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Rejuvenation of a Once Beautiful Greenway: Beijing Tongzhou Grand Canal

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Introduction

Many years ago, the Beijing Tongzhou Grand Canal was the northern destination point of the journey along the Jing-Hang Grand Canal in China. It once operated as a shipping gateway through the country to Beijing, and was a historically significant greenway of China. Now, the Grand Canal is an important urban district for modern Beijing and requires greater attention to strategic planning. Our design team was hired by the municipal park department to produce a new master plan for a total area of 120 hectares along the waterway which had fallen into decay through the compounding consequences of a 2400 year history. The master plan provides guidelines for future development of this area. The scope of the project includes Phase I landscape design to improve a 80,000 square meter Tongzhou Grand Canal Cultural Plaza. The project landscape architects designed with an eye towards respecting and preserving the culture and environment by using local historic elements. They also applied sustainable development methods in their planning and design practice i.e. strict water management guidelines organized within the site serve to collect, store, and preserve rain water for plant materials. Retention ponds and dry wells were introduced to local landscape practice etc. Through a masterplanning process and phase I - Grand Canal Cultural Plaza site plan design, this portion of the historic canal has become a charming greenway corridor that the community is proud of and patrons are enthusiastic about.

Background/Literature Review

The Grand Canal is a 1800 km long ancient man-made waterway that stretches from Hangzhou to Beijing. The construction of the waterway dates back to 360 B.C. It was built for military purposes and was later used primarily as a shipping corridor. Over the course of its history, the Grand Canal has been the site of historical events, the inspiration to great works of literature, and a location of folk experience making it a conduit for cultural flux as well as an economic byway. (Figure 1). Over the years, along with transportation methods inventions such as trains and airplanes, many fragments of the canal have been abandoned or become occupied by waste. The water bodies became

polluted and unpleasant to the public. Recently, the central government decided through new land use planning, to move the municipal center of Beijing to the Tongzhou district. The Tongzhou Grand Canal Waterfront Park was one of the first implementations of the new strategic land use planning (Figure 2).

Although, at the time this project is not identified as a greenway project, the 120 hectare waterfront site falls into all three of the following categories of greenway criteria (Fábos 2004)

1. Significant corridors and natural systems: the basic greenway
2. Having trails and scenery: Recreational
3. Having historic heritage and cultural values

Goals and objectives

The goal of the team was to rejuvenate a once beautiful and socially relevant part of the city through a master planning process and design the initial urban development area called the Grand Canal Cultural Plaza- Phase I, As it would set an example for the whole project. The landscape design put forth three major changes essential to revitalization in the area that is consistent with greenway creterias: land use and environmental planning, recreational planning, and restoration of historical and culture elements, making this portion of the Grand Canal an environmentally-friendly park that can age without negatively affecting the environment (Chen 2007).

Methods

Restore the natural and environmentally sensitive corridor: Three physical planning efforts were essential for environmentally sensitive concerns at the beginning of the project. These changes have resulted in providing a foundation for success of this 120 hectare waterfront project:

a) Existing conditions of the canal were quite challenging. (Figure 3)The canal had deteriorated due to being abandoned for many years; the water was muddy and highly contaminated. Initial efforts included an exhaustive canal clean-up effort. Compared to the neglected state of the canal before its restoration, the current conditions of the Tongzhou section of the Grand Canal and its borders represent a success in improving water quality through the removal of contaminated waste and chemicals. (Figure 4)

b) As time had passed, what was the existing width of the Canal was reduced by half its original size. Our team worked to widen the canal boundaries to their original width of 200 meters, and mitigate and restore the ecological system of the wetland area;

c) Residential community access to the water was blocked by a major road adjacent to the Canal. The landscape design relocated the vehicular road bordering the canal to the far edge of the park. By moving existing vehicular roads away from the waterfront and positioning pedestrian walkways closer to the water, the project helped to bring out the modern waterfront space to Beijing's citizens.

In addition, the planting component of the design is rooted in presenting native plant species in a visually refreshing way to park visitors. 90% of the plants species involved are native, and are largely featured in the buffering elements on the park's three edges. Xinjiang Poplars enhance the major axis of promenades, diverse flowering trees adorn the oval-shaped Waterfront Plaza, and crops celebrate the local agricultural activity still present in Tongzhou District.

