



TOWARDS A MASTER PLAN

Phase 2 : Design Alternatives

March-2023

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- 2 | Site review
- 3 | Spaces Program and Areas
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- 5 | Second Alternative
- 6 | Alternatives Evaluation
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Phase 2 and what is beyond

There are many steps and stages of development required to realize our vision for a world-class campus that represents LIMU. So far in Phase 1, survey work has been done and data have been collected and analyzed. In this phase, a comprehensive spaces program is conducted and two design alternatives are presented to decide which is preferable, as well as the primary infrastructure and electrical plans.

phase3

Regulation plan

Detailed master plan

1

phase4

Infrastructure master plan

1

Design Objectives

- Develop a unified “Campus Plan”.
- Reflect “Limu’s Identity”.
- Safe practical “Circulation”.
- Enhance “Walkability”.
- Promote “Sustainability” .
- Anticipate “Future Growth” .

Site Review



Sea shore

smart city
Almrasa

residential
neighborhood

Proposed Main Road

Qminis 30km

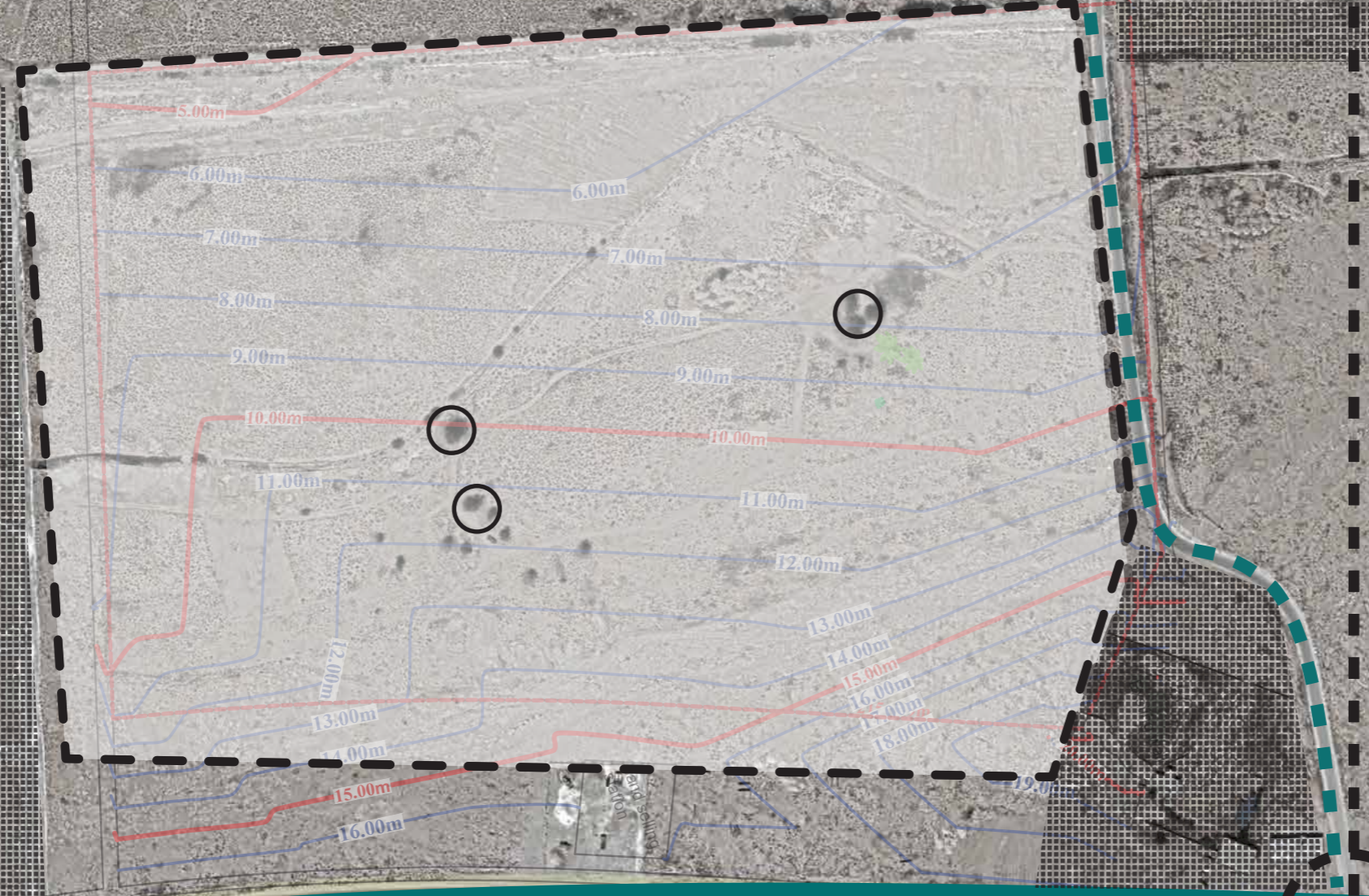
Benghazi 20km

Around About

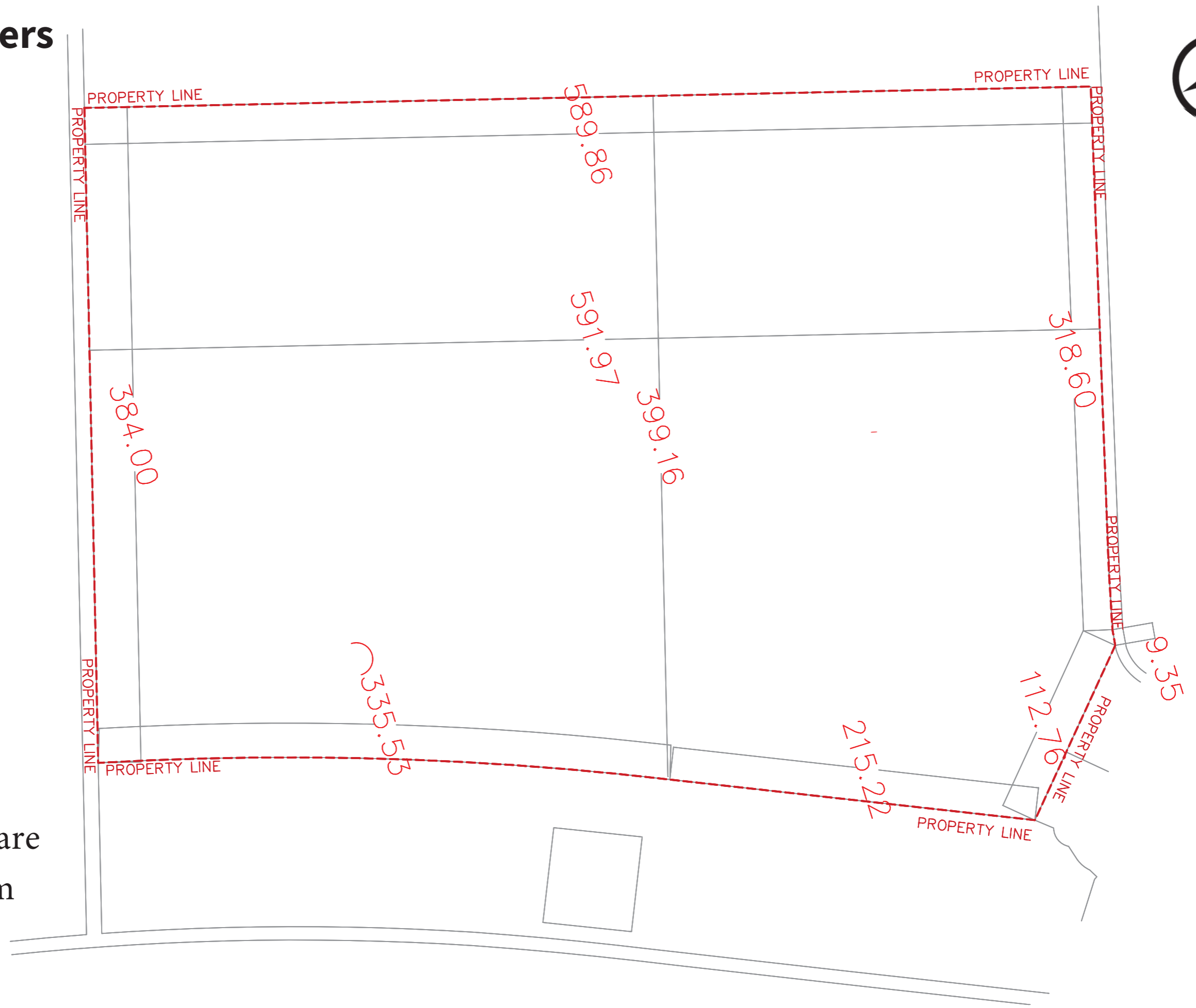
LIMU Draft Master Plan 2035

Google Earth

Image © 2023 Maxar Technologies



Property Borders



Area 23.578 Hectare
perimeter 1965.8m

Spaces Program & Areas

Spaces program and Areas

	Zone description	percentage	num.students	Sqm per peson	Gross area in m.sq	covered area	foot print
	Applied Sciences	30%	2400			50%	Three floors
1	Faculty of building Technology	25%	600	25	9750	19500	6500
2	Faculty of architecture	15%	360	25	5850		
3	Faculty of information technology	20%	480	25	7800		
4	Faculty of Petroleum & Renewing Energies	15%	360	25	5850		
5	Faculty of Business Administration	25%	600	25	9750		
	Total area			39000			
	Zone description	percentage	num.students	Sqm per peson	Gross area in m.sq	covered area	foot print
	Medical Sciences	30%	2400			50%	Three floors
1	Faculty of Basic Medical Science	50%	1200	25	19500	19500	6500
2	Faculty of Medicine	20%	480	25	7800		
3	Faculty of Pharmacy	20%	480	25	7800		
4	Faculty of Dentistry	10%	240	25	3900		
	Total area			39000			
	Zone description	percentage	num.students	Sqm per peson	Gross area in m.sq	covered area	foot print
	Humanities	40%	3200			50%	Three floors
1	Faculty of Political science & Diplomacy	20%	640	20	8320	20800	6933.333333
2	college of Literature	15%	480	20	6240		
3	Language College	20%	640	20	8320		
4	Faculty Of Law & Human Sciences	25%	800	20	10400		
5	Faculty of Media & Mass Communication	10%	320	20	4160		
6	Faculty of Archeology & Tourism	10%	320	20	4160		
	Total area			41600			

Spaces Program and Areas

Zone description		percentage	num.students	Sqm per peson	Gross area in m.sq	covered area	foot print
	Ancillary buildings	100%	3200			50%	two floors
16	Central Library	100%	8000	1	5200	23560	11780
17	Conference Hall	20%	1600		3000		
18	University Administration	100%	8000	0.4	2080		
19	student center	100%	8000		4000		
20	Staff Accommodation	1%	80	20	1600		
21	Dormitory	5%	400	20	8000		
22	educational hospital 200 beds		200	100	20000		
23	Restaurant	100%	8000	0.5	2600		
24	mosque	8%	640	1	640		
Total area		47120					

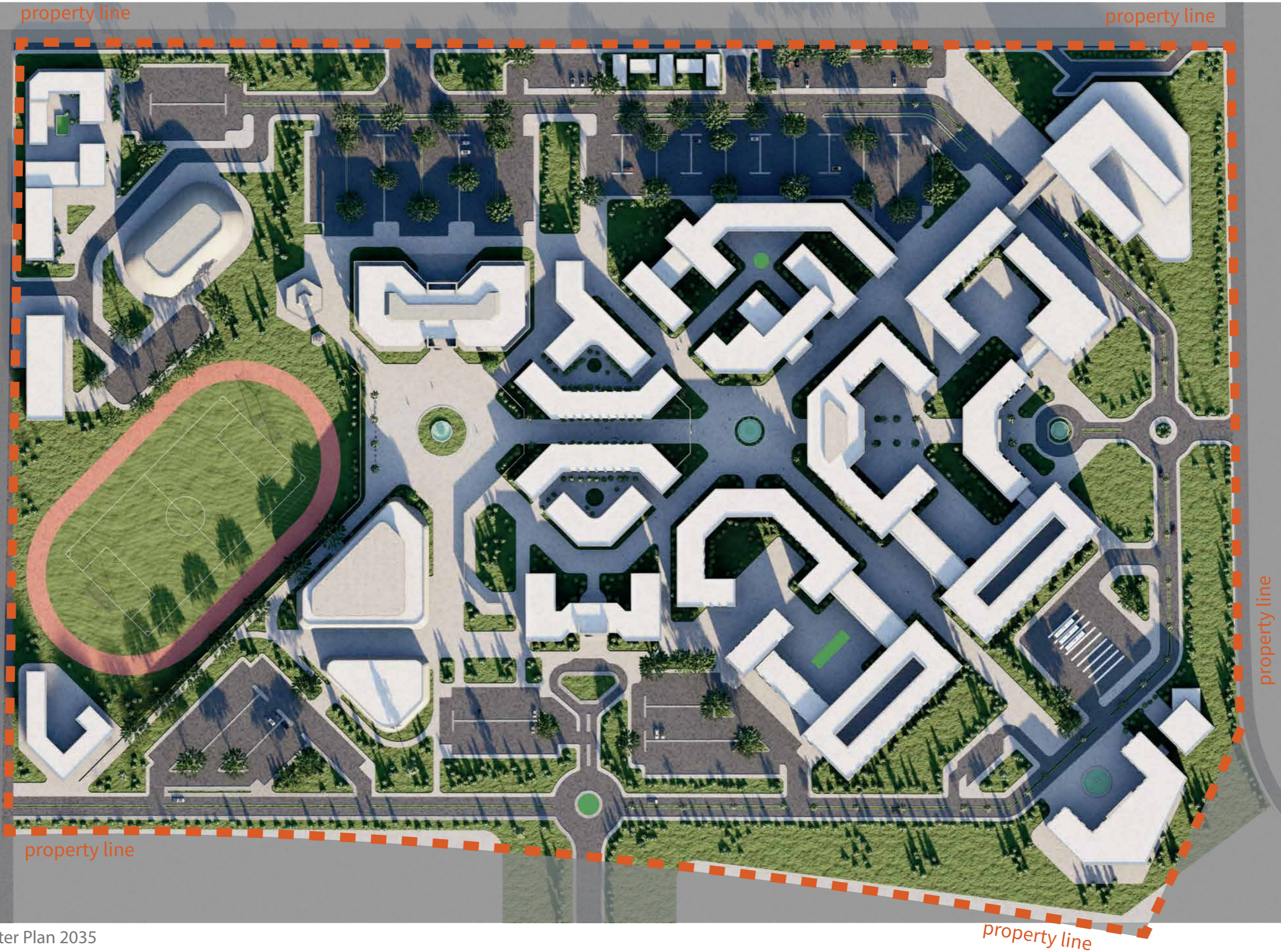
Zone description		area in m.sq
Others		
25	civil defense	4500
26	Storage	4500
27	roads and parking	25000
28	landscape	22000
29	Track & Stadium + Sports hall	34500
Total area		90500

