



Above: RoW Captain, Gordon Child ponders his pairings



Right: The Americas Team

Below: The RoW Team

for a win slide agonisingly by.

Martin Sternberg, of Sweden, went one better in the final match when he did hole a 20 footer to win the match.

Fourball: Americas 3.5 RoW 2.5

Day 2

The second day foursomes were played at the wonderful Peachtree Club, one of the most prestigious clubs in all America and venue for the 1989 Walker Cup. Indeed the current Chairman of Green is Danny Yates, next year's American Walker Cup Captain and he joined the party for the post foursomes lunch.

The course was designed by Bobby Jones and Robert Trent Jones and

Things didn't look too good for Atle Hansen, of Norway, and Andy Sheehan going down the last. One up, they made heavy weather of the up hill par four before Andy played a wedge to 15 feet above the hole to lie four. Doug Meyer and Dean Piller secured their five and Atle was left with one of the slickest putts on the course to halve the hole and win the match.

On line all the way the ball hit the hole, spun round before stopping, tantalisingly on the lip for a fraction of a second before dropping in.

Poor old Atle was faced with the sight of an elated Andy charging across the green and Atle had only

designed by Tom Fazio, is a public golf club at the top end of the market. It says much for its quality that following on from the Atlanta Athletic Club and Peachtree that it was still listed by some of the players as the course they'd most enjoyed.

Gordon Child decided he needed a fast start and he was rewarded with three big wins in the first four games from Andreas Kauler (6&5), Martin Sternberg (5&4) and Andy Sheehan (3&1).

The Americas were not to be shaken out of their stride, however, and with wins in the second game, by Ken Magnum, and the middle order they kept their noses in front.

Among the highlights was the battle between Mike Seuss and Nick Webber. Nip and tuck all the way round the quality of golf was stunning, as highlighted on the beautiful 15th hole. From a perfect tee shot Nick played over the water to three feet before Mike, who had possibly hit his tee shot a little too long found the green. He then holed his curling 15 footer, to the cheers of team members who had already finished, before Nick held his nerve to halve the hole in birdies. Mike eventually won the last to win by a hole a result which ensured at least a tied match and a retention of the trophy for the Americas.

Peter Frewin won a nail biter with Alexandro Young on the final green and Pierre Ambresin, of Switzerland, who played superbly throughout won his game.

The overall match result was sealed on the 16th green when Doug Meyer hit a superb approach to two feet to defeat Derek Wilson after an epic battle.

Singles: Americas 6.5 RoW 5.5

Overall Result: Americas 13.5, RoW 10.5.



there are many similarities to his other great design a couple of hours drive away at Augusta.

The RoW had the better of most of the matches for most of the day but struggled to win the decisive closing holes.

Australian Peter Frewin and Nick Webber, of Ireland, lost the final hole to halve their game while Remy Dorbeau and Jorma Eriksson lost it to go down by two holes. Al Pondel and Ricardo De Udaeta clinched their match on the 17th to give the Americas two and a half points from the first three games.

just braced himself for the impact when Andy threw himself into his arms. For such moments the Hayter International Cup will be remembered.

The final two matches saw Paul McGinnis and Tommy Witt defeat Derek Wilson and Russell Lewis, of Wales, on the 17th and Andreas Kauler, of Germany, and Eugenio Rezola win 6&5.

Foursomes: Americas 3.5 RoW 2.5

Two day total Americas 7 RoW 5

Final Day

White Columns Golf Club,



Andy Sheehan gets rather excited after foursomes partner Atle Hansen holes a tricky downhill on the final green at Peachtree, to clinch a vital win

HAYTER

Sweet Georgia greens

Right: The two teams united, but only one has the Cup after three tough days of golf

Below: The match was clinched when Doug Meyer, right, defeated Derek Wilson in the bottom Singles Match at White Columns

Bottom: Americas Captain George Renault presents a dashing Kim Macfie and Tony Bourke of Hayters with a memento of a special occasion



Full Results

Fourball (Americas' Names First)

