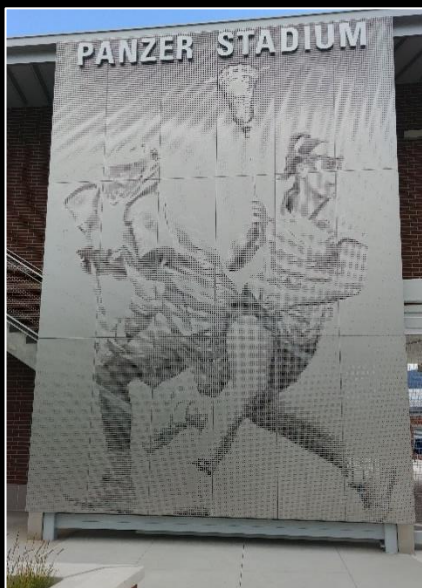


- **Owner:**
The Pennsylvania State University
- **Services:**
Structural Engineering Design
- **Construction Cost:**
\$6,800,000
- **Year Completed:**
2018



Lacrosse Stadium New Facility Design

Panzer Stadium, The Pennsylvania State University,
University Park, PA



Stahl Sheaffer completed the full structural design for the upgrades to the lacrosse facility including pressbox, seating, and other stadium amenities. Design aspects for the facility include retaining walls to form terraced seating, a state-of-the-art building that will house television and radio broadcast spaces, concessions, restrooms, and an elevated VIP seating/terrace area. Building features include two-way cantilevers, long-span deck, and structural elements designed as architectural features. Having been involved in the long-term maintenance and repairs at several sports venues, Stahl Sheaffer brought a wealth of experience and focus toward the long-term health of the facility. Details within the facility were developed with an intent to reduce the long-term maintenance problems which are commonly experienced at stadiums with outdoor exposure. Simple solutions included the use of aluminum railings where appropriate, galvanizing steel below a high-performance coating system (instead of relying solely on a coating), detailing for galvanized steel to prevent uncoated surfaces, and the use of stainless-steel fasteners. More complex solutions involved the concrete design which utilized fibers to eliminate reinforcing bars to the greatest extent feasible thus minimizing the possibility of corrosion within the concrete which culminates in concrete spalling and cracking, detailing steel column bases to terminate above the ground level in lieu of extended concrete pedestals to reduce the likelihood of corrosion particularly from exposure to de-icing salts, specifying concrete mix designs to include additives such as a crystalline forming admixture intended to self-heal any minor cracking which occurs and to minimize water infiltration, detailing railing to prevent water infiltration into the pipe themselves as well as into the concrete base, and detailing architectural guardrails to minimize locations for water to collect which leads to freeze-thaw damage as well as accelerated corrosion.

