

STATE OF SOUTH CAROLINA

IN THE SUPREME COURT

APPEAL FROM THE ADMINISTRATIVE LAW COURT
Ralph King Anderson, III, Administrative Law Judge

Docket No 09-ALJ 07-00029-CC

Kiawah Development Partners, II,

Respondent,

v

South Carolina Department of Health and Environmental Control,

Appellant

Docket No 09-ALJ-07-00039-CC

South Carolina Coastal Conservation League,

Appellant,

v

South Carolina Department of Health and Environmental Control and
Kiawah Development Partners, II,

Of Whom

South Carolina Department of Health and Environmental Control is,

Appellant,

and Kiawah Development Partners, II is,

Respondent

RECORD ON APPEAL
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1 THE COURT You'd move for --
2 MR WHITFIELD-CARGILE - -I move for the admission of
3 Exhibit Twenty I apologize
4 THE COURT Okay
5 MR WALKER Are you moving for the admission of
6 Exhibit Four, too, that you presented to the
7 witness and asked him questions about?
8 MR WHITFIELD-CARGILE Yes Sure I'll go ahead
9 and do that now, too
10 MR WALKER No objection, Your Honor --
11 THE COURT All right
12 MR WALKER -- to Department's Exhibits Four and
13 Twenty
14 THE COURT Mr Chandler or Armstrong?
15 MS ARMSTRONG No objection, Your Honor
16 THE COURT Okay It's admitted
17 (DHEC's Exhibit Numbers Four and Twenty were
18 admitted into evidence)
19 MARK PERMAR, having been duly sworn, testifies and
20 examines as follows
21 MR PERMAR - DIRECT EXAMINATION BY MR HOWE
22 Q Mr Permar, tell us first what you do for a
23 living and where your business is located just
24 a little bit What do you do right now?
25 A I'm a principal in the firm of Permar, Inc ,

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000429

1 based in Charleston, South Carolina

2 THE COURT Can I stop y'all just a second?

3 Can you spell your last name?

4 THE WITNESS It's P-E-R-M-A-R

5 THE COURT Okay

6 Q And what is the nature of the business Permar,
7 Inc , does?

8 A It's a small firm of nine people, eight of
9 which are involved in market research and
10 happen to be all women, too I'm the only guy
11 in the office And I do other things related
12 to architectural planning, long-range planning
13 and that sort of thing

14 Q Now, I want to back up and let's start with
15 college Where did you go to college?

16 A University of Cincinnati I graduated in 1972
17 with a BS in architecture Upon graduation,
18 the first job was with a subsidiary of
19 Westinghouse Corporation based in Washington,
20 D C , when Corporate America was solving --
21 going to solve the housing problems of the
22 country So from '72 to '74, I was involved
23 with that

24 Q What did you do, generally?

25 A Most of the work was feasibility studies, site

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000430

1 assessments of land owned or to be purchased by
2 the company for housing purposes

3 Q So you began your career in the planning side
4 of real estate

5 A Yes Yes

6 Q You were with Westinghouse about two years
7 Where did you go next?

8 A Then we moved to Savannah, Georgia, in '74 I
9 went to work for an architectural and planning
10 firm They had two offices, one based in
11 Hilton Head and one in Savannah, known as
12 Corkern, Wiggins, Lee and Wominack (phonetic)
13 And that firm did a lot of architecture and
14 planning work for the Sea Pines company It
15 was doing work all over the Southeast

16 Q Tell us a little bit about the size of that
17 company

18 A The architectural firm was probably about 40 to
19 50 people at peak

20 Q What was the nature of the work you were doing
21 for them?

22 A Once again, most of what I was involved in was
23 early site assessment, planning, studies, and
24 programming related to the -- it was
25 principally housing that we were working on

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000431

1 Q And the area you were working physically was
2 mostly Sea Island?

3 A It varied from Hilton Head to other coastal
4 areas in Georgia and in some mountain settings,
5 too

6 Q How long were you working with that architect?

7 A That was from '74 to about sometime around '75,
8 '76 At the height of the then worst
9 depression we ever had, I was fortunate enough
10 to find a job with the Savannah-Chatham County
11 Metropolitan Planning Commission

12 Q And what did you do there and how long were you
13 there?

14 A I was the senior staff person responsible for
15 reviewing entitlement requests, for rezonings,
16 subdivision plats and board of appeals or board
17 of adjustments So I was on the staff and
18 presented recommendations to the planning
19 commission And then once the planning
20 commission determined their recommendation, I
21 would go to either town council or city council
22 of Savannah or Charleston County Council to
23 present the recommendation of the planning
24 commission

25 Q And how long did you do that?

1 A A little less than four years

2 Q And when you left the City of Savannah, where
3 did you go then?

4 A Well, I got the opportunity of a lifetime to be
5 able to go to work at the Kiawah Island Company
6 in 1979 in the design and planning area And
7 worked in that capacity, being a department
8 head and then vice president of planning and
9 design

10 Q Tell me a little bit about sort of how you got
11 the job and who you were working for and the
12 dynamics of what was going on at Kiawah at the
13 time, because it was a special time

14 A Well, I have to come clean My wife was one of
15 the first employees She headed up market
16 research for Sea Pines and she started work on
17 a project called "Kiawah" in the early to mid
18 seventies, '74 --

19 Q What was the relationship between Sea Pines and
20 Kiawah?

21 A Well, in 1974, a group representing the Kuwait
22 Investment Company identified Kiawah as a place
23 to reinvest petrol dollars And they hired
24 under contract the Sea Pines Company to do the
25 due diligence process, then go through an

1 entitlement process, and then implement the
2 plan -- develop a master plan and implement the
3 plan And my wife was involved in the
4 entitlement process and site assessment
5 And in our business, you hear people talk about
6 a piece of property that's the most incredible
7 piece of property I've ever seen and usually
8 you go and it's beautiful, but it's not all
9 that incredible Well, it was rare for my wife
10 to use that hyperbole, too, and I finally went
11 with her to visit Kiawah and she was right So
12 I -- at that moment I said, "I got to be part
13 of this " And fortunately that --

14 Q How did you become part of it?

15 A Well, fortunately they hired both of us to move
16 to Kiawah from Savannah in 1979 And I started
17 a six-year period of heading up planning and
18 design in that period

19 Q Now, you said "planning and design" and in your
20 world that has sort of a bouquet of information
21 that doesn't necessarily flower in our minds
22 Tell us a little bit about what that means

23 A Well, in the context of the Kiawah Island
24 company, at that point it involved long-range
25 planning for all the parcels yet to be

1 developed, site assessment, when you break it
2 down into specific parcels as to what would be
3 appropriate to do on the property, programming,
4 which is a brief that you prepare for
5 individual buildings or neighborhoods or
6 strategies dealing with specific areas, and
7 then we were usually responsible of hiring
8 outside consultants for specific needs to --
9 for example, architects or landscape architects
10 or engineers to begin the process of design
11 through the schematic phase and then that was
12 handed off to another department, the
13 development department

14 Q What does "schematic phase" mean?

15 A You advance drawings to a level that you have
16 a better understanding of what -- for example,
17 if it's an individual building, what the nature
18 of the building is, size, its key dimensions,
19 massing, siting, that sort of thing
20 And as a part of that package, we were
21 responsible for preparing an initial budget and
22 schedule for advancing the project
23 So at that point, then there's an internal
24 decision as to whether to proceed with the
25 project or not And if it is a decision to

1 proceed, we would hand it off to people that
2 had greater skill at contract documents and
3 construction

4 Q So you were the first planner for Kiawah?

5 A No, no When Kiawah initiated its planning
6 effort with the Sea Pines Company, there was a
7 gentleman by the name of Rob Hall who was the
8 senior planner

9 Q When did you start?

10 A I started in '79, he started in '74

11 Q So except for the first five years, you've been
12 continuously associated with the conceptual
13 projects at Kiawah?

14 A Except for a period when a group of us left the
15 employ of the Kiawah Island Company in 1985 and
16 we started a series of companies, one of which
17 was the consulting company that I spent most of
18 my time with So for a period in 1985 to 1988,
19 I didn't do any work at Kiawah, although, our
20 offices were there and I live there

21 Q What happened in 1988?

22 A Second miracle happened I got a phone call
23 from Pat McKinney, who was a partner in a firm
24 called Brumley and McKinney, and formally he
25 was head of sales for the Kiawah Island

1 Company, called to indicate that he and several
2 other Charleston business entities had done the--
3 impossible, which is to secure an option to
4 purchase the remaining -- the undeveloped
5 assets and existing resort facilities from the
6 Kuwaitis and asked if my wife and I would
7 participate in the due diligence effort,
8 because there was a tight two-month period to
9 assess whether to buy it or not

10 Q Did you do that?

11 A Yes

12 Q And at the end of the two months or the due
13 diligence, the locals purchased Kiawah Island?

14 A Actually, the option period was extended
15 another month, I believe, to a three-month
16 period and in June of 1988, they were
17 successful in purchasing the assets

18 Q And what did your role become?

19 A Then, fortunately, I was asked to continue an
20 involvement with long-range planning and other
21 related planning and design matters with the
22 entity that purchased -- which I think was KRA
23 at the time -- purchased its assets

24 Q Does the island have a board of architectural
25 review?

1 A Yes

2 Q And what is your role on the board of
3 architectural review?

4 A I'm a member of that

5 Q You're a permanent member?

6 A You'd need to ask Leonard, but I think I am a
7 permanent member

8 Q How long have you been a member?

9 A Well, I chaired it for the six-year period with
10 the Kuwaitis and then I was appointed by the
11 partners to be a member, so it's 21, 22 years,
12 I guess

13 Q Give us a little -- what is a board of
14 architectural review?

15 A Well, it's not an unusual entity as it relates
16 to community development such as Kiawah in that
17 at a point of sale to a person that's either
18 purchasing a lot, an existing house or an
19 existing condominium, part of the
20 requirement -- or imbedded within the covenants
21 and deeds is that any improvement on that
22 property of any sort has to go before the
23 architectural review board
24 You know, guidelines are established as to the
25 process and in certain unique conditions, there

1 might be a very specific description of the
2 nature of what the improvements can be --
3 So the architectural review board meets twice
4 a month It's a panel of five people that is
5 composed of people like myself, landscape
6 architects, a property owner representative,
7 and a contractor representative, to review
8 those plans and pass judgment on it

9 Q So from building something new to repairing
10 something old, you've got to get permission to
11 do it before you can do it?

12 A That's correct

13 Q Now, on the island, are there separate
14 neighborhoods or is the island one sort of
15 monolithic development?

16 A No There are separate areas that have been
17 released over time And in more recent times,
18 as it relates to the subject of architectural
19 review, there is often an additional level of
20 design guidelines very specific to that
21 neighborhood
22 But to answer the question more directly of how
23 many neighborhoods there are, I mean, I don't
24 characterize it that way, but there would be
25 the equivalent of maybe 50 to 60 somewhat

1 discreet but share common values neighborhoods

2 - in Kiawah

3 Q Do you have a set of covenants, overall
4 covenants for the island?

5 A Yes

6 Q And when you, as a part of the creation of a
7 neighborhood or a subdivision within the
8 subdivision, do you often have additional
9 covenants that are specific to that area?

10 A More recently, the answer would be yes During
11 the earlier years, probably from '74 to maybe
12 even the early 1990's, the standards were the
13 same throughout for all areas

14 Beginning in the early to mid 1990's, we
15 started to establish additional standards in
16 neighborhoods to help establish a vision for
17 that neighborhood and recognize maybe some
18 unique conditions that were in that
19 neighborhood

20 Q So we've got a piece of land so many acres that
21 has not been developed and you're going to
22 develop it as a separate entity, you may have
23 specific additional restrictive covenants to
24 those deeds?

25 A Yes

1 Q Now, give us an example of, for instance, what
2 would some additional restrictive covenants be?

3 A Well, probably the first --

4 MR WHITFIELD-CARGILE Your Honor, I'm going to
5 object I let this testimony develop I don't
6 think that this line of questions is relevant
7 What they've done in other neighborhoods, I
8 don't see how that's at all relevant to this
9 appeal

10 MR HOWE If you thought we did a bad job in our
11 neck of the woods, he'd think that was
12 relevant, as to whether we were going to do a
13 bad job out here He'd think what we -- our
14 history is and his history and his approach --

15 MR WHITFIELD-CARGILE The question is --

16 MR HOWE -- is reflective of our sensitivity to
17 the land

18 THE COURT So you're -- to summarize your response,
19 you're developing this as background as to how
20 the treatment would be of this area --

21 MR HOWE Correct

22 THE COURT -- that'd be --

23 MR HOWE Yes, sir

24 THE COURT All right

25 MR WHITFIELD-CARGILE Well, the issue before the

1 Court is the application for a 2,783-foot
2 revetment The issue before the Court isn't - --
3 their background in developing Kiawah Island
4 I think we've gotten kind of beyond background

5 THE COURT Okay If the issue was that simple,
6 then -- if it was just the revetment, I would
7 sustain your objection, but I think you,
8 through OCRM, have introduced the issue of
9 cumulative impacts and have challenged the fact
10 of how this area will be developed, the
11 implications of once the revetment is
12 installed, the -- keep using the same word
13 again -- the implications down the road So
14 you, yourself, are the ones that are making it
15 relevant, are you not?

16 MR WHITFIELD-CARGILE We're not making their past
17 development relevant They said they're not
18 going to build on the spit

19 THE COURT I'll overrule your objection

20 Q So tell me a little bit about what additional
21 covenants might be put on a neighborhood and
22 why

23 A Well, an early example would be a neighborhood
24 called Terrapin Island, which is probably about
25 25 acres in size, which was a hummock attached

1 by a bridge

2 Q "Hummock" is a small island?

3 A Right And at that point, Leonard and I, in
4 particular, worked on what was unique about
5 that location that warranted greater detail in
6 terms of the standards So, for example, there
7 was greater attention to height allowance
8 There was --

9 Q You mean restricting height --

10 A Restricting height

11 Q -- beyond what was restricted in the general
12 covenants?

13 A Right Right There was the beginnings of
14 establishing a piece of architecture could only
15 be a story and a half By that, the second
16 floor was imbedded within the roof as opposed
17 to two full floors of exposure and then a roof
18 Materials were narrowed All other standards
19 to that date allowed for a broad range of
20 materials to be considered In that location,
21 we narrowed the materials to wood shingle or
22 wood cladding
23 We narrowed the spectrum to a much tighter
24 degree of color Roofing materials were
25 narrowed to a short list of either wood shingle

1 or metal, preferably copper Standards related
2 to ground coverage were more restrictive than --
3 other areas My point -- I can continue on,
4 but my point being, we were being more
5 attentive to the interrelationship of yet-to-be
6 designed architecture and site design with the
7 unique properties that existed on Terrapin
8 Island

9 Q And when you say "wood siding," you mean, for
10 example, you couldn't use cement?

11 A Couldn't use stucco, you couldn't use hardy
12 material

13 Q Hardiboard?

14 A Right You'd have to use natural materials,
15 right

16 Q Now, how many different sets of covenants do
17 you think y'all have created? I mean, how many
18 times has that been done where you got more
19 specific and more restrictive?

20 A I'm guessing it's probably maybe 12 to 15 by
21 now, something in that --

22 Q That actually becomes part of the deed? I
23 mean, that is a restrictive covenant in the
24 deed of that property to that lot?

25 A Yeah I don't know if it's a deed or covenant,

1 but it's the legal agreement between the buyer
2 and the seller The buyer fully understands
3 that prior to purchase

4 Q Now, again, your best estimate of how many of
5 these neighborhoods you've taken on Kiawah
6 Island from the beginning planning to
7 conclusion?

8 A Of these special neighborhoods?

9 Q Both You can give me both

10 A Well, as it relates to these unique standards
11 per location, as I indicated -- and I might be
12 off -- I think it's in the neighborhood of 12
13 to 15 Some slightly larger, some slightly
14 smaller

15 For example, Terrapin yielded -- you know, it
16 was about 15 homesites The Preserve, which is
17 in an area adjacent to it, is probably in the
18 neighborhood of 150 homesites And it spans
19 the gamut like that, varies in size from one to
20 the other

21 But prior to that -- I'm not certain how to
22 measure the role I mean, during the Kuwaiti
23 period, I think at that point they had sold
24 maybe 2600 or 2700 pieces of property in some
25 form or another because at that time it was

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1 heavily oriented toward villas and
2 condominiums I was involved in probably half
3 of those by the time I got on board And then
4 after that -- I'm doing some quick math --
5 there's been about 4150 pieces of property sold
6 to date, so

7 Q On these policies, do you have a policy to max
8 out, to build as many units and houses and lots
9 as you can?

10 A No

11 Q What is the policy of KRA?

12 A Well, the policy is to go through an analytical
13 assessment of it to determine what the
14 appropriate number is So there's no --

15 Q Do you have a motto?

16 A Pardon me?

17 Q Do you have a motto?

18 A Well, I mean, the credo from the get-go has
19 been "designing with nature " I mean, that's
20 the title of our architectural guidelines
21 But as it relates to the question of is there
22 a mission like some developers have to maximize
23 the entitlement allowance, in fact, it's the
24 contrary There's no requirement to maximize
25 The intent is to optimize a balance between

1 development in an area and what's appropriate
2 for it in relationship to market conditions, in
3 relationship to financial performance, all the
4 other disciplines involved, you optimize those
5 And consistently that has been far less than
6 the entitlements allow for parcel by parcel

7 Q Can you give me a specific?

8 A Well, Terrapin Island, the entitlement allowed
9 for approaching 30 some odd units on that, what
10 was appropriate in our assessment was 15 The
11 Settlement, which is an area where there's an
12 existing -- the fifth golf course that was
13 built, there's an entitlement for 675 units
14 We're probably on a path of 140 Little Bear
15 Island is probably the extreme At the east
16 end of the island, it had entitlements of 18
17 homesites and it ended up being zero because of
18 a conservation easement It made more sense to
19 have a conservation easement there So I can't
20 say that there's a formula for it because it
21 deals with what's unique about the specific
22 piece of property that you're evaluating at the
23 time

24 Q I'd like you to take us through and you can use
25 Hummock Island as an example What is the

1 process? How long does it take from the
2 concept of "we're going to do something with
3 this piece of property, that this is the next
4 one in line," and they come to you and they
5 say, "Okay, let's get this, let's start
6 thinking about this piece of land"? What is
7 your process and what do you do?