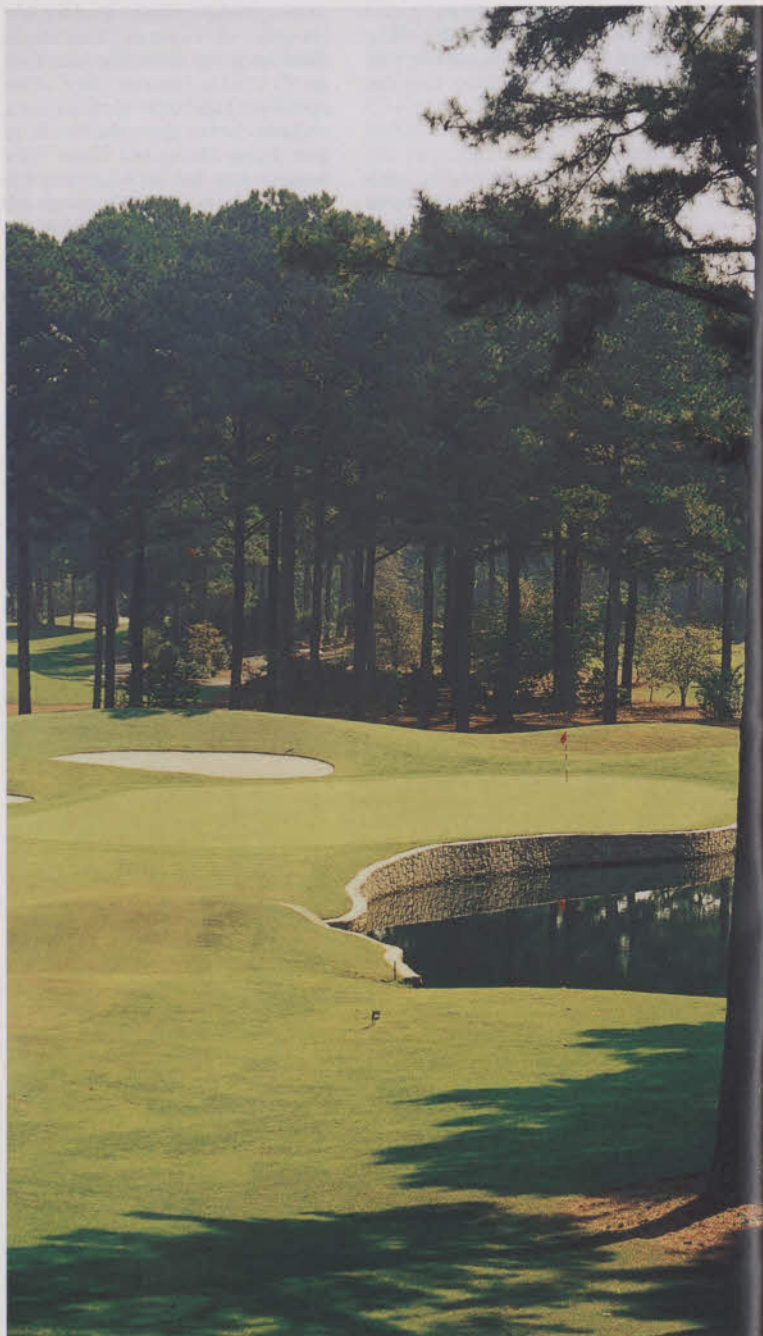
- Meyer & Alarie beat Eriksson & Sheehan 1 hole
- Pondel & Witt beat Hansen & Webber 3&2
- de Udaeta and Young beat Frewin & Lewis 5&4
- Fearis and McGinnis lost to Dorbeau & Wilson 3&1
- Piller & Suess halved with Kauler & Rezola
- Baden and Magnum lost to Ambresin & Sternberg 1 hole

Foursomes

- Seuss & Magnum halved with Frewin & Webber
- Pondel & de Udaeta beat Ambresin & Sternberg 2&1
- Baden & Alarie beat Dorbeau & Eriksson 2 holes
- Meyer & Piller lost to Hansen & Sheehan 1 hole
- McGinnis & Witt beat Wilson & Lewis 3&1
- Fearis & Young lost to Kauler & Rezola 6&5

Singles

- Piller lost to Kauler 6&5
- Magnum beat Lewis 2 holes
- Witt lost to Sternberg 5&4
- McGinnis lost to Sheehan 3&1
- Alarie beat Erriksson 8&6
- Baden beat Hansen 3&1
- Pondel beat Dorbeau 8&6
- Seuss beat Webber 1 hole
- Young lost to Frewin 1 hole
- Fearis lost to Ambresin 7&5
- de Udaeta halved with Rezola
- Meyer beat Wilson 4&2



