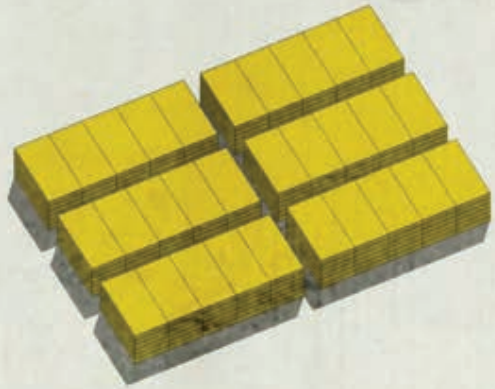
1. Food & beverage
 - L 2 x 100 pax (80 - 100m²)
 - M 3 x 50 pax (40 - 50m²)
 - S 5 x 20 pax (20m²)
2. Retail
 - L 2 x 100 pax (80 - 100m²)
 - M 3 x 50 pax (40 - 50m²)
 - S 5 x 20 pax (20m²)
3. Mixed-use
 - 10 x shophouse (75m²)
4. Canteen
 - L 1 x 1200 pax (950m²)
 - S 2 x 800 pax (650m²)

● Others

5. Hospital (1500m²)
6. Village School 1 x 100 pax (1000m²)
7. Childcare / Daycare 3 x 10 pax (30m²)



Phase I
Quantification



● Residence

5000 students
500 professors
5500 total population

Family unit 1 : 550
Couple unit 3 : 1650
Single unit 6 : 3300

Family unit 75m²
Couple unit 25m²
Single unit 12.5m²

Total area 165 000m²

1 storey 165 000m²
5 storeys 33 000m²
6 storeys 27 500m²



Phase I
Building Envelope



5 principles

The Nalanda campus mother plan should be guided by 5 interrelated and **mutually supportive** principles.

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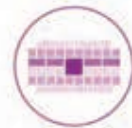
Support 21st century education



Promote stewardship,
reinforce communities



Enhance campus experience



Ensure integrated and compact
planning and design



Sustainability

FOOD

Dietary needs: 2 Kcal/ person

Population : 8000

Needs/Year : $2 \times 8000 \times 365 \text{ days} = 5840\ 000 \text{ Kcal}$

Sweet Potato :

Yield : 50 ton/ha

Cal/100g : 116 cal

100g = 0.0001 tonnes

Units of 100g per ha = $50 / 0.0001$
= 500 000 units

No. of cal per ha = $500\ 000 \times 116$
= 58 000 000 cal
= 58 000 kcal

Assume double cropping, 1 ha : 100 tonnes/ year

Total Kcal / year = $58\ 000 \times 2$
= 116 000 Kcal

ha of sweet potato required = $5\ 840\ 000 / 116\ 000$
= 50.34 ha

Vegetables :

2.4 m^2 / person / year

$2.4 \text{ m}^2 = 0.00024 \text{ ha}$

Total ha for Vegetables required = 0.00024×8000
= 1.92 ha



WATER

Rainfall

Average Annual Rainfall in Bihar **1200 mm**

Demand

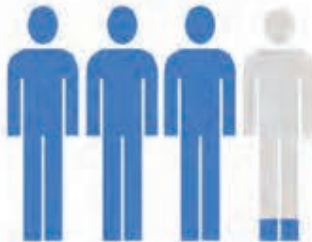
Human

United States	575 litres / person
Singapore	155 litres / person
India	130 litres / person

* <http://blogs.ei.columbia.edu/2009/03/13/water-usage-per-person/>



Rural Consumption
40 litres / person



Urban Consumption
130 litres / person

Total Water needed for Human Consumption

$$\begin{aligned}
 &= 130 \times 8000 \text{ persons} \times 365 \text{ days} \\
 &= 379,600,000 \text{ litres} \\
 &= \mathbf{379,000 \text{ m}^3 / \text{year}}
 \end{aligned}$$

Agriculture

Surface Drip Irrigation

$$\begin{aligned}
 \text{Water Required (Gallons) / Day} &= \frac{0.623 \times \text{plant area} \times K_s \times E_{tr}}{\text{climate efficiency} \times \text{est. emitter efficiency}} \\
 &= 3990.45 \text{ gallons / day} \\
 &= 15.105 \text{ m}^3 / \text{day}
 \end{aligned}$$

$$\begin{aligned}
 \text{Total Water Needed for Agriculture} &= 15.105 \text{ m}^3 \times 365 \\
 &= \mathbf{5513.32 \text{ m}^3 / \text{year}}
 \end{aligned}$$

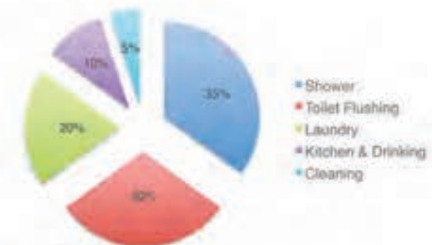
$$\text{Total Demand} = \mathbf{384510 \text{ m}^3}$$

Catchment Area

$$\begin{aligned}
 \text{Total Catchment Area Needed} &= 384510 / 1.2 \\
 &= \mathbf{320,425 \text{ m}^2} \\
 \text{Total Roof Surface Area} &= \mathbf{47,000 \text{ m}^2}
 \end{aligned}$$

$$\begin{aligned}
 \text{Additional Area Required} &= 320,425 - 47,000 \\
 &= \mathbf{273,425 \text{ m}^2} \\
 &= \mathbf{27.5 \text{ ha}}
 \end{aligned}$$

Grey Water Recycling



<http://blogs.edf.org/texaswatersolutions/2011/04/13/making-the-case-for-water-reuse/>

Water in household suitable for grey water recycling

Shower	35%
Laundry	20%
Cleaning	5%
Total	60%

$$\begin{aligned}
 \text{Total Water Recycled for agriculture use} &= 60\% \times 379,000 \\
 &= \mathbf{227,400 \text{ m}^3}
 \end{aligned}$$

Distributed Generation

1. Power generation at the point of consumption
2. Eliminates the cost, complexity, interdependencies, and inefficiencies associated with transmission and distribution

Historically, distributed generation meant combustion generators (e.g. diesel generators). They were affordable, and in some cases reliable, but they were not clean.

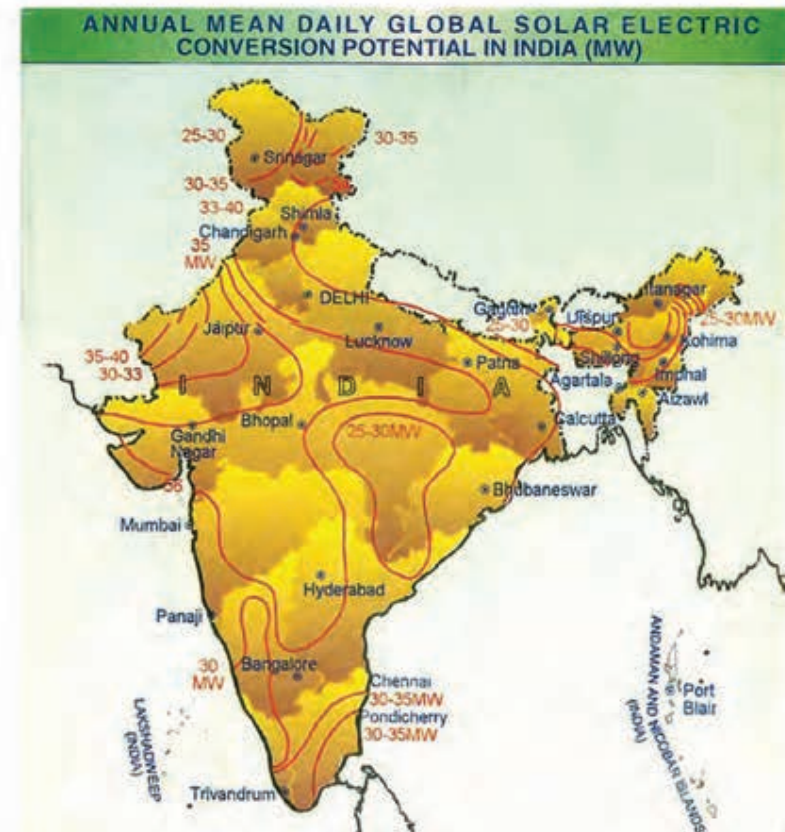
3. "Bihar policy for promotion of New and Renewable Energy Sources 2011"



Solar Energy

"Bihar policy for promotion of New and Renewable Energy Sources 2011"

1. PV powered street lights
2. Heat water



Bloomenergy (200 kW unit)

weighs 17 tons
volume of 8.0 by 2.6 by 2.0 m

Input of Biogas

Fuel flow rate for 200 kW unit = 1.32 MMBtu/hr

sewage + agriculture waste

83000 MMBtu/year = 9.48 MMBtu/hr

Output

Electric output rate = 200 kW

Daily output = 200 kW x 24 = 4800 kW

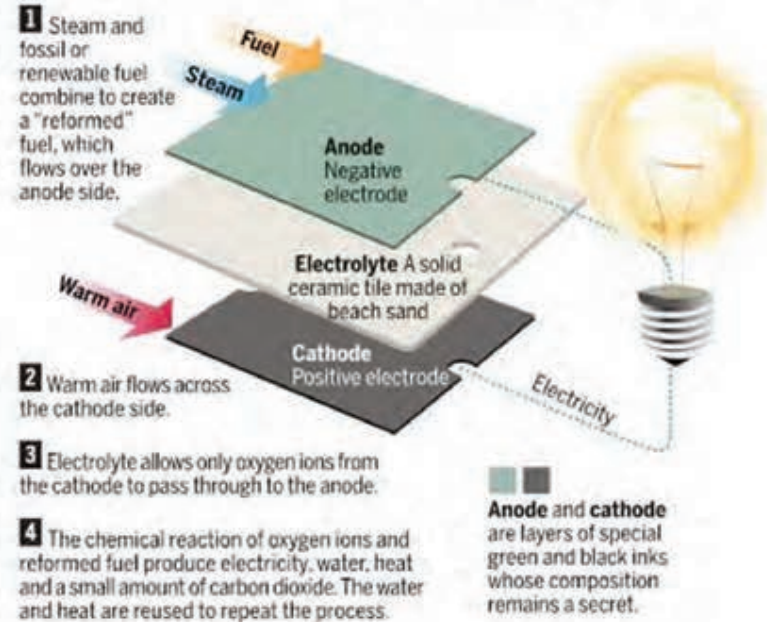
Cost of unit = 8000000 USD

Cost of electricity in Bihar = 0.8 - 2.5 USD/kW
(1.65 USD/kW)

	India	USA
Power consumption per capita	107 W	1363 W
Power consumption for 8000	856 kW	10904 kW
Total cost (grid)	1400 USD	18000 USD
Running cost / year	511000 USD	6.6 million USD
Units required	1	3
Daily output	4800 kW	14400 kW
Total cost (bloomenergy)	8 million USD	24 million USD
Break even period	15.5 years	5 years

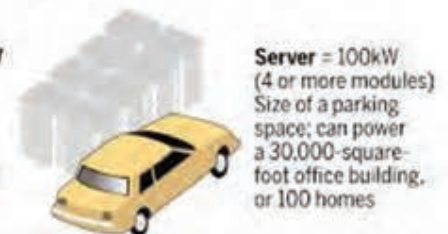
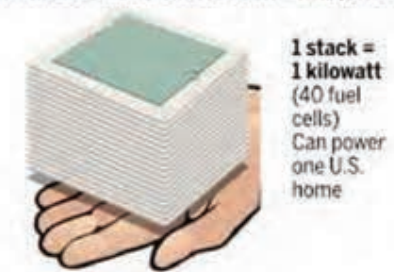
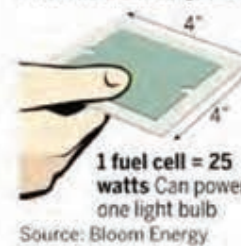
A new way to generate clean electricity

Bloom Energy's three-layer solid oxide fuel cell produces clean and potentially affordable power by an electrochemical process. How it works:



How much power?

Fuel cells are arranged in stacks, modules and servers to deliver more power.



