

AerWay®

**AerWay® Leaves Sports Fields
Safe and Playable**

earn a good return over a number of years. Time and time again one sees serious shortcomings in practice as a result of compromises made at the installation stage.

Consider the situation of excess soil water on your fields. Modern drainage systems can move up to one inch of rain in one hour. Main drains are usually sited off the main playing area and the lateral drains are spaced at 5, 7 or 10 yard intervals depending on the design criteria. The high-speed wheel trenching machines cut with precision, conveying the excavated soil into trailers running alongside leaving a clean surface finish.

Superimposed over these piped drains there needs to be a secondary drainage system to speed the passage of water to the pipes. Two alternatives have been used in Europe: the Shelton Gravel Band Drainage and Shelton System 25. Both install gravel bands 1 inch wide and down to a maximum depth of 13 inches, and 16 inches respectively, spaced at 16-32 inches apart.

Gravel band drainage is a trenchless system. The operation has to be carried out when soil is moist and this prevents summer work unless irrigation is available. Disruption is minimal and the area can be brought back into play immediately. Because of the close spacing of the bands soil shrinkage is less of a problem and significant settlement in the bands rarely occurs.

The Shelton System 25 is designed to dig trenches with minimum disturbance to the playing surface. To this end it has a conveyor carrying the excavated soil to a trailer running alongside. Simultaneously, a vibrating hopper on the rear of the machine places a permeable fill in the trench in a one-pass operation.

Often in the past the drainage water was allowed to go to waste, which can be a case of money down the drain when one realizes that 1 inch of rain falling upon an acre is in excess of 22,000 gallons. Today the scheme designer should be planning for its storage in order that it can be used for irrigation in drier times. Run-off from paved areas and buildings can be considerable, and where possible, should be conserved also. However rain water from car parking areas may be polluted and need treatment before being used for irrigation purposes.

Increasingly reclaimed water is being used for irrigation. It is essential to get such water analysed on a number of occasions and over a

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and stimulate strong
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IRRIGATION & DRAINAGE



Above: Gravel Band Drainer installing 1-inch wide bands in Gateshead Stadium, England.



Three-ton Gravel Band Drainer installing gravel to surface. Aggregate can also be set down in the trench.

period of time before making a decision as to whether it is safe to use.

Reclaimed water from sewage treatment plants serving mainly residential areas may be treated at the plant to remove high levels of phosphates. However, from our experience, lapses can occur and irrigated sportsturf can soon be receiving more phosphates than is good for the plants.

One needs to take great care in using reclaimed water from industrial areas for one hitch at the treatment beds can do untold damage on the sports field.

Reed beds for foul-water treatment are increasing in popularity for some domestic and semi-domestic situations. Reports suggest these work extremely well but it would be wise to get analytical reports before proceeding.

For too long installers of land drainage and installers of irrigation have worked apart. As a result one sometimes blames the other when pipes and control cables are seriously damaged. The lack of joint planning leads to a chaotic network of underground services. Substantial sums of money could be saved initially and in the ongoing situation, with forethought and cooperation.

The use of a high speed wheel trencher for installing irrigation pipes up to four inch diameter minimally impacts established playing surfaces. It also can be easier to ensure that the design depth is achieved and the location of the pipes can be permanently marked by adding sand in the backfilling operation.

Whether to install irrigation pipes below the drainage pipes or vice-versa is a matter of personal preference for the pros and cons of each appear to balance out one another.

In other ways, too, drainage and irrigation of sports fields go hand in hand. The Shelton gravel-banding technique described above was developed as a drainage technique but it is also capable of dramatically saving irrigation water. In hot weather when irrigation is applied daily the top 3-4 inches of the soil absorbs this moisture and much is evaporated. The grass roots are mainly in this zone. If water is withheld the plant is quickly put under strain. With a gravel band drainage system in place the irrigation water passes through the gravel bands to lower depths often 10-12 inches.

Considerably less water is lost to evaporation. The pattern of applying irrigation water in these circumstances needs to be changed. Best results are obtained by two or three short periods of irrigation as opposed to one long one. If the land drains begin running then too much water has been applied. Gravel banding looks set to be equally important to the irrigator as it is to the drainer.

