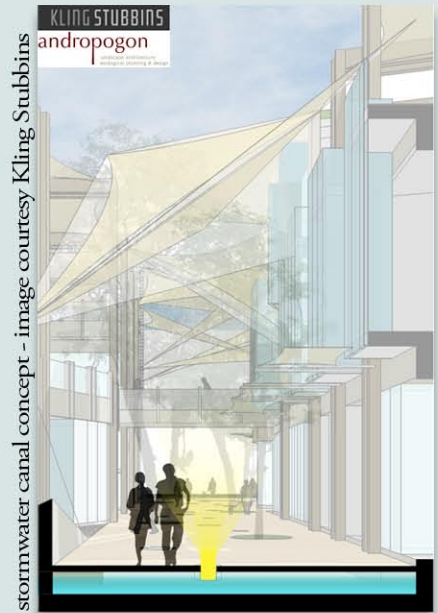


Plaza Cambodia, Phnom Penh, Cambodia



site masterplan, perspective - image courtesy Kling Stubbins

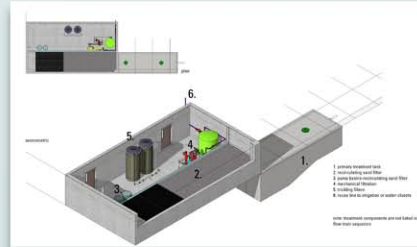


stormwater canal concept - image courtesy Kling Stubbins

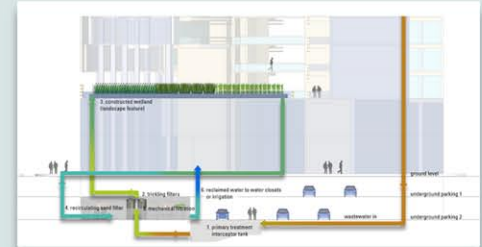
biological treatment park



mechanical treatment infrastructure



wastewater flow schematic



Plaza Cambodia is an ambitious mixed-use development in the heart of Phnom Penh, Cambodia's capital city. Lipo Politan Company, LTD, one of east Asia's premier developers, is undertaking one of the first master planned community developments in the region. Full build-out will encompass approximately 400,000 square meters including a streamlined skyscraper that houses a five-star hotel, a mix of residential development and commercial and retail spaces. Special attention throughout the conceptual design phases has been given to architectural massing, layout and circulation, landscape design, pedestrian experience, street amenity, and ecological engineering.

Phnom Penh, rich in cultural history, provides a spectacular backdrop for such an incredible project. The design team was able to begin with an undeveloped parcel and imagine the development from the ground up. The first phase of the development will focus on the traditional fixture of Cambodian culture, the shop house. Shop houses in the development will be 3 to 4 stories in height with retail space at the street level. The first phase will also include apartments, restaurants, and a grocery.

Kling Stubbins, the architecture, engineering and planning firm, retained NSI to address sustainable water infrastructure in the development. NSI was responsible for a variety of design tasks including water master planning, wastewater system design, stormwater design, and reuse onsite. Because of the density of the development the design team proposed unusual solutions. Andropogon, the landscape architect, worked closely with NSI to insure that wastewater and stormwater infrastructure became a site amenity.

Wastewater infrastructure is an important concern in the region; many of the small communities discharge untreated wastewater directly into waterways and roadways. One of the strategies NSI proposed to address the infrastructure need was a biological treatment park. The treatment park combines water infrastructure and open space to Natural wastewater treatment components such as constructed wetlands, sand filters, and trickling filters were offered as potential solutions.

Stormwater design was addressed in a variety of ways. Water from rooftops and impervious surfaces is conveyed into dynamic water features that are hydraulically connected through the development. Water runs underneath walkways and promenades, illuminated by light sources below ground. A series of weirs and canals slows and contains water as it passes through the development and is eventually held in a large pond and landscape feature located in the western portion of the development. Completion of Phase I is scheduled for 2010-2011.