Waste

Waste generated can be classified into biodegradable organic waste and non-biodegradable solid waste

Type of Waste	Amount Generated (kg/capita/day)	Amount Generated (kg/year)	Biogas Generated (m ³ /year)	Energy Generated (MMBTU/year)
Sewage	0.15	438000	262800	5978.7
Agricultural Waste	0.74	2160800	648240	14747.46
Animal Dung	3.11	9081200	2724360	61979.19
Non-biodegradable Solid Waste	0.18	525600	NA	NA

Underlying Assumptions	
Population of India	1,200,000,000
Campus Population	8000
Percentage CH ₄ Content in Biogas	65%
Energy Content per m ³ of CH ₄	35,000BTU

Biodegradable organic waste can be dealt with by anaerobic digestion, the outputs of which are biogas, digestate and wastewater. Assuming 4m³ of digester capacity can generate 1m³ of biogas/day,

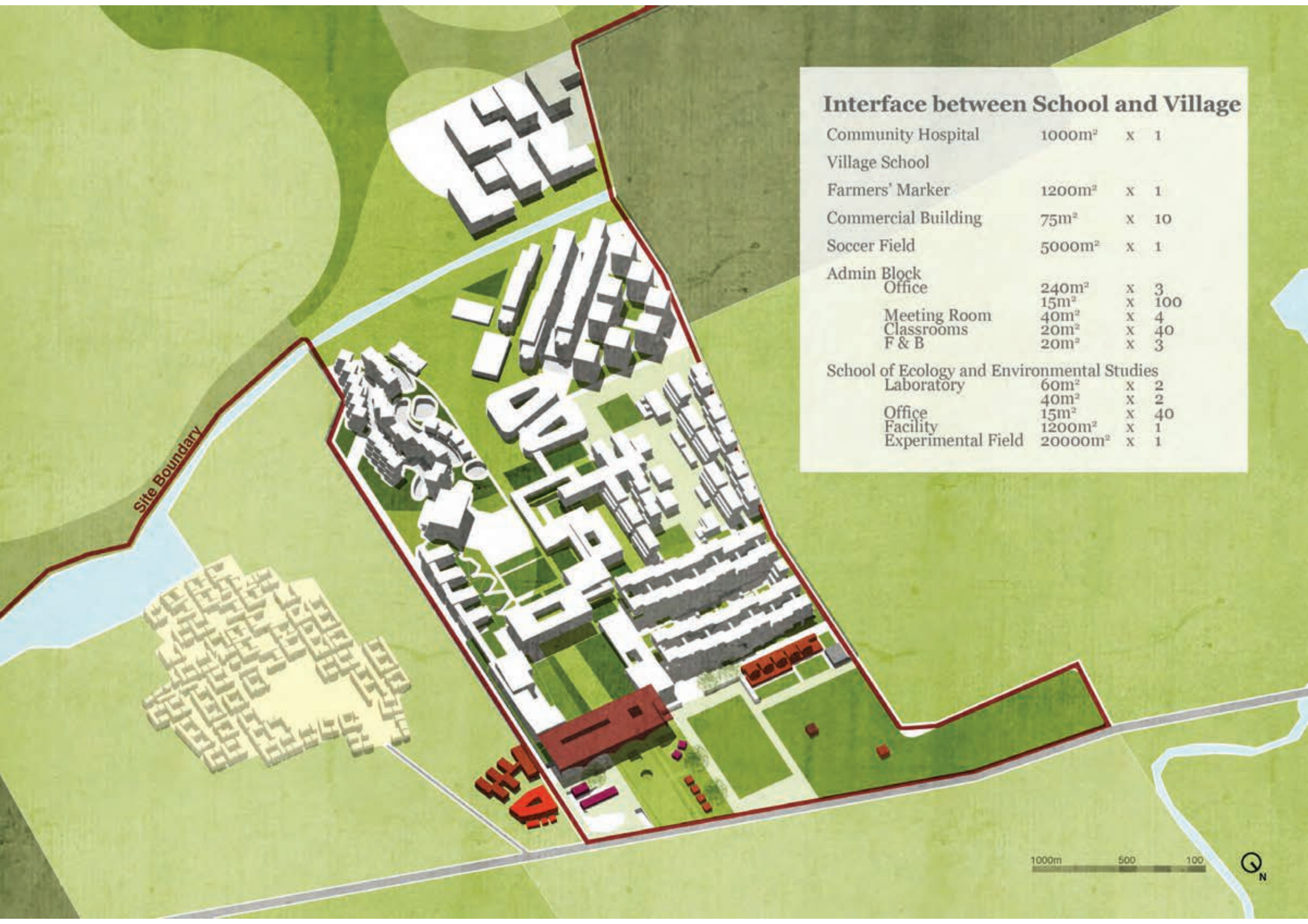
33000m³ of digester capacity would be required to handle the amount of waste generated. The digestate can undergo further composting process for use as fertiliser and the wastewater treated for reuse.



Site Boundary

1000m 500 100



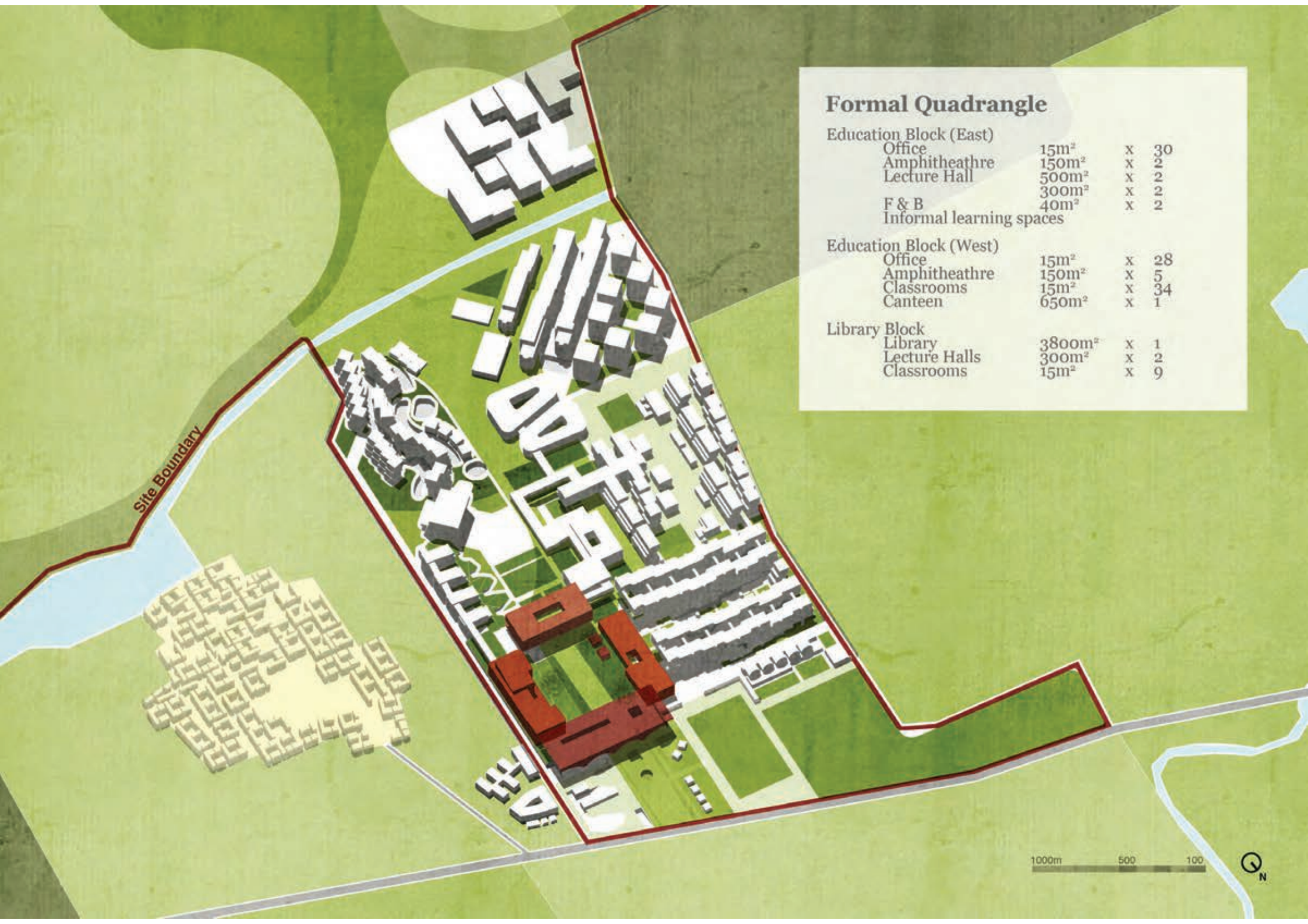


Interface between School and Village

Community Hospital	1000m ²	x	1
Village School			
Farmers' Marker	1200m ²	x	1
Commercial Building	75m ²	x	10
Soccer Field	5000m ²	x	1
Admin Block			
Office	240m ²	x	3
Meeting Room	15m ²	x	100
Classrooms	40m ²	x	4
F & B	20m ²	x	40
F & B	20m ²	x	3
School of Ecology and Environmental Studies			
Laboratory	60m ²	x	2
Laboratory	40m ²	x	2
Office	15m ²	x	40
Facility	1200m ²	x	1
Experimental Field	20000m ²	x	1

1000m 500 100





Formal Quadrangle

Education Block (East)			
Office	15m ²	x	30
Amphitheatre	150m ²	x	2
Lecture Hall	500m ²	x	2
F & B	300m ²	x	2
Informal learning spaces	40m ²	x	2
Education Block (West)			
Office	15m ²	x	28
Amphitheatre	150m ²	x	5
Classrooms	15m ²	x	34
Canteen	650m ²	x	1
Library Block			
Library	3800m ²	x	1
Lecture Halls	300m ²	x	2
Classrooms	15m ²	x	9

