



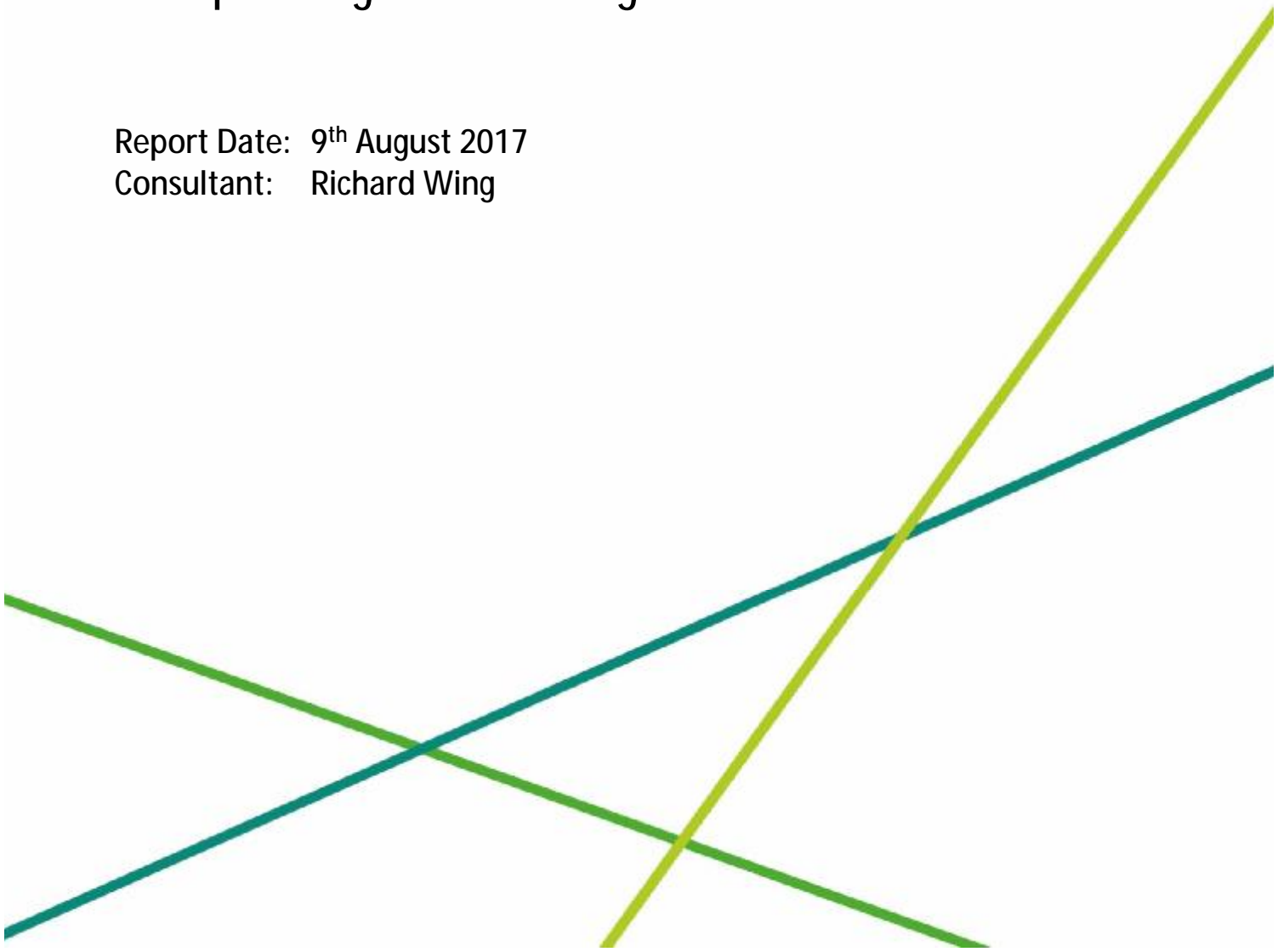
Making great sport happen



LARGS GOLF CLUB

Advisory Report on the Golf Course incorporating the STRI Programme

Report Date: 9th August 2017
Consultant: Richard Wing



Largs Golf Club

Date of Visit: 12th July 2017

Visit Objective: To review the prevailing conditions of the golf course, take performance data from 3 greens and confirm the ongoing maintenance requirements.

Present: Mr Robbin Knox – Committee (Part)
Ms Debbie Boyce – Secretary (Part)
Mr Iain Barr – Course Manager
Mr Iain MacDonald – First Assistant
Richard Wing – STRI Ltd

Weather: Sunny and warm, 17°C

Headlines

- The course was in excellent condition with detailed presentation despite the difficult condition during the spring.
- A slight increase in the organic matter content of the upper soil profiles of the greens has occurred.
- Greens 1-4 & 16-18 are subject to increased traffic through evening and winter play, compromising the consistency of the surfaces.
- Good capital expenditure in a new top-dresser and sweep 'n' fill brush will facilitate less disruptive top dressing applications.

Key Actions

- Implement full over-seeding with brown-top bent to improve sward blend consistency.
- Increase sand top dressing annual target to a minimum of 120 - 150 tonnes per hectare.
- Continue to combine top-dressing with solid tine aeration to facilitate higher inputs with less disruption.
- Tailor the maintenance plan to individual greens to improve consistency throughout.
- Continue with regular soil analysis to monitor needs for inputs.

