

HFC Committee

From: Michelle Santos <Michelle.Santos@co.maui.hi.us>
Sent: Tuesday, September 15, 2020 3:08 PM
To: HFC Committee
Cc: John Buck; Josiah Nishita; Karla Peters; Kayla Ueshiro; Lisa Sakumoto; Sandy Baz; Stacy Takahashi; Tyson Miyake; Zeke Kalua
Subject: Re: MT#8518 Waiehu Golf Course USGA On-Site Visit Report
Attachments: MT#8518.pdf

Follow Up Flag: Follow up
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Please disregard the previous attachment.

This is the correct one.

Thanks

Michelle

>>> Michelle Santos 9/15/2020 3:06 PM >>>

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Michelle L. Santos

Office Operations Assistant

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County of Maui

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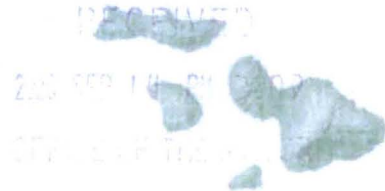
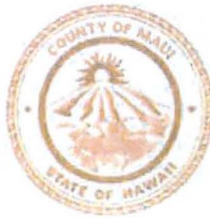
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MICHAEL P. VICTORINO
Mayor

KARLA H. PETERS
Director

JOHN L. BUCK III
Deputy Director



DEPARTMENT OF PARKS AND RECREATION

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Main Line (808) 270-7230 / Facsimile (808) 270-7942

September 11, 2020

Honorable Michael P. Victorino
Mayor, County of Maui
200 South High Street
Wailuku, Hawaii 96793

APPROVED FOR TRANSMITTAL

Michael P. Victorino 9/15/20

Mayor Date

For Transmittal to:

Honorable Riki Hokama, Chair
Healthy Families and Communities Committee
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

Dear Councilmember Hokama:

SUBJECT: WAIEHU GOLF COURSE USGA ON-SITE VISIT REPORT

Attached, per your letter dated September 11, 2020, is most recent USGA Onsite Visit Report for the Waiehu Municipal Golf Course.


Please feel free to contact me at Ext. 7385 if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Karla H. Peters", is written over a horizontal line.

KARLA H. PETERS
Director

Attachment



COURSE CONSULTING SERVICE

Onsite Visit Report

Waiehu Municipal Golf Course

Wailuku, Hawaii

Visit Date: August 27, 2019

Present:

Todd Allen, Administrator/Superintendent
Art Rego, Head Professional (short visit)
Larry Gilhuly, USGA Green Section

United States Golf Association

Larry Gilhuly, Agronomist | Green Section
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The USGA Green Section develops and disseminates sustainable management practices that produce better playing conditions for better golf.

Background

It was truly a pleasure to visit the Waiehu Municipal Golf Course on August 27, 2019, on behalf of the USGA Green Section. This was the first visit back to Waiehu since 2016, with major significant improvements noted through all portions "down the middle" of the golf course. In my 36 years with the USGA Green Section, many golf courses have been visited where extensive reconstruction has occurred on putting surfaces. In other cases, converting putting surfaces to different grasses has produced improved results. However, Waiehu was different than any golf course visited during the past three-plus decades. Specifically, the conversion from a weak bermudagrass playing surface inundated with weeds (goosegrass and common bermudagrass) has occurred with the in-house renovation to seashore paspalum. The work completed by Mr. Allen and the maintenance staff is as good or better than any professional golf course construction company, with the back nine greens providing putting surfaces, approaches and collars that are literally weed free with a grass that has been recommended for the golf course for well over two decades.

The front nine has also been completed in house by the maintenance staff with equally positive results. While the opening for this nine should occur in the coming month, the same type of high quality and significantly improved playing conditions can be expected on this outstanding nine.

To complete all of these improvements on a municipal golf course with the work being completed by your maintenance staff takes commitment, attention to detail and professionalism that has been completely displayed by Mr. Allen and his staff. A "Well done!" is certainly deserved, and it is hoped that those above the golf course operation understand how critical this change has been, especially when looking to the future with possible reduction or elimination of pesticide usage.

In addition to the outstanding improvement on the putting surfaces, collars and green surrounds, it was also good to view ongoing expansion of seashore paspalum on the teeing surfaces. While deep vertical mowing had been completed prior to this visit on the tees to address thatch issues, this grass has proven to be the perfect choice on these critical areas.