8 MS ARMSTRONG Objection, Your Honor I mean, I
9 think this has gone on pretty far I'm not
10 sure how what the process is for them coming up
11 with a development is relevant in this case
12 I mean, they've got a process We get that

13 THE COURT Any response?

14 MR HOWE Just that it's background to the issue
15 that they have raised as to whether or not --
16 the cumulative effect of the development

17 THE COURT Okay

18 MR WHITFIELD-CARGILE I join in the objection,
19 Your Honor

20 MR HOWE And, also, they're saying we're doing it
21 piecemeal And what I want to show is this is
22 the way it's done

23 THE COURT I would like to start getting it more to
24 this case, so I'm going to overrule that
25 objection, but

1 MR HOWE After this process question then I'll be
2 there

3 THE COURT Okay

4 Q Tell us what the process is

5 A Well, it varies in terms of length or time,
6 but -- in fact, I think my response to a
7 similar question at the deposition was a more
8 typical range, middle of the bell curve range
9 would be two to three years, depending on the
10 size Sometimes it's much quicker than that,
11 other times it takes a longer period of time
12 But the process is very familiar to people that
13 do what I do and, you know, I'm part of a team
14 I'm not the only person doing that I'm part
15 of an extended team of people evaluating the
16 site So you evaluate a piece of property
17 contextually That is, don't start drawing,
18 assess the property, learn the property You
19 know, as it relates to how I go about it,
20 because I have the luxury of living there, I
21 got out there at all times of day, all times of
22 year, to walk the property and better
23 understand it
24 But simultaneous with that is the advancing of
25 proper surveys of tree and topo, conditions,

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1 identifying any unique conditions in a site
2 assessment to warrant unusual shape of the
3 land, orientation, wind patterns, all these
4 influences that will eventually influence the
5 design of architecture

6 As plans evolve, you develop a brief of
7 knowledge as it relates to influence of market
8 conditions, unique market studies that would
9 companion with that location and its unique
10 attributes That begins to shape consideration
11 of, if it's a lotting neighborhood, the size of
12 the lots So there's something that -- the
13 land tells you about things and then market
14 conditions tell you about things and they begin
15 to merge together

16 And, typically -- I'll shorten it, but
17 typically in the process, we develop a series
18 of alternatives, each of which are evaluated in
19 terms of opportunities and constraints, pluses
20 and minuses Those are further evaluated and
21 usually a hybrid is created You're borrowing
22 from findings of various ways of thinking about
23 it, to the point where you finally have a
24 preferred master plan or preferred plan of
25 action I'm speaking mostly about site issues,

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1 the land planning issues

2 Similar exercise on architecture You do a
3 similar sort of exercise So you break it
4 apart, evaluate it, and begin to put it back
5 together in terms of the influences

6 Q Who is the final decision maker, who do you
7 report to and work on these things with?

8 A Report to the partners of KDP

9 Q Okay Now, are you familiar with Captain Sam's
10 Spit?

11 A Yes

12 Q How and why are you familiar with it?

13 A Well, in the first year I moved and had
14 responsibilities at Kiawah, that was the first
15 time -- in 1979, that's the first time I sort
16 of walked the beach

17 I remember putting in at the east end of the
18 beach and walking the whole length and ending
19 at Captain Sam's And off and on for a long
20 period of time, it wasn't uncommon for me to --
21 in terms of touching different pieces of the
22 island, being out there maybe once or twice a
23 year, typically on the beach side, but --

24 Q Have you begun your planning process for the
25 development of Captain Sam's?

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1 A Yes That probably started maybe, in terms the
2 - - - beginnings of reassessing, six to nine months
3 ago

4 Q And what are the kinds of things you've done so
5 far?

6 A Well, most of it is fieldwork The expression
7 I used I think in the deposition was, you know,
8 a typical fashion, in a normal condition, you
9 usually spend about 20 or 30 percent of the
10 time at most out in the field and the balance
11 in the studio drawing
12 With something like Captain Sam's and Terrapin
13 Island, you actually do the reverse You spend
14 more time in the field fully assessing it and
15 less time in the studio, because you want to
16 become more familiar with the nature of it

17 Q And have you arrived at what you called a
18 "schematic" at this point?

19 A No, no I had put some ideas down in a sketch
20 of core ideas or structuring elements that
21 might be considered for a future plan, but I'd
22 say that we're well at the beginning of, you
23 know, creating even plan alternatives, which
24 would be the next stage

25 Q Have you brought some or do you have some

1 pictures, exhibits, that you could teach --
2 show the Court what you've done in your
3 approach so far?

4 A Well, one of the approaches I use, because I do
5 a lot of photography, is to document the site
6 So there are some exhibits that I think are
7 part of the array of exhibits that include some
8 aerial shots that I take sort -- which is sort
9 of the first perspective

10 Q I'm going to be referring to Exhibits Four,
11 Fifty-five and Fifty-eight in our case when we
12 move from one to the other We're going to
13 start with the first one You can talk from
14 down there or you can walk down here and point,
15 whichever one you think is the most effective

16 THE COURT Are all those Four, Fifty-five and
17 Fifty-eight in evidence?

18 MR HOWE Yes, sir

19 MR WHITFIELD-CARGILE Your Honor, I don't -- I beg
20 the Court's indulgence Your Honor, I don't
21 believe Fifty-five and Fifty-eight are in
22 evidence

23 MS ARMSTRONG Your Honor, I've got a little
24 problem here The exhibit list that I've got
25 does not have a page five It's not got those

1 exhibits listed on them

2 MR WALKER I'm sorry Obviously a reproduction
3 error

4 And here's one for you, Davis, a page five

5 THE COURT All right So it's my understanding
6 that Fifty-five and Fifty-eight are not in
7 evidence?

8 MR WHITFIELD-CARGILE Right

9 MS ARMSTRONG That's my understanding, Your Honor

10 MR HOWE When we get to them, I'll just let him
11 identify them and then --

12 THE COURT Okay

13 Q Go ahead

14 A One of the processes I use to document a site,
15 in addition to just walking it and seeing it,
16 is to photograph it intensely And KDP
17 partners allowed me the luxury of hiring a
18 helicopter to go up to shoot in the air --

19 (Off the record due to construction noise)

20 A (Continued) -- is the luxury of going up in the
21 air and seeing it at sort of the equivalent of
22 30,000 feet I'm not at 30,000 feet In fact,
23 I'm less than 500 feet -- to see that way, in
24 addition to walking on the property
25 So I have a series of images that sort of show

1 the context of the property Because I tend to
2 look at a contextual relationship first before
3 I get myopic and get really telescopic on the
4 property

5 This first image is of the west end and in the
6 distance is Captain Sam's right here

7 (indicating) represented with the laser But
8 in the foreground is actually the first phase
9 of development on Kiawah from '75 through '78,
10 which is called West Beach Village And the

11 important factor here that I wanted to reflect
12 on for myself was the relationship of proposed
13 structures, or existing structures for that

14 matter, to the beachfront Because all of the
15 early phases of Kiawah, from '75 through the
16 late seventies were well in advance of

17 establishing any regulatory setback lines

18 These were self-imposed on the part of the
19 developer as a result of analysis and the

20 assistance of a variety of people And as you
21 can tell, without drawing a specific line, the
22 vertical structures are well behind the primary

23 dune right here In fact, the existing base
24 and setback line of the State is still out in
25 this location right in here (indicating)

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1 Is it okay if I just keep going?

2 Q Yes, that's right

3 THE WITNESS Should I go up or down?

4 This image, again, at almost the same
5 altitude -- it's probably about 400 feet -- is
6 more over the top of Captain Sam's So I'm
7 actually probably over the top of the neck, the
8 tightest area

9 But what's interesting here, that is fairly
10 unique by Kiawah standards, even though we have
11 a beach that's ten and a half plus miles long,
12 this stretch of the beach, which is a little
13 over a mile -- I think it's about a mile and a
14 third from the Beachwalker Park to the tip
15 here -- has unusually high dunes and a much
16 broader dune field from this vegetation right
17 in here (indicating)

18 Now, again -- and I'm going to jiggle this --
19 but the State's setback line and baseline is
20 about in that position (indicating) And once
21 we get farther down here, it sort of wraps
22 around in this location (indicating)

23 But what I wanted to get a feel for at even
24 sort of the global level is the
25 interrelationship of the wet beach, the dry

1 beach, the broad dune field with these high
2 dunes And these dunes are some of the -- with
3 the exception of the east end of Kiawah,
4 they're the highest dunes we have, close to
5 between 10 and 15 feet

6 THE COURT Do those exhibit primary and secondary
7 dunes?

8 THE WITNESS That's correct In fact, in this
9 stretch right in here, there are a row of four
10 dunes, and as you proceed down to the inlet, it
11 grows to the beginnings of actually a seventh
12 dune It starts to feather out And I think
13 I might have some images that would show that

14 THE COURT Okay

15 THE WITNESS But it varies considerably from other
16 stretches of Kiawah

17 THE COURT So the development would be well behind
18 the secondary dune?

19 THE WITNESS Absolutely It would be -- in this
20 stretch right here, it would be behind the
21 fourth dune and actually there's the beginnings
22 of another dune over here (indicating) So,
23 today, it would be behind the -- four dunes
24 systems behind the primary dune
25 And we don't -- the proposed development

1 doesn't reach this area down in here
2 (indicating) So in an area right-in-there,
3 there's probably a row of five dunes before it
4 grows to be a greater dimension

5 Q Your ultimate thinking is, it's going to be
6 behind all five

7 A Yes Right And then you begin to see -- I
8 don't know if I can zoom in here But you
9 begin to see what happens in the evolution of
10 the dunes to the vegetated area here

11 (indicating), is that you see traces of
12 vegetation -- they're starting to propagate
13 behind these dunes, because they're more
14 protected from the salt air and so forth
15 That's the beginnings of what happened, you
16 know, many years ago with this (indicating)
17 So, by observation, that's, as I said, the
18 beginnings of a dune field that's propagating
19 as opposed to going the opposite direction

20 MR WHITFIELD-CARGILE Your Honor, I'm going to
21 object to the extent that he's talking about
22 forming an opinion as to whether or not a
23 forest is going to grow in the dune area or if
24 that dune field's growing He's not a -- he's
25 not been noticed as an expert in morphology or

1 in -- what is that, forestry? He's assessing

2 - - - when the forest is going to grow

3 MR HOWE He's stating what he saw when he went
4 there, Judge

5 THE COURT He can testify to his observations over
6 the years, so I'm going to --

7 MR WHITFIELD-CARGILE He can testify to his
8 observations, you know, but he can't testify
9 that -- he hasn't observed what's going to
10 happen in the future And if he's predicting,
11 that's rendering an opinion, and that's not an
12 opinion he's qualified to give

13 THE COURT I'm not going to allow you to go into
14 predicting what's going to happen in the
15 future, but you can testify to what's occurring
16 at this point in time

17 THE WITNESS Yes, Your Honor

18 A The only other thing I'd like to point out that
19 will show up in other areas is, you can see the
20 shadow line of the escarpment on the river side
21 over here (indicating) that begins to feather
22 out and is not apparent the closer you get to
23 the end here

24 Q What is "escarpment" mean?

25 A It's the face of a -- in my context, it's the

1 face of dune that is sheered through wind or
2 erosion or -- - - - -

3 Q In this instance erosion by the river

4 A I'm assuming it's by the river, right

5 THE WITNESS If you'd got to next slide

6 MS MURPHY (Complies)

7 THE WITNESS Now, this image is obviously at the
8 extreme western end looking back This is the
9 whole of Captain Sam's ` You can see the neck
10 area here (indicating)

11 This is an area, Your Honor, that I was
12 answering your question about, the number of
13 dunes, where it's much greater in terms of the
14 sequence of dunes here, approaching probably
15 six, seven in terms of depth because this area
16 is building up (indicating)

17 You can see the vegetated area, the forested
18 area here, which is what I am considering an
19 emerging maritime forest back in here
20 (indicating) And the State setback line wraps
21 right up in here (indicating) It doesn't
22 extend out here (indicating) It goes way up
23 in here (indicating)

24 If we can go to the next image This image
25 of --

1 THE COURT Hold on a second Go ahead

2 THE WITNESS This image now is farther to the-east- - - -

3 Beachwalker Park is -- the parking area is
4 immediately off the screen to the right here
5 and that boardwalk right there is how people
6 get to the beach from Beachwalker Park Excuse
7 me Excuse me, this one right here
8 (indicating) That's the boardwalk and this is
9 an emergency vehicular access way that the town
10 has to get emergency vehicles out on to the
11 beach

12 And, again, it begins to reference the width of
13 the beach, both wet and dry, the width of the
14 dune field, the open dune field, and this more
15 dramatically shows where the neck area is And
16 to a certain extent, you can see at this point
17 beyond the bend where the erosion has occurred

18 If we can go to the next one Just keep going

19 MS MURPHY (Complies)

20 THE WITNESS Now, one of the other areas that we do
21 from a planning perspective is simultaneously
22 assessing things that we've done in the past
23 So at the same time we're assessing a property
24 yet to be determined as to whether it should be
25 developed or not or what character should be

1 developed, we sort of do our homework on what
2 we've done in the past And we have the luxury
3 of 20 plus years with KDP and I have a true
4 luxury of going back further than that of a lot
5 of lessons learned And within the context of
6 living in a place like this, it's a 10,000-acre
7 laboratory of a full scale model

8 Areas that are to the eastern end of the
9 island -- and maybe we can refer to an aerial
10 later on as to where the shot was taken -- but
11 this is an area where the existing private
12 beach club is right there in the foreground
13 (indicating) and you can see the reference to
14 the setbacks of the housing that has been
15 developed in an area called Osprey Beach
16 This whole area right in here (indicating) was
17 initially indicated as "unstable" in the
18 original Environmental Inventory It was an
19 area that was probably four miles in length,
20 because it goes well beyond the bottom of
21 screen, and the area that was shown as unstable
22 actually went back into this area where the
23 forested area is to about right there and back
24 (indicating)

25 Based upon information that we had, I believe,

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1 with Tim Kana at the time in terms of assessing
2 potential development in this area,--it was--
3 determined that it was appropriate to be
4 considered for development for the density
5 levels that we're showing here in this aerial
6 But there's another image that I think is even
7 more important that I want to share with you
8 that will help as when we're considering
9 limited development on Captain Sam's, which I
10 think is the next -- just keep going
11 These are a series of shots This is -- we can
12 just hold on to this This is now over the
13 ocean looking back at the same location And
14 you can see the relationship of, again, the wet
15 beach, the dry beach, the dune field and the
16 transition from the dune field to the maritime
17 forest Again, we established our own setback
18 line back there (indicating) The State
19 setback line is out here (indicating)
20 But the lesson learned in this is, we were
21 starting to discover in the nineties that the
22 problem that we thought we would have in the
23 early years of people building too small a
24 house was not the problem People were
25 building too large a house So the early deeds

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1 and covenants from '74 through the early
2 - nineties always had minimum square footages
3 that people had to design to but no maximums
4 And in this area, in a "wish we had known it
5 sooner," this is an area that would have to
6 constantly manage the expectations of
7 homeowners designing houses too big for their
8 settings This was the beginnings of
9 reflecting on that and changing of philosophy
10 The other one is, every one of these individual
11 lots, plus the second row of lots, has
12 individual boardwalks to the beach Again, in
13 a "wish we had known it sooner," we see no
14 basis for that We would want to consolidate
15 those into just a few that all would share that
16 so we didn't unnecessarily clutter the dune
17 field with a series of boardwalks
18 We can keep going Just keep going Keep
19 going Keep going I think that's it
20 Could I see the next one? Okay If we could
21 go to the -- was it, the neighborhoods?

22 MS MURPHY Yeah

23 THE WITNESS If you could show a hundred percent

24 MS MURPHY (Complies)

25 MR HOWE This is Number Fifty-five? Are we still

1 on Fifty-five?

2 MS MURPHY Fifty-five - --- -- - --

3 MR HOWE This is Fifty-five? -

4 Q All right Tell us, these next series of
5 photographs, what they're photographs of and
6 who took them and what you intend to show of
7 them

8 A Once again, I took these photographs
9 Actually, the ones from -- previously had shown
10 and these I took in April of this year
11 Now, these are a series --

12 THE COURT Well, the next question should be, then,
13 are they a like representation of what you saw
14 that day? I know that may sound funny, but
15 think about it

16 Q Do they accurately represent --

17 THE COURT Do all those pictures represent or a
18 like representation of what you saw that day?

19 THE WITNESS Yes, Your Honor

20 THE COURT All right

21 THE WITNESS There's a series of images that I'd
22 like to go through now, which are, again, from
23 the air to show you areas at the east end of
24 the island, which have these unique
25 characteristics of unusual conditions that

1 warrant unique development and design
-2- -- standards
3 And I mentioned earlier Terrapin Island This
4 is the island that I mentioned, about 25 acres
5 in size, which is a hummock attached to the
6 mainland via this bridge (indicating)
7 This is the beginnings of us being more
8 particular of what the development standards
9 were So, to be crass, instead of thinking of
10 residential lots as a commodity which you just
11 stamp out, there was a more important
12 reflection on there are unique conditions that
13 would warrant variety and contrast in the
14 lotting or where you do and don't do things
15 And we established those standards that I
16 already went through, so I don't need to repeat
17 them, but very unique standards in terms of
18 height, mass, open space requirements,
19 materials, color, amount of landscaping to
20 supplement indigenous landscaping with
21 indigenous landscaping
22 Q And as far as Terrapin Island is concerned,
23 there's a separate set of covenants or an
24 additional set of covenants You've got the
25 general covenants and then more specific

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1 covenants that make those a requirement to run
2 with the land - -

3 A That's correct

4 MS ARMSTRONG Objection, Your Honor I mean,
5 we've already established there are 15
6 different covenants for Kiawah Island I mean,
7 he's already testified to that He's already
8 testified about each area -- they have all
9 these unique design standards
10 Now we've got a bunch of images that are from
11 other places on the island that are not at all
12 like -- they're not on inlets like Captain
13 Sam's, like what we're talking about, and I
14 just don't see how these are relevant And I
15 think he's going back into areas that we've
16 already covered

17 MR HOWE I think it goes to the lack of cumulative
18 effect

19 MS ARMSTRONG I don't think --

20 THE COURT I think we're getting further afield at
21 this point in time, but I'm just going to allow
22 this in at this point in time

23 MR WHITFIELD-CARGILE And, Your Honor, I just want
24 to note for the record, same objection from the
25 Department

1 THE COURT Overruled

2 Q Is the way that Terrapin Island has been done —
3 reflective of the way other development, more
4 recent developments have been done?

5 A Yes

6 Q And I think we're going to be hooked and not
7 going to be able to use any more pictures Is
8 there anything else you want to talk about from
9 this picture?

10 A No

11 Q Okay We'll move on

12 THE WITNESS If I can, I have two more images which
13 are idea sketches for Captain Sam's

14 MS MURPHY Oh, I'm sorry

15 Q What is that?

16 A This is one of two sketch studies that --

17 MR WHITFIELD-CARGILE Gedney, what exhibit is
18 this?

19 MR HOWE Number Fifty-eight

20 Excuse me, I'd like to move to admit Number
21 Fifty-five that we just referred to

22 THE COURT Any objection?

23 MS ARMSTRONG Yes, Your Honor, objection, the same
24 as what I stated

25 THE COURT To relevance?

1 MS ARMSTRONG Yes

2 THE COURT Mr- Whitfield-Cargile?

3 MR WHITFIELD-CARGILE Same objection, relevance,
4 Your Honor And if you're going to overrule,
5 I would -- the remaining -- there's five --
6 let's see There's six exhibits in here and
7 five of them he didn't talk about at all

8 MR HOWE Because you objected to them

9 MR WHITFIELD-CARGILE Well, yeah, I'm going to
10 object on relevance to all of them, Your Honor,
11 but particularly the ones that he hasn't
12 discussed at all I don't see how these are at
13 all relevant

14 MR HOWE I just propose to introduce the ones that
15 he referred to

16 THE COURT Okay Well, then I overrule the
17 objection and admit the photograph that was
18 referenced

19 (KDP's Exhibit Number Fifty-five was admitted into
20 evidence)

21 Q Who drew this?

22 A I drew this

23 Q With your very own hands?

24 A Yes

25 Q What is it?

1 A It's a sketch which represents a couple of core
2 ideas that I think could be considered for --
3 Captain Sam's

4 Q Okay This is the beginning of the process?

5 A Yes You know, I mentioned early on that, you
6 know, it's a struggle in that you try to resist
7 as long as possible starting to draw things
8 because the moment you begin to draw things,
9 there's the risk of it starting to get fixed
10 prematurely to all the influences to the
11 creation of a plan But it happens You've
12 got to let it out
13 So these two sketches -- which the base sketch
14 is similar in both, the color representations
15 are different to represent different ideas --
16 begin to represent that this is not a master
17 plan It's not even a schematic plan It's
18 just an idea sketch of certain principals that
19 might be considered going forward, which I can
20 go through

21 Q Yeah Tell me what principles and planning are
22 embodied in that draft?

23 A Let me zoom in

24 THE COURT Hold on just a second

25 THE WITNESS The beginnings of the idea here, which

1 I hope will show up on a couple of other
2 things, is, in no particular order -- it's less
3 about laying out lots and more about finding
4 building sites, homesites, where the buildable
5 area would be And the intent would be to make
6 it as small as possible Anticipating we
7 don't -- we haven't determined what the maximum
8 square footage is, but, for example, if the
9 maximum square footage of a house is 4500
10 square feet, it doesn't need to have a big
11 footprint

12 In fact, in many of the other areas that I
13 mentioned earlier, we don't allow a single
14 structure to be any larger than a certain
15 number of square feet, that if you want to
16 reach the maximum, you need to break the house
17 apart The idea is to break the scale of the
18 house down Instead of a large mass, you might
19 have a collection of two smaller structures
20 So what this is, is the beginnings of the idea
21 of small, little footprint areas Those aren't
22 buildings Those are buildable sites And
23 then all the remaining land around it is less
24 about where lot lines are, but it's held in as
25 close an existing state as possible with the

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1 natural vegetation is retained

2 This is not an area where there are going to be
3 grass lawns or imported exotic plant material
4 This should be about indigenous material that
5 exists there now

6 The other concept is, instead of a whole row of
7 individual docks along here for all these lots
8 and homesites on the river side having such,
9 which we have in other locations, there would
10 be one -- possibly two, but one common dock
11 area where people could launch kayaks, canoes
12 and tie up a boat that they might have
13 elsewhere for day-tripping and so forth

14 A more difficult thing to see in this sketch is
15 there are -- one, two -- three little orange
16 squiggles This one shows up a little bit
17 more (indicating) They're about a thousand
18 feet apart The idea there is instead of each
19 one of these homesites along the ocean having
20 an individual boardwalk, you consolidate those
21 What's missing here is the roadway section We
22 have yet to test it, but the idea is to have
23 pervious material for pavement, whether it's
24 pervious asphalt or pervious concrete --

25 Q Why?

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1 A Well, the idea is to have a light touch The
-2- whole idea in terms of the balance of this is - - - -
3 to have a tight touch If you err, err on the
4 side of less rather than more Square footage,
5 less rather than more The infrastructure
6 improvements, make them as narrow as practical
7 and still maintain emergency access, but make
8 them tight and narrow And if you can have the
9 added effect of minimizing runoff by having
10 pervious material for the pavement, that would
11 be great
12 So, for example, maybe the central location
13 could have that, but then these smaller spurs
14 might be shell-based
15 The other concept that I'll share is the idea
16 of -- which is a little harder to see Instead
17 of every one of these homesites having their
18 individual driveways, at a minimum, two
19 homesites would share one before you get to
20 your driveway -- let's see if I can pull that
21 up

22 Q Mark, you also told me about parking under the
23 house and height?

24 A I was going to get to the architecture in just
25 a minute

1 In this location, there are two homesites right
2 here, but one shared driveway (indicating)
3 Over here, there are -- one, two, three --
4 four The idea, again, is a nod toward
5 minimal, how little can you do and still
6 accomplish the limited goal

7 This sketch -- I don't know how many units I
8 would be proposing because, again, it's too
9 early to suggest Is it 50? Is it 25? Is it
10 something else?

