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New Silk Road. The Architecture of the Belt and Road Initiative

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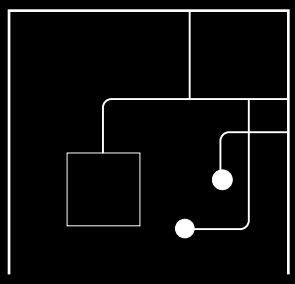
07 May 2026

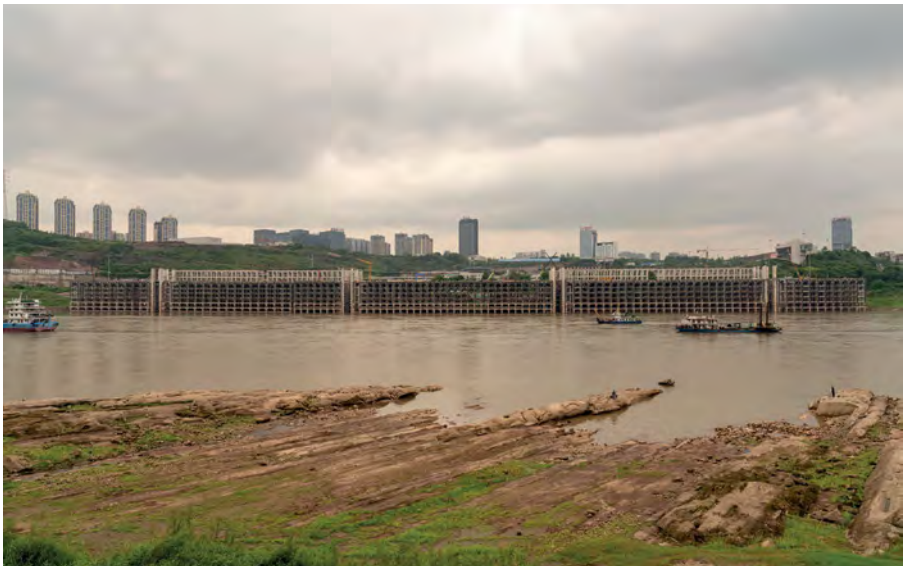
WORLDS OF SPECIAL RULES

Architecture between Humans and Data-Driven Machines



Lianglu-Cuntan Free-Trade Port Area

Location Chongqing, China
Built Area 3.88 square kilometers
Date 2020



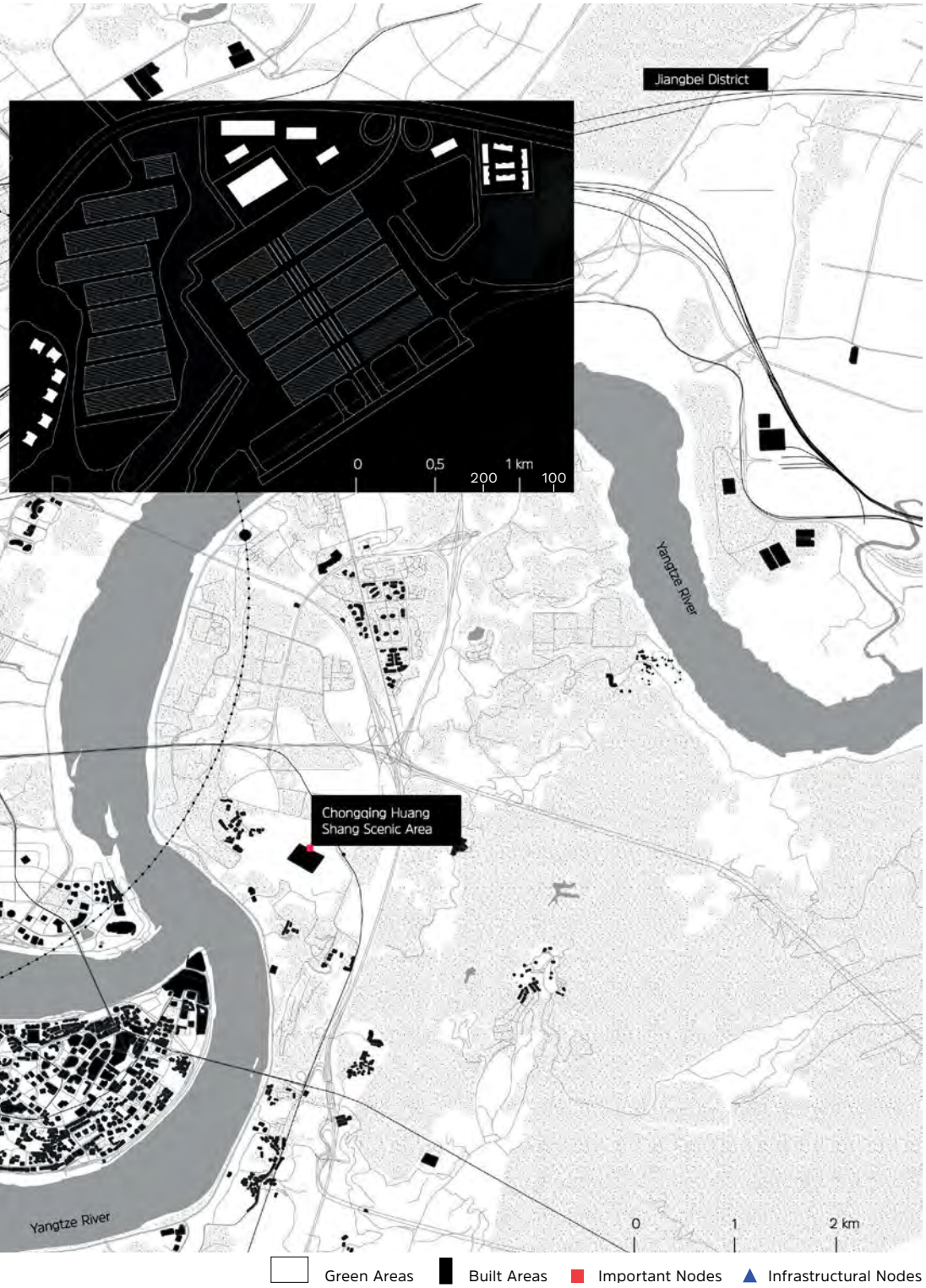
Concrete oiers and automated steel cranes allow the movement of cargos between the river and the inland.

The Lianglu-Cuntan Free-Trade Port Area is situated at the strategic intersection of the New International Land–Sea Trade Corridor – one of many corridors in the Belt and Road Initiative established in 2019 and connecting China's Western regions (Chongqing, Guangxi, Guizhou, Gansu, Qinghai, Xinjiang, Yunnan, and Ningxia) with the Association of Southeast Asian Nations (ASEAN) – and the Yangtze River Economic Belt, an economic route that includes eleven provinces and municipalities along the Yangtze river, from Yunnan in the west to Shanghai in the east. The port area emerged as a vital logistical node for the China–Europe Railway Express (Chengdu–Chongqing) running through Central Asia and the New Western Land–Sea Corridor. Established in 2017, it is a pilot project to enhance Chongqing's strategic connection with Western countries and speed up the development of new trade. As China's largest inland river logistics port, it connects multi-modal transportation on canals, trains, and roads.

The whole area is divided into two separate but interconnected zones, i.e. the port and the manufacturing hub. The port features an 800-meter-long multi-story concrete platform suspended over the water. This space allows the processing of standard containers (12 meters long). Ball transfer units assist container hauling, the RFID and GPS tags guide automated robot vehicles while metal cranes lifting shipping containers from the river to the land move on a rail grid. The port also has state-of-the-art equipment, for example the CT-type H986 X-ray inspection machine for customs clearance, capable of examining 200 containers per hour using artificial intelligence. These technologies optimize container storage and expedite inspection processes, streamlining inbound/outbound operations on the concrete pier. The manufacturing hub, hosting several high-tech, automotive, and food-processing enterprises, is situated just to the side of the port in the inland area. It comprises small shelters, prefabricated boxes, extensive warehouses, and high-tech industrial facilities, as well as an office building, organized around a rigid grid of multi-lane roads. Goods and raw materials are processed or stored here while waiting to be moved to other locations.

The architecture of the Lianglu-Cuntan port prioritizes the aesthetics of machines, thus echoing Archigram's utopian vision of their "Walking City."

Territorial map on two scales.


Jiangbei District
0
0,5
1 km
200
100
Yangtze River
Chongqing Huang
Shang Scenic Area
Yangtze River
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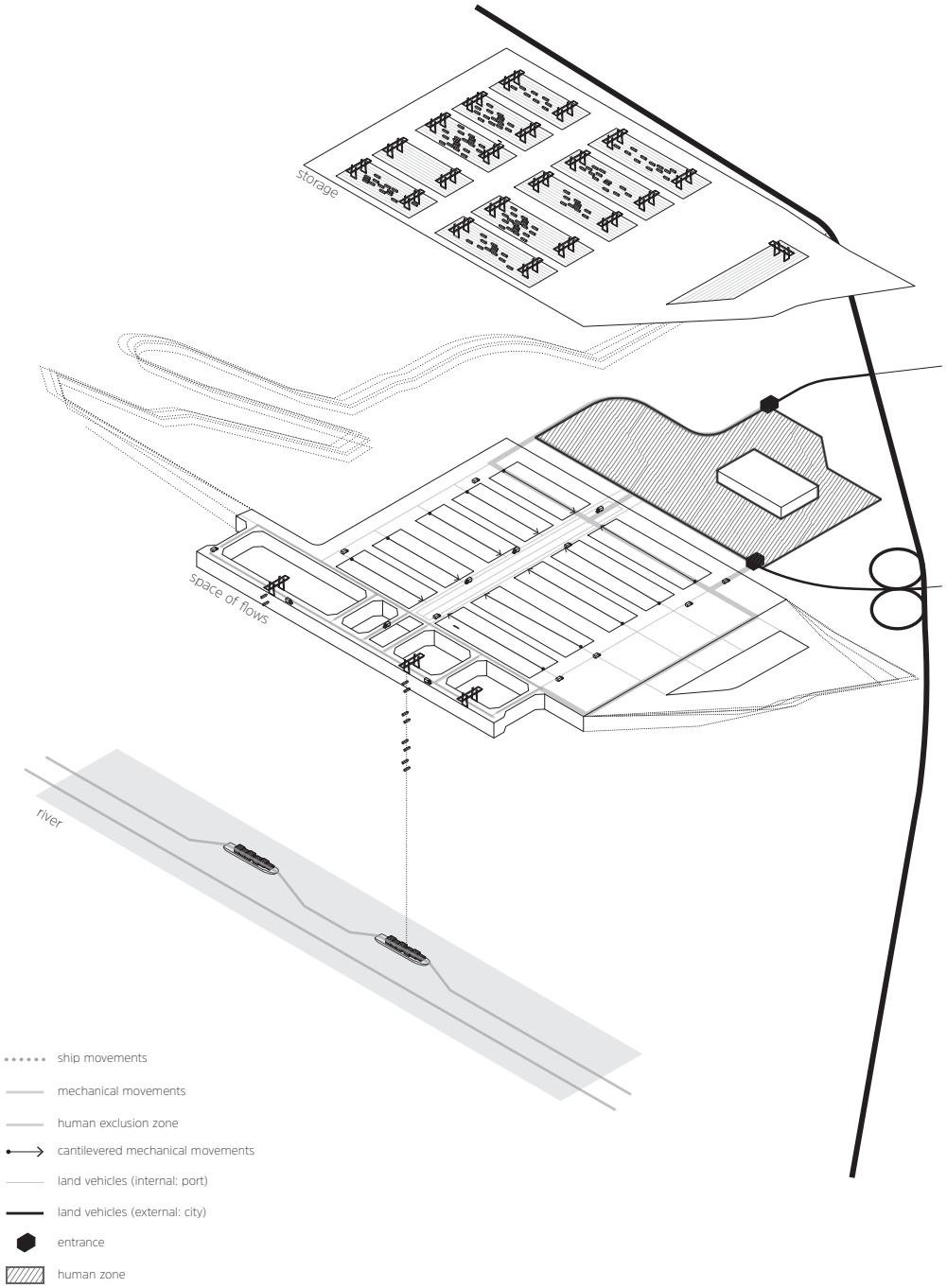
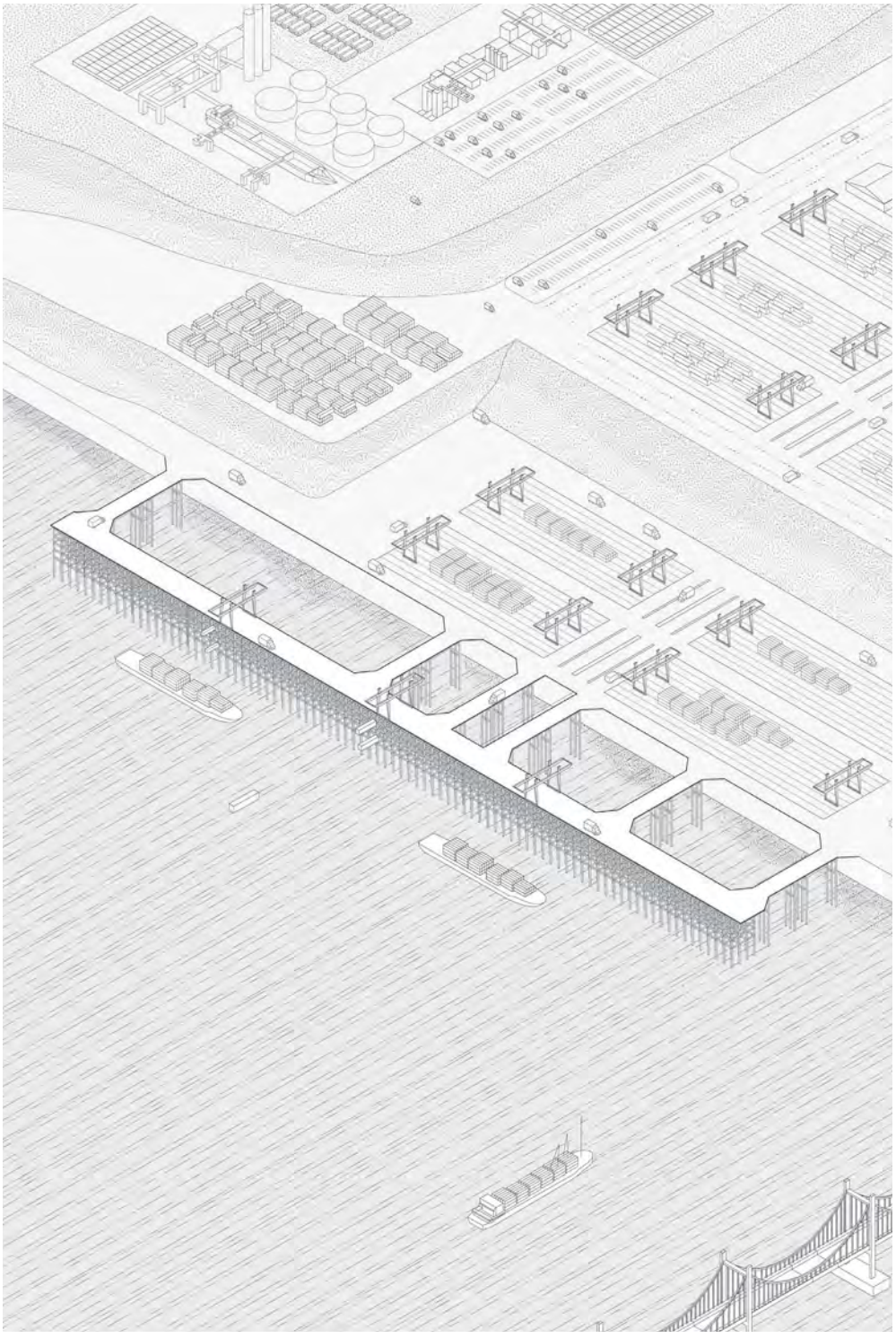
2 km
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



Circulation diagram showing the superimposition of human and non-human flows.



Axonometric view.

Prologis Logistics Center

Location Chongqing, China
Built Area 164,900 square meters
Date 2020
Client Prologis Co. Ltd.

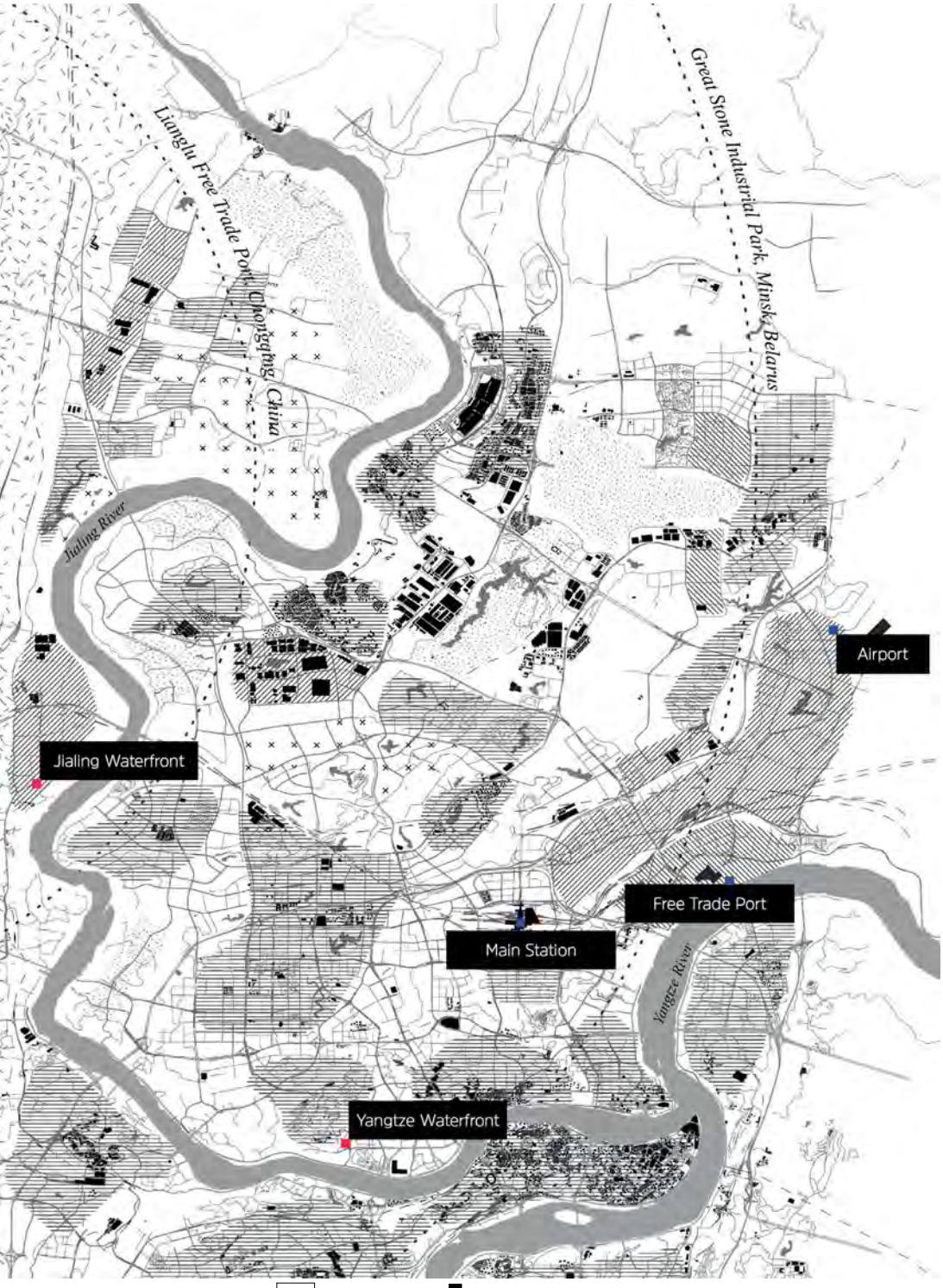
Two-story warehouses are connected by white concrete ramps surrounding the buildings.

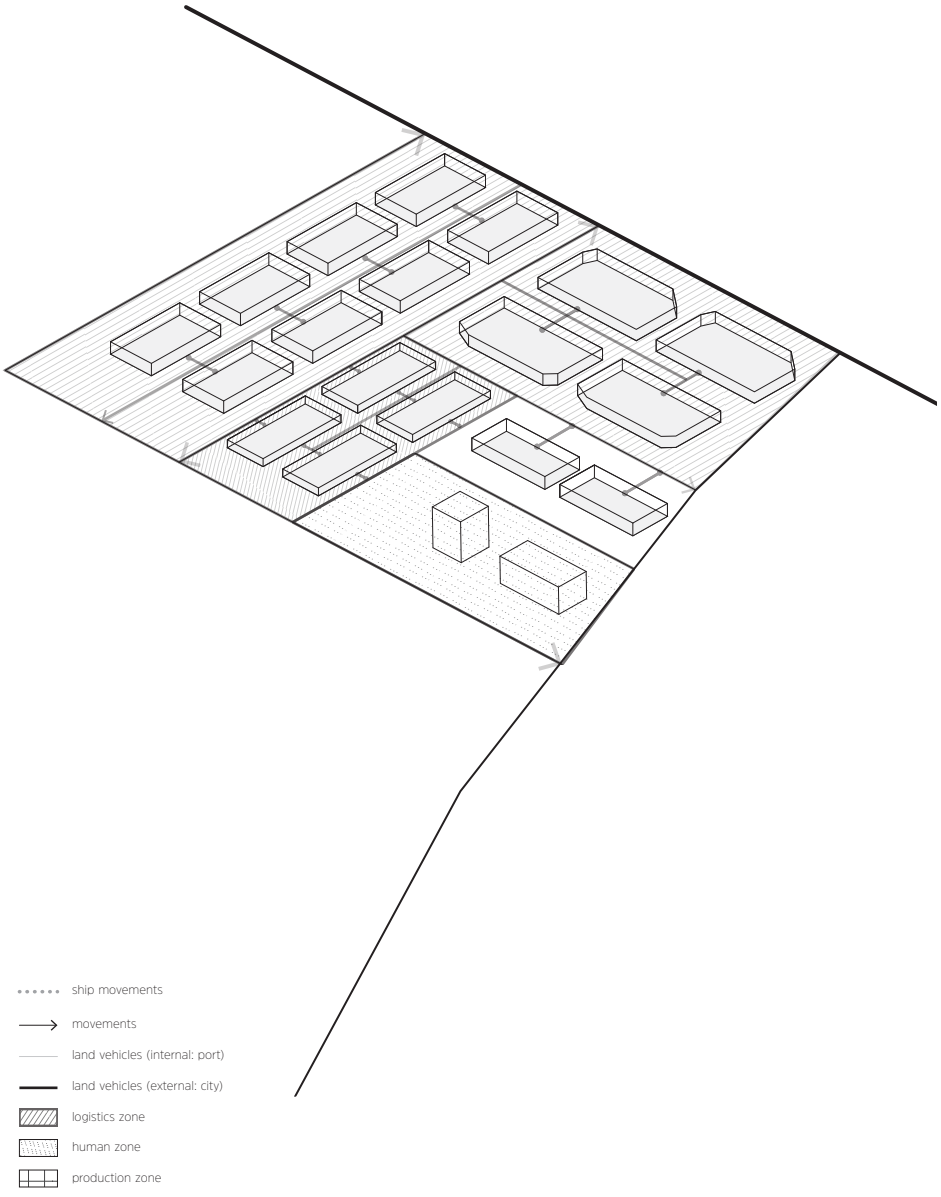
The Prologis Chongqing West Logistics Center is one of the many facilities built all over the world by the international logistics management company Prologis Co. Ltd. The Logistics Center is located in Chongqing Western New City, only 20 kilometers from the Chongqing downtown area and close to Highway G93, the main Chengdu–Chongqing intercity route. The center was intended to become an important logistic node of the BRI; it is also close (5.4 kilometers) to the Chongqing–Europe Railway departure station connecting Chongqing to the Asia–Pacific region and Europe.

The center was developed in two separate phases; it consists of four interconnected buildings with a total built area of 164,900 square meters. In order to maximize the land available in a relatively small plot, the buildings have two floors, making them very different from the more common warehouse type, usually just one-story high. Two white reinforced concrete ramps, winding around the buildings, allow trucks and other vehicles to access the second floor. The buildings are positioned around a main north–south central axis and three secondary axes in the opposite direction. On both floors, the main axis situated inbetween the buildings, acts as a platform for the loading/unloading of cargo. Most of the buildings' openings face toward the platform in the middle, while on the other side their appearance is solid and minimalistic.

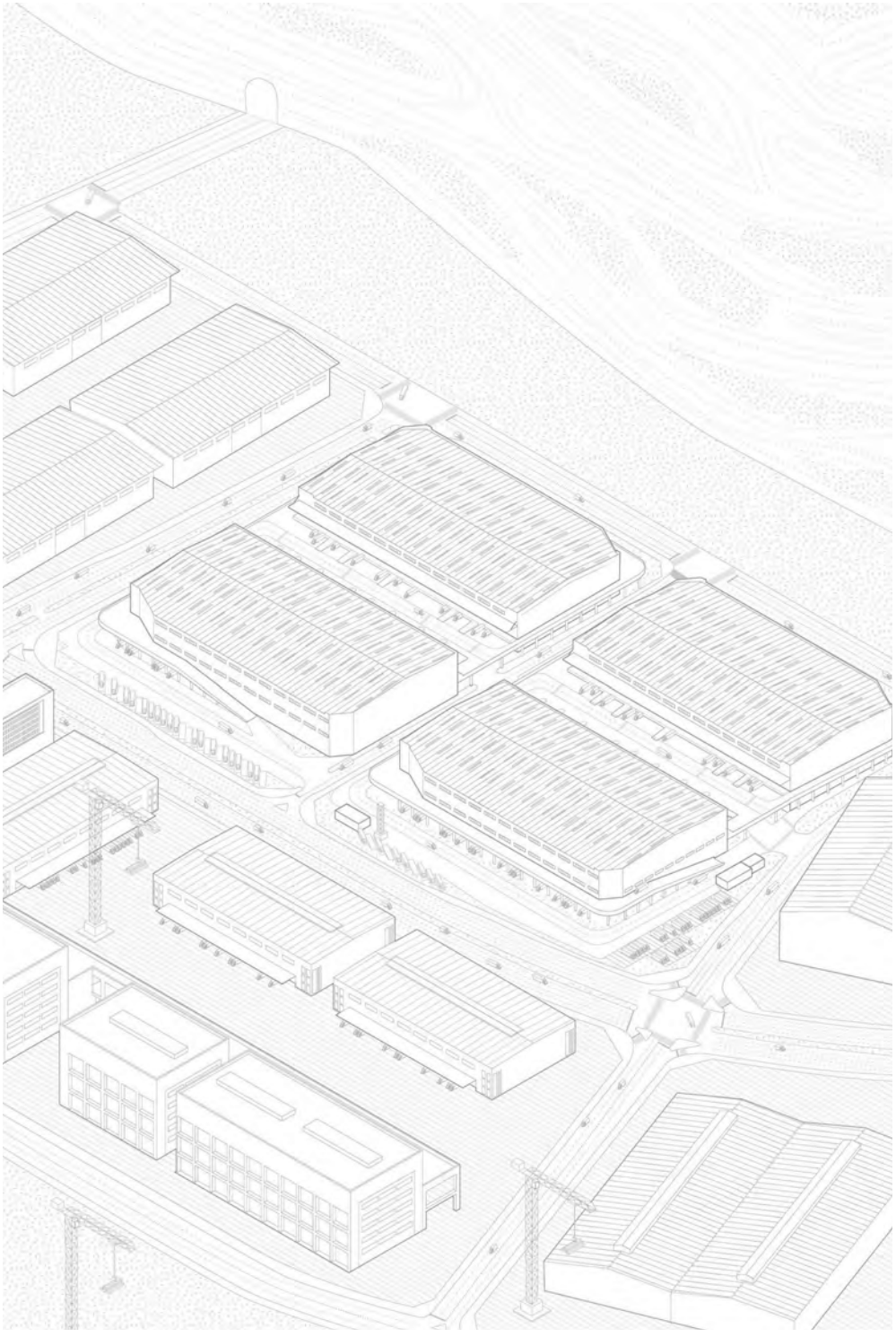
The buildings' structure – fully exposed in the internal spaces – is made of prefabricated concrete columns and slabs with loading beams in two directions. The floor is designed as a polished concrete surface free from any obstruction so that it can be adapted to different uses. The simple and utilitarian envelope is made up of an independent steel structure covered by folded green and gray metal sheets – the colors of Prologis' brand. Small linear windows on the façade and skylights on the roof allow a minimum amount of natural light and air to enter the buildings.