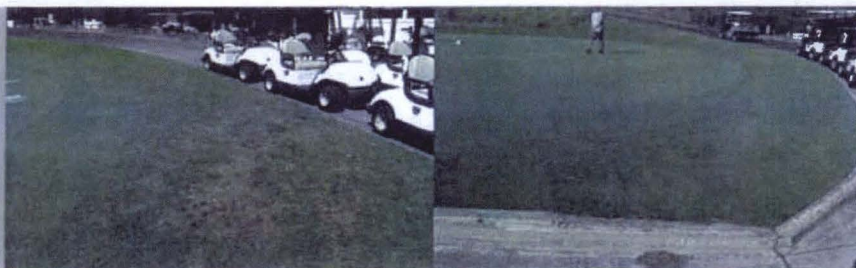
Finally, the other major issue facing Mr. Allen and the maintenance staff has been the massive weed populations on the fairways and roughs. This is another area where very positive steps have been taken in the past four years due to the knowledge of Mr. Allen and implementation of programs by the maintenance staff. Previous areas that were exposed soil and weeds have been returned to a combination of bermudagrass with reduced weed populations, while other areas have had complete weed elimination. While there still a long way to go, the positive results achieved thus far by Mr. Allen and the maintenance staff will continue as they are allowed to truly focus on regular maintenance operations over complete green reconstruction.

While all of these major improvements were noted during this visit, there are still several topics that can be discussed and recommendations offered to take the golf course to the next level within your budgetary limitations. This report shall focus on both agronomic and playing conditions at your golf course. As always, should you have any questions concerning this visit or report, please do not hesitate to contact our office.

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The first impression of Waiehu was always one of weeds and bare soil (left photo). That impression is now gone (right photo taken on the day of this visit).



Putting Greens

Observations

The previous putting greens at Waiehu were some of the most weed-infested (goosegrass and common bermudagrass) visited on a regular basis in the Western United States. In addition, they had lost their original shape and were in dire need of improvement. Other courses faced with a similar issue have had success by switching to a grass that naturally competes against goosegrass and common bermuda. As thoroughly discussed for the renovation project during the visit in 2016, this grass is seashore paspalum. Fortunately, just as a golf professional gives lessons to assist players in the game, your turf professional understood immediately the ability of this grass to outcompete goosegrass at your site. When small amounts of salt have been added on the renovated putting surfaces, the goosegrass simply cannot handle this, with seashore paspalum providing pure surfaces. This was noted on the back nine, and the process on the front nine has been nearly completed prior to a scheduled September opening.



Salt applied on the perimeter of the seashore paspalum has done a very good job of eliminating potential invading goosegrass and common bermuda. Another application is needed prior to opening.

Recommendations

Specific recommendations for the putting surfaces included the following:

1. Be patient with the opening date.

After reviewing all of the greens on the front nine, some of the putting surfaces (Nos. 1 through 6) could be opened at this time. However, the greens would be much slower, bumpy, and not provide the desired positive impact that will be shared with golfers on the island. It is critically important that when the greens are opened, the word gets out that the new putting surfaces at Waiehu are outstanding, which will drive more play back to the golf course.

- Based on visual observation and profiles, Nos. 7, 8 and 9 are slightly behind the remaining six greens in regard to overall preparation. With at least one more salt application and the need for increased topdressing combined with slightly lower mowing heights, it was recommended to consider opening the front nine on Saturday, September 21.
- This will provide ample time for the greens to continue filling in while weed populations can be reduced. More importantly, the recovery from salt applications needs time and you should try to have the green speeds closer to that found on the back nine when the opening occurs.

2. Consistency for both nines will not occur until next year.

While opening the front nine in late September gives time for improving the front nine greens, consistency in regard to green speed, smoothness and firmness should not be expected until next year.

3. Do not push putting green speed by excessive low mowing.

The back nine putting surfaces appear to be very smooth and providing more than adequate speed. With a green speed estimated at approximately 9.5 feet and the new contours and hole locations added by Mr. Allen, this should be more than enough speed for regular players.

4. Outstanding work has been completed to increase putting green size.

As we toured both nines, it was obvious that the putting surfaces at Waiehu have been enlarged and, in many cases, brought back to their original shape. This was recommended numerous times over the past three decades with the greens continuing to shrink. Mr. Allen has done an outstanding job of creating very interesting putting greens with far more hole locations than previously possible. This is another example where Mr. Allen and the maintenance staff have completed work similar to or beyond that completed by a regular construction company. Without prior knowledge, it is not possible to visually detect where these changes have occurred, which is another mark of a true turf professional.



This photo was taken in 2008 when green expansion was once again recommended. Note the large weeds on the collar and grass invasion onto the putting green for No. 3.

