WHICH KID IS THE DRUG ABUSER?

Look closely.
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The Straight program is based, in part, on the very same concepts of self-help as Alcoholics Anonymous. Like AA, the program relies heavily on positive peer pressure. So the kids end up helping each other. And it works.

Straight is more than a drop-off center. Straight believes in total family involvement.

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By CHARLES BRASINGTON JR.
Golf Superintendent
Tiger Point Golf & Country Club

Golf Course Construction Techniques

The nineteen-eighties promise a great surge in the economic recovery here in the United States. With this surge, we will be seeing two things happening. The first is the consumer will have more leisure money to spend which will give us new golfers introduced to the game and more play out of the people who are already enjoying the game. Secondly, money will be a better investment to developers who will be building new golf facilities to accomodate all of this new play.

Since many of you will be needed to fill these new positions as construction superintendents or project managers, I felt it would be proper to pass on some of my experiences as construction superintendent that might make your job a little easier. It would literally take a book to discuss all that is involved in golf course construction. I will only scratch the surface on the main areas involved and some situations we encountered, realizing each development will have its own unique problems.

The name of the development at which I am employed is Tiger Point Golf & Country Club, located just east of Pensacola, Florida. It is a 36 hole project, primarily designed with intentions of hosting major professional golf tournaments. It is co-owned, co-designed, and co-operated by Professional Golfer, Jerry Pate. Helping Jerry with the architectural technicalities was one of today's premier architects, Ron Garl of Links Design, Inc.

The first thing to realize when taking on a new course is that it requires alot of very long hours and very hard work. You will be responsible to incorporate the architects ideas; and relaying them to the various construction companies, sub-contractors, to your employees and employers; coordination is imperative. According to John McKenzie, a veteran of multi-course facilities including Disney, PGA National, and now Golden Ocala, "Coordination of outside activities from the beginning is the most important objective of the project manager. Planning the installation of roads, storm drainage, water and sewer drainages, telephone cables and electric lines before final grading on the course to avoid duplication of work is a must." Keeping tabs on outside contractors is only the beginning. On one end of the course, you will have land being cleared and holes being shaped; and on the other end, you will have irrigation being installed and grass being sprigged or sodded.

You may now be beginning to feel that you are required to be in more than one place at a time. Communication becomes a very important aspect of your job and lack of it can cost your company tens of thousands of dollars and you a job.

Communication was difficult at times with Jerry out on a tour, other owners involved, and Ron not always being able to be in town. To make things easier, we would write

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up memos and distribute to each of the owners, the construction crew, the superintendents and the architects, so everyone knew where they stood and what was expected from each party involved. Just as important as the communication with outside parties, was the communication within our own maintenance crew. We purchased four two-way hand radios with 5 mile effectiveness and gave one to the project manager, Jack Cunningham, the two superintendents and the mechanic in the shop. This stopped all the wasted time running around looking for each other, and are still in heavy use now, even under general maintenance. I strongly recommend them for any facility over 18 holes.

Not only is communication important, but so is proper soil distributions and preparations, drainage, irrigation installation, plus having the proper equipment and tools on hand. Each must be complete before the course is ready to be planted.

Soil distribution is a key factor in the manageability of the course from the first few months of the planting and growing stages. You should stay on top of the construction crews and make sure they are giving you an 80% to 20% sand to organic ratio, that is well mixed. As soon as possible, you should take soil samples of every green, fairway and tee; checking pH, nutrient levels, percolation rates, and for salts if on or near the coast. The sooner you get these results, the better so you can make any adjustments before the grass is planted. Other considerations of your soils before planting, are fumigating greens, final floating of the course, and applying pre-plant fertilizers. Be sure the construction company’s work satisfies all of your needs for maintenance purposes later. We had an instance out here where the ridges on the greens were obviously too sharp to keep a greens mower from scalping and were told it would settle and not create any problems. Well, here we are 4 months after grand opening interruption play leveling the severity of these ridges. Like I said before, make sure all of your needs are satisfied before grass is planted and the construction crews are gone.

Although most of the land in Florida constitutes high levels of sand, it still needs a good drainage system installed. We installed 4" corrugated pipe with a filter cloth sock in every green on the course. What we would do is go out after a good rain and mark any settled water in the lower areas and come back when it was dry to install the tiles. It is very important to keep an eye on the crews doing the installation, making sure they are back-filling the trenches with pure sand. If you back fill with the same soil you took out, the water will never have a chance to reach the tile and you would have wasted a lot of money. Six inch corrugated pipe with the filter sock was installed in wetter areas out in the fairways to relieve wetness. Whether on greens, roughs, tees or fairways, if you have installed drain tile, make sure the beginning has an end cap securely in place and the end comes up out of the ground to give the water a place to run off to.

