



Baldwin County Planning and Zoning Commission Meeting Minutes Thursday, May 4, 2023

I. CALL TO ORDER

Chairman Steven Pumphrey opened the Baldwin County Planning and Zoning Commission Meeting at 4:02 p.m. May 4, 2023, at the Baldwin County Central Annex Main Auditorium, 22251 Palmer Street, Robertsedale, Alabama.

II. OPENING

Chairman Pumphrey opened the meeting with an invocation. He also led the pledge of allegiance.

III. ROLL CALL

Chairman Pumphrey conducted a roll call. The following members were present: Steven Pumphrey, Brandon Bias (came in late), Plumer Tonsmeire, Jason Padgett, Michael Mullek, Greg Seibert, Bill Booher, Diane Burnett, and Michael Fletcher. Members Robert Davis, Jamie Strategier, Mike McKenzie, and Rebecca Teel were absent. County Attorney Erin Fleming was also present.

Staff present included Matthew Brown, Buford King, Celena Boykin, DJ Hart, Mary Booth, Shawn Mitchell, Cory Rhodes, Fabia Waters, Crystal Bates, Ashley Campbell, and Tucker Stewart.

IV. APPROVAL OF MINUTES

Mr. Mullek made a motion to approve the April 6, 2023, work session and the April 6, 2023 meeting minutes. Mr. Booher seconded the motion. All members voted aye. **The motion to approve the April 6, 2023, Planning Commission work session minutes and the April 6, 2023, Planning Commission meeting minutes carried on a vote of 8-0.**

V. ANNOUNCEMENTS/REGISTRATION

Chairman Pumphrey explained the public hearing registration and meeting procedures.

VI. CONSIDERATION OF APPLICATIONS AND REQUESTS – OLD BUSINESS

a.) Case CSP22-41, ECOVERY

The applicant is requesting Commission Site Plan Approval to construct a 28,560 sq. ft. building on the property.

The case was presented by Celena Boykin.

Kevin Sloan signed up to speak for the applicant.

James Waters was signed up in opposition.

Mr. Mullek made the motion to approve subject to listed conditions from the staff report and combining the lots. Mr. Padgett made the second. All members voted in favor of the motion. **Motion to approve case CSP22-41, E-Covery, carried on a vote of 8-0.**

VII. CONSIDERATION OF APPLICATIONS AND REQUESTS – REZONING CASES

a.) Case Z23-8 and PRD23-1, Retirement Systems of Alabama Property

The applicant is requesting to rezone 7.2+/- acres from OR to RSF-1 to allow residential development on the parcel.

Ms. Boykin presented the case.

Melissa Currie, Clyde Johnston, Max Vaughn were present for the applicant.

Tracy Frost, Carroll Sullivan, William Mitzger and Thomas Pilcher were present in opposition.

Mr Booher made the motion to DENY request PRD23- 1, Oaks at the Colony, Mr. Tonsmeire made the second, Mr. Bias recused himself from this case. **Mr. Tonsmeire, Mr. Seibert, Mr Booher and Mr. Fletcher voted in favor of the motion to deny. Mr. Padgett, Mr. Mullek and Ms. Burnett were opposed to the motion. Motion to recommend Denial, carried on a vote of 4-3.**

Mr Booher made the motion to DENY request Z23-8, Retirement Systems of Alabama Property, Mr. Seibert made the second, Mr. Bias recused himself from this case. **Mr. Tonsmeire, Mr. Mullek, Mr. Seibert, Mr Booher and Mr. Fletcher voted in favor of the motion to deny. Mr. Padgett and Ms. Burnett were opposed to the motion. Motion to recommend Denial, carried on a vote of 5-2.**

b.) Case Z23-9, Mako Forestry Corp. Property

The applicant is requesting to rezone 3.06+/- acres from B-3 to RR to allow forestry related equipment to be stored on the property.

The case was presented by Cory Rhodes.

Michael Manning was present for the applicant.

No one was present in opposition.

Mr Bias made the motion to Recommend APPROVAL of the request. Mr. Mullek made the second. All members voted in favor of the motion. **Motion to Recommend APPROVAL of Case Z23-9, Mako Forestry Corp. Property carried on a vote of 8-0.**

c.) Case Z23-10, Torres Property

The applicant is requesting to rezone 1.56+/- acres from RSF-2 to B-2 to allow expansion of the parking lot for the adjacent restaurant.

The case was presented by Crystal Bates.

Seth Moore was present for the applicant.

No one was present in opposition.

Mr Booher made the motion to Recommend APPROVAL of the request. Mr. Seibert made the second. All members voted in favor of the motion. **Motion to Recommend APPROVAL of Case Z23-10, Torres Property carried on a vote of 8-0.**

d.) Case Z23-12, Scopolites Property

The applicant is requesting to rezone the west 205 feet of lot 2 from RSF-E to B-2 to allow commercial/office warehouse use of the property.

The case was presented by Cory Rhodes.

Seth Moore was present for the applicant.

Carolyn Byars, John Parker, and Hunter Simmon with the city of Fairhope were present in opposition.

Mr Bias made the motion to Recommend DENIAL of the request. Mr. Seibert made the second. All members voted in favor of the motion. **Motion to Recommend DENIAL of Case Z23-12, Scopolites. Property carried on a vote of 8-0.**

VIII. CONSIDERATION OF APPLICATIONS AND REQUESTS – SUBDIVISION CASES

a.) Case SV23-1, Ducklings Tiny House Community Variance

The applicant is requesting a variance from several sections of the Baldwin County Subdivision Regulations.

The case was presented by Buford King.

David Wilson was present for the applicant.

Steve Coggins and Fire Marshall Michael Aaron signed up in opposition.

Mr Bias made the motion to Deny the request due to a lack of hardship. Ms. Burnett made the second. All members voted in favor of the motion. **Motion to DENY case SV23-1, Ducklings Tiny House Community carried on a vote of 8-0.**

b.) Case SV23-4, D R Horton Property Variance

The applicant is requesting a variance from section 5.1.1 of the Baldwin County Subdivision Regulations.

The case was presented by Buford King.

was present for the applicant.

No one signed up in opposition.

Mr Mullek made the motion to APPROVE. Mr. Padgett made the second. All members voted in favor of the motion. **Motion to APPROVE case SV23-4, D R Horton Property Variance carried on a vote of 8-0.**

c.) Case PUD23-1 and CSP23-3, Brinks Willis Mobile Home Park

The applicant is requesting Final Site Plan Approval for a 18-lot mobile home park.

The case was presented by Mary Booth.

Chris Lieb was signed up to speak for the applicant.

Isabella Rosas was signed up in favor of the applicant.

~~Mark Ackerman with the City of Gulf Shores was signed up to speak, requesting a 40' ROW for the city.~~

Mr Bias made the motion to APPROVE with conditions and to provide the future 40' ROW of the request. Mr. Seibert made the second. All members voted in favor of the motion. **Motion to APPROVE case PUD23-1 and case CSP23-3, Brinks Willis Mobile Home Park carried on a vote of 8-0.**

d.) Case PUD23-5, Rivers Crest Estates

The applicant is requesting Final Site Plan Approval for a 100-lot development.

The case was presented by Mary Booth.

David Diehl, Aaron Collins, David Lavery, and Larry Smith signed up to represent the applicant.

Travis Langer, Robert Wiggins and Regina signed up to speak in opposition.

Planning Director Brown requested that case PUD23-5 be momentarily tabled to allow some research on the Planning District 35 Local Ordinance, Mr Fletcher made the motion to TABLE momentarily case PUD23-5. Mr. Seibert made the second. All members voted in favor of the motion to momentarily Table. The Commission moved on to the next case on the agenda and then resumed case PUD23-5.

Mr Seibert made the motion APPROVE with conditions, the request. Mr. Padgett made the second. Seven members voted in favor of the motion; Mr. Fletcher was opposed to

the motion. **Motion to APPROVE with conditions case PUD23-5, Rivers Crest Estates carried on a vote of 7-1.**

e.) Case PUD23-6, Oak Ridge RV Park

The applicant is requesting Final Site Plan Approval for a 166-site RV Park.

The case was presented by Shawn Mitchell.

Chris Lieb and Carrie Catrett were present for the applicant.

No one was in opposition.

Ms. Burnett made the motion to APPROVE the request subject to listed conditions and to move the dumpster and remove the septic tank, use sewer. Mr. Booher made the second. All members voted in favor of the motion, Mr. Padgett abstained, **Motion to APPROVE case PUD23-6, Oak Ridge RV Park carried on a vote of 7-0.**

f.) Case SPP23-4, Mill Creek Subdivision Phase I

The applicant is requesting Preliminary Plat approval for a 103-lot subdivision.

The case was presented by Shawn Mitchell.

David Diehl, Aaron Collins, David Lavery, and Larry Smith signed up to represent the applicant.

James Boykin signed up in opposition.

Mr. Bias made the motion to APPROVE the request with conditions. Mr. Seibert made the second. All members voted in favor of the motion. **Motion to APPROVE case SPP23-4, Mill Creek Subdivision Phase 1 carried on a vote of 8-0.**

g.) Case SPP23-2, Tealwood Estates Phase 1-7

The applicant is requesting Preliminary Plat approval for a 636-lot subdivision, 7 phases.

The case was presented by Shawn Mitchell.

David Diehl, Aaron Collins, David Lavery, and Larry Smith signed up to represent the applicant.

William Metzger, Marla Barns, Cindy Sidwell and Mike Lloyd signed up in opposition.

Mr. Bias made the motion to APPROVE the request with conditions. Mr. Seibert made the second. All members voted in favor of the motion. **Motion to APPROVE case SPP23-2, Tealwood Estates Phase 1-7 carried on a vote of 8-0.**

h.) Case SPP23-3, Gaineswood Subdivision

The applicant is requesting Preliminary Plat approval for a 174-lot subdivision.

The case was presented by Mary Booth.

Melissa Currie and Jeremy Sasser signed up to represent the applicant.

No one signed up in opposition.

Mr. Padgett made the motion to APPROVE the request with conditions. Mr. Booher made the second, Mr. Bias recused himself from the case. All members voted in favor of the motion. **Motion to APPROVE case SPP2334, Gaineswood Subdivision carried on a vote of 7-0.**

i.) Case SPP23-7, Autumn Lakes

The applicant is requesting Preliminary Plat approval for a 209-lot subdivision.

The case was presented by Shawn Mitchell.

David Diehl, Aaron Collins, Jackson Berkbighler, and Larry Smith signed up to represent the applicant.

David Sanderson signed up in opposition.

Mr. Bias made the motion to APPROVE the request with conditions. Mr. Padgett made the second. All members voted in favor of the motion. **Motion to APPROVE case SPP23-7, Autumn Lakes carried on a vote of 8-0.**

j.) Case SPP23-8, BFLC Lawrence Creek Subdivision

The applicant is requesting Preliminary Plat approval for a 4-lot subdivision.

The case was presented by Shawn Mitchell.

No one was signed up to speak.

Mr. Tonsmeire made the motion to APPROVE the request with conditions. Mr. Bias made the second. All members voted in favor of the motion. **Motion to APPROVE case SPP23-8, BFLC Lawrence Creek Subdivision carried on a vote of 8-0.**

k.) Case SPP23-14, BFLC Eightmile Creek East PH V Subdivision

The applicant is requesting Preliminary Plat approval for a 5-lot subdivision.

The case was presented by Mary Booth.

No one signed up to speak

Mr. Bias made the motion to APPROVE the request with conditions. Mr. Seibert made the second. All members voted in favor of the motion. **Motion to APPROVE case SPP23-14, BFLC Eightmile Creek East PH V Subdivision carried on a vote of 8-0.**

l.) Case SPP23-16, BFLC Eightmile Creek East PH IV Subdivision

The applicant is requesting Preliminary Plat approval for a 5-lot subdivision.

The case was presented by Mary Booth.