5. Aerate greens using open tines.

While many golf courses are experiencing very good results with solid tine aeration, the greens at Waiehu will need to have open tine aeration due to the layers found near the surface. In time, solid tine aeration can be considered that will prove to be financially beneficial due to much faster recovery from this needed operation. In the meantime, spring and fall aeration using 1/2-inch open tines was advised combined with monthly venting using 1/4-inch solid tines and slightly more sand applied following this operation. To achieve this type of program, the following was also highly recommended.



Open tine aeration will be needed to break through layers at surface.

6. Provide time for regular maintenance.

While it is extremely difficult on a public golf course to create time for maintenance, many golf courses have opted to select the slowest time for play and open the golf course later than normal.

- For example, if Monday mornings are a slow time for play, instead of opening the golf course at 6:30, a 9:00 opening can be utilized.
- In other cases, golf courses have found the slowest time during certain days and blocked tee times as much as two hours to give the maintenance staff time to complete necessary topdressing or spray operations. This was highly recommended for Waiehu and should be determined based on your open times that will become busier as word gets out on how good the putting surfaces have become.

From a weed-infested green, collar and approach that had shrunk in size in 2008 (right photo), to the green viewed on the day of this visit is a "night-and-day" comparison.



Green Surrounds

Observations

The correct decision to include the collars and approaches around the seashore paspalum putting surfaces has dramatically improved both visual and playing conditions of these important areas. While the putting surfaces always represent the most important part of every golf course, the areas that surround the greens (collars, approaches, bunkers and nearby roughs) represent the second highest priority for maintenance. Obviously, two of these four areas have been addressed with the installation of the correct grass, and it was good to view this grass moving out into nearby areas as it is highly adapted to your site. It was also good to view far fewer weed populations around the greens. However, the bunkers have suffered due to the lack of labor that has been focused on the renovation process.

Massive goosegrass plants were commonly viewed on visits such as in 2008 (right photo). Now the collars are clean and areas near the collars are being addressed correctly with salt and spot spraying.



Recommendations

Specific recommendations for the green surrounds included the following:

1. Begin addressing excess thatch on the approaches.

While seashore paspalum is highly adapted to your site and provides excellent protection against weed invasion, one of its negatives is the ability to create excessive thatch near the surface. This can result in very soft conditions and severe scalping when left unabated. It was recommended to deep vertical mow the approaches at least once annually, along with aeration with open tines while returning any sand to the surface for topdressing purposes. As can be noted in the photo to the right, control of organic material will be very important as you move forward with maintenance on the approaches.



Control of excess organic material on the approaches and collars will be very important.

2. Treat the collars like the putting greens as much as possible.

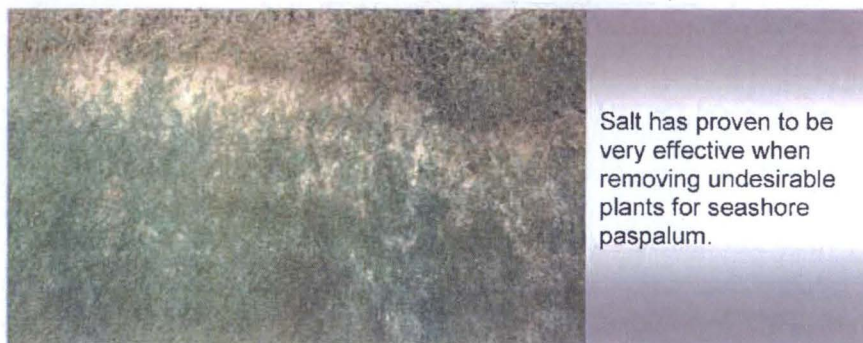
Due to the close proximity of these areas to the putting greens, it would be best to treat them in a manner very similar to the putting surfaces. In other words, aeration and regular topdressing need to be performed to minimize the negatives of excess organic material in these areas. Also, close attention must be paid to avoid "collar dams" that can build up from sand applications and dragging in a circular manner.

3. Slightly lower the mowing heights for the collars and approaches.

It was mentioned that these areas are currently mowed at the same height as the fairways. To produce the most competitive surface to minimize weed invasion, seashore paspalum has a unique ability to perform better at lower mowing heights. It was suggested to slightly lower the mowing heights for the collars and approaches, which will also lower the mowing heights for the teeing surfaces. This will produce an even better playing surface with higher quality that will further justify the cost for playing the course at your spectacular site.

4. Keep up the good work on weed control.

Outstanding results were noted on the control of bermudagrass and goosegrass into the seashore paspalum collars through the use of salt. As seashore paspalum continues to expand in these areas, this program should be continued as the wider collars can be maintained, the less the chance of weed invasion onto the greens. Also, by widening the collars into variable chipping areas, playing conditions will also be improved.



Salt has proven to be very effective when removing undesirable plants for seashore paspalum.