Washouts can be a big problem on any new course until some kind of vegetative growth is established. One of the tricks we used to stop washouts was to cut old plywood
into strips just a couple of inches less than the depth of the rut and a couple of feet wider than the rut. We would then plant the wood securely into each bank and a few inches below the surface and then back fill the soil. If the wood did not stop the washouts completely, in which most cases it did, it slowed the water down enough to where we would not have to completely fill in persistent washouts. In several instances, we had sheet water running across fairways and washing-out Pine Valley lips. After fixing numerous times, we came back in and added catch basins in front of each wash-out that had always recurred and hooked them into the 4” drain tile with fantastic results.

As all of you know, grass will not live without water, so having a competent irrigation system is imperative. We recommend you find a mature, trustworthy individual, hire him or her, and have them work right alongside the irrigation installation crew. You will be keeping this person on permanently after the installation crews are gone and you want to give them some things to look out for. We had our man draw his own version of the as-builts as they did each hole, that way we were not taking someone’s word who is going to be gone soon and we are stuck trying to find pipe or wire later that is nowhere near the area indicated on paper. We did not have much of a problem with our particular crews, but in many cases I have heard of crews “getting around the corner” and running all wires the same color, poorly connecting pipes, and installing pipes only a few inches under the ground. There are many tricks they can use to hurry up their job and increase their profits, but with one of your men working right along with them, it greatly reduces your chances of getting “taken for a ride”. Besides having your own employee out on the job site, it is really important to run your system for at least two weeks prior to planting to iron out all of the kinks. We had a lot of trash in our lines that took a while to work out and a few defective valves that needed replacing. If we would have planted grass as soon as the system was hooked up, we would have wasted a lot of money by losing the sprig and it is strongly recommended that you follow the same procedure.

Now that the course is final graded, greens are fumigated, all drain tiles are in place and the irrigation system is operating effectively, it is time to plant the grass. After spending millions of dollars, the owners are always in a big hurry to plant the course, grow it in and start generating some income, such was the case here at Tiger Point. Before sowing the first sprig, I would convince the owners to plant the driving range and a large nursery green first.

What happens is when you plant 150 plus acres of sprigs, you are inevitably going to have some areas that will not survive and you will need a place to cut-up sod or plugs to transplant. With the driving range and nursery green planted first, it will be established before the rest of the course and will be a perfect place to cut out sod without disturbing the condition of the course. Be sure that the grassing company is a reputable one like Southern Turf Nurseries and the grass is weed-free.

Whether planting 328 or Tiftdwarf, I would plant it at least 5 feet outside of your expected collar area so that it will be many years down the road before the 419 encroaches onto the greens. If the slopes are steep at all, along lakes or bunker faces, go ahead and spend the extra money to sod these areas. The sprigs would be slower to establish and would end up washing away on steeper banks, so go ahead and sod.

After planting, it is a must that someone be on hand 24 hours a day checking for blowouts, heads stuck on, off or not turning, until the grass is established. Depending on the time of year, weather and grow-in dead lines, the course should be fertilized every 5 to 10 days, each course will have its own special set of circumstances. We did not plant until July here and ended up having to really push it with Ammonium Nitrate weekly, having only 2 months of decent growing weather left. Because of the short length of the growing season, we only completed 80 to 95% coverage and were forced to overseed wall-to-wall with a quality perennial at 350/lbs./A. As it turned out, it was the best thing we ever could have done because we were the only course in Northwest Florida that had grass all winter and they were coming from all over just to play a course that was not brown.

Once the sprigs take root, growth is fairly rapid and as far as I am concerned, should be mowed as much as 4 days a week as long as you are not pulling it out of the ground. Mowing will smooth out all of the rough spots and keep the grass growing out instead of growing up. Do not use a new mower with new reels; if you do, you will see 5 years wear in 4 months of operation and waste a good piece of machinery. What I would do and did, is negotiate with the companies you will be buying your equipment from and tell them you will buy from them only if they give you a loaner greens mower and pull behind gang mower for free to grow in the course, otherwise you will do business elsewhere. Other pieces of equipment that are necessities to grow in a course are: a roller for fairways and one for greens, a dump truck and front-end loader (still our most used piece of equipment) with back-hoe, a few good tractors and trailers, and a heavy duty spreader that can easily be loaded from bulk trailers. Each course will need other special sets of equipment and can be ordered as needed.