Site Boundary

1000m 500 100





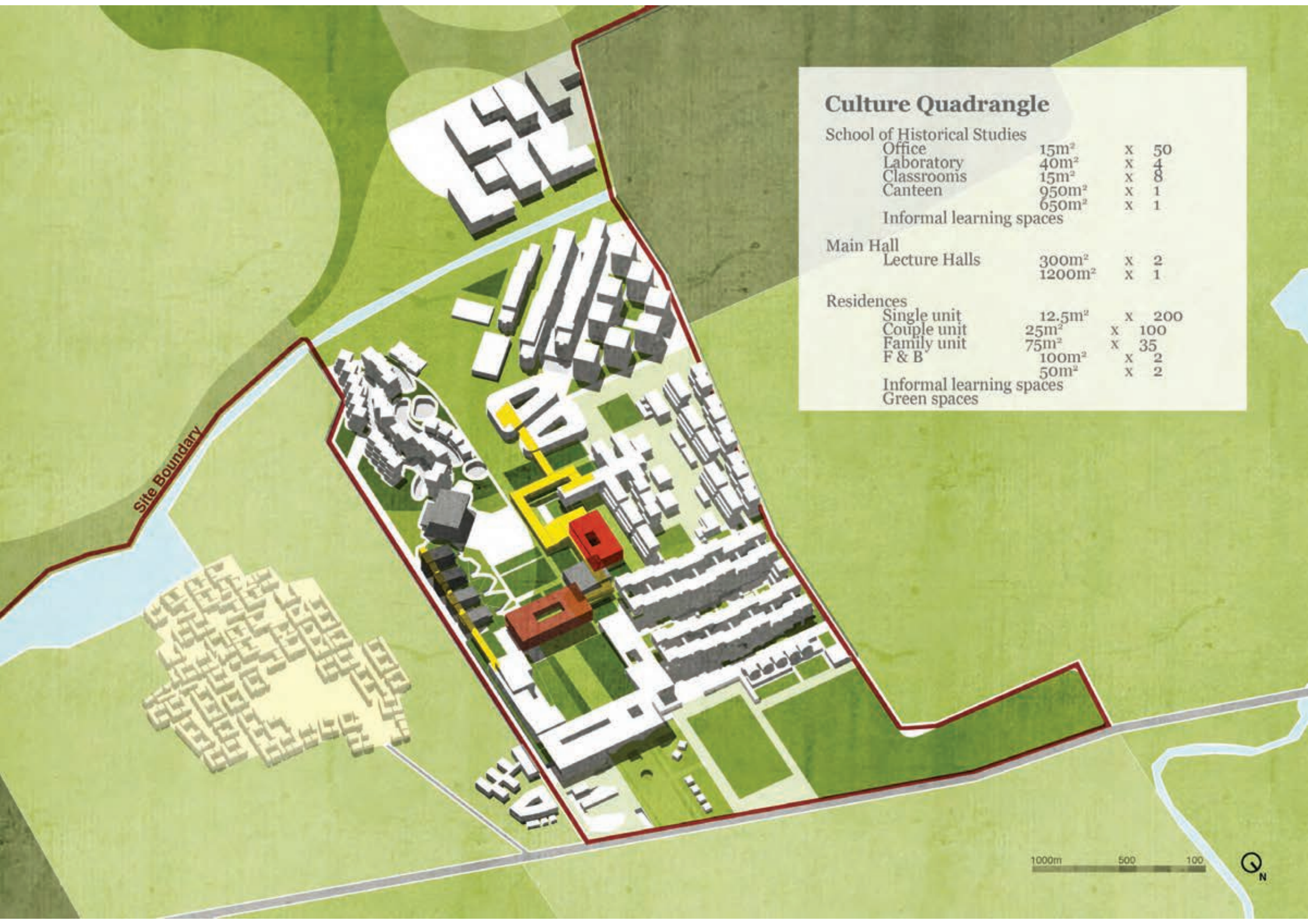
Main Spine

Connects to main spaces by a path filled with activities

Site Boundary

1000m 500 100



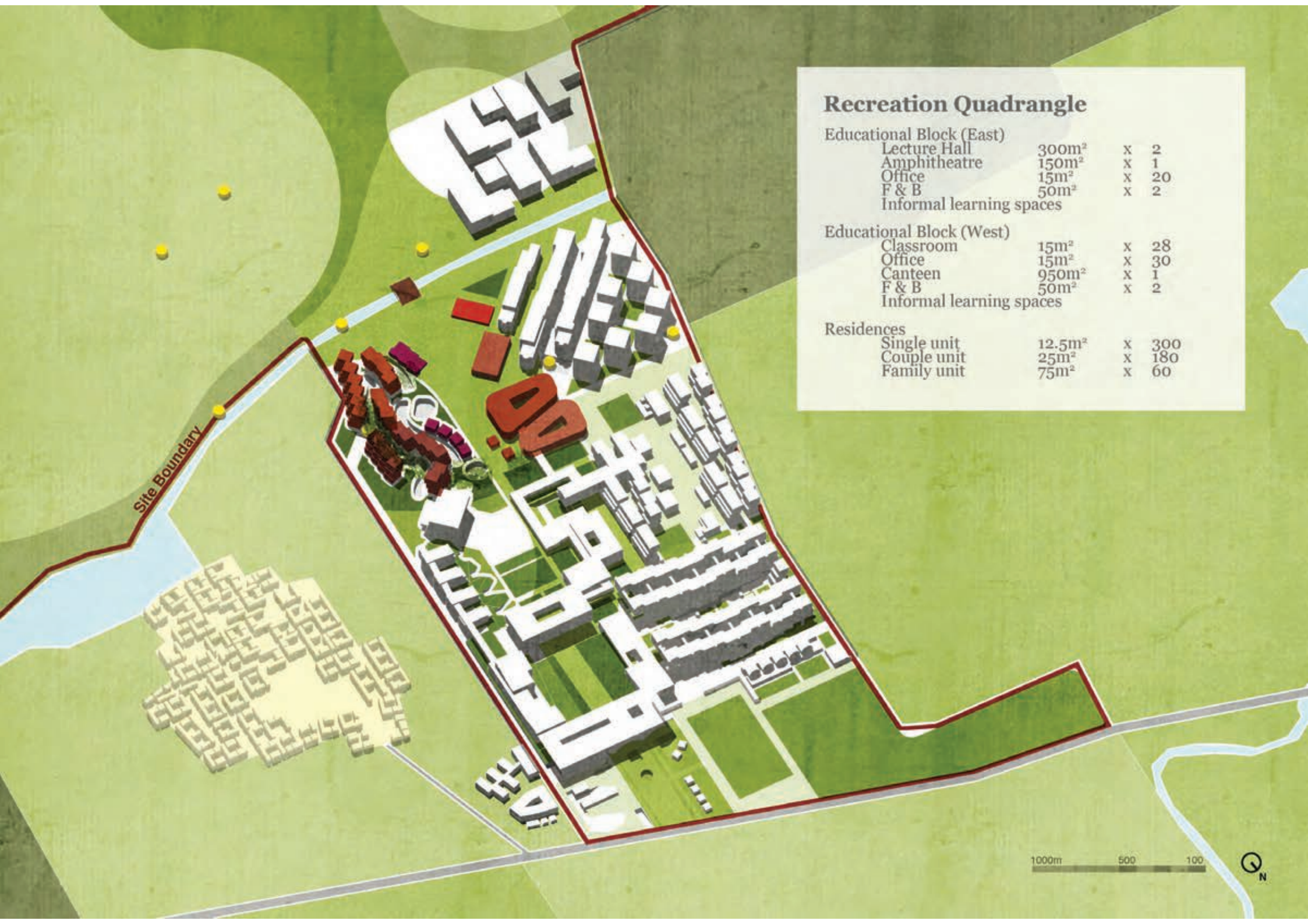


Culture Quadrangle

School of Historical Studies			
Office	15m ²	x	50
Laboratory	40m ²	x	4
Classrooms	15m ²	x	8
Canteen	950m ²	x	1
Informal learning spaces	650m ²	x	1
Main Hall			
Lecture Halls	300m ²	x	2
	1200m ²	x	1
Residences			
Single unit	12.5m ²	x	200
Couple unit	25m ²	x	100
Family unit	75m ²	x	35
F & B	100m ²	x	2
	50m ²	x	2
Informal learning spaces			
Green spaces			

1000m 500 100





Recreation Quadrangle

Educational Block (East)

Lecture Hall	300m ²	x	2
Amphitheatre	150m ²	x	1
Office	15m ²	x	20
F & B	50m ²	x	2
Informal learning spaces			

Educational Block (West)

Classroom	15m ²	x	28
Office	15m ²	x	30
Canteen	950m ²	x	1
F & B	50m ²	x	2
Informal learning spaces			

Residences

Single unit	12.5m ²	x	300
Couple unit	25m ²	x	180
Family unit	75m ²	x	60

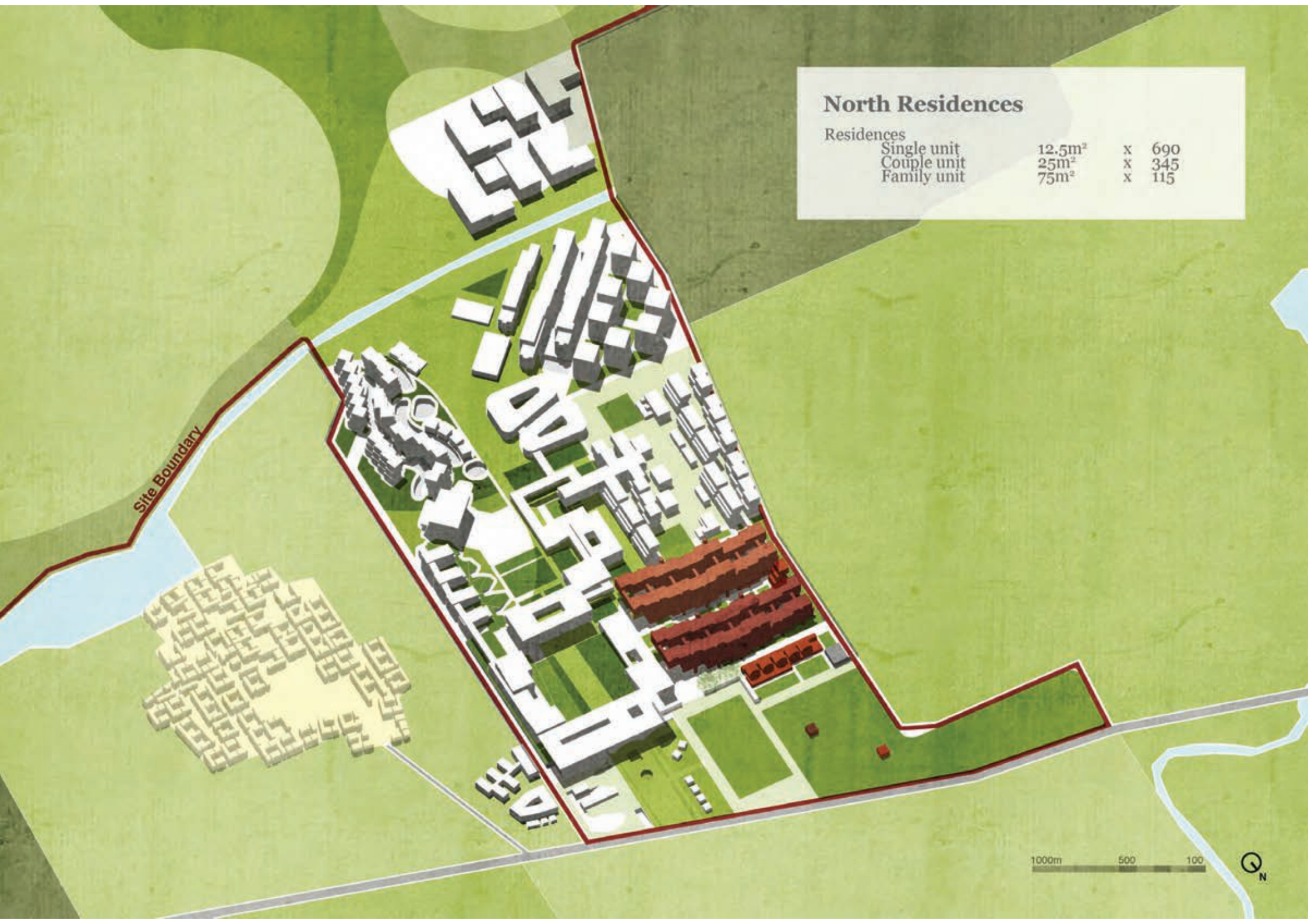
Site Boundary

1000m 500 100



North Residences

Residences			
Single unit	12.5m ²	x	690
Couple unit	25m ²	x	345
Family unit	75m ²	x	115



Site Boundary

1000m 500 100



Middle Residences

Residences			
Single unit	12.5m ²	x	900
Couple unit	25m ²	x	450
Family unit	75m ²	x	150



Site Boundary



South Residences

Residences			
Single unit	12.5m ²	x	840
Couple unit	25m ²	x	420
Family unit	75m ²	x	140
Multi-purpose Sports Complex		x	1
Meditative Spaces		x	8

Site Boundary

1000m 500 100

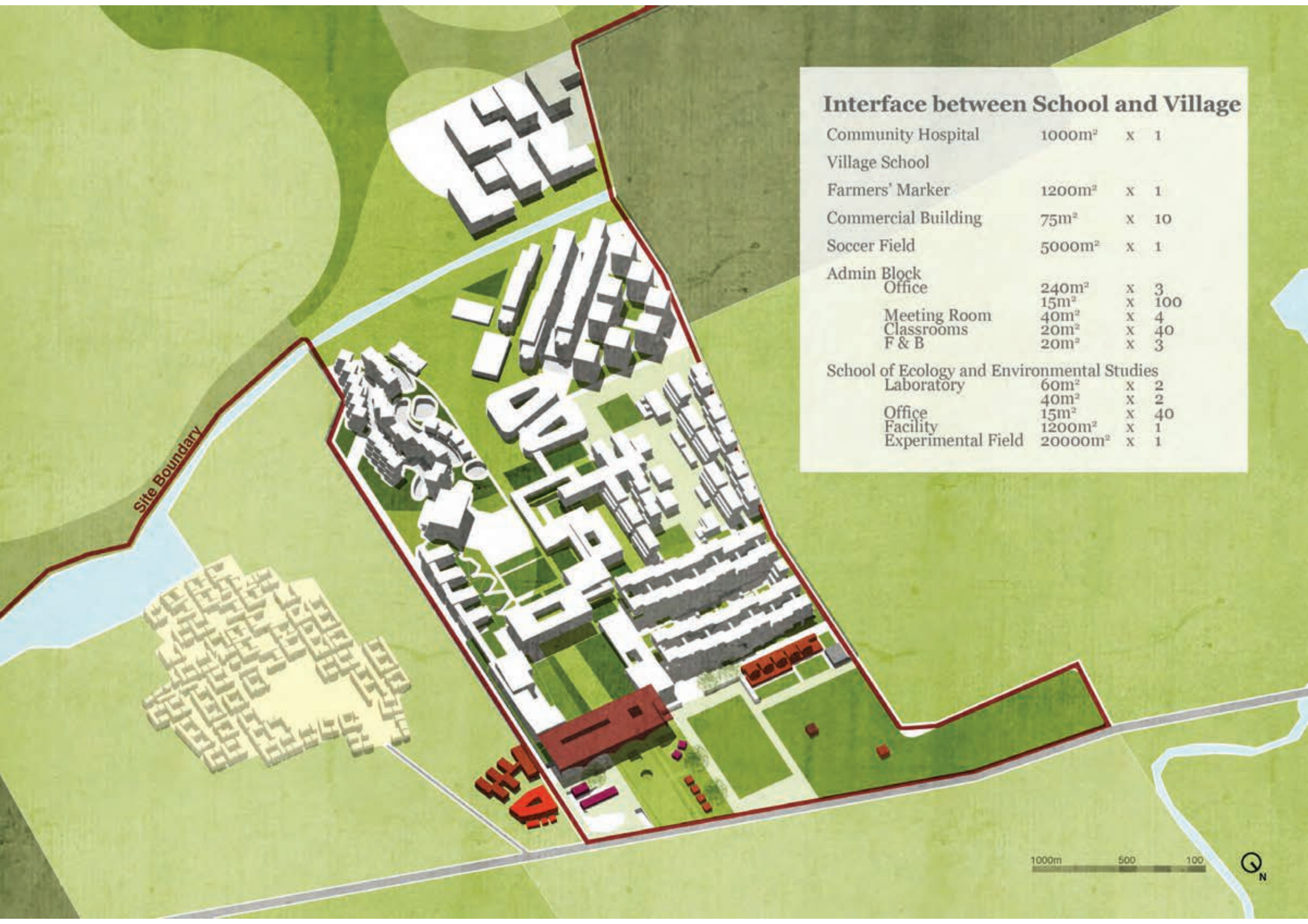




Site Boundary

1000m 500 100



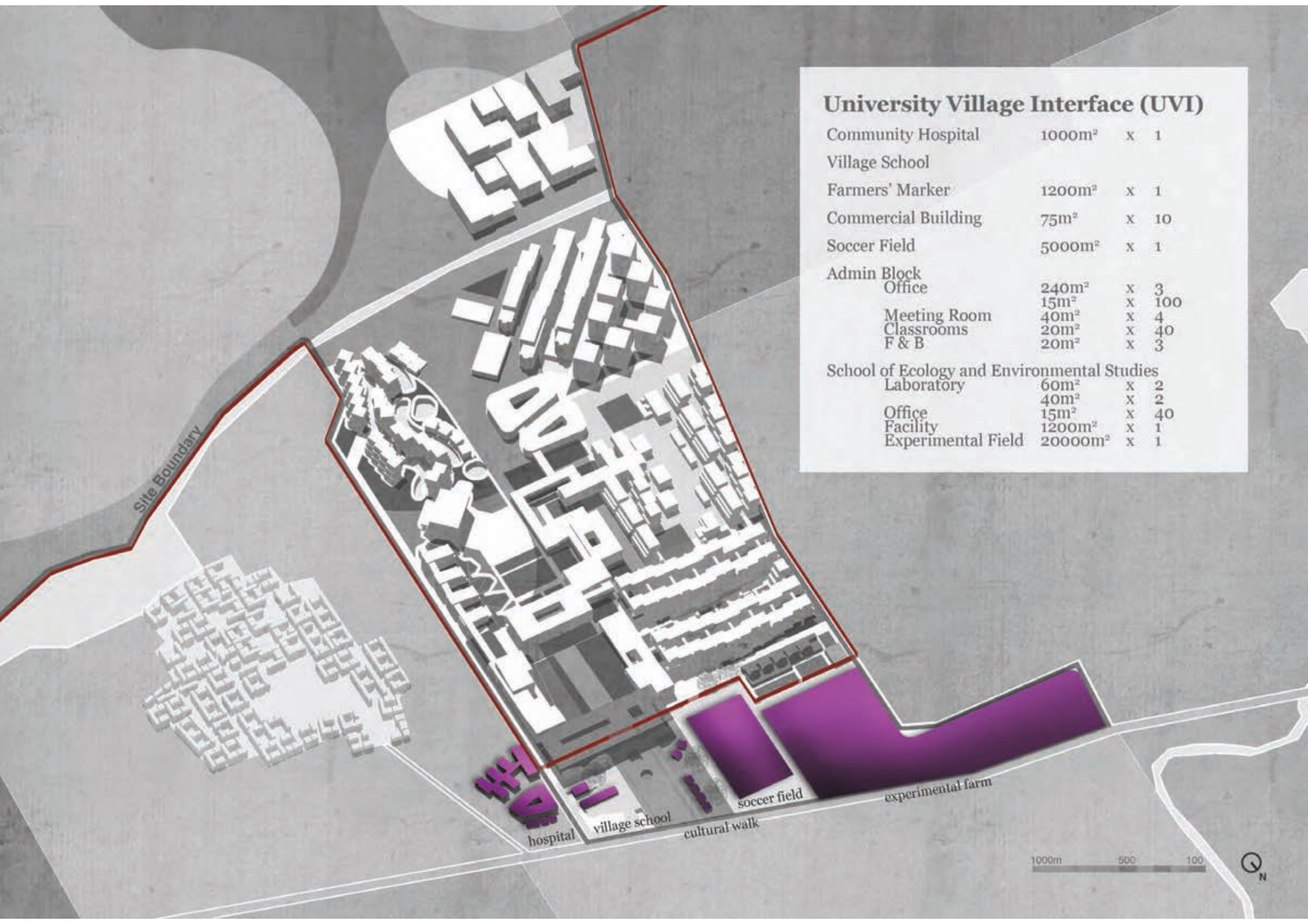


Interface between School and Village

Community Hospital	1000m ²	x	1
Village School			
Farmers' Marker	1200m ²	x	1
Commercial Building	75m ²	x	10
Soccer Field	5000m ²	x	1
Admin Block			
Office	240m ²	x	3
Meeting Room	15m ²	x	100
Classrooms	40m ²	x	4
F & B	20m ²	x	40
F & B	20m ²	x	3
School of Ecology and Environmental Studies			
Laboratory	60m ²	x	2
Laboratory	40m ²	x	2
Office	15m ²	x	40
Facility	1200m ²	x	1
Experimental Field	20000m ²	x	1