Objective Measurements

Measurement	Average	Target Range
Soil Moisture (%)	33.6% (range 29.6-36.5)	15-30%
Hardness (Gravities)	94 Gravities (range 89-99 g)	85-110 g
Smoothness (mm/m)	18.3 mm/m	<25 mm/m
Trueness (mm/m)	5.5 mm/m	<8 mm/m
Green Speed	9 ft 10 in	9.5 - 10.5 ft
Organic Matter 0-20 mm (%)	8.2%	4-6%
Organic Matter 20-40 mm (%)	3.2%	<4%
Soil pH	5.6	5.0-6.0
Phosphate (P ₂ O ₅)	3.4 mg/l	>10 (mg/l)
Potassium (K ₂ O)	20.7 mg/l	>30 mg/l
Key:		
	In Target	Marginal Variance Out of Target

Photo Observations and Comments



Figure 1: The course was excellently presented with sharp definition.



Figure 2: The performance of the putting surfaces was excellent and feedback from the Membership has been excellent this season.



Figure 3: The sward demonstrates a good blend of bentgrass and annual meadow-grass. The importance is to be given to improving the consistency of the blend through over-seeding.



Figure 4: The soil profiles showed a uniform amelioration of sand top dressing with a slight increase in organic matter accumulation.



Figure 5: The playing surfaces of greens 1-4 and 16-18 were weaker and inconsistent with the remainder of greens due to the extra traffic. Maintenance needs tailoring to improve consistency.



Figure 6: Excessive pitch marking was compromising the ball roll qualities of the greens.

Photo Observations and Comments (continued)



Figure 7: Installation of new fairway drainage on the 7th hole appears to be performing well and this should improve the playing quality of this fairway.



Figure 8: The work carried out to the 6th tee levelling and extending the paying area will facilitate better management of traffic. The work has been completed to an excellent standard.



Figure 9: Sensible traffic management system at the 2nd tee, using ropes to direct traffic away from the sensitive green surround, which currently holds a strong grass cover.

Recommendations

Greens

- A full over-seeding of the greens using 100% browntop bent seed at 6-8g/m² to improve the blend throughout the surfaces. The technique for bent over seeding should be:
 - § Verti cut or sarel roll.
 - § Broadcast seed onto surface.
 - § Top dress to cover the seed and work into the sward.
- The sand top dressing annual total should be a minimum of 120, but more ideally closer to 150 tonnes per hectare of the Hugh King washed dune sand. This should be applied in regular light dustings through the season with a heavier application at the time of any solid tine aeration. Light applications of sand through the winter will help to achieve annual targets and increase surface firmness and ball roll qualities.
- The use of the new Sweep & Fill brush following solid tine aeration and sand top dressing will facilitate the use of higher volumes of sand per application and produce an acceptable playing surface.
- The greens closest to the clubhouse (1-4 & 16-18) were visually the weakest on the course, had the worst ball roll qualities and the 3rd had a higher organic matter content. These greens require additional work to improve consistency with the remaining greens. Implement additional solid tine aeration, slightly higher rates of sand topdressing and an additional over-seeding using 100% browntop bent seed mixture.
- Accurate disease control is key to reducing fusarium patch in the coming autumn/winter, this will in turn maintain a stronger sward to start next year. A preventative fungicide programme should be adopted for the highest efficacy. Use:
 - An early autumn systemic product (e.g. BannerMaxx or HeritageMaxx) before any outbreaks occur.
 - A contact/systemic product (e.g. Instrata Elite) at first signs of outbreaks or expected time of outbreaks.
 - A contact fungicide (e.g. Medallion) in the winter if required.
- Chemical Analysis
 - The chemical analysis of the greens shows that the soil pH is stabilised at a level that is required. This should continue to be monitored annually.
 - Phosphate levels are below the ideal level and should be monitored vigilantly. A Phosphate deficiency would be highlighted by a purpling colour, thinning of the turf and poor utilisation of nitrogen in the spring. Monitor turf performance in the future with a knowledge that the Phosphate levels are low.
 - Potassium levels are also low, but do not require any rectification at this stage other than close monitoring of turf quality and sward health.

Putting Green

- The firmness of the putting green was variable with the furthest point from the clubhouse being significantly softer. The ingress of moss was also apparent in the furthest point.
- Aim to place pin positions in this area as often as possible and implement traffic management measures to ensure the traffic is evenly spread across the surface.
- Additional rolling of the problematic area will also replicate the effect traffic, double rolling or an increased intensity of rolling on this area is advised.

Pathways & Traffic Management

- The traffic management procedures that are currently in effect are working well and should continue. By diverting buggy and golf cart traffic away from sensitive areas of green surrounds it is enabling retention of a strong cover of grass.
- Additional over-seeding of these sensitive with a dwarf ryegrass seed mixture (e.g. Bar Extreme) will further increase the wear tolerance of these areas.

