FLOODLIGHTS & FENCING

A recent Ontario Hydro bulletin described the circumstances of an electrical contact fatality which occurred earlier this year. On May 23, 1993, a five year old female was electrocuted when she touched a snow fence in a sports park. The snow fence became energized when the light standard it was fastened to shorted out as a result of a faulty fixture and poor grounding of the conductor. The factors that contributed to the fatality included the fastening of the snow fence to the conduit on the pole, corrosion of a buried ground clamp, moisture in the floodlight, and a crack in the floodlight case.

Ontario Hydro recommends that municipalities check all pole-mounted floodlight installations in sports parks - particularly any installation where metal conduit or other electrically grounded metal rod is situated within 8 feet of the ground.

The following actions are recommended to reduce the probability of such an occurrence being repeated in your municipality.

1. Remove all conducting fences or other conducting non-electrical material attached to or conducting metal conduits on poles supporting floodlights.
2. Ensure that any metal within 8 feet of the ground and forming part of the electrical installation is properly grounded. Where grounding the conduit is accomplished by a local grounding rod, corroded grounding clamps should be replaced with ground clamps certified to meet the requirements of CIA Standard C22.2 NO.41. Special attention should be given to buried clamps. Replacement clamps must be certified for direct burial.

The maintenance of sports field lighting is usually the responsibility of the municipality and while the actual work may be done by the local utility, it should be noted that only the Electrical Inspection Department of Ontario Hydro is qualified and authorized to insect customer owned facilities and determine if a particular installation is safe and in compliance with the Electrical Safety Code of Ontario.

[Reprinted with permission from *Facility Forum*, Vol.4, Issue 3, Jan. 1994.]

FOCUS ON SAFETY

SAFETY RECOMMENDATIONS in the DESIGN of

ATHLETIC and SPORT FIELDS

by Arthur H. Mittelstaedt, Jr.
Past President
Recreational Safety Institute, Ronkonkoma, N.Y.

Athletic and sports fields are facilities which have undergone years of scrutiny and change. There can be no question that rules of the game, regulations for play, criteria for development and maintenance, and a host of other recommendations abound for such field areas. It is not the intent of the author to repeat what is known about design and ultimate construction and operation of such field areas, but to highlight those elements that affect the safety of the players and spectators. As a result of the wealth of knowledge compiled to date and our unending quest for further information, personal injuries are becoming less attributed to the care of the owner or operator and more to the recklessness of the players or spectators.

However, when an injury occurs, the victim looks to others to pinpoint the blame. That, plus an aggressive litigation environment and an array of books, criteria, handbooks, and other documents, plus numerous court decisions and theories of negligence, enables specialized experts to have their own "field day". A sympathetic jury makes the final decision, usually in favour of the injured party, which means that the owner/operator cannot afford to make mistakes. It is imperative that the owner/operator of any type of athletic or sports field recognize that he cannot designate an alternate for the responsibility but must face it squarely. He must ensure and assure that every reasonable effort is and has been made to reduce his exposure. Diligence, not negligence, is the byword.

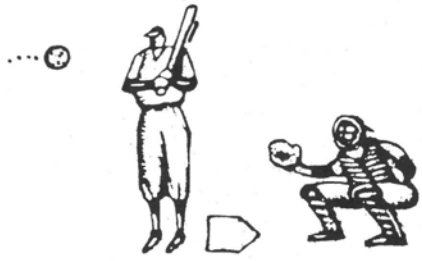
The focus of the operation of a field is predicated on its design and construction, an integral but yet separate responsibility, and subject to subsequent liability. There is no such thing as a sports field facility that is not designed. Any forethought given to the use of a piece of land, whether it is already flat or has been graded, is considered design. Although every state has licensed professional engineers and landscape architects who have licenses to practice the design of such fields and certify their correctness, very few fields are certifiable. Only 2% of the sports fields now in existence have been designed with the advice of such professionals. Most have been designed by the owner's bulldozer operator, landscape contractor, athletic administrator, athletic trainer, manufacturer, turf grower, grounds keeper, or other such person. When an accident happens, the "discovery process" ultimately proves negligence, because nobody was charged with the responsibility, or assumed the responsibility, for the care of the fields. Those lay persons usually involved in the design were probably not aware of the state of the art in sports field design and construction. Thus, an accident happens, and, ultimately, a judgement or settlement results in favour of the injured party

What can be considered exposure today as it relates to athletic field liability? Virtually every aspect of sports field development and management is vulnerable.