1000m 500 100





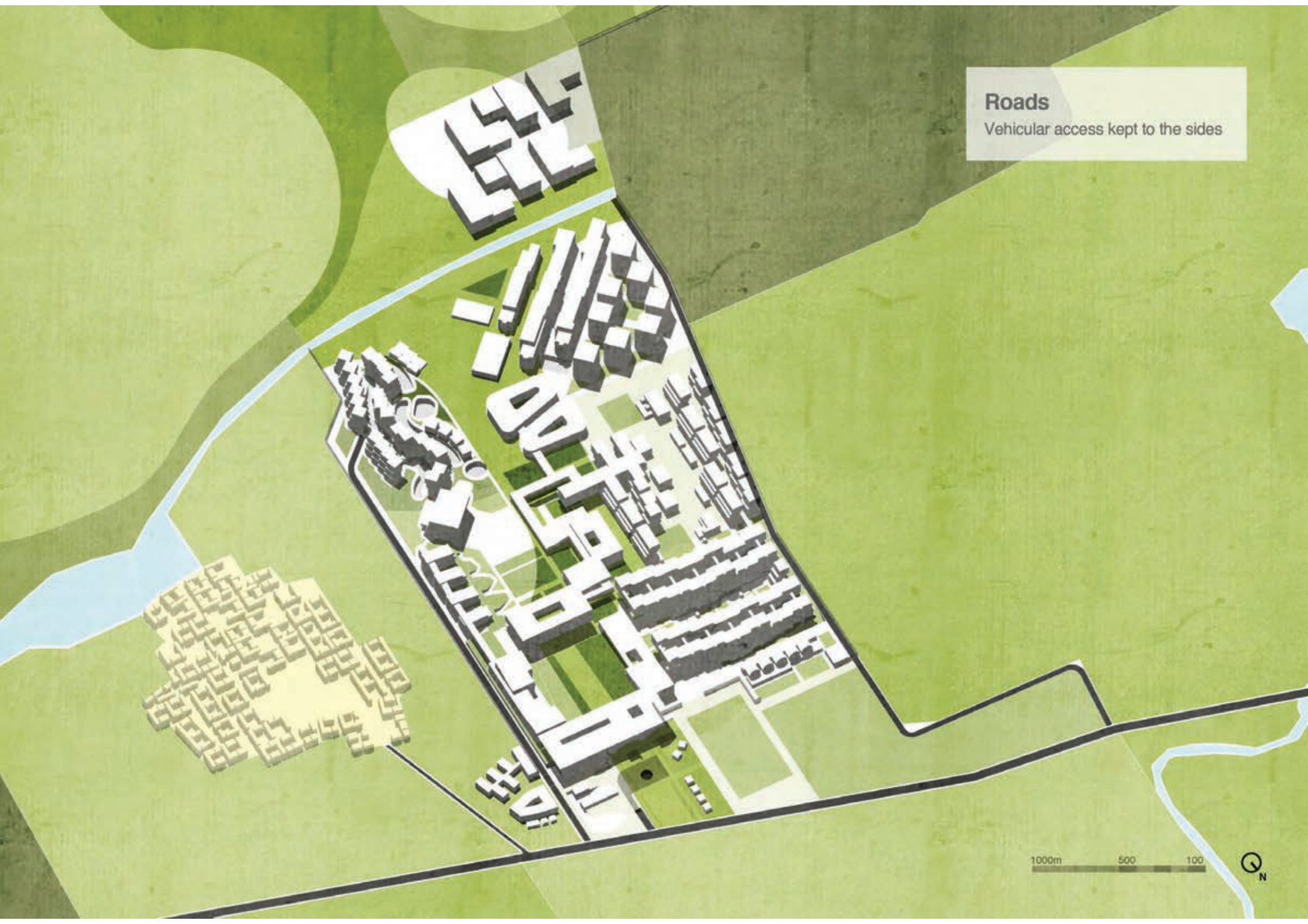
University Village Interface (UVI)

Community Hospital	1000m ²	x	1
Village School			
Farmers' Marker	1200m ²	x	1
Commercial Building	75m ²	x	10
Soccer Field	5000m ²	x	1
Admin Block			
Office	240m ²	x	3
Meeting Room	15m ²	x	100
Classrooms	40m ²	x	4
F & B	20m ²	x	40
F & B	20m ²	x	3
School of Ecology and Environmental Studies			
Laboratory	60m ²	x	2
Laboratory	40m ²	x	2
Office	15m ²	x	40
Facility	1200m ²	x	1
Experimental Field	20000m ²	x	1

1000m 500 100

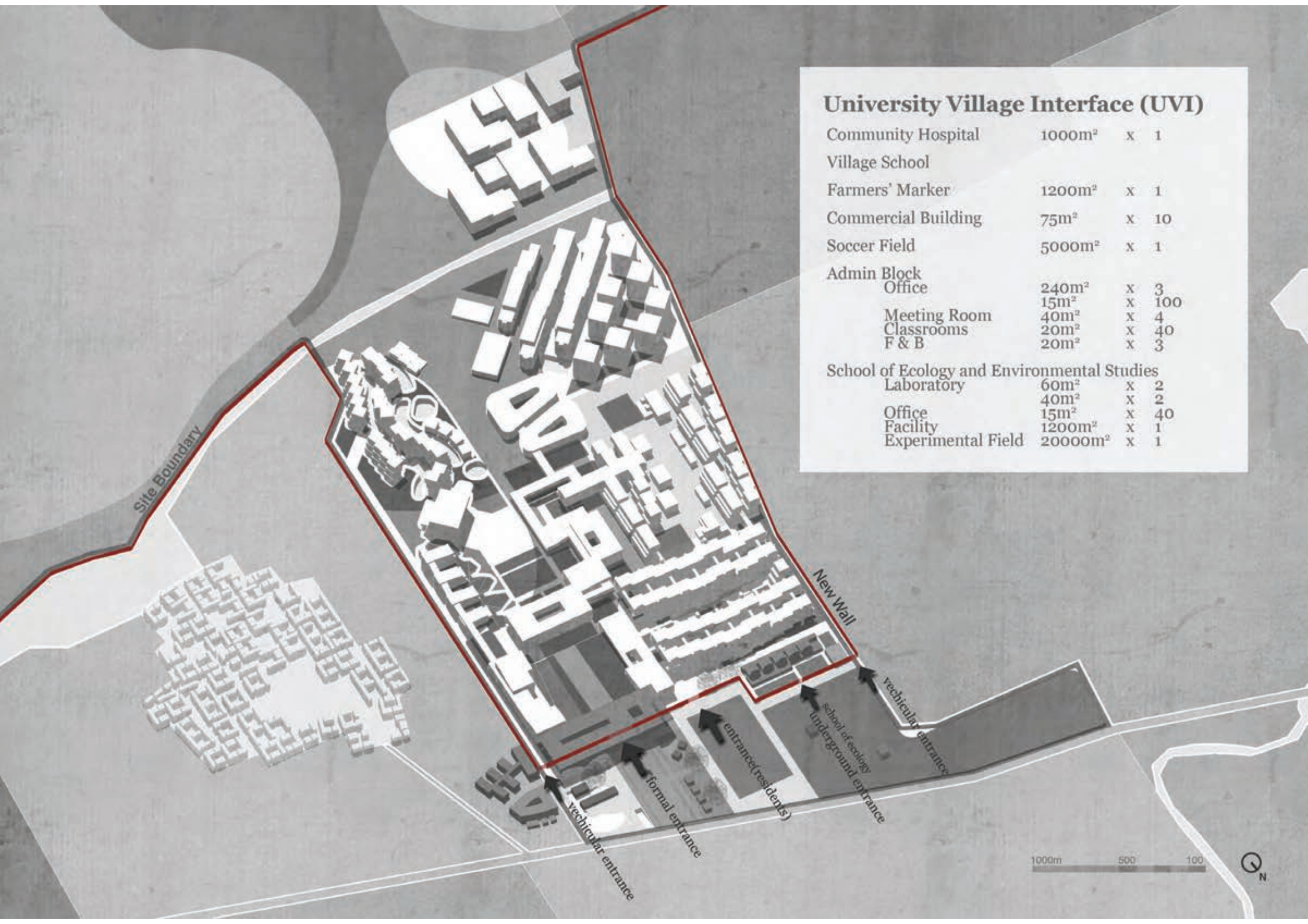


Roads
Vehicular access kept to the sides



1000m 500 100



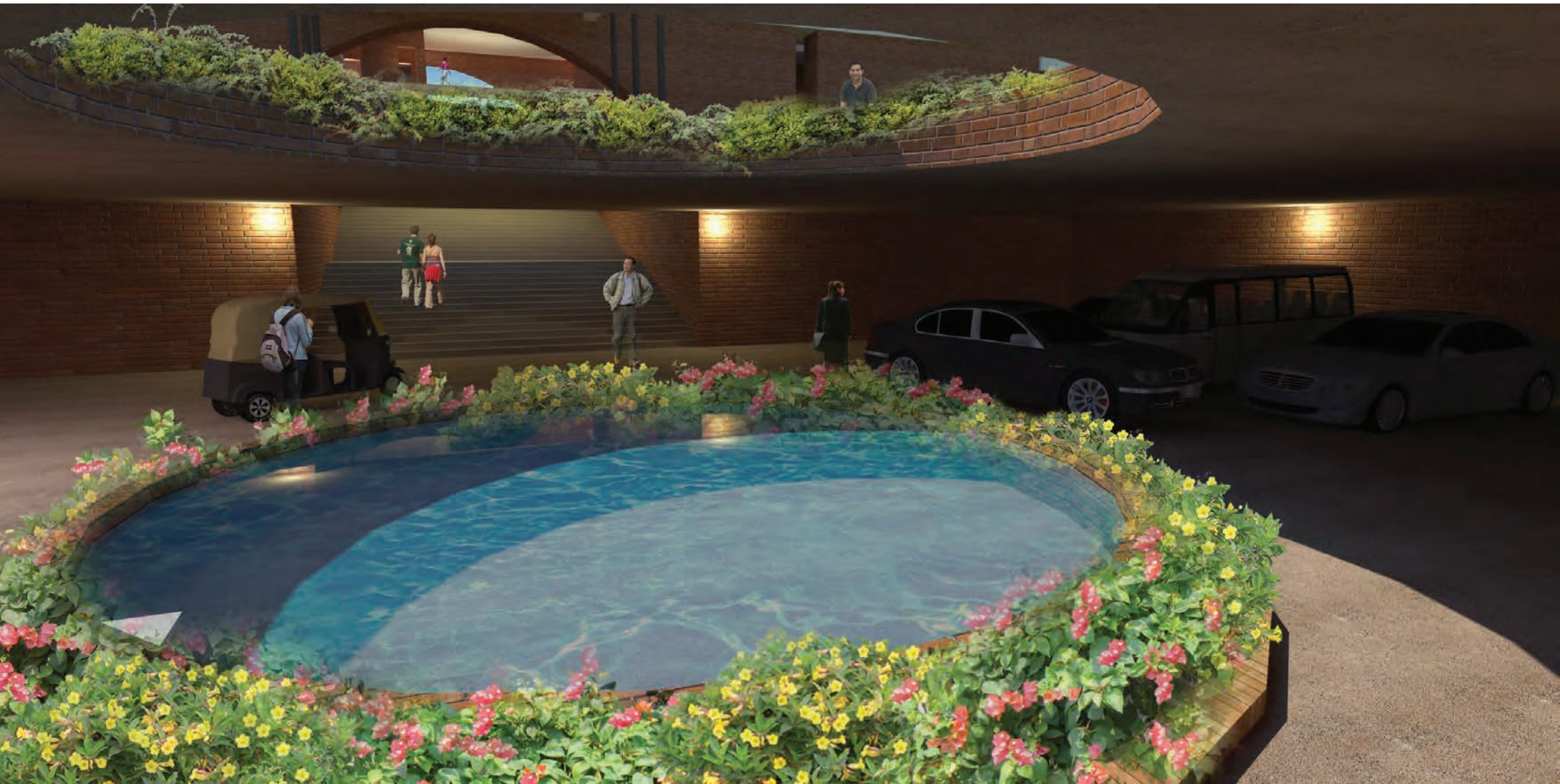


University Village Interface (UVI)

Community Hospital	1000m ²	x	1
Village School			
Farmers' Marker	1200m ²	x	1
Commercial Building	75m ²	x	10
Soccer Field	5000m ²	x	1
Admin Block			
Office	240m ²	x	3
Meeting Room	15m ²	x	100
Classrooms	40m ²	x	4
F & B	20m ²	x	40
F & B	20m ²	x	3
School of Ecology and Environmental Studies			
Laboratory	60m ²	x	2
Laboratory	40m ²	x	2
Office	15m ²	x	40
Facility	1200m ²	x	1
Experimental Field	20000m ²	x	1