Design Alternatives

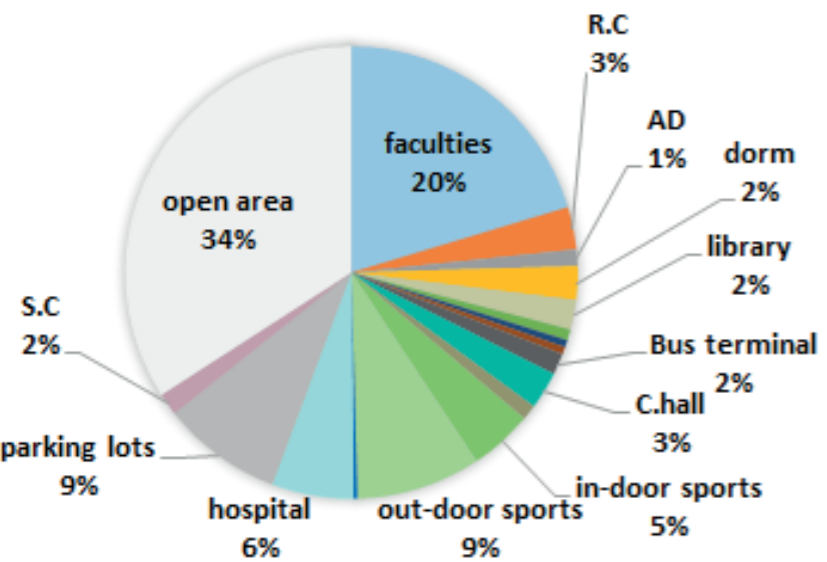


The First Alternative

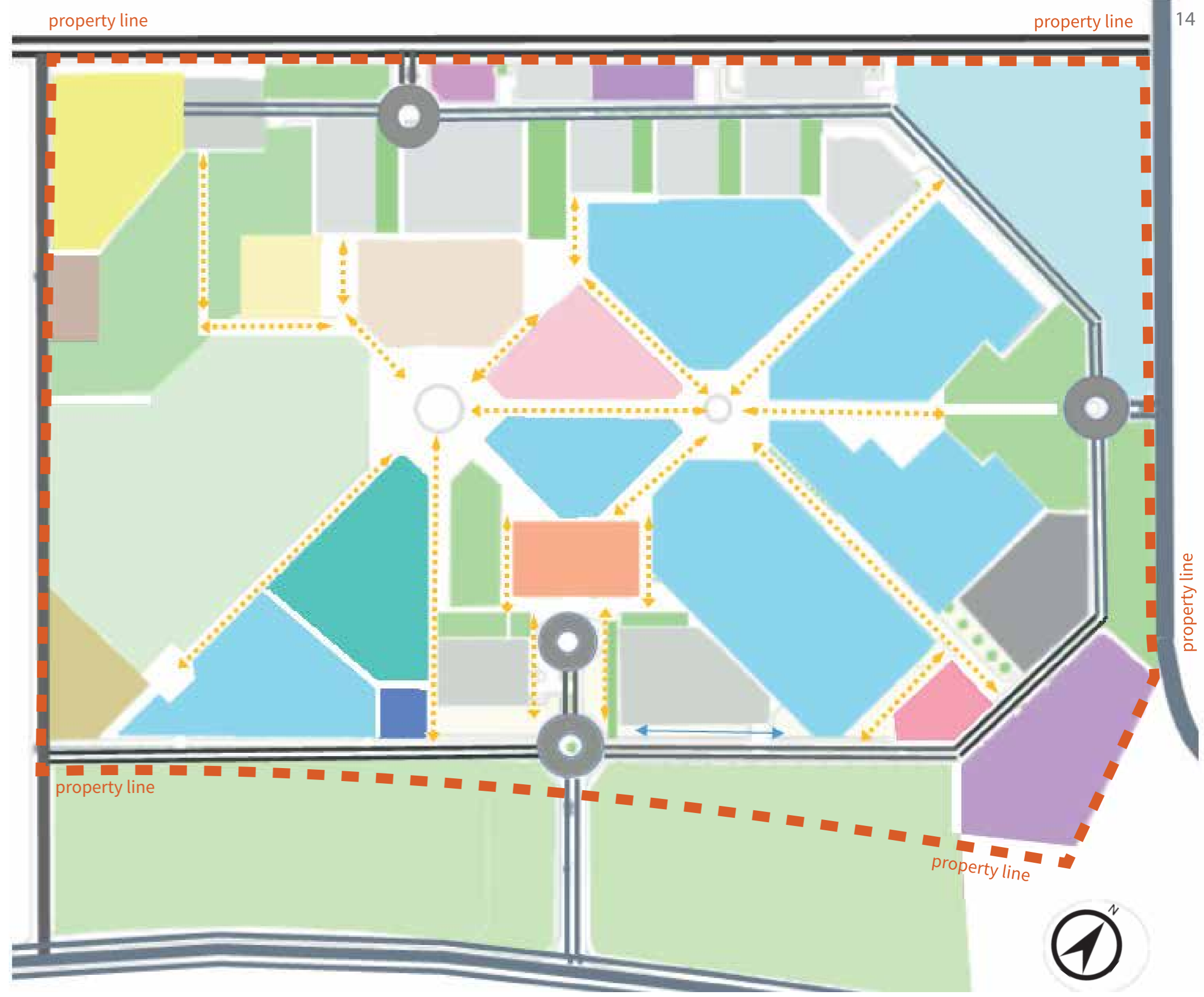
General Arrangement Plan



Land-Use Plan



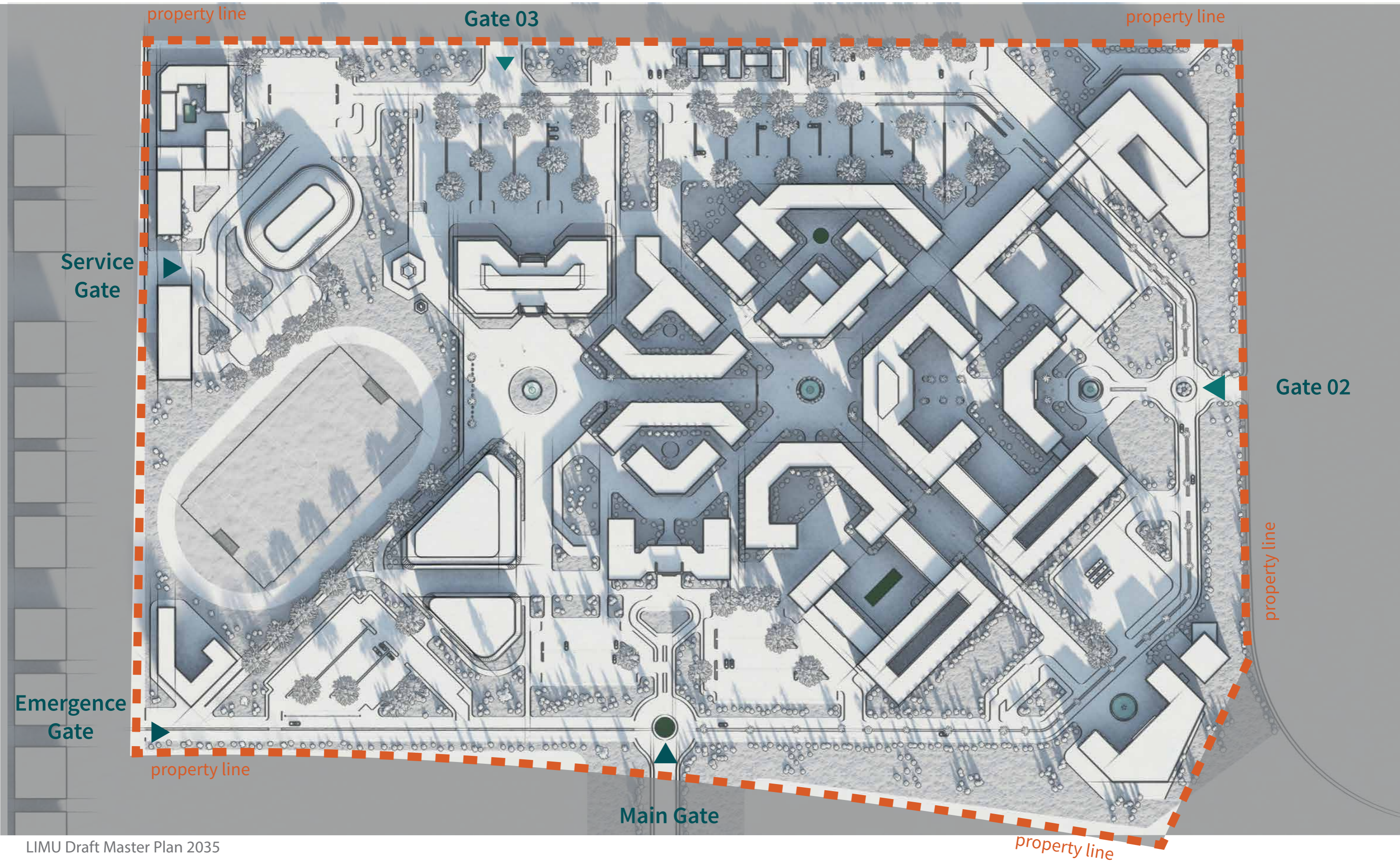
Land-Use Percentage



The Key

Hospital	Library	Research centre	Outdoor Sport -track	Mosque	commercial	Feeder Road
Faculties	Conference Hall	Dormitories	Indoor Sport - hall	Bus Terminal	utilities	Access Road
Library	Administration	Staff Accom	Student Centre	civic defense	Regional Road	Pedestrian Access

