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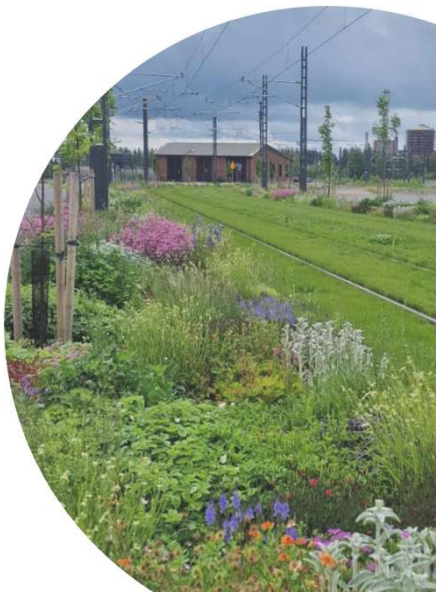
Resilient and climate-adapted green spaces in KAUNAS

Information on public open space sites visited during the project study trip

- Piliamiestis residential complex
- Nemunas Island: Green roof and ornamental flower bed
- Vienybes square
- Studentų square reconstruction



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Latvia University of Life Sciences and Technologies

During the excursion, the participants explored contemporary urban green spaces and public areas, including the landscaped areas of the Piliamiestis residential complex, Vienybės Square, Studentų Square and Nemunas Island.

Piliamiestis residential complex, Kaunas

Developer: YIT Lietuva

Architecture: Tomas Kriaučiūnas – buildings in the earlier phases; JP Architektūra, led by Algirdas Kaušpėdas – the Upių Quarter and later development phases

Start of construction: October 2015

Piliamiestis is a residential development being constructed in stages on the right bank of the Neris River. A formerly industrial and underused urban area is gradually being transformed into a contemporary residential environment. The urban structure of the development is oriented towards connections with the Neris River, Kaunas Old Town, the Confluence area and the existing mature pine grove. The project is being developed by **YIT Lietuva**. As the neighbourhood has been implemented in several stages, its architecture has been designed by different teams. Buildings in the earlier phases were designed by architect **Tomas Kriaučiūnas**, while the architectural concept for later stages, including the Upių Quarter, was prepared by **JP Architektūra**, led by **Algirdas Kaušpėdas**.

An important part of the project is the coherent system of green and communal spaces created between the residential buildings. The inner courtyards include children's playgrounds, seating and relaxation areas, community spaces, zones for senior residents and pedestrian connections. In some phases, car parking has been placed beneath the buildings, allowing the courtyards to function as safer, car-free outdoor environments.

The courtyard planting combines evergreen and deciduous shrubs of different heights, pine trees, small ornamental trees, perennial plants and lawns. Low, compact groups of shrubs maintain good visibility across the space, while larger plants provide vertical accents and help divide the densely built environment into smaller zones. The curved outlines of the planting beds soften the strict geometry of the buildings and the straight lines of the pedestrian paths. In some courtyards, plants are arranged in raised beds bordered with metal edging, which protects the vegetation from trampling and clearly separates planted areas from paved surfaces.

The planting also helps create areas with different levels of privacy. Denser groups of shrubs separate ground-floor terraces from shared pedestrian routes, while lawns and lower vegetation maintain visual connections between different parts of the courtyard. Evergreen plants provide year-round structure, while deciduous shrubs and perennials create seasonal changes in colour, texture and form. As the trees mature, they are expected to provide more shade, reduce summer heat and improve the microclimate of the residential environment.

The landscaped Neris riverbank is particularly important. It is used not only by residents of Piliamiestis but also by the wider public. Walking and cycling paths, seating areas and a viewing amphitheatre formed on the flood-protection embankment provide views towards Kaunas Castle, the Old Town and the river landscape. In this way, the inner green spaces of the development are connected to the wider recreational system of the Neris riverbank and the city's network of green corridors.

