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ESTADIO DIABLOS: NEW SHOWCASE TO DEBUT FOR MEXICAN BASEBALL

North America feature writer, Steve Trainman, gets the insight on innovative design from the principal architect and team ownership.

When the new US$60 million Diablos Rojos Stadium (Estadio Diablos) opens before year-end as the new home of the Mexican League AAA Mexico City Red Devils, it will fulfill the long-time dream and expectations of team owner Don Alfredo Harp Helú and Mexico City Mayor Miguel Ángel Mancera.

Located in the Magdalena Mixhuca sports complex, site of the 1968 Olympic Games, the venue has 12,000 covered seats plus 3,000 grass berm seating, 22 (10-12 seat) Executive Suites and a 40-seat owner’s suite.

Built in the shape of the team’s devil’s trident symbol, the Stadium’s most striking feature is an innovative floating canopy, comprised of steel truss framing wrapped in a translucent Sheer-Fil PTFE Fiberglass membrane made by Saint Gobain.

TEAM OWNER PRIORITIES

According to Director Othan Díaz, spokesperson for the Helú ownership group: “The return of Formula One to Mexico was an important factor in the decision to build the Stadium within the confines of the 1968 Olympic Complex.

“CEO Don Alfredo Harp Helú was clear about his goals: Diablos stadium had to be conceived as a world-class facility, with all the services and amenities for the team and its followers. But it also had to be a building in which one could feel Mexico in its design and spaces, designed and built by Mexicans.”

At a recent visit to the construction site, long-time Stadium supporter, Mexico City Mayor Miguel Ángel Mancera, said: “The construction will be over soon; this is a building full of innovation; we just have to dress it up and show to the world with pride what Mexico can do.”

Designed by Mexican architects Francisco Gonzalez-Pulido of JAHN and Alonso de Garay of ADG, Estadio Diablos is more than a stadium, it is Mexico’s Ballpark.

Francisco and Alonso are the design directors and owners of their respective offices with their respective headquarters in Chicago and Mexico.

The collaboration was both symbiotic and independent; both contributed to the design of the “base”, merging contextual references with an efficient and clear functional diagram. Alonso also designed the landscape and the interiors while Francisco designed the roof.

Francisco told PS&AM: “Our challenge was to make the stadium a social and cultural centre. As Estadio Azteca is the home of Mexican football, we strive for Estadio Diablos to become the home of Mexican baseball.

“The new Stadium for Los Diablos Rojos del Mexico (The Red Devils of Mexico) conceptually represents the duality between Pre-Hispanic and Modern Mexico. This is done through the fusion of two languages: The one of stony plinths (pyramids), grand spaces and hierarchical organisation, and the other of long-spans, lightweight materials, the engineering of ‘boundaries’, sustainability and energy efficiency.

“The design strives to create an intimate relationship among spectators and the game’s strong directional and symbolic flow. It blends tradition, innovation, and austerity in the use of materials and finishes as well as advanced use of technology."

“In contrast with the visual lightness of the roof, the ‘base’ of the building is topographic and volcanic, deeply rooted with the place and its people. The configuration of the building emerges from the relationship between the field’s geometry, the berm and the six pyramids that all together form a ring...
that connects the experience of the game with its context and itself."

PYRAMIDS’ & ROOF

Public building functions such as egress, restaurants, the Diablos Hall of Fame, Diablos’ team store, offices, and services are organised around six buildings in the shape of truncated plinths or Pyramids.

Each Pyramid connects all pedestrian flows from and to the three levels of the grandstands (Main, VIP and Upper Deck) through vertical assemblies of steel stairs and bridges that achieve an efficient distribution of people and functions.

The “Pyramids” are clad in modular black ribbed sloped panels that give the base of the building a contextual reference to ancient Mesoamerican temples in terms of its materiality, colour, texture and monumental beauty. The design allows for the profuse introduction of daylight inside all the spaces contained in them.

The configuration, modularity and arrangement of the grand three-pronged roof structure in the shape of the team’s Trident symbol challenges the traditional “L” shape and bowl that have historically characterised baseball stadiums around the world.

The shape of the roof structure emphasises the directionality of the game. Through an angular, translucent and dynamic structure, the roof will become a landmark figure not only for Mexico City but also for the Country.

The roof’s unique and memorable figure is formed by eight interconnected steel trusses wrapped in white PTFE that filter daylight to the interior of the space. At night, an array of LED fixtures recreates the same glowing effect. Six of the eight canopies are supported in part by the Pyramids.

The canopies provide shelter from sun and rain to all the permanent seats, in a column-free environment all around grandstands through large 60-metre cantilevers. Each of the typical modules (Types A and B) weighs around 650 tons. The Module C (2) located in the central axis of the Stadium weighs twice as much and is more than 130 metres in length.

FUNCTIONS & PUBLIC SPACES

The new stadium consists of 5 levels:

► Service Level – Parking (680 Vehicles), mechanical rooms, water treatment plant
► Basement – All administrative services, team, club and support, VIP parking
► Main Level – Terraces, access to main grandstands as well as concessions.
► VIP Level – 22 VIP suites, VIP restaurant and owners box.
► Upper Level – Upper grandstands, services, terraces, concessions and media.

The owner’s box with 40 seats is centrally located right above the main entrance, behind the monumental media mesh screen and right under the media box balcony and terrace.

The extensive landscape is integrated to the architecture and geometry of the stadium, with subtle level changes that add up to the processional experience of the journey. The landscape procures the use of indigenous vegetation and minimal water consumption.

Public plazas will be created at the northern and southeastern corners of the complex, and there will also be gardens at the southwest end of the site. The goal of all public spaces within Diablos Park is to build around three fundamental guidelines: encourage strong social engagement, incorporate Mexican traditions, and respect/integrate existing natural conditions.
CONSTRUCTION CHALLENGES & SUSTAINABILITY

The soil represented one of the biggest challenges to realize this project. Mexico City was built on a drained lake that made it necessary to drive foundation piles 45 metres below the organic layer to reach bedrock. The field has no foundation at all, and it is expected that every 5 to 10 years it will be leveled to maintain the required sightlines.

The size and weight of the roof panels require the use of oversize cranes of up to 3,500 tons that will simultaneously interact with smaller 800-ton cranes. This combination will be able to lift, position and assemble the whole roof structure in a record time of three months in order to meet the targeted opening.

The Stadium structure has 47,145m² of area and 13,600m² of field.

The Stadium was originally designed with the aspiration to achieve a triple-zero sustainability goal. According to Francisco: "As of today we are looking at approximately a 50% reduction in energy consumption by using 2,000m² of PV panels above the concessions; 100% reduction in water consumption by collecting and treating water; and reducing waste generation below 50%.

"An energy model was built and managed through the design process to monitor the impacts of design changes and re-evaluate those decisions in connection to the construction schedule and budget.

"There is no air-conditioning in any of the spaces and LED lighting is used across the building to reduce energy consumption while maintaining optimal lighting levels. The decision to use artificial turf was very much connected with the idea of reducing water consumption."
In conclusion, team owner and CEO Don Alfredo Harp Helu said, "Diablos Stadium will be a symbol for the future of Baseball in Mexico. It will be a sanctuary, a place of celebration, a park, a plaza, a home, a market, an urban and social catalyst, a symbol and an urban landmark.

"Estadio Diablos is more than a stadium; it is Mexico's Ballpark, and our excellent project team met the challenge to make the Stadium a social and cultural Centre. As Estadio Azteca is the home of Mexican football, we expect that Estadio Diablos will become the 'home' of Mexican baseball."