



REVITALIZA®
CONSULTORES

FINAL REPORT
O+M: OPERATIONS AND MAINTENANCE V4.1

ESTADIO BANORTE

DEVELOPED BY: REVITALIZA CONSULTORES
DATE: JANUARY 2026



ESTADIO BANORTE

CERTIFICATION SUMMARY

NAME (As registered with USGBC)	Estadio Banorte
Rating System	LEED V4.1 O+M
Level / Points	Platinum / 81 points
Date of Certification	October 2025
Location	Calzada de Tlalpan 3465, CDMX, México
Area	76,926 m ²
Summary	<p>The Estadio Banorte, recognized worldwide as the only stadium to have hosted three FIFA World Cups, has achieved further recognition by obtaining LEED Operations and Management certification at version 4.1, on the highest level possible, 'Platinum'.</p> <p>It is a great achievement for a building with such a rich history to take these steps toward innovation and sustainability. The challenge will continue, as the efforts do not end with obtaining the certification but require consistent adherence to the defined operations and ongoing maintenance of equipment and systems. The Banorte Stadium has demonstrated its ability to adapt to sustainability and will need to prepare for recertification at version 5 within three years, with new and more stringent metrics.</p> <p>For sustainability, the improvement and adaptability of an existing building, overcoming the need to construct a new one, is a significant achievement. We hope that more stadiums around the world, and especially in Mexico, will follow this example.</p>
Performance Period	01/07/2023 a 30/06/2024
Surveys	March 2024

The Banorte Stadium ARC Project Report (ReporteARC_EstadioBanorte_O+M.pdf) presents in detail the results obtained in this certification process, evaluating the building's performance from July 1, 2023 to June 30, 2024.

In October 2025, **Estadio Banorte** achieved LEED O+M: Operations and Maintenance v4.1 Platinum certification with a total of 81 points. Below are some of the project's highlights:

SOCIAL IMPACT

When evaluating the impact that the Banorte Stadium has on the community, it was identified that there are social disparities, so a donation of \$5,000 USD was made to *Ola México* through *Impact Hub* with the intention of enhancing the economic impacts of local businesses and ventures through training and development.

URBAN IMPACT

The Banorte Stadium reaffirms its position as the stadium with the greatest history and now as the stadium with the highest LEED O+M certification in Mexico.

Banorte Stadium is located on Calzada Tlalpan, a high-traffic thoroughfare with an extensive public transportation system. Across from Banorte Stadium is the "Estadio Azteca" station on Line 1 of the Mexico City Trolleybus System. These trolleybuses are electric and connect with the rest of the public transportation network throughout the city. In addition, a new bike path is under construction that will connect Banorte Stadium to the Zócalo, the city's main square, covering 34 kilometers in both directions. This new bike path offers a more sustainable and accessible mode of transportation for all visitors to Banorte Stadium.

- **Location and Transportation:** The project earned 10 out of a possible 14 points in the transportation category, highlighting its efficient accessibility for both employees and visitors. To understand users' mobility habits, surveys were administered to occupants and visitors of Banorte Stadium. Thanks to its location on one of Mexico City's main thoroughfares and its proximity to multiple public transportation options, a high preference for efficient modes of transport was observed. The survey found that 28.25% of respondents use public transportation (Metro, trolleybus, and bus), 28.37% use efficient vehicles (carpooling and alternative fuels), and 11.4% opt for modes that do not generate greenhouse gases (walking and cycling). These alternatives demonstrate that 68.02% of attendees choose transportation that is more fuel-efficient or opts for zero emissions to get to the stadium. The remainder use cars or motorcycles individually.



ENVIRONMENTAL IMPACT

As part of its commitment to continuous improvement and sustainable operation, Estadio Banorte implemented a series of strategies focused on energy efficiency, responsible water use, and proper waste management. These actions are reflected in a strong performance within key LEED certification categories, demonstrating efficient operations that contribute to reducing environmental impacts and improving user well-being. The main results obtained in each of these areas are described below:

- **Energy and Atmosphere:** The project achieved 32 out of a possible 33 points in this category, standing out as a stadium with better energy performance than other similar buildings around the world, following Energy Star standards. During the improvement period, key recommendations were made for the stadium's HVAC system. The implementation of lighting upgrades, metering and sub-metering, and other strategies has resulted in a reduction in the stadium's energy consumption. The project's Estimated Energy Use Intensity (EUI) is 43 kbtu/ft² or 135.66 kWh/m² (data from the ARC report for on-site and external energy intensity). Despite this strong performance, the energy used on-site and its production generate greenhouse gases. Therefore, carbon credits certified by Green-e were purchased, offsetting 6,349 tons of greenhouse gases, which corresponds to 100% of the energy used by the stadium's operation during the performance period.
- **Water Efficiency:** The project achieved 13 out of a possible 15 points in the water efficiency category. Purchasing treated water via tanker trucks helped reduce indoor potable water consumption, and treated water was used for irrigation. As part of a continuous improvement strategy, the Stadium committed to replacing 100% of its existing sanitary fixtures with more water-efficient models, thus reducing the Stadium's water demand. Additionally, the Stadium committed to replacing the exterior grass, given the high irrigation requirements for this type of vegetation.
- **Waste Management:** The project achieved the maximum score in this category with 8 out of 8 points, diverting an average of 3,082 kg of waste per month (approximately 16% diversion during the performance period) that would otherwise have been sent to incineration or landfills. The management of generated waste and its disposal for recycling or reuse are part of the sustainable practices that helped achieve certification. In addition, the stadium committed to improving this diversion percentage by implementing strategies presented in the Waste Audit Report, and to establishing a collection point for event-generated waste (Gate 2) to ensure proper on-site separation, reaffirming its commitment to a better environmental impact.

