



Whittle Springs Golf Course

Golf Course Assessment – June 2023

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Forward

Trey Kemp, ASGCA has been retained by JJKeegan+ to provide a golf course assessment for Whittle Springs Golf Course. The assessment has been composed to provide the City of Knoxville with an overview of the conditions of the various components associated with the facility and the cost to bring these components up to standards expected of a golf course in the Knoxville area.

The items addressed in our report are:

1. General Overview

- a. Aesthetics
- b. Playability
- c. Maintainability
- d. Security/Vandalism

2. Greens

- a. Size
- b. Grass Conditions
- c. Contour Analysis
- d. General Character

3. Tees

- a. Size
- b. Condition

4. Fairways

- a. Character
- b. Conditions

5. Cart Paths

- a. Condition
- b. Impact on course

6. Hazards

- a. Sand Bunkers
- b. Water
- c. Rough
- d. Trees

7. Drainage

- a. Flood Issues
- b. Erosion/Siltation
- c. Adjacent Development
- d. On Course Drainage

8. Practice Facilities

- a. Putting Green
- b. Short Game Area
- c. Practice Range

9. Golf Course – Expected Life Cycle

10. Hole-By-Hole Analysis

11. Estimate of Probable Costs

12. Safety Issue Options

Golf Course

The overall analysis of the golf course was performed by Trey Kemp, ASGCA. An onsite visit of the golf course was conducted on June 22nd and was attended by the following:

Rusty Howell, General Manager – Whittle Springs Golf Course

Brad Courteau, Superintendent – Whittle Springs Golf Course

JJ Keegan, Principal – JJKeegan+

Trey Kemp, ASGCA, Golf Course Architect – Kemp Golf Course Design

The following observations were made and will provide an overview of each component of Whittle Springs Golf Course.

1. General Items

a. Aesthetics

The golf course lies on a great piece of land with rolling topography. Mature trees also make for a wonderful setting for golf.

b. Playability

The golf course is very playable for all levels of golfers and is a reason why many beginners come out to play the course. While overall the course is very playable there are some forced carries, sharp doglegs, and extreme topography that make some of the shots tough for the average golfer.

c. Maintainability

Once again, those items which make the course so visually appealing do make the maintenance more difficult. Trees are in need of trimming and/or removal to reduce shade issues and drainage ways need to be addressed so those areas can be maintained more easily.

d. Security/Vandalism

As with any golf course, Whittle Springs is vulnerable to acts of vandalism. Access to the golf course is secure, but one idea would be to add a bollard in the middle of the entrance to the course by the 10th tee in order to keep vehicles off the course.

2. Greens

a. Size

Based on measurements taken from an October 2022 aerial, the total square footage for greens on the golf course is approximately 63,500 square feet including the practice putting green, which equates to an average of 3,440 square feet per green on the course. The practice putting green is 1,690 square feet. The size of the greens on the course are extremely small as compared to other courses that host

approximately 30,000 rounds per year. Ideally the greens would average at least 5,000 – 5,5000 square feet per green. The rule of thumb for the practice putting green is for it be at least twice the size of the average green which would currently be 6,880 square feet, however it is more than 5,000 square feet below that number.

b. Grass Condition

At the time of this assessment, the bermudagrass greens were in good condition. The staff has done a great job getting the greens in good shape after a tough winter where many courses have seen winter kill.

c. General Character

The greens at Whittle Springs are small and all have similar round to oval shapes. Some of the greens are benched into the hillsides which create some fun and challenging shots around the green.

d. Contour Analysis

For the size of the greens a lot of the greens have too much slope. This is common with old golf courses, as these courses were built green speeds were much slower, so more slope was added to create interest in the greens. For these greens to work the speed needs to be kept at a 9 or below on the Stimpmeter, the industry gauge that determines green speed.

3. Tees

a. Size

More tee space is needed at Whittle Springs. Most of the holes need additional square footage to spread out the wear and tear, especially the par 3's, the 3rd, 6th, 8th, and 16th.

b. Turf Condition

At the time of this assessment, the tees are having the most trouble filling in of any area on the course. This is not a surprise with the harsh winter, lack of tee space, and the amount of shade on many of the tees. As you can see in the photo on the right, the back tee in the shade is



struggling and the tee in front with no shade issue is doing well.

