‘FLOW NETWORK’

-- Design of the Great War Island and waterfront of Danube River, Belgrade

Flowscape Studio
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There are two kinds of landscape in China. One just offers the citizen beautiful scenery, this kind of landscape is very common in China. However, the other one not only offers beautiful scenery, but also works as an element which can integrate the space, economy, ecology and society for the city. Like Westlake for Hangzhou.

Therefore, I have a fascination about my graduate project:
Belgrade is the capital city of Serbia, located in the junction of two international rivers, Sava and Danube. And because the rivers the city is divided into 3 parts. Why I choose Belgrade as my site, because the rivers worked as the national boundaries in history. The 3 parts of Belgrade belonged to different countries in history, and now they belong to one government. The whole city may face with the problem of integration.
Looking back to the history of Belgrade city, we can know that whole city developed around the junction of two rivers, and a green island - Great War Island left as a nature reserve now.

In the future, the government want to build a system of ring road to unify and integrate the city.
However, three parts of Belgrade have different kinds of landscape, and different financial background.
Compared with other capital cities in Europe, Belgrade needs to develop the tertiary sector.
Belgrade is a separated city, the government want to use a system of ring road to unify the city, however, such a simplest way will not integrate the city. I think, the nature reserve located in the middle of Belgrade, the Great War Island, can be an opportunity to integrate the city, and attract people by flow of two international rivers.
How to use the Great War Island and the waterfront of Danube River as an opportunity to Integrate the city of Belgrade from both physical and social aspect?
Study with various islands located in cities to known how can island connect to the land.
From the cases study of islands, I can summarize many design principles for connecting the Island with the land.
There are many ways to connect the island with the land. However, which kind of connection is more flexible and durable?

As a landscape architect, I think designing the ‘connection’ as a process but not an object maybe a good way.
As a landscape architect, design with the flow can be more flexible
and durable. ‘design with the flow’ means landscape design the area
by considering the actor and their behavior (flow).
As the site is located between natural and urban environment, I can use the nature and urban flow to organize a network to integrate the city. Therefore, my concept is “Flow network”, which can make separation turn into integration.
The Framework of Design

1 Design a flexible base for the ‘Flow Network’
2 Design the ‘Flow Network’ for integrating the separated city
3 Design the traffic road fit with my ‘Flow Network’ (by Space Syntax)
4 Design the developing phase of the site
1 Design a flexible base for the ‘Flow Network’

- Separate huge island into small islands
- Dynamic watersystem
- Diversity of ecosystem
- Unify islands with program and bridges

International Garden Show Park
Xia men, China
Considering the existing structure, floodline and the high-value heritage view in the site, then elevate the Island and use the earth to build new landform, to ensure the new floodline and protection of heritage view.
According existing situation, I designed 9 kinds of flow in my site to integrate separated city. Including 4 kinds of nature flow, 5 kinds of urban flow. Overlay these flows, I can have my master plan.

2 Design the ‘Flow Network’ for integrating the separated city
The Water level of Danube is seasonal changing, which will be highest point at April, lowest point at September. The difference between highest and lowest water level is about 2m. And flooding problem is not so serious in Belgrade.
Design a flexible waterfront in new canal to fit with the seasonal change water level.
2 Design the ‘Flow Network’ for integrating the separated city.

The island was generated by the sediment flow. In history, many islands became into a big one also caused by the sediment.
Design the ‘Flow Network’ for integrating the separated city

1. Du jiang yan in China

Using the same hydraulc structure in Du jiang yan city, China. To avoid the sediment closing the canal again.

2. Evolution of wetland

The sediment at north-eas part of island can design as a area with educational function to show the evolution of wetland.

Water flow + Sediment flow + Plant flow + Bird flow + Heritage flow
The plant species of the island are common. Therefore, the left side of Danube has more eco-valuable as a green corridor.