No one signed up to speak

Mr. Mullek made the motion to APPROVE the request with conditions. Mr. Seibert made the second. All members voted in favor of the motion. **Motion to APPROVE case SPP23-16, BFLC Eightmile Creek East PH IV Subdivision carried on a vote of 8-0.**

m.) Case SC23-7, Caver Subdivision

The applicant is requesting Preliminary Plat approval for a 3-lot subdivision.

The case was presented by Shawn Mitchell.

No one was signed up to speak.

Mr. Mullek made the motion to APPROVE the request with conditions. Mr. Tonsmeire made the second. All members voted in favor of the motion. **Motion to APPROVE case SC23-7, Caver Subdivision carried on a vote of 8-0.**

IX. CONSIDERATION OF APPLICATIONS AND REQUESTS – SUBDIVISION CASES OLD BUSINESS

a.) Case PUD22-19, Clear Creek RV Resort

The applicant is requesting a Final Site Plan Approval for a 264-unit RV Park.

The case was presented by Shawn Mitchell.

Frank Nettles was signed up to speak for the applicant.

Mr. Mullek made the motion to APPROVE the request with conditions. Mr. Fletcher made the second. All members voted in favor of the motion; **Motion to APPROVE case PUD22-19, Clear Creek RV Resort carried on a vote of 8-0.**

X. CONSIDERATION OF APPLICATIONS AND REQUESTS- COMMISSION SITE PLAN APPROVAL

b.) Case CSP23-12, Loxley Boat and RV Storage

The applicant is requesting Commission Site Plan Approval to construction of a boat and RV Storage.

The case was presented by Cory Rhodes.

Dustin Britton was signed up in support of the case.

Mr. Booher made the motion to APPROVE with conditions. Mr. Seibert made the second. All members voted in favor of the motion. **Motion to APPROVE case CSP23-12, Loxley Boat & RV Storage carried on a vote of 8-0.**

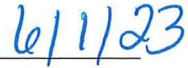
X. REPORTS AND ANNOUNCEMENTS

XI. ADJOURNMENT

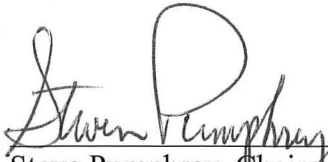
As there were no further items to discuss the meeting adjourned at 9:40 p.m.



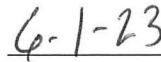
DJ Hart, Planning Technician



Date



Steve Pumphrey, Chairman
Baldwin County Planning and Zoning Commission



Date

Baldwin County Zoning Ordinance

2.3.35 *Planning District 35.*

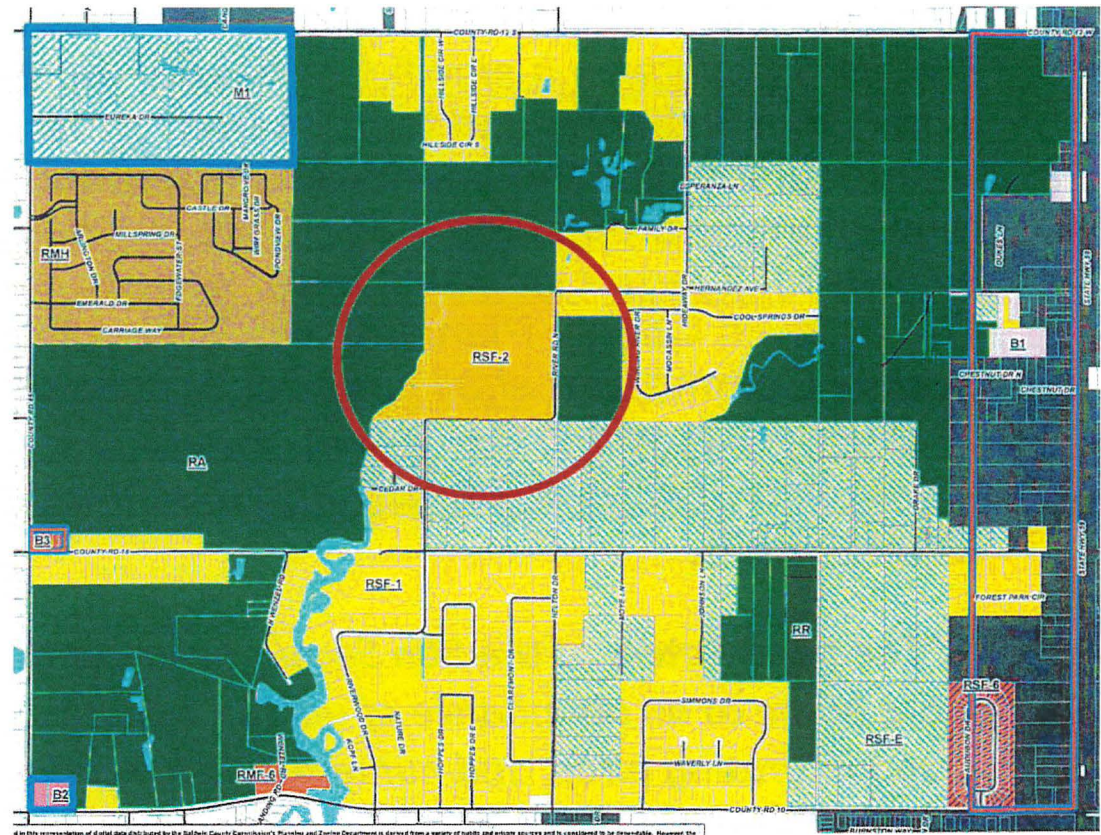
(e) Bon Secour River.

District 35 contains a significant natural resource in the Bon Secour River, associated wetlands and feeders from small creeks and natural watercourses. It is the intent with implementation of these zoning regulations to protect the vulnerability of these resources within the district by means of larger lot sizes, lower density, and less intensity of land use. The Baldwin County Planning and Zoning Commission and the Baldwin County Commission shall specifically consider the environmental character of these areas within the district related to Planned Residential Development lot size, density and the infrastructure to support such development.

“The headwaters of the Bon Secour River contain clear and cold springs that are home to an abundance of unique wildlife including river otters, resident and migrating birds, and numerous fish, reptile, and amphibian species. It is imperative that these fragile, threatened ecosystems are protected for future generations.” – Jean-Michel Cousteau

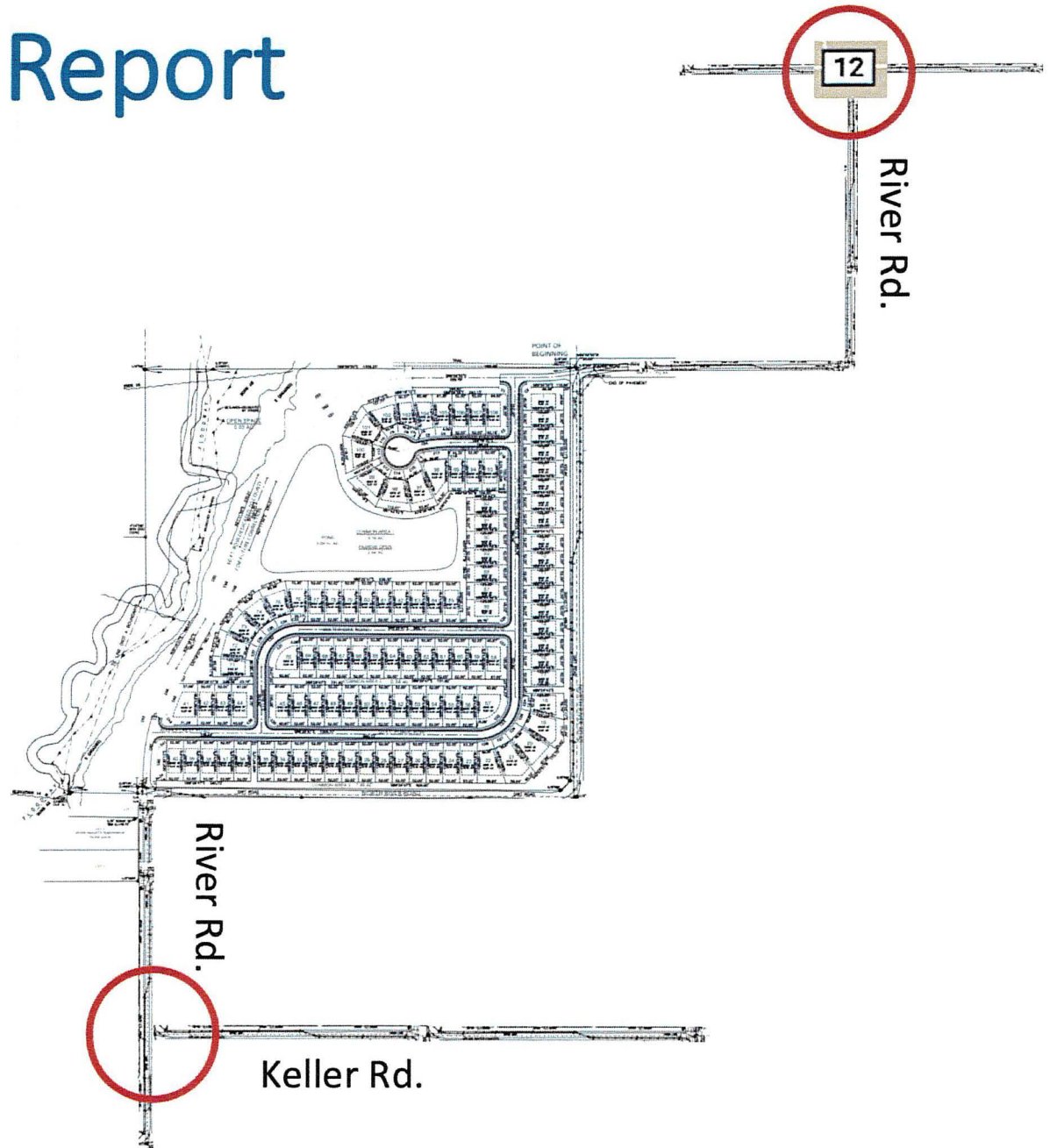
Planning District 35

- The zoning of the subject property as RSF-2 went against committee recommendations and is inconsistent with surrounding RSF-E and RSF-1 zoning.
- At the October 2022 County Commission meeting when Planning District 35 was approved, concerns were expressed that there was not enough time devoted to effectively review the zoning designations and would therefore be subject to hasty decision-making.



Traffic Impact Report

- River Rd. N from Keller Road to County Rd 12 has been closed to through traffic since September of 2022 due to the building of a new bridge at Turf Creek.
- The traffic volume study for the two intersections was conducted in November 2022, after the study area was closed to through traffic.
- This project puts a considerable number of new vehicles on unimproved rural roads and at vulnerable intersections. We do not have accurate data on actual traffic flow.





River Rd. October 3, 2022



Proposed development abuts rural River Rd. N



Bon Secour River at site of proposed development



Large Gopher Tortoise populations within site.

MICHAEL J. HURDZAN
2321 LANE ROAD
COLUMBUS, OHIO 43220

May 1, 2023

Mr. Marshall Gardner
Maynard Nexsen
11 North Water Street
Mobile, Alabama 36602

Re: Golf Course Architect's Safety Assessment of Development Plan for The Oaks at the Colony, Baldwin County, Alabama

Dear Mr. Gardner;

I was contacted by two people, Tracy Frost and Clyde Johnston, separately, to offer my opinion on the relative safety of six (6) home locations between holes two and three on the Lakewood Golf Course. Tracy Frost contacted me by email on Thursday, 27 April at 9:24 p.m., and I responded on Friday at 9:25 a.m. asking for more information. At 11:13 a.m., I received some photographs, a Google Earth photo and a site plan for the six homes. At 1:04 p.m., I emailed back and offered my opinion of the relative safety of those locations from errant golf hole balls.

At about 2:40 p.m. on Friday, I received a call from Clyde Johnston, who I have known professionally for perhaps 25-years or more, referencing the same situation as Tracy Frost. I told Mr. Johnston that I was familiar with the situation as I had reviewed the materials from Frost, and I shared that opinion with Mr. Johnston.