Territorial map on two scales.


Liangjiu Free Trade Port, Chongqing, China
Great Stone Industrial Park, Minsk, Belarus
Jialing River
Airport
Jialing Waterfront
Free Trade Port
Main Station
Yangtze River
Yangtze Waterfront
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



Circulation diagram showing the superimposition of human and non-human flows.



Axonometric view.

Khorgos Special Economic Zone

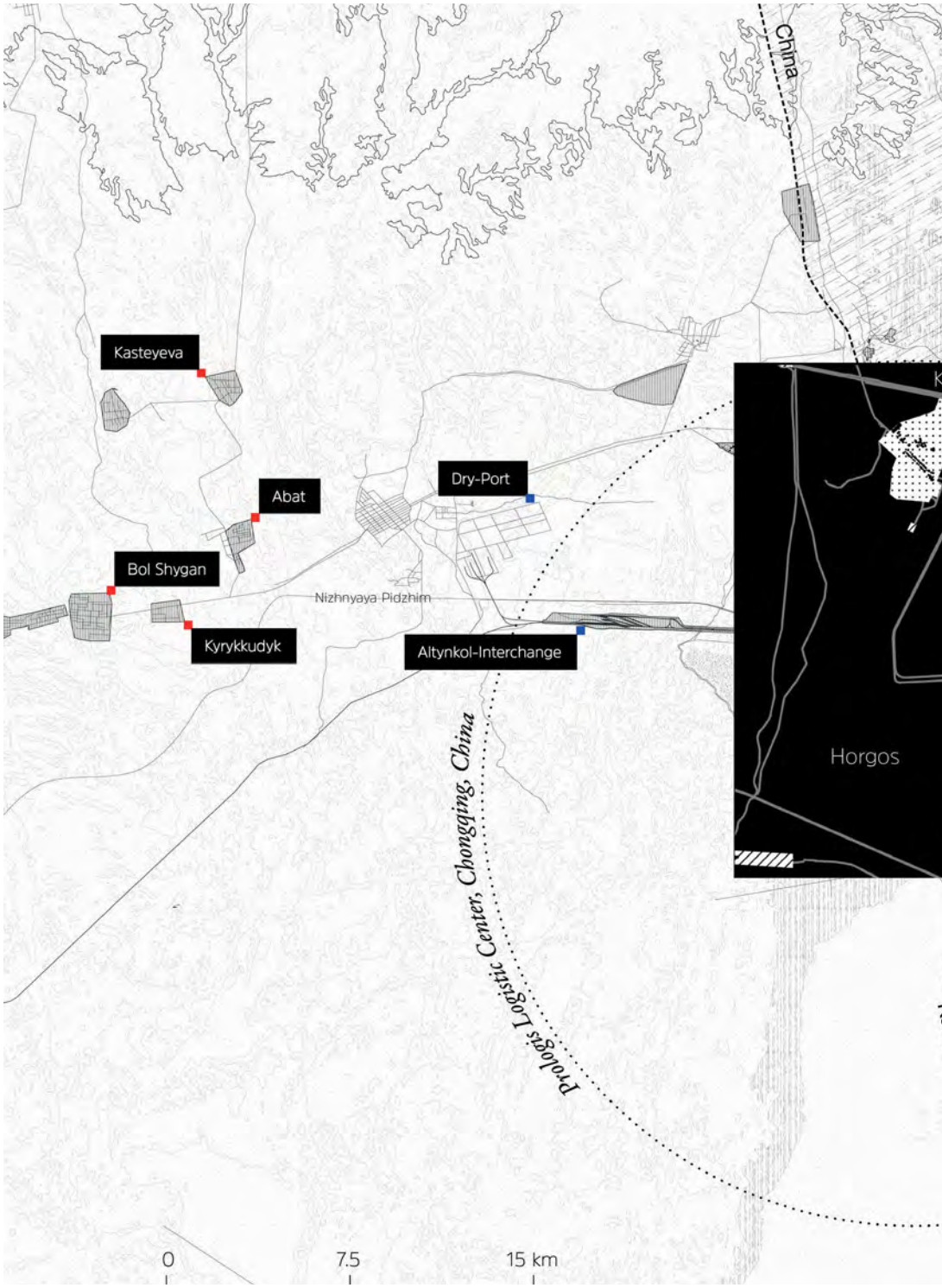
Location	Khorgos (KZ)/Horgos (CN)
Built Area	5.28 square kilometers
Date	2014 – ongoing
Architect	AECOM
Client	JSC International Center for Border Cooperation Khorgos

Foreign buyers and vendors entrance to the main shopping center, Khorgos.

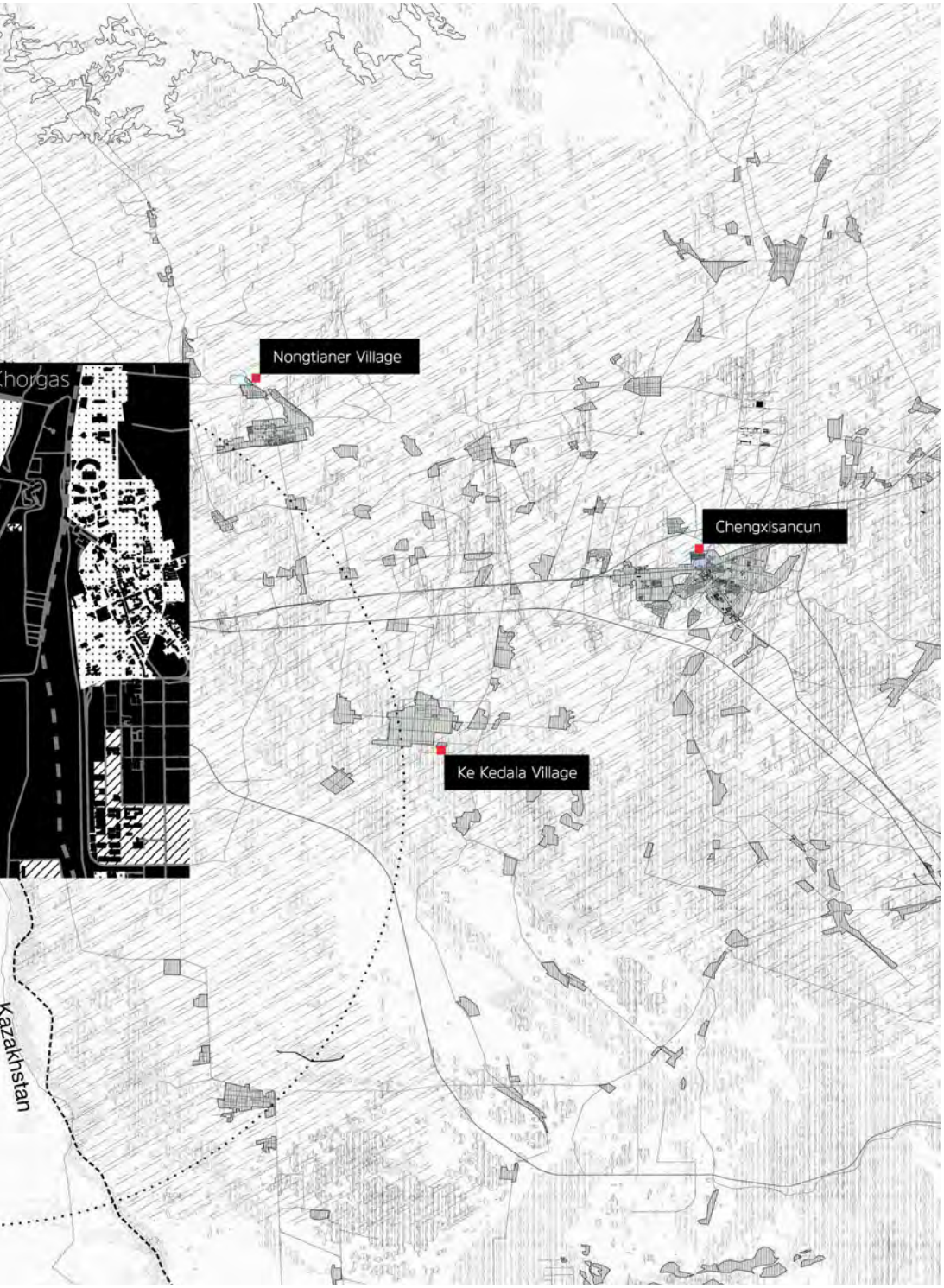
The town of Khorgos nestles along the border between Kazakhstan and the Xinjiang Uyghur Autonomous Region in northwestern China; up until 2011 it was one of the most isolated and sparsely inhabited places on the planet. Located between the Kazakhstan Mountains and the Saryesik-Atyrau desert in Kazakhstan, Khorgos is only 130 kilometers from the enigmatic "Pole of Inaccessibility," the farthest point on the Eurasian continent from any sea or ocean. Strangely enough, one of the main reasons why Khorgos has become one of the most important and well-known nodes of the Belt and Road Initiative is due to a quite bizarre and accidental circumstance that may fascinate historians of technology: an 89-millimeter difference in width between the Chinese and Russian railway gauge systems triggered the need for a unique exchange hub: the dry port. As a result, Khorgos turned into a bustling commercial and business location soon after the launch of the BRI in Astana and the establishment of the Khorgos Special Economic Zone. The zone includes the dry port on one side and the International Center of Border Cooperation (ICBC) on the other. This latter development is based on a visionary urban master plan, designed by the renowned integrated design firm AECOM; the master plan envisages a mixed development program, with an emphasis on trade and tourism, straddling the borders of China and Kazakhstan.

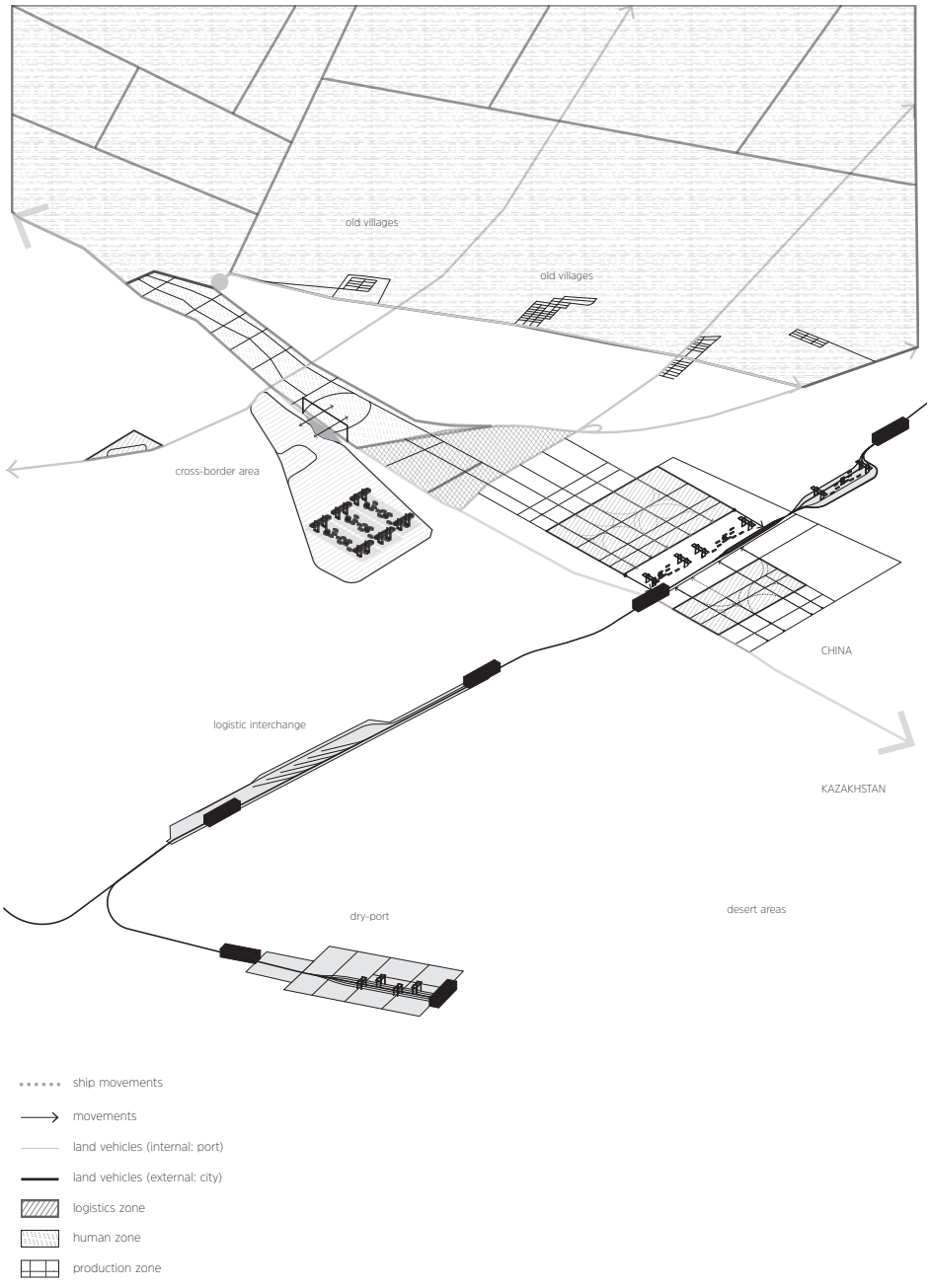
However, only a few of the buildings and infrastructure that are part of this monumental plan have already been constructed on the Kazakh side of the border. The entrance building symbolizes the link between the two countries; the prefabricated construction, with its three-dimensional façade elements, provides access to the free-trade zone governed by its own regulations. The monumental gateway leads to a vast space organized around a central green axis. Here, the master plan by AECOM envisages a linear city hosting an international university, hotels, sanatoria, sports complexes and an ethno-park, in addition to trade and logistics facilities. Strangely enough, the vision for the new city lacks provisions for housing, shops, or other infrastructures necessary for urban life; this raises questions about how and if it can become a sustainable development model for the whole area. On the other hand, the Chinese side with its large shopping area of over 5 square kilometers, is already completely functioning and animated. Its shopping centers with long galleries and sales booths host a continuous flow of people from different parts of the world. In fact, since the ICBC straddles the border, it is neutral territory. No visas are required to cross the border here and several thousand shoppers come every day from Kazakhstan and nearby Central Asian countries to buy products at affordable prices. Yet, despite the grand vision that ICBC might become a new Dubai, its completion is still quite unclear.

On the other side, the Khorgos Special Economic Zone consists chiefly of the dry port: a highly automated environment, teeming with East–West freight and product flows, efficiently tracked by GPS and shorter-range wireless tracking tools. Here, freight and shipments are organized in advance, generating a continuous and simultaneous flow of goods that intersects with human activity in only a few dedicated zones established for inspection and exchange. More than ten years after its launch, the Khorgos Free Zone remains a fragmented intervention. While the automated dry port thrives, the humanized ICBC languishes.

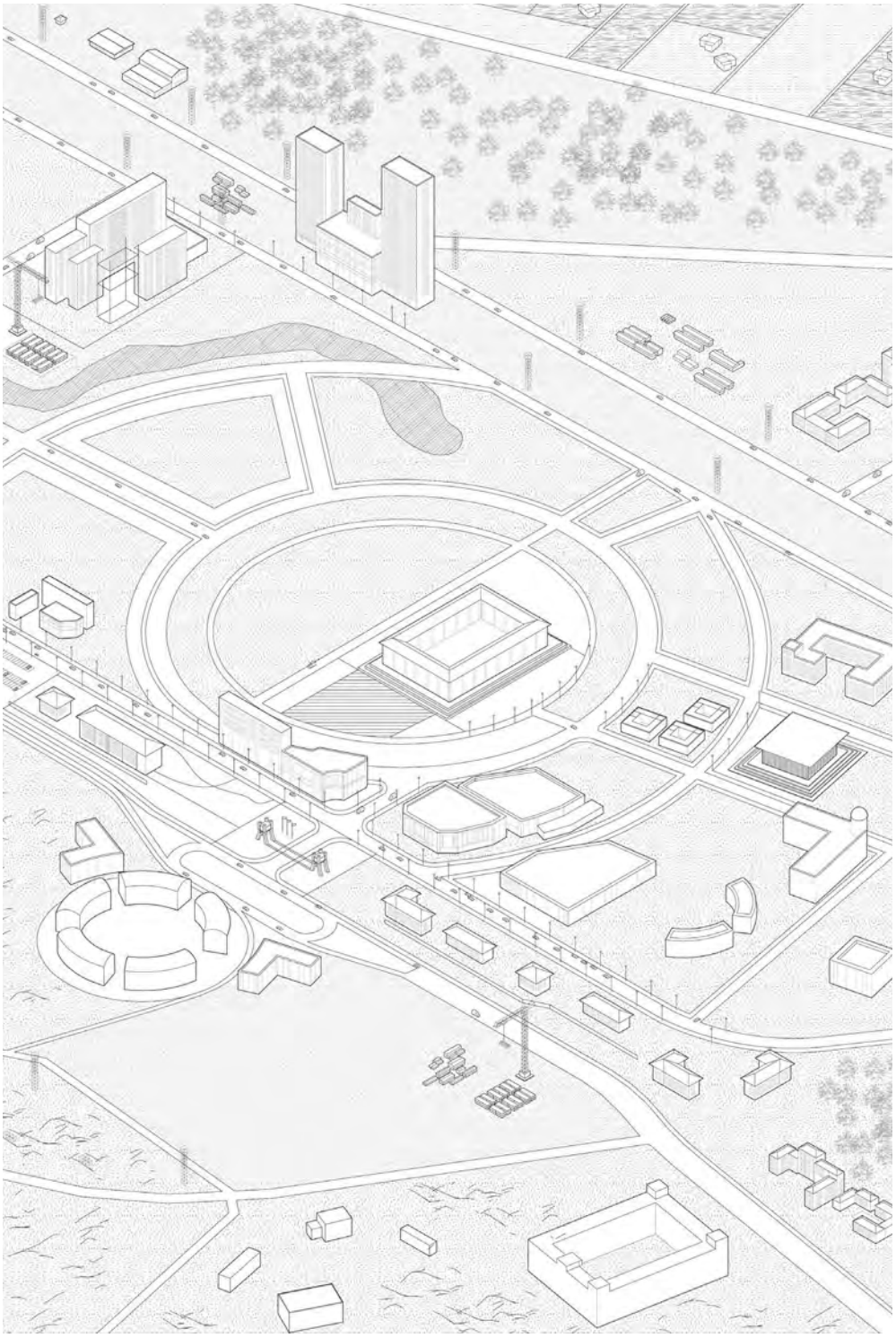


Territorial map on two scales.


Khorgas
Nongtianer Village
Chengxisancun
Ke Kedala Village
Kazakhstan
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



Circulation diagram showing the superimposition of human and non-human flows.



Axonometric view.

Great Stone Industrial Park

Location Minsk, Belarus
Built Area 8.5 square kilometers
Date 2015 – ongoing
Client Great Stone Industrial Park Development Company

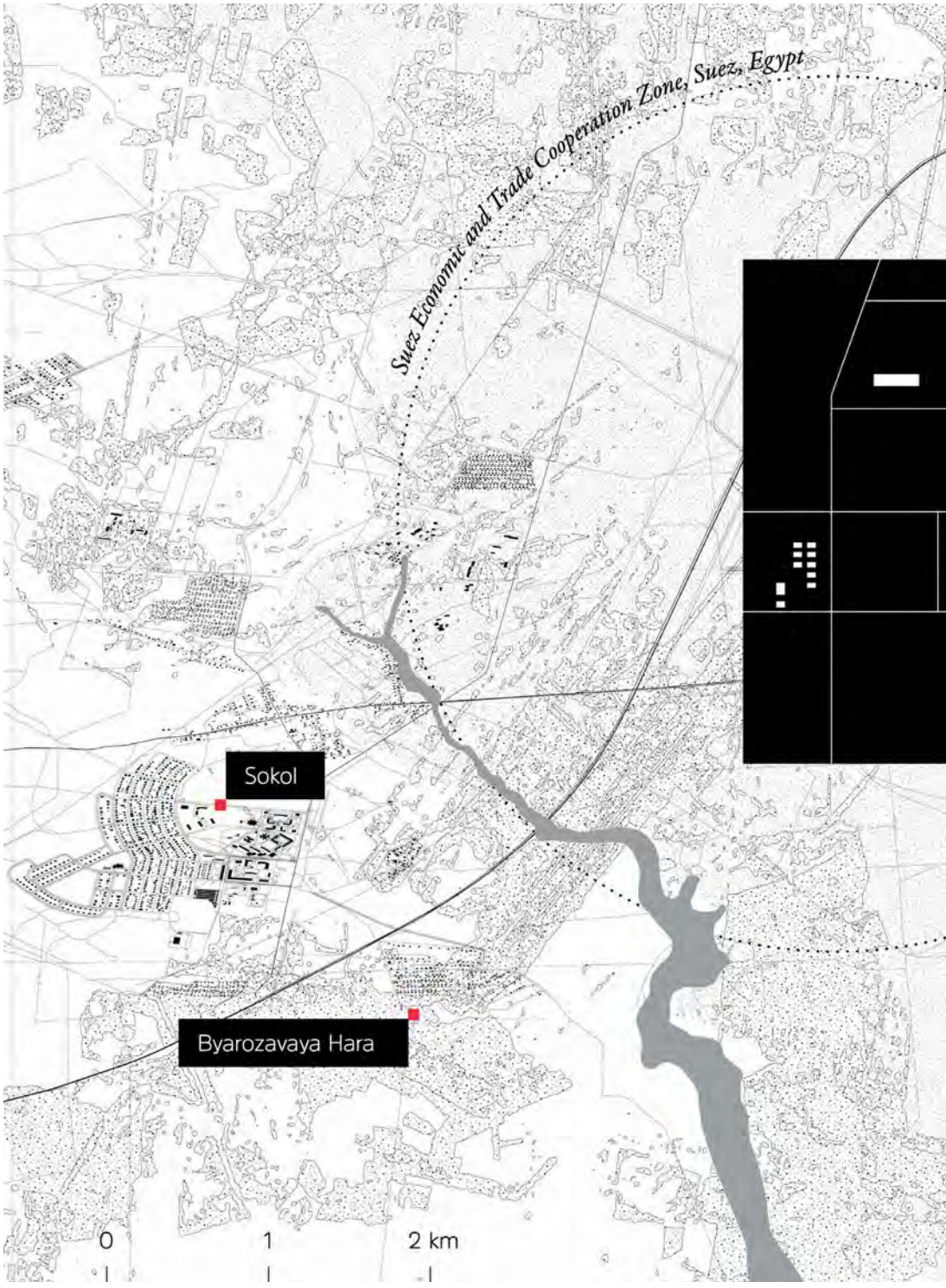
Multi-lane roads connect research centers and warehouses for the storage and processing of goods.

The Great Stone Industrial Park is a dynamic light manufacturing hub strategically positioned to provide tariff-free access to the Eurasian market, but close to the European Union. Located in the vicinity of Belarus's capital, Minsk, the park occupies a key position along the Northern Corridor of the New Silk Road trade route, one of the most critical in the current geopolitical situation.

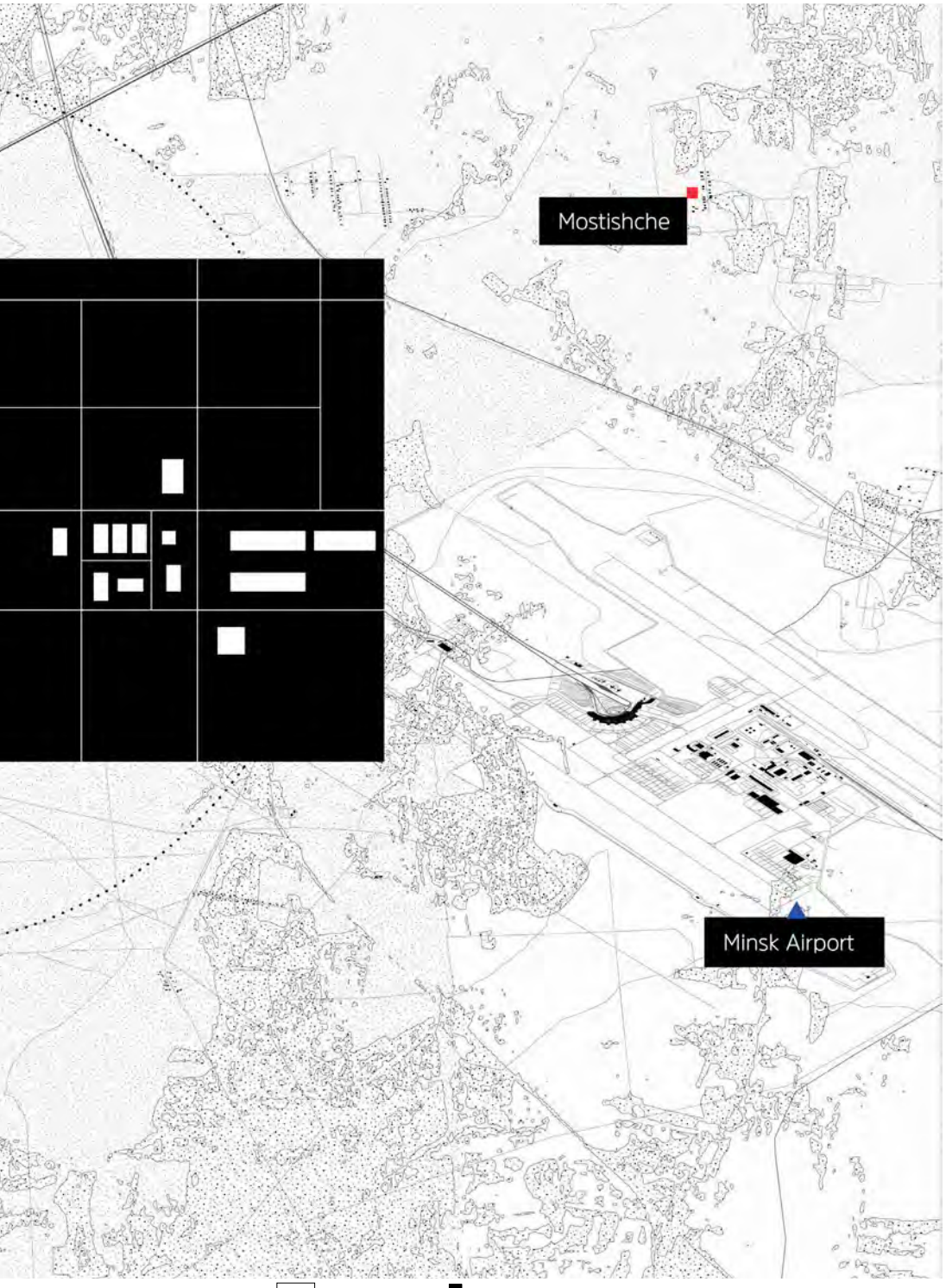
The construction of the park is divided into five stages; the final phase is expected to be completed by 2060 and accommodate over 130,000 residents, as outlined in the official planning and promotional documents. Within this enormous development project, the park offers a range of ready-to-use manufacturing facilities that can be either rented or purchased, thus enabling a quick production setup. Alternatively, business enterprises have the option to build custom-made production facilities within the park. The overall plan revolves around a mix of four main functional zones: residential buildings, public buildings, industrial buildings, and extensive landscaping with recreational zones.

The architecture of the Great Stone Industrial Park reflects the distinctive features usually associated with an industrial park typology. From a formal point of view, there are no high-rise buildings or spectacular architectural designs, and most buildings are limited to two or three stories. Specific, variegated architectural features, such as polished brick cladding, sloping roofs, shiny glazed façades and colored envelopes, are prioritized only for specific buildings, such as the research and development laboratories and exhibition or conference centers; instead, all the other buildings, made of prefabricated steel structures wrapped around insulated concrete slabs, speak the language of global logistics architecture. Although the vision of the park is decisively business oriented, its multi-stage plan deliberately conjures up the image of a city, with an emphasis on places for people and strong infrastructural connections, such as a multi-lane road transportation network that links the different functional areas using several means of transportation, including cars, trucks, and even dedicated buses for workers and their families. Six- to eight-lane roads are built based on codified Chinese practices for infrastructure development. Street sections feature flower beds that separate access lines; wider roads near crossroads make the regulation of vehicular traffic more efficient. The big grid pattern, based on the Chinese industrial parks model, generates large plots measuring 300 to 500 meters by 300 to 500 meters; this results in a cellular urban environment where the essential aspects of urban life – namely housing, working, and consuming – are internalized within each block.

