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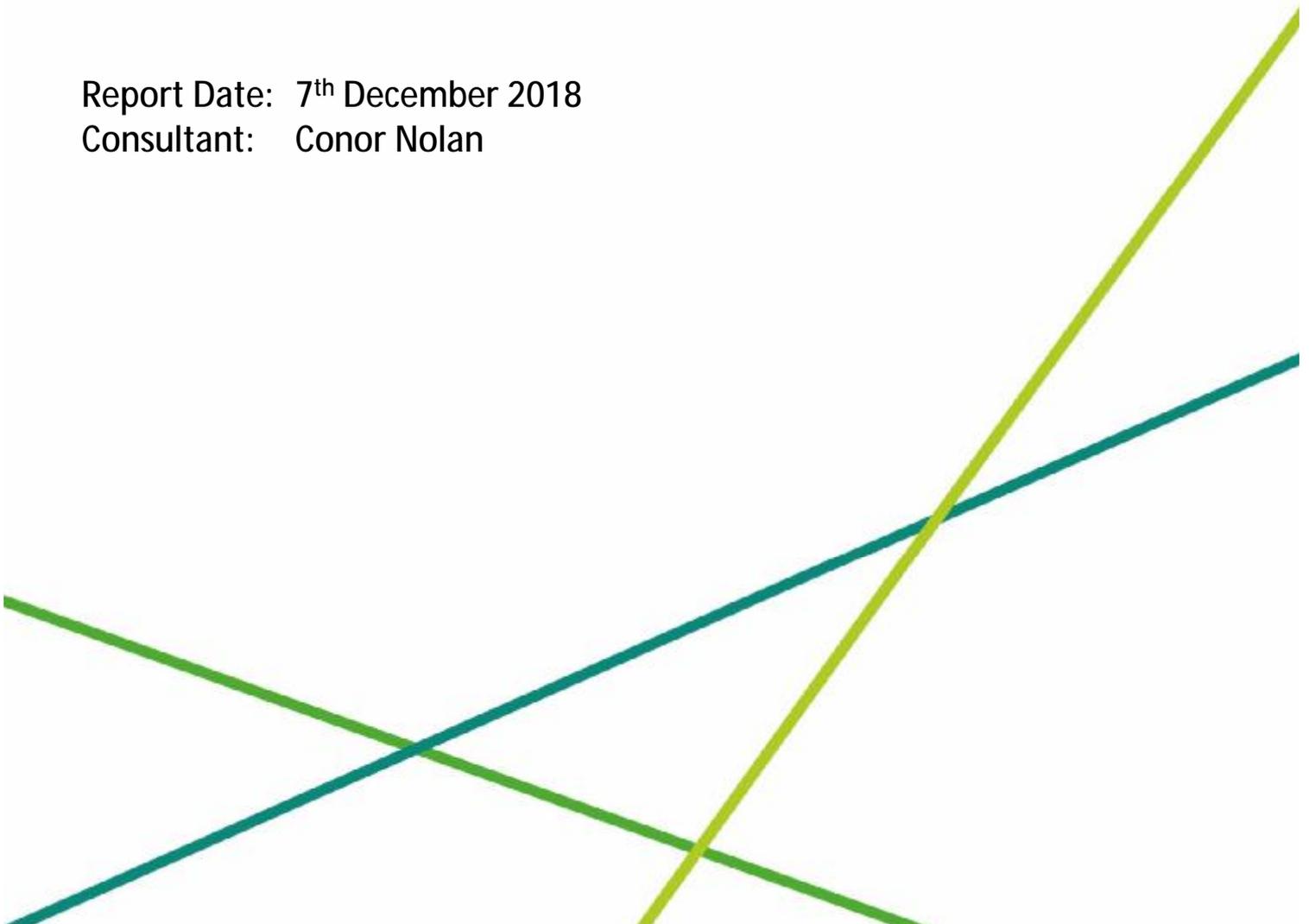


CLONTARF GOLF CLUB

Advisory Report on the Golf Course

Report Date: 7th December 2018

Consultant: Conor Nolan



Date of Visit:	5 th December 2018
Visit Objective:	To review overall course condition and to provide maintenance advice on issues found throughout the course. Data collection was postponed due to very heavy rainfall in the hours leading up to the visit.
Present:	Mr P Murray – General Manager Mr D O' Malley – Head Greenkeeper Conor Nolan – STRI Ltd
Weather:	Sunshine with heavy showers. 18°C.

