LONG RANGE GOLF COURSE MASTER PLAN FOR:

RADLEY RUN COUNTRY CLUB

WEST CHESTER, PENNSYLVANIA

2011

PREPARED BY:

McDonald Design Group, Inc.

In the Fall of 2010, Radley Run Country Club retained McDonald Design Group to complete a Long Range Golf Course Master Plan. The goal of the plan was to set out a detailed course of action for the membership so they could provide continuos improvements to the facility over the next ten years. In order to gain the membership's perspective, a Long Range Planning Committee was developed. This committee consisted of a wide range of members who provided a depth of information on the current golf course and the anticipated improvements to be made. The plan could not have been completed without their time, energy, and input. As a culmination of the planning process, this document has been completed to outline both the decisions made within the Long Range Master Plan as well as the reasons for them.

Long Range Planning Committee

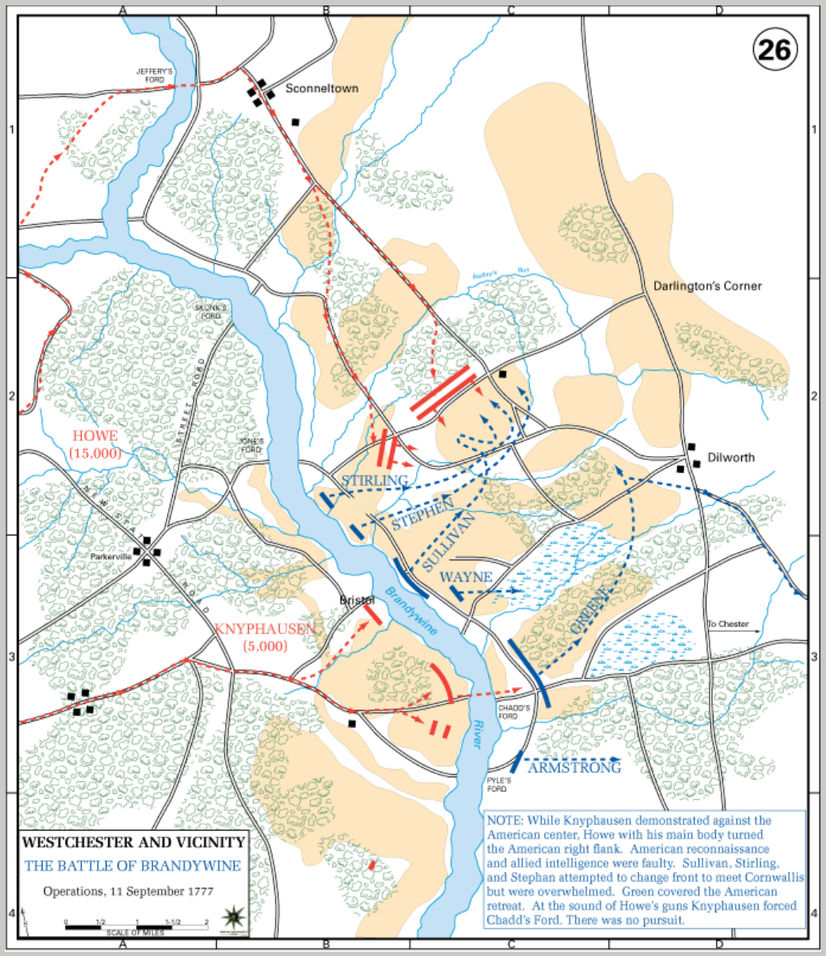
Shawn Cowley - Golf Course Superintendent
Joe Mendez - General Manager
John Kellogg - Head Golf Professional
Mike Culliney - Club President
Mike Evanko - Greens Chairman
Carole Eason - Past President
Charlie Robino
Chip Murray
Dave Taylor
Steve Manley
Barbara Graham
Kathrynann Duran

The Brandywine

Radley Run Country Club was created in the early 1960's as part of a new development plan along the historic Brandywine River. Nestled in the countryside on this naturally rolling terrain, the facility was brought to life with a vision of recreation, fellowship, and a harkening to the history of the region.

The Brandywine River Valley has been a special part of America since the first western settlers came to the area. The combination of swift water and elevation drop meant that the Brandywine could be utilized as a critical power source in the 18th century. It afforded opportunities to mill grain, black powder, paper, and lumber on a large scale. One early resident, Eleuthere Irenne duPont de Nemours, created one of the United States manufacturing icons within the valley. The inherent qualities of the region, its resources, and the happenstance of those who settled here made it one of the most prolific areas of early America.

In the summer of 1777, the Battle of the Brandywine was fought between the Continental Army and the British in one of the largest battles of the Revolutionary War. Chadd's Ford was at the heart of this battle, as it was a critical crossing of the Brandywine on the road from the Chesapeake Bay to Philadelphia. It was thought by George Washington that the British would use this crossing in route to the newly formed capital of the United States. While some British soldiers waited to cross at Chadd's Ford, the majority of them, lead by Gen. Howe, outflanked the Continental by moving north and crossing at Jeffery's Ford. These forces traversed the fields that are now Radley Run Country Club and engaged the Continental Army just to the south. The battle was a complete loss for Washington but thanks to quick troop movement and a setting sun, the army was able to retreat and regroup in Chester. A key component of this reestablished force was Marquis de Lafayette, who first saw action in this conflict and was wounded. He helped gather retreating troops and organized them prior to receiving treatment for his injuries.



Registered as a historic dwelling, the Mansion House at Radley Run dates to 1770 and contains accommodations for members' out-of-town guests.

Certainly Z. Edmund Prince, a Kennett Square real estate developer and former University of Delaware track and football coach, was not unmindful of this when, in 1963, he broached to Nicholas R. DuPont his concept of a country club community in the Brandywine Valley, several miles north of West Chester. DuPont was receptive to the idea, and in 1963 they purchased a total of some 1,200 acres, the bulk of it the Gilbert Mather estate, which extended into four separate townships of Chester County.

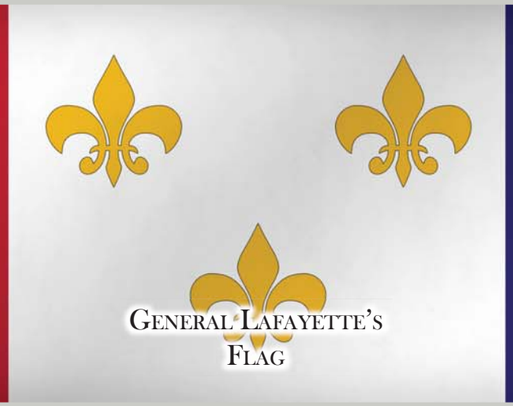
A massive old barn with a cork floor was designated for the clubhouse. Ellis Preston, a Wilmington architect, developed the plans for a conversion that made the most of the handsome fieldstone and wood siding. The interior design, under the supervision of Mrs. Nicholas R. DuPont, was equally sensitive to the early rural roots of this structure.

It was the stream running behind the clubhouse, a tributary of the Brandywine called Radley Run, that gave the club its name. John Radley had been a constable of Westtown Township in the late 17th century.

Let the record show that Radley Run, with Chet Munson as its first golf professional, opened for play in 1965 on the 4th of July— not surprising when you recall this land's link to the War of Independence.

Excerpt from the Club History - courtesy of the GAP Website...


Brandywine Flag of the Pennsylvania 7th Regiment


General Lafayette's Flag


George Washington's Headquarters Flag

A Dream of Golf

The golf course at Radley Run Country Club was designed by Alfred Tull and was opened for play in 1965. This was at the height of golf's post war boom from 1950 to the early 1970's. This period in golf course architecture was drastically affected by changes in the technology of the game. Not only were advances being made in golf equipment but also in the way courses were constructed and maintained. The popularity of large scale designs completed by Robert Trent Jones and Dick Wilson (think Doral's Blue Monster) influenced the way all golf courses were designed and many architects adopted these larger than life features. As this design style was adapted, golf courses became increasingly flanked by hazards that bordered the golf course without creating strategic lines of play. The "Freeway" school of design as it has been called, pushed bunkers and water hazards away from the line of play and focused on the size of golf features more than their importance.

Alfred Tull was one of a few golf architects that practiced prior to and after the Great Depression. He was a protege of Deveruex Emmet, a stalwart of golf course design in early American golf. This classic background tempered Tull's style of modern golf and provided a nice balance of style, playability, and strategy.

Radley Run Country Club has been a wonderful layout since its inception. While things have changed on the property over time, there are a number of key elements that remain unchanged. Alfred Tull chose the green sites wisely, producing a variety of shots and skills needed to play the course. He routed the holes over a unique parcel with imagination. Even though a few holes are bordered with homes, the developer wisely did not press the golf course with lots. The result is a golf course that is very friendly to everyday play and provides a great center of community activity.

Alfred H. Tull

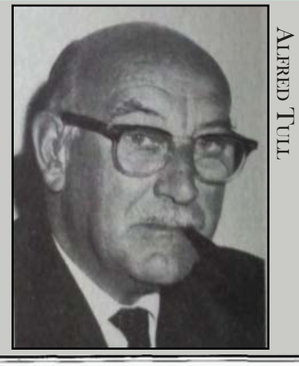
Alfred Tull was born in England in 1897. His family moved to Canada in 1907 and finally to the United States in 1914. His brother William J. Tull was a contractor that worked with golf course architects such as Walter Travis, A.W. Tillinghast, and Devereux Emment. Alfred partnered with his brother to form Tull & Tull. There he gained valuable experience with agronomy and construction. The business prospered for over a decade. While their focus centered on golf course construction, they occasionally created or modified layouts on their own.

In 1924, Devereux Emmet (who was in the later stages of his life) offered Alfred Tull an associates position. Emmet was a member of the most affluent society in New York. He was an accomplished golfer and a founding member of The National Golf Links of America on Long Island. By the time Tull joined his staff, Devereux Emmet had completed a wide portfolio of golf courses in the Northeast and was a huge proponent of golf in Bermuda.

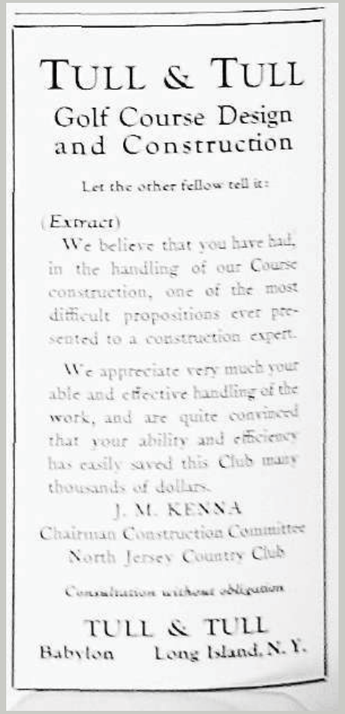
By 1929, Alfred Tull had garnered enough support from Emmet that he was made a full partner. Even though Deveruex Emmet's son, Devereux Emmet, Jr had been a part of the firm it seemed evident that Tull was the one who had the vested interest in the future. Even with the tough economic times surrounding the Great Depression, the team worked diligently to complete amazing classic layouts.

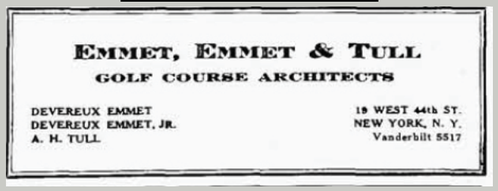
Devereux Emmet passed in 1934, at the age of 73. Without the face of the firm, a tough economy, and the world on the verge of war, Alfred Tull pushed forward on his own. Thanks in large part to government and corporate connections, he was one of few golf architects to survive the Great Depression and World War II.

During the post war boom in golf, Alfred Tull remained busy but never reached the prominence of his contemporaries Dick Wilson or Robert Trent Jones. He evolved his more classic golf features of the 1920's into the trending features of the modern period. He excelled at layout and would conceptualize most projects by roaming the property without a topographic map. He would stake greens and tees in the field then record them on a plan for others to understand his vision. This practice was common for many of the Golden Age architects and was likely developed from his experience in construction. For these reason, his routings (even post war) remain one of the strongest parts of his golf course architecture legacy.



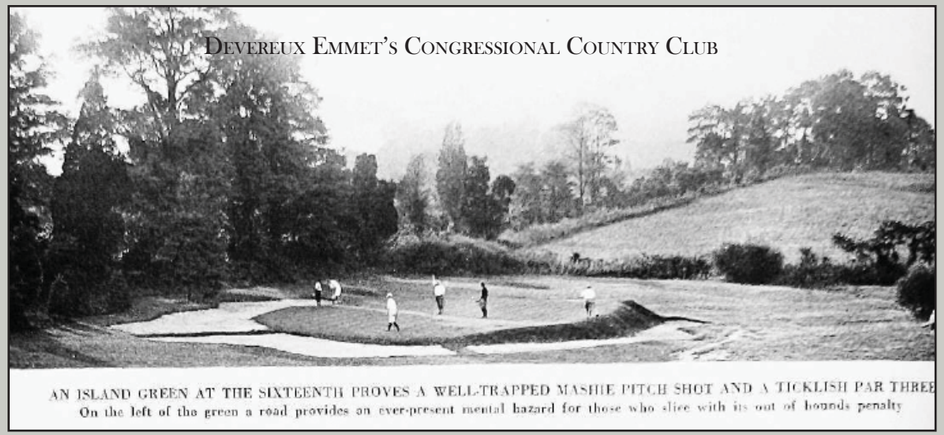
Alfred Tull





Devereux Emmet, Jr.

Devereux Emmet



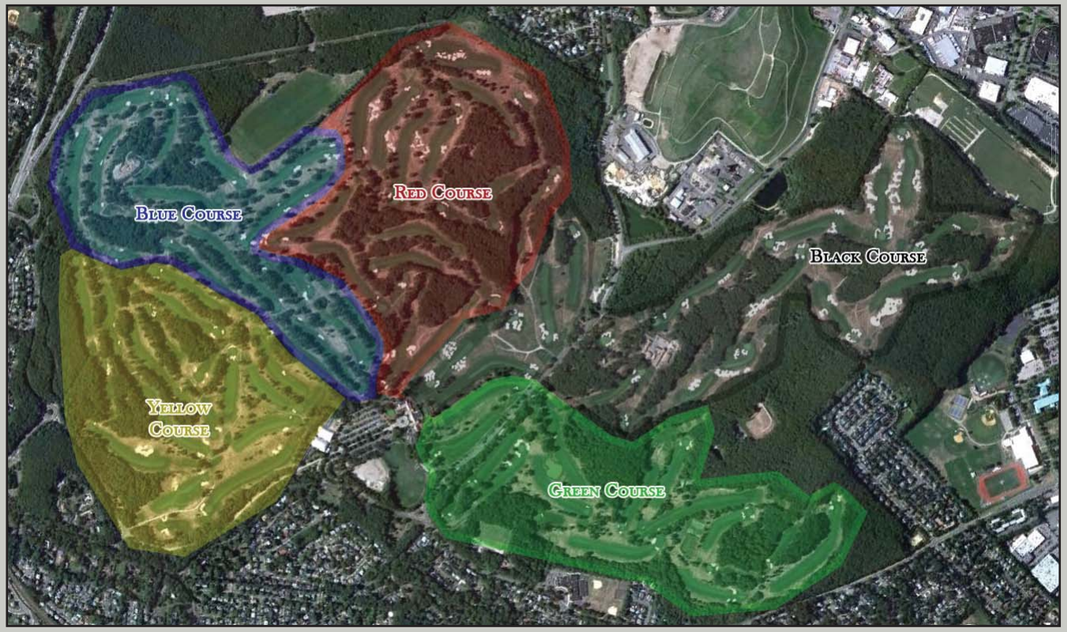
Devereux Emmet's Congressional Country Club

AN ISLAND GREEN AT THE SIXTEENTH PROVES A WELL-TRAPPED MASHIE PITCH SHOT AND A TICKLISH PAR THREE
On the left of the green a road provides an ever-present mental hazard for those who slice with its out of bounds penalty

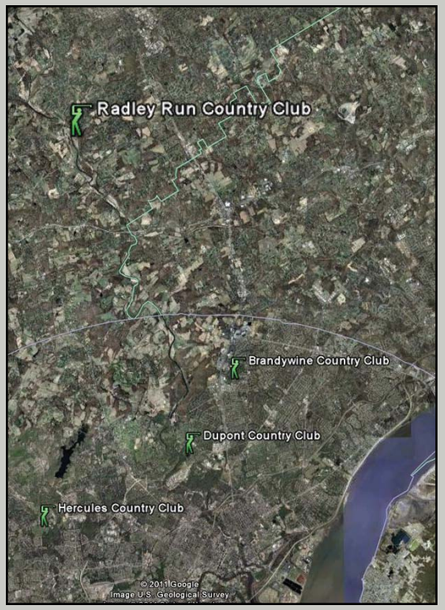
New Courses Designed by Alfred Tull

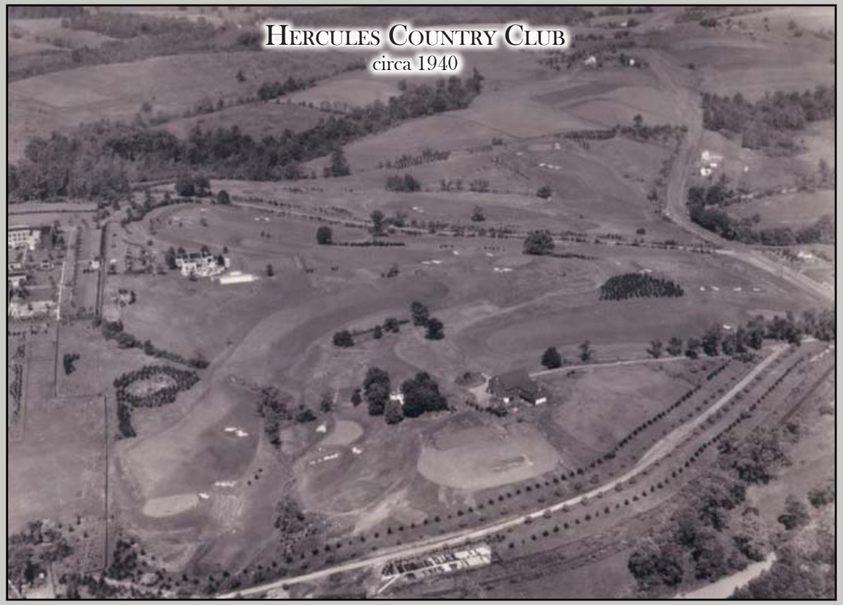
Date	Name	State	
1927	Keney Park GC	CT	E
1927	Hampshire CC	NY	E
1927	Nassau CC	NY	E
1927	Seawane Club	NY	E
1927	South Shore GC	NY	
1928	Schuyler Meadows Club	NY	E
1928	Vernon Hills CC	NY	E
1928	Cable Beach Hotel & GC	Bahamas	E
1929	Cape Cod CC - 1st Nine	MA	E
1929	Cooper River CC - nle	NJ	E
1929	Broadmoor CC - nle	NY	E
1929	Rockwood Hall CC	NY	E
1929	Vanderbilt Estate GC - nle	NY	E
1930	Mayflower GC - nle	NY	E
1931	Huntington Crecent CC	NY	E
1931	Hog Back Mountain Club - nle	NC	E
1932	Greenacres CC	NJ	E
1932	Harrison Williams Private Course	NY	E
1933	Fulton Estate GC	CT	E
1934	Hob Nob Hill GC - nle	CT	E
1937	Hercules CC	DE	
1938	DuPont CC - Nemours Course	DE	
1941	Seaford G & CC	DE	
1941	Lawrence Park GC	PA	
1943	Valley Forge V.A. Hospital GC	PA	
1948	Ledgemont CC	MA	
1949	Canoe Brook CC - Norht Course	NJ	
1950	DuPont CC - DuPont Course	DE	
1951	Brandywine CC	DE	
1951	Woodmont CC	MD	
1951	Ashbrook GC	NJ	
1951	Concord Hotel GC - Challenger Course	NY	
1951	Concord Hotel GC - International Course	NY	
1952	Norbeck CC	MD	
1953	Pine Tree CC	CT	
1953	Westwood CC	VA	
1953	Ponce GC	Puerto Rico	
1954	Cape Cod CC - 2nd Nine	MA	
1954	Pine Ridge CC	NY	
1955	Harbor Hills CC	NY	
1955	Brook Manor CC	VA	
1956	Georgetown CC	SC	
1958	CC of Darien	CT	
1958	Rockleigh GC - Rockleigh Course	NJ	
1958	Bethpage State Park - Yellow Course	NY	
1958	Campo de G Bella Vista	Dominican Republic	
1959	Muttontown G & CC	NY	
1960	Tennanah Lake House GC	NY	
1960	Estate Carlton GC	Virgin Islands	
1961	Rosswood CC	AR	
1961	Jug End GC	MA	
1961	Morningside Hotel GC	NY	
1962	Poxebogue GC	NY	
1963	Lake Anne CC	NY	
1963	Nevel GC	NY	
1964	**Radley Run CC**	**PA**	
1964	Southampton Princess GC	Bermuda	
1965	Rolling Hills CC	CT	
1965	Indian Hills GC	NY	
1967	Oak Hill GC	CT	
1967	Mendham G & TC	NJ	
1967	Blomidon Club	Newfoundland	
1968	Sunken Meadow Park GC	NY	
1970	Pilgrim's Harbor CC	CT	

E - denotes work completed with Emmet, Emmet, and Tull



Tull has a part in the legacy of many great golf courses in the Northeastern United States. Not only did he renovate Congressional Country Club after his boss Devereux Emmet, he also completed work at Bethpage State Park on Long Island. Emmet was the first architect to work on the property in 1924, when the Green Course was actually Lenox Hills Country Club. A.W. Tillinghast made the complex famous when he created the Black, Blue, and Red courses in the mid 1930's. Tull had his turn when he developed the Yellow Course in 1958.

