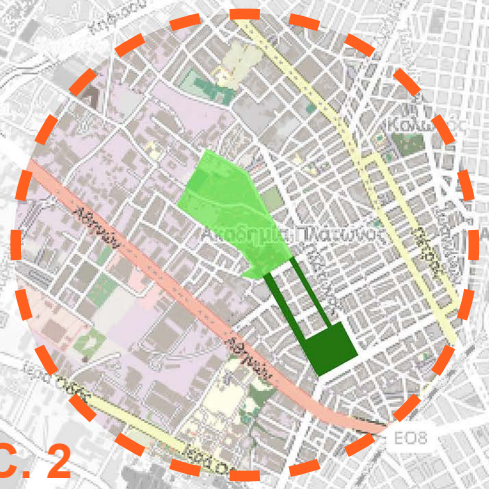
Location 1 Lamprini: 2 urban squares + 1 green route

Location 2 Plato's Academy: 1 urban square + 2 green routes

Location 3 Exarcheia: + 1 green route

Three Urban Squares + Four Green Routes



Athens Metropolitan Area

Athens' dense urban fabric, facing increasing climate pressures, struggles to cope with the confined urban atmosphere that defines the city's experience. Limited public space, insufficient green infrastructure, and constrained accessibility are among the characteristics undermining the quality of everyday life. This project, developed in collaboration with the Municipality, constitutes a climate adaptation initiative. It focuses on the regeneration of existing urban squares, the transformation of streets into green corridors, the integration of targeted nature-based solutions, and the promotion of well-being, all while embracing the city's identity, where outdoor activities and leisure are central to the urban lifestyle for most of the year.

Three out of four candidate areas were selected through a structured evaluation process, based on their potential to meet the program's measurable objectives for climate resilience and spatial improvement. Quantitative targets include a minimum 25% increase in green and blue infrastructure and implementing at least eight additional measures to address the urban heat island effect, flood risk, and biodiversity loss. Within these areas, three deteriorated public squares and four underperforming streets covering a total of 86.085m² were identified for timely spatial and environmental upgrades.

Assessment results demonstrate that the proposed interventions surpass baseline requirements through the introduction of new plantings, permeable surfaces, stormwater management systems, and planted links connecting green spaces with key urban destinations.

Each site is approached individually, applying context-sensitive strategies that include the preservation of mature trees, multi-layered vegetation schemes, increased shading, specifically designed paving, pedestrian-prioritized infrastructure, localized traffic calming, and reinforcement of municipal waste recycling efforts.

Overall, the project seeks to strengthen urban biodiversity by enriching planting structures, enhancing habitat conditions, and establishing a distinct identity for each redesigned space. Emphasizing ecological continuity, barrier-free accessibility, and community engagement, it aspires to reclaim public space as a high-performance environmental and social asset within the constraints of Athens' cityscape.

Location 1 Lamprini: St. Andreas square

The intervention at St. Andreas Square spans 36,049m², encompassing the square with its surrounding streets and sidewalks. The design addresses the site's fragmented layout by enhancing spatial coherence and functionality. Existing mature trees are preserved, and missing ones along the perimeter are replanted to maintain continuous tree rows.

The square is divided into two distinct zones. The central area features minimal low vegetation and a dense canopy of both existing and new planted trees, with seating areas placed in shaded spots. The space is organized across two levels to accommodate terrain variations, connected by two intermediate planes that also serve as seating, along with ramps and stairs. In the southwest, dry deck fountains provide thermal relief, recreation, and children's play. The outer zone includes curvilinear planting beds containing shrubs, grasses, and trees, which frame pedestrian pathways. Seating is integrated along wider segments of these paths, offering shaded areas for rest and gathering.

Stormwater management combines natural infiltration with engineered systems. Runoff is directed to planting areas and permeable pavings for immediate absorption. Excess water is collected in three underground filtration tanks, supplying an irrigation reservoir. Surplus water in the tanks gradually percolates into the ground, replenishing the aquifer. During dry periods, a groundwater well supplements the irrigation system. Only in extreme weather events does overflow enter the municipal storm drain network.

Surrounding streets are reconfigured to include narrowed, one-way traffic lanes, wider sidewalks, accessible crossings, ramps, and designated parking for cars and bikes. Urban elements include recycling points, two meteorological stations, LED lighting, drinking fountains, and new street furniture.

