

## **Skelleftea (SE)**

### **Toolkit for a living city**

The city's projected growth to 90,000 residents by 2030, with a significant influx from outside Sweden, calls for comprehensive solutions. To support seamless integration, the city must be accessible, inclusive, entertaining, and motivating, providing ample business, research, and development opportunities. Our approach involves fighting FIFO (Fly-In, Fly-Out) with education and cultural support, community enhancing urban structures, and a future-oriented branding strategy.

Skellefteå region is growing, and Ursviken is just the first step for future development, thus, we decided to provide not just a fixed solution, but a planning and implementation toolkit with a series of principles at various scales, from macro to micro, which can be fully or partially adopted to future developments. The focus is on the process, and Ursviken serves as a testing ground, a prototype and catalyst for future developments.

Given the uncertainty of future developments influenced by various crises, environmental (global warming), economic, social (migration, aging populations), energy-related, and global health challenges, as well as the rapid pace of innovation leading to significant lifestyle, a toolkit based strategy is proposed - flexible and adaptable principles for a wide range of situations and diverse contexts, enabling resilient and adaptive development.

The process aims to be scalable, providing a comprehensive framework for future projects in the region addressing crucial aspects such as waterfront development, ground pollution, repurposing existing buildings, optimizing apartment layouts, and innovative roof solutions. Cost-effectiveness, faster implementation, and risk mitigation are obvious advantages. It allows for testing public and living space as it's built, stakeholder engagement – from citizens to authorities and construction companies, and flexibility for adapting to changing needs – may they be the influx of people in the neighbourhood, new sustainability laws or public policies. This approach fosters collaboration and supports sustainable development, ensuring efficient resource utilization while building cities for the future.

#### **Toolkit:**

##### **1 - NETWORK-BASED URBAN DEVELOPMENT**

The significant advantage of a network lies in its flexibility, suitable for various types of localities, different sizes, diverse terrains, and easily expandable. Historic use of grid structures proves their high efficiency in urban planning. To avoid monotony, a diverse, irregular network is proposed. Working with a 6x6m framework creates a variety of building footprints, all modular, with varying distances between buildings (12, 18, 24m) based on their height and importance/function.

Within the network, exceptions may include organic buildings, rotated grids, or breaking the network to highlight significant public areas or buildings.

##### **2 - NEW BUILDINGS**

New buildings have a free-plan highly flexible structure with a 6x6m frame structure. Easily extended or adapted over time for various functions, residential, office spaces, parking, commercial areas, and services, they fit the shifting needs of a fickle society. This type of design facilitates adaptability, enhancing resilience. As a result, within the same structure, various types of apartments or **Skelleftehamn (SE)** apartments and workspaces can be accommodated, offering diverse layouts.

### Toolkit for a living city

#### 3 - FACADE

The city's projected growth to 90,000 residents by 2030, with a significant influx from outside Sweden, calls for comprehensive solutions. To support seamless integration, the city must be accessible, inclusive, entertaining, and based on the characteristics of the interior space. Working with modules offers economic efficiency and offers versatility (through various combinations of a fixed number of facade panels). Using standardized prefabricated panels, a series of optional facade elements can be offered, such as window planters, shading systems, and more. This approach **Skelleftehamn (SE)** is the first step for future development, thus, we

#### 4 - TERRACE DESIGN

decided to provide not just a fixed solution, but a planning and implementation toolkit with a series of principles at various scales, from macro to micro, which can be fully or partially adopted to future developments. The focus is on the process, and Urviken serves as a testing ground, a prototype and catalyst for future developments. The fifth facade is of great importance, serving vital functional and sustainable roles. The terrace can be treated as a valuable resource. Considering the climate, different pitched roof types are proposed to aid in snow disposal. As an exterior finish, it can be covered with vegetation, reducing the uncertainty of future developments influenced by various uses, including residential (great for historical buildings, or equipped with solar or photovoltaic panels for energy generation). The vegetation, covering contributes to thermal insulation, aesthetics, water retention for reuse challenges, as well as the paper pace of innovation leading to significant lifestyle, a toolkit based soundly on proposed flexible and adaptable principles for a wide range of situations and diverse contexts, enabling resilient and adaptive development.