Recreational Improvements: the Master Planning area includes a series of urban parks: cultural sites, sport & recreation venues, commerce and leisure development zones in downtown Tongzhou. Along with the Grand Canal Cultural Plaza, the master plan also includes the Grand Canal Island Resort, the Randeng Pagoda Historic Park, the Marina and Hotel Resorts, the Downtown Business Center Plaza, the Grand Canal Sports Stadium and Recreation Complex, and the Ecological Education Park. In the master plan phase I, Grand Canal Cultural Plaza is seated east of the Marina and west of the Stadium and Sports Complex and is the only section designed specifically for public recreational and cultural activities.

As phase 1 of the overall master planning area, the Grand Canal Cultural Plaza is didactic, yet recreational: simultaneously a commemorative park and a contemporary urban park. Whereas other elements of the Master Plan provide residents with different commercial and leisure venue destinations, the Grand Canal Cultural Plaza grants visitors recreation uniquely designed to revitalize the canal's substantial, yet fading history. Sail boat shaped lighting fixtures, trellis shaded seating areas, kite flying practice areas, waterfront walking trails, elderly activity areas, were all provided for the people.

Celebrate the rich Cultural and history: As the canal leads to Beijing, it was imperative to give the Grand Canal Cultural Plaza a commemorative element to honor the history of the canal, representing the substantial cultural contribution the canal has given to the capital. Many elements in the park have been inspired by the canal's history. In light of the fact that the Grand Canal began in Hangzhou city and ended in Tongzhou, a summation memorial of this long journey of the canal seemed appropriate. A historical gate, reminiscent of the site's past as a flourishing trade post, has been erected at the threshold of the park making it the main entrance of the Grand Canal Cultural Plaza. This main gate frames the "Millenniums Walk", a 365 meter long carved stone plate relating more than 2000 years of trading and cultural exchanges. (Figure 5)

The walkway was designed to reveal to people the major events of the history of the Grand Canal and its legends. Accompanying the Walk, a reflecting pool, representative of Tongzhou, opens to the sky.

Half-way down the promenade is a grand plaza open to the waterfront. The Waterfront Plaza, a slightly elevated oval platform acting as a belvedere, gives a full view of the Grand Canal and is suitable for many types of events: dancing, cultural celebrations, open produce markets, kite flying, etc. The Plaza is also a concentric point where two visual axes meet: the axis overlooking the New Downtown Business Centre Plaza, and the axis looking through the Chinese Gate at the entrance of the park. As the park derives its aesthetic from Canal history, water is the main element in the park's design; fountains, waterworks, ponds, waterfalls, and pools are distributed throughout the park celebrating the long relationship between water and land and identifying water as a means of transportation and trade as well as a symbol of joy and life.

Results

The improved canal water, landscape, and promenade, provide surrounding urban residents a new waterfront destination for leisure and entertainment. Through careful greenway planning and design, the Tongzhou Grand Canal Cultural Park has become an environmentally-friendly park that can grow through the years with a low impact on the environment.

Discussion

Cultural and historic sensitive decisions: While utilizing themes of the site's past, the Beijing Tongzhou Grand Canal and the Cultural Plaza presents a modern, urban park experience for Beijing residents, creating a waterfront destination in a city that has virtually none. The overall design plan

implements common elements (cultural symbols and native plant-life) to form a new landscape structure that draws the viewer to interact. The design utilizes large-scale landscape elements and an intimate level of detail to create a space that is both a natural area and a derivative of the surrounding urban texture.

Due to environmental and sustainability concerns regarding the use of ground water, the park has been designed to use rain as an alternative source of water. Rain is a scarce resource in Beijing and the park structure has been constructed to address this concern. Strict water management guidelines organized within the site serve to collect, store, and preserve rain water for plant materials. Retention ponds have included specific aquatic plants at their edges to filter negative agents that could enter through rainfall. Dry wells have been installed in the park at critical points so that rainwater can percolate evenly through the ground layer. These wells collect water at certain points and distribute it laterally, thereby making a higher percentage for rainwater available to surrounding plant life. The environmentally sensitive decisions made by the landscape architect and other authorities make the canal a sustainable feature of the Beijing waterfront enhancing the overall value of the park, providing a rejuvenation long overdue.

Conclusion

The large scale planning, together with small scale creative design practices, positively impact the urban development of this district in Eastern Beijing. The entire visitor experience is designed in a sequence. This site preserves the memory of old Beijing and creates a charming place that the community is proud of. The significance of this site highlighted through the design team's innovative and ecologically conscious planning and implementation strategies. It has quickly become a major tourist and an urban attraction within the Beijing city.