11 But this one suggested, I think, 44 or 45 I
12 can't remember exactly

13 But the final point I'd make -- let me back up
14 here -- is you'll notice that it feels a little
15 bit more concentrated in certain areas in terms
16 of these homesites And then the more you go
17 out on these sheneers (phonetic) that sort of
18 feather out, these areas become less dense
19 And that's a result, again, of walking the
20 property and beginning to get a feel for to
21 what -- you know, technically, you could fit
22 more out there, but maybe it just doesn't make
23 sense because of the potential impact

24 To the point where the setback lines actually
25 goes all the way out here (indicating) and at

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1 this early sketch -- which I'm not certain
2 Leonard has actually seen yet -- I'm proposing-----
3 on this sketch study that we don't go out that
4 far in this location That's an example of a
5 range of alternatives that might be considered
6 by the partners as we begin to proceed
7 Now, the architecture, we're much further away
8 from that in terms of that, in terms of a
9 conceptual sketch But, for example, the
10 question that you asked about the parking --
11 the flood plain requirements out here are such
12 that we want to keep the house, the first
13 floor, as close to natural grade as possible
14 What typically happens is people jump up the
15 first floor a little bit to get parking under
16 it Well, that might be good for the parking
17 exercise, but it's bad about a house being more
18 prominent And what we want are homes and
19 structures be more background or less
20 prominent, so it's likely that we would
21 discourage parking under, which we have done in
22 probably four or five neighborhoods, where we
23 disallowed under -- unless there's an
24 extraordinary condition, like you're saving a
25 tree, to compress it -- we disallowed parking

1 under that would force a house to go up higher

2 Q Does that cover this string of --

3 THE WITNESS I just have one more, Your Honor Let
4 me back up here

5 This is the same sketch There's no difference
6 in the line representation and the road

7 representation, but -- and it's a little hard
8 to see with the color rendition here, but this

9 is a strategy that would suggest a hierarchy of
10 how property would be considered or managed, in

11 a sense By far, the largest area outside of
12 the potential buildable area would be held in

13 a preservation state I mean, we have no
14 intent of applying for any relief to the

15 standards to have structures seaward of any
16 setback lines, with the exception of these

17 consolidated boardwalks or potential docks

18 The other strategy, though, is maybe more

19 aggressive in this sketch, which is instead of
20 people owning individual lots that bump up to

21 each other, there may be a system such that the
22 ownership position is much tighter confined to

23 the developed -- you know, like the improved

24 areas, and that there are -- there's a network,
25 a sort of fabric of areas that surround all

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1 these and surround the infrastructure, which
2 is -- I entitle it "conservation" ---It's a
3 managed area that would be held in common So
4 that everyone sort of buys in on the idea of
5 what this place could become
6 I mean, rules that are self-compliant are
7 always the best So if we establish a series
8 of standards where you have a responsibility
9 for a discreet part of your property, but then
10 you participate in the management, in a sense,
11 the conservation of the remaining that sort of
12 surrounds you, then, you know, our finding is
13 that people have a different attitude of what
14 they do on their property They don't feel
15 like it's just them They're in it together
16 So then the final act would be the buildable
17 area, which would be a customized sort of the
18 street area, and it wouldn't look anything like
19 this
20 I mean, when I mentioned doing the fieldwork,
21 we might simply walk around with a GPS and
22 feel -- you know, determine that this is an
23 appropriate site, beam that up, and then it
24 might be a checkerboard pattern that is very
25 irregular in terms of arrangement as opposed to

1 a rhythm, which is suggesting here

2 (indicating) So that's what this graphic is - - -

3 tending to represent It's a way of thinking

4 This graphic, to me, is a way of thinking about

5 the project

6 Q For ID purposes, where would the park be and

7 where would the revetment --

8 A The park on both -- this is the parking area,

9 parking lot right here (indicating), and the

10 boardwalk to the beach is right there

11 (indicating) The emergency access is right

12 there (indicating)

13 Q And the revetment is

14 A Well, I think the revetment starts generally in

15 this position and I believe it's somewhere in

16 here (indicating), I think

17 Q Okay That's fine Go ahead and sit down

18 A (Witness complies)

19 MR HOWE Your Honor, we would move to introduce

20 these two drawings

21 MS ARMSTRONG No objection, Your Honor

22 MR WHITFIELD-CARGILE I object, Your Honor It's

23 all speculation None of it's relevant He

24 said that it's all -- it's not even a

25 conceptual diagram It's just something that

1 he did putting thoughts on paper

2 THE COURT Overruled - - -

3 (Off the record)

4 (KDP's Exhibit Number Fifty-eight was admitted into
5 evidence)

6 Q You talked a little bit about your learning
7 curve Do you see this piece of property
8 benefitting from the learning curve that you
9 had at Kiawah?

10 A Yes

11 Q Do you see it getting more sophisticated
12 treatment as y'all's learning curve has
13 improved?

14 A Yes

15 Q And the approaches that you've talked about,
16 additional restrictive covenants and the
17 concepts you've been discussing, would you see
18 those as all being applicable and imbedded in
19 this property?

20 A That's -- yes

21 MR WHITFIELD-CARGILE Object, Your Honor That's
22 speculation

23 MR HOWE Thank you very much

24 THE COURT Any response, Mr Howe?

25 MR HOWE No, huh-uh (negatively responds)

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1 THE COURT He just objected

2 MR HOWE Oh He's just testifying to what he's - -
3 going to be doing That's just direct
4 testimony If he's the planner, those are the
5 things he's going to be doing

6 THE COURT I overrule that

7 Ms Armstrong or Chandler?

8 MS ARMSTRONG Thank you, Your Honor

9 MR PERMAR - CROSS-EXAMINATION BY MS ARMSTRONG

10 Q Mr Permar, we've been talking about an
11 Environmental Inventory a little bit today and
12 yesterday Are you familiar with that
13 document?

14 A Yes

15 Q I believe that has been marked as Exhibit One

16 MS ARMSTRONG Do you have my exhibits up here?

17 THE COURT REPORTER Yes

18 MS ARMSTRONG If you wouldn't mind handing that to

19 Mr Permar, please

20 THE COURT REPORTER (Complies)

21 MS ARMSTRONG Your Honor, he's referring to --

22 THE COURT Hold on All right Go ahead

23 Q You've got a copy of Exhibit One now And that
24 is identified as Environmental Inventory of
25 Kiawah Island, is that right?

1 A Yes

2 Q Okay And that whole document's probably about

3 close to 700 pages, is that right?

4 A Yes It's a big book

5 Q Right And what you've got in your hand right

6 now, is that the entire document?

7 A (Reading) I think it's just one section which

8 deals with -- it's G I think it's the G

9 section

10 Q And do you know what the G section stands for?

11 A Well, I'm just looking at the table of

12 contents It's geology and coastal processes

13 Q Okay All right And you've read this

14 document in the past, haven't you?

15 A A long time -- yeah, a long time ago

16 Q And you've been -- it's been around for a long

17 time, hasn't it?

18 A I had dark hair then

19 Q Okay And in making planning decisions on

20 Kiawah Island, you've used this document,

21 referred to this document in making planning

22 decisions, isn't that right?

23 A Yes

24 Q In fact, the developer has won planning awards

25 related to this Environmental Inventory, hasn't

1 it?

2 A It's won planning awards I don't know if it's
3 relative to the Inventory, but it has won
4 awards, yes

5 Q And when it won those planning awards, the spit
6 was designated as open space and preservation,
7 isn't that right?

8 A I think they were dated -- the awards were
9 dated during that period, yes

10 Q Okay Now --

11 MS ARMSTRONG Give me just a moment, Your Honor
12 Let me find the specific page

13 Q And are you familiar with one of the diagrams,
14 one of the drawings in the planning document --
15 it's on page G-63 If you'll turn to what's
16 identified as G-63

17 A (Witness complies) Yes

18 MS ARMSTRONG Your Honor, if Mr Chandler could
19 hand you a copy I've got a copy of our
20 exhibits for you They're tabbed This is
21 Exhibit One and we're looking at G-63

22 MR CHANDLER (Tendering to the Judge)

23 Q Mr Permar, this drawing identifies areas that
24 are -- were found to be stable and unstable,
25 isn't that right?

1 A Yes

2 Q Okay And included in the area that was
3 designated as "unstable" is the whole spit,
4 isn't that true?

5 A Captain Sam's, yes

6 Q Okay And, typically, you don't develop in
7 unstable areas, do you?

8 A Typically not

9 THE COURT If I could stop you You said G-63 I
10 don't see

11 MR CHANDLER It's Exhibit One

12 THE COURT What's the exhibit number?

13 THE COURT REPORTER Exhibit One

14 MR CHANDLER Exhibit Number One

15 THE COURT Oh, okay I got you I see it

16 Q And you were saying that you typically don't
17 develop in unstable areas like where the spit's
18 designated as unstable, isn't that right?

19 A That's correct But I also pointed out that
20 there are other areas that are shown as
21 unstable that we have developed

22 Q And those areas are closer to the middle of the
23 island, isn't that right?

24 A Eastern end, yes

25 Q Okay And those areas that you developed that

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1 are unstable, none of those areas are in inlet
2 zones, isn't that right? - - - - -

3 A No, with the exception of where the Ocean
4 Course is, which

5 Q There aren't any houses --

6 A We didn't develop that, but -- at the eastern
7 end, right

8 Q There aren't any houses on the east end where
9 the Ocean Course is, are there?

10 A No

11 Q And, in fact, the Environmental Inventory
12 recommended that the uses to be made of the
13 unstable areas are more recreational uses,
14 isn't that accurate?

15 A I can't remember that

16 Q When you're making planning decisions about
17 where to place a development, is the potential
18 for a breach something that you would need to
19 consider in making planning decisions, isn't
20 that right?

21 A I would take that into consideration, yes

22 Q And you actually yourself consider the spit as
23 a dynamic area, don't you?

24 A I use that term, yes

25 Q So, in fact, there's still a chance that you

1 could determine the development on the spit

-- 2 isn't even appropriate, isn't that right?

3 A At this early stage, I don't have any

4 preconceived notion of many things

5 Q So Kiawah Development Partners applied for this

6 permit for a revetment before you even know

7 whether there's going to be a residential

8 development on the spit?

9 A Before there's a determination of a final plan

10 Q And back in 1994, under the development

11 agreement, the spit was considered as a park

12 for park and recreational uses, isn't that

13 right?

14 A Yes

15 Q Okay And you actually still consider it an

16 appropriate use of the spit for recreational --

17 for park or recreational uses, don't you?

18 A Open space, park land is an appropriate use,

19 yes

20 Q And that was actually the designation that it

21 was given when you came onboard with KRA and

22 KDP, isn't that true?

23 A In '88?

24 Q In '88

25 A Yes

1 MS ARMSTRONG Your Honor, I'd like to move to
2 admit Exhibit One-- And I'm going to -- I've
3 laid -- we've laid a little bit of foundation
4 for it with Mr Permar, but I'm going to
5 represent to the Court that one of the authors
6 of this Environmental Inventory, John Mark
7 Dean, is going to be a witness testifying for
8 the Coastal Conservation League later in this
9 case and I'll further lay a foundation for him
10 as an author of this document

11 THE COURT Any objection?

12 MR HOWE Yes, sir, Your Honor We took Mr Dean's
13 deposition and his name appears no where in
14 this document So the person that she says is
15 going to authenticate it, his name appears no
16 where in the document I assume -- it refers
17 to a Miles Hayes, Stephen Wilson, Duncan
18 FitzGerald, Leita Hulmes, and Dennis Hubbard as
19 being the authors I assume she's trying to
20 get it in as a learned treatise Is that
21 correct?

22 MS ARMSTRONG Your Honor, this is a -- I mean, it
23 would be one part of a learned treatise, but
24 certainly -- this was something that was a
25 planning document It was the tool that was

1 used Mr Permar said he used it in making
2 development decisions on Kiawah Island ---- -- -- --
3 And I'll just point Your Honor -- I believe the
4 second page in that document has the project
5 director, John Mark Dean, identified If you
6 turn over a couple of pages --

7 THE COURT Well, I want to do the same -- you know
8 the phrase "what's good for the goose is good
9 for the gander"? In the past in this hearing,
10 I've set forth that as long as the attorney
11 sets forth that they will link it up, I will
12 allow the evidence in, subject to their failure
13 to link it up and therein I'll strike the
14 exhibit

15 So, at this point in time, I'm going to allow
16 its -- what's the phrase -- its tentative
17 admission But if your cross-examination
18 reveals what you say is true, I'll strike the
19 document, or strike it from evidence So
20 it's -- but I didn't ask Mr Whitfield-Cargile

21 MR WHITFIELD-CARGILE No objection, Your Honor
22 (CCL's Exhibit Number One was admitted into
23 evidence)

24 Q Mr Permar, you were talking about a change in
25 philosophy as you learn more about Kiawah

1 Island, is that accurate?

2 A About? -

3 Q Your philosophies have changed as you've
4 learned more about the island

5 A I've learned by mistakes I'm stumbling over
6 the "changing philosophy" part

7 Q Well, I'm just using your words --

8 A Okay Okay All right

9 Q -- and you were talking about the big, very
10 large houses that were built on one part of
11 Kiawah Island and you said that you had a
12 change in philosophy and decided that you
13 needed to actually limit the size of house --
14 of square footage of those houses, isn't that
15 right?

16 A Yes

17 Q Okay And so in one instance, your changing
18 philosophy goes from decreasing impacts and
19 reducing actual size and development, isn't
20 that right?

21 A To reducing the impact

22 Q Right

23 A Right

24 Q But when you look at the spit, your actual
25 philosophy is changing from leaving something

1 completely undeveloped to actually increasing
2 impacts because you're going to have some - -
3 development there, isn't that right?

4 A Well, if I could answer the question this way
5 When I look at the total of Kiawah Island and
6 what densities go where and impacts associated
7 with that, that's my first test is to impact,
8 as opposed to necessarily an isolated location,
9 whether it's Captain Sam's or Cougar Island or
10 something else

11 Obviously, the transition from an area that
12 didn't allow for residential development prior
13 to the setback change that now allows for it
14 plays into a consideration of How does that
15 relate to other decisions? And if I could use
16 an example

17 Q Go ahead

18 A Okay At the end of Beachwalker Drive, a
19 parcel of land there that is, I think, 15 to 20
20 acres -- I can't remember exactly In the
21 initial development agreement, 1994, that
22 allowed for a 325-room hotel
23 In the discussions of changes attributed to the
24 2005 development agreement, there was a
25 combination of a concern by the community as to

1 some level of hotel development there, either
2 diminished or eliminating it -- that would be
3 their preference -- in addition to the
4 potential of the addition of up to 50
5 residential units

6 So at that point in time, when I was asked to
7 consider that, I was sort of -- in my world, I
8 was sort of weighing the balance of the impact
9 of a large hotel, by any standards, being
10 eliminated, being taken off the table and its
11 impact on the area at the west end, with taking
12 that away and adding no more than 50
13 residential units

14 And when I was considering that, aside from the
15 potential of, you know, eliminating an entitled
16 hotel on the East Coast, which is rare, if not
17 the only entitled hotel, I thought that that
18 was -- that benefitted everything in that area
19 to consider that, that change, eliminating an
20 intense use for something that is more modest
21 in terms of its impact

22 Clearly, the difference between allowing for
23 development on Captain Sam's versus even modest
24 development is different I mean, there's a
25 difference there I really looked at the whole

1 west end when I was sort of considering it

2 Q But you could have taken -- those hotels could
3 have been off the table without adding 50
4 additional homes, isn't that true?

5 A I don't know It was considered -- it was
6 considered as a whole by the town council and
7 the partners When they were considering it,
8 it was considered as a whole It wasn't -- one
9 wasn't isolated from the other, in terms of
10 opportunities, impact issues, in my world, that
11 sort of thing So I can't separate the two

12 Q But ultimately what it came down to is your
13 philosophy change from leaving an area that was
14 designated as conservation that was open space
15 to putting a development there, isn't that
16 right?

17 A My philosophy didn't change My work process
18 didn't change The land use opportunity
19 changed So philosophically, I haven't changed
20 in terms of how I would go about, you know,
21 assessing that But consideration for an area
22 that would allow for development versus one
23 that didn't did change That did change

24 Q You were talking about the Terrapin Island and
25 the development out there You haven't done

1 any analysis about what the cumulative effects
2 on development of Terrapin Island have been on
3 the environment, have you?

4 A Not yet, no

5 Q And you haven't done any kind of analysis about
6 the cumulative effects of development on all of
7 Kiawah Island, have you?

8 A Assessment? I'm sorry

9 Q Have you done any look to determine what the
10 cumulative impacts are of development on Kiawah
11 Island as a whole?

12 A I'm sorry, it's sort of a broad question for me
13 to answer The island is on a pace for a
14 certain development range, both existing and
15 future development, and I have a really good
16 sense of that But as it relates to measures
17 of the impact, whether it be trip generation,
18 occupancy levels, you know, different matrix,
19 no, I haven't done a comprehensive analysis of
20 that

21 Q Do you know what the flood elevation is of
22 Captain Sam's Spit?

23 A I can't remember

24 Q Do you have any idea what happens to this area
25 in a Class III hurricane?

1 A No

2 Q Any idea what would happen in Class IV
3 hurricane?

4 A No

5 Q So I guess you don't have any idea what would
6 happen in a Class V hurricane, either

7 A All I know is that my wife and I live on Kiawah
8 and we're not going to be on Kiawah when a
9 Class V comes

10 Q I hope the people that -- if development on the
11 spit moves forward, I bet they hope they're not
12 on the spit when a Class V hurricane comes in

13 A Right Well, if I could comment The Town of
14 Kiawah has a pretty impressive coordination
15 effort of communication and a series of reviews
16 with the community as to the relevancy of what
17 a major hurricane could do to Kiawah And
18 they've mobilized people really well

19 Q And this spit is actually in what's designated
20 as a CBRA zone or a special zone under the
21 coastal --

22 A Yes

23 Q -- barrier islands act, is that right?

24 A Yes, yes

25 Q And you understand that that means that there's

1 no federal flood insurance for any potential
2 development on the spit? -----

3 A Yes, or any other federal expenditures

4 Q And the purpose of that is to discourage
5 development on areas that are sensitive,
6 potentially dangerous to build on, is that
7 right?