Tees

Observations

While it was good to view deep vertical mowing of the tees and understand that you are moving toward completing all of the tees with seashore paspalum, perhaps one of the best projects that **had not been started** is the addition of forward tees. During the visit in 2016, a 75-percent factor was used when discussing potential forward tees to allow both average male and female players the opportunity to hit the same clubs into the putting surfaces. Since that time, a large amount of data has been compiled by the PGA and USGA that will be the primary focus on this section of the report. The values suggested in 2016 were much different than that shown during this visit.

Recommendations

Specific recommendations for the tees included the following:

1. Consider the addition of forward tees where needed.

USGA agronomists are not golf course architects; however, the USGA has and will continue to promote improved pace of play initiatives, making the game more fun and reducing overall resource inputs that are making the game more expensive. One of our recent efforts (USGA Facility Tool) directly relates to showing the positive impact of forward tees for your golf operation. In conjunction with results put forward by the PGA, the USGA has taken data from thousands of golfers and found a very simple and understandable way to promote teeing surfaces at distances associated with players' swing speeds. Forward tees should no longer be equated with gender as both younger and aging players should have the comparable feeling of joy when a par or birdie putt goes in the hole. More importantly, adding more forward tees on holes where appropriate will significantly improve the pace of play and the "fun factor" on the course. With the preceding in mind, the following information is offered:

- The chart on the next page shows the distance from your current forward tees on every hole as well as the white tees used by most of your male players. The keys to this chart are the two boxes on the right side. These show the average swing speeds for both genders along with handicap ranges. Research conducted by both the USGA and PGA show that the average female is a 25 handicap with a swing speed of 60 mph. The average male is a 14 handicap with a swing speed of 81 to 90 mph. When combined with the blue chart at the bottom of the next page, this forms the foundation for properly distanced forward tees.

Waiehu Forward Tees

Course Name: Waiehu		
Female Tee: Forward	Male Tee: White	
Swing Speed: Average	Swing Speed: Average	

Female - Scorecard		
Distances from Forward		
Hole	Par	Yardage
1	5	441
2	3	113
3	4	323
4	5	486
5	3	205
6	4	280
7	5	415
8	3	134
9	4	363
10	4	327
11	4	303
12	4	299
13	4	313
14	4	349
15	4	280
16	3	112
17	5	413
18	4	320
OUT	36	2760
IN	36	2716
TOT	72	5476

Male - Scorecard Distances		
from White		
Hole	Par	Yardage
1	5	513
2	3	139
3	4	351
4	5	511
5	3	234
6	4	360
7	5	490
8	3	150
9	4	381
10	4	401
11	4	339
12	4	329
13	4	374
14	4	403
15	4	345
16	3	116
17	5	524
18	4	371
OUT	36	3129
IN	36	3202
TOT	72	6331

Handicap	Female Handicap to Swing Speed Reference		MPH
	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			

Handicap	Male Handicap to Swing Speed Reference		MPH
	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			

- 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

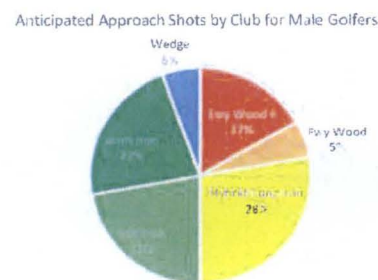
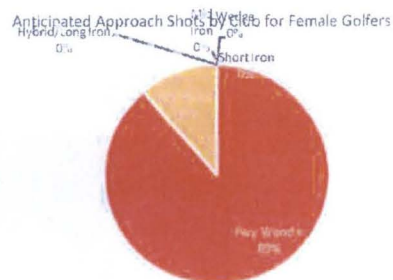
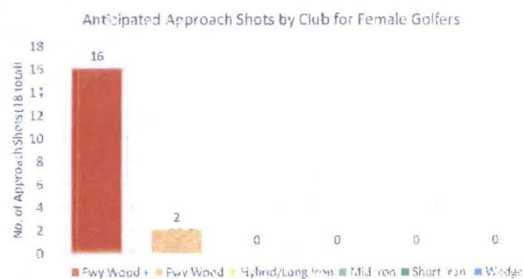
	Par 3	Par 4	Par 5
Female (25 hdcp)	140	260	380
Male (14 hdcp)	210	400	590

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

- The tables, graphs and charts below compare the estimated approach shot distance and estimated approach clubs for the average male (14 handicap) and average female (25 handicap) golfers. The results are shown in three different formats, with all showing the same conclusion – the current forward tees are far too long for players with swing speeds at 60 mph which includes average females, aging senior males and juniors.