4. Fairways

a. Character

The character of the fairways varies from hole to hole which is nice. Some holes are flat while others have a severe slope from right to left or left to right. It is tough for the golfer to keep their ball in the fairway on several of the holes.

b. Turf Condition

At the time of this assessment, the turf on the fairways was in good shape. The constant cart traffic all over the course along with inadequate irrigation system makes it tough for the Superintendent and his crew to maintain so there are several problem areas where topsoil needs to be added and sod laid in those locations.

5. Hazards

a. Sand Bunkers

Whittle Springs does not have any sand bunkers.

b. Water

There is one pond that comes into play on hole 18. A drainage channel runs through the property affecting the 1st, 7th, 8th, 9th, and 10th holes.

c. Rough

The rough at Whittle Springs is being maintained at a reasonable height for public play. However, there are many areas where cart traffic and shade make it really difficult to grow turf.



d. Trees

Trees are a dominant feature of the course. While they were planted to provide separation, they have adversely caused shade issues making it difficult to grow grass. A tree study should be done on the course to see which trees need to be either trimmed up or removed.

6. Cart Paths

a. Impact on the Course

The cart path system at Whittle Springs has some visual impact on the visual appearance of the course. With the course being on such a small parcel of land it is almost impossible to hide the cart paths or get them out of the line of play.

b. Condition

The overall condition of the paths is good. With that being said there is major erosion that has occurred next to the cart paths that should be addressed before water flows start to undermine them. These areas will be identified in the hole by hole analysis.



7. Drainage

a. Flood Issues

There are 2 major valleys that run through the golf course and can carry a lot of water. The site drains well and to our knowledge there are no significant flooding issues on-site.

b. Drainage Channel

The main drainage channel should be evaluated, and subsurface drainage installed. The current system is causing major turf issues and playability issues.



c. On Course Drainage

Other than the main drainage channel the golf course drainage is good and drains quickly. There are several areas that could be improved, and those areas will be explored in the hole-by-hole analysis.

8. Irrigation

a. Irrigation System

The irrigation is very old and inadequate. Brad spends a lot of time keeping the golf course irrigated and making numerous irrigation repairs each week. A new irrigation system is a must in order to provide the public with a well-maintained golf course. The Superintendent has done a great job putting a band-aid on the situation, but it is not sustainable based on the current levels of play.

9. Practice Facilities

a. Putting Green

With approximately 1,690 square feet, the practice putting green is too small for anything other than rolling a few putts before the round. This green should be

enlarged to over 10,000 square feet to accommodate more play, golfers coming out to just practice, and events. While there is no room where it is currently located the land across the street where the current short game area is located would make a great spot for a new green.



b. Short Game Area

There is a makeshift short game area across the street from the clubhouse. The land has a ton of character and there is enough room to make a large short game area with several greens. This would allow the staff to hold clinics and lessons for golfers.

c. Practice Range

There is not a driving range at Whittle Springs.

10. Golf Course – Expected Life Cycle

The following chart shows the expected life cycle of the different components of the golf course. Whittle Springs is nearing the end or in most cases gone past the expected life cycle of many of the items.

GOLF COURSE ITEMS EXPECTED LIFE CYCLE

HOW LONG SHOULD PARTS OF THE GOLF COURSE LAST?

No two golf courses are alike except for one thing: deferring replacement of key items can lead to greater expense in the future, as well as a drop in conditioning and player enjoyment. The following information represents a realistic timeline for each item's longevity.

Component life spans can vary depending upon location of the golf course, quality of materials, original installation and past maintenance practices. The American Society of Golf Course Architects (ASGCA) encourages golf course leaders to work with an ASGCA member, superintendents and others to assess their course's components.

ITEM	YEARS
Greens (1)	15 – 30 years
Bunker Sand	5 – 7 years
Irrigation System	10 – 30 years
Irrigation Control System	10 – 15 years
Pump Station	15 – 20 years
Cart Paths – asphalt (2)	5 – 10 years (or longer)
Cart Paths – concrete	15 – 30 years (or longer)
Practice Range Tees	5 – 10 years
Tees	15 – 20 years
Corrugated Metal Pipes	15 – 30 years
Bunker Drainage Pipes (3)	5 – 10 years
Mulch	1 – 3 years
Grass (4)	Varies

NOTES: (1) Several factors can weigh into the decision to replace greens: accumulation of layers on the surface of the original construction, the desire to convert to new grasses and response to changes in the game from an architectural standpoint (like the interaction between green speed and hole locations). (2) Assumes on-going maintenance beginning 1 - 2 years after installation. (3) Typically replaced because the sand is being changed – while the machinery is there to change sand, it's often a good time to replace the drainage pipes as well. (4) As new grasses enter the marketplace – for example, those that are more drought and disease tolerant — replanting may be appropriate, depending upon the site.