Headlines

- Given the high disease pressure of recent weeks it was very pleasing to see that fusarium patch disease scarring was limited to the 10th green. Control measures and vigilance have been working well.
- The benefit of reduced traffic levels in recent weeks was very evident to the first 6 greens.
- While ponding was noted to greens and they were soft initially, within a few hours of rainfall cessation they were starting to firm up.
- Sand topdressing of greens has been good this year but it is not yet optimised which would deliver better firmness under such rainfall events.
- The aprons were uniform with many offering nice texture through establishment of better ryegrass types.
- The odd approach was very soft e.g. 8th and 13th. Sanding needs to intensify.
- Green surrounds generally offered uniform lies except for the 12th and 13th.
- I witnessed your bunkers flooding for the first time. Flooding is a likely to be a feature of sediment accumulation albeit it is quite light but sufficiently effective to cause impediment.
- Tees vigour was generally good while firmness was superb helped by recent coring/generous sanding to many.
- The fairways were well grassed and of nice vigour. The 12th and 13th were the exception. Earthworm activity was surprisingly low.
- The bowling green had progressed well but was still somewhat mossy and with gaps while sanding has been too light this year.
- The garden green was multiple times better than this time last year. It was the model for firmness.

Key Actions

- Continue to apply fungicide as Instrata or Banner Maxx II every few weeks to greens until February, in addition to regular application of dew dispersal agent (Magnum Recoil).
- Resume sand topdressing of greens towards the end of January with application rates of 3-5 tonnes per hectare. Aim to ramp up the sand input this spring as growth allows. Include the bowling green.
- Fertilise the bowling green and garden green with Invigorator Plus 4:0:14 now and a few times before April. Apply at 20-25g/m².
- Continue to partially rest the first six holes until the end of February or so.
- Plan to overseed the aprons in late April with dwarf ryegrass and fine red fescue seed.
- Sand topdress pinch points and the soft 8th and 13th approaches on occasion over the months ahead at light rates of 15 tonnes per hectare.
- Remove excess sand to bunker edges/faces where turf quality has been lost before mid- February.
- Apply ammonium sulphate (50kg/hectare) and iron sulphate (8-10kg/hectare) to tees now and on occasion before March end. Include the 12th and 13th fairways.
- Resume sanding of the tees in February at 20 tonnes per hectare. Include grass paths.
- Tree work should continue with removal of the less valuable and less strategically important poplars and evergreen trees (e.g. Leyland cypress and Monterey cypress).

Photo Observations and Comments



Figure 1: No disease scars of any sort on the 17th green which was typical. All greens were quite soft. Even the sand based 12th and 13th were slightly soft. If we can achieve 3.5% organic matter in the upper section of the profile drainage will be faster and firmness better under the same conditions.



Figure 3: Coarse ryegrass on the 8th green together with older bentgrasses which need to be chemically removed. The texture was in contrast to the more superior right side of the 8th green and the 12th and 13th greens.



Figure 5: Nice vigour found to the bowling green. Many bits of small scars (possibly meadowgrass dieback) were noted while trailing moss was evident to a lesser degree than recent years.



Figure 2: While there were many ball marks incorrectly repaired on the 13th green there was no disease scarring despite the added moisture levels being close to the pond. Fungicide controls together with dew dispersal agents are main contributors to the positive control.



Figure 4: Heavy ponding over the more than a decade old pipe drain on the 10th green. Organic matter build up within the profile slows movement to the drain.



Figure 6: Layers of organic matter were too evident to the upper section of the bowling green which affects firmness. Sanding was better in previous two years.

Photo Observations and Comments (continued)



Figure 7: Nice definition and crispness to the 4th apron which was typical. The finer ryegrasses are showing through, note the light triplex ring to the green perimeter from excessive mowing.