Turf managers everywhere are looking for cost savings. Architects, too, need to consider the on-going management and maintenance of new facilities once they are built. Closely integrating the drainage and irrigation aspects leads to greater efficiency and effectiveness. ■

David Shelton heads Shelton Sportsturf Drainage Solutions LLP in England, www.sheltonsdrainage.com.

Tri-King 1900

The Tri-King 1900 provides excellent sports conditions thanks to its reel-quality cut on higher grasses. Equipped with an ISO-mounted 19 hp Kubota diesel liquid-cooled engine, the Tri-King out performs the competition with better fuel economy and less vibration. Power steering and a tilting steering wheel provide the operator with easy, comfortable operation and two hydraulic system filters keep the hydraulic system clean for a longer life. With a 72-inch cutting width, the Tri-King 1900 sets the industry standard in both performance and reliability.

Jacobsen

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All-new Groundsmaster rotary mowers

The Toro Company introduces the next generation in 16-foot area rotary mowers, the Groundsmaster 5900 and 5910. Equipped with a 99-hp Cummins Turbo Diesel engine, the 5900 series can mow an acre in less than 5 minutes, or more than 13 acres an hour. The mowers come standard with a four-way adjustable seat plus an air ride suspension. The seat-mounted ControlHub offers fingertip control and a factory integrated climate-controlled cab which includes air conditioning and heating, as well as 360 degrees of visibility, is available.

The Toro Company

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Grigg's Ultraplex, Aminoplex

Grigg Brothers offers Ultraplex foundation product that provides nutritional value in the form of a 5-0-3 N-P-K analysis plus a complete micronutrient package including 2% iron, 0.4% manganese, 0.4% zinc, 0.05% copper, and 0.05% boron. Additional components of UP add to its versatility and utility for turfgrass managers. Aminoplex, a true biostimulant, contains very little nutrient value (3-0-0); however, the product does contain 15 free amino acids, complex polysaccharides, and natural phytohormones. It can be applied as a foliar or soil drench and is designed to promote plant health preventatively.

Grigg Brothers

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Deere trim mower

The 2653B Trim & Surrounds Mower features a new traction system provides flow equally to each wheel motor, reducing slippage and improving hill climbing, while still maintaining the well-known quality of cut. The redesigned operator station provides easier access to operator controls, better access on and off the machine, and four additional inches of leg room, providing improved operator comfort. The one-piece hood design, offers access for daily maintenance and makes on-board diagnosis easy with the WhiteBox controller and SOS (sit-on-seat) diagnostics.

John Deere

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Bobcat snow blade attachment

For quickly removing light or moderate snow from sidewalks and driveways, operators can choose the snow blade attachment from Bobcat Company. And with the optional end wing kit for the 7- and 8-foot models, the Bobcat snow blade becomes a high-production snow pusher ideal for parking lots and larger areas.

Bobcat Company

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Hustler Z Diesel

The Hustler Z Diesel features Shibaura technology to bring you high-torque power for a wide variety of mowing needs. Features include 25-hp liquid cooled diesel engine, side-mounted for serviceability, and simple foot-operated deck system, moves from 1 to 5 in. Many time and work-saving accessories including Flex Forks and Flex Seat for added operator comfort.

Hustler Turf Equipment

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New concept turf roller

The g2 turftools turfroller is designed to compact soil and newly installed sod on athletic fields and landscaping projects. It is also used on existing turf after athletic events; clay tennis courts; golf course fairways and tee boxes; and baseball warning tracks and base lines. A feature of this tractor attachment includes hydraulic wheels to easily transport the turfroller from one location to another. Other features are rounded roller edges to eliminate cutting the turf, front and rear scrapper blades, grass catchers and extra large filler holes.

G2turftools

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Rain Bird's new pump station

Rain Bird has new addition to its portfolio of variable frequency drive (VFD) commercial pump stations, the D-Series entry level VFD pumps. The D-Series pump station includes a backlit, tricolor, monochrome touch screen for unmatched ease-of-use, making operator training a snap. Equipped with a variable frequency drive for maximum energy efficiency, the D-Series is the best solution for pump applications requiring reliable delivery of irrigation water at a specified pressure and flow rate.