The beautiful but deadly 11th hole at The Atlanta Athletic Club, confronted the players in the fourballs

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**Ken Richardson explains assessments,
 and how you can become an assessor...**

ON THE JOB TRAINING

Many Head Greenkeepers and Course Managers have become approved assessors for N/SVQ Sportsturf and others are working to become approved assessors at Level 3 Sportsturf Maintenance and most, if not all, Head Greenkeepers and Course Managers train their staff 'On the Job'. However, much of this training is not supported by sufficient emphasis on underpinning knowledge, those involved in On the Job Training (OJT) have had little or no formal training as trainers and much of the training is given to suit the manager's needs rather than those of the trainee. BIGGA is looking at introducing Training the Trainer Courses, jointly with the GTC, in 1999. Watch this column for further details and remember that learning from 'Nelly' can be effective method of training. Moreover, this training is even more effective if Nelly has been trained how to train others.

Computer Skills Training

Many greenkeepers use digital computers to control irrigation systems and for general administration. Many others would use computers if they had the skills. Computer skills can be acquired at local colleges, however, this training is general at not specific to greenkeepers. If you feel that BIGGA should run more courses on computing for greenkeepers than please contact me at HQ.

Essential Management Skills Course

We are running two Essential Management Skills Courses at Chester in December. Both courses are fully booked and we have a waiting list in case of cancellations. If there is sufficient demand, we will run a further course, in the Spring. Contact Sami or myself, at HQ if you or a member of your staff wishes to attend. The price for this

two day residential course will be held at £30 + VAT. This represents fantastic value and is only possible thanks to contributors to the BIGGA Education and Development Fund.

The Learning Experience 1999 in association with Textron Turf Care and Specialty Products

The Learning Experience Brochure was distributed in the October edition of this magazine. Contact BIGGA HQ for further copies. Book now, to be sure of your place as many people were disappointed, in 1998, not to be able to book their choice of workshop, education conference or accommodation. For further information contact Sami on the BTME Hot Line on 01347 833833.

The Code of Practice for the use of Approved Pesticides in Amenity and

Industrial Areas

Following extensive consultation, the completely revised Code of Practice for the use of Approved Pesticides in Amenity and Industrial Areas, the 'Orange Code', was launched at Saltex in September. The updated edition which is a must for any greenkeeper involved in the use of pesticides on a golf course, includes information on:

Legislation - Training and Certification; Storage; Disposal; COSHH Assessments; Record Keeping; Controlling Exposure; Personal Protective Equipment; Environmental Protection.

Easy to read and packed with useful hints, guidance and references this booklet is available for £15 (plus P+P), from the National Association of Agricultural Contractors, 8 High Street, Maldon, Essex, CM9 8PJ (Telephone: 01621 841675).

This month, Geoff Steel continues his look into the various types of mortgages available, when you're considering buying a house...

INTEREST ONLY IN MORTGAGES?

When considering an interest only mortgage the borrower has to choose between endowment, PEP or pension for the savings to pay off the loan.

Endowments are the traditional method of paying off a mortgage and still popular. One advantage of an endowment policy is that insurance is included in the cost. Should either partner die during the term of the mortgage the loan is paid off leaving the survivor with a mortgage free house. It is also becoming common to include critical illness insurance in the package so that the mortgage is repaid in the event of the diagnosis of certain diseases.

Single persons should rarely have an endowment mortgage. They are paying for life insurance within the policy that is of no benefit unless they wish to leave a mortgage free house to their beneficiaries. Disability insurance is more

important to single persons as there is no partner to help with repayments in the event of illness.

Personal Equity Plans (PEPs) are now being actively sold as a means to pay off the advantage of being tax-free. In theory PEPs should provide better returns than an endowment because the endowment fund pays tax and the PEP fund is tax-free. PEPs, however, do not include insurance and a separate policy is required. Many banks and building societies are now providing packages of a PEP mortgage that includes life and critical illness insurance. Be very wary of these packages. They can be a means of hiding very expensive insurance premiums within the terms of a PEP savings plan.