Figure 8: Very soft conditions seen to the 13th approach. Sanding needs to intensify to address soils that are slow to drain due to construction handling (quite normal).



Figure 9: Much better firmness noted to the 3rd tee and all recently constructed tees thanks to autumn renovations. Grass cover was good overall. Nitrogen and iron status should increase somewhat to address appearance and light iron chlorosis found.



Figure 10: Nice vigour and ball support to the 9th fairway. The odd patch of weaker cover was noted on the 16th from summer drought. The new sections of the 12th and 13th were hungry with fairy ring. They will always require additional nitrogen for the immediate future. Leaf collection has been very efficient and effective, all in house no less!

Recommendations

Greens

- Apply ammonium sulphate in the coming months to maintain the current nitrogen status. Apply at 20-25kg/hectare in 400 litres of water once temperatures are between 6-13 Celsius in the middle of the day. Excess nitrogen increases disease risk and reduces plant hardening.
- Apply iron sulphate at 8-10kg/hectare in 300-400 litres of water with the above to lightly blacken/dark green the turf regularly when temperatures are between 4-13 Celsius.
- Apply Invigorator Plus 4:0:14 plus 9% iron in addition to the above to the 12th and 13th greens to maintain density and counter moss. Apply at 15-18g/m². Repeat as needed.
- Apply Invigorator Plus 4:0:14 plus 9% iron to the garden green to build density and counter moss on occasion before April. Apply at 20-25g/m².
- It was agreed to maintain the winter height of cut at 4.75-5.0mm in order to keep reasonable refinement of the older coarser types of bentgrass. The one exception is the mossy and very soft north facing 14th green. To help improve grass cover raise the height of cut to 6mm to it now and mow with the pedestrian cylinder mower until March sometime. If there are complaints next summer over lack of speed mow between 3.25mm and 3.5mm.
- Aerate with 8mm tines every 4-6 weeks to 100mm depth to help rooting and surface water removal.
- Plug out as much pearlwort (e.g. 3rd, 5th and 16th greens) and ryegrass (3rd green) as you can before replacing with browntop bentgrass plugs from the garden green.
- If necessary, groom on occasion during the early spring to control the leafiest old bentgrasses.
- Plug out the larger disease scars on the 10th and replace with plugs of bentgrass from the nursery or side of the garden green soon.
- Repair old ball marks whenever the course is closed. Do so by removing the centre and pressing in the turf from the side in a neat manner. Remove small bits of silvery thread at the same time
- Continue to allow reduced levels of play to the fist 6 holes not only to help the spread of bentgrass but also to present better sward density/vigour.
- Resume sanding at the end of January at light rates of 3-5 tonnes per hectare to progress firmness. Front load sand inputs in the spring when possible given the need to progress firmness and given the lack of opportunity in the autumn. Apply more with due rainfall. Be prepared to water in the sand during cooler dry periods later in the spring. Target organic matter content for the upper 0-20mm section is 3.5%. There is room for improvement.
- Mowing of the perimeters should occur only on occasion until April to remove the light triplex ring noted.
- As best you can, spread wear and tear away from areas of weakness and where fine grasses are slower to establish.
- To the lower lying part on the 10th where ponding occurs and to the soft left side of the 18th vertidrain with the 20-25mm diameter solid tines soon to the 15cms depth. Apply no heave. Backfill with kiln dried sand when dry. Brush in the sand to fill the channels. The aim is to enhance surface connection with the drain. It has worked well elsewhere.
- Apply Instrata or Banner Maxx II fungicides every three weeks through until the end of January when greatest fusarium disease risk should be over. Mow as little as you can during that period to obtain maximum duration of control from the fungicides. There is no need to apply a fungicide if the turf has hardened for winter. Hardening is deemed to have occurred when there are multiple purple patches on greens which is normally achieved with a fortnight of day time temperatures at 4 Celsius or less together with some frosty nights.
- Continue to apply dew dispersal agent (e.g. Magnum Recoil) regularly from now through until March if dew is expected and while greens are being mown only once per week or less. Best results are achieved when applied to a dry leaf which may require blowing to remove dew first. Apply at 75% of the labelled rate if concerned about scorch because of frost interaction and make sure that no rainfall applies before the product has dried on the leaf.

