

A port in relationship with the Atlantic network

The Nalón estuary stands out for its high environmental, ecological, and cultural values. At the beginning of the 20th century its port infrastructure was used for loading and unloading the coal extracted from Asturian mines, an important industrial activity well rooted in the history and memory of local.

These vast areas, which in some cases were once natural dunes, are currently being used inefficiently, have been degraded, paved with concrete and are no longer adapted to major contemporary trends. The project aims to:

- rehabilitate the port infrastructure areas and transform them to provide recreation areas through the beach area.
- create a sustainable mobility system within the estuary and between the two villages, San Esteban (formerly called Bocamar) and San Juan de la Arena.
- create a consistent and natural territorial planning approach.
- highlight opportunities based on blue and green economy, with a special focus on sea production.
- the protection of regulated tourism activities, particularly water sports and local marine tourism.
- create a program to rehabilitate empty housing.
- preserve natural landscape and cultural heritage, through the restoration of marshes and the recovery of natural areas.
- adapt the Nalón estuary, including its port infrastructure, public spaces, and natural areas, to climate change by developing sustainable energy production methods (West-dike) and implementing strategies to mitigate the effects of storms and floods.



An estuary connected with the asturian territory

To achieve greater territorial cohesion on the final limits of the estuary and its adjacent area has been considered in order to consolidate a contemporary public space.

Two small urban areas along the estuary are at the heart of the project. Both have very different historical backgrounds, but their own particularities complement each other. The project aims to preserve and strengthen the deep ties between them while respecting their identities and addressing the landscape responses.

The spatial strategy outlined can be reproduced and adapted to each area, with special attention paid to appropriate, modular conditions, and pre-existing public spaces - a common base needed for each particular situation.



A territorial community linked by the coast

The project aims to foster a controlled and conscious growth through the following actions:

- Development and relocation of the existing sailing club of San Esteban. Association of both sailing clubs to be part of the current Mancomunidad of Cinco Villas or Mancomunidad of the Baía Nalón, which includes Murias de Nalón, Perra, and San Julián de Bierzo.
- Development of the existing marina of San Juan de la Arena, creating a recreational harbor that serves as a reference point at Euzopalean level (the Bay of Biscay).
- Creation of a productive harbor in the landfill area next to the marshes of La Xanquera (site C2). Its design extends the harbor promenade and allows continuity between the urban area of San Esteban and the southern extremity of the port (old railway tracks). This area will provide space for fishing activity and seaweed production at regional level (Pescapado de Asturias) and at territorial level (Cantabrian Sea).
- Creation of a tidal power plant on the West-dike as a pilot project to study the capacity to generate energy from the natural rise and fall of tides.



Site A - Power of the sea

The old dike of San Esteban contains an inadequate infrastructure that shows numerous signs of failure. Large cracks appear in the concrete abutments, revealing the backfill gravel underneath it. The project aims to reclaim this space and offer it back to the nature, transforming concrete surfaces into natural areas. In order to make the dike safer to walk and more sustainable, the project aims to remove the abutments and to dig the gravel out, transforming the structure in a deep basin. This pool is connected to the open sea and becomes a natural pool. This pool can be used as a leisure infrastructure (swimming and sunbathing) as well as a productive asset (floating pool for seaweeds and seafood). Thanks to the all the gravel removed from the inner part of the dike, the concrete part is reinforced by using the gravel as a stabilizer for the concrete blocks.

The basins below the dike to adapt to the rise of the sea level by removing all the fillable material and offering a controlled path to the strong waves, in order to handle the flood. Thanks to the existing structure with made of hard concrete, the pool acts as a dam reservoir, and transforms the dike in a tidal power plant, producing blue energy out of the power of the sea.

Site A - Renaturing the embankment

The existing landscape is made of asphalt and concrete, with large under used parking areas. The project aims to give these surfaces back to a natural and permeable state. The bank is made of earth and widely planted with trees and bushes. The parking spaces are reduced to a more adequate number (200 spaces), and are dispersed over the site. The parking strategy implies to reduce the size of the parking lots and to spread them around the site, while hiding them with new trees and vegetation. These trees will provide large shadowed areas, allowing to create picnic spots and rest areas, sheltered from the direct sunlight. In order to allow an optimal growth of this vegetation, backfill gravel will be locally removed and replaced by vegetal earth. The new species will be adapted to the coastal climate and will be rich and resistant in order to resist to the elements. The ground surface of the pool area will be permeable and natural (compacted sand). A floating protection deck made of wood will allow pedestrians to wander across this new natural landscape. All the species will be endemic and adapted to the existing climate change, with a emphasis given to a Mediterranean palette (Pinea Pinaster - Cupressus macrocarpa - Quercus ilex).

