TWO SITES | TIRANA

PROPOSAL FOR PROPERTY INSTITUTIONS CLUSTER
+ MIXED-USE DEVELOPMENT

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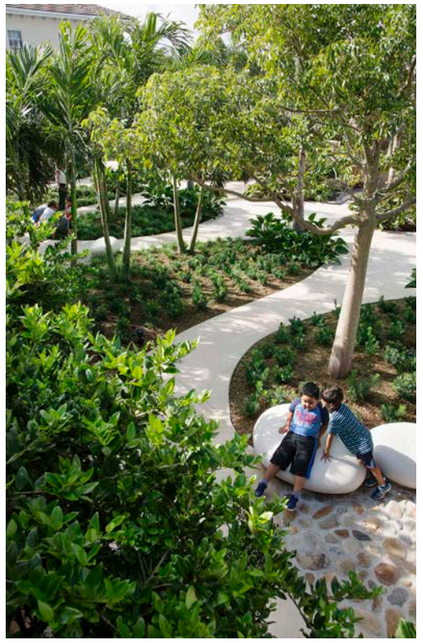
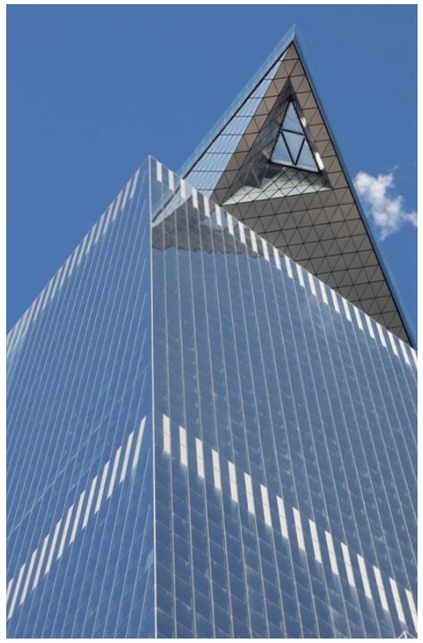
ARCHI-TECTONICS

Hans Van de Bovenkamp



Dirtworks



Thornton Tomasetti

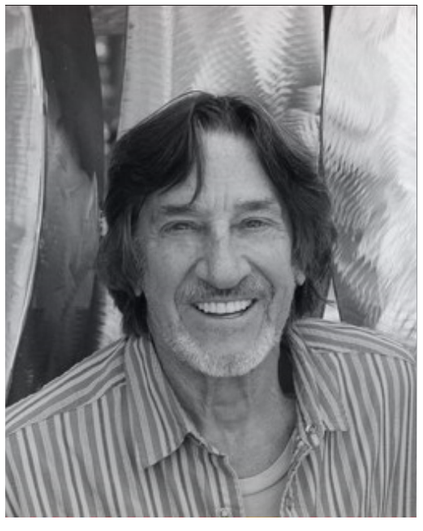
WINKA DUBBELDAM

ARCHI-TECTONICS

ARCHITECTURAL DESIGN

WINKA DUBBELDAM is the founding partner of the WBE firm Archi-Tectonics NYC, LLC [1994], and is widely known for her award-winning work. She was the Chair and Miller Professor of Architecture at UPenn for 20 years, and has taught at Columbia, Cornell and Harvard University. She has been the external examiner for the AA [6 years], and at the Bartlett UCL, both in London.

She has chaired many design juries, such as the AIANY, Prix de Rome, Plan Magazine, and Boffo, and was named one of Design Intelligence's 30 Most Admired Educators in 2015. Winka was the creative director for the Visual Italian Pavilion at the Venice Architecture Biennale [2021-2023] and has lectured worldwide at many symposium and universities.



HANS VAN DE BOVENKAMP

ARTIST

Renowned for his monumental sculpture created primarily for open-air public locales, Hans Van de Bovenkamp has been described as an artist-mystic whose work - with its signature power, lyricism, and grand proportions - heightens the viewer's sense of imagination and discovery.

Mr. Van de Bovenkamp has earned an international reputation in the past 55 years for designing, fabricating, and installing over 100 unique commissioned sculptures and fountains in collaboration with architects, cities, museums, and private individuals.

ALEX HART

DIRTWORKS

LANDSCAPE DESIGN

Alex Hart has over fifteen years of dedicated experience in designing and implementing public and private landscapes, large-scale concept plans, and environmental restoration. Alex has extensive knowledge of the design process for many types of projects, with leadership on significant work throughout the Northeast and internationally.

While completing graduate work at Cornell University, Alex researched design methods for a full year on a Fulbright Fellowship in Copenhagen, Denmark, and graduated at the top of his class with the ASLA Honor Award. He earned two Masters degrees, in Landscape Architecture as well as City and Regional Planning.

DANIEL BOSIA

THORNTON TOMASETTI

STRUCTURAL ENGINEER

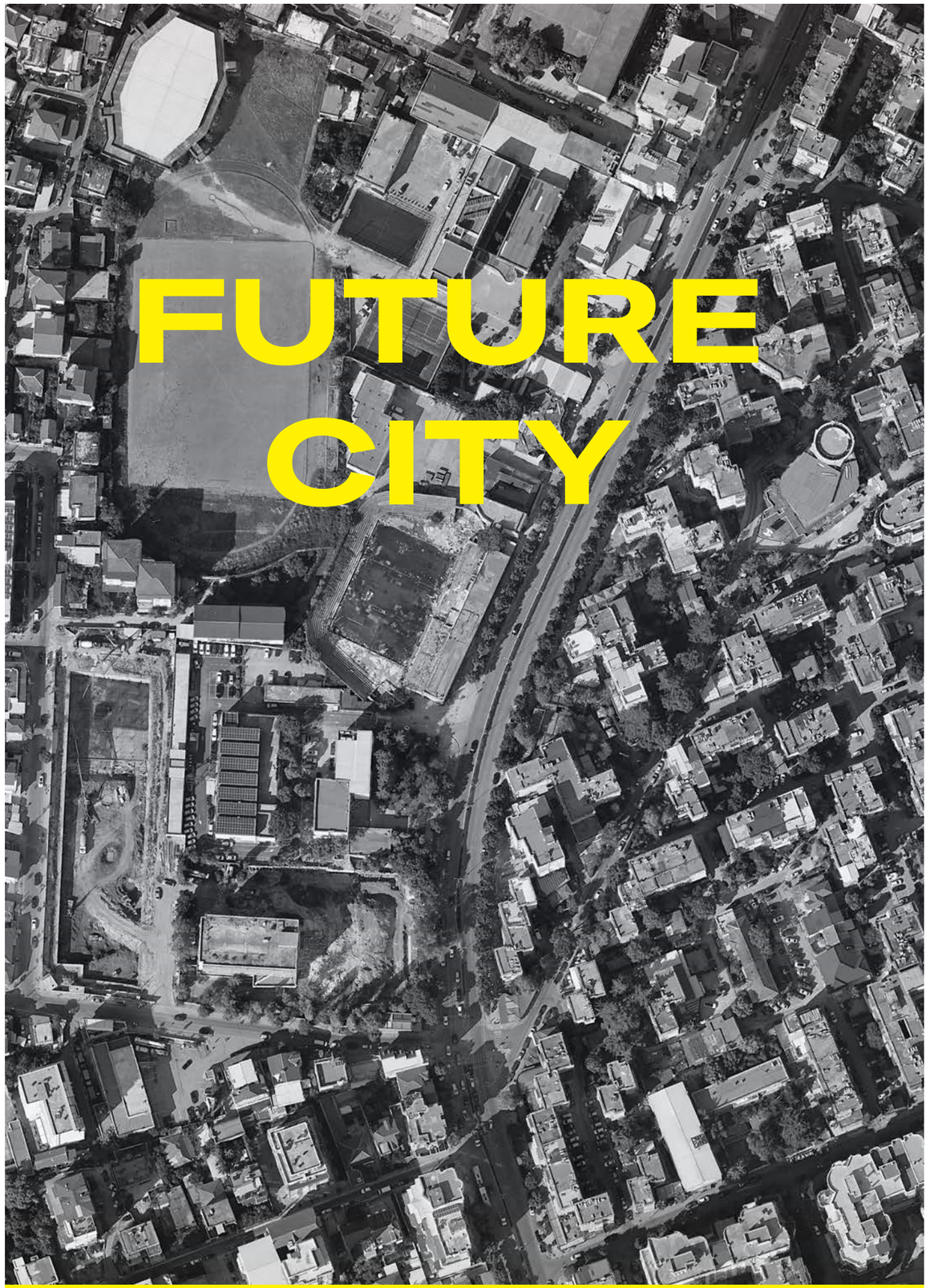
Daniel Bosia,Design Director at Thornton Tomasetti, is a Fellow of the Institution of Structural Engineers with an MSc in Structural and Bridge Engineering and a Master Degree in Architecture. Over the past 25 years, he has collaborated with high profile international architects on projects like the Google Headquarters in Mountain View and the Bloomberg Headquarters in London, the Taichung Opera House and the New Scottish Parliament Building.

Daniel has also led the design of large place-making projects in the public realm such as the Vessel in Hudson Yards and the 5km elevated Tide walkway in London. He has worked on the design of a number of footbridges including the Pedro e Ines Bridge in Coimbra and the Weave Bridge in Philadelphia.

ARCHI-TECTONICS

A.

DESIGN APPROACH METHODOLOGY



MULTIDISPLINARY TEAM

Dear AIC and NTPA,

We are pleased to submit the design submission for the invited competition, phase two for The Property Institutions Cluster + Mixed-Use Development. TEAMWORK has been the foremost important model of working for Archi-tectonics; with a diverse, inter-disciplinary group of some of the most recognized authorities in their field.

We have a long standing collaboration with Thorton Tomasetti, structural, facade and environmental engineers, with whom we recently won the award-winning 47 hectare Eco Park with 7 hybrid buildings. Though the park was commissioned for the upcoming Hangzhou Asian Games2023, the team looked beyond that event to set a new course for the city's environmental future. The project achieved "Green Building Evaluation Label 3 Star" (GBEL 3 Star), the highest level of sustainability in China and equivalent to LEED Platinum. Through BIM optimization between Archi-Tectonics and the GC's team, the project saved substantial amounts of steel, overall costs, and shortened the construction time over 20% to just 3 years!

We have worked for many years with 2L mechanical engineers on a multiplicity of buildings and scales, and are always impressed with their innovative integrative thinking. We are extremely happy they have given such a complete vision for your sites

We recently met Dirtworks Landscape Architects, when we both won a SARA NY award and recognized similar interests in form making, urban thinking, and landscape integration. Dirtworks expertise on landscape and planning has been shown in their deeply engaging work, their team have completed a vast array of cultural & urban landscape projects.

Our designs manifest that research, analytical thinking, and optimization go hand in hand with discovering new, evocative materials and spatial experiences, which ultimately leads to the unique identity and character of a project that can withstand the test of time. We propose a genuinely innovative, sustainable concept for the Property Institutions Cluster + Mixed Use Development. While distinctly local and individual, our proposals for the two sites therefore explore new ideas not only for the future of Tirana but also for future urban habitats in general.

Our design methodology seamlessly integrates digital design BIM coordination, and prototyping tools with engineers, manufacturers, and contractors, allowing us to realize complex and challenging ideas economically and rapidly, as proven by the saving of 1,130 tons of steel, and 20% in construction time for our Asian Games masterplan.

We strongly believe in collaboration and teamwork, and the involvement of all stakeholders; in short, a process of listening, communication and feedback. As such, we trust the exceptional knowledge of our team members, Thorton Tomasetti and Dirtworks. Thorton Tomasetti has completed and collaborated on many Mixed-Use Developments, driven by sustainability and optimization. Their structural and environmental experience with Archi-Tectonics' innovative approach forms the ideal team. The collaboration of these teams will be key in the development and implementation of the the Tirana Property Institutions Cluster + Mixed-Use Development.

We believe our design philosophy and approach are well aligned with the stated ambitions and goals of the two sites, and our team is ideally suited to create a visionary mixed-use, property Institution and Residential Cluster. Through our collaboration, these projects will become a symbol of sustainability, community, and culture.

Winka Dubbeldam
Founder & Partner, Archi-Tectonics NYC, LLC

ECONOMIC SUSTAINABILITY

We understand that economic viability is a fundamental aspect of sustainable development. We work closely with our clients, economic planners, and commercial advisors to deliver designs that will not only improve the environment and the surrounding community but provide reliable sources of revenue for the places where we build to offer lasting economic benefits. Our design would therefore focus on increasing the sense of ownership and engagement with the adjacent neighborhoods and other stake-holders as a central objective of the design.

SOCIAL SUSTAINABILITY

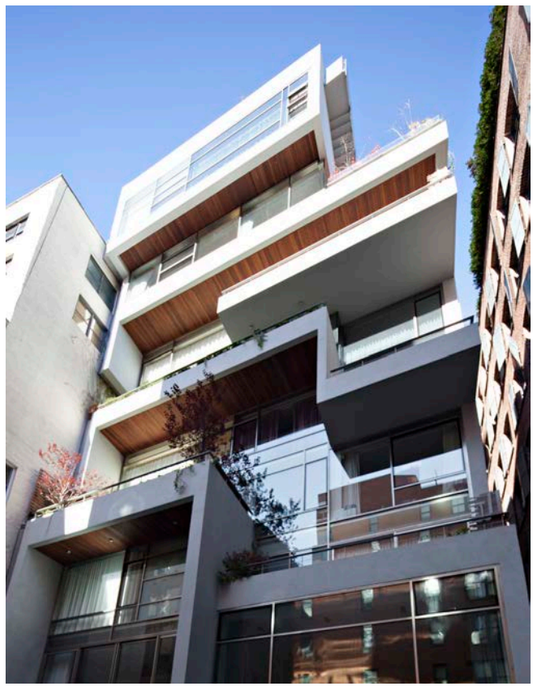
We believe design should always improve the well-being of the people, provide equal opportunities to all those involved with the project, and lay the groundwork for a more equitable future. We are committed to encouraging social sustainability through human-scale and human-centered design.

30–40%
COOLER ROOF SURFACES DUE TO GREEN ROOFS

ENVIRONMENTAL SUSTAINABILITY: FROM THE BUILDING TO THE BODY

We consider environmental sustainability broadly and in terms of systems that encompass everything from water quality and use reduction, energy efficiency, site ecology, environmentally conscious construction, and material sustainability. We apply innovative design and smart engineering strategies towards developing green buildings, source reuse and recycling systems, pollution-eating facades, and climate-skins to make healthier, more environmentally friendly environments for people. On the left our translucent stone & glass building in New York City with great insulation / transparency.

V33 RESIDENTIAL BUILDING FACADE



V33 RESIDENTIAL BUILDING BACKSIDE

GREEN ROOFS

Green roofs have proven to be of great value over time. They reduce the storm water runoff rate from a roof by up to 65%, they make roof surfaces 30-40% cooler and they reduce heat flux from roof to building by up to 72%. Finally they make the roof last longer, they last 40 years or more. See below for our “Earth-Buidlings” in Hangzhou, China

BUILDINGS AS ACTIVE AGENTS IN THE CITY

By analyzing how our projects function as part of larger urban systems and developing innovations, we design buildings that enhance their surroundings and contribute to more vibrant, equitable, and sustainable cities. Such as the Hybrid Stadium / concert hall recently completed in Hangzhou China.

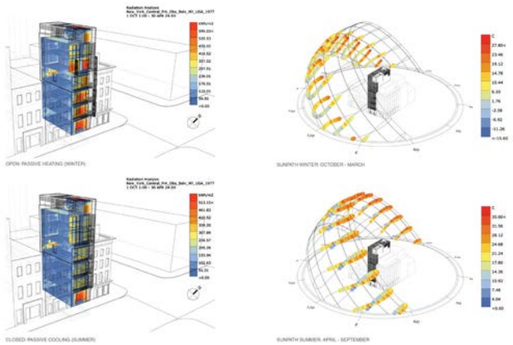
“WE DESIGNED THE PARK AS AN AGENT OF ENVIRONMENTAL CHANGE IN THE CITY. IT SETS A NEW STANDARD FOR HANGZHOU AS A GREENER, MORE RESILIENT CITY. FUTURE URBAN MASTER PLANS WILL LOOK TO IT AS A MODEL OF SUSTAINABLE DENSITY”

2023 HANGZHOU CULTURAL PARK

PASSIVE SOLAR

Archi-Tectonics in its 25 year career has focused throughout on how to design and develop new ways for passive solar. For example the Climate Skin for a NYC Residential Building reduces up to 45% in annual energy costs alone.

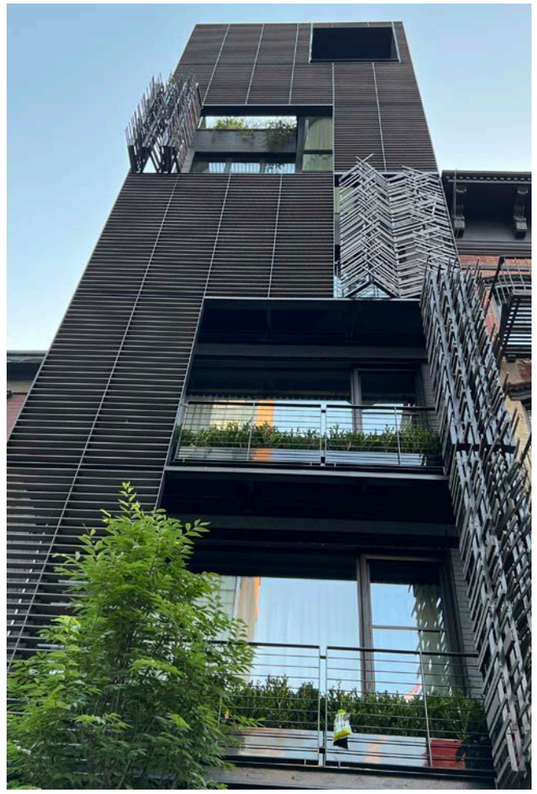
Our use of the Solar Chimney has successfully tempered the climate for commercial towers and buildings, while creating a spectacular architectural space.



SOLAR STUDY

PASSIVE SOLAR CLIMATE SKIN

45%
REDUCTION IN ANNUAL ENERGY COST DUE TO CLIMATE SKIN

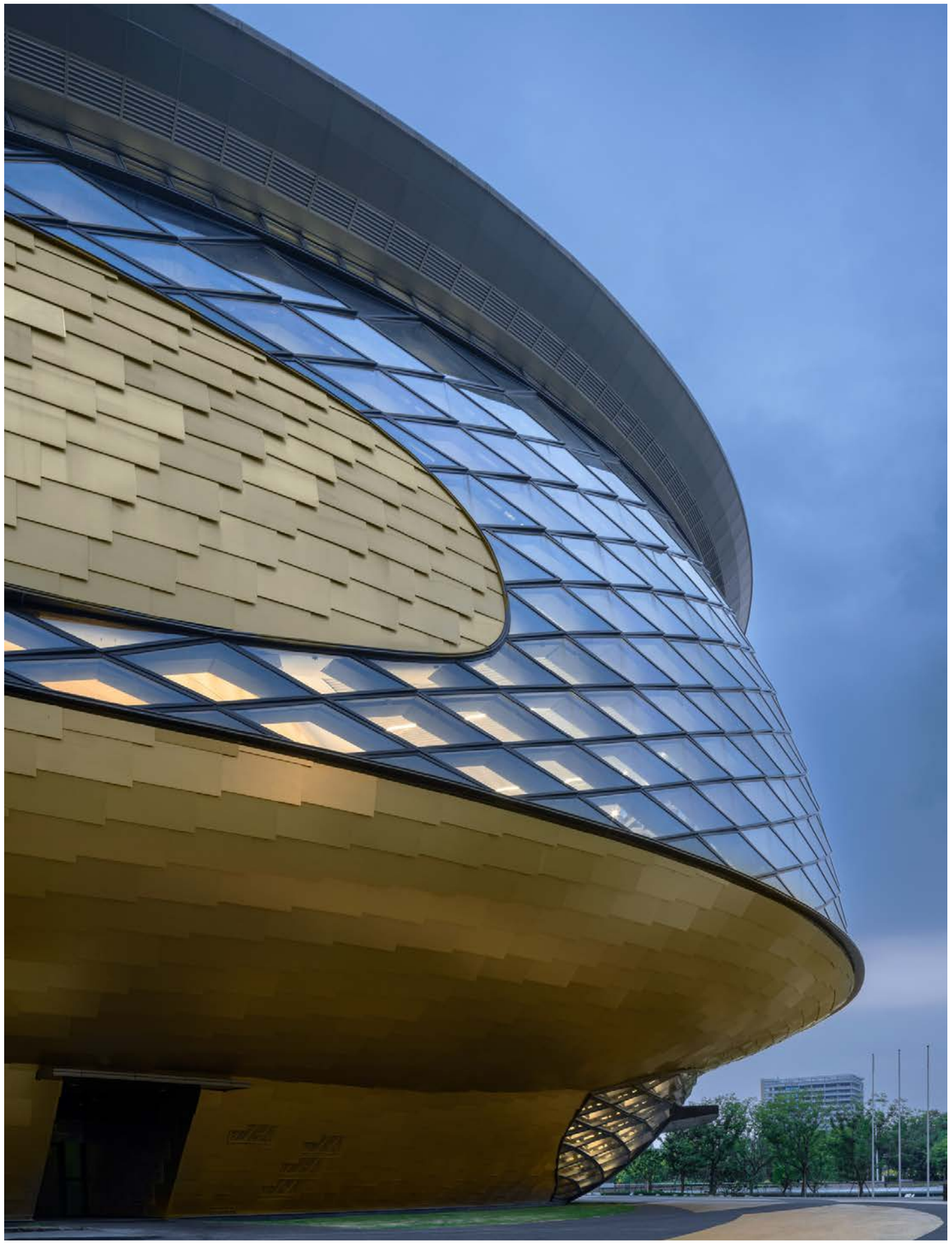


GW512 RESIDENTIAL BUILDING

INTELLIGENT FACADES AND PREFABRICATION

The team has pioneered an approach to maximize the use of prefabricated building systems to enable buildings and structures that are built faster, more affordable, with less risk and to better performance, taking advantage of the power of robotically assisted manufacturing, performance optimization, cost optimization and precision weather independent fabrication.

We know that in this way we can substantially reduce the project schedule during the contract document and construction phases.



HANGZHOU HYBRID CONCERT HALL BRASS SHINGLES & GLASS DIAGRID

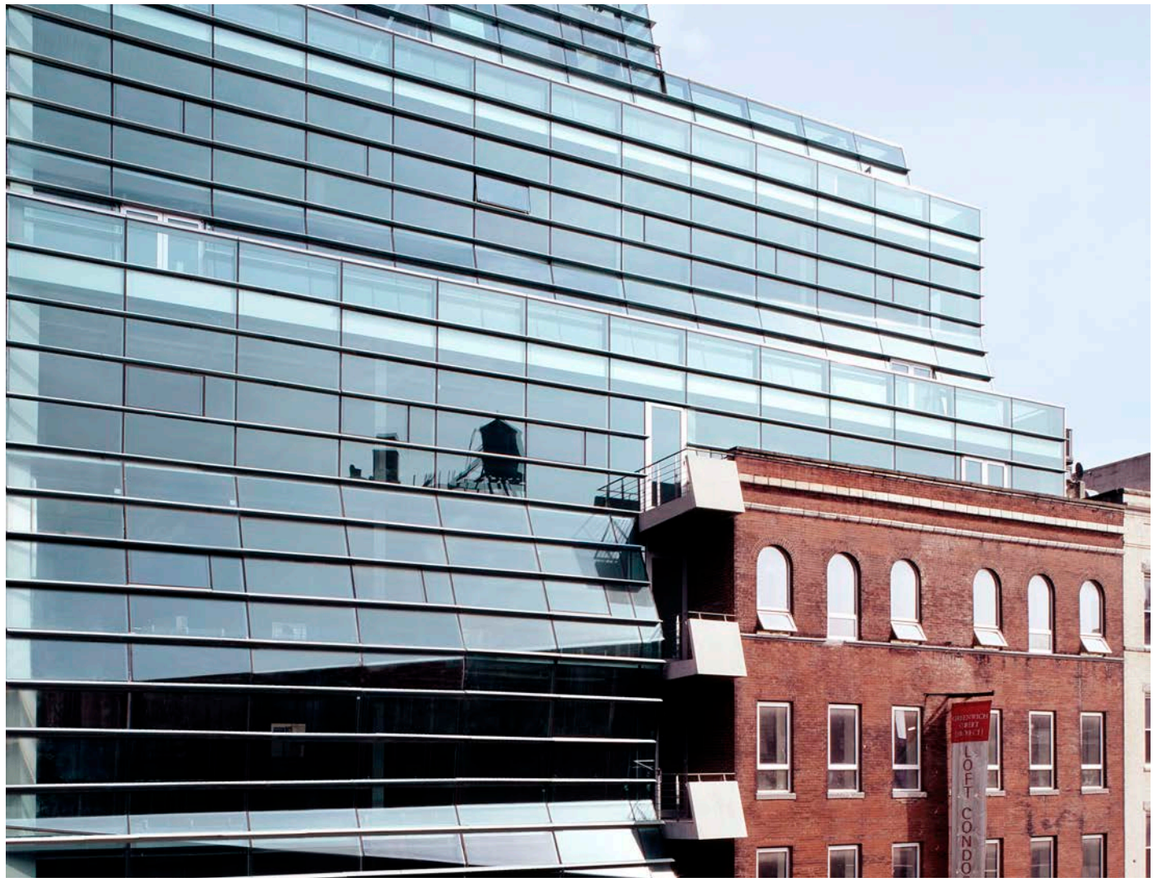
PROTOTYPING & CUSTOM MANUFACTURING

In a process that fuses methodologies of both architecture and industrial design production, we continuously evaluate and optimize the design through simulations, scale models and 1:1 prototypes. Our deep knowledge of construction and manufacturing techniques gives us the unique capability to actively integrate innovative fabrication and material research into our design process.

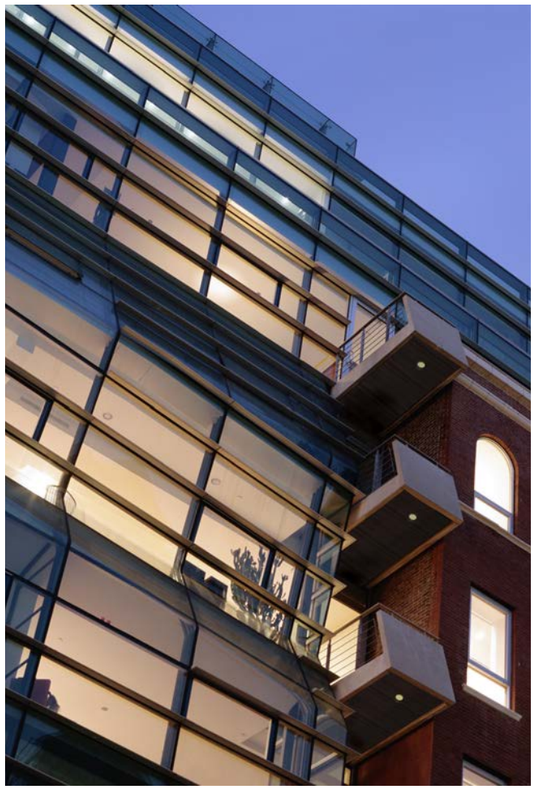
Utilizing file to factory (FTF) fabrication allows us to produce shop drawings, prototypes or prefab component in direct collaboration with manufacturers. This integrated approach adds great value and control to our clients, resulting in products that are unique, precise and optimized, but often exceptionally economical.

3D
DIGITALLY CUSTOM-DESIGNED AND PRE-MANUFACTURED

FTF
FILE TO FACTORY FABRICATION



GW497 IN NEW YORK CITY



GW497 FOLDED GLASS FACADE

PLACE MAKING AND ARCHITECTURE AS BRANDING

We create engaging brand environments that empower our clients to reach their audiences in new ways, incorporating research about how people intuitively respond to spaces and considering how every aspect—from the choice of finishes to the design of digital interfaces and the layout of the plan— work together to create an evocative spatial brand experience.

SMART SKINS

We believe the traditional, static concept of building envelopes is no longer adequate to address the complex and drastically increased demands of energy conservation and environmental controls. Most of our buildings therefore feature highly adaptable Smart Skins, optimized for their particular environment and location. This also allows us to achieve a large degree of flexibility for future programmatic re-configurations as well as individualized control for occupants preferences, e.g. in multi-family or office buildings.

497 FACADE CUSTOM MANUFACTURING

CNC-MILLING A PROTOTYPE FOR INSCAPE MEDITATION

INTEGRATED DESIGN PROCESS

Throughout the course of the project, we will work closely with you, the client and your staff. We will first seek to confirm the overall objectives and milestones and re-establish criteria to meet the terms of reference and materials provided. Furthermore, we will discuss and develop evaluate on criteria and a project specific methodology to finalize the work plan and schedule. Following this, we will create design approaches that we will bring to an ideas workshop with all stakeholders. We involve all key consultants, stakeholders, key trades, and builders from the outset.

This integrated design process ensures highly informed design decisions and accurate costing. Ideas, concepts, proposals, and analysis are evaluated through team feedback from scenario driven architectural design explorations with associated project data reports. The evaluation will be based on the agreed or evolving criteria. Looking at the project from multiple vantage points and subsequent discoveries will lead to a systematically integrated and highly informed design.

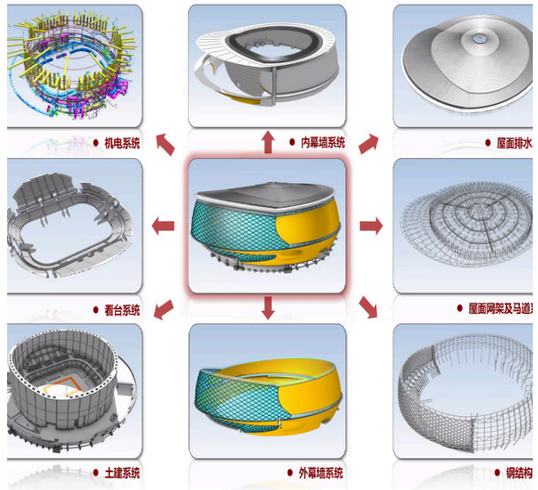
LISTENING AND COLLABORATION

Together with our clients we solve mission critical problems through design. We are highly attentive listeners, probe and ask questions, work through inquiry and R&D to come up with innovative solutions. We have the unique ability to distill complex data into simple empowering design solutions.

We understand the sensitivities of institutional clients and the need for broad stakeholder engagement and alignment.

OUR OFFICE IN NEW YORK CITY, NY

TEAM MEETING



BIM COORDINATION
HYBRID STADIUM

PUBLIC CONSULTATION

We have been highly successful to lead community consultation processes through informative, engaging, and clear communication design, leading to broad project buy-in. We will lead the community consultation, open houses, municipal approvals and will provide public speaking for PR and/or fundraising efforts, as needed.

MILESTONES

Mission-critical milestones include the client approval of program, schedule, and budget project design report at every phase from pre-design, through the design phases, tendering, contract documents, contract administration, potential off -site prefabrication and post occupancy.

BUDGET AND QUALITY CONTROL

We monitor budgets tightly. Design decisions are carefully evaluated with our clients and our quantity surveyors. Further, we try to use off - site prefabrication when feasible and ensure on-time, on-budget project delivery with tight quality control, while reducing pollution & waste.

Long term feasibility and life cycle cost evaluations are optional aspects of our design management task. From our direct involvement in the development industry, we have a very good understanding of proformas and budget control, and we sincerely understand the concerns of our clients in this regard.

We deploy sophisticated digital design tools, including advanced parametric and BIM (Building Information Modelling) software, that allow us to carry a highly integrated computer aided design model set from start to finish.

URBAN SYSTEMS + PROCESSES

We interpret the city as a network of systems and processes, all operating to serve the community and its ambitions. Whether the systems are living, constructed, natural, ephemeral, or tactile - they should all support the community and provide a high quality of life, while healing the environment around them.

In addition to significant desktop and site analysis, we include listening, learning, and collaboration with project stakeholders. As a result of these efforts, the entire project team will have a deep understanding of immediate and long-term priorities for a site, a neighborhood, and a city.

DELURY SQUARE PARK

CONNECTIVITY

Our process prioritizes the integration of the built environment and nature, along with connecting our site perfectly into the surrounding context.

To accomplish this, we identify site-specific circulation patterns, infrastructural systems, and cultural hubs to locate opportunities and challenges.

Civic developments at this scale have the to potential to serve as archetypes, providing a good example for future projects on how to advance the city's initiatives and priorities. In this way, we expect the benefits of each project to spread far beyond the site's boundaries.

FLEXIBILITY

In a dynamic physical and social context, the program must be developed to respond flexibly over time. We expect our projects to provide resiliency to climate challenges and continued relevance as culture and technology evolve.

Our design process includes careful study of present and future scenarios, which shape our approach to a wide range of possible outcomes.

EXPERIENCES FOR ALL

Ultimately, our goal is to provide the best possible experience for all of our citizens. We invite people to explore the places we design by linking natural beauty with a thoughtfully planned range of activities, providing options for users of all abilities and interests.

Throughout this process, we link our designs closely to the human experience, considering many different perspectives on how the spaces will be used. Residents and visitors of all ages and abilities will have opportunities to utilize our lively public spaces in safety and comfort.

FLATIRON INSTITUTE

YOUR HOME

Our priority is creating spaces that truly feel like home, whether in public landscapes or private settings. We believe in actively engaging with both residents and communities throughout the design process, ensuring their feedback is thoughtfully integrated with our expertise. While we bring professional design skills, you are the ones experiencing the space daily – it is your environment, and your input matters.

We strive to create environments that reflect the unique needs and identities of individuals, neighborhoods, and communities. By working together, we can craft spaces that are not only functional and beautiful but also meaningful and enriching. Your comfort, satisfaction, and connection to the landscape guide everything we design.

COMMUNITY-BUILDING

Design can bring people together - it can encourage development of common interests and inspires new ways to play, socialize, and relate to one another.

We expect our places to restore, protect, and elevate individual and collective experiences. We have found these efforts work best when environment and communities are strengthened at the same time.

Our system-based and site-specific concepts support a sustainable and healthy life together, benefiting present and future generations.

LISTENING AND LEARNING

Listening to and learning from the user is a key part of our design process. We often create multiple iterations of a design before finalizing one.

These schemes are shared with the user to gather feedback, and we carefully note their reactions to proposed designs or reference images. By incorporating this input, we aim to use what we have learned to create the best possible space.

ENGAGEMENT

We often visit the proposed site and connect with potential users to get their input. Surveys and focus groups are also essential for guiding key design decisions throughout the process. For example, we might print out sketches and ask users or current residents to vote on what they like or dislike.

Engaging with others and gathering feedback is crucial to us; we believe in designing collaboratively, not in isolation.

INSPIRATION
PRECEDENTS
REFERENCES

TRADITIONAL TOWER HOUSES

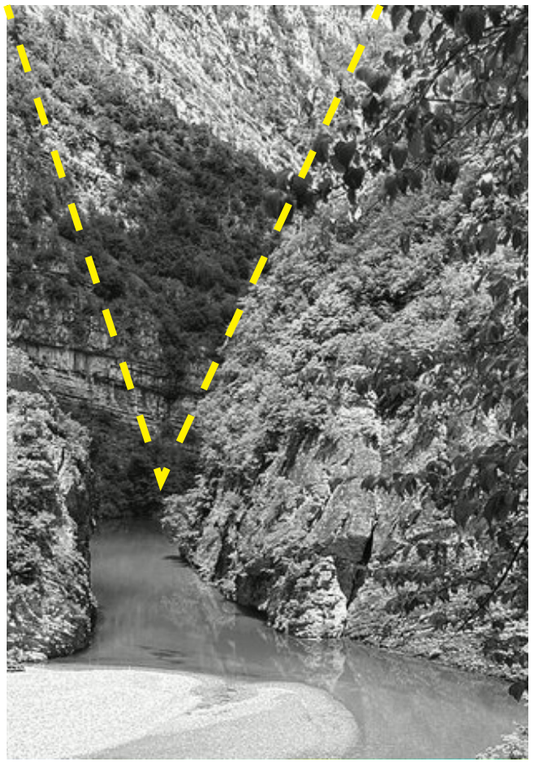
Initially developed by Albanian carpenter-mason craftsmanship, the “Kullas” are heavily fortified structures with small windows and shooting holes, because their main purpose was to offer security in a fighting situation. Their intricate solid geometry was an inspiration for future buildings that are compact; can resist heat and rain, and create shading and privacy for the interior.

CITYSCAPE LAYERS

Mission-critical milestones include the emphasizing high density and urban redevelopment to balance economic strength and land use efficiently. Encouraging mixed land-use patterns and high densities in the city. It is
important to invest in public transit, such as subway expansion projects, and promoting walking & biking.

CLIMATE

Albania has a subtropical Mediterranean climate. Tirana over the course of the year has temperatures typically ranging from 33°F to 90°F and is rarely below 23°F or above 97°F. and receives enough precipitation during summer to avoid the Mediterranean climate. The city is ranked among the **wettest cities in Europe.** Green roofs with storm water retention can assist



TERRAIN

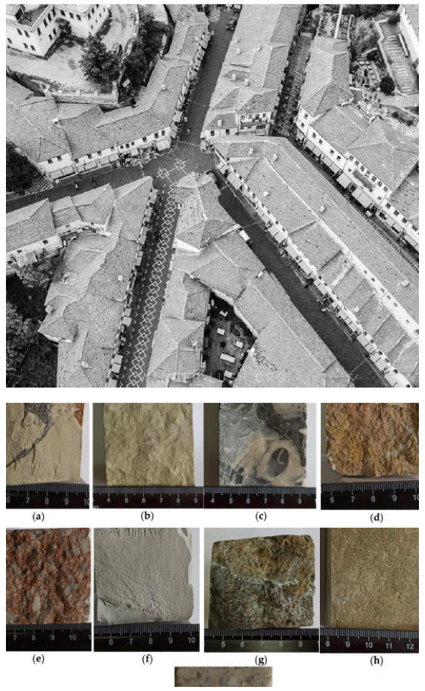
Albania’s natural landscape is nothing short of awe-inspiring. We’ve learned the terrain has shaped the nation’s cities, language, economy, and legislature. The rugged hills, peaks and hydrology were an important source of our inspiration, not only for lending its geometry and faceted qualities to the project, but also because of its proximity to the city, and the country’s desire for balancing preservation and urban growth.

LOCAL MATERIALS/ SOLID BUILDINGS

Albania's local materials like manufactured sand and local stone aggregate are excellent choices for building, as they address the global sand shortage by re purposing leftover stone from quarries. This sustainable approach not only reduces waste but also ensures high-quality materials without deficiencies, promoting environmentally friendly construction practices while supporting the local economy.

Solid buildings with dense materials provide excellent thermal mass, regulating temperatures, resisting floods, and minimizing heating, making them a sustainable architectural model.

By building green, we can reduce the impact our buildings have on contributing to climate change while also building resilience into our homes and communities.