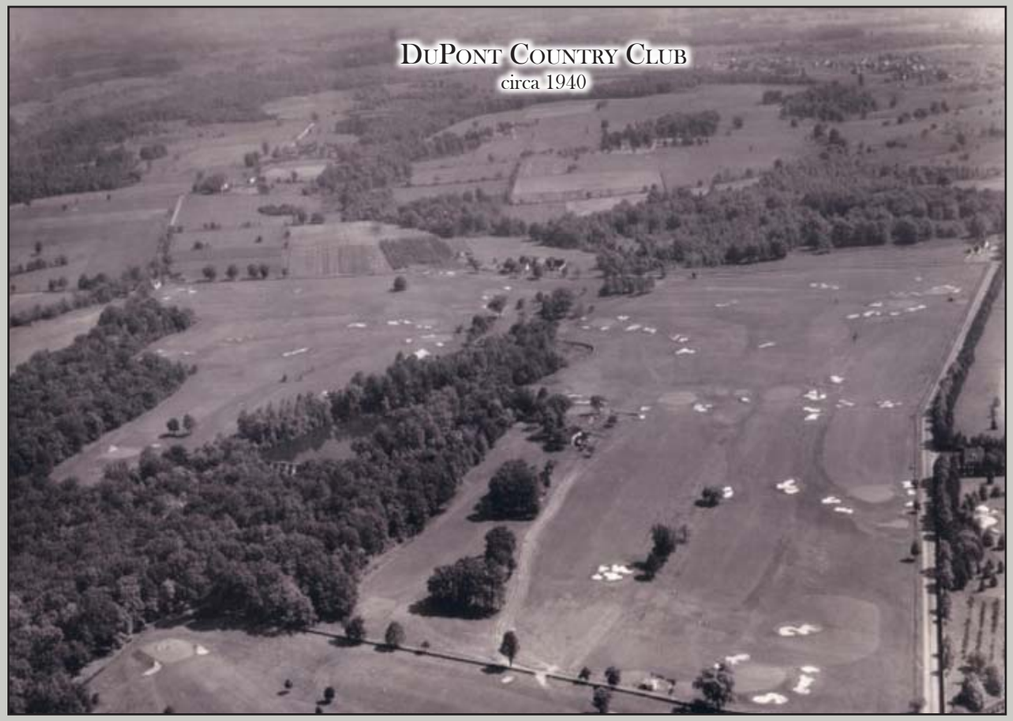




Alfred Tull was very busy in the Brandywine Valley where he created not only Radley Run Country Club but also Brandywine Country Club, DuPont Country Club (36) and Hercules Country Club

THE FRASCATI GOLF CLUB

A very pleasing nine-hole course which gives excellent golf. It was designed by Emmet, Emmet and Tull, who also designed the well-known Belmont Course. This picture shows well the characteristic Bermuda scenery of cedar-covered coral hills interspersed with island-dotted bays



A Vision for the Future

After a half century of continuos play, maintenance, and weathering, the time has come for Radley Run Country Club to receive a series of modest improvements and infrastructure repairs and upgrades. The Long Range Master Plan provides the crucial road map for these improvements to the facility over the next five to ten years. By documenting the potential changes from a comprehensive stand point, it provides a consistent direction for Radley Run Country Club despite any changes within the Club's leadership or staff. The thoroughness of the plan limits hasty decisions and costly mistakes - even if the improvements are implemented in phases.

To create guidelines for the Long Range Master Plan, a long range planning committee of members and key club staff was created. This improvement committee included golfers of varying ability (high and low handicap - men, women, and seniors), the golf course superintendent, the golf professional, the general manager, and other key personnel. This group met with McDonald Design Group throughout the design process so they could provide input and feedback on every step of the project. The inclusion of this group in the Long Range Planing process produced a sense of ownership throughout the entire club, making the plan fully owned by the Membership.

The Long Range Master Plan for Radley Run Country Club, while comprehensive, focused on six major points:

A Complete Bunker Renovation
Thorough Tee Improvements
Critical Drainage Improvements
A Tree Management Program
Circulation Enhancements
Clubhouse Grounds and Practice Facility Upgrades

Beyond these issues McDonald Design Group evaluated the entire property for minor adjustments to green surrounds, fairway grassing lines, general agronomic conditions (soil, air, and sun), the irrigation system, etc.

Goal of the Long Range Master Plan:

Enhance All the Great Qualities of Radley Run Country Club without Destroying its Heritage or Feel.

Make it Fun to Play for All Types of Golfer:

Challenging for the Best Players - A Solid Test with Multiple Choices for the Average Golfers - A Pleasurable Round for those that are Just Out to Enjoy the Day

The Plan


McDonald Design Group, Inc.
Proposed Scorecard
Drawing Legend
Property Line
Proposed Tee
Existing feature
Proposed Cart Path
Proposed Drainage
Proposed Fine Fescue
Existing Tree
Proposed Tree
Proposed Bunker
250 yds from Rear Tee
300 yds from Rear Tee
Fairway Adjustment
Feature to be Removed
Long Range Master Plan for:
Radley Run Country Club
West Chester, Pennsylvania
Revised: June 15, 2011
Scale in Feet
1" = 100'

Understanding Strategy and Playability

Every golf course should have a certain level of enjoyment for the individual player. When the golf course is "fun to play," it is typically successful. Remember, golf is a game and to be successful it must provide entertainment. As described in the Goal for the Master Plan on the previous page, "Fun" on the course means different things to different golfers.

If you are a very good player, you want to be challenged and face certain tests to hold your attention. Most think that creating length is the best way to make the golf course harder for these players but that is not always the case. Demanding tee shots followed by long approaches on every hole only force the player to test one facet of their game. The interaction between the best players and the golf course is usually one with a higher level of mental focus and understanding than the rest of the players . Making these golfers think their way around the course, placing shots to provide them with the best chance on the next, is key to course management and good golf. The Long Range Master Plan understands the importance of this strategy to the low handicap section of the membership.

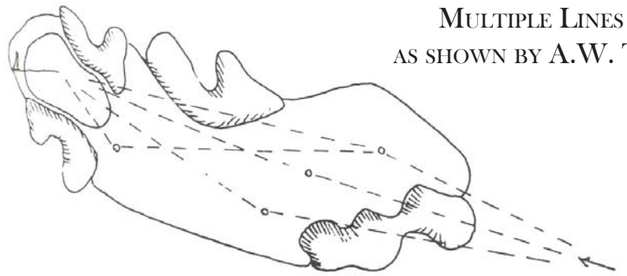
For the majority of golfers, a golf course is fun because it has some level of interest and variety. Most players cannot specifically identify good golf course architecture from bad. They just know what they like to play and what they don't care to play again. These golfers do want to be challenged to hit certain shots but a continuous series of obstacles that result in high scores will drive them away from the game. The balance between challenge and free lines of play is critical to the enjoyment of these players. The routing at Radley Run Country Club provides the opportunity to play the course time and time again without growing weary of the shots required. The Long Range Master Plan looks to maximize this inherent quality of the layout.

For the higher handicap golfers, golf is generally a game of pure pleasure, or is at least intended that way. These players want to enjoy the surrounding landscape, their fellowship with other golfers, and the general activity of golf. Breaking par or challenging the golf course from a great distance is typically not their goal. For these golfers, we want to make it as pleasurable as possible. Design elements that open their lines of play and allow the golf holes to be navigated in segments need to be a high priority for these players. The Long Range Master Plan strives to provide these golfers with a number of course setup features that make the day to day play enjoyable.

Based on these ideas, there is a large range of needs for all members at Radley Run Country Club. Making something manageable for one player while a challenge for another is a key to the Master Plan. Strategy in the game of golf can create this great balance between challenge and playability. Strategic elements make the better golfer think their way around the golf course. If these features are properly placed they can still allow other golfers to play a golf hole without tremendous hardship.

The History of Strategy

Many of the golf courses in the world with the greatest strategy were created in the United States between 1910 and 1940. 19 of the top 25 golf courses according to Golf Digest's 2011 Rankings of Greatest Golf Courses were established in this period of American golf course architecture. Time and time again, courses envisioned within this era have hosted major golf tournaments and even those that have not held such accolades are treasured by all who play them. The simplest reason for this affection is the strength of the strategy and craft put into them at their inception. Once WWII was over and a post war golf boom occurred, golf courses became watered down by the rush to construct them. Reviewing the history and stylings of these great old courses provides reference for good golf.



Multiple Lines of Play
as shown by A.W. Tillinghast

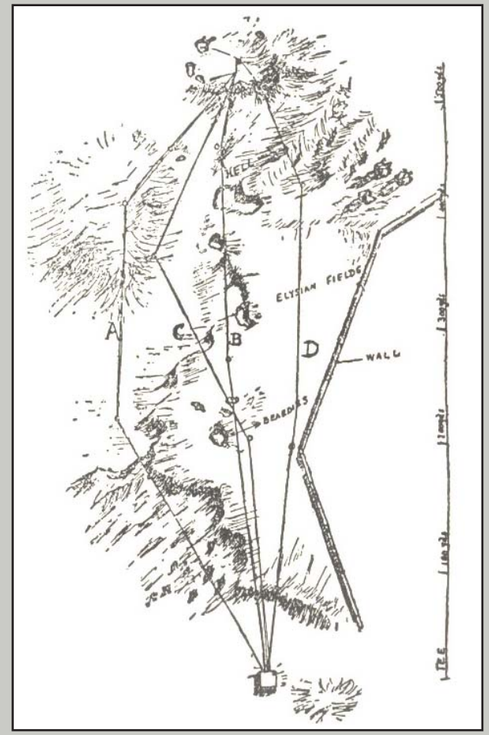
Giving the best golfer a chance to choose their Line of Play creates a multi-layered quality of Golf

From the First Tee at Shinnecock Hills

William S. Flynn, one of America's best golf course architect's during the early 1900's, summed up the reasons for his services:

"The principal consideration of the architect is to design his course in such a way as to hold the interest of the player from the first tee to the last green and to present the problems of the various holes in such a way that they register in the player's mind as he stands on the tee or on the fairway for the shot to the green."

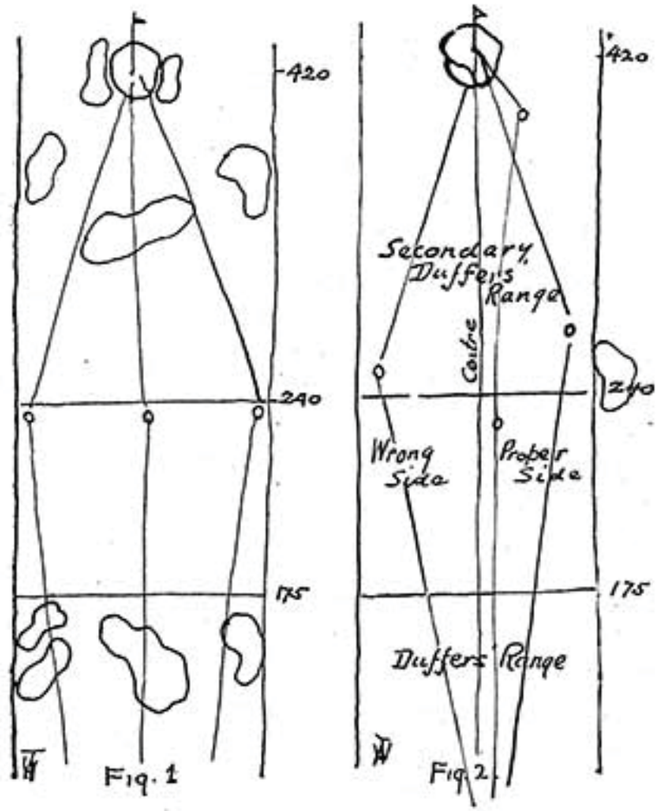
This mindset of the early American architect helps explain the success of the great golf courses from this time. Good golf requires thought.



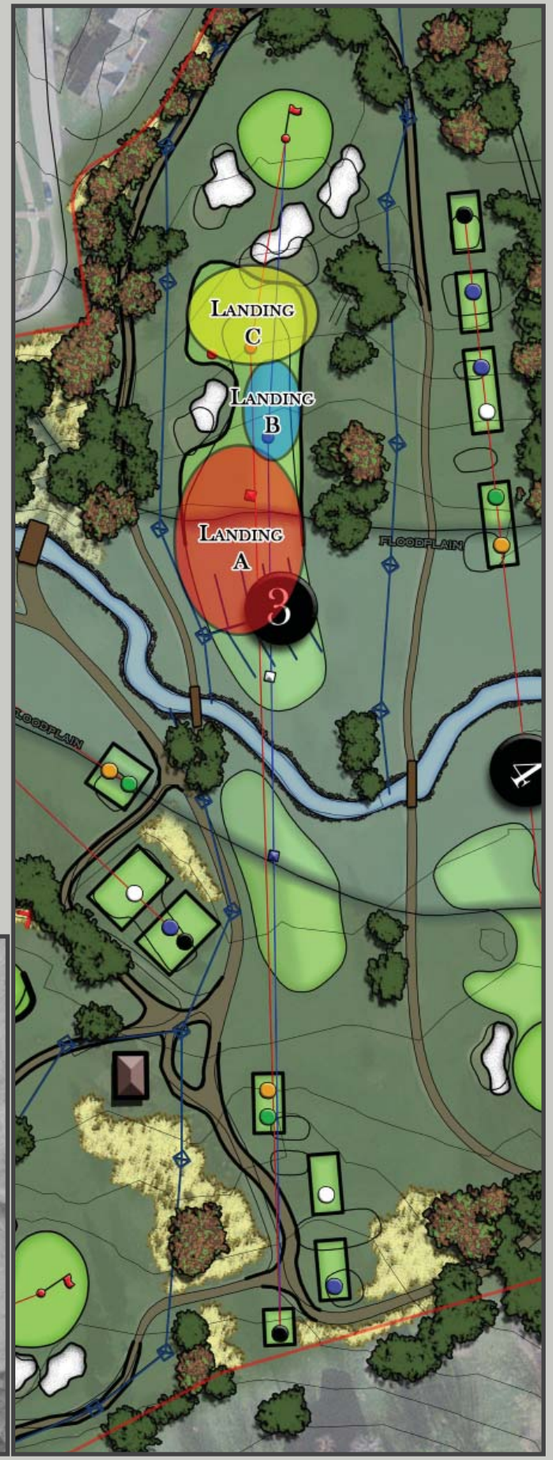
Even though the home of golf, St. Andrews, was created by mother nature and man centuries ago there is tremendous strategy to be found even today. The sketch (right) completed by Dr. Alister MacKenzie of the 14th hole at St. Andrews shows just four of the ways in which it can be played successfully. Based on the day's weather and each golfer's skill / fortitude, one line or another is the best for that round. Giving the golfer options without forcing a line of play is the key to strategy - which in turn lends itself to playability that does not hamper character or challenge.

The first interpretations of golf in the United States came in the form of a very challenging, penal style of the game. The earliest courses (prior to 1910) severely punished duffers who could barely get the old gutta-perchas off the ground. If you could get the ball airborne, most the hazards between tee and green were out of play. But once at the green, the penalties became more extreme with putting surfaces that were completely enveloped by hazards. This type of design lasted for a number of years until a more refined and elegant style of course became accepted.

A.W. Tillinghast developed a certain understanding for good golf strategy in his early life as an avid golfer and integral part of Philadelphia's Golf Society. His knowledge of the game and growth as a golf course architect led to his consultant position with the PGA. During the tough times surrounding the depression, he traveled the country providing golf courses with all types of advice. One of his best articles on golf course design and strategy was part of this service. To the right are two diagrams drawn by Tillinghast. Figure 1 is of the older, penal style of design, which taxed most short players at great expense to the establishment and maintenance of the course. Figure 2 was the alternate view of a golf hole, that provided width for all players off the tee and a preferred line of play which demanded the most well positioned shots. With only an angled approach and two bunkers he showed that simplicity still yielded good strategy. This figure is at the heart of the strategy developed within the Long Range Master Plan for Radley Run Country Club.



The Third Hole at Radley Run Country Club offers an opportunity to improve strategy with minor adjustments to its existing features and a return to its original design intent. This short par 4 was designed to allow for preferred lines of play and a "risk-reward" decision off the tee. The hole was created with multiple landing areas but over time trees were planted and grew leading to a reduction in fairway area. This has limited the temptation to play closer to the fairway bunker for a better approach. By shifting the bunker to a more modern landing location and widening the fairway to lock into this hazard, the Master Plan replicates the original design in a modern form.

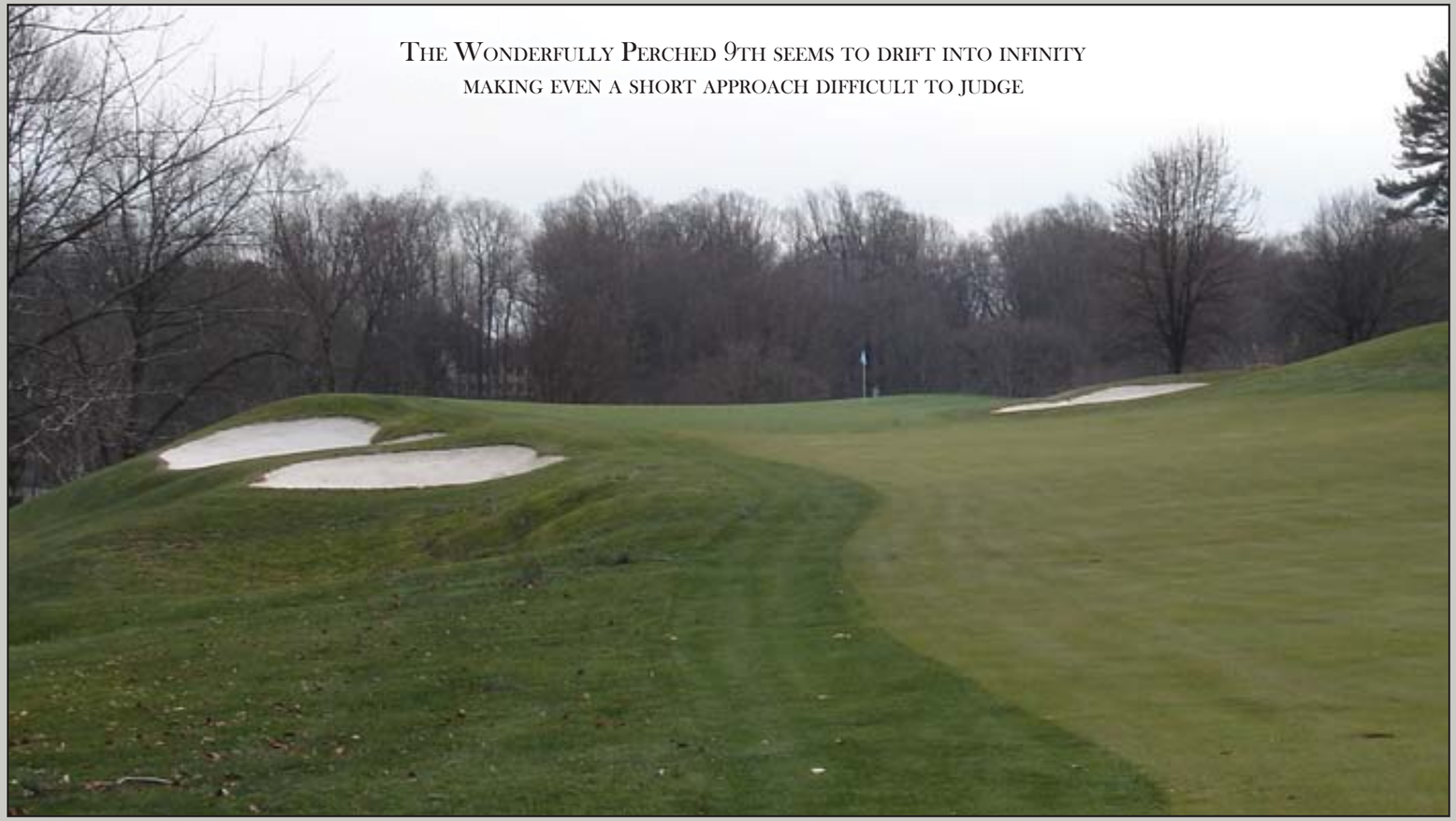


The Quality of Radley Run's Routing

The holes at Radley Run Country Club are well suited for the land on which they traverse. As noted before, Alfred Tull was a genius at positioning holes in the landscape and he did a fabulous job at Radley Run. The challenges of the property included the large knoll on which he had to find returning nines, the significant slope on which he needed to play across multiple times, and a floodplain in which the greens had to be positioned outside of danger. The results of Tull's work is a set of holes that turn direction nicely and flow together. He provided opportunity to play a variety of shots and forced the player to learn to play shots for uneven lies.

Since the routing is so strong, the Long Range Master Plan does not call for any major routing change. The goal is to take the opportunities present and accentuate the holes to provide the best golf for the future of the Club.

Upon first glance at Radley Run Country Club's aerial photograph, a person may mistake the sequence of parallel holes as repetitious. The beauty of Alfred Tull's routing however, is that on each nine you play into every possible direction at least once. From a golf course architecture standpoint, this is what you strive for. The reason is that no matter the wind direction, a golfer will be tested to play shots into, with, and across the breeze in every round. The result is wonderful variety and interest for the golfer.

