

COURSE CONSULTING SERVICE

# Onsite Visit Report

## **Westbrook Village Golf Club** Peoria, Arizona

Visit Date: February 7, 2020

Present:

Jill Riedel, Club President  
Ray Melton, Co-Chairman  
Rick Walker, Co-Chairman  
David Escobedo, Golf Course Superintendent  
Jose Murillo, Assistant Superintendent  
Brian Whitlark, USGA Green Section

### **United States Golf Association**

Brian Whitlark, Agronomist | Green Section | West Region  
3677 E Turnberry Ct. | Gilbert, AZ | (480) 215-1958 | [bwhitlark@usga.org](mailto:bwhitlark@usga.org)

The USGA Green Section develops and disseminates sustainable management practices that produce better playing conditions for better golf.

# Executive Summary

Thank you for your kind hospitality and the invitation to return to Westbrook Village Golf Club to conduct a Course Consulting Service visit on behalf of the USGA Green Section. The following report will summarize the discussions during our course tour on February 7, 2020. The most noteworthy change from last year is the failure of the well on the Lakes course, resulting in the inability to overseed this golf course, although the maintenance team were able to act rapidly and overseed the tees and green surrounds using water trucks for irrigation while the well was under repair. Although the Lakes golf course is not as vibrant green as would be expected with overseeding, in this agronomist's opinion, playing conditions of the golf course are quite good and I'm sure golfers are enjoying the extended roll on their drives. The primary areas of focus during a tour of both golf courses were bermudagrass transition, the installation of defined forward tees, weed control in non-overseeded and overseeded areas, and a look to the future with regard to impending water restrictions from the Arizona Department of Water Resources. A brief summary of the topics discussed during the course tour is included below:

- **Putting greens.** The putting greens on the Vistas golf course were overseeded with a combination of *Poa trivialis* and creeping bentgrass. These greens were in excellent condition on the day of the course tour, and green speed was appropriate for the majority of golfers. The Lakes putting greens were not overseeded, and the color from the frequent painting was quite good. Green speeds were 18 to 20 inches faster than on the Vistas course, which is arguably too fast for these greens and for the skill of the everyday golfer. As growth increases, the pace of these greens will slow. We discussed including one additional small-diameter core aeration in May on both courses.
- **Transition.** Transitioning from the overseeded ryegrass to the understory bermudagrass is one of the most important components of the year-long agronomic program to provide good playing conditions year round. This report will offer specific recommendations to expedite bermudagrass recovery.
- **Fairways.** The lack of weeds on the non-overseeded Lakes fairways was impressive, and it was good to see only minimal *Poa annua* on the Vistas fairways. This report will offer recommendations for weed control as well as encouragement to continue with aeration strategies to decrease compaction.
- **Bunkers.** The bunkers on both golf courses were in better condition, with clean edges and good playing conditions when compared to last year. It was also good to see that some bunker reductions were completed on the Vistas golf course. This report will encourage further bunker reduction.
- **Irrigation.** It was great to see the replacement of the antiquated satellite controllers on the Vistas golf course, and Mr. Escobedo reported improved operational efficiency with the new satellites.
- **Equipment.** It was great to see the new grinding equipment at both golf courses and new greens mowers. The cost of repairing the well delayed some additional equipment purchases, and this report will mention some specific equipment needs.
- **Water planning.** It will be imperative to plan for upcoming water restrictions from the Arizona Department of Water Resources. It was great to see there are already plans in place for turf reduction.
- **Tees.** Finally, this report will offer suggestions and recommendations for forward tee placement and construction on the Vistas golf course, and a change to move away from color-based markers to a numbered or symbol-type of system for tee recognition.

# Table of Contents

<b>Putting Greens</b> .....	<b>4</b>
Observations – Vistas .....	4
Observations – Lakes.....	5
Recommendations .....	7
<b>Transition</b> .....	<b>10</b>
Observations and Recommendations.....	10
<b>Fairways</b> .....	<b>11</b>
Observations.....	11
Recommendations .....	12
<b>Bunkers</b> .....	<b>12</b>
Observations.....	12
Recommendations .....	13
<b>Irrigation</b> .....	<b>13</b>
Observations.....	13
Recommendations .....	13
<b>Equipment</b> .....	<b>14</b>
Observations.....	14
Recommendations .....	15
<b>Water Planning</b> .....	<b>15</b>
Observations.....	15
Recommendations .....	15
<b>Tees</b> .....	<b>16</b>
Observations and Recommendations.....	16
<b>Conclusion</b> .....	<b>19</b>
<b>Additional Considerations</b> .....	<b>20</b>
<i>USGA Green Section Record</i> .....	20