The Entrance to The Site



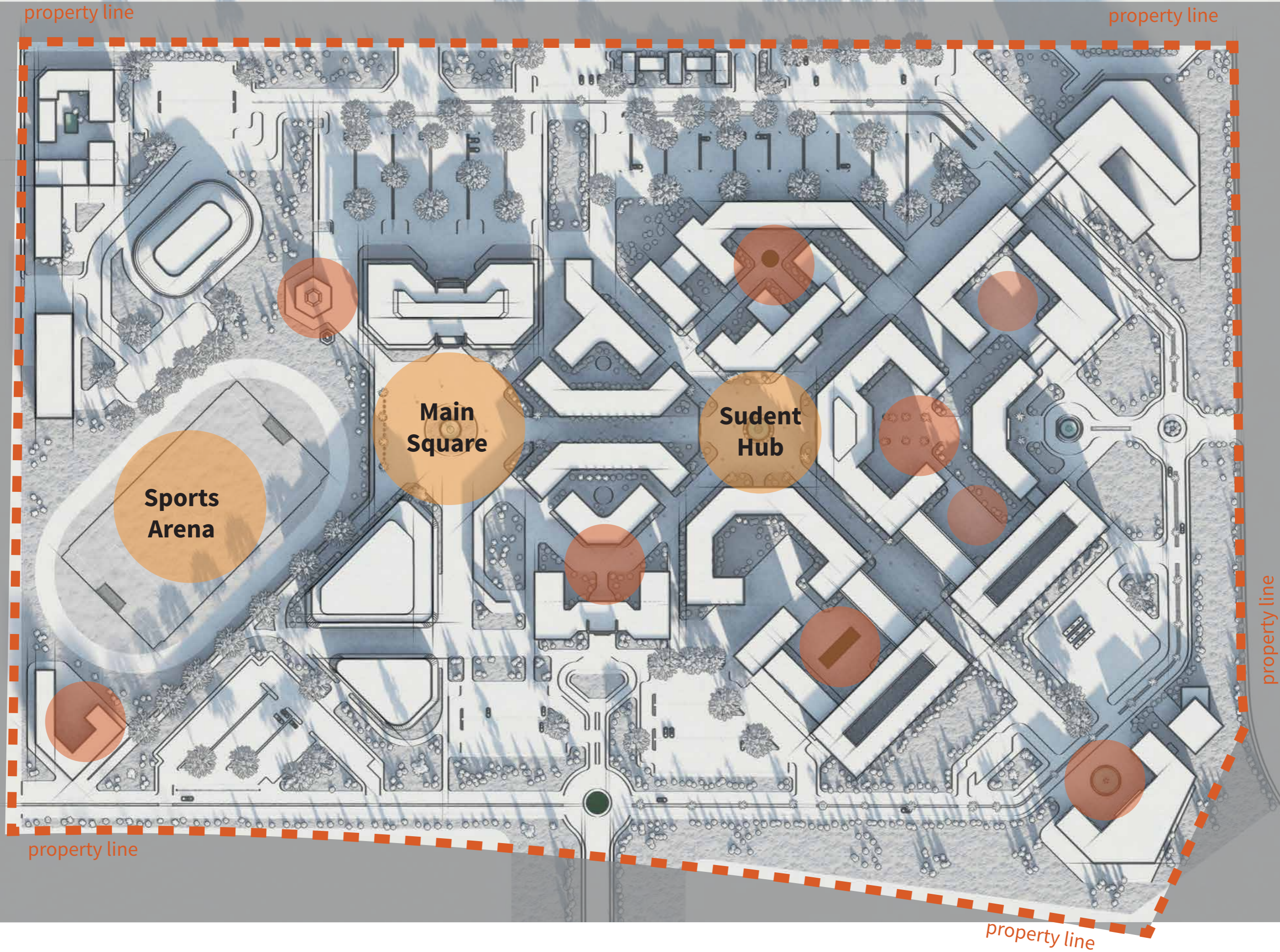
Roads and Parkings



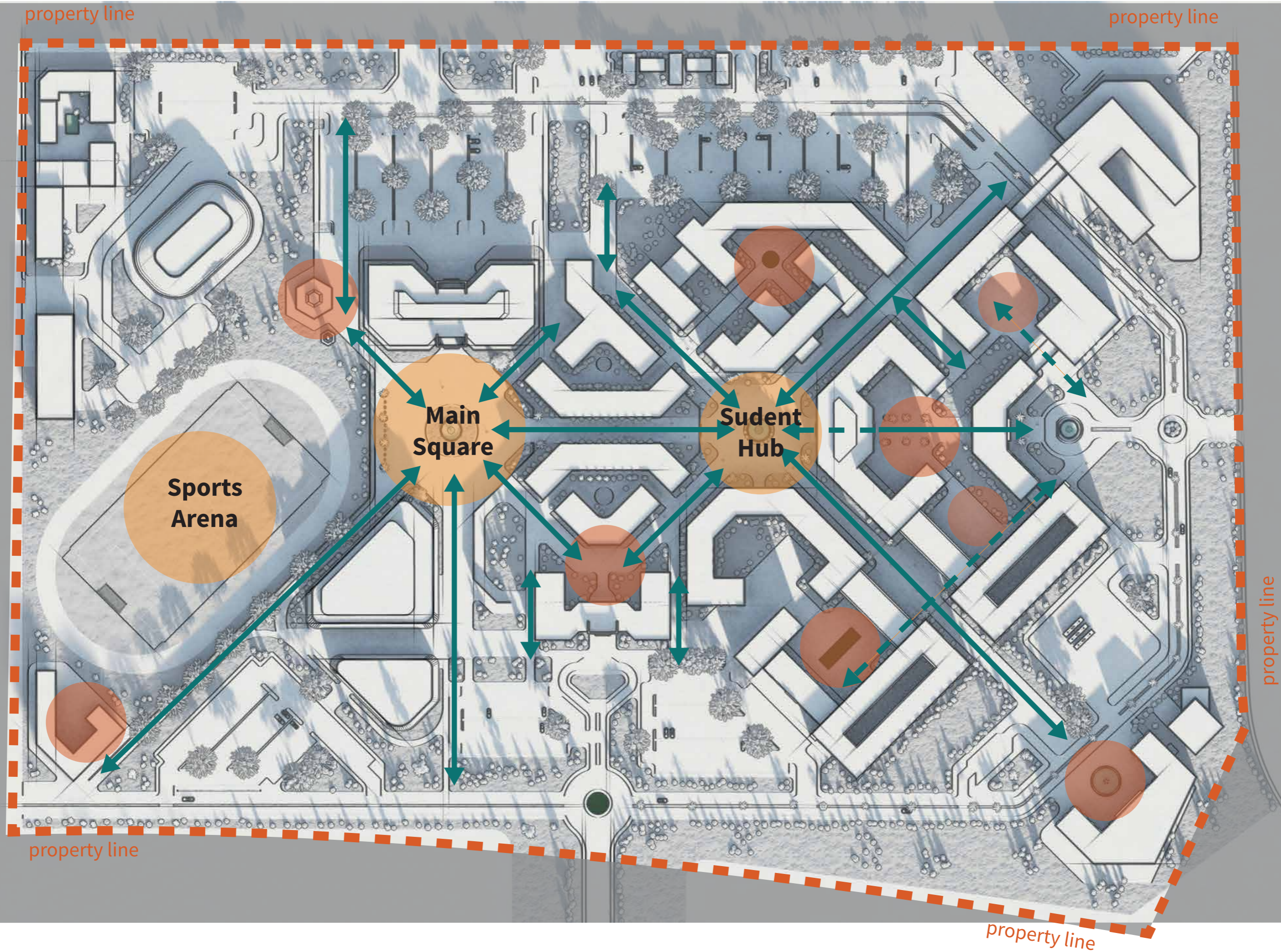
Emergence Gate

They occupy 20% of the site's area

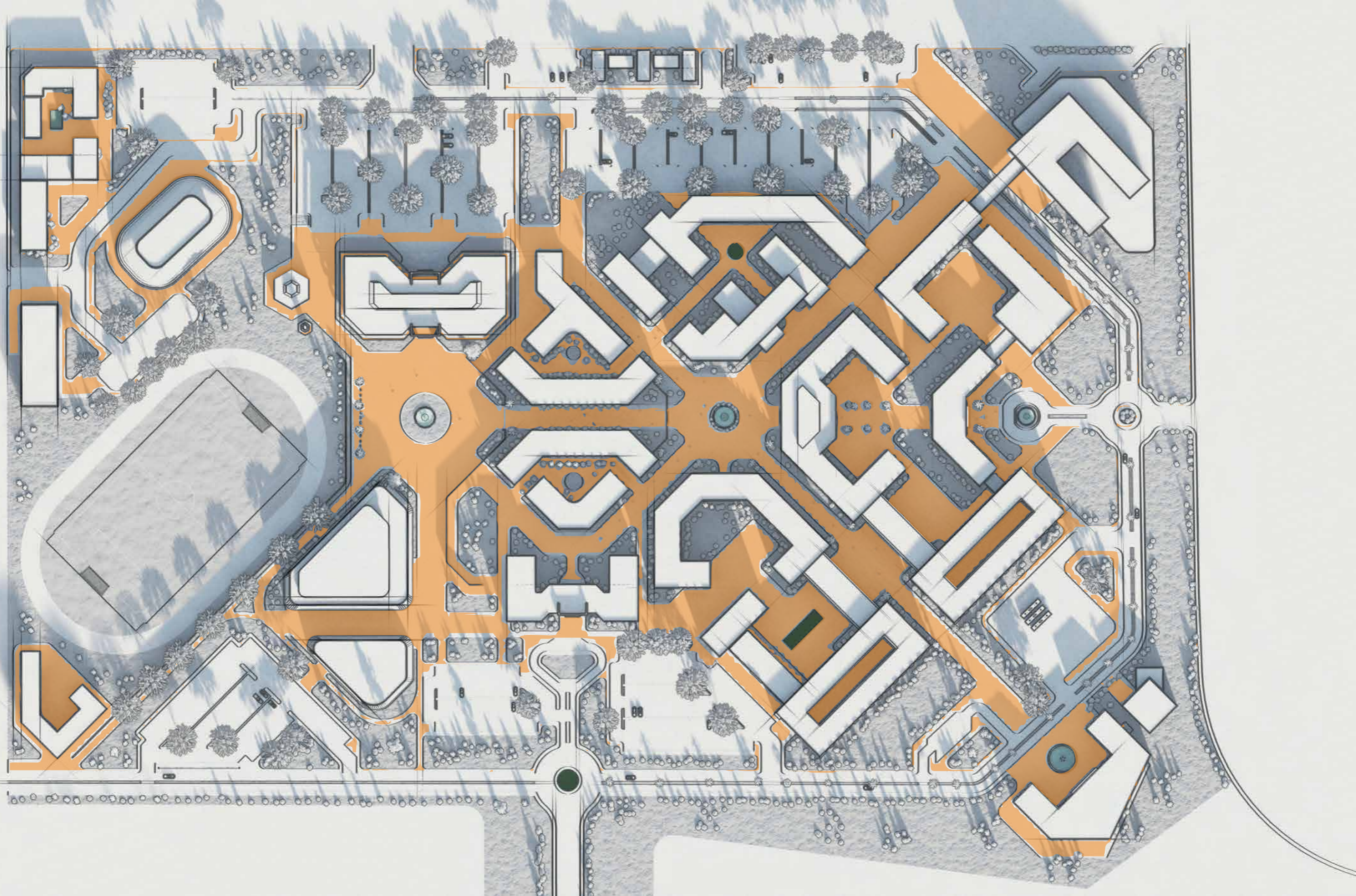
Nodes



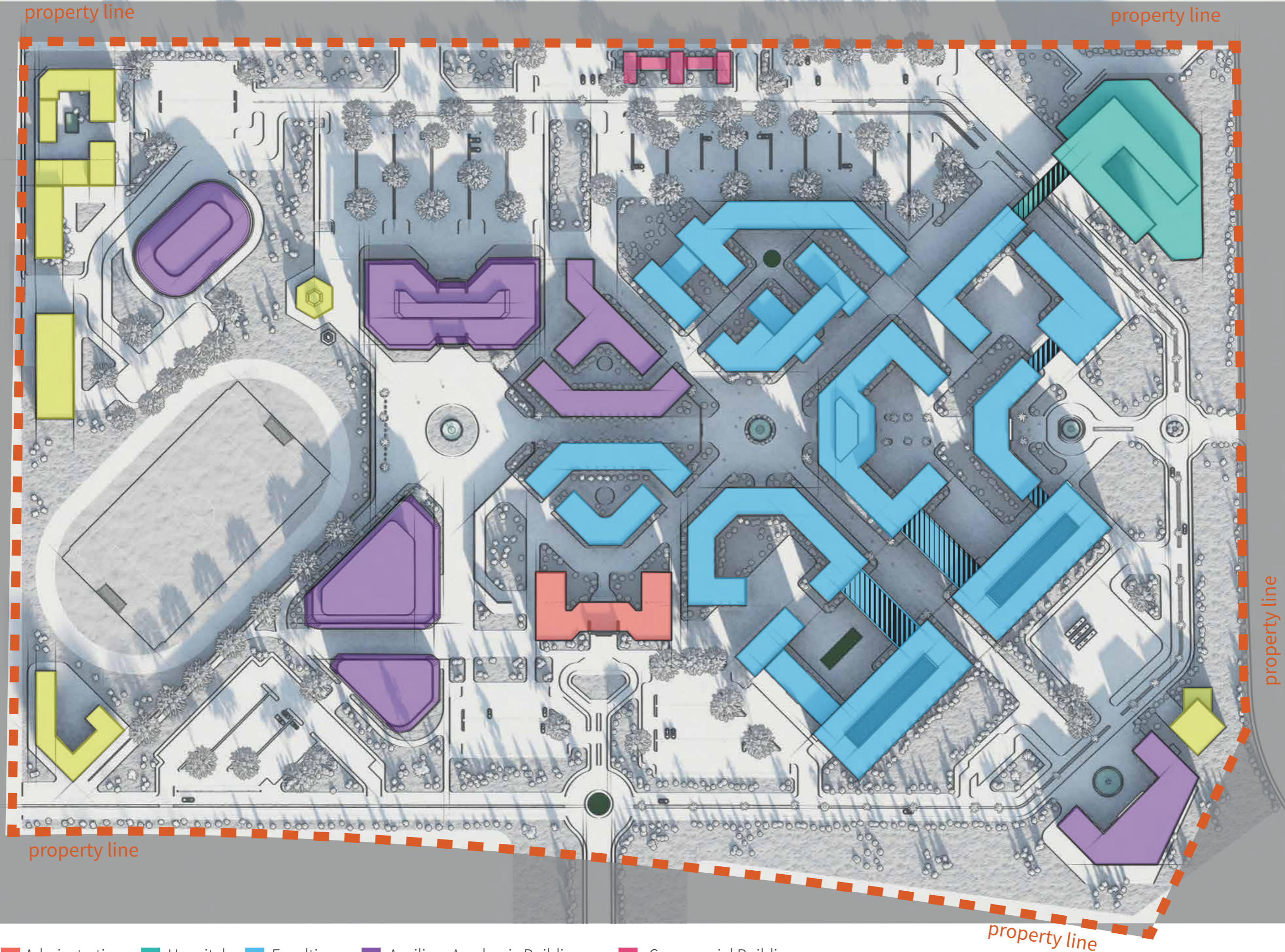
Pedestrians Main Paths



Pedestrian Corridors

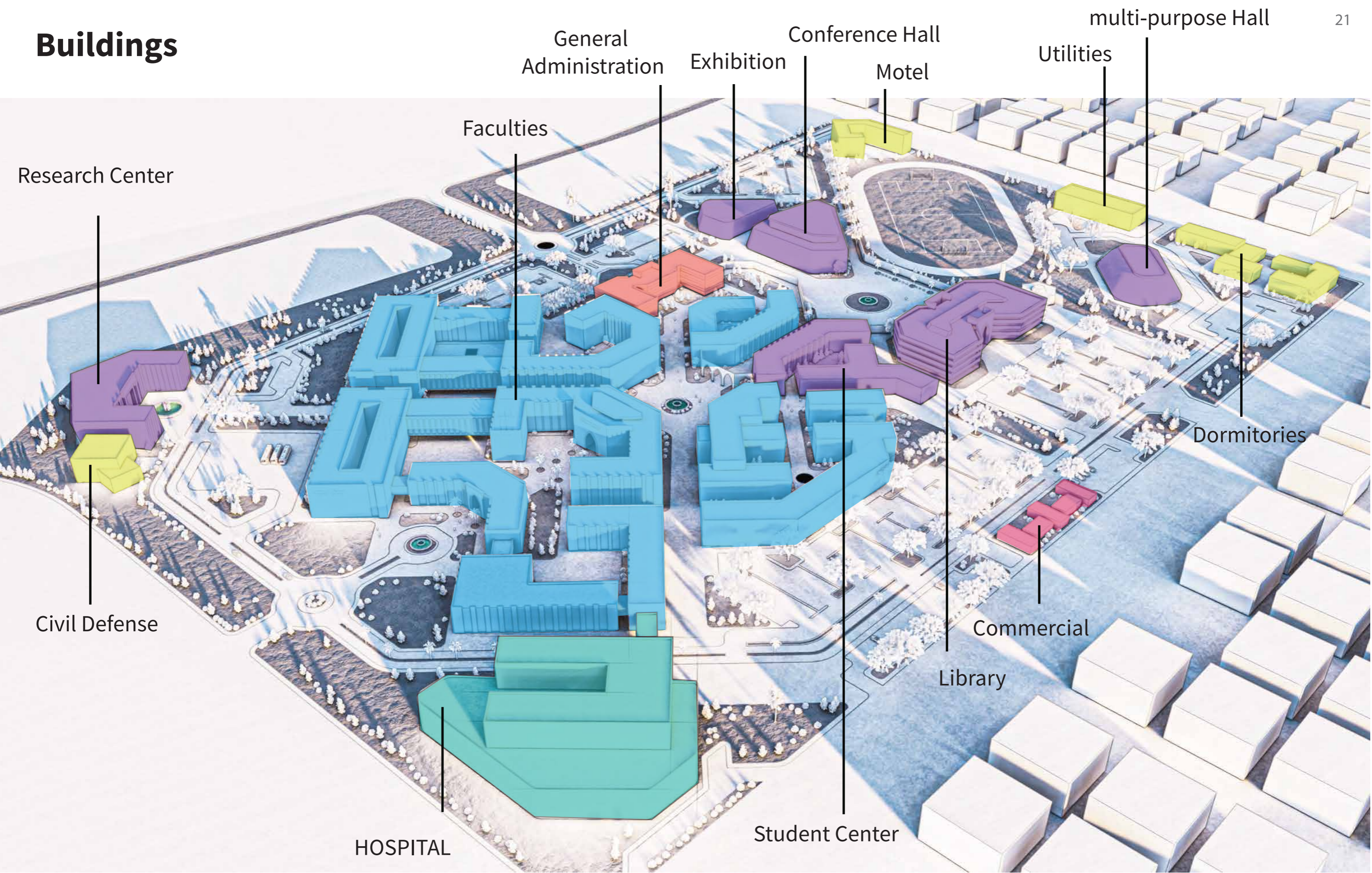


Types of Buildings



- Utilities
 - Administration
 - Hospital
 - Faculties
 - Auxiliary Academic Buildings
 - Commercial Buildings
- LIMU Draft Master Plan 2035

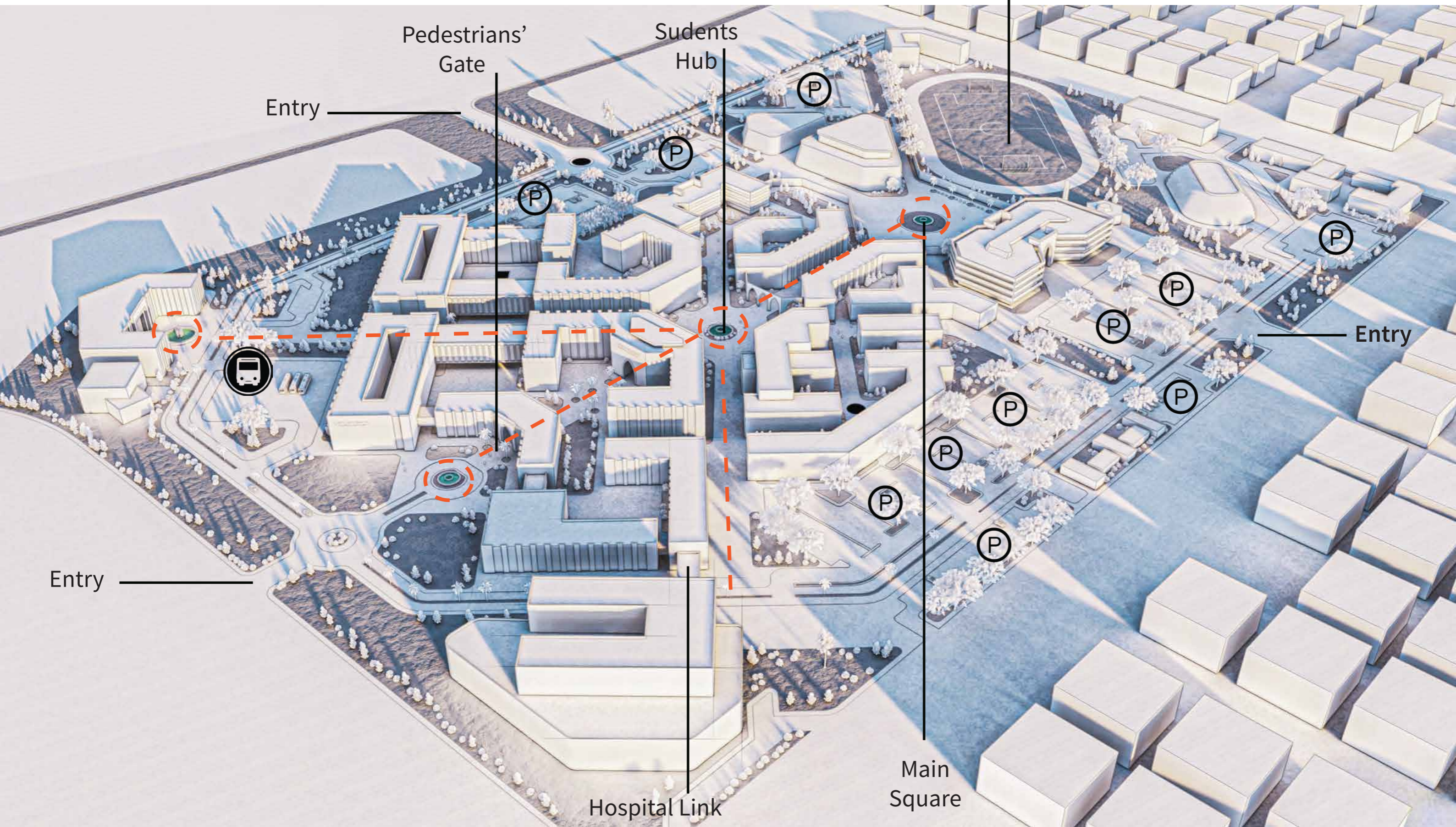
Buildings



- Utilities
- Adminstration
- Hospital
- Faculties
- Auxiliary Academic Buildings
- Commercial Buildings