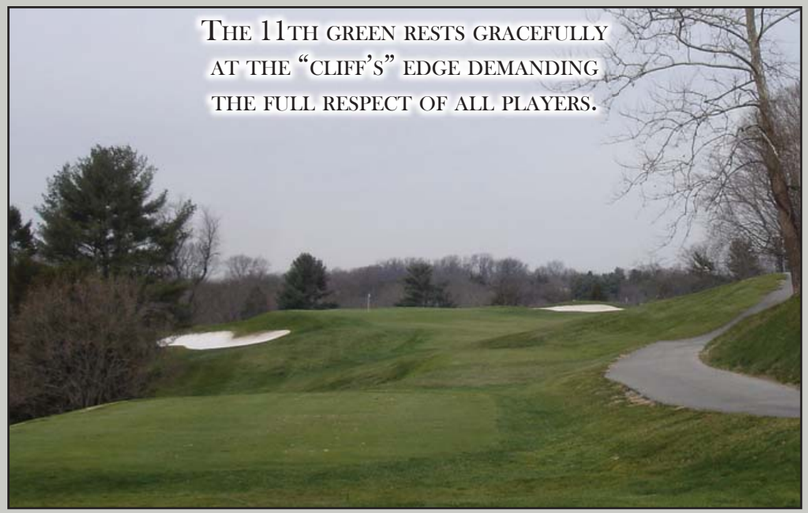


The Wonderfully Perched 9th seems to drift into infinity making even a short approach difficult to judge

The Greens

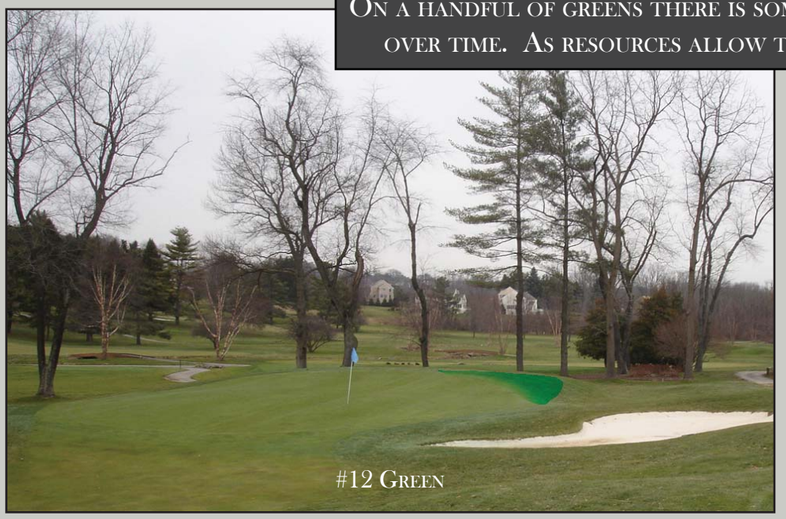
The nice routing of Radley Run Country Club is grounded in the fantastic green locations chosen by Alfred Tull. Most of the greens have a graceful perched nature that portray a classic "pushed-up" feel. They have some variety with regards to angles of play and preferred lines of play. The contours of the putting surfaces have a nice range that provide roll and character. The intention of the Master Plan is to accentuate the existing greens by exposing their inner qualities with adjustments to approach angle, the number and position of hazards, and minor earthwork along their perimeter. These changes can be made without disruption to play or the maintenance of the existing surfaces. The only major changes to the putting surfaces could be the reclamation of old green area by the maintenance staff over a period of years.

As a general note, the soil profile of the greens has been modified over the years with cultural practices but may still present some challenges in the future. Additional interior sand channel drains may be needed over time to further protect the greens. In general, continuing practices such as aerification, deep-tining, and topdressing should increase their sustainability.

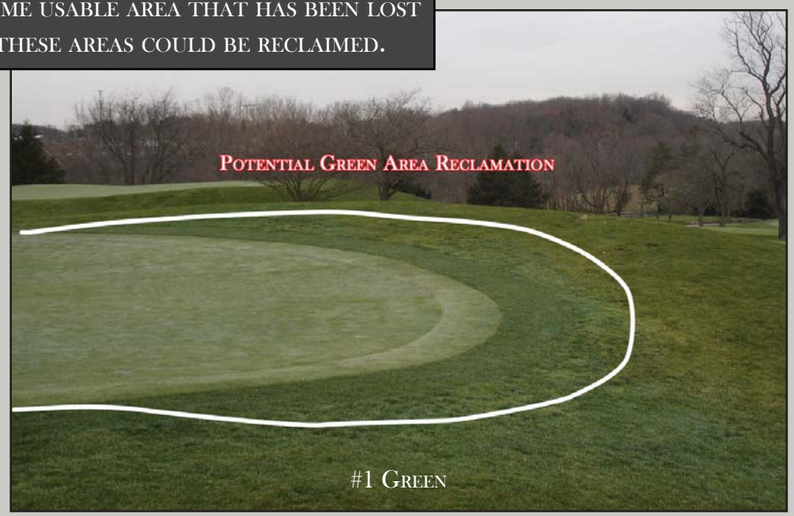


The 11th green rests gracefully at the "cliff's" edge demanding the full respect of all players.

On a handful of greens there is some usable area that has been lost over time. As resources allow these areas could be reclaimed.



#12 Green



#1 Green

The Bunkers

A complete bunker renovation is a major goal of the Long Range Master Plan at Radley Run Country Club. The bunkers have weathered severely over the years with only minor improvements made to the sand and drainage. Contamination caused by frequent washouts and migration of native soil and stone have caused a range of playability and maintenance problems. The overall style and location of the hazards do not provide as great a challenge as they once did and tend to overly penalize the higher handicap player. Dollar for dollar a complete bunker project is the best money a Club can spend on their golf course. It provides an instant face-lift to the aesthetics of the layout and improves the playability and strategy of the design.

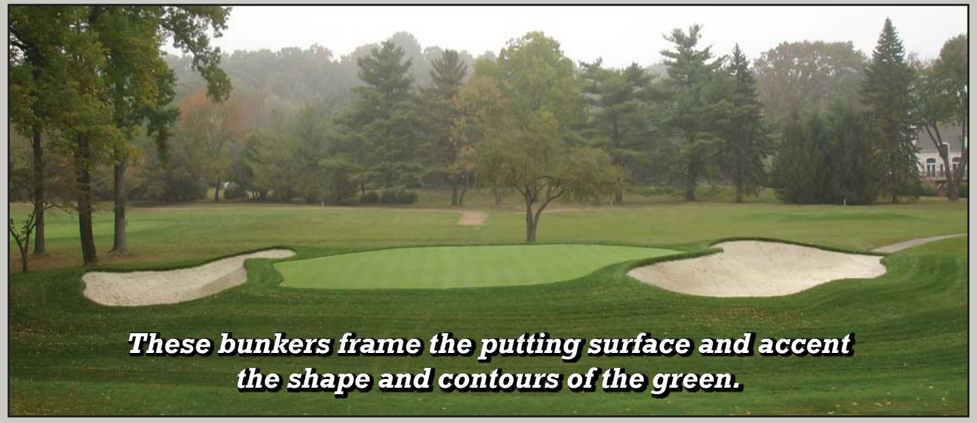
Bunkers are very important to the game of golf as they generate visual interest, challenge, and shot variety. They are also very maintenance intensive. Because of these characteristics, McDonald Design Group feels that it is of utmost importance that bunkers provide the most impact possible. Renovated bunkers must be in play for all golfers, be clearly discernible, provide a strategic element to the golf course, and allow for reasonable maintenance.

The game of golf has changed quite a bit since Radley Country Club was built. Improved technology has effectively changed the way the course plays and landing areas have been stretched. Many of the existing hazards are therefore out of play for the best players leaving the sand in play for mainly the higher handicap player. To create a better challenge for the low handicap player and a more enjoyable round for the higher handicap one, the Long Range Master Plan calls for the adjustment of all the existing bunkers. The cost of rebuilding a bunker is generally the same no matter the location. Therefore there is little additional cost to place the bunkers in the best possible location for the future of the golf course.

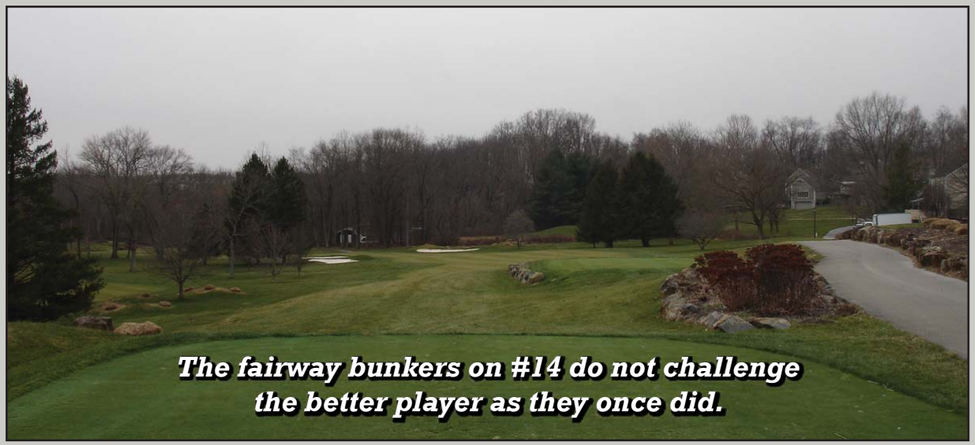
As part of the bunker renovation process, the Long Range Master Plan reduces the overall sand area by 20%. This will result in saving that not only impact the initial construction costs of any project but also the long term maintenance requirements of these features.

The reduction in sand however, does not mean the golf course will be “watered-down.” The reality is the new bunkers will be well positioned for today’s game and provide the proper challenge to all players. To accomplish this, fairway bunkers will be shifted to the appropriate landing area and greenside bunkers will be repositioned slightly closer to the putting surface to better frame the target. Bunker sand that is irrelevant will be removed and areas that need additional direction, strategy, or challenge will receive new bunkers.

Bunkers by definition are hazards,
but they also have a certain set of expectations that go with them.



These bunkers frame the putting surface and accent the shape and contours of the green.



The fairway bunkers on #14 do not challenge the better player as they once did.

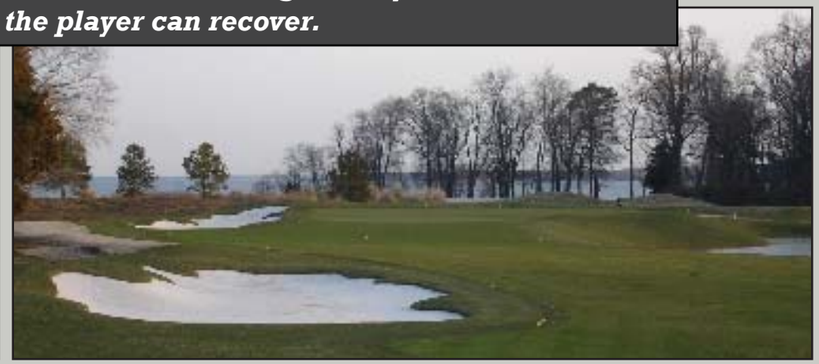
1) They should frame the target and create exciting strategy along the line of play.

2) They should penalize a poorly struck or judged shot by all golfers - not just an errant one or a short one by a high handicap player

3) They should provide the opportunity to recover and be consistent in style and construction.

On the surface these are simple goals but often they are overlooked.

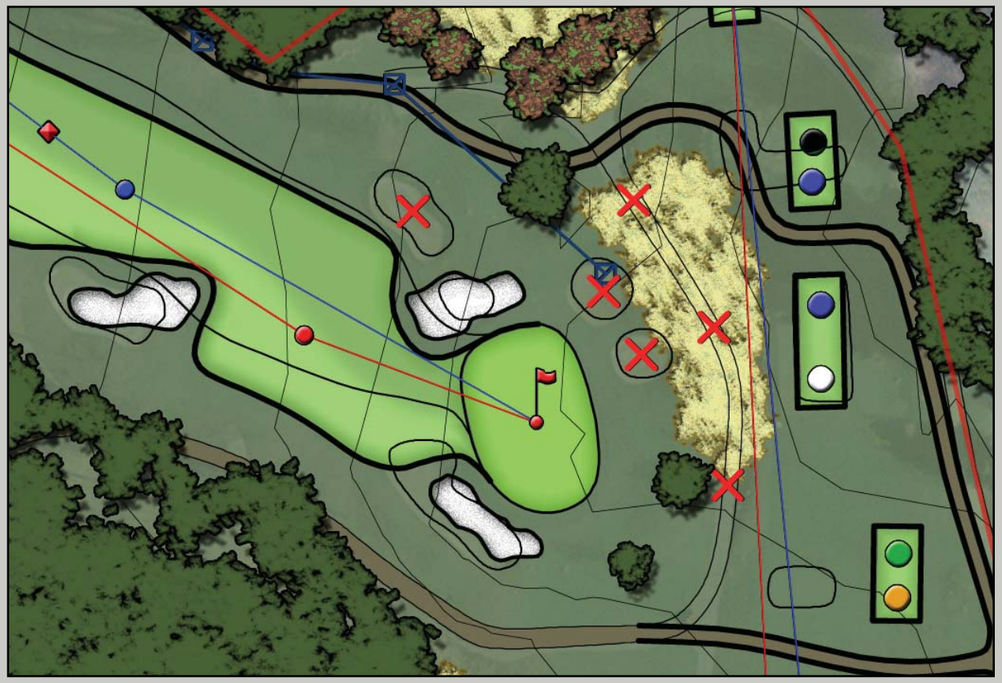
This fairway bunker frames the tee shot but the flashing is away from the line of play so that the player can recover.



The massive greenside bunker on the left side of #5 is positioned well off the putting surface.
It is also very hard to discern as you play the hole.

The Existing Greenside Bunkers

The existing greenside bunkers at Radley Run Country Club tend to be quite large and are often positioned away from the target line. This leads to a great deal of sand that has to be maintained which does not come into play for all players. The best players do not often miss a green by 20 yards, a good portion of the greenside bunker area at Radley Run is outside of this range. Bunker sand that rests beyond this range usually only impacts the high handicap player and leaves them with a long explosion shot over a lot of sand and grass.



The existing bunkers on the par 5, 7th hole are positioned far from the green surface. Less than 50% of the total sand around the green is within 20 yards of the cuppable area. Not only is this less than ideal, the bunker position also limits drainage around the green surface. By bringing the sand closer to the green it becomes a more uniform hazard, frames the target dramatically, and allow for better drainage.

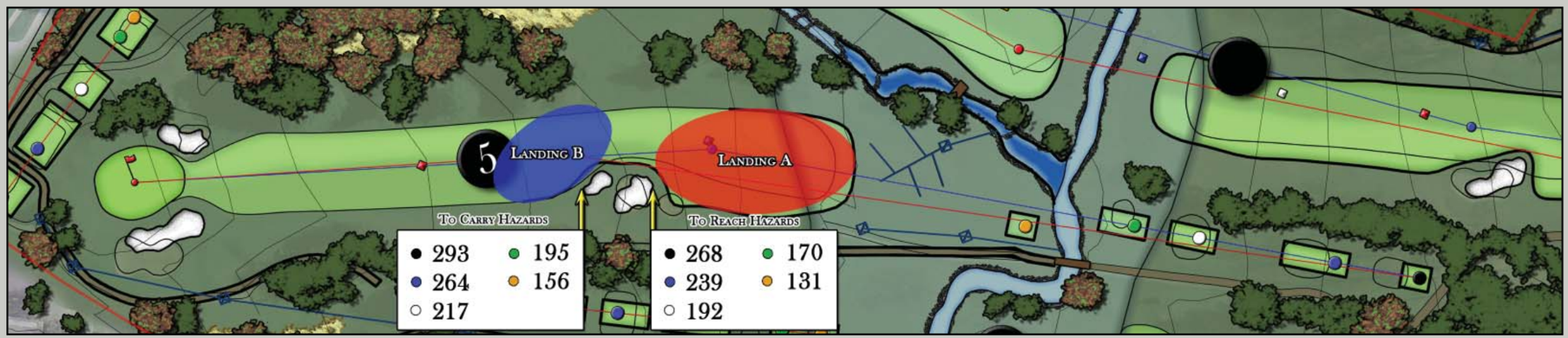
Fairway Bunker Renovation Strategy

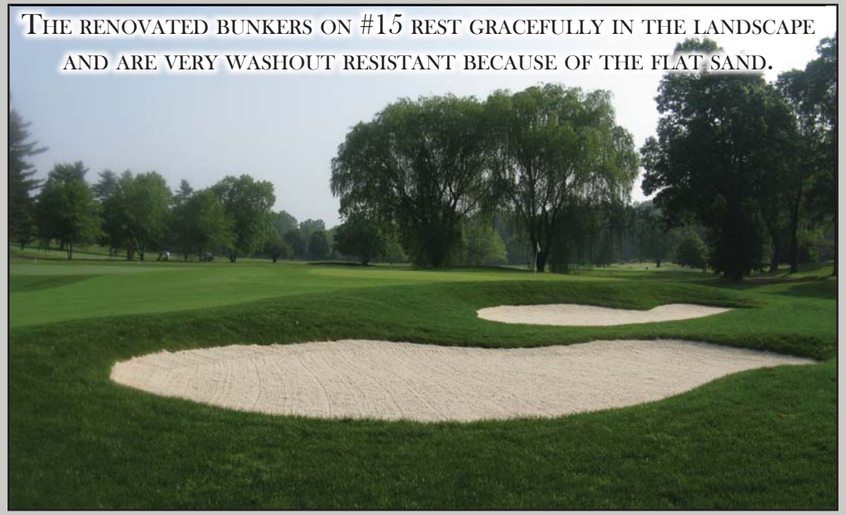
Fairway bunkers are an important part of the golf course as they focus play, provide a range of challenges, create aesthetic interest, and occasionally protect adjacent lines of play. The design of fairway bunkers is critical to the way a golf hole plays.

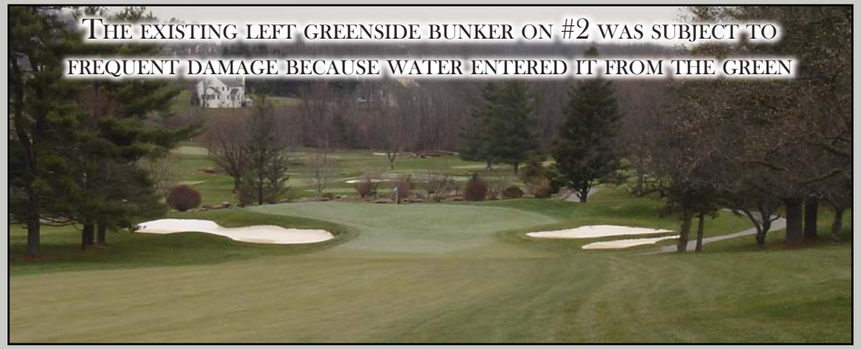
The effect of a fairway bunker is much different from a greenside bunker. Greenside bunkers influence the play of a golf hole for every golfer, because they surround everyone's final target. Fairway bunkers on the other hand can be very discriminating. They should be designed to create challenge and protect the line of play from the better golfer. If a fairway bunker is placed short of the "normal" landing zone, however, they will likely only penalize the high handicap player. This is due to the fact that the better player will simply hit over them with little thought of their existence, leaving the shorter player to struggle over or around. Fairway bunkers in this location therefore tend to slow play and cause frustration to a large segment golfers.

Since Radley Run Country Club was built in the 1950's, it is estimated that the PGA Tour Average Driving Distance has increased by approximately 60 yards . While this does not exactly relate to the average golfer, it is a measure of the improvement in golf equipment today. We can deduct therefore the average landing area on par 4's and par 5's have also changed in this 60 year period. To ensure the golf course is updated, and to increase the enjoyment of the golf course for all players, the Long Range Master Plan adjusts many of the fairway bunkers to ensure they are positioned properly.

Distance to Carry	Handicap (0-20) Avg. Driving Distances	Distance to Hazard
A: 249 yards	A: 240 to 290 yards	A: 226 yards
B: 179 yards	B: 150 to 210 yards	B: 156 yards







Vision of the Bunker Style

The shaping and style of the renovated bunkers at Radley Run Country Club will define the golf course and its future feel. The existing bunkers have been extremely weathered over the years and lost a lot of their inherent character. Creating the new bunkers require a number of decisions to be made. Bunker style relates to the amount of sand flashed on the face, the depth of the hazards, the bunkers' shape and contour, the type of construction, and the materials used. While there are infinite bunker styles in the game of golf, choosing the best fit for Radley Run Country Club is important.

Based on these considerations and the current (and projected future) maintenance resources the Long Range Master Plan will implement the following bunker style. The new bunkers will be anchored by classic, low front, walk-in bunkers that feature a grass face instead of sand. While most people would consider this akin to a Donald Ross style, it is a popular look that limits the need for expensive fabric liner, automatically prevents erosion and washouts, and provides a clean, classic look. The limited sand flash also prevents plugged balls and "fried egg" lies. These kind of bunkers sit dramatically in the landscape with amazing shadows and natural lines.

Tee Improvements

When Radley Run Country Club was built, there was less emphasis on setting up the golf course for the range of golfers as we do today. Therefore, the Long Range Master Plan increases the tee setup flexibility for all players. This is the amount of tee space from very back of rear tee to the very front of the forward tee, allowing the course to play from a wide range of distances.

The addition of rear tees will make the course longer for the better players and reintroduce some of the original design elements from 1964. The repositioning of some back tees to provide a more challenging line of play into the fairway will also increase the difficulty for the rear tee players.

The USGA has adopted this design idea as a new policy for their Major Tournaments. Instead of just focusing on the overall length of a golf hole, they are working hard to provide the best players with an angle of play that must account for a proper line and length. Thereby reducing the "Grip it and Rip it" mentality of years past. McDonald Design Group believes this is not only important for tournament venues but also for those golfers that play the rear tee at local Club's.

Creating multiple lines of play from the different tees works not only to challenge the better players but also to provide forward tee players with a more advantageous line into the fairway / target.

The 18th Hole at Radley Run Country Club provides a wonderful set of circumstances where the very best players are severely challenged to play from a rear tee that is incredibly demanding, while the forward tee shifts closer to the landing area and provides a much more advantageous angle of attack. The range of tee options on the 18th hole provide an exponential change in the golfer's experience from one tee to the next. Not only do you have pick a different line of play (left to right) from each, you must also understand the distance required from each.

The tee improvements across the facility at Radley Run Country Club will provide tremendous flexibility in tee length and angles. When all tees are constructed to meet the Master Plan, the golf course will be able to be played from 7,159 yards to 5,223 yards.