8 A That was its original intent, yes

9 MS ARMSTRONG I don't have any other questions for
10 this witness

11 THE COURT Mr Whitfield-Cargile?

12 MR WHITFIELD-CARGILE Yes, Your Honor

13 MR PERMAR - CROSS-EXAMINATION BY

14 MR WHITFIELD-CARGILE

15 Q Mr Permar, do you remember relaying to
16 Mr Long concerns that -- or a conversation
17 that you had with Dave Elliott back in August
18 2008?

19 A You have to help me out I don't -- you're
20 going to have to describe more for me to
21 comment

22 Q Do you know who Dave Elliott is?

23 A I know who Dave Elliott is

24 Q Okay Do you recall having a conversation with
25 him where he asked what would happen in the

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1 case of a major storm event?

2 A No

3 Q Okay I'm going to hand you this document and

4 see if I can refresh your recollection If

5 you'll just take a look at it and look

6 specifically at what's numbered paragraph

7 three

8 A (Reading) Do you want me to focus on three?

9 Q Right You can look at the whole letter and

10 let me know if this refreshes your recollection

11 of your conversation with Dave Elliott

12 A Yes

13 Q Okay And did Dave Elliott ask you what would

14 happened in the case of a major storm event?

15 A Those are my notes, so I believe my notes

16 Q Okay

17 A Yes

18 Q He did?

19 A Yes

20 Q Okay And what was your response to him?

21 A I said I don't -- if my memory is correct as

22 written, I said I don't know

23 Q You don't know

24 A Yeah

25 Q And you told him that you would pass that along

1 to the design team to try to get an answer,
2 right? -----

3 A Yes

4 Q Did you ever get an answer?

5 A No

6 Q You don't know what would happen in a major
7 storm event?

8 A No

9 Q Do you understand that a breach of the spit
10 would come from the back side of the spit, from
11 the river side?

12 A I understand if flood waters go in, they have
13 to have a way to get out

14 Q Okay And that they could potentially go out
15 by breaching the spit

16 A Potentially

17 Q Okay Let's talk about Terrapin Island for a
18 minute

19 MR WHITFIELD-CARGILE Can we bring up that
20 exhibit?

21 THE WITNESS That's the "neighborhoods "

22 MS MURPHY I think I'll need help over here

23 THE WITNESS Yeah, that would be the "neighborhood"
24 folder

25 MR WHITFIELD-CARGILE Fifty-five I believe this

1 was admitted over my objection And, Your
 - 2 - -- - Honor, I want to ask him about it without -- -
 3 waiving my objection
 4 Q But Terrapin Island, Mr Permar -- while she's
 5 bringing that up -- that's not a spit, is it?
 6 A No
 7 Q Okay And it's not on the ocean, is it?
 8 A No
 9 Q Okay So it's not dune fields, is it?
 10 A Well, there are remnants of dunes on it
 11 Q Remnants of dunes?
 12 A Yes
 13 Q From?
 14 A Ancient --
 15 Q Ancient dunes?
 16 A Yes
 17 Q Okay And if you look at it, there's no --
 18 it's surrounded by marsh entirely, isn't it?
 19 A Yes
 20 Q There's no sandy bank on there
 21 A Other than the exposed shoreline on the
 22 creek -- there are portions of creeks that
 23 touch it
 24 Q Okay Did you have to facilitate a false sense
 25 of security by building a revetment on Terrapin

1 Island?

2 A No

3 Q Okay It's an entirely different island, isn't
4 it?

5 A Absolutely

6 Q In terms of risk to the landowner, it's nowhere
7 near as risky as building on Captain Sam's, is
8 it?

9 A I wouldn't know how to measure that

10 Q Well, it's got storm and buffer protection from
11 the marsh, doesn't it?

12 A It's farther away from the beach

13 Q Okay There's an island that separates it from
14 the beach, Kiawah Island Proper, right?

15 A Yes

16 Q And additional marsh and it looks like even
17 more islands --

18 A Yes

19 Q -- yes? Okay So the two islands really
20 aren't comparable, are they?

21 A In terms of their physical characteristics
22 They don't share the same common
23 characteristics as it relates to beach or dune
24 environments, but they have certain
25 characteristics in the upland portion that are

1 somewhat similar This has more diverse
 2 vegetation than Captain Sam's, but there are - - - - -
 3 some modest similarities of the upland areas
 4 Q It's got more vegetation entirely Most of
 5 Captain Sam's --
 6 A Well, as it relates to --
 7 Q -- is barren dune fields
 8 A As it relates to the proportional relationship
 9 of vegetated versus not, yes
 10 Q You said you've worked at Kiawah Island in some
 11 capacity since 1979 except for a three-year
 12 break from '85 to '88?
 13 A That's correct
 14 Q Okay And you did the due diligence for Kiawah
 15 Development Partners
 16 A I participated in that, yes
 17 Q I guess KRA --
 18 A KRA was known as -- well, actually I think the
 19 due diligence period was under a contract with
 20 the Beach Company or some other entity, because
 21 I think KRA was formed after the purchase
 22 Q Okay But you did the due diligence for the
 23 folks that bought it
 24 A I participated in that, yes
 25 Q And at the time it was zoned -- Captain Sam's

1 Spit was zoned "couldn't be developed," right?

2 A Well, it was zoned "park "

3 Q It was zoned for park and greenspace?

4 A Right

5 Q Okay And that was under the PDD?

6 A Yes

7 Q Okay And then subsequently, when the Town of

8 Kiawah Island was formed, it was zoned pursuant

9 to the development agreement greenspace and

10 park

11 A Since Kiawah -- could you ask the question

12 again, I'm sorry?

13 Q Sorry I think that's it I don't need to

14 belabor that point anymore It's been zoned

15 park and greenspace from -- since the PDD was

16 formed all the way up until to 2005

17 A That's correct

18 Q Okay And you talked about one of the reasons

19 that you supported the change in the zoning and

20 the development agreement was KDP's elimination

21 of the potential 350-room hotel, is that right?

22 A 325

23 Q 325-room hotel? Okay So KDP and the town

24 entered into an agreement where KDP gave up the

25 hotel for the 50 houses?

1 A You asked me two questions I didn't answer
2 the first one We clarified the 350-to-325 --
3 I think you were asking me a question

4 Q Yeah, I'm asking a question still

5 A I apologize I'm sorry, what was the question
6 again?

7 Q KDP entered into a contract to eliminate the
8 325-room hotel in exchange for the 50 houses

9 A I wouldn't deem it as that relationship There
10 was a new agreement in 2005 between KDP or
11 whatever the entity was and the Town of Kiawah

12 Q Uh-huh (affirmatively responds)

13 A It involved hundreds of aspects of the
14 agreement, so I wouldn't -- I wouldn't
15 characterize it as elimination of the 325 in
16 exchange for the 50 The agreement was a
17 comprehensive whole

18 Q Well, you testified that you supported rezoning
19 the spit for up to 50 houses based on the
20 elimination of the 325

21 A I said that entered into my assessment of
22 changes at the west end of Kiawah, of all the
23 properties They own other properties in the
24 west end of Kiawah, that was one aspect of it
25 But it was part of my recommendation to them to

1 be considered for the agreement changes

2 Q That they were eliminating the 325-room hotel?

3 A Yes

4 Q Okay So that contract between KDP and Kiawah
5 Island is the basis that you supported
6 developing the spit

7 A No I just answered my question in a way that
8 I didn't view those as solely tied to each I
9 viewed it as an assessment of the entire west
10 end, which included other properties
11 My point being, though, that I did assess, you
12 know, my observational -- you know, looking at
13 what hotels -- what impact hotels have in terms
14 of occupancy and that sort of thing, comparing
15 that with the 50 units But I also considered
16 potential changes to these other parcels at
17 that west end, too It was a whole It was a
18 comprehensive whole

19 Q Is that contract the basis then that justifies
20 using 2,783 feet of critical area for a
21 concrete block revetment?

22 A I have no idea

23 Q Okay Well, let me ask you this It's
24 possible, isn't it, to build residential houses
25 on that spit without a 2800-foot revetment,

1 isn't it?

2 A Yes, but I wouldn't recommend it - -

3 Q But it's possible

4 A It's possible, but I wouldn't recommend it

5 Q Okay Why wouldn't you recommend it?

6 A Because the access way is at risk

7 Q So you need that to have some sense of security
8 for the people that are going to be driving out
9 to those houses?

10 A It would make sense that if you're going to
11 sell property and be responsible for the future
12 review of it that access would be, I would
13 think, a pretty important aspect of it

14 Q Did you hear Leonard Long testify yesterday and
15 today that if the Department had asked them
16 they would have given them a development plan?

17 A Yes

18 Q You said you're in the wee, wee stages of that
19 process, right?

20 A Yes

21 Q So if you would have given them a development
22 plan before last summer 2008, you wouldn't have
23 been able to go through your process, right?

24 A Well, my process of the two years to three
25 years range?

1 Q Uh-huh (affirmatively responds)

--- 2-- A That's ideal and desirable Architects and --- -- --
3 planners want to use all the time possible to
4 create it But if asked --

5 Q If asked you would have just thrown something
6 on paper and given it to them?

7 A I wouldn't -- no, I wouldn't have thrown
8 something on a paper I would have give it due
9 consideration I think it would be reasonable
10 to say you could -- along with other team
11 members There are other players If the
12 total focus is on providing sufficient
13 information to assess potential development,
14 you know, we could have something within 30 to
15 60 days

16 Q But --

17 A If it's total focus

18 Q But you wouldn't be going through this
19 elaborate planning process that you describe

20 A It's not ideal It's not ideal What we would
21 do under that circumstance -- if I could
22 comment -- what we'd do under that circumstance
23 is develop parameters, performance standards
24 that would need to be met regardless of the
25 exactness of what goes where And that would

1 inform, I would think, a reviewer as to the
2 nature of what could possibly happen there

3 Q But you still haven't done anything like that,
4 have you?

5 A No

6 Q Okay Let's look at Exhibit Fifty-eight

7 A Is this --

8 MR WHITFIELD-CARGILE And for the record, by my
9 question, I'm not withdrawing my objection to
10 Exhibit Fifty-eight's admissibility

11 Q It should be in that notebook

12 A Is it in one of these?

13 Q Yes, it should be in the second one There's
14 two volumes

15 You said these two renderings, which are in
16 Exhibit Fifty-eight, those are -- there's no
17 plans that have been finalized, right?

18 A Right

19 Q This isn't even a true conceptual drawing

20 A No I think I used the term these are "sketch
21 ideas "

22 Q Uh-huh (affirmatively responds) So these are
23 all just pure speculation as to what might
24 happen

25 A Speculation? These are possible ideas

1 Q Possible ideas
2 A Possible ideas
3 Q But you don't know what's going to happen
4 A Not yet
5 Q So this is all just speculation as to whether
6 or not this would actually occur
7 A Speculation? It's speculation
8 Q It's just a possibility
9 A It's a possibility
10 Q One of many possibilities
11 A It could be one of hundreds
12 Q Could be anything
13 A That's correct
14 Q In fact, could be nothing Could be zero
15 houses
16 A At this stage, that's what I -- I don't have
17 any preconceived notion at this stage
18 Q At your deposition, you testified that you
19 might determine as a result of this process
20 that you go through that zero houses are
21 appropriate
22 A Right, which we've done before
23 Q And you're applying for a 2,783-foot structure
24 not knowing if any houses are going to be
25 built

1 A In a similar fashion to what we did at Cougar
2 -- Island --

3 Q So if there's no houses out there, what's the
4 need for the revetment?

5 A Well, the differential of where the critical
6 line is on the river side and the existing
7 setback line has changed since yesterday to
8 today and will continue to change if it
9 continues that pattern So the concern is
10 sufficient dimension there to allow for
11 appropriate access

12 Q Are you aware -- are you familiar -- you've
13 been doing land use planning, real estate
14 planning in South Carolina since 1979?

15 A In South Carolina, yes

16 Q Since '79?

17 A Yeah

18 Q Okay So are you aware of state laws and local
19 laws?

20 A I'm aware of some local laws and some state
21 laws

22 Q Well, are you aware of any law that requires a
23 revetment out there before you can build a
24 road?

25 A No

1 Q Okay Are you aware that there's a process for
2 applying for special permits in DHEC's ---
3 regulation, critical area regulation?

4 A Special permits for what

5 Q Special permit to get something seaward of the
6 setback line

7 A I'm familiar with one in particular at Kiawah,
8 yes

9 Q Okay So you don't have to have this revetment
10 to have access out there, do you?

11 A Today, you don't have to have that revetment,
12 but I wouldn't recommend it in terms of
13 advancing access

14 Q Okay You talked about you weren't going to --
15 looking in page 1099 -- out on the left side of
16 that spit, where there's no indication of lots,
17 I guess that you didn't want to go into that
18 last curve, is that right?

19 A This sketch suggests that, yes

20 Q Okay Are you aware of any easement the
21 Seabrook Island Property Owners Association has
22 over the area -- in that area, rather?

23 A That Seabrook property owners have an easement?

24 Q Uh-huh (affirmatively responds)

25 A No

1 Q You're not aware of one?

2- -A - No

3 Q Are you aware if there's an easement that
4 allows that to be held in open space already?

5 A No No

6 Q Okay I'm just asking if you're aware Do you
7 know where the inlet relocations have been on
8 the spit?

9 A Yes

10 Q Where?

11 A If I could use that graphic

12 Q Yeah Can you use that little pointer you had?

13 A Yeah The inlet's typically -- see where this
14 creek is right there (indicating)?

15 Q Uh-huh (affirmatively responds)

16 A Typically, the inlets have been cut right
17 through there, almost right opposite where that
18 creek meets the river and it's right through
19 there (indicating)

20 MR WHITFIELD-CARGILE Okay Beg the Court's
21 indulgence, Your Honor

22 Q The exhibits you looked at in Exhibit Number
23 Four --

24 A In here?

25 Q Yeah, they're in that notebook Those are the

1 ones you took when you did the aerial flyover
2 in April, I think you said? -
3 A It didn't include this
4 Q Okay
5 A But the -- from KDP0848 to 0870, I took those
6 Q Okay
7 A The last photo I didn't take
8 Q What time did you take 0848 through 0870? What
9 time of day?
10 A What time of day?
11 Q Yeah
12 A It was in the morning sometime
13 Q Early morning?
14 A Yeah
15 Q So the sun was coming up from the east?
16 A Oh, yeah, it was definitely in the morning,
17 though
18 Q So shadows would have been extended longer
19 than -- the sun's coming from the east side,
20 right?
21 A Yeah
22 Q Okay
23 A The son is coming from the east
24 Q And the -- well, okay You said that the whole
25 idea when y'all develop -- what was your motto,

1 "one with nature"?

2 A "Designing with nature "

3 Q "Designing with nature " And the whole idea is
4 to have a light touch, is that right?

5 A Yes

6 Q Do you think 2,783 feet of concrete block on
7 that shoreline is a "light touch"?

8 A It needs to be a light touch

9 Q Is it a light touch?

10 A To stabilize an eroding area, I would think it
11 needs to be a light touch

12 MR WHITFIELD-CARGILE I beg the Court's
13 indulgences for just a moment, Your Honor

14 Q You said develop -- "design with nature"?

15 A "Designing with nature "

16 Q Is the spit -- do you consider the spit
17 pristine?

18 A No

19 Q No?

20 A I characterize it as undeveloped

21 Q Undeveloped?

22 A Yes

23 Q No human development other than those
24 irrigation lines that have been draped on the
25 dunes?

1 A No human development?

2 Q No human improvements

3 A It's presently undeveloped There are no

4 structures

5 Q No human improvements out there

6 A Right

7 MR WHITFIELD-CARGILE I don't have any further

8 questions, Your Honor

9 THE COURT Redirect?

10 MR HOWE Your Honor, reserving my objection to the

11 introduction of this document, I'm going to

12 make some reference to it

13 THE COURT All right

14 MR PERMAR - REDIRECT EXAMINATION BY MR HOWE

15 Q Ms Armstrong asked you about a particular map

16 from the study

17 A Yes

18 Q All right And are you familiar with that?

19 A Yes

20 Q All right And have you prepared some

21 documents that are relative to that sketch?

22 A Yes

23 Q Tell us what these are in my hand

24 A Well, during my deposition, the question was

25 asked about this exhibit and its relationship

1 to Captain Sam's and I answered it in a similar
2 way that I did today, hopefully, exactly the ----
3 same way But I also mentioned that there was
4 an area also represented as unstable on this
5 document that we had developed
6 And after the deposition, I was just curious as
7 to what the true impact -- the relationship of
8 this document was to what's been built in
9 place

10 Q So what did you do?

11 A So I took -- I scanned -- I had a scan of this
12 document and laid it over the top of an aerial
13 photo as best I could This is hand done, so
14 there are just, you know, register
15 discrepancies of where you place things, just
16 to see what the relationship was, not only
17 there, but to Seabrook, too, because a good
18 deal of Seabrook is represented as unstable
19 So I assume that this is the document that I
20 prepared

21 Q Well, is it three pages?

22 A It should only -- well, it might be two One
23 is the aerial and one is a base map that we
24 used to keep track of plats and right-of-ways
25 and so forth

1 Q Just for a second, let me just lay this on the
2 -- floor - Or come here and hold out the other end
3 and just briefly -- what are we looking at,
4 now?

5 A Well, this is an example of the aerials --

6 THE COURT Wait a second

7 Ms Armstrong, do you need to come around?

8 MS ARMSTRONG Yes, Your Honor

9 MR HOWE Let me back all the way up here

10 THE WITNESS Let me back up

11 THE COURT There you go Y'all are going to have
12 to speak up for the court reporter

13 MR WHITFIELD-CARGILE Your Honor, I'm going to
14 object to them relying on this exhibit He
15 hasn't established any kind of foundation
16 showing that --

17 THE COURT I thought that's what he's doing right
18 now

19 MR WHITFIELD-CARGILE Okay

20 THE COURT Go ahead

21 THE WITNESS Again, what I tried to do is take the
22 exhibit that I was asked about in the
23 Environmental Inventory, which is eight and a
24 half by 11 hand-drawn and lay it over the top
25 of both an aerial photo and then the other

1 document is a document prepared by Thomas &
2 Hutton, the underlying document, which is a
3 collection of all the approved plats and
4 right-of-ways and parcels and so forth
5 And, you know, as I said, I was curious I was
6 just curious as to -- I knew about Captain
7 Sam's, but I was curious as to the other
8 unstable area, because I knew that was an area
9 that we had developed and I just wanted -- I
10 was curious I just wanted to see what the
11 impact was
12 And it also shows the potential impact on
13 Seabrook, which I'm less familiar with, but
14 it's really about Kiawah that I was curious
15 about

16 Q And it was prepared by you?

17 A Yeah, along with a person that knows how to do
18 this I mean, I knew what I needed to have
19 done, but someone else needed to do it for me

20 Q Was it done under your direction and control?

21 A Yes Yes

22 MR HOWE We would introduce it, Your Honor

23 MS ARMSTRONG We do object, Your Honor He did
24 mention this I don't know how this -- what
25 data points it was referenced, whether it was

1 verified, rectified, all the things that you

2 would need to do --

3 MR HOWE She can cross-examine him --

4 THE COURT Whoa, whoa

5 MS ARMSTRONG -- all the things that you would

6 need to do to determine whether this overlay

7 matches up to the actual aerial photograph I

8 don't think -- he didn't actually create it

9 himself He directed somebody else to do it

10 and, you know, having no way of knowing how

11 that person did that, I just object to this

12 coming into evidence

13 MR WHITFIELD-CARGILE And, Your Honor, I would

14 object, also It's hearsay, if it was prepared

15 by someone else That person -- we don't know

16 who prepared it, but they're not here to --

17 THE COURT It's hearsay?

18 MR WHITFIELD-CARGILE Yeah If he -- if this is

19 a statement -- I mean, an exhibit -- an image

20 can be a hearsay -- a statement offered to

21 prove the truth of the matter asserted, the

22 definition of a "statement " But someone

23 prepared this saying that -- making the

24 statement that this -- these are where the

25 undeveloped areas were, this is where they are

1 now We don't know -- he's not an expert
2 surveyor He certainly hasn't been proffered
3 as one I'm not aware of his background in
4 that regard as far as rectifying these images
5 and plotting them on a map, so it's also
6 objectionable on that ground

7 THE COURT Mr Howe, at this point, he hasn't laid
8 a foundation to establish that he can produce
9 a document that would accurately reflect an
10 overlay of the -- what was originally unstable
11 areas

12 MR HOWE I'll put him on the stand and see if I
13 can do that

14 THE COURT All right

15 Q Mr Permar, you've told us sort of your
16 motivation on why you did this Tell us how
17 you produced this document, this map

18 A Well, I took -- I had my copy of whatever this
19 exhibit is -- I don't know what it is -- from
20 the Environmental Inventory I had that
21 scanned and digitized and then I had access to
22 the base aerial photo and the base plat map and
23 I was over the shoulder of the operator of
24 the -- you know, the computer that tried to
25 position this over the top of that And it was

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1 just my best attempt to try to locate -- it was
2 difficult

3 Clearly, it was difficult because this is hand
4 done and there's some sketchy stuff over here
5 by Seabrook But what I tried to do was to be
6 as accurate as possible for the lines
7 represented for the Kiawah River at the east
8 end and the channels and the various creeks and
9 so forth I used that as sort of the control
10 point to position it and then I tried to pick
11 a comparable location at the west end and use
12 those two as the visual control points And
13 then whatever happened is whatever happened
14 I used those as the control points

15 Q And does this aerial photo with overlay
16 represent your best efforts at reflecting
17 those?

18 A It was my best effort

19 Q And what is the information that's supposed to
20 be communicated?

21 A Again, I just had a personal sort of interest,
22 following the deposition, of the relationship
23 of what was identified as unstable area on the
24 east end Because I understood Captain Sam's,
25 but I wanted to understand with the

1 relationship at the east end for an area that

2 -- -- has clearly been developed I wanted to

3 understand, you know, is it big -- a big

4 difference or a small difference or whatever

5 Q And that's the area that you have shown as

6 being dotted?