Tree species and planting

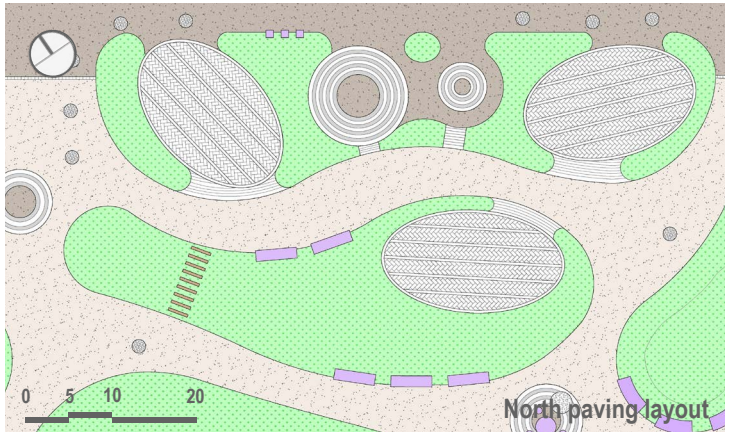
Location 1 Lamprini: St. Andreas square

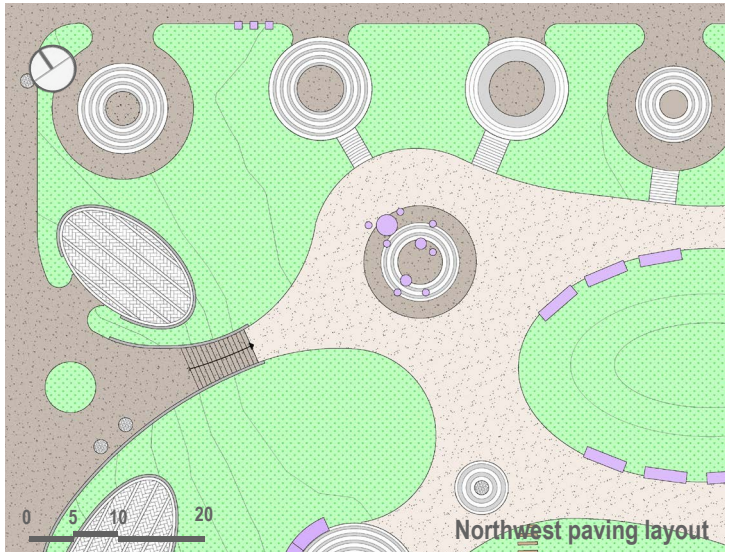
Anticipated Benefits

PEDESTRIAN-FRIENDLY: Pedestrian networks will expand by 27.63%. **LESS ASPHALT:** Vehicle areas will decrease by 28.07%. **GREENER GROUNDS:** Permeable and semi-permeable surfaces will increase by 69.45%. **MORE TREES:** Tree count will grow by 17%. **FLOURISHING FLORA:** Shrubs and vines will see a boost of over 100%. **BIODIVERSITY BOOST:** Expect over a 100% increase. **CARBON CAPTURE:** CO2 capture will rise by 59% over the next 15 years. **COOLER SUMMERS:** Area average PET reduction 9.2°C at midday summer. **HUMID BLISS:** Relative humidity will increase by 7% during summer midday. **ENERGY EFFICIENCY:** Annual primary energy requirements and CO2 emissions will both drop by 16%. **SMART LIGHTING:** New LED floodlights will save 47.5% in energy consumption. **COST-BENEFIT ANALYSIS:** With a benefit-cost ratio of 1.93, the improvements will bring significant value to the community within the next 15 years.

Central section: bird's eye view

Location 1 Lamprini: St. Andreas square





The paving design of St. Andreas Square employs a curated material palette to define and differentiate spatial areas. In the central zone, marble paving blocks are interwoven with circular insets of ceramic paving, accommodating clusters of trees and shaded seating areas. The dry-deck fountain is outlined by dual-tone marble slabs, while tree pits and seating zones are articulated through exposed aggregate colored paving and modular paving, introducing variations and orientation cues.

Along the perimeter pathways, permeable surfaces support natural drainage, with concentric arrangements of paving blocks and exposed aggregate colored paving encircling tree bases. Curvilinear planting beds carve out circular and elliptical alcoves, semi-enclosed pockets, designed to serve outdoor dining intended for the adjacent cafes and restaurants. Surrounded by dense greenery, each enclave fosters a distinct spatial identity and atmosphere.

Central zone paving layout

Location 1 Lamprini: Green route through Aliartou and Pandosias Streets

Anticipated Benefits

PEDESTRIAN NETWORKS: Expanded by 67.3%. **VEHICLE AREA:** Reduced by 46.4%. **ASPHALT SURFACE:** Decreased by 86.4%. **MORE TREES:** Tree count grows by 39.4%. **CARBON CAPTURE:** Projected to increase by 62.9% over 15 years. **BIODIVERSITY BOOST:** Enhanced by 86.7%. **SHRUB COVER IN PANDOSIAS STR.:** Grows by >100%. **SMARTER DRAINAGE:** Stormwater runoff is reduced by 30%. **COOLER CLIMATE:** Maximum air temperature reductions of 1.6°C in summer midday. **HUMID BLISS:** Relative humidity increases by 7% during hot midday periods. **ENERGY SAVINGS:** Annual primary energy demand drops by 20%, while new LED lighting cuts consumption by 47.5%

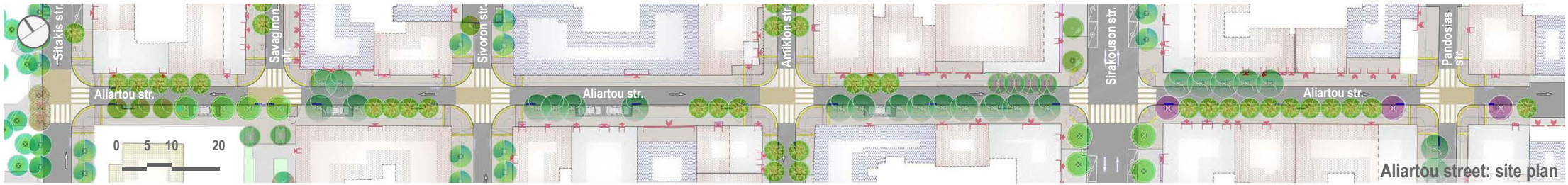
Aliartou street view

Aliartou and Pandosias green routes

The Green Route through Pandosias and Aliartou Streets, covering 6,794m², connects St. Andreas Square to Kleonon Park, with future extensions planned through Sivoron Street toward Fida Square. The streets, varying in width from 9 to 10m, are redesigned with a reduced 3.50m one-way traffic lane and widened sidewalks, featuring uniform paving, pedestrian ramps, and tactile guidance for the visually impaired.