Female Golfers - Forward Tee							Male Golfers - White Tee						
Handicap - 25 Swing Speed - 60 MPH							Handicap - 14 Swing Speed - 81-90 MPH						
Hole	Par	Yards	Yards Over		Est. Approach	Est. Approach Shot Club	Hole	Par	Yards	Yards Over		Est. Approach	Est. Approach Shot Club
			Rec.	Max.						Rec.	Max.		
1	5	441	X	61	181	Fwy Wood+	1	5	513	✓	--	113	Short Iron
2	3	113	✓	--	113	Fwy Wood	2	3	139	✓	--	139	Mid Iron
3	4	323	X	63	183	Fwy Wood+	3	4	351	✓	--	141	Hybrid/Long Iron
4	5	486	X	106	226	Fwy Wood+	4	5	511	✓	--	111	Short Iron
5	3	205	X	65	205	Fwy Wood+	5	3	234	X	24	234	Fwy Wood+
6	4	280	X	20	140	Fwy Wood+	6	4	360	✓	--	150	Hybrid/Long Iron
7	5	415	X	35	155	Fwy Wood+	7	5	490	✓	--	90	Wedge
8	3	134	✓	--	134	Fwy Wood+	8	3	150	✓	--	150	Hybrid/Long Iron
9	4	363	X	103	223	Fwy Wood+	9	4	381	✓	--	171	Fwy Wood
10	4	327	X	67	187	Fwy Wood+	10	4	401	X	1	191	Fwy Wood+
11	4	303	X	43	163	Fwy Wood+	11	4	339	✓	--	129	Mid Iron
12	4	299	X	39	159	Fwy Wood+	12	4	329	✓	--	119	Short Iron
13	4	313	X	53	173	Fwy Wood+	13	4	374	✓	--	164	Hybrid/Long Iron
14	4	349	X	89	209	Fwy Wood+	14	4	403	X	3	193	Fwy Wood+
15	4	280	X	20	140	Fwy Wood+	15	4	345	✓	--	135	Mid Iron
16	3	112	✓	--	112	Fwy Wood	16	3	116	✓	--	116	Short Iron
17	5	413	X	33	153	Fwy Wood+	17	5	524	✓	--	124	Mid Iron
18	4	320	X	60	180	Fwy Wood+	18	4	371	✓	--	161	Hybrid/Long Iron
OUT	36	2,760	X				OUT	36	3,129	✓			
IN	36	2,716	X				IN	36	3,202	✓			
TOT	72	5,476	X				TOT	72	6,331	✓			

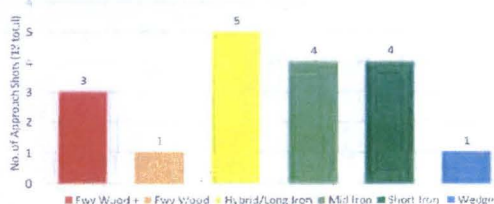


- These charts and tables show that players (both female and male) with a 60-mph swing speed must either hit a driver or cannot reach 16 of the greens in regulation. Only two holes are reachable with fairway woods. On the average male side, only three holes require a driver or are not reachable, with a good cross section of clubs hit into the other 15 greens in regulation.

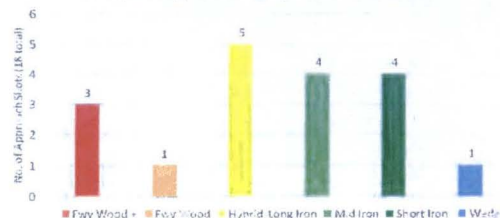
- The following can be surmised after studying the charts:
 - ♦ **The challenge for average female golfers and average male golfers is not proportional.** As with the other 200 golf courses tested with this calculator, Waiehu is far too long for many of your customers. The addition of properly positioned and built forward tees will improve pace of play, player enjoyment and retain older players as they lose their swing speed.
 - ♦ **Overall distance is not the only determining factor for adding forward tees.** All of the above data shows where forward tees are needed for average players with less swing speed. However, in many cases, the 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 or too short.
 - ♦ **What distance is needed to match the same clubs hit into the greens by both average male and female players?** This is a great question that has always been difficult to determine. However, with this data, a more precise length can be determined if you wish to add this additional set of optional tees. The charts below show that the forward tees needed to match the same clubs into the greens for the average male and female result in an overall distance of 4,258 yards.