Signed

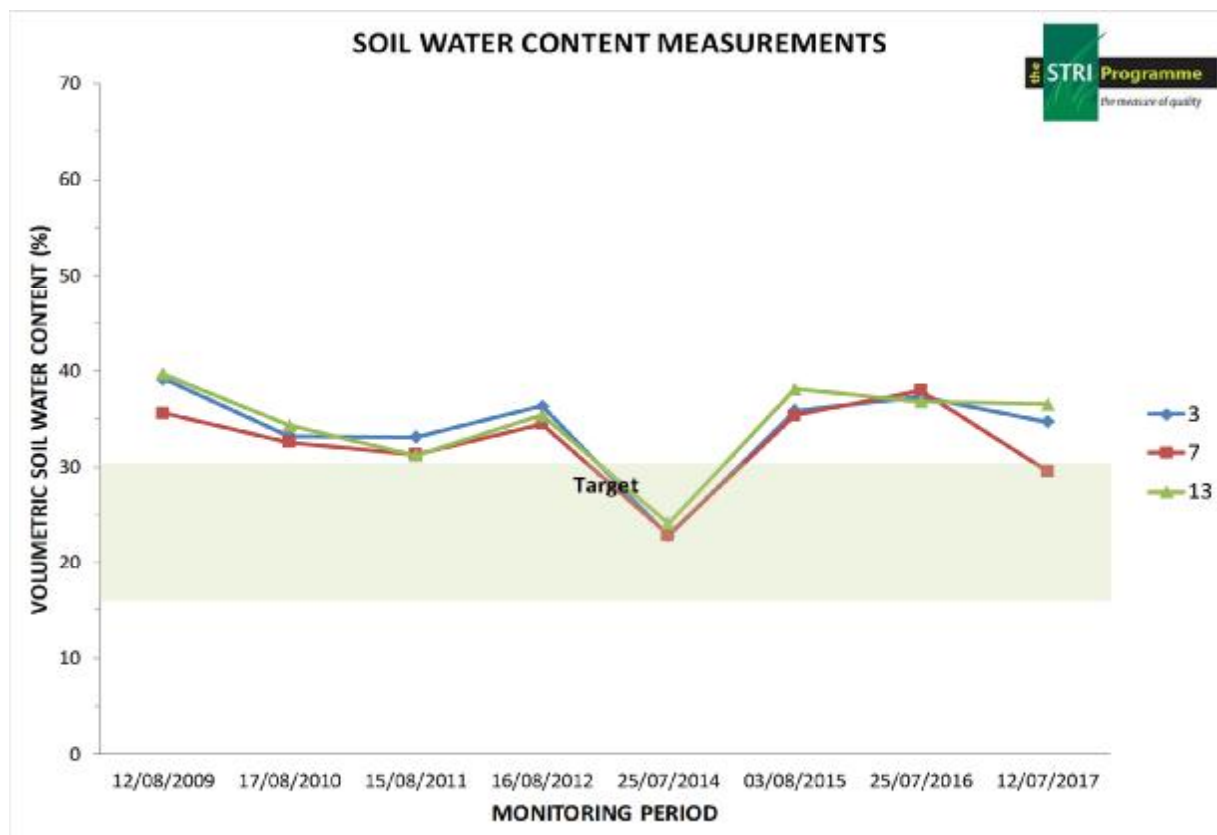
A handwritten signature in black ink, appearing to read 'R. Wing', with a stylized flourish at the end.

Richard Wing BSc (Hons)
Regional Turfgrass Agronomist
t. +44 (0)7545 100009
e. richard.wing@strigroup.com
www.strigroup.com

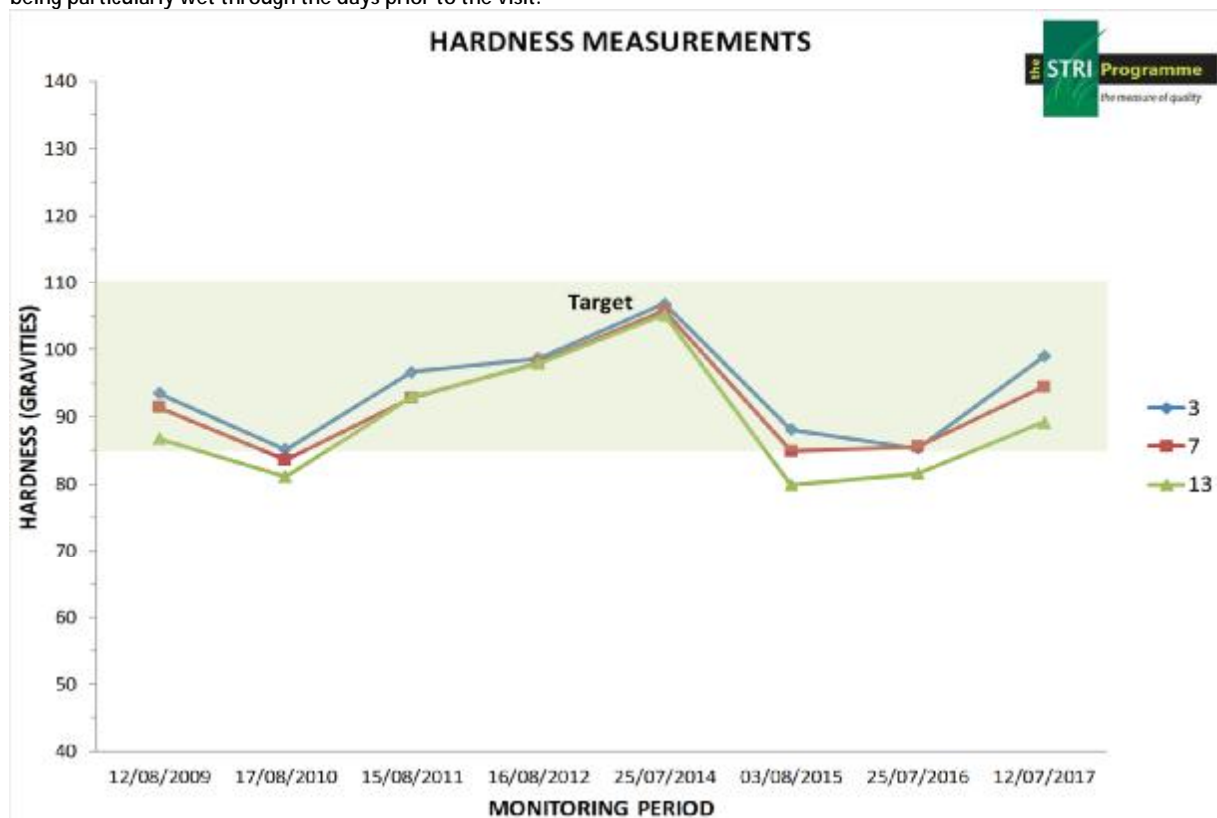
STRI is completely independent and has no alliances to commercial products, services or contractors. This ensures that our design, project management and advisory services provide the best solutions for each individual client.