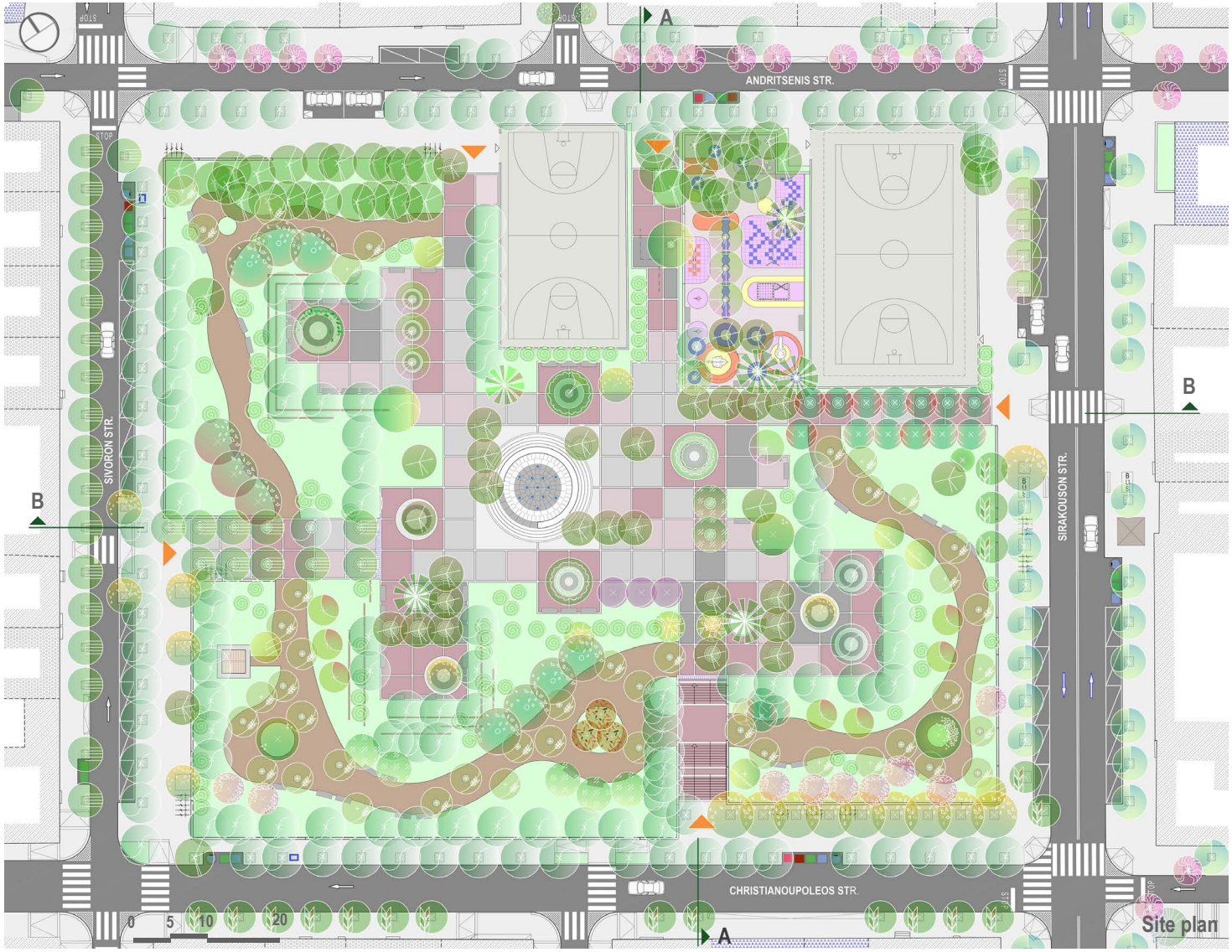
New rows of trees provide shaded corridors, improving microclimatic conditions and enhancing pedestrian comfort. Stormwater is directed to tree pits and infiltration tanks via perforated pipes, coordinated with the underground infrastructure. Upgrades include dedicated recycling areas, LED lighting, meteorological stations, seating, micro-waste bins, traffic calming measures, and improved pedestrian crossings.