# Putting Greens

## Observations – Vistas

### 1. Overseed Quality

The overseeding on the Vistas golf course contained a mixture of 80% *Poa trivialis* and 20% creeping bentgrass. With the looming shortage of *Poa trivialis* seed, it was wise to include creeping bentgrass. The results are very good, with smooth ball roll and an attractive surface.

### 2. Soil Profile

Soil profile samples collected on numerous greens revealed a sand-dominated profile to a depth of approximately 6 inches and a change in texture at the 6-inch depth to a slightly finer-textured soil. Despite this textural change, it was good to see the roots extend to 6 to 7 inches in all greens sampled.



The top 6 inches of the soil in the Vistas greens contains a healthy mixture of sand and organic matter. There is a texture change at the 6-inch depth and the soil underneath is finer, which will limit water movement.

### 3. Thatch and Organic Matter

Soil profile observations revealed the thatch depth is ideal and while there may be some excess organic matter, it is not at a concerning level.

Thatch levels were minimal on the Vistas greens, measured at only ½-inch depth. This indicates the aeration and sand topdressing programs appear to be right on track.



#### 4. Soil Sampling

We were able to conduct soil sampling on three greens for organic matter analysis. Samples will be sent to a lab and levels will be compared to other golf courses growing bermudagrass.

#### 5. Firmness

We measured firmness on three greens, which revealed the greens are firm enough to avoid bumpy conditions under excessive traffic and stable enough to avoid rutting from heavy maintenance equipment. At the same time, the greens are not so firm that they discourage golfers playing well-played shots to hold their ball on the greens. The greens were measured with moderate firmness levels, considered highly acceptable for regular play.

#### 6. Hydraulics Spill

Unfortunately, a hydraulics spill occurred on No. 7 green, but it was great to see the excellent quality of work by the maintenance team to repair the dead turf with a new strip of sod.



A hydraulic oil leak from the greens mower killed small strips of grass on No. 7 green while mowing in the dark. This is, unfortunately, a common occurrence at golf courses. What is not common is to see such fine sod repair work as completed by Mr. Escobedo and his team.

#### 7. Speed

Green speed was measured at just under 9 feet as measured by the USGA Stimpmeter. This speed is ideal for these greens and for this level of play.

### Observations – Lakes

#### 1. Non-overseeded Greens

Due to the well failure, the Tifdwarf putting greens on the Lakes golf course were not overseeded. Despite the lack of overseeding, the greens offered a dense turf surface and acceptable ball roll.

The non-overseeded Tifdwarf greens on the Lakes course have been painted to provide a green, fairly natural looking color.



## 2. Speed

As expected, green speeds were faster on the non-overseeded greens, measured at approximately 10½ feet on the Stimpmeter. These green speeds are slightly faster than ideal given the slope on these greens and the level of play.

## 3. Firmness

Firmness was measured on the Lakes greens, which yielded quite similar values to the Vistas greens, albeit just slightly softer.

## 4. Soil Profiles

Soil profiles collected on the Lakes greens revealed ideal levels of thatch and organic matter at the surface and a healthy soil profile with roots penetrating all the way to the 7- to 8-inch depth in some cases.



The soil in putting greens on the Lakes course is in good condition, with no visible layering and roots were found penetrating beyond the 7-inch depth. The surface 1 inch of greens is well diluted with sand and minimal thatch.

## 5. Cleanliness

One disadvantage with the non-overseeded greens is that cool-season weeds are often problematic given the lack of competition from an actively growing turf. However, it was great to see the cleanliness of these greens. Hats off to Jose and his team for applying the appropriate chemicals to keep the weeds at bay.

## 6. Practice Putting Green

This putting green is small and severely sloped, which restricts traffic to only a small area. With the non-overseeded condition, the quality of this green began to deteriorate. It was great to see that in recognition of this, the green was closed and recently aerated to improve oxygen exchange and water infiltration.

## Recommendations

Unless otherwise specified, the following recommendations will apply to both golf courses.