1 Nalanda Community Hospital

2 Underground Linkway

3 Administrative Building

4 Village School

5 Underground Foyer and Parking

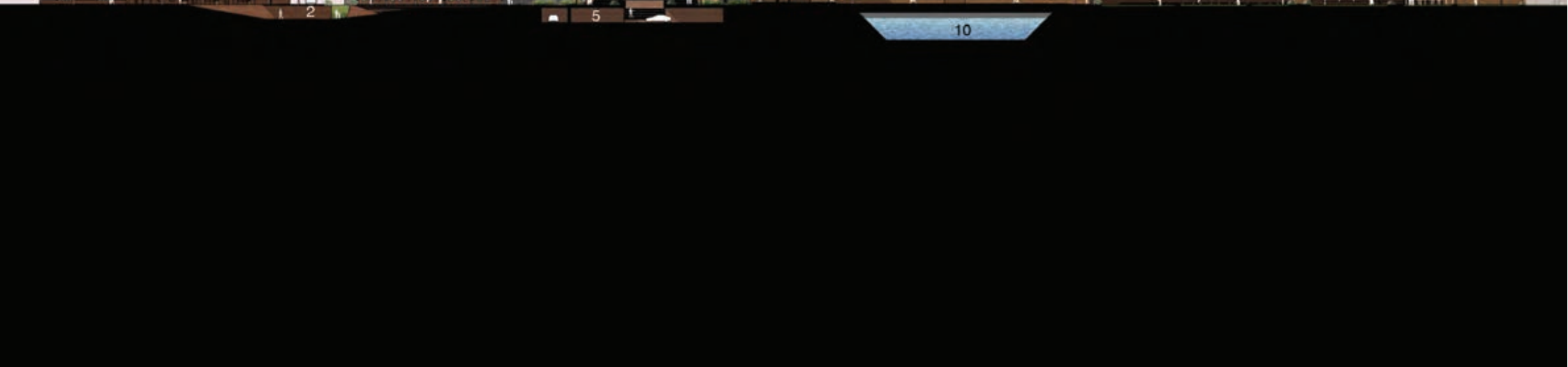
6 Activity Field

7 Demonstration Farms

8 Agriculture School

9 Farmers' Market

10 Underground Water Storage



1 Underground Foyer and Parking



2 Administrative Building



3 Education Block East



4 Food & Beverage Outlet



5 Pedestrianised Main Spine



6 Central Library



7 Classroom



8 Events Space







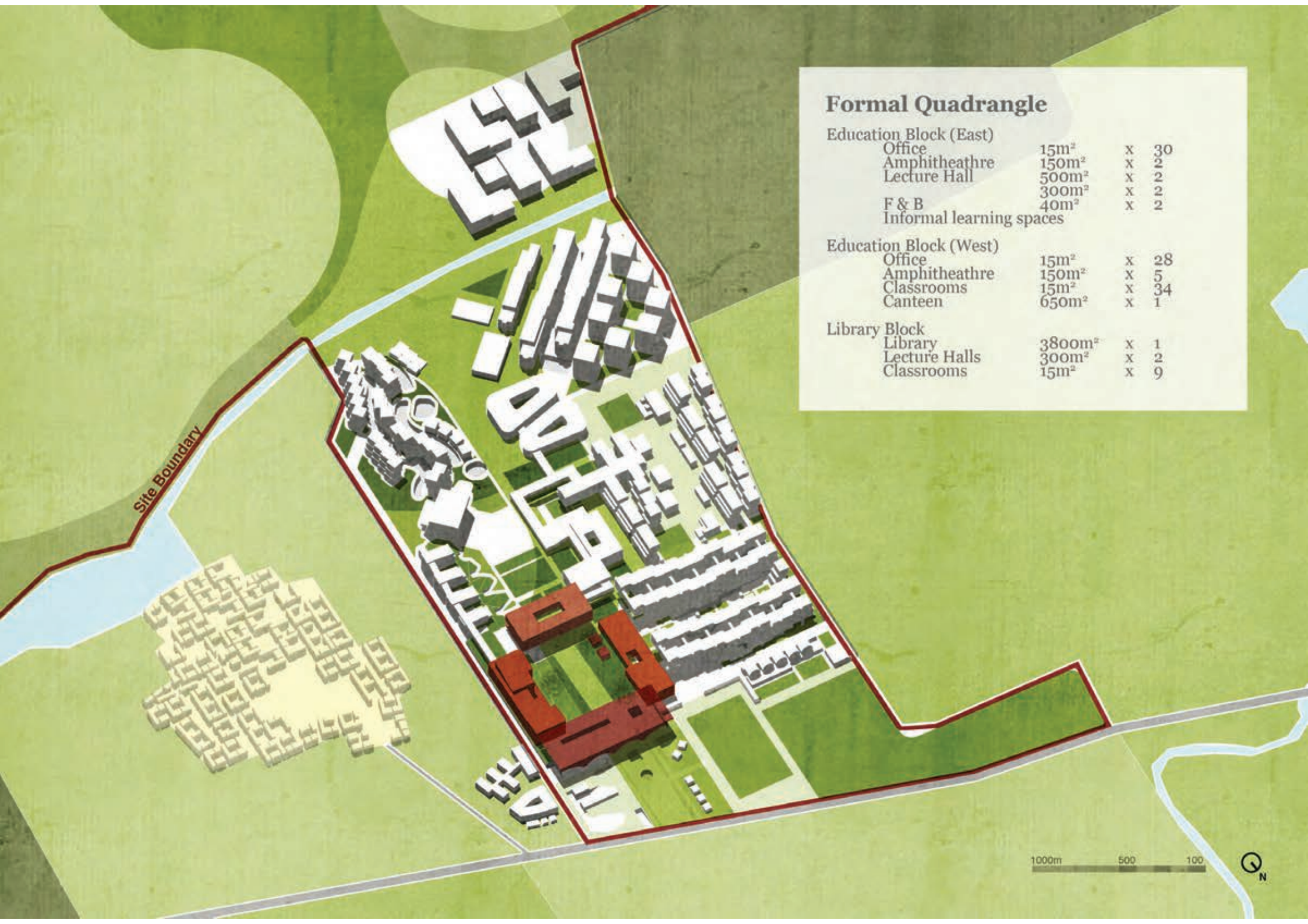












Formal Quadrangle

Education Block (East)			
Office	15m ²	x	30
Amphitheatre	150m ²	x	2
Lecture Hall	500m ²	x	2
F & B	300m ²	x	2
Informal learning spaces	40m ²	x	2
Education Block (West)			
Office	15m ²	x	28
Amphitheatre	150m ²	x	5
Classrooms	15m ²	x	34
Canteen	650m ²	x	1
Library Block			
Library	3800m ²	x	1
Lecture Halls	300m ²	x	2
Classrooms	15m ²	x	9

Site Boundary

1000m 500 100





Main Spine

Connects to main spaces by a path filled with activities

Site Boundary

1000m 500 100



- 1 Central Library
- 2 Classroom
- 3 Food & Beverage Outlet
- 4 Service Access and Parking
- 5 Outdoor Learning Space
- 6 Outdoor Amphitheatre
- 7 Offices
- 8 Events Space
- 9 Underground Water Storage



1 Underground Foyer and Parking



2 Administrative Building



3 Education Block East



4 Food & Beverage Outlet



5 Pedestrianised Main Spine



6 Central Library



7 Classroom



8 Events Space





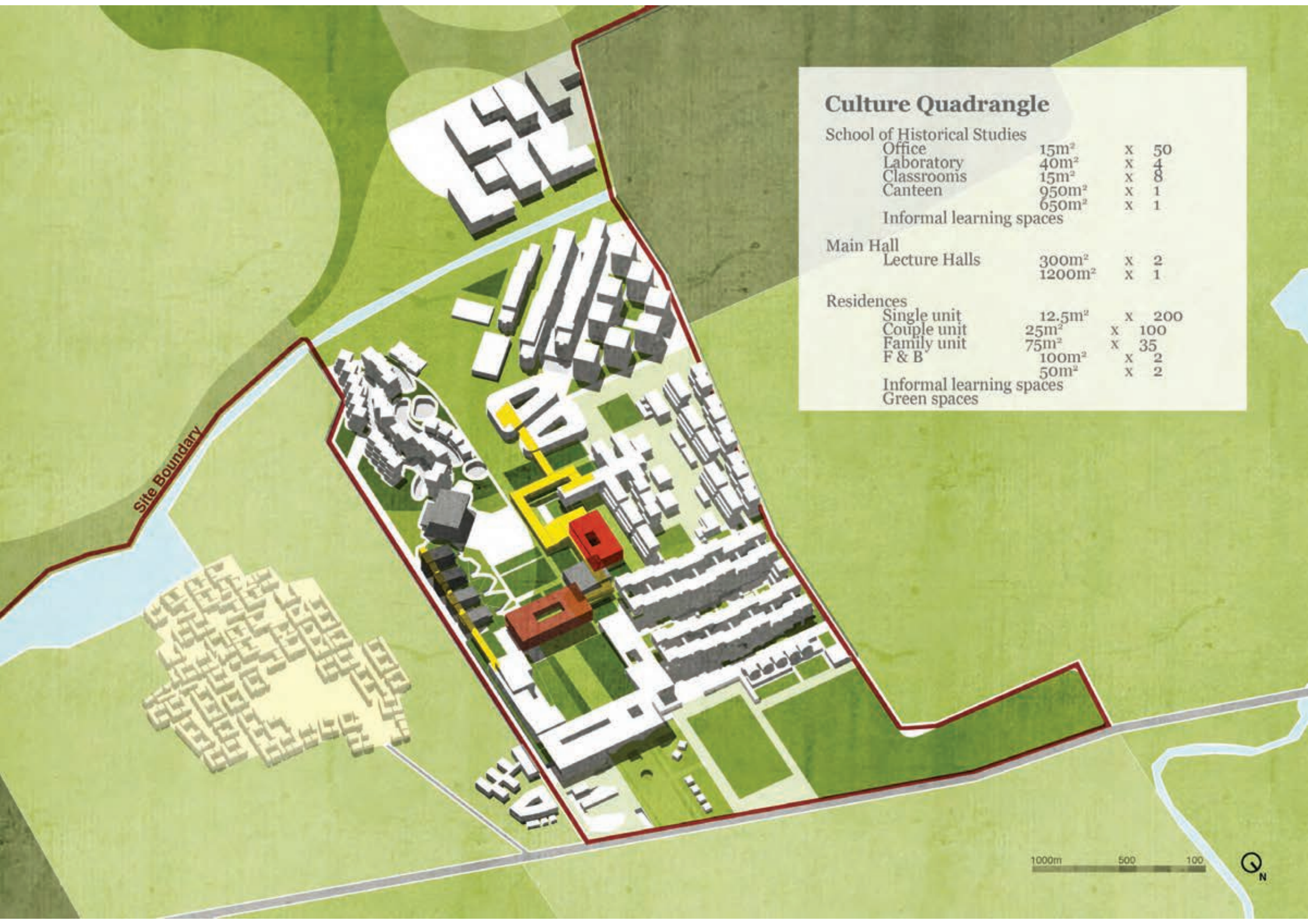










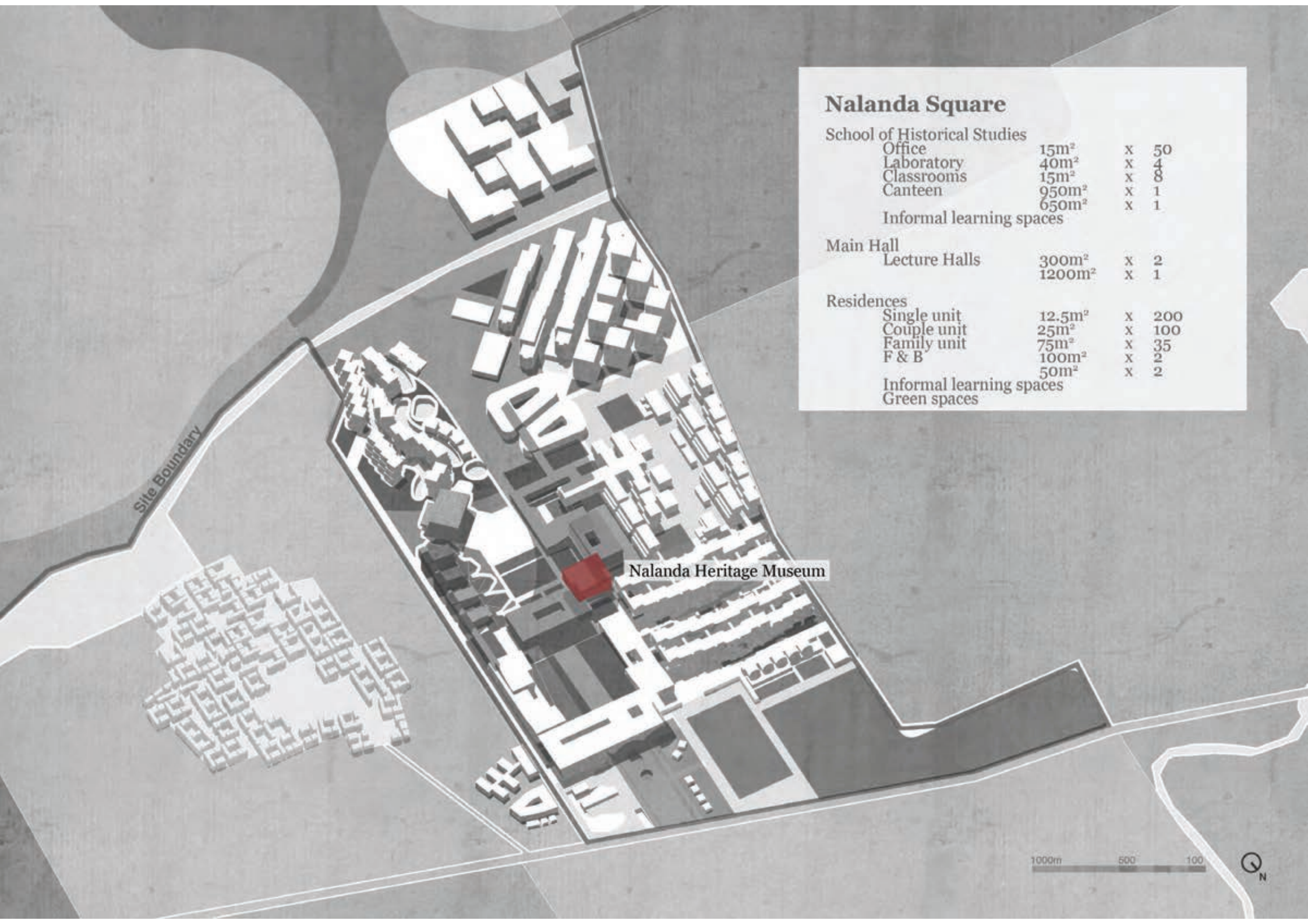


Culture Quadrangle

School of Historical Studies			
Office	15m ²	x	50
Laboratory	40m ²	x	4
Classrooms	15m ²	x	8
Canteen	950m ²	x	1
Informal learning spaces	650m ²	x	1
Main Hall			
Lecture Halls	300m ²	x	2
	1200m ²	x	1
Residences			
Single unit	12.5m ²	x	200
Couple unit	25m ²	x	100
Family unit	75m ²	x	35
F & B	100m ²	x	2
	50m ²	x	2
Informal learning spaces			
Green spaces			