ASGCA thanks those at the USGA Green Section, Golf Course Builders Association of America, Golf Course Superintendents Association of America and various suppliers for their assistance in compiling this information.

The materials presented on this chart have been reviewed by the following Allied Associations of Golf:



For more information, contact ASGCA at (262) 786-5960 or visit www.ASGCA.org

DATA COMPILED BY ASGCA, 125 NORTH EXECUTIVE DRIVE, SUITE 302, BROOKFIELD, WI 53005

Hole by Hole Analysis

Hole 1 – Par 4



BLACK	355
WHITE	345
RED	316

Recommended Improvements

- The 1st hole at Whittle Springs is a nice way to start off the round. The only major recommendations here would be enlarging the Red tee and shifting it up slightly to make it easier for the golfer to carry the drainage channel. Currently it is about a 130 – 135 yard shot to carry the channel and cart path.
- As you can see in the photo above, shade is causing problems growing turf by the cart pat and on the other side of the hole. The trees should be looked at for trimming and select removal.
- The green is the largest on the course at 4,530 square feet. It could be enlarged slightly, but care should be taken to keep it out of the utility easement.

Hole by Hole Analysis

Hole 2 – Par 4



BLACK	378
WHITE	363
RED	350

Recommended Improvements

- Hole 2 is another nice par 4 with some character in the fairway.
- The recommendation here would be to move the red tees up another 20 – 30 yards to help with playability.
- One thing we did observe on the site visit was that it appears that a portion of the green is under the power lines in the utility easement. When/if the greens are redone, it should be shifted to the left and enlarged to have more square footage than the current 2,630 square feet.

Hole by Hole Analysis

Hole 3 – Par 3



BLACK	146
WHITE	138
RED	120

Recommended Improvements

- The 3rd hole is a nice downhill par 3 playing to a severely sloped green.
- The tees are all combined in one tee area and there is not enough tee space to accommodate the amount of play. A new red tee should be built in front of the cart path and the existing tee should be enlarged as much as possible.
- The green is 4,030 and slopes severely from back left to front right. If/when green are redone, this green should be softened and enlarged.

Hole by Hole Analysis

Hole 4 – Par 4



BLACK	368
WHITE	341
RED	323

Recommended Improvements

- The 4th hole slopes hard from left to right making it tough for balls to stay in the fairway especially with the thin areas around the cart path.
- The first recommendation here would be to redo the red tee and shift it closer to the green and to the right of its current location.
- Shade along with cart traffic and inadequate irrigation are an issue for the turf health on this hole. The trees should be limbed up or even removed in certain instances.
- In the photo above the natural flow of water is blocked where the cart path turns and goes up the hill. The area should be addressed with drainage, or a low water crossing added.
- Subsurface drainage should be added to the left of the green and the green itself should be enlarged. The current size is 2.625 square feet.

Hole by Hole Analysis

Hole 5 – Par 4



BLACK	361
WHITE	352
RED	267

Recommended Improvements

- The 5th hole is a good par 4 with some shade issues.
- The Black tee gets very little sunlight. The trees should be removed to be able to grow Bermuda turf. If the trees must stay, the tee should be sodded with zoysia or moved to a new location.
- The Red tee is very small and should be enlarged.
- As you can see in the photo above, the shade and inadequate irrigation are causing turf issues in the fairway and rough.
- The green is 3,040 square feet and should be enlarged when a renovation occurs.

Hole by Hole Analysis

Hole 6 – Par 3



BLACK	168
WHITE	142
RED	113

Recommended Improvements

- The 6th hole is a fun medium length par 3.
- For the most part the square footage of the tees is adequate, but the problem is the Black and White tees have major shade issues, making it nearly impossible to grow turf.
- The trees should be trimmed and limbed up down the entire right side of the hole and zoysia turf could be tried on the tees.
- The green is 3,130 square feet and should be enlarged during a renovation.