### 1. Thatch and Organic Matter Management

It is recommended to continue with your plans to conduct a small-diameter core aeration in May, similar to the one you recently completed on the practice green on the Lakes golf course. The small-diameter tine aeration will heal within a week and will be an excellent practice to encourage bermudagrass recovery on the Vistas golf course and expedite bermudagrass growth on the non-overseeded Lakes course.

### 2. Sunlight Exposure

There are several greens where tree removal should be considered to improve sunlight exposure. Please review the following images and specific recommendations for tree removal.

Two to three of the pines behind No. 3 green on the Vistas golf course should be considered for removal to improve turf density and playability behind this green complex.





The pines left of No. 4 green on the Vistas shade the left portion of the green and there are visible signs of turf thinning as a result.



A satellite image of No. 4 green shows the large pines east/southeast and in close proximity to the putting surface. These trees should be removed to improve turf health.



We discussed removing several pines east/southeast of No. 10 green on the Vistas course. The turf on the right side of this green suffers from excessive shade.



These pines behind No. 16 green on the Vistas course limit turf density and health in the green surround and on the back portion of this green. It is recommended to remove two of the three pine trees.

### 3. Surface Management

It was great to see you have outfitted the new greens mowers with the gear-driven Greens Perfection™ brushes.

- It is recommended to initiate brushing and begin with the brushes set approximately 0.010 inches below cutting height with the brushes operating in the counter-rotational direction on the Vistas course only.
- As temperatures warm in later February and March, continue to lower the brushes down into the canopy. As a guideline, the brushes can be set in the range of 0.80 to 0.110 inches above the bottom of the rollers.
- Note that it is not suggested to brush within two to three days following topdressing, as the brushes will harvest excess sand from the greens.

### 4. Aeration

Based on our observations during the course tour, it does not appear there is excess thatch and organic matter in the surface and therefore there are no modifications suggested at this time to the aeration and sand topdressing program. We did, however, discuss the importance of a small-diameter hollow tine aeration in mid-May to relieve compaction and help encourage the understory bermudagrass to recover.

- It is recommended to close both golf courses for the necessary period of time in which to conduct aeration on both greens and fairways in May. This small-diameter hollow tine aeration will heal in approximately one week.
- It is recommended to continue with your plans for the 5/8-inch diameter aeration in July when the bermudagrass will be growing at its peak.

# Transition

## Observations and Recommendations

### 1. Timing

**Transition starts now.** Now is the time to start encouraging the understory bermudagrass to recover from overseeding on all overseeded areas on the Vistas and Lakes golf courses. The transition process can begin without creating disruption to the aesthetics and playing surface the overseeded grass offers. It is critical during the next few months when the emerging bermudagrass continues to produce new shoots to allow the shoots to emerge from the ryegrass canopy and capture sunlight to produce new carbohydrates to fuel the bermudagrass recovery. There are essentially four pillars to a successful, proactive transition strategy, which are included below:

- **Sunlight exposure.** It is critical to increase sunlight exposure to the understory bermudagrass. To do so, the mowing heights must be reduced in a stepwise fashion from now until mid-April. On fairways, it is suggested to slowly lower mowing heights to achieve a height of approximately 3/8 inch by late April or early May. On roughs, it is suggested to lower heights to 3/4 inch within the next two weeks and continue to lower with the goal of approximately 1/2 inch by early May. You are also encouraged to conduct light-intensity vertical mowing operations with blades set at one half of the mowing height. Additionally, utilize the Aerway<sup>®</sup> machine to create small slits in fairways and overseeded green surrounds areas. Experience has shown the bermudagrass will recover much faster in these slits.
- **Water.** Irrigation inputs must increase from March through the end of June. Experience has shown that dry areas will significantly delay bermudagrass recovery. Unfortunately, this strategy will at times result in wetter than ideal playing conditions. However, golfers are encouraged to embrace this strategy to help the bermudagrass recover. When scheduling irrigation, it is advised to apply occasional deep waterings that will apply approximately 2/3 to 3/4 inch of water over a 24-hour period. These deep irrigation events on fairways help to wet chronically dry areas.
- **Nitrogen.** It is recommended to apply very little or no nitrogen from now until the third or fourth week of April. Additional nitrogen at this time of year will only result in excessive ryegrass growth which will increase mowing requirements.
  - ◆ Approximately two weeks after the first chemical application to help transition the ryegrass, increase nitrogen inputs and plan to apply 3 to 4 pounds of nitrogen per 1,000 square feet using a simple urea-based fertilizer from late April through the end of June. As an alternative, some courses have found that two applications of a slow-release nitrogen source such as methylene urea at 1½ to 2 pounds of nitrogen per 1,000 square feet per application have been effective, are less labor intensive to apply, and do not require significant amounts of irrigation to water in the fertilizer.
  - ◆ Once the bermudagrass has recovered, it is not recommended to fertilize for the remainder of the summer. Wait until two weeks after overseeding to fertilize.
  - ◆ On the non-overseeded Lakes fairways, it is recommended to apply approximately 2 pounds of nitrogen per 1,000 square feet from mid-April through mid-May, then omit any additional fertility until after overseeding in the fall.