The new rear tees will provide a stern test for the best players and be a marketable feature of the course to new, younger members. The creation of a five tee system will benefit all members but significantly impact juniors, ladies, and seniors with the all new Orange tees, that provide one more opportunity to play from a less taxing distance. Creating new angles of play for each set of markers and flexibility from tee to tee will establish a more enjoyable experience for every golfing member at the Club.

Hole		1	2	3	4	5	6	7	8	9	Out	10	11	12	13	14	15	16	17	18	In	Out	Total
Par		4	5	4	3	4	3	5	4	4	36	4	3	5	3	4	4	5	4	4 / 5	36 / 37	36	72 /73
Black	Proposed	426	608	355	238	449	180	532	400	373	3561	348	204	607	170	395	352	570	398	470	3514	3561	7075
	Setup Range	*428-414*	*612-554*	*359-350*	*246-215*	*454-445*	*184-173*	*537-528*	*408-371*	*379-364*	*3605-3425*	*350-337*	*208-193*	*612-598*	*175-164*	*400-385*	*359-344*	*574-558*	*402-394*	*475-451*	*3554-3424*	*3605-3425*	*7159-6849*
Existing Championship		425	555	324	234	435	172	516	383	364	3408	348	204	594	163	404	352	562	371	441	3439	3408	6847
Blue	Proposed	404	503	337	215	410	152	487	368	340	3216	337	177	572	160	367	321	531	358	442	3265	3216	6481
	Setup Range	*408-389*	*550-502*	*345-330*	*223-189*	*425-403*	*163-144*	*502-479*	*379-339*	*350-329*	*3346-3104*	*341-331*	*185-164*	*583-561*	*170-153*	*376-361*	*335-313*	*540-517*	*368-350*	*455-439*	*3346-3104*	*3346-3104*	*6700-6293*
Existing Middle		404	503	316	219	410	150	487	332	329	3150	336	177	572	150	367	303	531	337	432	3205	3150	6355
White	Proposed	384	501	312	175	370	132	462	338	316	2990	323	149	512	152	326	300	503	335	417	3017	2990	6007
	Setup Range	*388-378*	*510-496*	*321-306*	*192-160*	*378-363*	*138-126*	*468-447*	*342-328*	*318-303*	*3054-2907*	*324-312*	*171-143*	*518-502*	*157-145*	*368-317*	*323-285*	*507-492*	*345-330*	*428-413*	*3141-2945*	*3054-2907*	*6195-5852*
Existing Gold		396	501	312	171	370	142	477	323	316	3008	333	149	512	150	326	300	501	331	400	3002	3008	6010
Green	Proposed	378	465	294	158	350	109	455	304	288	2801	311	146	508	133	323	288	496	307	399	2911	2801	5712
	Setup Range	*381-369*	*468-414*	*298-288*	*165-153*	*354-339*	*115-104*	*458-446*	*307-298*	*292-280*	*2837-2691*	*315-304*	*150-127*	*511-498*	*135-127*	*328-314*	*293-279*	*499-484*	*309-299*	*404-395*	*2944-2826*	*2837-2691*	*5781-5517*
Existing Front		385	465	288	146	370	109	463	290	300	2816	317	145	510	128	321	271	501	307	397	2897	2816	5713
Orange	Proposed	330	418	287	146	313	105	420	297	280	2596	288	140	477	127	290	276	450	300	379	2727	2596	5323
	Setup Range	*337-323*	*421-414*	*290-283*	*155-143*	*316-307*	*108-100*	*423-415*	*302-291*	*283-277*	*2637-2551*	*292-276*	*149-134*	*480-471*	*130-123*	*298-289*	*284-271*	*457-441*	*303-293*	*393-374*	*2777-2672*	*3637-2551*	*5414-5223*

Existing	Proposed	Thought on Selection	Recommended Users
Blue	Black	Creates an aura of a "Championship" set of tees	10-0 men
White	Blue	Provide a basic two tee middle set of markers - some on Blue	20 - 5 men
Gold	White	And some on white - also gets higher handicap regulars more forward	30 - 10 men 15 - 0 seniors 15 - 0 women
Red	Green	Allows "super seniors" to move forward and better women "back"	30 + men 20-5 seniors 20-5 women
N/A	Orange	Creates a comfortable set for nine-hole ladies, juniors, etc.	30+ women 30+ seniors Juniors

It would likely be in the benefit of the membership to create an entirely new color / naming scheme for the tee markers with the addition of the new tees. By removing the stereotypes of the current tee colors it may allow wear and usage to be spread across the entire tee area. A suggested scheme is outlined to the left and is implemented within the Master Plan.

The goal is not to hurt egos. The changes are intended to make everyone have fun and play from the best set of markers for their game. It also allows the players to alternate the tees from which they play. Every golfer reading this should try to play from a different set of markers on occasion to get a different view of the course and understand what other players see.

The Long Range Master Plan calls for all tees to be rebuilt as part of the future of the course. While it would be convenient to build all the tees at one time they simply do not need to be constructed at one time. Tees are a terrific piecemeal improvement because their style is easy to replicate and the shaping is quite simple. Utilizing tees as a momentum builder when capital improvement funds allow would keep the project moving forward without hampering the membership.

New tees at Radley Run Country Club will be very traditional, low-profile rectangles. These tees are classic and when stacked in a line provide a wonderful symmetry down the line of play. The square corners provide the most efficient use of space. Proper alignment to the center of the intended target will also improve the look and feel of the course, while aiding golfer alignment.

All the new tees will be constructed using the best construction methods for growing fine turf. A modified sandy mix and drainage will provide a good base on which to maintain turf, produce good recovery from wear, and create consistent playing surfaces.

Round tees such as the Rear one on #4 limit the actual percentage of usable space (red). Compared to a rectangle of the same width and length (black) a tee with square corners will allow for the maximum amount of usable hitting surface (blue).

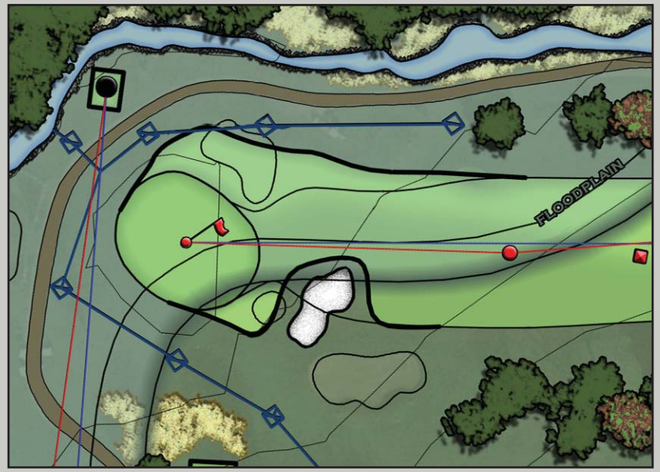
Rectangular tees when placed in a line provide a dramatic perspective view down the line of play. This is provides an established, classic look to the hole presentation

Grassing Patterns

Through the years the fairway lines at Radley Run Country Club have evolved from the original design to the shapes that they are today. Most of this is due to continued regular maintenance and the general procedure of mowing the turf. Some of the adjustments have been made to save resources such as water, fertilizer, and pesticides. In other places the establishment of trees have forced fairway lines to shift since most would prefer to play a "treeless" shot from the short cut. As part of the Long Range Master Plan, all fairway lines have been evaluated for changes to replicate original design intent as well as increase strategy and playability. One of the main factors revealed in the study of the game's strategy discussed previously, is that good golf often involves width. Fairway width is the key to almost every diagram discussed within that section . Developing fairway width provides options for all players. It makes the best players place their shots to the proper section and it allows the high handicap player more room to negotiate the challenges of the hole.

Alfred Tull was trained as an architect in the Golden Age, when fairway width was a critical design element. As seen in the adjacent photos, he utilized width to create exciting lines of play. The Master Plan looks to recreate these angles wherever possible.

While much of the width described above occurs from the tee to the green, there are options to consider with fairway turf around greens. By expanding approaches and developing chipping areas, wonderful short game opportunities prevail. Just as the extra low mown grass provides options in the landing area it also creates a variety of shots to be played around the green. These approach areas tend to be a great equalizer, too. Better players can often over think the style of shot required from around the green. This can lead to thin or heavy shots that do not react the way they want. On the other hand, higher handicap golfers can often advance their ball more effectively from short cut turf by chipping or putting onto the green surface without trouble.

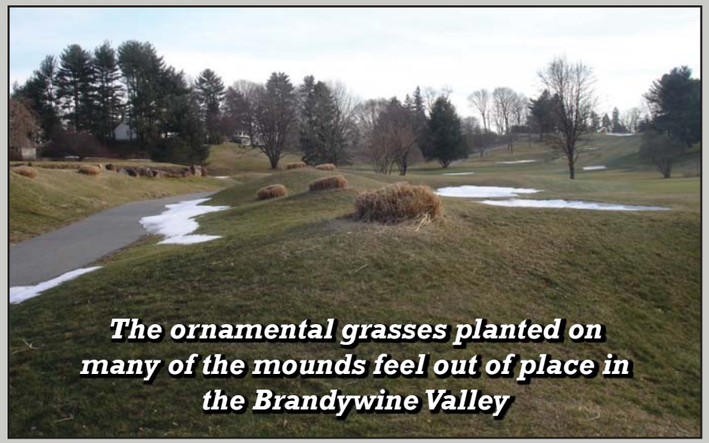


Improvements to the 16th Hole at Radley Run clearly exhibit the benefits of fairway width. As seen above right, the green surround often finds itself under water from flooding of the Brandywine. To limit costly infrastructure repairs after flood events, the Master Plan calls for the removal of sand from the low side of the green and a reconfiguration of the bunkering short and left of the green. To create an interesting golf feature that does not require a great deal of resources to repair a wide approach / chipping area was installed in the spring of 2011 (bottom right). While this was not the original design, it is a reflected quality of Alfred Tull's designs, as seen at Hercules CC (middle right).

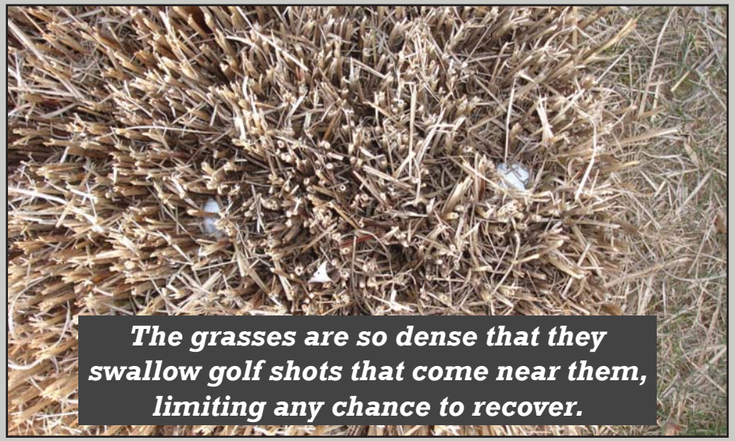

Flooding of #16 on March 11, 2011


Hercules CC - 1940


#16 Green - Post Renovation 2011



The ornamental grasses planted on many of the mounds feel out of place in the Brandywine Valley



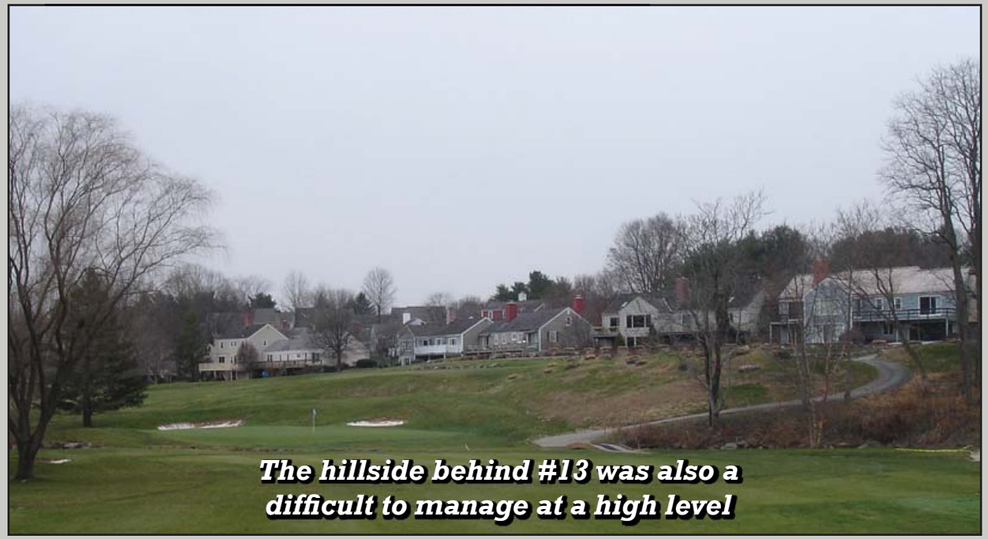
The grasses are so dense that they swallow golf shots that come near them, limiting any chance to recover.

The area behind #10 Green has always been a challenge because of its slope.

The installation of a native turf area provided a much improved surface and look

The grassing lines of the fairway are not the only grassing patterns examined within the Master Plan. Over the years the layout at Radley Run has been overwhelmed with ornamental grasses. These clumps of tall grass standout in the natural landscape and when placed on the mounding provide a very "un-Bradywine Valley" feel. These plants also are tremendous penalties to errant golf shots. If a ball finds its way into one of these plants, it is likely lost or creates an unplayable lie. None of these attributes make the plants a great golf course feature and the Master Plan recommends the complete removal of them as time and resources allow.

To replicate the intention of the ornamental grasses, the Master Plan recommends the establishment of native grass areas throughout the property. The first such area was established behind #10 green in the last two years and has proven to be a wonderful addition to the property as an aesthetic feature that also reduces frequent maintenance. Creating these zones of tall grass on other steep slope and out of play areas makes tremendous sense. Adding the native grass to buffers along the property line and Plum Run could also be beneficial. One key to defining these areas is that they must have a shape and purpose so they do not appear to be a "forgotten" area. Also, while this type of turf does not require aggressive maintenance they do need to be maintained periodically to make sure they are clear of weeds and have the proper density.



The hillside behind #13 was also a difficult to manage at a high level

The Spring 2011 Renovation Project allowed for the area to be developed as a native grass area

Tree Management

When Radley Run Country Club was built only a handful of trees were originally part of the golf course. Soon after construction, a large number of evergreens were planted throughout the property. Many of them were white pines. These trees were a staple on golf courses in the 1960's and 70's because they were inexpensive, fast growing, and dense. The problem with this species however is that the properties that make it so useful also tend to add to its demise. The fast growing dense vegetation is easily broken by wind and ice and white pines are susceptible to a number of pests. This means that in a landscape situation such as at Radley Run they can only be expected to have a quality lifespan of approximately 50 years. The result is a situation where trees need to be removed or replaced on a large scale.

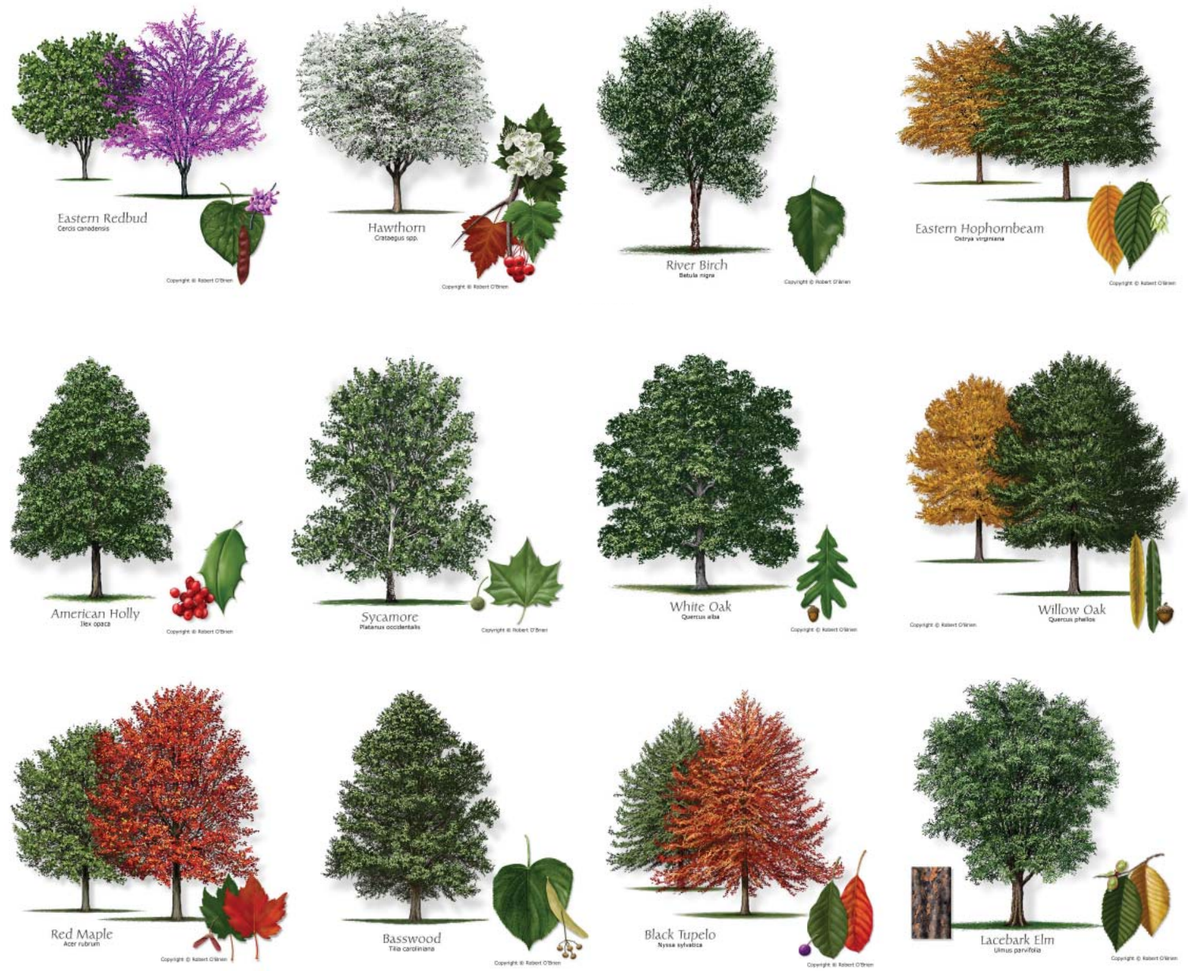
The large amount of evergreens (in particularly white pines) provide a buffer between holes but often close off the presentation of the hole from the tee and limit views across the property.

A number of trees at Radley Run Country Club also need to be reviewed to increase air circulation and sunlight. These are two critical agronomic elements and must be addressed to provide the best growing conditions for turf through the golf course. This work involves the removal of some trees but can largely focus on pruning and limbing.

Even though a large amount of trees will need to be removed and/or replaced in the next decade, there are also a number of places where tree planting would greatly benefit the Club. The Master Plan labels these with a reddish color.

Preferred Species

Instead of choosing exact plantings throughout the golf course the Master Plan recommends the following species for consideration. As planting resources are allocated this list will make it more feasible to utilize locally available species. This should save money and time. The tree management program recommends the installation of modest size material that is the most cost effective and the most likely to survive.



The large massings of evergreens along #5 should be a focus of the tree management plan. The first step is thinning the interior trees to make room for better quality hardwoods (listed above). Planting smaller trees now will cost less and allow for some time to mature before the remaining evergreens need to be removed. The final version would likely be only the new trees marked to plant.

Bacterial Leaf Scorch

This is one of the most challenging diseases for native hardwoods in the Mid-Atlantic Region and should be a consideration in planting plans for Radley Run's future.

- It is a chronic, eventually fatal disease caused by bacteria- Xylella fastidiosa
- The bacteria clogs xylem blocking water to leaves.
- The disease is carried be leafhopper / treehopper insects
- It effects various a wide spectrum of species including oaks, maples, sweetgums, etc.
- THE GREATEST IMPACT IS ON THE RED OAK FAMILY
- CURRENTLY THERE IS NO CURE!!!
  - You can Only Prolong the Inevitable...
- Pruning and watering are most efficient treatment.
- Tree Injections mask symptoms do not cure. They are expensive and often cause injury to tree base

Table 1. Tree species known to be susceptible to bacterial leaf scorch.

Family or group	Common name	Scientific name
Dogwood	Flowering dogwood	*Cornus florida*
	Oriental dogwood**	*C. kousa*
Elm	American elm*	*Ulmus americana*
Gingko (Figure 6)	Maidenhair tree**	*Gingko biloba*
Hackberry	Common hackberry*	*Celtis occidentalis*
Maple (Figure 5)	Box elder*	*Acer negundo*
	Red maple*	*A. rubrum*
	Silver maple*	*A. saccharinum*
	Sugar maple*	*A. saccharum*
Mulberry	White mulberry*	*Morus alba*
Oak (Figure 1)	Black oak	*Quercus velutina*
	Bluejack oak	*Q. incana*
	Bur oak*	*Q. prinus*
	Chestnut oak	*Q. macrocarpa*
	English oak**	*Q. robur*
	Laurel oak	*Q. laurifolia*
	Live oak	*Q. virginiana*
	Northern red oak*	*Q. rubra*
	Pin oak*	*Q. palustris*
	Post oak	*Q. stellat*
	Scarlet oak*	*Q. coccinea*
	Shingle oak*	*Q. imbricaria*
	Shumard oak	*Q. shumardii*
	Southern red oak	*Q. falcate*
	Swamp chestnut oak**	*Q. michauxii*
	Swamp white oak	*Q. bicolor*
	Turkey oak	*Q. laevis*
	Water oak	*Q. nigra*
	White oak*	*Q. alba*
	Willow oak*	*Q. phellos*
Sweetgum (Figure 6)	American sweetgum*	*Liquidambar styraciflua*
Sycamore (Figure 6)	American sycamore*	*Platanus occidentalis*
	London plane*	*P. x acerifolia*

* Bacterial leaf scorch is present in Kentucky on these trees.
** Bacterial leaf scorch is present in Kentucky, but not in other states, on these trees.