7 A Yeah Well, I mean, it's this information

8 (indicating) It's not changing this

9 information at all

10 Q What is this section that's dotted? What does

11 that show?

12 A Well, that's an area known -- there a couple of

13 neighborhoods in that area The largest is

14 called Osprey Beach and to, then, the west of

15 it is like Jacks Day, Forest Day, or something

16 like that

17 Q But the key of using dotting, where did that

18 come from?

19 A Well, it was from the Environmental Inventory

20 That was created in the Environmental

21 Inventory

22 Q And the white sheet, what is this?

23 A Well, the overlay is the same overlay It's

24 the same digital file And what I tried to do

25 is a similar exercise over a document that

1 Thomas & Hutton has, which they keep Every
2 time we have a new recorded plat or-an-----
3 adjustment to a parcel, they update that So
4 it's like a representation of all recorded
5 documents And so I tried to do the same thing
6 with that

7 Q And this was done, I see, under your direction
8 and control Did you --

9 A Yeah, the same person We did them
10 simultaneously

11 Q -- tell him exactly --

12 A Yeah

13 Q And do you think this information assists you
14 in your testimony in terms of communicating to
15 the Court information about the island?

16 A Well, as it relates to that area that had been
17 deemed unstable, that, in fact, has been
18 developed

19 Q That was what you were trying to show?

20 A Well, yeah, I did it really for me, mostly
21 But that's what I was trying to confirm I
22 mean, I pretty much knew it, but this document
23 here (indicating) has a lot of -- it doesn't
24 have a lot of detail to it, so I was trying to
25 upgrade it, upgrade the relationship of it

1 MR HOWE Your Honor, we think that's enough We'd
2 move to admit them

3 MR WHITFIELD-CARGILE I would object, Your Honor,
4 and I would ask to voir dire the --

5 THE COURT Hold on just for a second

6 At this point in time, and I'm going to say
7 this and allow you to respond with your
8 objection

9 It appears to me that if the exhibit is offered
10 to assist his testimony, to explain his
11 understanding of the areas that are
12 undeveloped, the exhibit is admissible for that
13 purpose only, but not for the purpose of as an
14 accurate survey of the area as to where
15 specifically the lines are

16 They are permitted to use an exhibit
17 demonstrative of whatever And that's my --
18 where I'm having a little struggle is whether
19 we're -- I think he can absolutely use it for
20 demonstrative purposes Whether it comes into
21 the record is what I'm cogitating upon now
22 But I say all that, I'll allow you to respond,
23 Ms Armstrong

24 MS ARMSTRONG Well, I just -- if it's just -- he
25 said -- testified that he just used it as

1 something for himself, so I don't know what the
2 real probative value of that document is I
3 mean, he said that he --

4 THE COURT Well, he also said he's offering it to
5 assist his testimony, so

6 MS ARMSTRONG Right To assist his testimony
7 about an area that's not -- about another area
8 that's not relevant to this case It's not
9 relevant to his testimony about the spit He
10 said it was an entirely different area I
11 mean, he's -- it was a best attempt or best
12 guess He's not a person that's qualified He
13 couldn't do it himself He had to get somebody
14 else to do it We don't have any way of
15 knowing just how accurate it is I mean, I
16 understand your ruling, Your Honor, but I
17 just --

18 THE COURT I haven't ruled yet

19 MS ARMSTRONG I want to make sure that, you know,
20 I get it clear that we don't think that this
21 has been done in a way that shows that it's at
22 all accurate

23 THE COURT All right

24 MR HOWE Judge --

25 THE COURT Wait a minute Mr Whitfield-Cargile?

1 MR WHITFIELD-CARGILE Your Honor, I don't have a
2 problem with him -- I think that the rules
3 allow for it to come in purely for
4 demonstrative purposes, but if he's going to
5 even proffer it to go into the record, then I
6 would like to have the opportunity to conduct
7 some voir dire of this witness

8 THE COURT All right

9 MR HOWE This all arose from Ms Armstrong's
10 cross-examination

11 THE COURT I understand

12 MR HOWE I mean, so I didn't make it an issue
13 She made it an issue And all we're doing is
14 responding I mean, she showed him this
15 document (indicating)

16 THE COURT I understand I agree with you on the
17 relevancy aspect of it, so -- I've just got to
18 determine whether or not it comes in as an
19 exhibit or for demonstrative purposes to assist
20 in his testimony
21 Any response to that?

22 MR HOWE No, Judge

23 THE COURT I'm going to allow it in for
24 demonstrative purposes to help reflect his
25 testimony, so -- but he's already really used

INADVERTENTLY
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1 it for that purpose at this point in time But

2 - - - you could proffer it, if you wish

3 MR HOWE We will

4 THE COURT All right And that's marked as

5 Proffer --

6 MR WHITFIELD-CARGILE Your Honor, if he's

7 proffering it, may I please -- I would request

8 to conduct some voir dire to get some stuff on

9 the record

10 THE COURT I'm not going to allow you to conduct a

11 voir dire on proffer

12 MR WHITFIELD-CARGILE If he's proffering it as an

13 expert opinion as --

14 THE COURT Proffer is not even --

15 MR WHITFIELD-CARGILE Okay

16 MS ARMSTRONG What exhibit number was that?

17 MR HOWE Fifty-five and Fifty-six

18 MS ARMSTRONG Fifty-five is aerial

19 photographs of other locations that's in this

20 notebook

21 MR WALKER I'm sorry, Gedney, Fifty-six and

22 Fifty-seven

23 MR HOWE Getting bad information, Judge

24 Fifty-six and Fifty-seven

25 (KDP's Exhibit Number Fifty-six and Fifty-seven were

1 admitted as proffered)

2 THE COURT Any further redirect? - - - -

3 MR HOWE That's all we've got

4 THE COURT All right

5 MR PERMAR - RECROSS-EXAMINATION BY MS ARMSTRONG

6 Q Mr Permar, we were just looking at what was
7 marked and proffered as KDP's Exhibit Numbers
8 Fifty-six and Fifty-seven Now, that overlay
9 that was created, that doesn't prove anything
10 about the unstable nature of this spit, does
11 it?

12 A No

13 MS ARMSTRONG I don't have anything else, Your
14 Honor

15 MR PERMAR - RECROSS-EXAMINATION BY MR
16 WHITFIELD-CARGILE

17 Q Mr Permar, you said Exhibit Fifty-six and
18 Fifty-seven were created by someone sitting at
19 a computer while you were watching?

20 A Yes

21 Q Who was that?

22 A Tommy at Duncan-Parnell

23 Q Tommy? Is Tommy a surveyor?

24 A I don't know his -- no

25 Q Tommy's not a surveyor Are you a surveyor?

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1 A No

2 Q Okay What did you do to -- you said you only-----
3 rectified with two points?

4 A No I said I tried to align the -- can I refer
5 to this? This right here (indicating)?

6 Q What's this? A page out of --

7 A I don't know what this is, but it's the exhibit
8 in the Environmental Inventory that's titled
9 "Stable and Unstable Regions at Kiawah Island
10 and Surrounding Areas "

11 Q What's the page number on it?

12 A G-63

13 Q So G-63 of the League's Exhibit One? Go ahead

14 A This graphic represents, as the title implies,
15 stable and unstable regions of Kiawah and
16 surrounding areas So I used this as a basis
17 for comparing it in my best effort to the
18 existing conditions

19 Q Do you have any training in georectifying
20 images?

21 A No

22 Q Okay Does Tommy at Duncan-Parnell have any
23 experience or training?

24 A I don't know

25 Q Don't know?

1 A I don't know

2 Q Duncan-Parnell is a copying --

3 A Right

4 Q They do copies?

5 A Copy, printing, production

6 Q Okay And that image you said doesn't -- well,

7 let me back up That image, Exhibit Fifty-six

8 and Fifty-seven, that doesn't have any bearing

9 on whether or not the spit's stable, does it?

10 A Bearing on if the spit is stable?

11 Q Yeah

12 A No As I said, I was curious as to the

13 relationship of a document like G-63, which

14 sites stable or unstable areas I wanted to

15 see what one of the unstable areas is like

16 right now and it's developed

17 Q Do you have any studies that indicate that the

18 spit's stable -- or unstable, rather?

19 A Do I have any?

20 Q Well, you agree that the spit's unstable, don't

21 you?

22 A No, I didn't say that

23 Q Your experts did, Oertel and Basco did

24 A I defer to the experts on the answer to that

25 question

1 MR WHITFIELD-CARGILE I don't have any further
2 questions

3 THE COURT Any further redirect?

4 MR HOWE No

5 THE COURT Okay You were asked about whether you
6 intend to develop the area and build houses on
7 it What is the intention, your current
8 intention of how many houses you intend to
9 build in the area?

10 THE WITNESS Well, I don't build them, but the
11 assessment of building houses out there --

12 THE COURT Maybe I should rephrase it What is
13 your current intention as to the number of
14 homesites you intend to develop in the area?

15 THE WITNESS Based upon the early assessment that
16 I've had that I shared earlier, I don't -- I
17 don't think it's 50 and I don't think it's less
18 than 25 I mean, I think it's in a zone that
19 is -- that's the best way I can answer it

20 THE COURT All right Okay You've asked all
21 about this You want to ask more about the
22 question I've asked? I was asking about a
23 question you asked

24 MR WHITFIELD-CARGILE Well, yeah, I would like to
25 ask a question about that, Your Honor, if the

1 Court will allow it

2 THE COURT Go ahead

3 Q Mr Permar, at your deposition on July 9th, you
4 said you hadn't come up with any number

5 A That's right

6 Q You hadn't -- it wasn't 25 and it wasn't
7 greater than 25

8 A Right

9 Q What work have you done since then?

10 A It's just a reaction to the general question of
11 where I think it might be, but if I could
12 extend the answer, I don't know It's at the
13 very early stages and I've answered a similar
14 question a variety of ways, which is I don't
15 know right now

16 Q You just don't know?

17 A No

18 MR WHITFIELD-CARGILE All right Thanks No
19 other questions

20 THE COURT You may step down
21 (Witness excused)

22 MR WALKER Petitioner KDP calls Doug DeWolff
23 This is will be a relatively short witness,
24 Your Honor

25 THE COURT Okay

1 DOUG DEWOLFF, having been duly sworn, testifies and
2 examines as follows -- -- -- -- --

3 MR DEWOLFF - DIRECT EXAMINATION BY MR WALKER

4 Q Mr DeWolff, where do you currently live?

5 A In Mount Pleasant

6 Q Where do you work?

7 A At Southeastern Surveying

8 Q What's your occupation?

9 A I'm a licensed surveyor

10 Q How long have you been with Southeastern?

11 A Since 1982

12 Q When did you obtain your license as a surveyor?

13 A In 1996

14 Q In the practice of your profession, what type
15 of things do you do?

16 A Measure land, property corners, boundary
17 surveys, subdivisions, topographic surveys,
18 tree surveys, hydrographic surveys

19 Q I may have asked you this If I did I
20 apologize Are you licensed by the State of
21 South Carolina?

22 A Yes, I am

23 Q At Southeastern Surveying, do you review plats
24 and surveys?

25 A Yes, I do

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1 Q Do you pass on plats and surveys to make sure
- 2 - that they're in compliance with proper - -
3 surveying methods and the applicable statutes
4 and regulations?
5 A Yes, I do
6 Q Do you actually stamp and certify surveys and
7 plats?
8 A Yes
9 Q How long have you been doing that?
10 A Since 1996
11 Q Let's talk about the involvement of
12 Southeastern Surveying and Kiawah Island
13 A (Nods head affirmatively)
14 Q How long has Southeastern Surveying been doing
15 surveys on Kiawah Island?
16 A Since the company started under Joe Williams in
17 1980
18 Q And what is your position with Southeastern
19 Surveying?
20 A I am the president
21 Q All right Since 1980, approximately how many
22 plats and surveys, roughly, if you can estimate
23 it, has Southeastern done on Kiawah Island?
24 A It's in the hundreds
25 Q To your knowledge, are you the surveyor for the

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1 developer Kiawah Resort Associates and Kiawah
2 Development Partners? - -

3 A Yes

4 Q You're their go-to surveying company

5 A Correct

6 MR WALKER Your Honor, at this time we would ask
7 the Court to certify Mr DeWolff to render
8 opinions in surveying, he's a surveyor, and
9 surveying matters

10 THE COURT Any objection?

11 MS ARMSTRONG No objection to that limited --

12 MR WHITFIELD-CARGILE No objection, Your Honor

13 MR WALKER All right

14 THE COURT He's so qualified

15 Q Have you and your company performed various
16 surveys of Captain Sam's Spit over the years?

17 A Yes, we have

18 Q All right At our request, have you gone back
19 and taken a look at surveys of Captain Sam's to
20 determine what is the earliest monumented
21 survey that's recorded of Captain Sam's Spit,
22 what that would be?

23 A Yes There was a plat by Davis & Floyd in
24 1974

25 Q Is that a recorded plat?

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1 A Yes, it is

2 Q From a surveyor's perspective, does that plat-----
3 contain sufficient coordinates and other
4 information that would help you identify
5 locations on the ground that were the reference
6 points in that survey?

7 A Yes The plat shows monuments all over the
8 plat with coordinates

9 (Phone interruption)

10 MR WALKER Your Honor, my apologies I thought it
11 was off That's an insult to the Court and I
12 apologize and an insult to me

13 THE COURT Here's what I normally do I always
14 give -- and I always tell everybody here and
15 all the lawyers and let you know by the next
16 witness -- I always give everybody one shot at
17 a telephone ringing and then after that, if
18 another one rings it becomes the property of
19 the Court, of which y'all have a chance to buy
20 it back

21 MR WALKER Your Honor, you promise?

22 THE COURT You're not losing it this time

23 MR WALKER All right

24 Q Now, at various times since 2000, have you been
25 asked by KDP to go out and do a boundary

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1 survey --

2 A Yes, we have --

3 Q -- of Captain Sam's?

4 A Yes

5 Q Okay And have you -- does Captain Sam's

6 involve -- is it adjacent to critical areas?

7 A Yes, it is It's, yes, along the Beachwalker
8 Park area

9 Q And that would be on which side of the -- are
10 you talking about the Kiawah River side?

11 A Correct

12 Q Now, on the other side, on the south side, is
13 it adjacent to the ocean?

14 A Yes, it is

15 Q All right When your company goes out to
16 survey a line that abuts a critical area, if
17 you want to record that line, do you have to do
18 anything in order to get it recorded, if you
19 want to record a survey that depicts that line?

20 A We have to locate the OCRM critical line and
21 label it as such on the plat before we submit
22 it for certification

23 Q Who do you submit it to for certification?

24 A DHEC-OCRM

25 Q All right Do you obtain DHEC-OCRM

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1 certification on every boundary survey you do?

2 A No, no

3 Q Would it only be on the ones you're getting --
4 that are recorded?

5 A Typically, any survey that's getting recorded
6 or if the certification is no longer valid
7 It's valid for a period of five years

8 Q How long have you and your company been
9 locating the critical line on properties
10 adjacent to the critical area?

11 A Since the mid eighties, I believe

12 Q During that time, have you acquired the
13 experience, knowledge and training to know the
14 identifiers in the field of the critical line?

15 A Yes

16 Q When you go to OCRM with a survey to get it
17 certified as to the critical line, how often,
18 if at all, does OCRM change your coordinates to
19 the critical line or make adjustments?

20 A To my knowledge, they have not changed any of
21 ours If we're not sure about a particular
22 area, we'll set up an appointment with somebody
23 from OCRM in the field for them to flag it

24 Q In this case, with respect to the boundary
25 surveys that you've done of Captain Sam's Spit,

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1 for those surveys that were not recorded, did
2 - - - you obtain a formal certification of the
3 critical line?
4 A No, we didn't
5 Q Despite not obtaining a formal certification,
6 did you make sure that the location of what you
7 might have indicated the critical line was set
8 by the same criteria you've always used?
9 A Yes, yes
10 Q Do you believe, based on your full experience
11 in doing this and your long record of doing it,
12 is you took those boundary surveys to OCRM to
13 get certified that there would be any problem
14 getting that boundary line -- or that line that
15 certifies the critical line?
16 A Yeah, that is correct
17 Q Do you think there would be any problem?
18 A No
19 MR WALKER All right Your Honor, at this time,
20 I'm going to --
21 MR WHITFIELD-CARGILE Your Honor, I'm going to
22 object to that last -- that's pure speculation
23 Q How many times has OCRM ever doubted your
24 designation of the critical line?
25 A None that I can think of

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1 Q For how many?

2 A For how many years or surveys? -

3 Q Yeah, how many surveys

4 A A couple hundred, at least

5 MR WALKER All right

6 MR WHITFIELD-CARGILE My objection stands, Your
7 Honor, and ask that be stricken as pure
8 speculation

9 THE COURT I don't know if it would be pure
10 speculation, given the fact that he's had a
11 hundred of them agreed to, but I'll sustain the
12 objection It is speculation, because he's
13 speculating about whether or not they will
14 sustain the objection -- whoa, whoa I'm
15 sorry He's been qualified as an expert

16 MR WALKER That's correct

17 THE COURT But --

18 MR WALKER He can render an opinion on survey
19 matters

20 Q Based on your experience --

21 THE COURT I overrule my objection -- overrule what
22 I decided and overrule your objection

23 MR WHITFIELD-CARGILE Your Honor, I'd like to
24 preserve my objection

25 THE COURT Okay

1 MR WHITFIELD-CARGILE I don't think qualifying him
- - -2 - as an expert -- - - -

3 THE COURT It's preserved when you make an
4 objection, Mr Whitfield-Cargile

5 MR WHITFIELD-CARGILE Well, I don't think that his
6 qualification as an expert in surveying sets
7 him as an expert in identifying critical lines,
8 especially when he doesn't follow the procedure
9 that's in the statute for setting the critical
10 line

11 THE COURT Well, you can cross-examine him in that
12 regard, Mr Whitfield-Cargile

13 MR WHITFIELD-CARGILE Thank you, Your Honor

14 Q I'm now going to be referring to three surveys
15 that were marked on Petitioner KDP's exhibit
16 list under Exhibit Forty-eight These have
17 been produced in discovery The first I'll
18 refer to is KDP1158 through 1161 And I'm
19 going to ask you, Mr DeWolff, is this a survey
20 that was prepared by Southeastern?

