Renovating Hayward Field for 2008 USA Olympic Trials

By Matthew K. Scheibe, ASLA

Hayward Field before the renovation. University of Oregon

Hayward Field is commonly heralded as "the Carnegie Hall of track and field" and rightfully so. No other facility has such a rich history or is as highly regarded by both athletes and fans as the ultimate venue to compete at and experience the sport.

Located in Eugene, Oregon, it is the home field of the University of Oregon (UO) Ducks. It has hosted nine NCAA national championship meets, the 1999 and 2001 USA Outdoor Track & Field Championships, and three consecutive U.S. Olympic Trials between 1972 and 1980. In 2005, Hayward Field was selected as the host site for the 2008 Olympic Trials.

Although Hayward Field hosted several U.S. Olympic Trials, 25 years had passed by since its last one. Standards for a meet of international significance have changed in that time, and the winning bid was contingent on a number of facility improvements. In particular, a major reconfiguration of the infield was necessary.

Team building

Renovating the infield of this venerable facility was a complex task that required many specialized skills and exceptional teamwork. The UO commissioned Cameron McCarthy Gilbert & Scheibe (CMGS) as the primary consultant for the field renovation work. TVA Architects was selected by UO to design architectural improvements and serve as the consultant of record. Paige Design Group of Bahama, NC was enlisted as the track and field specialist and Balzhiser Hubbard Engineers of Eugene joined the team to provide civil and electrical engineering.

Soon after the designers initiated their schematic work, McKenzie Commercial of Eugene was selected as the CM/GC (Construction Manager/General Contractor). This allowed UO to establish a maximum

price and more comfortably implement the improvements within the given time constraints. Once these pieces were in place, specialty subcontractors were brought aboard. Of particular significance to the infield improvements is Rexius of Eugene, the landscape contractor in charge of drainage, irrigation, rooting material, and sod components. Having Rexius involved early in the process allowed CMGS to test various design strategies for constructability and get feedback on product options for feasibility and availability.

The client provided significant input throughout the design and construction processes through various stakeholders including their project manager, track and field coaches and athletic field managers.

Hayward Field was constructed for football in 1919, with a 6-lane oval track oval added two years later. Before its use as a sports field, the site was a marshland, quite literally used for duck hunting. Only after building up the playing surface with fill with a crown in the center for surface drainage, was it marginally acceptable for sporting events. The field served dual purpose until 1967 when football relocated to a new stadium. Since that time Hayward Field has been an exclusive track and field complex. In 1983, more soil was added to the perimeter of the infield to establish a virtual plateau that provided a more acceptable landing surface for throwing events.

The existing plateau configuration was functional, but far from ideal. The roughly 2 foot differential of grade between the track oval edge and center of the field obstructed sight lines for coaches trying to observe footwork from one side to the other. It also meant there was an awkward transition (steep slope) of lawn from the edge of the landing areas to the edge of the track. A perforated pipe drainage system had been installed years earlier, but had silted up to the point where it provided little value during the Pacific Northwest's precipitous months.

The new layout needed to accommodate a number of modern logistical and practical considerations. Preferably, dual runway and throwing circles for each individual event are located directly adjacent to one another. The jumping events must have "flipping" capability to respond to unpredictable and varying wind conditions. The landing areas for throws must accommodate world record distances. In addition, the existing inside perimeter of the oval could not be altered due to budgetary and physical constraints.

Another direction given to CMGS was that each individual event space needed to be clearly distinguished from the others. This is a historic and unique aspect of Hayward Field. A majority of other track and field complexes integrate synthetic runways and throwing areas into the sides and turns of the oval.

The design team developed nearly a dozen configuration and layout options for the field events. The final accepted configuration provided four pole vault runways, four long jump/triple jump runways and sand pits, two high jump areas, two shot put circles and landing areas, and one discus circle/cage and javelin runway that share a landing sector. The steeplechase water jump was maintained on the interior side of the oval in turn 3.

Parallel with the decision on a new layout was a commitment to replacing the soil field with one that is sand based and incorporates a new subgrade drainage system. Such an approach would solve the myriad of problems and shortcomings of the existing field, including the elimination of the plateau. It also allowed for the layout of field events to be a bit "tighter" since the extent of grade transitions are greatly diminished on a virtually flat field. CMGS and Paige Design worked together to set the new elevations within the tight tolerances of international standards: 1:1000 slope in the running and throwing direction and 1:100 cross-slope for most events.

An artist's illustration of Hayward Field as it will appear during the 2008 Olympic Trials. TVA Architects

There was a great deal of comfort from the UO's perspective on switching to a sand-based field as they had implemented such fields for their football and soccer programs approximately 7 years prior. Since that time their management staff had fine-tuned strategies to very effectively maintain them.

Once a general layout had been selected and the commitment to

a sand-based field made firm, the design team proceeded with the complex task of sorting out the various networks for irrigation, subgrade drainage and other utilities. A requirement set by UO for the irrigation was that all of the runway surfaces were to be kept as free from overspray as possible. This was in response to frustrations with the prior watering system that grossly sprayed all surfaces within the field. It not only made use of the event surfaces more challenging, it also shortened their lifespan.

The prior irrigation system was simplistic. It had 8 zones and approximately 40 large rotor heads. Due to UO's insistence regarding overspray and the tightness of field event layout—there were many narrow lawn strips 5-feet in width— the new irrigation was a much more intricate system. The new system has 23 zones and more than 700 individual irrigation heads. Rotor heads are only used in the large landing area lawn, and the remainder are spray type to control throw within tight areas. Valve boxes, for both irrigation and communications, were carefully located on the site plan to not detract from the aesthetics of the facility.