Site C1 - Reordering the present context

The first steps towards cohesion between San Esteban and San Juan in the creation of inter-municipal infrastructures and facilities. It is important to understand that these complement each other and, however different they may be, it must be understood that one supplies and benefits from the other, and vice versa. It is for this reason that they must be interpreted as a whole.

These infrastructures (site C1) are created by means of wooden porches with inclined roofs. These will be formally permeable and structure resistant to water and wind. Starting from the south of the area, the first construction will be destined to the reorganization of the current industries located at the shipyard, and the creation of new economic activity.

Heading north, past San Esteban, we find the next one which will contain the new center for nautical activities which will group together the various - nowadays dispersed - sailing schools or places for training locals and stand-up paddle. It will be used for storage and rental, and will also have rooms for meetings, courses, viewing terraces and even a specialized library.

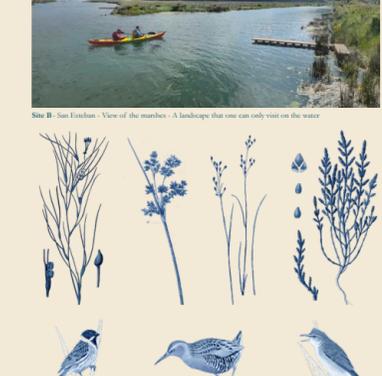
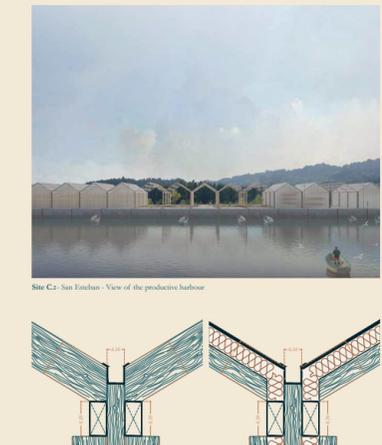
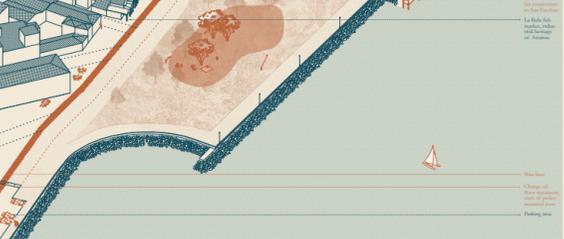
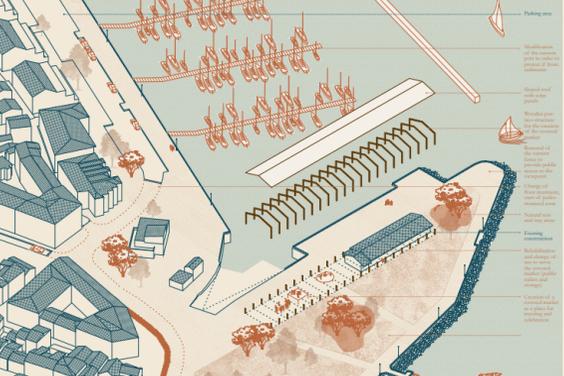
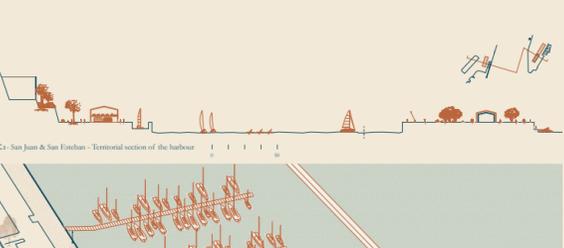
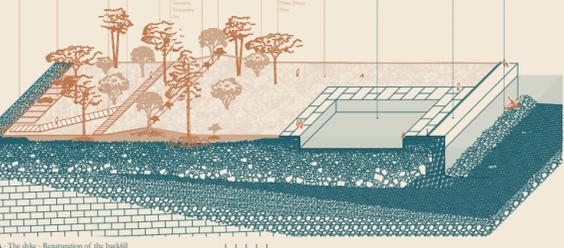
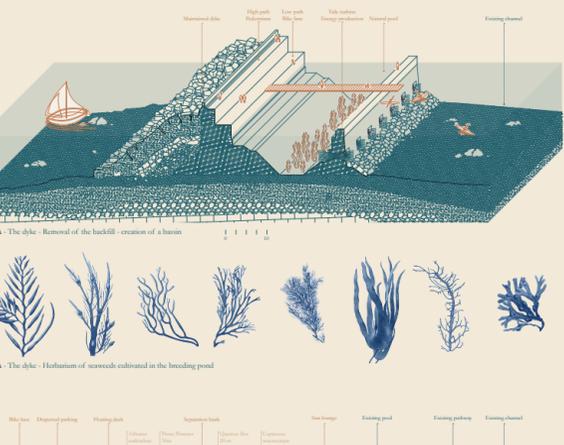
Site C1 - San Esteban - New use of the ground

