Island Green construction. The 7th at Round Hill.

So . . . you want to build a golf course?

Mel Lucas Jnr, a past President of the G.C.S.A.A. and a highly skilled and qualified golf course superintendent, took on the mammoth task of building a golf course in environmentally sensitive Massachusetts. This is his story . . .

It was Jim Snow who coined the phrase 'So . . . you want to build a golf course'? as the title for a number of speaking engagements which I have given over the past year. In these I've set out to explain to my fellow superintendents the trials and tribulations I've encountered in my task of building a nine-hole golf course in an environmentally over sensitive state.

In the U.S.A. each state has its own environmental agency. In Massachusetts ours is called the Department of Environmental Quality Engineers (D.E.Q.E.). Within the state there are many towns that set up their own environmental agencies, known as Conservation Commissions (ConCom).

Ideologists at work

The state agency is headed by very knowledgeable people. However, as we go down the ladder, we find the field teams made up of young people who have been formally educated in botany. Many have been trained through the Peace Corps in some of the most depressed countries in the world. Most are ideologists.

The ConCom is made up of local townspeople of varied occupations and they serve as volunteers. There is a salaried ConCom officer, who generally comes from the same background as the state agency people.

The state agency is classic bureaucracy, being top heavy with paper work and, at lower levels, few decisions can be made. This group will only come if it is called, with the call usually coming from the ConCom officer.

The ConCom is the pivotal group, often the only way a town can control its growth with regard to housing, industry and, you've guessed it, golf courses.

The third party is the chosen engineering company, with every proposal submitted having to be drawn up by such a company. Proposals are called orders of conditions and it is vital to work closely with the company to ensure correct working of the documents. To allow an engineering practice to draw up proposals without the close consultation of golf course architect, course builder and greenkeeper could spell disaster, with land lost and construction costs rising to an astronomic figure.

Two years and £250,000 later . . .

The developer should anticipate spending not only a quarter of a million pounds, but also two years in getting final approval before the first shovel has entered the soil!

Our problems began in August of '86, during an inspection of a pond being excavated. A ten acre Red Mample swamp was cleared, stumped and excavated to create a six acre pond at a depth of six feet for irrigation. There was to be an island green, the muck soil being used, mixed with sand, for greens and tees and as material to build an earthen dam and to enhance several home sites. The swamp had a small stream running through it, exiting into a salt water marsh.

Precautions were taken, with a silt fence and hay bales strung out on the marsh side of all excavation. The stream kept flowing and excavation was carried out on both sides of it.

During excavation a dock builder was jetting down pilings for the green and the water was coffee coloured.

Never trust a ConCom man

Enter ConCom inspector, who thought there was insufficient protection to ensure that sediment would not flow into the marsh. Here we learned our first lesson . . . NEVER trust ConCom inspectors! His visit seemed favourable enough, walking the site and talking positively about the project, whilst indicating things he wanted done, such as more hay bales placed in streams, which we did. He left and we felt O.K. But the following morning he had ordered a 'cease & desist' until an inspection was made and they had reviewed all of our files.

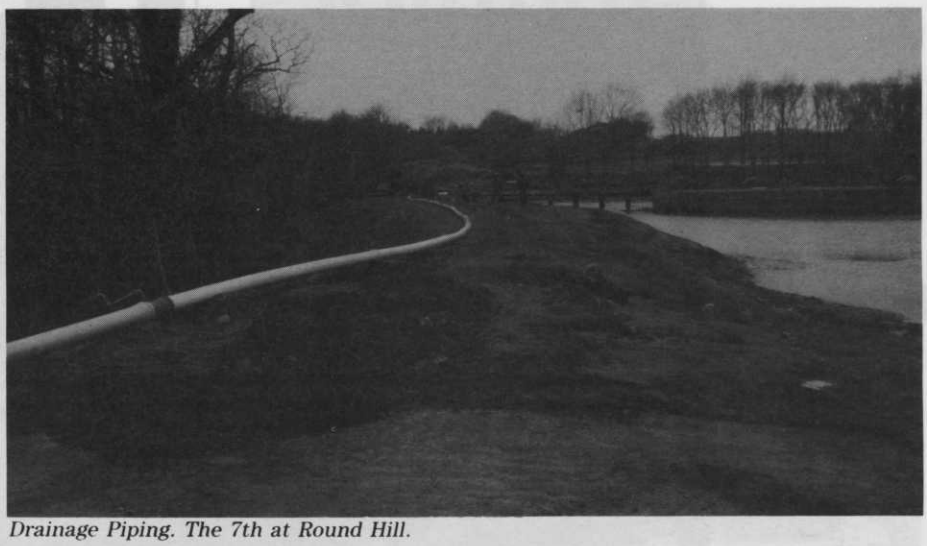
There were no options. Work came to a halt, the local contractors pulled out in favour of other jobs and our wetlands work ceased.

The irrigation system was being installed by my crew, working in grassed fields. We did not plough the whole place under, but I was given orders of conditions and a go ahead. But 'they' failed to give me orders for what 'they' wanted before trenching. During an inspection, and well after two thirds of the mains were underground, we were cited another 'cease & desist'. Reason? We had not placed hay bales or silt fence. We were not in wetlands, but by ConCom reckoning anywhere within 100 feet of wetland must be treated as wetland.

Only after the purchase of 3,000 feet of silt fence and hay bales, to be placed along the sensitive areas, were ConCom satisfied and the 'cease & desist' for irrigation was lifted. To place the silt fence in you must dig a 3 inch trench so the material will form an 'L', then the bales must be set into this 3 inch depth - all to be dug by hand.