Table 2. Tree species that have not yet been affected by bacterial leaf scorch

Family or group	Common name	Scientific name
Alder	European black alder	*Alnus glutinosa*, and cultivars
Ash	Blue Ash	*Fraxinus quadrangulata*
	White ash	*F. americana* and cultivars
	Green ash	*F. pennsylvanica* and cultivars [1]
Black gum	Tupelo	*Nyssa sylvatica*
Buckeye	Yellow buckeye	*Aesculus flava*
Beech	European beech	*Fagus sylvatica* and cultivars
Catalpa	Northern catalpa	*Catalpa speciosa*
Coffeetree	Kentucky Coffeetree	*Gymnocladus dioicus* and fruitless male cultivars
Cork tree	Amur cork tree	*Phellodendron amurense* and fruitless male cultivars
Elm	Lacebark or Chinese elm	*Ulmus parvifolia* [2]
Hackberry	Sugar hackberry	*Celtis laevigata* [3]
Hickory	Shagbark hickory	*Carya ovata*
	Shellbark hickory	*C. laciniosa*
	Pignut hickory	*C. glabra*
Katsura	Katsuratree	*Cercidophyllum japonicum*
Linden	American linden	*Tilia americana*
	Littleleaf linden	*T. cordata*
Magnolia	Cucumbertree	*Magnolia acuminata*
Maple	Black maple	*Acer saccharum* subsp. *nigrum* [4]
Oak	Chinkapin oak	*Quercus muehlenbergii* [5]
	Sawtooth oak	*Q. acutissima*
Osage-Orange	Hedge-apple	*Maclura pomifera* and fruitless male cultivars
Sassafras	Common sassafras	*Sassafras albidum*
Tulip poplar	Tuliptree	*Liriodendron tulipifera*
Zelkova	Japanese zelkova	*Zelkova serrata* and cultivars

[1] Ash might not be a good choice due to the impending invasion of the emerald ash borer.
[2] Although bacterial leaf scorch is a serious problem of American elm, its effect on Chinese elm is not known.
[3] Sugar hackberry may be a risky choice since the disease is present on common hackberry.
[4] Although the disease has not been detected on black maple, the fact that it occurs on four other maples in Kentucky makes this a risky choice.
[5] These oak species have not been observed with bacterial leaf scorch. However, the fact that it occurs on most other oaks makes them risky choices.

Aronimink Golf Club should be a model for the tree management vision at Radley Run Country Club. The great mix of hardwoods that divide holes are well spaced and the canopies are elevated to see through them to the extents of the property. Believe it or not these corridors were once full of evergreen and ornamental plant material. Beginning in the mid-1990's, a conscious effort was made to thin and prune the trees to create the final result. The remaining trees provide separation without a sense of claustrophobia or that of being exposed. From the ninth tee (above), you can see parts of nine different holes across the landscape.

Aronimink Golf Club 1992

Aronimink Golf Club 2010

Drainage Improvements

Radley Run Country Club faces a number of unique drainage challenges across its property. The nature of the land on which it lays creates a number of places where stormwater collects and flows in concentrated channels. The holes that play over or next to Plum Run are subject to flash flooding. #16 and #17 are within the floodplain of the Brandywine. The result is a complex series of chronic problems that need to be addressed in the coming years to improve playability and maintenance.

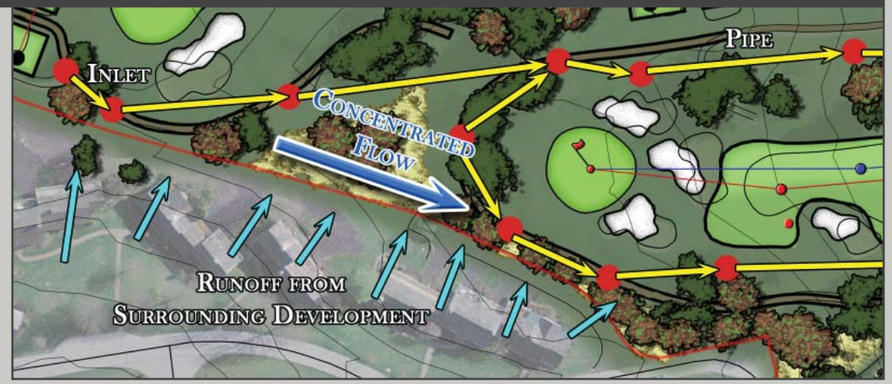
The Long Range Master Plan attacks the drainage issues at Radley Run with the creation of a main trunk drainage system. By developing a set of larger pipe runs through low areas and areas of concentrated water flow, runoff can efficiently move underground and off the playing surfaces. These systems will alleviate most of the drainage problems and greatly aid in recovery from storm events. Installing sensibly sized pipes will also allow additional tie ins by the maintenance staff as needs arise.

Many of the green and tee surrounds need improved drainage. The most common issue found around these complexes is the long distance surface water has to travel to get away from the features. The problem arises when surrounding grading limit the flow of the water and force it to move over a slow grade or a long distance before it can discharge away from the line of play.

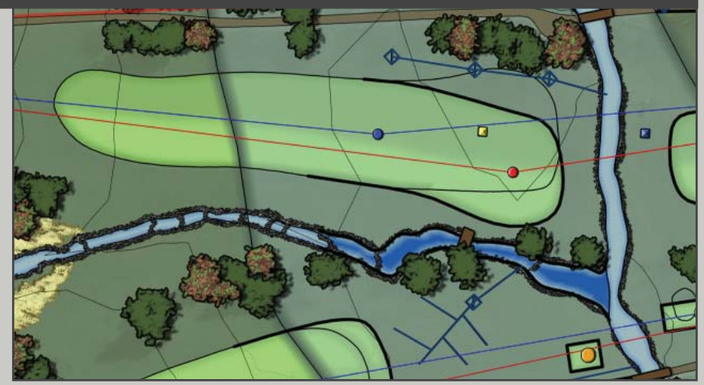
The floodplain areas have its own set of problems. Preventing flooding at Radley Run Country Club is all but impossible. Trying to make the flooding painless as possible is therefore the goal. The Master Plan calls for moving most of the bunker area out of the floodplains. Drainage lows and expanded fairway areas will replace these features and create functional elements that require minimal resources to put back in play after a storm event. Once drainage inlets are installed in the lowest areas, earthwork needs to take place to "push" water into the basins and away from play.

Flooding between #16 Green and #17 Tees can never be prevented but a pipe system will greatly aid in its recovery.

A large volume of water leaves the Mews that border #3 and #5. Collecting the water before it impacts play is crucial to improving playability and maintenance.



The 7th fairway has a number of drainage problems. Grading and installation of pipe along the left side will solve some of the issues. Opening the channel along the right side will provide soil for improvements and provide an outlet for stormwater.



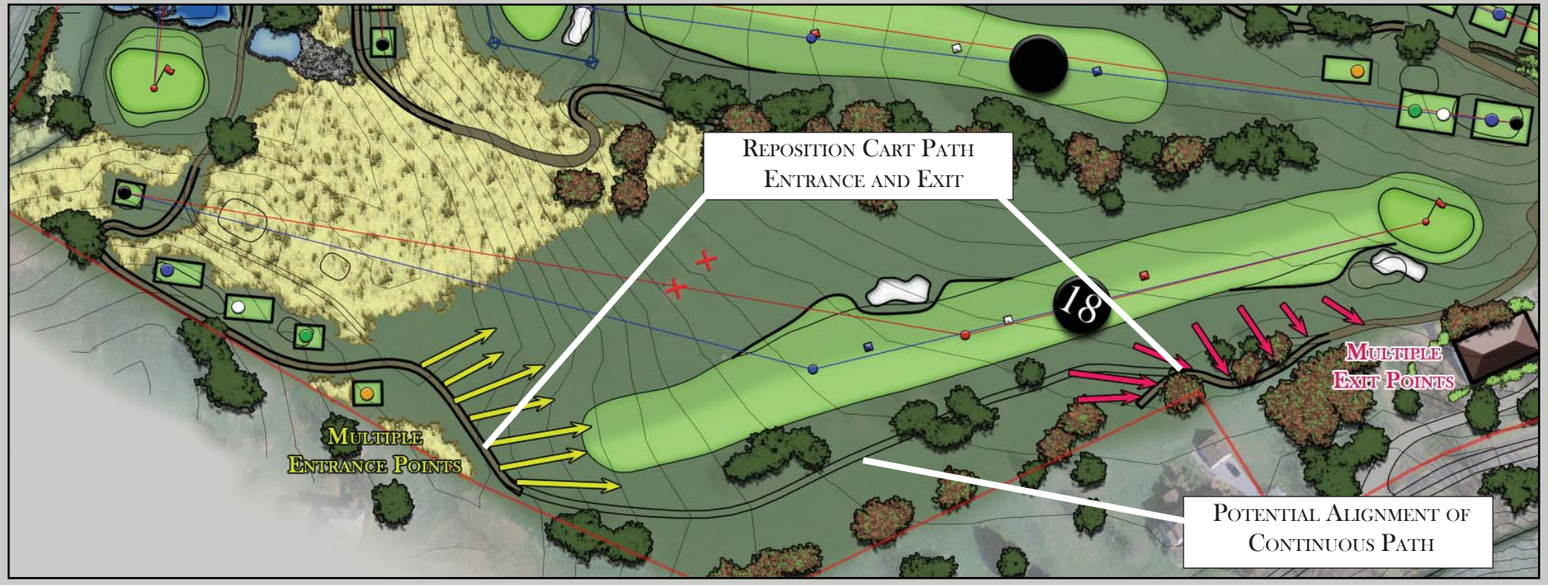
Circulation Enhancements

The lack of a continuous cart paths at Radley Run Country Club is a great asset as well as a slight liability. It can be argued that having paths only at tees and greens improves the quality of golf because there is little impact by pavement along the line of play. The simple fact is that cart paths are a necessary evil. They make the golf course accessible and all weather friendly. Striking a balance between the convenience of the cart paths and the quality of golf makes the circulation decisions outlined in the Long Range Master Plan difficult.

While the Master Plan assumes Radley Run will continue to utilize the partial path system (and provides adjustments for such), the plan also documents the proper location for a continuous path system if the Club ever wished to install it.

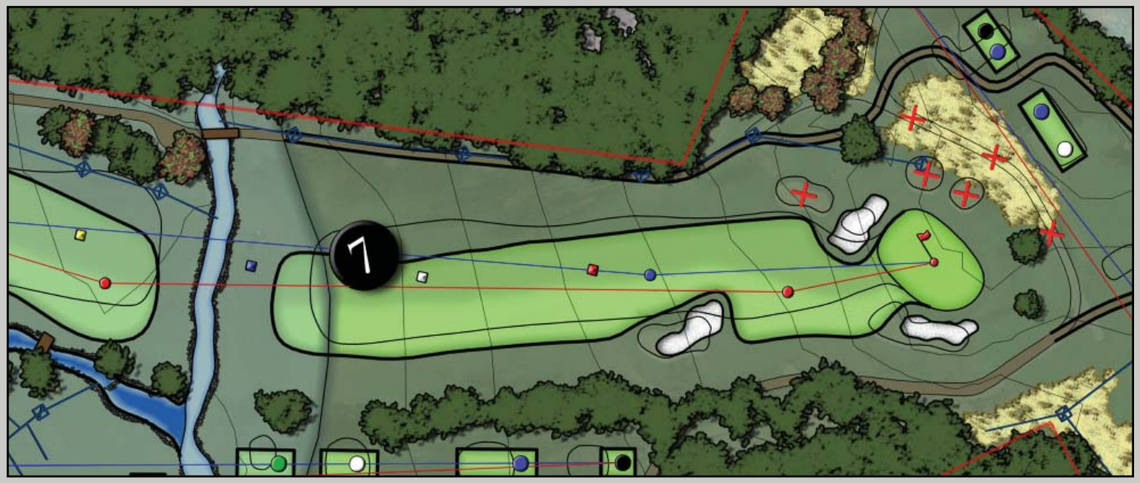
To improve the existing cart paths at tees and greens, the Long Range Master Plan calls for extending and realigning most of the entrance and exit points. By twisting the ends away from the intended line of travel, there is natural distribution of cart wear as golfers enter and exit at different points. This eliminates heavy turf damage immediately adjacent to the path.

Extending cart paths through and past chronic wet areas will eliminate damage and improve maintenance. Shifting paths to better alignments in certain locations will improve safety, access, and aesthetics. A number of areas also require the cart paths to be extended past the golf features they serve. Many of the existing paths start and stop abruptly at the adjacent green or tee causing concentrated traffic and wear.



Cart path improvements on #18 will greatly improve access to the hole. The changes at the tees will allow carts to service all the tees without stairs. The revised entrance into the fairway would carry through the low and turn away from play to automatically distribute wear. The exit point at the green would also be extended to provide a much larger area for carts to get back on pavement.

Adding a continuous section of path from the bridge on #7 to the green will greatly improve turf conditions. The installation of drainage along the left side of the path will further benefit the area by collecting the surface flow that enters the golf course above #8 tee.



The Clubhouse Grounds and Practice Facilities

The location of the Clubhouse facilities at Radley Run Country Club have been a topic of conversation over the years. With the operations infrastructure separated from the golf course by Country Club Road, suggestions have been made to move some buildings to the western side of the street. This is obviously not a decision that can be taken lightly. There is little available space in this area, therefore any golf course impacts will need to be balanced and resolved. While the Long Range Master Plan has investigated the options available, no formal suggestions will be made.

Without any planned changes to the facilities bordering Country Club Road, the practice facilities have been evaluated as they rest now.

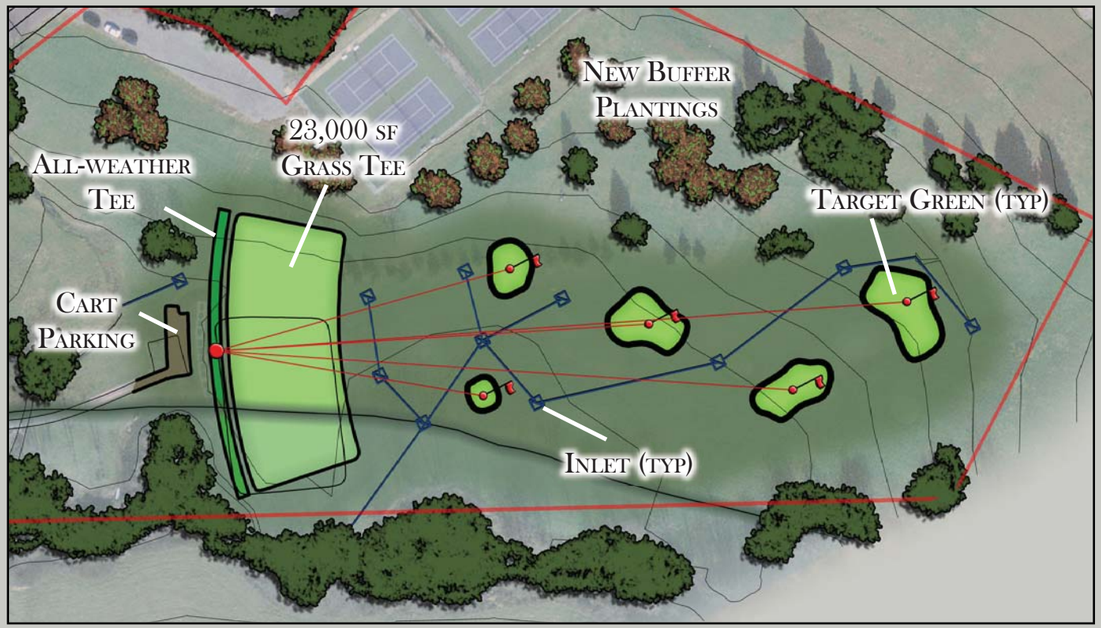
The driving range property is setup to be a very successful practice area but it suffers from a few inherent problems. First and foremost the entire area needs improved drainage. The limits on maintaining and picking balls from the range floor greatly reduce the usefulness of the facility. Adding inlets and pipe throughout the area will help. Grading to push water into the basins would provide even greater recovery.

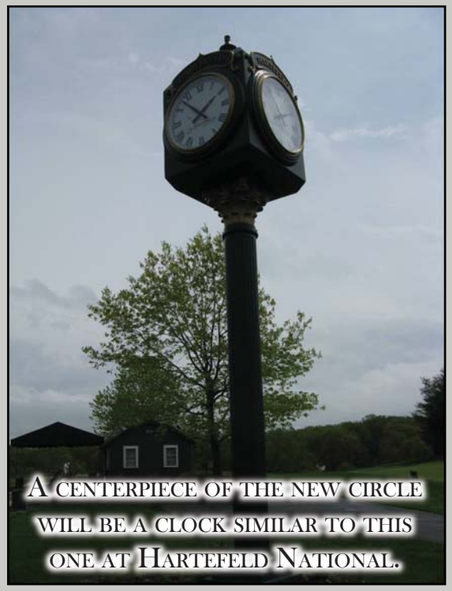
To further enhance the practice experience, the Plan calls for adding a few target greens that provide an opportunity for realistic feedback. Situating the greens so that they favor the left center of the parcel will aid in reducing the number of errant balls hit into Radley Run on the right. A new Range Tee is possible and could provide twice the usable area. An all-weather mat along the rear of the tee arc would provide alternate practice options. An improved cart parking area at the tee would also enhance the experience on the range.

One outstanding issue with the revised driving range is the need to replace the existing hedge along the left side. Some study of Club records will need to occur prior to this change.

The current short game practice area near the 1st tee is very well suited for the needs of the membership. While both the putting green and chipping green could be improved, there are few immediate needs. The main issue here is the functionality of the area during large events or on days with heavy amounts of play. To alleviate this periodic pressure of cart use without creating a parking lot feel, the Master Plan calls for expanding the pavement in a subtle manner. The stretch of wider asphalt will lock into a circular roundabout between the putting and chipping greens. This would create a soft focal point of landscaping in the middle of the paving that could house a stately freestanding clock.

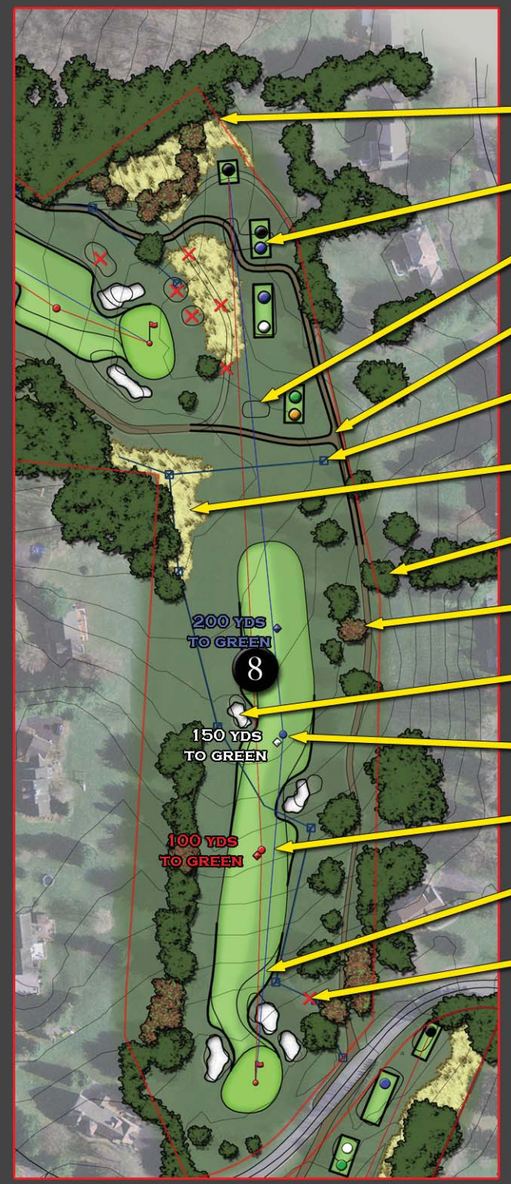
Future improvements to the short game area could include an expanded putting green and a new short game complex that potentially adds another practice green.




A centerpiece of the new circle will be a clock similar to this one at Hartefeld National.

Hole by Hole Analysis

Drawing Legend



- Property Line
- Proposed Tee
- Existing feature
- Proposed Cart Path
- Proposed Drainage
- Proposed Fine Fescue
- Existing Tree
- Proposed Tree
- Proposed Bunker
- 250 yds from Rear Tee
- 300 yds from Rear Tee
- Fairway Adjustment
- Feature to be Removed

#1

Par 4

A: Shift rear tee back slightly and raise in a plane along the elevation of the front tee - to see into landing area.

B: Create a definitive staging area between the 1st tee and the practice area. Allow for event parking of carts as well as everyday play. Utilize a roundabout anchored by a new clock as a way to lock features together.

C: Build new middle tee at a slightly elevated level

D: Build new third tee that extends down the line of play. Construct tee at current elevation.

E: Develop a new forward tee along the left side of the hole on top of the existing ridge. Provide the most advantageous angle of play possible for these players.

F: Adjust foreground as needed to supply fill for tee work and provide better visibility into the landing area.

G: Plant quality hardwoods among existing evergreens to protect buffer in the future.

H. Plant new high value trees along the area between #1 and #10 to replace failing white pines.

I: Soften mounding along the right side to improve drainage, cart traffic, and maintenance.

J: Adjust fairway line slightly along the left to flash the landing area to the player and turn the hole.

