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WOLLATON PARK GOLF CLUB

Advisory Report on the new 5th Tee and performance of the playing surfaces on the 5th – 7th holes

Report Date: 9th March 2021
Consultant: Michael Boyes

Wollaton Park Golf Club

Date of Visit:	Thursday 4th March 2021
Visit Objective:	To review construction, drainage characteristics and condition of the playing surface on the new 5th tee and the general performance of the turf surfaces on holes 5th – 7th with particular focus on the fairways.
Present:	Steve Sayers – General Manager, Phil Slaney – Chair of Course Martin Scothern – Course Manager, Rob – Deputy Course Manager Michael Boyes – Turfgrass Agronomist, STRI
Weather:	Cold with some cloud cover (7°C).

Headlines

5th Tee

- The surface of the relatively new 5th tee has been impacted significantly under inclement conditions in recent months due to restricted infiltration and percolation through the constructed soil profile, resulting in standing water, a softening of the surface and a deterioration in turf grass health and density.
- The reconstruction works on the 5th Tee were carried out primarily by an external contractor (Lakeland) in accordance with the express instructions of the Club, utilising subsoil and rootzone materials stripped from the existing tees and stockpiled adjacent to the extended construction site.
- Upon reinstatement, the recycled construction materials have been worked excessively in the establishment of desired surface levels, leading to compaction which is having an ongoing negative influence on drainage potential. The water retentive nature of the upper soil profile has stunted root growth and led to algal build-up, deterioration of turf health and a loss of grass cover in selected areas.
- It was suggested that the contractor did recommend the incorporation of primary plastic pipe drainage as part of the reconstruction, but this offer was declined by the Club.
- No course of redress is appropriate with the contractor who acted on the Club's instruction, therefore when ground conditions improve, an extensive programme of aeration and sand top-dressing has been agreed in conjunction with appropriately timed overseeding operations.
- Provision is also to be made for the retrospective installation of a primary plastic pipe drainage network at the earliest opportunity.

Playing Surfaces 5th – 7th Holes

- The area of the golf course, which primarily encompasses the 5th – 7th holes, historically represents the wettest part of the site due to its low-lying nature. A central section which bisects the area contains a seam of less than desirable underlying materials which is impeding drainage and restricting root system development and extension. Subsequently, soils on the affected fairways are largely impermeable leading to standing water during wetter, winter months and are at risk of "baking-off" during periods of extended hot/dry weather. Neither is conducive to the promotion and sustainability of dense and healthy grass cover. It was reported that routine aeration practices in the impacted areas have been extremely limited in recent years.
- Corrective action is advised in the form of localised hollow coring operations for the removal of organic matter accumulation, the aeration of the soil profile, amelioration of sand top-dressing and overseeding. Regular deep solid tine aeration (i.e., Verti-Drain) is prescribed a minimum of twice per year through the entire area.

Key Actions

5th Tee

- Carry out selective manual "drill N fill" operations on the most problematic central section of the 5th tee to remove existing constructed soil profile and replace with straight sand through to the drainage layer.
- As soon as weather and ground conditions are conducive, undertake solid pencil tine aeration (6mm – 8mm Ø tine) with the pedestrian Toro Pro Core 648, to a minimum of 100mm in the drier front and rear sections of the tee. Incorporate sand top-dressing.
- Make provision for deep solid tine aeration (minimum 19mm Ø tine) to a depth of 300mm (zero heave) and follow with heavy sand top dressing to fill the resulting tine holes to the surface and provide connectivity with the underlying drainage medium.
- Complement extensive deep solid tine aeration (i.e., Verti-Drain) prescribed above with a programme of regular/routine shallower solid tine aeration, at varying depths of penetration and using differing tine diameters, to break up compacted layers throughout the constructed profile. Follow with light dustings of sand top dressing at every available opportunity.
- Undertake Sarel rolling for shallow penetration on the surface and follow with frequent, light dustings of sand to firm and dry the surface and degrade thatch. Plan for overseeding operations when surface conditions are suitable and forecast weather is favourable for germination.
- Upon substantial improvements in drainage capabilities and increased health and density of the grass sward on the tee, plan for installation of a primary perforated plastic pipe drainage network.

Playing Surfaces 5th – 7th Holes

- Undertake localised hollow core aeration, using as large a diameter tine as available, to target the problematic seam of material on the 5th fairway. Allow the resultant cores to dry on the surface before pulverising them with scarifying units, metal drag mat the soil element back into the tine holes and disperse the remaining organic material with blowers. Apply heavy sand top dressing to the area to top-up the tine holes, improve drainage characteristics and degrade thatch further.
- Aim to procure a Verti-Drain unit for the Club to facilitate routine aeration of the problematic "wet" section of the course, whenever windows of opportunity present themselves. It is suggested that a minimum of two annual operations (March and Oct/Nov) are essential to improve drainage performance and promote strong and healthy grass cover at the surface.
- Make budgetary provision for a dedicated annual fairway programme across the course with regards to nutrition, wetting agents and overseeding, and also sand top-dressing where required if resources allow.
- Consider scarification operations across the denser turf areas (i.e., start of the 4th fairway) to remove excess build-up of organic matter for the incorporation of sand top dressing to develop an even stronger playing surface, dominated by the finer grasses.