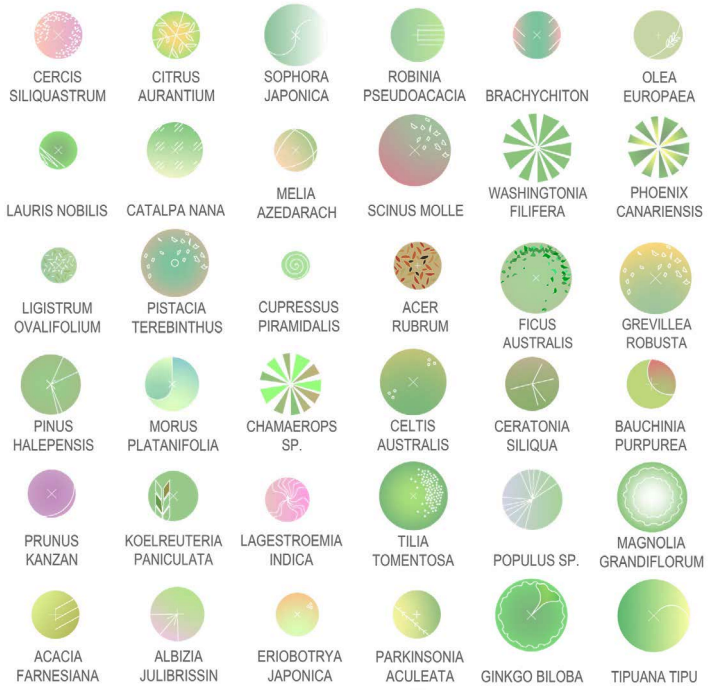
Tree species



Aliartou street: site plan

Location 1 Lamprini: Fida square





Tree species

The proposed intervention addresses the revitalization of Fida Square, its adjacent streets and sidewalks, spanning 18,401m². The square is organized around a central core and three smaller peripheral areas. Two basketball courts are preserved to sustain recreational activity. The four existing access corridors are maintained, with a new one added on the northeast side to improve connection with the new playground.

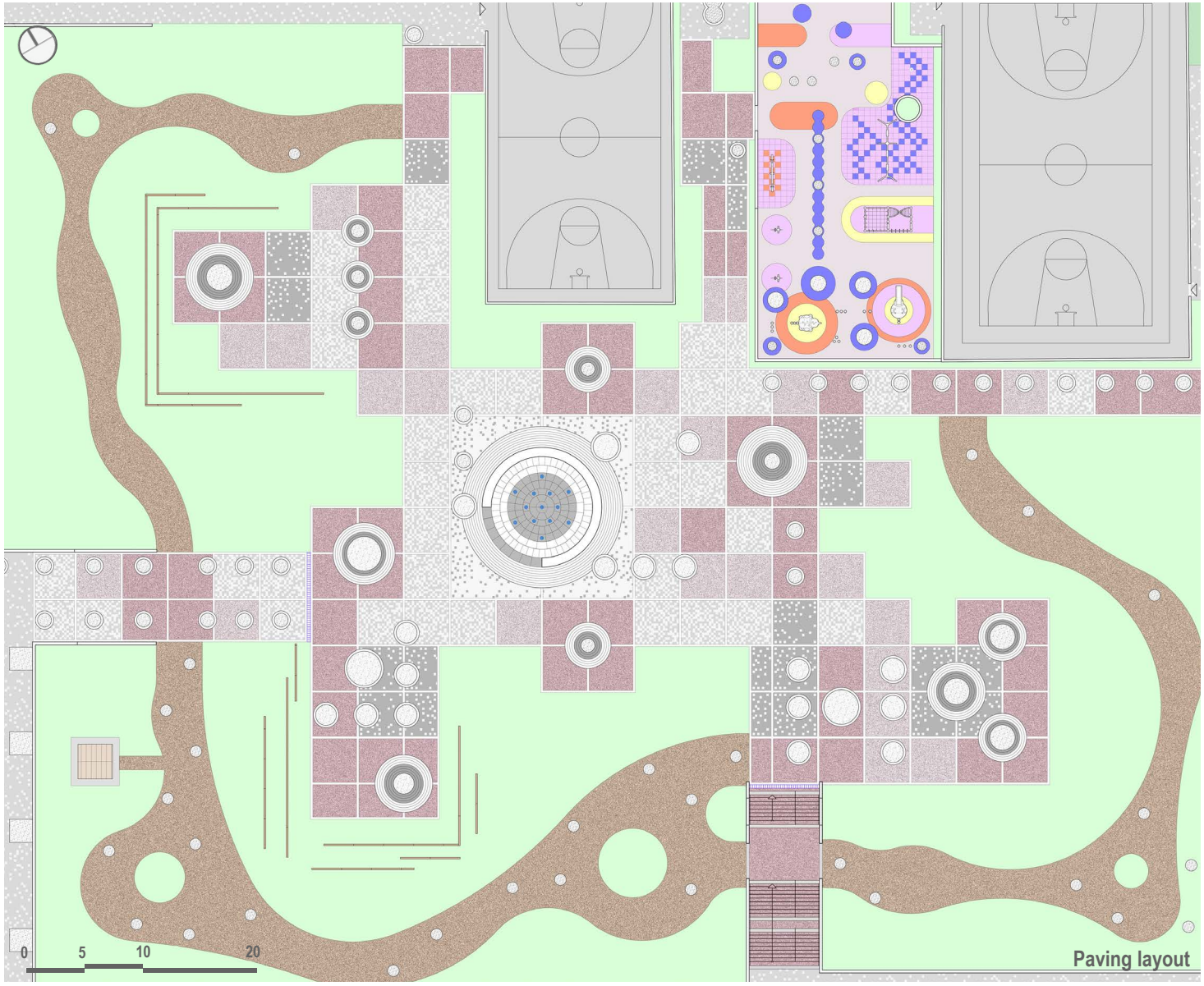
The design emphasizes spatial clarity by preserving the square's core configuration and by introducing a 4×4 m hardscape grid. Paving is reduced in favor of expanded planted areas. Mature trees are preserved and integrated where possible into the redefined green zones. The footpaths on the perimeter are reconfigured with variable widths to support shaded seating and pause points.