Largs Golf Club

Objective Data

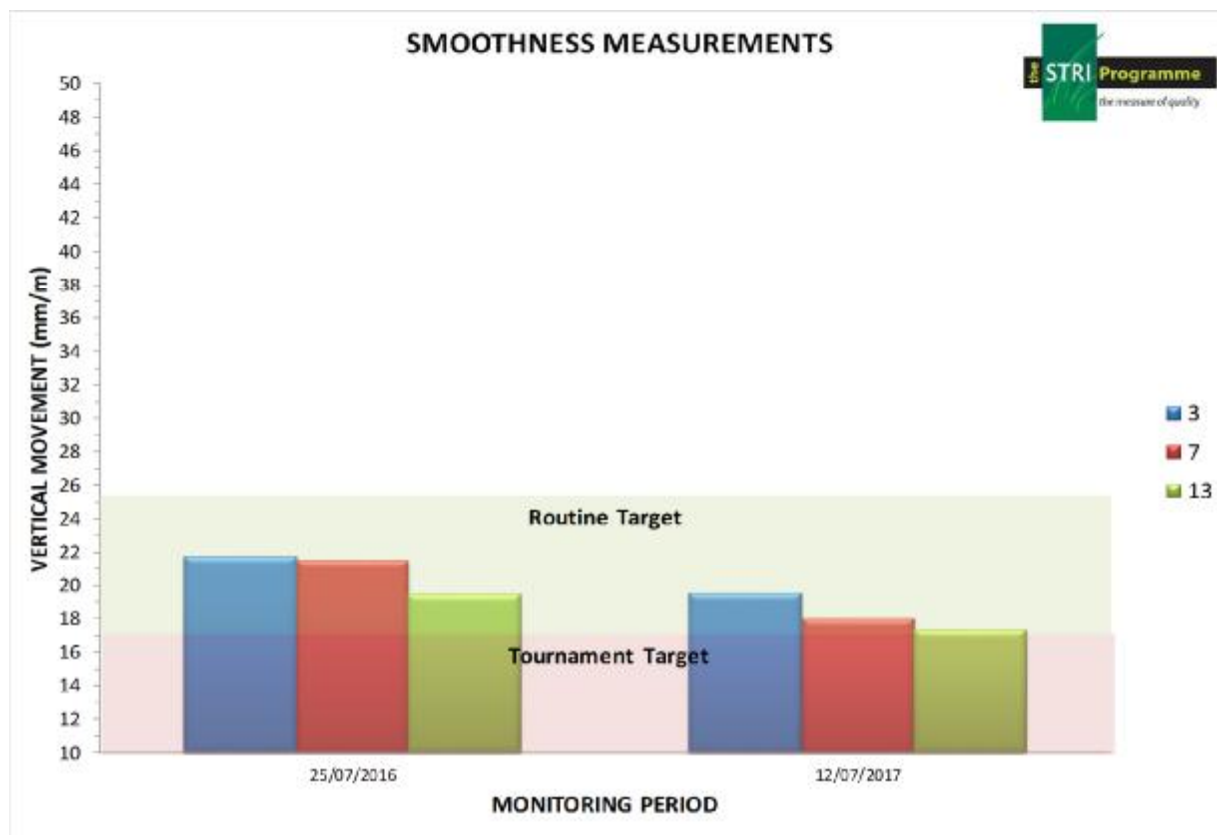


Objective Data Graph 1: Average moisture content at 33.6% was slightly higher than ideal. This is due to the weather conditions being particularly wet through the days prior to the visit.