Basically, after reviewing and applying some safety guidelines to the Lakewood plan that I use in my golf course architectural practice, I concluded that those six home locations were reasonably safe from errant balls. Obviously there will be some errant balls that would enter the "Fairway Buffer Area" shown in dark green on the GMC plan, but should rarely reach the home location. To reduce even that likelihood, I suggested that the developer

should plant some shrubs or trees in the area closer to the tee to force golfers to aim further left. Lastly I suggest that the developer should warn a prospective buyer that living on a golf course carries some risks.

Then Mr. Johnston asked if I had seen either his report or that of Mr. Ken Tanner, and I said that I had not. Mr. Johnston offered to forward me those reports and asked if I would offer my opinion on them, and reply back to you.

Mr. Johnston's report was dated 9 March 2023, with two subsequent letters dated 21 April and 26 April 2023. Mr. Tanner's report was date 19 March 2023. Both reports are trying to predict errant golf shots, but in my opinion that is a game of probabilities that cannot be precisely quantified. I don't think any expert can definitively say exactly how many golf balls may go into the Fairway Buffer Area shown on the plan, or beyond, other than that there will be some.

My major point of disagreement with Mr. Tanner's report is in his paragraph 17 where he vastly underestimates trees as effective protection from golf balls. Granted, some canopy's of some trees are more dense and effective in slowing or stopping a ball, but Mr. Tanner completely ignores the psychological and visual effect on golfers, and benefit to safety. Trees and shrubs can indeed be effective safety devices because they influence where golfers will aim their shots to avoid trees, as well as stop or slow golf balls. I don't know any golfer who would summarily dismiss trees as ineffective ball barriers, no matter how thin their foliage, for golfers don't believe that trees are all air. The trees on the Lakewood site plan appear to be of such size and placement to be reasonably good safety devices, and cannot be ignored.

From my experience of working on over 400-golf course projects over a 55-year period, trees and shrubs can be significant and important safety devices when planted close to teeing areas and in proximity of restricted areas such as home development. Not 100% effective like a net or ball barrier, but when intelligently planted to supplement already adequate spatial separation, trees and shrubs can unquestionably increase safety.

I also disagree with Mr. Tanner in his paragraph 37, where he concludes his first sentence with the phrase "...unacceptable amount of risk to damage." I believe that the amount of risk must be weighted against the benefits of living on a golf course, and that is a decision that only the homeowner can decide.

Summary Opinion:

It is my professional opinion based upon a reasonable degree of certainty, that the plan for the six home sites is well thought out and that safety from errant golf balls was respected. However supplemental planting on the golf course close to the teeing areas and in


the designated "Fairway Buffer Area" on the plan, will further enhance safety and reduce the probability, and hence danger of errant golf balls on the development lots. If I wanted to live on a golf course, I would buy any one of those properties, with some expectation that there would be errant shots on that property, which I would find acceptable.

If you have any questions, please contact me by email or my call phone (614) 264-1507.

Respectively,

Michael J. Hurdzan

Michael J. Hurdzan, Ph.D., ASGCA Fellow

	<h2 style="margin: 0;">Probable Golf Instruction</h2> <ul style="list-style-type: none"> • Errant Golf Ball Trajectories • Golf Netting Safety Height • Topographic Errant Ball Analysis • Adjoining Property Errant Golf Ball Safety Determination <p style="margin-top: 20px;"> www.probablegolfinstruction.com Phone: 604-309-7030 probablegolf@yahoo.ca Owner/Creator: Ken Tannar </p>
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May 1, 2023

Golf Expert Analysis

RE: Determining the errant golf ball risk at Lakewood GC at a proposed residential area planned for the buffer area between Hole 2 and Hole 3.

Golf Expert Analysis by Ken Tannar, Probable Golf Instruction

This letter is to confirm that I have reviewed the latest Conceptual Master Plan of “The Oaks at the Colony,” dated 04.26.2023 (see attached) relative to my original analysis report dated April 30, 2023, and have the following comments:

1. The rearrangement of the road and the location of the buildings will not change the significant risk of errant golf ball damage identified in my report. It would be like rearranging the furniture on the Titanic and expecting a different outcome to its fate. The change in position of the buildings will not change the threat of errant golf balls causing damage. The setback distances between the golf holes and the proposed site are too short, as outlined in my report.
2. The buffer area is about the same area and width as Hole 3. If a new golf hole were constructed within the buffer area, one would have a golf hole flanking golf holes on either side with inadequate setback distances. Golfers playing the new golf hole would be subjected to the risk of errant golf balls from both Hole 2 and Hole 3. The four letter word, “FORE,” would be heard frequently as golfers from the two holes warn of the impending danger to golfers on the new golf hole. The risk to specific golfers is only minimized because they do not remain in the area long. Buildings and roads, however, are permanently in place and therefore subject to continued risk. Note the significant distance between

golf holes in Hurdzan's Design Safety elements below (designed to keep golfers safe). The buffer area size is not suited for either the proposed development or a new golf hole.

3. Michael Hurdzan now uses a 200 foot setback distance from a golf hole's centerline as a starting point for safety, from which he adds additional distance dependent upon topography, length of shot, expected skill level of golfers, prevailing winds, etc. He and other golf course architects have increased their setback distance guidelines over the years since there is now clear evidence about how far left or right golfers tend to hit their golf balls and since there has been an increase in litigations over errant golf ball damage to properties beside golf courses. He automatically adds another 50 feet if there are buildings nearby (see Design Safety Elements below), thus increasing the starting guideline at 250 feet from the centerline. Thus, adding the two setback distances from either side of the buffer area adds to 500 feet. The distance between the centerlines of Hole 2 and Hole 3 varies between 500 feet and 550 feet. There is no safe room for any buildings or a road.
4. Hurdzan's 15 degree zone of play guideline is also a starting point. He cites that 92% of golf shots will likely be within that zone which leaves 8% outside the zone, with most likely 5% being to the right (within the buffer area). Assuming 25,000 rounds annually, that would leave 1250 errant golf balls landing onto the buffer area from each of the two golf holes (2500 in total). This is greater than what I estimated using the Broadie data in my original report.
5. It is my expert opinion that the proposed development will endanger people, vehicles and buildings with an unacceptable amount of risk to damage. I've demonstrated this risk using some of the best amateur golf ball trajectory data available as well as using the guidelines practiced by one of the most respected golf course architects today, Dr. Michael Hurdzan. If the proposed development is approved, it won't be long after completion that the errant golf ball problem is realized. The problem would then require mitigation by using some very high (at least 90 feet) and long safety fences, not just to protect users from the teeing areas but from 2nd, 3rd, and 4th shots as well.

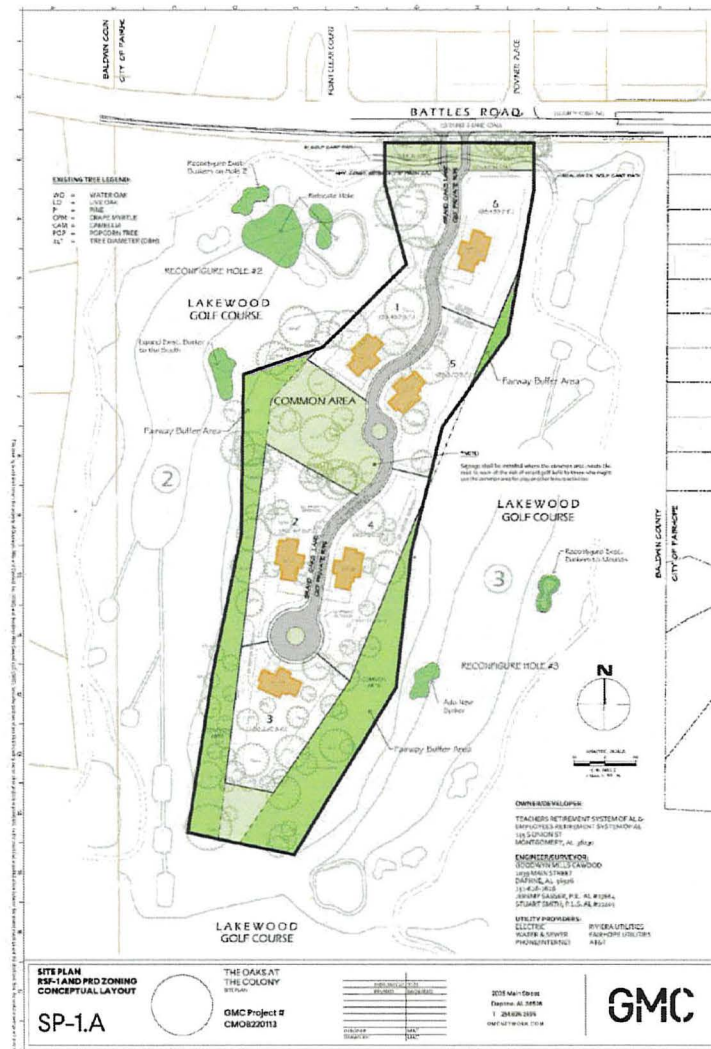
The Oaks at the Colony

Presentation to the Baldwin County Planning Commission

May 4, 2023

Melissa A. Currie, PhD, RLA, AICP

GMC



SITE DATA:

PARCEL ID = PIN 282038
TOTAL AREA = 7.2 AC. (+/- 314,978 S.F.)
EXIST. ZONING = OR - OUTDOOR RECREATION
BALDWIN CO., PLANNING DIST. 19
FLOOD ZONE = X (UNSHADED)

DEVELOPMENT SUMMARY:

PROPOSED ZONING = RSF-1, SINGLE FAMILY & PRD
 PROPOSED USE = SINGLE FAMILY, 6 LOTS
 PROPOSED DENSITY = 0.83 DU/AC (GROSS)
 OPEN SPACE = 111,715 SF (2.56 AC) 35.6% OF SITE
 PROPOSED ROAD = 936 L.F.
 IMPERVIOUS SURFACE = 18,419 SF

MAX. BLDG. HEIGHT = 35'
SETBACKS = 10' FRONT, 10' SIDE, 15' REAR
25' TO FAIRWAY BUFFER

MIN. LOT SIZE = 30,000 SF - (4) LOTS WITH MAX. OF TWO (2) LOTS @ <30,000 SF

SMALLEST LOT = 25,370 SF (LOT 5)

NOTE: ALL ROADS & COMMON AREAS ARE TO BE PRIVATELY OWNED & MAINTAINED BY FUTURE POA.