PEPs are flexible in that the mortgage can be repaid as soon as there is enough money in the savings pot. Having said that most modern endowment policies offer

the same facility. Money can be withdrawn from a PEP at any time and as an adviser I am also coming across people who are withdrawing money from a PEP because they are temporarily short of cash. PEPs can be too flexible for some individuals.

It is possible to take up to 25% of a personal pension fund as tax free cash, and this can be used to pay off a mortgage. Great care should be taken, as it is more expensive than other mortgage repayment options. A pension mortgage is usually only suitable for someone whose long-term job prospects are known, can afford to fund for additional pension and whose retirement date coincides with paying off the mortgage.

Geoff Steel is an Independent Financial Adviser with Walsh Lucas and Co. and he welcomes Comments from readers. His freephone telephone number is 0800 7835132

THE RIGHT CHEMISTRY?

Chemicals play a big role in a Greenkeepers work, not only their use out on the course, but also their storage in and around the workshop or maintenance building. There is a set of Regulations that covers the use of chemicals in the workplace, which we should already be aware of, and they are the Control of Substances Hazardous to Health Regulations 1994 or COSHH as they have become known. These regulations have been covered in depth in previous editions, however, essentially they require employers to carry out an assessment of the risk that the substances or chemicals being used pose.

The risk assessment not only has to be done on the chemical itself but also it has to include information regarding how and when it will be used, who will use it and then put controls into place to reduce the risk. Control methods range from eliminating the substance and using another less hazardous one, isolating it or using it in a spray booth/fume cupboard, reducing exposure to it either by reducing the amount of fumes you are in contact with or using a ventilation/extraction system ie a welding extraction system. Personal Protective Equipment must always be used as a last resort if other methods of control cannot be

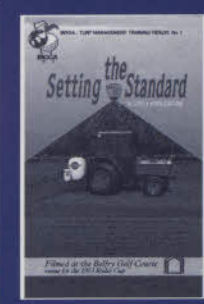
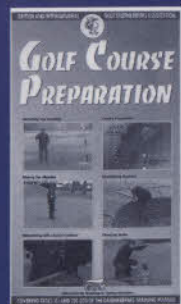
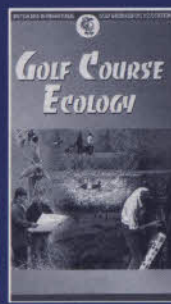
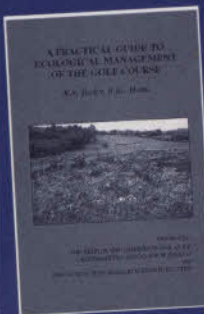
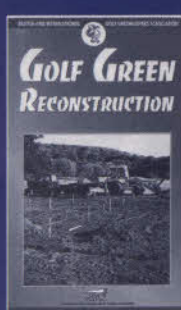
used, but common pieces of PPE that Greenkeepers will be in contact with include safety boots, chemical resistant gloves, aprons and chemical resistant suits, safety glasses or goggles and dust masks or respirators. Personal Protective Equipment (PPE) is also covered by its own set of Regulations, these being introduced in 1992. The Personal Protective Equipment at Work Regulations (1992) again require the employer to make a formal assessment of the PPE needed for their employees and to provide ergonomically suitable equipment in relation to the foreseeable risks of work. For example, whilst cutting the greens the risk assessment would indicate the need to wear steel toe capped safety boots and not open toed sandals. Employers are also given duties to ensure that they provide PPE that is compatible with each other ie the hard hat and the ear defenders that you use whilst carrying out strimming operation have to fit together and offer the optimum level of safety ie the ear defenders are fitted to the side of the hard hat and they fit snugly over the ears to ensure that the noise levels reaching the ears is reduced. Other duties on employers include maintaining PPE in efficient

working order and a good state of repair, providing storage facilities for PPE not in use ie a storage locker in the Workshop and not just hanging the goggles, etc over the edge of machines. Employees also have to be provided with information, instruction and training as required to enable them to use the PPE provided in a safe manner. Employees are also given duties under the regulations, these being the need to use PPE in accordance with training and instructions and to report any defects or loss to their employers, these requirements enhance the employees duties contained in the Health and Safety at Work Act 1974. Three other pieces of legislation specifically covering the workplace are also relevant in this Maintenance building / Workshop scenario and they are the Workplace (Health, Safety and Welfare) Regulations 1992, the Fire Precautions (Workplace) Regulations 1997 and the Health and Safety (Safety Signs and Signals) Regulations 1996. The Workplace regulations require employers to maintain it in an efficient state, keep it clean, segregate pedestrians and vehicles wherever possible, etc. The Safety Signs regulations also tie in here and are required where the risk cannot