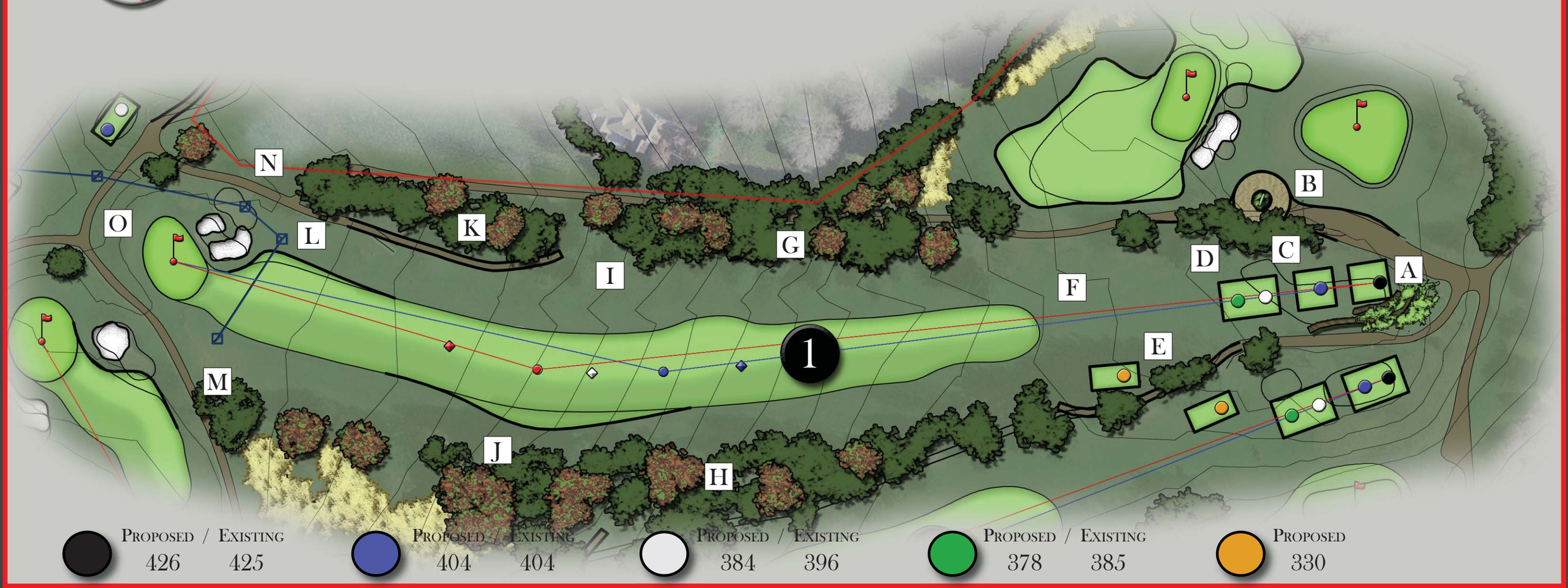
K: Extend cart path spur towards the tee to provide better all weather travel through the low area.

L: Install drainage along the right greenside to improve playability and maintenance.

M: Catch runoff along the left side of the hole prior to it crossing the approach.

N: Adjust greenside bunkering. Bring the two bunkers against the green to enhance the slightly perched putting surface.

O: Consider reclaiming green area along the right side of the putting surface.



Proposed	Existing
426	425

Proposed	Existing
404	404

Proposed	Existing
384	396

Proposed	Existing
378	385

Proposed
330

#2

Par 5

A: Consider building a new rear tee at over 600 yards. This will bring the challenge of the first ridge back into play for the best players. This natural feature was always a key design element of Tull's Radley Run.

B: Rebuild the existing rear tee. Level and make it slightly smaller but still capable of holding the Black and Blue Markers.

C: Rebuild the existing main tee, improving its surface for drainage and playability.

D: Enlarge the existing forward tee in place.

E: Build new forward tee towards the top of the hill to provide these players with an opportunity to reach the crest of the ridge.

F: Extend cart path along the property line to service all tees and then best distribute traffic.

G: Plant quality hardwoods in the treeline between #2 and #12. The long term goal is a series of specimen trees that are scattered in natural groupings.

H. Extend the cart path towards the tee and away from the fairway. Position the path above the treeline to get it out of play and twist the entrance away from play to distribute wear.

I: Renovate the front left of the green to showcase its stout left corner. Add drainage to capture water and tie into the larger drainage system. The grassing lines should be adjusted as needed to make features tie together.

J: Create a dramatic bunker complex along the right side. Allow bunker floor elevations to step up with the topography.

Proposed	Existing
608	555

Proposed	Existing
503	503

Proposed	Existing
501	501

Proposed	Existing
465	465

Proposed
418

#3

Par 4

A: Shift rear tee back and to the left to increase length and provide a challenging line of play for the best players.

B: Create a main tee that bridges the existing middle and rear tees.

C: Build new third tee to extend the setup flexibility of the middle tee markers.

D: Create a new forward tee that provides the most direct line into the longest portion of the short landing area.

E: Install drainage along the cart path to collect storm water efficiently.

F: Install drainage in the lowest areas of the fairway and rough to provide recovery and relief from storm events.

G: Expand width of short landing area as allowed when fairway bunker shifts forward.

H. Shift fairway bunker forward to best challenge the better golfers and aid in the reestablishment of the original design intent.

I: Expand the long fairway by removing two trees. Create a preferred line of play from the left hand portion of the fairway.

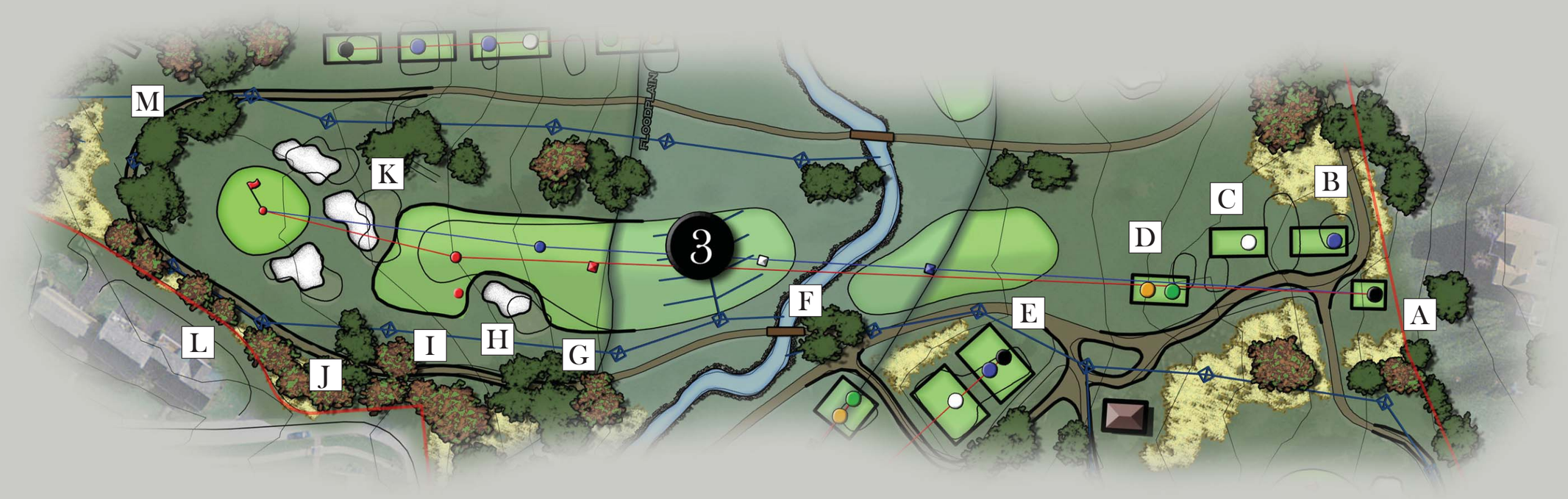
J: Plant a new series of trees along the outer boundary to buffer the golf course from the surrounding development.

This will allow the evergreens that have closed off the original lines of play to be selectively removed.

K: Renovate the greenside bunkers, keeping their original design intent but maximizing the impact of the sand.

L: Extend the cart path completely around the green. Position the paving in the low so that it can effectively collect the water from the entire perimeter of the property.

M: Create a multiple point drainage system to aid in the collection of water from the development. The strategy of the system is to collect surface water and get it underground quickly. Channeling water between the holes and away from play and traffic.



Proposed	Existing
355	324
337	316
312	312
294	288
287	

#4

Par 3

A: Tie the cart path from #3 Green into the existing path running along #4.

B: Rebuild rear tee extending the setup flexibility for the back tee players.

C: Rebuild the second tee, increase tee area front to back instead of left to right.

D: Extend a third tee along a stretch of ground that provides a more forward position for the Blue tee players as well as the White tee markers.

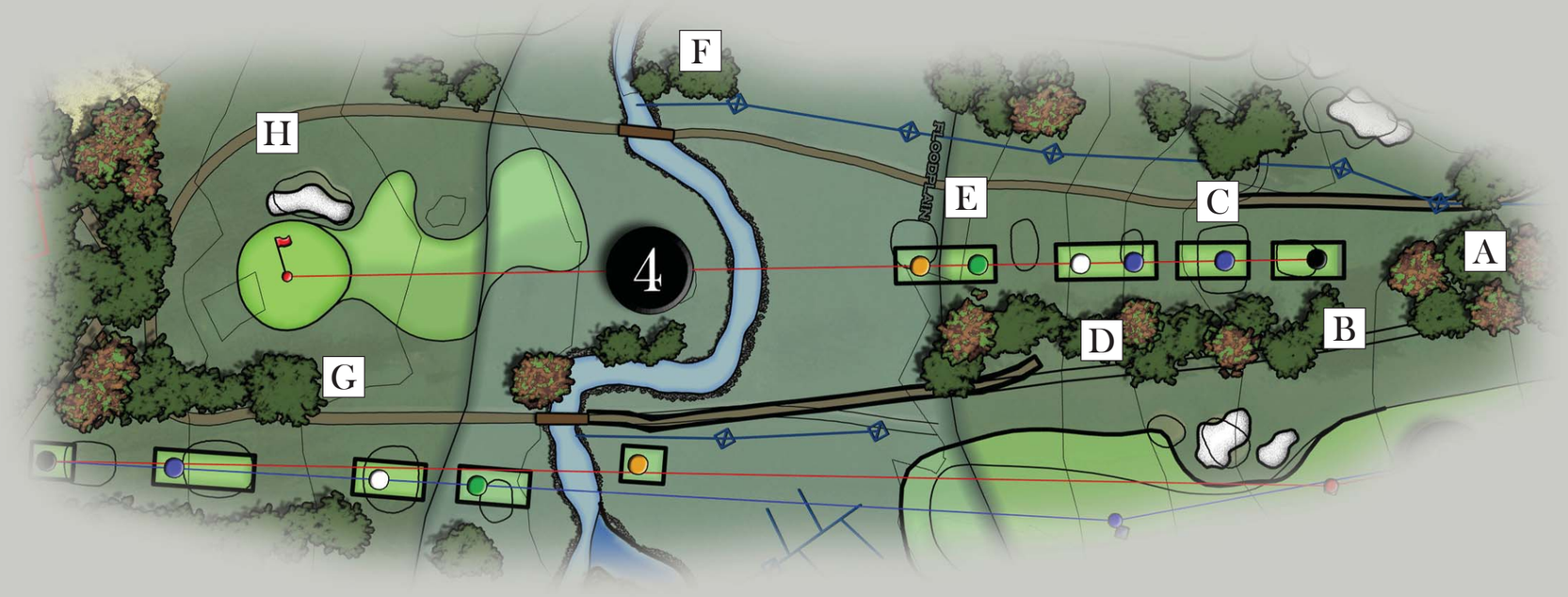
E: Build a new forward tee that provide a wide variety in the forward tee placements. Elevate the tee surface so that it remains out of the floodplain.

F: Provide an outfall for the large drainage system that collects water from behind #3 green.

G: Adjust green surround slightly to provide better drainage.

H: Rebuild greenside bunker slightly closer to the putting surface.

The goal for this hole is to play as a long par 3 for all players.



Proposed	/	Existing
238		234

Proposed	/	Existing
215		219

Proposed	/	Existing
175		171

Proposed	/	Existing
158		146

Proposed
146

#5

Par 4

A: Shift rear tee back slightly against the service path

B: Rebuild main tee, extending along the line of play.

C: Rebuild third tee, enlarging at the corners.

D: Reconstruct a forward tee on the tee side of the creek large enough to hold multiple sets of markers.

E: Build a new forward tee across the creek to eliminate a forced carry for these players. Elevate tee surface to limit impact of flooding.

F: Install drainage throughout the low area to aid in flooding recovery.

G: Expose the pipe that connects the drainage swale from #6 green to Plum Run. Create a naturalized channel that provides added drainage, better strategy, and is environmentally sound.

H. Shift fairway bunker forward to best challenge the better golfers and aid in the reestablishment of the original design intent.

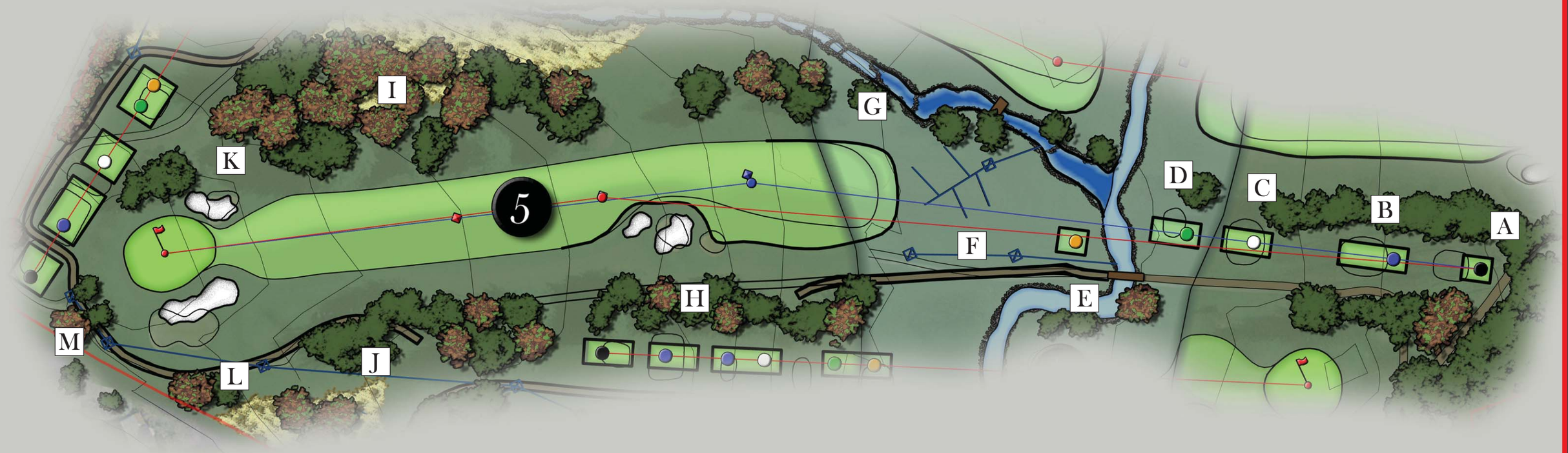
I: Slowly replace white pine stand along the right side of the hole with good quality hardwoods. Establish a native area that ties this grove into the drainage swale.

J: Extend the cart path towards the fairway and turn its entrance away from the line of travel to distribute wear.

K: Rebuild the right greenside bunker to hug the front right corner of the green. Allow it to extend slightly towards the back to show off the existing shoulder in the green.

L: Reposition the left greenside bunker to mark the left side of the green and create a definitive edge to the putting surface from the landing area.

M: Add drainage to the low area behind the green. Tie the pipe into the larger system that runs to Plum Run down #4.



Proposed	Existing
449	435

Proposed	Existing
410	410

Proposed	Existing
370	370

Proposed	Existing
350	370

Proposed
313

#6

Par 3

A: Swap the cart path and the rear tee so that the hole can play from its maximum distance.

B: Rebuild the Blue tee without hinge, to increase usable area.

C: Build third tee that rest slightly down the hill. Eliminate rock wall.

D: Realign the cart path so that it travels down the property line and allows for the most tee space possible.

E: Establish a new forward tee on the other side of the existing cart path to allow all players to attack this hole as a short par 3.

F: Create a drainage run that collects the development water off the new path as well as ties into the culvert pipe that currently discharges into the rough from Lyme Court.

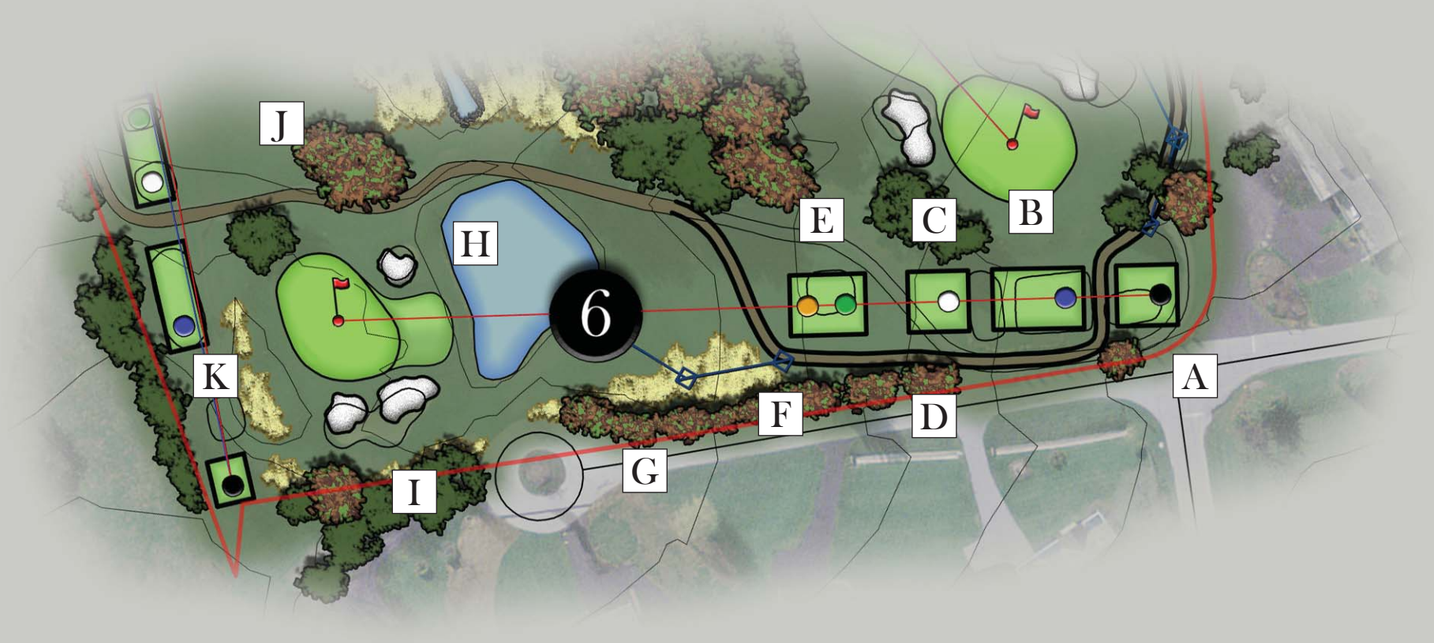
G: Consider planting a hedge row between the 6th hole and the adjacent road, along the crest of the hill.

H. Rebuild the front greenside bunker to match the style of the new bunkers.

I: Divide the large greenside bunker on the left into two smaller ones that stack with the elevation along the left. This will showcase the perched nature of this green.

J: Plant two or three trees on the outside of the cart path. Once these trees are established consider removal of spruce near the green.

K: Eliminate ornamental grasses on the mounding. Soften the grading slightly to provide better access to #7 tees and provide for better maintenance. Establish a wisp of native grass as an alternative.



Proposed	/	Existing
180		172
152		150
132		142
109		109
105		

#7

Par 5

A: Consider a new rear tee at the top of the hillside along the property line.

B: Rebuild the main tee, enlarging slightly. Provide better drainage around tee surface.

C: Combine the space of the existing forward tees to create a runway tee that can hold multiple markers.

D: Build a new forward tee along the left to provide these players with an opportunity to get across Plum Run effectively on their second or third shot.

E: Shift the fairway alignment to the right. This provides more room for drainage and more strategy to the hole.

F: Install a low drainage swale along the left side of the fairway to provide recovery from storm events. Allow for high areas between inlets to create cart traffic access to the fairway / path.

G: Expose the pipe that connects the drainage swale from #6 green to Plum Run. Create a naturalized channel that provides added drainage, better strategy, and is environmentally sound. This will be come a critical feature of the hole, especially for the best player who must now focus on their line of play as well as the length off the tee.

H. Replace evergreens with a better selection of trees along the left.

I: Extend fairway towards the creek to reduce the forced carry for the high handicap players.

J: Create a continuous cart path system along the left side of the hole. Install drainage between the new path and the wood line to eliminate erosion in the rough.