Rain Bird

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Kubota's new sub-compact tractor

Kubota Tractor introduces its new BX2660 sub-compact tractor with a 25.5-horsepower, three-cylinder Kubota diesel engine, designed to tackle mowing, landscaping and hauling jobs like no other tractor in its class.

Sleek and practical in design, the BX2660 features bright halogen headlights for work from dawn to dusk, along with a sturdy metal hood and fenders. Built for durability and usability, the tractor weighs in at 1,289 pounds and is a modest 95.5 inches long with a category I three-point hitch included.

Kubota Tractor

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ROOTS Concentrate

Roots Plant Care Group of Novozymes Biologicals has expanded its biofertilizer product line with ROOTS Concentrate, an advanced plant supplement that promotes rapid root growth and plant regeneration. When applied to seedlings or cuttings, it penetrates roots to create a stronger root system and faster plant growth. It is perfect for cuttings, installation, and transplanting and is non-phytotoxic and is formulated for soil or foliar application. It is designed to supplement all fertilizer programs, and can be applied through injection and drip irrigation, fertigation, or sprayer system.

Roots

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ProPlus JumpStart

Profile Golf has introduced a new ProPlus agronomic formulation designed to improve overall soil conditions and allow faster, more complete seed germination and turf establishment. ProPlus JumpStart can be applied during overseeding or grow-in projects to get turf ready for play sooner, with stronger stands.

JumpStart gets turf off to a faster, stronger start with a proprietary formulation that includes beneficial soil bacteria, humic acid and a wetting agent. These ingredients work synergistically to improve water infiltration and retention, and promote faster nutrient uptake and conversion, with up to four months of peak effectiveness.

Profile Golf

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BioGain WSP + Sprint 330

This combines two Becker Underwood best-sellers into one package. It combines BioGain WSP, a bionutrient and beneficial bacteria blend that improves plant response and improves water and nutrient uptake. Sprint is a chelated iron additive that strengthens chlorophyll production and results in richer, greener turf, trees and shrubs.

Becker Underwood

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Launch and Focus

Managing turf for athletic fields is a challenging task and often the turf manager needs help in creating turf plants that are healthier and have more vigor. A plant nutrient supplement, such as PBI/Gordon's Launch or Focus can help. Formulated as liquids or granules, these products provide ingredients that increase germination rates and promote growth of fibrous roots. They also transform minerals for absorption by plant systems, promote growth and assist seeds in breaking dormancy. And treated plants recover from play stress more quickly. Visit pbigordon.com for complete labels and to find which product is right for your needs.

PBI Gordon

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President's Perspective

One of the greatest benefits of belonging to a professional association is sharing passions and exchanging information and ideas. Our year has been filled with the involvement of members. Many, many people helped to contribute to STMA's success including committee volunteers, chapter members, conference presenters and attendees, exhibitors, program sponsors, advertisers, writers for *SportsTurf*, and of course, all of you. It is important to remember how much STMA depends on the strength and efforts of its membership. Our profession is made up of special people. Thank you for making STMA what it is today, and thank you for pushing it toward a vision of success for tomorrow.

— President Mike Andresen, CSFM

Strategic Plan

STMA has made significant progress to many of its goals stated in the strategic plan. Our core business is represented in these six strategic platforms.

1. Enhance members' value to employers
2. Position members as the authority on sports field management
3. Use the chapter network to serve members
4. Leverage synergistic partnerships
5. Make the conference the "must attend" event for the industry
6. Execute a well-functioning governance structure

Stable Growth

For 2007, STMA exhibited slight membership growth at two percent, which is less than desired, but is representative of non-profit membership growth statistics. STMA's conference growth for 2007 was three percent, even with the ice storm in San Antonio, which impacted attendance. In 2008, conference attendance was back to a healthy growth of nearly 20 percent -- an all-time high!

Volunteer Leadership

STMA is governed by a 12-member Board of Directors, who are elected by the membership. Currently serving are: Mike Andresen, CSFM, Mike Trigg, CSFM, Abby McNeal, CSFM, Dale Getz, CSFM, CSE, Chris Calcaterra, M.Ed., CSFM, CPRP; Troy Smith, CSFM, Larry DiVito, Amy Fouty, CSFM, Jody Gill, Mike Goatley, Ph.D., David Pinsonneault, CSFM, CPRP, and Chad Price, CSFM.