- **Chemical transition.** Utilize Sapphire® at 8 ounces per acre between April 1 and April 15. Follow with a second application, also at 8 ounces per acre, approximately three weeks after the first application. A third application with chemicals such as Manuscript® or Kerb® will be needed to finally eradicate the perennial ryegrass and any lingering *Poa annua*. The Kerb would be applied at 1.8 pints per acre, and Manuscript at 3 to 4 ounces per acre.

## Fairways

### Observations

#### 1. Soil Conditions

Soil profile samples revealed the fairways contain a sandy loam soil with likely 15% to 20% clay and 15% to 20% silt. These fairways have poor internal drainage and are susceptible to compaction with cart and maintenance traffic, especially when wet.

#### 2. Emerging Bermudagrass

On the Vistas golf course, we observed bermudagrass that is already producing new shoots, which confirms the need to begin practices to help the bermudagrass capture sunlight.

#### 3. Lakes Fairways

The non-overseeded bermudagrass on the Lakes fairways is in excellent condition and once the temperatures increase, will soon begin regrowth. It is very impressive to see the absence of cool-season weeds in these non-overseeded fairways. This is no easy task, and compliments are extended to the agronomic team for developing a successful weed control program for the winter.



The fairways on the Vistas golf course consist of a sandy loam containing enough silt and clay to result in poor internal drainage. When wet, this soil is highly susceptible to compaction.



The non-overseeded bermudagrass on the Lakes fairways may not be a vibrant green color, but the playing characteristics are quite good and this surface encourages added ball rollout on drives.

## Recommendations

### 1. Decompacting Fairways

Continue to use the Aerway slicer on both golf courses to help decompact fairways. In addition, it is recommended to use the Toro® 686 pull-behind aerator as often as three to four times per year. It is recommended to purchase a second 686 unit for the Lakes golf course. The benefits from the slicing and aeration practices typically only last for six weeks and therefore to achieve sustained benefits such as improved water infiltration, these practices must be employed eight to ten times per year.

### 2. Weed Control

It was great to see that Specticle® herbicide was applied in the non-overseeded roughs on the Vistas golf course and on non-overseeded fairways and roughs on the Lakes golf course. Clearly this chemical as worked extremely well to prevent germination of the cool-season weeds.

- A prodiamine application has already been applied on the Lakes golf course, and one will soon be applied on the Vistas golf course to help prevent the germination of crabgrass and eventually, goosegrass. It is recommended to continue with plans for a second application in March to provide season-long control.
- Where postemergence herbicides are needed, it is recommended to purchase Plateau® herbicide which can be applied between 1 to 4 ounces per acre and will provide very inexpensive weed control. This chemical can also be used to regulate the growth of the bermudagrass in fairways and roughs. The Plateau can be expected to incur slight phytotoxicity, but this will be only temporary. Given that this chemical is so inexpensive and will save labor on mowing requirements, it is worth the minimal injury.

## Bunkers

### Observations

#### 1. Definition

It was good to see the level of definition on the bunkers has improved since our course visit last year.

#### 2. Sand Addition

It was also good to see the addition of sand, which has helped improve playability and the cosmetics of the bunkers.

#### 3. Bunker Reduction

It was good to see some of the recommendations made during last year's course visit for reducing bunker size have been completed. A good example is on No. 4 of the Vistas golf course where one bunker was eliminated and the other bunker was refinished. The left greenside bunker on No. 7 Vistas was also reduced in size.

