

## IAGI Member Monthly Project Profile

January 2026



- **Project Name: Stormwater Detention System – Aztec Stadium infrastructure support zone.**
- **Owner: Secretariat for Integrated Water Management (SEGIAGUA) – Mexico City (World Cup 2026 Preparatory Works).**
- **Geosynthetic Installer: - SAI LATAM.**

SAI LATAM headquartered in Sonora Mexico, recently installed an innovative modular underground stormwater detention system to meet the stormwater management needs of the surrounding areas to the Aztec Stadium in Mexico City. This modular storm tank system is composed of high-strength plastic structural modules assembled to meet the hydraulic volume and multiple geosynthetic materials required by the site's hydrological study.



## Project Scope

This installation is part of the urban infrastructure upgrades surrounding **Estadio Azteca**, the iconic venue for the opening match of the **2026 FIFA World Cup**. The stadium is the only one globally to host the inaugural match of three World Cups (1970, 1986, and now 2026).

The site's extensive impervious surfaces combined with short, intense rainfall events posed recurring flood risks and strain on the existing drainage network. The client required a **cost-effective, rapid-installation**, and **low-carbon footprint** solution compatible with urban constraints.

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## Project Objectives

- Mitigate flood risk during extreme rainfall
- Control peak stormwater runoff rates
- Maximize land use with a fully underground system
- Enable infiltration for sustainable water management
- Minimize construction time, cost, and carbon footprint

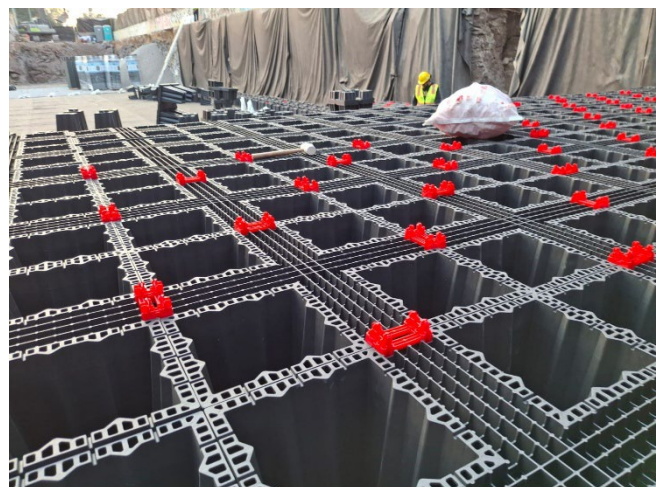
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## Innovative Solution

SAI LATAM implemented a **modular underground stormwater detention system** using high-strength plastic structural modules configured to meet hydraulic requirements defined by the site's hydrological study.

### Key Features:

- Modular, scalable design adaptable to site geometry
- 100% underground installation preserving surface usability
- High storage capacity with load-bearing capability
- Compatibility with infiltration systems
- Integration with existing stormwater network



## System Specifications:

- Installed capacity: **3,500 m<sup>3</sup> (924,600 GAL)**
- Catchment area: **1,500 m<sup>2</sup> (16,140 ft<sup>2</sup>)**
- Operating mode: **Infiltration**

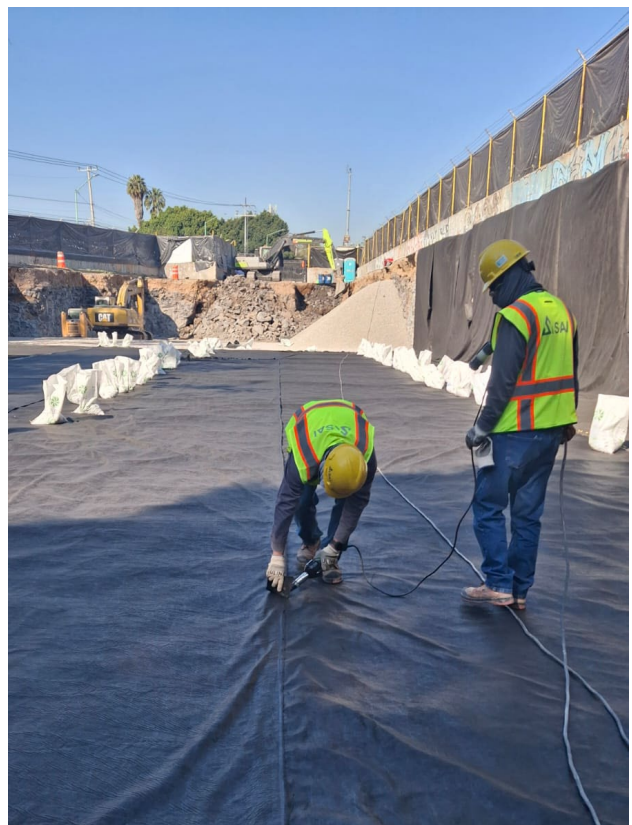
Compared to conventional concrete reservoirs, this modular system achieved **faster construction, lower material and installation costs**, and a **significantly reduced carbon footprint**, while maintaining equivalent hydraulic performance.

## Construction Process

1. Hydrological analysis and system sizing
2. Excavation and subgrade preparation
3. Assembly and installation of modular units
4. Geosynthetic integration for confinement and protection
5. Hydraulic connection to stormwater inlets/outlets
6. Testing and commissioning

## Project Results

- Effective reduction of surface runoff
- Controlled peak flows during heavy rainfall
- Elimination of localized flooding
- Full preservation of surface space
- Contribution to sustainability and urban resilience goals



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## Why This Project Matters

This project illustrates how **geosynthetic-based stormwater solutions** can replace traditional concrete infrastructure, delivering **lower CAPEX, shorter schedules**, and **reduced embodied carbon**. Its implementation at a flagship World Cup venue underscores the role of geosynthetics in **modern, sustainable urban infrastructure**.



Modular underground stormwater retention and detention systems provide a modern alternative to traditional surface ponds or reinforced concrete reservoirs. These systems deliver **space efficiency, environmental sustainability, and cost-effectiveness**, making them ideal for dense urban environments. Applications include retention and infiltration, utilizing geosynthetic components such as structural modules, non-woven geotextiles, flexible geomembranes, and geogrids.

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## About SAI LATAM

Headquartered in Sonora, Mexico, SAI LATAM brings over 30 years of experience in mining, environmental, agricultural and infrastructure sectors; extending its presence into the United States through SAI USA, its Phoenix, Arizona-based branch. The company was the **first contractor to achieve AIC IAGI certification** and remains the only certified installer in Latin America. Specializing in complex, high-volume projects, SAI LATAM offers integrated services including engineering support, material supply, and certified installation, positioning itself as a regional leader in technically demanding geosynthetic applications.

**SAI LATAM is a proud member of the International Association of Geosynthetic Installers (IAGI).**