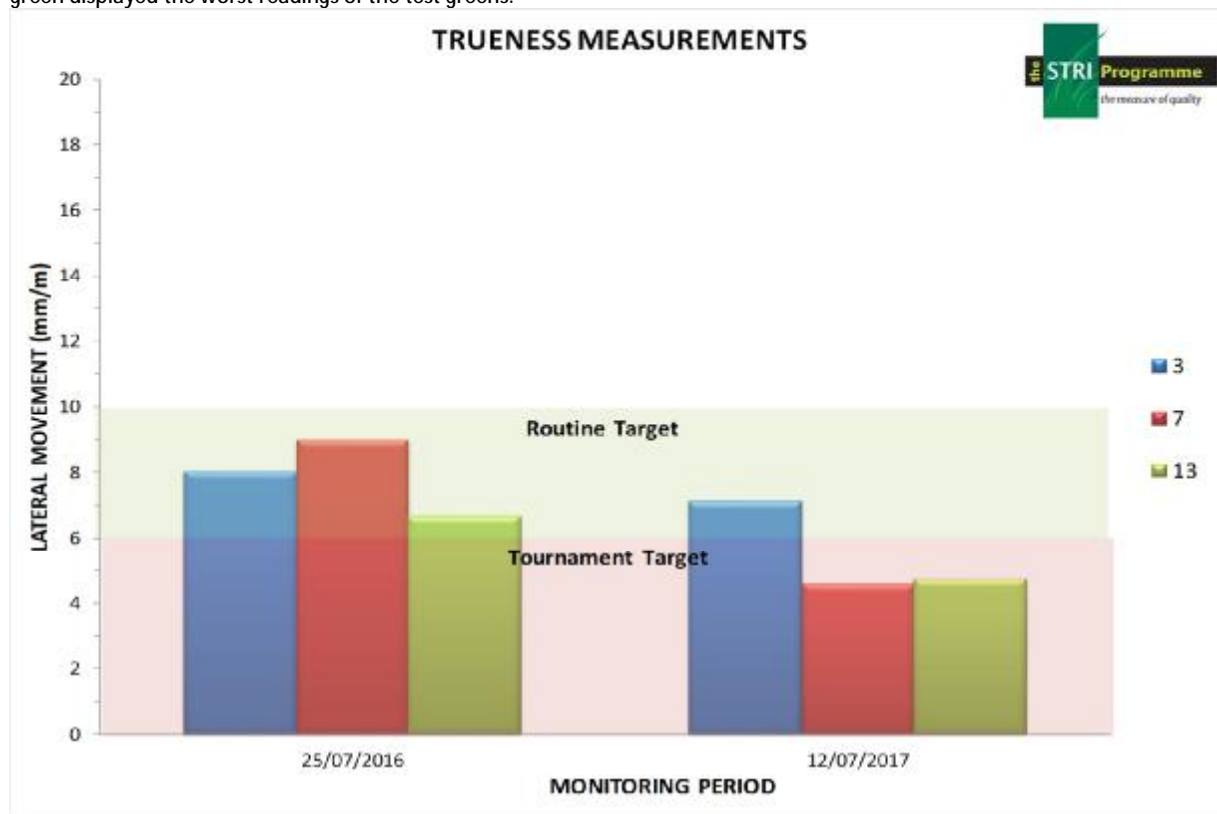


Objective Data Graph 2: At 94 Gravities, the average firmness of the greens was pleasing considering the moisture content of the surfaces. This is attributed to the accurate sustainable management and good control of organic matter levels.

Objective Data (continued)