Photo Observations and Comments

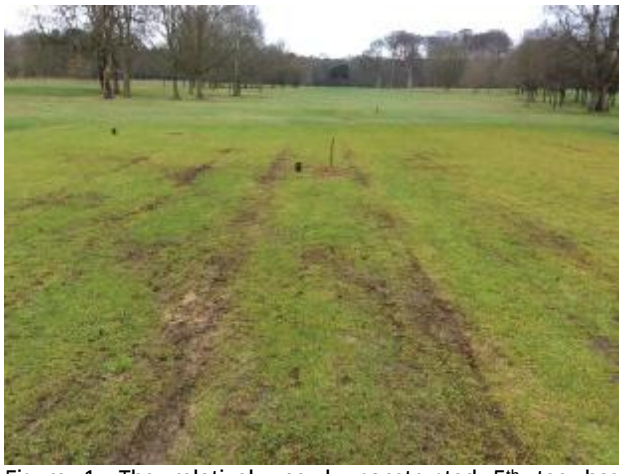

Figure 1: The relatively newly constructed 5th tee has deteriorated significantly in recent months under inclement conditions and is very soft underfoot.

Figure 2: The soil profile taken from the relatively dry front section of the 5th tee reveals the composition of materials used.

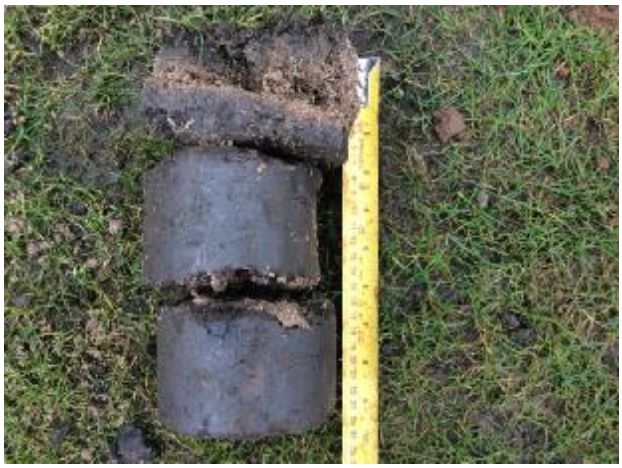

Figure 3: At the wetter, rear of 5th teeing platform the compaction of the constructed layers is evident which is restricting root development and water percolation.

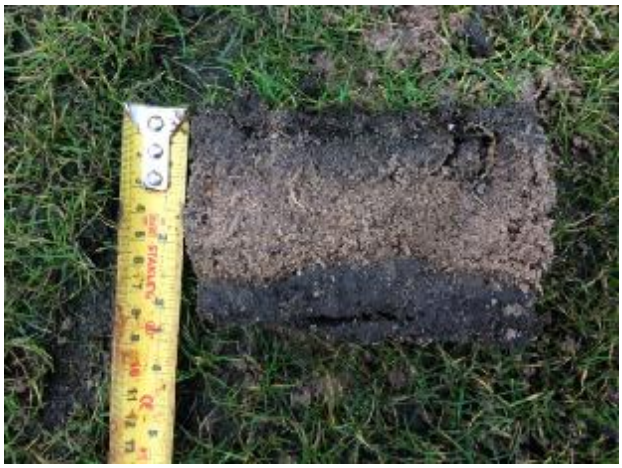

Figure 4: A shallow sand layer is apparent above the constructed profile and grass coverage is weak on the surface, with limited root penetration.

Figure 5: The playing surface is particularly water retentive due to poor infiltration/percolation, recording a value of 41% on the day.

Figure 6: A friable and free draining medium is employed at depth in the construction but the compaction of the materials above, and a lack of formal pipe-drainage, is rendering the surface unplayable.

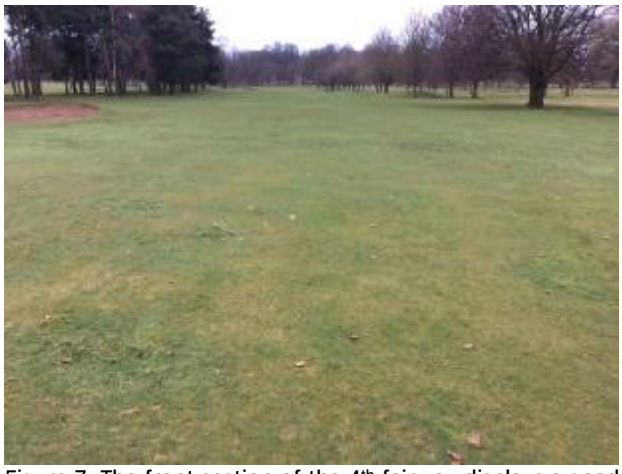

Figure 7: The front section of the 4th fairway displays a good proportion of the more desirable grass species and a very good playing surface due to the relatively free-draining nature of the sub-soil structure.

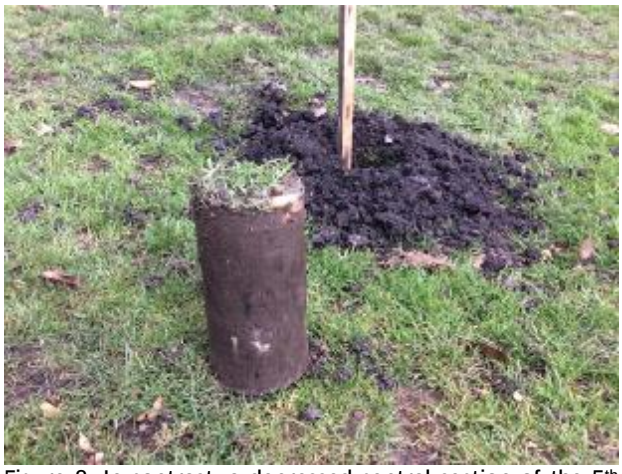

Figure 8: In contrast, a depressed central section of the 5th fairway is notoriously problematic and reflected in weakened grass cover, due to a seam of less desirable material which bisects this part of the golf course.

Signed

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