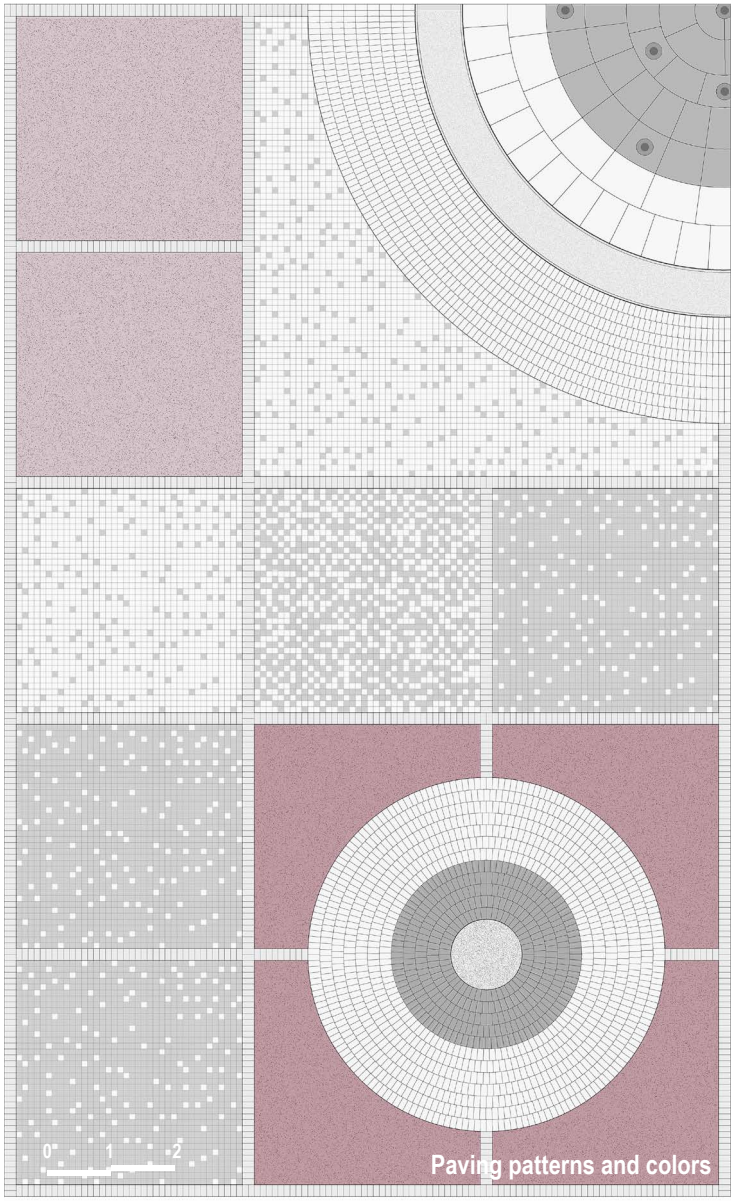
Stormwater is directed toward the planting zones allowing on-site infiltration. Runoff is managed through connection to the municipal stormwater drainage system. Urban equipment is upgraded with shaded seating areas, energy-efficient LED lighting, and improved recycling facilities. Bicycle use is encouraged through traffic calming and dedicated parking. Street tree rows are retained and completed with new plantings. Wider sidewalks, reduced traffic lanes, and reorganized parking enhance pedestrian safety and overall urban functionality.

Location 1 Lamprini: Fida square

Continuous strips of marble paving blocks define and emphasize the square's 4×4 m grid, establishing a legible spatial framework. Within each module, a combination of concrete and marble blocks is arranged in three distinct patterns, complemented by exposed-aggregate paving in two shades of the same color palette. This controlled variation creates a consistent system of textures and finishes. Tree pits for both existing and new trees are integrated into the layout, bordered by one or more concentric rows of paving blocks.
Existing elevation levels are retained to ensure the preservation of mature trees. At the center of the square, the paving shifts to accommodate a dry-deck fountain, framed by a circular seating element that functions as a focal point for play, rest, and seasonal cooling. On the northeastern side, a new playground is introduced, with a custom floor design in vivid colors and a diverse set of playground equipment.

Location 1 Lamprini: Fida square





Compacted soil

Marble and stone slabs

Exposed aggregate paving in two colors

Concrete and marble block paving (in three patterns)

Tree pits

Shrubs and perennials

Safety rubber flooring in various colors

Marble blocks in circular arrangement

Location 1 Lamprini: Fida square

Along the access corridors leading to the square, new tree rows are introduced and existing ones are completed with broad-canopy species. Positioned on the walkways, the trees form shaded passages—green arcades that bring rhythm, softness, and thermal relief, especially during the summer months. These sequences establish a gentle, inviting threshold into the square. Adjacent planting zones host a range of species. Low-growing vegetation preserves open sightlines toward the square's center, while flowering climbers on the fenced basketball courts introduce color, texture, and vertical interest throughout the seasons. The surrounding streets are designed to be lined with broad-canopy trees, and the proposed corridors build on this structure, reinforce continuity and shade. Together, they shape a gradual transition from the wider urban fabric into a softer experience of the public realm.