be adequately controlled by other means. There are four basic colours for safety signs, each one having a different meaning. Prohibitory signs are usually round with red edging, warning signs are triangular with black and yellow, Mandatory signs are usually round and blue and white in colour, and finally Emergency Escape or First Aid signs are predominantly rectangular or square and are green and white. The last set of regulations that would effect the Maintenance buildings or Workshops would be the most recently introduced Fire Precautions (Workplace) Regulations 1997. These require all non-fire certificated buildings to be assessed (same principle as the risk assessment that was highlighted before) for fire risk and controls to be put in place to reduce the risk down to its lowest level. This would necessitate the provision of fire fighting equipment, measures to detect and warn of fires and ensure safe evacuation of persons via emergency routes and exits.

Further information on training courses and consultancy contact Lantra National Organisation Ltd (Jean John on 01282 831973 or Tony Rees on 01686 622799)

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Roger Davey, Senior Design Engineer of Ocmis Irrigation (UK) Limited, examines the procedures involved in installing a successful irrigation system, and asks...

Can you dig it?

Below: Varying stages of work as the Ditch Witch R100 – a 120 horsepower vibratory moleplough installs 125mm High Performance Polyethylene and Signal Cables

Factors influencing the choice of irrigation systems and companies that supply these systems often overlook the importance of the type of method used to actually place the product in the ground. After investing, or intending to invest, heavily in the irrigation equipment how many times has the golf club been let down by poor and shabby

installation techniques? The following is intended to give an overview of the various methods that can be employed whilst installing an irrigation system.

Ground conditions will bear the most influence, ie. sand or rock, clay or flint. However, the client must ensure that the supplying contractor has assessed his ground condition and is recommending a method which will leave his course in a state with minimal disturbance and disruption.

Pipe depth for installation should generally follow guidelines as laid down by local bylaws. Depths of installation, regardless of pipe diameter, should ensure a minimum of 600mm cover above the barrel of the installed pipe to natural finish grade for mainline and 450mm cover above barrel of the installed pipe for lateral pipelines sprinkler feeds.

Vibratory Moleplough

The vibratory moleplough is designed to install pipe causing minimal disturbance. Vibrating moleplough blades are available in various sizes & specifications. Depths of up to one metre can be achieved and pipe sizes of up to 225mm may be installed with larger specialist machinery such as the Ditch Witch R100.

The principal of operation is very simple, however the blade technology is fairly primitive and it has been the responsibility of individual companies to tailor blade design to suit different ground conditions encountered on each golf course, eg. a links course mole blade would be substantially different than an inland clay course, due to the thin fine turf (prevent ripping) and drag co-efficient.

The mole blade is shaped with a bullet at the bottom and this bullet is sized according to the pipe diameter. Vibrations from a

hydraulic shaker box located on the top of the blade cause the leg to move up and down at speed enlarging the hole formed by the bullet. The pipe is connected behind the bullet by a flexible connection and is drawn through the subsoil in the bullet hole without being under tension. Cable is laid into position through a chute at the rear of the blade just above the pipe.

The ability to mole large pipes, (110mm, 125mm, 160mm and 225mm diameter) ensures that minimal turf scarring occurs. The mole lines should be rolled soon after pipe installation to close the slot, and re-knit turf.

Older moleploughs did not have the vibrating feature; this action has two advantages:

- i) Dissipates heave.
- ii) Eases the sub soil and improves bullet penetration.

Basic moleplough technology is simple however, the craft of installing pipes effectively and efficiently lies with the company and individual key blade designs, and good mole blade design will guarantee consistent pipe depth.

Trenching

Possibly the quickest method of installing pipelines, although not necessarily the cleanest. However, the trenching option may be the only method of installing pipe, for example the ground may be excessively hard or contain sharp stones that would damage moled pipelines.

Turf removal prior to trenching is an option. Turf may be cut and lifted by mechanical means, thus ensuring that 'scar formation' is minimal, this is however fairly costly and time consuming and does not prevent the risk of trenchline subsidence.