They occupies 18% of the site's area

General Features



The View From Gate 2



General Features



The General Administration



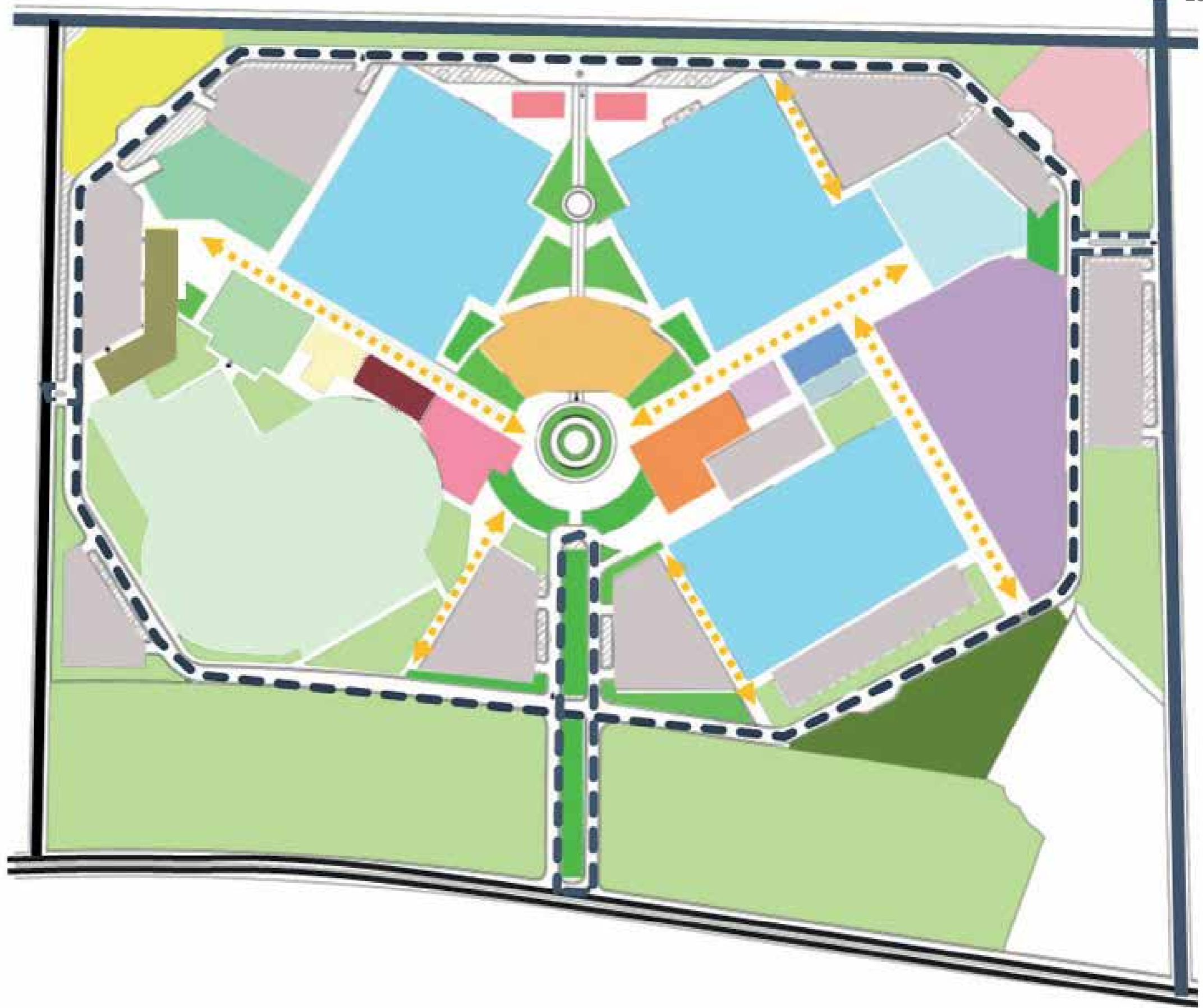
The Main Square






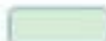
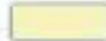




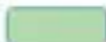


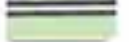









The Second Alternative

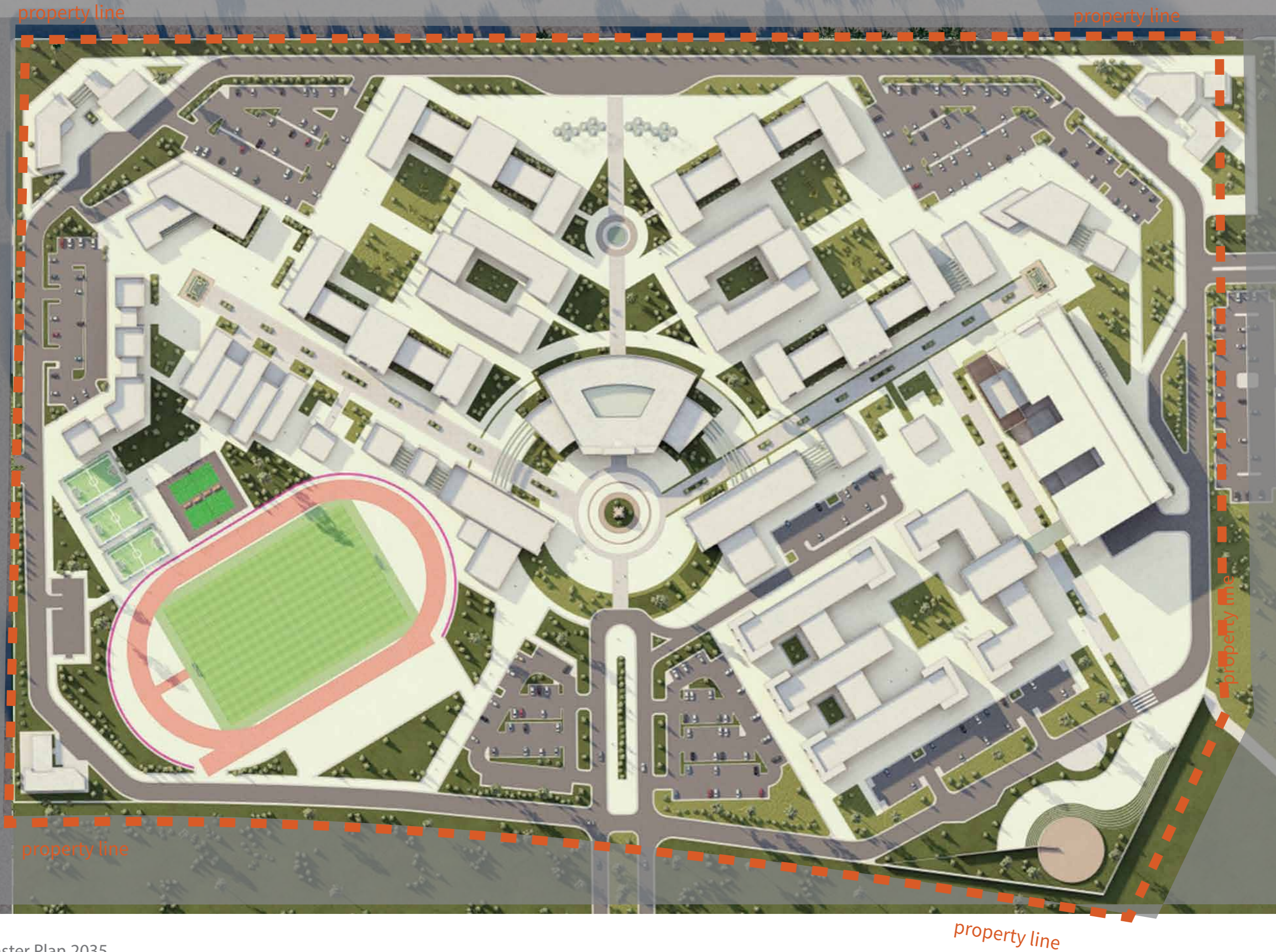
Land-Use Plan



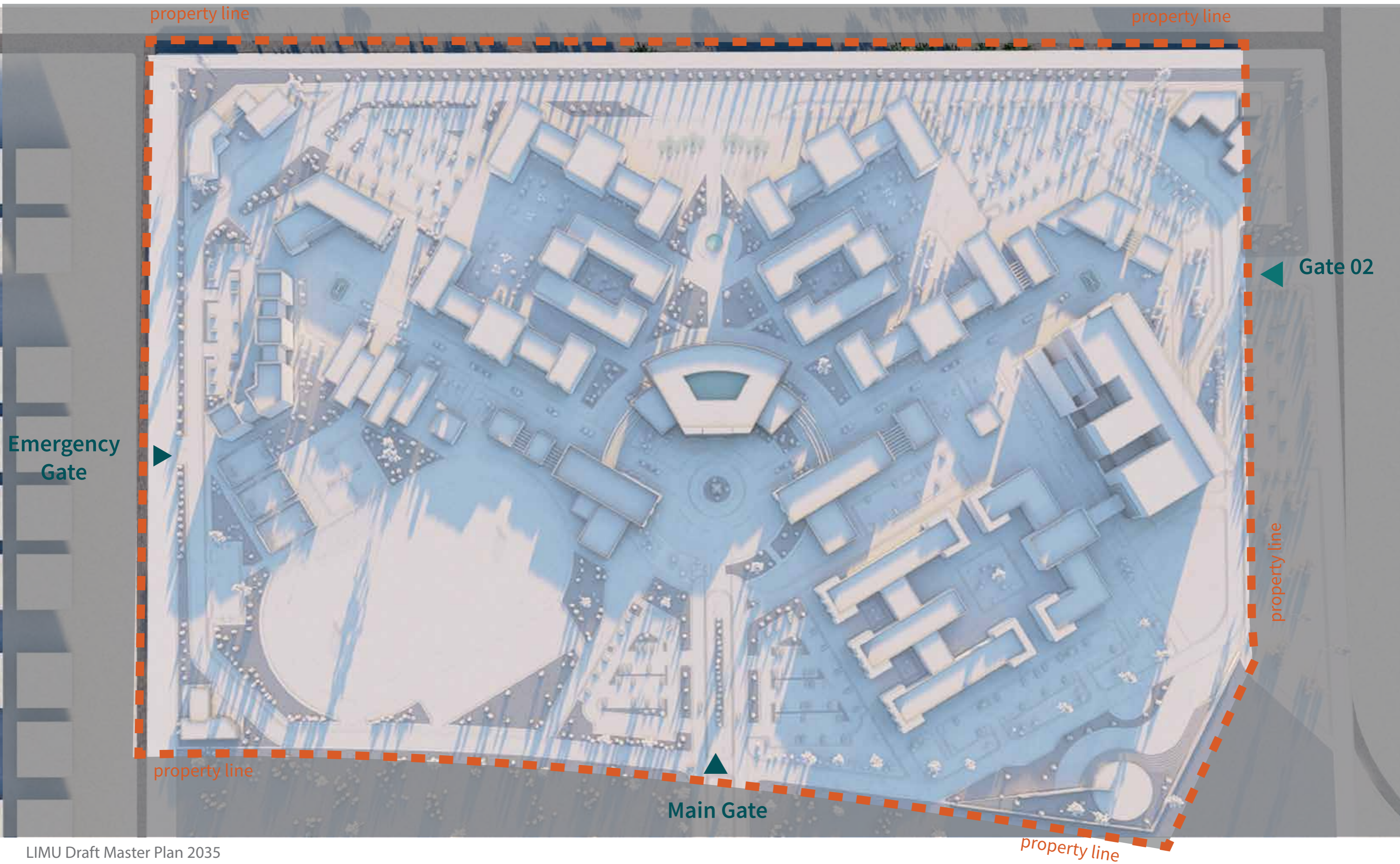
The Key

 Hospital	 Library	 Research centre	 Outdoor Sport -track	 Mosque	 commercial	 Feeder Road
 Faculties	 Conference Hall	 Dormitories	 Indoor Sport - hall	 Bus Terminal	 utilities	 Access Road
 Library	 Administration	 Staff Accom	 Student Centre	 civic defense	 Regional Road	 Pedestrian Access