## Recommendations

### 1. Continued Bunker Reduction

It is suggested to continue with plans to strategically reduce bunkers or the size of bunkers on both golf courses. For example, we discussed significantly reducing the size of the large greenside bunker on No. 11 green of the Vistas golf course. On a per-square-foot basis, the maintenance costs associated with maintaining bunkers often equals or exceeds the maintenance required on putting greens. Therefore, it makes sense for the long-term economic sustainability of this golf course to continue with strategic bunker reduction.

## Irrigation

### Observations

#### 1. New Satellite Controllers

It was great to see that the old, antiquated satellites on the Vistas golf course have been replaced with new Toro satellite controllers. Mr. Escobedo noted the immediate improvement in the operational efficiency of the system once the new satellites were installed. These new satellites will offer the ability to control more sprinklers and, as such, there will be flexibility to add individual head control where desired.

#### 2. Rain Bird IC System™

It was great to see the Rain Bird IC System on the Lakes golf course, which is now six years old, continues to operate at a high level of efficiency and offers the flexibility necessary to improve playing conditions when compared to a block system. This golf course was one of the first in the state of Arizona to utilize this new system which does not require satellite controllers, and the entire industry is heading in this direction.

## Recommendations

### 1. Pipe Replacement

It was reported the irrigation pipe on the Vistas golf course is 30 years old, and this piping system will need to be replaced with in the next four to five years. When this time comes, it will be an ideal opportunity to design the system to independently water the turf and areas where turf is removed.

### 2. Small, Portable Sprinklers and Hand Watering

Some golfers often wonder why the use of small, portable sprinklers and hand watering are needed following the installation of a brand-new irrigation system. Even a brand-new system will operate only at 80% efficiency, assuming it is operating with little to no wind. Once wind speeds increase above about 5 miles an hour, the efficiency of the in-ground irrigation system decreases significantly. As such, there will always be the need for hand watering and the use of small portable sprinklers to address localized dry areas on the golf course. Golfers are encouraged to embrace the use of the small portable sprinklers if encountered during their round and recognize that the agronomic team are doing their best to address localized dry areas for consistent turf density and playing conditions.

# Equipment

## Observations

### 1. New Grinding Equipment

It was great to see new Foley bedknife and reel grinding equipment purchased for both golf courses. The importance of routinely cutting turf on all areas, and especially putting greens, with sharp reels and bedknives cannot be overemphasized. Turf mowed with sharp reels and bedknives is healthier and more attractive, and the mowers operate more efficiently and use less fuel when compared to mowers operated with dull reels and bedknives.

It was great to see new Foley grinding equipment for mower reels and bedknives. Mowing with sharp equipment daily is critical to the goal of producing quality conditions and smooth surfaces.



### 2. New Greens Mowers with Brushes

It was also great to see that two new greens mowers were purchased for each golf course and have been equipped with front-mounted brushes and groomer attachments. The most important part of the golf course is the putting greens, and updated mowing equipment has a big impact on the presentation and quality of the greens.

### 3. Cleanliness

It was impressive to see the cleanliness and organization of both the Lakes and Vistas turf care facilities. Although difficult to quantify, there is anecdotally a direct relationship between the cleanliness of the maintenance facilities and the quality of conditioning on the golf course. A clean shop typically means a clean golf course, helps improve the longevity of the equipment, and helps to reduce employee turnover.

## Recommendations

### 1. Recommended Purchases/Replacements

It is recommended to continue with plans to purchase a mechanical bunker rake for both golf courses, and it was reported that the John Deere Gator units are beginning to see signs of failure and will need replacement with the Toro Workman utility vehicles. Additionally, we discussed purchasing a second Toro 686 fairway aerator for the Lakes golf course.

## Water Planning

### Observations

#### 1. Impending Water Reduction

The Arizona Department of Water Resources has finalized the Fourth Management Plan which will go into effect in 2023, and golf courses will see a reduction in the water allotment from 4.9 to 4.75 acre-feet per acre. Furthermore, the Department has made it clear it is mandated to reduce groundwater pumping and therefore has indicated further and potentially much more significant water reductions for the Fifth Management Plan, which will go into effect within four to five years after the Fourth Management Plan. Golf courses with 60 to 80 acres of irrigated turf will see minimal impact; however, golf courses with 90 or more irrigated acres are expected to see significant cutbacks.