- **Operations Policies:** The Stadium committed to the appropriate implementation and monitoring of sustainability policies, which include:
 - Operational Sustainability Policy
 - Maintenance and Remodeling Sustainability Policy
 - Sustainable Purchases Plan
 - Cleaning Plan
 - Exterior Maintenance Plan
 - No Smoking Plan
 - Renovation and Maintenance Plan
 - Waste Management Plan
 - Pest Management Plan

Policies should be reviewed at least annually, for review and adjustment of the objectives and commitments made.

HEALTH IMPACT AND WELLBEING

The project fosters a healthy and comfortable indoor environment through the implementation of policies and strategies focused on occupant well-being. As part of the evaluation process, occupant satisfaction surveys were conducted, the results of which indicated that attendees are satisfied with the stadium's conditions. The main achievements in the Human Experience category are detailed below.

- **Human Experience:** Surveys were conducted with 3,213 stadium users, yielding outstanding results: 61.68% expressed satisfaction with the indoor air quality. Measurements of total volatile organic compounds (TVOC - 180 $\mu\text{g}/\text{m}^3$) and carbon dioxide (CO_2 - 538.67 ppm) were also taken, and these levels remained below average, ensuring healthy and comfortable indoor conditions for occupants. Note: Recommended limits are TVOC less than 200 $\mu\text{g}/\text{m}^3$ and CO_2 less than 1000 ppm.
- As part of the stadium's commitment to improving the human experience and the quality of the environment, Banorte Stadium made a commitment to install air injection equipment for all regularly occupied spaces; and to place "No Smoking" signage in pursuit of the *Major Renovations* certification.

CONCLUSIONS

On October 21, 2025, the **Banorte Stadium** obtained *LEED O+M: Existing Buildings v4.1 Platinum* certification, achieving a total of 81 points, which positions it as one of the most sustainable existing stadiums in the world.

Located on Calzada Tlalpan, one of Mexico City's busiest thoroughfares, its strategic location and proximity to multiple public transportation options encourage the use of alternative modes of transportation, allowing it to achieve exemplary performance in the location and transportation category.

From an environmental perspective, the stadium has demonstrated strong performance in key categories such as energy, water, and waste. Key strategies implemented include modernizing the HVAC system, using energy-efficient equipment, and a commitment to replacing sanitary fixtures with low-consumption models.

Furthermore, an average of over 36 tons of waste per month was diverted from the 270 tons generated during the performance period. Regarding occupant well-being, satisfaction surveys and air quality measurements were conducted. The results of which reflect healthy and comfortable indoor spaces, with over 61.68% of users satisfied with the stadium's conditions.

Thanks to these actions, the Banorte Stadium not only improves its daily operation, but also adds value to the community, promotes a culture of sustainability among its users, and strengthens its role as an architectural icon that actively contributes to the responsible development of the city.

RECERTIFICATION

For the upcoming LEED O+M recertification, it is recommended that Banorte Stadium maintain and strengthen the strategies that enabled it to achieve Platinum level, considering that the recertification will be at version 5, which is more complex and stringent. Therefore, it is recommended that efforts be expanded over the next three years to facilitate recertification.

Regarding waste management, it is recommended to strengthen environmental awareness programs for visitors, updating them regularly, especially during high-traffic events. In addition, it is recommended to improve the waste container strategy, as it was observed that attendees are not separating their waste into the appropriate containers. As a further recommendation, the possibility of implementing internal waste audits and maintaining consistent records could be explored to identify areas for improvement and increase the

diversion rate. Finally, it is essential to keep the record of all consumption and metrics relevant to certification up to date, as this will not only expedite the recertification process but also allow for the identification of new opportunities for improvement in the short and medium term.

It is important to emphasize that the next recertification will have to be carried out under LEED O+M v5, which incorporates stricter criteria and standards, as well as new strategies to be implemented regarding decarbonization, mitigation, and resilience. Therefore, it is essential to adopt improvement measures that facilitate the transition to the new requirements and ensure that the stadium maintains a high standard. Understanding this, it is recommended to carry out annual certification maintenance, including policy updates, assessments, and strategies aligned with the new prerequisites, which are essential for O+M v5 certification, effective from April 2025.