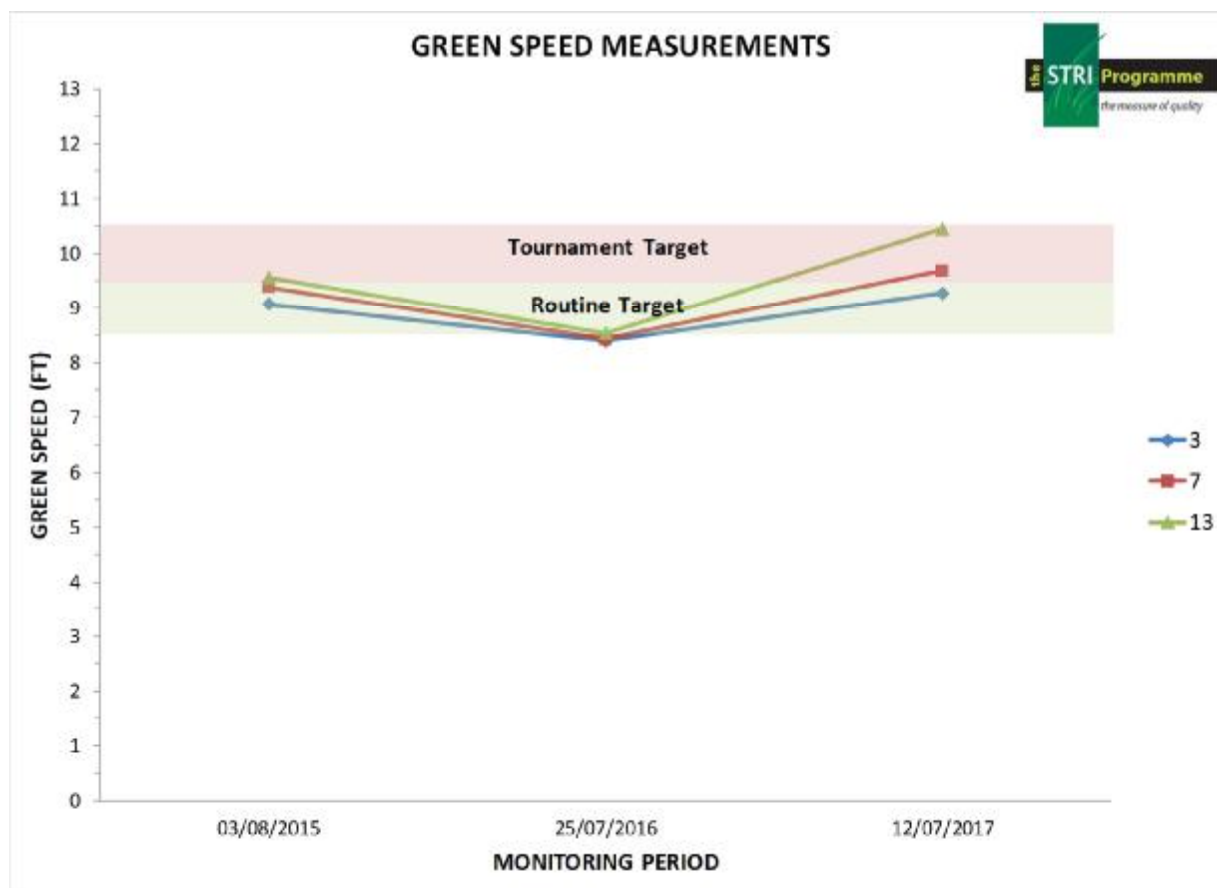


Objective Data Graph 3: Smoothness measurements at an average of 18.3 mm/m were well within routine target for play. The 3rd green displayed the worst readings of the test greens.

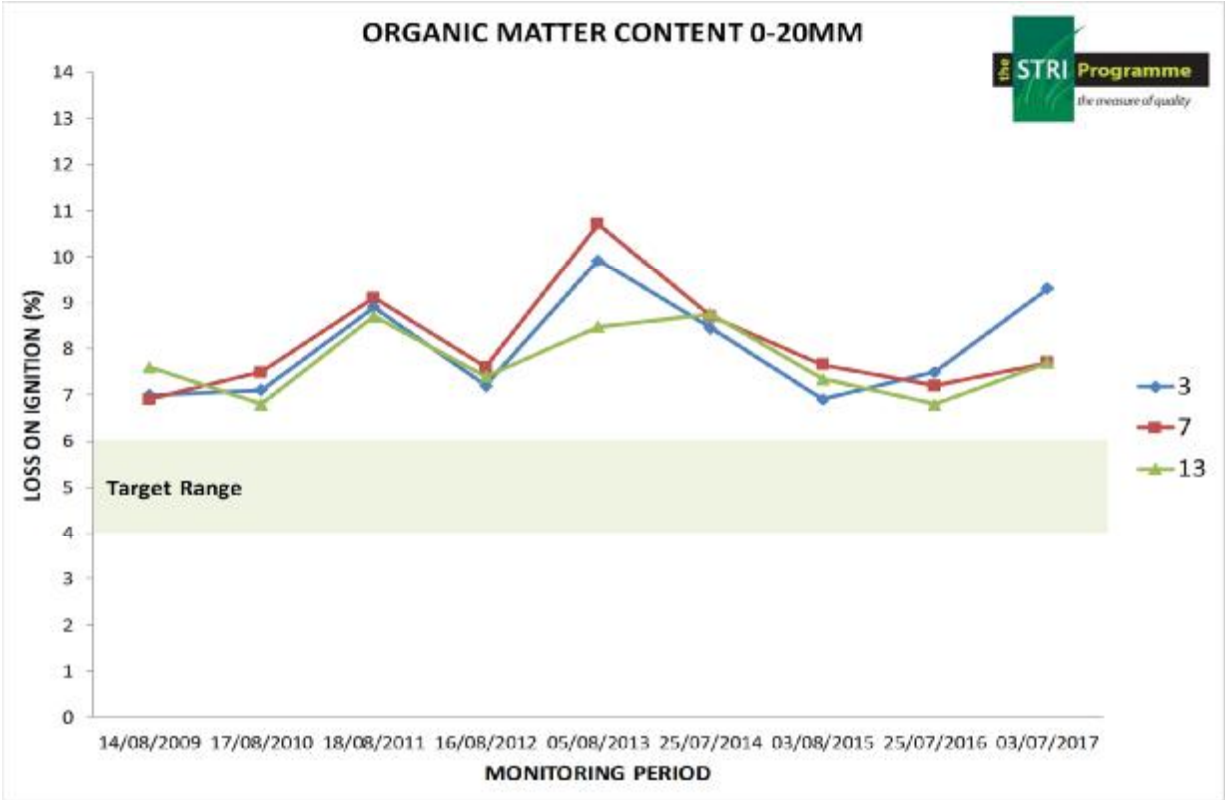


Objective Data Graph 4: At an average of 5.5 mm/m the trueness measurements were excellent. This does however; further highlight the weakness of the 3rd green. This highlights the need to tailor the management plans to specific greens on the course to further improve consistency.