### Recommendations

#### 1. Turf Reduction

With the looming water restrictions in the near future, it is strongly recommended to continue with your plans to reduce irrigated turf and establish a goal of 80 to 90 irrigated turf acres per golf course. As previously mentioned, an ideal time to complete turf reduction on the Vistas golf course will coincide with the irrigation replacement. It is good to see ongoing turf reduction on the Lakes golf course. Again, keep the goal of 80 to 85 irrigated turf acres in mind for the long term.



This area to the right of No. 5 teeing ground on the Lakes golf course will be removed and replaced with low-water-use, desert-adapted plants and rock to cover the soil.

# Tees

## Observations and Recommendations

### 1. Forward Tees

The USGA and PGA of America continue to gather data on the slower-swing-speed golfers and the distance at which they hit tee shots, fairway woods, mid irons and wedges. Given that information, you may consider locating forward tees based on the idea that these tees should allow the slower-swing-speed golfer at 60 to 65 miles an hour an opportunity to reach greens in regulation, and furthermore, the opportunity to hit an approach shot other than a fairway wood or hybrid into the greens. Please review the following information on potential distance for forward tees.

- Current forward tees.** The following chart shows the distance from your current forward tees (Friendly) on every hole as well as the White tees (used by most of your male players). The boxes on the right show the average swing speed for a range of handicap levels for males and females. For your golfers, the swing speed of 60 mph is used for the forward tees and 71 to 80 mph for the White tees.

Course Name:	Wesbrook Village Golf Club - Vistas	
Forward Tee	Friendly	Male Tee: White
Swing Speed:	Average	Swing Speed: 71-80

Forward - Scorecard Distances from Friendly			Male - Scorecard Distances from White		
Hole	Par	Yardage	Hole	Par	Yardage
1	4	241	1	4	334
2	3	103	2	3	122
3	4	266	3	4	357
4	3	128	4	3	139
5	5	351	5	5	438
6	4	295	6	4	380
7	4	260	7	4	358
8	5	369	8	5	453
9	4	199	9	4	314
10	4	204	10	4	308
11	3	111	11	3	123
12	4	285	12	4	373
13	4	219	13	4	318
14	5	328	14	5	431
15	4	158	15	4	254
16	3	164	16	3	183
17	5	403	17	5	480
18	4	220	18	4	302
OUT	36	2212	OUT	36	2895
IN	36	2092	IN	36	2772
TOT	72	4304	TOT	72	5667

Female Handicap to Swing Speed Reference	
Pro	= >85
0-5	= 81-85
6-10	= 76-80
11-15	= 71-75
16-20	= 66-70
21-25	= 61-65
26+	= <60
Aver.	= 60

Male Handicap to Swing Speed Reference	
Pro	= >110
0-5	= 101-110
6-10	= 91-100
11-15	= 81-90
16-20	= 71-80
21-25	= 61-70
26+	= <60
Aver.	= 81-90

- **Maximum distances.** The maximum distances for male and female golfers and approximate club distance are outlined below. Note: The maximum recommended hole length for female golfers is provided by PGA of America recommendations in their publication [Setting Up Courses for Success](#).

*Figure 1: Maximum recommended hole distances for average female and average male golfers*

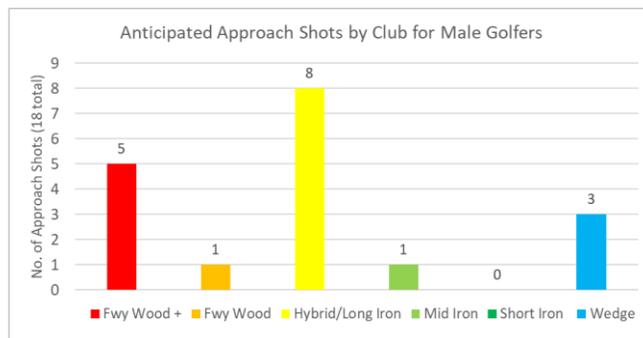
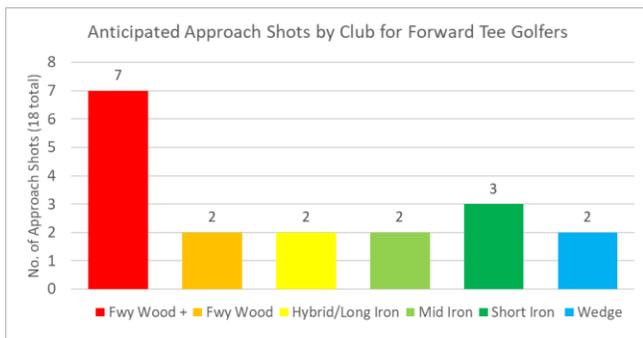
	Par 3	Par 4	Par 5
<b>Female (25 hdcp)</b>	140	260	380
<b>Male (14 hdcp)</b>	210	400	590