LOCAL STONES

STONE WALL
FORTRESS IN GJROKASTRA

KULLA STONE HOUSES IN THE BALKAN

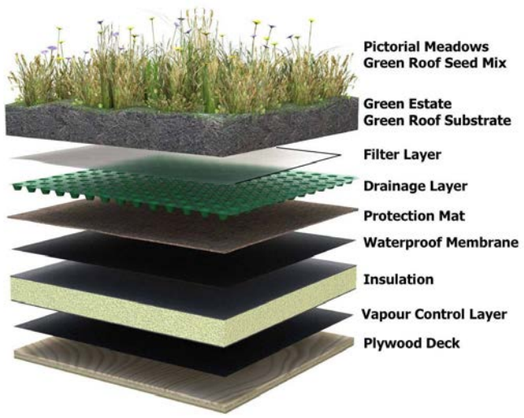
ALBANIA IS THE WETTEST COUNTRY IN EUROPE

LOW MAINTENANCE GREEN ROOF

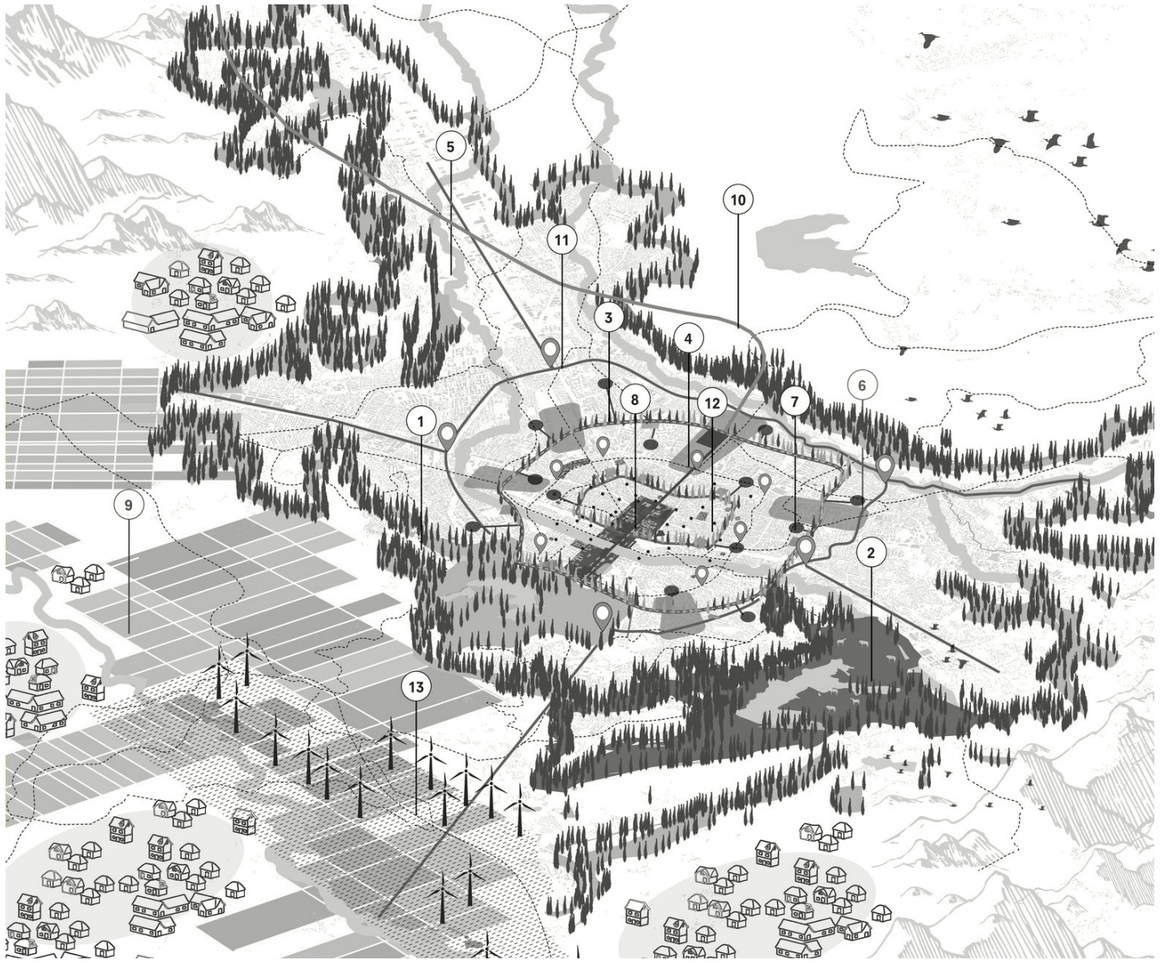
Our design features various staggered roof gardens, including a public park along the existing site building, shaded by the new cantilevered volume, thus continuously interweaving green areas with the architectural space and making nature an integral part of the everyday office environment.

These gardens also absorb and retain rainwater and reduce the buildings carbon footprint while providing leisure zones for employees to meet and take breaks. The absorption of rainwater is crucial for Albania's high risk of flooding and can make a big impact on the building's users and it's immediate surroundings.

GREEN ROOF OF LOT 1



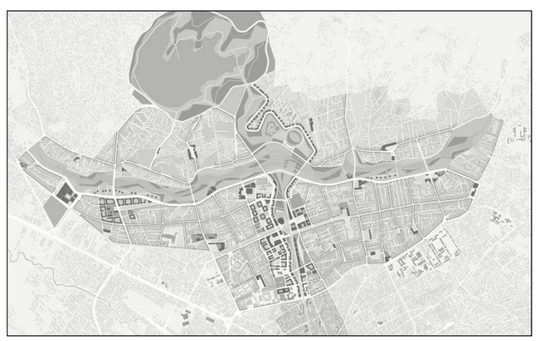
GREEN ROOFS LAYER



TR030

The vision set out by Boeri's Tirana 2030 plan provides clear priorities for city expansion, prioritizing preservation, smart growth, and expanded services. Our site design aligns closely with these important principles, both geographically and conceptually.

We studied the plan closely to identify opportunities where our site design can express the tenets of TR030 at the neighborhood scale, and have found many opportunities to do so. We also researched additional planning developments, such as the Northern Boulevard + River Project Masterplan, to study further opportunities at the fringes of the city.

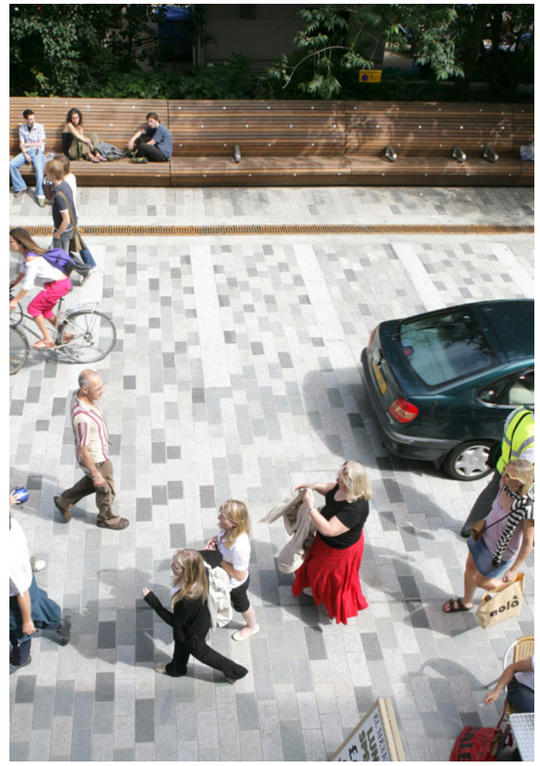


NORTHERN BOULEVARD +
RIVER PROJECT MASTERPLAN

UNITED CAMPUS

We considered both competition sites as unified campuses, requiring thoughtful study of pedestrian and vehicular circulation, the articulation of publicly and privately accessible spaces, and exploration of opportunities to use each development as a catalyst for establishing larger places even beyond our site limits.

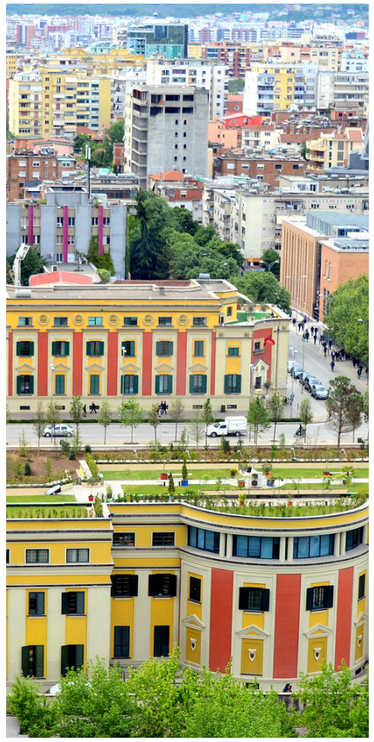
In both cases, these sites have significant potential to serve citizens as important civic and commercial hubs. Our designs provide a recognizable consistency of design across the entire campus, with linkages to adjacent civic spaces.



SHARED STREETS

Prioritizing pedestrians is a major component of the site design. Shared streets allow for delivery vehicles and residents with cars to access the site, but only at the pace of pedestrians and cyclists.

This hierarchy, utilized in European cities for generations and now becoming more popular in North America, creates a far more pleasant environment for all users - including car drivers. Rather than divide the site into exclusive modes of travel, the places will feel unified, consistent, and calm.



MINISTRY OF FINANCE

THE NEW BAZAAR

TRADITIONAL DRESS

HUMANIZING THE ICONIC

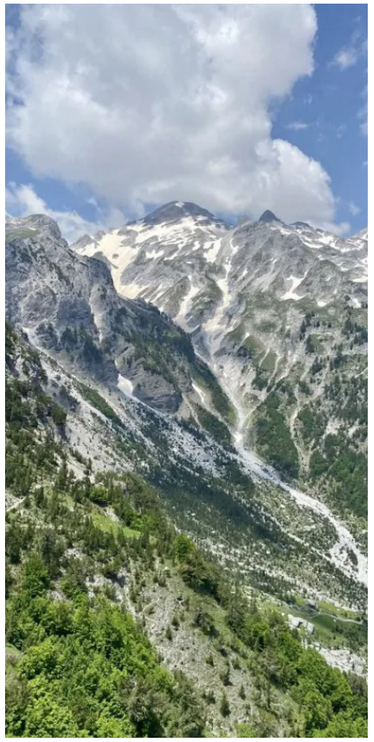
There are plenty of incredible examples of world-class architecture across Tirana. These iconic structures have become landmarks, recognizable forms appearing on the distant horizon.

Our task is to bring the city's structures down to human scale. We search for opportunities to relate to the human body. We are curious about weekly errands and routine travel; what feels adventurous to a child? What can make a woman feel safe at night? How can new and old structures shape public spaces in a unique way for our communities? Through thoughtful program, proportion, and place making, we can redefine the public realm.

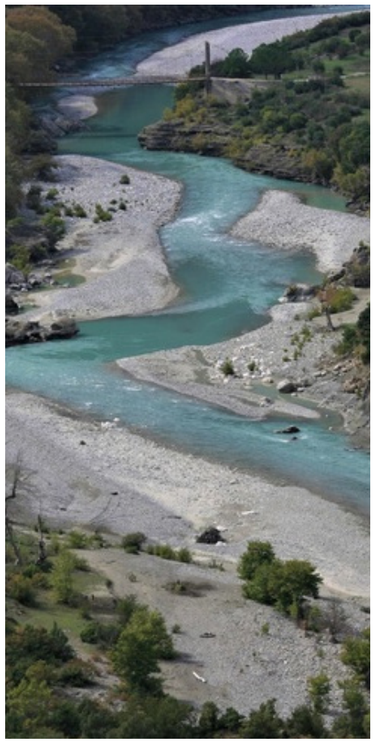
PATTERN AND DRESS

The colors of Tirana energize building facades, public spaces, and its people. We have observed how vibrant color unites government buildings across the city center, defining the limits of public, open spaces. From street art to mosaics, it is clear there is an appreciation for all things bright and lively, often activating corners or courtyards, public spaces which otherwise might appear less inviting.

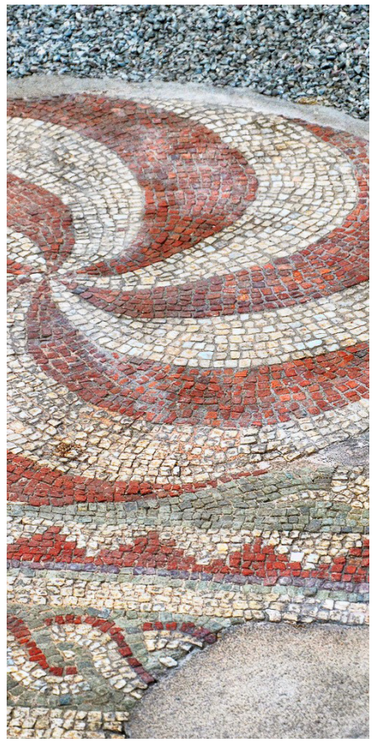
The form of Albanian traditional dress is both understated and sculptural. Its elegance and subtle banding are balanced by colorful floral pattern and rhythmic texture, responding to the movement of its wearer.



ALBANIAN ALPS



VJOSA RIVER



ST. GEORGE'S MOSAIC

TERRAIN

Albania's natural landscape is nothing short of awe-inspiring. We've learned the terrain has shaped the nation's cities, language, economy, and legislature.

The rugged hills, peaks and hydrology were our largest source of inspiration, not only for lending its geometry and faceted qualities to the project, but also because of its accessibility from the city, and the country's desire for balancing preservation and urban growth.

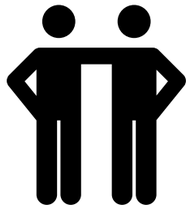
We honor these systems in the built environment by weaving ribbons of green infrastructure through flood-prone areas and by celebrating their cooling properties as distinctive water features in public and private outdoor spaces.

FAMILIAR, BUT DIFFERENT

Tirana is a city of old and new, a balance we seek to preserve with FUTURE CITY, and is shared with the TR2030 plan. We found inspiration in the patterns of the Mosaic of St. George, the protected Vjosa River national park, and traditional Albanian textiles, among other references.

It was important to the design team to express this unification in the site design proposals. We found it a delicate balance to express the unique historic character of Tirana while looking to the future. Natural systems provided us with inspiration and practical, logical, implementation of how to express that balance in built form.

STAKEHOLDER NEEDS IDENTIFICATION



YOUNG PROFESSIONALS

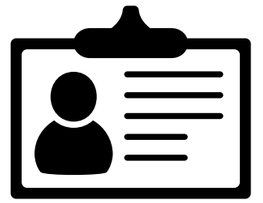
From our research we found that Tirana has a relatively young population, who have a different working habit.

CITY DWELLERS

Alongside millennials, who tend to favor urban environments, commuters and retirees are equally enticed by the city's convenient and vibrant lifestyle.

STUDENTS

Connecting to the nearby campus, the residential tower draws in students and allows them to experience a new balanced lifestyle.



GOVERNMENT EMPLOYEES

A well designed and healthy work environment has proven to be the most often mentioned request by employees and visitors alike, and a main driver for work efficiency.

HOUSING

The term micro-housing refers to anything related to the planning and construction of very small houses. Ultra-efficiency is applied in the implementation of domestic spaces, including just the area needed to meet minimum housing requirements. In terms of space, the U.S. Urban Land Institute sets the size at 32 m2.

In general terms, they are reduced to a single, small room, in which all the functions of a house are concentrated. It is a movement which, as mentioned earlier, has its own history and defenders. We need to analyze the advantages to understand what could possibly be good about living in cells like bees in hive.

WHY?

• Lower costs, more affordable. It is obviously cheaper to access these types of homes, given the fact that they require much fewer resources. In the U.S. they are between 20% and 30% cheaper.

• Cheaper maintenance. Not just that, there are lower costs associated with the houses, particularly those related to energy consumption or cleaning.

• This leads to one of the main arguments in favor of these houses: they are more sustainable. According to a United Nations report reducing house sizes by 20% could reduce harmful emissions by, at least, 50%.

• This is a solution to the overpopulation and indiscriminate urban planning problems. In this regard, it falls in line with certain principles of New Urbanism that call for coherent planning.

• Flexibility and customization in architectural design.

• Reduced spaces make tenants spend more time outdoors, which is a positive aspect in terms of strengthening the sense of community and coexistence.

• In relation to price, this form of housing could be a way for more disadvantaged population groups to access housing.

OFFICE LANDSCAPE

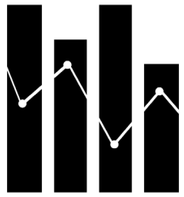
FUTURE CITY addresses localized site conditions, but always connects back to the greater city of Tirana and the goals outline in TR030. We understand a single development will not resolve the challenges our modern cities face, but it can serve as a powerful archetype. The micro-housing development will mimic natural systems - softening a hardened environment, mitigating flood risk during rain events, and creating comfortable, connected, pedestrian spaces in a car-centric environment. These flexible spaces invite discovery, surprise, and respite, with the potential for exponential impact.

URBAN LIVING

Cities are experiencing a renaissance, with job growth driving demand for housing that supports a vibrant live-work-play lifestyle.

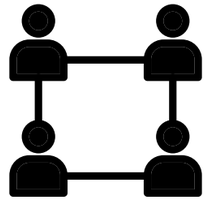
AFFORDABILITY

Identifying an affordable housing solution in urban areas where housing costs have surged significantly.



DEMOGRAPHICS

Alongside millennials, who tend to favor urban environments, commuters and retirees are equally enticed by the city's convenient and vibrant lifestyle.



COMMUNITY

Micro-units allow individuals to enjoy the privacy of solo living in appealing areas, while also featuring a wealth of amenities that encourage community interaction among residents.

URBAN HEALTH

We want residents to get outside and explore their city. We create space for socialization and play, to nurture community relationships.

SUSTAINABILITY

Mimicking natural systems cools cities, manages stormwater, and ensures improved health and wellness of urban communities.

D.

CONTEXT ANALYSIS: OPPORTUNITIES

TIRANA

ESTABLISHED IN **1614**

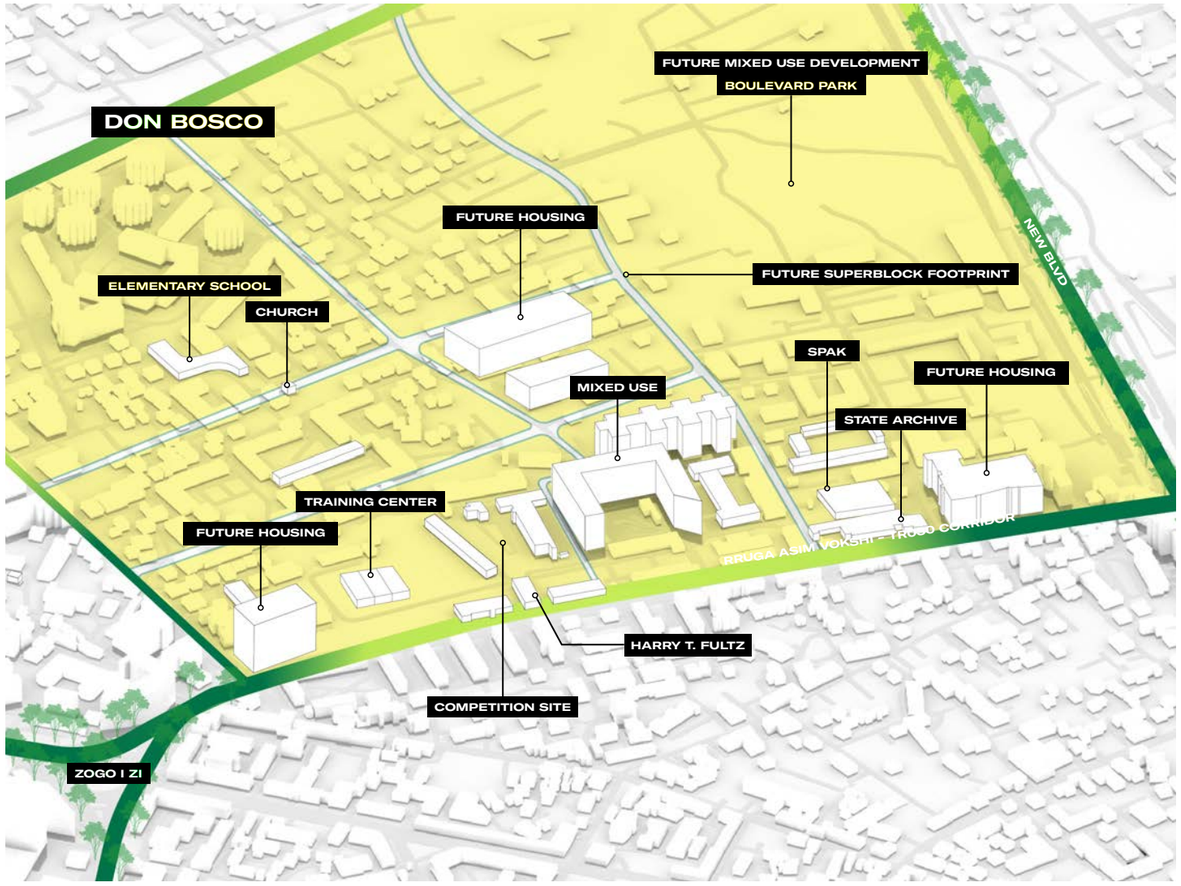
POPULATION **895,000**

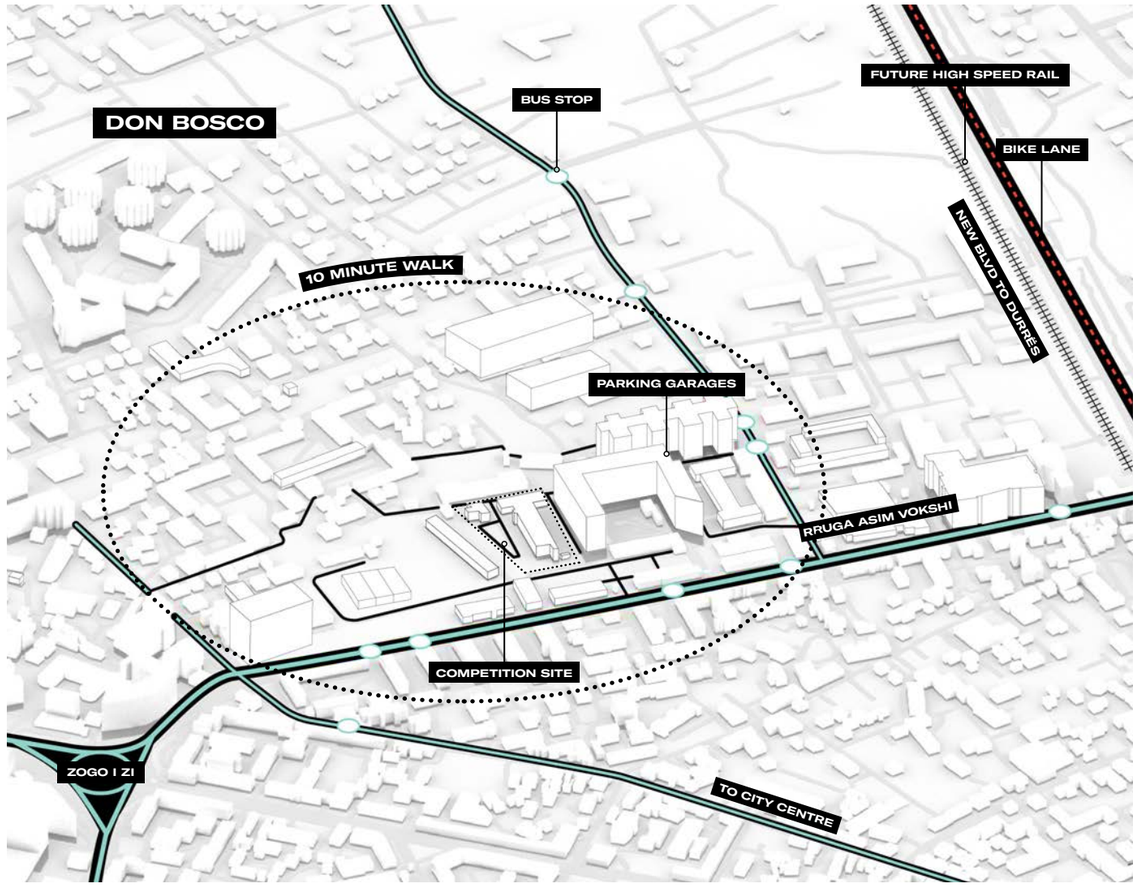
MUNICIPALITY AREA:
41.8 KM (16.1 SQ MI)

METROPOLITAN AREA:
1,652 KM (638 SQ MI)

ELEVATION:
AVERAGE ALTITUDE
110 METERS (360 FT) ASL

CONTEXT INVENTORY





LOT 1 – DEVELOPMENT

Don Bosco is on the fringes of a major transformation spurred by the Northern Boulevard and River Project Masterplan. A series of superblocks will redefine the primarily residential neighborhood. Mixed use developments along Tirana's New Boulevard will create a towering edge along a massive public park. The competition site will continue to share a property line with the local high school, however the relocation of the right of way will pedestrianize the competition grounds.

LEGEND

HIGH DENSITY DEVELOPMENT

ARTERIAL ROAD

"The competition site will continue to share a property line with the local high school, however the relocation of the right of way will pedestrianize the competition grounds."

LOT 1 – CIRCULATION

The competition site is at the center of several major bus routes along Tirana's ring road and connects employees to both the city center and outer limits. A planned high speed rail will be completed in 2024 along New Boulevard, where the Tirana train station was once located. Within a ten minute walk, employees can easily reach public transportation, while enjoying the conveniences of a family-oriented neighborhood.

LEGEND

ROW

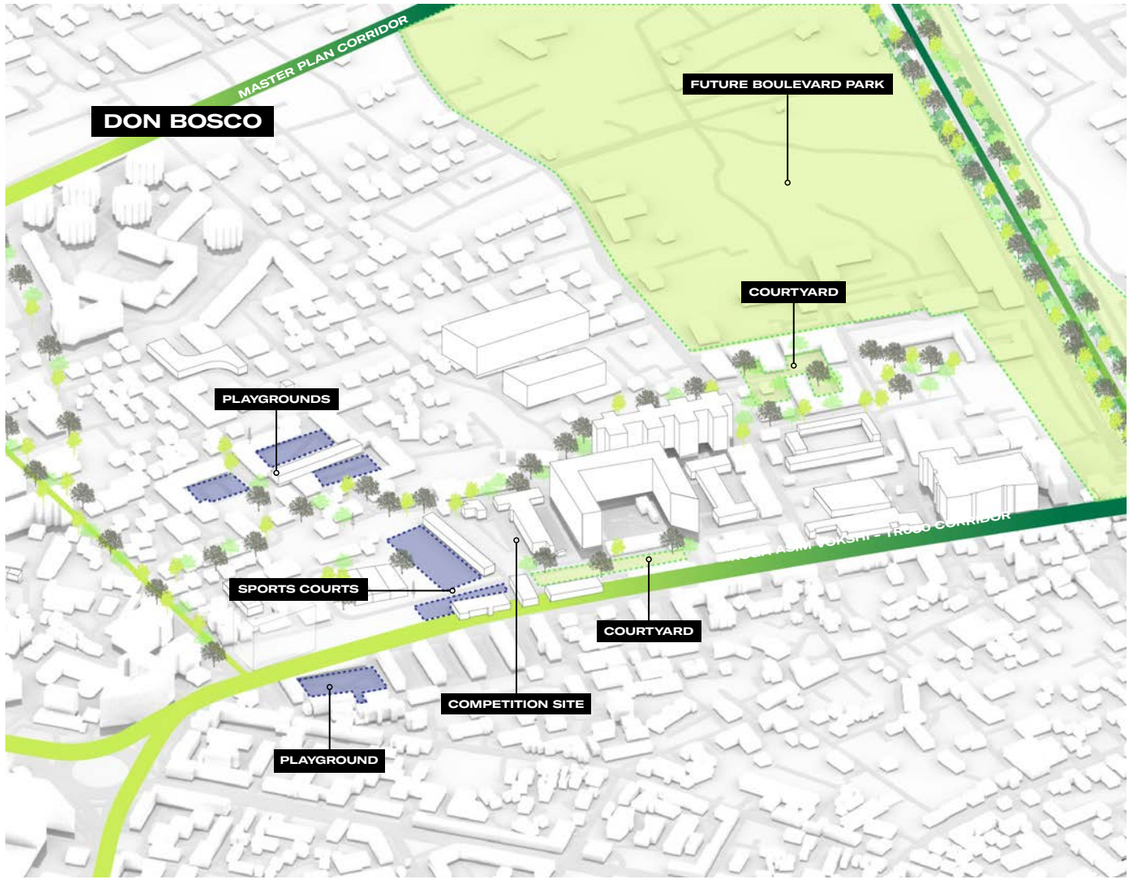
BUS ROUTE

BIKE LANE

RAIL

BUS STOP

"Within a ten minute walk, employees can easily reach public transportation, while enjoying the conveniences of a family-oriented neighborhood."



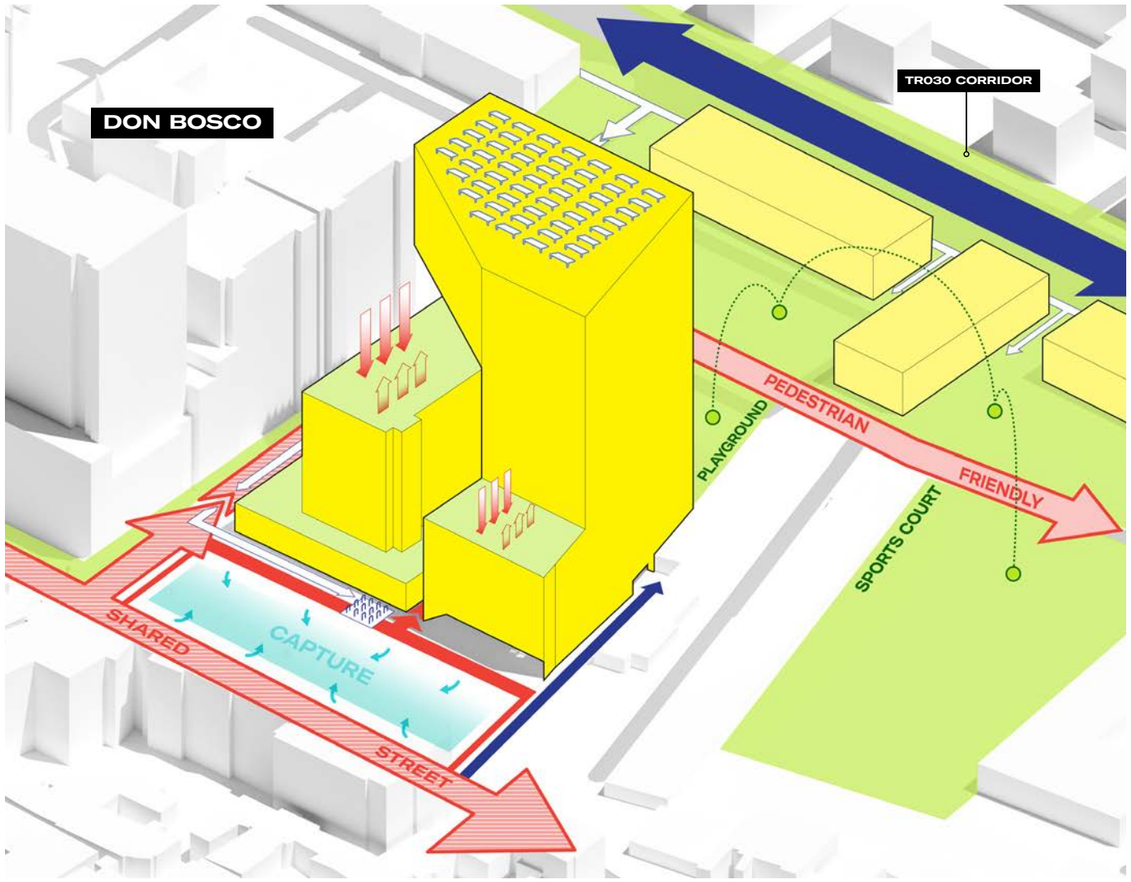
LOT 1 – OPEN SPACE

The competition site is located near several playgrounds and the future Boulevard Park, a world class public space. However, currently employees and residents, do not have access to a generous green space in their community. A publicly accessible green space would provide the community of Don Bosco with a centralized space to gather, socialize, and play, as an alternative to the destination park Tirana is building for the city's future.

LEGEND

- ARTERIAL ROAD
- IMPERMEABLE PUBLIC SPACE
- PERMEABLE PUBLIC SPACE
- CANOPY

"A publicly accessible green space would provide the community of Don Bosco with a centralized space to gather, socialize, and play..."



LOT 1 – OPPORTUNITIES

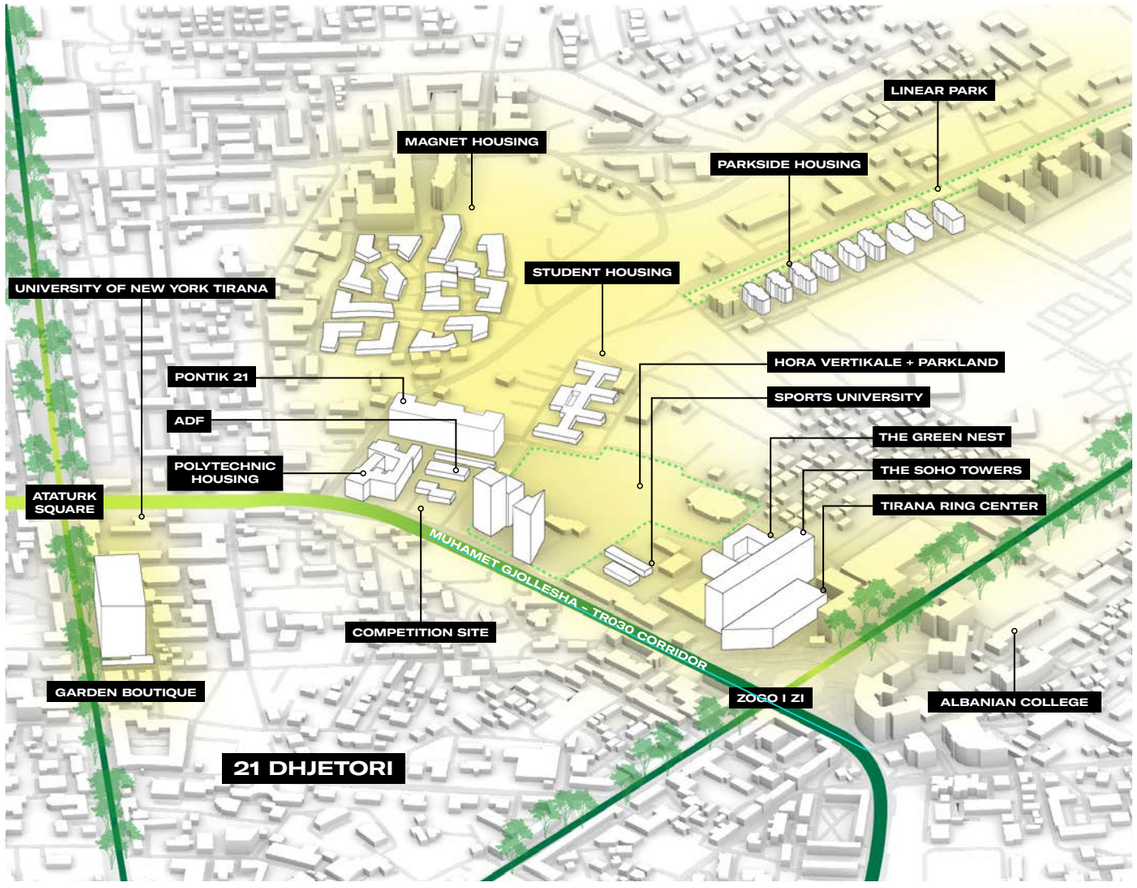
The property institutions' development presents an opportunity to create vibrant public spaces at the ground level. A generous, previous plaza is a welcoming space at the building entrances. A safe, sheltered playground connects to the public sports courts and courtyards shared with the local school. Together, these spaces activate shared streets surrounding the building grounds and connect to existing amenities, contributing to a growing network of open space within Tirana.

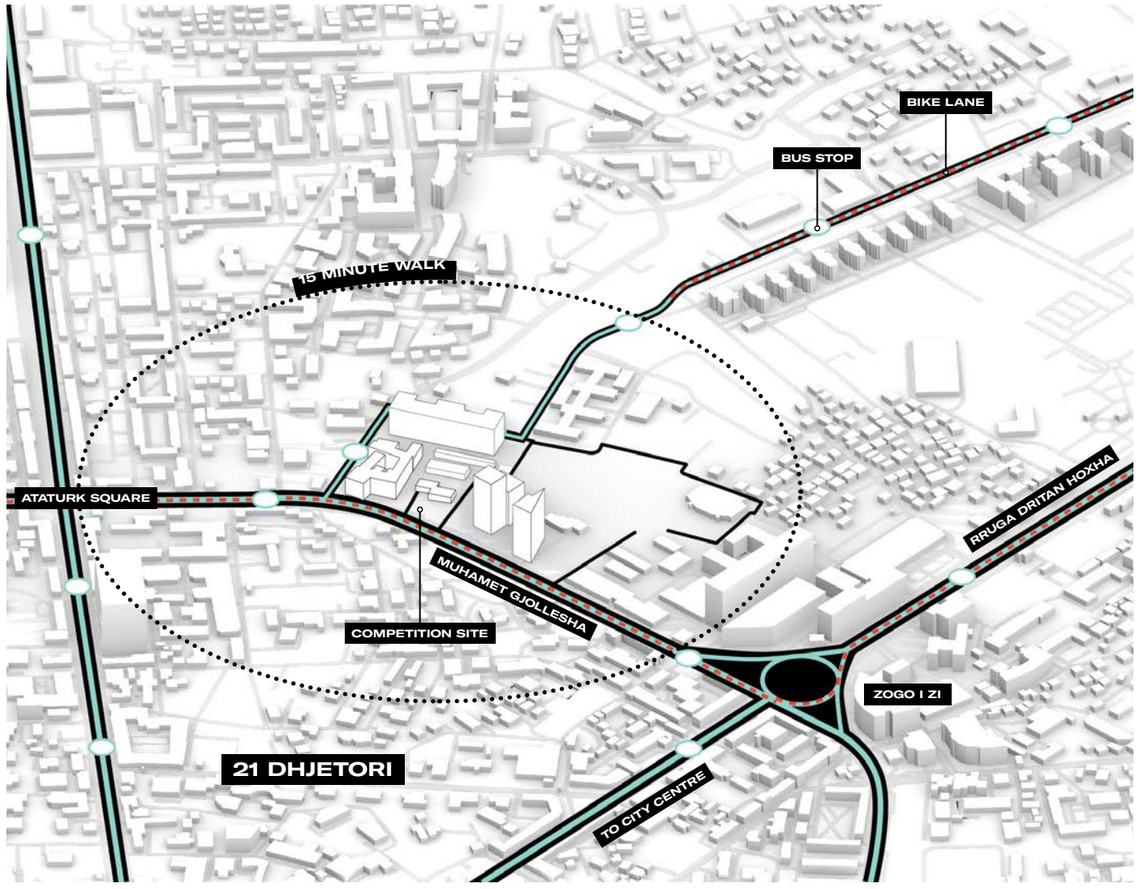
LEGEND

- ROW
- BUS ROUTE
- BIKE LANE
- RAIL
- BUS STOP

"These spaces activate shared streets surrounding the building grounds and connect to existing amenities, contributing to a growing network of open space within Tirana."

CONTEXT INVENTORY





LOT 2 – DEVELOPMENT

Within the last decade, 21 Dhjetori has seen major development. Mixed use towers have risen alongside houses, universities, student residences, and Tirana's largest commercial center. As the area continues to grow vertically, increased housing opportunities require a clear, robust connection of public outdoor spaces, to complement architectural interventions and build community identity. This is especially true where student and faculty members reside, to encourage discussion and discourse outside of the classroom.

LEGEND

- HIGH DENSITY DEVELOPMENT
- ARTERIAL ROAD

"Increased housing opportunities require a clear, robust connection of public outdoor spaces, to complement architectual interventions and build community identity."