#### 5 - EXISTING BUILDINGS

The process aims to be scalable, providing a comprehensive framework for future projects in the region addressing crucial aspects such as waterfront development, ground pollution, repurposing existing buildings, optimizing apartment layouts, and innovative roof solutions. Cost-effectiveness, faster implementation, and risk mitigation are obvious advantages. It allows for testing public and living space as it's built, stakeholder engagement – from citizens to authorities and construction companies, and flexibility for adapting to changing needs – may they be the influx of people in the

#### 6 - WATERFRONT

neighbourhood, new sustainability laws or public policies. This approach fosters collaboration and supports sustainable development, ensuring efficient resource utilization while building cities for the

future. We propose the creation of a pedestrian and cycling route along the waterfront linking Bergsbyn and Skelleftehamn (approx. 9 km).

#### Toolkit:

This will also involve redesigning the waterfront with the insertion of new urban furniture, urban artifacts, and art installations while preserving the natural environment and existing green areas.

**1 - NETWORK-BASED URBAN DEVELOPMENT**  
The significant advantage of a network lies in its flexibility, suitable for various types of localities, incorporating green spaces. The proposals include floating pools, art installations, amphitheatres, different sizes, diverse terrains, and easily expandable. Historic use of grid structures proves their multifunctional pavilions, cantilevered areas, and artificial islands, carefully harmonizing with the natural surroundings. Working with a 6x6m framework creates a variety of building footprints, all modular, with varying

distances between buildings (12, 18, 24m) based on their height and importance/function.

#### 7 - PRINCIPLES OF SUSTAINABLE DEVELOPMENT

Within the network, exceptions may include organic buildings, rotated grids, or breaking the network. We strive to implement actions based on at least 4 UN principles (Industry, Innovation & Infrastructure, Sustainable cities & communities, Climate action, and Life on land). Hands on actions are presented below.

#### 2 - NEW BUILDINGS

- Utilization of Renewable Energy and Photovoltaic Panels

- Water Retention Systems and Water Reuse for Domestic Use and Irrigation
- Encouragement of City Mobility through Public Transport (buses) and Revitalization of Former Railways with Stations as Urban Development Centres. Promote pedestrian and bicycle-friendly environments with well-designed public spaces. Propose car rental and sharing systems to reduce the number of private vehicles, with parking spaces located under buildings and support for electric vehicles.

The city's projected growth to 90,000 residents by 2030, with a significant influx from outside Sweden, calls for comprehensive solutions. To support seamless integration, the city must be

accessible, inclusive, entertaining, and motivating, providing ample business, research, and development opportunities. Our approach involves fighting FFO (Fly-In, Fly-Out) with education and sourced wood for buildings and a significant portion of public space design. Employ Cross-Laminated Timber (CLT) structures for their lightweight, durable, thermally-insulating, easy-to-install, sustainable and flexible properties.

Given that a region is growing, and Ursviken is just the first step for future development, thus, we decided to provide not just a fixed solution, but a planning and implementation toolkit with a series of principles at various scales, from macro to micro, which can be fully or partially adopted to future developments. The focus is on the process, and Ursviken serves as a testing ground, a prototype

- Integration of Blue-Green-White Infrastructure: A crucial aspect of the project, accounting for the annual cycle. These interventions serve multiple purposes, going beyond functionality, transforming into playgrounds, and providing ice protection, among other benefits.

Given the uncertainty of future developments influenced by various crises, environmental (global warming), economic, social (migration, aging populations), energy-related, and global health challenges, as well as the rapid pace of innovation leading to significant lifestyle, a toolkit based

strategy is proposed - flexible and adaptable principles for a wide range of situations and diverse contexts, enabling resilient and adaptive development. BE design solution manage stormwater and snow, employing natural systems like bioswales, rain gardens, and green roofs. These eco-friendly solutions reduce runoff, minimize flooding risks, and help maintain a sustainable water cycle within the urban environment.

The process aims to be scalable, providing a comprehensive framework for future projects in the region addressing crucial aspects such as waterfront development, ground pollution, repurposing

existing buildings, optimizing apartment layouts, and innovative roof solutions. Cost-effectiveness, fast implementation and risk mitigation are obvious advantages. It allows for testing and live response challenges. A stakeholder engagement - from citizens to authorities and construction companies - and flexibility for adapting to changing needs may be the influx of people in the neighborhood. New sustainability laws or public policies. This approach fosters collaboration and supports sustainable development, ensuring efficient resource utilization while building sites for the future purpose space for shopping, food, and socializing (fika).