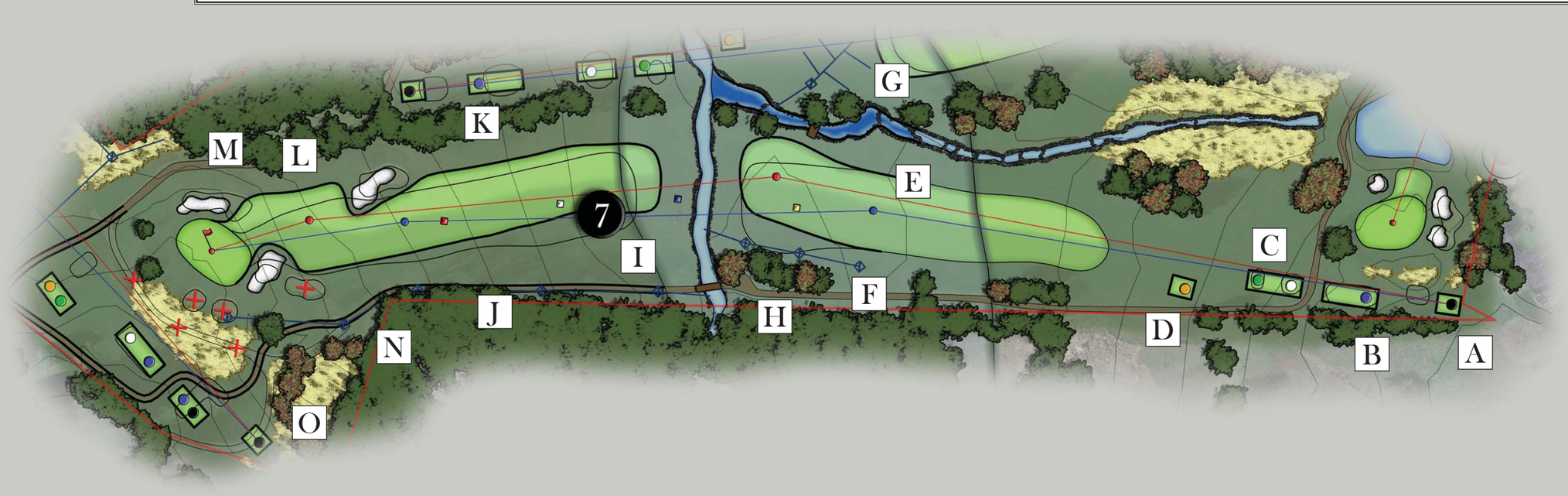
K: Shift fairway slightly right to provide more room on the left for essential infrastructure and create more strategic lines of play.

L: Reconfigure the second landing area to force the golfer to make a decision on placing their layup shot for the best approach.

M: Rebuild the greenside bunkers to best frame the target and eliminate wasted sand area away from the putting surface. Eliminate ornamental grasses and establish a native area that ties the green complex into the 8th tees.

N: Realign cart path to best serve #7 green, provide access to #8 tee, and improve drainage along the property line.

O: Establish a hedge around the stockpile area between #7 green and the tees on #8. This could be done with American Hollies or similar planting.



Proposed	Existing
532	516

Proposed	Existing
487	487

Proposed	Existing
462	477

Proposed	Existing
455	463

Proposed
420

#8

Par 4

A: Extend the rear tee backwards to meet its full potential and bring the fairway bunkers back into consideration for the longer players.

B: Build a new alternate Black/Blue Tee that allows for options in course setup. Eliminate rock wall.

C: Reroute cart path up the hill and between the tees to the left side of the hole. This provides better walk on access, more room for a rear tee, and eases impact on the neighbors.

D: Rebuild main tee.

E: Build new forward tee slightly left to provide these players with the longest axis into the fairway.

F: Establish a new connector path for service to the low section of the property.

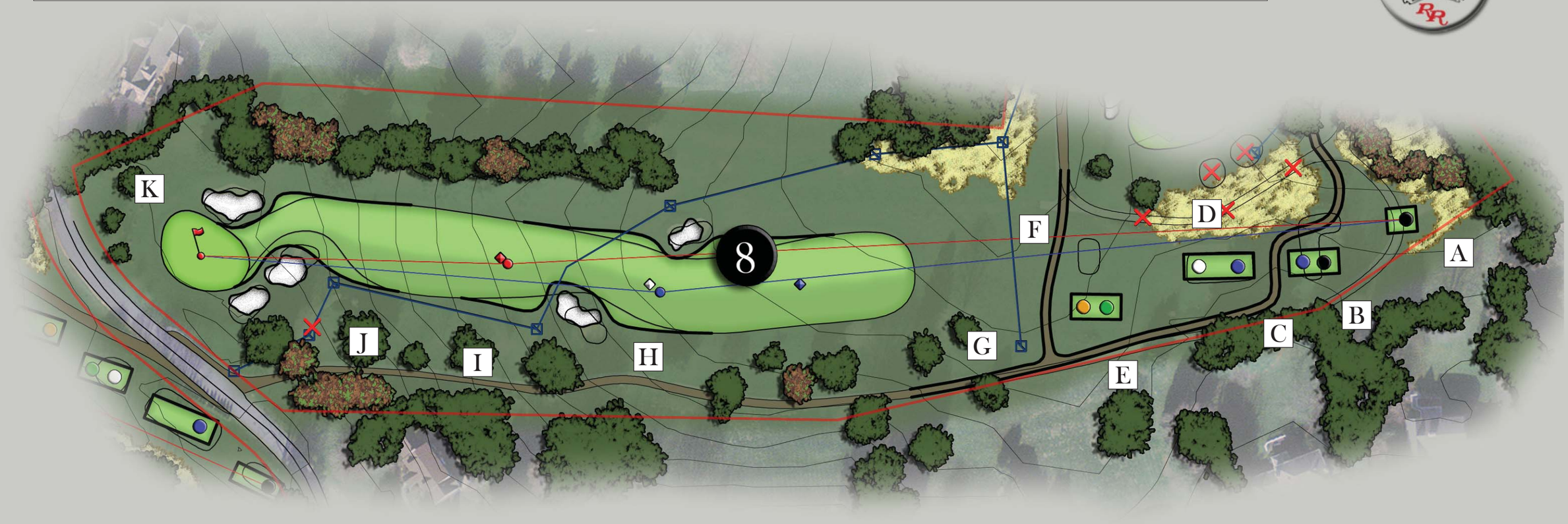
G: Install drainage to capture development water before it crosses the golf course.

H. Adjust the fairway bunkers to better position them. Shift towards the green as much as the topography and drainage allow.

I: Install a drainage system on either side of the fairway to contain stormwater in this concentrated area of flow.

J: Eliminate cart path spur, lower mounding, install drainage system, and plant quality hardwoods to the outside of the cart path to buffer the property line and provide a replacement for the white pines along the approach.

K: Rebuild greenside bunkers in their current location but adjust the depth and shaping to provide more visibility from the tee and fairway. Create grading that accentuates the raised putting surface.



Proposed	Existing
400	383

Proposed	Existing
368	332

Proposed	Existing
338	323

Proposed	Existing
304	290

Proposed
297

#9

Par 4

A: Expand and extend the rear tee as much as possible.

B: Rebuild middle tee with proper alignment.

C: Create a larger third tee that extends towards the fairway. Provide setup options that allow these players to reach the dogleg point.

D: Build a new forward tee that shifts to the right to provide the best possible angle into the hole. The tee will be large enough to hold multiple markers.

E: Realign cart path away from the fairway along the property line.

F: Extend fairway to the outside to provide more options to play into the dogleg. The preferred line is still from the inside of the dogleg.

G: Plant quality hardwoods to the outside of the cart path to separate the hole from the practice area and turn the hole.

H. Leave cart path above the existing trees and then tie into the existing alignment near the green.

I: Renovate left greenside bunkers. Pull the first bunker closer to the green.

J: Rebuild the right greenside bunker keeping the sand towards the front of the green. An adjustment to the approach will create a preferred angle of attack from the left.

Proposed	Existing
373	364

Proposed	Existing
340	329

Proposed	Existing
316	316

Proposed	Existing
288	300

Proposed
280

#10

Par 4

A: Create a rock wall that divides the 1st tee from the 10th. Plant subtly to soften the hillside and provide some separation.

B: Build new rear tee that extends backwards slightly.

C: Create a larger second tee that can hold multiple markers

D: Build a new forward tee along the right side to provide the best angle into the fairway.

E: Extend the cart path along the right to service all the tees and distribute wear away from the teeing ground.

F: Study the potential for trimming the hillside to provide a better view into the landing area.

G: Implement a replacement plan for the evergreens along both sides of the fairway. Install quality hardwoods at a natural spacing.

H. Bring cart path on the left side of the hole further towards the tee to get cart traffic on the paving prior to the green surround.

I: Provide an alternate cart path to the 11th hole on the right side. This will service the new forward tee on that hole.

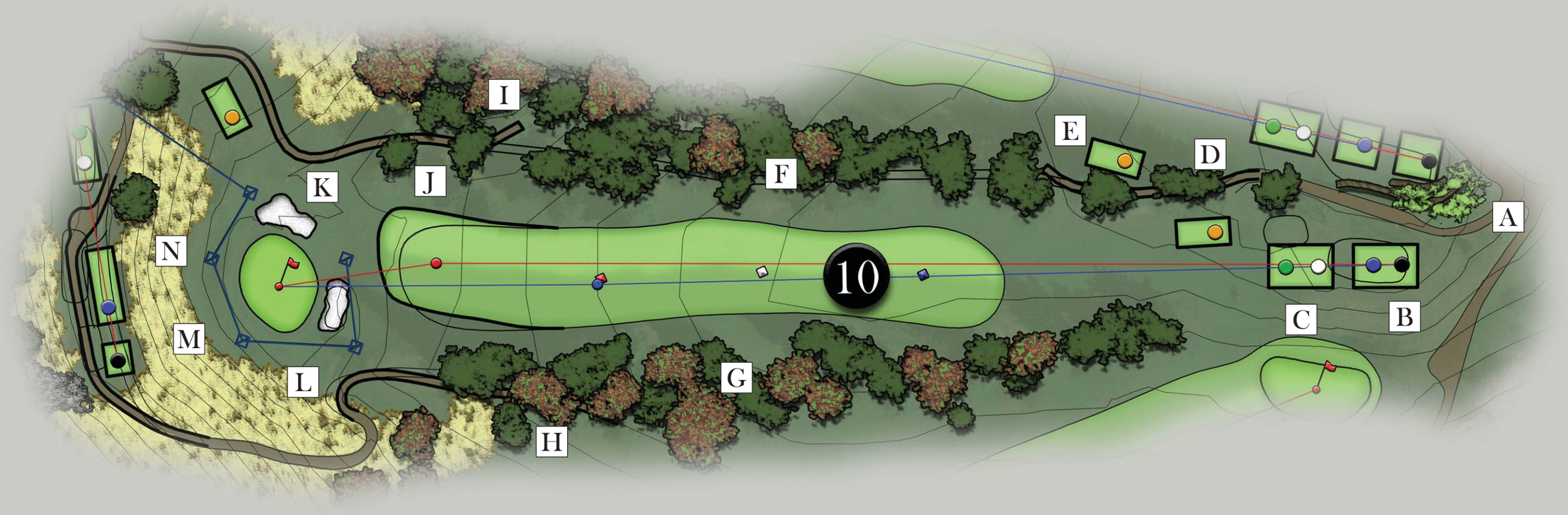
J: Realign and extend the fairway towards the green along the right side. This slight twist in the fairway will make the longest players position their tee shot along the right portion of the fairway for the best angle into the green.

K: Build a new greenside bunker on the right side of the putting surface to mark the right edge of the green and turn the angle of approach.

L. Rebuild the front left greenside bunker, tucked against the putting surface.

M: Install a drainage system around the green to provide better playing conditions and maintenance.

N: Eliminate ornamental grasses from mounding.



Proposed	/	Existing
348		348
337		336
323		333
311		317
288		

#11

Par 3

A: Expand native area between #10 green, #11 tee, and #18 to reduce mowing and fill space between holes connecting the areas in the landscape.

B: Soften cart path grade and turns to meet a realigned path system that will move to the left side of the tees.

C: Build a new rear slightly to the right and elevate it to meet the hillside. Utilize a rock wall if needed to make up the grades.

D: Rebuild middle tee to the right near the existing cart path and elevate.

E: Provide for a turnaround for those players that access #11 from the new path off #10 green. This paving will be set lower than the surrounding tees.

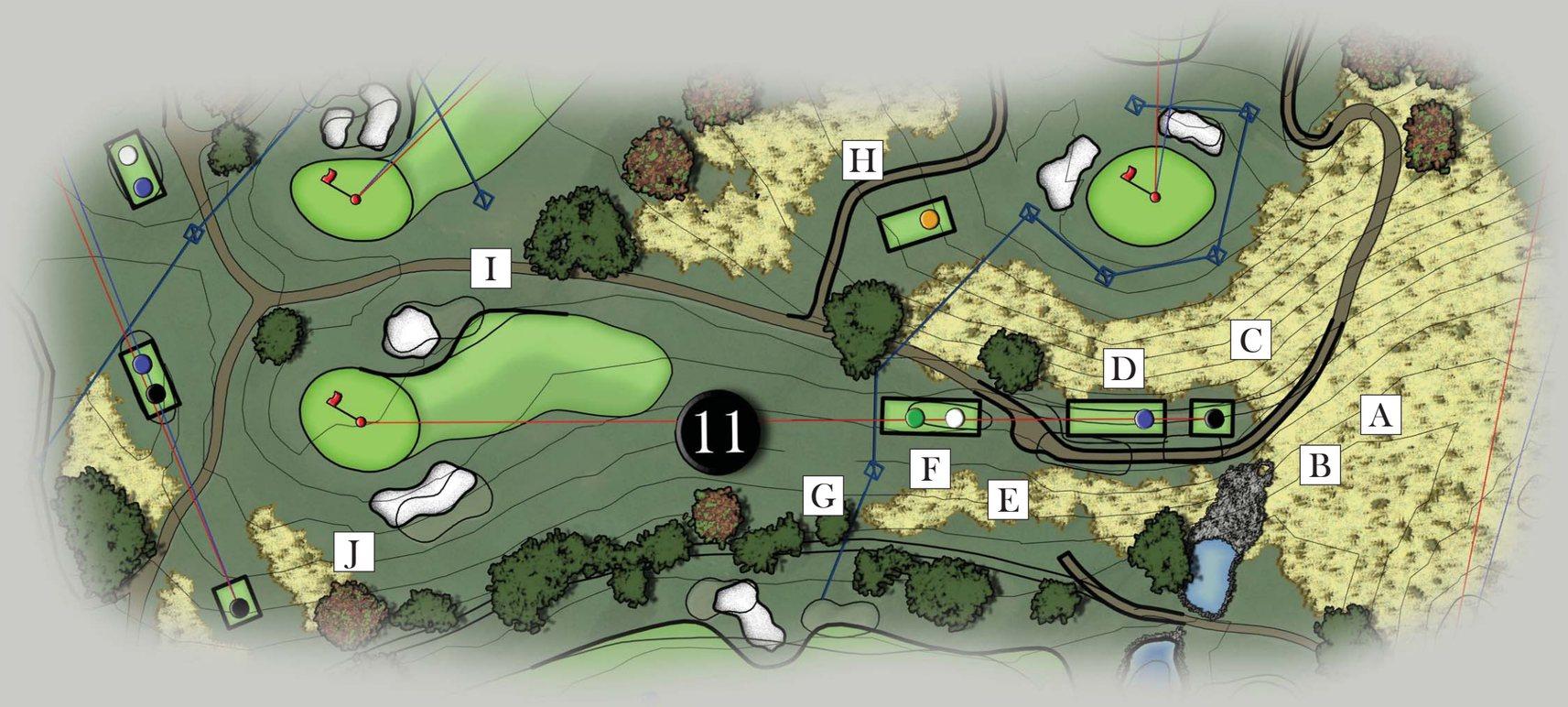
F: Rebuild existing forward tee expanding towards the front along the line of play.

G: Install drainage to tie pipe system from #10 green towards #17. This will limit stormwater crossing the fairway.

H. Create a new forward tee on the hillside right of the 10th green to provide a preferred angle into the green.

I: Rebuild the right greenside bunker, reducing sand area, maximizing the impact of the sand next to the putting surface. Open the approach for the shorter player.

J: Bring the left greenside bunker closer to the putting surface and elevate the bunker floor. This will dramatically accentuate the wonderful green site while keeping miss-hit balls closer to the putting surface



Proposed	Existing
204	204

Proposed	Existing
177	177

Proposed	Existing
149	149

Proposed	Existing
146	145

Proposed
140

#12

Par 5

A: Build new rear tee at its maximum distance.

B: Rebuild the existing main tee. Level and align.

C: Extend cart path to allow access to all tees. Install drainage in the large low to capture stormwater efficiently.

D: Enlarge the existing forward tee in place.

E: Build new forward tee towards the top of the hill to provide these players with an opportunity to reach the crest of the ridge.

F: Extend cart path and turn away from play to best distribute traffic.

G: Plant quality hardwoods in the treeline on the right and left side of the hole. The long term goal is a series of specimen trees that are scattered in natural groupings.

H. Extend the cart path towards the tee on the right side to keep carts on the high side of the hole. This alignment will keep traffic in the driest possible location.

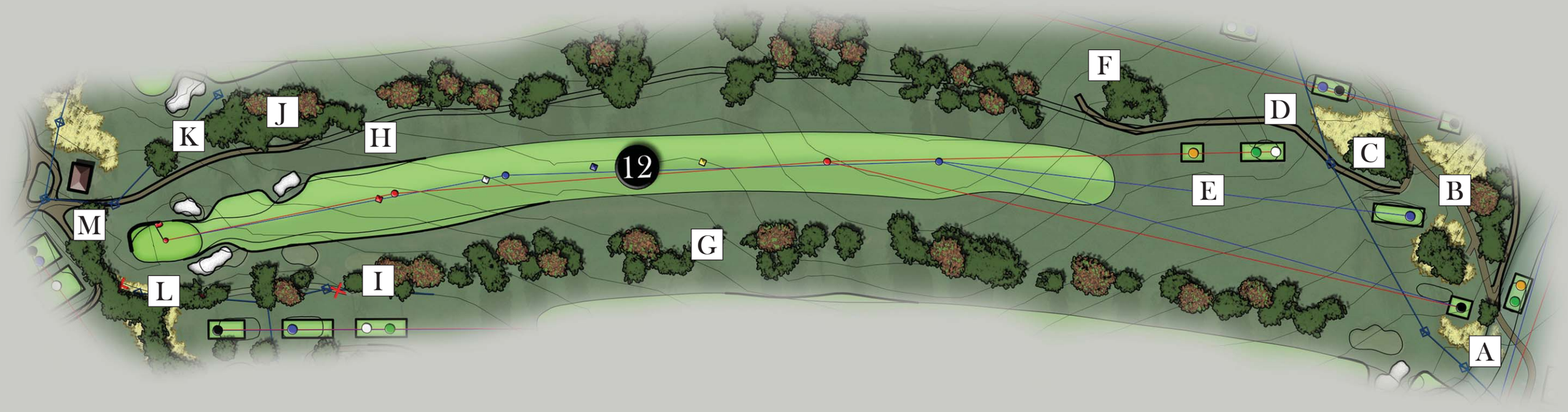
I: Eliminate the cart path on the left side to alleviate a number of playability and maintenance headaches.

J: Consider adjusting the strategy of the second landing area by placing a bunker on the right side of the hole to challenge the best line of play. Eliminating the bunker on the left side of the hole. Widen approach to provide additional target area short of the green.

K: Reconfigure the greenside bunkers to best frame the target. Marking the front corners of the green will accent the long, narrow putting surface.

L: Consider expanding the back right corner of the green to enlarge the target and improve cupping area.

M: Tie the new cart path alignment directly into the halfway house. Provide drainage inlets in the low around the structure.



Proposed	/	Existing
607		594
572		572
512		512
508		510
477		

#13

Par 3

A: Install a drainage system along the cart paths between #12, #3, and #13.

B: Build new rear tee. Expand usable area to optimize available space.

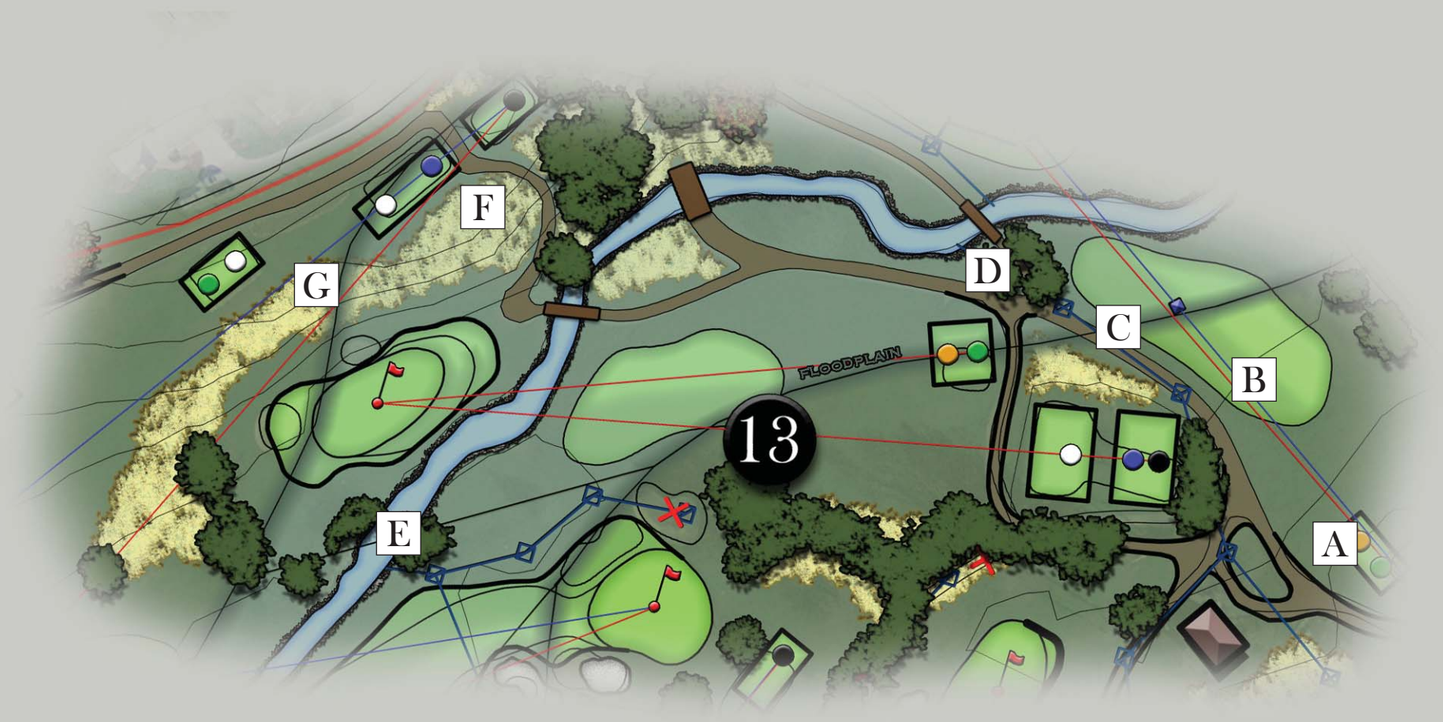
C: Eliminate double decker tee. Build new middle tee as large as possible.

