

SINGAPORE SPORTS HUB DESIGN STATEMENT

VISION

CREATING A UNIQUE ECOSYSTEM

In June 2014 Singapore celebrated the opening of Asia's first integrated sports, leisure, entertainment and lifestyle destination, the Singapore Sports Hub. Located on a stunning, central, 35-hectare waterfront site, Singapore Sports Hub provides a unique ecosystem of sporting, retail and leisure spaces, at the pivot between Singapore's expanding city centre and the wider public community.

The Sports Hub is a key project in the Government of Singapore's urban redevelopment and sports facilities masterplan - **'Vision 2030'** - promoting a more sustainable, healthy and active society at all levels of participation, nation-wide. Designed for long-term legacy usage from the outset, the Sports Hub will set a new standard for adaptability and social integration. By providing premier venues for major sports events and inviting and inclusive public destination spaces, the Sports Hub is an elite, world-class sports destination that encourages everyday public participation.

MASTERPLAN

Building on this vision, the Sports Hub precinct masterplan has been designed in close collaboration between DP Architects, Arup and AECOM, in order to make the very most of the site's strategic location and to create a new landmark destination in terms of space, form and quality of experience. The extensive walkable precinct at Sports Hub links directly to local pedestrian and cycle networks and to Singapore's island-wide park connector system, providing excellent connectivity to the wider city centre waterfront, to Gardens by the Bay and to surrounding residential areas.

The precinct masterplan creates a sequence of connected public spaces, scaled for both every day and major event modes and providing a very high quality of experience. Easy access to the Mass Rapid Transport (MRT) system and other transport options have been carefully considered in relation to crowd safety and management during major events, clearly separated from Sports Hub's demanding servicing requirements, accessed from adjacent expressways and surrounding road network.

Around Sports Hub precinct of public spaces, from the waterfront and MRT connections to the raised level 'sports promenade', a diverse and intense mix of sporting, community and leisure uses unfold, providing many options for both athlete and spectator alike. The whole precinct is unified by a consistent philosophy and design approach to landscape, shade and shelter and lighting, providing levels of comfort and quality of experience appropriate to Singapore's tropical climate and public expectations. Individual buildings and spaces are considered together as a whole, integrating a revitalised Singapore Indoor Stadium, while permitting intuitive and seamless interaction, both front and back of house.

At urban scale, an iconic new identity and place has been established through the creation of powerful relationships between the great new public spaces of the Sports Hub precinct, the famous Singapore Central Business District skyline and the surrounding urban fabric.

NATIONAL STADIUM

At the heart of Sports Hub is the new National Stadium, a state-of-the-art 55,000 seat sports venue, air-cooled for comfort and designed with a movable roof and retractable seating to support the widest range of sports and leisure events throughout the year. It is the first stadium in the world custom designed to host athletics, football, rugby and cricket all in one venue, converting from one mode to another within 48 hours.

The dome form was primarily driven by the need to provide cover from the sun and the rain to spectators both inside and outside the stadium. The covered space created presented an opportunity for the dome to become the unifying protective canopy that connects all parts of the Sports Hub masterplan, through an open public 'Sports Promenade'.

With a span of over 310m, the National Stadium is the largest free spanning dome structure in the world – and an awe inspiring event space.

As a new cultural icon, the design of the stadium has focused on creating a close relationship with the city by opening the interior seating bowl and roof towards the waterfront and the city skyline. This provides spectators with breath-taking views to the heart of the city, especially meaningful for the nation's annual spectacle, the National Day Parade. In form and massing, the National Stadium creates a distinctive silhouette and an identity for Singapore Sports Hub, complementing the nearby Singapore Indoor Stadium.

Complementing the central National Stadium are two other key sports facilities, the OCBC Aquatic Centre and OCBC Arena. These mid-scale venues have been designed to achieve maximum flexibility enabling them to serve both the exacting standards of a world-championship sporting events as well as a diverse everyday leisure focused sports programme. The architectural design of the three main sports venues – the National Stadium, OCBC Aquatic Centre and OCBC Arena –has been led by Arup Associates.

BRIDGING COMMUNITY, SPORTS AND LEISURE

THE SOCIAL PLINTH

In physical form and massing, a distinctive plinth architecture emerges and embraces the National Stadium, incorporating the OCBC Aquatic Centre and OCBC Arena as well as the existing Singapore Indoor Stadium. This contiguous podium provides a rich mix of non-elite sports programmes and uses, unifying all community sports, lifestyle and civic facilities into a dynamic whole.