Hole by Hole Analysis

Hole 7 – Par 4



BLACK	405
WHITE	385
RED	240

Recommended Improvements

- Hole 7 featuring a 90-degree dogleg, has to be the hardest hole on the entire course.
- The trees down the right side of the hole need to be trimmed and underbrushed. The trees on both sides are causing major turf issues.
- The fairway has the most slope and is in the worst shape on the golf course, where major erosion has occurred. Subsurface drainage needs to be replaced and the fairway after the dogleg needs serious attention. It should be smoothed out, topsoil added and regrassed. This all should happen in conjunction with a new irrigation system.
- The green, 3,830 square feet in size, sits atop a hill, it could be enlarged to help with playability.

Hole by Hole Analysis

Hole 8 – Par 3



BLACK	204
WHITE	158
RED	149

Recommended Improvements

- The 8th hole is the longest par 3 on the front nine. The tees on this hole are in good shape.
- There is a large open area to the right of the tees that could be made into a natural area, if desired. This area is out of play and would reduce the maintenance in the area once established.
- Shade, as you can see above, is an issue on this hole. It has caused a lack of turf on the left side of the hole and that lack of turf is starting to cause an erosion issue. Topsoil should be added to the area and then regressed once a new irrigation system is in place.
- The green is small for the length of the hole at 2,910 square feet and should be enlarged during a green's renovation.

Hole by Hole Analysis

Hole 9 – Par 4



BLACK	270
WHITE	258
RED	252

Recommended Improvements

- The 9th hole is a short drivable par 4 for the longer hitters. The golfers hitting from the red tee do not have that opportunity because the teeing areas are so close together. A new red tee should be added up the hole to give these golfers a better chance of navigating the drainage channels on the hole.
- The landing area for the golfer laying up is severely sloped and that area should be looked at to possibly remove some material to the hole more playable.
- Trees should be trimmed to help with shade issues on the turf.
- The green is 3,590 square feet which is a good size for such a short par 4.

Hole by Hole Analysis

Hole 10 – Par 5



BLACK	501
WHITE	479
RED	450

Recommended Improvements

- The 10th is a nice-looking par 5 to start the back 9. It is also where the issues with the neighbors start.
- There are homes down the entire right side of the hole which is the slice side for right-handed golfers. The trees offer a good buffer, but one home in particular is getting hit with several golf balls per day. There is not a simple, quick fix this issue, and it should be studied further.
- Drainage work was done several years ago down by the drainage channel. It does not appear to be working and the area should be reevaluated.
- At the green, drainage should be installed behind the green to keep the area dry.
- The green is 3,775 square feet and should be enlarged.

Hole by Hole Analysis

Hole 11 – Par 4



BLACK	303
WHITE	285
RED	234

Recommended Improvements

- The 11th is a short par 4 with safety issues for the neighborhood down the entire right side of the hole.
- Trees have been planted over the past 30 years to try to screen the homes, but it has not worked as intended. Houses and cars are still getting hit with balls and now the turf under the trees can't grow.
- Studies have been conducted to show what can help, but homes will still get impacted without rerouting the golf hole. One thing that could be done in the interim would be to add temporary tees on the right side of the fairway and play the hole as a par 3. This would not eliminate all balls going over the fence but would greatly reduce that number.
- The green is small at 2,700 square feet. During a greens renovation a new location should be entertained.

Hole by Hole Analysis

Hole 12 – Par 5



BLACK	500
WHITE	472
RED	440

Recommended Improvements

- The 12th is a really nice-looking par 5, but it has the same issues as the previous hole.
- The right side of the hole has been heavily planted with trees which has caused a lack of turf. These trees help, but golfers who slice the ball just hit it over the trees into the houses. A photo on the next pages shows what the neighbors have done to try to protect their property.
- Netting has been mentioned here, but the cost of putting a net tall enough to catch the balls would be very expensive and would be an eyesore in the neighborhood.
- The only way to fix the hole would be to reroute it, however that would snowball, and the entire course would have to reroute a good portion of the holes.



Netting put up by neighboring home to protect cars and property.



New 2" caliper trees planted to help screen homes.

Hole by Hole Analysis

Hole 13 – Par 4



BLACK	297
WHITE	286
RED	274

Recommended Improvements

- The 13th is another short par 4 where the advantage lies with the longer hitter. The golfers playing from the red tees are at a disadvantage and their tees should be moved up the fairway 50 – 60 yards.
- The trees down the left side of the hole should be trimmed up to try to help with the shade issues that they have caused on the turf.
- The green is 3,415 square feet and it falls off severely on the back.
- This green should be enlarged when the greens are renovated.