21 A Yes, it was

22 MS ARMSTRONG Trenholm, could we just see those
23 before you go through them with the witness, I
24 mean, rather than doing a shuffle?

25 MR WALKER They're in your notebook as

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1 Forty-eight

2 THE COURT Well, -if- you can just let her see what's
3 in your hands

4 MR WALKER (Tendering)

5 MS ARMSTRONG (Reading)

6 Okay Thank you

7 MR WHITFIELD-CARGILE Exhibit Forty-eight?

8 THE COURT Also, I want to clarify something for
9 the record Mr Whitfield-Cargile made one
10 point but I disagree with his point
11 He said that just because he's a surveyor
12 doesn't necessarily mean he's qualified to
13 be -- to assess critical lines
14 But I'll state for the record I qualified him
15 as an expert and, also, based on his testimony
16 about his numerous instances of marking or
17 establishing critical lines
18 I believe this particular expert is qualified
19 to testify about establishing critical lines,
20 so where the record will be clear

21 Q Mr DeWolff, what is this full page exhibit
22 that starts at KDP1158 marked, I think, as
23 Forty-eight?

24 A That is a boundary survey that our company
25 prepared and it was -- of Captain Sam's and it

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1 was recorded in 2006

2 Q Who certified the survey? - - - - -

3 A It's certified by Fred Mallett of DHEC-OCRM

4 Q Well, I'm talking about --

5 A I'm sorry

6 Q Slow down Who certified the survey itself?

7 A I did

8 Q Was the critical line certified?

9 A Yes, it was

10 Q And who certified the critical line?

11 A Those -- let me make sure It looks like Fred
12 Mallett, but I can't be certain

13 Q Would he be a person at OCRM to your knowledge
14 who had the authority to certify critical
15 lines?

16 A Yes

17 Q Was this survey approved by the Town of Kiawah
18 Island?

19 A (Reading) Yes, it was

20 Q Is this survey recorded in the OCRM office for
21 Charleston County?

22 A Yes

23 Q When you and your crew went out there to locate
24 the points of reference around the perimeter of
25 this property, did you use the location methods

1 for determining the critical line that you've
2 testified to?

3 A Yes, I did

4 Q Did you do those same -- or do that same
5 evaluation when you went out and located the
6 critical line for other boundary surveys of
7 Captain Sam's?

8 A Yes

9 Q Are these yours?

10 A Yes

11 Q Okay, next In 2002, did your firm go out and
12 locate what it believed to be the critical line
13 along the Kiawah River on Captain Sam's?

14 A Yes, we did

15 Q In 2005, did your firm go out and locate what
16 it believed to be the critical line along the
17 Kiawah River on Captain Sam's?

18 A Yes

19 Q In February 2008, did your firm go out and
20 locate what it determined would be the critical
21 line on Captain Sam's and the Kiawah River?

22 A Yes, we did

23 Q In August 2008, did your firm go out and locate
24 what it had already done in August 2008?

25 A I think --

1 Q October 2008, did your firm go out and locate
2 what it --

3 THE COURT Wait a second You've asked the
4 question did he do it in 2002, 2005, and 2008
5 without any reference to a month on the 2008
6 question

7 Q In September 2002, did your firm go to Captain
8 Sam's and locate, identify the critical line?

9 A Yes, we did

10 Q September 2002?

11 A Yes, we did

12 Q In April 2005, did your firm go out to Captain
13 Sam's and identify the critical line along the
14 Kiawah River?

15 A Yes, we did

16 Q We've already hit your 2006 survey In
17 February --

18 THE COURT I don't know -- I don't remember any
19 questions about a 2006 survey

20 MR WALKER This exhibit was a 2006 recorded
21 survey

22 THE COURT Oh

23 Q In February 2008, did your firm go out and
24 locate the critical line along the Kiawah River
25 at Captain Sam's?

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1 A Yes, we did

2 Q In October of 2008, did you do the same thing? - -

3 A Yes

4 Q And, again, in August of 2009, earlier this
5 month, did your firm do the same thing?

6 A Yes, we did

7 Q And did you review all of that for accuracy?

8 A Yes

9 Q At my request, did you compile or do a
10 rendering of surveys of Captain Sam's that
11 shows the critical line in various locations at
12 some of the times that we've talked about for
13 the back side of Captain Sam's along the Kiawah
14 River?

15 A Yes, I did

16 Q All right Also --

17 MR WHITFIELD-CARGILE Trenholm, which one is this?

18 MR WALKER I'm referring now to, again, KDP1156

19 Q Also, at our request, did you go out in early
20 August of this year and locate the mean high
21 water line on the ocean side?

22 A Yes Yes, we did

23 Q And what is the criteria -- is there a commonly
24 accepted surveying benchmark for locating the
25 mean high water line of the Atlantic Ocean in

1 Coastal South Carolina?

2 A For this particular area in Kiawah, the
3 elevation that we used is 3 2 based on NGBD
4 1929 data

5 Q Is that considered to be the proper reference
6 point in surveying?

7 A For mean high water line in that area, yes

8 Q Does KDP1156 accurately represent the location
9 of the critical line on the Kiawah River, as
10 well as the mean high water line of the
11 Atlantic Ocean on Captain Sam's as of August
12 2009, early August?

13 A Yes, it does

14 Q All right And with your computer technology,
15 did you also insert on this exhibit, KDP1156,
16 the location of the mean high water line
17 September 2002 along the back side?

18 A Yes

19 Q And the mean high water line April 2005?

20 A Yes, we did

21 Q Did you also locate on this the critical line
22 as of September 2002 (indicating)?

23 A Yes, we did

24 Q Did you also locate the DHEC-OCRM baseline?

25 A Yes

1 Q Did you also locate the DHEC-OCRM setback line?

2 A Yes, we did

3 Q Based on your many years of experience, your
4 professional training and everything else you
5 bring to the table, is this an accurate
6 representation of the location of the lines
7 around the perimeter of Captain Sam's for the
8 times indicated?

9 A Yes, it is

10 MR WALKER Your Honor, we would offer this
11 particular survey, KDP1156, into evidence

12 THE COURT Is it marked?

13 MR WALKER It's part of the Exhibit Forty-eight
14 There were three

15 MR WHITFIELD-CARGILE You're just admitting this
16 image?

17 MS ARMSTRONG 1156?

18 MR WALKER 1156

19 MS ARMSTRONG And what number is this?

20 MR WALKER This is part of Forty-eight

21 THE COURT Well, if it's part of Forty-eight and
22 it's a book that you want to introduce, you'll
23 either have to remove the other exhibits,
24 because you're not offering them, or you're
25 going to be offering them at a later time

1 MR WALKER I have one more on Forty-eight I'm
2 going to offer

3 THE COURT Well

4 MR WALKER I can make them separate Forty-eight-A,
5 Forty-eight-B and Forty-eight-C

6 THE COURT Here's what I suggest, and I'll hear
7 from the parties, is what you wish to offer
8 under Exhibit Forty-eight -- I'll rule on this
9 one and then whatever else comes in under
10 Exhibit Forty-eight, let's introduce or allow
11 those to stay Anything that's not introduced,
12 if you could withdraw it from the Court's
13 notebook

14 MR WALKER We will

15 THE COURT How about that?

16 MS ARMSTRONG There is an objection, Your Honor

17 THE COURT Well, I know -- I'm just saying

18 MS ARMSTRONG Yeah, that makes sense to me

19 THE COURT Exhibit Forty-eight may end up being
20 empty, I guess

21 MS ARMSTRONG Yeah

22 THE COURT Go ahead

23 MS ARMSTRONG We do object, Your Honor, just
24 because this exhibit's got what's identified as
25 a DHEC-OCRM critical line September 2002 and it

1 hasn't -- Mr DeWolff admitted that it hasn't
2 been verified by the Department The only
3 verified critical area line verified pursuant
4 to statute by OCRM was the 2006 line So
5 this -- we object to it on those grounds

6 THE COURT Let me understand it That's the line
7 that he relied upon, Fred Mallet, is that the
8 one you're objecting to?

9 MS ARMSTRONG I don't -- this one hadn't been
10 certified by Fred Mallet of OCRM The 2006 --
11 one of the first maps that Mr Walker asked him
12 about, I believe they were 1158 through 1161 --

13 THE COURT Oh, that was a different one

14 MS ARMSTRONG -- those were -- yeah, those were
15 the 2006 critical area line that was actually
16 verified, approved by OCRM, Fred Mallet This
17 one's got a critical' area line of September
18 2002, references critical area lines of --

19 THE COURT So it's a line that he established

20 MS ARMSTRONG He established it It's not -- it's
21 represented as the DHEC-OCRM critical area
22 line, but there's a process for approval of the
23 critical area lines, as I'm sure Your Honor's
24 aware, and that hadn't been done in this case

25 MR WALKER We are not purporting to say that it's

1 certified, because there was no need to certify
2 it We are saying that he located it in
3 exactly the same place that he would locate it
4 based on his many years working with OCRM and
5 based on where they have told him -- based on
6 all the criteria that establishes the critical
7 line

8 THE COURT Oh, okay Can we modify the exhibit to
9 keep it from reflecting that it's -- the one
10 that he located as the critical line is not an
11 OCRM critical line?

12 MR WALKER Well, we can -- why don't we have him
13 sign it and say "not certified by OCRM " He
14 didn't go get it certified It's where he
15 identified the critical line would be and where
16 he would present it to OCRM We are not saying
17 that OCRM stamped it

18 THE COURT Well, on second -- that attestation I
19 think will satisfy me, as far as your
20 objection But you want to respond to that?

21 MS ARMSTRONG I think that -- yeah, I think I
22 agree, Your Honor, as long as it's clear that
23 that's just his representation, that it wasn't
24 verified

25 THE COURT Okay

1 MR WHITFIELD-CARGILE Your Honor, I do think it
2 would be appropriate to redact any "DHEC-OCRM
3 critical" from these indications There's only
4 one line that's been set He hasn't used it on
5 any of his diagrams And it's -- he's
6 misrepresenting that it's a DHEC-OCRM critical
7 line I think if you scratched that out and
8 just -- if you blocked that out and just have
9 "line September 2002," then that's -- I
10 wouldn't have a problem with that coming in
11 But if it indicates that as a critical line,
12 that's -- I don't know that just signing "this
13 isn't accurate " I mean, he's got his --
14 THE COURT Okay That's enough I think you're
15 kind of getting a little redundant now
16 MR WHITFIELD-CARGILE Well, he -- the other thing
17 I would -- he's sealing on here that it's
18 accurate, but then you're going to ask him to
19 include a disclaimer that it's not accurate
20 I mean, I think that's problematic, too
21 THE COURT I think we're just clarifying what the
22 exhibit says, Mr Whitfield-Cargile
23 Any problem blacking out the phrase "OCRM" on
24 the exhibit?
25 MR WALKER We can black out "OCRM " It is his

1 determination of the critical --
2 THE COURT I understand
3 MR WALKER Okay
4 THE COURT Just black out "OCRM "
5 MR WALKER May we do that at lunch, Your Honor --
6 THE COURT Yeah
7 MR WALKER -- just to speed things along?
8 MR WHITFIELD-CARGILE Can we also black out
9 "critical," Your Honor? Maybe he could write
10 "DeWolff line "
11 THE COURT My ruling is --
12 MR WHITFIELD-CARGILE I mean, critical line is a
13 monument --
14 THE COURT He's able to -- from my understanding of
15 the testimony and his expertise, he's able to
16 determine a critical line, so I overrule that
17 request I grant the request on the OCRM
18 aspect
19 MR WHITFIELD-CARGILE Are you overruling the
20 statute that says that only DHEC can designate
21 a critical line, Your Honor?
22 THE COURT You know, you're getting close to being
23 argumentative with the Court,
24 Mr Whitfield-Cargile, and you're getting close
25 to pushing the envelope

INADVERTENTLY
LEFT BLANK

1 MR WHITFIELD-CARGILE Your Honor, I apologize
 2 -I'm not-trying to push the envelope, but there
 3 is a statute that sets forth the only agency is
 4 the only entity that can set a critical line
 5 And I respect your decision I'm not trying to
 6 push the envelope, Your Honor, but I think that
 7 leaving it "critical line" still --

8 THE COURT He's testified that he can set one in
 9 the field Whether you want to make the
 10 argument later on about the legal import of
 11 that, that's something you can make later on

12 MR WHITFIELD-CARGILE I understand

13 THE COURT All right With that said, then over
 14 lunch I'll allow you to redact the reference to
 15 "OCRM "

16 MR WALKER We will do that, Your Honor --

17 THE COURT Okay

18 MR WALKER -- on the Court's copies and my copy

19 THE COURT All right With that said --

20 MR WALKER Thank you, Your Honor

21 Q Now, referring again to 1156, which includes
 22 the survey that was done in August of this
 23 year, did you also along the riverbank record
 24 elevations?

25 A Yes, we did

1 Q Okay There was a lawyer's error in the
2 numbering of the next exhibit I-incorrectly--
3 noted that Forty-nine would be KDP1178 It
4 should be 1157 And Forty-eight I incorrectly
5 stated that it would include 1178, so I will
6 mark them accordingly
7 I'll refer to them by Bates number, that was my
8 mistake, but I'm going to refer you to 1157,
9 which we're going to include as part of Exhibit
10 Forty-eight since it doesn't contain any
11 calculations of lost property
12 Did I request that you locate -- well, did I
13 request that you do a consolidation of the 1974
14 Davis & Floyd survey, as well as later surveys
15 that Southeastern did?

16 A Yes

17 Q And in doing that compilation of information
18 from 1974 to the later surveys, did you use
19 methods that are frequently relied upon by
20 surveyors in order to do such a comparison?

21 A Yes, I did

22 Q Were there identified fixed points in the metes
23 and bounds of the Davis & Floyd plat that you
24 could identify and that you, too, used,
25 Southeastern used, in your later surveys?

1 A Yes The Davis & Floyd plat had monuments show
 -- 2 -- on their plat with coordinates

3 Q Did you locate some of those monuments?

4 A Yes, we have

5 Q It is reasonable and customary in the surveying
 6 business when you're to compare to surveys to
 7 take them back to a monument like you did here
 8 and then to show the two based on those common
 9 monument references?

10 A Yes

11 MR WALKER Your Honor, based on that, we would
 12 offer KDP1178 into evidence and we have a paper
 13 copy of it and we will delete any reference to
 14 the -- here it is, Amy And as I said, I
 15 misfiled them But we will delete any
 16 reference to "OCRM" next to critical line

17 MS ARMSTRONG So I can understand, follow your
 18 exhibits, we've got Exhibit Forty-eight Does
 19 that include 1157 or not?

20 MR WALKER There was a mistake Forty-eight
 21 should not include 1157 It should have been
 22 1178 And Forty-nine should not be 1178, it
 23 should be 1157

24 MS ARMSTRONG Thank you

25 THE COURT The record's going to be so crystal

1 clear on all this

2 MS ARMSTRONG Sort of like my exhibit sheet's got

3 scratches out on it

4 MR WALKER And we will do a revised, corrected

5 exhibit sheet

6 THE COURT All right

7 MR WHITFIELD-CARGILE You say Forty-nine is 1157?

8 MR WALKER Forty-nine is 1157 I had incorrectly

9 put Forty-nine as 1178, 1178 is -- replaces

10 1157 under Forty-eight

11 MR WHITFIELD-CARGILE Oh, I got you Thank you

12 THE COURT All right You're offering it into

13 evidence --

14 MR WALKER Yes, sir

15 THE COURT -- with the assertion that "OCRM" will

16 be redacted

17 MR WALKER Yes

18 THE COURT Ms Armstrong?

19 MS ARMSTRONG No objection, just my same objection

20 about the DHEC-OCRM critical line, as long as

21 we're revising it

22 THE COURT That's pretty impressive You heard me

23 and talked with Mr Chandler at the same time

24 All right Any --

25 MR WHITFIELD-CARGILE Same objection as the last

1 one, Your Honor

2 - -THE COURT Well, I don't remember it I mean, - - - --

3 there's been so many, Mr Whitfield-Cargile

4 MR WHITFIELD-CARGILE Okay Well, I would object

5 I think that "DHEC-OCRM critical" would all

6 need to be redacted, Your Honor

7 THE COURT Oh, okay

8 MR WHITFIELD-CARGILE So same objection, not a

9 continuing one

10 THE COURT Well, overruled on that one, admitted

11 under the previous statement

12 (KDP's Exhibit Number Forty-eight is admitted into
13 evidence)

14 Q Now, what I want to do is to show the outline

15 of Captain Sam's in 1974 and then I want to

16 show the outline of Captain Sam's in 2009

17 We're going to do that with two colored

18 markers

19 The first thing I want you to do is take one of

20 these colored markers and highlight the '74

21 boundary to mean high water around Captain

22 Sam's so that we'll understand the outline and

23 be able to see the boundary as established in

24 the Davis & Floyd plat

25 MS ARMSTRONG Your Honor, may we watch what the

1 witness is doing?

2 MR WALKER Yeah - -

3 MS ARMSTRONG Thanks

4 THE COURT As a matter of fact, if you can just
5 step up here so I can see

6 MR WALKER Why don't you just come right here

7 THE WITNESS (Witness complies)

8 THE COURT Come around the other side of

9 Ms Armstrong, that way you can show it to me
10 and everybody else

11 THE WITNESS This is the mean high water --

12 MR WALKER '74

13 THE WITNESS -- 1974

14 THE COURT All right So the record will be clear,
15 you're marking mean high water 1974 in green?

16 THE WITNESS Correct (Drawing)

17 MR WHITFIELD-CARGILE Got a pretty steady hand

18 THE WITNESS You should see my son ~

19 MR WALKER You're still on it (indicating)

20 THE COURT Mr Walker, you're not under oath

21 THE WITNESS Hard to tell once you get up into the
22 Beachwalker Park area

23 Q Does it extend on the other side of Beachwalker
24 Park?

25 A Yes

1 Q Could you mark that?

2 A I see it now I see it Goes on up into here --- -

3 (drawing)

4 Q All right Now, I'll let you pick the color

5 MR WALKER All right Mr DeWolff, the witness,

6 has picked a lighter shade of red --

7 MS ARMSTRONG That's pink

8 MR WALKER -- pink to do the perimeter in August

9 of 2009

10 THE WITNESS (Drawing)

11 THE COURT Do you need somebody to hold the exhibit

12 steady for you?

13 MR WALKER Let me hold it for you

14 THE WITNESS (Drawing)

15 Q All right Now, Mr DeWolff, based on your

16 reconciliation of those plats, do they indicate

17 that the mean high water line of the Kiawah

18 River on the north side of Kiawah Island has

19 moved --

20 A Yes, it has

21 Q -- since 1974?

22 A Yes

23 Q Would that be depicted by the difference

24 between your pink line and your green line?

25 A Yes, it would

1 Q Same question as to the mean high water line of
2 -- the beach Does your compilation show that the
3 mean high water line on the beach has moved, I
4 guess that would be south --

5 A Yes

6 Q -- from '74 to 2009?

7 A Yes, it has

8 Q And would that movement be depicted on the
9 difference between --

10 THE COURT Wait a second

11 (Off the record)

12 Q Would that difference be reflected on the gap
13 between the green and the pink line on the
14 bottom part of this exhibit?

15 A Yes, it does

16 Q All right Thank you

17 At our request, Mr DeWolff, have you
18 calculated the distance between what you've
19 determined is the critical line boundary and
20 the setback line today, most recently --

21 A Yes

22 Q -- August 2009?

23 A Yes That distance --

24 Q What is the distance?

25 A That distance is 66 feet Let me double check

1 Yes, 66 feet

2 Q Have you also gone back at our request based on
3 the surveys to determine the distance at
4 earlier times?

5 A Yes, I have

6 Q What two years or two times have you compared
7 to August 2009? Or what two -- I'm sorry, what
8 two lines have you measured to the setback line
9 at the neck, at the narrowest point?