The Great Stone Industrial Park merges logistics architecture with conference centers, offices, commercial shops, multi-story housing buildings, and service facilities. Spaces dedicated to goods and humans are thus present and overlap within the same urban grid. The park is not merely a place for cargo to transit from one location to the other; on the contrary, it is a destination where goods come to be transformed and people arrive to establish a lasting presence.



Territorial map on two scales.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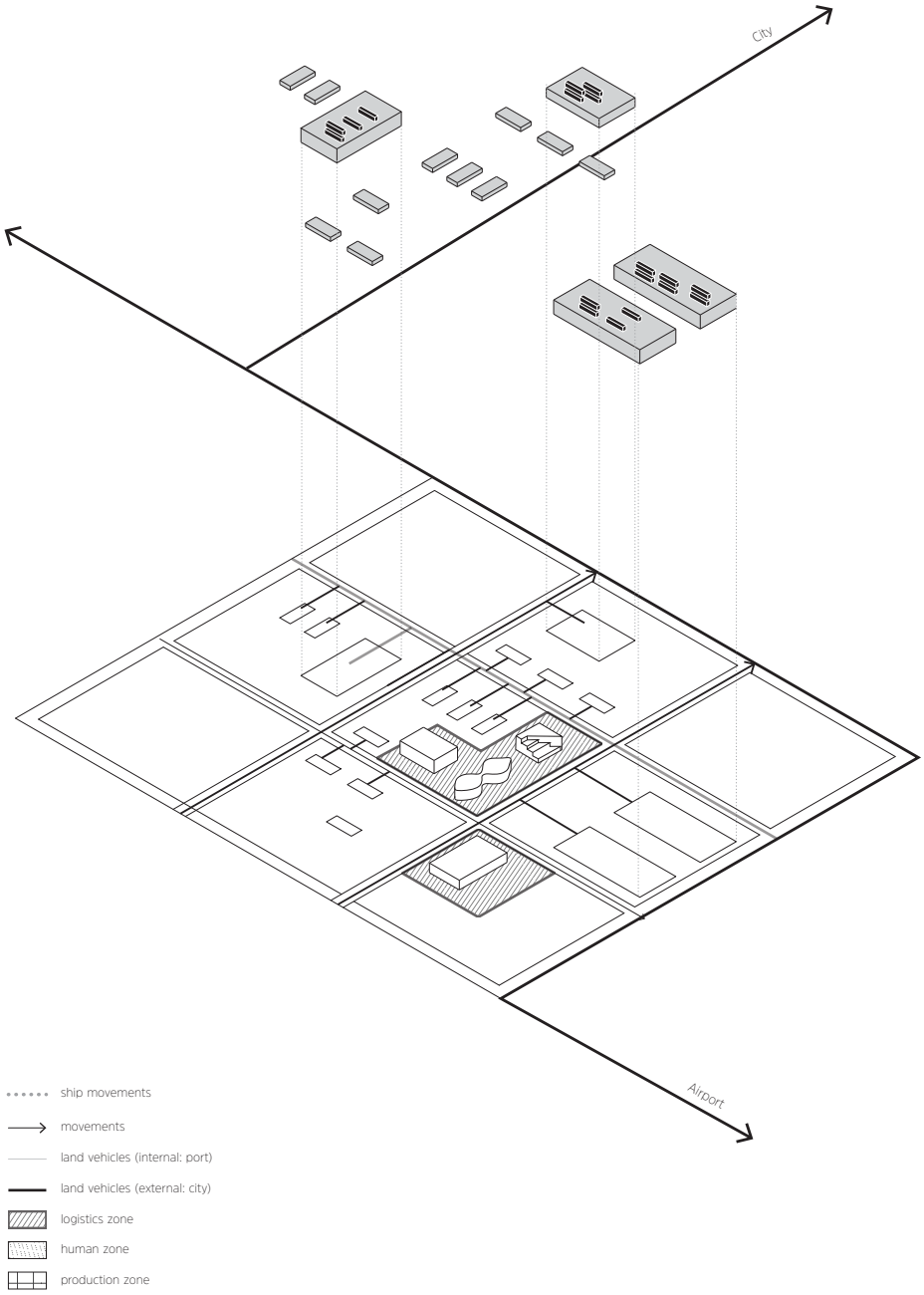
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



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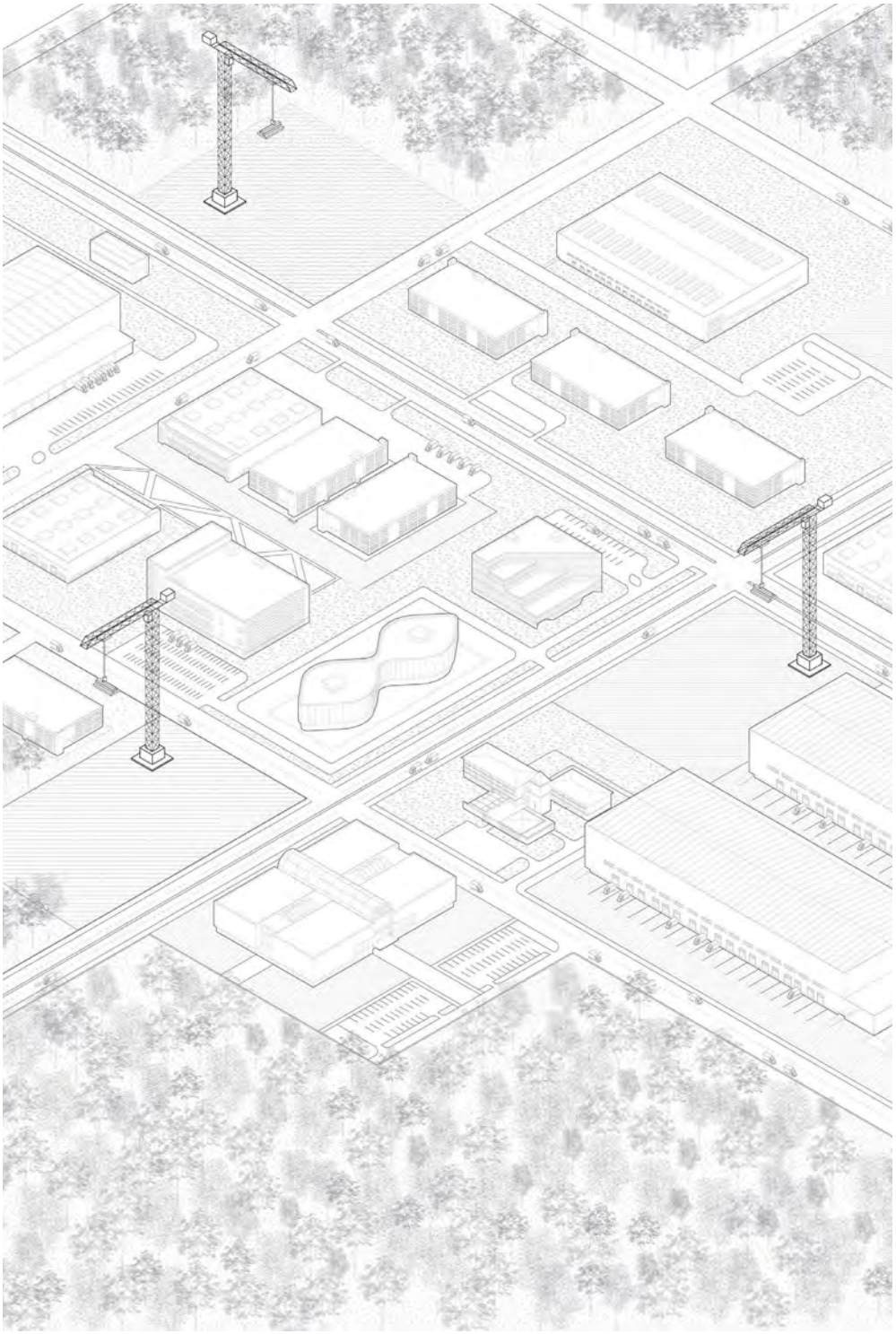


Axonometric view.

Suez Economic and Trade Cooperation Zone

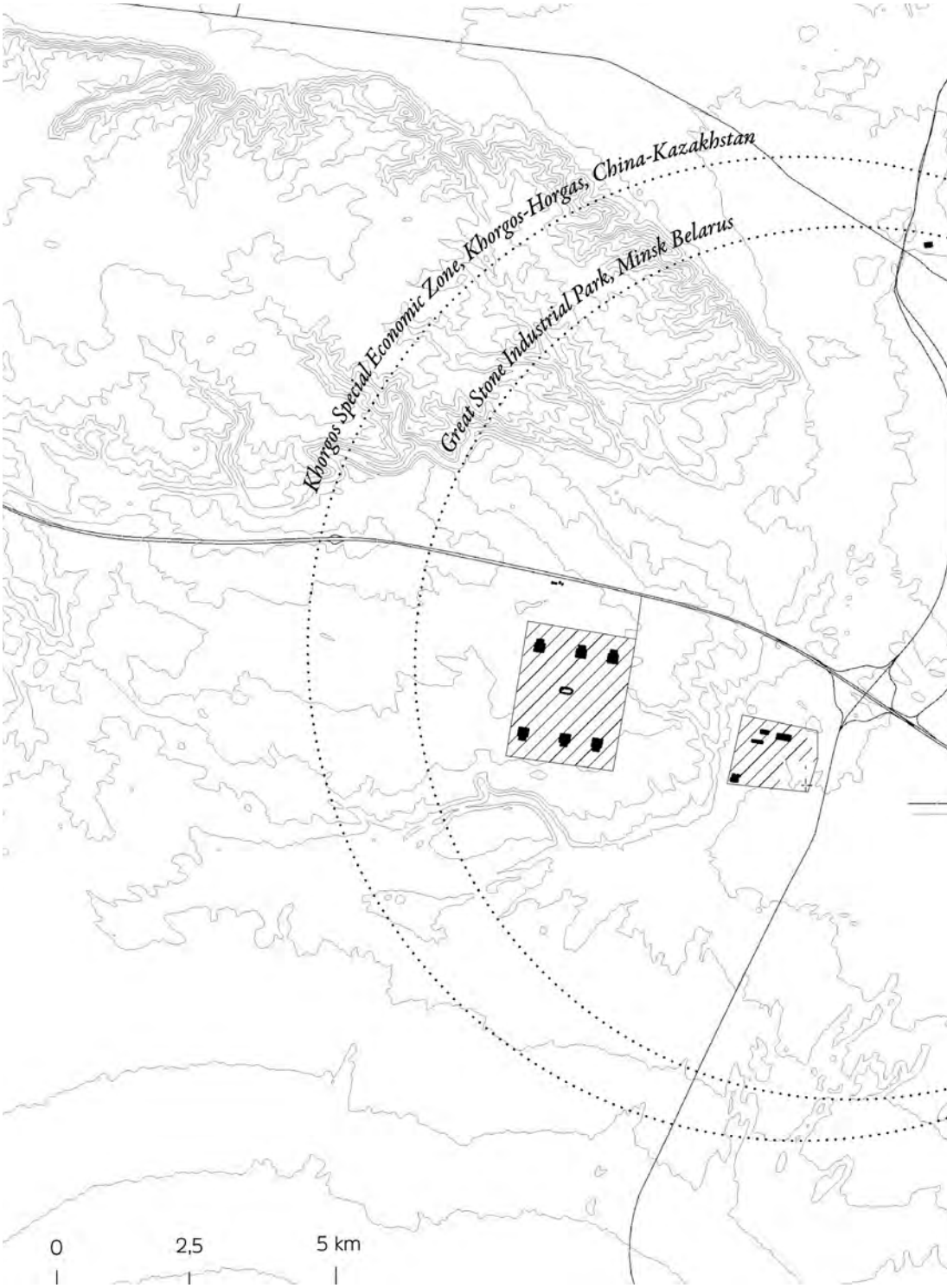
Location	Suez, Egypt
Built Area	7.4 square kilometers
Date	2008 – ongoing
Client	Tianjin Economic-Technological Development Area Co. Ltd.

Leisure amenities in vernacular style are superimposed on a large manufacturing hub.

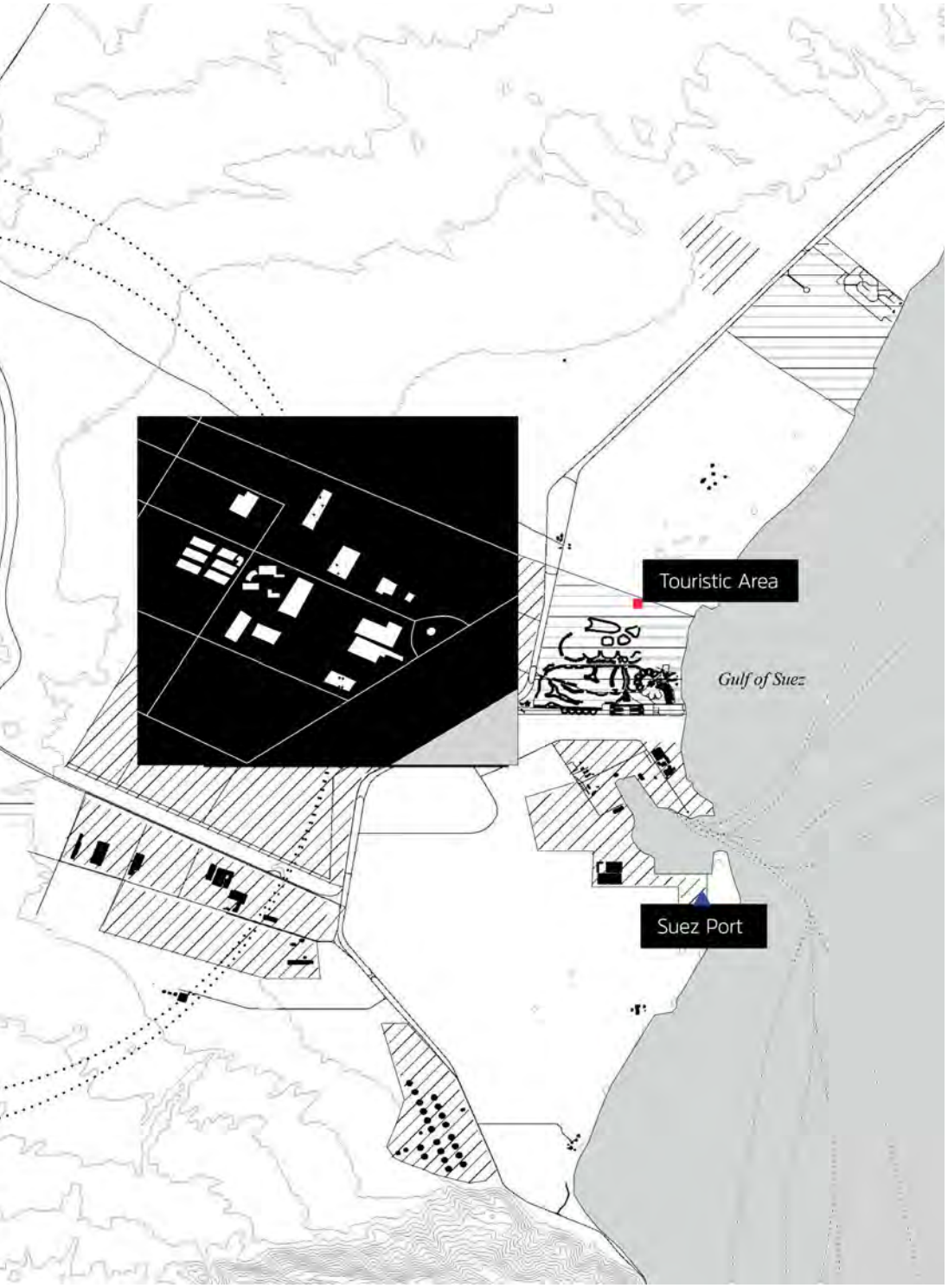
The Suez Economic and Trade Cooperation Zone, located at the crossroads between the Mediterranean and the Middle East, is a special economic zone operated by the Tianjin Economic-Technological Development Area (TEDA) Co. Ltd. The zone lies just 120 kilometers from Cairo and 40 kilometers from the city of Suez; it plays a key role in the program of the Belt and Road Initiative due to its proximity to the Suez Canal and the latter's strategic position between the Indian Ocean and the Mediterranean Sea. While plans for the zone had already been announced in 2008, its development gained momentum within the framework of the BRI and after President Xi Jinping's visit to Egypt in 2016.

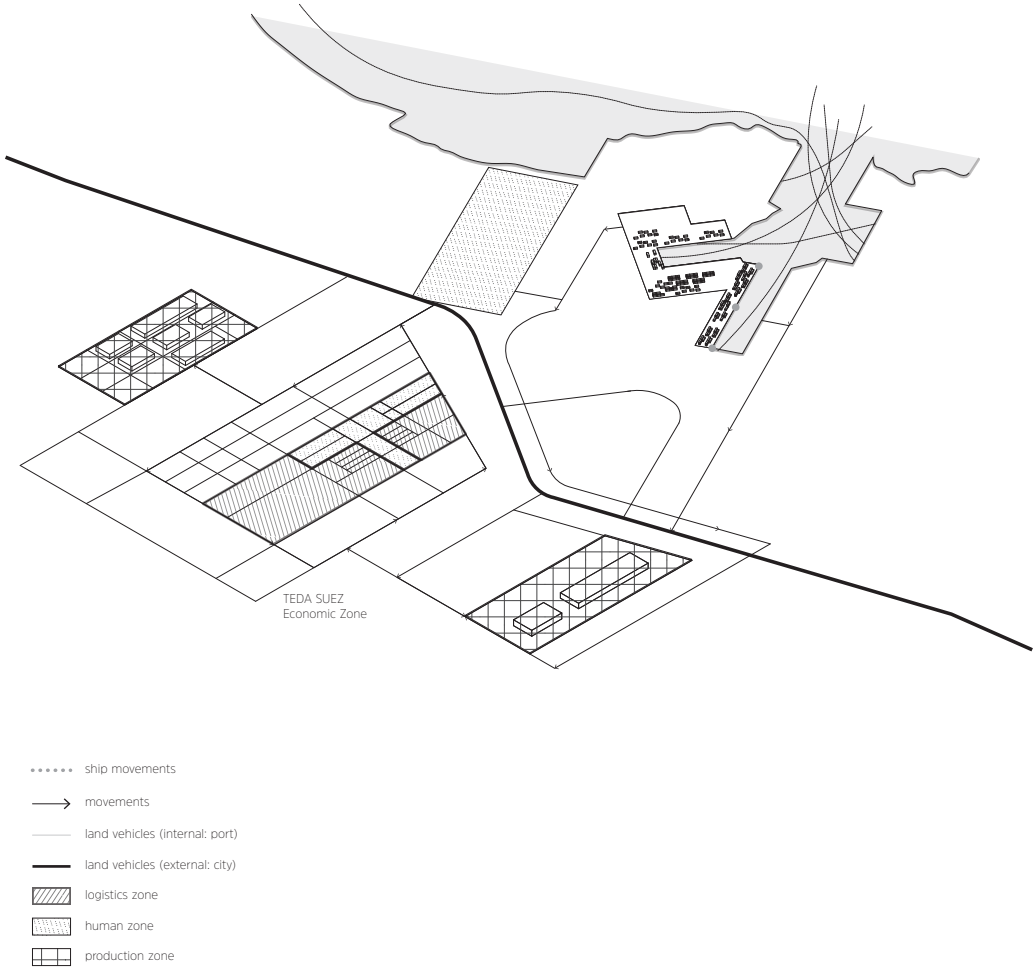
The layout of the zone is designed as an orthogonal grid occupied by several industrial areas. Wide multi-lane roads are used in an orderly manner by trucks and cargo, while a network of underground infrastructures provide services in line with the standards of most Chinese industrial parks. The services include: electricity, roads, tap water, telecommunications, rainwater drainage, heating, gas, domestic sewage drainage, cable TV, firefighting facilities, and the preparation of the site for the future development of manufacturing buildings. A fiberglass manufacturer and high-voltage electric equipment workshop are, for example, among the production facilities available. However, unlike industrial facilities, the zone includes a series of supporting amenities, such as offices, a hotel, a conference center, and even an amusement park. The industrial warehouses are separated from the rest of the buildings by high walls, thus clearly dividing the zone into two separate but interconnected spaces: on the one hand an operational landscape and, on the other, a leisure space. This latter area is usually referred to as the "resort" in promotional materials. Visitors and businesses are considered "members," coexisting in a unique blend of small-scale vernacular buildings and modern offices surrounded by lush vegetation. As Keller Easterling noted in her seminal work *Extrastatecraft*, the presence of transient workers, businessmen, and tourists creates a temporary population contributing to the zone's vibrant business environment.

Interestingly enough, the dual nature of the zone is reflected by its architectural outlook. Indeed, while the industrial areas feature typical warehouses made of prefabricated concrete elements and with shining aluminum cladding on the roof, the other architectural elements are more in touch with the local context. This is clear, for instance, in the office buildings hosting the TEDA Special Economic Zone Management Company and the Egyptian–Chinese Joint Venture Company, both responsible for managing the area's development. These buildings are monumental; the big volumes are clad in local yellow stone, while the recessed windows accentuate the façade. The buildings' monumentality is further enhanced by large entrances characterized by a colonnade designed in a style vaguely reminiscent of Egyptian temples.

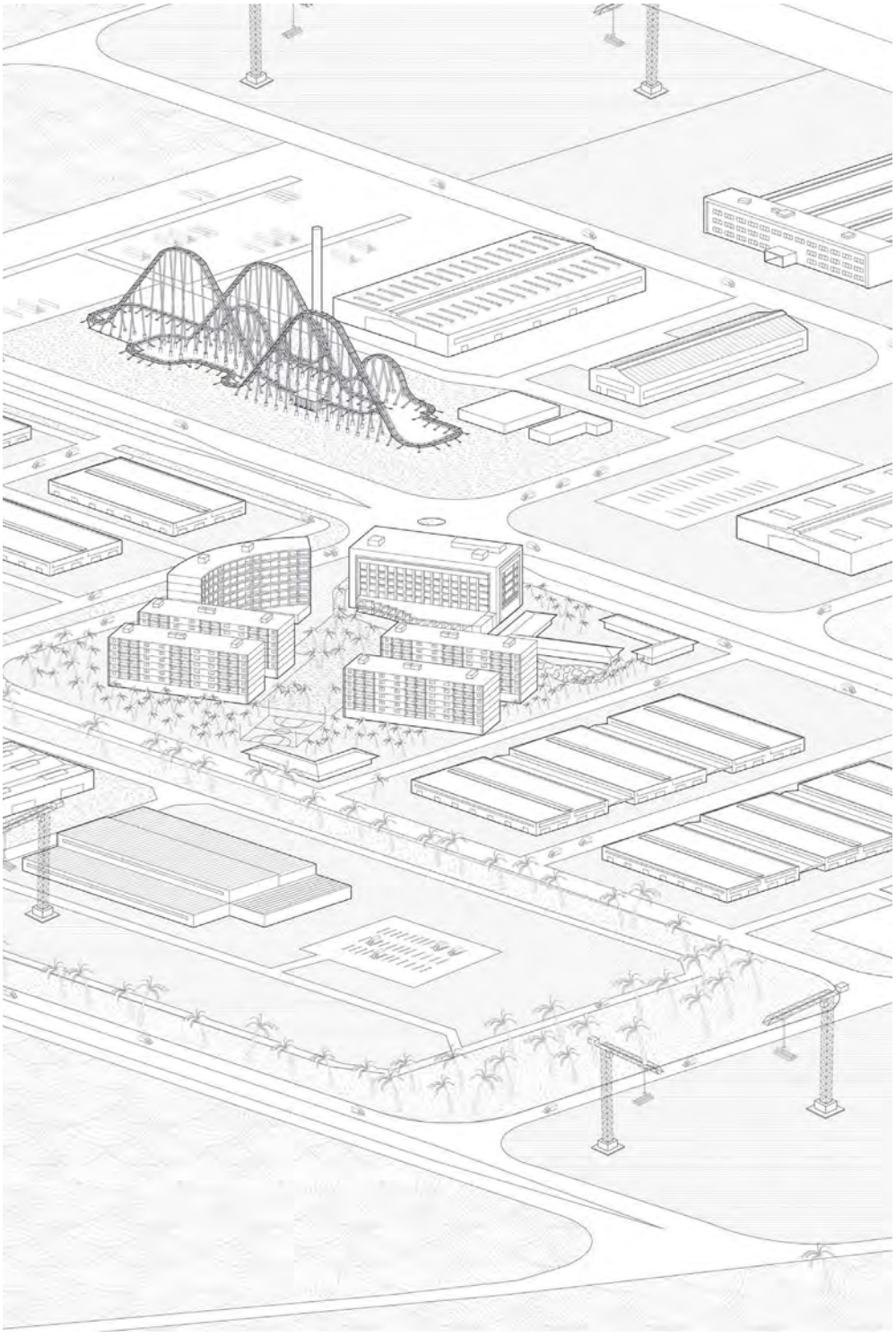


Territorial map on two scales.


Touristic Area
Gulf of Suez
Suez Port
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



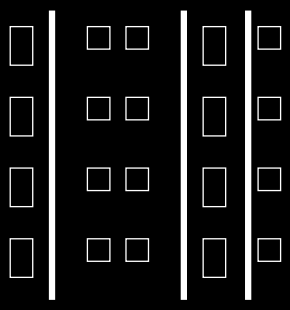
Circulation diagram showing the superimposition of human and non-human flows.



Axonometric view.

Mass Housing Enclaves

Between Standard Forms and Local Conditions



Ruiling Yayuan Housing Complex

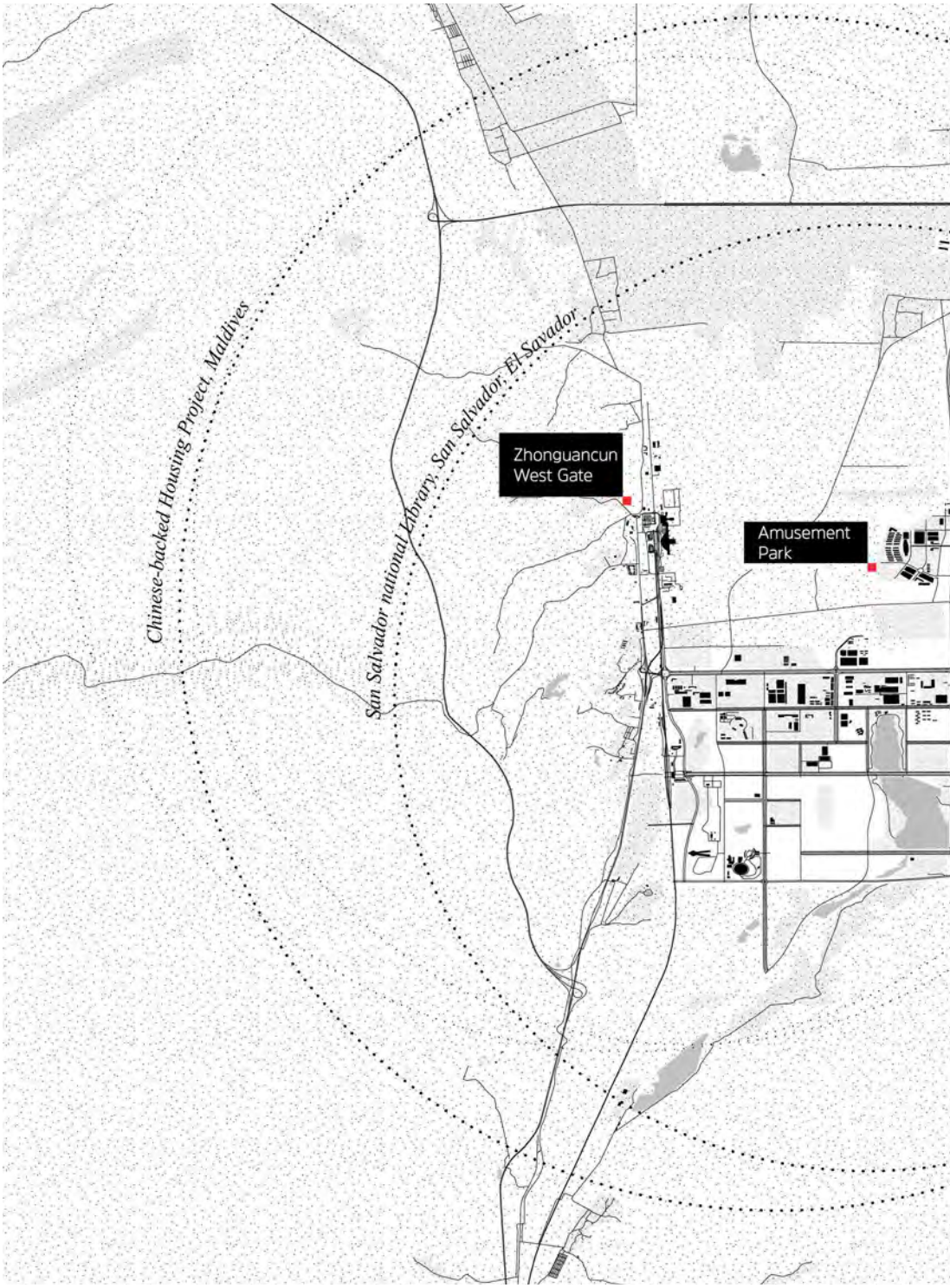
Location Lanzhou, China
Floor Area 17,814 square meters
Date 2015
Client Lanzhou New Area Real Estate Development Co., Ltd.