Hole by Hole Analysis

Hole 14 – Par 4



BLACK	309
WHITE	295
RED	274

Recommended Improvements

- The 14th is another nice-looking hole with rolling topography.
- More tee space on all 3 tees would be good to help spread out the wear and tear.
- The trees down the left are all causing turf issues and those should be trimmed up and, in some cases, removed.
- In the photo above, you can see where the cart path meets back up with the cart pat on hole 2. This is a dangerous area for carts on this hole as they are driving right into the line of fire of the golfers hitting tee shots on hole 2. An alternate route for the carts should be looked at.
- The green is 3,635 square feet and should be enlarged.

Hole by Hole Analysis

Hole 15 – Par 3



BLACK	145
WHITE	132
RED	109

Recommended Improvements

- The 15th is a nice par 3 playing downhill. The major issue here is the lack of tee space as seen in the photo above.
- Enlarging the existing tees and also adding a forward tee would help spread out the wear and tear.
- The trees to the left of the tees make it tough to grown grass and should be trimmed up.
- The green is 3,710 square feet and should be enlarged during a greens renovation.

Hole by Hole Analysis

Hole 16 – Par 4



BLACK	265
WHITE	257
RED	246

Recommended Improvements

- Hole 16 is a short drivable par 4. The fairway is severely sloped from left to right making it hard for golfers to keep the ball in the fairway.
- The Black tee here is unusable because the trees have overgrown the area. With those trees removed it would add much needed tee space and also add some yardage to the black tees. The White tee, as you can see from the photo, has had trouble due to the amount of shade.
- The Red tee should be moved closer to the cart path to prevent carts from driving to their current location off the cart path.
- There is a drainage issue left of the green that needs to be addressed with subsurface drainage.
- The green is 3,410 square feet and could be enlarged. If enlarged, the cart path should be shifted closer to the restroom facility.

Hole by Hole Analysis

Hole 17 – Par 3



BLACK	239
WHITE	208
RED	182

Recommended Improvements

- The 17th is the longest par 3 on the course and a good test at the end of the round.
- As with many of the previous holes, tee space needs to be expanded and shade issues need to be addressed.
- In the photo above you will notice how the cart traffic has torn up the turf going over to the Red tee. The forward tee should be moved to the right closer to the path to help avoid this situation.
- The green is really small (2,880 square feet) for the length of the hole. This green should be enlarged, if possible, to help with playability.

Hole by Hole Analysis

Hole 18 – Par 5



BLACK	515
WHITE	495
RED	440

Recommended Improvements

- The 18th is a nice-looking hole from the tee, but once you play it you realize that you have nowhere to hit the ball. The fairway before the new pond is too severe and balls do not stay on the fairway. Balls hit too good reach the pond. The landing area should be softened to help with this issue.
- Even if the fairway is softened it is a very difficult 2nd shot for the average golfer to get over the pond. One idea would be to remove the first tree on the right after the pond to widen the landing area.
- Shade again is an issue on this hole and the trees should be trimmed and limbed up.
- The green is 3,850 square feet and could easily be enlarged during a renovation.

Summary

Whittle Springs Golf Course is fun golf course with great rolling topography. I thought the course was in as good of shape as it could be in with the available resources the Superintendent has. With a new irrigation system, areas regressed, and trees limbed up he would have this place looking incredible. The greens are extremely small, but fun for the most part and they were in very good shape during my visit. Below is a list of the major items that should be addressed:

1. Safety Issues

This has been something that has always been somewhat of an issue with the adjacent homes but has become more prevalent with more rounds of golf being played and many of those by beginner golfers who are not as accurate as the more experienced golfer. Holes 10, 11, and 12 have been studied and several suggestions have been made over the past few years. In my opinion those suggestions will help, but not solve the problem. The only way to fix the problem would be to reroute a portion of the golf course. At the end of this report, we will look at some options.

2. Irrigation System

While there is some irrigation what is left is extremely old and not reliable. A new irrigation system is needed in order for the golf course to compete in the marketplace. A new irrigation system is also essential before any other improvements are made to the course. If new sod is put down, without an irrigations system it will stress the maintenance crew who would have to hand water it in and then over time it would still be vulnerable without irrigation to help it survive.