- Continue also to apply Melspring Cu (Copper) every two weeks or so at 0.5-1.0 litre per hectare until the turf hardens or through until early February. Copper is deemed as a plant elicitor that helps trigger natural plant defences against fusarium patch disease.
- Next early September we should plan to remove the old coarser bentgrasses on the 18th green with an application of Stratos Ultra grass selective herbicide at the highest labelled rate of 4.0 litres per hectare. It may require a further application the following year. It is quite probable that it will take until early May the following year to achieve recovery. Rest over the winter would help speed up the recovery process. This is a process that has proven successful elsewhere since the chemical first became available 18 months ago. The annual meadowgrass will not be affected. By removing the old bents speed and appearance will be enhanced.

Greens Aprons, Surrounds and Approaches

- Maintain the current approach to mowing the aprons/approaches with the triplex mower set at 10mm height of cut.
- Fertilise aprons and approaches when putting surfaces are being fed in the months ahead. Make the odd extra feed if uniformity begins to wane. Try and avoid applying a granular unless it's a low analysis e.g. 4:0:14.
- Apply 9:7:7 at 20g/m² to the 12th and 13th green surrounds now to bring on uniformity. Repeat on an on-going basis as needed. We need to pay attention to that level of detail.
- To progress the aprons (and the approaches) further overseed at least once per year and preferably twice. Next opportunity should be taken around the end of April. Sow then with 70% mid green coloured dwarf perennial ryegrass (e.g. Barolympic, Chardin, Claudine and Bargold) and 30% slender creeping red fescue seed. Use 18-19mm diameter solid tines set to a shallow depth to form 'plant pots'. Sow at a rate of 60-80kg/hectare using a drop spreader to apply seed before working the seed to the 'pots' with a turned upside-down tees mat. Do not use a brush to work in the seed or the dimple seeder to sow. Sand only once seedlings emerge. Deploy a contractor (Mark Harris) if there is lack of available hours in-house.
- When ground conditions allow make light applications (15 tonnes per hectare) of sand to paths, approaches and pinch points on surrounds (e.g. 13th surrounds) in the coming months. Aim to make 2-3 applications by February end. Increase to 20-25 tonnes/hectare from then with two applications due before May.
- In addition to regular sand topdressing of the approaches as above the approach to the 8th should be verti-drained and backfilled with kiln dried sand as per the 10th green once it is dry enough.
- Erect the kite hawk to the 13th green complex or other should any bird pecking of the greens be noticed in the coming months. Ensure to move it regularly.
- Replace excess sand from sand splash affected bunker edges and faces now. One obvious candidate is the second approach bunker on the 2nd. If happy with the contour once the sand is removed lay ryegrass/fescue imported turf on the original soil level.
- To bunkers that are ponding unacceptably and for longer periods than desired remove contaminated sand (typically 75-90mm) before replacing with fresh sand. Firm up the fresh sand with a Wacker plate.

Tees

- Apply liquid 30:0:0 at 35 litres per hectare now or ammonium sulphate at 50kg/hectare in 400 litres of water. Add iron sulphate at 8-10kg/hectare to address the iron chlorosis present. Repeat on occasion when mild (feels like 6-13 Celsius in the middle of the day) in the months ahead. Application of 9:7:7 should be reserved for par threes. Apply the latter at 20g/m² to them and the surrounds to the 2nd/9th tee complex.
- Fertilise the grass paths with the liquid as above for added definition and to counter wear.

- Sand the tees and paths again in February at 20 tonnes/hectare. Repeat six weeks later or so. 5-6 applications are required during the year to avoid softening/ponding.

