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Herbert Dreiseitel

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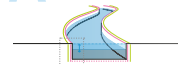
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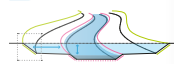
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A Embankment Walls and Promenades



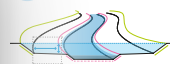
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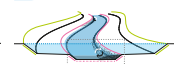
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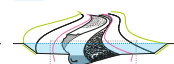
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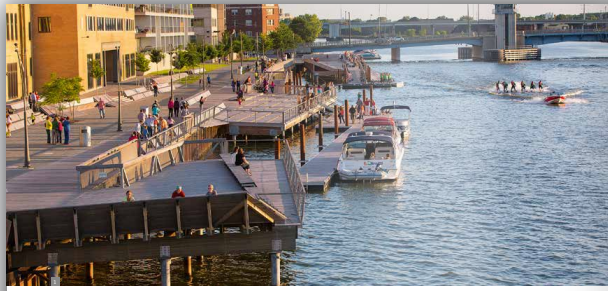


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Fox River
River Decks and Promenade 'CityDeck', 2012
Green Bay, USA

River data for project area
Catchment area: 16 650 km²
Mean discharge: 120 m³/s
Width of riverbed: ~ 200 m
Location: 44° 31' 01" N - 88° 00' 56" W

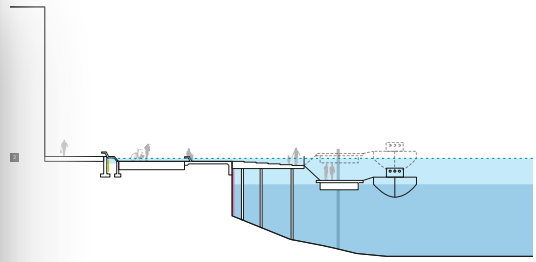
- Design tools
A 4.1 Piers and balconies
A 5.5 Submergible boardwalks and overhangs
A 5.7 Submergible furniture
A 6.1 Floating jetties
B 2.1 Integrating flood protection walls

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Project Catalogue
Embankment Walls and Promenades

The Fox River floods regularly, so the riverbanks in Green Bay, Wisconsin, have been engineered and reinforced in the course of time. As in many other geographically similar towns, central Green Bay had turned its back on the river, as the edge of the water was no longer attractive, nor was it accessible due to the high bulkhead walls. The aim of the CityDeck project was to challenge this situation and revitalise the waterfront, creating a flexible space for gatherings, and thus increasing opportunities for social life. Reanimating the waterfront was also one of the development strategies for raising interest in adjacent, underused inner-city parcels of land. The CityDeck was the starting point for this multiphase redevelopment project. The site comprises a strip along the river less than 20 m wide.

New waterfront boardwalk CityDeck The project consists of a boardwalk deployed at the riverbanks, extending usable riverside space by constructing a wooden platform overhanging or floating on the water. The deck also spreads out over the existing steel bulkhead walls, which were built in six different sections over a long period of time, each time with a different structural system. The wooden platform hides those complex structures underneath. The 'folds' of the wooden deck also act as urban furniture in the shape of seats, benches and lounges and they extend further over the river as a boardwalk with shallow steps descending to the water. Attached floating piers and jetties for recreational boats provide another link between the city and river life previously missing. On the city side, the surface 'folds' again to protect adjacent buildings from flooding. Seating elements in this area conceal a rainwater infiltration zone and a low flood protection wall. The paving is of pervious material, allowing water to recede quickly after flood events and heavy rain. Both the robustly built wooden deck as well as the wooden furniture can tolerate occasional flooding and provide a varied leisure space in the dry season.



- 1 The CityDeck extends and activates a narrow public space between the river and the urban fabric.
- 2 Typical cross-section of the wooden deck, floating elements and outdoor furniture (A4.1, A6.1)
- 3 The system of floating and fixed promenades along the riverbank (A4.5)
- 4 In the event of flood, the deck and its outdoor furniture are temporarily submerged (A5.7)
- 5 Outdoor furniture is integrated into the promenade and conceals the rainwater infiltration strip, flood protection elements and steel bulkhead walls underneath (B2.1)
- 6 Access to the floating elements

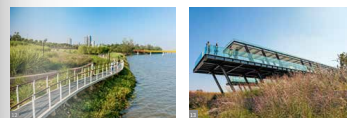


Bayong Qiao Bridge Connectivity in the park is ensured by flood-adapted boardwalks, paths and ramps leading to the wetland area, which are submerged during 20-year flood events. An iconic new bridge meanders above the park for 700 m, linking it with the northern and southern districts of the town on both sides of the confluence, even when the park itself is submerged. It lies higher than the 200-year floodwater level, with ramps leading to various locations in the city. Powerful flood dynamics can be observed from above and remind people of the enormous strength of the bodies of water surrounding them. In the dry season it gives visitors the opportunity to observe the natural riparian habitat from above without disturbing it. The bridge has become an important landmark and a cultural asset for the city.



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Project Catalogue
Flood Areas



- 6 An aerial view of the park during the dry season
- 7 Vegetation was chosen due to its capacity for flood resilience and planned to revitalise former sand quarries, which had degraded the landscape.
- 8 The native grasses display vivid colours throughout the year.
- 9 The iconic Bayong Qiao Bridge
- 10 An aerial view of the park during the monsoon season shows areas submerged during a 20-year flood.
- 11 The concrete flood wall needed to be removed to build the terraced embankments. The cut-and-fill earthmoving method meant that earth from the cut equalled the amount of fill.
- 12 Submergible boardwalks (A5.5)
- 13 A structure on piles overlooking the wetlands (C2.3)