

BOYOLALI AQUATIC CENTRE

Dengan pendekatan *sustainable architecture* melalui pencahayaan alami
dan *rainwater harvesting*

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ABSTRAK

Boyolali Aquatic Centre dirancang berdasarkan latar belakang pemerintah Boyolali yang ingin mempromosikan kota Boyolali melalui olahraga termasuk olahraga air namun masih belum memiliki kolam renang indoor yang benar-benar memenuhi standar. Selain itu perancangan ini juga dilatar belakangi oleh krisis energi secara global dan sedikitnya contoh bangunan sustainable di Boyolali. Aquatic Centre ini dirancang dengan tujuan menjadi wadah kegiatan olahraga air dengan pendekatan *sustainable architecture* melalui pencahayaan alami dan *rainwater harvesting*. Metode perancangan yang digunakan adalah dengan pengumpulan data, penelusuran persoalan dan pemecahan persoalan. Berdasarkan hasil analisis yang telah dilakukan, menunjukkan hasil bahwa persoalan perancangannya ada pada penataan ruang, bentuk massa, dan selubung. Persoalan pada penataan ruang agar dapat lebih flexible, terintegrasi dan terorganisir diselesaikan dengan pembagian akses rekreasi dan kompetisi serta memperhatikan hubungan ruang untuk pengguna dan ruang pendukung sustainability. Persoalan pada bentuk massa agar bangunan bentang lebar ini dapat memaksimalkan pencahayaan alami dan memaksimalkan penangkapan air hujan diselesaikan dengan memperhatikan orientasi bukaan bangunan dan merancang bentuk bangunan yang mempercepat aliran air hujan sampai ke tanah. Persoalan selubung bangunan agar dapat memaksimalkan pencahayaan alami dan memaksimalkan penangkapan air hujan diselesaikan dengan memberikan shading sesuai kebutuhan serta rancangan kolam penangkapan air hujan.

Kata kunci: *Aquatic Centre*, Boyolali, olahraga air, sustainable architecture, pencahayaan alami, *rainwater harvesting*

BOYOLALI AQUATIC CENTRE
With a Sustainable Architectural Approach Through Daylighting and Rainwater
Harvesting

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ABSTRACT

Boyolali Aquatic Center is designed based on the background of the Boyolali government who want to promote the city of Boyolali through sports including water sports but still do not have an indoor pool that truly meets the standards. In addition, this design is also motivated by the global energy crisis and the lack of examples of sustainable buildings in Boyolali. The Aquatic Center was designed with the aim of becoming a forum for water sports activities using the approach of sustainable architecture through daylighting and rainwater harvesting. The design method used is by collecting data, tracing problems and solving problems. Based on the results of the analysis that has been done, it shows the results that the design problem is in spatial planning, mass form, and envelope. The issue of spatial planning so that it can be more flexible, integrated and organized is resolved by dividing recreational access and competition and paying attention to the relationship of space for users and sustainability support rooms. The problem in the form of mass is that this wide-span building can maximize daylighting and maximize rainwater capture completed by paying attention to the orientation of building openings and designing the shape of buildings that accelerate the flow of rainwater to the ground. The issue of building envelope in order to maximize daylighting and maximize rainwater capture is solved by providing shading according to the needs and design of rainwater catching ponds.

Keywords: Aquatic Center, Boyolali, water sports, sustainable architecture, daylighting, rainwater harvesting