High-rise residential buildings stand at the back of villas and communal facilities.

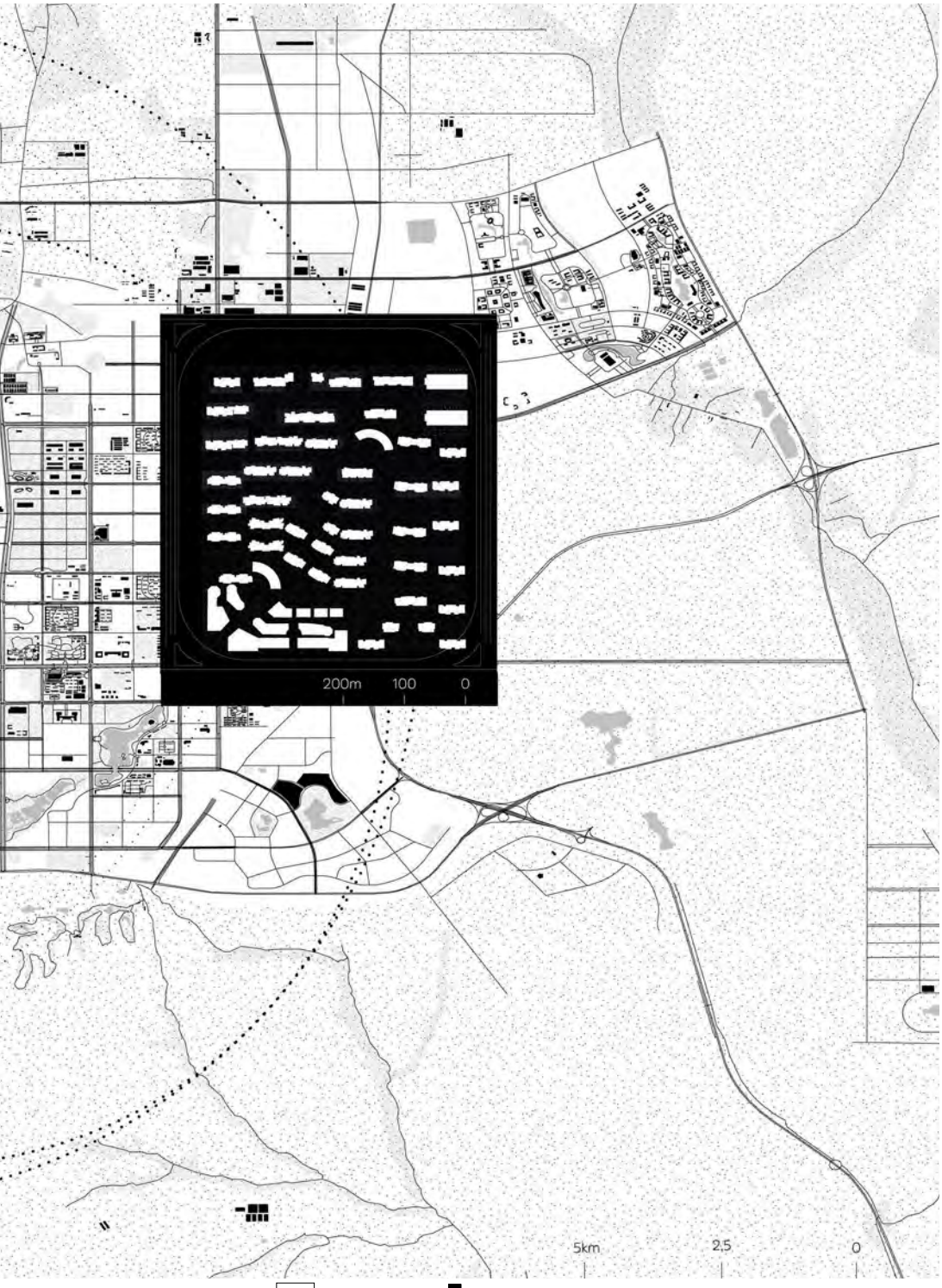
The ambitious Lanzhou New Area development project is located in China's arid and sandy northwest region, in Gansu province. It was launched in 2012 to boost trade interactions with the Central and western Asian countries participating in the BRI program, i.e., Kazakhstan, Uzbekistan, Pakistan, and several countries in the Balkan area. The development of the area located along the ancient Silk Road is part of an ambitious program launched in the early 21st century by the Chinese government; it aimed to promote the economic growth of twelve Chinese provinces in northwestern China which, until that time, had remained excluded from the fast-paced development of coastal areas. The new urban development – covering a total area of 25 square kilometers – includes an international airport, a modern high-speed rail station, industrial and logistics zones, a commercial district, an ecological forestry leisure zone, and a large residential zone for half a million new residents.

Seen from above, Ruiling Yayuan (one of the residential complexes of the Lanzhou New Area, completed in 2015 and developed by Lanzhou New Area Real Estate Development Co., Ltd.) is situated in a desertic landscape; it provides multi-story buildings that act as new homes for middle-class residents. The 4,824 housing units in the complex are present in both the high-rise buildings, set along the perimeter of the plot, and the mid-rise buildings in the middle. The complex's urban plan basically reflects the typical structure used by Chinese developers when organizing mixed-residential gated communities, especially after the "70/90 policy" was approved by the Chinese government in 2009. According to this regulation, 70% of the gross floor area of all new residential developments should host apartments of maximum 90 square meters, inserted in high-rise buildings for maximum profitability. On the other hand, mid- and low-rise buildings feature bigger apartments of around 165 square meters that can be sold as luxury products at a higher price.

The layout of the apartments also reflects a fairly consolidated formula of the Chinese real estate market: the entrance opens directly onto the living room, which typically also acts as a dining space. This includes a directly connected kitchen, often separated by a double sliding door to enhance natural ventilation and provide relative spatial flexibility. Every apartment includes a master bedroom, big bedrooms measuring around 25 square meters with an en suite bathroom. The apartments, and therefore the position of the windows, are always built in a north–south direction to enhance natural ventilation, so much so that the east and west walls are blind (often on both sides), in line with the customs of traditional Chinese residential architecture. Every apartment is endowed with an open space called *kong zhong hua yuan*, which we could translate as "courtyard" or "sky garden". This space is a recurring characteristic of almost any new urban apartment in China and is liberally exploited by real estate promoters. Indeed, while official documents report it as being an accessory space (contributing to the GFA with 50% of its area), it is often sold as an additional "room," and therefore as a supplementary surface area in the calculation of the value of the housing unit. The main element of differentiation is provided by the buildings' ornamental façades and the internal landscape made up of gracefully curved green islands, water pools, signage with foreign names, and lifestyle amenities, all deployed to conjure up a unique atmosphere.



Territorial map on two scales.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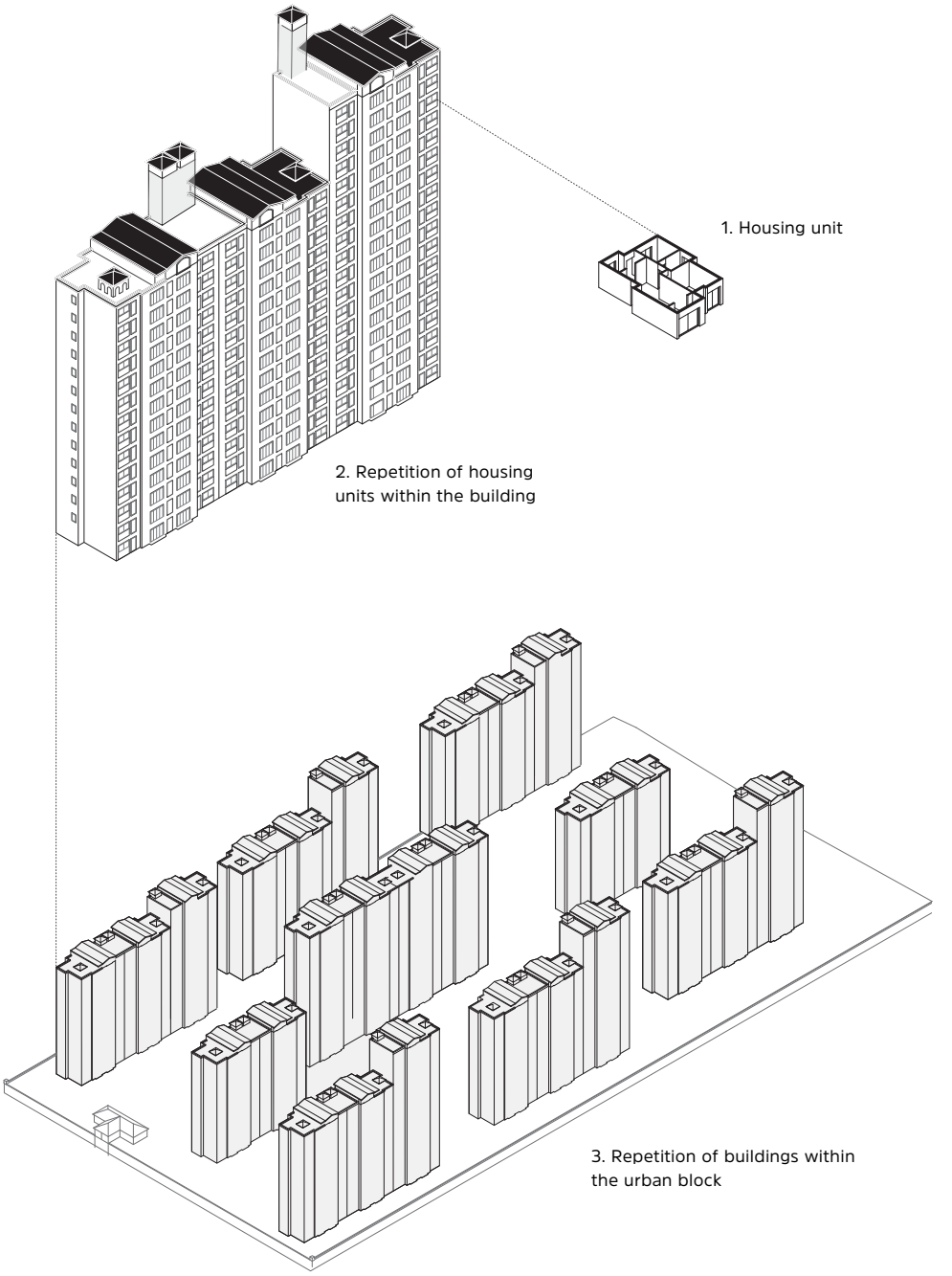
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



Morphological diagram showing the repetition of architectural elements at different scales.

Axonometric view.

Hiyaa Housing Project

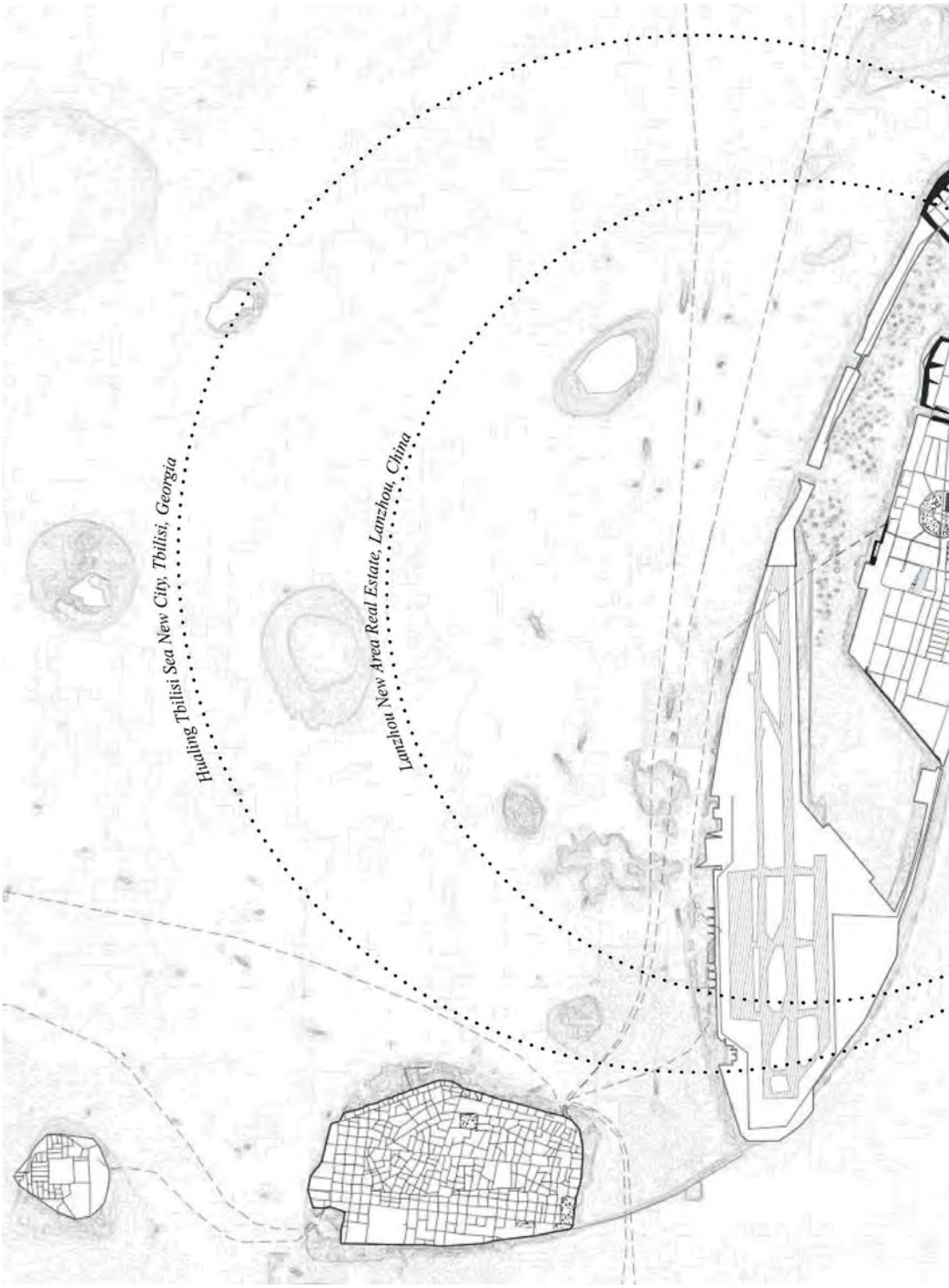
Location	Hulhumalé, Maldives
Floor Area	468,000 square meters
Date	2020
Architect	China's International Engineering Company
Client	Hulhumalé Development Unit

High-rise buildings are characterized by the repetition of modular elements and the variation of colors in their façades.

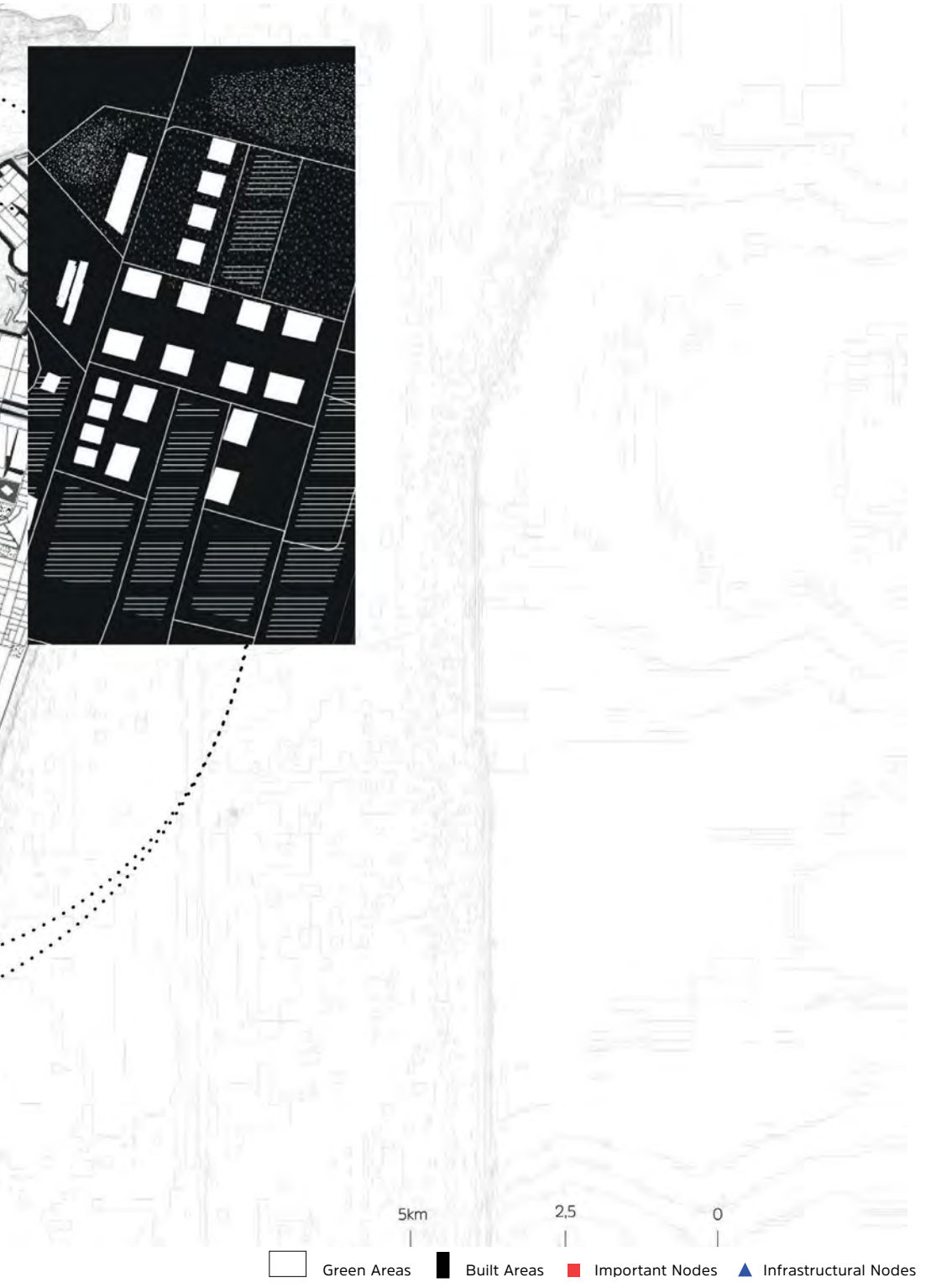
The Hiyaa Housing Project in Hulhumalé has been praised by official sources as a remarkable architectural initiative that addresses the pressing issue of the housing shortage and soaring rent prices in the Maldives. However, to understand the broader strategic importance of the project within the framework of the Belt and Road Initiative, it is crucial to go back to 2022, when the Maldives and China celebrated the fiftieth anniversary of their diplomatic relations. To mark this special occasion, the Chinese Embassy and the Ministry of Economic Development of the Maldives co-hosted a business forum focused on the joint implementation of the Belt and Road Initiative between the two countries. Three projects stand out among the many infrastructural investments that were implemented under this framework: the China–Maldives Friendship Bridge; the expansion of the Velana International Airport; and the Hiyaa Housing Project in Hulhumalé, the largest housing project in the Maldives.

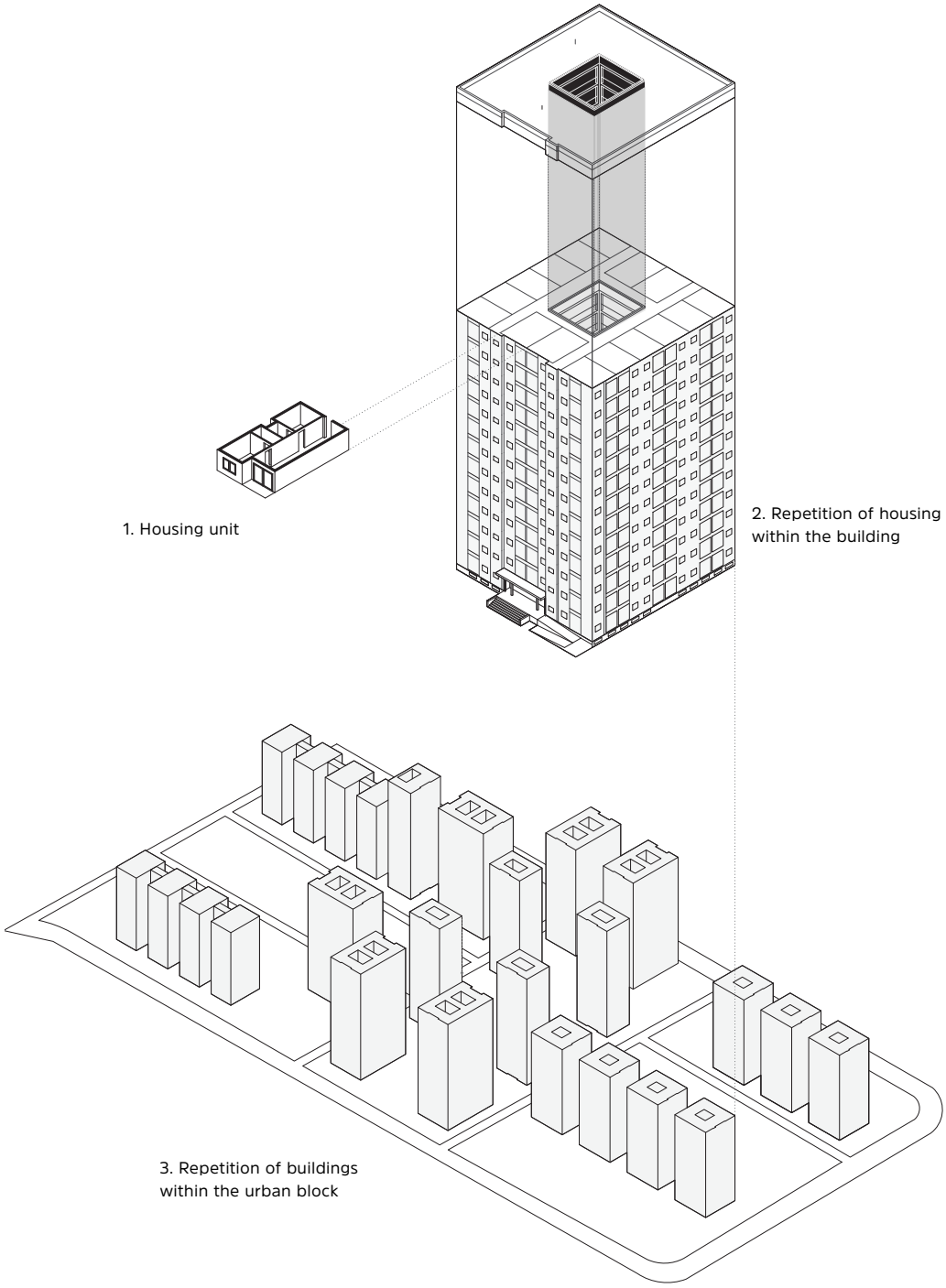
The Hiyaa Housing Project covers an area of 468,000 square meters spread across nine islands in five atolls; it can accommodate nearly 30,000 residents in a total of 72 high-rise buildings developed in several phases by the China State Construction Engineering Corporation (CSCEC). The high-rise residential complex stands out against the island's skyline as a repetition of almost identical towers, at least when seen from the outside. Despite the overall appearance, the project features three different main types of residential buildings: square-based towers with one central distribution, rectangular-based towers with one central distribution, and rectangular-based towers with two access systems. This functional differentiation – reflecting a search for efficiency in the relationship between structural systems, building distribution, and variegated apartment layouts – is interpretable from the outside by different color strips on the building façades (red, blue, yellow, green, and purple). These colors serve to brighten up the rigid, severe, external concrete envelope characterizing the exterior appearance of this large mass of repetitive towers. Even though the construction technologies and spatial layouts are governed by a catalog of standardized layouts brought by the Chinese architects and developers, small adaptations to the local context are evident in several of the solutions. The open roof design of the central core of each tower, for instance, provides natural ventilation within the building – a way to combat the warm, humid environment of the Maldives. At the same time, the housing unit layouts are based on the dimensions and standards used in previous projects developed by CIEC in their homeland China; they are carefully planned with a minimum floor area of 51 square meters and have two bedrooms with en suite bathrooms in order to comply with local regulations imposed by the Hulhumalé Planning and Development Organization.

In other words, while "repetition, repetition, repetition" seems to be the mantra to describe projects such as the Hiyaa Housing development, differences thrive through continuous negotiation between the forces of globalization and small adjustments responding to local contingencies.

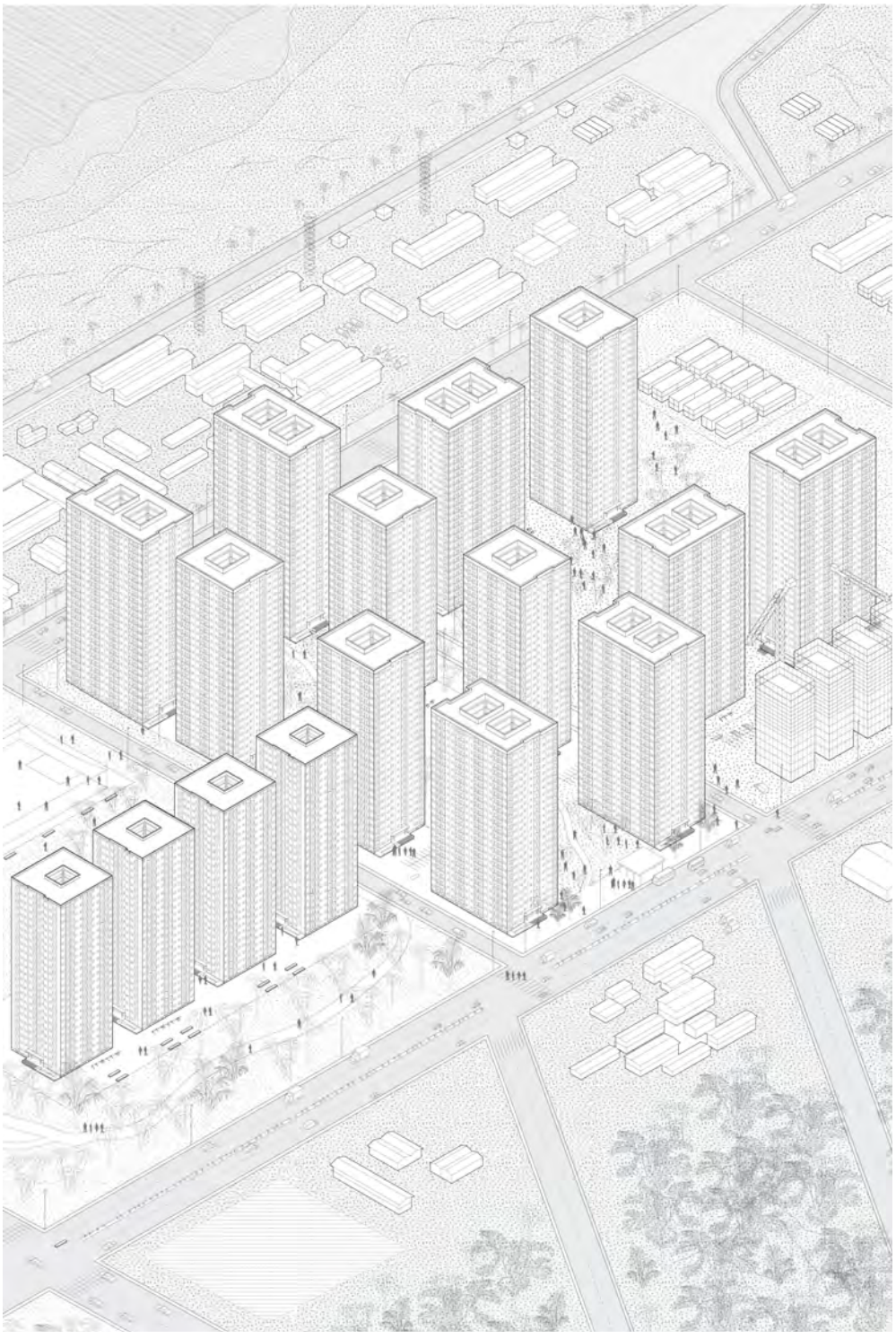


Territorial map on two scales.