Female Golfers - Red Tee							Male Golfers - White Tee						
Handicap - 25			Swing Speed - 60 MPH				Handicap - 14			Swing Speed - 81-90 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	5	339	✓	79	Short Iron		1	5	513	✓	113	Short Iron	
2	3	99	✓	99	Mid Iron		2	3	139	✓	139	Mid Iron	
3	4	244	✓	104	Hybrid/Long Iron		3	4	351	✓	141	Hybrid/Long Iron	
4	5	339	✓	79	Short Iron		4	5	511	✓	111	Short Iron	
5	3	164	✗ 24	164	Fwy Wood+		5	3	234	✗ 24	234	Fwy Wood+	
6	4	244	✓	104	Hybrid/Long Iron		6	4	360	✓	150	Hybrid/Long Iron	
7	5	319	✓	59	Wedge		7	5	490	✓	90	Wedge	
8	3	104	✓	104	Hybrid/Long Iron		8	3	150	✓	150	Hybrid/Long Iron	
9	4	259	✓	119	Fwy Wood		9	4	381	✓	171	Fwy Wood	
10	4	261	✗ 1	121	Fwy Wood+		10	4	401	✗ 1	191	Fwy Wood+	
11	4	239	✓	99	Mid Iron		11	4	339	✓	129	Mid Iron	
12	4	219	✓	79	Short Iron		12	4	329	✓	119	Short Iron	
13	4	244	✓	104	Hybrid/Long Iron		13	4	374	✓	164	Hybrid/Long Iron	
14	4	263	✗ 3	123	Fwy Wood+		14	4	403	✗ 3	193	Fwy Wood+	
15	4	239	✓	99	Mid Iron		15	4	345	✓	135	Mid Iron	
16	3	79	✓	79	Short Iron		16	3	116	✓	116	Short Iron	
17	5	359	✓	99	Mid Iron		17	5	524	✓	124	Mid Iron	
18	4	244	✓	104	Hybrid/Long Iron		18	4	371	✓	161	Hybrid/Long Iron	
OUT	36	2,111	✓				OUT	36	3,129	✓			
IN	36	2,147	✓				IN	36	3,202	✓			
TOT	72	4,258	✓				TOT	72	6,331	✓			

Anticipated Approach Shots by Club for Female Golfers



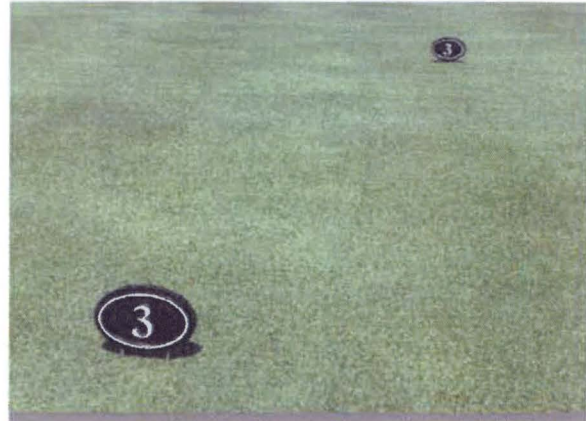
Anticipated Approach Shots by Club for Male Golfers



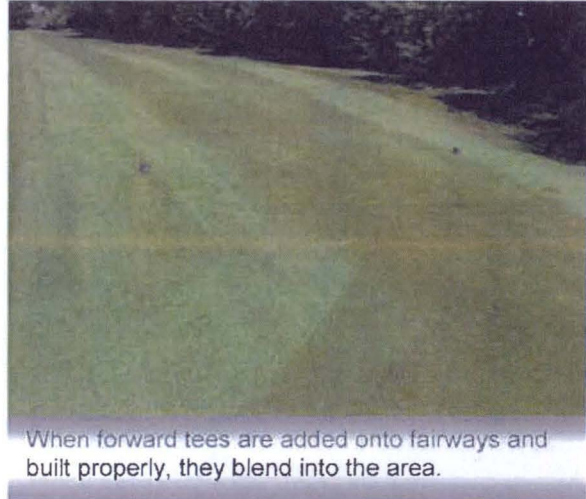
2. Additional tips for the forward tees.

In addition to the above numerical values that provide a very good blueprint for the future, it is worth reviewing several other recommendations that will further improve the forward tees. These include:

- **Remove the red color.** The idea of using a numerical sequence and eliminating the colors was discussed. This has been viewed in the Denver area, with the photo to the right taken at Denver Country Club approximately five years ago. This idea has expanded to several golf courses viewed over the past few years, with very positive results noted.
- **Build the tees out of similar soil to the surrounding area.** Another trend that has been noted with positive results is building these tees out of soil that requires the same type of irrigation as the surrounding area. A combination of soil and sand will provide adequate drainage during the winter months but will not result in excess drought during the summer that would occur with a sand-based tee.
- **Build the tees of adequate size.** One of the mistakes often seen with forward tees is building a tee by simply mowing out an area or creating a small "bump-up" tee. It is best to create a new tee with at least 500 to 600 square feet if possible, with no more than a 6- to 8- inch lift. The sides of the tees need to simply flow into the fairway contours to avoid scalping.
- **Position the tees on the fairways where possible.** Many top clubs have added forward tees at the proper distance. As discussed during the visit, many of the proposed forward tees can be placed on the fairways, similar to San Francisco Golf Club shown in the photo to the right. Also, the positioning of the tees should always have safety and topography in mind.