SportsTurf
MANAGERS ASSOCIATION

2008 Annual Report

Independent Auditors' Findings

Solid Gains

STMA reports a sound bottom line in 2007, as evidenced by its 2007 Annual Audit. Gains were up nearly \$60,000 from the 2006 audit. The Audit also validates that STMA has the proper financial processes in place. The certified accounting firm, Long, CPA, PA notes, "The accounting records were found to be in excellent order."

"The accounting records were found to be in excellent order."

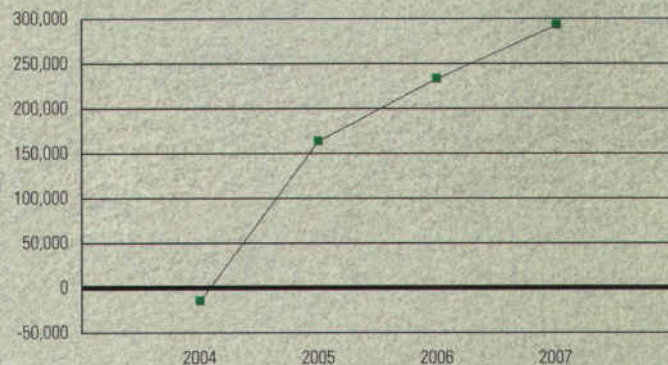
**James M. Long, CPA,
Long CPA, PA**

Per the STMA Financial Policy, the Board allocated 75 percent of the net increase in unrestricted assets (\$219,635) to the STMA Reserve Fund. The Reserve Fund safeguards the association's operations in case of a down economy, and also provides a resource pool as STMA needs funding to take advantage of emerging opportunities to benefit the membership. Funds from this reserve cannot be used without a two-thirds majority vote of the STMA Board of Directors.

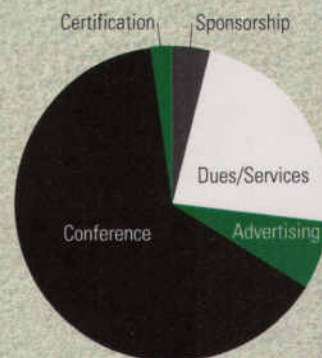
STMA 2007 Audit

Income	\$1,201,349
Expenses	\$908,502
Net Revenue	\$292,847

Financial Progress



Income



Expenses



Mission

To be the recognized leader in strengthening the sports turf industry and enhancing members' competence and acknowledgement of their professionalism.

About STMA

STMA is the not-for-profit professional association for the men and women who manage sports fields. Since 1981, its members have been overseeing sports fields and facilities at schools K-12, colleges and universities, parks and recreational facilities, and professional sports stadiums. The membership's goal is to manage natural turf and synthetic surfaces to produce safe and aesthetically pleasing playing surfaces for athletes at all levels of abilities.



Klute manages multiple users, wins College Baseball award

Hawks Field at Haymarket Park in Lincoln, NE won the 2007 STMA College Baseball Field of the Year Award. Athletic turf manager Josh Klute and full-time crew members Jared Hertzler and Jen Roeber are to be commended for maintaining a top-notch playing surface in the face of heavy use, from the minor league Saltdogs and the University of Nebraska baseball team, not to mention the state high school tournament and various camps, etc.

Klute says there's an advantage to having two tenants though and that's a larger budget for maintenance and seasonal crew members. And that comes in handy when the Cornhuskers want to practice on any Nebraska winter or spring day when the temperature is at least 40 degrees and the crew has to clear the snow off the infield tarp for infield practice!

SportsTurf: What's most important piece of equipment or product in your program?

Klute: I would say my field sprayer. It is very important for me to have a sprayer to apply all my foliar products, fungicides, insecticides and herbicides. It makes it a lot easier to load up the tank and spray the field or outside landscaping when little time is allowed. I would say second is my aerator even though I don't get to use it very much because the field is not available on consecutive days very often.

But what is even more valuable than any piece of equipment is my crew. I am very fortunate to have the help that I am allowed. Let's face it, without my crew I would not have the quality field that I have now and probably would not have this award. I give a lot of credit to my crew because they work very hard and get tasks accomplished that would not get completed if