Yes, building a golf course requires a lot of hard work, long hours, and steady concentration. As long as you remain organized, communicate effectively, keep a close eye on all the sub-contractors, you too will be an integral part of one of the finest golf complexes in the state of Florida. Just remember, the hard work lasts for a couple of years; the rewards last a lifetime!
Dangerous New Chemical - Water

Sherry Wood, Women's National Agricultural Aviation Association President, writing in the June, 1983, "Agricultural Aviation" magazine presented the following:

"Imperial Chemical Industries of Australia has announced the discovery of a new fire-eating agent known as WATER (wonderful and total extinguishing resource). It is suitable for dealing with fires in buildings, timber yards, and warehouses, and is cheap to produce. It is intended that quantities of about one and one-half million gallons should be stored in open ponds or reservoirs near urban areas and installations of high fire risk."

"WATER is already encountering opposition from safety and other environment groups. One group member has pointed out that if anyone immersed his head in a bucket of WATER, it would prove fatal in as little as three minutes. Each of the proposed reservoirs will contain enough WATER to fill half a million three-gallon buckets. Each bucketful could be used 100 or more times, so there is enough WATER in one reservoir to kill the entire population of the United Kingdom."

"It has been reported that WATER is a constituent of beer. Does this mean that firemen could become intoxicated from the fumes when they use it to put out a fire?"

"The 'Friends of the World' said they obtained a sample of WATER and found it made clothes shrink. It shrank cotton, so what would it do to people?" In the House of Commons, the Home Secretary was asked if he would prohibit the manufacture and storage of this lethal new material. 'A full investigation was needed,' he said.

"A group was formed to file a report."

And so it goes ... (PESTICIDE PIPELINE, Cooperative Extension Service, Colorado State University)

—LEE COUNTY AGRICULTURE ROUNDUP
October 1983

Pronouncement By Abraham Lincoln

"If I were to try to read, much less answer, all the attacks made on me, this shop might as well be closed for any other business. I do the very best I know how — the very best I can, and I mean to keep doing so until the end. If the end brings me out all right, what is said against me won't amount to anything. If the end brings me out wrong, 10 gels swearing I was right would make no difference."
The dictionary defines an eagle as "A large bird of prey with a strong soaring flight". Another definition is "A former gold coin of the U.S. worth ten dollars". The same dictionary describes the word trace as "A visible mark or sign of the former presence of passage of some person, thing or event", or "To form with special care".

A recent visit to the tournament players Club at Eagles Trace brought all these definitions to mind. It was most certainly formed with special care and Arthur Hills, Golf Course Architect, has left a visible mark on the rolling terrain that was once a landfill, given the extraordinary amount of earth moving (elevation changes from 25-30 feet). The course is worth significantly more than a $10 gold coin and to cope with the sometimes dramatic undulations, a golfer must project his ball into an eagle-like strong soaring flight.

Located west of the turnpike and Coral Springs, Florida, Eagles Trace is situated on approximately 425 acres, where beautiful homes will encompass the Tournament Players Club. The golf course was built by Wadsworth Golf Construction Company and was officially opened on December 3rd, 1983. As mentioned earlier, the course was built on a designated landfill site and this required the movement of millions of yards of sand. This vast amount of sand and soil was sculptured into a challenging and Scottish-style golf course.

Arthur Hills designed greens that range in size from 4,000 sq. ft. to 16,000 sq. ft. and average approximately 5,500 sq. ft. Actual turf will cover about 120 acres in addition to 25 acres of lakes. The lakes and 35 bunkers are esthetically beautiful but will add menacing numbers to score cards for those with less than accurate shots.

It’s been said that behind every great man there is a great woman and visa versa. It can also be said that behind every greatly conditioned golf course there is a great Golf Course Superintendent. The management at Eagles Trace knew they had a special club and therefore needed an eminently qualified Golf Course Superintendent. Their search ended with Fred Klauk, former Golf Superintendent at Pine Tree. He is considered one of Florida’s and the nation’s top superintendents. In addition to this he is a highly competitive golfer, who carries a 2 handicap and has won several tournaments, including the FTGA Scholarship and Research Tournament, (1981 and 1983) and the Crowfoot Open. For those who like details he has lost the POA Annual Classic twice in sudden death.