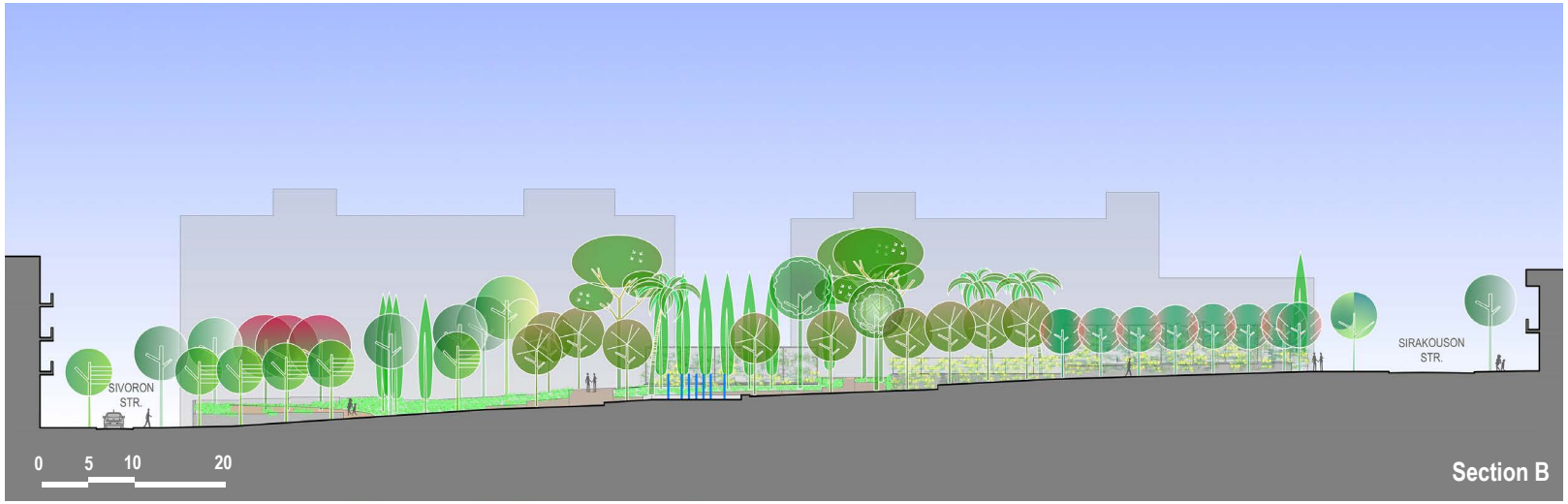
Location 1 Lamprini: Fida square

All five entrance corridors lead toward the center of the square, gradually transitioning from shaded, tree-lined paths to a more open and sunlit central clearing. This progression creates a perceptible shift in light, atmosphere, and spatial openness, guiding movement and reinforcing the central area as the main gathering and activity zone. At this focal point, a dry-deck fountain serves as the spatial and social anchor of the design. Ground-level water jets emerge directly from the paving and are enclosed by a continuous circular seating element that accommodates level differences and clearly defines the central space. The layout establishes a clear geometric order, articulated by the grid and the circular seating. Yet this formality is playfully interrupted by the presence of existing trees, which are preserved in their original positions. The resulting interplay between structure and irregularity shapes the identity of the entire square, not just its center.

Location 1 Lamprini: Fida square


Central area and dry deck fountain view


Central area bird's eye view



Section B

The dry deck fountain beyond its spatial role, contributes to environmental comfort. When active, it promotes evaporative cooling, lowering ambient temperature through the fine spray of water. The effect is particularly noticeable during the summer months, offering relief and comfort in the urban setting. Its dynamic qualities—moving water, reflected light, and sound—create an inviting and interactive atmosphere for visitors of all ages.

The surrounding paving extends outward in a quiet geometric rhythm, reinforcing the presence of the fountain and supporting its role as a shared space for meeting, rest, and play. This central zone becomes a vibrant point of convergence, encouraging daily use and enjoyment.

Location 1 Lamprini: Fida square

New seating elements are distributed across the square, with particular attention to comfort, shade, and integration into the landscape. Benches with backrests are positioned along the edges of paved areas and adjacent to the planting beds, offering convenient rest points that do not interfere with circulation routes or children's play. Most are placed beneath the canopy of existing and newly planted trees, where filtered light and natural cooling promote longer stays.
The spatial character of the square transitions from the more open, vibrant, and active central area to three calmer peripheral zones. These sections are framed by layers of vegetation, trees, perennials, and grasses that create a softer atmosphere and offer visual variety. The interplay of greenery and seating supports a relaxed rhythm of use, making these zones ideal for pause, reading, or conversation.

Location 1 Lamprini: Fida square


Eastern peripheral area view


Northwestern peripheral area view


Eastern pathway view

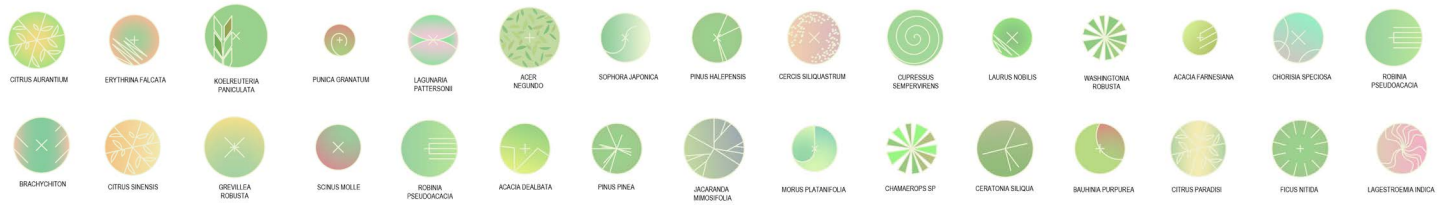

Southwestern pathway view

The pathways surrounding the central area have been reconfigured with varying widths and interspersed circular planting beds. In the wider segments, new benches offer resting points under trees. These paths are framed by low plantings and a rich array of new trees, creating a layered, green edge to the square.
The aim is not solely to improve the physical space, but to cultivate an environment that fosters interaction among individuals, across generations, and with the surrounding landscape. The design encourages spontaneous play, quiet moments of rest, and shared use within a setting intended to remain open, inclusive, and engaging over time.