3. Tee Expansion

The tees on all of the holes need to be expanded to accommodate the amount of play for the course. The tees should only be expanded after a new irrigation system is installed on the course.

4. Tree Work

The trees on the golf course have gotten big over time and are now making the hole corridors smaller and shading tees, greens, and rough. Tree trimming and removal would help the health of the turf and make the golf course more playable.

5. Drainage

There are major drainage issues along the main drainage channel on holes 1, 7, 8, 9, and 18 that should be addressed. These issues make it hard to maintain turf in those areas.

6. Greens Renovation/Expansion

The greens are in good shape, but they are old and extremely small. With the amount of play the course receives the greens should be larger to help with wear and tear, as well as to improve strategy and playability.

Estimate of Probable Cost – Whittle Springs Golf Course

The following information includes typical unit costs for green, tee, mound and fairway bunker construction. Each feature will naturally vary somewhat from the price. All are based on recent contractor's bids for similar type projects and are stated in terms of 2023 prices and discussions with local contractors regarding this project.

Estimates for each phase of work have been prepared by extension of these typical prices to each work area. Trey Kemp, ASGCA does not warrant that final construction cost will not vary from these estimates in that:

1. Kemp Golf Course Design has no control over contractors, fluctuations in material prices or methods of billing.
2. Kemp Golf Course Design has made some assumptions on construction specifications and techniques, which may vary at the time of construction.
3. Kemp Golf Course Design has no control over inflation.
4. Golf Course's selection of phases to do more or less work at any given time will affect prices, as there is "economy of scale" in doing more work at one time.

We have broken down these items into three categories: **Critical, Competitive and Comprehensive**. The critical items are ones that we fill are critical for Whittle Springs Golf Course and should be done as soon as possible. The competitive list will address how Whittle Springs can compete better in the marketplace. The comprehensive list shows several components of the golf course that are getting older and will soon surpass their expected life cycle.

CRITICAL

The most critical thing that should be done at Whittle Springs is to address the safety issue on holes 10, 11, and 12. It is hard to put a number to this problem, but planning should begin immediately to get the issue resolved.

Safety Issue – Holes 10, 11, and 12

	Units	Unit Cost	Total
Wide range of values based on the options presented			Starting at \$50,000 to over \$6 million

Irrigation System

	Units	Unit Cost	Total
New Irrigation System (50 acres of turf)	600 Heads	\$2,500.00	\$1,500,000.00
			\$1,500,000.00

COMPETITIVE

In order to be competitive in the market Whittle Springs must address these primary items.

Tee Expansion & Renovation

	Units	Unit Cost	Total
Tee Renovation and Resurfacing	Lump Sum	\$100,000.00	\$100,000.00
New Tees or Tee Expansion	Lump Sum	\$100,000.00	\$100,000.00
			\$200,000.00

Drainage

	Units	Unit Cost	Total
Drainage Improvements	1,000 LF	\$50.00	\$50,000.00
			\$50,000.00

*This estimate is for the drainage work along the main channel on holes 1, 7, 8, 9, 10, & 18.

Tree Work

	Units	Unit Cost	Total
Tree Removal (> 6" Caliper)	40 EA	\$750.00	\$30,000.00
Tree Trimming	Lump Sum	\$50,000.00	\$50,000.00
Brush & Small Tree Removal (< 6" Caliper)	2 AC	\$10,000.00	\$20,000.00
			\$100,000.00

Total

\$350,000.00

COMPREHENSIVE

The items listed below have met or will soon meet their expected life cycle.

Greens Renovation

	Units	Unit Cost	Total
Contractor Mobilization	1 LS	\$50,000.00	\$50,000.00
Kill Turf, Remove Greenmix, Drainage & Pea Gravel	63,500 SF	\$0.75	\$47,625.00
Reshape green and surrounds	1 LS	\$150,000.00	\$150,000.00
New Greens Drainage			
1. 4" Perforated Pipe	9,000 LF	\$12.00	\$108,000.00
2. Vents/Cleanouts/Markers	80 EA	\$75.00	\$6,000.00
USGA Greens Construction			
1. 12" Greensmix	90,000 SF	\$3.50	\$315,000.00
2. 4" Pea Gravel	90,000 SF	\$1.25	\$112,500.00
3. Barrier Liner (optional)	6,000 LF	\$2.00	\$12,000.00
4. Tracer Wire (optional)	6,000 LF	\$0.75	\$4,500.00
Soil Preparation – Fine debris removal, fine grade and fertilize			
1. Greens	90,000 SF	\$0.30	\$27,000.00
2. Surrounds	3 AC	\$3,333.33	\$10,000.00
Grassing			
1. Greens – Bermudagrass Sprigs	90,000 SF	\$0.70	\$63,000.00
2. Surrounds – Sod	3 AC	\$25,000.00	\$75,000.00
			\$980,625.00