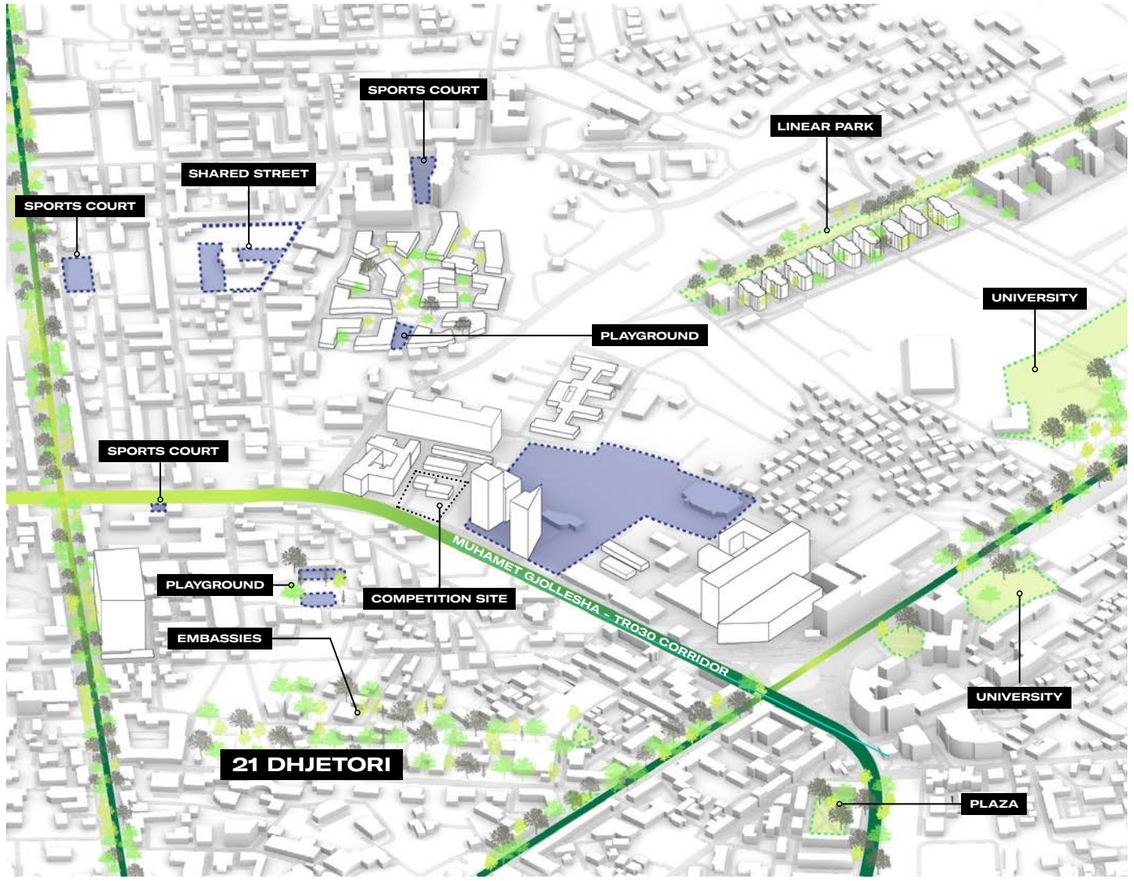
LOT 2 – CIRCULATION

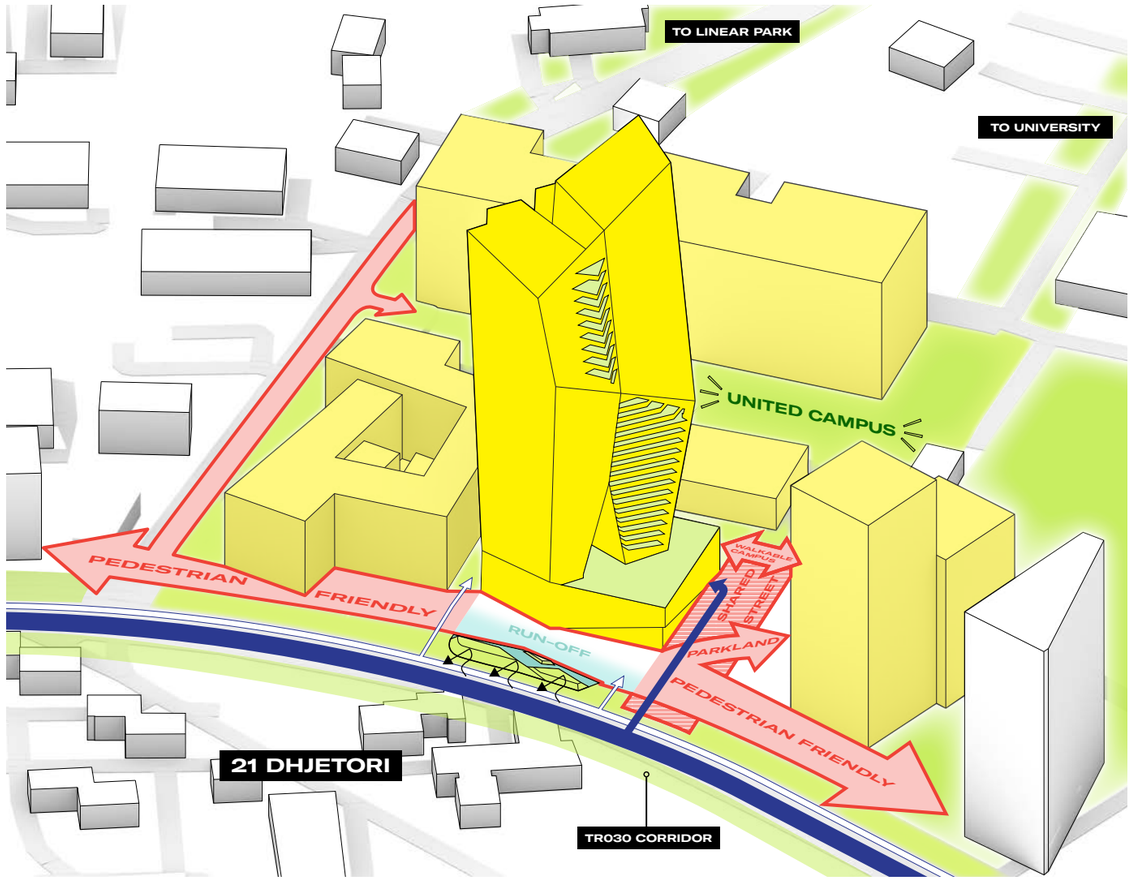
Tirana's roadways and urban bus network envelops the institutional city core and branches out to the production and industrial zones. The competition site sits along Muhamet Gjollesha, a busy four-lane roadway, often congested during peak travel hours, with vehicles traveling to and from the coast. The roadway is shared with several public bus routes and an existing, but fragmented bike lane network. This complexity is compounded by a large pedestrian population, most of whom do not drive a vehicle daily. .

LEGEND

- ROW
- BUS ROUTE
- BIKE LANE
- BUS STOP

"The competition site sits along Muhamet Gjollesha, a busy four-lane roadway, often congested during peak travel hours..."





LOT 2 – OPEN SPACE

A short supply of playgrounds, sports courts, and paved public spaces are scattered across 21 Dhjetori. Accessible, green, outdoor spaces have not seen the influx in development the housing and commercial sectors have experienced. However, the future TR030 green corridor, the Linear Park, developed in 2011, and other notable landscaped developments, begin to address urban challenges such as the heat island effect and stormwater management..

LEGEND

- ARTERIAL ROAD
- IMPERMEABLE PUBLIC SPACE
- PERMEABLE PUBLIC SPACE
- CANOPY

“Accessible, green, outdoor spaces have not seen the influx in development the housing and commercial sectors have experienced.”

LOT 2 – OPPORTUNITIES

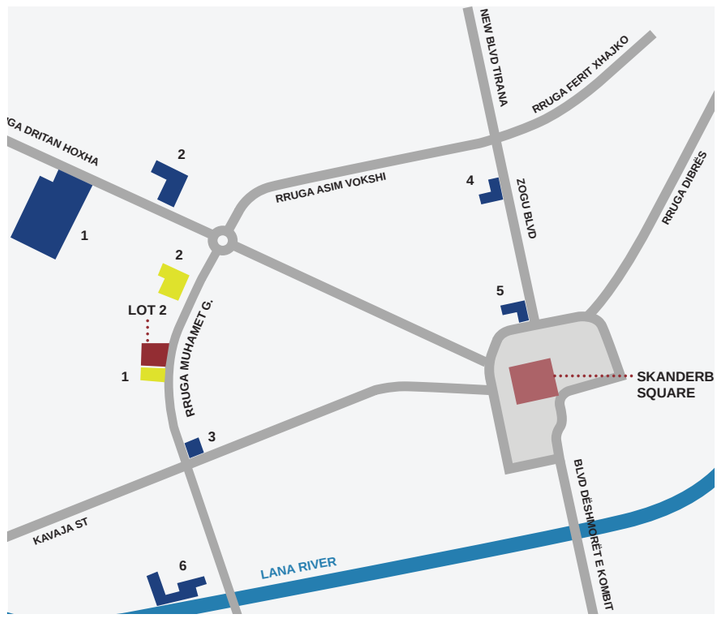
The mixed use development site is an opportunity to bring students and young professionals together within a dense corner of Tirana. A united, pedestrianized central campus, made complete by the mixed use proposal, would give residents safe, green spaces to gather within at the ground level. Access to public transportation and bike lanes keeps the growing community connected, while broad, protected sidewalks and planted berms can prioritize the pedestrian experience.

LEGEND

- ROW
- BUS ROUTE
- BIKE LANE
- RAIL
- BUS STOP

“A united, pedestrianized central campus, made complete by the mixed use proposal, would give residents safe, green spaces to gather within at the ground level.”

DEMOGRAPHIC EVOLUTION OF TIRANA MUNICIPALITY



WALKING DISTANCE FROM LOT 2 TO UNIVERSITIES

PUBLIC UNIVERSITIES	TIME
1. Polytechnic University of Tirana	**1 MIN**
2. Sports University of Tirana	**3 MIN**

PRIVATE UNIVERSITIES	TIME
1. Lady of Good Councel University	**18 MIN**
2. Albanian College Tirana I	**14 MIN**
3. University of New York Tirana	**8 MIN**
4. Faculty of Natural Sciences	**29 MIN**
5. Albanian University	**26 MIN**
6. Mediterranean University of Albania	**15 MIN**

CONCLUSION

Major Universities are less than 30 min of walking distance from LOT 2. **MICRO HOUSING** aimed at students would be a perfect solution to drastically reduce traffic congestion in the city.

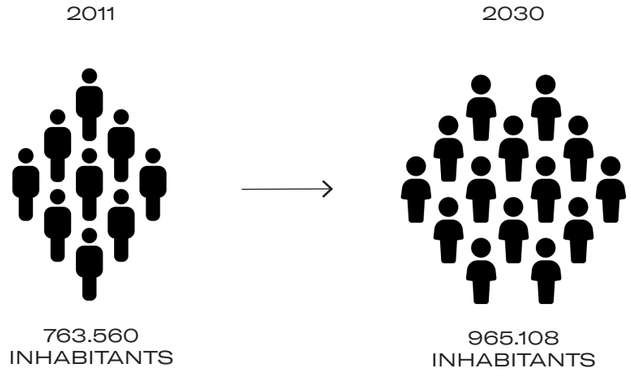
GROWTH

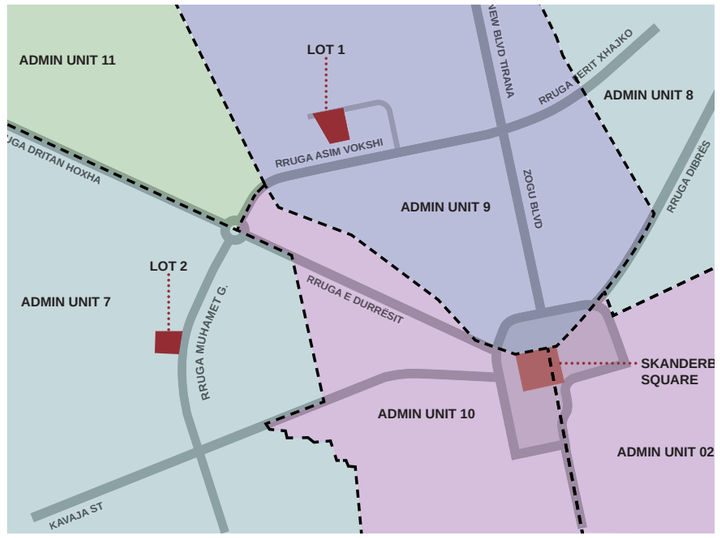
Albania in their **2030 Urban plan** express the commitment that recognize people, planet, peace, prosperity, and partnership as the main guiding principles, shared and universal, on which a new set of global, regional and national strategies and policies will be based. The plan provides a strategic reference frame for a sustainable territorial development for the next 15 years, combining social, economical and ecological factors. **Micro-Housing** offers a **holistic socio-economic** solution:

- This is a solution to the overpopulation and indiscriminate urban planning problems.
- Flexibility and customization in architectural design.
- Reduced spaces make tenants spend more time outdoors, which is a positive aspect in terms of strengthening the sense of community and coexistence.
- In relation to price, this form of housing could be a way for more disadvantaged population groups to access housing.

1.32%
YEARLY POPULATION GROWTH INDEX

26,4%
POPULATION GROWTH IN 20 YEARS





AVERAGE HOUSING REFERENCE PRICE PER ADMINISTRATIVE UNIT (Lek 000)

65 77 90 102 115 129

ANALYSIS

Housing Reference Prices are highest in the city center and near Tirana's Artificial Lake.

Housing Reference Prices are lowest in areas farthest from the city center (Units 3, 4, 6).

City center areas are mainly for Hotels, Cafes, Restaurants, and Bars.

CONCLUSION

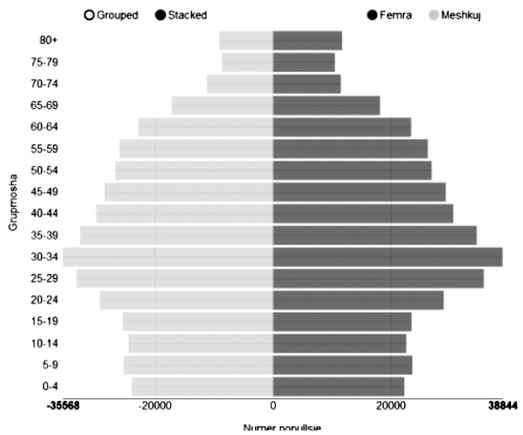
Lot 2 is located in Unit 7 (average price 90,000 - 102,000 Lek). However, being close to the city center would likely drive the price higher, making it ideal for **MICRO HOUSING**.

MICRO HOUSING

Based on the report of the General Directorate of Civil Status, the population of Tirana in 2021 is 863,694 inhabitants, experiencing an increase of 1.5%, compared to 2020 or 13,164 inhabitants. The population density of Tirana increased by about 8 inhabitants per km2 reaching 777 inhabitants/km2.

Micro-Housing provides smaller affordable housing units in close proximity to university & work, often in walking or biking distance. the housing units also provide generous shared facilities, creating a better social bond.Of course an added benefit is the drastic car reduction and hence less pollution.....

POPULATION PYRAMID
OF TIRANA MUNICIPALITY (2018)

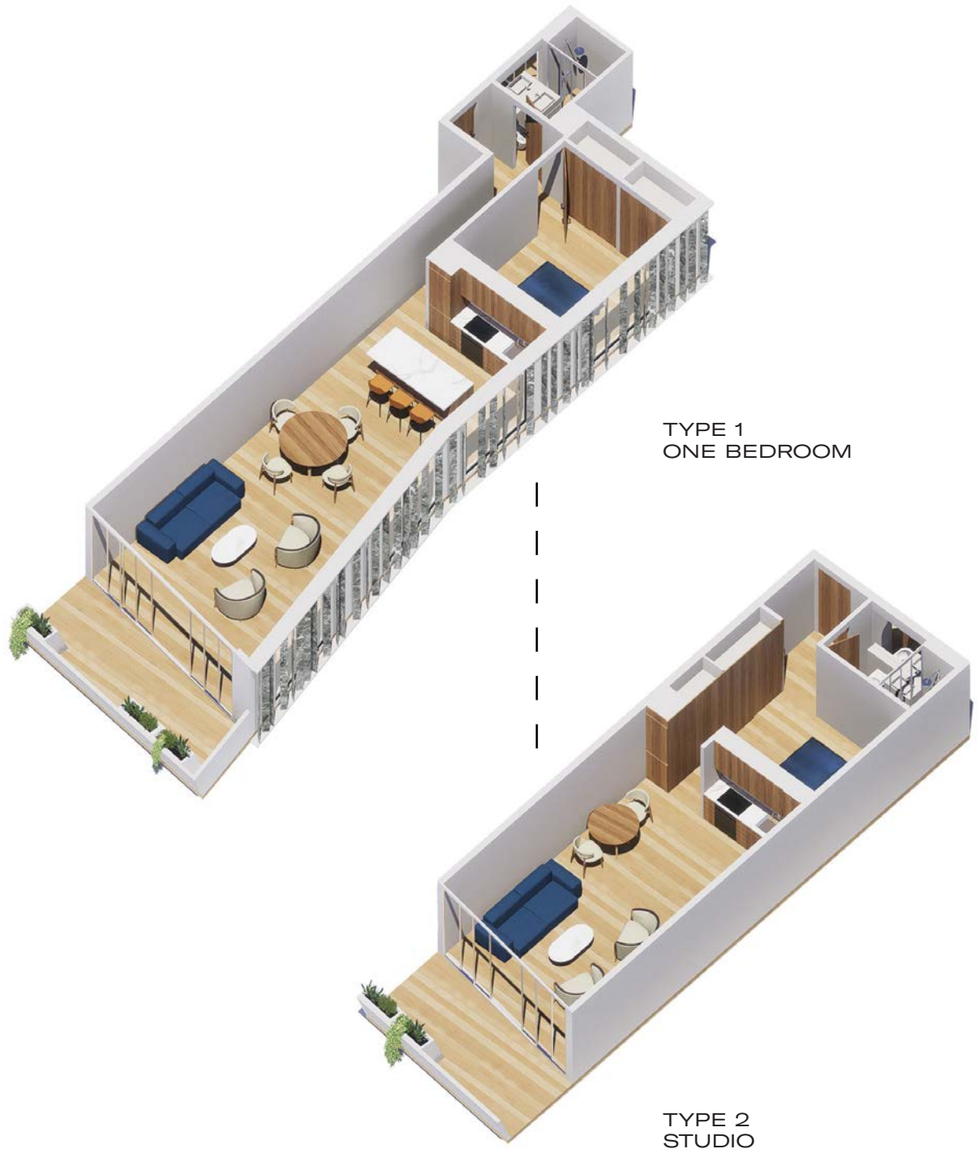


50%
OF TIRANA'S POPULATION
IS UNDER 35

80%
OF THE POPULATION
IS OF WORKING AGE.

25-34 YEARS

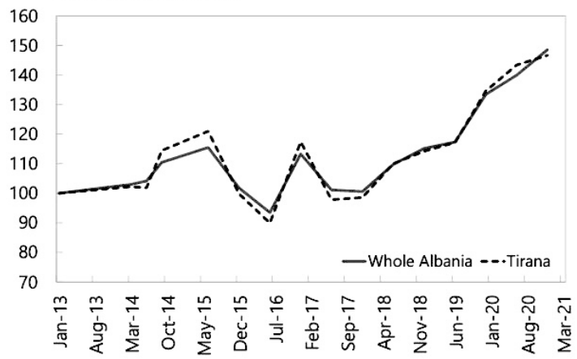
AGE OF BIGGEST
POPULATION GROUP IN
TIRANA



TYPE 1
ONE BEDROOM

TYPE 2
STUDIO

House Prices Index
(Fischer Index, 2013=100)



30%
PRICE INCREASE WITHIN
THE LAST YEAR

THE CITY CENTER HAS
BECOME UNAFFORDABLE
FOR FAMILIES IN TIRANA.

E.

DESCRIPTION AND PRESENTATION OF THE PROPOSAL

THE COMMONS

LOT 1: ASHK | ASHSH | ATP

COORDINATES:
41°20’09.5”N 19°48’33.6”E

LOT AREA: **5000 M**

ACCESS: FROM A SECONDARY ROAD, CONNECTED TO 2ND RING ROAD OF TIRANA, **“ASIM VOKSHI” ROAD**

DISTANCES:
- TIRANA CITY CENTER **7 MIN** (1.8 KM)
- TIRANA INTERNATIONAL AIRPORT (TIA): **17 KM**

SOLAR ENERGY

ICONIC PUBLIC BUILDING

PUBLIC GREEN SPACE

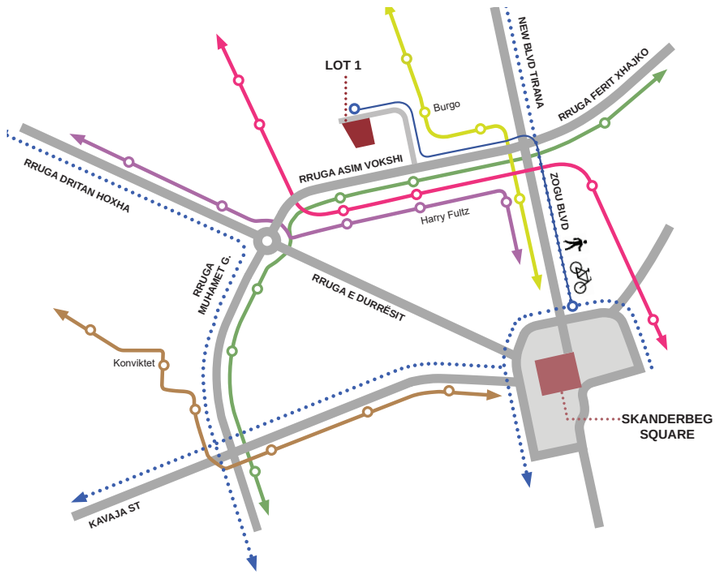
Bus Network

16
6
9
13
10

Cycling Network

Proximity to City Center

21 MIN
5 MIN



CONNECTING TO TIRANA

Tirana with a growing population and a growing group of a younger workforce will need to adapt to their world view, in order to provide more fitting and enticing work spaces. The GenZ generation doesn't believe in hierarchy for hierarchy's sake; they do believe in hierarchy where it is useful. Instead, the younger workers prefer leadership that is dependent on expertise that is task or time specific.

They believe in collective or even rotating leadership in which people from across the organization participate in decision-making and problem-solving. They prefer transparancy and flexible work models. Having a work-life balance and maintaining mental and physical health is also important demanding more communal "brain-storm" spaces and recreational areas.

FUTURE OFFICE EMBRACES EXISTING STRUCTURES

The new office tower as a regular tower would throw massive shadows on the surrounding city, and feel alien next to the recently renovated structure. To soften the urban impact the tower is bent 90 degrees, cantilevering over its neighbor, providing a protected green roofscape between for meetings, recreation and to absorb the excess of rainwater. After its first 90 degree bent the structure also extends and reaches out to the city providing a welcoming Urban Lobby with exhibition space flanked by the library.
A generous daycare is located at the garden with a playground, responding to the lack of playgrounds in Tirana.

EXISTING SITE

OFFICE TOWER

EMBRACE

CONNECT

STREET ELEVATION

ASHK | ASHSH | ATP

Albania in its 2030 Urban plan expresses the commitment that recognize people, planet, peace, prosperity, and partnership as the main guiding principles, shared and universal, on which a new set of global, regional and national strategies and policies will be based.The plan provides a strategic reference frame for a sustainable territorial development for the next 15 years, combining social, economical and ecological factors. The new administrative headquarters follows that lead:

• The Building literally wraps its neighbor and reduces shadows on surrounding buildings
• Low maintenance green roofs absorb the excess of rainwater and insulate from heat, reducing energy costs

• Solar panels on the roof provide electricity reducing costs

• Building materials are made from locally sourced materials and are maintenance free

• The structural diaphragm is aimed at a light-weight highly flexible structure that is resistant to earthquakes.

"WE EMBRACED THIS UNIQUE OPPORTUNITY TO CREATE AN INNOVATIVE, OPTIMIZED, AND ICONIC ARCHITECTURAL TYPOLOGY."

GATE SCULPTURE

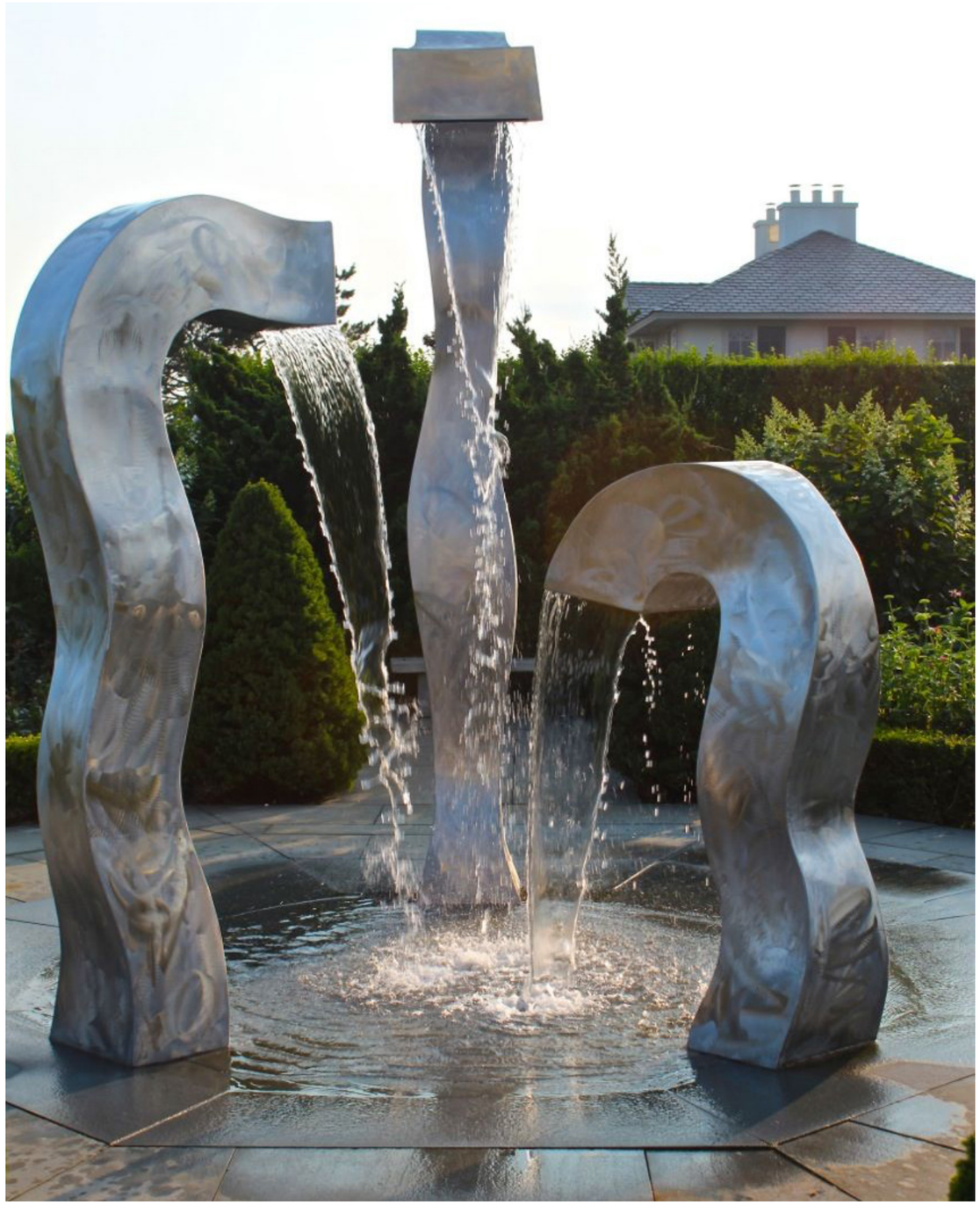
HANS VAN DE BOVENKAMP

For Dutch-born American sculptor Hans Van de Bovenkamp, gates are more than just a tool to mark an entryway. He sees beauty, both in what they represent and what they can be as a work of art.

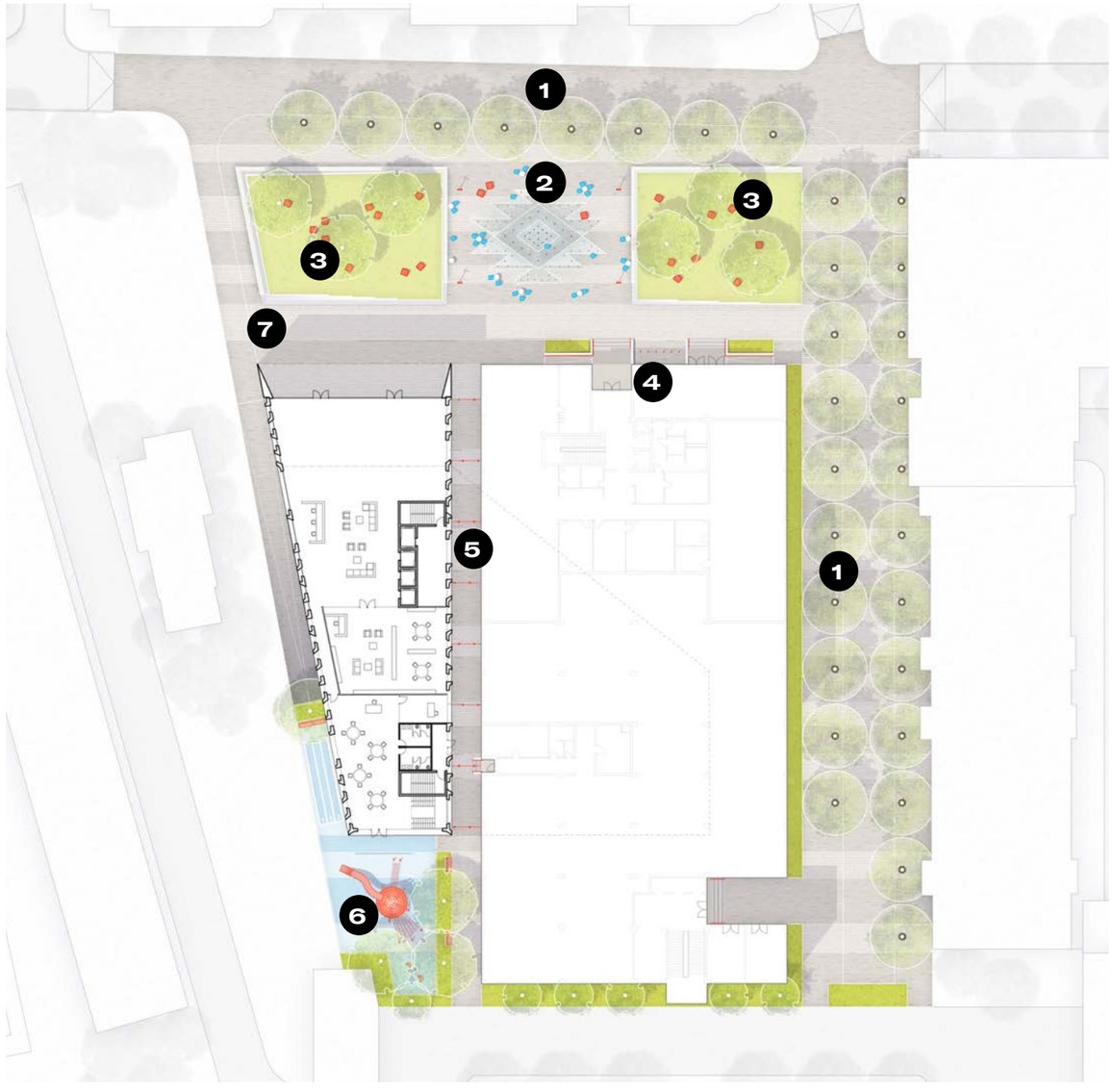
The sculptor, who typically works in large-scale installations, fountains and custom hydraulic gates, creates primarily sculptures for open-air public locales

PUBLIC ART

HANS SAYS: “A GATE CAN BE more than utilitarian. It’s a symbol for leaving a public space and entering a nonpublic one. It can also tell a little bit about the person who lives beyond the gate. It doesn’t have to be just a generic, impersonal thing. I use gates to create unique works of art. They can serve a few purposes. First, they’re a visual landmark for a building. They also help humanize the scale of the building in the city.



FOUNTAIN



0 20M

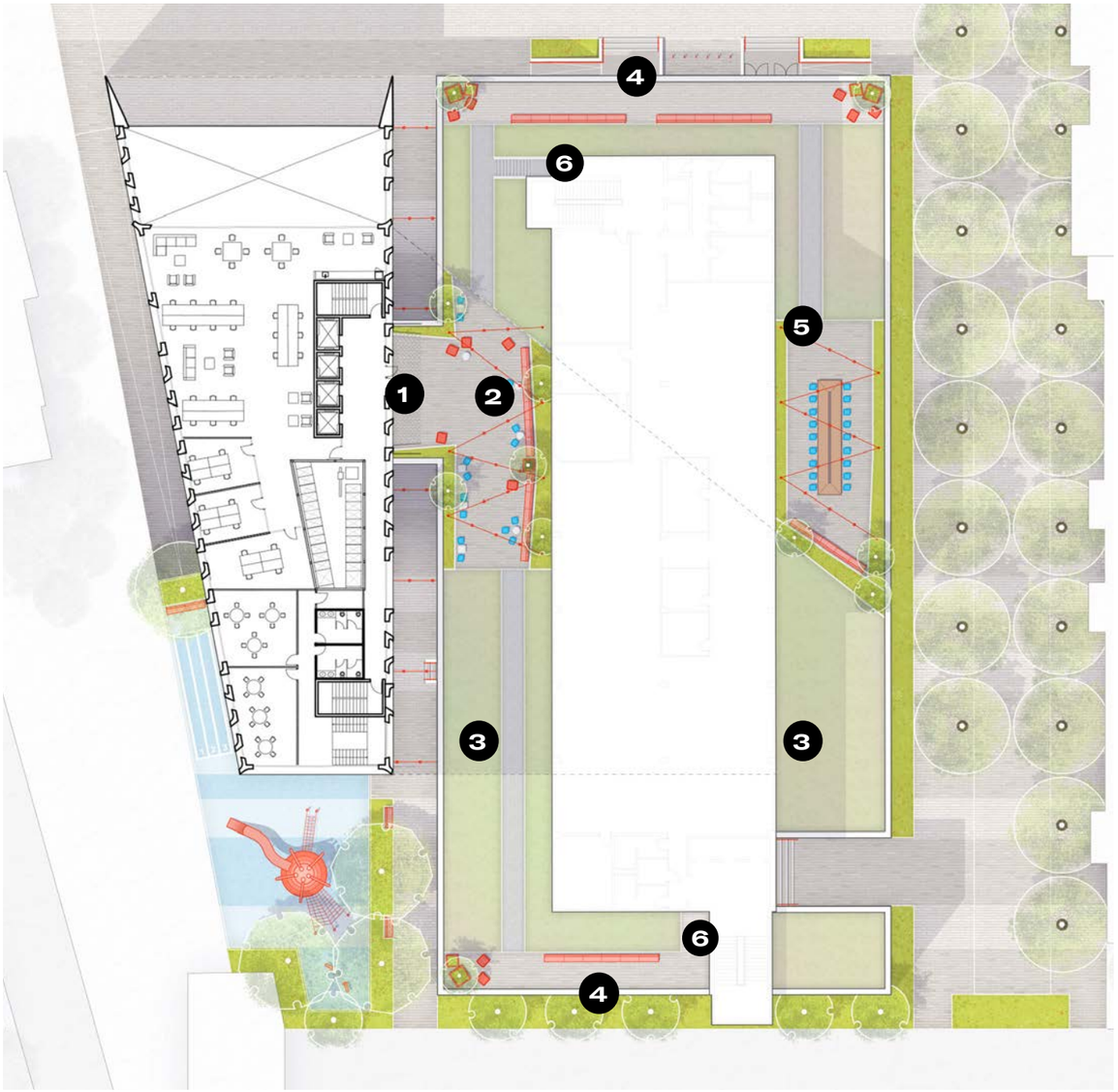
PEDESTRIAN ENTRANCE

LEGEND

1. CURBLESS SHARED STREET
2. INTERACTIVE FOUNTAIN FIELD
3. SLOPING LAWN + STONE SEATWALL
4. BIKE PARKING
5. ILLUMINATED PASEO
6. KINDER + COMMUNITY PLAY
7. ENTRY TO PARKING

ARMS OPEN TO THE NEIGHBORHOOD

As the building program serves its neighbors through essential government functions, the landscape should be equally as functional and beneficial to the community. The site embraces the transition from the southern urban city center to the northern residential blocks. Sweeping stone seat walls retain sloping lawn panels, which flank a field of bubbling fountain jets. This open plaza promotes multigenerational relationships and activity by inviting everyone to participate, whether it be through play, socialization, or relaxation. The water feature and the tree allees that line the curbless streets help to promote a habitable climate even in Tirana's hot summers. The urban canopy supplies much-needed shade while also establishing a comfortable human scale in a landscape surrounded by towering architecture. On the southern side of campus, a fun new playground is located next to the Kindergarten. Gates can be shut for daily kinder duty, or left open for all to enjoy.



0 20M

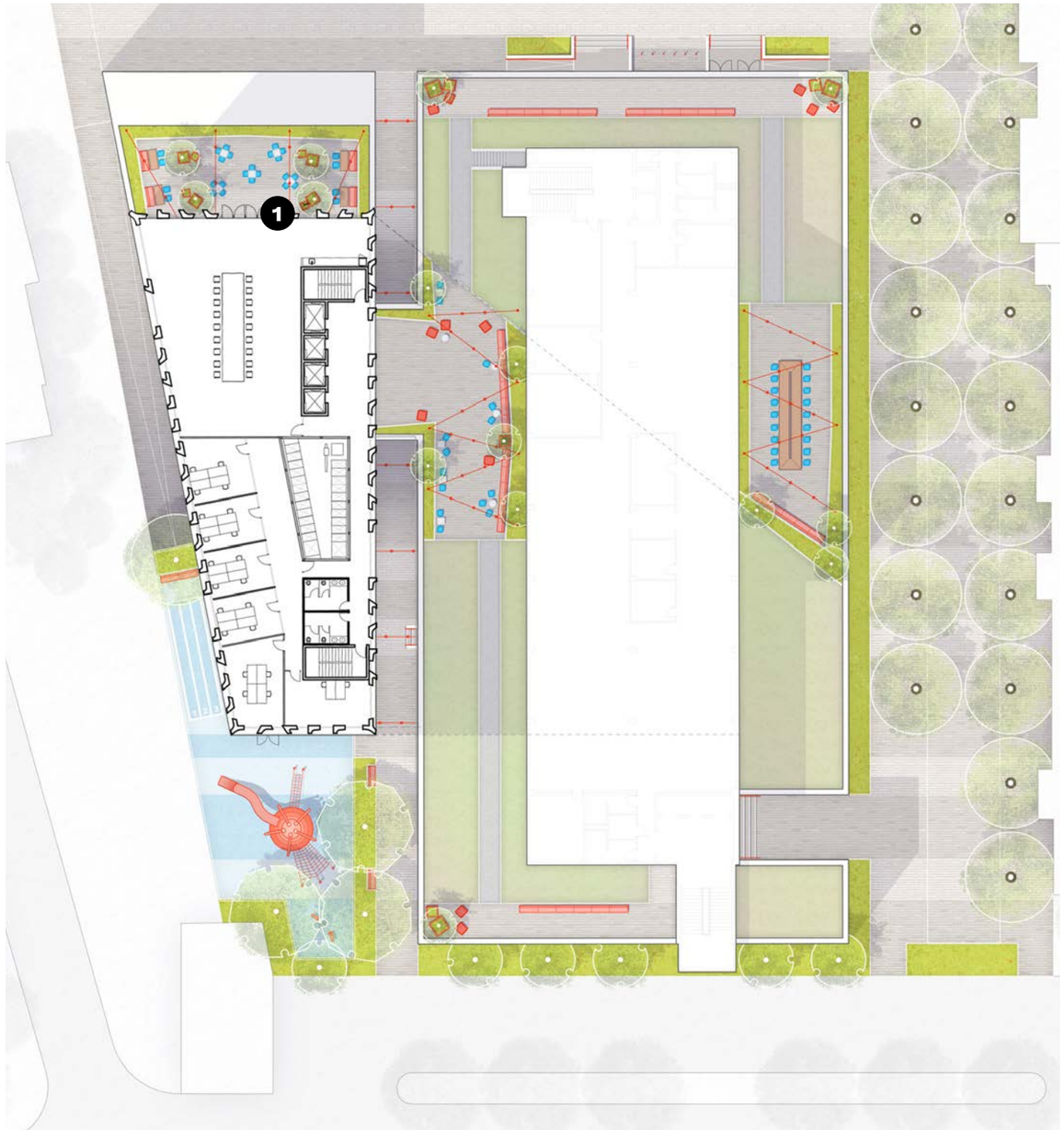
BRIDGE CONNECTION TO EXISTING BUILDING

LEGEND

1. PEDESTRIAN BRIDGE
2. MEETING PATIO
3. STORMWATER SEDUM
4. PASSIVE SEATING
5. CONFERENCE ROOM
6. ROOFTOP ACCESS

WORKING + SOCIALIZING

The Cadastre building terrace presents a perfect opportunity to create worker connections on multiple levels of the architecture. A second floor bridge from new to old spills into a meeting patio that houses an assortment of seating types which can accommodate solo work, one-on-one chats, or small group brainstorming sessions. With two access points from the Cadastre's interior, users can experience every side of the terrace. Walk around to the east side and employees can access an outdoor conference room with a high-tech meeting table that seats a large group or multiple small groups. Lush perennials envelop these programmed outdoor spaces, while the remainder of the rooftop is blanketed with low, storm water-mitigating sedum.