The plinth consists of a 41,000sqm of waterfront retail space – Kallang Wave Mall that provides attractive shopping and dining experiences for visitors; the 18,000 sqm of office space – new home to Sports SG and the local Sports associations; the Singapore Sports Museum and Sports Hub Library, purposeful sports-themed destinations for the public; as well as the Splash-n-Surf waterpark and Water Sports Centre that provides the water-based elite training and leisure activities. This collection of amenities, with almost 2km of human-scaled built form and landscape, is organised within the *Social Plinth*, to serve as a counterpoint to the monumental scale of the stadium. The array of distinctive fine-grain, warm-hued, lattice-like architectural expression also creates an interesting dialogue of shade, light and tectonics, with the materiality of the sports venues.

Bridging community sports and leisure, this community-based plinth further injects life and vibrancy through synergising the various indoor facilities with purpose-designed event plazas across the precinct, such as the scenic Stadium Riverside Walk and OCBC Square.

SEAMLESS INTEGRATION OF SPORTS AND PLACE

SPORTS PROMENADE

At the highest open public level, exemplifying the integration of sport and public space is the 'Sports Promenade'. This inspirational civic space links the National Stadium to various key sports venues, lifestyle destinations, public rooftop spaces and green spaces within the Sports Hub, offering stunning views out to the city and the surrounding waterfront. Principally designed to provide rain and sun-protection to spectators around the stadium, the design of 'Sports Promenade' was developed to realise the potential of this 1km connector space for everyday use, providing a fully accessible exercise area with a jogging track and fitness centres.

GREEN PHILOSOPHY

CREATING A TRULY SUSTAINABLE AND INNOVATIVE PRECINCT

Sports Hub integrates landscape, water systems and planting extensively, creating a natural setting and high-quality public waterfront environment. At the heart of the Sports Hub design philosophy, the major public and landscape realms at the Waterfront Promenade and Arrival Plazas extend and enhance the city's accessibility and green ambience. For comfort, character and further extending this holistic approach, the stadium incorporates sky terraces with planting and vertical greenery to the edge of the internal concourse areas, creating a totally unique and tropical experience.

Beyond maximising greenery and passive cooling measures, innovative engineering solutions have been integrated into the design to ensure minimal use of natural resources. The bowl cooling to the stadium achieves a 60% reduction in energy use when compared to a conventional 'cooled stadium'. The energy used is offset by energy harnessed from renewable energy sources – making this a 'zero carbon' cooled stadium. Economy of means is a key characteristic of the main dome structure itself which uses one third of the steel weight per square metre when compared to other large span structures of this scale. In recognition of these achievements Sports Hub was awarded BCA Green Mark GoldPlus, an outstanding result for a major stadium and multi-sports facility, in comparison to its peers around the world.

SINGAPORE SPORTS HUB

FACILITIES INCLUDE:

- 55,000-seat **National Stadium** with a retractable roof and comfort cooling
- 3,000-seat **OCBC Aquatic Centre**, expandable to 6,000 capacity for specific events
- 3,000-seat **OCBC Arena**, a multi-purpose indoor hall, scalable and flexible in layout
- 41,000 sqm of **commercial retail space** with integrated leisure waterpark and rock-climbing
- 18,000 sqm of **office space** for Sports Singapore and National Sports Associations
- **Sports Hub Library, Singapore Sports Museum and Visitor centre**
- **Water Sports Centre** for canoe, kayak and dragon boat athletes and enthusiasts
- Revitalised 12,000-seat **Singapore Indoor Stadium**
- Diverse range of **community sport facilities** including hard courts, skate park, fitness corners, jogging & cycling tracks, lawn bowls, beach volleyball court, etc.
- Over 3,200 car parking spaces in basement and multi-storey block.

DESIGN TEAM CREDITS

It is required that in all publications the following design credit protocol is observed including the strict order of credits as listed below.

SINGAPORE SPORTS HUB DESIGN TEAM

Arup + DP Architects + AECOM

MASTERPLAN

DP Architects + Arup + AECOM

ARCHITECTURE**Sports Venues**

Arup Associates + DP Architects

Retail, Leisure, Office, Museum, Library

DP Architects

ENGINEERING

Arup

M&E

Arup + Squire Mech

LANDSCAPE

AECOM

For more details, contact:

Laura Iloniemi (Arup Associates)

laura@iloniemi.co.uk

+44 (0)7957 351 890

Celia Choong (Arup)

celia.choong@arup.com

+65 6411 2803

Leanne Lim (DP Architects)

leannelim@dpa.com.sg

+65 6829 3575

Jason Dempsey (AECOM)

jason.dempsey@aecom.com

+44 (0)7775 031 793