Total

\$980,625.00

Safety Issue Options

Along with evaluating the golf course we felt it was necessary to look at ways to improve the safety issues on holes 10 – 12. Below are four ideas that will hopefully help in discussions regarding this area.

IDEA #1

The first idea would be to implement the recommendations from the report Mike Beebe, ASGCA provided the city in November of 2021. Those recommendations included the following:

Hole 11:

- Re-orient the back tee so it aligns the golfer towards the left side of the hole rather than parallel to Fairmont as currently exists.
- Install 7 – 10 hardwood trees in the open areas along the right side of the hole to provide a vertical barrier.
- Remove the large existing hardwood tree on the left side of the fairway.
- Once the tree is removed, shift the fairway to the left towards the existing path.
- Shift the right side of the fairway away from the road approximately 15 feet.

Hole 12:

- Eliminate the back tee and plant 2 hardwood trees in the open area to provide a vertical barrier.
- Enlarge the existing White tee and make it the new Black/White Tee.
- Install 5-7 hardwood trees in the open area along the right side of the hole to provide a vertical barrier.
- Once the tree is removed, shift the fairway to the left towards the existing path.
- Shift the right side of the fairway away from the road approximately 15 feet.

These recommendations would definitely help the situation, but as stated in his report would not guarantee that homes would not get hit.

IDEA #2

The 2nd idea would be turning the main golf course into a 9-hole course with the routing provided on the diagram below. By doing this you would remove the safety concerns that are currently there with the neighbors with minimal cost. The only infrastructure needed would be to add 350 linear feet of cart path to make everything flow correctly. The current 18th green in this situation could be used as a putting and chipping green and the 8th green and 15th green could be kept and used for private instruction.

Also, on the diagram you will notice a trail in red that could be considered. It should be studied more, but if feasible and safe it would add a 1.25-mile walking trail around the golf course and add a greenway buffer between the neighborhood and course. Safety issues would need to be examined to include providing greenway access after golf course hours of play. Adding a short course or short game complex to the area across the street would also add value to the facility. Including the expense of a new irrigation system and increasing the size of the greens to industry standards, this option will likely cost an estimated \$2.5 million.



IDEA #3

The third idea is similar to the 2nd idea but would turn the current golf course into a 12-hole course. This would also do away with the current safety concerns and the only infrastructure needed here would be 775 linear feet of cart path. This option would be unique and something I believe the golfing public would embrace. Pair the 12-hole course with a 6-hole short course across the street and you will still have an 18-hole facility, the most unique one around. This idea would also leave room for the 1.25-mile walking trail around the course. Here is a look at how the routing would work.

Including the expense of a new irrigation system and increasing the size of the greens to industry standards, this option will likely cost an estimated \$3.0 million.



IDEA #4

This idea is similar to Idea 3, but we would look at rerouting the course to make best use of the land to create a really fun 12-hole golf course. In conjunction with this we would also create a 6-hole short course across the street and an 18-hole putting course. This idea was done recently at a public golf facility in Richmond, VA. The golf course, Belmont, was similar to Whittle Springs. It was an old course that had outgrown the land it was on. They converted the 18-hole layout down to a 12-hole regulation course and a 6-hole short course. Here is a link to the course website: <https://playbelmontrva.org/>

The golf course at Belmont has received rave reviews and people from all over the region and country have made it a point to go and visit the course when in the area. I think something like this at Whittle Springs would be fabulous and a huge boost to the community.

IDEA #5

A comprehensive solution, and the most expensive, likely exceeding \$6 million, is converting the 18-hole golf course to a 9-hole facility, as illustrated below.



What makes this option the most viable is that it provides a solution that provides for a new clubhouse, maintenance building, driving range, short-game area, and a parking lot, and most importantly, solves the safety existing on holes 10, 11, and 12. It also provides the option of converting the land on which the clubhouse and small practice area currently exists to affordable housing.