Elimination of colors is a good way to encourage players to play the distance more closely associated with their swing speeds.



When forward tees are added onto fairways and built properly, they blend into the area.

3. Hole-by-hole analysis.

We spent considerable time during the visit reviewing where tee markers could be placed on each hole. Of primary importance is safety from adjoining holes. Wherever forward tees can be added onto fairways, overall maintenance cost will not change when they are built as described above. The following photos show the view from the current tee on holes where forward tees are needed and the view from the proposed site.

No. 1 tee needs to be placed to the left near the cart (left photo). The view of the proposed tee is shown in the right photo. The optional forward tee goes from 441 yards to 340 yards to match short irons into the greens.



The flat area to the left, front of the existing left tee shortens the hole to 100 yards and slightly removes the penalty area for these players.



No. 3 would have the forward tee placed on the right side of the fairway with the hole shortened by 80 yards to provide matching hybrid/long irons into this green.



No. 4 would require a forward tee approximately 145 yards shorter. For safety reasons from No. 7, the tee should be placed on the right side of the fairway to match short irons hit into this short par-5 green.



No. 5 needs to be shortened by 40 yards, with the tee placed where Mr. Allen is standing in the left photo. Players will still be short with a driver from this distance, thus an even shorter hole may be needed.



No. 6 can be positioned on either side of the rough near the start of the fairway. On the right side brings the ocean closer and decreases potential safety issues.



No. 7 is another par 5 that needs to be shortened by 95 yards to give average female and male players the same wedge into the green. The tee should be placed on the right side near the ocean.



No. 8 can be placed on the flat area near the cart path at approximately 105 yards. This will match the long iron/hybrid hit into this green by those with more swing speed playing the white tees.



Due to the elevated green for No. 9, this extremely long par 4 needs to be shortened by at least 100 yards to allow those with less swing speed to hit higher-lofted clubs into this green.



No. 10 needs to be shortened by 65 yards, with the tee placed near the cart path on the right side.



No. 11 needs a new forward tee placed up the hill on the right side, 63 yards closer to the green.



No. 12 needs to be shortened by 80 yards and despite the location of Mr. Allen on the right side, the better tee location is shown in the right photo.



No. 13 needs to be shortened by 70 yards, with the tee placed on the right side at the start of the fairway shown where Mr. Allen is standing.



No. 14 is a very difficult, uphill par 4 that needs to have a forward tee placed on the left side at least 85 yards up the hill.



Nos. 15 and 16 require modest changes of 40 and 32 yards. Mr. Allen is shown at the proposed site for No. 15 in the left photo, and the blue dot on the cart path indicates where a new forward tee can be added for No. 16.



No. 17 needs to have a new forward tee placed in the right rough as shown where Mr. Allen is located in the left photo. This will allow players to get over the hill in two to at least reach the green with a mid-iron.



As with No. 17, adding a forward tee 75 yards closer allows players with slower swing speeds to clear the hill and have a hybrid/long iron into the green.



Fairways

Observations

As mentioned earlier, it was good to view far more warm-season grasses on the fairways to the detriment of goosegrass and other weeds. In addition, the large bare soil areas noted during the previous visit were almost completely gone due to the diligent preemergent and postemergent efforts of Mr. Allen and the maintenance staff. At the same time, just as seashore paspalum has provided the answer for the greens, green surrounds and tees, it is also doing well on the fairways. This leads to the single disappointment viewed during this visit and a topic that needs to be addressed as the highest priority.

Recommendations

Specific recommendations for the fairways included the following:

1. The fairways need to be seeded with seashore paspalum as soon as possible.

It was mentioned during the visit that there have been discussions regarding complete elimination of pesticides in the Maui County Parks Department. Since this includes the golf course, every effort is needed to immediately expand the grass that can compete without herbicides against goosegrass. This grass is obviously seashore paspalum which can provide good fairway playing conditions when salt is applied to plants that do not have the salt tolerance of this grass.