10 A April 2005, that distance was 90 feet, and then
11 on the September of 2002, it was 104 feet

12 Q So since 2002 to 2009, it has moved
13 approximately how many feet?

14 A That would be 38 feet over a period of seven
15 years

16 Q All right Have you also, at our request, made
17 a calculation of the square footage of -- a
18 portion of the square footage of upland above
19 the critical line that has been lost between
20 September 2002 and October 2008?

21 A Yes From September 2002 to October 2008, that
22 area was 49,856 square feet

23 MR WHITFIELD-CARGILE Your Honor, I'm going to
24 object

25 THE COURT Whoa, hold on a second

1 MR WHITFIELD-CARGILE I'm going to object to him
2 -- -- making assessments based on lines that have not -- --
3 been legally established

4 MR WALKER I'll clarify that

5 MS ARMSTRONG Your Honor, I'm going to further
6 object just on the grounds that this witness
7 isn't qualified to testify about areas of
8 erosion He's a surveyor I'm sure he can set
9 lines, but determining erosion rates, I don't
10 think he's been qualified

11 THE COURT He can testify between -- the difference
12 between one -- the square footage between one
13 line and another, can he not?

14 MS ARMSTRONG It sounds like he's going into
15 erosion rates So if he's going to talk
16 about --

17 THE COURT Okay I don't --

18 MS ARMSTRONG -- volume was lost between one point
19 and another, but an actual rate of erosion, I
20 don't think he's qualified for that

21 THE COURT Well, I don't remember the question that
22 clearly, so ask another one

23 MR WALKER I will I'll bring it around

24 Q Mr DeWolff, is it a routine day-to-day thing
25 for you as a surveyor to calculate areas,

1 square footage areas within certain boundaries?

2 A Yes, it is It's almost a daily basis

3 Q Do you indicate areas on almost every survey
4 you've done?

5 A Just about

6 Q Since the day you took your license from the
7 State, have you been calculating areas?

8 A Yes, I have

9 Q Is there anything magical about it?

10 A Not really

11 Q Do qualified surveyors do it?

12 A Yes

13 Q All right In this instance, at my request, at
14 our request, have you calculated -- or did you
15 identify a particular area on the riverbank
16 that -- within the place where the revetment is
17 to go where you calculated the difference?

18 MR WALKER I'm going to go back and ask another
19 question before we get there

20 THE COURT Okay

21 Q In determining where the critical line would be
22 set along the river, is there a particular
23 identifier that you look for in this instance
24 along the Kiawah River?

25 A Along here, it's where the edge of the erosion

1 is or was when we did the survey

2 Q You're talking about the escarpment? - - - - -

3 A Correct

4 Q In other surveys that you have provided to OCRM
5 and any consultations that you've had with them
6 on site, has there been any understanding of
7 where you should delineate the critical line in
8 places where there is erosion against a
9 critical area and an escarpment like this?

10 A It is along the edge of the escarpment

11 Q Is that the criterion that OCRM has used with
12 you?

13 A That's what they've used here

14 Q Did you use it in this case?

15 A Yes

16 Q All right So the line that we're talking
17 about, was it essentially the escarpment line?

18 A Yes, it was

19 Q Did you identify an area from 2002 where that
20 escarpment line was to October 2008?

21 A Yes, I did

22 Q Did you calculate the square footage of that?

23 A Yes

24 Q What was the square footage?

25 MR WHITFIELD-CARGILE Object, Your Honor I

1 realize that we've admitted these -- that
2 you've admitted these exhibits in subject to
3 the "OCRM" being redacted He's
4 calculating -- he's representing that these are
5 DHEC critical lines, that these are critical
6 lines The statute says only the Department is
7 authorized to set the critical line And if
8 he's calculating, you know, amounts of
9 land -- how much square footage of land is the
10 difference between those lines and he's
11 representing that those are the escarpment
12 lines or the critical lines, I'm going to
13 object to any calculations that he uses based
14 on those lines

15 THE COURT Mr Walker, any response?

16 MR WALKER I think it's clear that he has stated
17 that the area that he located as the critical
18 line, his understanding of the critical line
19 based on all the criteria that he's trained to
20 use is -- are the criteria that he used here
21 and that the line was at that location when it
22 was set in 2002 and was set in 2008

23 THE COURT All right I'll overrule the objection

24 MR WHITFIELD-CARGILE Thank you

25 Q What was the square footage?

1 A The square footage for that area was 49,856
2 square feet

3 Q And what happened to the land? Where did it
4 go?

5 A Down into the river

6 Q Based on those same criteria that are used to
7 determine the critical line along the river,
8 how much distance did that critical line move
9 between February 2008 and October 2008 at that
10 narrow neck area?

11 MR WHITFIELD-CARGILE Your Honor, I'm going to
12 object and if it's easier, I can just object to
13 all this I anticipate you're going to
14 overrule my objection on the same bases, but I
15 need to preserve my objection to his
16 testifying

17 THE COURT It's overruled Just so the record will
18 be clear, I don't believe he's testifying about
19 a legally established critical line He's
20 testifying to his understanding as a
21 professional surveyor how he establishes a
22 critical line or what it would be, so

23 THE WITNESS Could you repeat the question?

24 Q What was the distance, the differential, in
25 feet at the neck on the river side between the

1 critical line, as you've determined it would be
2 -- -- based on criteria that you used in February
3 2008 and October 2008?

4 A The

5 Q The distance

6 A The -- from the -- I'm sorry, from the setback
7 line to the --

8 Q No, I'm sorry The distance that the critical
9 line moved, if it did, between September --
10 excuse me, February 2008 and October 2008, in
11 the area of the most -- the largest movement

12 A That would be -- that was 38 feet

13 MR WALKER Your Honor, that's all we have of this
14 witness at this time

15 MS ARMSTRONG Your Honor, it's one o'clock Do we
16 want to -- I need to at least take a restroom
17 break I don't know if you want to break for
18 lunch I need at least five minutes

19 THE COURT How long is your cross-examination going
20 to take?

21 MS ARMSTRONG About 30 minutes

22 THE COURT Okay We're going to just break for
23 lunch All right It's one o'clock Can we
24 be back by 2 00?

25 MR WALKER Yes, Your Honor

1 MS ARMSTRONG Yes, Your Honor

2 THE COURT All right Thank y'all - -- -

3 (Lunch break from 1 00 to 2 00 p m)

4 MS ARMSTRONG Your Honor, I believe Mr Chandler
5 must have gone to the restroom

6 THE COURT Well, he's not off twisting the arm of
7 the witness, is he, because he's missing, too

8 MS ARMSTRONG Oh, the witness is here

9 THE COURT Oh, okay, there you are Step back on
10 up You're still under oath They have some
11 very friendly questions they want to ask you
12 Do you want to wait for Mr Chandler?

13 MS ARMSTRONG I can proceed

14 THE COURT All right If you want to, just tell me
15 and I'll let it go, but if you also want to
16 wait for him, I'm all right with that

17 MS ARMSTRONG Well, in the interest of moving
18 things along, I'll just go ahead and get
19 started

20 MR DEWOLFF - CROSS-EXAMINATION BY MS ARMSTRONG

21 Q Mr DeWolff, you testified that you identified
22 critical area lines in September of '02,
23 February of '08, and October of '08, is that
24 right?

25 A Yes

1 Q And you said that none of those lines have been
2 validated by the Department?

3 A They were not certified by the Department

4 Q Okay And when you identified critical area,
5 which of the following -- which of the four
6 critical areas would it be, do you know?

7 A I don't understand the question

8 MS ARMSTRONG Your Honor, I'm going to hand the
9 witness a copy of my OCRM regulations

10 THE COURT Yeah

11 MS ARMSTRONG I'm looking at OCRM Regulation
12 30-1(D), as in the definitions, 15 defines
13 "critical areas"

14 Q Mr DeWolff, looking at the definition of
15 number 15 of "critical areas," which one of
16 those critical areas did you identify the area
17 on Captain Sam's Spit as?

18 A (Reading) My best guess would be beach dune
19 systems It's along where the dunes are that
20 have eroded

21 Q Okay So of the four types of critical area,
22 coastal waters, tidelands, beach dune system
23 and beaches, you would consider this the beach
24 dune system critical area, is that right?

25 A Yes

1 Q Okay And do you remember telling me in your
2 deposition last week that there were occasions
3 when OCRM hadn't agreed with the critical area
4 line that you surveyed?

5 A I said it was very rare, if any I can't
6 even -- I can't even think of a time, actually

7 Q Well, let me ask -- read you the question --

8 A Okay

9 Q -- and tell me if this sounds familiar
10 "I want to make sure I understand There have
11 been occasions when OCRM hasn't agreed with the
12 critical area line that you surveyed, is that
13 true?" Answer "Correct "

14 A And then I believe I had added, "It was very
15 rare "

16 Q But they hadn't always agreed with your
17 critical area lines was your sworn testimony,
18 right?

19 A Not that -- if they have, I can't recall
20 THE COURT If they've disagreed with you, you can't
21 recall is that what you -- I couldn't hear you
22 THE WITNESS I'm sorry Yeah, I can't ever recall
23 when they have not agreed with our line
24 Like I've said, if we're unsure of the line,
25 we'll schedule a meeting with somebody from

1 OCRM to come out and flag that for us

2 Q Right before we took a break, Mr Walker was -----
3 asking you about an erosion rate and I thought
4 I heard you say something about 38 feet of
5 erosion Can you tell me where you are getting
6 that number from? Is there an exhibit with
7 that number on it or how did you

8 A On the -- let's see The mean high water line
9 September 2002 to the OCRM setback line was 104
10 feet And then on our most recent survey, that
11 distance was 66 feet So the difference
12 between those two was 38 feet

13 Q And that 104 foot number, where -- a lot of
14 these maps have a KDP number on the bottom
15 right hand corner Can you tell me what map
16 you're looking that shows 104 feet?

17 A Well, this is a distance that I had scaled I
18 don't know if it's on any particular document
19 that you may have, but I scaled it off of one
20 that's dated August 6, 2009 It's titled an
21 "Erosion Study Survey of Captain Sam's Spit "

22 Q And so the 38 feet was a rate between September
23 '02 and what date? October 2008, is that what
24 you said?

25 A On this drawing I'm looking at, it's from April

1 2005 and September 2002 to now

2 MS ARMSTRONG Your Honor, I'm not sure what map
3 he's looking at I asked for a KDP number
4 I'm not sure that I got one

5 Q Is there a number on the bottom of that map?

6 A (Tendering)

7 Q Okay So you've actually got some handwritten
8 notes on this map

9 A Yes

10 Q Is that right? When did you write these, just
11 today?

12 A Yes

13 Q So what you've calculated is 38 feet over seven
14 years, is that what you -- you roughed out this
15 just sitting here today in the courtroom?

16 A That's what I calculated, yes

17 MS ARMSTRONG Do y'all have that one big foam
18 board?

19 MR WALKER Yeah, that's right up here And, Amy,
20 I think the one you're referring to was
21 KDP1157

22 MS ARMSTRONG Okay All right And did you have
23 other colored markers, Trenholm?

24 MR WALKER Yeah

25 MS ARMSTRONG Your Honor, I'd like to have the

1 witness identify another line on this map
2 that's marked as KDP Exhibit Number Forty-eight
3 and it's got a Forty-eight-C sticker on it

4 THE COURT Y'all can step up here, if you want

5 Q Okay Mr DeWolff, if you would take that
6 orange pen/marker --

7 A Yes

8 Q -- and outline the OCRM -- what you have
9 identified as the OCRM critical line October
10 2008

11 THE COURT Do you need somebody to hold the
12 exhibit?

13 THE WITNESS I'm good Thank you (Drawing)

14 Q Okay So on this exhibit, where you've got in
15 pink the August 2009 mean high watermark and
16 you've got the October 2008 critical area line
17 in the narrowest point of the spit Those
18 lines are in the same location, isn't that
19 true?

20 A (No response)

21 Q Except for one?

22 A Yes

23 Q So there is actually one point where the 2008
24 critical line is more seaward than the 2009
25 mean high watermark That's true, too, isn't

1 it?

2 - A It would appear so right there (indicating)

3 Q So the August 2008 -- or August 2009 mean high
4 watermark line that you've got on this map is
5 in the same location or in some -- in at least
6 one area more landward than the 2008 October
7 2008 critical area line, isn't that right?

8 A Yes, that's pretty -- it falls basically the
9 same line

10 Q So in that narrowest part of the neck, in the
11 last ten months there's been essentially no
12 change in that line, isn't that true?

13 A Yes

14 Q While we're looking at this map, Mr DeWolff,
15 you've identified the mean high watermark for
16 1974 as the green line, is that accurate?

17 A Yes

18 Q Okay And on the beach side, you've got
19 identified an area of accretion that occurred
20 between 1974 and 2009 How many acres of land
21 have accreted in that time period?

22 A You're referring to this area (indicating)?

23 Q Right

24 A Yeah, 63 24 acres

25 Q So on the ocean side, the spit has gained 62 34

1 acres?

2 A 63 24 acres - - - - -

3 Q 63 24 acres

4 A Yes

5 Q You can have a seat, Mr DeWolff

6 A (Witness complies)

7 Q Now, have you ever calculated an erosion rate
8 before?

9 A No, I have not

10 Q So this is the first time that you've ever
11 actually done these sort of calculations that
12 you've done for Kiawah Development Partners,
13 isn't that true?

14 A Yes

15 Q Okay And you haven't ever done any kind of
16 long-term erosion study, have you?

17 A We've been surveying on this one for seven
18 years, so it depends what you define as "long
19 term "

20 Q Have you been doing an erosion study long term
21 on Kiawah Island or the Captain Sam's Spit?

22 A We've been working on this one for seven years

23 Q So you only went back to 2002, is that right?

24 A With our surveys, yes We did, of course, use
25 the Davis & Floyd from '74 as part of our work

1 MS ARMSTRONG Beg the Court's indulgence for just

2 a moment

3 I don't have any other questions, Your Honor

4 MR DEWOLFF - CROSS-EXAMINATION BY MR

5 WHITFIELD-CARGILE

6 Q Mr DeWolff, I want to look at the Exhibit

7 Forty-eight-C with you one more time

8 A Sure

9 Q If you don't mind coming up here

10 A (Witness complies)

11 Q It's hard to tell with the purple and the

12 orange Is this bold line coming around the

13 spit, is that -- the bold line, is that the

14 August 2009 mean high water, is that right?

15 A Along here is mean high water, yes, and up

16 along here is mean high water and the OCRM

17 critical line is basically the same line where

18 it just drops straight off in that area

19 (indicating)

20 Q Okay And then this smaller line, like that

21 little divot where Ms Armstrong pointed to

22 where the October '08 line is landward of the

23 2009 line?

24 A Right

25 Q That's the thin line, right?

1 A Yes

2 Q -- Okay And if you go just west of that, there's
3 another length of shore where the August --
4 sorry, where the October '08 line is landward
5 of the August 2009 line, right?

6 A Yes

7 Q You see that in there?

8 A Right

9 Q And do you know, is that a portion of the area
10 where the revetment is proposed to go?

11 A I believe it is

12 Q Okay The revetment is supposed to go all the
13 way down to about here, correct?

14 A I believe so

15 Q Okay And if you go on east of that point
16 where Mr Armstrong showed you, there's another
17 section of shore where that October of '08 line
18 is landward of the August '09 line, right?

19 A Yes

20 Q And if you keep going, they intersect or they
21 meet and then the August -- sorry, the October
22 '08 line is more landward, again, right?

23 A Yes

24 Q And if you keep going up, there's another
25 section where it's more landward, where the

1 October '08 line is more landward than the
2 August '09 line -- -- -- -- --

3 A Yes

4 Q And if you keep going, there's a good long
5 section going all the way up to the park where
6 the October '08 line is more landward than the
7 August 2009 line, right?

8 A Yes

9 Q Okay Why do you have this line out here
10 labeled as -- is this just inaccurate where you
11 say "mean high, August 2009"?

12 A Yes, that's -- that's the December --

13 THE COURT REPORTER I can't hear both of you at the
14 same time

15 MR WHITFIELD-CARGILE I'm sorry

16 THE WITNESS I'm sorry

17 MR WHITFIELD-CARGILE It's my fault

18 Q So this line where you say "mean high water" on
19 the northern side of the Kiawah River, you say
20 "mean high water, August 2009," that's supposed
21 to --

22 A That should have been labeled as "December
23 '74 "

24 Q Okay Or extend it to the bold line?

25 A Yes

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000568

1 Q So it's just not accurate That's not

2 --accurate, that label

3 A The label there is incorrect

4 Q Okay

5 THE COURT What should it be labeled as, again?

6 THE WITNESS This line is the mean high water of

7 December '74 The August --

8 THE COURT Can you correct the exhibit, then?

9 THE WITNESS Sure (Drawing)

10 THE COURT All right

11 Q Now, the other thing I want to ask you about
12 this exhibit, you've got on here what you
13 represent to be the October 2008 critical line,
14 right? October '08 critical line?

15 A Yes

16 Q And you've got an April '05 critical line, do
17 you see that?

18 A Yes

19 Q Those are the only two critical lines that you
20 have on here, is that right?

21 A There's an October 2008 -- like I said before,
22 along here, the mean high water line and the
23 critical line are essentially the same

24 Q Okay But those are the critical lines you
25 have on here, right?

1 A Yes

2 Q 2005, 2008 You admit, -do you not--- I think
3 you did and I don't want to belabor the point,
4 but you didn't go through the process that's
5 required to establish a critical line on either
6 of the critical lines that are on this exhibit,
7 is that fair?

8 A The critical line does not need to be certified
9 unless there's going to be a conveyance or if
10 the most recent critical -- survey of the
11 critical line certification has expired

12 Q You can sit down now, Mr DeWolff

13 A (Witness complies)

14 Q Do you disagree that the Department's the only
15 entity authorized to establish a critical line?

16 A Rephrase -- say the question again

17 Q Do you disagree that the Department's the only
18 entity that's authorized to establish the
19 critical line?

20 A No, I don't disagree

21 Q Okay And the only one that's been validated
22 by the Department is the August 2006 line

23 A That is correct, that was because of the
24 conveyance

25 Q And did you -- were you involved in setting

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000570

1 that line?

- 2 --- A Yes

3 Q Did you survey that line?

4 A Our company did, yes

5 Q Southeastern Surveying?

6 A Yes

7 Q So you knew that there was a valid critical
8 line out there

9 A Yes

10 Q But you didn't include that on that exhibit,
11 did you?

12 A I was not asked to

13 Q You didn't include the August '06 line on
14 there

15 A No, I did not

16 Q Why didn't you?

17 A I was not asked to

18 Q What were you asked to do?

19 A To show the lines that are on that exhibit

20 Q Who asked you to do it?

21 A Ray Pantlik, to start with

22 Q So did Ray Pantlik tell you where to draw the
23 lines?

24 A No

25 Q Okay But do you not exercise any of your own

1 discretion? You're a surveyor, right?

2 A Yes - - - - -

3 THE COURT You need to speak up a little bit
4 louder

5 Q You're a surveyor, right?

6 A Yes

7 Q And when you do a survey, you have to certify
8 that it's accurate, right?

9 A Yes

10 Q Okay But you know that those lines aren't
11 valid

12 A Those lines are the critical line They just
13 have not been certified

14 Q Okay But the only valid line out there is not
15 on the map, right?

16 A No All those lines are valid

17 Q Okay If you look at KDP1156, which is also
18 part of Exhibit Forty-eight -- do you have that
19 in front of you?

20 A I don't believe so

21 Q I'll bring you my copy

22 MR WALKER Which one are you referring to?

23 MR WHITFIELD-CARGILE It's Bates stamped 1156

24 Q Here we go Pull that up

25 MR WALKER Forty-eight-B

1 MR WHITFIELD-CARGILE Exhibit Forty-eight-B?

2 Q On Exhibit Forty-eight B, you've got critical- ---- - - - -
3 lines for September 2002, mean high water line
4 for April 2005, those two lines on the side of
5 the river, right?