In the majestic and spacious Plaza de San Juan, a covered market is proposed in continuation of the existing ship repair building. This will be freed up and moved to the set of the first porches mentioned above, located in the current shipyard. This will make way for the creation of public toilets and storage facilities necessary for public activities. The covered market will be a new meeting place, where all kinds of popular activities can be held (festivals, feast of ghettos, covered market, open the cinema, etc.). It is also concerned with the idea of re-valuing La Rula, the identity of the place: the covered market will have an outside place to open up to.

The car parks in the Plaza de San Juan will be moved and the square will be characterized by its pedestrianization (paving the road at the same level as the roadway, thus making vehicles slow down), the creation of a bicycle lane (also paved and at the same level) and the permeability of the ground facing the estuary.

Solar collectors will be installed on all the roofs so that the facilities can be powered by them, thus reducing the ecological footprint.

Site C1 - San Esteban - View of the yacht club



Site C2 - The productive harbour

Leaning on the shipyard of La Xanquera, the project aims to reconvert this part of the urban fabric to generate efficient spaces for the residents, considering the surrounding qualitative environment.

The idea is to replace it between the connecting the South and the docks, and also to reconstitute the soils that had been developed.

To integrate the human scale, at first, a promenade continuing the existing one along the shore of San Esteban is created. This could provide a pleasant path for citizens and tourists, either by foot or by bike, connecting the city to the marshes through the industrial and heritage area.

Site C2 - San Esteban - View of the productive harbour

Site C2 - Possible program of the productive harbour

A wooden structure capable of engaging different functions and uses is proposed. The structure is designed to be modular, with dimensions that measure 20 meters by 10 meters, and can also be divided into levels in sections, with a total height of 9 meters. These dimensions offer ample area and volume along the docks, allowing for the creation of a 3-metre-wide pathway and a promenade that envelops the structure.

The main advantage of this system is to directly link to the city. Further from the shore, the modular structure is extended, or has different functions, such as storage areas, restaurants, or greenhouses. Additionally, it creates a porous connection between the docks, the city, and nature, as well as an interconnection between the modules themselves.

In this way, inner gardens or squares, whether closed or open, can be incorporated, and the spaces between the modules can generate intimate, domestic-scale environments.

In summary, the structure's purpose is to adapt to the various functions and uses associated with the city and industry while considering its urban location, natural surroundings, and the well-being of locals, tourists, and users who will experience it.

Site B - The marshes

The project aims to preserve natural areas through the restoration of marshes and the recovery of natural areas. Efficient actions are carried out:

- Removal anthropic elements: lighting network (La Xanquera)
- Landscape cleaning (La Xanquera and La Llama)
- Partial reconstruction of old concrete docks
- Seaweed groynes to control sedimentation and floods
- Seaweeds to absorb heavy metal of the Nalón estuary.

It is crucial to preserve this natural and protected area because it has an very important role against the effects of climate change, it helps to mitigate the effects of storms and floods.

Site B - The marshes

- Preservation of plant species of the marshes:
 - Juncus maritimus,
 - Juncus gerardi,
 - Scirpus maritimus var.
 - Compactus communis,
 - Phragmites australis communis,
 - Elymus pycnanthus,
 - Ruppia mar,
 - Salsicocoma perennis and
 - Salsicocoma europaea communis
 - Puccinellia fasciculata.
- Preservation of fauna:
 - Rallus aquaticus (franco)
 - Aeoccephalus scirpaceus (carrieco común)
 - Aeoccephalus arundinaceus (carrieco tostad)
 - Emizena schomackii (ocelunhuo postal)