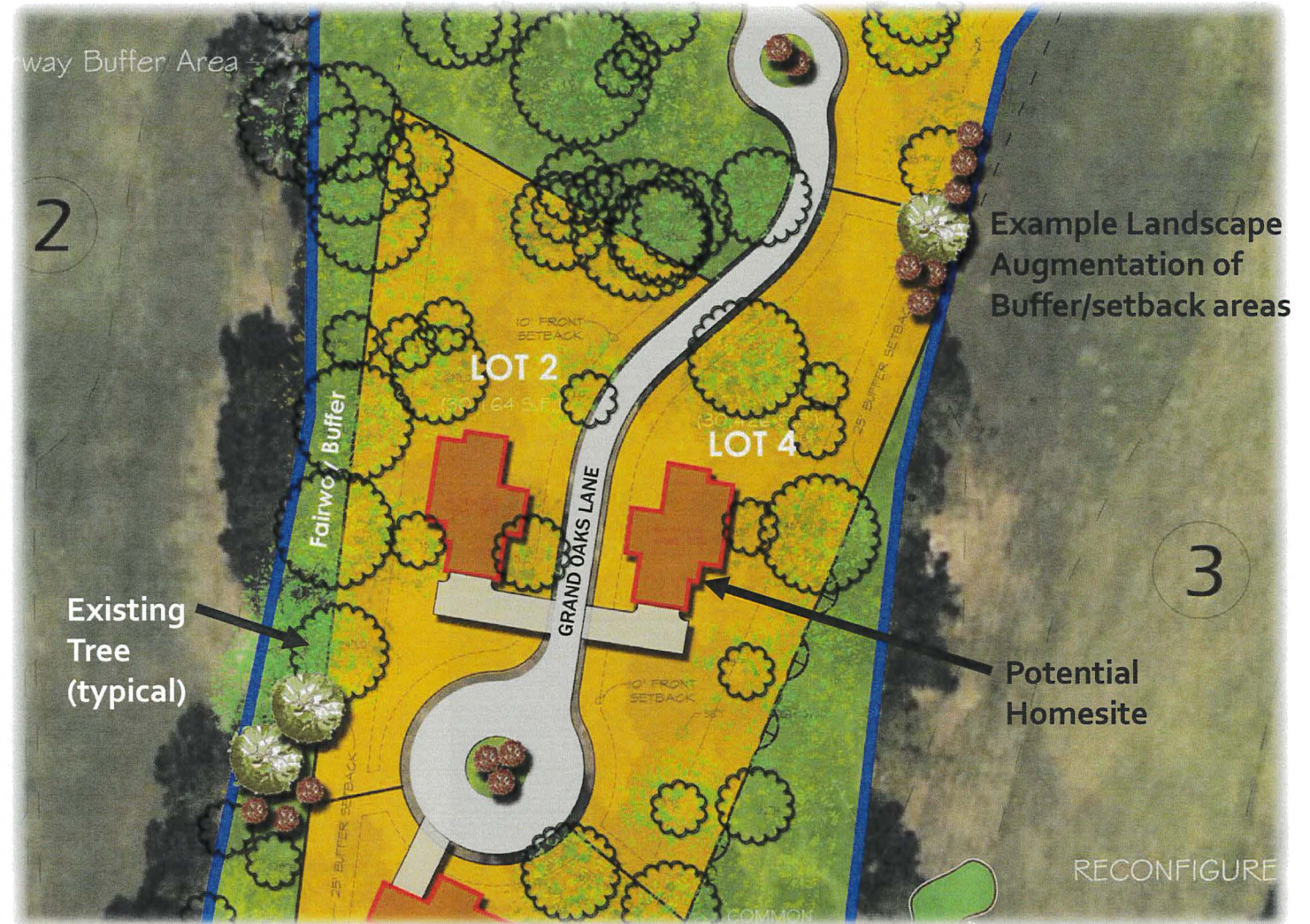
Conceptual Master Plan

Design Considerations:

- Preserve and protect existing trees
- Low density
- Minimize impervious surface
- Golf Course modifications per recommendations
- Careful home siting
- Landscape requirements
- Signage
- Incorporate LID techniques
- CCRs and POA



Enlargement of typical lot arrangement



Clyde B. Johnston

- Professional Golf Course Design Expert with over 40 years of experience in designing golf courses
- Served as Board Member and President of the American Society of Golf Course Architects

CLYDE JOHNSTON DESIGNS, INC.
GOLF COURSE ARCHITECTURE

March 6, 2023

To Whom It May Concern:

I was contacted by RSA representatives to review a proposed sketch plan for six homesites on 7.2 acres located between golf holes 2 & 3 of the Azalea Course at the Lakewood Club, in order to determine whether the design and layout met appropriate best practices for residential developments adjoining golf courses. The sketch plan is identified as "THE OAKS AT THE COLONY" and prepared by GMC.

Methodology

I reviewed a detailed survey of the property in question, which depicted:

1. The rear lot lines for properties along Woodland Drive.
2. All the golf hole features: tees, fairway, bunkers, green, cart path, trees and the topography.
3. The rear lot lines of properties to the east of golf hole 3, which makes our dividing line between Baldwin County and the City of Palmetto.
4. The nearest road (golf course road) and property south of the road.

March 9, 2023

To Whom It May Concern:

I was contacted by RSA representatives to review a proposed sketch plan for six homesites on 7.2 acres located between golf holes 2 & 3 of the Azalea Course at the Lakewood Club, in order to determine whether the design and layout met appropriate best practices for residential developments adjoining golf courses. The sketch plan is identified as "THE OAKS AT THE COLONY" and prepared by GMC.

CLYDE JOHNSTON DESIGNS, INC.
HILTON HEAD ISLAND, SOUTH CAROLINA 29926
(843) 334-1806

Applying the data from Broadie's book to the Oaks, the lot locations of the homesites in the Oaks (all of which are outside the 175-foot corridor) would avoid encroachment from errant tee shots from the White tee approximately 98.25% of the time.

On January 26, 2023, I contacted Niall Fraser, Director of Golf at the Lakewood Golf Club, to inquire about the two golf holes adjoining the Oaks. One of my questions involved the quantity of golf balls that landed in the development area. Mr. Fraser offered to have one of the club's rangers stationed on one of golf holes to observe where balls were landing with tee shots. On January 28,

Homesite 1: Based on the relocation of the 2nd green as shown on GMC's plan, this homesite has very little risk of having a golf ball enter the lot due to the distance from the green and the fact that

Homesite 2: This homesite has a very low risk of errant shots

Homesite 3: This homesite is low risk

Homesite 4: This homesite is located to the right of golf hole 3 and is positioned opposite the landing area for almost all golfers. This homesite has a very low risk of errant shots as it is the

Golf Course Architect Report
The Oaks at the Colony
Page 4

Homesite 5: This homesite is located midway between the tees and the landing area of the golf hole. It is the appropriate distance from the third golf hole and therefore a very low risk factor.

Homesite 6: This homesite is located to the right of the back three tees of the third hole and has very little to no chance of being impacted by an errant golf shot.

Respectfully Submitted,



Clyde Ishman, ASGCA

About the Author

Clyde Ishman, ASGCA, is a golf course architect. He has designed and built many golf courses and has been a member of the American Society of Golf Course Architects (ASGCA) for over 20 years. He is currently the President of the ASGCA and is also a member of the United States Golf Association (USGA).

Homesite 5: This homesite is located midway between the tees and the landing area of the golf hole. It is the appropriate distance from the third golf hole and therefore a **very low risk factor**.

Homesite 6: This homesite is located to the right of the back three tees of the third hole and has **very little to no chance of being impacted by an errant golf shot**.

CLYDE JOHNSTON DESIGNS, INC.
GOLF COURSE ARCHITECTURE

April 26, 2023

Mr. Marshall Gardner
Maynard Nissen
11 North Water Street
RSA Battle House Tower
Suite 24290
Mobile, AL 36602

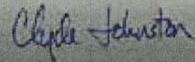
Re: The Oaks at The Colony

Dear Marshall:

I have reviewed the latest Site Plan prepared by GMC dated April 24, 2023 and find that no changes have been made to layout that would change my opinion from my previous correspondence. This plan also reflects the proposed changes to the fairway bunkers on both golf holes.

It is my opinion that the risk from errant golf balls is no greater at The Oaks than other development in and around the Lakewood Golf Courses and is no greater than recently designed golf courses on similar land.

Sincerely,



Clyde Johnston, ASGCA
Golf Course Architect

It is my opinion that the risk from errant golf balls is no greater at The Oaks than other development in and around the Lakewood Golf Courses and is no greater than recently designed golf courses on similar land.

31 MANTOSH ROAD
HILTON HEAD ISLAND, SOUTH CAROLINA 29926
(843) 384-3586

Comparison of Analysis

Tannar Report

Actual Data

Tannar assumes a course averaging 60,000 rounds per year.	U.S. national annual average = 377,200,000 rounds on 16,000 golf courses. [23,575 rounds/year]
“Broadie’s research statistics indicate that 99.2% of golf shots fall within 15 degrees either side of their target line and 99.9% fall within 20 degrees. Note that for a course averaging 60,000 rounds per year, 0.8% outside of 15 degrees would equate to 480 balls.” (#10, p. 3)	Lakewood Azalea Course: 4-year Annual average = 17,488 rounds played <ul style="list-style-type: none"> 0.8% of Lakewood annual: = $140 \text{ balls} \div 18 \text{ holes} = 7.8 \text{ balls/hole per year outside } 15^\circ \text{ (some right, some left)}$
“I estimate that 3.5% of male golfers (all abilities) would hit tee shots further right than 11 degrees. Assuming 60,000 rounds per year equates to 2,100 balls per year threatening the buffer area.” (#15, p. 3-4)	Lakewood Azalea Course: 4-year Annual average = 17,488 rounds played <ul style="list-style-type: none"> 3.5% of Lakewood = $612 \div 18 \text{ holes} = 34 \text{ balls/hole per year right of } 11^\circ$
“Building residential homes in the buffer area, however, will not be safe for buildings, cars, and people within that area.” (#5, p. 3)	No homes or roads are proposed to built within the buffer area.

Dr. Michael J. Hurdzan

- 50+ years experience designing golf courses
- Has designed over 400 golf courses around the world
- Received Design Excellence Award from the American Society of Golf Course Architects on Multiple Occasions
- Past President of the American Society of Golf Course Architects
- Recipient of the "triple crown" of awards for his profession, an honor shared only with Jack Nicklaus, Arnold Palmer, Byron Nelson, Robert Trent Jones Sr., Rees Jones and, as of 2015, Pete Dye.
- Identified in Ken Tannar's Report as "The Renowned American Golf Course Architect"

MICHAEL J. HURDZAN
2321 LANE ROAD
COLUMBUS, OHIO 43220

May 1, 2023

Mr. Marshall Gardner
Maynard Neesen

I was contacted by two people, Tracy Frost and Clyde Johnston, separately, to offer my opinion on the relative safety of six (6) home locations between holes two and three on the Lakewood Golf Course. Tracy Frost contacted me by email on Thursday, 27 April at 9:24

the Lakewood Golf Course. Tracy Frost contacted me by email on Thursday, 27 April at 9:24 p.m., and I responded on Friday at 9:25 a.m. asking for more information. At 11:13 a.m., I received some photographs, a Google Earth photo and a plan view for the site home. At 1:04

p.m., I emailed back and offered my opinion of the relative safety of those locations from errant golf hole balls.

materials from Frost, and I shared that opinion with Mr. Johnston.

Basically, after reviewing and applying some safety guidelines to the Lakewood plan

Basically, after reviewing and applying some safety guidelines to the Lakewood plan that I use in my golf course architectural practice, I concluded that those six home locations were reasonably safe from errant balls. Obviously there will be some errant balls that would

should plant some shrubs or trees in the area closer to the tee to force golfers to aim further left. Lastly I suggest that the developer should warn a prospective buyer that living on a golf

My major point of disagreement with Mr. Tannar's report is in his paragraph 17 where he vastly underestimates trees as effective protection from golf balls. Granted, some

21 April and 26 April 2022, Mr. Tannar's report was dated 17 March 2022. Both reports are

their foliage, for golfers don't believe that trees are all air. The trees on the Lakewood site plan appear to be of such size and placement to be reasonably good safety devices, and cannot be ignored.

safety. Trees and shrubs can indeed be effective safety devices because they influence where golfers will aim their shot to avoid trees, as well as stop or slow golf balls. I don't know any golfer who would summarily dismiss trees as ineffective ball barriers, no matter how thin their foliage. For golfers don't believe that trees are all air. The trees on the Lakewood site plan appear to be of such size and placement to be reasonably good safety devices, and cannot be ignored.

I also disagree with Mr. Tannar in his paragraph 37, where he concludes his first sentence with the phrase "...unacceptable amount of risk to damage." I believe that the

I also disagree with Mr. Tannar in his paragraph 37, where he concludes his first sentence with the phrase "...unacceptable amount of risk to damage." I believe that the

Summary Opinion:

It is my professional opinion based upon a reasonable degree of certainty, that the plan for the six home sites is well thought out and that safety from errant golf balls was respected. However supplemental planting on the golf course close to the teeing areas and in

the designated "Fairway Buffer Area" on the plan, will further enhance safety and reduce the probability, and hence danger of errant golf balls on the development lots. If I wanted to live on a golf course I would buy any one of those properties, with some expectation that there would be errant shots on that property, which I would find acceptable.

If you have any questions, please contact me by email or my cell phone
(614) 294-1507.