5km
2,5
0
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



Morphological diagram showing the repetition of architectural elements at different scales.



Axonometric view.

Hualing Tbilisi Sea New City

Location	Tbilisi, Georgia
Floor Area	4.2 square kilometers
Date	2008–2012 first phase; 2014–2022 second phase
Client	Hualing Group

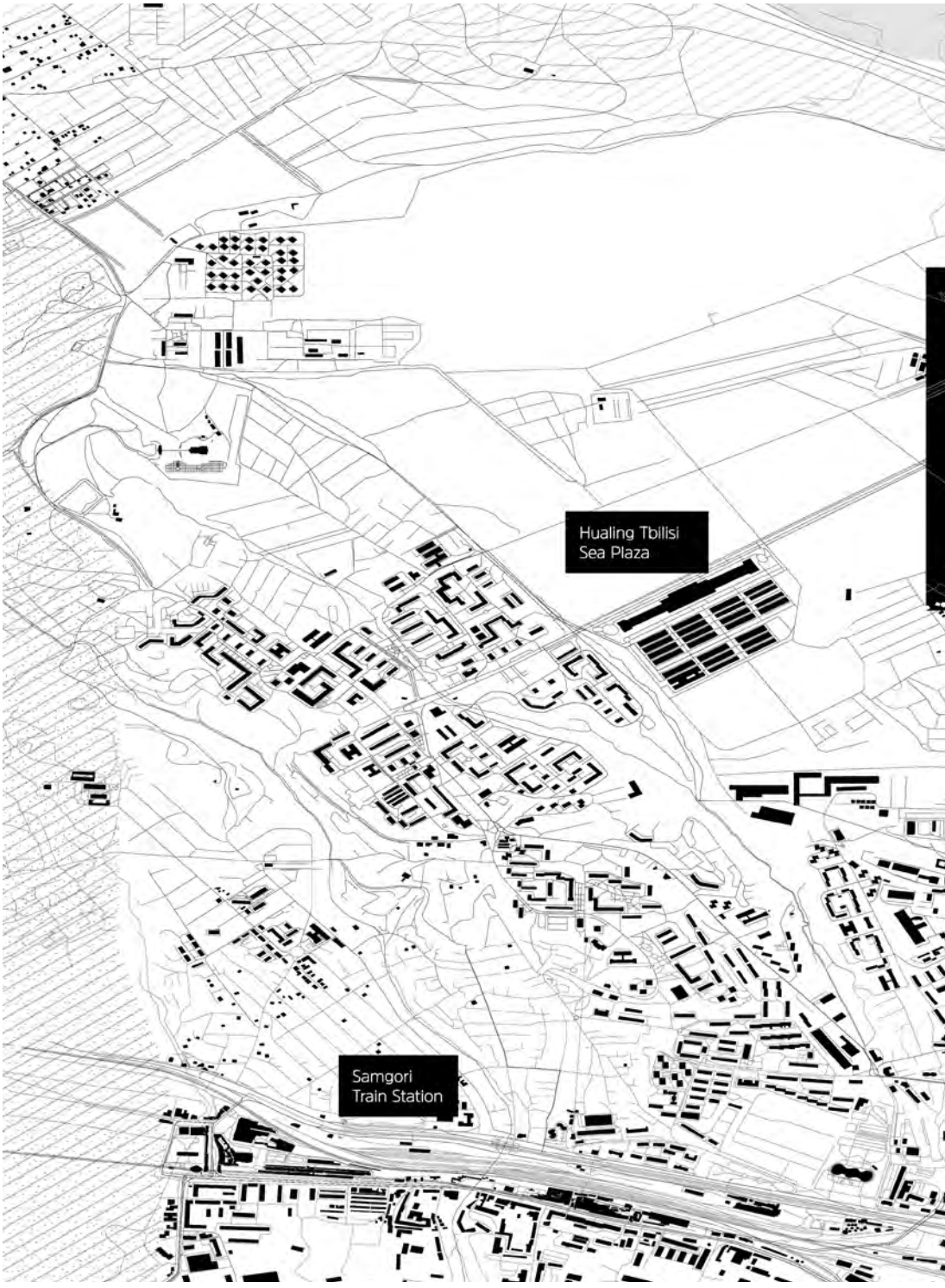
Residential buildings and communal spaces are made of an assemblage of Western-style structures and ornamentations.

Hualing Tbilisi Sea New City occupies a total area of 4.2 square kilometers, superimposing itself over a scattered group of small villages in the Bhal region of Georgia – a tidal flat extending approximately 15 kilometers inland from the coast of the Gulf of Khambhat. The project represents the flagship operation of the Hualing Group, a Chinese real estate developer. Founded in 1988 in Urumqi, China, the Hualing Group is a multi-property company managing over 30 enterprises with different business profiles and four wholesale markets with a combined space of three million square meters. After the company was provided with incentives by the Georgian government it began to invest in Georgia in 2007; since then it has implemented several major projects, including – in addition to Hualing Tbilisi Sea New City – the Hualing Tbilisi Sea Plaza, the Hualing Dormitory Hotel, the Hualing Free Industrial Park, the Hualing Hotel in Kutaisi, and the Hualing Wood Development, accounting for a total capital investment of around 500 million US dollars. As a result, the group is one of the biggest private investors in the country. The origins of Tbilisi Sea New City was the result of a deal between the Georgian government and the Hualing Group. In exchange for financing and building several temporary housing units for athletes to live in during the 2015 Youth Olympic Games – hosted that year by Georgia – the Chinese company was granted rights to develop 420 hectares of land for the new city.

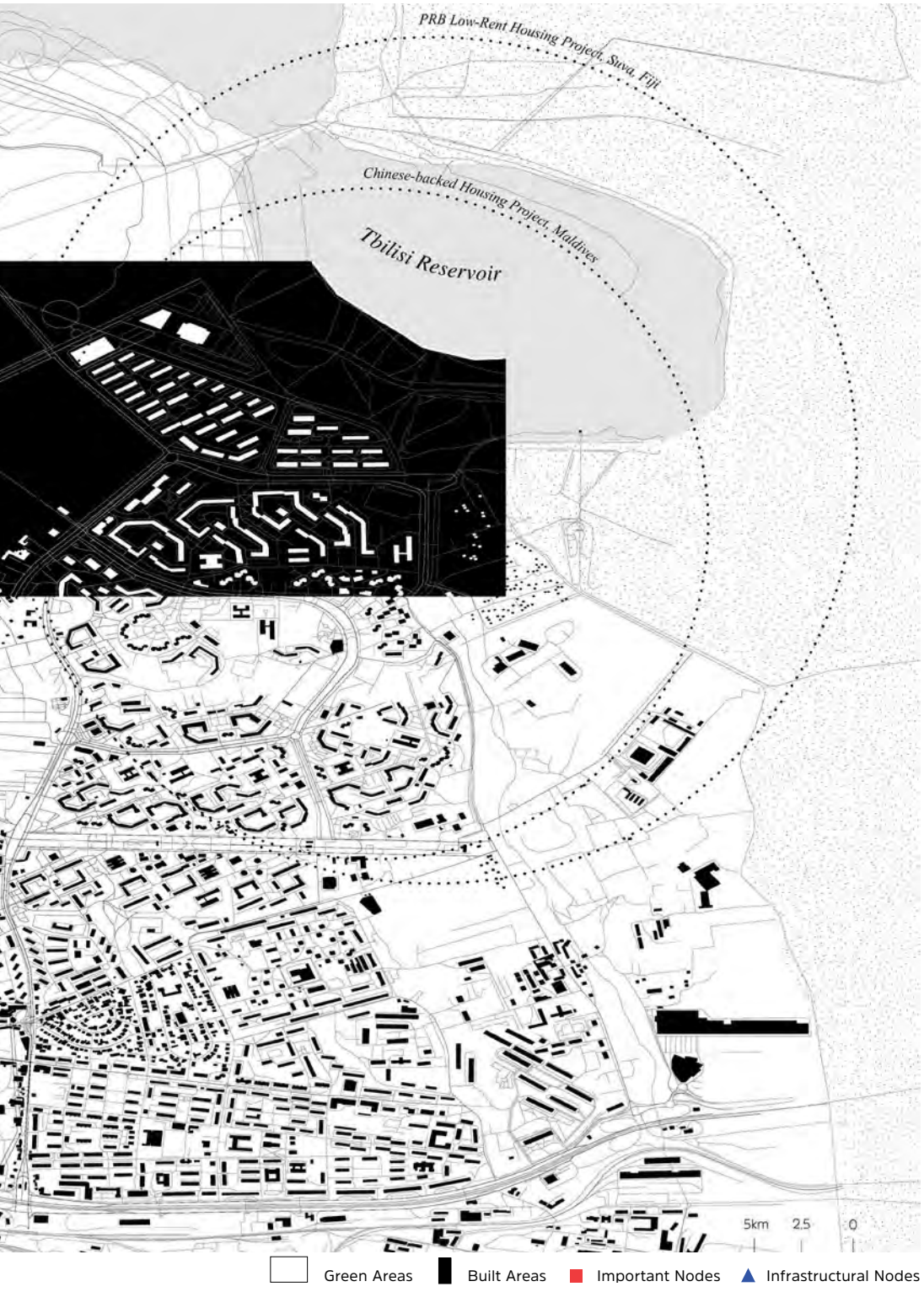
Based on codified practices of new town developments in China, the final program of the Hualing Tblisi Sea New City consists of a large residential space divided into apartment and villa complexes surrounded by amenities and infrastructures, such as recreational zones, commercial spaces, a high school, college, library, exhibition hall, cinema, police station, administration, post office, clinics, gymnasium, and natatorium. The urban scheme is that of a Chinese gated community with fortress-like walls enclosing the residential buildings and their dedicated facilities. As in many other Chinese new city developments, a cozy but conventional atmosphere is intentionally generated by the medium-rise decorated buildings (nine and ten stories) with a landscaping consisting of water pools with curved green islands and extensive lawns. External building forms and ornaments are an assemblage of historicist details, including faux maroon bricks, ornately framed windows, and dozens of little circular balconies.

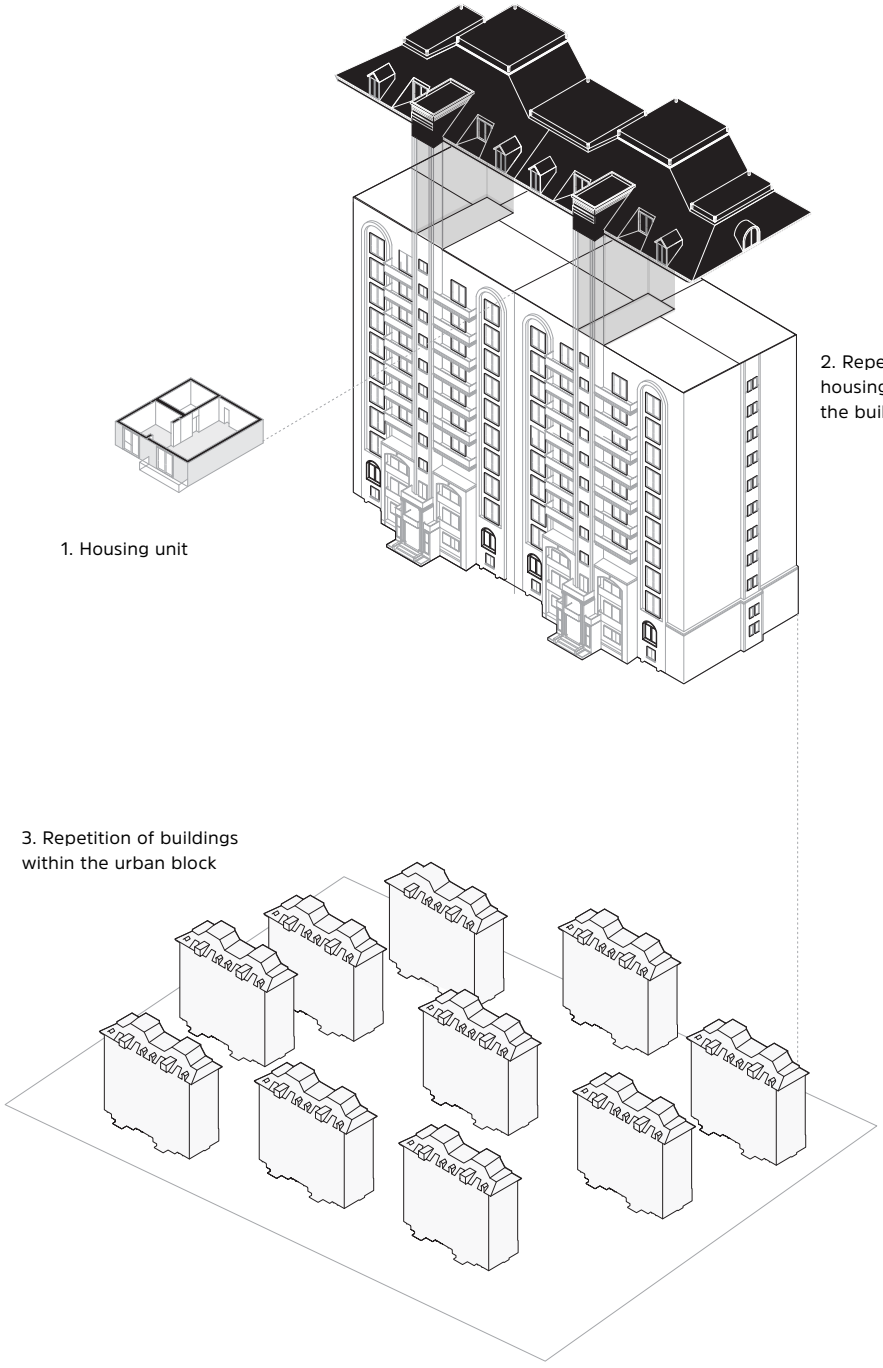
The size and layout of the apartments are highly standardized on the basis of previous developments by Hualing in China (68 square meters – two-room apartment with 1 bathroom; 78 square meters – three-room apartment with two bathrooms; 117–135 square meters – duplex five-room apartment with three bathrooms); this reflects the needs and expectations of middle-class homeowners who have emerged in China's post-reform era. However, while these housing types currently represent the norm in China, they appear somewhat novel in Georgia, providing a viable housing alternative for an emerging urban middle class.

In Georgia, Hualing Tbilisi Sea New City redefines the relationships between the territory and the capital by replicating China-made cities on greenfield sites.



Territorial map on two scales.


PRB Low-Rent Housing Project, Suva, Fiji
Chinese-backed Housing Project, Maldives
Tbilisi Reservoir
5km
2.5
0
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



Morphological diagram showing the repetition of architectural elements at different scales.

Axonometric view.

PRB Low-Rent Housing Project

Location	Suva, Fiji
Floor Area	10,240 square meters
Date	2018
Architect	China Railway First Group Co.,Ltd.
Client	Public Rental Board

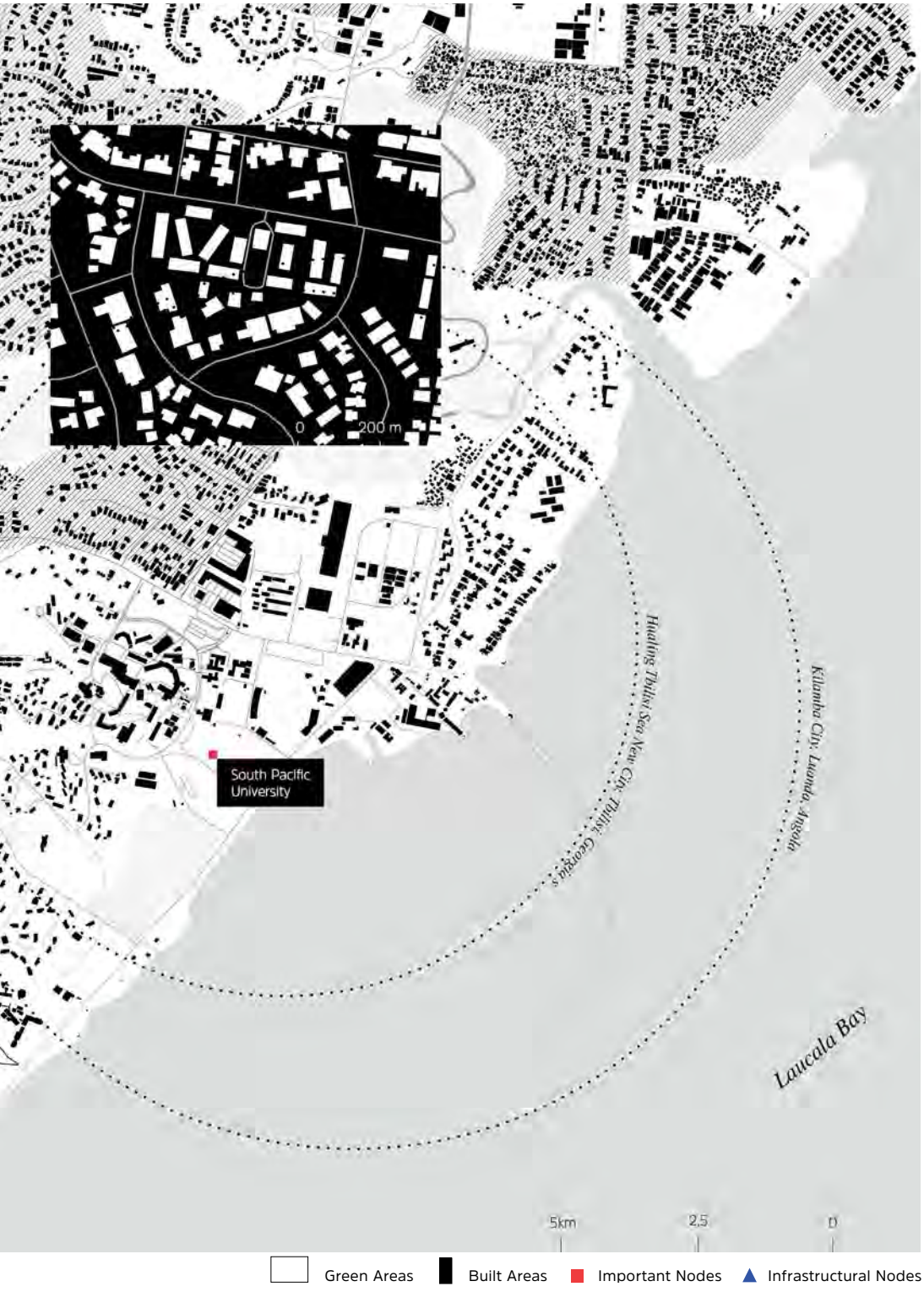
The roof of the buildings, as well as the windows, are equipped with overhangs for rain protection.

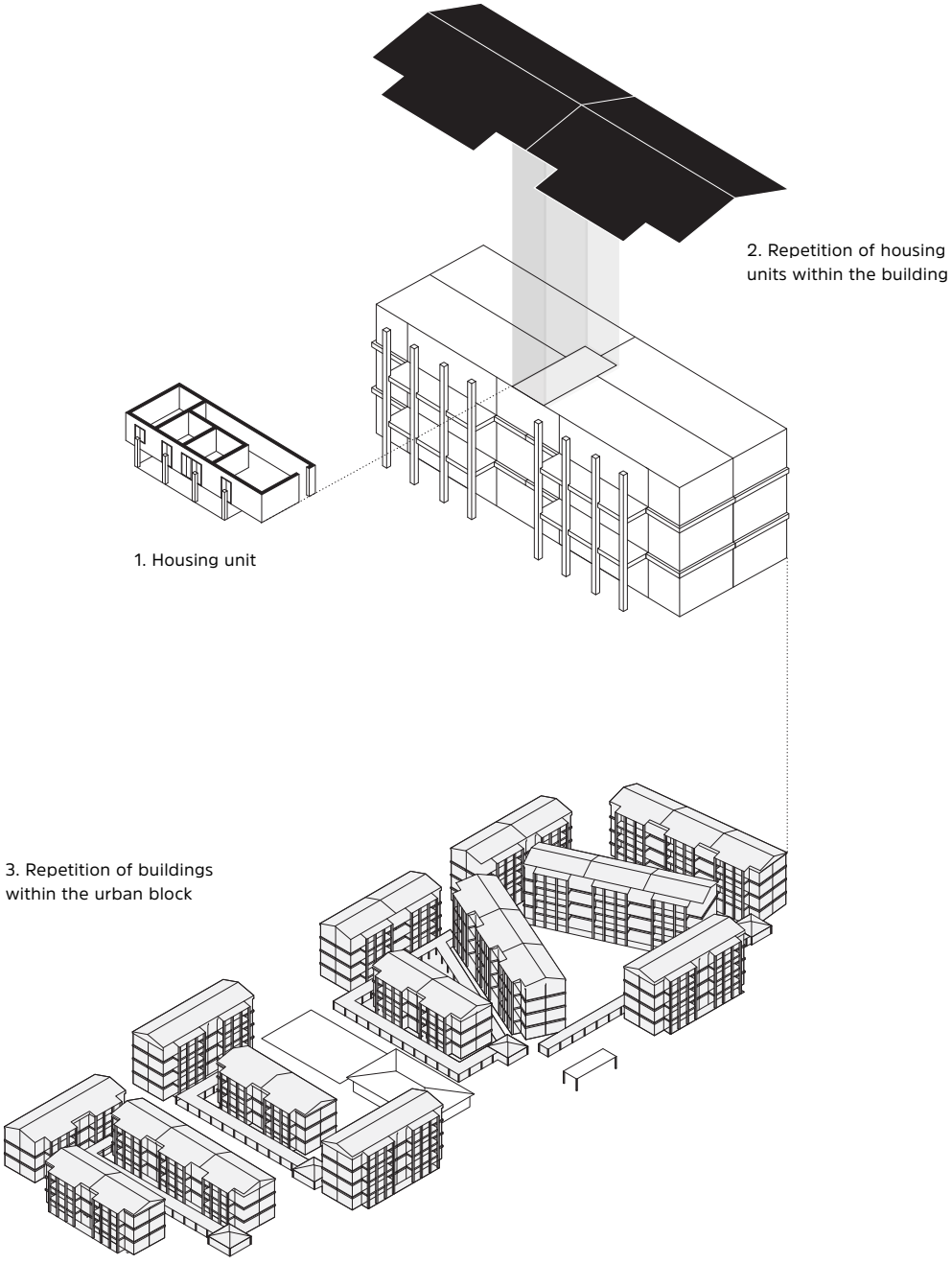
Suva, the capital city of the Fiji Islands, hosts one of the biggest affordable housing developments in the Pacific Islands, supported and developed by the Public Rental Board (PRB), a local institution involved in the development and management of affordable housing. The PRB low-rent housing project of Raiwai flats in Suva is located in one of the most populated cities of the Fiji Islands; it allocates 210 apartment units to households with low incomes as part of a broader initiative to enhance the welfare of inhabitants and respond to the increasing demand for housing. The project – unveiled in August 2018 with financial support from China – saw the involvement of the China Railway First Group Co. Ltd. as the main project designer and contractor. A memorandum of understanding regarding collaboration under the Belt and Road Initiative (BRI) was signed in November 2016 by China and Fiji; at the time, Qian Bo, the Chinese ambassador to Fiji, highlighted China's commitment to the construction of infrastructure in the islands, including public-housing facilities.

Construction took almost two years; its contractual value amounted to approximately 73,434 million Chinese renminbi (RMB), roughly 10,215 million US dollars. The project covers a total built area of 10,240 square meters. The architectural program includes thirteen residential structures, a unique multifunctional assembly space, interconnected outdoor pathways, designated vehicular parking lots, and an integrated sports ground. The area, surrounded by luscious greenery and accessible from one of the main local roads, hosts an urban development that looks like a small village. Three- to four-story linear building blocks facing in different directions are positioned so as to generate dedicated outdoor spaces.

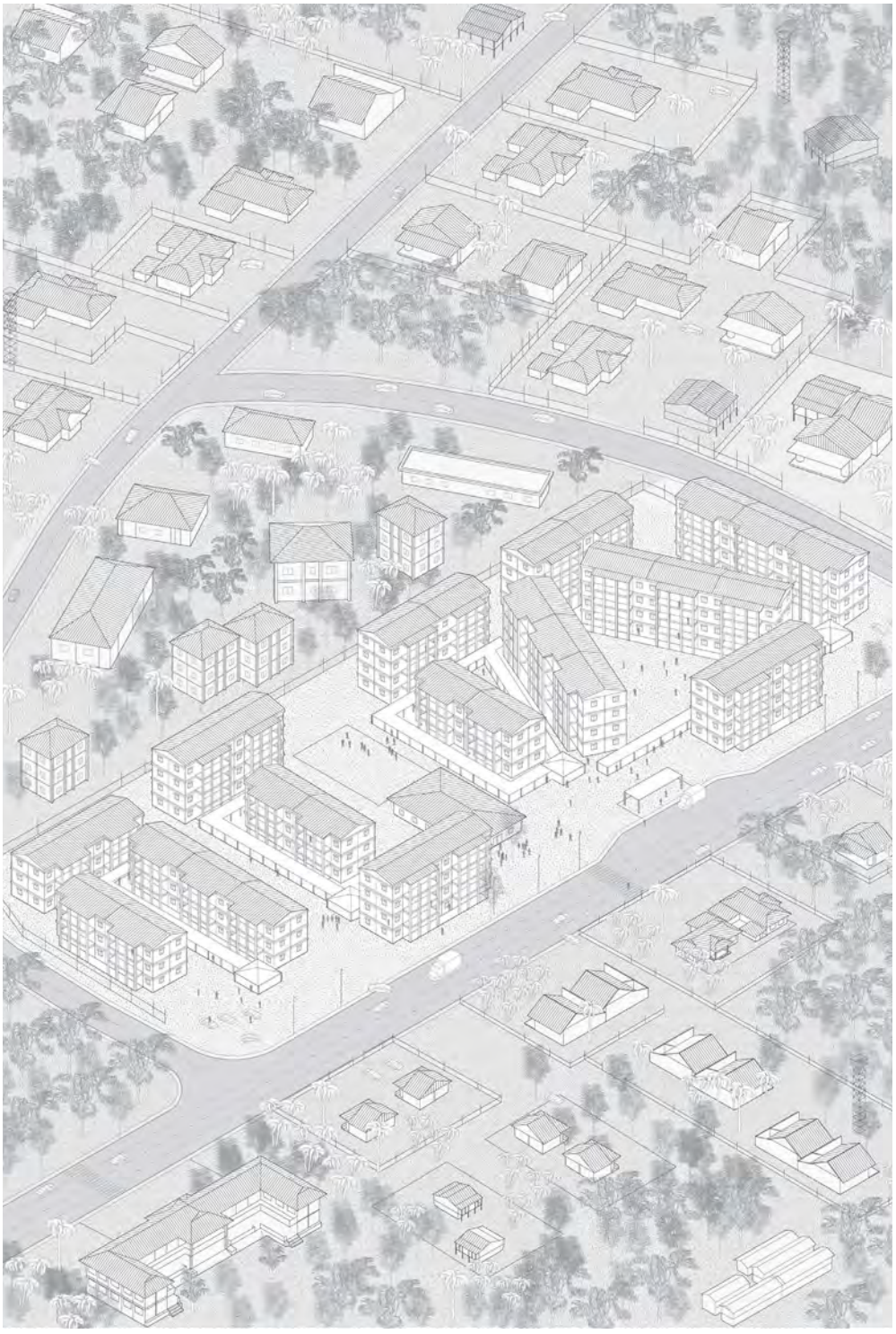
In order to make housing more affordable for future inhabitants, the project includes small apartments ranging from 50 to 70 square meters in which the size of each room is reduced to the minimum standard. The apartments are equipped with minimum facilities and decorated with standard Chinese elements and materials such as thin transparent sliding doors and polished faux marble tiles on the floor. Overall, the project reveals a strong functional image and approach to architecture so as to lower minimum construction time and post-occupancy management costs. In fact, the housing blocks are made of precast concrete elements covered by a simple plaster layer. All the windows and openings are the same size; they are completely prefabricated and assembled on site. An overhang pitched roof, clad with aluminum plates, protects the wall finishing from the strong rains that characterize the island's tropical climate. Even though the design of the buildings' façades is very ordinary, several specific, detailed solutions have been adopted to help conform the buildings to the regulatory and environmental context: a series of small projecting concrete elements overhang each window to protect them from the rain; all the apartments feature small stairs hung on the balconies for fireproof safety reasons, as required by local regulations; and a more resistant dark colored plaster has been used on the ground floor portion of the façade in order to tackle the floods that occur during the rainy season. Although these features appear to be minor details, they wield considerable influence in the context of such iterative spatial production.