TERRACE OVER ENTRANCE: AT LARGE MEETING ROOM

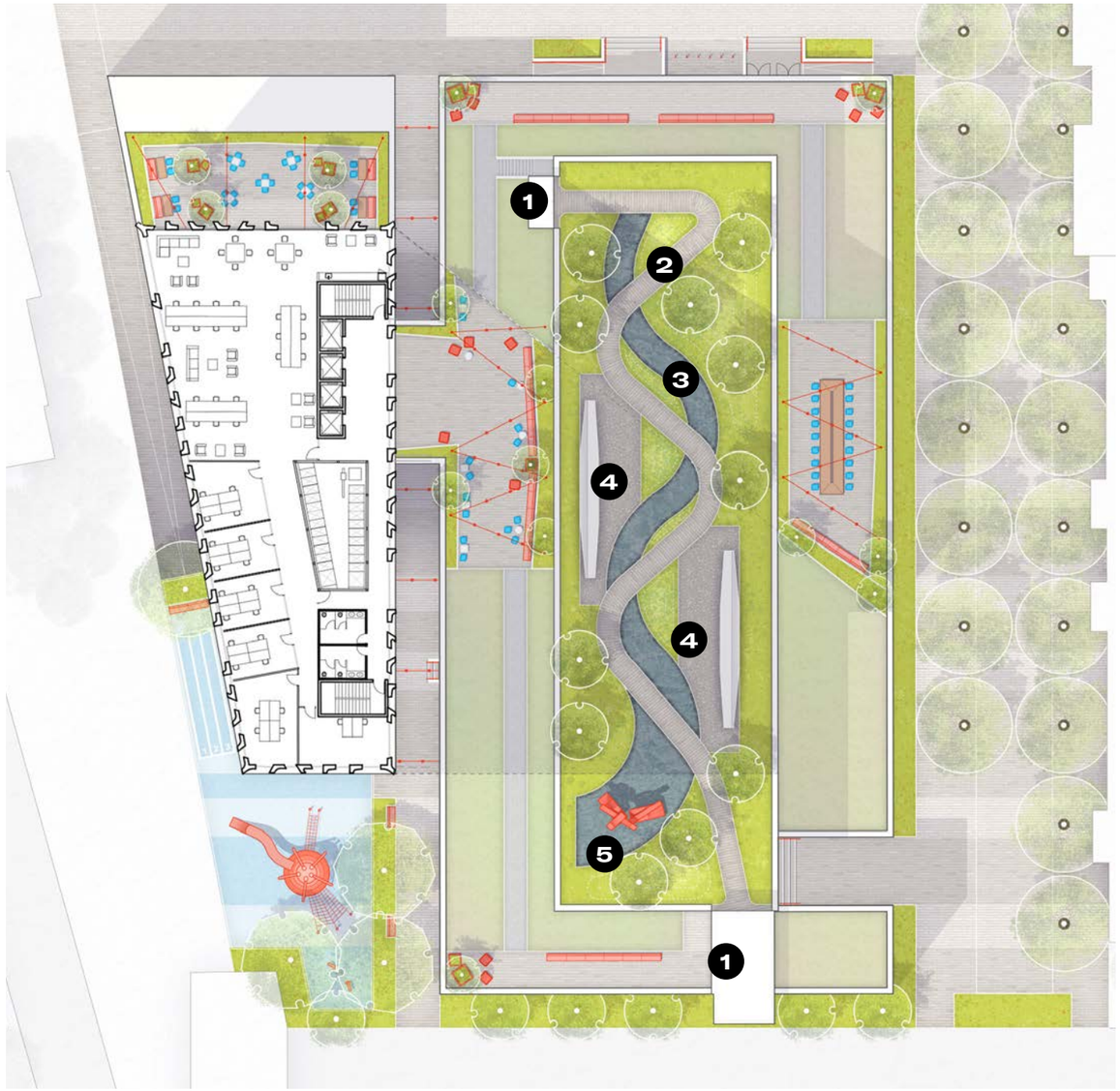
LEGEND

1 FLEXIBLE EVENT SPACE

SPILL-OUT EVENT SPACE

Adjacent to the sixth floor's open office space is a fully flexible roof terrace. On a day-to-day basis, the terrace may be furnished with pieces also seen in the second floor spaces: movable tables and chairs, benches, larger work tables, and freestanding planters. Overhead, rows of catenary lights create a "ceiling" to bring a human scale to the outside.

Much like the first floor plaza, this space can accommodate a range of events given the flexibility of its furnishings. For department-wide events or other festivities, the furnishings can be shuffled around, moved inside, or stacked aside to meet whatever needs the users may have.



0 20M

LEGEND

1 ROOFTOP ACCESS
2 SERPENTINE PATH
3 REFLECTING SKRIM
4 STONE SEATING
5 BESPOKE SCULPTURE

GREEN ROOF ON EXISTING BUILDING UNDER CANTILEVER

LANDSCAPE EMBRACING NATURE

In contrast to the bustling community plaza, the Cadastre rooftop experience is slow and serene. Visually connecting to the beautiful ridge lines in the distance, a skrim of reflective water intertwines with the serpentine path; both weave through gently mounded topography. This contemplative space offers a reprieve from daily tasks and allows the visitor to recenter themselves. The relationship between this rooftop landscape and the hovering cantilever above explore scale and light. At the southern end of the space, a bespoke sculpture by artist Hans Van de Bovenkamp rises from the widened mouth of the skrim stream. The large-scale piece and the soft leafy trees peppered across the roof's landscape contrast the monumental scale of the architecture.


VIEW
GATHER
PLAY
ABSORB

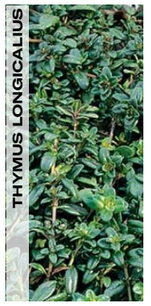

CAREX STRATA


JUNIPERUS OXYCEDRUS


STACHYS OFFICINALIS


STELLARIA HOLOSTEA


TAMARIX PARVIFLORA


THYMUS LONGICALIUS


ASCLEPIAS TUBEROSA


HEDERA HELIX


OLEA EUROPAEA

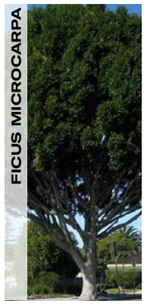

FESCUE RUBRA


ORIGANUM VULGAR


ERICA ARBOREA L.


GONIOLIMON TATARICUM


DIANTHUS CRUENTUS


FICUS MICROCARPA


ROSA CHINENSIS


KNAUTIA MACEDONICA


JACARANDA MIMOSIFOLIA

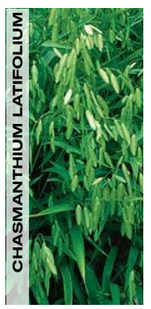

POLYGONATUM


AMORPHA FRUTICOSA


TRIPSACUM DACTYLOIDES


FAGUS SLYVATICA


SALVIA OFFICINALIS


CHASMANTHIUM LATIFOLIUM

THE COMMONS

SHARED SPACE, COMMUNITY AND CONNECTION

The modern administration building is a combination of private office spaces and a “Commons”. A quadruple height social open space connected by stairs to all floors and all programs, AShK | AShSH | ATP. In the Commons we find:

CAFE & LUNCH FACILITIES

FLEX-OFFICE SPACE

SPONTANEOUS MEETING SPACES

GREEN SPACES WITH BENCHES

SECTION IEW INTO THE COMMONS

SECTION VIEW OF THE COMMONS

FLEX OFFICE SPACE

4 benefits of a FLEX office space:

· Agility and adaptability. The economy is constantly evolving, and so are businesses.

· Enhanced collaboration and creativity.

· Enhanced productivity and focus.
In a flexible office space, employees can choose to work where they deem best for their needs.

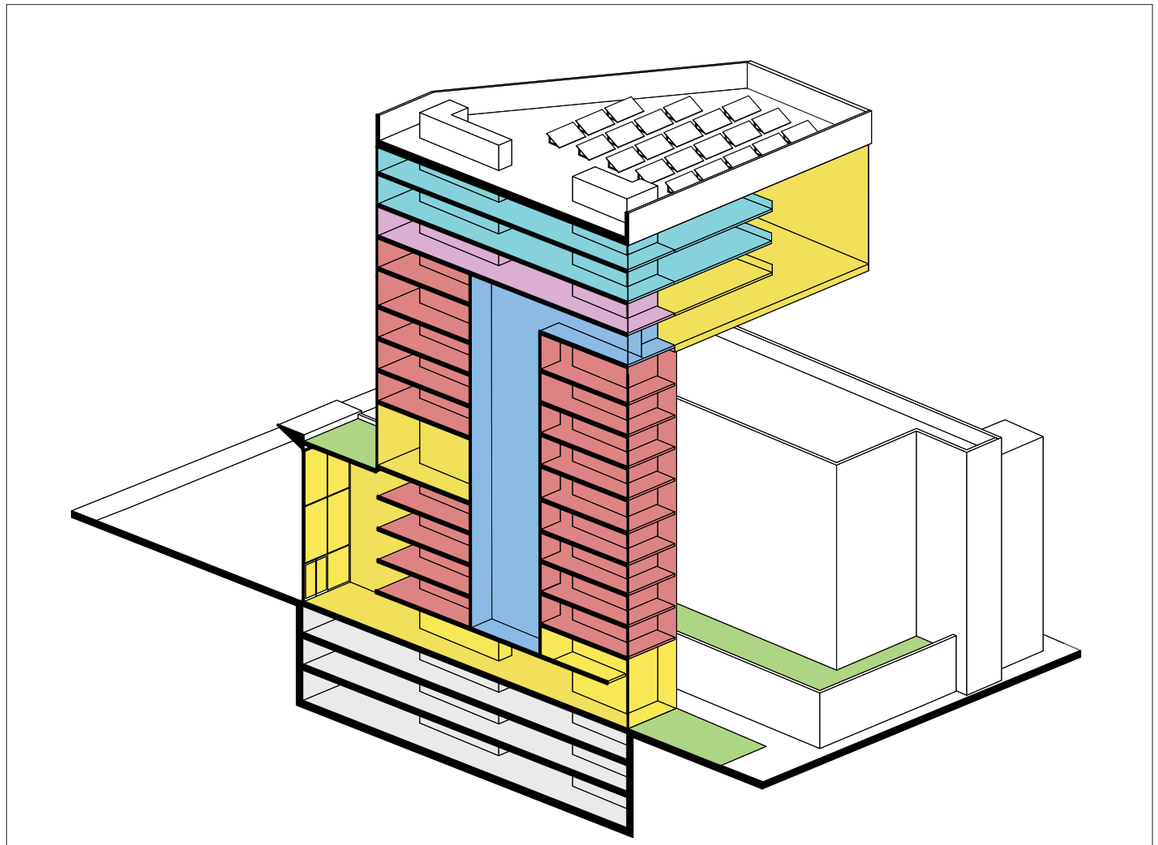
· Improved employee well-being.

GREEN ROOF ON EXISTING BUILDING UNDER CANTILEVER

GREEN SPACES

SHARED SPACES

BRIDGE CONNECTION TO EXISTING BUILDING

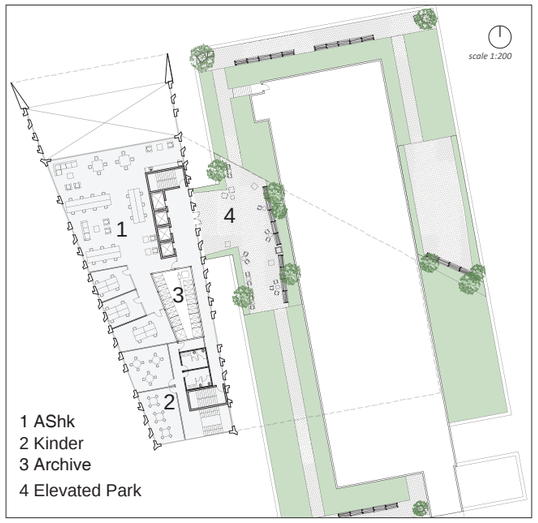


PROGRAM DIAGRAM 1

GREEN SPACES
THE COMMONS
ARCHIVE
ASHK
ASHSH
ATP

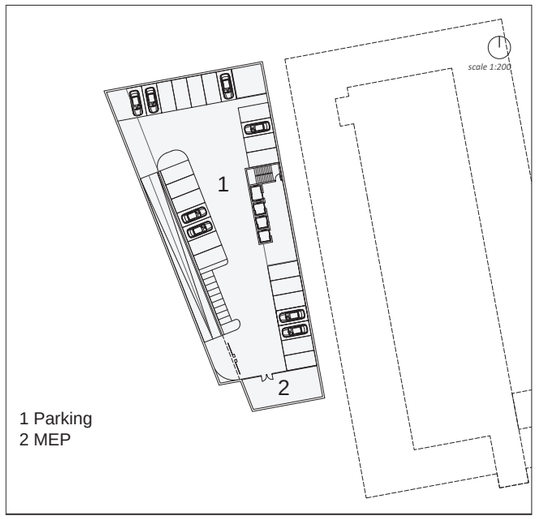
INTERCONNECTED OFFICES AND WORK SPACES

Based on the report of the General Directorate of Civil Status, the population of Tirana in 2021 is 863,694 inhabitants, experiencing an increase of 1.5%, compared to 2020 or 13,164 inhabitants, where during 2021, the natural increase of the population is 1,184 inhabitants (Birth-Death), suffering a decrease of 6.3%, compared to the previous year. The population density of Tirana increased by about 8 inhabitants per km2 reaching 777 inhabitants/km2.



FLOOR 2

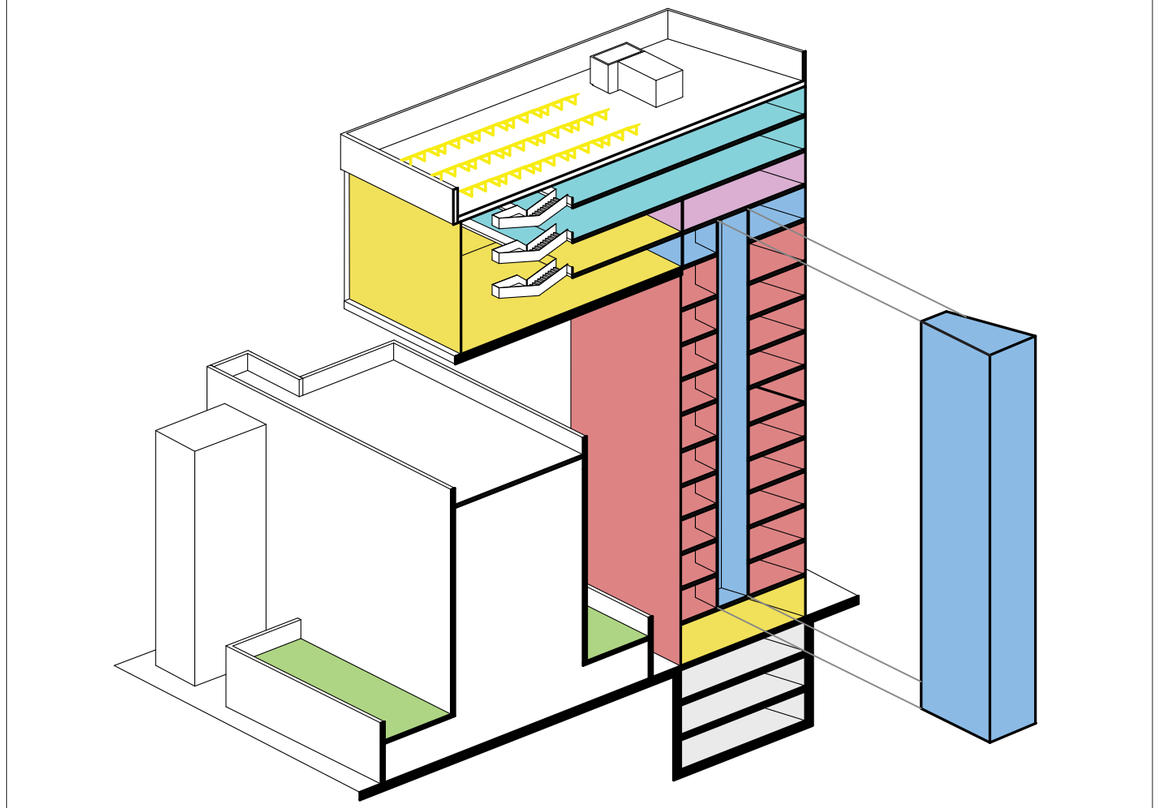
FLOOR 6-7



FLOOR -1 PARKING

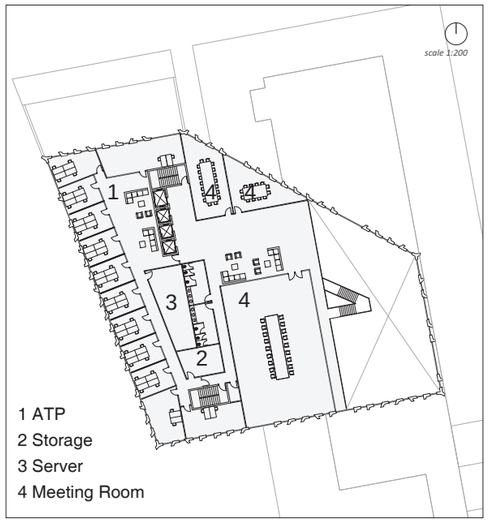
FLOOR 1

GREEN SPACES
THE COMMONS
ARCHIVE
ASHK
ASHSH
ATP



PROGRAM DIAGRAM 2

GREEN SPACES
THE COMMONS
ARCHIVE
ASHK
ASHSH
ATP

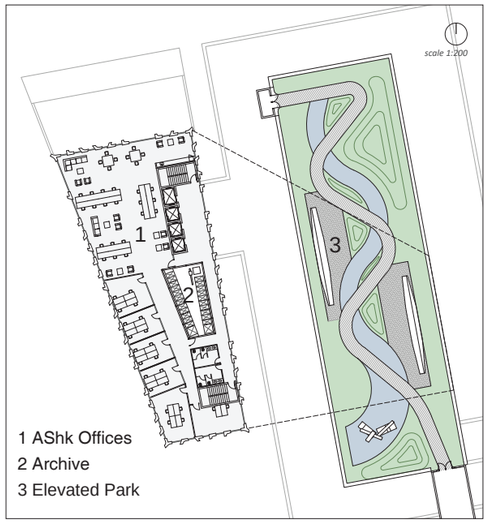


1 ATP
2 Storage
3 Server
4 Meeting Room

FLOOR 13

1 AShSh Offices
2 AShSh Storage

FLOOR 14–15



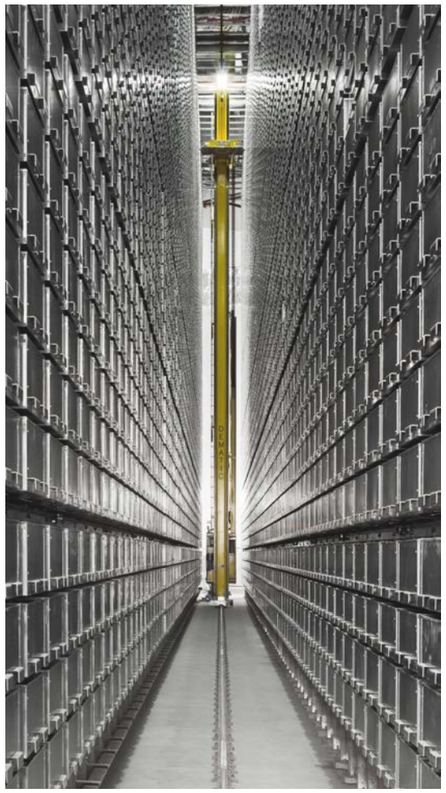
1 AShk Offices
2 Archive
3 Elevated Park

FLOOR 8–11

1 Flex Work
2 Archive
3 Archive Office
4 Prayer Room
5 Kitchen
6 Eating Area

FLOOR 12

GREEN SPACES
THE COMMONS
ARCHIVE
ASHK
ASHSH
ATP



AUTOMATED ARCHIVE SYSTEM

- These systems can require as little as 1/7th the space needed for conventional shelving.
- More square footage for the workers and users.
- Reduces lost items.
- Increases security for the items stored.
- Reduces damages caused by of dust, moisture and temperature.
- 99% inventory & tracking accuracy (reduces human mistakes).
- Compact Modular Design
- These systems can manage up to 10,000,000 items in storage!
- This means we could offer more storage space than is required right now and supply space for Albania's future needs.

ARCHIVE OF THE FUTURE

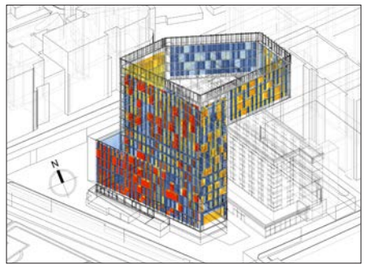
The Archive has a T - shape; it occupies the center of the office spaces, easily accessible and have a management office on top, which has space for meeting, and storage of large format drawings. It is directly connected to the Commons for more flex work space, impromptu meetings and a lunch with colleagues!

LONGITUDINAL SECTION

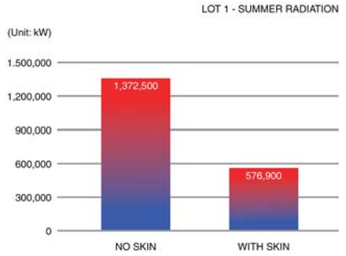
THE COMMONS

CROSS SECTION

SOLAR DIAGRAM 1



SOLAR DIAGRAM 2

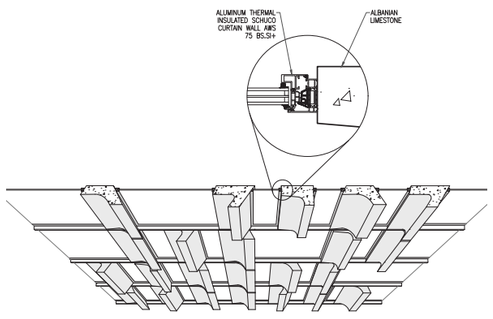


SUMMER RADIATION

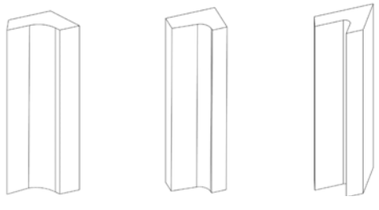
SECTION VIEW OF THE COMMONS AND FACADE

FACADE TECHNOLOGY & SOLAR ROOF

Sustainability is the central motivator of our proposal, and we incorporate ecology, energy efficiency, CO2 reduction, and health and wellness into every aspect of the design. The buildings' adaptable, multi-layered façade allows for localized, modulated daylight control of the workspaces and offers extensive views of the proposed roof gardens and the city. The potential for fully Integrated photo-voltaic elements throughout the façade allows for ample energy generation, which would offset much of the building's electrical demands.

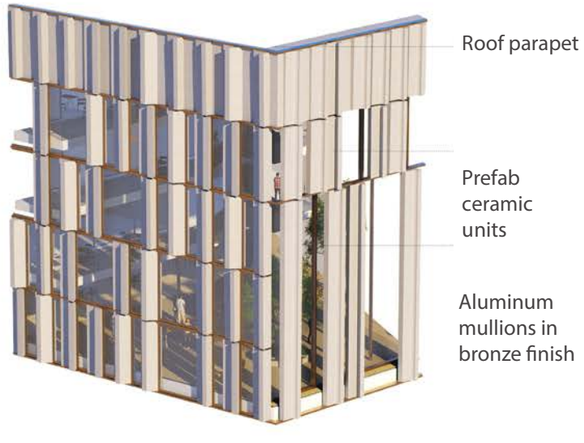


FACADE DETAIL



FACADE PRE-FAB CONCRETE STRUCTURE

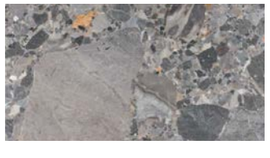
PARAMETRIC DESIGN CREATES PLAYFUL VARIATION



LOCAL MATERIALS

Local materials are used for the lobby floors and walls throughout:
· Breccia Deja Marble, a grey breccia conglomerate marble
· Perla Limestone a fine-grained, cream-beige sedimentary rock
· Green Grey Limestone

The prefabricated concrete facade elements us local materials such as:
· Manufactured sand; the global deficiency of sand is solved by crushing left-over stone from quaries, and it has no deficiencies.
· Local stone aggregate



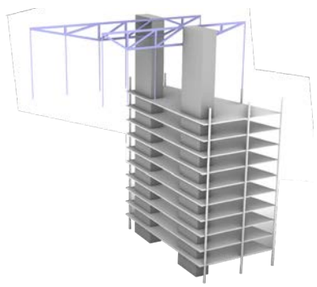
SOLAR ENERGY

LOCAL MATERIALS

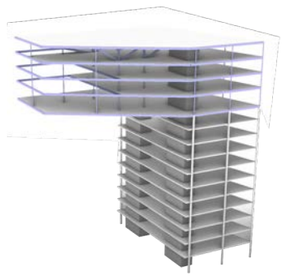
SUSTAINABILITY

STRUCTURAL SYSTEM

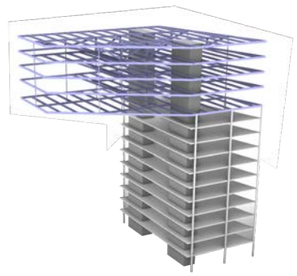
The structure is designed to follow local code and seismic requirements. The building is built in concrete up to the cantilever. The cantilever has steel struts under the roof from which the floors hang down.



CANTILEVERED STEEL TRUSSES
WITH FLOOR HANGERS

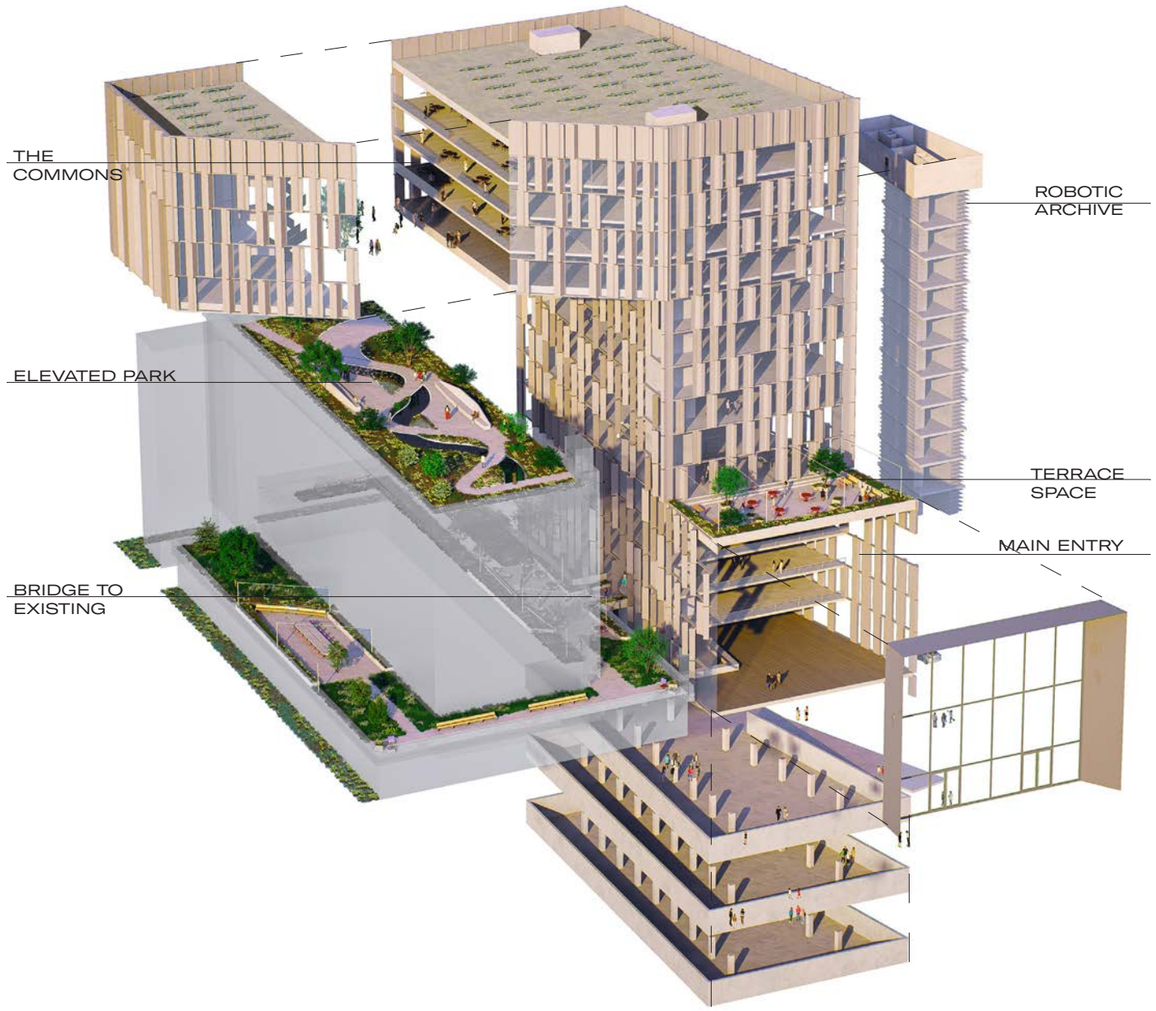


STEEL FLOOR FRAMING



COMPOSITE CONCRETE SLABS
ON METAL DECKING

CANTILEVERED STEEL TRUSSES
WITH FLOOR HANGERS



AXONOMETRIC EXPLODED VIEW

FUTURE CITY

LOT 2

COORDINATES:
41°20'09.5"N 19°48'33.6"E

LOT AREA: **5000 M**

ACCESS: FROM A SECONDARY ROAD, CONNECTED TO 2ND RING ROAD OF TIRANA, **"ASIM VOKSHI" ROAD**

DISTANCES:
- TIRANA CITY CENTER **7 MIN** (1.8 KM)
- TIRANA INTERNATIONAL AIRPORT (TIA): **17 KM**

SATELLITE VIEW OF PROPOSAL

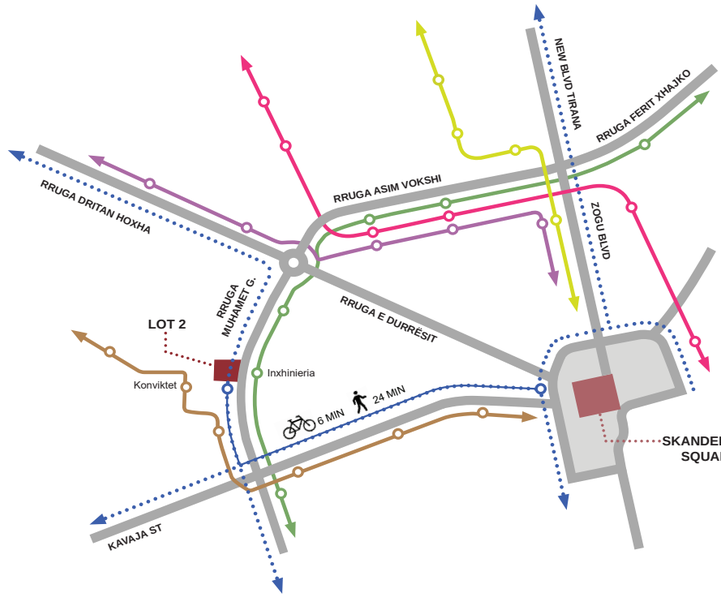
MICRO-HOUSING

We have seen before: Tirana has a young population who can not afford the rising rents in the City center. This tower features a compact way of living similar to Micro Housing.

The term micro-housing refers to anything related to the planning and construction of very small houses / apartments. Ultra efficiency is applied in the implementation of domestic spaces, including just the area needed to meet minimum housing requirements, with the maximum in shared facilities and outdoor spaces, both private [balconies] and shared [outdoor roof garden]. In general terms, the units are designed to be highly efficient and compact, with all the functions of a house.

RENT PRICES & ACCESSIBILITY

The site is centrally located and universities and the city center are easily accessible by foot / bike / transit. By keeping the rents low, and gaining income from the commercial spaces with shops, coffee shops and restaurants below, the units are affordable for students and young professionals.
The building provides limited parking for the commercial spaces and a large bike storage for its inhabitants.

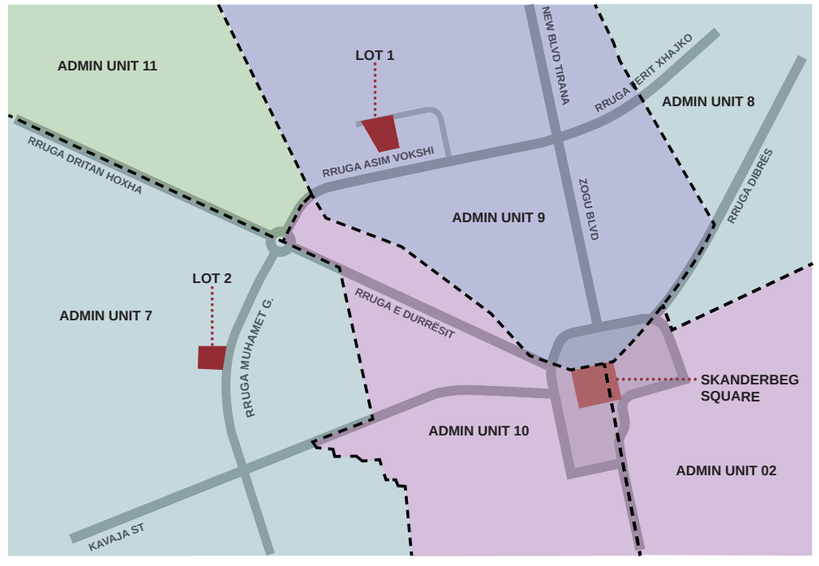


LOT 2 TRANSPORTATION

BUS NETWORK
16
6
9
13
10

CYCLING NETWORK

PROXIMITY TO CITY CENTER
24 MIN
6 MIN



AVERAGE HOUSING REFERENCE PRICE PER ADMINISTRATIVE UNIT (Lek 000)

65 77 90 102 115 129

ANALYSIS

Housing Reference Prices are highest in the city center and near Tirana's Artificial Lake.

Housing Reference Prices are lowest in areas farthest from the city center (Units 3, 4, 6).

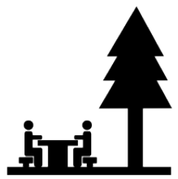
City center areas are mainly for Hotels, Cafes, Restaurants, and Bars.

CONCLUSION

Lot 2 is located in Unit 7 (average price 90,000 - 102,000 Lek). However, being close to the city center would likely drive the price higher, making it ideal for **MICRO HOUSING**.

MICRO-HOUSING

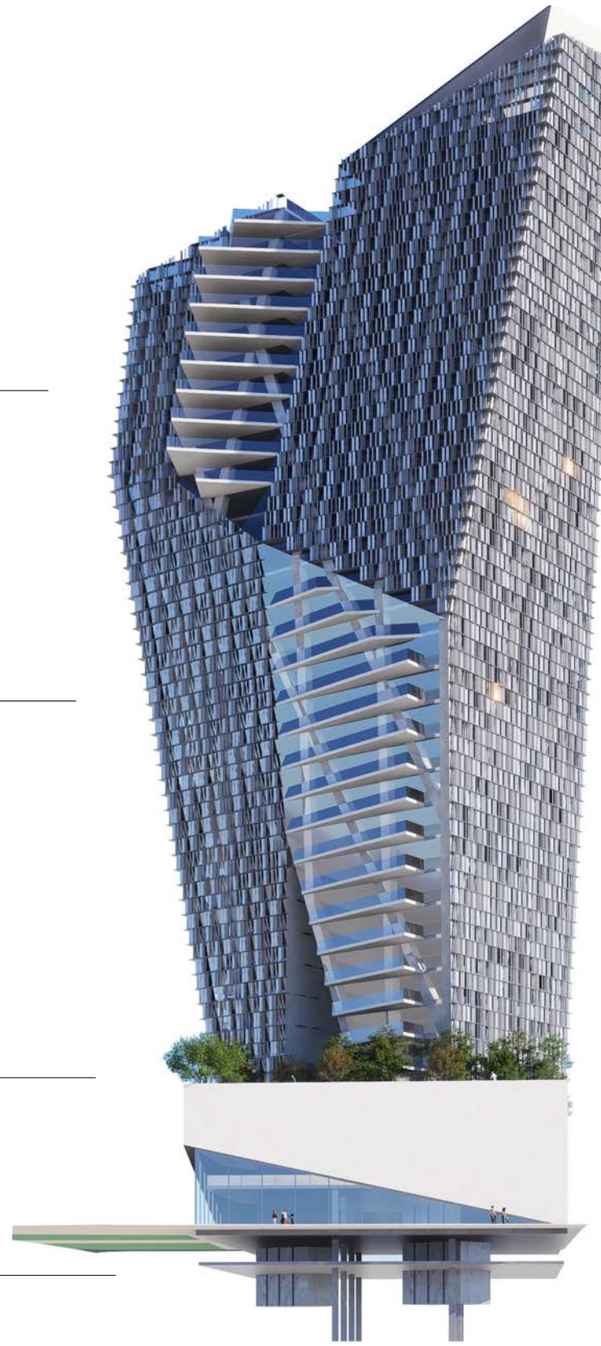
RESIDENTIAL
(MICRO HOUSING)