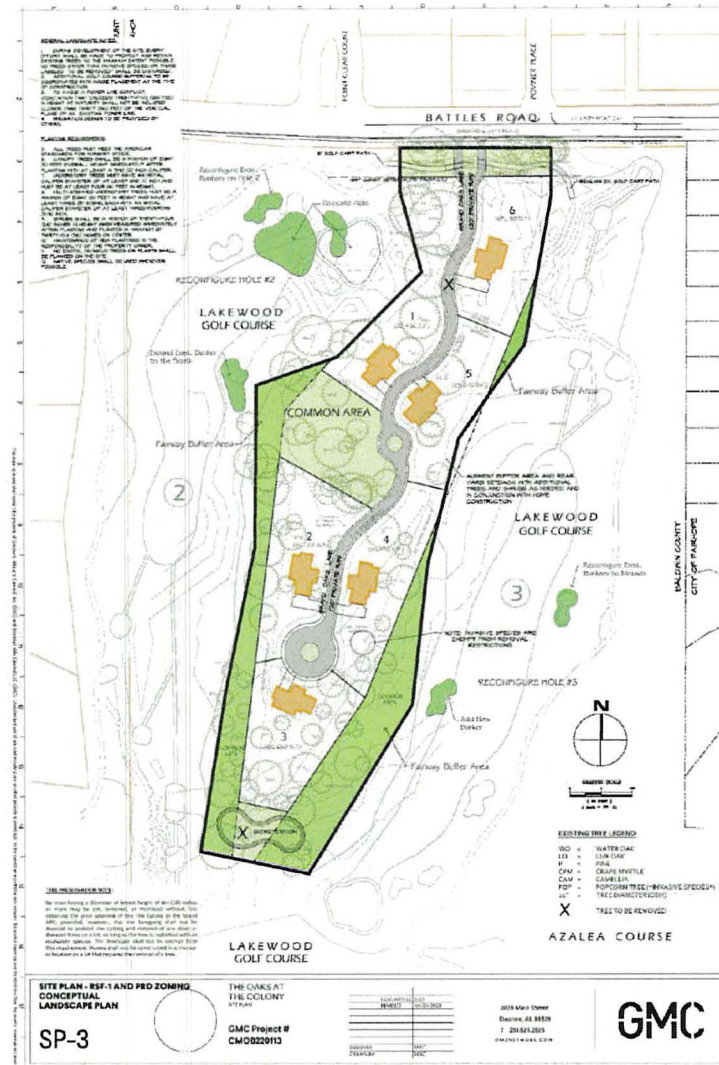
Respectively,

Michael J. Hardman
Michael J. Hardman, Ph.D., ASGCA Fellow

probability, and hence danger of errant golf balls on the development lots. If I wanted to live on a golf course, I would buy any one of those properties, with some expectation that there would be errant shots on that property, which I would find acceptable.

Conceptual Landscape Plan

The Oaks at the Colony



TREE PRESERVATION NOTE:

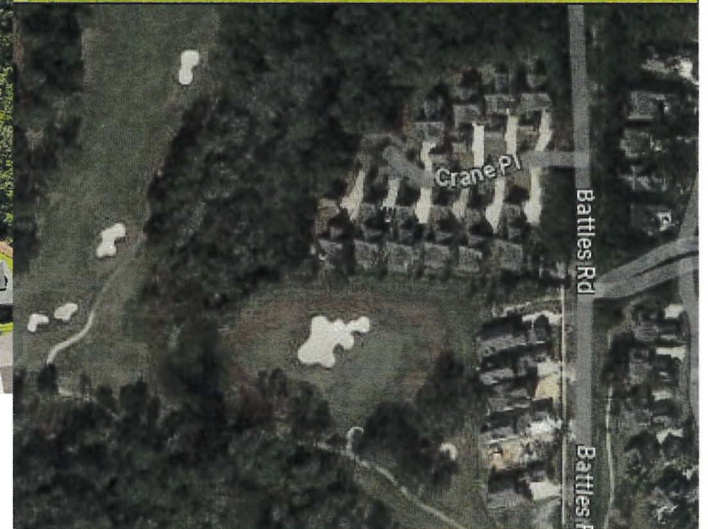
With the exception of trees specifically identified as invasive species on this site plan and the trees specifically noted for removal on this site plan, no trees having a diameter at breast height of ten (10) inches or more may be cut, removed, or mutilated without first obtaining the prior approval of The Colony at the Grand ARC, and such power shall not be vested in the ARC until the ARC has been turned over to the residents of The Colony at the Grand; provided, however, that the foregoing shall not be deemed to prohibit the cutting and removal of any dead or diseased trees on a lot, so long as the tree is replanted with an equivalent species. The developer shall not be exempt from this requirement. Homes shall not be constructed in a manner or location on a lot that requires the removal of a tree.

General Note:

AUGMENT BUFFER AREA AND REAR YARD SETBACK WITH ADDITIONAL TREES AND SHRUBS AS NEEDED AND IN CONJUNCTION WITH HOME CONSTRUCTION.

- Existing Development within Lakewood

Homes on Fairway #4, Crane Place



- Existing Development within Lakewood



Homes on Fairway #6, Pheasant Run



- Existing Development within Lakewood

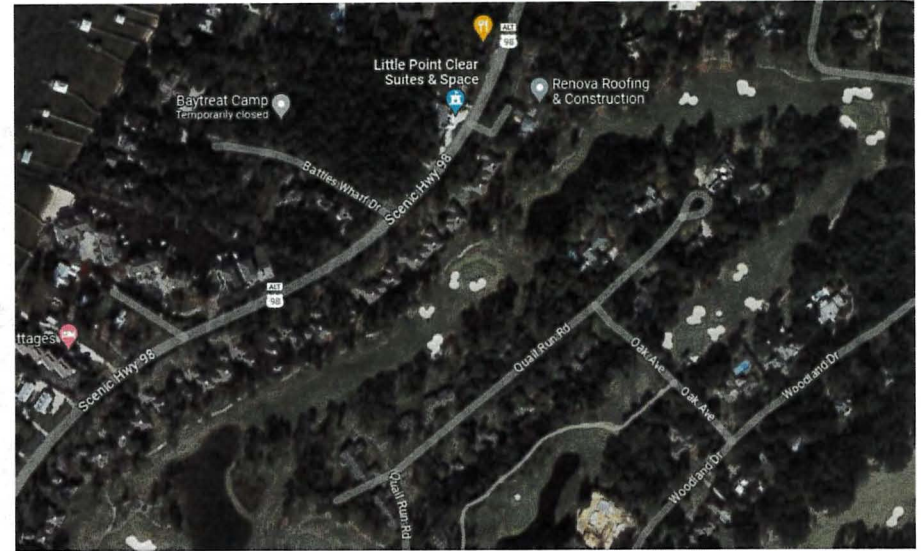
Homes on Fairway #14, Willowbridge Dr.



- Existing Development within Lakewood



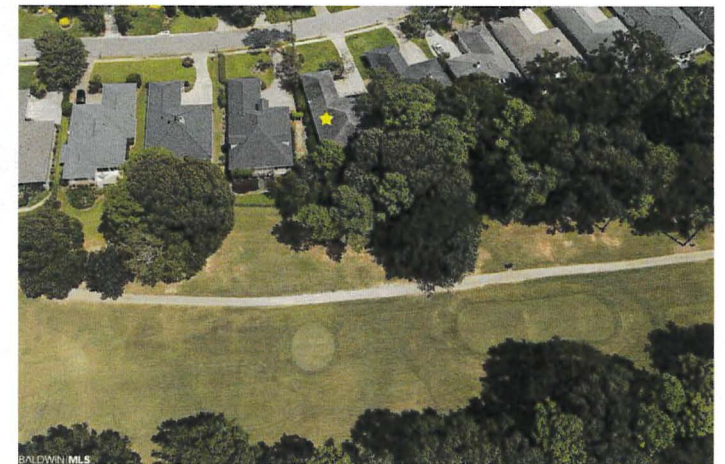
Homes on Fairway #5, Quail Run Road



- Other Local Existing Golf Course Development – Rock Creek

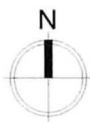


Homes on Oak Bend Court, Rock Creek Golf Course – Daphne, AL





Conceptual Master Plan 04.26.2023



THE
Oaks
AT THE *Colony*

Design Safety Elements (shown below) is from "Golf and Law – Golf Course Safety, Security and Risk Management," a book written by Dr. Michael Hurdzan (Golf Course Architect), 2018, in which he highlights the starting point for safety guidelines in terms of minimum setback distances and the minimum 15 degree zone of play.

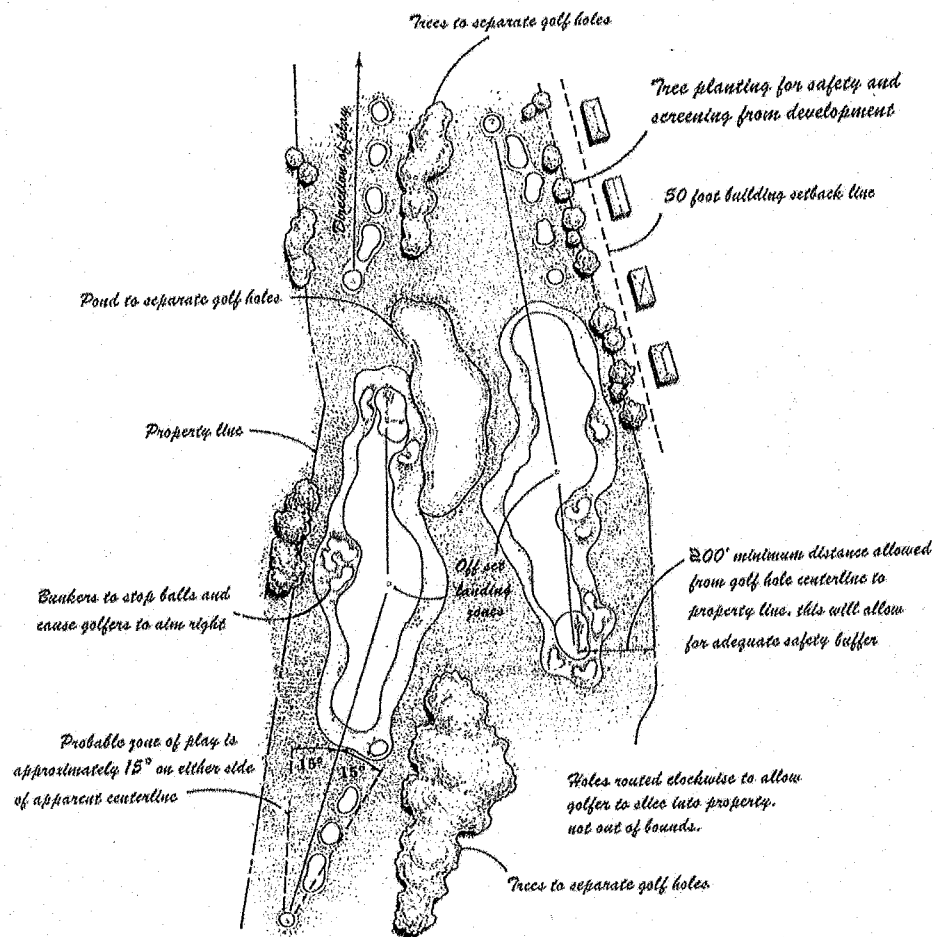



Figure 8-10. Hurdzan design guidelines can be a starting point for golf course design, but adjust as necessary for site specific conditions.

	<h2 style="text-align: center;">Probable Golf Instruction</h2> <ul style="list-style-type: none"> • Errant Golf Ball Trajectories • Golf Netting Safety Height • Topographic Errant Ball Analysis • Adjoining Property Errant Golf Ball Safety Determination <p> www.probablegolfinstruction.com Phone: 604-309-7030 probablegolf@yahoo.ca Owner/Creator: Ken Tannar </p>
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Golf Expert Report

March 19, 2023

Golf Expert Analysis

RE: Determining the errant golf ball risk at Lakewood GC at a proposed residential area planned for the buffer area between Hole 2 and Hole 3.