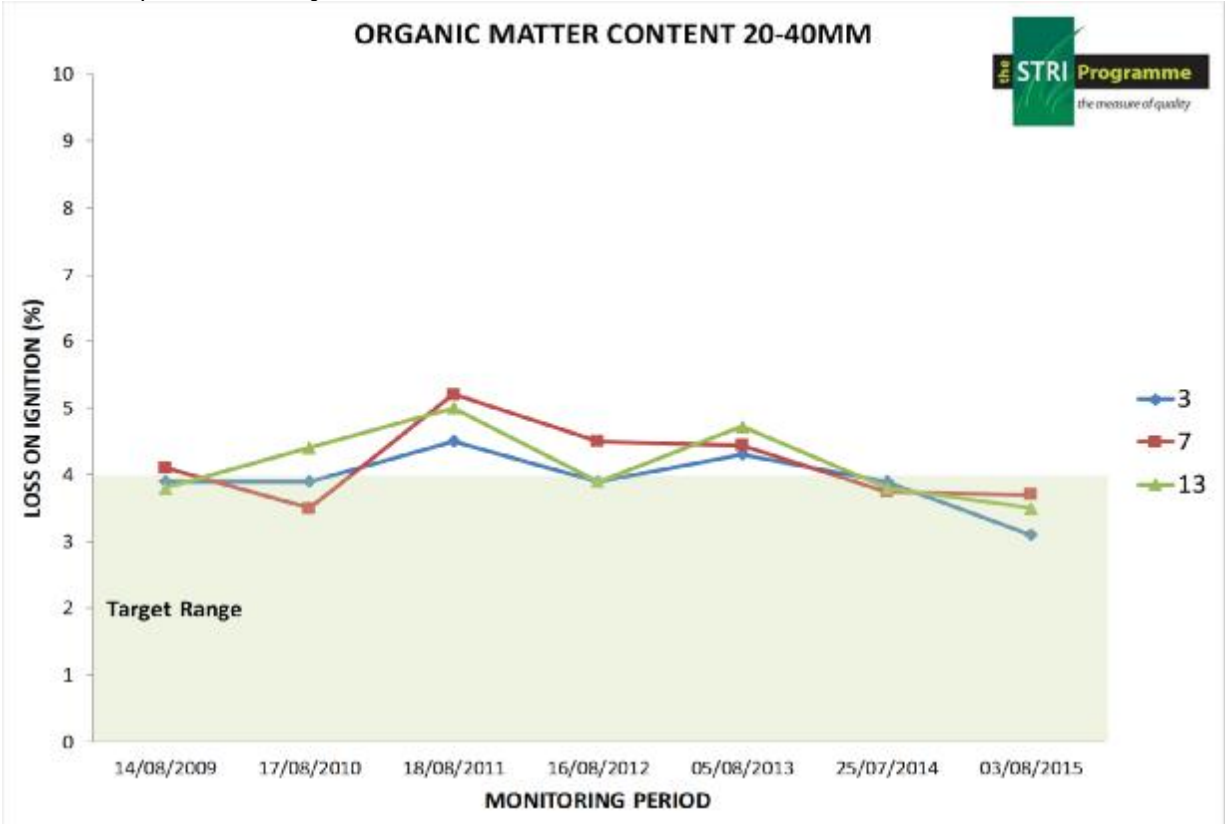
Objective Data (continued)



Objective Data Graph 5: The average green speed was 9ft 10in and within the target for tournament play following; the club events that had been held the previous week.



Soils Laboratory Graph 1: An increase in organic matter levels at 0-20 mm has occurred to an average of 8.2%. Highlighting the need to increase the sand top dressing inputs. The 3rd green displayed a higher increase of organic matter again, highlighting the need to increase the inputs to individual greens.



Soils Laboratory Graph 2: The levels of organic matter at an average of 3.2% at 20-40mm are within target range. This shows that the action taken needs to target the top 20mm of the soil profile and no need for remedial work below this depth.

STRI

St Ives Estate, Bingley, West Yorkshire, BD16 1AU

T. 01274 565131 F. 01274 561891 E. info@strigroup.com www.strigroup.com

SOIL CHEMICAL ANALYSIS

CLIENT:

LARGS

RESULTS TO: **RAW**

DATE RECEIVED:

16/06/2017

Lab No.	Source	pH	P ₂ O ₅ (mg/l)	K ₂ O (mg/l)
A16000/1	GREEN 3	5.6	4	19
A16000/2	GREEN 7	5.6	2	19
A16000/3	GREEN 13	5.6	4	24