Location 2 Plato's Academy: St. George square

The proposal reconfigures 9,811m² of public space by unifying St. George Square with its adjacent pedestrian streets and sidewalks into a continuous, accessible landscape. Vegetation and seating are organized in circular zones that integrate existing and new trees, enhancing shade while preserving circulation and service access. Four larger planted nodes anchor the square's corners. A new water feature in the southwest introduces mist and vertical jets for cooling and recreation.

Stormwater is directed towards the permeable areas and runoff is managed through six underground infiltration tanks connected to an irrigation reservoir. Pedestrian streets are redesigned with varied widths and integrated planting. Additional upgrades include permeable paving, LED lighting, improved seating and recycling, meteorological stations, bicycle parking, and enhanced accessibility. Surrounding streets are treated as extensions of the square, enriched with trees and shaded resting areas.



Tree species

Location 2 Plato's Academy: St. George square

St. George square southwestern area view

The square is organized into two distinct zones: the northwestern section, which functions as the forecourt of the adjacent church, and the southwestern section, which forms the core activity space of the site and serves as the primary recreational zone, featuring the shallow fountain pool. Continuous circular seating elements are arranged around individual trees, while in areas with tree clusters, additional fixed furnishings such as stools and small tables are placed outside the planting zones. The planting beds—circular or semi-circular in shape - are constructed from corten steel and include internal partitions. These beds accommodate existing trees and contain a variety of low ornamental plant species, grouped by type within the subdivided areas.

Location 2 Plato's Academy: Monastiriou and Timeou green routes

Anticipated Benefits

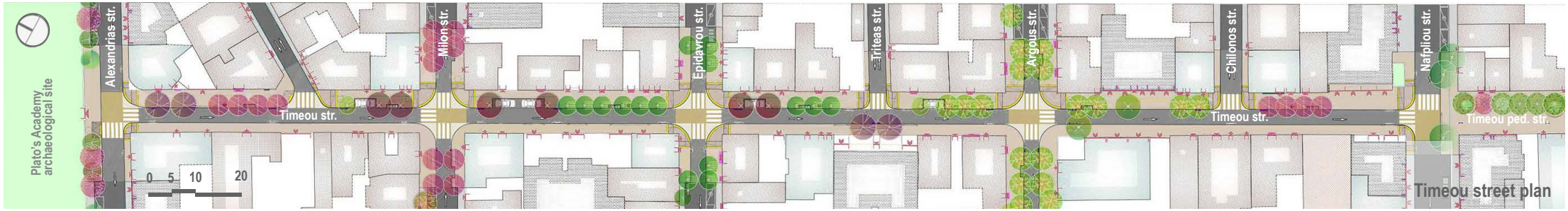
PEDESTRIAN NETWORKS: Expanded 104%. **VEHICLE AREA:** Reduced 37%. **ASPHALT SURFACE:** Decreased by 85%. **MORE TREES:** Tree count grows by 79,66%. **BIODIVERSITY BOOST:** Increase 33,3%. **CARBON SEQUESTRATION:** Projected 55% increase in CO_2 capture over 15 years. **SMARTER DRAINAGE:** Stormwater runoff is reduced by 30%. **ENERGY SAVINGS:** Relative humidity will increase by 7% during summer midday. **ENERGY EFFICIENCY:** Annual primary energy requirements and CO_2 emissions will botNew LED lighting cuts consumption by 47,5%.

Timeou street view

Monastiriou and Timeou green routes

The green routes of Monastiriou and Timeou Streets, covering 8,504m², connect Plato's Academy archaeological site with St. George Square. The design follows the same strategy implemented in Pandosias and Aliartou Streets, described earlier. In both streets, the carriageway is narrowed to 3.5m, allowing for expanded sidewalks, tree planting, and short-term parking. Improvements include continuous paving, accessibility ramps, and tactile strips. New trees are added along the wider sidewalk of Timeou and on both sides of Monastiriou. The design also incorporates stormwater management, updated utilities, LED lighting, meteorological stations, and street furniture, creating climate-adaptive and accessible public green corridors.