- Mr. Allen had a perfect plan through the potential addition of a Vredo overseeder that has been viewed at other golf courses with outstanding results. This machine was removed from the equipment budget despite a significant amount of seed sitting in the shop ready for use on the fairways. This decision needs to be reversed as soon as possible, with this seed utilized as it only has a limited amount of time before it will not germinate and survive.
- The addition of this seeder and drilling the seed into the fairways was the highest priority recommendation given during this visit. If this step cannot be completed, then deep vertical mowing and some form of shallow aeration are needed to create multiple slits on the fairways, with extensive watering to assist in the germination of the seed and promotion of a grass that offers the only chance to produce weed-free fairway playing surfaces without the use of herbicides.



Don't let this seashore paspalum seed go to waste!

2. Continue preemergence and postemergence programs as long as possible.

While a decision on the pesticides will be forthcoming, there is no question that the control of weeds at Waiehu will fail as long as bermudagrass is the dominant species. For this reason, it was highly recommended to continue the use of various preemergence and postemergence products that are not harmful to the environment or humans. In reality, the second-best filter for pesticides is turfgrass. Applying these products will not result in movement through the profile into drinking water and when applied properly by your turf professional, these products do not pose a hazard for your playing guests or community.

Miscellaneous Topics

1. Would revetted bunkers work at Waiehu?

Bunker revetting is basically stacking sod on the edge of the bunker to create an edge that can often be very deep and difficult to maintain. This is especially true in warm-season grasses as they would be prone to decompose and need reconstruction on a regular basis. As a result, some have utilized artificial turf in the same stack manner with success. You may wish to look at this as an option on your proposed practice bunker between Nos. 3, 8 and 9.

2. Continue removing expensive coconut trees.

It was good to view the removal of many of the small coconut trees that had been planted on the golf course prior to the visit in 2016. With each one of these representing a cost of \$180 annually to remove the coconuts, the selective removal of these trees was highly recommended.

- While some of the trees need to remain for safety purposes, at least 50% of the trees on the golf course serve no function. Their removal offers a potential savings of \$20,000 to \$30,000 annually that can be moved into other portions of the golf course. It is hoped that ongoing removal of coconuts will occur.
- As a final comment, the idea of simply roping off areas under these trees is not feasible from a maintenance standpoint. The amount of time operators would need to remove stakes and ropes, mow the area and replace the stakes and ropes would be extremely costly and absolutely not recommended.

3. Redirect traffic around No. 6 green.

On the subject of ropes and stakes, one place that would benefit from extensive use is to the right side of No. 6 green next to the ocean. As can be noted in the photo to the right, regular cart usage wears out this area that needs to be blocked. Multiple stakes and ropes were suggested to direct traffic to the left side of this hole and minimize potential safety concerns with golf carts next to this rocky area.



Summary

As mentioned at the start of this report, many golf courses have been visited that have been improved through renovation efforts. However, very few, if any, have been completed entirely in house with the type of quality noted in your putting green renovation program. As the course opens in September, there is a very high need for advertising the return of high quality to your municipal golf course as it will bring players back for increased revenue.

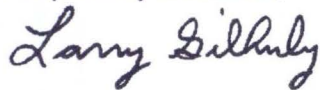
For the immediate future, the seed already purchased needs to be utilized to begin the process of establishing grasses on the fairways that are naturally resistant to goosegrass. This will be a long process that can be expedited through the addition of a slicer seeder and regular usage of seashore paspalum seed.

Finally, the importance of properly built and positioned forward tees cannot be overstated. As the golf population continues to age and swing speeds slow, there needs to be an additional option for players to utilize. Pace of play, player enjoyment and economic sustainability are all enhanced with the addition of properly distanced forward tees, thus this low-cost improvement should be the focus of your maintenance efforts in combination with expanding seashore paspalum on the fairways.

Thank you for your ongoing support of the USGA Green Section through the use of our Course Consulting Service. It has been an honor to assist in a small way in your golf course maintenance operation over the past 36 years. Again, should you have any questions concerning this visit or report, please do not hesitate to contact our office.

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.

Respectfully submitted;



Larry Gilhuly, Agronomist
USGA Green Section

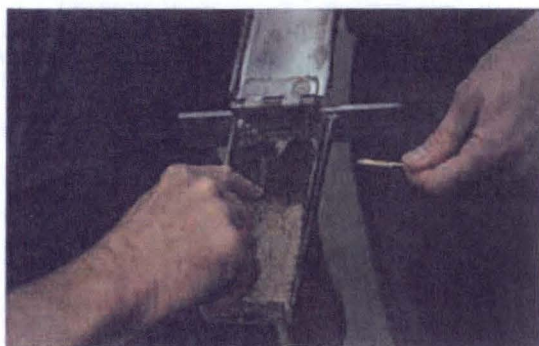
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Todd Allen, Administrator/Superintendent

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.