*Figure 2: Approximate club distances for average female and average male golfers*

Club	Female Golfers (25 hdcp)	Male Golfers (14 hdcp)
Driver	140	210
Fairway Wood	120	190
Long Iron/Hybrid	105	170
Mid-Iron	100	140
Short Iron	80	120
Wedge	60	100

- **Approach shot distances.** The following charts compare the estimated approach shot distances and approach club for the male player swinging at 71 to 80 mph and the average forward tee golfer. These charts also indicate whether or not the forward tee player and male golfers will be expected to reach the putting green in regulation.
  - ◆ A red X indicates the golfer is not expected to reach the green in regulation.
  - ◆ The following charts demonstrate that the average male player playing from the White tees is unable to reach four or five greens in regulation. From this data, it is clear the player swinging at 71 to 80 mph should consider moving up one tee for a more enjoyable golf experience. The slower-swing-speed player at 60 mph has a similar golf experience. The forward tee player is unable to reach four to five greens in regulation as well. On those 13 holes where they are able to reach, the forward tee player is hitting a nice variety of clubs into greens (see left bar chart, next page). The player swinging 71 to 80 mph is hitting eight long irons/hybrids into greens and no short irons.

Forward Tee Golfers - Friendly Tee Handicap - 25 Swing Speed - 60 MPH							Male Golfers - White Tee Handicap - 16-20 Swing Speed - 71-80 MPH						
Hole	Par	Yards	Yards Over Rec. Max.	Est. Approach Shot Distance	Est. Approach Shot Club		Hole	Par	Yards	Yards Over Rec. Max.	Est. Approach Shot Distance	Est. Approach Shot Club	
1	4	241	✓ --	101	Hybrid/Long Iron		1	4	334	✓ --	154	Fwy Wood	
2	3	103	✓ --	103	Hybrid/Long Iron		2	3	122	✓ --	122	Hybrid/Long Iron	
3	4	266	✗ 6	126	Fwy Wood+		3	4	357	✗ 7	177	Fwy Wood+	
4	3	128	✓ --	128	Fwy Wood+		4	3	139	✓ --	139	Hybrid/Long Iron	
5	5	351	✓ --	91	Mid Iron		5	5	438	✓ --	88	Wedge	
6	4	295	✗ 35	155	Fwy Wood+		6	4	380	✗ 30	200	Fwy Wood+	
7	4	260	✓ --	120	Fwy Wood+		7	4	358	✗ 8	178	Fwy Wood+	
8	5	369	✓ --	109	Fwy Wood		8	5	453	✓ --	103	Mid Iron	
9	4	199	✓ --	59	Wedge		9	4	314	✓ --	134	Hybrid/Long Iron	
10	4	204	✓ --	64	Short Iron		10	4	308	✓ --	128	Hybrid/Long Iron	
11	3	111	✓ --	111	Fwy Wood		11	3	123	✓ --	123	Hybrid/Long Iron	
12	4	285	✗ 25	145	Fwy Wood+		12	4	373	✗ 23	193	Fwy Wood+	
13	4	219	✓ --	79	Short Iron		13	4	318	✓ --	138	Hybrid/Long Iron	
14	5	328	✓ --	68	Short Iron		14	5	431	✓ --	81	Wedge	
15	4	158	✓ --	18	Wedge		15	4	254	✓ --	74	Wedge	
16	3	164	✗ 24	164	Fwy Wood+		16	3	183	✗ 3	183	Fwy Wood+	
17	5	403	✗ 23	143	Fwy Wood+		17	5	480	✓ --	130	Hybrid/Long Iron	
18	4	220	✓ --	80	Mid Iron		18	4	302	✓ --	122	Hybrid/Long Iron	
OUT	36	2,212	✓				OUT	36	2,895	✓			
IN	36	2,092	✓				IN	36	2,772	✓			
TOT	72	4,304	✓				TOT	72	5,667	✓			