Tree species



Timeou street plan

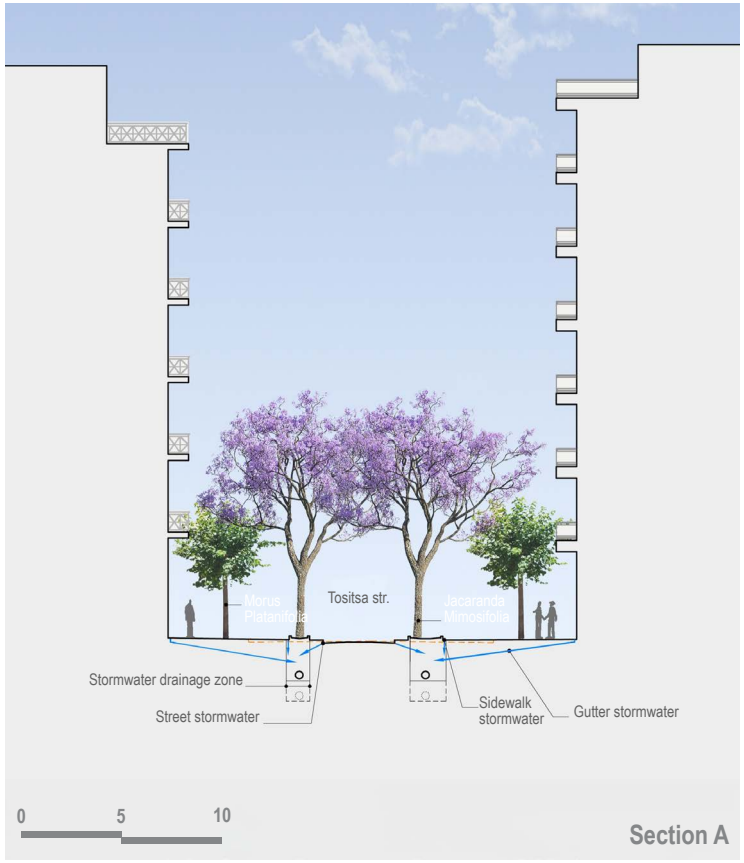
Location 3 Exarcheia: Green route through Tositsa and Zosimadon streets

The green corridor of Tositsa and Zosimadon Streets, covering a total area of 6,526 m², is situated in the dense urban fabric of Exarcheia in central Athens. It links the National Archaeological Museum and the National Technical University of Athens to the park of Strefi Hill. As part of the city's broader green and cultural network, the intervention emphasizes pedestrian priority, sustainable mobility, and microclimate improvement.

On Tositsa Street, with an average width of 9.35m, the carriageway is narrowed to 3.5m to reduce vehicular traffic and significantly expand pedestrian and planting space. A key feature of the design is the integrated stormwater management system coordinated with underground infrastructure, tailored to the street's longitudinal slope, which ranges from 5.64% to 10.46%. Within each block, a planting section is introduced, incorporating a subsurface infiltration trench that receives runoff from adjacent surfaces, including the roadway, sidewalks, and building gutters. These trenches are hydraulically connected along the length of the street, forming a continuous, modular network that allows water to be absorbed by plants, partly evaporated, and filtered through the soil layers before recharging the aquifer. Overflow is directed to the municipal drainage system. Supporting infrastructure includes LED street lighting, urban furniture, designated bicycle parking, drinking fountains, recycling points, and a weather station for environmental data collection.

Zosimadon Street is designated as a pedestrian route has an average width of 7,70m and features a steep inclination ranging from 7,70% to 18%. Due to this terrain, the street is restructured into three longitudinal zones to ensure entrance to the buildings and the garages, to ameliorate walkability, and to integrate trees. The first zone, with a width of 3.10m, located along the north-west side, is shaped predominantly with steps. Where entrances occur, landings are inserted to ease access. Where garage access is needed, this zone follows the slope of the central band. In areas with greater height differences, steps are densified. A row of Bauhinia purpurea trees is planted within this band to provide greenery and shade. The second zone is 3.5m wide and accommodates emergency vehicle access in compliance with applicable regulatory requirements. Design efforts focus on reducing slope severity where possible. The third zone, approximately 1.10m wide, includes additional stepped sections and landings aligned with building entrances. This zone also accommodates the tactile paving strip for visually impaired users. Stormwater is directed to tree pits and the underground infiltration system of Tositsa Street. Urban infrastructure includes new LED lighting fixtures, and the installation of a meteorological station.

Location 3 Exarcheia: Green route through Tositsa and Zosimadon streets



Location 3 Exarcheia: Green route through Tositsa and Zosimadon streets

Due to the incline of Tositsa Street, two distinct types of seating arrangements were designed, each composed of modular units in two different color tones. The first arrangement features a combination of a long, rectangular bench positioned perpendicular to the main longitudinal sidewalk axis, paired with a square bench set parallel to it. These modules are placed around the base of the Morus trees. The second arrangement consists of cylindrical or cubic modules, grouped in informal clusters. Together, these configurations respond to the site's topography, functioning as rest points along the route and providing simple, adaptable solutions to meet a variety of user needs.


Urban furniture


Urban furniture

The sidewalks of Tositsa Street are significantly widened to address both functional and environmental goals, with average widths of 7.30m on the south side and 8.55m on the north. This intentional asymmetry allows for a small number of temporary parking spaces while preserving uninterrupted pedestrian movement. The layout is structured into four clearly defined zones: a walkway adjacent to building façades, a stop-rest area featuring existing and newly planted Morus platanifolia trees, a main pedestrian circulation lane, and a linear planting-and-drainage section along the curb.
Paving treatment differs in pattern and layout across these zones, creating an articulated surface. At intersections, accessible curb ramps are provided, and crossing points are marked with distinct materials and colors for clarity and safety.
The planting-and-drainage strip is planted with Jacaranda mimosifolia trees, chosen for their moderate canopy, adaptability to local conditions, and ornamental qualities. Between the trees, slightly raised planting beds with low-growing vegetation add to seasonal interest and reinforce urban biodiversity.

Location 3 Exarcheia: Green route through Tositsa and Zosimadon streets

Zosimadon street view