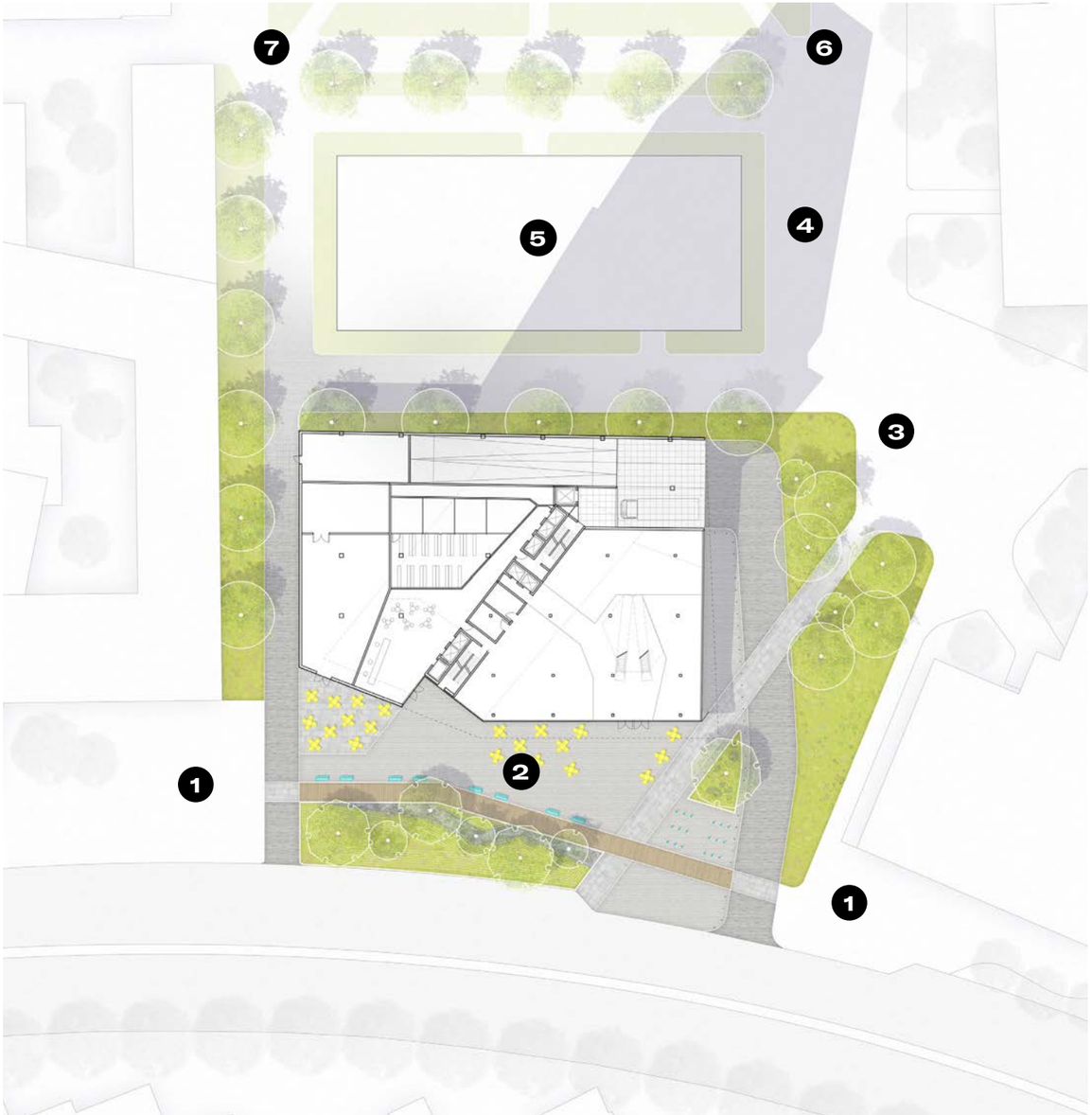


LANDSCAPE

COMMERCIAL

PARKING

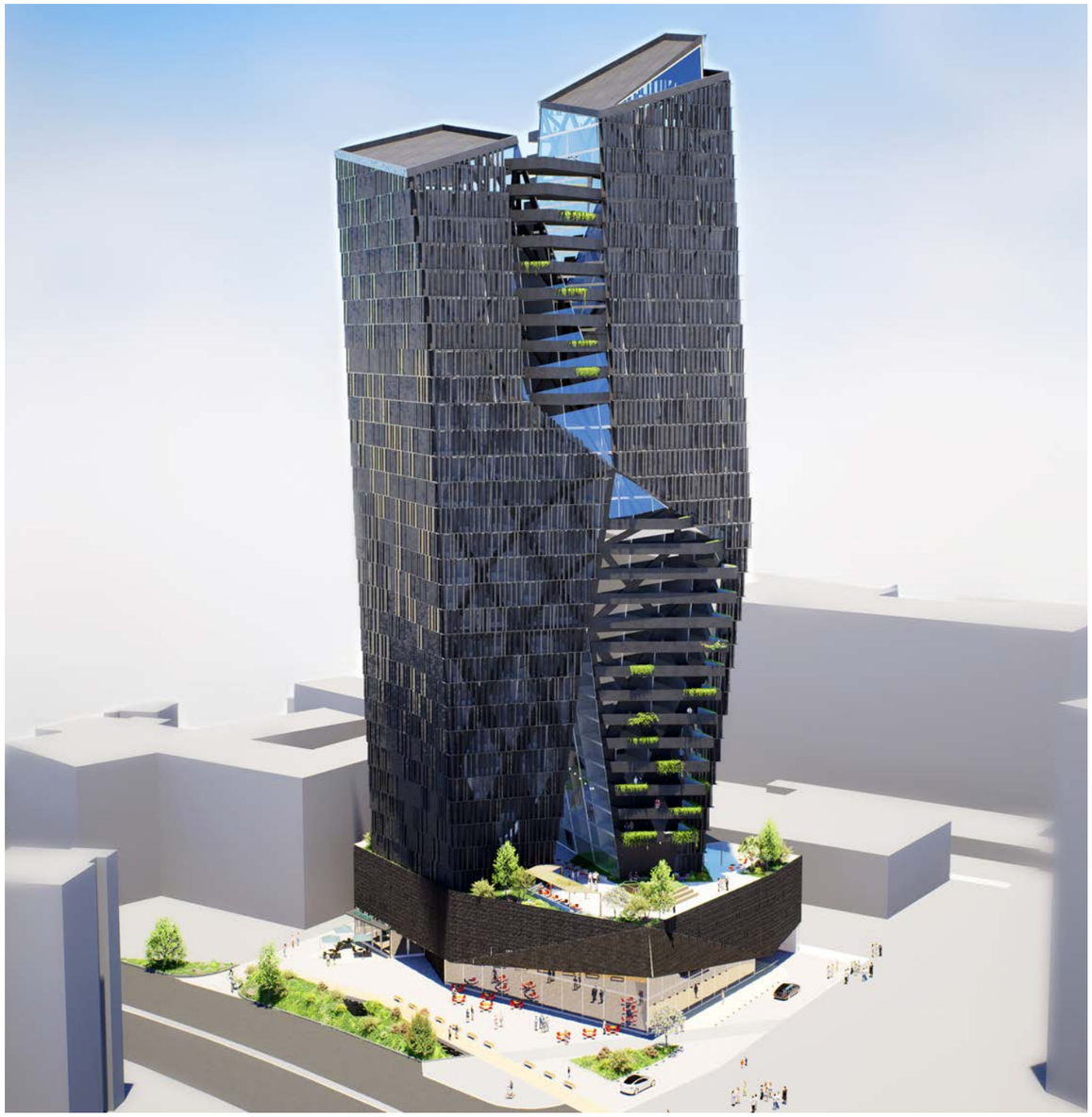




0 10M

LEGEND

1. CAMPUS CONNECTIONS
2. PEDESTRIAN BOARDWALK
3. PARK ENTRANCE
4. CAMPUS COURTYARD
5. ADF
6. TO UNIVERSITY
7. TO POLYTECHNIC

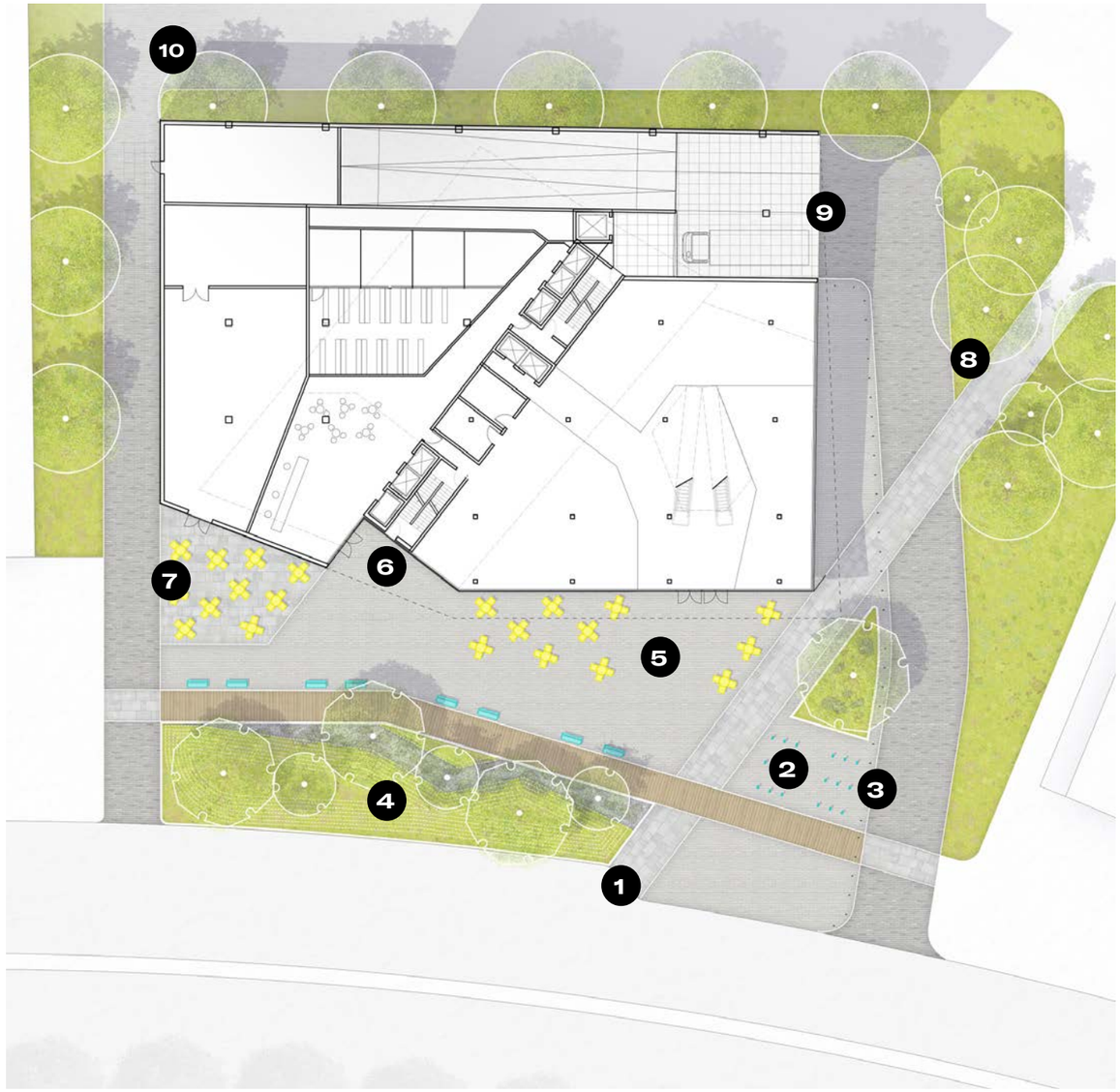


MASSING AXONOMETRIC

UNITED CAMPUS

This project has remarkable potential to knit together the urban fabric in this area, linking the larger context into a complete campus. The many new projects underway around our site, as well as the existing structures immediately adjacent, all intersect at the base of this tower. We recognize the important responsibility of connecting these areas while also creating a pleasant environment in the space itself.
To accomplish this, we have planned for circulation and view corridors to actively make these connections, locating nodes of activity in the spaces naturally created. If it is permitted, we also propose to extend our site slightly to the north, which strengthens connections and provides more program area.

Once these areas are designed with pedestrians prioritized, the larger area will serve the people as a truly unified campus.



0 10M

COMMERCIAL ENTRY

LEGEND

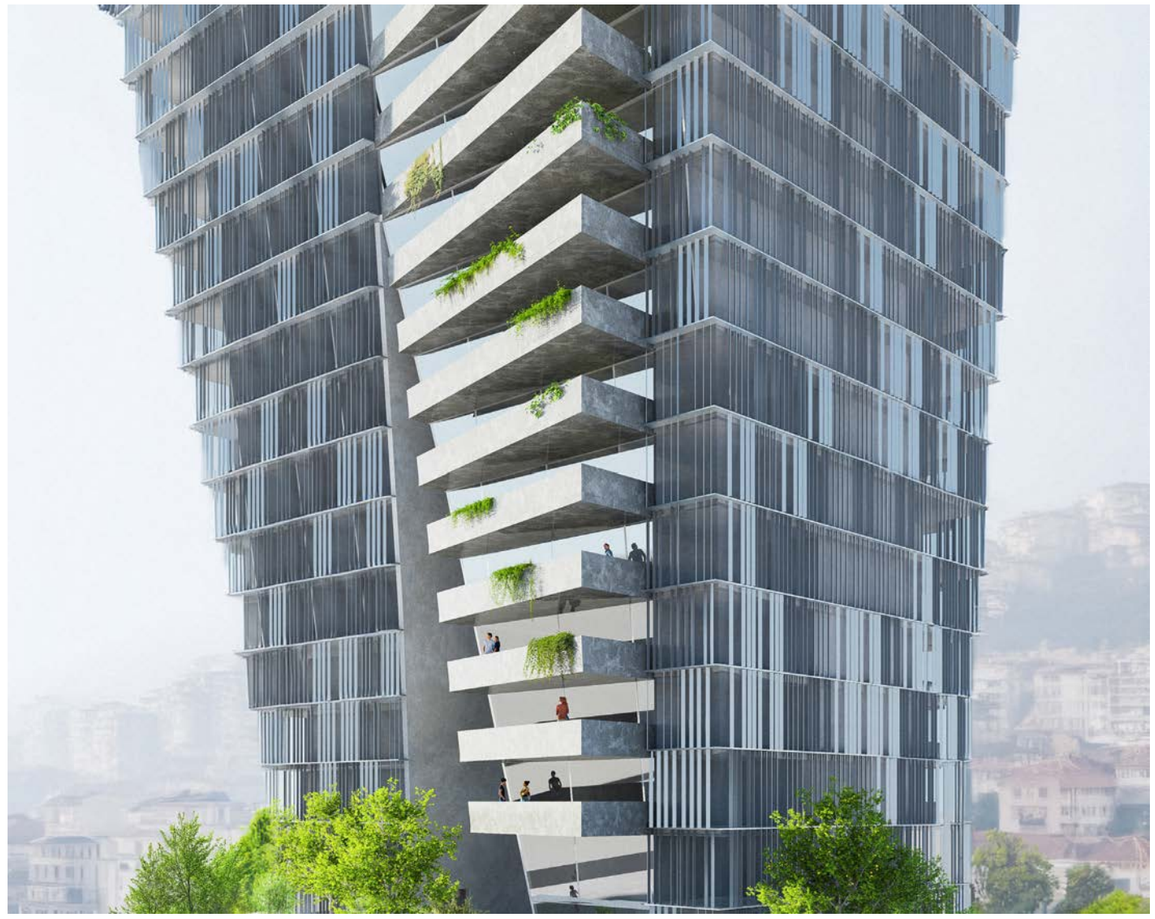
1. ACCESSIBLE DROP-OFF
2. BIKE PARKING
3. CURBLESS DRIVE
4. STORMWATER RAVINE
5. FLEXIBLE PLAZA
6. RESIDENTIAL ENTRY
7. BICYCLE PATHWAY
8. TO PARK
9. ENTRY TO PARKING
10. TO CAMPUS COURTYARD

ENTRY EXPERIENCE

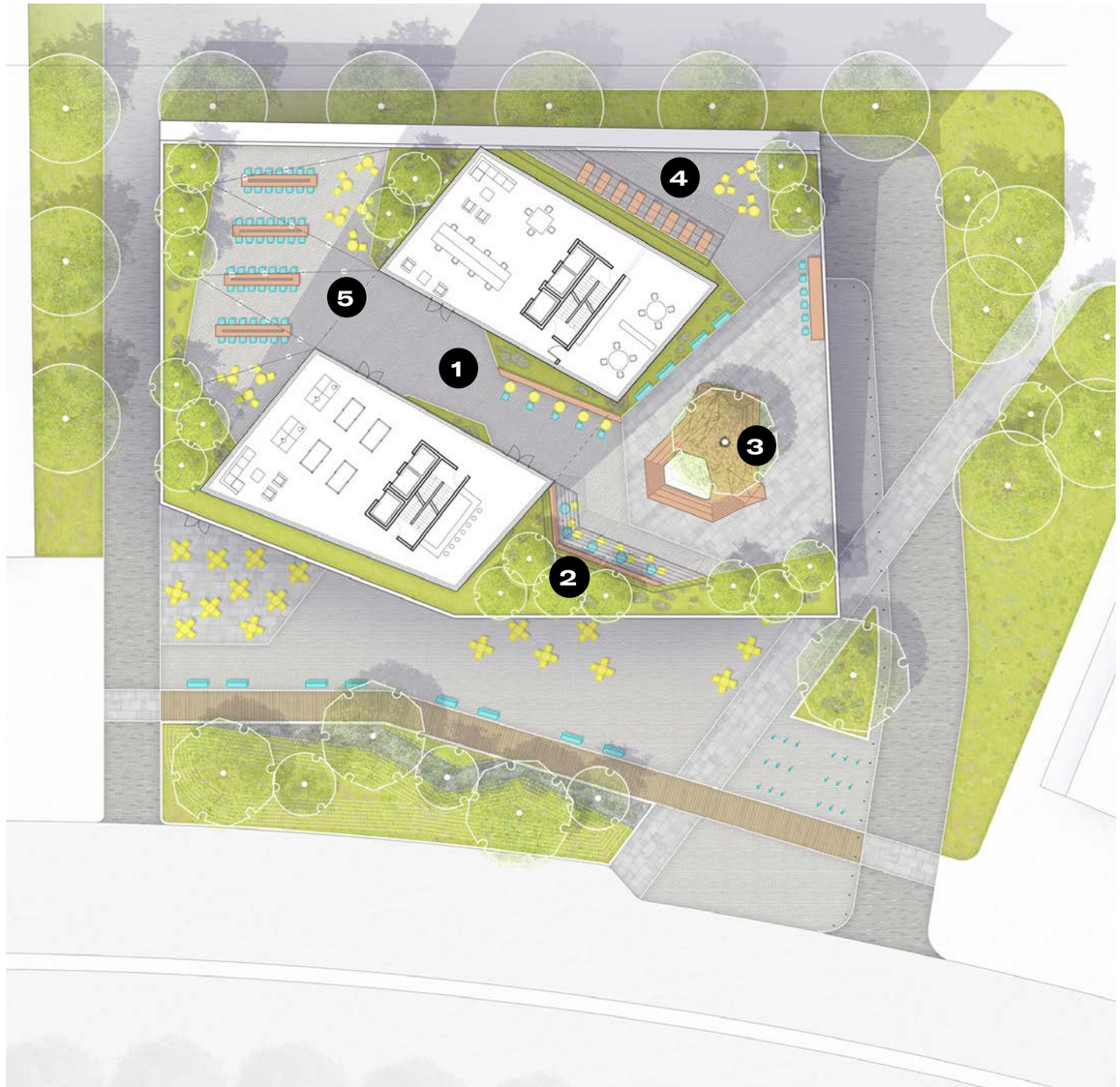
The ground level experience must be dynamic and interesting as a successful urban place: a spot where many people can interact and find interest. At the same time, we are prioritizing a comfortable experience here. We will utilize a strategically designed planted berm to shield visitors from traffic noise, creating a sheltered space and helping to bring down the scale from the large building above.

In addition to providing easy connections between all of the many uses within and beyond the site, we expect to provide interesting amenities to encourage positive use of the space. Furnishings provide opportunities for dining or simply enjoying the area, with a central boardwalk adjacent to the berm and river bed composition - which also provides sustainable stormwater filtration and management.

WEST SECTION



BALCONIES



0 10M

LEGEND

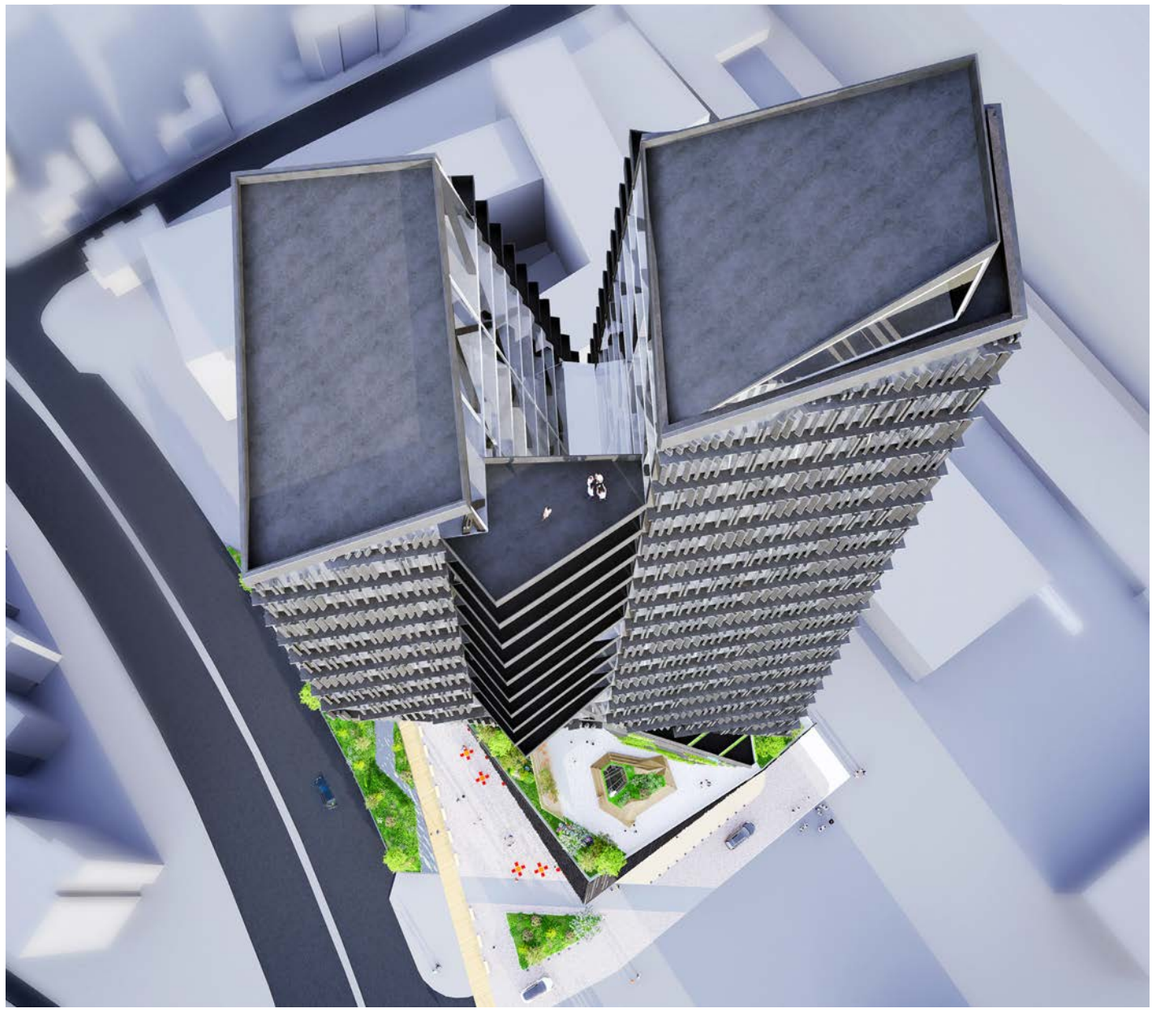
1. BREEZEWAY
2. SHADE STRUCTURE
3. FEATURE SEATING
4. SUNSET LOUNGE
5. COMMUNAL SEATING

CONNECTION THROUGH ELEVATED PARK

RESIDENT EXPERIENCE

On the upper terrace, we emphasize personal experiences above all. The unique spaces and backdrop created by the architectural design provide us with an opportunity to create several distinct spaces of varying sizes, ranging from small and intimate to broader and more dynamic. Residents will be encouraged to utilize their outdoor spaces by having this variety of experiences available, according to their preference.

Whether residents wish to meet with a larger group at the restaurant or beer garden, or sit with a few friends for coffee in a beautifully planted area, or simply walk around to enjoy the variety, a wide range of experiences will provide maximum interest. Ultimately, this encouragement to come outdoors results in a healthier lifestyle for residents, with a higher standard of living for all.



ELEVATED PARK FROM ABOVE

MICRO-HOUSING IS SUSTAINABLE

FUTURE CITY

• Lower costs, more affordable. It is obviously cheaper to access these types of homes, given the fact that they require much fewer resources. In the U.S. they are between 20% and 30% cheaper.

• Cheaper maintenance. Not just that, there are lower costs associated with the houses, particularly those related to energy consumption or cleaning.

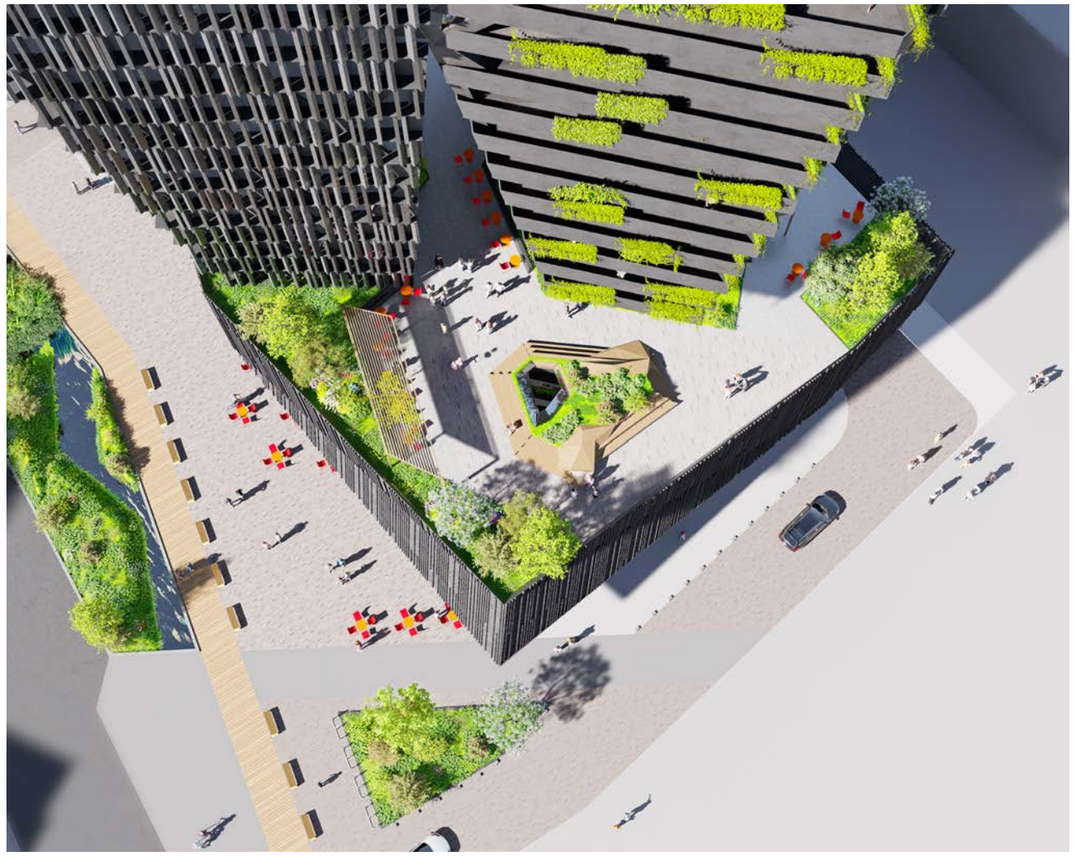
• This leads to one of the main arguments in favor of these houses: they are more sustainable. According to a United Nations report reducing house sizes by 20% could reduce harmful emissions by, at least, 50%.

• This is a solution to the overpopulation and indiscriminate urban planning problems. In this regard, it falls in line with certain principles of New Urbanism that call for coherent planning.

• Flexibility and customization in architectural design.

• Reduced spaces make tenants spend more time outdoors, which is a positive aspect in terms of strengthening the sense of community and coexistence.

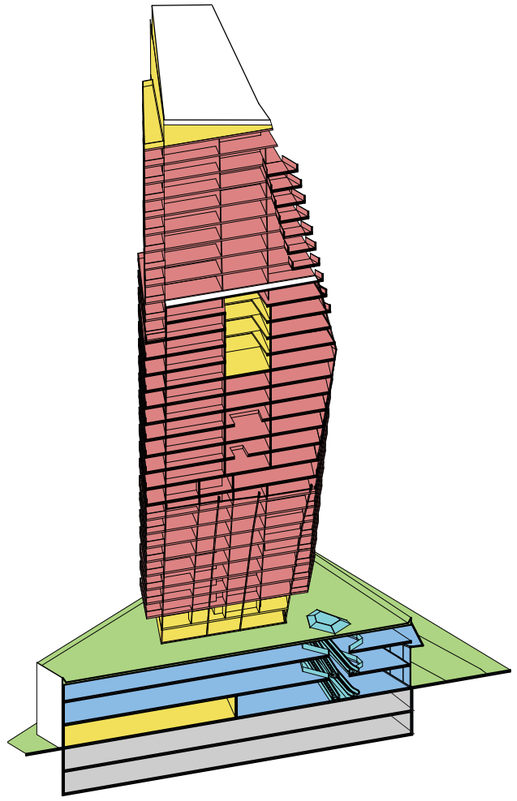
• In relation to price, this form of housing could be a way for more disadvantaged population groups to access housing.



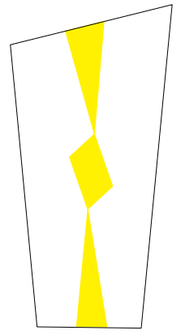
CONNECTION THROUGH ELEVATED PARK

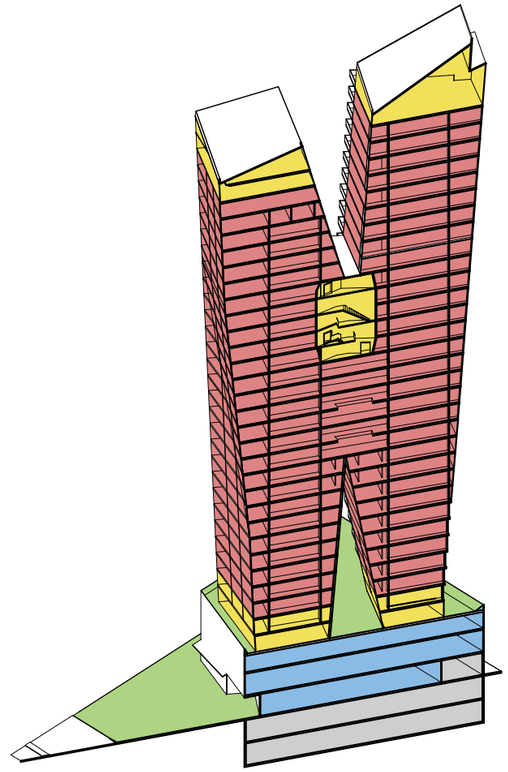

+95.0m ALPINE
+45.0m ILLYRIAN FOREST
+7.5m FOOTHILLS
+0.0m ALLUVIAL PLAIN
PRIVATE
PUBLIC
HIGH ELEVATION
LOW ELEVATION
DESICCATED
SATURATED
HIGH WINDS
LOW WINDS
EXPOSED
SHELTERED
SUMMIT
RIVER VALLEY

EXPLODED VIEW



PROGRAM DIAGRAM 1





PROGRAM DIAGRAM 2

MICROHOUSING

GREEN SPACES

THE COMMONS

COMMERCIAL

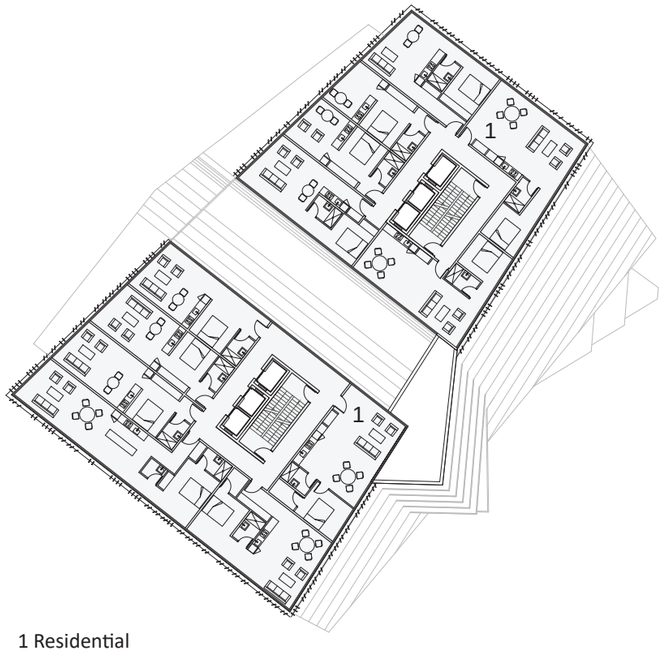
ENTERTAINMENT

LIBRARY

FITNESS

GARDEN

CROSS SECTION

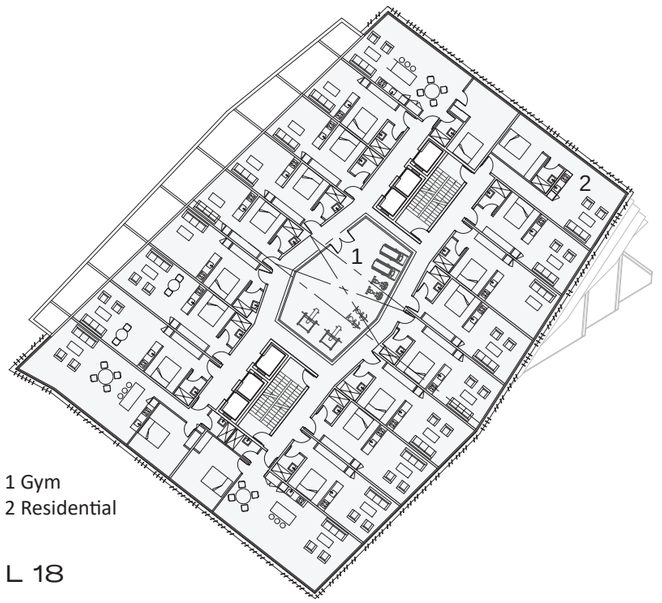


1 Residential

L 30

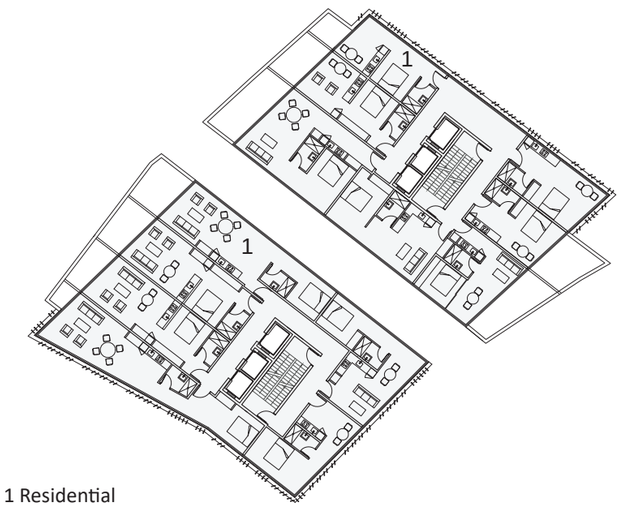
1 Shared Living Space
2 Residential

L 16



1 Gym
2 Residential

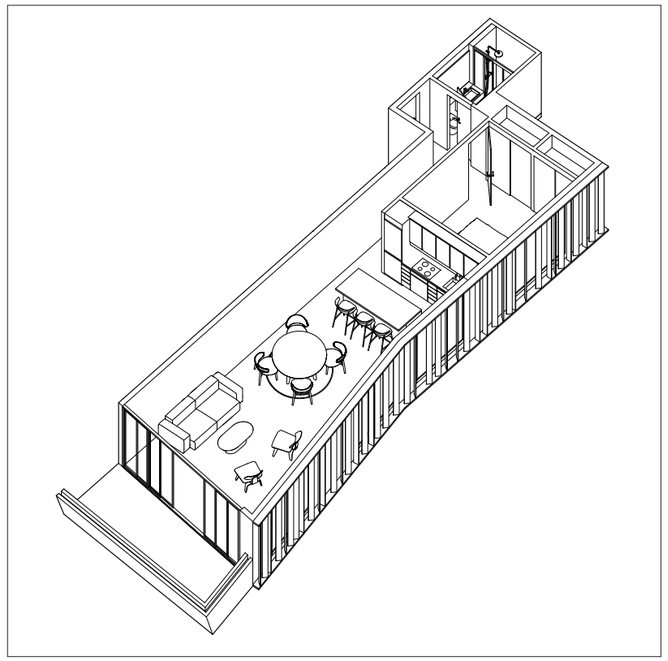
L 18



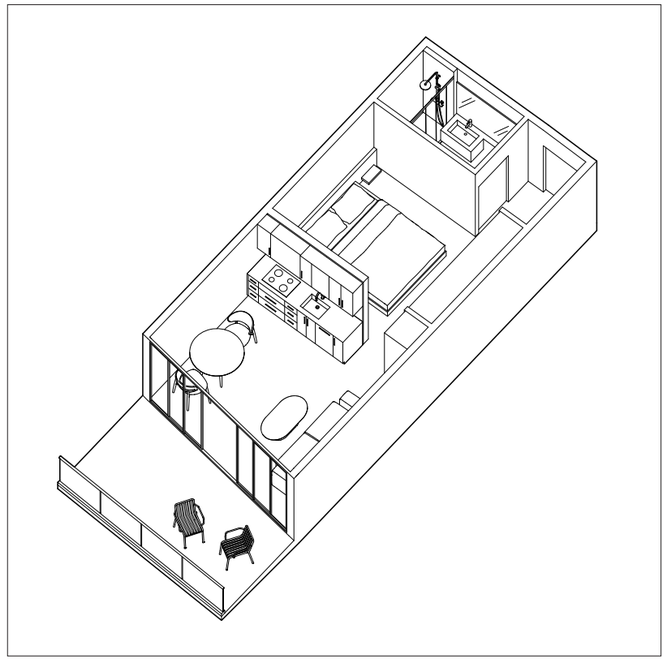
1 Residential

L 10

TYPICAL APARTMENT VIEW

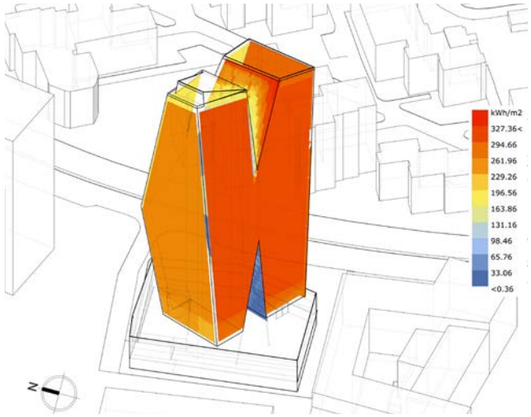


TYPE 1 ONE BEDROOM

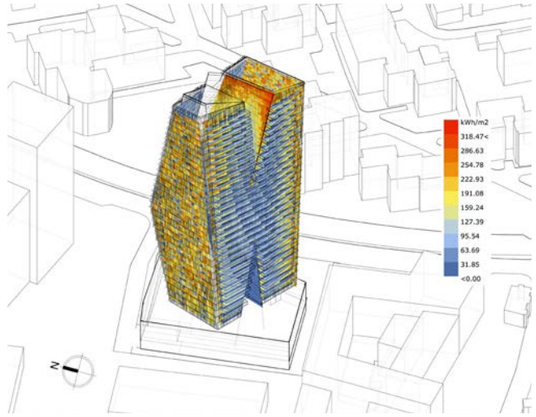


TYPE 2 STUDIO

THE GATE



CLIMATE STUDY 1



CLIMATE STUDY 1.1

FACADE TECHNOLOGY: CLIMATE SKIN

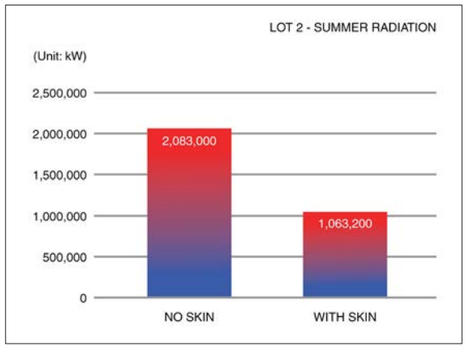
The trellis envelope features a variety of patterns and densities. Made from lightweight aluminum frame and Trespa™ slats, this "**smart climate control envelope**" serves as an adaptable perimeter of the building. The Trespa Meteon façade slats are made from thermosetting resins, homogeneously reinforced with wood based fibers, and manufactured under high pressure and temperatures.

The Trespa sustainability policy is based on a cradle-to-gate approach They don't fade or warp and are maintenance-free.

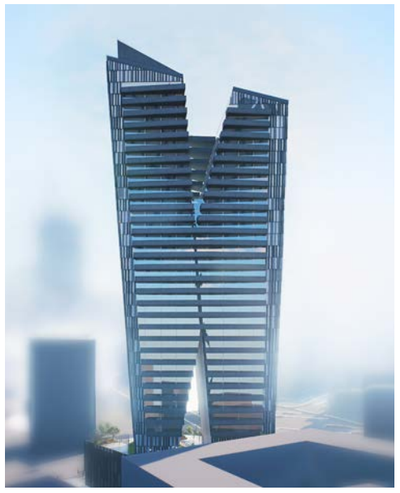
The climate trellis can significantly lower the heating and cooling needs:

· As a result of the operable climate trellis, interior radiation is reduced by 45% in warmer months, significantly lowering the need for air conditioning.