This paper addresses concerns related to the design and subsequent construction of athletic and sports field facilities. In order to put into perspective the guidelines as set forth, it is critical that a difference be made between those fields used by amateurs for play and those used by professionals for play. These guidelines address fields used for amateur play, although there is no distinguishing difference between spectators of both amateur and professional play; thus, the guidelines cover safety for spectators of both amateur and professional teams. It must also be noted that if such guidelines are appropriate for professional play, the U.S. Occupational Safety and Health Administration would be responsible for advancing these safety concerns.

Facility Hazards

The athletic and sports field for amateur play contains a multitude of hazards to the players. These guidelines will address different aspects of the field as it relates to ball fields, that is, softball and hardball and then to football-related sports, that is, soccer, field hockey, lacrosse, and others.



BALL FIELDS

Ball fields consist of the following components: infield, outfield, and sidelines: each will be addressed separately.

Infield

1. The surface, which may consist of clay and turf or synthetic material, must be free of large grains, pebbles, rocks, debris, and other foreign objects. (Although various opinions have been expressed regarding the resiliency of clay-turf or synthetic materials and its effect in preventing injury, other papers will address such studies.)
2. The surface must all be on a level or even grade, with no depressions, ruts, mounds, or other irregularities.
3. The pitchers mound must be a rubberized or resilient material with rounded edges.
4. The bases must be of a resilient or soft material, with a low profile or quick release capacity.
5. The baselines and batter's circle and the turf-clay edge must be straight and even, with no irregularities creating an unforseen tripping hazard.
6. The baseline and other marking material must not be toxic to the skin or by inhalation.

Outfield

1. See Infield 1.
2. The surface grade must be even and pitched in one direction, without any depressions, ridges, or other irregularities.
3. The outfield must have a fence of an even arc or radius that can be judged by a player in pursuit of a fly or ground ball, and a 4.6-m (15-ft)-wide warning track of clay or synthetic surface without irregularities.
4. The outfield fence must be at least 2.4 m (8 ft) in height to prevent an adult player, who is jumping up to catch a fly ball, from falling over the fence. Furthermore, no obstructive or protruding material,such as posts or pipe, may be on the inside of the fence.
5. The fence, if chain link material is used, must have the top and bottom of the mesh knuckled (with no barbed or protruding tops).
6. The fence, if made of plastic fabric with bendable vertical supports, must not have any protrusions.
7. The outfield fence must not have any solid wood or metal signs or plates fastened on the inside.
8. The outfield fence, if of a solid material, must have padding mounted on it.
9. The outfield must have no flagpoles, monuments, or other objects that provide impact resistance.
10. The outfield must not have any scoreboards, unless they are padded to provide impact resilience.
11. The outfield must not have any trees or landscape materials.
12. The outfield must not have any drain inlets or catch basins.
13. The outfield irrigation system must often be checked for any pop-up sprinklers that may have had ground settlement around them or that may be without caps.
14. The outfield must have no lighting standards, footings,or stanchions.
15. The outfield must have no drainage courses or structures and must not be shortened by such structures or by roads or jogging/walking paths.

Sidelines

1. The dugout or player's bench must have a protective fence or screen or have unbreakable plastic or glass in front of it.
2. The backstop must have an overhang of sufficient size to contain foul balls that would impact on other areas in use.
3. The backstop must be constructed of 25.4-mm (1-in.) mesh to prohibit climbing.
4. The backstop, where an overhang will not be effective, must have netting utilized to contain foul balls.
5. The backstop must be designed to accommodate the site's specific requirements for protection of spectators, users, and bystanders.
6. The sideline fence between the spectators and the playing field must be 2.4 m (8 ft) in height as specified by the Amateur Softball Association of America (ASA).
7. The sideline fence must extend from the backstop a minimum of 6.1 m (20 ft) beyond first and third base.
8. The outfield distance must be no shorter than that specified by the various organizational rules of the game.
9. The outfield fence, if removable for multipurpose play, must have sleeves at least 0.1 m (4 in.) below the top of the grade of the surface material.
10. The outfield turf or synthetic material must have no joints that could catch a shoe.
11. The outfield turf sod must have no burlap or other mesh materials that could catch spikes.