- Findings:

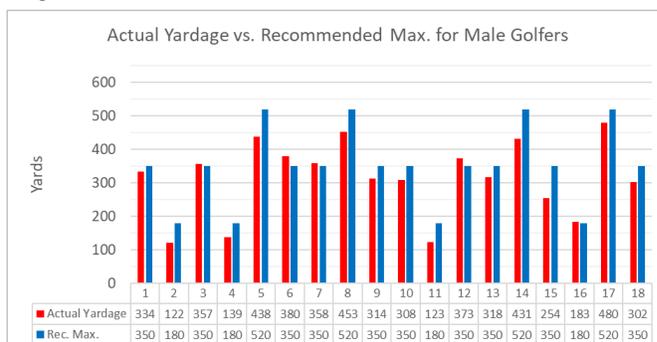
- ◆ **The current forward (Friendly) tees are too long on hole Nos. 3, 6, 12, 16 and 17, and the player swinging at 71 to 80 mph (16- to 20-handicap player) should move up one tee or play a hybrid tee. The 16- to 20-handicap player from the White tees is unable to reach green Nos. 3, 6, 7, 12 and 16 and must hit a hybrid to eight other greens.** This results in longer round times (more shots) and less enjoyment for these players. Many facilities have addressed this issue by creating more forward tees. Round times are decreased and golfer satisfaction goes up, which is good for business and the reputation of the facility.

- ◆ **The meaning of the "+" sign behind the "Estimated Approach Shot Club?"** This sign shows that shots with fairway woods on these holes will end up short of the putting green for each hole by the distance shown titled "Yards Over Recommended Maximum."

- ◆ **Overall distance is not the only determining factor for adding forward tees.** The above data shows where forward tees are needed for average players with less swing speed; however, in many cases, placement of the forward tee at the desired length is not possible due to topography, hazards and other factors. In some cases, the existing forward tee may be the only choice, while others may still be too long. Regardless, a qualified golf course architect can suggest recommendations. This data also does not take into account the elevation.

- ◆ **What should the forward tee length be to match the same clubs hit into the putting greens on every hole?** Without solid data, only an estimation can be determined. With this new data and the calculator, the distance for each hole can be calculated to give a very good estimate of what distance is required.

- **Actual yardage.** The following chart shows the actual yardage from the Friendly tees and White tees (below) compared to the recommended maximum yardage. The blue bars represent the recommended maximum yardage for the slower-swing-speed players to reach greens in regulation. The tees can be placed to offer shorter holes than the maximum to allow these players to hit shorter shots into greens.



## 2. Tee Marking System

The idea of using a numerical sequence and eliminating the colors was discussed. This idea is becoming more popular and was recently employed on the new Renegade course at Desert Mountain.



## Conclusion

Thank you for a productive visit with the agronomic team and three members of the board that joined the course tour for the entire day. It was great to listen to feedback from the board members as well as educate them on the key components of the transition program to encourage the understory bermudagrass to recover from overseeding. We also had very productive discussions about the importance of compaction relief on fairways and greens, addressing the future water restrictions, and the necessary actions that the golf courses at Westbrook Village will need to take to continue to deliver quality golf course conditioning for the next 20 to 30 years.

Thank you for your continued support of the USGA Green Section. Please do not hesitate to contact my office should you have any further questions or concerns.

Respectfully submitted,



Brian Whitlark, Agronomist  
USGA Green Section

Distribution:

David Escobedo, Golf Course Superintendent

# Additional Considerations

## USGA *Green Section Record*

If you would like to receive the USGA's electronic publication, the *Green Section Record*, [click here](#). It is free, informative and sent directly to you via email every two weeks.

## About the USGA Course Consulting Service

As a not-for-profit agency that is free from commercial connections, the USGA Course Consulting Service is dedicated to providing impartial, expert guidance on decisions that can affect the playing quality, operational efficiency and sustainability of your course.

First started in 1953, the USGA Course Consulting Service permits individual facilities to reap the benefits of on-site visits by highly skilled USGA agronomists located in Green Section offices throughout the country.



For questions regarding this report or any other aspect of the USGA Course Consulting Service, please do not hesitate to contact our office.