Plant List of the Great War Island

- Salix alba L.
- Populus alba L.
- Populus nigra L.
- Fraxinus angustifolia Vahl.
- Quercus robur L.
- Fraxinus pennsylvanica Marsh.
- Amorpha fruticosa L.
- Acer negundo L.
- Vitis riparia Michx.
- etc.
2 Design the ‘Flow Network’ for integrating the separated city

The endanger species in the nature reserve are birds. Different types of ecosystem offer the birds shelter.
The plant species of the island are common. Therefore, the left side of Danube has more eco-value as a green corridor.
2 Design the ‘Flow Network’ for integrating the separated city

By design the northeast part as nature reserve, it can offer 3 more ecosystem to attract birds.
The visual relationship between two old towns is very important for the site, and the history of Belgrade is a history of wars.
Design a spatial experience sequence by adding forest on island to let visitors to resee historical experience.
Night life is very important activity in Belgrade. However, the Pubs and Clubs along the Danube offer bad spatial experience.

‘Belgrade is the city with the best nightlife.’

-----Lonely Planet
Design a new waterfront for offering a better spatial experience.
Hotel Jugoslavija is one of important buildings built in socialism period. However, because bad management, it partly closed, partly used as luxury restaurant.
Adding new types of villas in the site to developing a new residential resort to attract tourist.
Museum of Contemporary Art is one of important buildings built in socialism period. However, it works as a box hided in forest and less people go there.
2 Design the ‘Flow Network’ for integrating the separated city

Open the museum to make indoor exhibition change into outdoor exhibition to attract more visitors.
The Sentosa island in Singapore used to be an abandoned military zone, after adding new programs in the island and now developing to be one of the most famous tourist attractions.
Considering the possible citizen activities in Belgrade.

**Summer**

EXIT Festival is a summer music festival held in Novi Sad, Serbia, which only have 10 years of history, but became one of the best music festivals in Europe.

**Winter**

Ice skating is one of the most popular winter outdoor activities in Belgrade. It offers fun for the entire family, or for a hangout with a group of friends in an outdoor activity.
Considering existing public life around the island in Belgrade.
Considering existing citizen activities and the new landform in to decide the location of outdoor stage and artificial lake.

2 Design the ‘Flow Network’ for integrating the separated city

Modern life flow

Design - modern life flow
2 Design the ‘Flow Network’ for integrating the separated city

Considering the seasonal water level change and the activity in the design of stage and lake.
3 Design the traffic road fit with my ‘Flow Network’

According the flow system, find out the activity center of design.
3 Design the traffic road fit with my ‘Flow Network’

Using space syntax software to test the possibility connection. And choose the best one. Adding the traffic road to the program map.
3 Design the traffic road fit with my ‘Flow Network’

Nature Flow

- Water flow
- Sediment flow
- Plant flow
- Bird flow

Urban Flow

- Heritage flow
- Nightlife flow
- Residential flow
- Art flow
- Modern life flow
4 Design the developing phase of the site

**PHASE 0**
The existing map of the Great War Island.

**PHASE 1**
Open the canal and reshape the landscape and form.

**PHASE 1**
Adding new program (outdoor stage and lake) and 2 bridges.

**PHASE 3**
As the modern life activity (beach, music festival, and skating) the resort area (villa) can develop.

**PHASE 4**
As the resort area developed and the flow of tourism, the nightlife area can develop. Also the abandoned hotel can be revitalized.

**PHASE 5**
When nightlife area developed, the Palace of Belgrade and the urban space nearby can be redeveloped.

**PHASE 6**
When the urban space around the Palace of Belgrade redeveloped into a tourist attraction, the third bridge can be built.

**PHASE 7**
When the third bridge is built, the art field can be built and the routing system in the island can also be completed.

**PHASE 8**
After the routing system of the island completed, develop the water traffic system by adding 3 new docks on the island.

**PHASE 9**
When the whole island is developed, it might influence the other side of Danube and influence the 3rd Belgrade.
// To be continued.....

Fascination of project
Site choosing & visiting
Context analysis
Problem statement
Research Question
Case study
Design the site
Regional plan
Developing phases
Zoom in

Design the site
Mater plan
detail design
Material design
Plant choosing
Physical model
Rendering
Advanced presentation

// To be continued.....