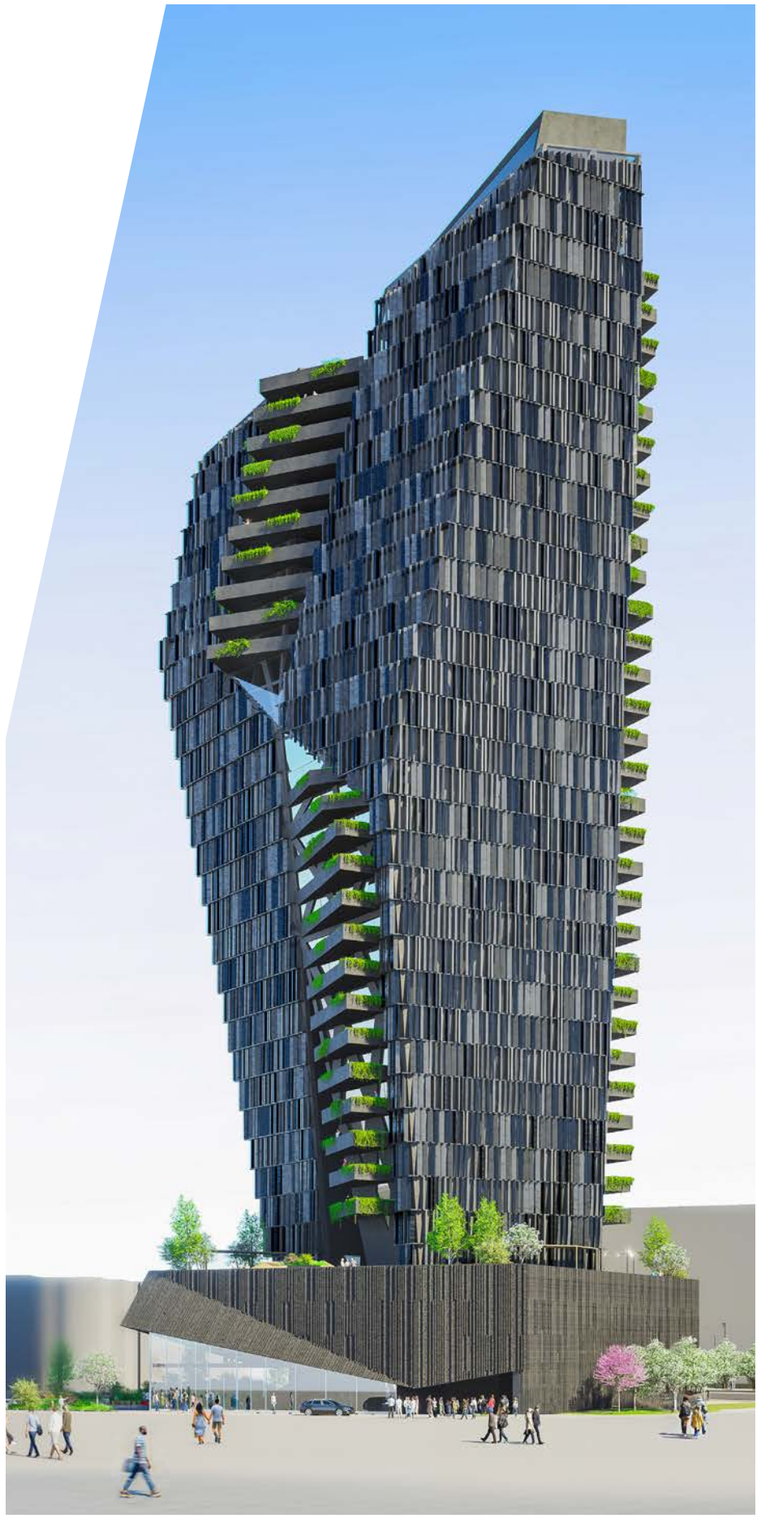
· As a result of being able to open the trellis in colder months, interior radiation, and passive solar heating, is 25% higher compared to having the trellis closed, reducing the need for heating. And even when the trellis is closed, the slats allow the sun to seep deep into the building during winter and provide solar heating.



CLIMATE SKIN STUDY

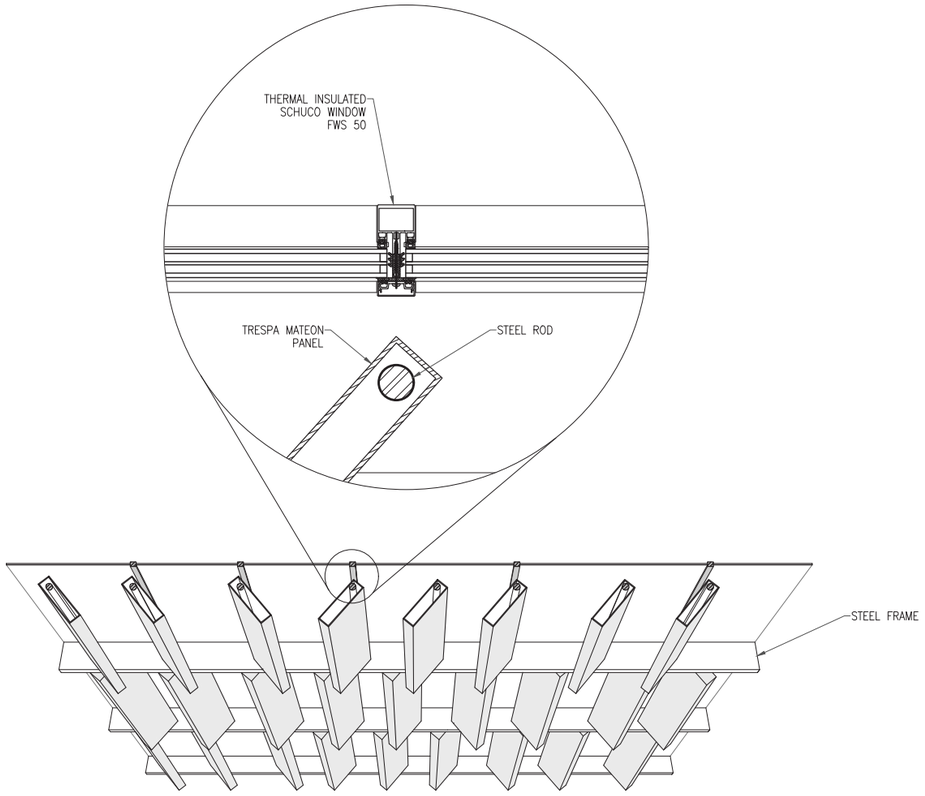


SOUTH ELEVATION



RESIDENTIAL TOWER ELEVATION VIEW

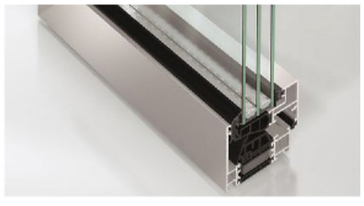
NIGHT FACADE VIEW



STRUCTURAL DIAGRAM

The Trespa Meteon façade slats are made from thermosetting resins, homogeneously reinforced with wood based fibers, and manufactured under high pressure and temperatures. The Trespa slats don't fade or warp and are maintenance-free.

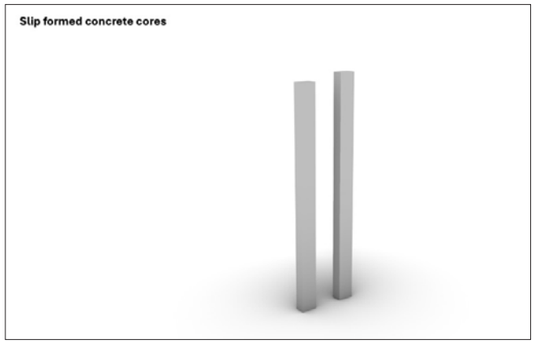
Behind the trellis we find a simple aluminum window wall with operable windows for natural ventilation. Balconies further shade the facade and provide ample outdoor space.

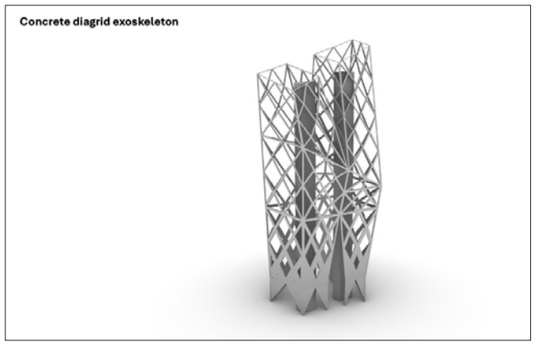


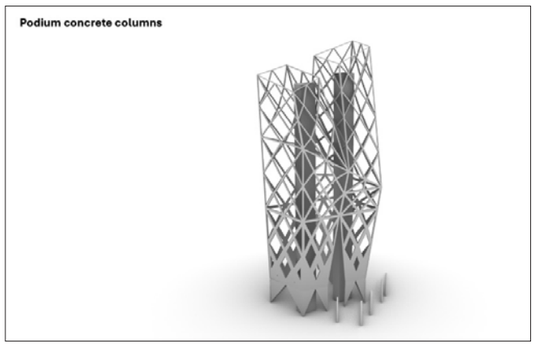
ALUMINUM MULLIONS

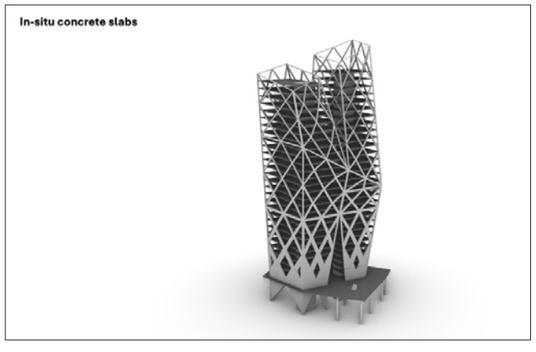
TRESPA METEON PANEL

TRELLIS



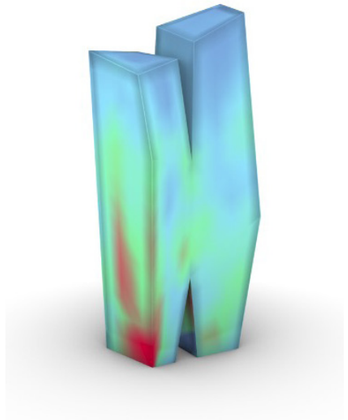




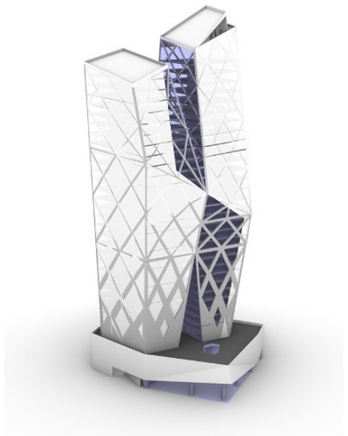


STRUCTURAL DIAGRAM

NIGHT FACADE VIEW

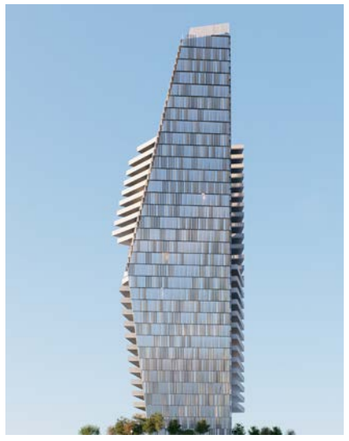


EXTERNAL FORM ANALYSIS



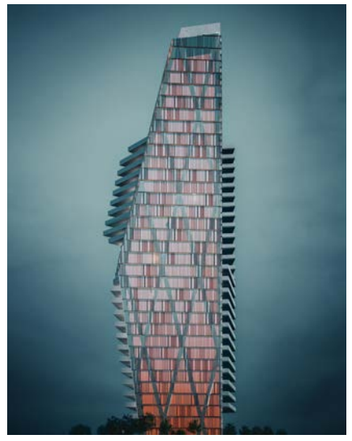
BUILDING ENVELOPE

CLIP-ON BALCONIES



NOON LIGHT FACADE VIEW

SUNSET FACADE VIEW



DUSK FACADE VIEW

CHANGES THROUGH THE DAY & NIGHT

Behind the climate envelope we find a structural facade that together with the core comprises of the tower's structure, leaving the interior free and open. This allows for a completely flexible division of apartments able to react to the market.

The concrete diagrid is extremely well positioned to withstand seismic activities. The grid's density varies due to the forces on the building. Between the structural facade elements we find aluminium window frames with glazing.

SPACES AND CAPACITY SPECIFICATIONS

	AShK	AShSH	ATP			
	ATP OFFICE SPACES	**AMOUNT**	**AREA / UNIT**	**TOTAL (M2)**		**REQUIRED (M2)**
1.1	GD	1	75	75		75
1.2	2P OFFICES	6	25	150		75
1.3	4P OFFICES	48	25	1200		1200
1.4	MEETING ROOM	1	80	80		50
1.5	WAITING AREA	1	25	25		25
1.6	STORAGE (14TH 15TH FL AND UNDERGROUND)	3	(VARIES)	240		240
	TOTAL			***1770***		***1665***
	ASHS OFFICE SPACES	**AMOUNT**	**AREA / UNIT**	**TOTAL (M2)**		
2.1	GD	1	75	75		75
2.2	2P OFFICES	2	25	50		50
2.3	4P OFFICES	9	25	225		200
2.4	STORAGE	1	50	50		50
	TOTAL			***400***		**375**
	ASHK OFFICE SPACES	**AMOUNT**	**AREA / UNIT**	**TOTAL (M2)**		**REQUIRED (M2)**
3.1	GD	1	75	75		75
3.2	2P OFFICES	6	25	150		150
3.3	4P OFFICES	50	25	1250		1250
3.4	FLEX WORK SPACES	9	320	2880		2800
3.5	ARCHIVE OFFICES	5	30	150		150
3.6	STORAGE (UNDERGROUND)	1	620	620		650
	TOTAL			***5125***		**5075**
	ARCHIVE (SHARED)	**AMOUNT**	**AREA/UNIT**	**TOTAL (M2)**		
4.1	* CORE ARCHIVE	11	50	550		
	TOTAL			***550***		
	* Adjsuted to ASRS efficiency (7x)			*3850		**2955**
	COMMONS	**AMOUNT**	**AREA/UNIT**	**TOTAL (M2)**		
5.1	MEETING ROOM 20P	2	(VARIES)	130		50
5.2	MEETING ROOM 100P	1	260	260		200
5.3	MEETING ROOM 200P	1	300	300		300
5.4	MEETING ROOM TERRACE	1	150	150		-
5.5	CAFETERIA + EATINNG SPACES	1	850	850		800
5.6	KINDERGARTEN	1	400	400		400
5.7	PRAYER ROOM	1	30	30		30
5.8	EXHIBITION	1	170	170		50
5.9	LIBRARY	1	150	150		50
5.10.	LOBBY	1	250	250		-
	TOTAL			***2690***		**1880**
	SUPPLIMENTARY	**AMOUNT**		**TOTAL (M2)**		
6.1	CIRCULATION	-	-	4100		-
6.2	BATHROOMS	-	-	320		320
6.3	SERVER	2	30	60		75
6.5	PARKING	-	-	650		525
6.7	SUPPORT SPACES	2	160	160		300
	TOTAL			***5290***		**1220**
			GRAND TOTAL	***15825***		**13170**
	TOTAL BUILDING HEIGHT	**65M**				
	TOTAL FLOORS	**15**				

				GRAND TOTAL	***15825***	**13170**
	TOTAL BUILDING HEIGHT	**65M**				
	TOTAL FLOORS	**15**				

RESIDENTIAL				
	COMMONS	**AMOUNT**	**AREA / UNIT**	**TOTAL (M2)**
1.1	ROOF SOCIAL SPACES			800
1.2	LOBBY	1	650	650
1.3	GYM	1	300	300
1.4	TERRACE PARK AMENITIES	-	-	800
				2550
	COMMERCIAL SPACES	**AMOUNT**	**AREA / UNIT**	**TOTAL (M2)**
2.1	COMMERCIAL SPACES	1		3220
				3220
	RESIDENTIAL	**AMOUNT**	**AREA / UNIT**	**TOTAL (M2)**
3.1	APARTMENT UNITS	501	50	25050
				25050
	GREEN SPACES	**AMOUNT**	**AREA/UNIT**	**TOTAL (M2)**
5.1	TERRACE PARK	1		1270
				1270
	SUPPLIMENTARY	**AMOUNT**		**TOTAL (M2)**
6.1	CIRCULATION	-	-	4775
6.2	ROOF MEP SPACE	2	50	100
6.3	PARKING	2	1760	3520
				8395
			GRAND TOTAL	***40485***
	TOTAL BUILDING HEIGHT	**120M**		
	TOTAL FLOORS	**34**		

ELEMENTS AND FUNCTIONAL SPECIFICATIONS

2L ENGINEERING

EXECUTIVE SUMMARY

The Tirana development by the Property Institutions Cluster + Mixed-Use Development will be a residential site with the addition of speculative offices providing over 56,000m^2 of residential, commercial, office and social and cultural spaces.

This report covers the engineering concepts relating to the mechanical, electrical, plumbing and fire protection services.

The engineering strategies proposed herein place environmental responsibility at the forefront of the design, reflecting both 2L Engineering, D.P.C.'s and Archi-Tectonics NYC commitment to reducing impact on global warming.

In the first instance, we have looked to reduce energy consumption through the use of passive measures including building orientation and high-performance facades. These design measures can significantly reduce energy associated with mechanical operating costs.

With passive design measures exhausted, active design measures to further reduce energy consumption have been analyzed and integrated into the proposals where deemed commercially viable. A site of this scale and usage lends itself to a holistic approach to services design. With this in mind, the concept of a site wide energy center has been considered in addition to the more traditional methods.

Further consideration has been given to implementation of a number of renewable energy technologies including solar thermal heating and photovoltaic cells.

The site has good solar resource making renewable energy attractive for integration throughout the development.

A Photovoltaic (PV) array is proposed as a landmark feature within the development located on the rooftop the buildings. Without major subsidy the system would have a long payback period, this could be reduced if funding could be achieved for percentage of the capital cost which is typically available.

SITE ANALYSIS

Location
Albania is located at a latitude of 41.15˚ North and a Longitude of 20.16˚ East.

Geological Conditions
Albania is defined as a ZONE 4 seismic area and all engineering systems will be designed in accordance to the recommendations of the SMACNA "Seismic Restraint manual – Guidelines for Mechanical Services". Services will not be designed to be fully operational after a seismic event but to minimize the subsequent damage caused by such an event.

Climate Conditions
Albania can be described as having a temperate climate with hot, humid summers and cold, wet winters. Temperatures can reach a peak of 34.5˚C in the summer and a low of -2.5˚C during winter season.

We have used code references where details have been extracted from regulations or codes. The weather data used to determine design conditions was obtained from ASHRAE Data.

Temperature Design Conditions

The graph below indicates the design temperature as recommended by ASRAE.

2021 ASHRAE Handbook - Foundamentals (SI)

TIRANA RINAS, ALBANIA (WMO: 136150)

Lat:**41.415N** Long:**19.721E** Elev:**38** StdP: **100.86** Time zone:**1.00 (EUC)** Period:**06-19** WBAN:**99999**

Annual Heating, Humidification, and Ventilation Design Conditions

Coldest Month	Heating DB		Humidification DP/MCDB and HR						Coldest month WS/MCDB				MCWS/PCWD to 99.6% DB		WSF
	99.6%	99%	99.6%			99%			0.4%		1%				
			DP	HR	MCDB	DP	HR	MCDB	WS	MCDB	WS	MCDB	MCWS	PCWD	
1	-3.3	-1.8	-11.8	1.4	3.8	-8.5	1.8	3.8	9.8	11.2	8.3	10.6	1.2	170	0.398

Annual Cooling, Dehumidification, and Enthalpy Design Conditions

Hottest Month	Hottest Month DB Range	Cooling DB/MCWB						Evaporation WB/MCDB						MCWS/PCWD to 0.4% DB	
		0.4%		1%		2%		0.4%		1%		2%			
		DB	MCWB	DB	MCWB	DB	MCWB	WB	MCDB	WB	MCDB	WB	MCDB	MCWS	PCWD
8	14.1	35.1	22.5	33.8	22.7	32.7	22.9	27.3	29.9	26.1	29.2	25.0	28.9	3.3	340

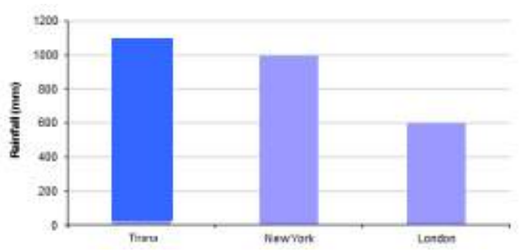
Dehumidification DP/MCDB and HR									Enthalpy/MCDB						Extreme Max WB
0.4%			1%			2%			0.4%		1%		2%		
DP	HR	MCDB	DP	HR	MCDB	DP	HR	MCDB	Enth	MCDB	Enth	MCDB	Enth	MCDB	
27.0	22.7	28.8	25.2	20.4	27.6	24.0	19.0	26.5	86.8	30.6	81.5	28.4	76.8	28.0	33.2

Extreme Annual Design Conditions

Extreme Annual WS				Extreme Annual Temperature				n-Year Return Period Values of Extreme Temperature							
				Mean		Standard deviation		n=5 years		n=10 years		n=20 years		n=50 years	
1%	2.5%	5%		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
7.6	6.4	5.5	DB	-6.2	37.7	2.0	1.7	-7.7	38.9	-8.9	39.9	-10.0	40.8	-11.5	42.1
			WB	-6.8	28.1	2.2	2.9	-8.4	30.2	-9.7	31.9	-11.0	33.5	-12.6	35.6

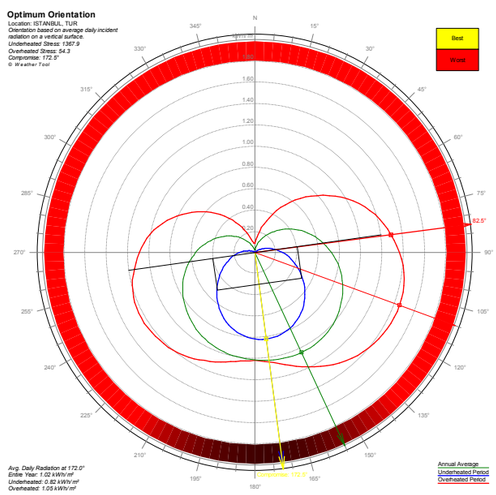
Annual Rainfall

Albania has approximately 1100mm of rainfall per year, largely falling through winter months. The volumes could justify rainwater collection for irrigation and possibly for re-use in residential building for toilet flushing.



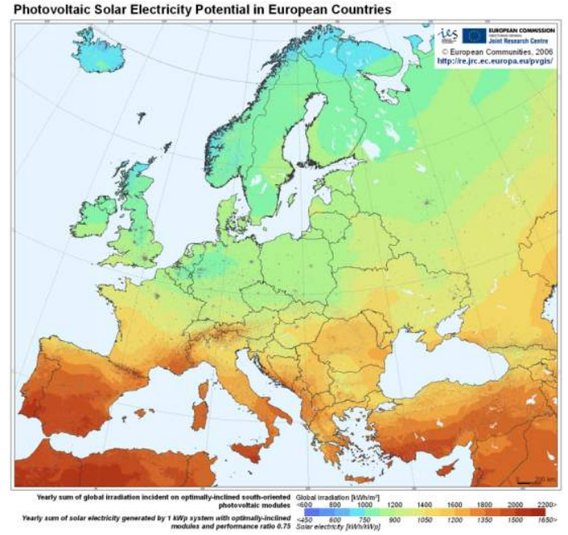
Solar Study

The optimum orientation for minimizing solar gains during the summer and allowing access to passive solar gains during the winter is indicated opposite, this optimum orientation is at approximately 83°.



Solar Resource Map

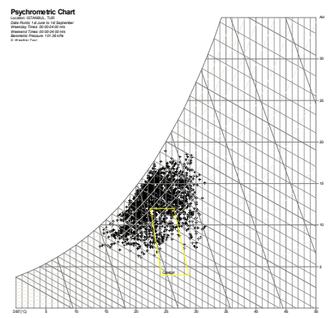
The solar resource for Europe is indicated below, solar irradiation is at approximately 4 – 4.5 kWh/sm/day, or approximately 1500 kWh/sm/yr.



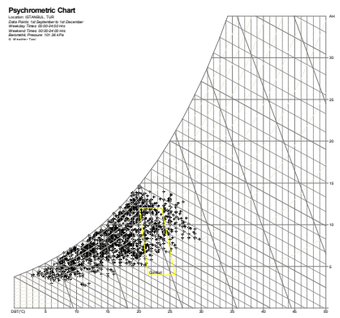
Humidity

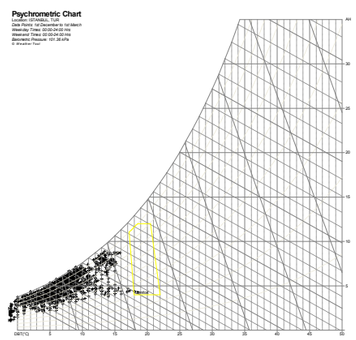
The climate is typically dry during autumn, winter and spring. During summer months humidity can be higher, but strict humidity control should not be required.

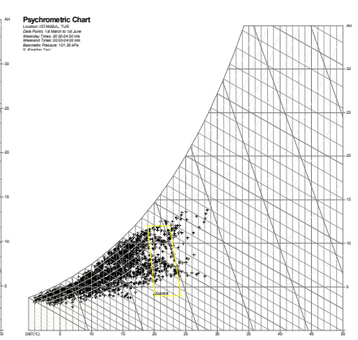
Summer



Autumn







PV Analysis
A PV array is proposed as a landmark feature within the development located on the rooftop of one of the low rise buildings to cover 250sm. Without major subsidy the system would have a long payback of 72 years, this could be reduced to around 36 years if funding could be achieved for 50% of the capital cost which is typically available.

PV Assumptions
Cost: $10/Watt
System Output::
Tilted Array: 1250 kWh/kWdc
Flat Array: 1150 kWh/kWdc
PV panels: Polycrystalline @ 11 W/sf

Cost Analysis US Dollars

Block Reference	Building Reference	Cost Estimate	Annual Savings	Simple Payback
		$ 300,000	$ 4,154	72

Solar Resource
The site has good solar resource making renewable energy attractive for integration throughout the development. The table opposite summarizes the renewable energy technologies considered with major advantages and disadvantages. A more detailed analysis follows considering system proposals, capital costs and system payback.

Technology Option	Advantages	Disadvantages	Recommendations
Photovoltaic Panels (PV) On-Site 	Visual statement on site to visitors and residents alike Can provide peak-shaving opportunities Can be used to provide shade to internal or external spaces	High cost of PV technologies & long payback	Recommended for consideration within shading structures (internal or external spaces) or for a 'special feature'
Solar Thermal Collectors for Domestic Hot Water 	Solar thermal collectors could meet up to 90% of domestic hot water loads for residential buildings Paybacks are in the range of 5 – 10 years	Will require integration with architectural design Solar resources are limited	To be considered for the Apartment building.

Condensate recovery
Where fan coil units are proposed for comfort cooling, condensate will be recovered. This will reduce the water consumption associated with cooling systems, this could be utilized in evaporative cooling heat rejection plant.


Figure 8.21: Steel storage tanks.


Figure 8.22: Plastic storage tanks.

BUILDING SYSTEMS

Building Systems
On the basis that the strategy will be to adopt a building by building approach, each building will require its own central systems as listed below.

Mechanical

Chiller Plant
Three main options exist for providing cooling to each building:

1. Air Cooled Chillers
2. Dry Air coolers – used in conjunction with water cooled chillers
3. Cooling Towers – Open or Closed Circuit used in conjunction with water cooled chillers.

The review of the options would suggest that the water cooled chiller solution with cooling towers is the most appropriate for this project when considering energy efficiency maintenance requirements, water costs and spatial limitation.

	(1) Air Cooled Chillers	(2) Liquid Chillers with Dry Air Coolers	(3) Liquid chillers with open circuit Cooling Towers
Capital Cost	Most economical solution.	Requirement for Heat Rejection circuit – additional cost as (3).	Requirement for water cooled chillers and cooling towers and additional pumps add to cost. Also added cost of enhanced water storage.
Running Costs	Less energy efficient than towers. Least amount of free cooling available using "Double bundle" chiller configuration.	Less energy efficient than towers, Free Cooling available.	Energy wise the most efficient. Extensive free cooling available – High water use may enhance cost.
Spatial Requirement	Better than (B), but dry heat rejection requires much higher volumes of air.	Maximum space option. Inefficient dry heat rejection plus requirement for separate chiller plant.	Much less area required for heat rejection. Water demands would increase total projects water storage, by approx. 100%.
Maintenance Requirement	Standard maintenance regime required.	As option (1)	High- Water treatment is vital to avoid formation of micro-biological contamination with the associated health risk
Visual Effects	Extensive louver requirements see also 3.	Extensive louver requirements see also 3.	Creates water vapor plume in certain ambient conditions which is undesirable (can be engineered out by using re-heaters).

Chiller should be provided with a Zero ozone depletion (0% ODP) refrigerant with a minimum of two refrigerant circuits per machine.

All chillers will need to be interfaced into an independent chiller intelligent control system which will determine the optimum efficiency of the system and sequence and part load all machines, per zone, to maintain the minimum electrical input to cooling output. The sequence control system will also ensure that any plant failure is relayed to the central building BMS and operates the remaining machines operate to compensate for this failure.

Hot & Cold Water Systems
Metered mains cold water supplies will be provided to the site by the local utility company. The domestic water will be pumped at a boosted pressure to all buildings to meet the requirements of each building.

Water storage will be provided to the respective buildings as follows:

- Residential Tower
- Function areas

Water storage is not envisaged to be provided to the office buildings and retail.

Building Management System
Each building will include a central Building Management System (BMS) to serve all installed central plant and equipment. All control functions will be performed by Direct Digital Control DDC control, with the exception of safety and fire alarm/fireman's override interlocks, which will be hard wired.

A centrally located Head End Unit will oversee, via a digital network, a system of sub control units and individual equipment control units strategically located throughout the building. The sub control units will connect to plant and equipment in their nominated area. All plant and equipment will contain sufficient intelligence to be capable of autonomously operating the individual item of equipment if the head end or sub controller is inoperative. Each intelligent control unit will accept signals from the Master Unit via the sub control units and will report operational status to the Master Unit.

Local motor control center panels (MCCs) in each plant area will each contain intelligent outstations and will all be interlinked via the BMS.

Car Park
Car parks will be provided with combined fume and smoke extract systems. The systems serving the car park will be designed, in accordance with local regulations, to provide 5 ACH in fume extract mode. Fume exhaust will be discharged via the horizontal exhaust trench at ground level, with make-up air derived from low level inlet louvers or via the vertical air intake shafts.

Smoke extract will also be provided from the car parks at a rate of 10ACH. The car park will be split into zones no greater than 5000m2 for the purpose of smoke extract. Only fans serving the fire zone will be activated in the event of fire.

It is possible to discharge kitchen extract at low-level through the façade to save running the exhaust to roof level and thus saving risers space. Although a low-level discharge will require additional filtration/treatment (compared to a high-level extract) to ensure grease, smoke and an odor free discharge. Before procuring a design with a low-level extract, guidance and approval shall be sought from the local authority.

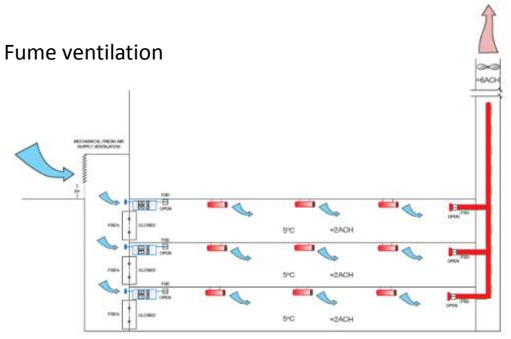
Grease and odor can be removed using one or more of the following technologies:

- UV/Ozone
- Activated Carbon
- Bio filter/Bio scrubbers
- Bio filter/Bio scrubbers
- Chemical Scrubber
- Thermal Oxidizer

Smoke from cooking can be removed using:

- HEPA filters
- Electrostatic filters

Fume ventilation



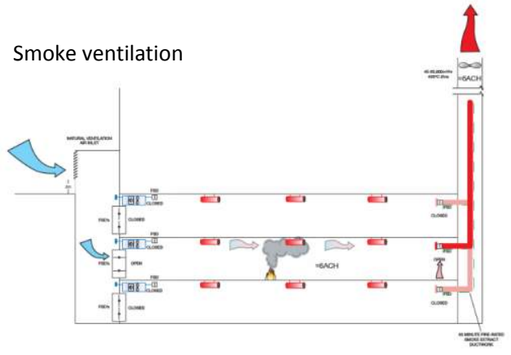
Objective: Air extraction to limit concentration of pollutants

Fans pull air through the space, discharging it at high level towards the extract point where it connects to a common extract fan at roof level. Supply fans provide make-up air to the space

Advantages

- Smaller pressure drops: smaller plant and lower running costs
- Improved co-ordination
- No ductwork
- Impulse fans can act independently responding to conditions in individual areas

Smoke ventilation



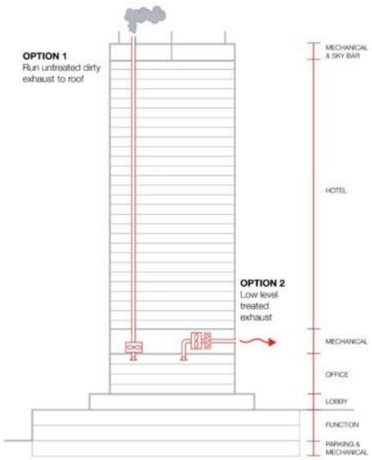
Objective: Air extraction to remove smoke

On detection of smoke, extract rate to affected compartment is increased. Common shaft provides make-up air through natural ventilation. Remaining compartments shutdown.

Through intelligent use of fans, smoke control can be achieved:

- Easier evacuation of the car park
- Protection of escape routes
- Improved access to fire for fire brigade.

Dirty Extracts
The following systems generally require discharge at roof level by the Local Authority. The following narrates options that may be possible to minimize the impact of these exhausts running to the roof of the building.



Generator & Diesel Pumps Flues
Life Safety Generators, Electricity Backup Generators and Fire Pump Diesel Pumps all require combustion flues and thus potentially have to discharge at roof level.

It is proposed to design these flues to discharge in a suitable location at low level, in order to assist in agreement with the local authority to achieve this, Soot Filters may be installed on the exhaust to minimize the 'black smoke' discharge associated with diesel engines particularly on start up.

Electrical

Electrical Distribution Systems.
The site will be served from the local utility by means of a 34.5kV medium voltage loop. Meters will be installed to read the net power flowing from or to the utility company. Under utility power failure condition there will be electric power available from emergency generator for life safety system.

Distributed strategy.
Electrical power will be provided to each building primarily by means of a 34.5kV medium voltage loop from the local utility company at the intake position, at that point substations will be provided for each building containing MV switchgear and transformers to step down from 34.5kV to 400/220V for use within the building. All substations and associated equipment will be accessible from street level.

Energy meters will be installed at the intake position of each building to read the net power flowing from or to the utility company.

Apartment Building Distribution Strategy.
Power from the main electrical distribution switchgear to the apartment electrical panels will be accomplished by one of the following options.

1. OPTION 1. Power apartment electrical panels from main distribution board located every three floors, the apartment panel in each apartment will be fed from the main distribution board via multi-conductors in cable tray. The Sub-Metering will be done at main distribution board. The vertical risers from the main switchgear to the main distribution panels will multi-cables mounted on cable trays.

2. OPTION-2 Power apartment electrical panels from main distribution board located every three floors, the apartment panels in each apartment will be fed from the main distribution board via bus duct. This is advisable for high rise buildings, this method is more reliable and flexible than multi-conductors in cable tray but could be also more expensive. Metering will be done at each apartment and at a central location (main electrical room) meter reader's bank will be installed for all apartments.

A more detailed study should be done taking into account the local labor and material markets to decide the best technical-economic choice between the options 1 and 2 above.

Apartment Assumptions

- Metering will be done at each apartment and at a central location (main electrical room) a remote meter reader's bank will be installed for all apartments.
- Distribution panels will be installed every three floors; feeders will be installed in cable tray to the main electrical room.
- The wire horizontal travel distance per floor is 15m.
- Every floor will be about 3m high.
- There will be + or - 7 apartments per floor.
- The area of each apartment will be 50m2 and its corresponding connected electrical load will be 18.8kVA.
- The electrical apartment panel will be 100A, 1phase, 220V

Office Building Distribution Strategy
Power from the main switchgear distribution panels to the office levels will be accomplished by one of the following methods depending on the size of the office tenant area of the building and local regulations.

- Tenant office electrical panels directly fed from the main switchgear distribution panel. This is advisable for office buildings where the expected tenant demises per floor are defined. Sub-meters will be provided at the location of the main electrical panels, with the meters connected to the BMS system for remote reading of the electrical usage.
- Tenant office electrical panels fed from rising bus bars supplied from the main switchgear distribution panel. This is advisable for office buildings where the expected tenant demises per floor are not defined and a more flexible distribution system is provided in the risers. A sub-meter will be provided adjacent to each tenant electrical panel, with the meters connected to the BMS system for remote reading of the electrical usage.

Emergency Power (Office /Residential Building)
Emergency power will be provided by diesel generator to served just for the life safety loads that is, lighting on the corridors and public places, elevators, fire alarm system, fire pump, domestic water pumps, post smoke purge fans and stair pressurization fans.

Data and Communications
IT/Comms intake positions will be provided in each building from the local utilities providers. Backbone containment systems will be provided to distribute data and comms from the intake positions to a central riser position in each building.

The apartments will have provisions for telephone, data, cable/satellite television, terrestrial television, door entry and security systems.

The office building will have provision of a main data/comms position the future building tenants can extend from to their on floor IT rooms.

Containment Systems
The cable containment system shall be divided into three separate categories:

- Power systems for building installations: Main cables for electrical distribution panels and cables for lighting, receptacles, etc.
- Communication systems for building installations (< 50 V): Cables for BMS systems and low-voltage systems e.g. television plus computer networks, automatic fire detection system, automatic intruder alarm system, etc.
- Computer, sound and other sensitive cables: For screened cables and other sensitive cable containment, separated from power and other low voltage, the design of cable containment shall allow for electromagnetic compatibility (EMC).

The containment systems shall be sized to allow 20 percent future capacity. The cable containment shall be clearly separated, and it shall be possible to identify the particular system category. The separation distances shall be designed in accordance to local requirements.

Lighting and Controls
General lighting will be provided to all common areas. Architectural lighting will be provided to strategic areas within the building including main reception, lift lobbies at all floors and transfer levels. External floodlight and amenity lighting will also be included. No lighting will be provided to tenant's areas, but provision will be made within the distribution boards for sufficient power for tenants to fit out their own areas.

Programmable lighting control panel will be installed to control lighting in the common areas of each building.
It is envisaged that the hotel building will have an extensive lighting control system interlinked with other hotel systems and functions which will be defined by the future hotel operator

Grounding and Bonding
General building grounding will be provided from the star point of the transformers in each of the substations; from here grounding conductors will connect to all grounding buses throughout the building. In addition, an isolated ground system will be provided terminating on ground bars in the IT rooms at each level.

Lightning Protection
A lightning protection system will be provided to safely discharge the passage of a lightning strike to earth. This will be done by means of copper rods forming a mesh at roof level, connected to the structure of the building and then terminated in earth pits at ground level.

Fire Alarm
A comprehensive fire alarm system will be provided in accordance NFPA 72. A voice evacuation system will be provided. Pull stations call points will be installed throughout the buildings at every escape path. Smoke detectors will be located at elevator lobbies, top of elevator shaft, elevators mechanical room, electrical and mechanical rooms.

Security
The extent of buildings' security and CCTV systems is to be confirmed by the client. The design of these systems will be developed at a later stage by a separate security and CCTV specialists. Containment for cabling will be provided under the base building contract following coordination between the design team and the system specialists

Plumbing Systems

Cold Water Service
Metered mains cold water supplies will be provided to each building by the water utility company.

The domestic water system will be pressurized by a booster pump located in the mechanical room fed through risers and branches to plumbing fixtures and equipment. The building water distribution system will be designed in such manner as to:

- Provide potable water in the amount and at the pressure required by the building occupancy and type of plumbing fixtures utilized in the building;
- Prevent contamination from non-potable liquids, solids or gases;
- Maintain a maximum velocity in the water supply piping of 2.4m/s to prevent noise and decrease the danger of surge pressure shock.
- Prevent water hammer conditions by providing air chambers.

Domestic Water Booster Pump

Hotel Hot Water Storage Calorifiers

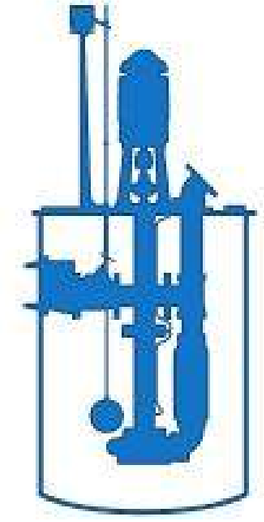
Central Hot Water Service
Hot water will be provided to all plumbing fixtures, ancillary areas, including kitchens, ballrooms etc.
Pressure reducing valves will be installed to reduce the pressure at the various outlets.

Hot water will be generated centrally using hot water storage calorifiers deriving heat from the central energy indirectly via a set of plate heat exchangers. Hot water will distribute throughout the building as a flow and return system.
Both hot and cold water services will be distributed throughout the hotel tower via a number of vertical pipework risers shared between adjacent bathrooms.

Soil, Waste and Rainwater
Sanitary sewage from bathrooms and other plumbing fixtures located above grade will discharge by gravity to the building sewer. All fixtures will be trapped and vented as local Code requirements.

Waste water from showers, baths, lavatories and sink will be collected separately and discharge to the Greywater treatment plant. Sewage from washing machines and toilets will discharge to the building sewer system connected to the municipal sewer system.