Four-inch perforated pipe was selected for subgrade drainage of the sand-based field. It is spaced 20 feet on center for the large landing area lawn and tailored to best suit the spaces in between field event facilities. Perf. pipe is placed at the edge of all runway and track surfaces to collect concentrated sheet runoff. Cleanouts for the drainage system are strategically placed to facilitate flushing out should silting become a problem in the future.

Irrigation and drainage installed in one of the narrow lawn strips. Rexius

Under construction

On June 10, 2007 the Nike Prefontaine Classic was held at Hayward as the last event on the old infield. At the close of the meet, a trackhoe ceremoniously broke ground in front of a sizable crowd who stuck around to experience the historic moment. Within days, the earthwork crew was in full force. They peeled away the layers of fill that had been placed during various improvement projects over the decades and then started to hit the subgrade that predated the original 1919 construction. They discovered that in many areas the conditions were far worse than anticipated. Significant amounts of heavy clay and organic soils were frequent and deep. This material was certainly unsuitable as subgrade for the new sand-based field. Over-excavation, up to 4-feet deep in some places, was required. Bar run and crushed rock were imported to replace the poor soils.

"Subgrade was one of the biggest challenges of the whole field", said Don Delaplain of Rexius. Replacing that material had ripple effects; nearly the underground pipe would need to go through rock instead of soil. As a result, conventional trenching was not an option. According to Delaplain, "We had to backhoe or hand trench everything."

The specifications for the sand rooting medium of this high performance field were quite particular. The product was sourced from the Columbia River and supplied by Glacier Northwest. This type of sand is coincidentally used as a topdressing medium on golf courses, and is in high demand in the summer months. Anticipating a potential supply shortfall, Rexius made a strategic move to secure enough material for the job several months in advance of its placement and rented a vacant lot nearby to temporarily store it.

The sod, consisting of a specified perennial ryegrass mix, was contracted through Oregon Turf on a plot in the Yakima River valley in Washington. It was grown on a sand-based mix similar to the sand specified for the rooting medium to assure compatibility with the rooting medium placed below. Sod laying started in late October and finished in 7 days using an eight-person crew.

Aside from the complications caused by unforeseen subgrade conditions, the installation process went smoothly. Within a month of install, the roots of the turfgrass had progressed 4 inches into the rooting medium, an impressive feat in Oregon during November.

The UO will soon assume responsibility for upkeep of the field. Eric Fasbender, CSFM, UO athletic department grounds manager, notes that this field will be different than their other sand based facilities in that "it's much more based on aesthetics." It will not be exposed to nearly the type of wear and tear that is inherent with other sports, such as football or soccer.

Asked if they will implement a new mowing pattern for the field, Fasbender chuckled and said, "Ron is too old-school and traditional" referring to Ron Perkins, Hayward Field's long-time field manager. He added, "Just like Wrigley Field, you always expect to see the checkerboard."

Hayward Field will reopen this spring for UO practice and meets. The Olympic trials will be held between June 27 and July 6. Due to exceptional teamwork between designers, contractors and UO, all parties involved are confident and excited about the days ahead when the new and improved Hayward Field is revealed to a global audience.

Although the team involved will know and value the improvements that were made, what will be most appreciated by athletes and fans is what has remained constant—the magical Hayward Field experience. ■

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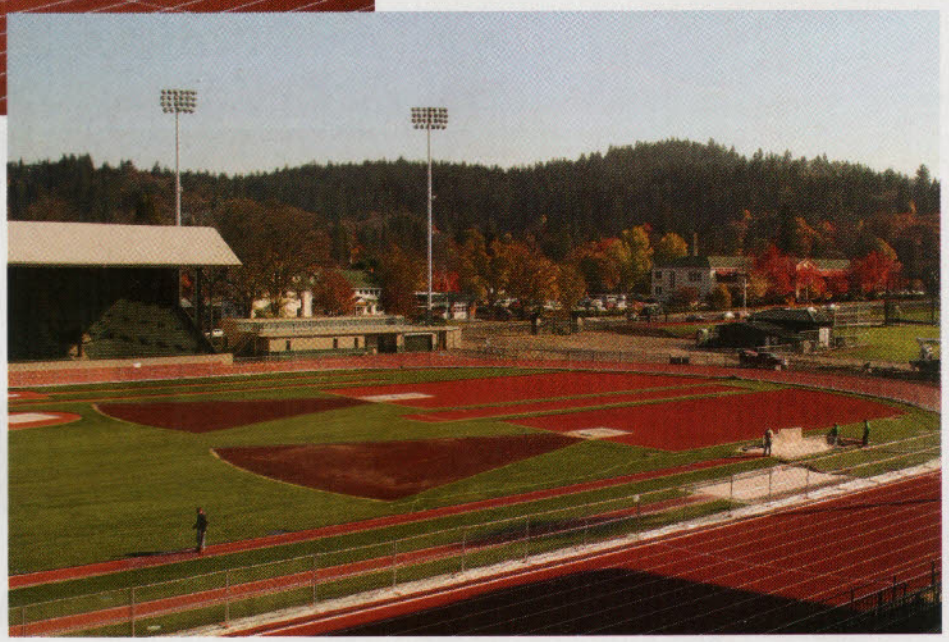
The sod installation. CMGS Landscape Architects



Substantial Completion of the south side: runways, throwing circles and landing pits. McKenzie Commercial