Fred Klauk’s first job on a golf course was edging bunkers and removing love vine from oak trees for Lou Oxenevad at Lost Tree. During his high school summer months, he also installed irrigation systems and rebuilt greens under Lou’s guidance.

After his graduation from the University of Florida, where he received a Bachelor of Science Degree in Ornamental Horticulture, Fred became superintendent, during and after construction, on the north course at John’s Island in Vero Beach, Florida. Following John’s Island, he was superintendent for nine years at the prestigious Pine Tree Golf Club where he acquired a reputation for superior putting greens. He has brought to Eagles Trace the experience and dedication it will take to satisfy the needs of touring pros and the owner.

Since he began at Eagles Trace in September of 1983, Fred has been busy planting trees, conditioning the course and making modifications. At the time of construction, there were virtually no trees on the property and this has led to extensive planting of Live Oak, Black Olive, Bottlebrush, Gumbo-Limbo and a few Ficus, Royal Poinciana, and Jacarandas. The greens consist of Tifdwarf Bermuda-grass, inter-seeded with Penncross Bentgrass in the cool season months. The tees are tifgreen 328 Bermudagrass and fairways and roughs are Tifway 419 Bermudagrass. The golf course has a wall to wall cart path system that spans approximately 30,000 linear feet and aids in minimizing turf damage, due to wet conditions. Excellent surface drainage was created on the course by rolling the terrain and installing catch basins. All of the bunkers have drainage pipe connected to catch basins and as a result of this extensive drainage network, the course can receive 6 inches of rain one day and be open for play the next.

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The most significant problem Fred faces currently is the torpedo grass in some roughs and fairways. Equipment storage is in the 6,000 sq. ft. maintenance complex that is a good facility with excellent crew accommodations. Presently, the course has no shade problems and being a new development receives relatively light traffic.

Situated approximately 1/2 mile west of the golf course is the Everglades, with a variety of wildlife. This includes ducks, Great Herons, and the famous Florida alligator. Perhaps they will assist Fred with his current nineteen item course change list. This list was accumulated as a result of suggestions from players who participated in the first TPC at Eagles Trace. Take the 8th hole for example, Fred is in the process of removing a mound in the landing area that previously would accelerate shots hit off the tee into a lake if the shot hit on the downshape of the mound. The severity of the mound has been reduced and the area will be re-sodded. Three new tees on numbers 3, 5 and 11 are being built for better alignment toward the green and part of the Par 4, 12th green is going to be redesigned to reduce the severity of the contour.

The irrigation system is Toro Vari-time II, hydraulic and is virtually wall to wall. There are 1100 heads on the golf course consisting of 640's, 650's, 670's and Fred's favorite, the 690. There is one pumping station enclosed in a $100,000+ house that includes a 20, 40, 60 and 100 horse power pump. Fred is currently in the process of balancing his irrigation system and limiting demand which ultimately will lower his electric bill.

The TPC at Eagles Trace was deemed a successful event by the majority of people who played or were involved with the tournament. Bruce Lietzke won the first tournament and Gary Koch and Mark McCumber share the course record of 66.

Under the capable leadership of Fred Klauk and his assistant, Scott Bell, Eagles Trace will undoubtedly continue to improve as the course ages. Each year as newly planted trees mature and modifications for improvements are initiated, the course will assume a slightly different character. As long as Fred Klauk is involved it is safe to assume that the character will be a reflection of his own professional reputation, constantly seeking ways to improve and perhaps like the Eagle, soaring above the rest and leaving a Trace of something significant and worthwhile. That's the essence of Eagles Trace and Fred Klauk.
Geologists generally regard Florida as being nothing more than one humongous sand bar. Golf Course Superintendents can concur with such thoughts, as we all find golf courses to be excessive in sand content. When one thinks of sand, one imagines of a soil that is coarse in particular size, poor in nutrient retention, and excessive perculitive rates with virtually no water holding capacity. However, as we discuss the problems associated with sandy soils, it seems peculiar that most all of us experience some sort of wet areas with poor drainage on our golf courses. That brings us to the topic of drainage and the ways of ridding excessive water in an environment where most golfers are usually unsympathetic of our dilemma.

The reasons for poor drainage are generally a direct result of the extremely flat native land. Man-made lakes and canals are excavated to create landfill for the contours of tees, fairways and greens. It is here the problem begins. Sub strata layers varying from fine silt to coarse coral rock are reconstructed whereby your Excedrin begins. Do you have mounds of dryness where irrigational means fail to produce adequate moisture, however at the base of the mound excessive moisture produces a condition of being desert like to swampland within the distance of just a wedge shot.