The drains in the mechanical rooms and toilet rooms plumbing fixtures below grade will discharge into ejector pits drained by duplex ejector pumps. The ejector pump discharge will connect to the building sanitary system.
The basement car park levels will have an independent car park drainage system that will collect drainage from the various levels of car parking before passing through a petrol interceptor below the basement slab. The drainage once passed through the petrol interceptor will be pumped to the building sewer connection and discharge by gravity to the municipal sewer system.



Elevator shafts will be provided with a sump pump installed in the pit.

Fire Suppression Systems

Water Source
The source of water for the combined sprinkler and standpipe system will be provided from the municipal water main in the street. The water service will enter each building and will be provided with the required backflow prevention devices in accordance with the local rules and regulations.

Each building will be equipped with two Automatic fire pumps, one electrical and the second diesel, located in the basement mechanical room of the building and readily accessible to fire fighters.
Each building will be provided with fire department connections. The fire department connection will serve both the automatic sprinkler system and the fire standpipe system

Sprinkler System
All areas of the building will be sprinkled; the parking garages will be served by dry-pipe sprinkler system and the rest of the building will be protected with the conventional wet-pipe sprinkler systems.

All pipe sizes will be based on hydraulic calculations to provide a minimum density of 4.1 mm/min, 6.1 mm/min over the most hydraulically demanding 139 m² for light and ordinary I hazard group areas, respectively.

Each floor will be a separate sprinkler zone and will be controlled by a sprinkler zone control valve. No zone will exceed 4830 m².

Standpipe
Each building will be provided with a class I fire standpipe system consisting of:

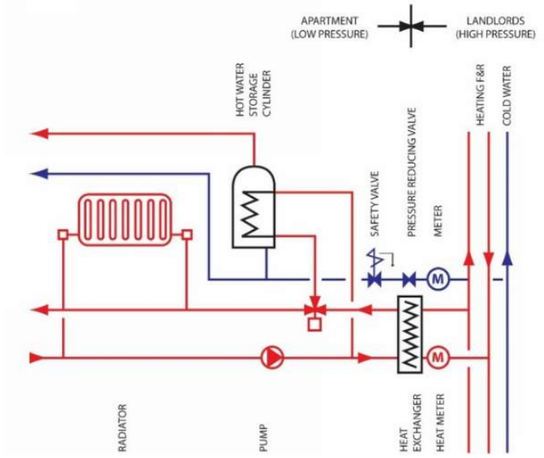
1. 65mm fire department valve cabinets located at the staircase landings or near the staircase.
2. Riser control valves located at Basement level.
3. Roof manifolds located at the roof of the upper lobby.

Fire Extinguishers
Each building will be provided with dry chemical type fire extinguishers located in the fire hose cabinets and at a maximum travel distance of 75’-0” from each other. In addition, carbon dioxide type extinguishers will be provided at mechanical rooms, electrical closets, communication rooms, parking garage and kitchens.

RESIDENTAL BUILDING

Apartment Systems
Having established the main/central systems for each building the following section allows for the specific requirements of the residential building and apartment systems.
We have established that central Heating (LTHW) and chilled Water (CHW) will be provided in the basement and distributed throughout the building to serve the apartments and social spaces.

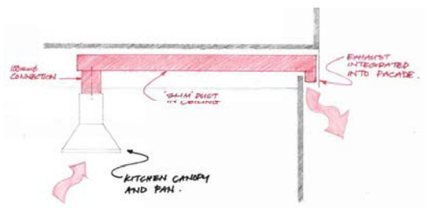
Hydraulic separation
Given the height of each building, it is recommended that hydraulic separation is provided in the buildings to provide separation between high pressure and low pressure systems and requirements. We would propose that the high pressure systems are located within the main equipment rooms, risers and corridors which are then reduced in pressure prior to entering the apartments through the use of heat exchangers and pressure reducing equipment.



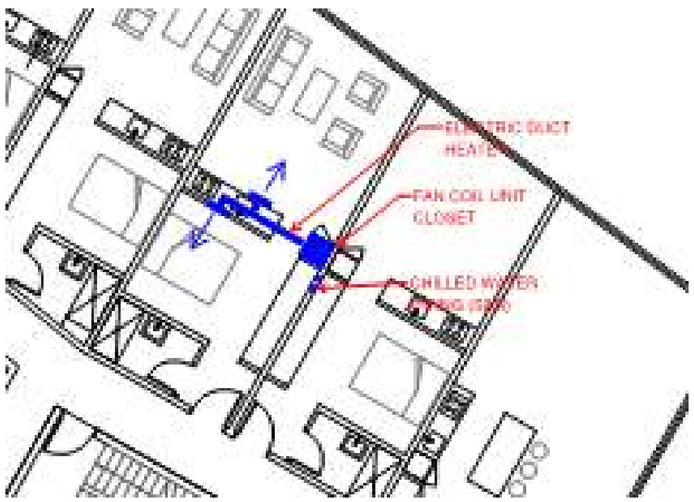
Apartment Heating & Cooling
It is proposed to use a ducted Fan Coil Unit (FCU) for each apartment to provide heating and cooling. Each FCU will be provided with chilled water and heating water pipe work from the main building riser system which can be sub metered at the point of entry.

From each FCU, ductwork will be run in the ceiling void to each room to a side wall supply air diffuser.

Each apartment will be provided with its own wall mounted digital controller to operate the FCU.



Typical Fan Coil Unit



Typical apartment

Apartment Ventilation
It is proposed that ventilation to the individual apartments will be provided by local heat recovery units. Provision will need to be made for openings at high level in the façade to allow for flexible positioning of air intake / discharge louvers. The suitability of local heat recovery units, as opposed to a central building ventilation system, is subject to confirmation of external noise levels and associated attenuation requirements.

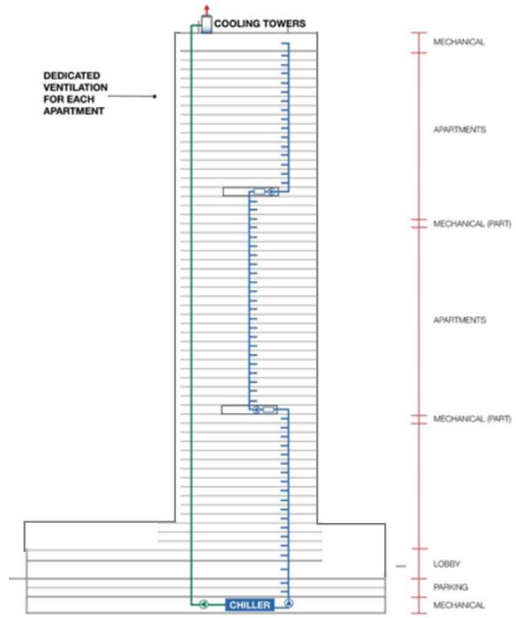
Plantrooms

See Appendix A for sketches.

The following Riser sketch indicates initial strategy for the vertical service shafts.

Cooling Strategy
The cooling distribution will be split into hydraulically separate vertical zones to reduce the system pressure in each zone.

The landlords Chilled Water (CHW) distribution will be hydraulically separate from the apartment systems by the use of individual plate heat exchangers. Each apartment will have a dedicated independent cooling system.

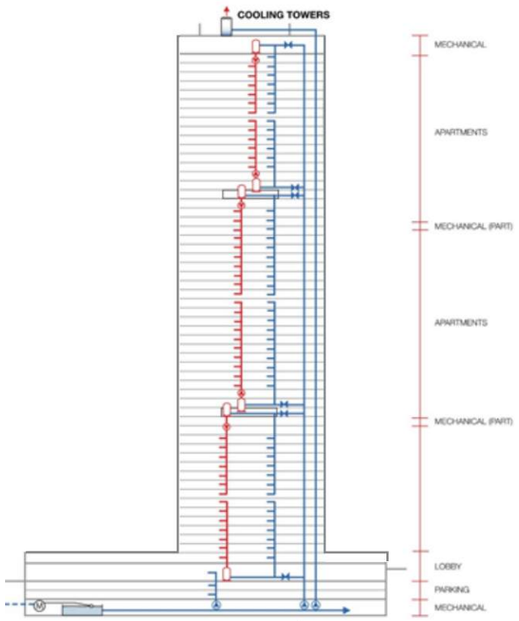


Each apartments CHW supply will have a heat meter.

Domestic Hot & Cold Water Strategy
Domestic water will be distributed throughout the residential buildings via a central vertical riser within the core area. Pressure reducing valves will be used to regulate and limit the outlet pressure to suit the fittings.

Each apartment's potable cold water supply will be installed with a meter.

Within each apartment the domestic hot water system will be supplied by a dedicated independent system.



Fire Ventilation Strategy
Smoke extract will be provided from the common corridor via a vertical shaft. The system will be designed to provide smoke extract from the corridors at a rate to be advised by the fire consultant. The associated smoke extract fans will be located on the roof of the building.

The Firefighting Lift will be provided with pressurization. A fan mounted at roof level will connect to the head of the shaft.

Pressurization of all internal staircases used for evacuation purposes will be provided in accordance with local regulations.

Pressurization and smoke extract fans will activate upon signal from the fire alarm systems. The local fire consultant will need to advise on the holistic fire escape strategy for the site to determine fire evacuation zones.

All fire ventilation systems will be installed with duty / standby fans fed by a resilient life-safety electrical supply.

Pressurization and smoke extracts will generally run vertically within a builders work risers.

Car Park Smoke Extract – Refer also to the 'Building Systems' section of this document.

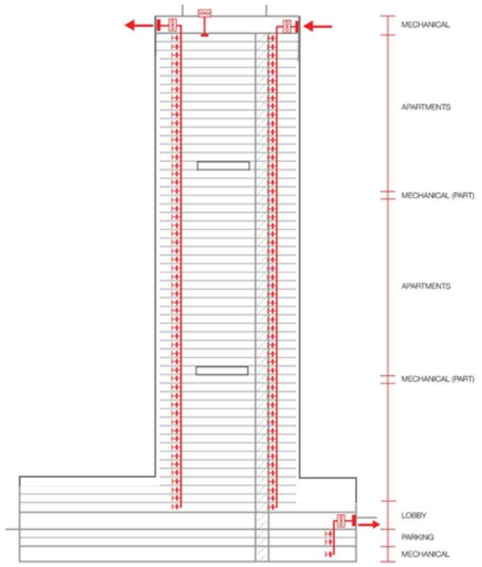
Wet Fire Systems Strategy
A fully automatic sprinkler and stand pipe system will be provided to the residential buildings. The individual requirements for the respective high and low rise buildings will be agreed with the local fire officer.

The water for the fire systems will be boosted up the building within common risers to ensure the correct pressure is maintained at each floor level.

At each floor or level there will be an independent monitored valve to serve the sprinkler system and a connection to serve the stand pipe system.

The risers will be located within fire Fighting lift shafts or locations agreed with the local fire officer.

All internal areas of the site (including car parks) will be provided with sprinkler protection installed in accordance with local regulations. Rising fire-water mains will also be provided across the site with landing valves and hose cabinets located at suitable locations at each level, in accordance with local regulations and recommendations.



All internal areas of the site (including car parks) will be provided with sprinkler protection installed in accordance with local regulations. Rising fire-water mains will also be provided across the site with landing valves and hose cabinets located at suitable locations at each level, in accordance with local regulations and recommendations.

Fire-Fighting water tanks and associated pumps will be located at the lowest basement level.

See Appendix A for sketches.

Foul & Surface Water Strategy
A fully ventilated soil and waste system will be provided throughout the Residential Buildings.

All above grade foul and surface water drainage will run via gravity to the local sewer wherever possible.

The basement car park levels will have an independent pumped car park drainage system that will collect together all the drainage from the various levels of car parking before passing through a petrol interceptor below the basement slab. The drainage once passed through the petrol interceptor will be pumped away from the building and connect to the local sewer.

Electrical Strategy
Main electrical distribution will be installed in a central riser in the residential buildings as described in the general section with substations and main distribution located at ground level, sub boards every 3 floors and final apartment distribution boards at every apartment.

Small power and lighting circuits will be installed internally to each apartment from their individual distribution boards.

See Appendix A for sketches.

Extra Low Voltage
Extra low voltage systems will be distributed from a main data/comms room located in the basement. The main comms room will contain all the main equipment for the following systems:

- Telephones
- Data/internet/wireless internet
- TV/Satellite
- Security
- Door entry and access control

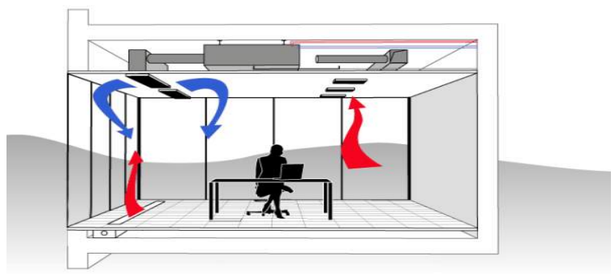
From the main data/comms room a backbone of all the systems will be installed in an ELV riser to a local patch panel on each floor. From the patch panels final cabling will be distributed to each apartment room.

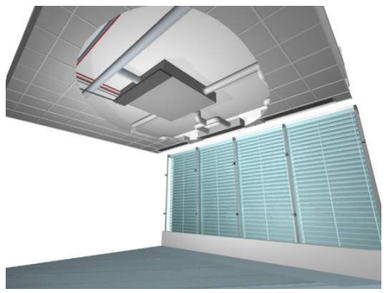
OFFICE BUILDING

Typical Office Floor Layouts
Each office tenant demise will include service risers incorporating the following equipment:

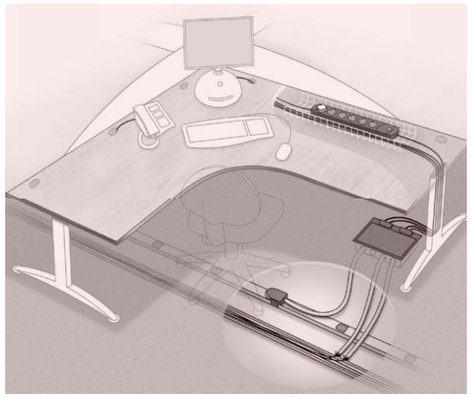
- Fresh Air Supply and Extract Ductwork (capped connections)
- CHW Flow and Return Pipework (capped connections)
- LTHW Flow and Return Pipework (capped connections)
- Sub Metered Electrical Distribution Panel
- IT Riser Route to the IT intake position

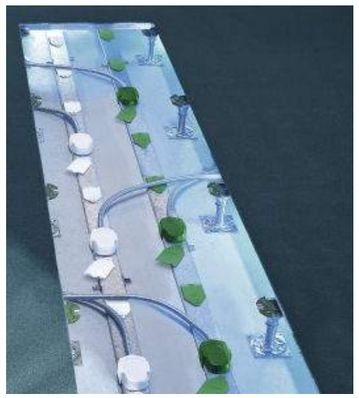
The office cooling strategy will be designed for future tenant fit-out of fan coils. The strategy would use standard recessed ceiling mounted diffusers to deliver fresh air and cooling to the space.





The office electrical distribution strategy will be designed for future tenant fit out of under floor power track with floor boxes within a raised access floor.





System Comparisons

Fan Coil Units
Advantages:

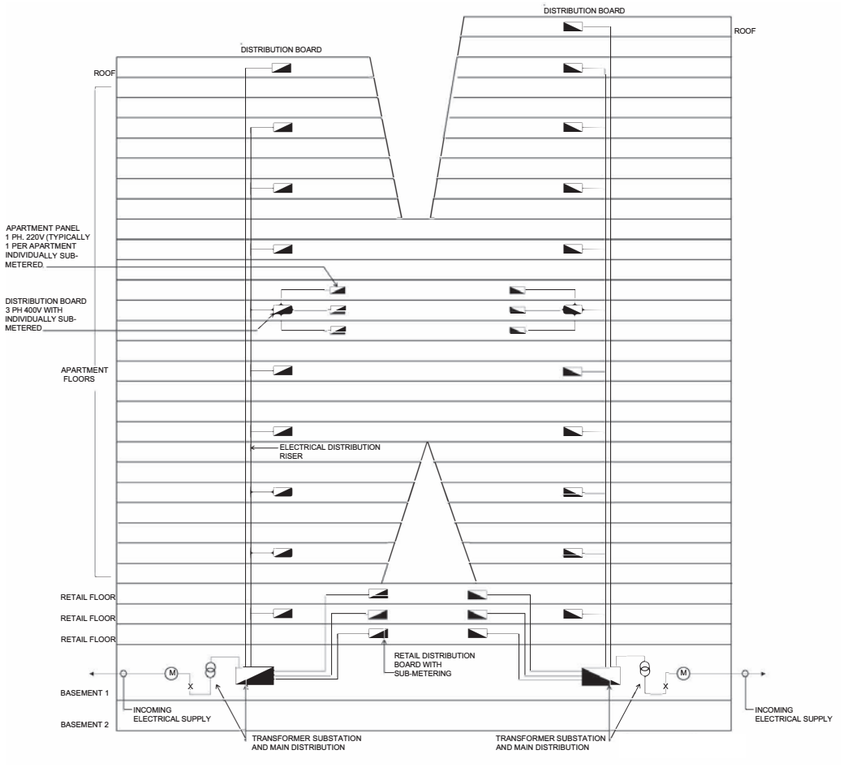
+ High cooling capacity
+ Significantly smaller ventilation plant and distribution ductwork than an all-air system.
+ Zones can be individually controlled.
+ Unoccupied areas of the building may be isolated and shut down, saving money.
+ Central equipment may be sized smaller by taking advantage of building heating and cooling/diversity.
+ Flexibility to accept future changes in load and space layouts.
+ Comparatively low capital cost

Disadvantages:

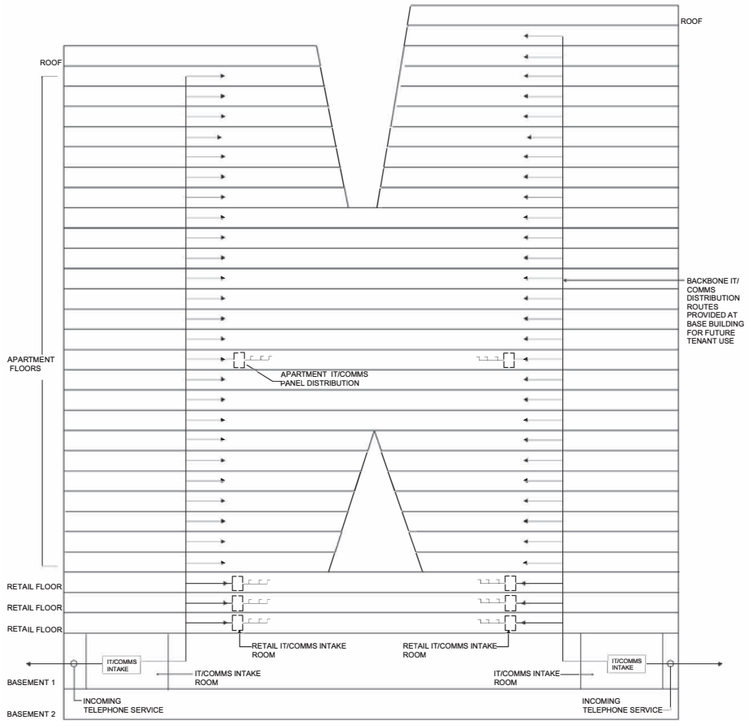
- The Fan Coil System requires more maintenance than "all air" systems, and the maintenance work (such as servicing filters) is generally performed in occupied areas.
- Condensate must be disposed of at each unit.
- There can be noise (rattle) issues if not maintained sufficiently.

Variable Air Volume (VAV) System
Advantages:

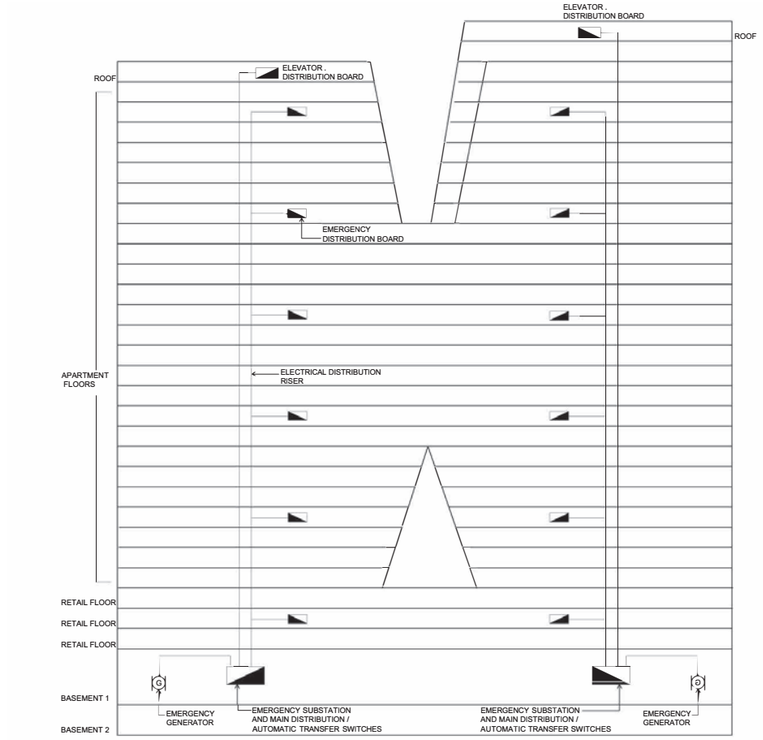
+ System flexibility
+ Significantly reduces building energy requirements when compared to constant volume systems
+ Have a lower specific fan power because of their high motor efficiency
+ Capable of efficient speed control
+ Able to demonstrate lower maintenance costs due to longer bearing and motor life.



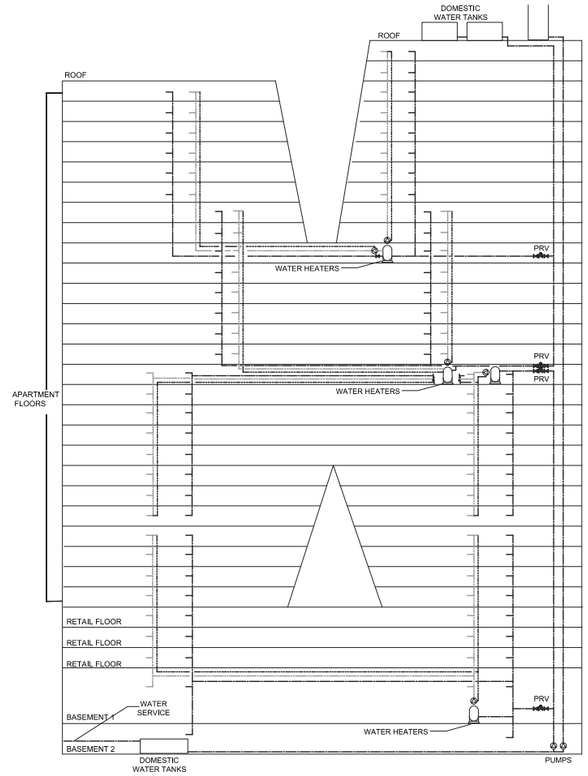
LOT 2 NORMAL POWER RISER DIAGRAM



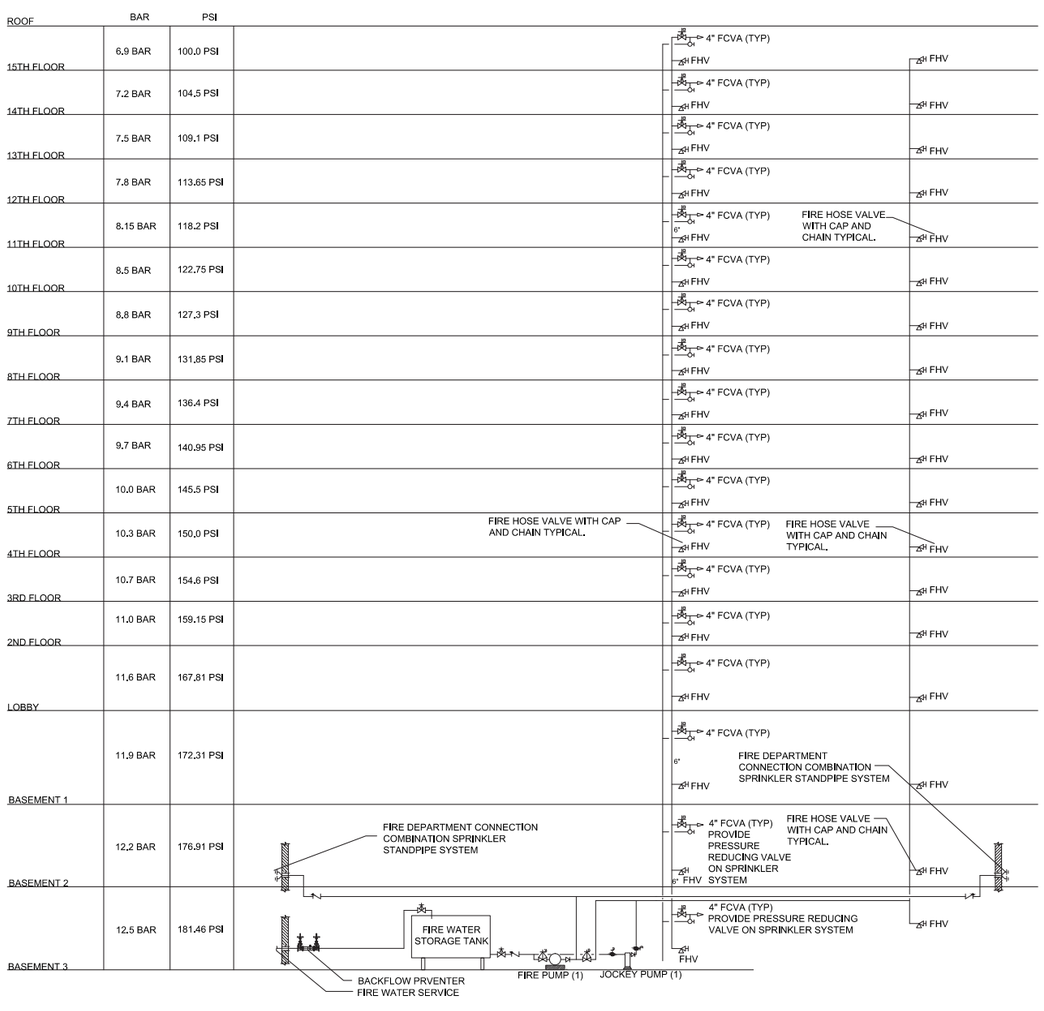
LOT 2 IT / COMMUNICATIONS RISER DIAGRAM



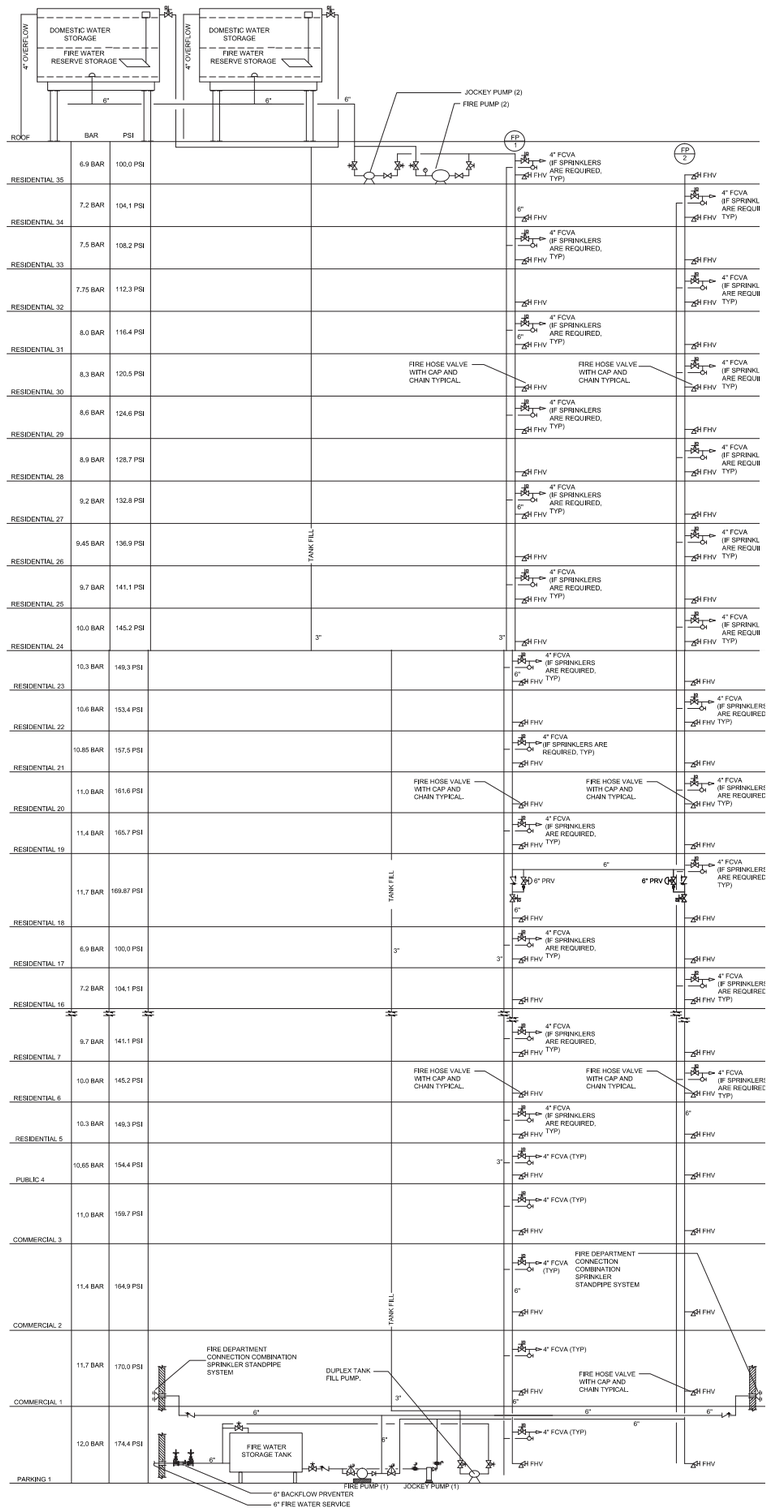
LOT 2 EMERGENCY POWER RISER DIAGRAM



LOT 2 DOMESTIC WATER RISER DIAGRAM

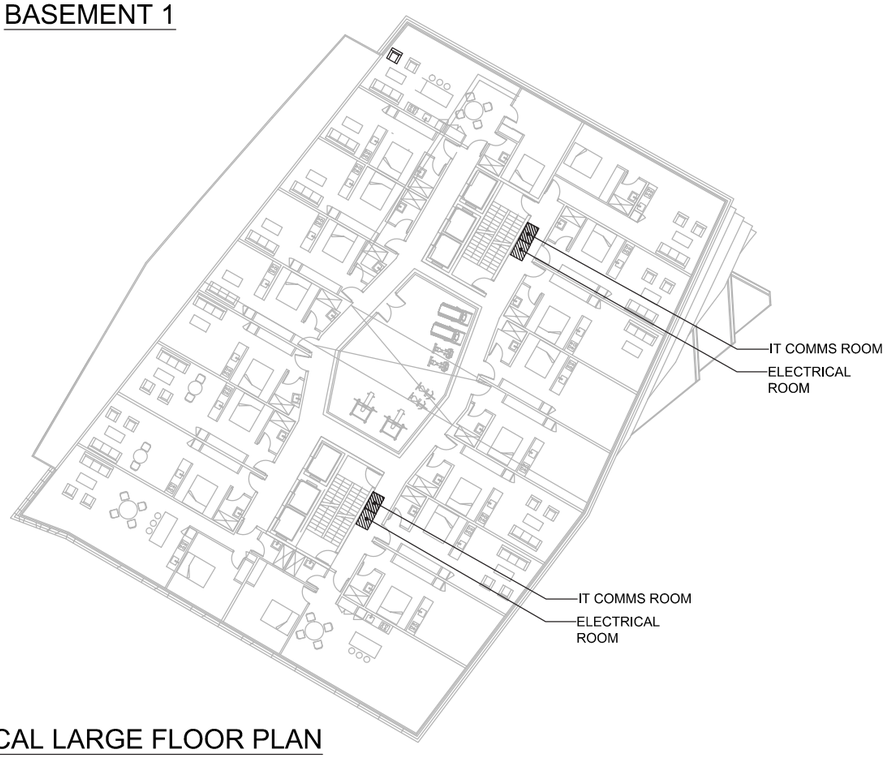


LOT 1 SPRINKLER RISER DIAGRAM



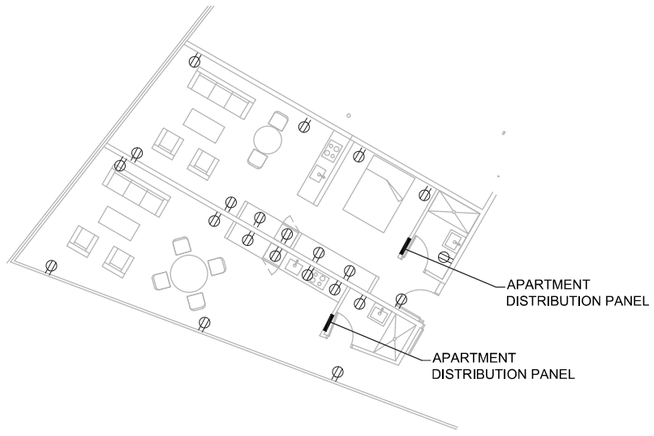
LOT 2 SPRINKLER RISER DIAGRAM

BASEMENT 1

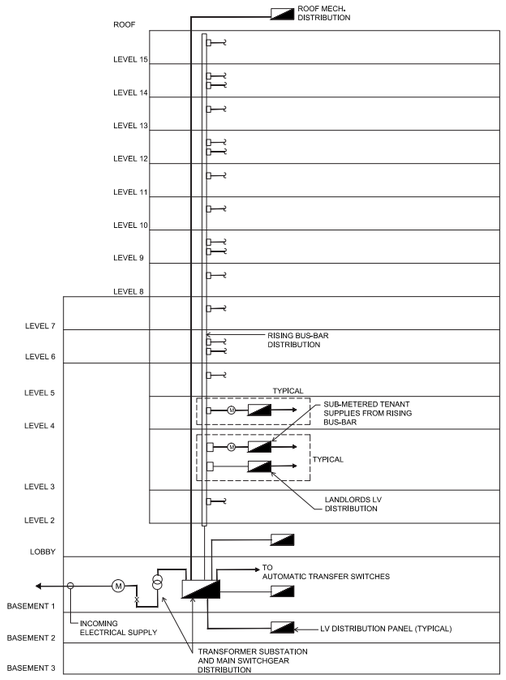


TYPICAL LARGE FLOOR PLAN

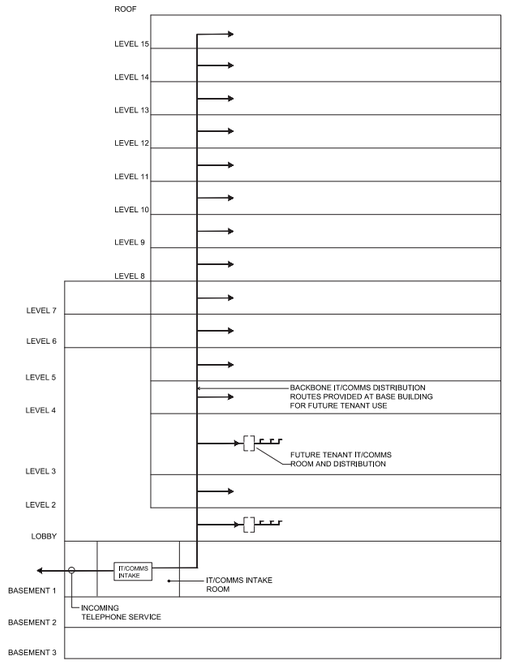
TYPICAL FLOOR PLAN



TYPICAL APARTMENT LAYOUT



LOT 1 NORMAL POWER RISER DIAGRAM

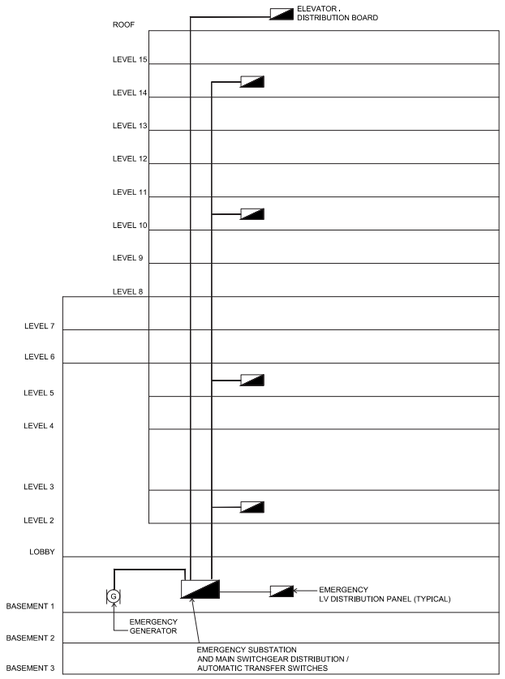


LOT 1 IT / COMM RISER DIAGRAM

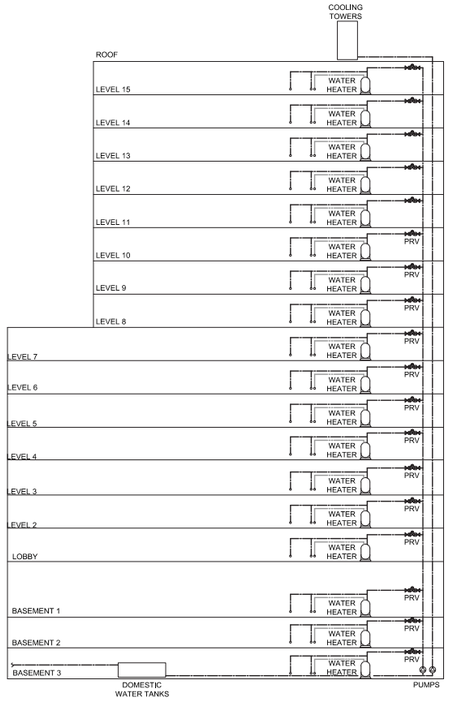
LOW VOLTAGE SYSTEM

AN IT/COMMS INTAKE POSITION WILL BE PROVIDED AT THE BASE BUILDING FOR THE OFFICE BUILDING WITH MAIN CABLE RACEWAY ROUTES AND CONTAINMENT PROVIDED TO EACH TENANT DEMISE. IT IS ENVISAGED THAT THE FUTURE TENANTS WILL BE PROVIDED THEIR OWN LOCAL IT / COMMS ROOMS AS PART OF THEIR TENANT FIT OUT AND CABLE FROM THE INTAKE POSITION TO THESE ROOMS FROM WHERE THEY WILL DISTRIBUTE IT/COMMS OUT ON THEIR FLOORS AREAS.

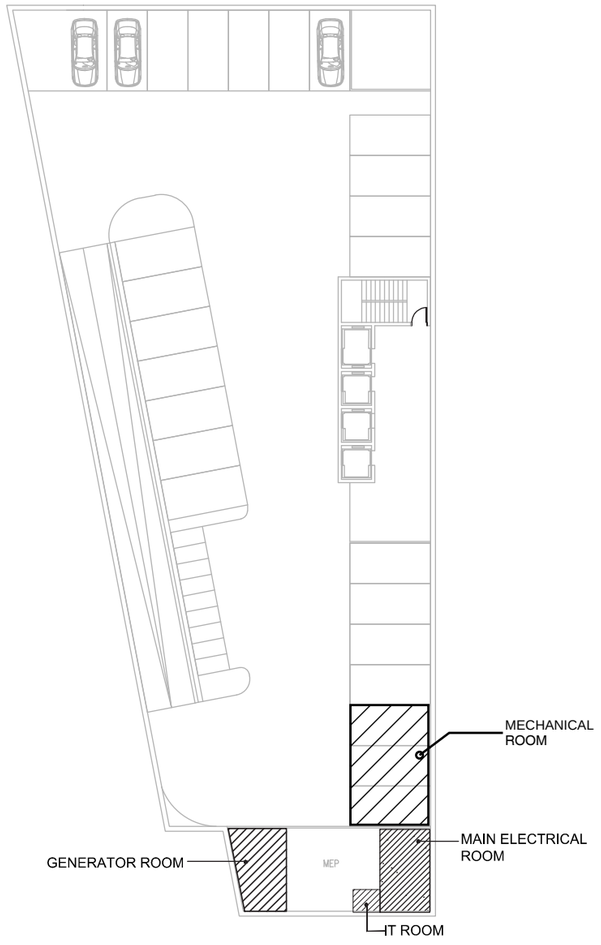
A SEPARATE RISER WILL BE PROVIDED FOR THE LANDLORD AREAS IT/COMMS DISTRIBUTION WITHIN THE CORE AREA.