Inevitably the excavation of a trenchline leads to large amounts of ground disturbance. Topsoil and



This page: Close ups of the mole blade on a Ditchwitch R100



subsoil become mixed together, grass cover is demolished and reinstatement becomes a 3-5 year project rather than immediate.

Trenchlines over a period of time will settle and may require dressing.

However, an excavated trenchline allows the inspection of the pipe and cable, ensuring that depth is uniform and jointing procedures are good. Trenches in general should be excavated to give a minimum of 50mm clearance either side of the pipe and cable snaked along the trench with approximately one metre of slack for every 100 metres.

It is imperative that the initial 150mm of backfill spoil is selected. If ground conditions are abrasive or rocky this initial backfill and indeed the trench bed, may need to be of imported sand or finings. Remaining soil should be placed back into the trenchlines in 150-200mm layers and compacted thoroughly, the trenchline being left slightly proud.

Trenchline compaction should be carried out by mechanical means;

ideally a vibrating trenchline compactor which can travel freely along the trenchline.

Boarding

Should conditions dictate, it may be necessary to carry out trenching or moling procedures whilst operating machinery on boards. These boards are usually one metre wide by approximately 3 metres long and prevent any tyre slip damage to the fine turf area. This operation is entirely optional, yet can give assurance in particularly sensitive turf areas.

Pipe Jointing Method

Pipes that may be installed fall into 2 basic classes, either Medium Density Polyethylene or UPVC. Jointing techniques for each differ immensely.

MDPE pipe may be jointed by either compression couplers or electrofusion equipment. It is common on pipe sizes up to 90mm to utilise compression fittings; sizes

above this will be jointed by electrofusion fittings. Compression fittings rely upon mechanical compression of rubber sealing rings to provide a watertight joint.

This type of joint is very simple and quick to install and also very reliable. Electrofusion fittings fit either onto or over the pipe, at which point they receive an electrical current which heats the coupling to form an 'as one' bond with the pipe.

UPVC pipes are generally coupled together with glue although larger pipes, 3" plus, may be jointed using mechanical 'O' ring seals. A glued PVC joint must be left to dry and cure before testing. Advances in pipe and jointing technology are outdated the traditional PVC pipes and the installation of MDPE is now the way ahead within the industry.

Flushing

It is imperative that as any work proceeds, installed irrigation pipes are flushed with clean water. This prevents the clogging and later failure of solenoid valves and sprinklers.

Isolation Valve and Solenoid Valve Boxes

Valve boxes should be installed on level ground, approximately 1-2 cm below grade and installed so as not to place pressure on underlying pipes or wires. Decoders where housed in solenoid valve chambers, should be clipped to the side of the chamber. Turf should be removed prior to excavation works and reinstated around the installed chamber.

Sprinkler Heads

The turf surrounding each sprinkler head should be removed and heads installed on triple swing joint risers. Backfill surrounding the sprinklers should be set in place by hand and turf reinstated, sprinklers should be installed just below grade. It may be desirable on a new build

project to leave the sprinklers 50mm proud and adjust the level to grade after a period of 6 - 12 months.

Signal Cable

Cable being either snaked at the bottom of the trench or laid in through the mole leg. At regular intervals the cable should be tested to ensure that damage has not occurred, tests used should include resistance to earth and continuity. It is recommended that cable joints are twisted, soldered and immersed in an approved joint containing a silicon based grease compound such as a DBY joint or equivalent.

Each joint should be housed in a chamber for future maintenance or identification purposes.

As Laid Plans

Pipe and cable routes should be clearly marked and identified on a set of as installed plans. All pipes should be clearly indicated together with sizes and cable joint positions identified. As Laid plans will be provided to the club at the end of the completed project.

All projects must conform to relevant Health & Safety policies and CDM Regulations. This is an area which must not be forgotten and a subject matter all of its own. However, any company of repute will be capable and able to produce full risk assessment, safety plan development and quality assurance necessary to comply with current legislation.

Quite clearly, the installation of the irrigation equipment is in itself as complex as the operation of the product. The quality of installation is very often reflected in the price offered, the overriding factor being damage limitation to both irrigation equipment and golf course. It is therefore just as important to study the type of proposed installation technique as it is the type of product offered.



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