During this time the spill way and stream were blocked off. Then the rains came and filled the whole area with water.

We now had a major problem, with



Drainage Piping. The 7th at Round Hill.

no solution forthcoming from ConCom. Thus the engineers had to come up with answers and I discovered that this group were short on experience and long on toro manure. Finally they found the chemical that would clear the water problem. First hydrated lime was poured into the pond - from boats - to raise the Ph of the water, followed by aluminium sulphate. In two days the pond was crystal clear, ConCom were happy and allowed us to open the spill way. Water was down, contractors came back and excavation was completed. The pilings continued and the coffee water appeared. Throughout this time we had a daily visit from the ConCom inspector, who walked every inch of the development site and questioned every aspect of our work. Finally in October he brought in the DEQE. The project was given another 'cease & desist', spill way closed.

We were back to the coffee water again, with only about 25 feet of the piers left to complete. An access road was still in place but the DEQE individual was concerned that pressure treated pilings might affect the salt water marsh and that the chemical used in the pond would also do harm. The engineers got busy, though only through research material which the pressure treated wood institute had already documented.

14 days to finish

Winter arrived and with everyone urging the faceless ones that we be allowed to finish the job, before the spring thaw and rains, we were given 14 days to complete. Late February saw all of us putting in drains to the greens - stone, sand and mix - leaving two loads extra for repairs. The last pilings were in, an access road excavated and teeing grounds built. Ten days of ten degree weather & done!

Came the spring, together with torrential rains. None of the greens had been seeded, being still under 'cease & desist'.

Erosion was doing its environmental worst, all due to the environmentalists. The pond filled and became a major concern to the dam. A pump was brought in and 1,400 feet of 6 inch PVC pipe took the water off into a grass meadow to cleanse it before it entered the marsh. The issue of the chemical had still not been addressed by the engineers and I was eventually drawn into their laxity and despair, requesting that I should do the sleuthing for them on chemical information. Blessed with good colleagues and university turf specialists, I was eventually directed to Stuart Cohen in Maryland. Ten days of direct involvement with him brought forth the required documentation and a clean bill of health from DEQE. The 'cease & desist' on the pond was lifted and water - glory be - was allowed to travel its own course.

But, throughout the period of inactivity the pond had been pumped dry, leaving the banks open to erosion and we were forced to lay in a wood fibre matting throughout.

'Cease & Desist' - again

Work commenced on erosion repairs and by mid-summer seeding of greens and tees on seven holes had taken place, the remaining two remaining under yet another 'cease & desist'. The pond had failed to fill to capacity and the thought of seeding fairways worried me, fearing the water requirement shortfall. We hydroseeded in February 1988 and with the final two holes released from ConCom jail we completed seeding in August.

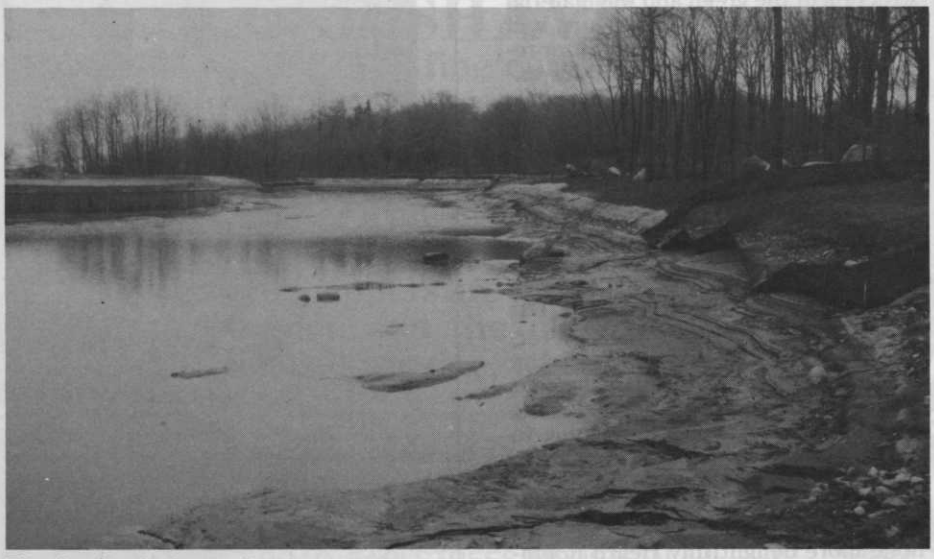
Now we are growing & mowing on this Trent Jones links on the peninsular into Buzzards Bay. On his second visit, observing that gimmick golf in the shape of an island green had arrived, he turned away with a grin, saying: "No doubt about it, this is a LUCAS course." For the 80 residents at Round Hill it represents privacy and a quality of life that they feel is well worth their investment.

The cost of course construction was around 1¼ million pounds, though engineering and other fees had to be quite enormous and over this figure - I don't know just how much and the developer hasn't told me.

I've enjoyed the whole exercise, seldom feeling great pressure, thanks to my background of 25 years as a greenkeeper on Long Island. I've pampered to aloof self proclaimed agronomists and held my own with over indulgent egocentric chairmen in the past, and have a sharp edge when it comes to pressure. Building a golf course is - ahem - a piece of cake...

But there is a final unsolved problem. Our illustrious engineers wrote into an order of condition that no pesticides or fertilizers may be used on over 60% of the golf course. The amendment has been made - with my wording - and now we wait, and wait, and wait...

MEL LUCAS Jnr.



The Pond at its lowest level.