1000m 500 100





Nalanda Square

School of Historical Studies

Office	15m ²	x	50
Laboratory	40m ²	x	4
Classrooms	15m ²	x	8
Canteen	950m ²	x	1
Informal learning spaces	650m ²	x	1

Main Hall

Lecture Halls	300m ²	x	2
	1200m ²	x	1

Residences

Single unit	12.5m ²	x	200
Couple unit	25m ²	x	100
Family unit	75m ²	x	35
F & B	100m ²	x	2
Informal learning spaces	50m ²	x	2

Green spaces

Nalanda Heritage Museum

Site Boundary

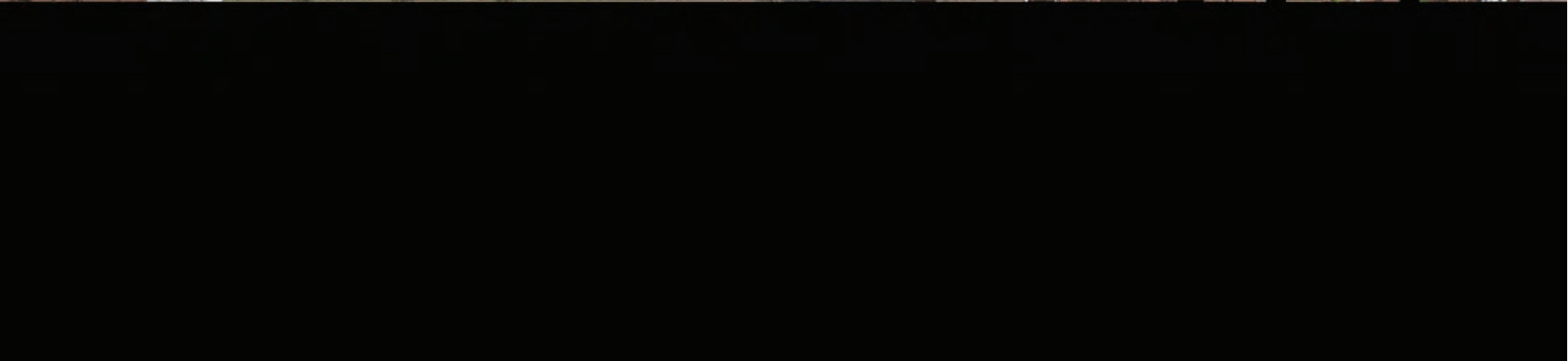
1000m 500 100



- 1 The Grand Hall
- 2 Food & Beverage Outlet
- 3 Residence
- 4 Pedestrianised Main Spine
- 5 Knowledge Link
- 6 Sheltered Linkway
- 7 Residential Sub-Spine
- 8 Future Expansion Space



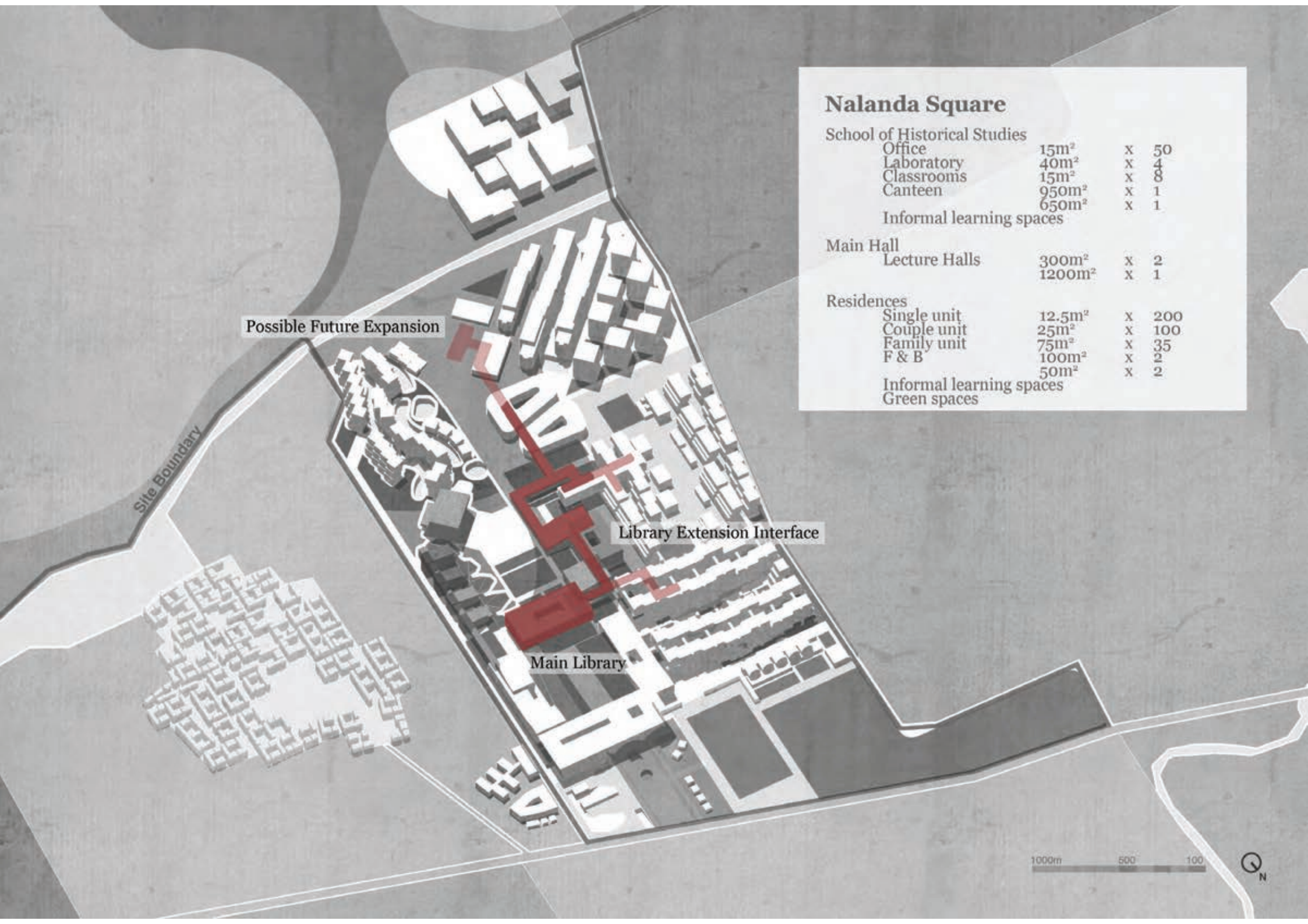
- 1 Central Library
- 2 Knowledge Link
- 3 Cultural Quad
- 4 Historical Studies
- 5 Outdoor Learning Hut
- 6 Education Hub
- 7 Residential Sub-Spine











Nalanda Square

School of Historical Studies

Office	15m ²	x	50
Laboratory	40m ²	x	4
Classrooms	15m ²	x	8
Canteen	950m ²	x	1
Informal learning spaces	650m ²	x	1

Main Hall

Lecture Halls	300m ²	x	2
	1200m ²	x	1

Residences

Single unit	12.5m ²	x	200
Couple unit	25m ²	x	100
Family unit	75m ²	x	35
F & B	100m ²	x	2
Informal learning spaces	50m ²	x	2