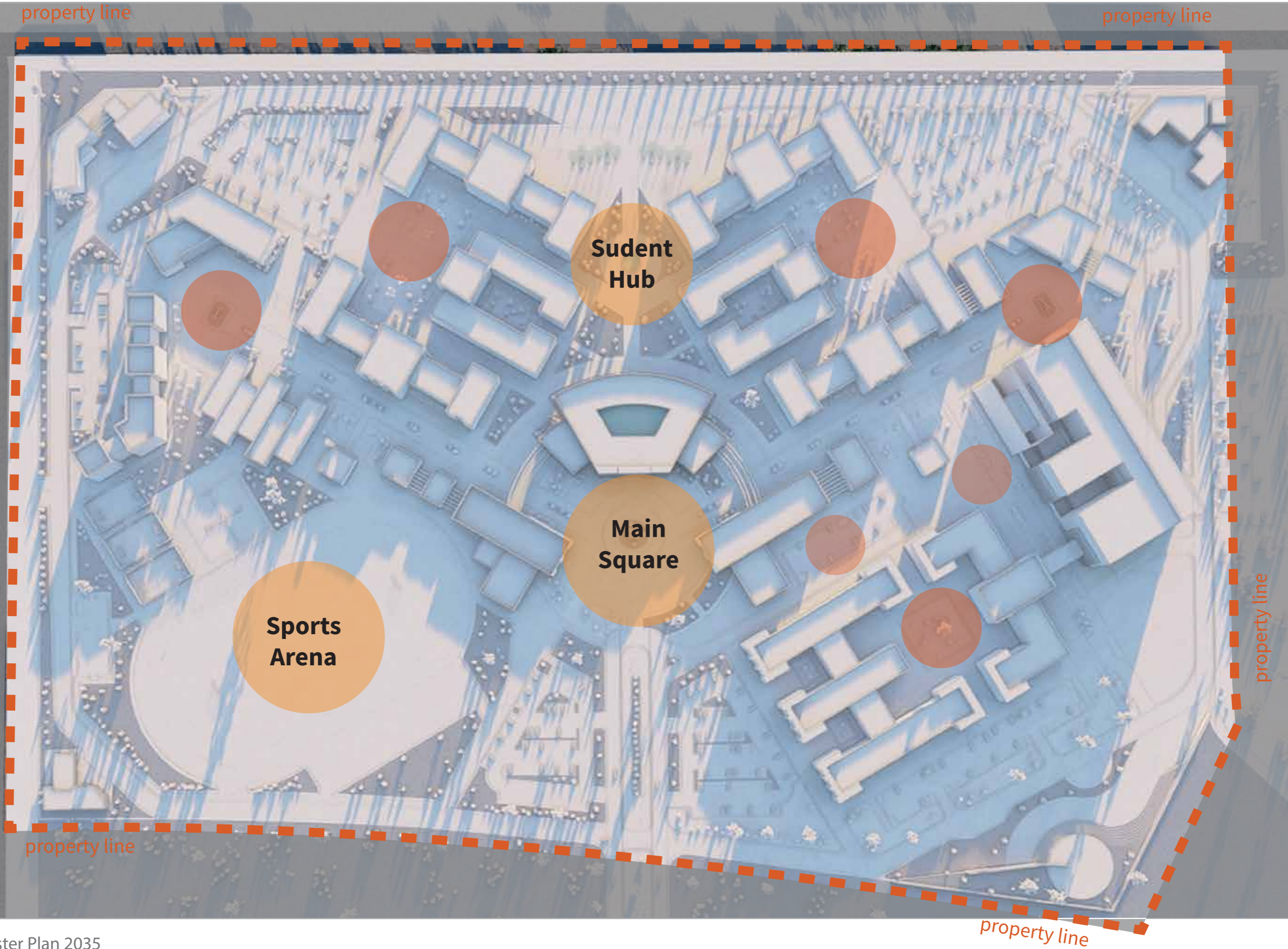
General Arrangement Plan



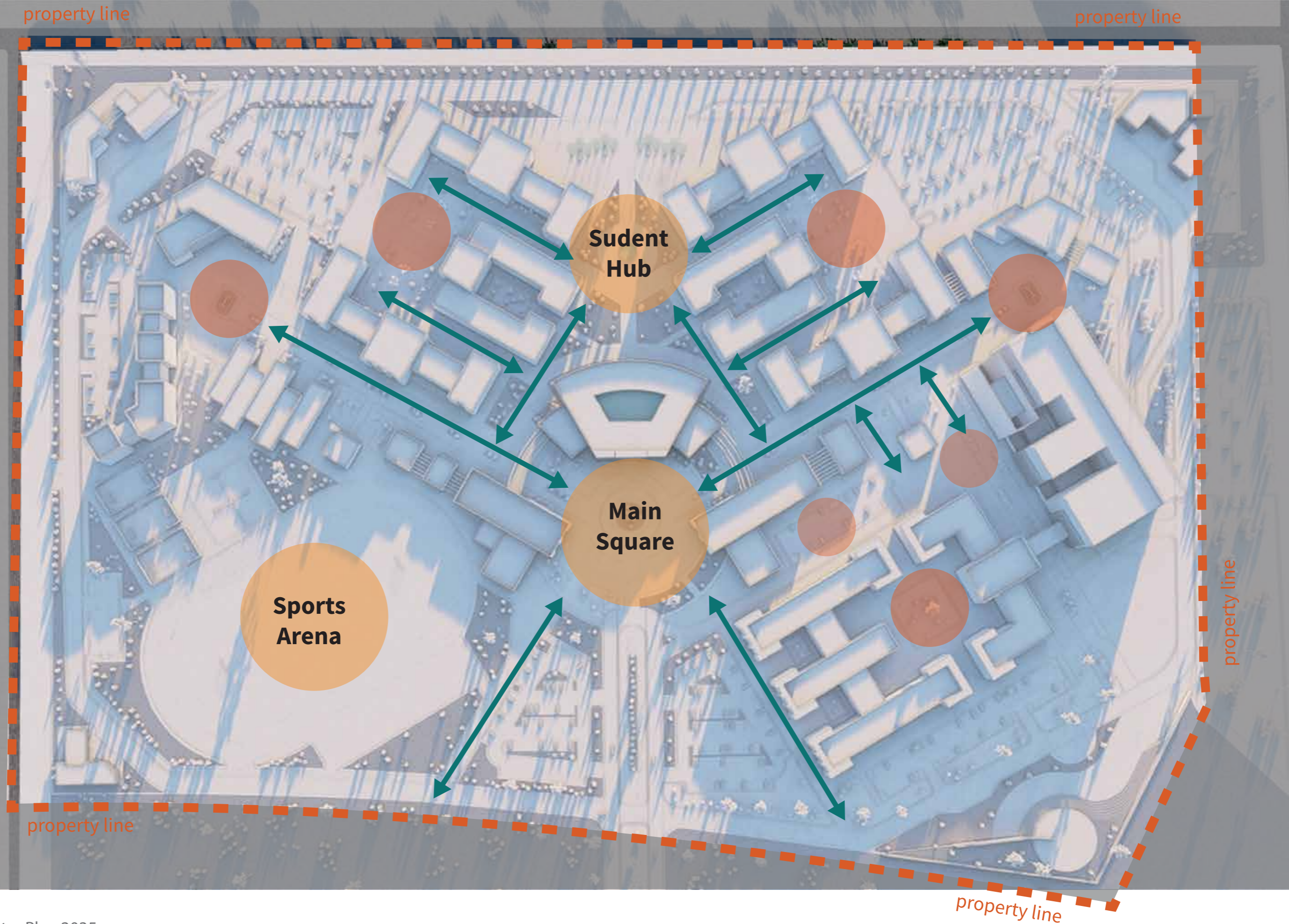
The Entrance to The Site



Nodes



Pedestrians Main Paths

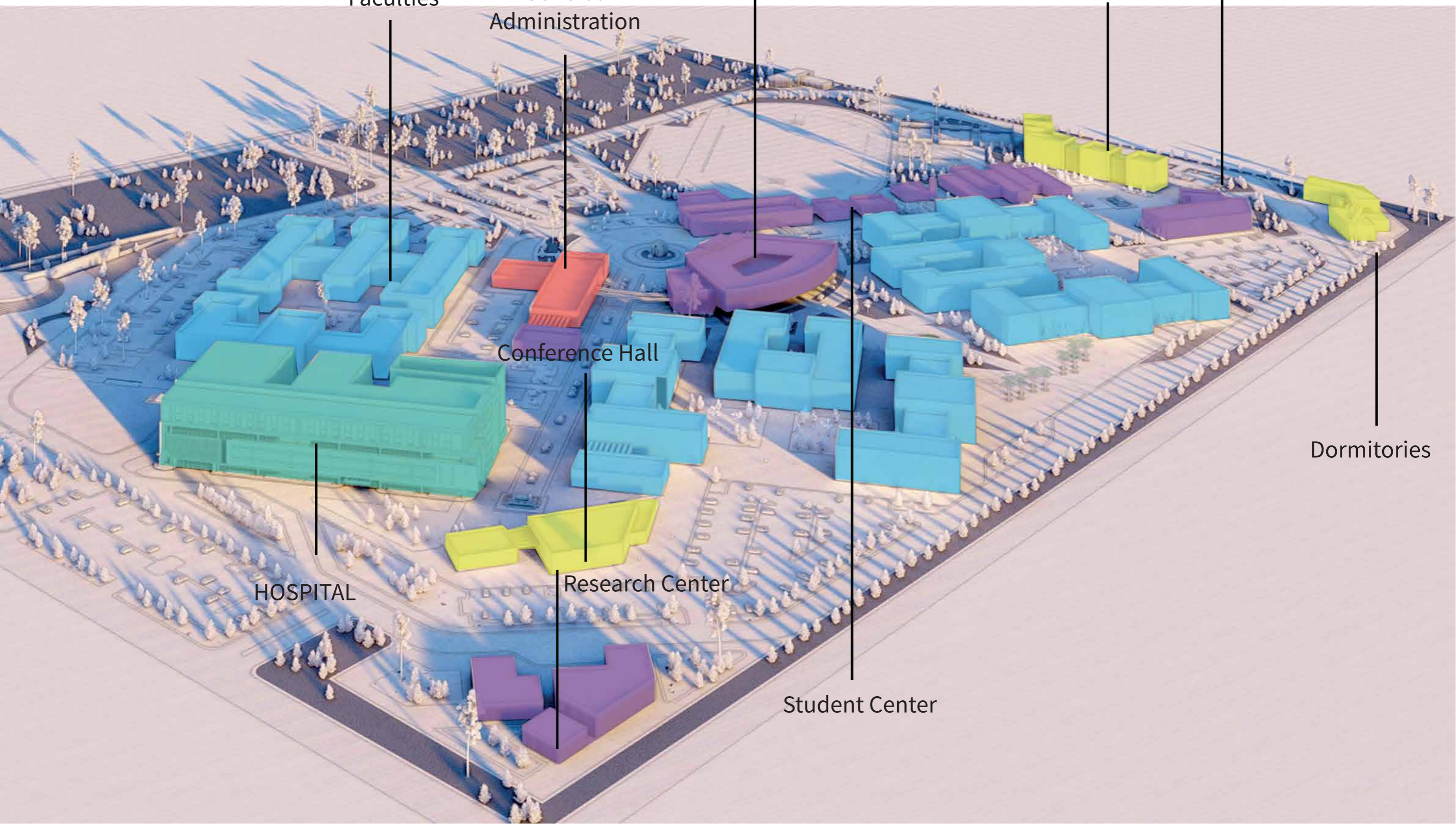


Types of Buildings

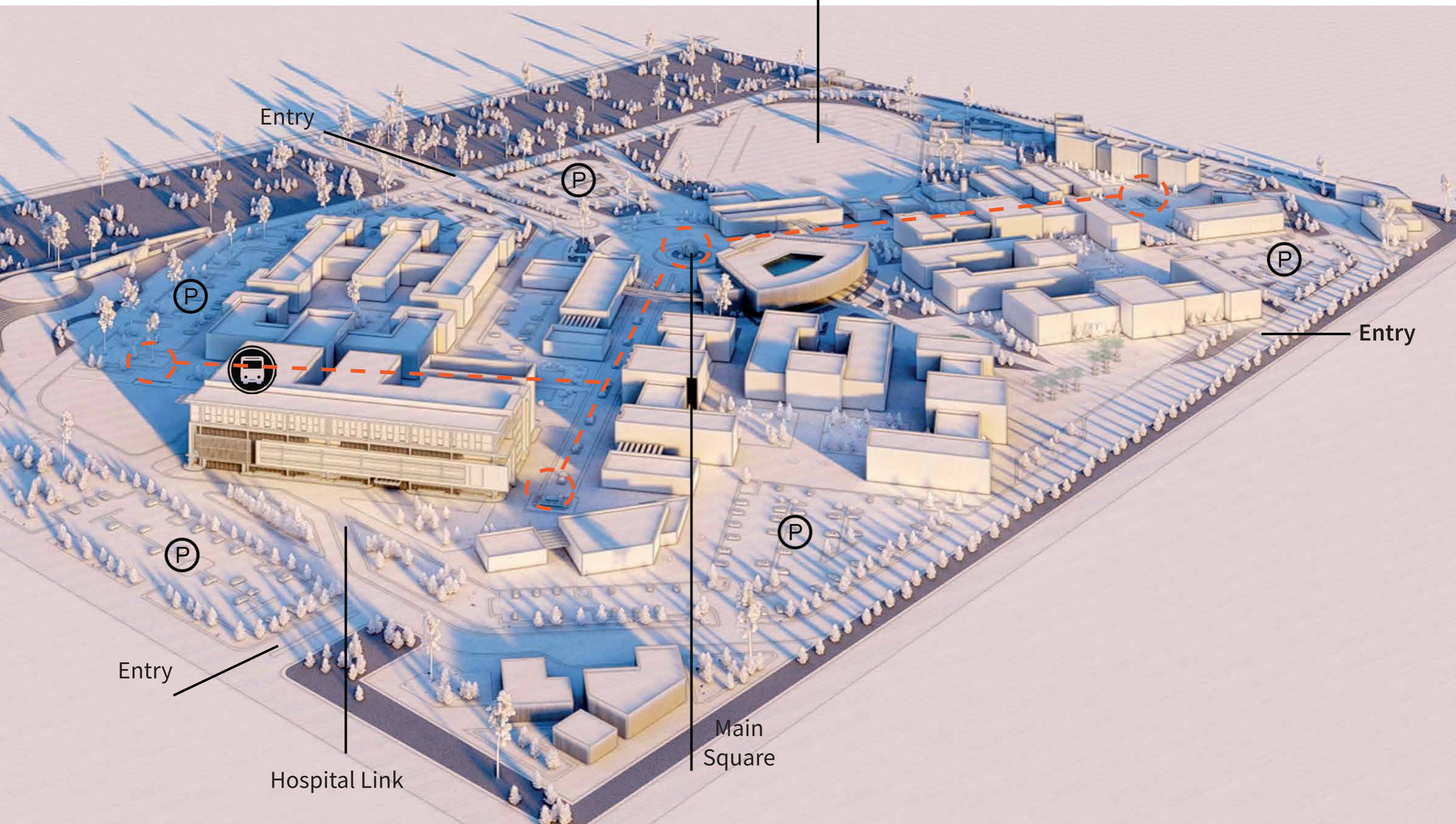


- Utilities
 - Adminstration
 - Hospital
 - Faculties
 - Auxiliary Academic Buildings
 - Commercial Buildings
- LIMU Draft Master Plan 2035