Territorial map on two scales.


0
200 m
South Pacific University
Huating Thilisi Sea New City, Tbilisi, Georgia
Kilamba City, Luanda, Angola
Laucala Bay
5km
2.5
0
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



Morphological diagram showing the repetition of architectural elements at different scales.



Axonometric view.

Kilamba Kiaxi Housing Estate

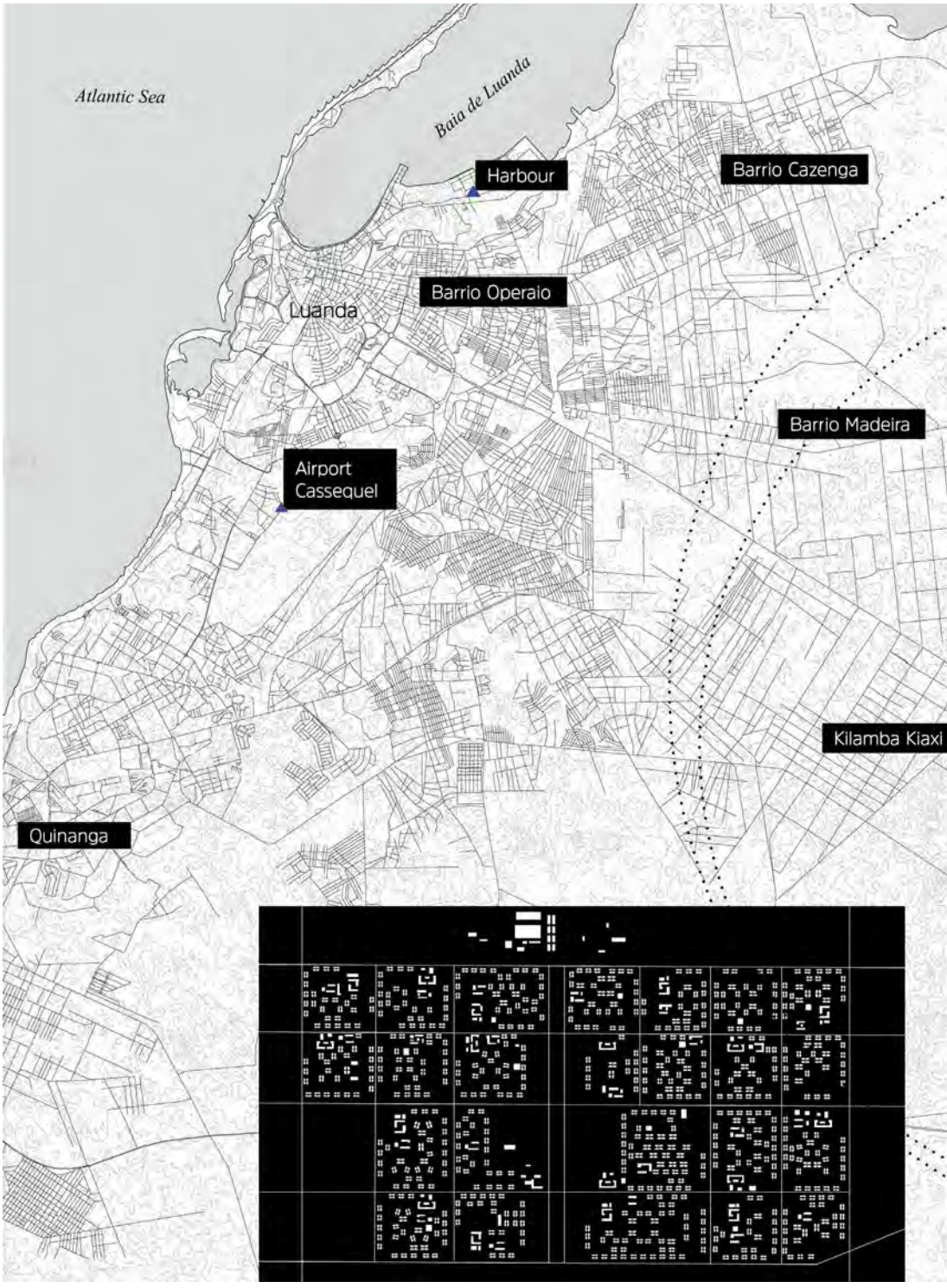
Location Luanda, Angola
Area 30.5 square kilometers
Date 2014

Buildings of various heights and forms are characterized by different colors in their façades.

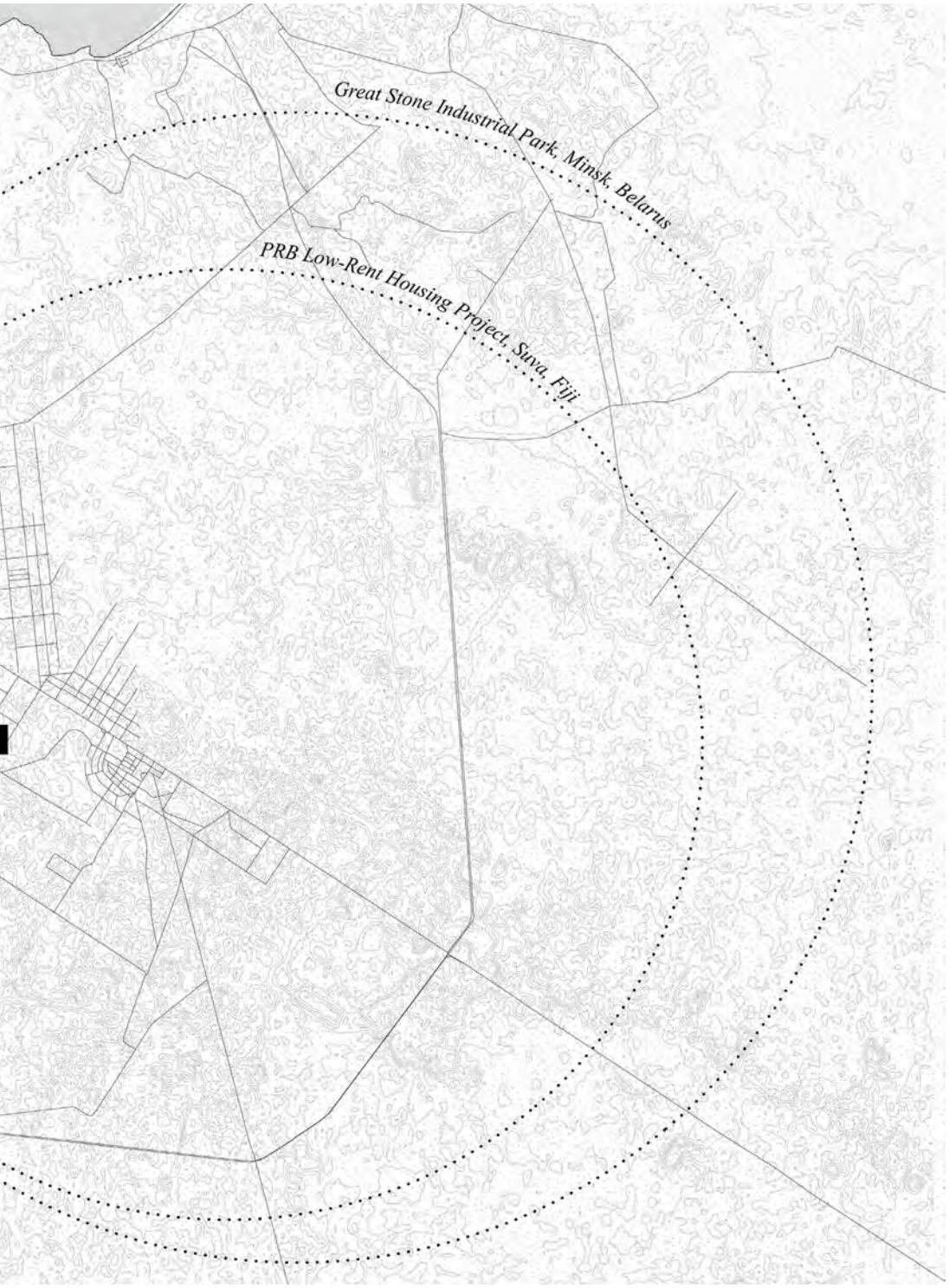
Kilamba New City, also known as Kilamba Kiaxi or Nova Cidade de Kilamba, is a residential development located approximately 30 kilometers south of Luanda, the capital of Angola. The first phase of the project was completed in July 2012 with financial support from China. This flagship project, sponsored by the former Angolan President José Eduardo dos Santos (in power from 1979 to 2017), was touted as a solution to the housing deficit for an emerging middle class; it also included several social-housing units. The state-owned China International Trust Investment Corporation (CITIC) contributed to the development, which also received financial backing from the Industrial and Commercial Bank of China (an investment of 3.5 billion US dollars). The loan was to be repaid through Angolan oil sales.

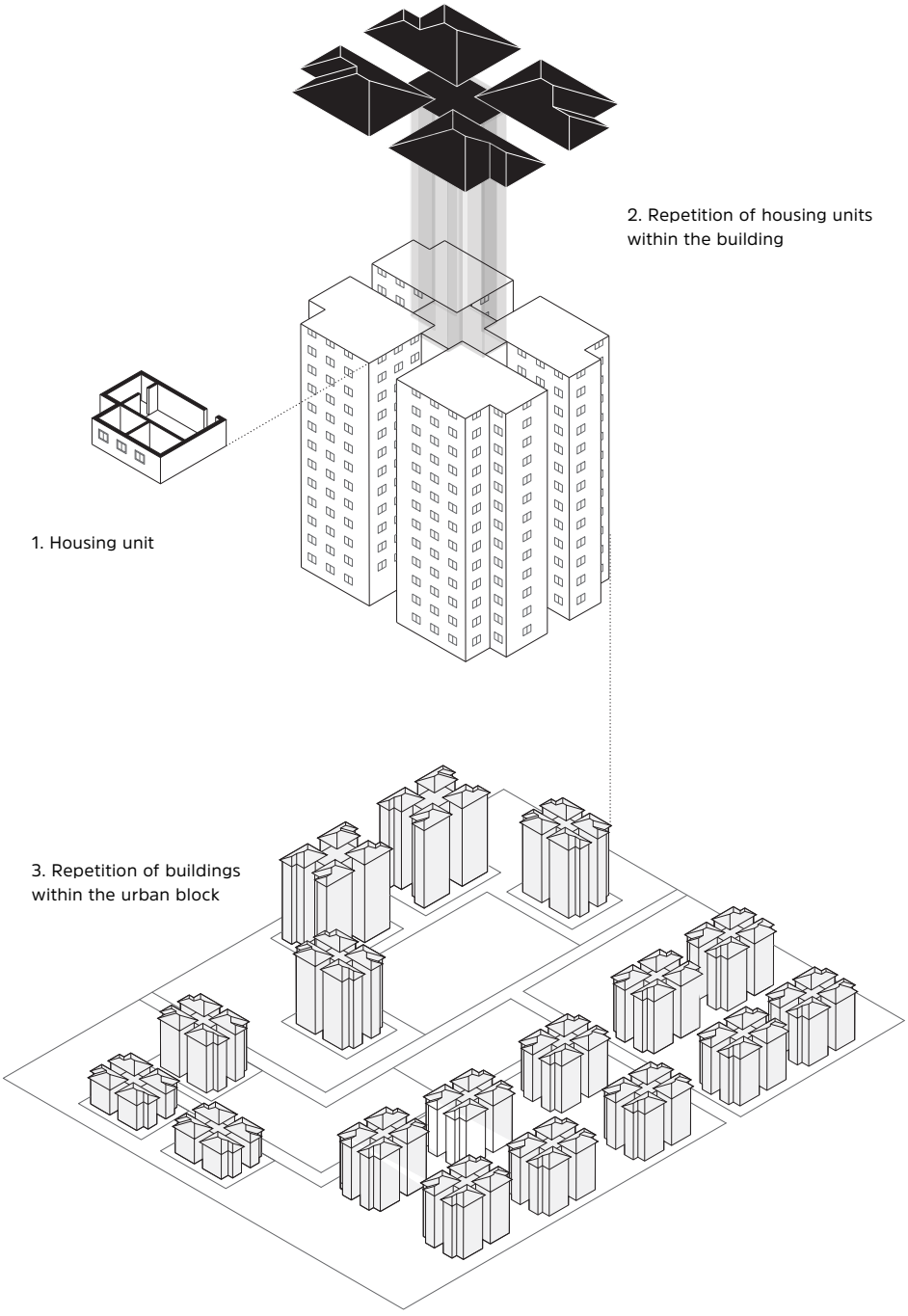
Kilamba Kiaxi, with its 750 buildings and roughly 25,000 housing units, was intended to house around 500,000 residents; it is one of the biggest housing projects built by a Chinese firm on foreign soil, acting as a blueprint for new urban areas in Africa. The development is based on the Chinese new town planning model, characterized by precise boundaries, rigid infrastructure systems, and repetitive architectural elements. The project was divided into three phases that were to include not only housing estates, but also the establishment of essential services such as schools and kindergartens, as well as water, electricity, and sewerage facilities. Although several improvements have been made to the first ring road around Luanda, car dependency and lack of public transport continues to be a problem. While the city was initially described as a "ghost town" in the desert because of its substantial vacancy, as of 2023 it is almost fully occupied. Generally connected to water and electricity, the new development represents an attractive place for an emerging middle class (while 42% of Angolans still live without access to drinking water and 60% without sanitation). As of 2019, however, roughly half of the 20,000 home buyers in Kilamba were in arrears with their installment payments.

The general masterplan is based on a regular grid; dense residential plots are interspersed with open spaces to be used as public spaces by the inhabitants. The exterior colors of the 750 mid-rise and high-rise buildings, e.g., green, blue, and yellow, make them stand out in these plots. Three main types of residential buildings (from five to thirteen stories) contain three different apartment typologies, varying from three to five rooms and ranging from 110 to 150 square meters. All the residential towers have a central core, serving as a pivot around which standardized apartment units with identical layouts are either mirrored or rotated. These simply designed floor plans are then extruded vertically along the core without any variations between the floors; this keeps production costs and construction time to a minimum. The central core, enclosing the building's vertical distribution, is designed with a permeable mesh made of prefabricated concrete elements, thus facilitating natural cross ventilation, so necessary in the arid and hot climate of Angola. Any visitor who explores Kilamba City will notice the repetitive housing made up of apartment units and building layouts that do not vary in form and size.



Territorial map on two scales.


Great Stone Industrial Park, Minsk, Belarus
PRB Low-Rent Housing Project, Suva, Fiji
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes

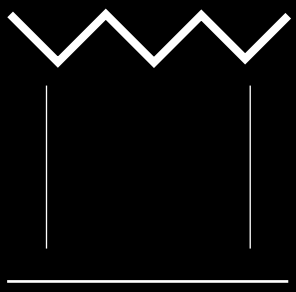


Morphological diagram showing the repetition of architectural elements at different scales.

Axonometric view.

Super Gathering Places

Meeting in between Architecture



Xi’an Silk Road International Convention and Exhibition Center

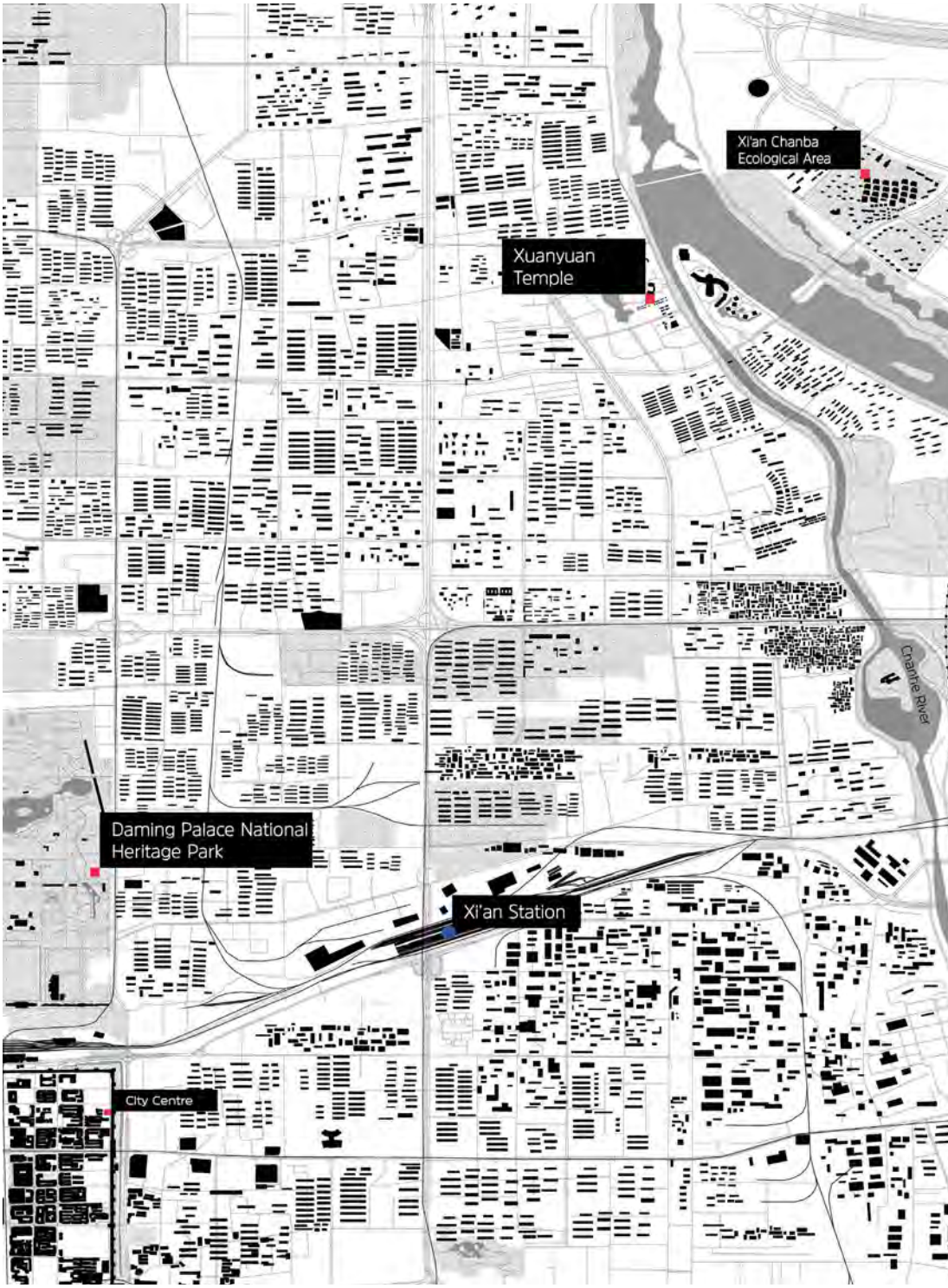
Location	Xi'an, China
Floor Area	181,200 square meters
Date	2022
Architect	gmp Architects
Client	Xi'an Company Silk Road International Convention and Exhibition Center

Glazed curtain walls form the envelope of the complex creating an impression of weightlessness from the exterior.

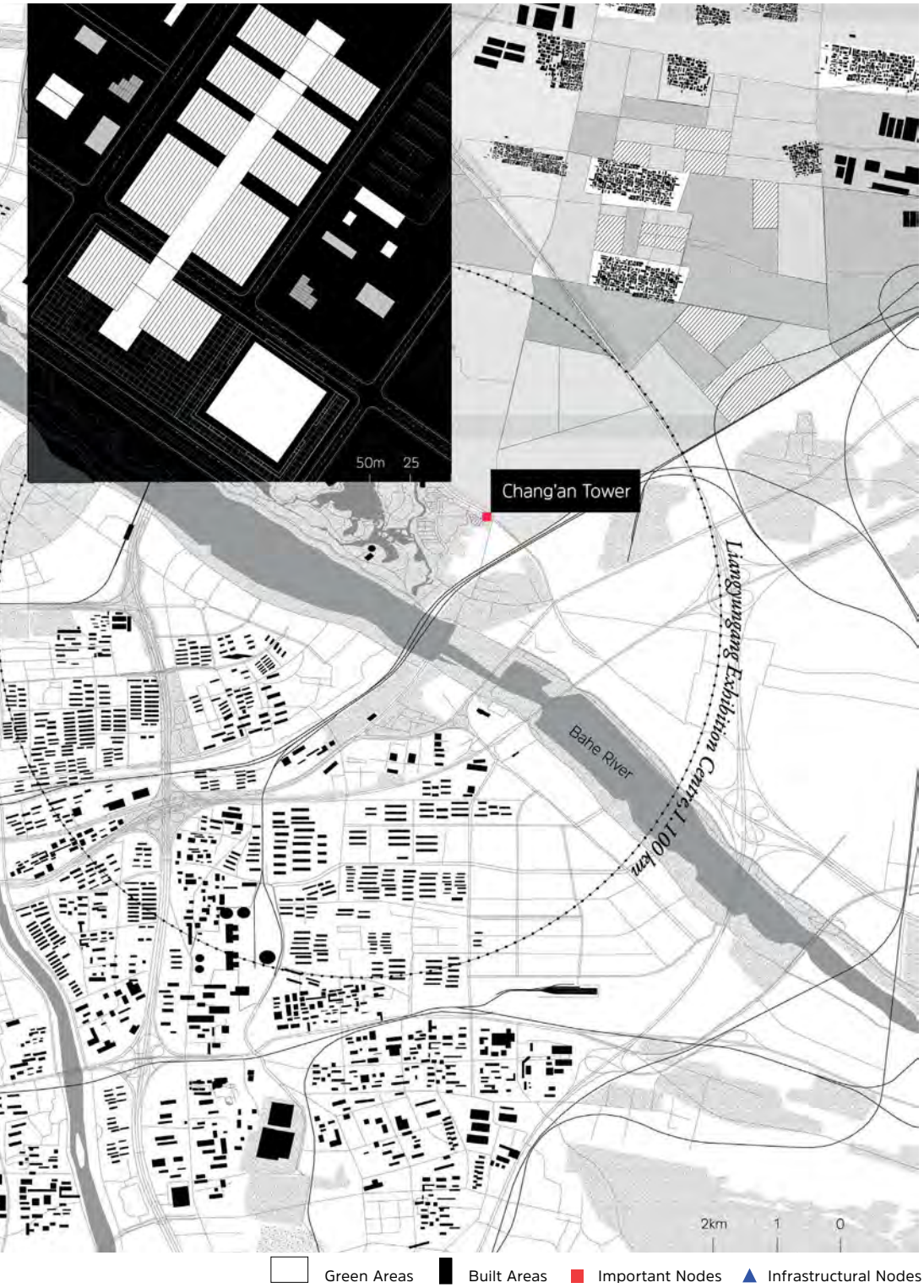
The Silk Road International Conference Center, located in the north-east area of the city of Xi'an, reflects the importance of the Belt and Road Initiative regarding cultural and multi-purpose venues. The conference center is part of a larger complex, designed to host international events, trade fairs, and congresses. It is important to recall that Xi'an is the city where the old Silk Road began before it crossed the whole of inner China and ended in Europe. The conference center was designed by the German office gmp Architects after an international competition launched by the Xi'an Company Silk Road International Convention and Exhibition Center.

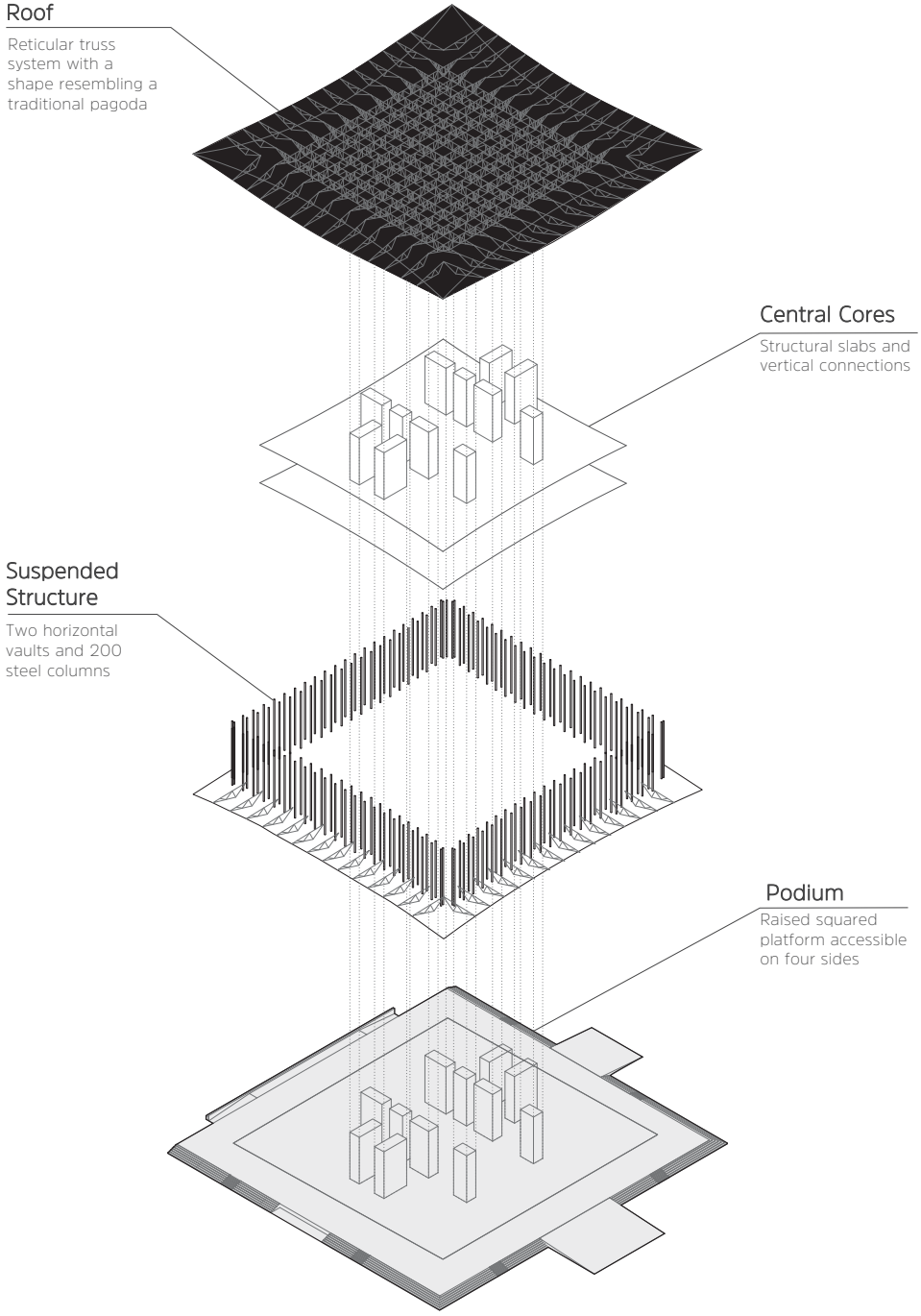
Gmp Architects designed a building that echoes a previous era of 20th-century China, but with a contemporary twist: a period of "big roofs" and a search for a national style comprising traditional elements stripped of their history. References to traditional Chinese architecture can indeed be seen in the symmetrical shape of the roof, in the proportioned façades with a mainly horizontal development, and finally in the thin 180 columns that surround the building and imbue it with natural light. The result is a technologically advanced, contemporary building with references to the local architecture. Symbolically speaking, the building is a "temple" where people from all around the world come and meet. As in traditional Chinese buildings, the suggestive exterior columns surrounding the big volume all along its perimeter are both ornamental and functional. Here, the columns, hanging from the cantilevered roof beams, allow the lower half-moon-shaped arch of the façade to be suspended, thus clearing the entrance from the structure and generating a sense of weightlessness that characterizes the building's appearance. The intricate structural system of the complex, made up of a grid of steel beams spanning the cores, provides a large flexible space, free from any obstructing load-bearing element, thus making it ideal as a venue to host large-scale events. This flexible space allows the program to be organized on three floors of the building where the ballroom, the multifunctional hall, and the conference space are respectively located. Each floor is accessed by a U-shaped corridor, functioning both as a foyer and a space for temporary exhibitions.