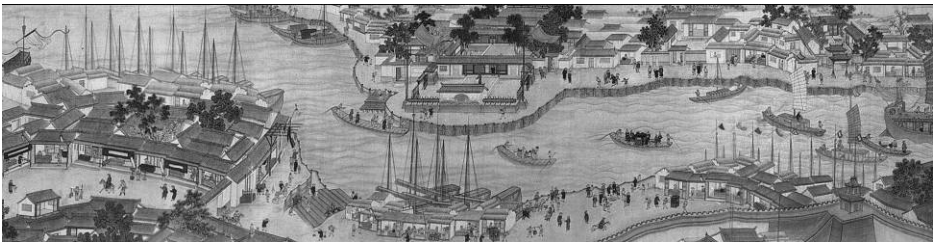


Figure 1. The Traditional Chinese painting represents the rich past of the canal

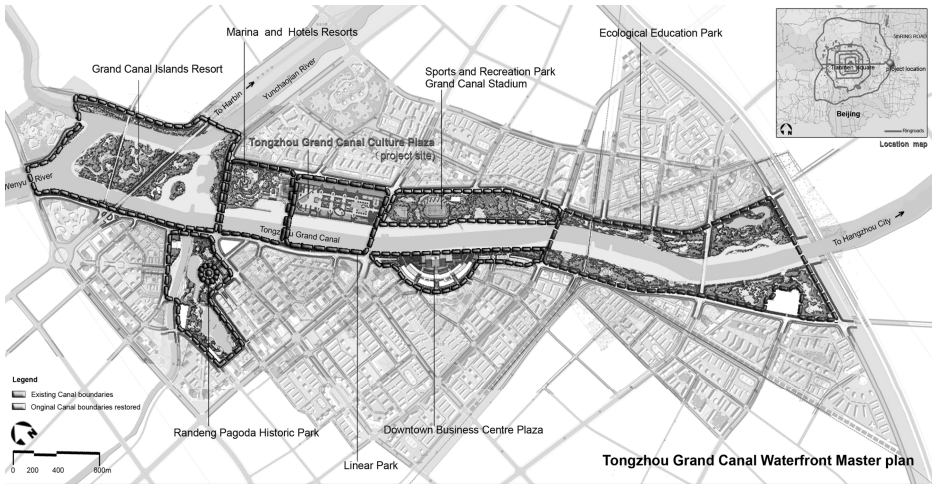


Figure 2. Tongzhou Grand Canal Waterfront Master plan not only involves conservation and contemporary urban development, but also reminds people of their rich past



Figure 3. Existing conditions of the canal were quite challenging

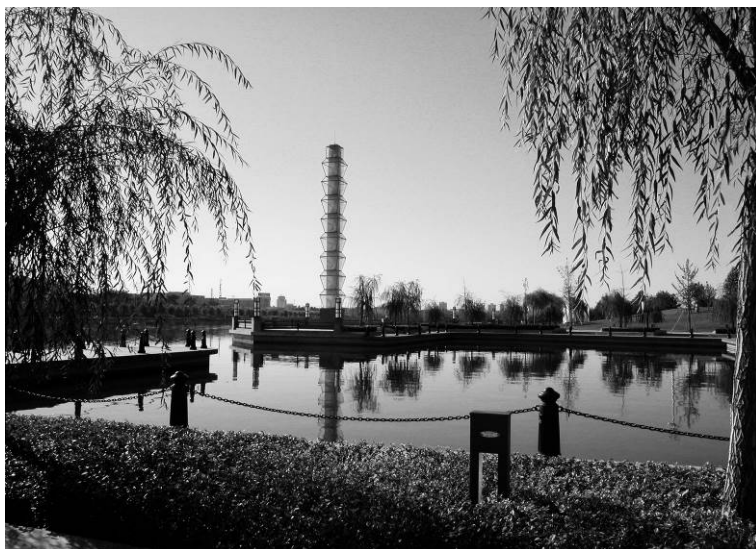


Figure 4. After design: the Grand Canal provides people a new high quality waterfront and park experience. A contemporary version of a lighthouse marks the entrance to the new urban district. (Courtesy of Yuxin Su)



Figure 5. The Millenniums walk was designed to reveal to people the major events of the history of the Grand Canal and its legends, from Hangzhou to Tongzhou, the final destination. (photo Courtesy Tang and Central Academy of Fine Arts Beijing)

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