D: Rebuild forward tee large enough to hold multiple sets of markers.

E: Eliminate greenside bunkers and create an expanded approach and chipping area. This will eliminate the sand from the floodplain, while creating a dramatic green surround along Plum Run. The short grass will create a variety of recovery shots without overly penalizing the high handicap golfer.

F: Eliminate ornamental grasses on the mounding and create native area.

G: Grade hillside to provide character, improve drainage patterns, and ease maintenance concerns.



Proposed	Existing
170	163

Proposed	Existing
160	150

Proposed	Existing
152	150

Proposed	Existing
133	128

Proposed
127

#14

Par 4

A: Rebuild rear tee and expand within space available.

B: Rebuild main tee. Realign and extend along the line of play.

C: Rebuild the existing forward tee.

D: Extend cart path along the line of play to provide better distribution of wear.

E: Build new forward along the right side of the hole to provide the best angle of play into the fairway.

F: Plant the trees along boundary to buffer the golf course from the surrounding developments.

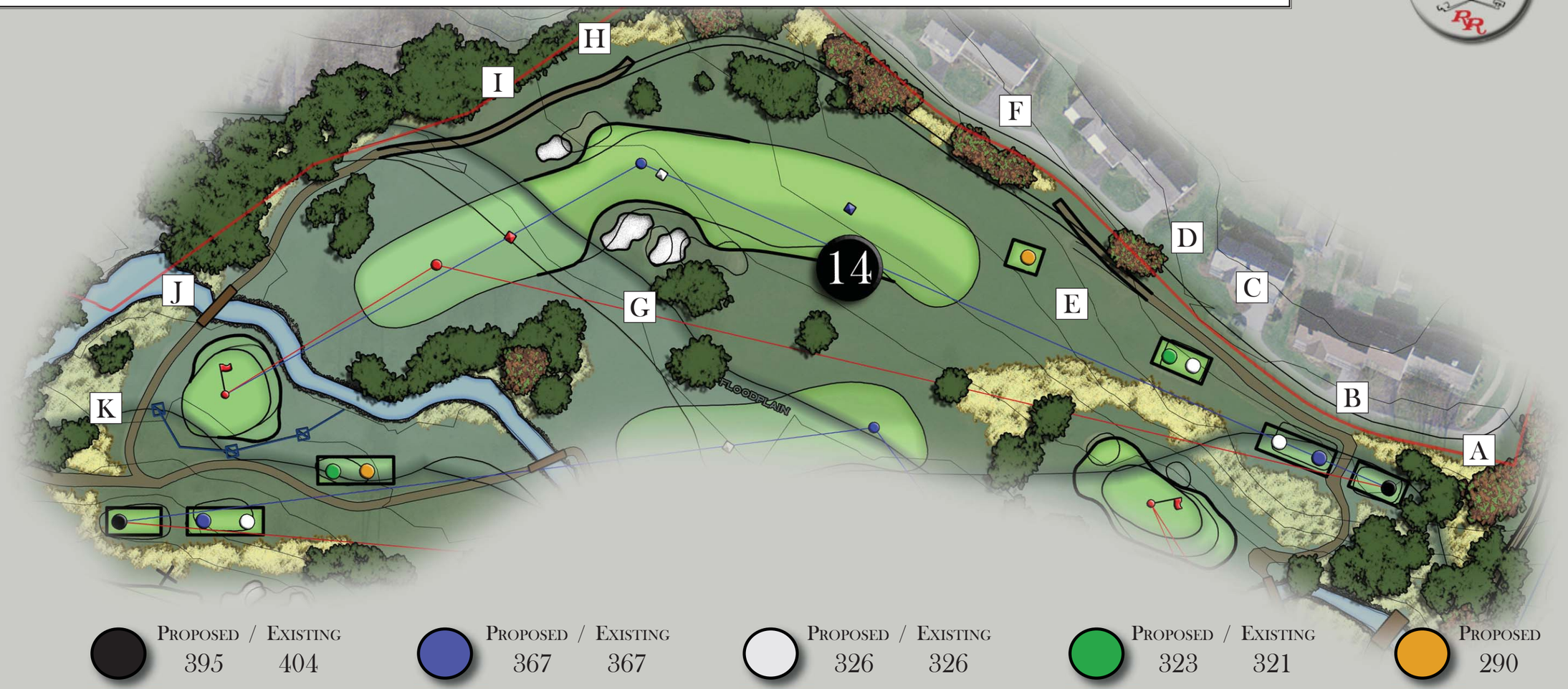
G: Shift left fairway bunkers towards the green to better challenge the long player. Keep the bunkers out of the flood plain, elevating the left side of the bunkers to prevent washouts.

H. Elongate cart path to the landing area to keep traffic on pavement through the floodplain.

I: Shift the right fairway bunker up to meet the original design intent of the dogleg. Open fairway in the short landing area.

J: Expand the approach and chipping area around the green. Lock into the bank of Plum Run.

K: Install drainage around green to improve recovery from storm events.



Proposed	Existing
395	404

Proposed	Existing
367	367

Proposed	Existing
326	326

Proposed	Existing
323	321

Proposed
290

#15

Par 4

A: Rebuild rear tee. Expand, align, and level.

B: Expand main tee along the line of play.

C: Enlarge forward tee to provide setup options and the space for two or three sets of markers.

D: Open channel in front of the second fairway to create more discernible hazard that improves drainage and enhances the strategy on this short par 4.

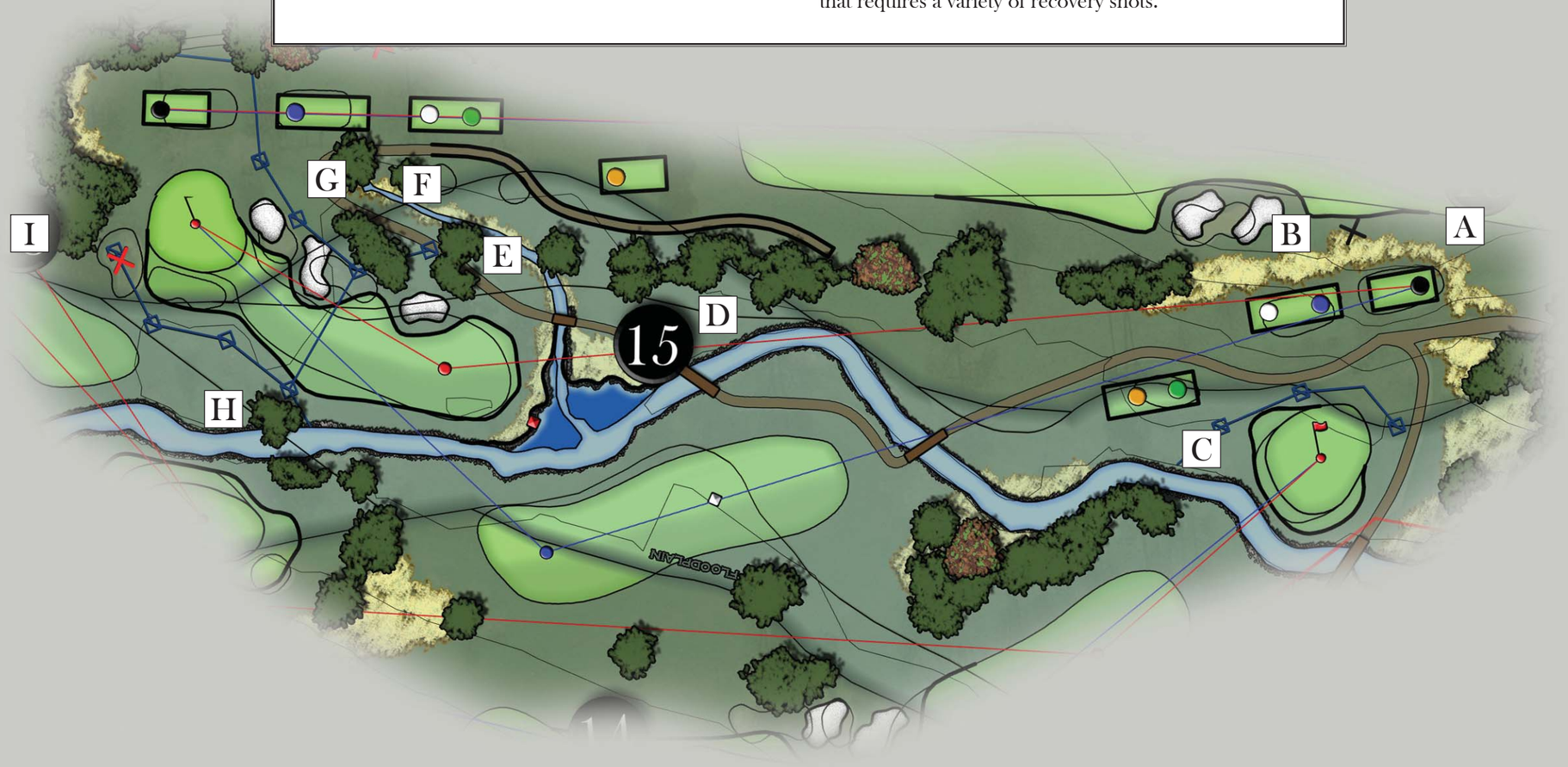
E: Create a new fairway bunker to challenge the long tee shot from the best players. Raise perimeter and surround to limit flooding.

F: Install a drainage system across the fairway and along the right side of the hole. This system will improve day to day drainage and aid in the recovery of flood events.

G: Renovate right greenside bunkers to frame the front portion of the green and create a unique series of hazards protecting the green.

H. Install a new drainage system along the left side of the hole. Utilize efficient pipe layout to create depth.

I: Eliminate the left greenside bunkers and create a raised approach/chipping area. This change will reduce the possible damage from flooding while developing a feature that requires a variety of recovery shots.



Proposed	Existing
352	352
321	303
300	300
288	271
276	

#16

Par 5

A: Shift rear tee slightly back.

B: Rebuild main tee, expanding along the line of play.

C: Install a drainage system left of the tees to improve the wet conditions along the tee banks.

D: Create a new third tee in line with the other tees. Allow for a number of tee markers.

E: Build a new forward tee closer to the fairway and in a better line.

F: Extend cart path along the right side of the hole. Provide access from the tees to the fairway with a better distribution of wear.

G: Plant quality hardwoods in the treeline between #16 and #12. The long term goal is a series of specimen trees that are scattered in natural groupings.

H. Rebuild the fairway bunker as a two bunker combination that showcases the elevation change up the hill.

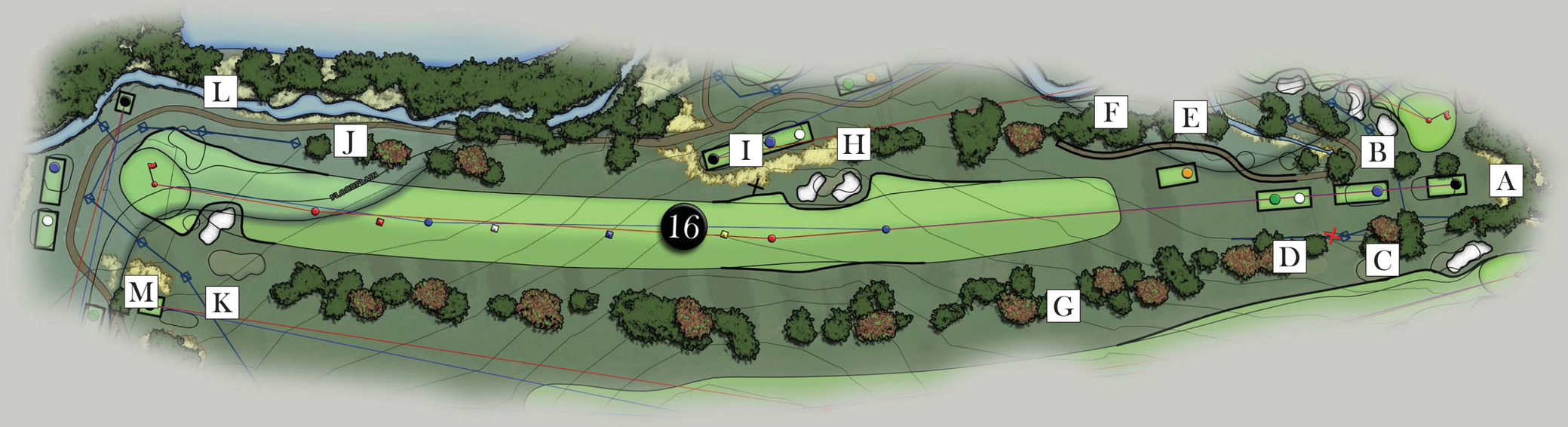
I: Remove tree from above the bunker that creates a double hazard.

J: Install a drainage system around the lower side of the hole. Provide access to and from the path along an expanded high point that distributes wear.

K: Eliminate approach bunker and shift existing left greenside bunker slightly away from the green. Elevate floor slightly to keep it out of the floodplain. Fill between bunker and green to provide an expanded approach.

L: Eliminate right greenside bunker. Provide a wide approach and chipping area along the right to create a playable feature that will not be affected by frequent flooding.

M: Install drainage along the left side to tie the drainage into the larger system. Collect water and pipe it away from the green surround.



Proposed	Existing
570	562

Proposed	Existing
531	531

Proposed	Existing
503	501

Proposed	Existing
496	501

Proposed
450

#17

Par 4

A: Consider a new rear tee along Plum Run. This is a more cost effective tee placement than on the other side of the creek.

B: Rebuild main tee extending tee space along the line of play.

C: Rebuild third tee. Level and align.

D: Rebuild forward tee. Expand to hold two sets of markers. Eliminate decorative rock wall - reduce hand maintenance.

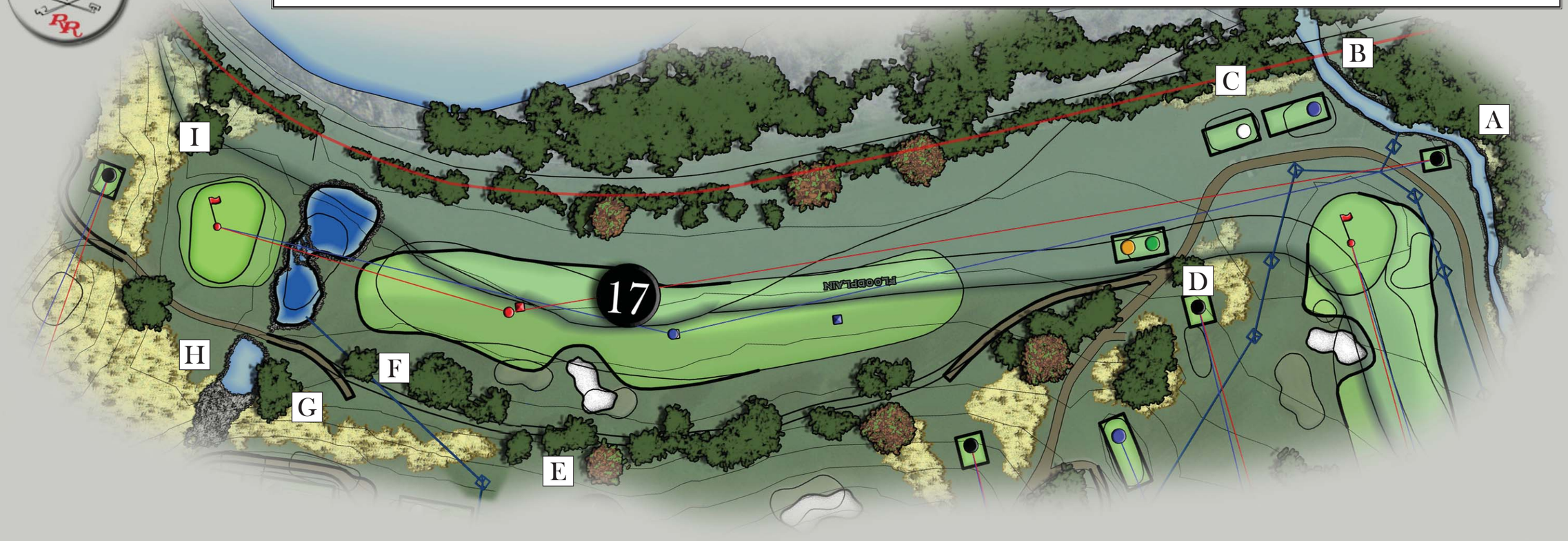
E: Reconfigure the fairway bunker setup. Eliminate one bunker and shift the remaining one towards the fairway to increase strategy. Widen short and long landing areas.

F: Extend fairway towards pond to lock features together and provide better playability for the high handicap player.

G: Extend the cart path towards the fairway to provide better access to the green.

H. Create a two-tier pond system to improve the visibility of the existing water feature. The existing pond has a number of issues along its perimeter. When addressing these problems develop a drop in the pool elevation so that it relates to the green, sets more naturally into the landscape, and provides better drainage. Arrange the drop in the pond at an angle so that it is clearly seen. Lower the foreground along the fairway to enhance this visibility.

I: Expand the existing low mown area around the green to lock into the new renovated water feature.



Proposed	/	Existing
398		371

Proposed	/	Existing
358		337

Proposed	/	Existing
335		331

Proposed	/	Existing
307		307

Proposed
300

#18

Par 4

A: Rebuild the existing rear tee. This tee location is very challenging, but for the best players it should be a shot they welcome on the home hole.

B: Align the cart path so that it climbs the hill along side of the tees. Two switchbacks should allow for it to traverse the slope without great hardship. Hug the new path location against the property line and eliminate the tie wall and hedge.

C: Divide the main tee into two for the Blue and White markers. By separating the length of the tee they can be turned toward the intended target with minimal earthwork (compared to one entire runway tee).

D: Eliminate the left hand tees and utilize the soil in the area to build the new tees. Deposit any left over soil from the pond work on #17 in this area as well.

E: Rebuild the third tee. Elevate slightly and turn towards the line of play.

F: Create a new forward tee from the most advantageous spot possible at the foot of the hillside. Elevate as much as possible while tieing into the landscape.

G: Extend the cart path through the low and partially up the hillside to allow cart to disperse effectively.

H. Remove the two ginko trees in combination with new fairway bunker

I: Provide every opportunity possible to grade the short landing area to better hold tee shots. The new tee angles should help but tilting the fairway to accept shots may be needed.

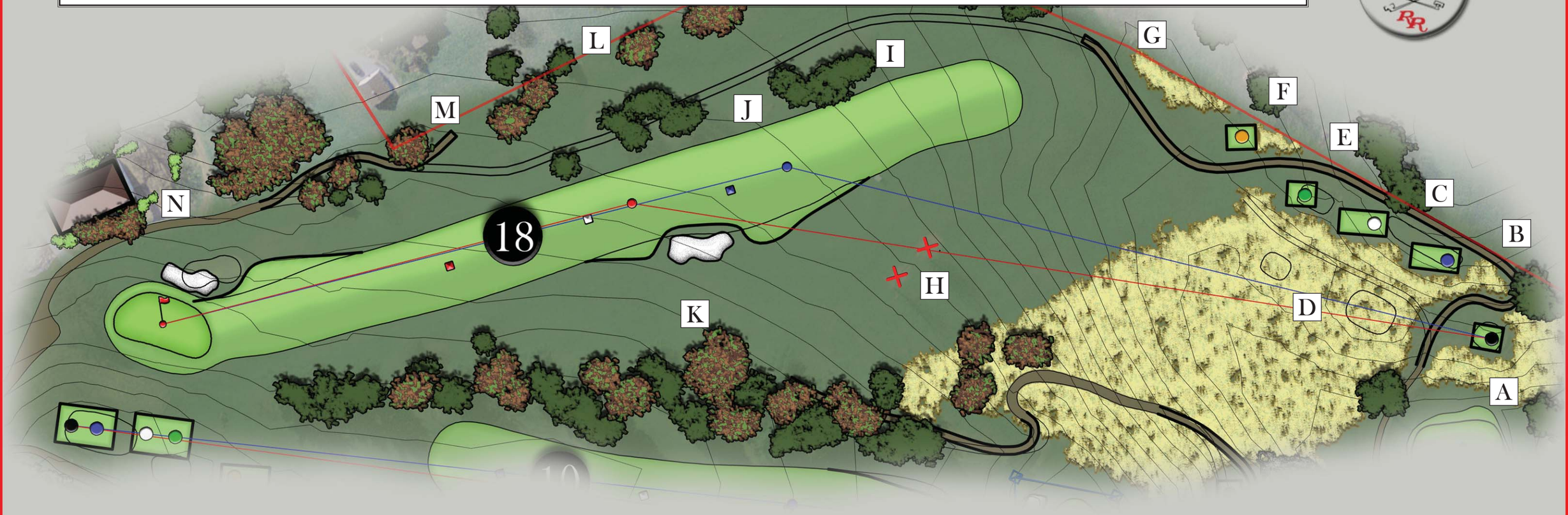
J: Soften mounding to the outside of the dogleg to improve drainage and maintenance.

K: Install new fairway bunker to challenge the best players from each tee. The hazard will mark the corner of the dogleg and accentuate the preferred line of play from the left.

L: Plant hardwoods as funds allow to buffer property line.

M: Lengthen cart path entrance towards the fairway to collect cart traffic short of the approach.

N: Adjust greenside bunker so that it delineates the right side of the green and holds miss-hits closer to the green surface.



Proposed	Existing
470	441

Proposed	Existing
442	432

Proposed	Existing
417	400

Proposed	Existing
399	397

Proposed
379

MCDONALD DESIGN GROUP, INC.
GOLF COURSE ARCHITECTS

P.O. Box 206 Jessup, Maryland 20794 410.799.1079 Fax 410.799.5840