Fairways

- Apply ammonium sulphate to the less uniform and hungry 12th and 13th fairways. Apply at 50kg/hectare in 400 litres of water. Make two passes.
- Fertilise all fairways once the nitrogen status drops back later in the winter/early spring. Apply either 30:0:0 at 30 litres per hectare or ammonium sulphate at 50kg/hectare in 400 litres of water once reasonably mild.
- Apply iron sulphate at 10kg/hectare in 300 litres of water if iron chlorosis worsens in the coming weeks.
- Sand topdressing of the new holes at light rates of 20-25 tonnes/hectare is timely again in early March once ground conditions allow.
- Maintain the fairway at a height at 22mm for the low season. Lower to 17mm in March or so.
- Address the dipped ground to one or two gully pots on the 12th fairway by lifting the turf soon. Dress with good topsoil before replacing the turf.

Bowling Green

- Apply ICL Invigorator Plus (4:0:14 plus 8% iron) at 20-25g/m² now and a couple more times before March to bring on density, the uniformity of cover and to help crowd out moss.
- Maintain the current height of cut at 7mm until early March. Reach 5mm by the end of March.
- We need to progress sand input between now and April. Apply at light rates of 2-3 tonnes per hectare until February. Increase then to rates of 5-6 tonnes per hectare until the end of March once the sward can absorb it. Aim to deliver 12 tonnes before the year end for the entire green by the end of March.
- The irrigation coverage to the central area of the green needs to be rectified this winter. It would be the preference to ensure coverage with the automatic system rather than depending upon hand watering next year.

Signed

A handwritten signature in black ink that reads 'Conor Nolan'.

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ORGANIC MATTER CONTENT

CLIENT: CLONTARF GC
ADDRESS: DONNYCARNEY HOUSE,
MALAHIDE ROAD, DUBLIN 3,
CO. DUBLIN, REP OF IRELAND

DATE RECEIVED: 12/10/18
DATE REPORTED: 22/10/18
RESULTS TO: CN

TEST RESULTS AUTHORISED BY:
Michael Baines, Laboratory Manager

CONDITION OF SAMPLE UPON ARRIVAL: MOIST

SAMPLE NO	DESCRIPTION	LOSS ON IGNITION (%) [*]
A17275/1	12 0-20 mm	5.66
	20-40 mm	2.95
	40-60 mm	1.44
	60-80 mm	0.99
A17275/2	15 0-20 mm	5.06
	20-40 mm	4.57
	40-60 mm	3.52
	60-80 mm	2.44
A17275/3	18 0-20 mm	4.82
	20-40 mm	2.69
	40-60 mm	4.13
	60-80 mm	2.65

^{*} ASTM F1647-11 Standard Test Methods for Organic Matter Content of Athletic Field Rootzone Mixes (Method A)