Golf Expert Analysis by Ken Tannar, Probable Golf Instruction

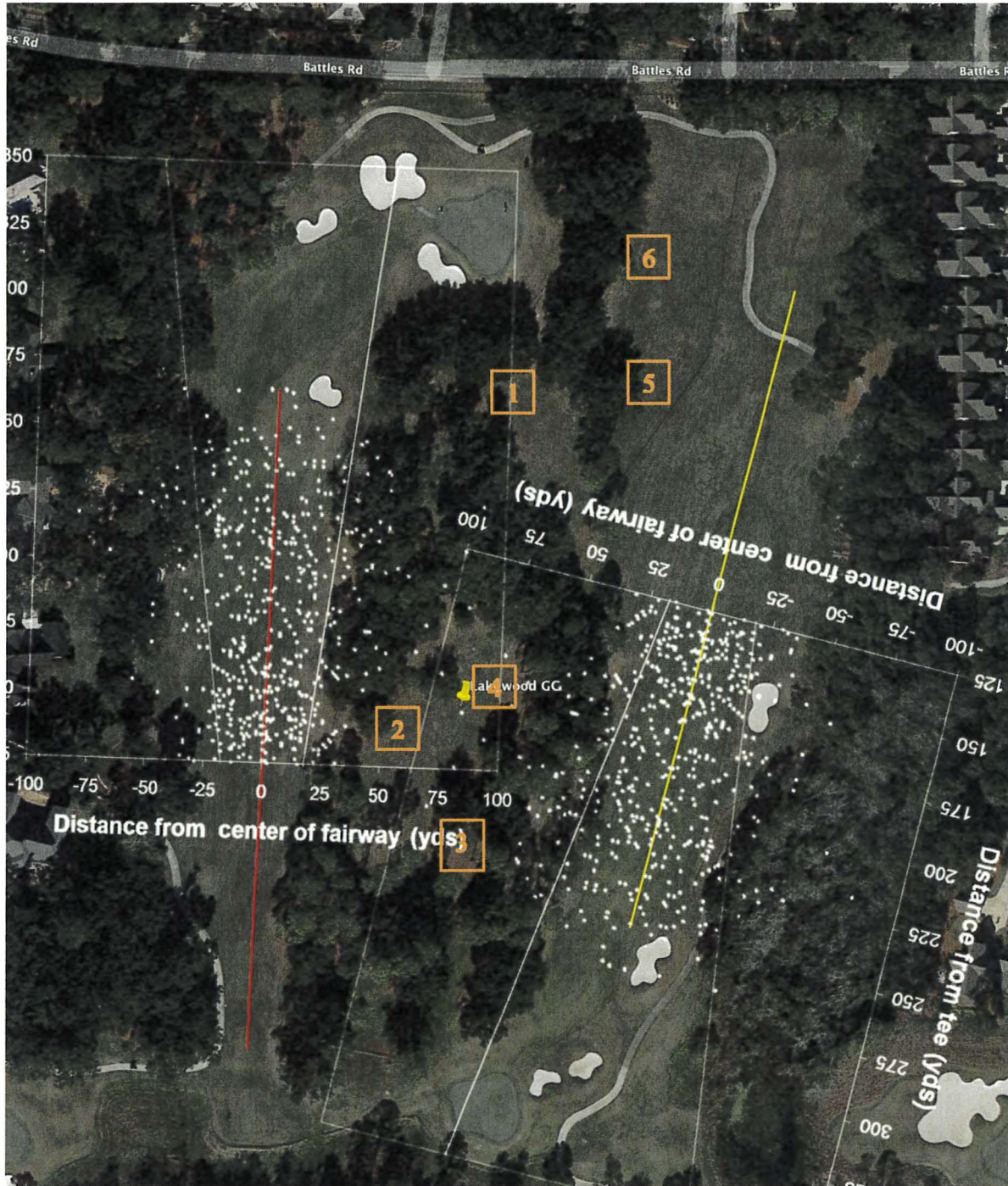
1. I am the founder and owner of Probable Golf Instruction. I have spent the last 25 years researching the literature on the topic of Physics & Mathematics of golf and am an expert in the analysis of golf ball trajectories. I have advised on golf course design safety in a multitude of cases in the United States, Canada, Australia, Britain, Spain, and Hong Kong, and have been recognized as a golf expert witness in the courts of California, Colorado, New York, Canada, and Australia.
2. Golf is a game where the player must use a long club with a small head on its end to hit a hard, small ball a long distance with great accuracy. Very good golfers can hit golf balls with speeds of over 140 mph that carry over 240 yards in the air through a corridor only 40 yards wide. In fact, to score well on a regulation 18 Hole golf course requires golfers to do just that, consistently. To do so requires great coordination and skill, thus making golf a very difficult game to become proficient. Most people that play golf do not achieve this proficiency but are able to play competitively with those that have through golf's handicap system.
3. Diagram 1 below is a Google Earth image Hole 2, Hole 3, and the newly proposed residential properties of concern ("subject properties") located within the buffer area between the two golf holes. Both holes are both dogleg right designs and play slightly downhill from the teeing areas, dropping some 5-10 feet, according to Google Earth. On each hole, I've added likely target lines (Hole 2 in red, Hole 3 in yellow) from the middle teeing areas from which most male golfers would play.

Diagram 1: Location of the Proposed Subject Properties between Holes 2 & 3



4. From a golf course design perspective, dogleg right golf holes tend to be the most difficult as most golfers are right swingers that hit a curved ball flight from left to right (called a slice). Most golfer bad misses will be to the right side of the golf holes. In terms of safety, the design of the holes is good as there is a large buffer space between them (about 300-400 feet), thus the likelihood of a golfer's ball landing onto the adjacent golf hole is low and hitting another golfer is low.
5. Building residential homes in the buffer area, however, will not be safe for buildings, cars, and people within that area. I will set out my justification for such a statement in the rest of this paper.
6. The renowned American golf course architect, Dr. Michael Hurdzan (reference book "Golf Course Architecture: Design, Construction & Restoration, 1996), did an extensive study to determine where golfers hit the ball from the tee in relation to their target line of play. He found that 92% of golf shots fall within 15 degrees either side of their target line. He and other golf course architects have used this standard for many years in designing golf course setback distances. Hurdzan's statistics are also corroborated by research conducted by the R & A (Royal and Ancient Golf Club of St Andrews) during 2006 and 2008.
7. Hurdzan also recommended at least a 150 foot buffer distance between the centerline of a golf hole and a property line, and that property lines on the left sides of golf holes are safer than on right sides of holes since most golfers will hit errant golf balls to the right.
8. In his 2018 book entitled, (Golf and Law: Golf Course Safety, Security and Risk Management," Hurdzan modified his 150 foot buffer distance recommendation to 200 feet for new golf courses as there has been strong evidence that golfers are now hitting the golf ball further with greater directional error.
9. Using Google Earth, I measured a 200 foot buffer distance from the centerline of Hole 2 and a 200 foot buffer distance from the centerline of Hole 3 and found that the areas overlap at the south end of the buffer area and are within 100 feet of one another near its middle. Thus, using the 200 foot buffer distance guideline leaves inadequate space between the two golf holes.
10. Dr. Mark Broadie of Columbia University has expanded on Hurdzan and the R&A with his own research and analysis to create a database named Golfmetrics which he introduced in his paper, "Assessing Golfer Performance Using Golfmetrics." The database currently has over 55 000 shots from over 160 players. Golfer ages in the database range from 9 to 70 years and the scores range from 64 to 120. PGA and LPGA tour pros, club professionals, and amateur golfers are included. Broadie's research concluded that low handicap golfer (better golfers) hit the ball farther and with less lateral dispersion than higher handicap golfers (poorer golfers). Broadie's research statistics indicate that 99.2% of golf shots fall within 15 degrees either side of their target line and 99.9% fall within 20 degrees. Note that for a course averaging 60 000 rounds per year, 0.8% outside of 15 degrees would equate to 480 balls.
11. Broadie's database determined the mean and standard deviations of distance and direction for 4 categories of ability: Pro (score 64-79), Amateur1 (score 70-83), Amateur2 (score 84-97) and Amateur3 (score 97-120). From these means and standard deviations, one can estimate the likely percentage of golf balls to end up beyond a certain distance and direction (e.g., Beyond 175 yd and beyond 15 degrees right of the target line). Broadie also collected data for shorter shots of 100-150 yards and 20-60 yards.
12. Diagram 2 depicts the Broadie Scatter Plot of Driver tee shots for the Amateur3 group of golfers for each of the two golf holes assuming all golfers use the middle teeing area as indicated in Diagram 1. The white dots represent the finishing positions of the golf shots. Note that several the golf shots finish within the buffer area with some near its center. Shots that finish less than 125 yards from the teeing area are not shown. I've approximated the locations of the proposed residences 1-6 as per Diagram 1.

Diagram 2: Broadie Scatter Plot of Amateur3 Golfers on Hole 2 and Hole 3



13. If golfers were to use teeing areas more forward or rearward than those shown, the scatterplot would merely shift further forward or rearward. Golf balls would still land within the middle of the buffer area.
14. Periodically, the Royal & Ancient (R&A) and United States (USGA) Golf Associations publish reports on golf data collected from professionals and amateurs. On page 17 of the 2020 report, the distance for the Handicap 21 plus group is cited as 188 yards (total distance). Lower handicap golfers hit the ball further and with less lateral dispersion.
15. For Hole 2 at a distance of 188 yards from the middle teeing area, the middle of the fairway is only 37 yards (110 feet) from the right hand side property boundary. The directional angle to that point is only 11 degrees. Using Broadie's means and standard deviations, I estimate that 3.5% of male golfers (all abilities) would hit tee shots further right than 11 degrees. Assuming

60 000 rounds per year equates to 2 100 balls per year threatening the buffer area.

16. For Hole 3 at a distance of 188 yards from the middle teeing area, the middle of the fairway is only 40 yards (120 feet) from the right hand side property boundary. The directional angle to that point is only 12 degrees. Using Broadie's means and standard deviations, I estimate that 2.4% of male golfers would hit tee shots further right than 12 degrees equating to about 1 440 balls per year.
17. The percentage estimates cited above assume no balls are deflected by existing trees. Please note, however, that trees typically do not provide good protection from golf balls unless they have dense foliage and are sufficiently high. Most of the volume of a tree is just air. A golf ball's speed and direction will not be changed significantly unless it hits wood, which is a small percentage of the tree's volume.
18. The TrackMan golf ball radar monitor has collected over 1 Billion golf ball trajectories from all over the world. These trajectories have been from the best professionals and a full range of amateurs. On its website, TrackMan has made available some of its findings, including the golf ball trajectory characteristics of the Average Male Amateur (AMA). The AMA has a reported handicap of 14 or 15 and with a Driver as a club speed of 94 mph, launch angle of 13 degrees, and ball spin of 3200 rpm. Most AMAs hit slice trajectories.
19. I have developed an accurate golf ball trajectory algorithm which can simulate a wide range of trajectories by inputting ball speed, launch angle, ball spin, spin axis, temperature, altitude, wind speed and direction. The output values agree with TrackMan data with over 99% accuracy. I can take the data points of the golf ball trajectory and merge them onto Google Earth.
20. Diagram 3 contains three sample golf ball trajectories from the middle teeing area of Hole 2 and one sample golf ball trajectory from the middle teeing area of Hole 3. On Hole 2, the white trajectory is for an AMA that starts out 10 degrees right of the red target line and with a moderate slice. The orange trajectory starts out 5 degrees right of the red target line with a more significant slice but less ball speed. The red trajectory starts out 35 degrees right of the target line with a severe slice and even less ball speed. The red trajectory would be produced by a very open club face and/or an impact point of the golf ball near or on the toe of the golf club. It could also be a "shank" with an iron club. The white trajectory on Hole 3 is like the white trajectory on Hole 2 except being a more severe slice.
21. It should be noted that the initial direction of a golf ball trajectory is due to the direction the club face is facing at impact, not the swing path direction of the golf club. Most AMA hit the ball with an open club face which causes a slice. Amateur right swinging golfers also do tend to misalign further right of the target line than intended. As Hurdzan has pointed out, the right hand side of golf holes are at greater risk than the left side of golf holes.
22. The sample trajectories provided could have different directions and maximum heights as well as start from different positions within the teeing areas. Some of the sample trajectories in Diagram 3 appear to pass through some of the tree foliage. As mentioned earlier, however, tree foliage is not an adequate mitigation strategy for contain golf balls, especially when there is a risk to people and private property.
23. I've included proposed residential properties 2, 3, 4 & 5 in Diagram 3 as they are most likely to be affected by tee shots. Property 1 will also be affected by 2nd, 3rd, or 4th shots to the Green on Hole 2.
24. Golfers that hit the golf ball farther than AMAs would also hit errant golf ball slices (and hooks for left swingers) that would land onto the buffer area but are less likely to reach the center of the buffer area. Longer hitters tend to have less directional error.
25. As shown in Diagram 2, golfers' tee shots would end up in many different positions on the fairway as well as left and right of the fairway. Golfers will be attempting 2nd, 3rd and even 4th shots before they reach the Green. On Hole 2, a golfer must advance his/her ball up to the vicinity of the fairway bunker to have a clear shot to the Green. Thus, many golfers will attempt to hit next shots over the corner of the dogleg, thus crossing over the buffer area. In effect, this design requires the golf ball corridor to extend further to the right. Given that the

ball may be sitting down in the grass (a poorer lie than one a Tee from the teeing area), there's a greater change of an errant golf ball landing within the buffer area. Although not as significant, this problem also exists on Hole 3.