FOOTBALL FIELDS

Football and related field sports consist of the following components: the field, sidelines, end zone, and surrounding area. Each will be address separately.

The designing of a sports field also require consideration of a host of factors that can result in negligence if not considered.

Field

1. The field should not interfere with another facility, track, or jogging path.
2. The field should have no surface drain inlets, pop-up sprinkler heads, metal sleeves, or other obstructions unless these are rubber capped.
3. The field should be lined to the sports regulation size with a nontoxic paint or powder.

Sidelines

1. The sidelines should have no permanent markers or pylons which could cause tripping or falling and should be of a flexible material that cannot cause penetration.
2. The sidelines should have officials' tables no closer than 6.1 m (20 ft).
3. The sidelines should have players' benches no closer than 6.1 m (20 ft).
4. The sideline should have equipment, refreshment, and emergency equipment no closer than 9.1 m (30 ft).
5. The sideline positioning of officials, players, coaches, and related penalty zones or official space should be as per the rules of the game.

End Zone

1. The furthest game line of the end zone shall be no closer than 9.1 m (30 ft), or, if a closer dimension is required, a padded fence or wall shall be installed.
2. The end zone should have no lighting with fixtures directed to the field that could cause a blinding glare when played at night.
3. The end zone should have a high fence, hight net, or adequate warnings protecting the public from goals.

Surrounding Area

1. The area around the activity field should be controlled so that there is no interference from the traffic of pedestrians, buses, automobiles, service vehicles, or bikes.
2. The area around the activity field should be planned to give direct access to parking areas and should bisect or parallel play areas. Adequate fencing should be installed to separate the areas of use.
3. The area should have adequate pad and driveways providing a station for emergency vehicles and rapid ingress and egress.

General Site Hazards

The planning of a sports field requires consideration of a variety of factors that affect safety and that can result in negligence if not considered.

1. A field without fencing must not be located directly adjacent to a parking lot, park drive or road, which might cause play interference or injury.
2. A field must not have unguided or uncontrolled access to it without traffic crossing signs and markings or children playing signs.
3. A field must have access for emergency vehicles and must not be remote from emergency phones.
4. A field must have a potable water service and sanitary service.
5. A field must not be unfenced or contain natural hazards for spectators or players.
6. A field must not be near unprotected railroads or power lines.

The designing of a sports field also require consideration of a host of factors that can result in negligence if not considered.

1. A field must not be orientated so that untrained players can be momentarily blinded by the sun or lights when fly balls, line drives, wild throws or similar aspects of the game occur that can result in injury.
2. A field must not have obstacles along the sidelines, behind the plate, or in the outfield that can not be protected.
3. A field must have fencing in front of the players' benches and parts of the spectator outfield that are not protected.
4. A field must have fencing or a deterrent on top of the backstop or on top of the dugouts preventing youths from climbing them.
5. A field must not have exposed pop-up irrigation or other valves for sprinklers, exposed drainage inlets , or exposed manhole covers.
6. A field must not have exposed sharp corners or footings.
7. A field must not have steep slopes in the playing area, rutted outfields, depressed baselines, or holes in the outfield.
8. A field must not have puddles or collect water in the field or along the parimeters, which can cause mosquitos to breed and can create slippery conditions.

These are only a few of the problems that can arise in the planning and deigning/engineering stages of playing field development. It is in these stages that the input of the planner, designer/engineer, and operator, working together, can be used to avoid future problems resulting in claims for negligence. The plans and specifications, the change order or other documents, and supervision of the construction and installation are all areas in which the cause of concern can and must be addressed.

Weeds are plants growing where they are not wanted. Unless chemical weed control is accompanied by a change in management programs, it will only result in replacing an easy to kill weed with a weed more difficult to control.