Mr M A Baines, Soil Laboratory Manager

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

STRI

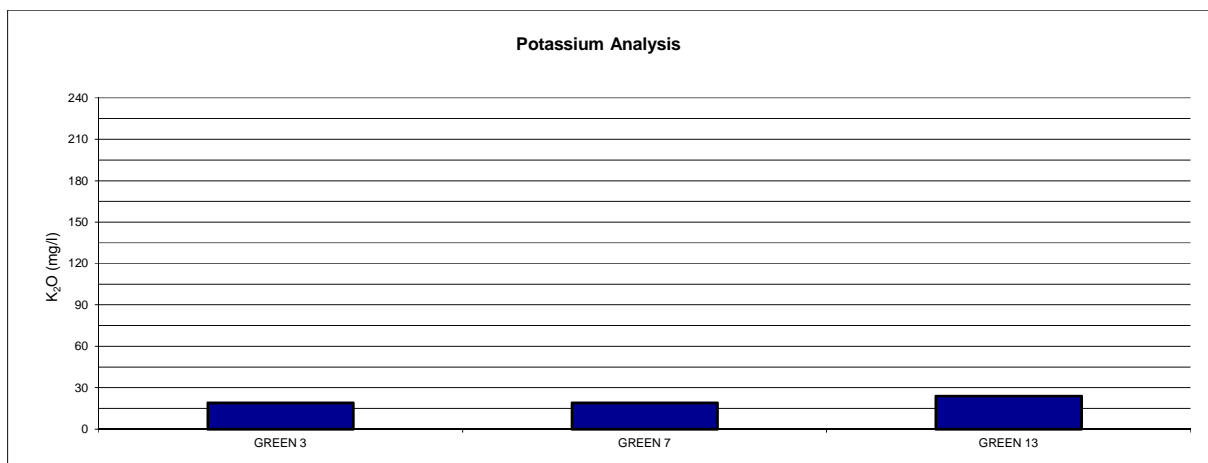
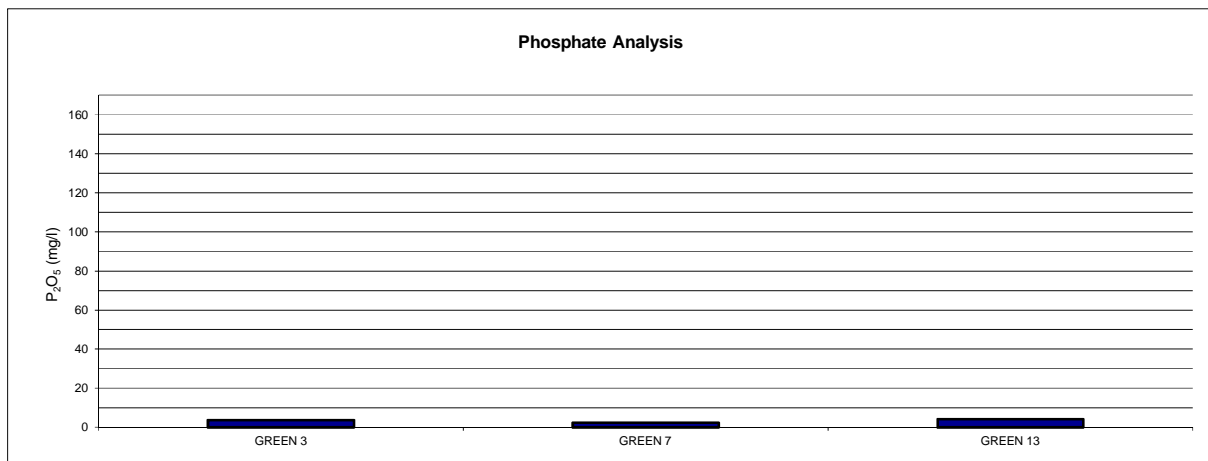
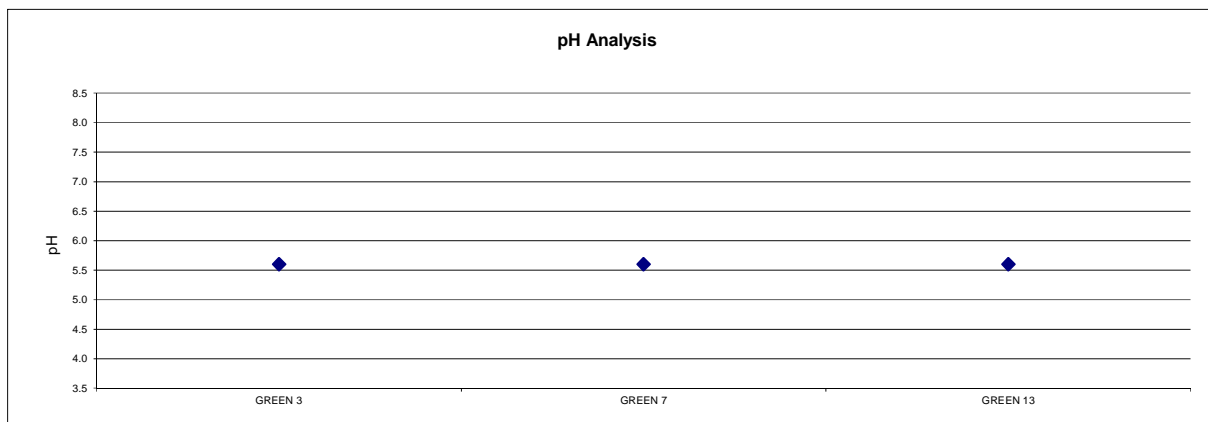
St Ives Estate, Bingley, West Yorkshire, BD16 1AU

T. 01274 565131 F. 01274 561891 E. info@strigroup.com www.strigroup.com

SOIL CHEMICAL ANALYSIS

LARGS

Date: 16/06/17



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

ORGANIC MATTER CONTENT

CLIENT: LARGS
ADDRESS: IRVINE ROAD,
LARGS,
NORTH AYRSHIRE, KA30 8EU

DATE RECEIVED: 16/06/17
DATE REPORTED: 03/07/17
RESULTS TO: RAW

TEST RESULTS AUTHORISED BY:

Michael Baines, Laboratory Manager

CONDITION OF SAMPLE UPON ARRIVAL: MOIST

SAMPLE NO	DESCRIPTION		LOSS ON IGNITION (%)*
A16000/1	3	0-20 mm	9.27
		20-40 mm	3.65
		40-60 mm	2.24
		60-80 mm	2.25
A16000/2	7	0-20 mm	7.71
		20-40 mm	2.26
		40-60 mm	2.25
		60-80 mm	2.19
A16000/3	13	0-20 mm	7.66
		20-40 mm	3.56
		40-60 mm	2.33
		60-80 mm	3.40

* 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