Buildings



Master features









Alternatives Evaluation

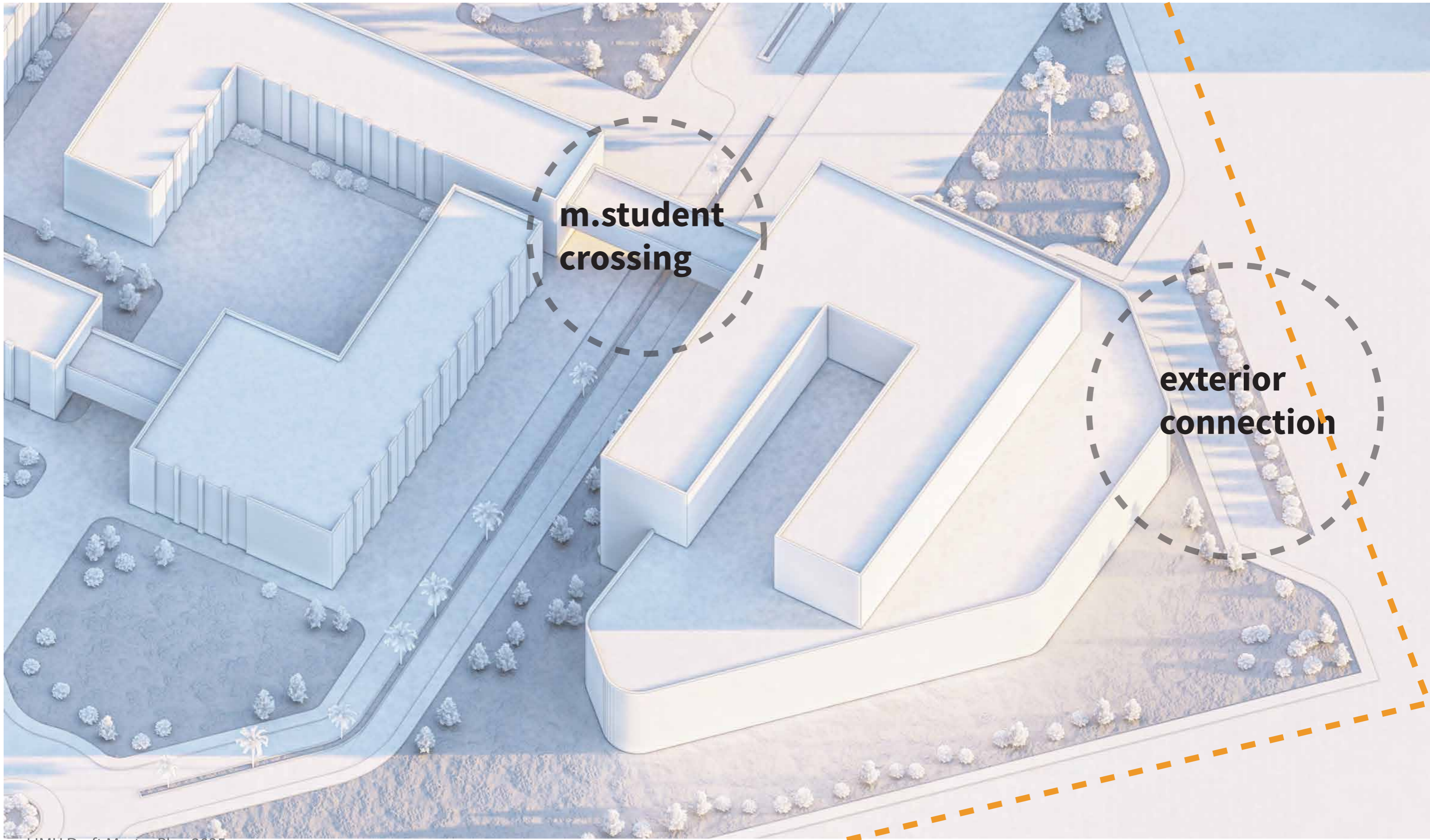
EVALUATION OF THE TWO ALTERNATIVE PLANS FOR LIMU MASTER PLAN

Main Criteria & Weights	Sub- Criteria	1	2	3	4	5	6	7	8	9	10
urban design quality 19 %	character , identity						▲	●			
	Diversity						▲	●			
	Readability ,definitiveness						●	▲			
	continuity ,Closeness , Coverage guidance							●	▲		
	flexibility						▲	●			
Environmental Quality 27%	compliance of built Environ, with nature								▲	●	
	Noise level							▲	●		
	Appearance, Cleanness level							▲	●		
Functional quality 25%	Pedestrian & none-motorized vehicle aces								●	▲	
	Mass transportation opportunities								▲	●	
	Surrounding urban services							▲	●		
security .29%	pedestrian security								●	▲	
	Balance daytime / nightttime usage						▲	●			

● Alternative A ▲ Alternative B

The Hospital

The Hospital's Relation to the Master Plan

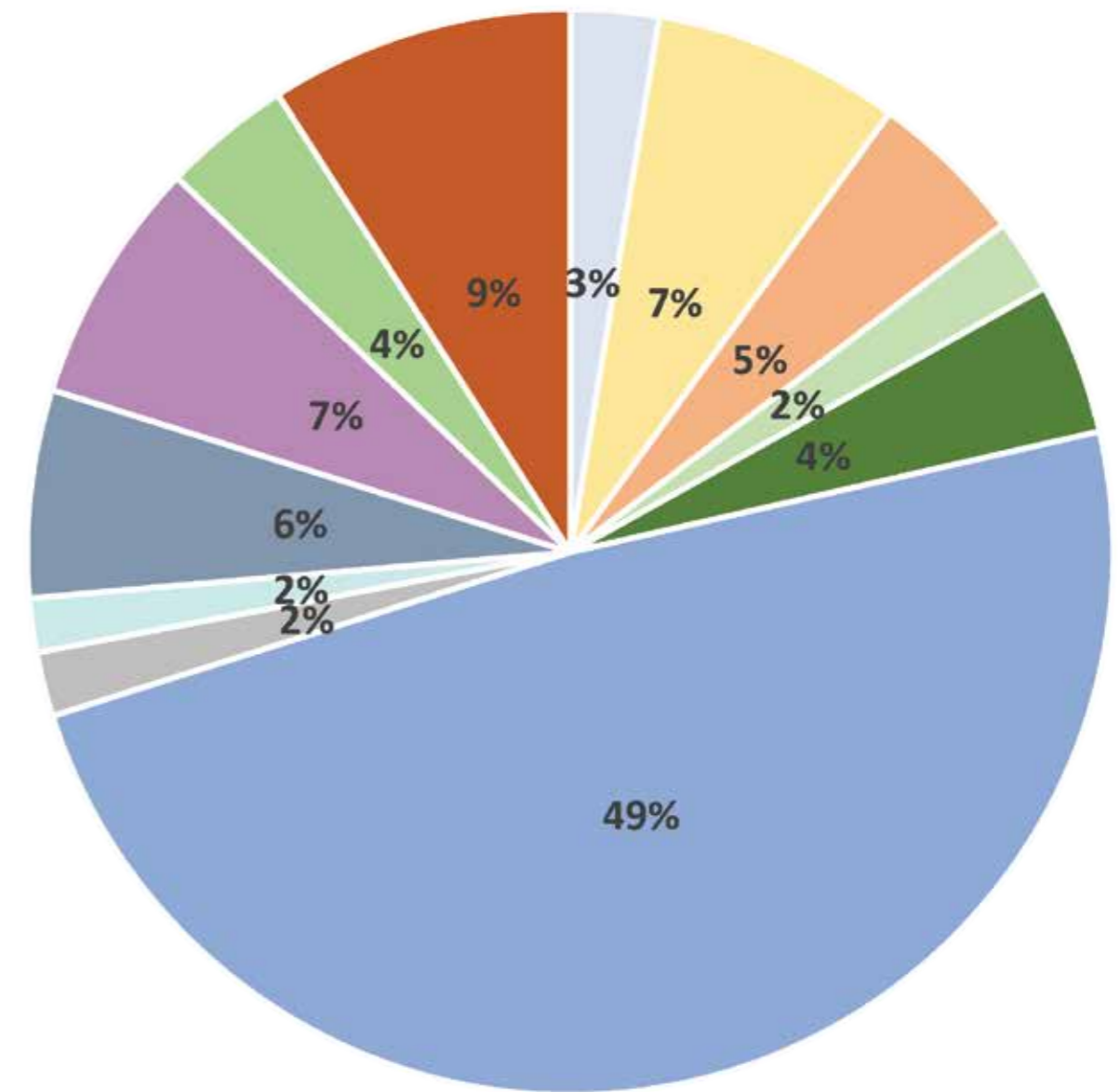


**m.student
crossing**

**exterior
connection**

Hospital Departments and their Areas

Departments	Area (sqm)
Main Lobby	436.35
Diagnostic Department	1224
Emergency Department	777.4
Intensive Care Unit Department	367
Operations Deptment	750.5
In-patient Deptment	8076
General Adminstration	318.55
medical Adminstration	266.8
OPD	1025
G&O	1208.85
Theoretical teaching	637.51
Basement	1501



Hospital space occupation

Hospital's Gross Area 15106 sqm

Hospital's Foot print 2800 sqm

Hospital Departments and their Areas

Main Lobby			
Space	Quantity	Area	Total
The Hall _ including reception	1	130	130
Security	1	8	8
Archive	1	12	12
Prayer room	2	12	24
Cafeteria	1	100	100
WC	2	20	40
Pharmacy	1	40	40
shops	1	15	15
IT room	1	12	12
15% movement			55.35
			436.35

Hospital Departments and their Areas

Diagnostic Department			
Space	Quantity	Area	Total
Radiology			
Lobby and waiting	1	70	70
General X-ray	2	27	54
Ultra sound	2	18	36
MRI	1	47.25	47.25
CT Scan	1	45	45
PET scan	1	50.4	50.4
Fluoroscopy	1	39.6	39.6
Endoscopy room	1	44.85	44.85
DEXA scan room	1	20	20
Mammography	1	16.8	16.8
Control room	6	12.5	75
Mechanical room	3	9	27
Preparing room	4	6.25	25
post scan care	4	6.25	25
doctors' room	2	18	36
report room	1	18	18
WC	4	9	36
archive	1	9	9
storage	1	20	20
15% movement			104.235

Hospital Departments and their Areas

Laboratories			
Lobby and waiting	1	50	50
Blood drawing room	8	4	32
Joined laboratory	2	50	100
Separate laboratory	2	20	40
Blood Bank	1	15	15
Automation	1	20	20
report room	1	18	18
archive	1	9	9
storage	1	20	20
WC	2	9	18
doctors' room	2	9	18
15% movement			84.48525
1223.62025			

Hospital Departments and their Areas

Emergency Department			
Space	Quantity	Area	Total
Triage/Registration	1	12	12
Security	1	6	6
First aid hall (stitching/casting/burns treatment)	1	70	70
Pediatric/family hall	1	80	80
Observation hall	2	80	160
Examination room	4	12	48
Emergency operating room	1	40	40
Sterilized tools room	1	16	16
unclean room	1	9	9
Linen/ equipment room	1	20	20
Storage	1	25	25
Resuscitation room	2	20	40
WC	2	9	18
Archive	1	12	12
nurse's stay	2	30	60
doctors' stay	2	30	60
15% movement			101.4
			777.4

Hospital Departments and their Areas

Intensive Care Unit Department			
Space	Quantity	Area	Total
ICU	2	70	140
nurse station	2	12	24
Isolation room	6	15	90
unclean room	1	9	9
Linen/ equipment room	2	9	18
Archive	1	12	12
disposal room collecting room	1	10	10
nurse's stay	2	16	32
doctors' stay	2	16	32
15% movement			90.06
			367

Hospital Departments and their Areas

Operations Deptment			
Space	Quantity	Area	Total
trolley handling area	1	12	12
patients preparation room	1	30	30
Operation theater	6	46	276
Recovery room	1	20	20
Sterilized tools storage	1	15	15
small tools Sterilizing units	1	40	40
Sterilized coridor with scrub units	1	40	40
unclean corridor	1	25	25
Surgical staff changing room	2	60	120
Linen/ equipment room	1	15	15
Doctors resting \ negotiation room	1	30	30
young doctors teaching \ observation room	2	15	30
15% movement			97.95
			750.95

Hospital Departments and their Areas

In-patient Deptment			
Space	Quantity	Area	Total
Lobby	3	40	120
Paitent rooms	200	30	6000
nurse station	9	15	135
nurses room	9	30	270
disposal room collecting room	1	10	10
storage	3	40	120
food handling room	3	40	120
patients' lounge	3	80	240
15% movement			1052.25
			8067.25

Hospital Departments and their Areas

General Administration			
Space	Quantity	Area	Total
Reception	1	9	9
Director Office	1	25	25
Deputy Director's Office	1	25	25
wc	2	12	24
meeting room	1	30	30
Insurance company office	1	25	25
Finance office	1	40	40
secretarial	1	9	9
Archive	1	20	20
lounge	1	20	20
open offices area	1	50	50
15% movement			41.55
			318.55

Hospital Departments and their Areas

medical Administration			
Space	Quantity	Area	Total
Reception	1	9	9
Chief doctor office	1	25	25
Chief nurse's office	1	25	25
wc	2	12	24
meeting room	1	30	30
Medical supplies office	1	20	20
secretarial	1	9	9
Archive	1	20	20
lounge	1	20	20
open offices area	1	50	50
15% movement			34.8
			266.8

OPD			
Space	Quantity	Area	Total
lobby	1	40	40
waiting	1	90	90
wc	4	16	64
disposal room collecting room	1	10	10
archive	1	12	12
storage	2	30	60
medical			
Space	Quantity	Area	Total
General medicine	3	20	20
Endocrine	1	20	20
Cheast	1	20	20
neurology	1	20	20
nefrology	1	20	20
gastrology	1	20	20
rheumatology	1	20	20
cardiology	1	40	40
hematology	1	60	60
oncology	1	60	60
15% movement			45
surgical			
Space	Quantity	Area	Total
General surgery	2	40	80
ENT	1	40	40
Urology	1	40	40
orthopedic	1	55	55
plastic surgery	1	40	40
Dentistry.dep	1	120	120
15% movement			56.25
1052.25			

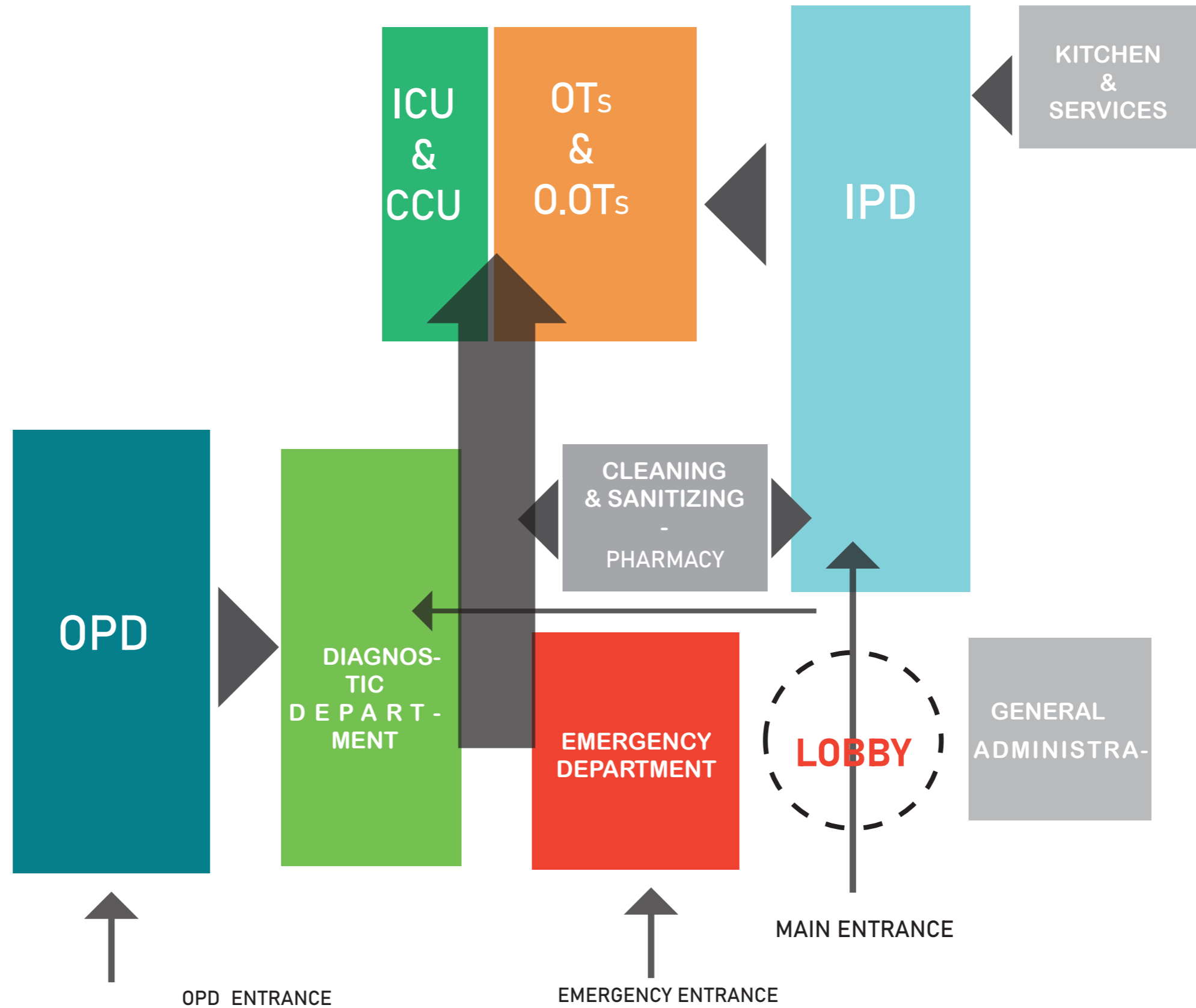
Hospital Departments and their Areas

Gyne and Obstetrics			
Space	Quantity	Area	Total
lobby and waiting	1	60	60
examination room	2	20	40
normal delivery obstetric room	4	40	160
Labor room	4	80	320
Operation theater	2	46	92
patients preparation room	1	30	30
postnatal care room	4	30	120
NICU	1	35	35
neonatal unit	1	50	50
nurses room	2	25	50
Sterilized tools storage	1	20	20
small tools Sterilizing units	1	20	20
Linen/ equipment room	1	12	12
Doctors' room	2	25	50
15% movement			149.85
1208.85			