Because everything is not perfect, we find ourselves forced upon a situation of modifying soil conditions in order to agronomically produce sound turf within such varied conditions.

As I began my evaluation on the type of drainage projects and their respective rates of success, there is one golf course that has employed a unique concept that is producing playable golf conditions with the ability to maintain quality turf, even though the course received 129 inches of rain last year and is found deep within the woods of Cypress and Malelucas, synonyms for soggy soil. That golf course is the Banyan Country Club where certified Golf Course Superintendent Dan Jones has shared his concepts with me for this article.

There are regions of the golf course where water run off must travel hundreds of yards to nearby lakes and canals. Such long linear distances with less than a 1% elevational pitch obviously results in wet areas. Dan Jones has cured the problems of long runs by a practice of calculating the correct pitch within a given distance and then installing a pump, a device similar in nature to a lift station commonly found within the design of sewer systems. He can then pump the water from its lowest given point back up to a respective subsurface elevational pitch to once again have enough positive drain to draw the water on down the line to a given run-off area such as a canal or lake.

Upon a recent visit, only one day after a heavy rain, I found the course to be open, heavy with play and only minimal moisture as compared to standing water of previous history. Jones has evaluated the many designs for drainage whereby the process of elimination and going a little above and beyond has created a design of exceptional results. First of all, Jones cites, "Don't just go out with a trencher and insert some drain pipe down in the ground, cover it over with some rock and assume all your prob-

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lems are over." Jones feels the basic key to success is to create a trench of proper width and depth to collect the ground water. Jones insists upon a backhoe attachment which can be coupled to the back of an existing tractor for the employment of digging. A width of 12 to 18 inches is important as compared to a typical 6 inch width of just a trencher which can age faster and produce only short term results. As you are digging the trench, pull a dump truck next to the backhoe and haul off all the excavated material offsite. Jones states, "If the soil wouldn't perc before, why push it back into the trench"—instead haul it away and refill with the proper type of soil, more specifically; Coarse DOT Type Trap Sand.

Now that we have analyzed the cross section design of the drain trench, let us now analyze the linear distance of the lateral drain. The given pitch can only go for a certain percentage of a distant drop. The second key of the design is employed which ultimately makes the project "drain so well". A sump pump is placed at the end of a given line. The water is pumped upward to a satisfactory subsurface pitch to have enough positive pitch to drain again. The pump operates on a float valve which automatically turns on when the well fills up with water. Electricity was run from a nearby source. The amperage draw is minimal while design of such can last for years. The concept of an automatic float valve virtually eliminates any need for care and supervision. Jones showed me the pump which immediately brought to mind of several locations of where I plan for future projects. Any of us who have, lets say two or three holes of parallel design, such as the case at Banyan: the driving range, and holes #1 and #18, the system will definitely pull excessive ground water a distance of approximately 300 yards. When golfers consider the facts of such flat land coupled with the astronomical amounts of rainfall that we can receive, it seems amazing that we are even able to play golf, not to mention any such high quality golf courses.

With innovative concepts of the discussed drainage work that are successfully working throughout the golf industry, I believe we can be proud of such fabulous results considering we are usually not engineers, however— we are instead...Golf Course Superintendents.

Once the trench is dug with the proper 1% elevational pitch (See Fig. 1), then the design of the drainage hole itself begins to be revealed (See Fig. 2). Place a 3 to 4 inch depth of rock on the bottom of the trench bed. A filter cloth material bought in rolls of 14' x 1200' are cut literally in half to create (2) 7' x 1200' lengths. Place the blanket within the walls of the trench and again place 3 to 4 inches of 1" drain rock within the blanket. Next the ADS Drain Pipe with holes located all the way around is placed into the middle of the trench. (The sock type cover is not used because the filter cloth accomplishes the same purpose with a less chance of clogging because of a greater circumference surface area in the filter cloth.) Then rock is placed totally around the pipe to 3 inches above the top of the drain pipe, thereby encasing the drain with a column of rock. The filter cloth is then dropped over the top to overlap and seal the drain rock within. Coarse DOT trap sand is then filled to the top of the remaining trench line whereby sod is placed as the icing on the cake. Even the type of sod can make a difference. Jones states, "Make sure you buy a sand base grown sod rather than a muck base, as yes, the muck hinders initial water penetration."
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