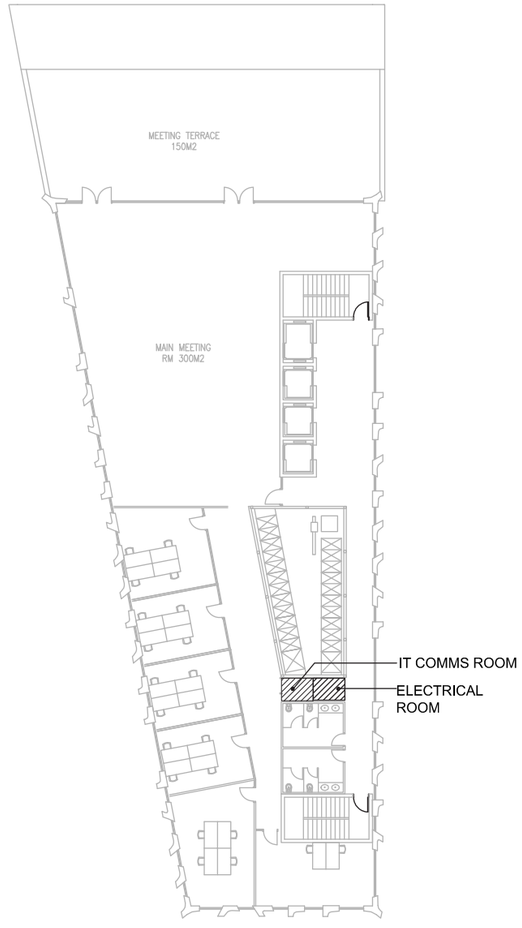
LOT 1 EMERGENCY POWER RISER DIAGRAM



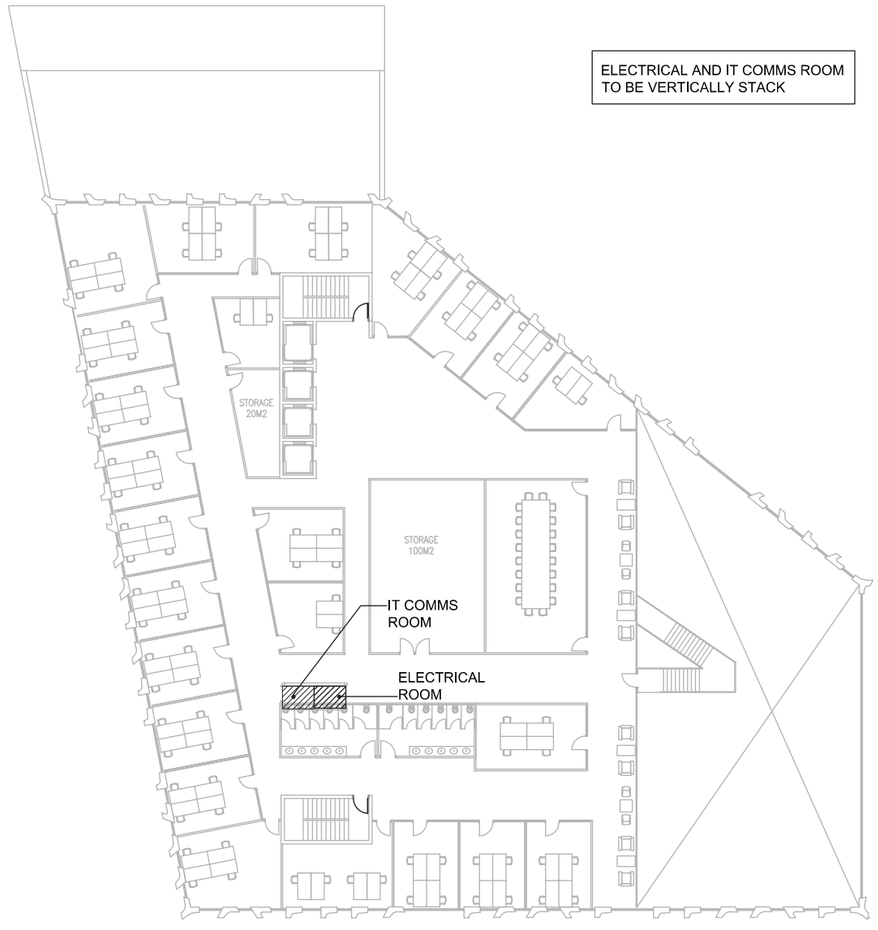
LOT 1 DOMESTIC WATER RISER DIAGRAM



BASEMENT 1



TYPICAL FLOOR PLAN



TYPICAL LARGE FLOOR PLAN

LOT 1 ELECTRICAL AND IT COMM ROOMS

ARCHI-TECTONICS

H.

WORKPLAN

01 OUR TEAM APPROACH

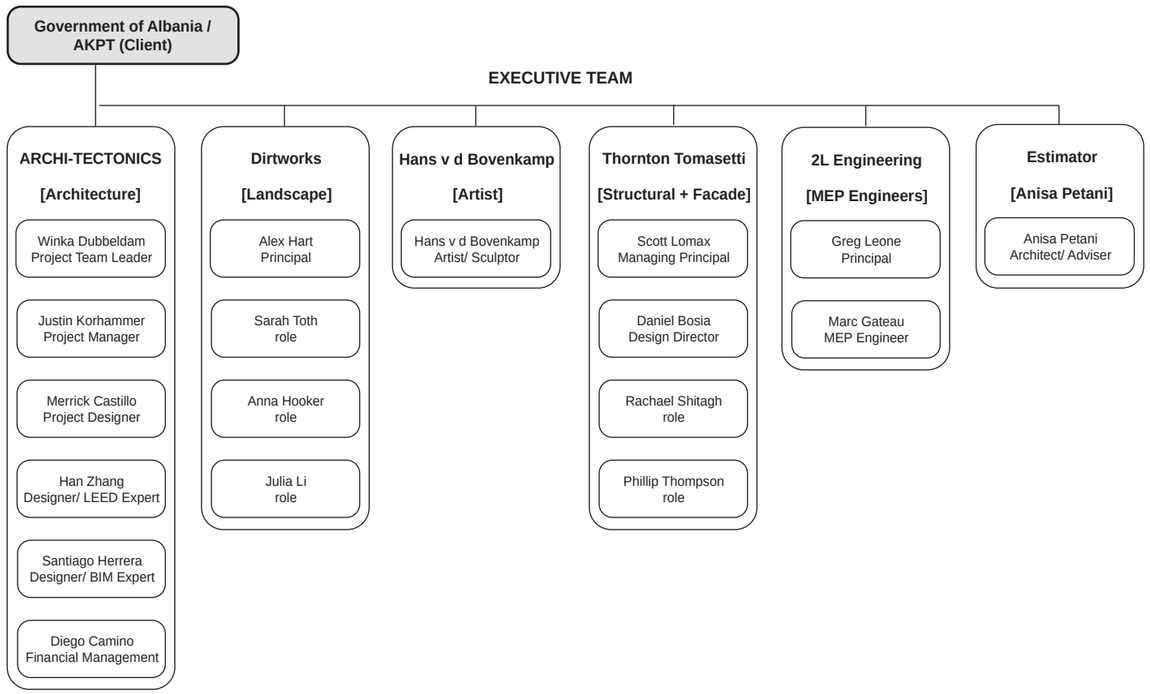
02 SCOPE OF WORK

A NEW METHODOLOGY

Our design approach maximizes strategic intelligence while minimizing costs through collaboration and full integration of a multi-disciplinary team from the very beginning of the project. With **Archi-Tectonics NYC LLC** for architectural and urban design, **Dirtworks** landscape design, **Thornton Tomasetti** structural & facade engineers and **2L Engineering** for building systems, complemented by an established **Local Architect** in Albania, we form a team of some the most innovative companies today in research-based design, sustainability strategies, and construction methodologies. With joined backgrounds and extensive work experience in the US, Europe, and worldwide, our team represents both an international perspective as well as the local knowledge needed to successfully create and implement a future vision for the city of Tirana.

From its start in 1994 Archi-Tectonics has combined the practice with academic research [Winka Dubbeldam was the Chair of Architecture at Upenn], resulting in a unique combination of research and design in advanced digital design and manufacturing, and the management of an institution at the forefront of academic research and excellence, which has resulted in the successful completion of numerous large scale, highly innovative and complex projects. Widely known for our research driven design process, ecological urban landscapes, seamless integration of manufacturing and construction techniques, as well as brand defining, evocative buildings and spaces, our team offers an exceptional synergy of ideas, skills and experience.

Through a highly collaborative, rigorous process based on listening, research, analysis and evaluation of scenarios, we are accustomed to distill simple, empowering and deeply engaging solutions from the rich multiplicities of diverse communities, as well as commercial and institutional stakeholders, to create the wide spectrum of equity and leverage needed to guarantee a long-term success of the project. The team thinks of the site holistically. By integrating communities, history and sustainable site design, we integrate site strategies and provide full service, including optimizing site management after occupancy, maximizing open space, creating urban lighting to enhance safety, and developing a sustainable site management plan.



PROJECT PHASES

.01 SCHEMATIC DESIGN

Based on the awarded Competition Design, all members of our team will participate in an initial Project Kick Off meeting, which will be essential for establishing a comprehensive work plan and schedule, following feedback and findings of the Client and all stakeholders involved in the project. This meeting will establish consensus project goals, a robust engagement plan, and process for progressing plan visioning. We anticipate that the Client will support development of an “Advisor’s” group – including local stakeholders and community members – which will participate in this Kick Off.

During this phase, we will review the finalized program, schedule and budget furnished by the Client, and will review applicable laws, codes and regulations. I collaboration with the Client, we will assemble and coordinate the final project team, including the Local Architect (AoR), all required engineers and consultants. During the Schematic Design Phase the Design Architect will be responsible for **90%** of the architectural scope of work, while the Local Architect/ AoR will be responsible for **10%** of the work load.

Dirtworks landscape architects will further develop the competition scheme and the overall vision, working directly with the client and the design team, and define the specific process for moving forward collectively. As a particular focus for this project, we would integrate the goals of Tirana 2030 in more detail, with the aim of understanding how our project can best support those objectives. The schematic design plans will include strategies for the provision exterior landscape features identified during the competition phase, including (but not limited to) access and circulation, planting strategies, play and active recreation design, seating and passive recreation, and the other site priorities identified by the development team.

Our research-based design strategy focuses of performance rather than form, a rigorous, analytical process from which a design emerges. We thus believe strategy and design are inseparable, and the success of a strategy depends on its implementation through design. With this in mind we would work during the remaining Schematic Design phase to translate the priorities, goals and challenges identified during the Competition Phase into a comprehensive design that integrates the architectural and landscape design vision with sustainability, structural, programming and infrastructure concepts into a singular, coherent and highly efficient form.

Client	Goals	Finalize Project Team Establish Work Plan, schedule, finalized program and budget in collaboration with Review and integrate applicable local codes and regulations
	Methods	Kickoff Meeting Stakeholder Engagement
	Milestones	Work Plan Project Team Responsibilities & Contacts Outline Project Schedule Project Budget

.02 DESIGN DEVELOPMENT

Based on the Client's approval of the Schematic Design Documents, the team will develop, illustrate and describe the design in 3-d models, plans, sections, elevations, typical construction details, and diagrammatic layouts of building systems, to fix and describe the character of the project as to architectural, structural, mechanical and electrical systems. The team will also further develop facade systems and sustainable building technologies such as prefabrication and low carbon footprint materials. The Design Development Documents shall also include outline specifications that identify major materials and systems and establish, in general, their quality levels.

During the Design Development Phase, the Local Architect will advise on local building codes, zoning regulations and all other applicable laws, obtain available site surveys and geotech reports for further development of the structural and building systems. The Local Architect will also provide an updated, preliminary construction cost estimate. Archi-Tectonics and the Local Architect will develop a mutually acceptable benchmark or checklist to measure what degree of detail is sufficient for "hand-off" to the AoR for Construction Documents. During the Design Development Phase the Design Architect will be responsible for **80%** of the architectural scope of work, while the Local Architect/ AoR will be responsible for **20%** of the work load.

In addition to gathering data in the field to complete landscape design work, Dirtworks will spend significant time on both sites, observing how natural and human systems are working currently. These observations will provide the team with a detailed understanding of existing challenges, while highlighting the assets we have to work with. During the Design Development Phase, we will develop a more specific design for each project area, with focus on sustainability, active recreation and passive walking / seating areas, connections to the larger context, plantings, materials, and maintenance.

The design team will also engage in initial concept studies and design sketches with Hans van den Bovenkamp to integrate planned public artwork and plaza/ fountain design into the architectural and landscape planning. The team would meet online in b-weekly calls to provide updates and coordinate the design progress. At the end of the Design Development Phase, the design team would meet in Tirana to present the completed work, and to coordinate the further steps.

Goals
- Develop the design in collaboration with engineers, consultants, local architect, and stakeholders
- Optimize all parameters of the project towards a single, synthesized design
- Integrate people-focused strategies and engagement findings into the design
- Develop typical details, materials and construction methodologies, and specifications

Methods
- Design Development through drawings, 3-d simulations and prototypes
- Testing and optimization of design strategies
- Engagement and feedback
- Periodic online team meetings (1) site visit

Milestones
- Concept Alternative Plans (team-internal review)
- 1 Synthesis Plan (Rendered)
- Renderings & specifications
- Landscape Design Development Drawings and renderings
- Structural Design Development drawings and analytical models
- Facade system concept and typical details
- Architectural Design Development Drawings, Models, renderings and specifications as required
- Materials outline, "look & feel" design book of spatial and atmospheric qualities
- Access/ egress, circulation and mobility calculations and diagrams

.03 CONSTRUCTION DOCUMENTS

Based on the Design Development documents approved by the Client, the team will finalize the design and specifications for bidding and construction, as expressed in the Construction Documents.

The Construction Documents will illustrate and describe the further development of the Design Development Documents, and will consist of drawings, models and specifications communicating in detail the quality level and the performance criteria of materials and systems and other requirements for the construction of the work. The Client and the design team acknowledge that in order to perform the work, the contractor will provide additional information, such as shop drawings, product data, samples and other submittals, which the architect will review. During this phase, we will also, through the Local Architect, incorporate the design requirements of governmental authorities having jurisdiction over the project, and prepare necessary documentation to obtain required government approvals. During the Construction Document Phase the Design Architect will be responsible for **40%** of the architectural scope of work, while the Local Architect/ AoR will be responsible for **60%** of the work load, including review of the design with zoning and code conformance.

Our deep knowledge of construction and manufacturing techniques gives us the unique capability to actively integrate innovative fabrication and material research into our design process. Utilizing file to factory (FTF) fabrication allows us to integrate shop drawings, prototypes or prefab manufacturing. This integrated approach adds great value and control to our clients, resulting in products that are not only unique, precise and optimized, but often also exceptionally economical. We thus understand economics not necessarily as a limiting factor of the project but as a key component of our design strategy that needs to be actively and creatively shaped and integrated.

We purposefully selected a group of designers, engineers and advisors whose expertise and design approach extends beyond the traditional boundaries of their profession. This will make it possible to achieve the complex and ambitious goals of the project within the limited budget, thus maximizing the impact of our ideas while minimizing the cost to the client.

During the Construction Administration Phase a local Structural Engineer will take over the structural Design Development drawings prepared by Thornton Tomasetti and develop comprehensive structural drawings for construction, following all local design criteria and performance requirements.

Dirtworks will provide drawings, renderings, 3D models and hand drawings to communicate the final design. We anticipate a range deliverables for this task, including illustrative design plans, strategies for planting and stormwater management, material samples, circulation diagrams – as needed to communicate the design to bidders for construction. Our stormwater and resilience overlay will serve an important role in these projects, in capturing, filtering, and slowing down stormwater flows. These interventions will make a positive difference for our sites, and be exemplary for future projects across the city. Smart circulation and sustainability infrastructure will thus provide significant savings and even revenue over time.

Goals
- Generate Construction Documents for bid and construction
- Integrate all engineering and consultant information
- Obtain all necessary government approvals

Methods
- Coordinate and Integrate all date and information from engineers and consultants
- Integrate and coordinate engineering data into architectural drawings and files
- Select and specify facade and windows systems, and all hardware, fixture and finish spec's
- Provide 3-d model files for prefab and FTF fabrication as required

Milestones
- Finalize Construction Documents, Specifications and BIM files as required
- Finalize Landscape, Structural MEP and other required consultant drawings and files
- Deliver bid package

.04 BIDDING

During the Bidding Phase, the design team will assist the Client, through the AoR, in the development, preparation, and procurement of the bid documents and preparation of a project manual. The architect will assist the Client in obtaining competitive or negotiated bids, organize pre-bid conferences, prepare clarifications and responses and to questions, and organize opening of bids etc. as required. During the Bidding Phase the Design Architect will be responsible for **10%** of the architectural scope of work, while the Local Architect/ AoR will be responsible for **90%** of the work load.

Goals
- Obtain negotiated or Competitive Bids
- Select General Contractor and subcontractors for the project

Methods
- Prepare and distribute Bid Drawings and Specifications
- Facilitate obtaining of competitive or negotiated bids
- Assist Client in the selection of best/ lowest bidder

Milestones
- Issue Bid Drawings and Specifications
- Open/ Review Bids
- Select Contractor and Subcontractors

.05 CONSTRUCTION ADMINISTRATION

During the Construction Administration Phase Phase, the design team, through the AoR,will visit the site at periodic intervals to evaluate the construction progress and verify that the work is compliant with the design intent expressed in the Construction Documents and Specifications. The AoR will document his/ her findings in site reports and point out any discrepancies and deficiencies, and communicate these to the Design team. The Architect will also review Requests for Information (RFI) by the contractor, and prepare clarification drawings (SK's) in close collaboration with the design team, as required. At the completion of the project, the AoR in collaboration with the design team will prepare final deficiency lists (Punch Lists) and facilitate all necessary sign-off's.

The design team will attend site meetings virtually whenever possible and useful, and attend site meetings in person as indicated in the work schedule. During the Construction Administration Phase the Design Architect will be responsible for **20%** of the architectural scope of work, while the Local Architect/ AoR will be responsible for **80%** of the work load.

Goals
- Verify compliance of completed work with design intent
- Provide clarification drawings as required
- respond to RFI's

Methods
- Perform site visits and prepare Site Reports
- Issue SK drawings and drawing revisions as required
- Provide Clarifications/ answer RFI's as required

Milestones
- Periodic Site Meetings and Site Reports (frequency t.b.d.)
- Bi-annual in-person site meetings by Design Team
- Final deficiency lists (Punch Lists) and sign-off's

I.

PRELIMINARY COST ESTIMATE & FEES

LOT 1 (Office)

NO.	CODE	DESCRIPTON OF WORKS	UNIT	VOLUME	UNIT COST (Lek)	TOTAL COST (LEK)	TOTAL COST (€)
		A-CONSTRUCTION WORKS					
		1.EXCAVATION AND FILLING WORKS					
1		Basement ground excavation and filling	m3	14400	222.16	3,199,104.00Lek	€ 32,084.08
2		Soil trasport to 10km	m3	14400	467.28	6,728,832.00Lek	€ 67,484.02
3		Filling with gravel	m3	3500	1016.00	3,556,000.00Lek	€ 35,663.42
		VALUE 1:				**13,483,936.00Lek**	€ 135,231.53
		2. WALL WORKS					
4		Plaster walls t=12, 15,20 cm with glass wool	m3	3850	15,419.77	59,366,114.50Lek	€ 595,387.77
		VALUE 2:				**59,366,114.50Lek**	€ 595,387.77
		3. CONCRETE WORKS					
5		Reinforced concrete Foundation plate, basement C 45/55	m3	1550	20000.00	31,000,000.00Lek	€ 310,901.61
6		Reinforced Wall structure and underground C 45/55	m3	2150	25058.22	53,875,173.00Lek	€ 540,318.65
7		Reinforced Concrete columns C 45/55	m3	1950	35884.29	69,974,365.50Lek	€ 701,778.81
8		Reinforced Concrete beams C 45/55	m3	1125	37437.80	42,117,525.00Lek	€ 422,400.21
9		Reinforced Concrete slabs C 45/55 t=30cm	m3	4200	37703.07	158,352,894.00Lek	€ 1,588,134.53
		VALUE 3:				**355,319,957.50Lek**	€ 3,563,533.82
		4. REINFORCED CONCRETE WORKS					
10		Steel reinforcement Ø 6 - 10 mm	ton	385	127,686.50	49,159,302.50Lek	€ 493,022.79
11		Steel reinforcement Ø > 12 mm	ton	1450	123074.87	178,458,561.50Lek	€ 1,789,775.97
12		Metal construction for the structure	ton	250	135074.87	33,768,717.50Lek	€ 338,669.32
		VALUE 4:				**261,386,581.50Lek**	€ 2,621,468.07
		5. WATERPROOFING AND LAYER WORKS					
13		Waterproofing with a two sheet lasts 4mm + primer basement	m2	4520	1,276.77	5,771,000.40Lek	€ 57,877.85
14		Lightweight concrete layer for slope Tm = 7-9cm	m2	3000	1500.00	4,500,000.00Lek	€ 45,130.88
15		Cement layer 1:2 t=20mm	m2	15000	500.00	7,500,000.00Lek	€ 75,218.13
16		Thermoisolation t=4 cm with first quality polysterine XPS	m2	1750	1150.00	2,012,500.00Lek	€ 20,183.53
17		Geotextile vapor barrier layer 600g / m2	m2	1750	420.00	735,000.00Lek	€ 7,371.38
		VALUE 5:				**20,518,500.40Lek**	€ 205,781.77
		6. LAYER WORKS					
18		Underlayer gravel	m3	450	3,332.03	1,499,413.50Lek	€ 15,037.74
19		Concrete C7/10	m3	200	13,632.88	2,726,576.00Lek	€ 27,345.06
20		Marble for stairs and window t=3cm	m2	850	9520.00	8,092,000.00Lek	€ 81,155.35
21		Marble for stairs t=2cm	m2	720	8750.00	6,300,000.00Lek	€ 63,183.23
		VALUE 6:				**18,617,989.50Lek**	€ 186,721.39
		7. PLASTERING AND COATING WORKS					
22		Coating with majolic tiles	m2	485	2,809.09	1,362,408.65Lek	€ 13,663.71
23		Skate wall plaster	m2	38750	383.64	14,866,050.00Lek	€ 149,092.87
24		Skate ceilling plaster	m2	15500	565.30	8,762,150.00Lek	€ 87,876.34
25		Gypsum suspended ceiling	m2	15500	3850.00	59,675,000.00Lek	€ 598,485.61
		VALUE 7:				**84,665,608.65Lek**	€ 849,118.53
		8. WINDOW AND DOOR WORKS					
26		Placement supply interior doors with PVC layer 0.6mm & tambourines	m2	850	16520.00	14,042,000.00Lek	€ 140,828.40
27		Ventilated facade window	m2	2325	25520.00	59,334,000.00Lek	€ 595,065.69
28		Emergency metalic doors 100x215cm	m2	850	45901.00	39,015,850.00Lek	€ 391,293.25
29		Placement Supply metalic doors, underground	m2	245	8675.00	2,125,375.00Lek	€ 21,315.57
		VALUE 8:				**114,517,225.00Lek**	€ 1,148,502.91
		9. PAINT WORKS					
30		Painting the ceilings with hydromat paint	m2	38750	432.00	16,740,000.00Lek	€ 167,886.87
31		Painting the interior walls with hydroplastic paint	m2	15500	495.38	7,678,390.00Lek	€ 77,007.22
		VALUE 9:				**24,418,390.00Lek**	€ 244,894.09
		10. LAYER WORKS ON STRUCTURE					
32		Layer with porcelain grez tiles	m2	13500	2,530.70	34,164,450.00Lek	€ 342,638.15
33		Elevator	pcs	4	4500000.00	18,000,000.00Lek	€ 180,523.52
		VALUE 10:				**52,164,450.00Lek**	€ 523,161.67
		11. SLOPE PROTECTION UNDERGROUND					
34		Sheet pile curtain walls with D=100 cm	ml	3875	10500.00	40,687,500.00Lek	€ 408,058.37
35		Anchor for the sheet pile walls, L=50ml	ml	3720	25000.00	93,000,000.00Lek	€ 932,704.84
36		Concrete C25/30, for the sheet pile walls	m3	3100	10250.00	31,775,000.00Lek	€ 318,674.16
37		Steel for the sheet pile wall >12mm	ton	425	123074.87	52,306,819.75Lek	€ 524,589.51
38		Reinforced concrete beam C35/45 sheet pile	m3	250	26520.00	6,630,000.00Lek	€ 66,492.83
		VALUE 11:				**224,399,319.75Lek**	€ 2,250,519.70
VALUE A						**1,228,858,072.80Lek**	€ 12,324,321.26

NO.	CODE	DESCRIPTON OF WORKS	UNIT	VOLUME	UNIT COST (Lek)	TOTAL COST (LEK)	TOTAL COST (€)
		A-CONSTRUCTION WORKS					
		B-INSTALATION					
		1.SANITARY WORKS					
39		Sanitary works, water supply works,sewage water discharge system	lp	1	542500.00	542,500.00Lek	€ 5,440.78
		VALUE 1:				**542,500.00Lek**	€ 5,440.78
		2.FIRE FIGHTING SYSTEM					
40		Fire works, firefighting system	lp	1	279000.00	279,000.00Lek	€ 2,798.11
		VALUE 2:				**279,000.00Lek**	€ 2,798.11
		3.HEATING & COOLING SYSTEM					
41		Copper pipe network VRV system,	lp	1	852500.00	852,500.00Lek	€ 8,549.79
		VALUE 3:				**852,500.00Lek**	€ 8,549.79
		4.ELECTRICAL WORKS					
42		power network sockets, power network cables, electrical distrubution boards and panel, it network sockets, cctv system survillance network, emergency voice evacuation system, earthing and lightning protection system	lp	1	852500.00	852,500.00Lek	€ 8,549.79
		VALUE 3:				**852,500.00Lek**	€ 8,549.79
VALUE B						**2,526,500.00Lek**	€ 25,338.48
VALUE A+B						**1,231,384,572.80Lek**	€ 12,349,659.74
5.00%						**61,569,228.64Lek**	€ 617,482.99
VALUE A+B + (5.0%) WITHOUT VAT						**1,292,953,801.44Lek**	€ 12,967,142.73
VAT (20%)						**258,590,760.29Lek**	€ 2,593,428.55
VALUE WITH VAT						**1,551,544,561.73Lek**	€ 15,560,571.27
TOTAL						**1,551,544,561.73Lek**	**€ 15,560,571.27**

LANDSCAPE COST ESTIMATE

No.	*Description*	*(€/m2)*	*Area (m2)*	*Low Amount (€)*	*High Range (€/m2)*	*High Amount (€)*
	Ground Level, Public Plaza	36	5195	187,020	68	353,260
	Existing Building, Lower terrace	54	1413	76,302	73	103,149
	New Building Meeting Room Terrace	91	159	14,469	159	25,281
	Existing Building, Upper Terrace	54	1006	54,324	73	73,438
	Total Estimated Landscape Cost			**€ 332,115**	**to**	**€ 555,128**

LOT 2 (Residential Tower)

NO.	CODE	DESCRIPTON OF WORKS	UNIT	VOLUME	UNIT COST (LEK)	TOTAL COST (LEK)	TOTAL COST (€)
		A-CONSTRUCTION WORKS					
		1.EXCAVATION AND FILLING WORKS					
1		Basement ground excavation and filling	m3	20000	222.16	4,443,200.00Lek	€ 44,561.23
2		Soil trasport to 10km	m3	20000	467.28	9,345,600.00Lek	€ 93,727.81
3		Filling with gravel	m3	850	1,016.00	863,600.00Lek	€ 8,661.12
		VALUE 1:				**14,652,400.00Lek**	€ 146,950.16
		2. WALL WORKS					
4		Plaster walls t=12, 15,20 cm with glass wool	m3	26460	15,419.77	408,007,114.20Lek	€ 4,091,937.76
		VALUE 2:				**408,007,114.20Lek**	€ 4,091,937.76
		3. CONCRETE WORKS					
5		Reinforced concrete Foundation plate, basement C 45/55	m3	4000	20,000.00	80,000,000.00Lek	€ 802,326.75
6		Reinforced Wall structure and underground C 45/55	m3	10164	25,058.22	254,691,748.08Lek	€ 2,554,325.02
7		Reinforced Concrete columns C 45/55	m3	1750	35,884.29	62,797,507.50Lek	€ 629,801.50
8		Reinforced Concrete beams C 45/55	m3	2500	37,437.80	93,594,500.00Lek	€ 938,667.13
9		Reinforced Concrete slabs C 45/55 t=30cm	m3	10500	37,703.07	395,882,235.00Lek	€ 3,970,336.33
		VALUE 3:				**886,965,990.58Lek**	€ 8,895,456.73
		4. REINFORCED CONCRETE WORKS					
10		Steel reinforcement Ø 6 - 10 mm	ton	1250	127,686.50	159,608,125.00Lek	€ 1,600,723.35
11		Steel reinforcement Ø > 12 mm	ton	2850	123,074.87	350,763,379.50Lek	€ 3,517,835.52
12		Metal construction for the structure	ton	15	135,074.87	2,026,123.05Lek	€ 20,320.16
		VALUE 4:				**512,397,627.55Lek**	€ 5,138,879.02
		5. WATERPROOFING AND LAYER WORKS					
13		Waterproofing with a two sheet lasts 4mm + primer basement	m2	3650	1,276.77	4,660,210.50Lek	€ 46,737.64
14		Lightweight concrete layer for slope Tm = 7-9cm	m2	1925	1,500.00	2,887,500.00Lek	€ 28,958.98
15		Cement layer 1:2 t=20mm	m2	25000	500.00	12,500,000.00Lek	€ 125,363.55
16		Thermoisolation t=4 cm with first quality polysterine XPS	m2	2850	1,150.00	3,277,500.00Lek	€ 32,870.32
17		Geotextile vapor barrier layer 600g / m2	m2	2850	420.00	1,197,000.00Lek	€ 12,004.81
		VALUE 5:				**24,522,210.50Lek**	€ 245,935.32
		6. LAYER WORKS					
18		Underlayer gravel	m3	1140	3,332.03	3,798,514.20Lek	€ 38,095.62
19		Concrete C7/10	m3	760	13,632.88	10,360,988.80Lek	€ 103,911.23
20		Marble for stairs and window t=3cm	m2	1850	9,520.00	17,612,000.00Lek	€ 176,632.23
21		Marble for stairs t=2cm	m2	1250	8,750.00	10,937,500.00Lek	€ 109,693.11
		VALUE 6:				**42,709,003.00Lek**	€ 428,332.19
		7. PLASTERING AND COATING WORKS					
22		Coating with majolic tiles	m2	850	2,809.09	2,387,726.50Lek	€ 23,946.71
23		Skate wall plaster	m2	78500	383.64	30,115,740.00Lek	€ 302,033.30
24		Skate ceilling plaster	m2	25000	565.30	14,132,500.00Lek	€ 141,736.03
25		Gypsum suspended ceiling	m2	22500	3,850.00	86,625,000.00Lek	€ 868,769.43
		VALUE 7:				**133,260,966.50Lek**	€ 1,336,485.47
		8. WINDOW AND DOOR WORKS					
26		Placement supply interior doors with PVC layer 0.6mm & tambourines	m2	3850	16,520.00	63,602,000.00Lek	€ 637,869.82
27		Ventilated facade window	m2	12600	25,520.00	321,552,000.00Lek	€ 3,224,872.13
28		Emergency metalic doors 100x215cm	m2	250	45,901.00	11,475,250.00Lek	€ 115,086.25
29		Placement Supply metalic doors, underground	m2	450	8,675.00	3,903,750.00Lek	€ 39,151.04
		VALUE 8:				**400,533,000.00Lek**	€ 4,016,979.24
		9. PAINT WORKS					
30		Painting the ceilings with hydromat paint	m2	78500	432.00	33,912,000.00Lek	€ 340,106.31
31		Painting the interior walls with hydroplastic paint	m2	25000	495.38	12,384,500.00Lek	€ 124,205.20
		VALUE 9:				**46,296,500.00Lek**	€ 464,311.50
		10. LAYER WORKS ON STRUCTURE					
32		Layer with porcelain grez tiles	m2	25000	2,530.70	63,267,500.00Lek	€ 634,515.09
33		Elevator	pcs	7	8,500,000.00	59,500,000.00Lek	€ 596,730.52
		VALUE 10:				**122,767,500.00Lek**	€ 1,231,245.61
		11. SLOPE PROTECTION UNDERGROUND					
34		Sheet pile curtain walls with D=100 cm	ml	3300	10,500.00	34,650,000.00Lek	€ 347,507.77
35		Anchor for the sheet pile walls, L=50ml	ml	2250	25,000.00	56,250,000.00Lek	€ 564,135.99
36		Concrete C25/30, for the sheet pile walls	m3	2550	10,250.00	26,137,500.00Lek	€ 262,135.19
37		Steel for the sheet pile wall >12mm	ton	1140	123,074.87	140,305,351.80Lek	€ 1,407,134.21
38		Reinforced concrete beam C35/45 sheet pile	m3	350	26,520.00	9,282,000.00Lek	€ 93,089.96
		VALUE 11:				**266,624,851.80Lek**	€ 2,674,003.13
VALUE A						**2,858,737,164.13Lek**	€ 28,670,516.14

NO.	CODE	DESCRIPTON OF WORKS	UNIT	VOLUME	UNIT COST (LEK)	TOTAL COST (LEK)	TOTAL COST (€)
		A-CONSTRUCTION WORKS					
		B-INSTALATION					
		1.SANITARY WORKS					
39		Sanitary works, water supply works,sewage water discharge system	lp	1	750,000.00	750,000.00Lek	€ 7,521.81
		VALUE 1:				**750,000.00Lek**	€ 7,521.81
		2.FIRE FIGHTING SYSTEM					
40		Fire works, firefighting system	lp	1	540,000.00	540,000.00Lek	€ 5,415.71
		VALUE 2:				**540,000.00Lek**	€ 5,415.71
		3.HEATING & COOLING SYSTEM					
41		Copper pipe network VRV system,	lp	1	1,080,000.00	1,080,000.00Lek	€ 10,831.41
		VALUE 3:				**1,080,000.00Lek**	€ 10,831.41
		4.ELECTRICAL WORKS					
42		power network sockets, power network cables, electrical distrubution boards and panel, it network sockets, cctv system survillance network, emergency voice evacuation system, earthing and lightning protection system	lp	1	1,050,000.00	1,050,000.00Lek	€ 10,530.54
		VALUE 3:				**1,050,000.00Lek**	€ 10,530.54
VALUE B						**3,420,000.00Lek**	€ 34,299.47
VALUE A+B						**2,862,157,164.13Lek**	€ 28,704,815.61
5.00%						**143,107,858.21Lek**	€ 1,435,240.78
VALUE A+B + (5.0%) WITHOUT VAT						**3,005,265,022.34Lek**	€ 30,140,056.39
VAT (20%)						**601,053,004.47Lek**	€ 6,028,011.28
VALUE WITH VAT						**3,606,318,026.80Lek**	€ 36,168,067.66
TOTAL						**3,606,318,026.80Lek**	**€ 36,168,067.66**

LANDSCAPE COST ESTIMATE

No.	*Description*	*(€/m2)*	*Area (m2)*	*Low Amount (€)*	*High Range (€/ m2)*	*High Amount (€)*
	Ground Level, Public Plaza	36	3818	137,448	68	259,624
	Ground Level, Adjacent Lot ("Urban Campus"), optional	36	4932	177,552	68	335,376
	Amenity Terrace	90	1296	116,640	159	206,064
	Total Estimated Landscape Cost			**$ 431,640**	**to**	**$ 801,064**

LOT 1 (Office)

Archi-Tectonics NYC, LLC

Gross Construction Area		**15,500**	**m2**
Total Estimated Construction Cos		1,551,544,562	LEK
	$	**15,560,571**	**€***
Cost/ m2		100,100	LEK
	$	1,004	€*
Design Fee (3.0%) * **	**$**	**466,817**	**€***

Phase	**%**		Fee (USD)	**SD (3 mo)**	**DD (5 mo)**	**CD (6 mo)**	**Bid (2 mo)**	**CA (16 mo)**
Schematic Design (SD) **	15%	€	70,023					
Design Development (DD)	30%	€	140,045		**X**			
Constrcution Documents (Cl	40%	€	186,727			**X**		
Bidding (Bid)	5%	€	23,341				**X**	
Construction Admin (CA)	10%	€	46,682					**X** X **X**
Total Design Fee		**€**	**466,817**					

X Site Visits (Travel & Accomodation additional)

* LEK to Euro 09/06/24: 0.010

** includes €40,000 shortlist fee

*** does not include Local Architect Fees, travel & accommodation

Hourly Fees

Partner/ Principal		€	350.00
Project Leader		€	250.00
Senior Designer		€	185.00
Designer		€	150.00
Clerical		€	118.00

LOT 1 (Office)

Dirtworks

Total Estimated Landscape Cost		**€**	**332,115**
	to	**€**	**555,128**
Design Fee (11%)		**€**	**36,533**

Phase	**%**		Fee (USD)	**SD (3 mo)**	**DD (5 mo)**	**CD (6 mo)**	**Bid (2 mo)**	**CA (16 mo)**
Schematic Design (SD) **	15%	€	5,480					
Design Development (DD)	30%	€	10,960		X			
Constrcution Documents (Cl	40%	€	14,613			X		
Bidding (Bid)	5%	€	1,827				X	
Construction Admin (CA)	10%	€	3,653					X X X
Total Landscape Fee		**€**	**36,533**					

Thornton Tomasetti

Phase		Fee (USD)	**SD (3 mo)**	**DD (5 mo)**	**CD (6 mo)**	**Bid (2 mo)**	**CA (16 mo)**
Schematic Design (SD) **	€	75,000					
Design Development (DD)	€	90,000		X			
Total Structural Fee	**€**	**165,000**					

LOT 2 (Residential Tower)

Archi-Tectonics NYC, LLC

Residential Area	25,016	m2
Commercial Area	5,190	m2
Gross Construction Area	**30,206**	**m2**
Total Estimated Construction Cos	3,606,318,027	LEK
	36,168,068	**€***
Cost/ m2	119,391	LEK
	1,197	€*

Design Fee (2.0%) * € 723,361.35 €***

Phase	%		Fee (USD)	SD (4 mo)	DD (6 mo)	CD (6 mo)	Bid (2 mo)	CA (24 mo)				
Schematic Design (SD) **	15%	€	108,504									
Design Development (DD)	30%	€	217,008		X							
Constrcution Documents (Cl	40%	€	289,345			X						
Bidding (Bid)	5%	€	36,168									
Constrcution Admin (CA)	10%	€	72,336					X	X	X	X	X
Total Fee		**€**	**723,361**									

X Site Visits (Travel & Accomodation additional)

* LEK to Euro 09/06/24: 0.010

** includes €40,000 shortlist fee

*** does not include Local Architect Fees

Hourly Fees

Partner/ Principal		€	350.00
Project Leader		€	250.00
Senior Designer		€	185.00
Designer		€	150.00
Clerical		€	118.00

Dual International Concept Design Competitions

Cost Proposal & Schedule

LOT 2 (Residential Tower)

Dirtworks

Total Estimated Landscape Cost	**€**	**431,640**	
to	**€**	**801,064**	
Design Fee (11%)	**€**	**47,480**	

Phase	**%**		Fee (USD)	**SD (4 mo)**	**DD (6 mo)**	**CD (6 mo)**	**Bid (2 mo)**	**CA (24 mo)**
Schematic Design (SD) **	15%	€	7,122					
Design Development (DD)	30%	€	14,244		X			
Constrcution Documents (CI	40%	€	18,992			X		
Bidding (Bid)	5%	€	2,374					
Construction Admin (CA)	10%	€	4,748					X X X X X
Total Landscape Fee		**€**	**47,480**					

Thornton Tomasetti

Phase		Fee (USD)	**SD (4 mo)**	**DD (6 mo)**	**CD (6 mo)**	**Bid (2 mo)**	**CA (24 mo)**
Schematic Design (SD) **	€	150,000					
Design Development (DD)	€	180,000		X			
Total Structural Fee	**€**	**330,000**					