Lightness, openness, and harmony characterize the interior space where light floods in from the glazed curtain walls on all sides of the building. This façade – the largest steel mullion-supported curtain wall in China – provides the building with a sense of transparency and lightness. Its strong structural language weaves past and present together in a fabric of references, generating cultural bridges and symbolic messages, and thus enhancing the culture around the New Silk Road.

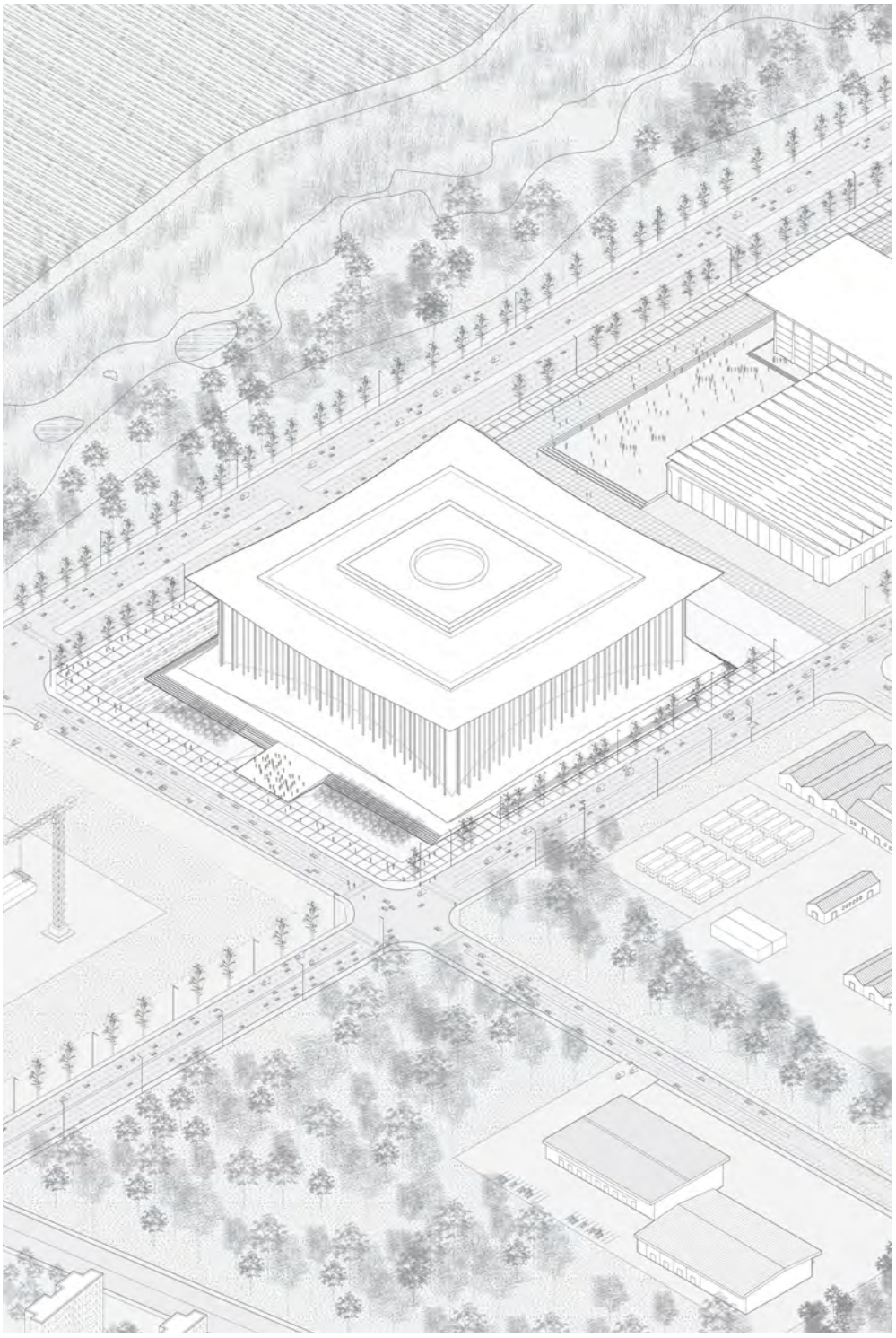


Territorial map on two scales.


50m 25
Chang'an Tower
Liangyungang Exhibition Centre
1.100km
Bahe River
2km 1 0
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



Relation diagram showing the main elements composing the tectonic of the building.



Axonometric view.

Lianyungang Industrial Exhibition Center

Location	Lianyungang, China
Floor Area	64,000 square meters
Date	2017
Architect	gmp Architects
Client	Lianyungang Rui Hao Investment and Development Co., Ltd.

Vertical incisions in the façade resemble the shape of a barcode.

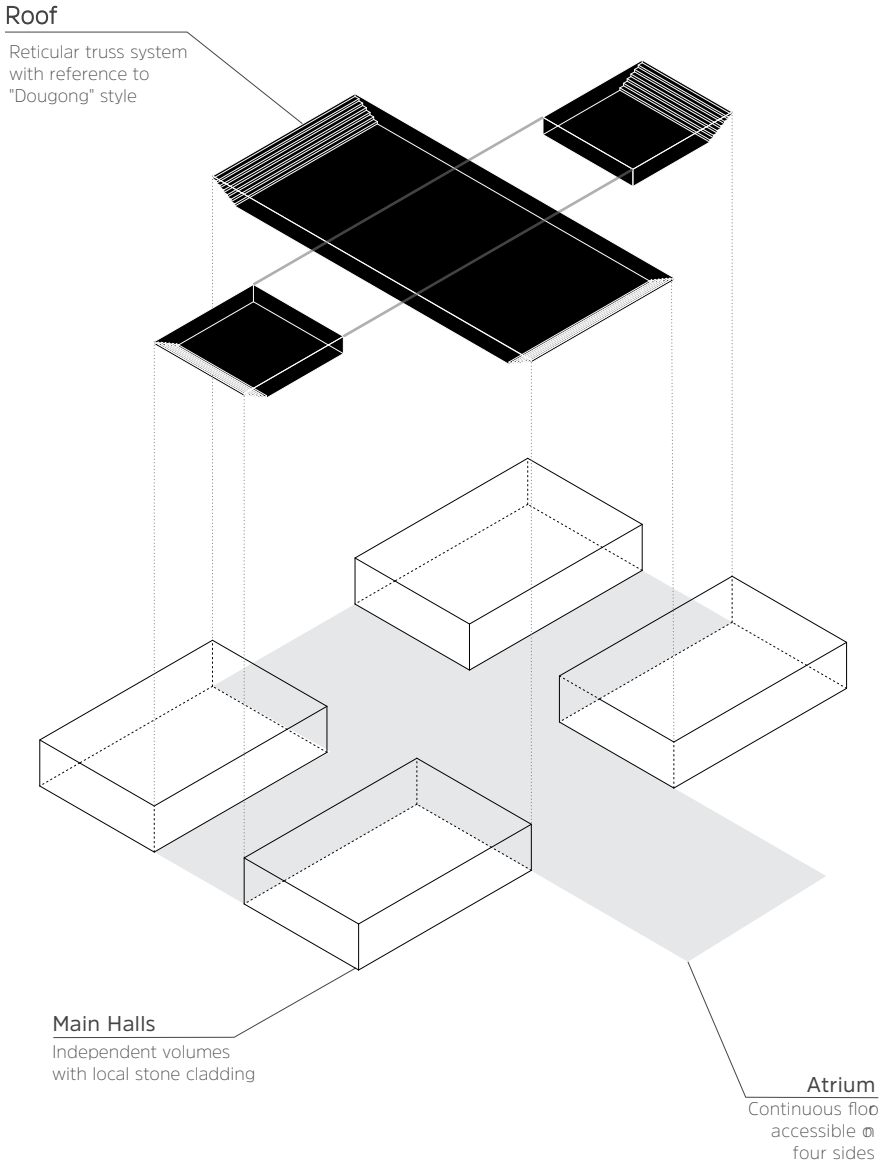
The Lianyungang Industrial Exhibition Center is located close to the Yellow Sea in the northern part of the city of Lianyungang, situated in the eastern area of the new Eurasian Land Corridor established under the Belt and Road Initiative. Designed by von Gerkan, Marg and Partners (gmp Architects), the project reflects the city's trading and commercial tradition.

The exhibition center hosts a simple program consisting of four large exhibition areas for trade shows, concerts, and other events, organized on two stories similar in form and dimension. The four exhibition halls are positioned at the four corners of the complex, defining the total volume of the building with its 200 × 320 meter footprint area. The clear, functional circulation space between the halls leads to four entrances: from the north and south for delivery access, and toward the east and west for pedestrians. All the entrances to the building are recognizable from its exterior due to tiered incisions in the building's structure – a reference to the Dougong principle of traditional Chinese roof construction. A big central staircase in the core of the building provides access to the center's upper level; gmp Architects have used the staircase as a functional structure in which to hide the bathrooms and service spaces. The monumental proportions of the vertical distribution result in a visual and spatial continuum between the two floors of the building. Cascading water features positioned between the staircases characterize the space and create an atmosphere reminiscent of oriental gardens. Two meeting rooms are located in front of the upper entrances to the main halls.

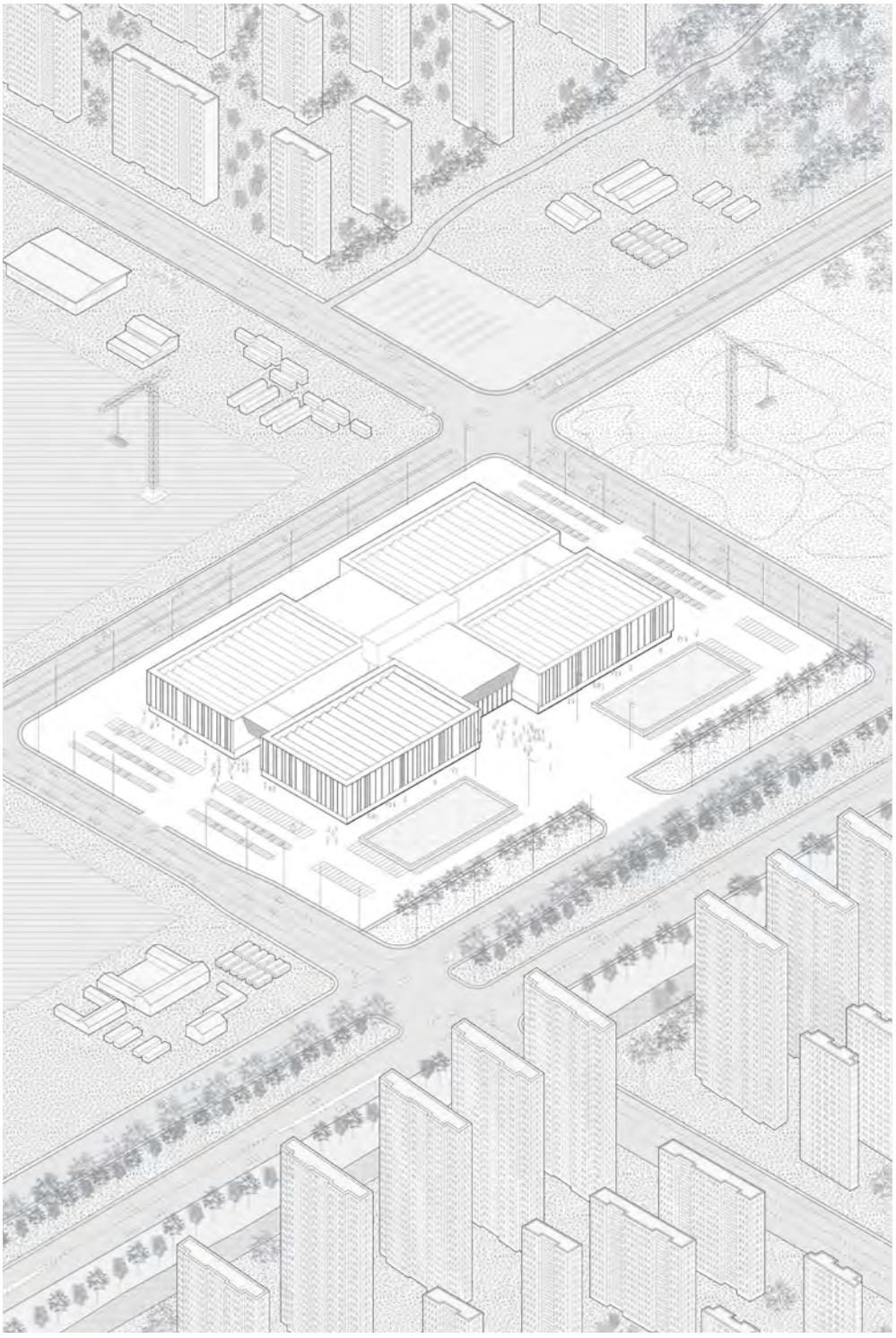
From a structural and tectonic point of view, the distribution space and the four halls are autonomous elements. The load-bearing structure uses mixed concrete and steel truss beams to create the wide span of the building. The massive exterior façade is broken up by a series of skylights allowing the sunlight to enter from the top: the result is an expansive well-lit space lending itself to all kinds of events. The massive, solid façade with its natural stone cladding panels features a non-continuous vertically staggered incision reminiscent of a barcode – a symbolic reference to the function of the building as a place for trade and commerce. At night, vertical LED lighting illuminates the "barcode," bestowing an unmistakable identity on the building within the urban context.

Territorial map on two scales.


Haizhou Bay
Lianyungang Harbour
Station
Lianyungang
Banpuzhen
10 km
5
0
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



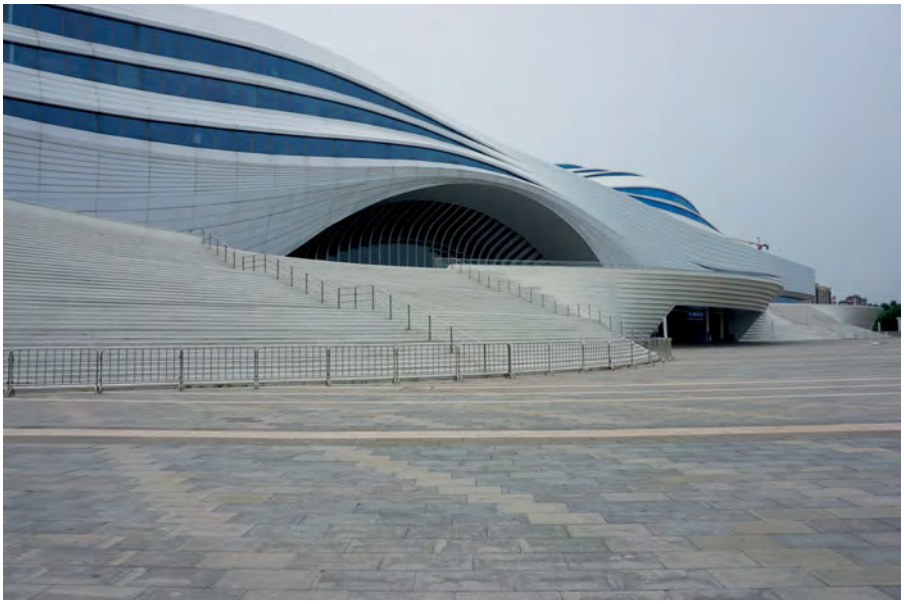
Relation diagram showing the main elements composing the tectonic of the building.



Axonometric view.

Langfang Silk Road International Cultural Exchange Center

Location	Langfang, China
Floor Area	34,000 square meters
Date	2021
Architect	Chidori Yoshinori, WAY Studio
Client	ENN Group



The envelope made of curvilinear metal louvers generates a fluid and dynamic architectural experience.

The Langfang Silk Road International Cultural Exchange Center is located a few kilometers south of Beijing; it is one of the new northern Chinese cultural hubs implemented as part of the "Dreams of Langfang" initiative, a government program designed to assimilate, foster, and promote cultural resources in relation to environment-friendly initiatives. As part of this megaproject, the Silk Road International Cultural Exchange Center, with its maximum capacity of 1,800 visitors, can host numerous cultural activities, such as art exhibitions, concerts, and lectures.

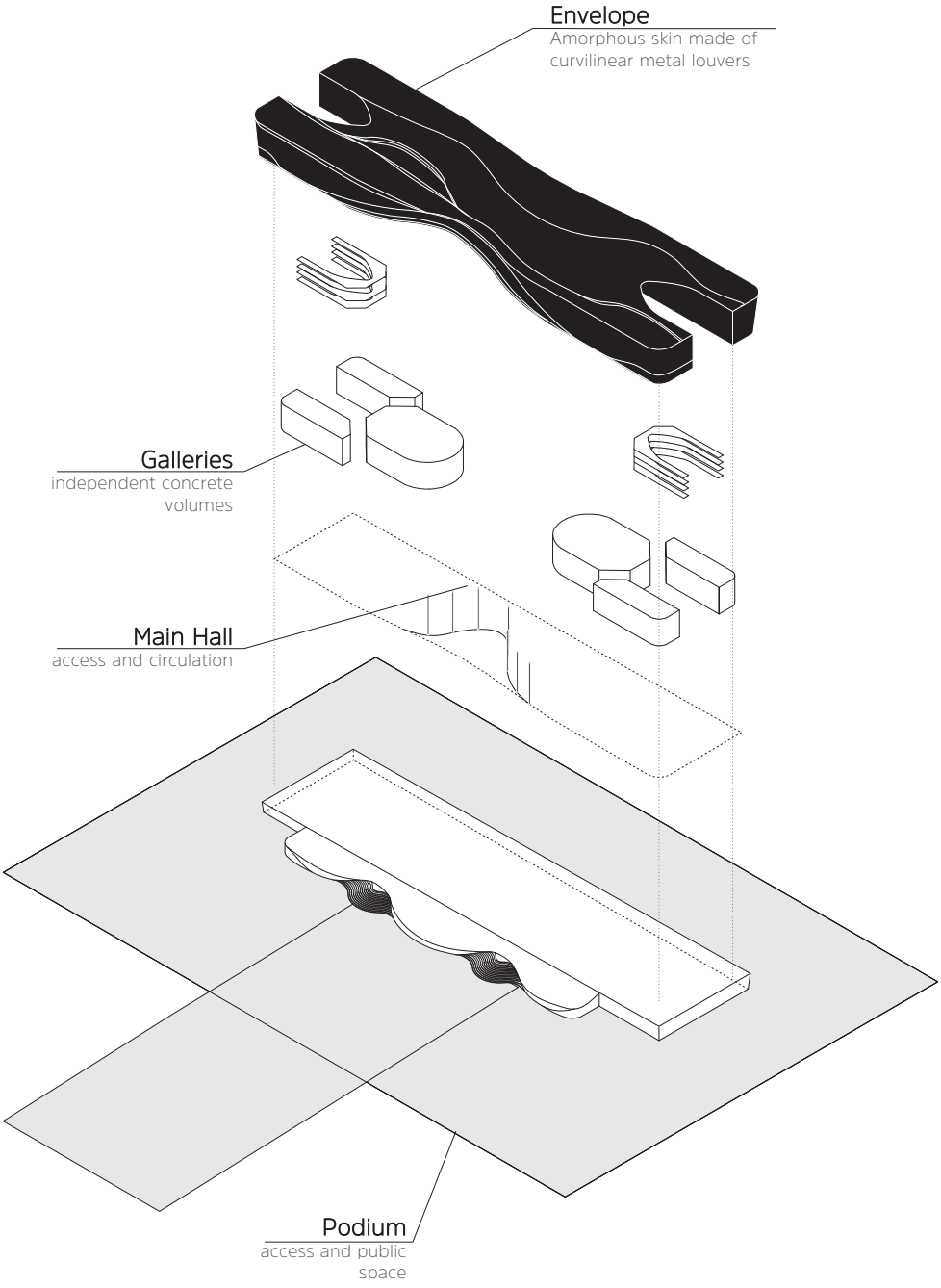
Upon entering the sprawling plaza in the front of the building, the big center appears as an amorphous mass of light rather than a real building. However, once inside, the visitor realizes that the external appearance of the building – one big volume made up of a unique sparkling envelope of curvilinear metal louvers – does not reflect its more fragmented and nuanced program. It includes three different main areas: the center with its mixed-use cultural complex hosting an opera house, a theater, and a music hall; the east side with its exhibition hall; the west wing with, in the middle, an art museum recently renovated by the Chinese architecture firm WAY Studio. Commercial inserts are also present throughout. The ground floor functions as a big platform that connects the different areas, providing them with a unique hall and diversified circulation routes, thus allowing each area to work either individually or together as an entire complex.

The big atrium offers an impressive overview of the building's tectonics: the sun shading system made of adjustable, continuous horizontal blades that surround the whole volume, allow the natural light to filter from the skylights above. Throughout the day, light and shadow shift across the blank white surfaces in a sort of perpetually evolving performance. Fluidity and motion are appropriate terms to describe the architectural experience of the building, not only regarding its atmosphere, but also spatially. A continuous wavy balcony system, connecting visitors to galleries at both ends, emphasizes the relationship between seeing and being seen. Articulated platforms on all sides offer views back into the atrium center, similar to theater boxes overlooking a central stage. In this sense, the whole experience is a continuous fabric of moving views and images. While the spatial distribution is organized and clearly legible, the circulation flows allow for a varied use. The interior paths steer the visitor to observe the space from different viewpoints, offering a non-static experience. As a result, the tripartite planimetric layout is no longer noticeable, leaving room for the fluidity of the visitors' movements.

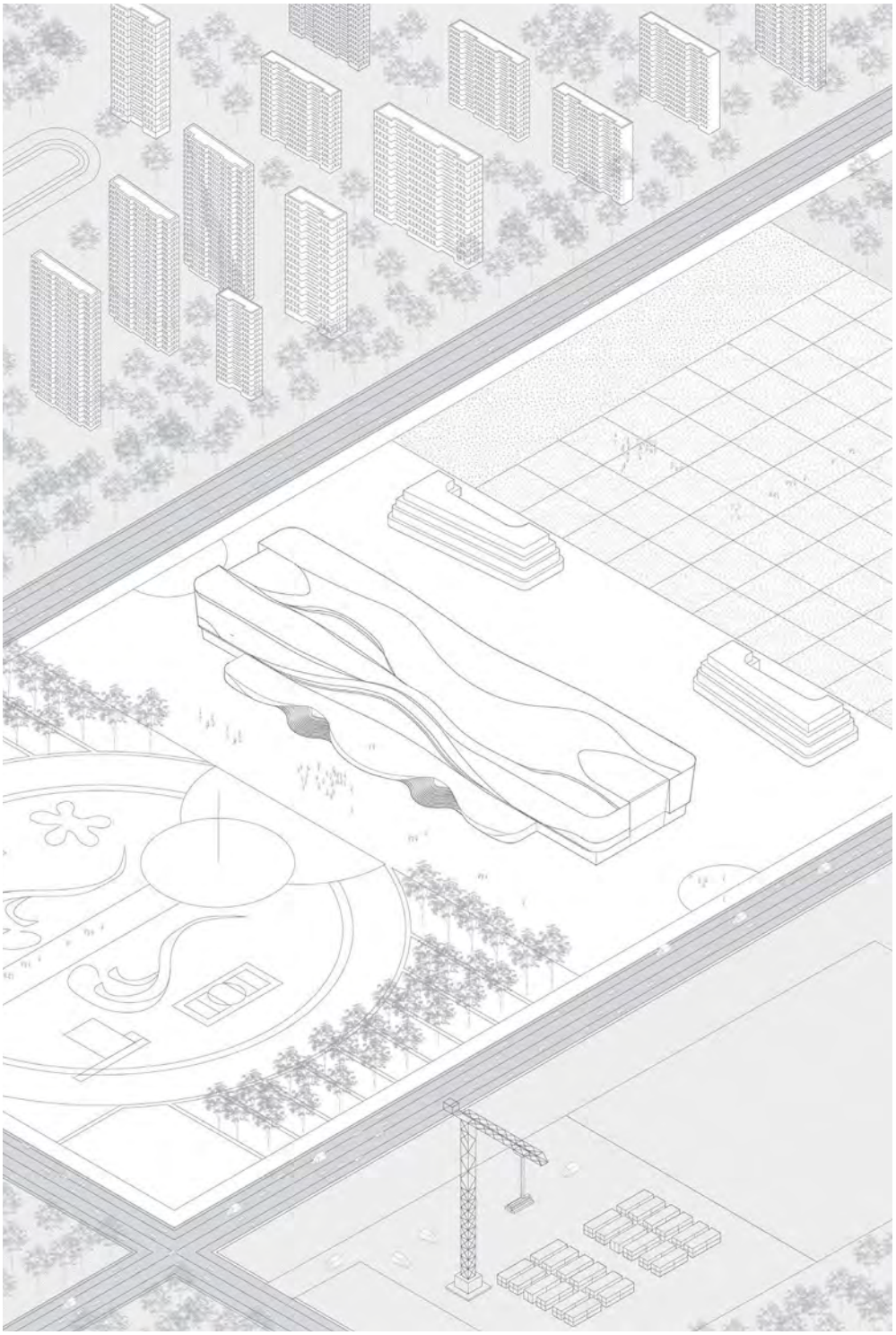
The unusual architectural appearance of the Langfang Silk Road International Cultural Exchange Center creates a contrast with its program. The building's symmetrical and monumental exterior composition is juxtaposed against the curved and spiraling interior.

Territorial map on two scales.

Pakistan China Friendship Centre, Islamabad, Pakistan
Lianyungang Exhibition Centre, Lianyungang, China
10 km
5
0
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



Relation diagram showing the main elements composing the tectonic of the building.



Axonometric view.