THE RESULTS PERTAIN ONLY TO THE SAMPLE(S) SUBMITTED AND TESTED

Testing Certificate 2159 - 01

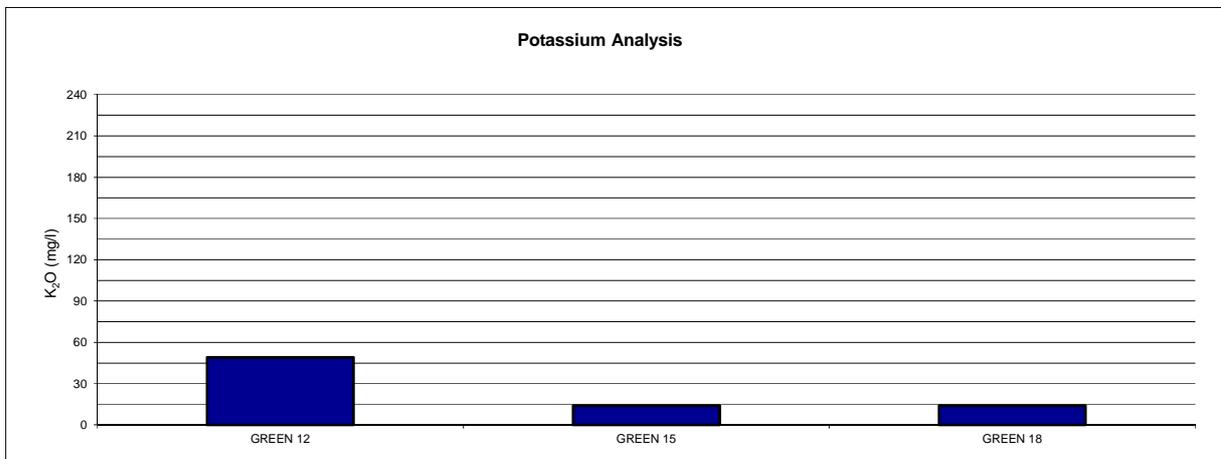
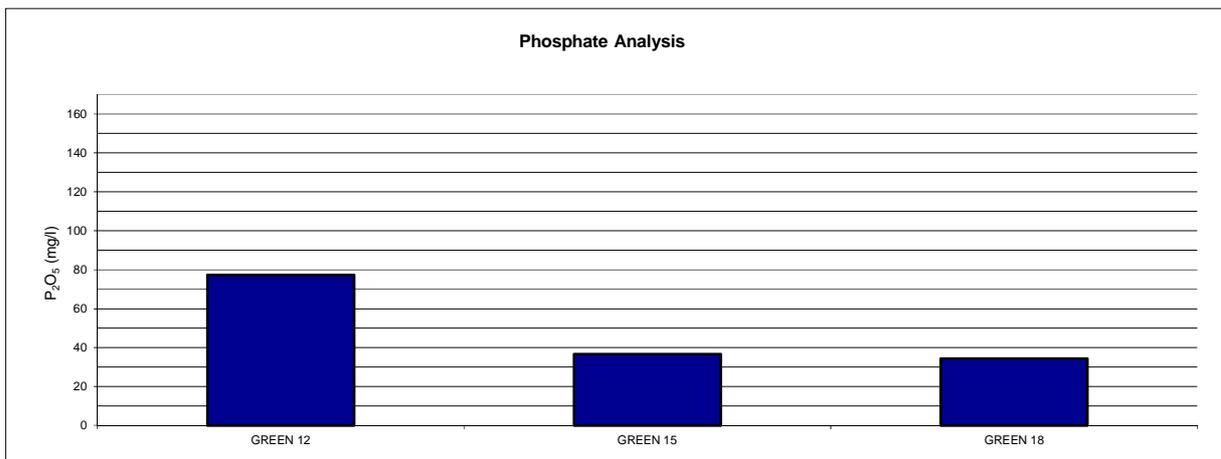
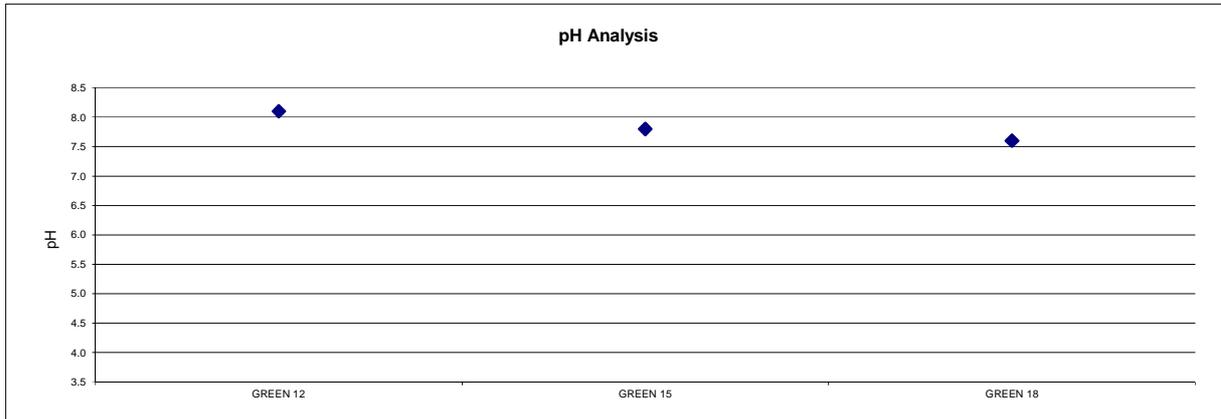
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SOIL CHEMICAL ANALYSIS

CLONTARF GC

Date: 12/10/18



THE RESULTS PERTAIN ONLY TO THE SAMPLE(S) SUBMITTED AND TESTED.