Nemunas Island: Green Roof and Ornamental Flower Bed
Project: Žalgiris Arena Multifunctional Water Sports Centre
Completion: 2022
Architecture: E. Miliūnas Architecture Studio, **authors:** Aurimas Ramanauskas, Vytautas Miliūnas and Vaidas Zabulionis
Total gross floor area: 18,400 m²

Nemunas Island is one of the most important recreational and public green spaces in central Kaunas. Its open lawns, mature trees, pedestrian and cycling routes, and proximity to the river create a landscape in which recreation, sports, culture and everyday public life are closely connected. The eastern part of the island contains several major public buildings, including Žalgiris Arena and the multifunctional water sports centre.

Green Roof of the Žalgiris Arena Water Sports Centre

The multifunctional water sports centre was completed in 2022 as an extension of Žalgiris Arena. It was designed by **E. Miliūnas Architecture Studio**, with **Aurimas Ramanauskas, Vytautas Miliūnas and Vaidas Zabulionis** listed as the project authors. The client was Kaunas City Municipality.

The architectural concept was strongly influenced by the green and park-like character of Nemunas Island. Instead of creating a highly visible freestanding building, the centre was integrated into the existing terrain. Its broad green roof functions as a **fifth façade**, allowing the large building volume to appear as a continuation of the island landscape when viewed from the city centre and Karaliaus Mindaugo Avenue.

The green roof contributes to the continuity of the island's open green spaces. It softens the scale of the sports complex and demonstrates how a large public building can be integrated into a sensitive river-island landscape. During the UrbanGreenAdapt excursion, participants were able to observe the roof at close range and discuss its design, establishment and long-term maintenance.

A new ornamental flower bed has been established in front of the green roof of the water sports centre. The planting forms a colourful and seasonally changing foreground between the pedestrian area and the broad grass-covered roof. It introduces a smaller-scale, more detailed planting composition into a landscape otherwise dominated by large lawns and extensive open spaces.

Plants of different heights, colours and textures help create a gradual visual transition from the pedestrian routes to the green roof. Flowering plants provide seasonal interest, while ornamental grasses and plants with persistent seed heads can retain structure beyond the main flowering period. The flower bed also makes the surroundings of the large public complex feel more welcoming and provides opportunities for visitors to observe plants at close range.

Together, the **ornamental flower bed** and the green roof create a coherent landscape composition. The flower bed provides colour, detail and seasonal variation at ground level, while the roof maintains the wider visual continuity of Nemunas Island. The two elements show how intensive ornamental planting and extensive green-roof vegetation can complement one another within a contemporary urban park.

Project: Vienybės skveras Unity Square / V-Plaza Urban Development
Location: Kaunas, Lithuania
Start of reconstruction: 2017, Completion: May 2020
Client and developer: SBA Group
Urban and architectural concept: 3deluxe
Executive architect in Lithuania: Giedraitis & architektai / Rimantas Giedraitis
Planting design: Danguolė Liagienė, biologist and dendrologist

Unity Square is one of the most important contemporary public spaces in central Kaunas. Located next to the Vytautas the Great War Museum, the Freedom Monument and the BLC business complex, the square connects buildings and urban spaces from different historical periods. Its reconstruction began in 2017 and was completed in May 2020, transforming a previously underused and largely paved area into an active urban space for recreation, social interaction, events and everyday movement.

The design combines light granite paving, organically shaped white concrete elements, curved pedestrian routes, stepped seating areas, water features and gently sloping green spaces. Instead of separating circulation, recreation and planting into rigid zones, the project creates a flowing landscape in which people can walk, sit, meet, play or attend public events. The green areas soften the extensive paved surfaces and help divide the large square into smaller, more comfortable spaces.

The planting design was prepared by biologist and dendrologist **Danguolė Liagienė**. More than 5,000 low-growing plants and several mature trees, including birches and pine trees, were planted during the reconstruction. Many of the selected species are characteristic of the natural Lithuanian landscape. Native trees, ornamental grasses and shrubs form green islands that resemble small fragments of a more natural environment within the modern city centre.