Green spaces

Possible Future Expansion

Site Boundary

Library Extension Interface

Main Library

1000m 500 100



Future expansion

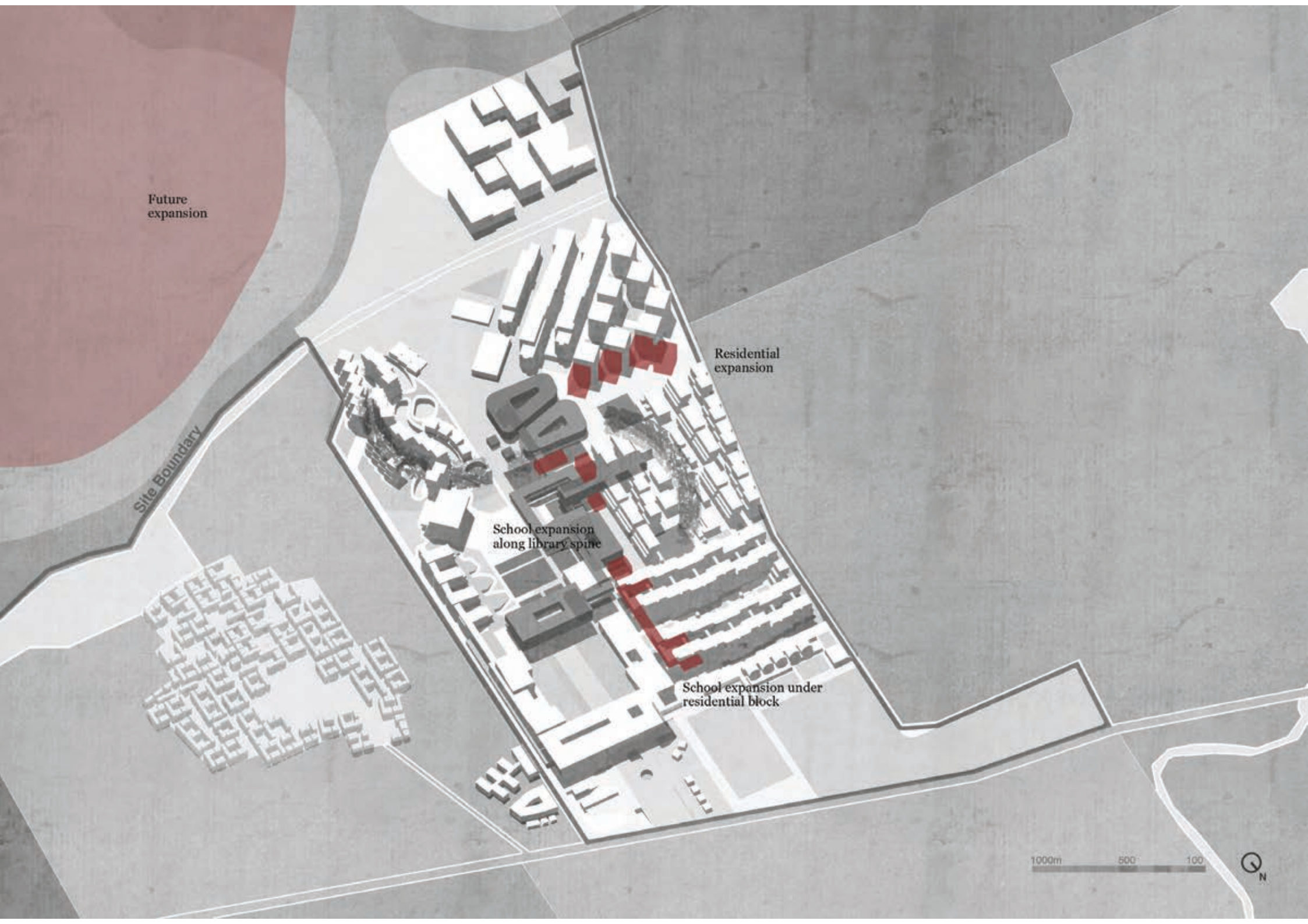
Site Boundary

Residential expansion

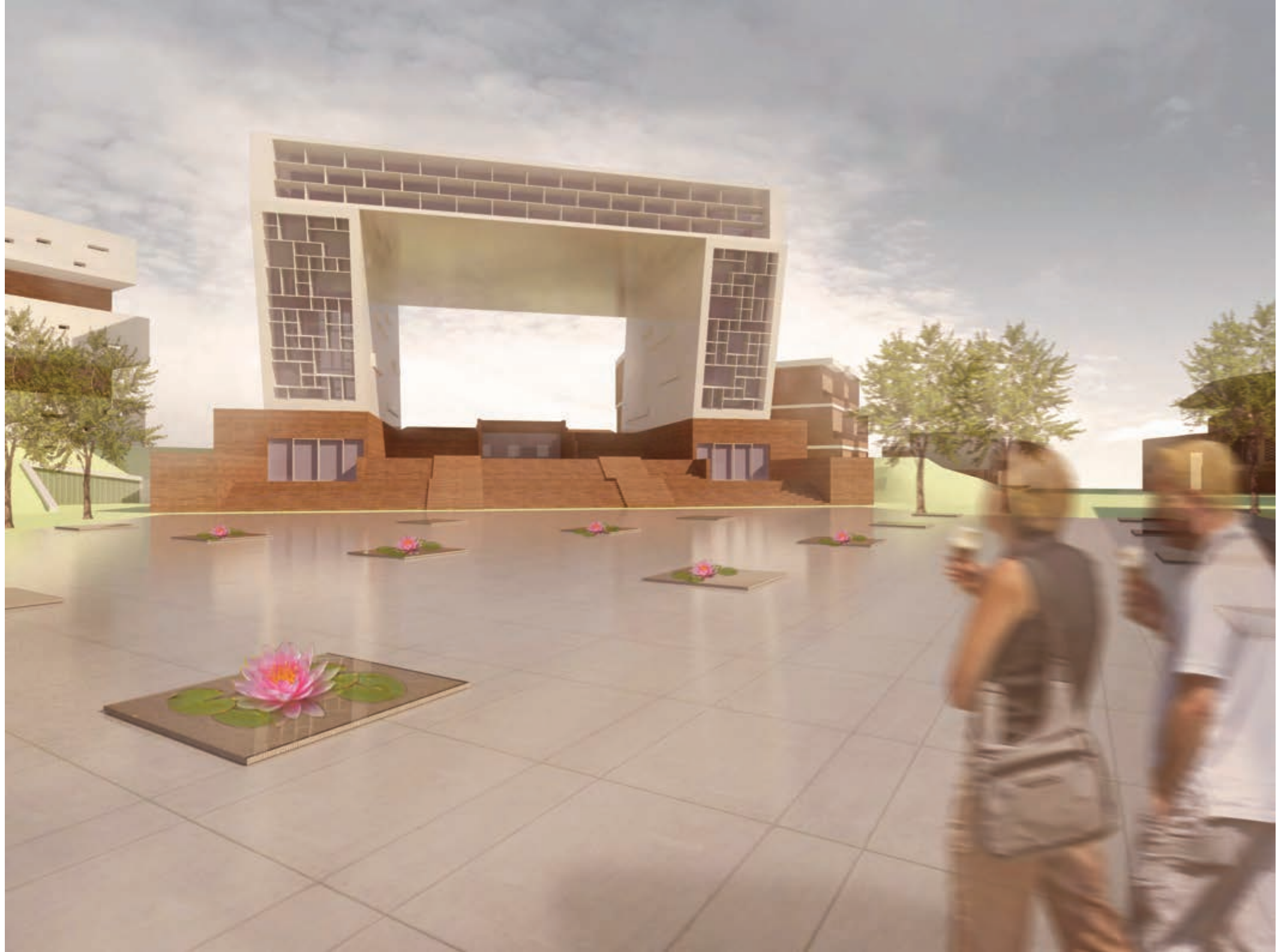
School expansion along library spine

School expansion under residential block

1000m 500 100

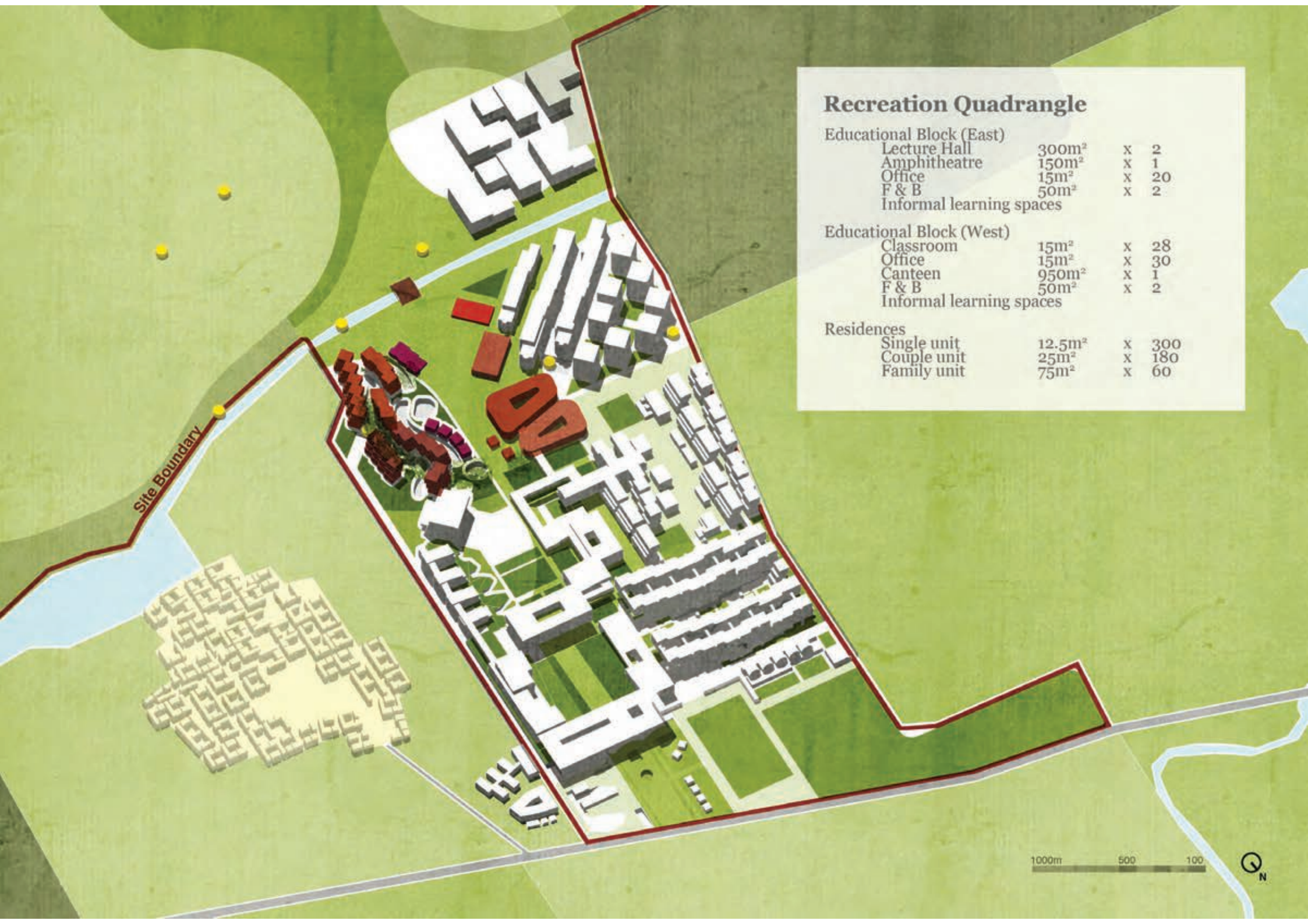












Recreation Quadrangle

Educational Block (East)			
Lecture Hall	300m ²	x	2
Amphitheatre	150m ²	x	1
Office	15m ²	x	20
F & B	50m ²	x	2
Informal learning spaces			
Educational Block (West)			
Classroom	15m ²	x	28
Office	15m ²	x	30
Canteen	950m ²	x	1
F & B	50m ²	x	2
Informal learning spaces			
Residences			
Single unit	12.5m ²	x	300
Couple unit	25m ²	x	180
Family unit	75m ²	x	60

1000m 500 100

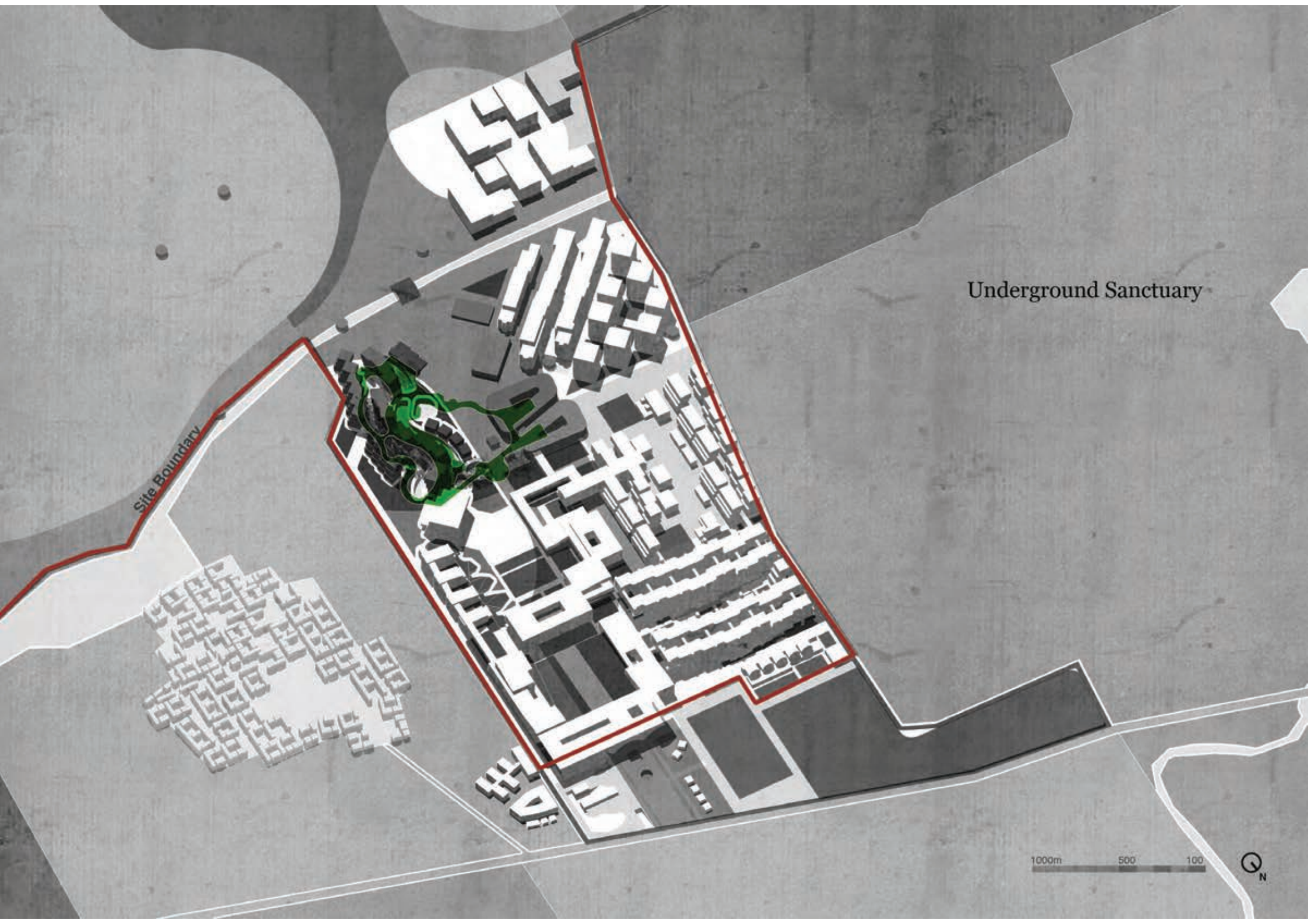


- 1 The Grand Hall
- 2 Outdoor Amphitheatre
- 3 Residence
- 4 Food & Beverage Outlet
- 5 Underground Events Space
- 6 Movie Theatre
- 7 Underground Water Storage