Diagram 3: Sample Trajectories, Bird's Eye View

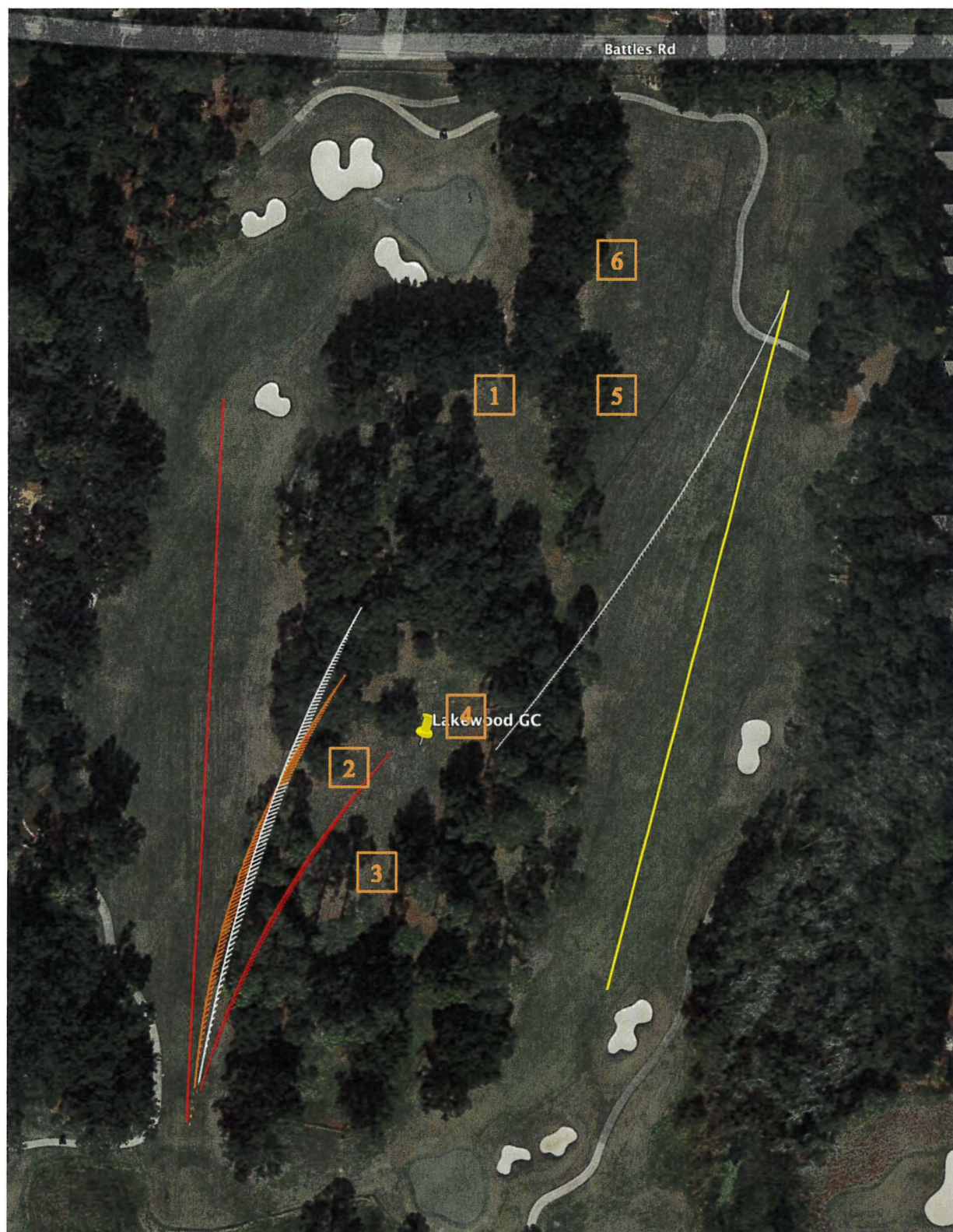
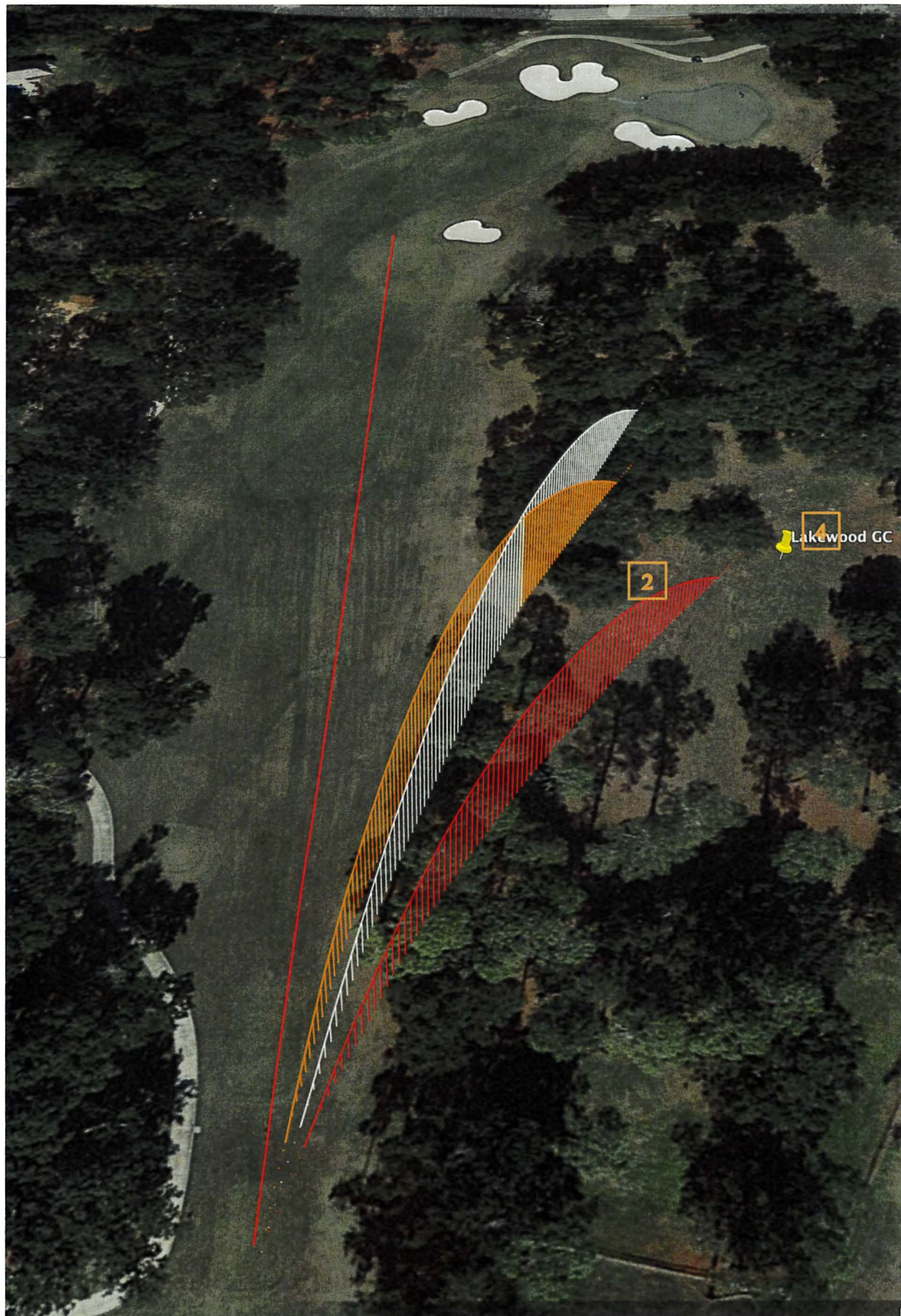


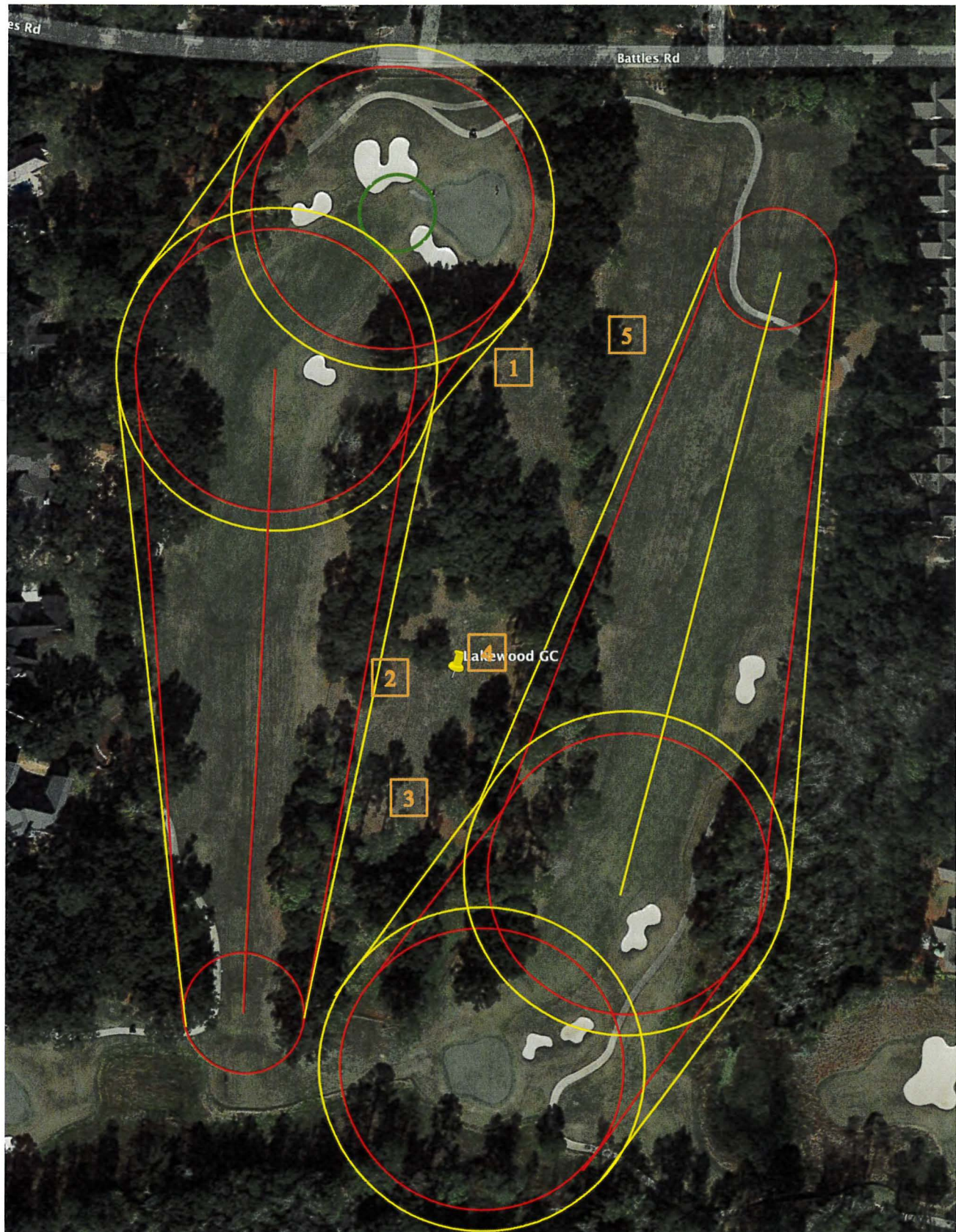
Diagram 4: Sample Trajectories for Hole 2, Different Perspective



