

Safety on Athletic Fields Begins at the Elementary Level

by Dr. Richard G. Caton and
Dr. Henry W. Indyk, Turfcon™

It is difficult to find athletic fields used for professional, intercollegiate and interscholastic competition that are constructed in accordance with state-of-the-art technology. It is even more difficult to find properly constructed and maintained playing fields that are designated for the use of young athletes in the elementary schools across America. Many elementary school fields are in very poor condition and, because of the risk of injury to the student athlete, are often deemed unfit for competition.

Since there are no standards for certifying playing fields for athletic competition, games are contested on poor playing surfaces and, even worse, less care is given to fields designated for use by younger athletes.

Because of problems that arise from faulty original construction, some schools employ the services of experts in playing field construction and maintenance to assist with new construction projects. Such is the case in Millville, N.J. where the Administration and Board of Education elected to employ the services of turfgrass experts to manage construction and reconstruction of playing fields in the school district. These fields, located at elementary schools, are used primarily by children and student athletes.

The Millville Board of Education, concerned with the condition of the playing fields and conscious of the need for safety improvement, contacted turf consultants to evaluate the fields, develop specifications, monitor construction procedures and coordinate the project. The initial plan was for developing two fields at existing schools and one field at a newly constructed school.

The Process

Individual specifications were developed for each field based upon a critical evaluation of each site. In the evaluation process, specific determinations were made for soil conditions, drainage, grade, debris, etc. Although each of the three fields was close to each other, an underground drainage system was specified for only one of the fields. This particular field had poor natural internal drainage conditions. The other

two fields were adequate and would not require the expense of installing a drainage system.

Soil and Drainage Options

Each field was provided with an eight-inch layer of a modified topsoil (referred to as a root zone mix) above an approved subgrade. Soil samples submitted by contractors were evaluated for appropriate physical and chemical characteristics. On the basis of laboratory analyses, specifications were developed for proper modification with an approved sand to provide for appropriate physical characteristics of the root zone mix. In addition, the results of chemical analyses served as a basis for determining and specifying the requirement for enhancement of the nutrient status mix.

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Adequate internal soil drainage provides for soil moisture control during and immediately after natural rainfall, particularly when in excess of the water holding capacity of the soil. However, periods of soil moisture stress for turfgrass growth is commonly encountered. As an assurance of maintaining proper soil moisture conditions, each field included automated irrigation systems with small pop-up irrigation heads.

Sod Selections

Sodding was selected as the most appropriate means of establishing the natural turfgrass playing surface. The use of sod significantly reduces the waiting period necessary for the turfgrass to become well established before being subjected to use. A high-quality tall fescue and Kentucky bluegrass sod grown on a loamy sand soil was selected.

Each area featured a softball field with a totally skinned infield constructed with a

coarse sand subgrade covered with a four inch layer of infield mix. Backstops, fencing for player protection and fencing encompassing the entire field, were included.

The Monitoring Process

When site clearing began, all of the construction procedures including the quality of all materials were monitored to determine conformance to specifications. All activities were recorded and dated. Written reports were issued as a means of communicating the project's progress.

The completion of one field, the near completion of a second field and the anticipated completion of the third field represents the conversion of totally barren playing surfaces to natural turf surfaces with characteristics basic to natural turf playing

fields for athletic activities. These new fields reflect not only upon the forward thinking of the Millville School Administration, but also its sensitivity to providing for the safety of its school children, beginning at the elementary school level. □

Dr. Richard G. Caton is coordinator of consulting services and Dr. Henry W. Indyk is director of agronomy for Turfcon™ GSI Consultants of the Greenway Group in Horsham, Pa. Dr. Indyk also is on the STMA Board of Directors.

EDITOR'S NOTE: At press time, representatives of the STMA Technical Committee submitted the second draft of guidelines for a total field maintenance publication. STMA is working with the American Society of Testing and Materials (ASTM). Read *Sports Turf Manager* for more details as they develop.