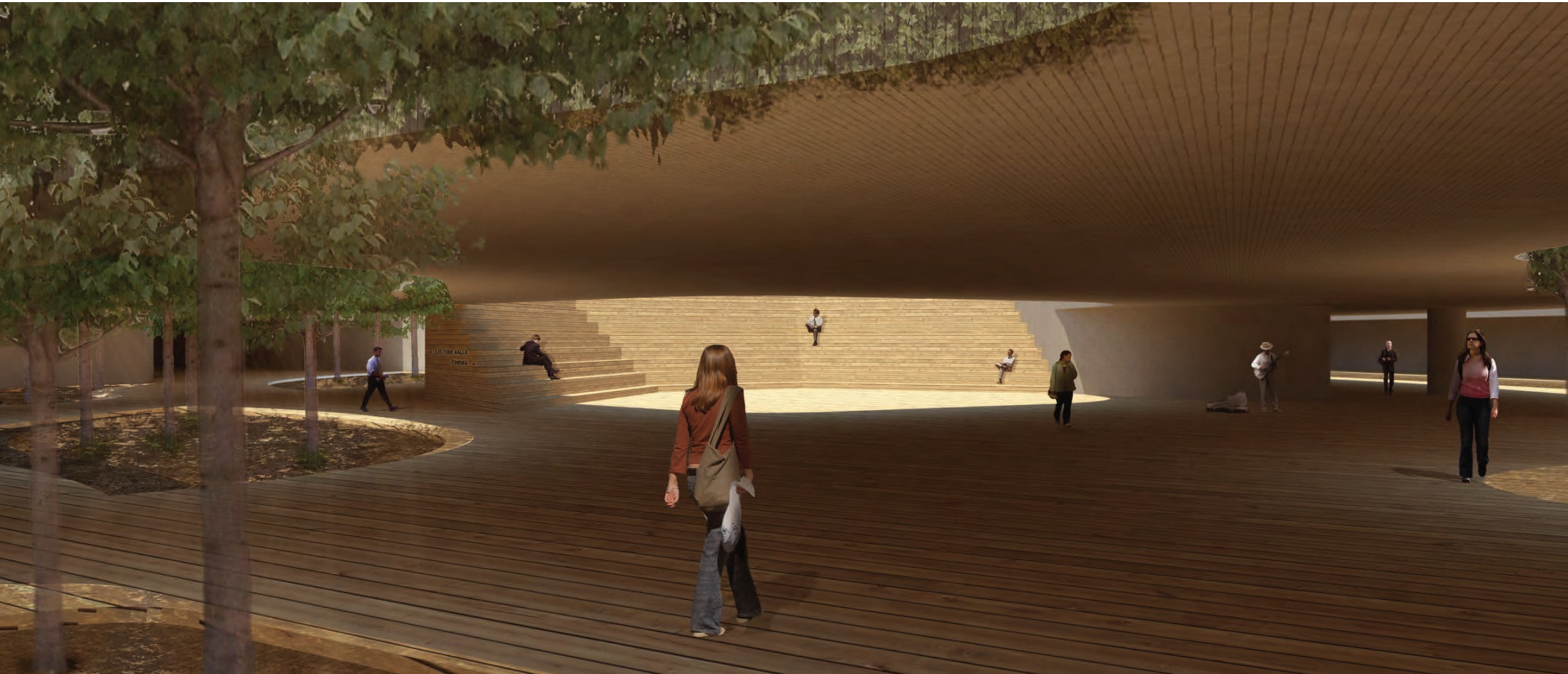


Underground Sanctuary

Site Boundary

1000m 500 100

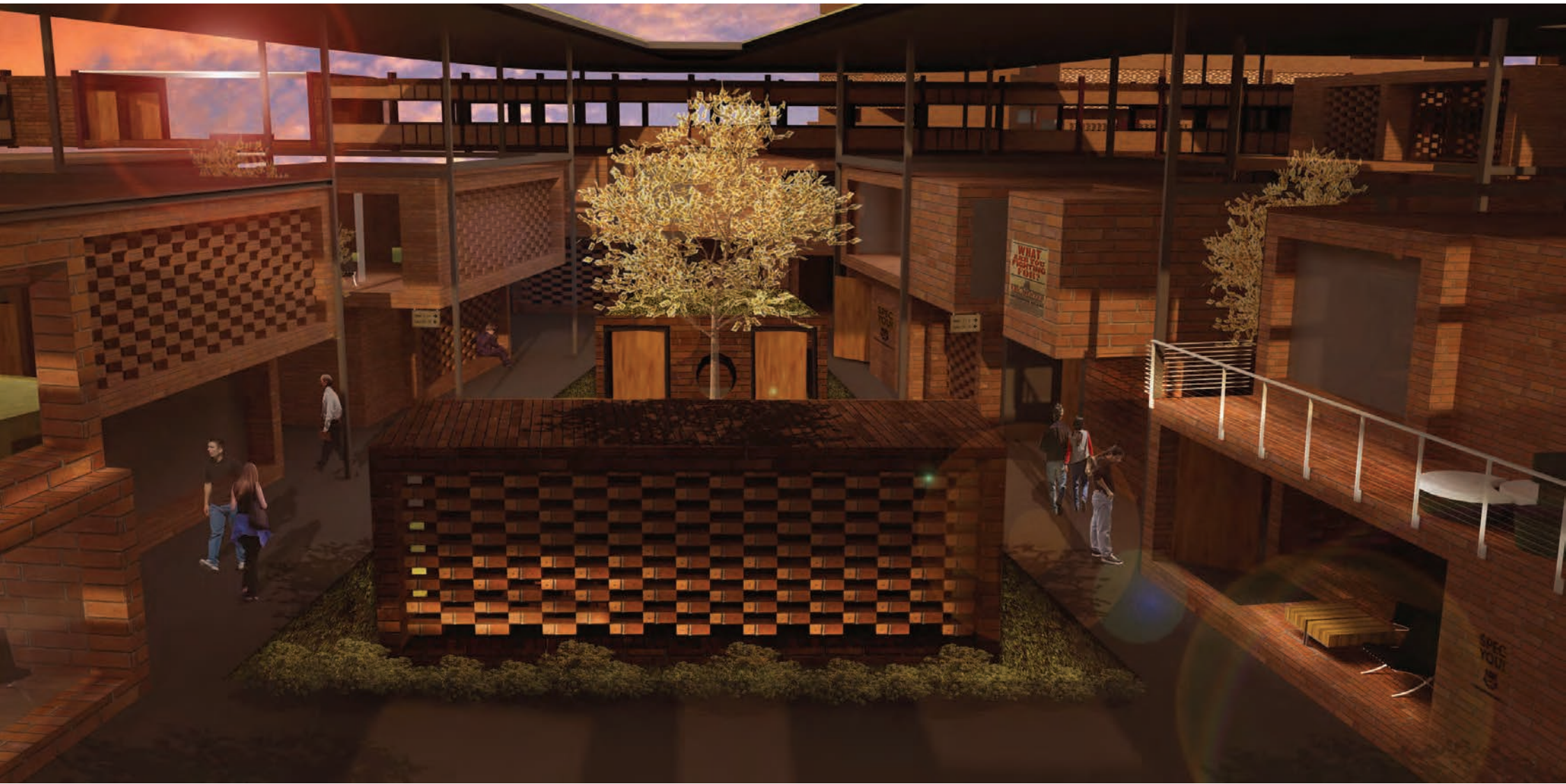




- 1 Residence
- 2 Internal Courtyard Space
- 3 Outdoor Amphitheatre
- 4 Office
- 5 Food & Beverage Outlet
- 6 Classroom
- 7 Lecture Hall
- 8 Underground Water Storage









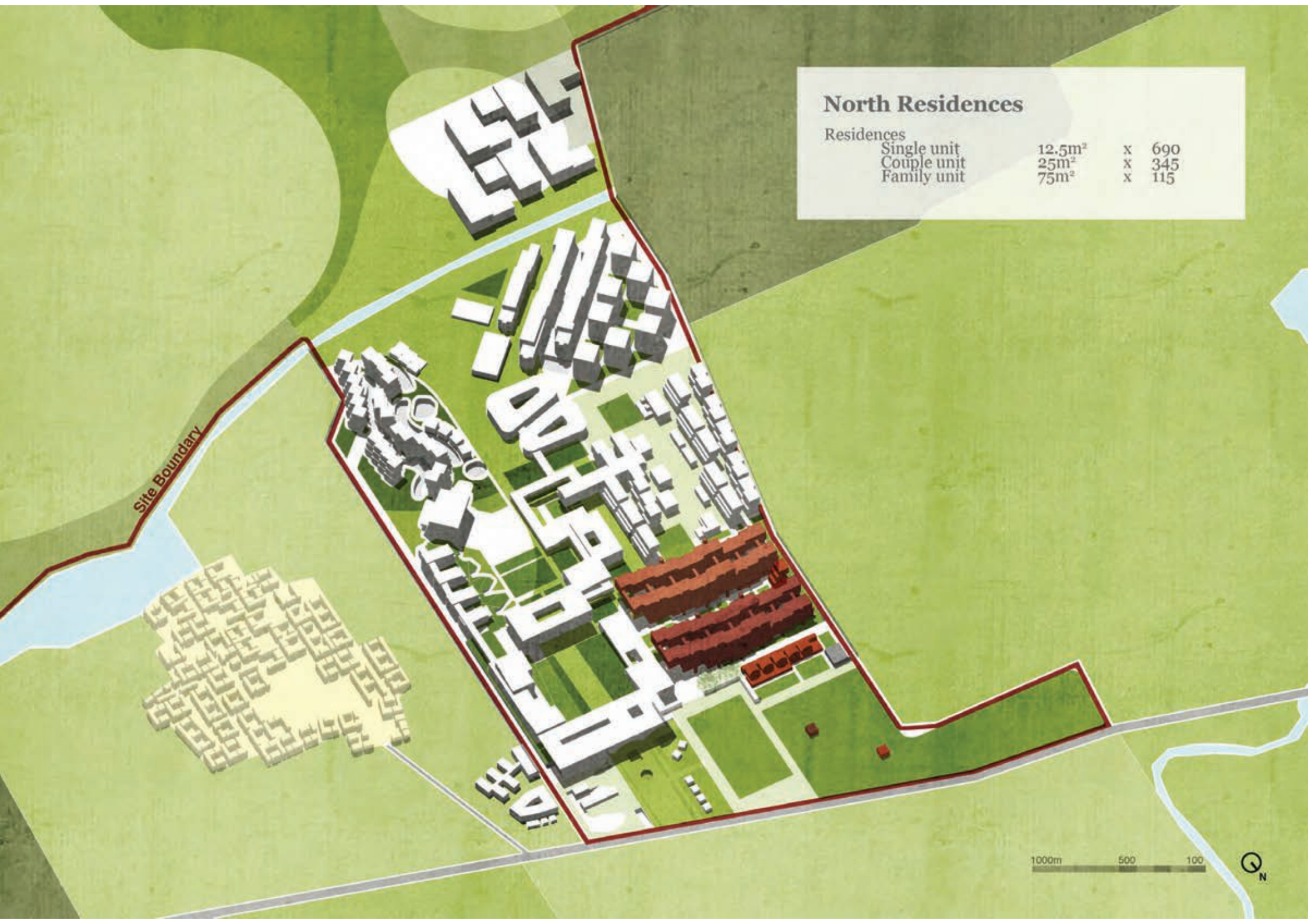






North Residences

Residences			
Single unit	12.5m ²	x	690
Couple unit	25m ²	x	345
Family unit	75m ²	x	115



Site Boundary

1000m 500 100



- 1 Residence
- 2 Communal Gathering Space
- 3 Informal Classroom Space
- 4 Internal Courtyard Space
- 5 Rooftop Garden
- 6 Micro-Farm Plot
- 7 Underground Water Storage











Middle Residences

Residences			
Single unit	12.5m ²	x	900
Couple unit	25m ²	x	450
Family unit	75m ²	x	150



Site Boundary

1000m 500 100



- 1 Residence
- 2 Internal Courtyard Space
- 3 Mango Grove
- 4 Communal Gathering Space
- 5 Rooftop Garden
- 6 Residential Sub-Spine
- 7 Underground Water Storage















South Residences

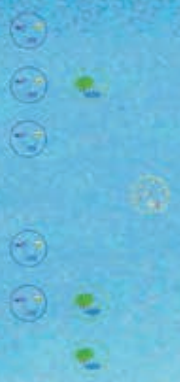
Residences			
Single unit	12.5m ²	x	840
Couple unit	25m ²	x	420
Family unit	75m ²	x	140
Multi-purpose Sports Complex		x	1
Meditative Spaces		x	8

Site Boundary

1000m 500 100



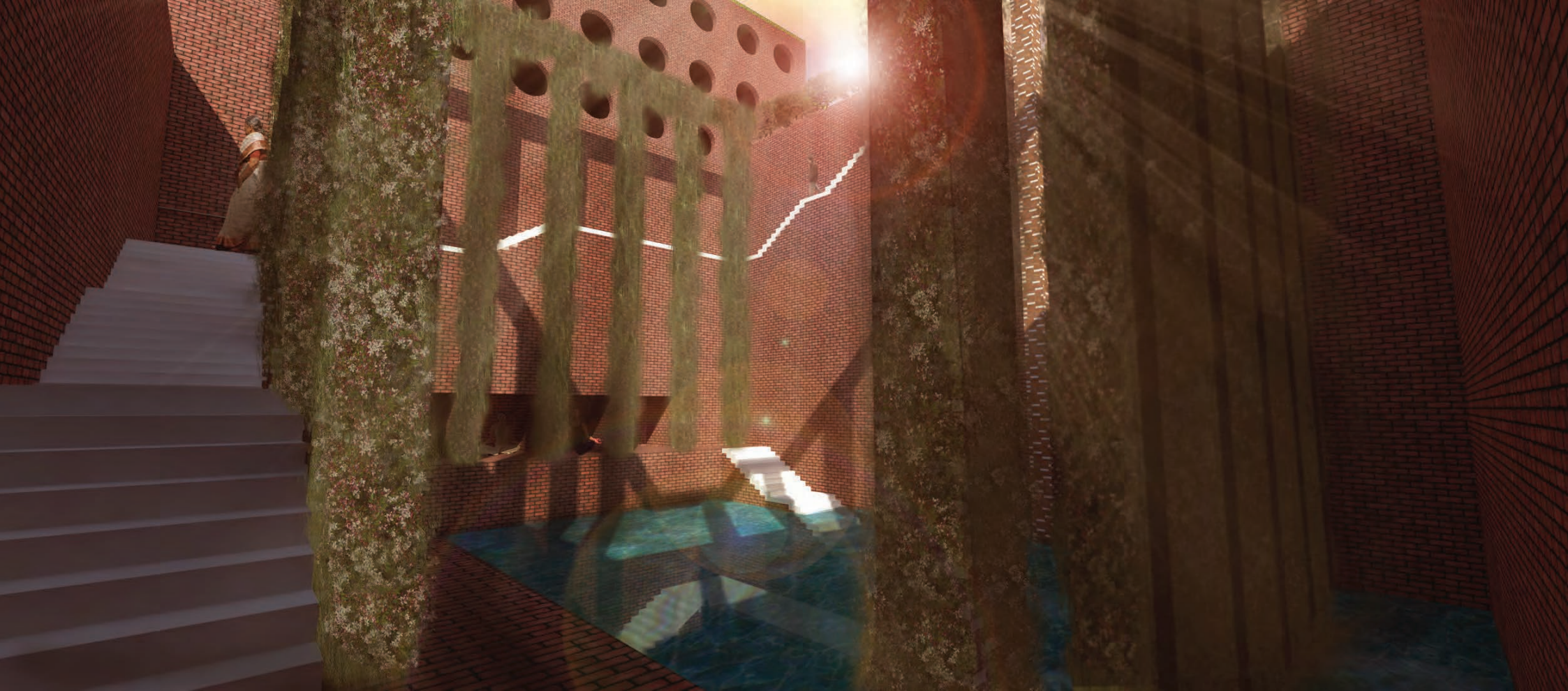
- 1 Residence
- 2 Rooftop Garden
- 3 Communal Gathering Space
- 4 Informal Classroom Space
- 5 Sporting Facilities
- 6 Stream
- 7 Underground Water Storage





SPORTS
BLOCK
സ്വീഡിംഗ് ബ്ലോക്ക്









Site Boundary

1000m 500 100



Our Thoughts...



"To be devoid of your roots and culture makes one deeply impoverish"



"Fun and challenging, the journey doesn't end"



"Do. Think. Do."



"Trust my instincts"
:)



"Think the unthinkable and take the no-nonsense attitude"



"Nothing last, Nothing is finished, Nothing is perfect"



"Awakening of the senses"



"This has been a journey of mindful values of refinement"



"Learning is fun"



"Role - People define universities, universities do not define people"



"Universities are not just places we acquire knowledge"



"Dare to dream"



"Knowledge is a choice not a given"



"Nalanda studio give me courage to see, to think, to create and a new cognition about design"