26. Diagram 1 depicts possible plans to move the Green on Hole 2 more towards the West to make room for an access road. Although this change would decrease the number of golfers attempting to hit balls over the corner of the dogleg, it would not eliminate them. It would, in general, reduce the number of errant golf balls on 2nd, 3rd and 4th shots that may threaten the buffer area as the Green would be farther from the property boundary.
27. Please note that golf balls hit with Driver that land onto the properties will have speeds of approximately 27 m/s (97 mph). Given the hardness and small diameter of a golf ball, impacting a person at such speeds can cause irreparable damage to tissue and bone. There are many cases every year where persons are hit by golf balls, some causing death.
28. Extensive research has been done on human head impacts, which would likely cause the most significant injury by a golf ball. In CW Pearce's Doctoral Thesis for Engineering titled, "On the dynamic pressure response of the brain during blunt head injury: modelling and analysis of the human injury potential of short duration impact," he modelled golf ball collisions with the head assuming a maximum allowable golf ball speed (USGA Rules) of 76 m/s (170 mph). The force of impact in such a collision was calculated to be 22 000 Newtons. A golf ball speed of 97 mph which would result in a force of about 12 550 Newtons, or 2800 pounds. Such a golf ball force on the human body can cause significant damage, even death.
29. Golf ball collisions with homes and vehicles can also cause significant damage.
30. I have utilized the research data of average golfers provided by Trackman Radar (<https://blog.trackmangolf.com/performance-of-the-average-male-amateur/>) as well as that of professional golfers (<https://www.pgatour.com/stats.html>) as golf ball trajectory data is collected throughout the golf season using TrackMan radar.
31. I've been asked to read and provide my opinion on the letter by Clyde Johnston Designs, Inc., dated March 9, 2023. In the letter, Mr. Johnston provides his opinion on "whether the design and layout met appropriate best practices for residential golf developments adjoining golf courses."
32. Mr. Johnston states he established the centerline of both golf holes, "I could establish the outer limits of the golf hole corridor based on commonly accepted dimensions in the golf course industry." The ASGCA has not published any accepted standards on recommended minimum safety corridor widths. Mentioned earlier in my report, Michael Hurdzan, past president of the ASGCA, now uses a 200-foot minimum. Different architects use different standards, depending on the "site specifics." The ASGCA website has posted a page titled, "How much land do you need to build a golf course?", on which it prints a quote from one of Michael Hurdzan's books, "For example, a typical par 4 hole of 400 yards will take up to 10.4 acres (420 yards long with buffers x 120 yards minimum width)." Using Google Earth, I approximated the entire area of Hole 2, Hole 3, and the buffer area in between to be about 23 acres. From the rear tees, both golf holes are over 400 yard long.
33. Mr. Johnston admits that golf course architects have taken a more defensive stance with respect to liability and safety due to more advanced golf equipment (golfers hitting the ball further and with greater directional error) and have adopted a slightly wider golf hole corridor. Mr. Johnston even admits "that the golf hole corridor widths will probably not contain 100% of all golf shots," but then justifies that the risk "is no greater than it is in the other residential developments adjacent to the golf holes along the Lakewood golf course." In my opinion, saying that less than 100% is ok because other holes have the same level of risk, is not acceptable.
34. Mr. Johnston described the analysis he used incorporating a 75-foot circle radius around the back tee and 175-foot circle radius around the middle of the fairway and green but did not provide a schematic to illustrate how closely the corridors overlap the buffer area. His method is how some architects assess golf hole corridors. I used Google Earth and drew in the 75-foot and 175-foot circles. Diagram 5 contains an image of Mr. Johnston's golf hole corridors in RED from the White Tees and including the newly proposed position of the Green on Hole 2. Note how close the 175-foot corridor boundary is to the existing properties left of Hole 2 and how much the corridor encroaches on the buffer area. It comes very close to the house on

proposed residence #2, crosses the proposed road end and comes far too close to Battles Road. I argue that 175-foot corridor is an inadequate test for safety at this site.

Diagram 5: Mr. Johnston's Suggested 175-foot Golf Hole Corridor



35. Also drawn into Diagram 5 are the 200-foot corridors. Note that for the 200-foot corridor, the maximum allowable directional error for the tee shot is still only 15 degrees while the 175-foot corridor allowable directional error for the tee shot is 13 degrees. As Hurdzan cited, and Broadie's data substantiates, even a 15 degree corridor will not contain enough golf balls to be considered safe.
36. With reference to the R&A Analysis of Amateur Driving Data 1996-2018 and the other data mentioned in Mr. Johnston's letter, I'd point out the following:
- The R&A study examines "highly skilled amateur golfers" which would likely not be representative of the golfers playing Lakewood GC.
 - The R&A study has found that over the years, in general, amateur golfers are using the Driver more often, hitting the ball further and missing more fairways (thus the justification of using wider corridor requirements).
 - The 513 sample of tee shots cited from Broadie's book that stayed within 15 degree angle is far too small to provide statistically significant conclusions. My analysis is based on a 55 000 sample collected for the Golfmetrics Project.
 - Mr. Johnston concluded that "the lot locations of homesites in the Oaks (all of which are outside the 175-foot corridor) would avoid encroachment from errant tee shots from the White tee approximately 98.25% of the time." Based on Broadie's small 513 sample would mean they would be threatened 1.75% of the time. Assuming 60 000 rounds of golf per year, that would equate to over 1 000 balls per year, which is unacceptable.
 - The club ranger's observations of tee shots on Hole 2 and Hole 3 in January are again far too small to provide any statistically significant conclusions, especially given we don't know the handicaps of the players observed. Higher handicap golfers tend to have much greater directional errors than lower handicap golfers. Such a sample of observations should be done randomly throughout the season (not on 2 consecutive days) and be much larger in size.
37. In summary, my expert opinion is that the proposed development will endanger people, vehicles and buildings with an unacceptable amount of risk to damage. Once realized, this risk would require mitigation by using some very high (at least 90 feet) and long safety fences, not just to protect users from the teeing areas but from 2nd, 3rd, and 4th shots as well.

Dustin Britton	11a) CSP23-12, Loxley Boat & RV Storage	Support	Authorized Agent	dustin.element3@gmail.com
Tracy Frost	7a) Z23-8 and PRD23-1, Retirement Systems of Alaban	Opposition	Community Spokesperson	Tracyafrost@gmail.com
Thomas Pilcher	7a) Z23-8 and PRD23-1, Retirement Systems of Alaban	Opposition	Authorized Agent	
Carroll Sullivan	7a) Z23-8 and PRD23-1, Retirement Systems of Alaban	Opposition	Community Spokesperson	
Melissa Currie	7a) Z23-8 and PRD23-1, Retirement Systems of Alaban	Support	Authorized Agent	melissa.currie@gmcnetwork.com
Clyde Johnston	7a) Z23-8 and PRD23-1, Retirement Systems of Alaban	Support	Authorized Agent	Info@clydejohnston.com
Max Vaughn	7a) Z23-8 and PRD23-1, Retirement Systems of Alaban	Support	Engineer	
Seth Moore	7c) Z23-11, Torres Property	Support	Authorized Agent	
Seth Moore	7d) Z23-12, Scopolites Property	Support	Authorized Agent	
Carolyn Byars	7d) Z23-12, Scopolites Property	Opposition	Adjacent/Nearby Property Owner	
Steve Scoggings	9a) SV23-1, Ducklings Tiny House Community Variance	Opposition	Adjacent/Nearby Property Owner	
Fire Marshal Michael	9a) SV23-1, Ducklings Tiny House Community Variance	Opposition	Community Spokesperson	Deputyfirechief@summerdaleal.com
Mark Acreman	9c) PUD23-1 and CSP23-3, Brinks Willis Mobile Home F	Support	Adjacent/Nearby Property Owner	macreman@gulfshoresal.gov
Christopher Lieb	9c) PUD23-1 and CSP23-3, Brinks Willis Mobile Home F	Support	Engineer	
Isabel Rosas	9c) PUD23-1 and CSP23-3, Brinks Willis Mobile Home F	Support	Property Owner	
Aaron Collins	9d) PUD23-5, Rivers Crest Estates	Support	Authorized Agent	
David Diehl	9d) PUD23-5, Rivers Crest Estates	Support	Engineer	Ddiehl@secivileng.com
Larry Smith	9d) PUD23-5, Rivers Crest Estates	Support	Engineer	
Travis Langen	9d) PUD23-5, Rivers Crest Estates	Opposition	Adjacent/Nearby Property Owner	travislangen@gmail.com
David Lavery	9d) PUD23-5, Rivers Crest Estates	Support	Engineer	
Carrie Catrett	9e) PUD23-6, Oak Ridge RV Park	Support	Property Owner	carrie@crndevelopment.com
Christopher Lieb	9e) PUD23-6, Oak Ridge RV Park	Support	Engineer	
Aaron Collins	9f) SPP23-4, Mill Creek Subdivision, Phase I	Support	Authorized Agent	
David Diehl	9f) SPP23-4, Mill Creek Subdivision, Phase I	Support	Engineer	Ddiehl@secivileng.com
Jared Landry	9f) SPP23-4, Mill Creek Subdivision, Phase I	Support	Engineer	
Larry Smith	9f) SPP23-4, Mill Creek Subdivision, Phase I	Support	Engineer	
Aaron Collins	9g) SPP23-2, Tealwood Estates Subdivision, Phase 1-7	Support	Authorized Agent	
David Diehl	9g) SPP23-2, Tealwood Estates Subdivision, Phase 1-7	Support	Engineer	Ddiehl@secivil.com
Larry Smith	9g) SPP23-2, Tealwood Estates Subdivision, Phase 1-7	Support	Engineer	
David Lavery	9g) SPP23-2, Tealwood Estates Subdivision, Phase 1-7	Support	Engineer	
William Metzger	9g) SPP23-2, Tealwood Estates Subdivision, Phase 1-7	Opposition	Engineer	
Marla Barnes	9g) SPP23-2, Tealwood Estates Subdivision, Phase 1-7	Opposition	Adjacent/Nearby Property Owner	mbarnes.mhb@gmail.com
Cindy Sidwell	9g) SPP23-2, Tealwood Estates Subdivision, Phase 1-7	Opposition	Adjacent/Nearby Property Owner	Cindysidwell@gmail.com
Melissa Currie	9h) SPP23-3, Gaineswood Subdivision	Support	Authorized Agent	melissa.currie@gmcnetwork.com
Jeremy Sasser	9h) SPP23-3, Gaineswood Subdivision	Support	Engineer	
Aaron Collins	9i) SPP23-7, Autumn Lakes	Support	Authorized Agent	
David Diehl	9i) SPP23-7, Autumn Lakes	Support	Engineer	Ddiehl@secivileng.com
Jackson Berkbigler	9i) SPP23-7, Autumn Lakes	Support	Engineer	Jberkbigler@secivileng.com
David Sanderson	9i) SPP23-7, Autumn Lakes	Opposition	Adjacent/Nearby Property Owner	david@sandersonbuilders.com
Larry Smith	9i) SPP23-7, Autumn Lakes	Support	Engineer	