Bangladesh-China Friendship Exhibition Center

Location	Dhaka, Bangladesh
Floor Area	33,000 square meters
Date	2021
Architect	Beijing Institute of Architectural Design
Client	China State Construction Engineering Corporation (CSCEC)

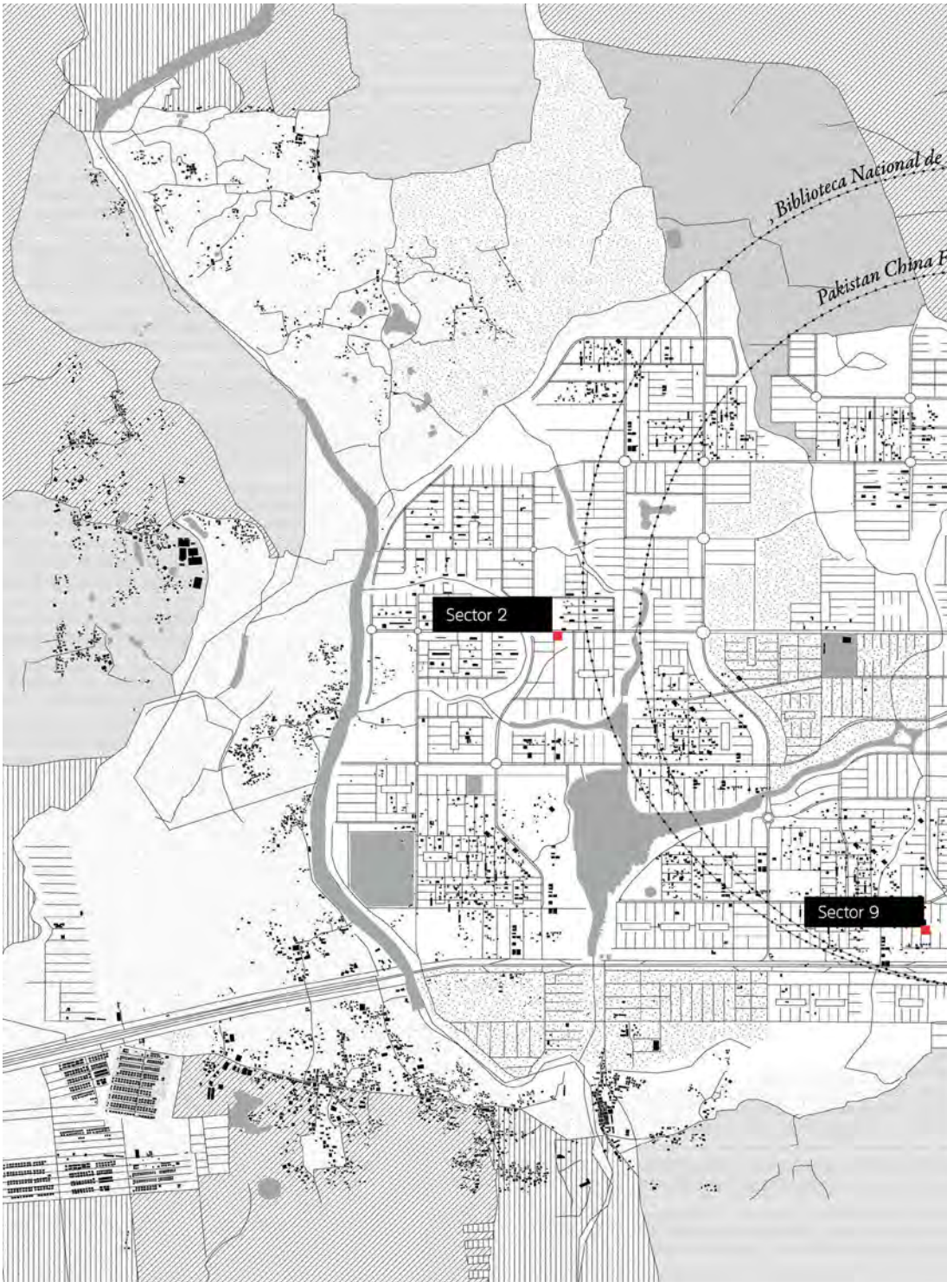
The façade made of red terracotta tiles is protected by a suspended big roof.

Situated close to Bangladesh's capital of Dhaka, the Bangladesh-China Friendship Exhibition Center is a prime example of mutual cooperation under the Belt and Road Initiative. Inaugurated in 2021 by the Prime Minister of Bangladesh, the exhibition center is a permanent venue for different product-based fairs held throughout the year. The building is located in a newly developed area in the northeast part of Dhaka, covering 8 hectares of greenfield. The project, which enjoyed 48% financing by China, was built by the China State Construction Engineering Corporation (CSCEC) and designed by the Beijing Institute of Architectural Design.

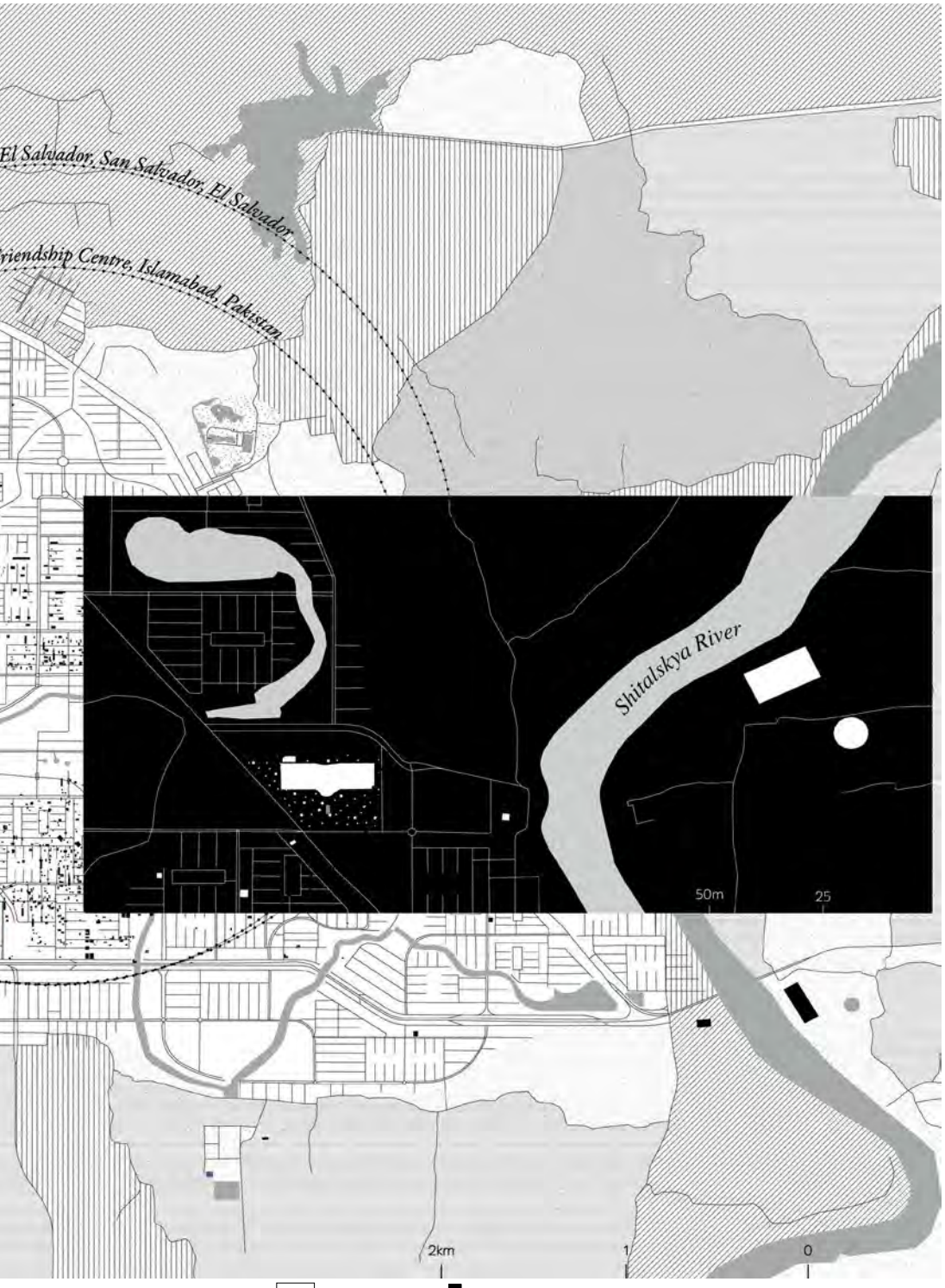
The program of the exhibition center is quite complex and variegated: it has two main halls each with 400 exhibition booths, a 600-square-meter multifunctional hall, a dining room that can seat 500 people, offices, a prayer room, a staff dormitory, a children's activity area, and related functional auxiliary rooms. The programmatic and distributive structure of the center is quite obvious and straightforward; its symbolic dimension, however, is of great significance and was emphasized by the Chinese design team. Two architectural elements are joined in an expressive gesture: a main volume made of red ceramic panels and an aluminum gray roof, symbolizing the "ship" of friendship and trade between China and Bangladesh. As in other "Super Gathering Places," it is the roof in particular that plays an important aesthetic as well as functional role. In this case, the roof curves upward to cover the two stories of the center, creating a double-height space between the two main halls and allowing the plentiful natural light that comes through the outer curtain walls to fall into this space.

When viewed from the outside, the wavy roof structure has an exaggerated scale compared to the height of the building, thus turning it into a grandiose gesture. The building's monumentality is also enhanced by the enormous plaza in front, adorned with a rectangular pool and an array of flag poles organizing the open space. While the continuous roof protecting the spaces below is reminiscent of the curved terracotta structures of ancient Bangla temples, the main architectural composition may have been influenced by the narrative of the "big roof" that has emerged in recent Chinese architectural production. Bearing this in mind, it looks like a Chinese feature merging local traditional architectural elements with the political message of a "common destiny" within the BRI's rhetoric.

The Bangladesh-China Friendship Exhibition Center represents one of the most significant projects implemented within the BRI framework in terms of language, structure, and space. Since October 2021 Dhaka has enjoyed its new fair center which has become quite popular among local and foreign visitors.



Territorial map on two scales.


El Salvador, San Salvador, El Salvador
riendship Centre, Islamabad, Pakistan
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50m
25
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1
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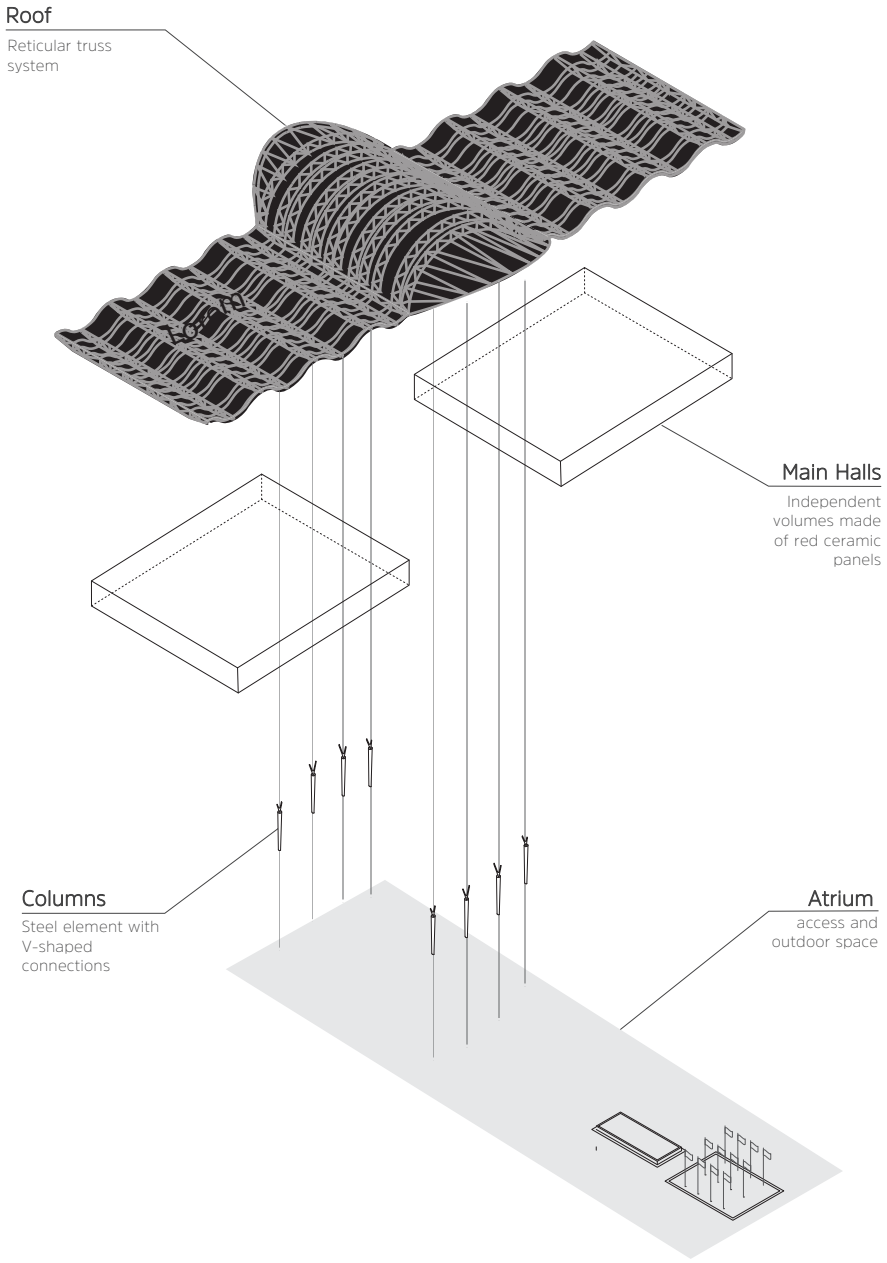
Green Areas
Built Areas
Important Nodes
Infrastructural Nodes



Relation diagram showing the main elements composing the tectonic of the building.

Axonometric view.

National Library of El Salvador

Location	San Salvador, El Salvador
Floor Area	23,760 square meters
Date	2023
Architect	Central-South Architectural Design Institute (CSADI)
Client	National Government of El Salvador

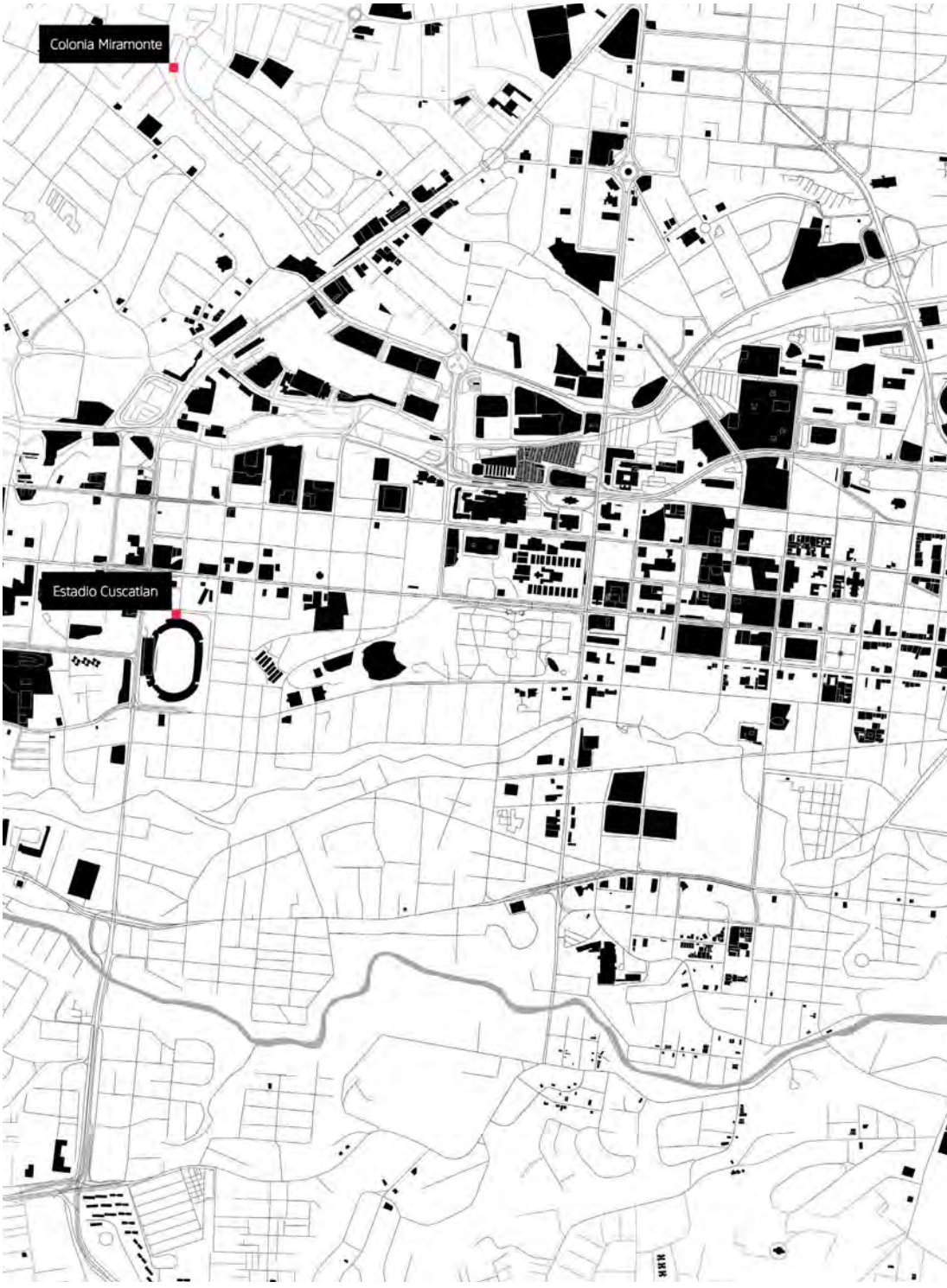
The U-shape of the building and the horizontal louvers system on the façade resembles an open book with text lines on its pages.

The National Library of El Salvador, inaugurated on November 14, 2023, is located in San Salvador, the country's capital. This landmark project, located on the site of the former Francisco Gavidia National Library, symbolizes the first major collaborative venture between China and El Salvador pursuant to the establishment of diplomatic ties in 2018. In December 2019, Salvadoran president, Nayib Bukele announced the construction of a new national library following a state visit to China where he signed a memorandum of understanding with China's president, Xi Jinping within the framework of the Belt and Road Initiative. With an estimated budget of over 54 million US dollars, the project was to be implemented with Chinese cooperation.

The library has a total floor area of 23,760 square meters, of which seven stories are above ground and the others underground. Roughly 95 parking spaces, several logistics areas, and archive storage and technical equipment rooms are located below ground. Above ground, the building is made up of a raised squared podium, connected to the public area by a series of ramps and stairs, and an organic double-curved glazed volume above. It houses a comprehensive range of interconnected functional areas including: book collection zones, lending areas, public activity spaces, administrative offices, and a cafeteria.

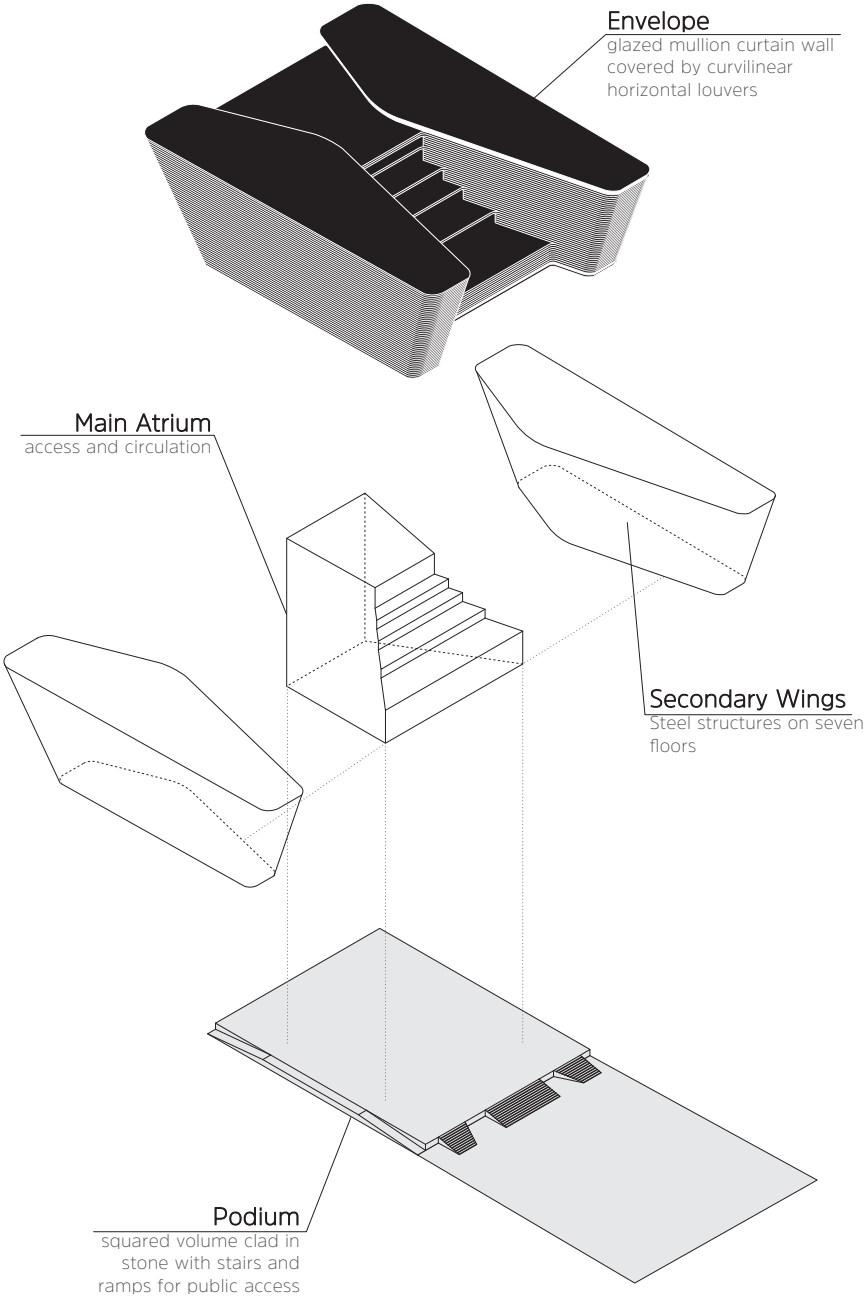
The volume is U-shaped. The reading areas on each floor are arranged in the two wings around the big atrium in the middle of the U. The atrium is connected to a series of introverted outdoor spaces, situated between the two wings, and with a privileged view of the ancient cathedral of San Salvador located in front. The design also maximizes the influx of natural light entering through the tall mullion curtain walls protected by a system of shading devices in order to improve reading quality. The building's U-shape also has a symbolic purpose: it resembles an open book. The horizontal louvers system on the façade represents the text lines on its pages.

The National Library of El Salvador was the first Chinese foreign aid project to be completely digitally designed and delivered using digital twin technologies. The Central-South Architectural Design Institute, in cooperation with the general contractor, Yanjian Group Co. Ltd., developed the project using the Dassault 3DEXPERIENCE platform, a cutting-edge cloud-based application used to manage the design process from its earliest conception to construction on site. The software provided the architectural team with more freedom during the design development phase, especially as concerns the building's envelope. During the construction phase the software produced installation instructions for every single component and enabled on-site three-dimensional delivery with a laser pointer; this made it possible to build the double-curved façade without the need for specialized labor; local labor was used instead, thereby reducing costs and contributing to the local economy.

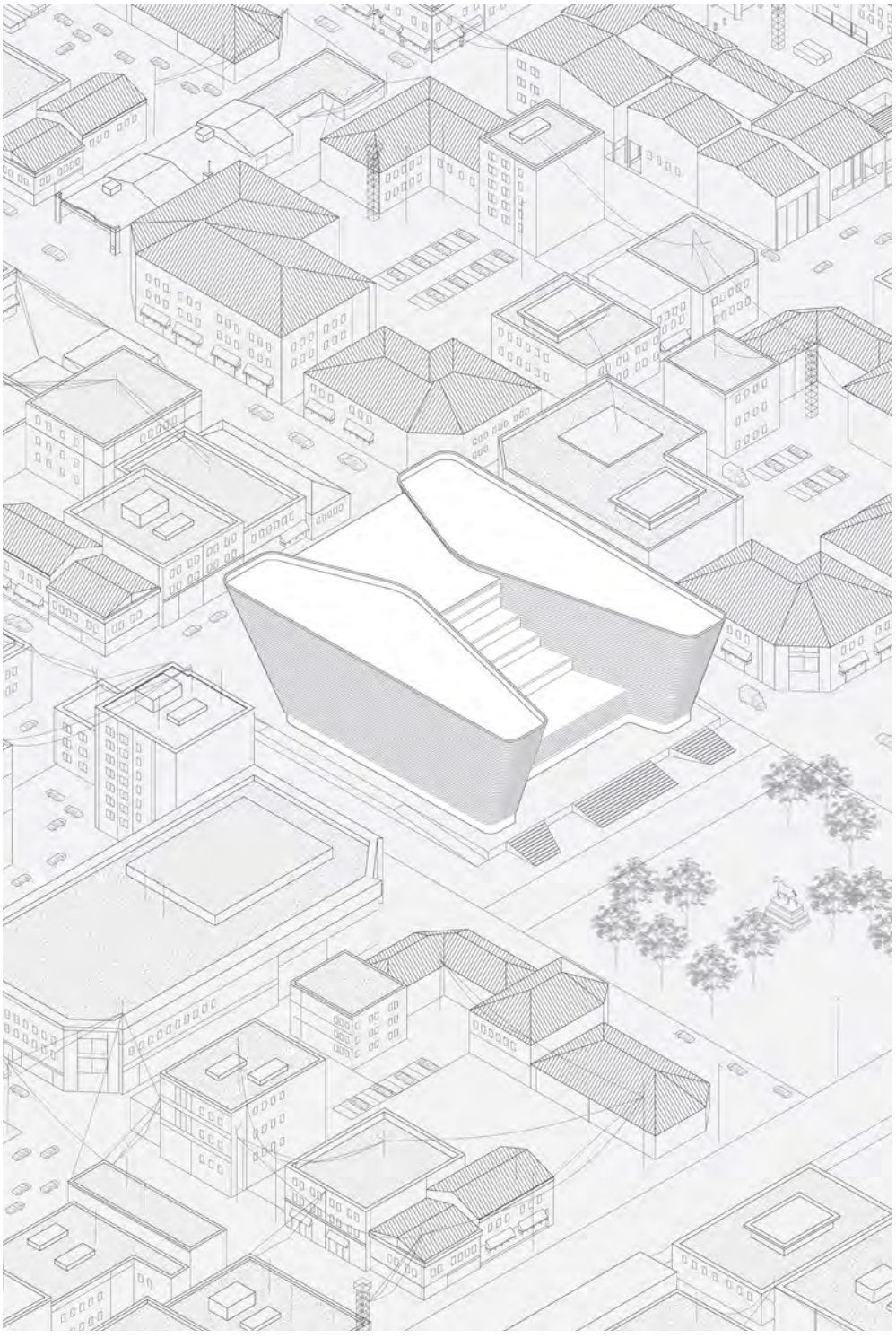


Territorial map on two scales.

National Library of El Salvador



Relation diagram showing the main elements composing the tectonic of the building.



Axonometric view.

National Library of El Salvador

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Outlook

This is not a conclusion. The research portrayed in the previous pages was conceived as a preparatory investigation through the routes of the Belt and Road Initiative, to show the effects of this phenomenon in architectural terms. Our work is meant to be an invitation to increase the number of studies in the field of transnational practices from the Global East to the Global South. Chinese architects, real estate developers and construction firms have completed a huge number of projects in the world, and this book has explored only a few of them, so it would be desirable to examine the phenomenon on a much broader scale.

This book is intended to open a living platform, a collective work that aims to map the emerging architecture of the Belt and Road Initiative and further contribute, in this way, to display its effects on the global built environment. We launch a call to scholars and practitioners from all around the world, to provide new case studies and interpretations. Even though, starting from our preliminary selection of case studies, categorizations and theoretical reflections have been made in this book, we look for further evidence of BRI architecture that follows these points:
Neutral. The BRI architecture cannot be resolved in dialectic and binary terms. It challenges dichotomous understandings of architecture that include the relationship between meaning and form, between material and digital, between local adaptation and standardization, and between autonomy of the discipline and its dependency on given contingencies.
Collective. The BRI architecture questions the figure of the author in the production of architectural outputs, prioritizing collective and cooperative mechanisms that involve a large number of stakeholders and communities.
Cosmopolitan. The BRI architecture is neither local nor global. It opens an architectural discourse grounded on different realities while keeping a transnational nature. For this reason, it necessitates the recognition of the autonomy and dignity of each participant that engages in a critical dialogue.

Indeed, the interpretations we documented in this book are not the sole variables that could be considered: given its intrinsic nature, characterized by practices of negotiation and diplomacy and a resulting sense of architectural neutrality, the production of BRI architecture helps to multiply the narratives.

Moreover, if this study, applying grounded analyses to few selected case studies, could have the merit to recognize emerging architectural issues, other methodologies and perspectives – including in-depth studies on construction and management organizations, structured data analyses, ethnographic researches – could probably be adopted to systematize the concepts we proposed. Further investigations could also lead to practice-relevant findings to approach transnational design projects in the future.

For the ones interested in contributing to this living platform for BRI architecture, more information can be found by scanning the QR code.
https://www.newsilkroad-arch.com/

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Although the contents of the book can be attributed to this collaborative effort, the introduction was written by Francesco Carota and Michele Bonino; *I. The Architecture of the Belt and Road Initiative: A New Architectural Order?* was written by Michele Bonino, Francesco Carota, and Sohrab Ahmed Marri; *II. Architectural Guide to the Belt and Road Initiative* was curated and edited by Francesco Carota, with all the short essays in the "Gift Complexes" and "Mass Housing Enclaves" sections written by Lidia Preti, while those in the "Worlds of Special Rules" and "Super Gathering Places" sections written by Stefano Mondozzi, except for the essay on the National Library of El Salvador, which was written by Giulia Montanaro.

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