**Toolkit** is contaminated. Working with polluted land requires implementing solutions that focus on land remediation before construction. Phytoremediation solutions are introduced in the initial stage of the project, and over time, native species will replace them. This approach encourages planting

vegetation that will gradually clean the land. To minimize direct contact with the contaminated ground The significant advantage of a network lies in its flexibility, suitable for various types of localities, and considering the slope of the terrain, large, flat urban slabs resembling modern boardwalks are proposed. The buildings will be inserted into this grid-based urban platform.

Working with a 6x6m framework, creates a variety of building footprints, all modular, with varying Underneath these urban slabs, there will be space for vehicular traffic, car parking, bicycle and scooter lanes, electric charging stations, and technical and storage areas.

Above the urban slabs, exceptions may include organic buildings, rotated grids, or breaking the network to highlight significant public areas or buildings.

Size of the baseplate is divisible by 6m. On this platform, among the proposed buildings, well-defined urban spaces will be created, visually connected to both the water and surrounding vegetation. These platforms will feature sequences of larger and smaller spaces, equipped with urban furniture to encourage interaction among residents and foster a natural sense of community. The upper part

(shielded from any pollution), on the platform, and the lower part will be connected through elevators and stairs.

These platforms will be connected to existing streets, the proposed new train station through ~~existing~~ **dedicated** (SE) ways, and nearby public functions. Special treatment is given to the platforms near ~~the water~~ **featuring a** amphitheatres or ramps with steps encouraging people to access the water level. At the end of these urban slabs, near the water, some of the public buildings with cultural, ~~social, and economic functions~~ **social** city's projected growth of 96,000 residents by 2030, with a significant influx of people ~~from other parts of Sweden~~ **the call for comprehensive** solutions. To support seamless integration, the city must be accessible, inclusive, entertaining, and motivating, providing ample business, research, and development opportunities. ~~Five urban slabs are proposed in the Usviken area, four (Fland and one) with water~~ Each has its own identity, but together they create a cohesive ensemble. The identity of each slab is shaped by the public buildings they house: one features a waterfront library, another hosts a sports hall, one ~~is a hotel~~ **is a residential building** and ~~others are a mix of commercial, cultural, and residential buildings~~ **others** are a mix of residential buildings, a school, a library, and a sports hall. The identity of each slab is shaped by the public buildings they house: one features a waterfront library, another hosts a sports hall, one ~~is a hotel~~ **is a residential building** and ~~others are a mix of commercial, cultural, and residential buildings~~ **others** are a mix of residential buildings, a school, a library, and a sports hall. ~~The goal is to provide not just a fixed solution, but a planning and implementation toolkit with a series of principles at various scales, from macro to micro, which can be fully or partially adopted to future developments. The focus is on the process, and Usviken serves as a testing ground, a prototype and a catalyst for future developments.~~ **The 5th platform stands on water and accommodates a marina, boat area, a beach that transforms into an ice rink during winter, public dining areas, a playground, and a series of saunas. The proposed public buildings and residential blocks on the platforms are primarily constructed from CLT (Cross-laminated timber), a material influenced by Scandinavian identity. Apart from preserving the local identity, (Chitra) offers a model of a sustainable, resilient, and healthy city. The development is based on a primary goal of providing a significant lifestyle purpose-based strategy, a proposed flexible and adaptable principles to accommodate a wide range of situations and diverse contexts, including preservation and adaptive development.**

~~The development is a part of a larger plan for the area, which includes a mix of residential, commercial, and public buildings. The plan is designed to be flexible and adaptable, allowing for future changes and developments.~~ **The development is a part of a larger plan for the area, which includes a mix of residential, commercial, and public buildings. The plan is designed to be flexible and adaptable, allowing for future changes and developments. The goal is to provide not just a fixed solution, but a planning and implementation toolkit with a series of principles at various scales, from macro to micro, which can be fully or partially adopted to future developments. The focus is on the process, and Usviken serves as a testing ground, a prototype and a catalyst for future developments.**

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## 2 - NEW BUILDINGS

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