The planting was designed to remain visually attractive throughout the year. Different species become prominent during different seasons through their flowers, foliage, structure, texture or winter appearance. Low-growing vegetation preserves open views across the square, while mature trees introduce vertical structure and gradually provide more shade. Insect-friendly grasses and flowering shrubs also contribute to the ecological value of the planting.

Unity Square demonstrates how greenery can be incorporated into an intensively used central urban space without limiting its flexibility. The open paved areas can accommodate festivals, markets and public events, while the planted islands, trees, seating terraces and water features create quieter places for rest and informal social activity.

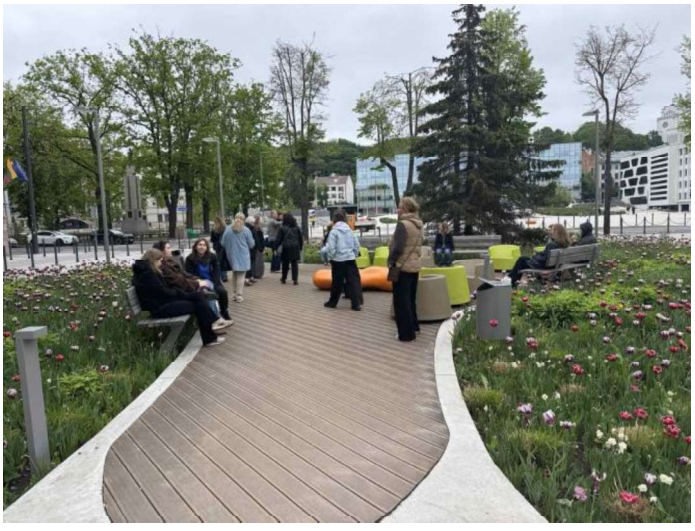
Project: Studentų Square Reconstruction
Area: approximately 5,000 m²
Start of reconstruction: August 2021
Completion and opening: September 2022
Client: Kaunas City Municipality
Design: Giedraitis & Architektai
Project architect: Rimantas Giedraitis

Studentų Square is located in central Kaunas between the main buildings of Kaunas University of Technology and Vytautas Magnus University, directly opposite Unity Square. The approximately 5,000 m² public space forms the southern part of the historically continuous square divided by K. Donelaičio Street. The name *Studentų Square* was officially given to the area in 2013 following a proposal from the academic community.

The reconstruction began in August 2021 and was completed after approximately one year, with the renewed square officially opened on 1 September 2022. The design proposals were prepared by **Giedraitis & Architektai**, led by architect **Rimantas Giedraitis**. The project was commissioned by Kaunas City Municipality, and the construction works were carried out by **Kauno tiltai**.

Green Spaces and Social Areas

The design creates a visual and functional continuation of Unity Square. Granite paving and light-coloured concrete are used in both spaces, establishing a consistent architectural character on either side of K. Donelaičio Street. However, Studentų Square has a more intimate and green atmosphere, reflecting its everyday use by students, university staff and city residents. All existing trees were preserved during the reconstruction. Their mature canopies provide shade, help improve the microclimate and maintain the established character of the square. The trees are complemented by new planted areas containing flowering plants, ornamental grasses and low-growing vegetation. These planting beds soften the extensive paved surfaces and introduce seasonal changes in colour, form and texture.



The green areas are arranged between terraces, pedestrian routes and informal seating zones. A gently curving timber walkway leads through the planting and creates a closer relationship between visitors and vegetation. Long benches, movable outdoor furniture and smaller seating elements support different forms of use—from individual rest and studying outdoors to informal meetings and larger student gatherings.

Special lighting integrated into the planted areas highlights the vegetation after dark and strengthens the visual identity of the square. The combination of mature trees, seasonal planting, terraces and flexible seating creates a comfortable public space that can support both quiet everyday activities and university or city events.