Hospital Departments and their Areas

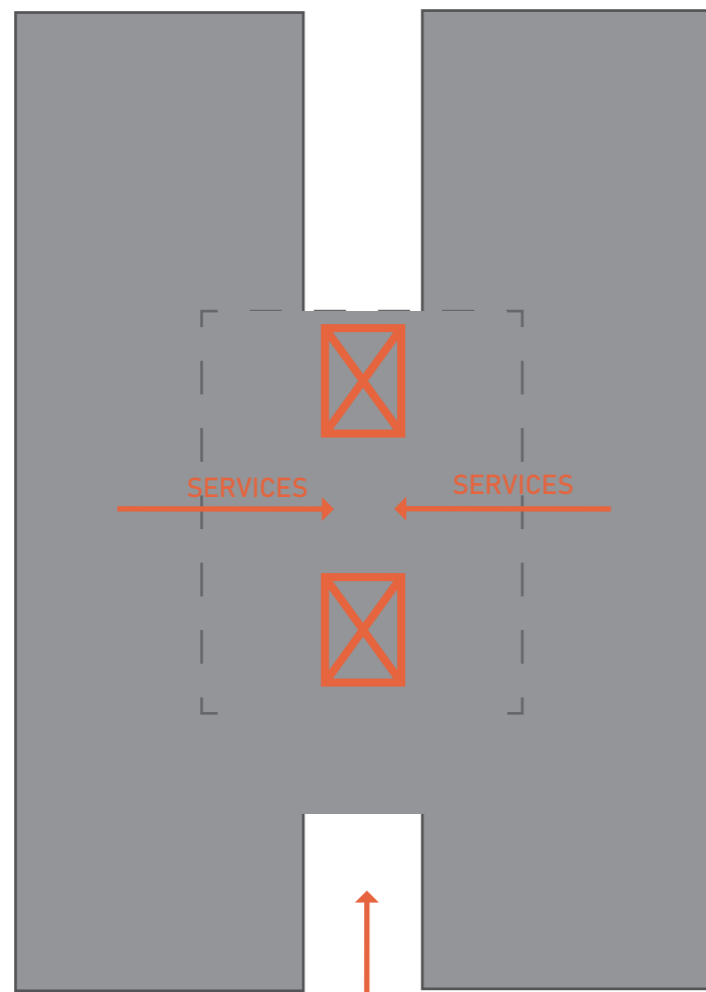
Educational			
Space	Quantity	Area	Total
seminar hall (80)	1	216	216
teaching rooms	2	50	100
WCs	2	16	32
workers lounge	2	73	146
lobby	1	60	60
15% movement			83.1
			637.1

- Functional diagram of the Hospital:



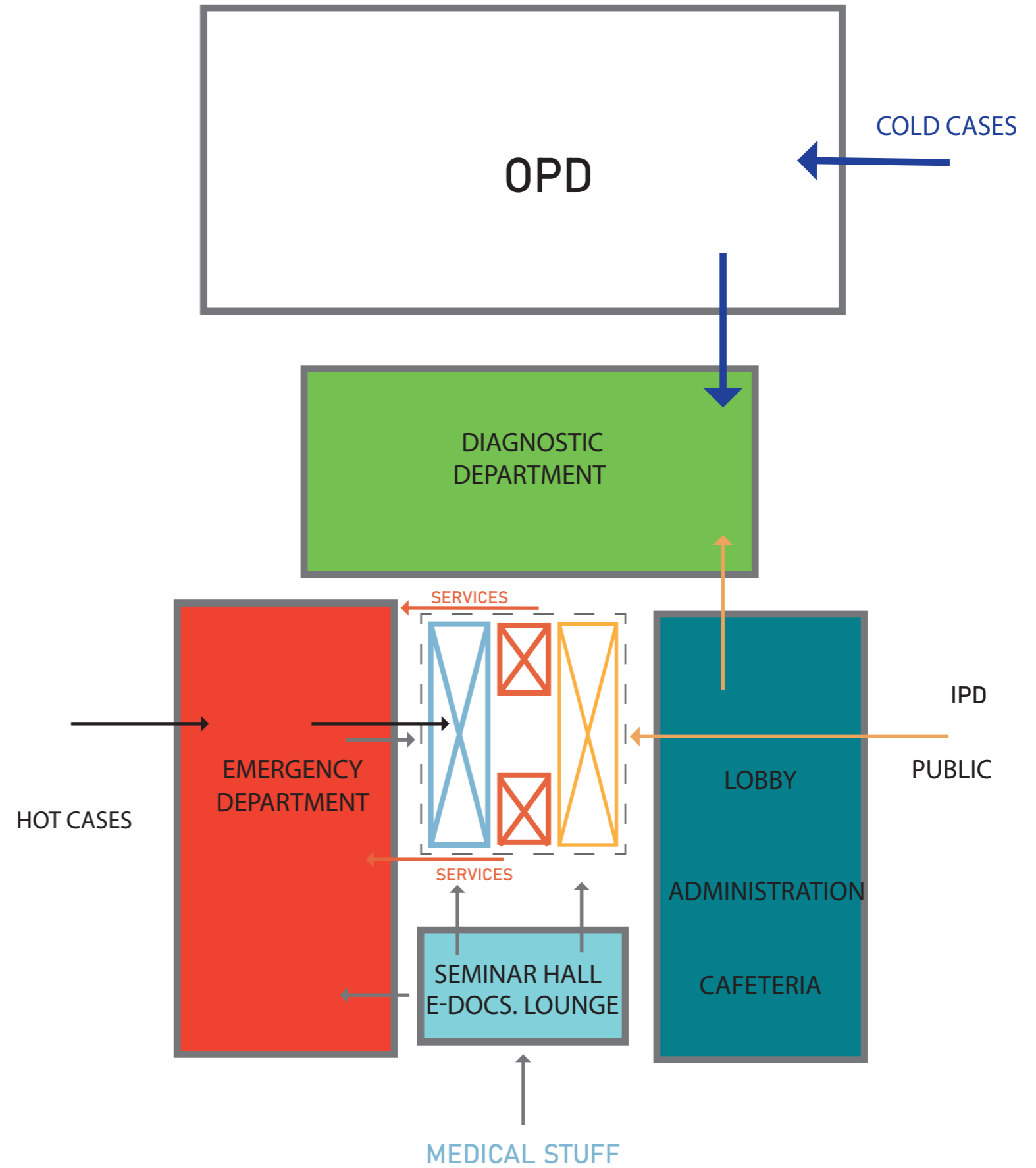
- Zoning Diagram of the Hospital:

-ONE ZONING EXAMPLE OF HOW THE HOSPITAL CORE WORKS BACK TO BACK



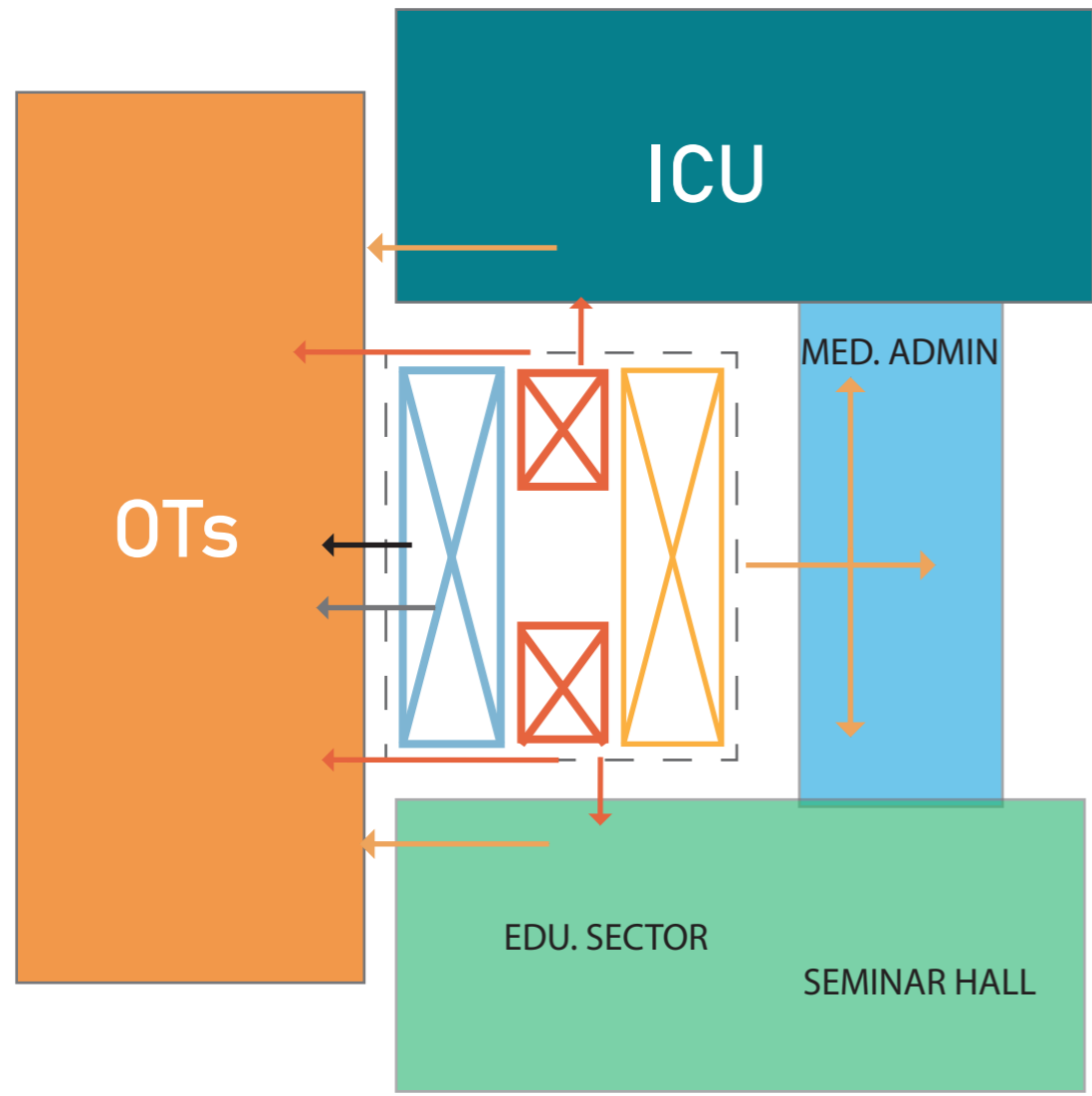
UNDERGROUND ENTRANCE

BASEMENT

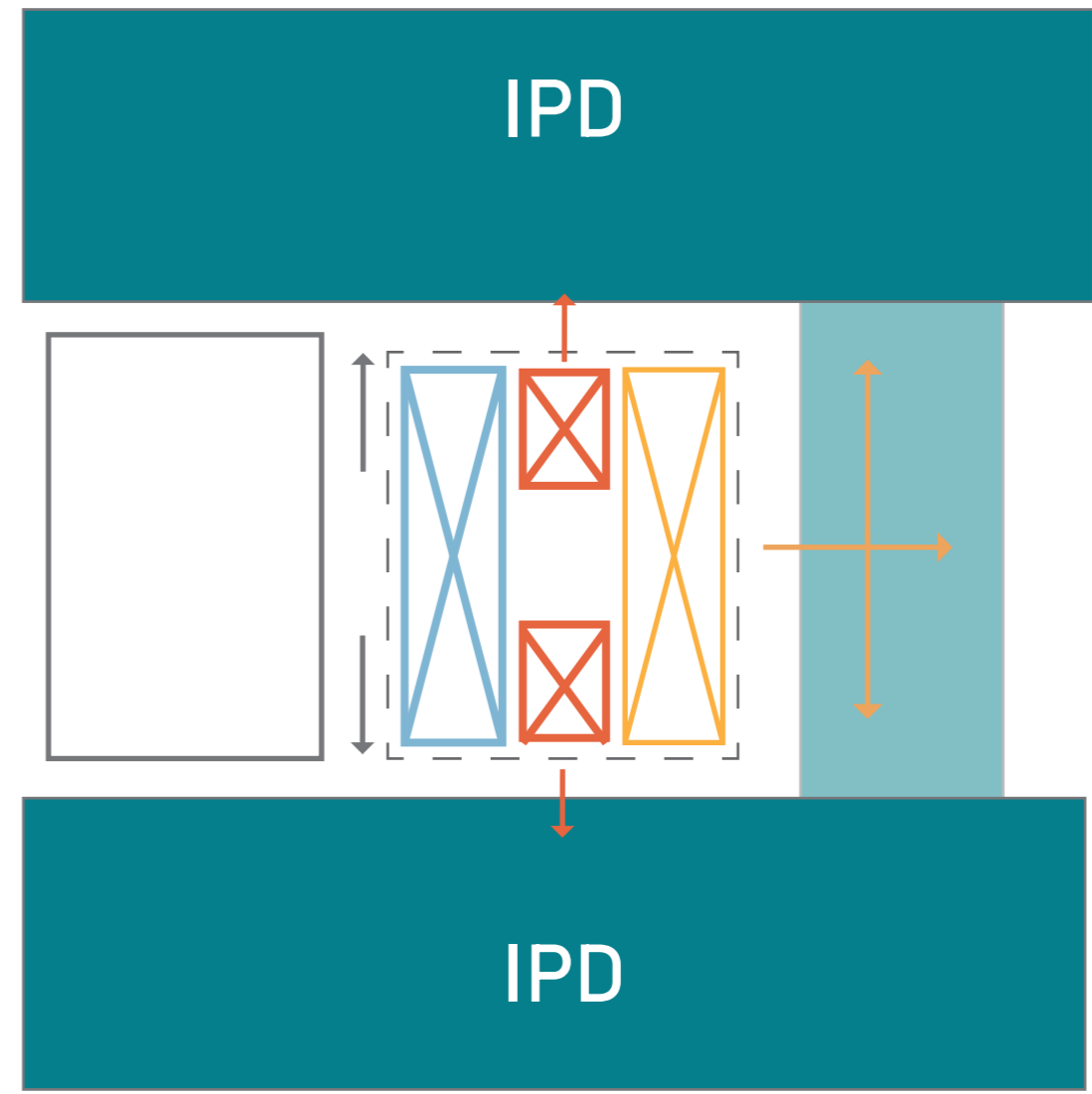


GROUND LEVEL

NOTE!: THE AREA OF THE CORE IS EXAGGERATED, IT'S JUST TO SHOW THE GENERAL IDEA



1ST FLOOR

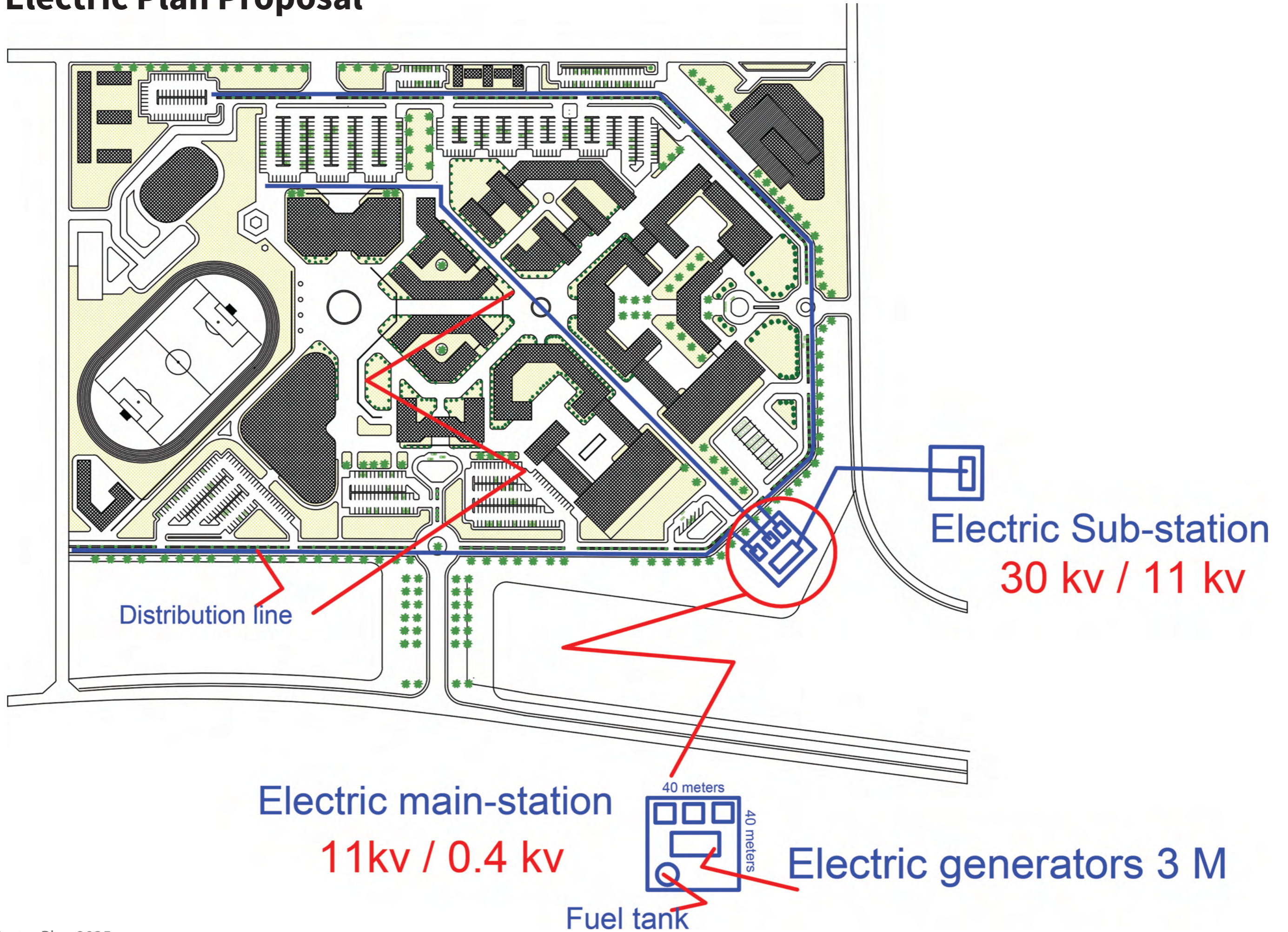


2ND, 3RD, ...ECT FLOOR

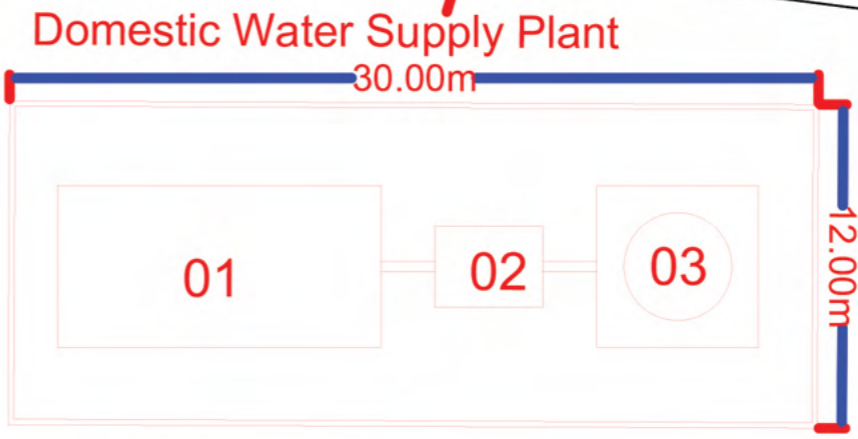
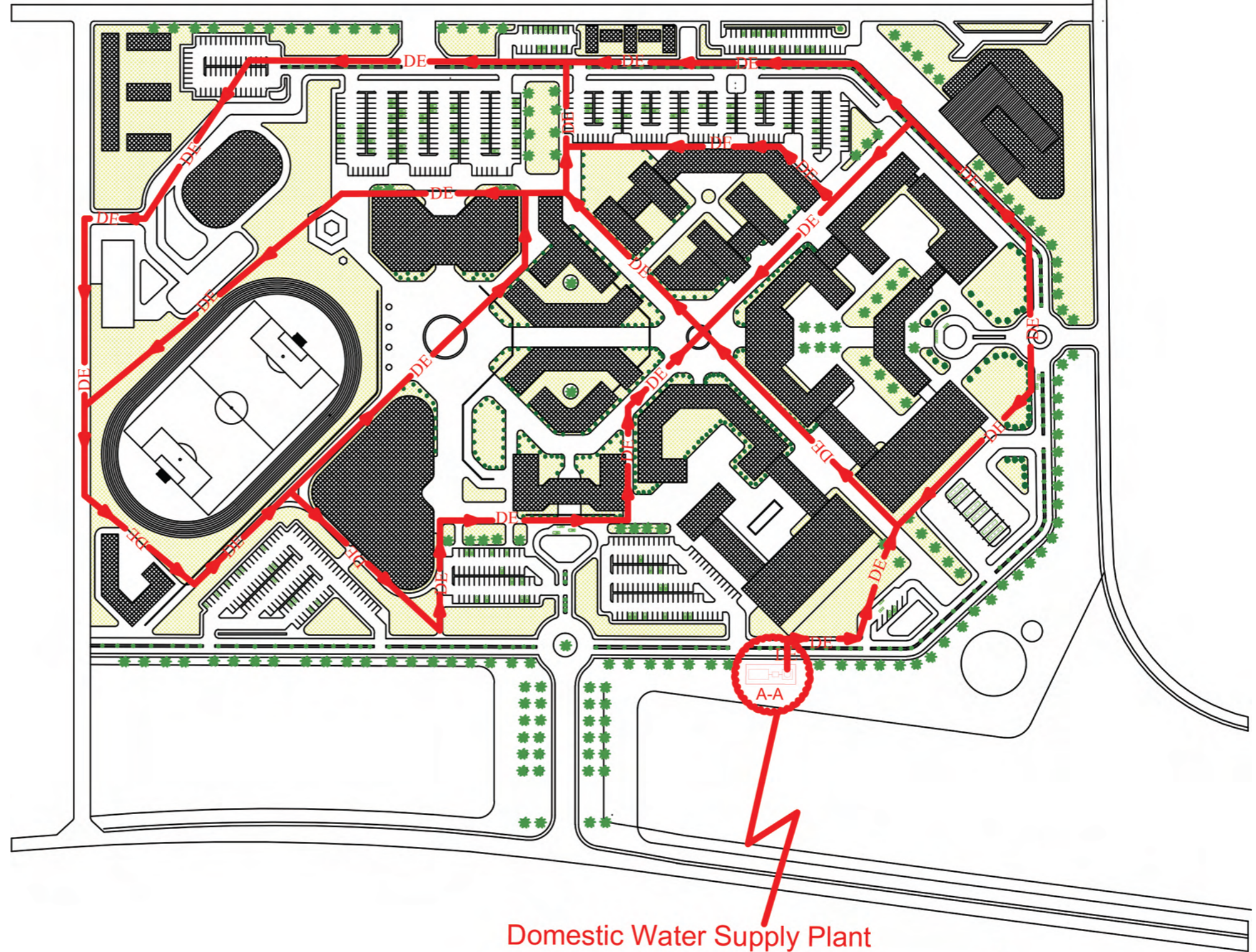
Infrastructure and Electric Plans

for the first alternative

The Electric Plan Proposal

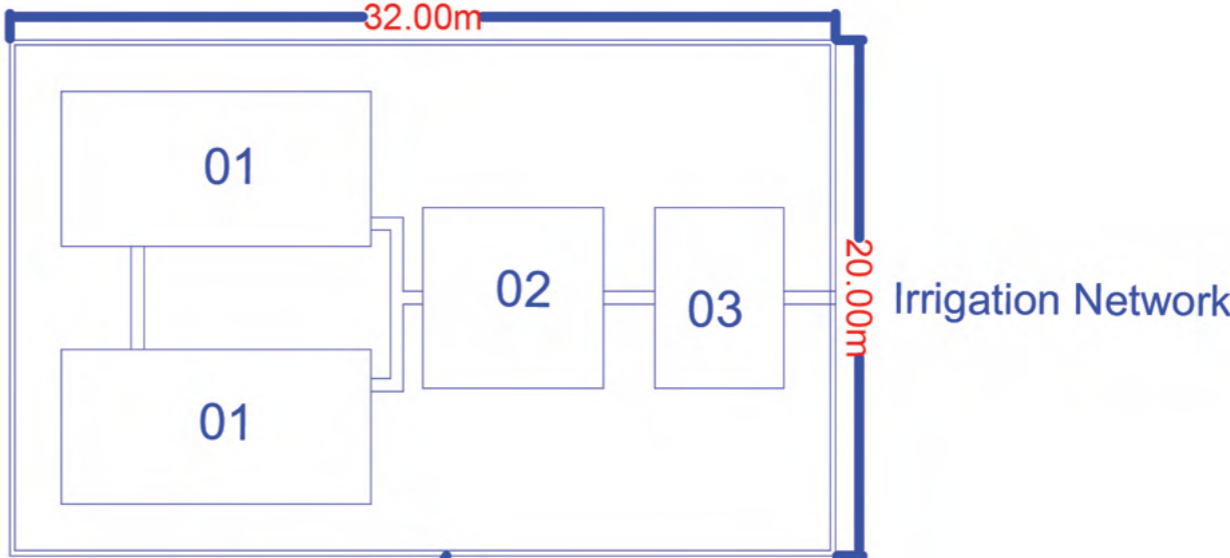


Water Supply Plan

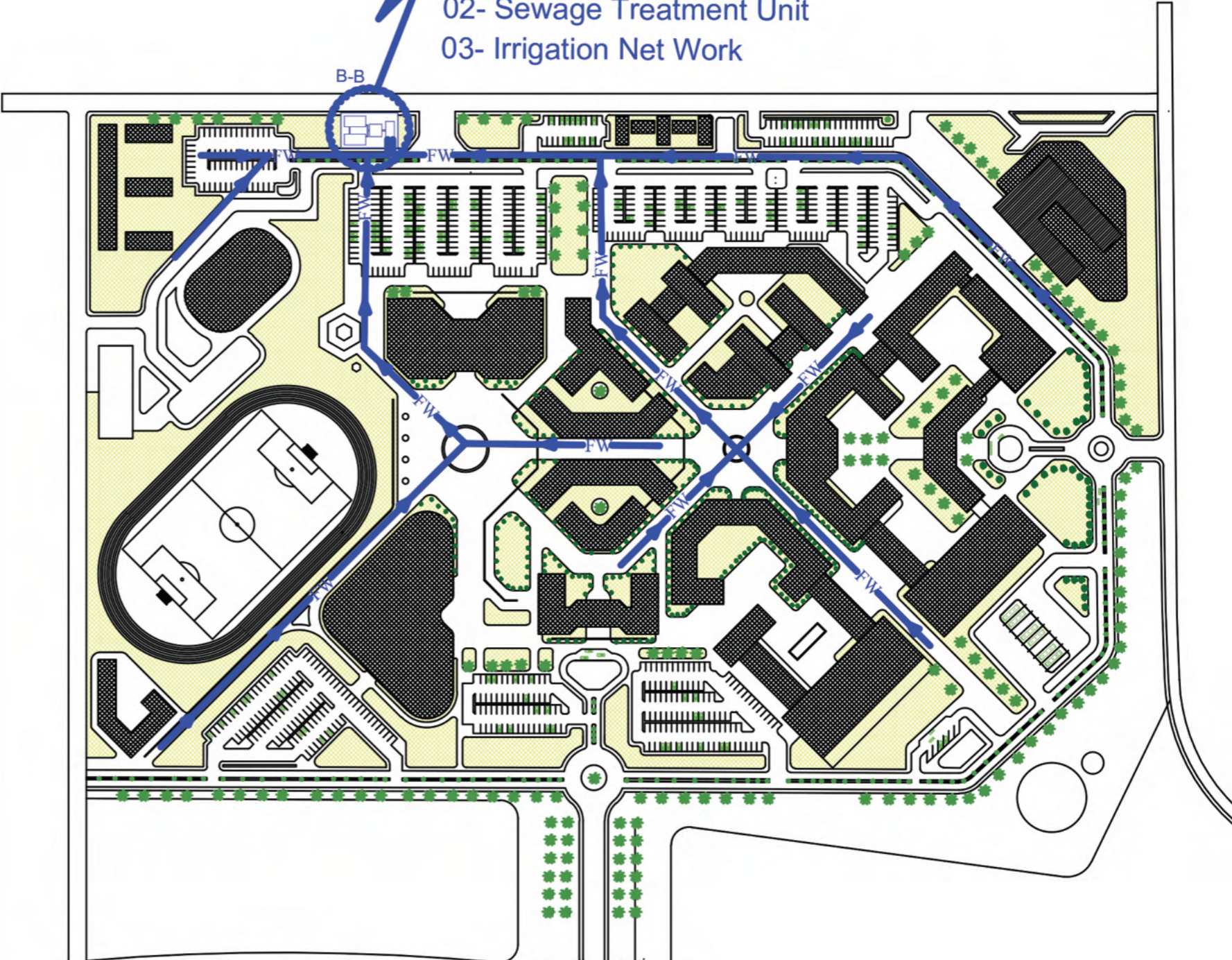


- 01- Under Ground Water tenk
- 02- Pump Room
- 03- Elevelted Water Tank

Water treatment plan



- 01- Septik Tank
- 02- Sewage Treatment Unit
- 03- Irrigation Net Work



THANK YOU ...