6 A Yes

7 Q And you also have a line called "Top of Dune
8 Elevations, August 2009 "

9 A Yes

10 Q You don't have a valid critical line on there,
11 do you? Where is the August 2006 line?

12 A That's not on there, but these lines are valid
13 that are shown on this survey

14 Q But they haven't gone through the process
15 that's required to get a valid line It's not
16 valid until it's validated by OCRM, right?

17 A No These lines are valid They just were not
18 certified

19 Q We're going to have to agree to disagree on
20 that, Mr DeWolff
21 Exhibit Forty-eight-B doesn't have the only
22 valid line We've established that Where are
23 the other lines?

24 MR WHITFIELD-CARGILE I beg the Court's indulgence
25 for just a moment, Your Honor

1 Q You said you learned to set lines from OCRM?

2 A Yes - - - -

3 Q And you testified at your deposition that OCRM
4 has disagreed with your lines in the past

5 A I said if they have, it's been very rare

6 MR WHITFIELD-CARGILE Well, I'd like to go ahead
7 and publish a portion of this --

8 MR WALKER Your Honor, the witness has already
9 been confronted with the deposition in an
10 effort to impeach It looks like he's going to
11 the same place where Ms Armstrong went and
12 we've already been through this exercise one
13 time

14 THE COURT I agree with that

15 MR WHITFIELD-CARGILE Well, Your Honor, I want to
16 know why he's changed his mind Last week he
17 answered clearly, "Yes, they've disagreed in
18 the past It's been rare " Today he says,
19 "No, never "

20 THE COURT Do you want to ask that?

21 MR WHITFIELD-CARGILE Sure

22 Q Why did you change your mind?

23 A I did not change my mind

24 Q You agree that --

25 MR WALKER Let him finish his answer, please

1 A I cannot think of a time when they have

2 Q But that's not what you said at your- - - - -
3 deposition, is it?

4 A I said if they had it has been rare

5 Q That's not what you said at your deposition
6 At your deposition you said "yes "

7 MR WALKER Your Honor, I think the witness is
8 entitled to look at the transcript

9 MR WHITFIELD-CARGILE Well, give me one moment,
10 Your Honor Should I open the sealed dep?
11 Do you have the page and line number?

12 MS ARMSTRONG Page 42

13 MR WHITFIELD-CARGILE Your Honor, is it proper to
14 open the sealed deposition?

15 THE COURT That's proper

16 MR WHITFIELD-CARGILE Okay Forty-two?

17 MS ARMSTRONG Yeah, page 42, starts at line 18

18 MR WHITFIELD-CARGILE And, Your Honor, I

19 Q On page 42 --

20 MR WHITFIELD-CARGILE Did you say 42?

21 MS ARMSTRONG Page 42

22 MR WHITFIELD-CARGILE Okay I grabbed the wrong
23 one I'm sorry, Your Honor

24 THE COURT And messed up your future
25 cross-examination, maybe

1 MR WALKER We admit he didn't say anything in that

2 - -- one

3 MR WHITFIELD-CARGILE He did not say anything in

4 this deposition Permar is off the stand,

5 so

6 This is Doug DeWolff Is it? Yeah I think

7 I'm going crazy, Your Honor

8 THE COURT Going?

9 MR WHITFIELD-CARGILE I think I'm crazy, Your

10 Honor

11 (Off the record)

12 Q Page 42, line 18, Question -- and this is by

13 Ms Armstrong -- "And then I think you

14 indicated, but I want to make sure I

15 understand There have been occasions when

16 OCRM hasn't agreed with the critical area line

17 that you surveyed, is that correct?" Answer

18 "Correct It's been very rare " Is that

19 correct?

20 A Yes

21 Q Okay

22 A But it's not in an area like this 'as clear-cut

23 as to where the critical line is If there's

24 been a disagreement, it's been in an area where

25 there's a very gradual slope from the highland

1 to the water

2 Q Well, earlier today you said that there's never
3 been a disagreement Which one is it?

4 A I can't -- like I said, I can't think of a time
5 when it has happened But, I mean, you're
6 asking me to go back 25 years as a surveyor

7 Q I'm just asking you why you've changed your
8 mind

9 MR WALKER Objection, Your Honor He's already
10 asked and answered that question --

11 MR WHITFIELD-CARGILE I apologize I withdraw
12 that, Your Honor

13 MR WALKER -- and he's just trying to have a snit
14 with the witness over this

15 THE COURT I sustain that

16 MR WHITFIELD-CARGILE I apologize

17 THE COURT I don't sustain the "snit "

18 MR WALKER I'm sorry I retract it

19 THE COURT Asked and answered

20 MR WALKER Asked and answered

21 MR WHITFIELD-CARGILE I think I'm done, Your
22 Honor, but if I may have one moment to look
23 through my notes

24 Q Oh You've been surveying for Kiawah -- you're
25 the primary surveyor for Kiawah since when?

1 A 1980

--- 2 Q So if they ask you for something, you give it - - - - -
3 to them, right?

4 A Sure

5 MR WHITFIELD-CARGILE Okay Nothing further, Your
6 Honor

7 MR DEWOLFF - REDIRECT EXAMINATION BY MR WALKER

8 Q Mr DeWolff, I think you've got in front of you
9 the 2006 recorded survey right here

10 A Oh, yes

11 Q It's Exhibit Forty-eight-A

12 A Yes

13 Q Can I ask you to open it up to the last page,
14 please

15 A (Witness complies)

16 Q Do you have that before you?

17 A Yes

18 Q Now, if you would hold that up for the Court
19 Take it out and hold it up

20 A (Witness complies)

21 Q What is that? Is that a table of points of
22 reference?

23 A These are the metes and bounds of the critical
24 line, the boundary line of Captain Sam's

25 Q And is the entire boundary line, except for the

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1 upland boundary line, the entire peninsula on
2 the Kiawah River and the Atlantic Ocean and the
3 inlet, is that critical area?

4 A No

5 Q I'm saying is the boundary next to the river --
6 the perimeter -- no, keep the -- is the
7 boundary along the river and around the spit to
8 the ocean all critical area either tidelands or
9 ocean?

10 A Oh, yes, yes

11 Q Okay Now, did you and your crew set every one
12 of those location marks that are on page four?

13 A These are calculated points

14 Q Did you and your team set every one of those
15 calculated points?

16 A Set them, no, but we located them We located
17 the points

18 Q Did OCRM take issue with any single one of
19 those at least, I don't know how many, hundreds
20 of reference points?

21 A No, they did not

22 Q You were asked about 63 24 acres of beach that
23 has accreted -- have accreted since 1974 Is
24 that below the setback line?

25 And I'll show it to you Is the area of beach

1 accretion since 1974 on Exhibit Forty-eight-C,
2 is that below the setback line?-----

3 A Yes, it is

4 MR WALKER All right That's all I have, Your
5 Honor

6 MS ARMSTRONG I don't have anything else

7 THE COURT All right On those questions

8 MR WHITFIELD-CARGILE Yes, Your Honor

9 MR DEWOLFF - RECROSS-EXAMINATION BY MR
10 WHITFIELD-CARGILE

11 Q Mr DeWolff, Forty-eight-C, the last page of
12 it --

13 A Yes

14 MR WALKER Forty-eight-A

15 MR WHITFIELD-CARGILE Forty-eight-A? My
16 apologies

17 Q The last page of it You've got it looks
18 like 350 different points on here, is that
19 right?

20 A 475

21 Q 475 different points on here Is this
22 something standard you do when you set a
23 critical line?

24 A Yes

25 Q Where is this for September 2002?

1 A I don't do that unless it's going to be
2 - - certified-

3 Q Where is this for April 2005?

4 A The purpose of this was because of a
5 conveyance

6 Q Where is this for February 2008? Nowhere?

7 A The purpose of this plat is for a conveyance

8 Q Okay And you do this and do you put flags at
9 each of these points?

10 A When we locate them? Yes

11 Q Okay And then OCRM goes out and looks at
12 those flags, right?

13 A Yes

14 Q They haven't done that for any of these For
15 September 2002, no flags, no data points,
16 right?

17 A I'm sorry, I'm not following you

18 Q There were no flags or data points for the
19 September 2002 critical line you drew, right?

20 A Out there, yeah We put flags out there when
21 we locate them

22 Q But OCRM didn't come and look at those flags,
23 did they?

24 A I don't know if they did or not They're
25 supposed to

1 Q Did you invite them out there? Did you get
2 them certified? - - - - -
3 A They -- you're talking 2002?
4 Q September 2002
5 A Oh, I'm sorry No
6 Q There's no flags for it, right?
7 A We -- we -- when we locate it, we put flags
8 out
9 Q Did you do one of these sheets --
10 A No
11 Q -- so somebody can check your work?
12 A No
13 Q And you didn't do that for April 2005
14 A I'll say it again We did this because of a
15 boundary survey and conveyance
16 Q And I just want to be clear You didn't do
17 that for any of these other lines you've drawn
18 other than August 2006, right?
19 A That is correct
20 MR WHITFIELD-CARGILE Okay I don't have any
21 further questions, Your Honor
22 THE COURT Any redirect on that?
23 MR WALKER No, Your Honor, that's all for this
24 witness
25 THE COURT All right I may have one question

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1 I was trying to make sure my notes were

- 2 - - - correct, but you were referring to the 2008 and - - -

3 2009 lines at the neck area?

4 THE WITNESS Yes

5 THE COURT And were you -- did you testify that

6 some of the 2008 lines are more landward than

7 the 2009 lines?

8 THE WITNESS It appeared that way

9 THE COURT Okay All right I assume there's

10 follow up on that

11 MS ARMSTRONG Your Honor, I think you got it

12 reversed I think that --

13 THE COURT That's what I was trying to figure out

14 MS ARMSTRONG -- the 2008 line is more oceanward

15 I mean, we can get the witness back up

16 THE COURT I'm talking about the river I was

17 trying to follow up on Mr Whitfield-Cargile,

18 I think

19 MR WHITFIELD-CARGILE Yeah, Your Honor, that was

20 my question

21 THE COURT Well, just come back up here and explain

22 to us all again, then, where I'll be

23 Okay At the neck

24 Q Mr DeWolff, we went over this thin line here

25 is the August -- sorry, the October 2008 line,

1 correct?

2 A (No response)

3 Q The one you've highlighted in orange

4 A Yes

5 Q August 2008 line, okay And from the end of
6 the parking lot, running down southwest,
7 there's a long section where the October 2008
8 line is more landward from the river of the
9 August 2009 line

10 A Yes

11 Q Okay

12 THE COURT All right That's what I wanted to be
13 clear on

14 Did you want to follow up on any of that?

15 MS ARMSTRONG As long as the Court's clear now
16 Yeah, I just wanted to make sure we've got a
17 clear record I think we do And we've also
18 got this map into evidence that I think can be
19 used

20 THE COURT Which can almost speak for itself

21 MS ARMSTRONG Right

22 THE COURT All right You may step down

23 (Witness excused)

24 MR WALKER KDP called calls Mitchell Bohannon

25 MITCHELL BOHANNON, having been duly sworn, testifies

1 and examines as follows

2 MR BOHANNON - DIRECT EXAMINATION BY MR WALKER --

3 Q Mr Bohannon, what's your profession?

4 A I'm a licensed professional engineer

5 Q How long have you been a licensed professional
6 engineer?

7 A Since 1985

8 Q Are you licensed in the State of South
9 Carolina?

10 A Yes, sir, I am

11 Q Any other states?

12 A I'm licensed in South Carolina, North Carolina
13 and Georgia

14 Q Where do you work?

15 A I work at Thomas & Hutton Engineering Company

16 Q How long have you worked for Thomas & Hutton?

17 A Since November of 1975, which is, I guess,
18 what, almost 34 years

19 Q What's your position with Thomas & Hutton?

20 A I'm currently the president and CEO of the
21 company

22 Q How many offices does Thomas & Hutton have?

23 A We have five offices We have an office in
24 Brunswick, Georgia, Savannah, Georgia,
25 Charleston or Mount Pleasant, South Carolina,

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1 Hilton Head -- excuse me, I'm sorry, Myrtle

2 - Beach, and Wilmington, North Carolina

3 Q Can you give us a quick sketch of the type of
4 engineering work that Thomas & Hutton does?

5 A Well, we really do the whole gamut of
6 engineering We design roads, sewer systems,
7 water systems We have surveyors We do GIS
8 We do land planning, landscape architecture
9 Predominantly, our business for the last
10 probably 30 years has been heavily dominated by
11 private residential development and a big
12 portion of that has been what I would consider
13 high-end, high-amenity residential development
14 similar to Kiawah We've done probably 80,
15 90 percent of anything that's ever been
16 designed at Hilton Head, Dawtaw Island, Kiawah
17 Island Worked for Sea Island Company out in
18 Georgia, Landings, Skidaway Island We've had
19 Daniel Island in Charleston, so we've had
20 some -- been very fortunate to have some very
21 good clients doing some very large projects

22 Q Has your work over time included the design of
23 revetments and bulkheads?

24 A Yes We've done quite a number of revetments
25 and bulkheads and shore protection works all

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1 over the last -- at least in my 34 years with
2 the company

3 Q Does the civil engineering work that you do
4 include walking permit applications through the
5 permitting process?

6 A (No response)

7 Q "Walking" may be a bit -- but submitting the
8 applications and following those applications?

9 A Yes We've submitted lots of permits, both
10 through the Army Corps of Engineers and OCRM,
11 its predecessor, which was the Coastal Council

12 Q You've heard of this about -- or you're
13 familiar with the authorization of KDP for your
14 firm to act on its behalf Is that typical
15 when you're working for a large property owner
16 like KDP?

17 A Yes, that's pretty typical

18 Q Let's talk about Kiawah Island How long has
19 Thomas & Hutton been doing these types of
20 engineering services that you've described on
21 Kiawah Island?

22 A Well, we're very fortunate Our firm started
23 working for the Sea Pines Company when Charles
24 Fraser went over to Hilton Head with the first
25 bulldozer and one of my -- my predecessor

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1 actually rode in the dozer with him making
2 roads and so we had a long relationship with
3 Sea Pines Company So we started from the very
4 beginning We were involved in 1974 The firm
5 was involved in Kiawah -- I think my first
6 assignment was probably 1976 Actually, it was
7 Sparrow Pond Cottages, which is one of the
8 first things in West Beach Village

9 Q Can you think of any piece of major
10 infrastructure on Kiawah Island that Thomas &
11 Hutton has not designed?

12 A I can Actually there is one

13 Q What is it?

14 A We did not design the Osprey Beach section I
15 talked with Mark Permar at lunch There were
16 a couple of things that went on There was a
17 little section -- and it kind of coincides with
18 his absence I think it was from like '85 or
19 '86 to '88 There was a group who was managing
20 for the Kuwaitis who decided to do things
21 differently than had done in the past

22 Q Except for one pocket, that little pocket you
23 just mentioned, that little time gap, has
24 Thomas & Hutton, to your knowledge, designed
25 all the major infrastructure at Kiawah?

1 A Yes

2 Q Did you do the design for the water and sewer?

3 A Yes, we have

4 Q Did you do the design for the roads?

5 A Yes, we have

6 Q Did you do the design for the bridges that are
7 on the island?

8 A Yes, we have

9 Q And we saw these pictures up here of various
10 fingers and islands Did Thomas & Hutton
11 design those bridges and roads?

12 A We've done all of that, yes, sir

13 Q Has Thomas & Hutton in the course of doing that
14 design work had to work in sensitive areas?

15 A Yes It's very sensitive and requires a little
16 bit of a unique approach It's not typical
17 We do a lot of things differently We've gone
18 and designed special considerations to be able
19 to have trees closer to the roadway We've
20 designed some pretty innovative things as far
21 as stormwater so that we have minimal impact on
22 the site and on the fingers, Rhett's Bluff,
23 lots of places

24 Q Based on your experience in working with KDP,
25 have you found them to be responsive on the

1 engineering side, being responsive to what's on
-2 the ground, trees, contours, and that type of
3 thing, the natural blessings of a site?

4 A I would say more than responsive I would say
5 they are insistent that we take special care
6 with the land I mean, they've been the
7 driving force and have been a great client
8 because we've created some things that, quite
9 frankly, typical highway engineers just
10 wouldn't do and aren't allowed to do They've
11 created some really special places

12 Q Since you've worked for so many of these
13 high-end developers, where would you rank KDP
14 in terms of insisting on environmental
15 sensitivity and then blending with engineering
16 design in comparison to others?

17 A Oh, they're at top of the list

18 Q All right Now, let's talk about Captain
19 Sam's Do you recall when you were first
20 contacted by KDP about any issue dealing with
21 erosion on Captain Sam's?

22 A I think it was late 2006, maybe early 2007

23 Q And what was your specific understanding of
24 what you were to look into?

25 A Well, there was concern that Charleston County

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1 PRC had applied for a permit and had gotten a
2 permit to do a bulkhead along Beachwalker Park

3 Q Now, I'm going to stop you You're saying
4 they -- had they actually gotten the permit?

5 A I'm not sure chronologically about that

6 Q I don't want you to testify to anything you
7 aren't sure about

8 All right So there's an application by
9 Charleston PRC

10 A Correct

11 Q Was there any -- did you have any understanding
12 about an access corridor? Were there any
13 discussions about an access corridor in the
14 neck of the spit?

15 A I think there were, yes In kind of developing
16 that ongoing conversation, that the access
17 corridor to the spit became one of the
18 considerations We certainly didn't want
19 anything to happen -- we were really concerned
20 about end conditions on the PRC permit If
21 they put a bulkhead, there would have been
22 probably -- there are usually some -- if you
23 don't design it correctly and don't take --
24 aren't really careful, you'll have some adverse
25 end conditions and we were worried that adverse

1 end conditions would contribute to increased
2 erosion in that area and actually narrow the-----
3 spit even more

4 Q Did you make any recommendation to KDP about
5 involving other consultants to work with you?

6 A Oh, yes, certainly Again, I had grave concern
7 about the PRC bulkhead and then when we were
8 asked to design the bulkhead/revetment, I said,
9 "What do we need to do to protect that?" I was
10 concerned what would happen in -- not only in
11 that area, but also other impacts

12 Q Did you make any recommendations about
13 involving other consultants?

14 A Yes, I did I suggested they hire Dr Oertel
15 and Dr Basco

16 Q Did they do that?

17 A Yes, they did

18 Q Did your firm work in conjunction with
19 Drs Oertel and Basco in addressing the issues
20 there near the neck at the river bend on
21 Captain Sam's?

22 A Yes Yes, we did

23 Q Did Drs Oertel and Basco provide you certain
24 information and opinions related to what they
25 believed to be the processes at work out there

1 at Captain Sam's?

2 A - Yes - - - - -

3 Q At some point, taking into account those
4 recommendations, did you make a recommendation,
5 you, Thomas & Hutton, make a recommendation to
6 KDP about a suitable method to stabilize the
7 river bend?

8 A We did We looked at, I mean, a number of
9 alternatives investigated, bulkhead, riprap, to
10 geotubes, a number of things that could have
11 been used, and it was our recommendation that
12 they use the concrete mats

13 Q Why did you recommend that they use the
14 concrete mat as opposed to the other
15 alternatives you mentioned?

16 A Well, from all the systems that we were aware
17 of, it seemed like that is the softest, most
18 compatible system out there We can lay it on
19 the existing ground, follow the existing slope
20 There's the opportunity, we believe, it could
21 fill in with sand Once we put it down, it
22 could fill in with sand We've seen them used
23 in other locations where they've become
24 completely naturalized They might get filled
25 in with sediments and marsh grass start growing

1 through them or other vegetation

2 So this articulated concrete block we felt like
3 was the best solution It's kind of in keeping
4 with the whole essence of Kiawah where, you
5 know, we need engineering solutions to
6 problems, but we also need engineering
7 solutions that blend with the environment that
8 we're creating

9 Q Had Thomas & Hutton designed other bulkhead or
10 revetment projects using articulated concrete
11 block?

12 A We have, yes

13 Q What was your experience with their use in
14 terms of performance?

15 A We've had excellent results I mean, the ones
16 that we've used, used them for a couple of
17 different applications, but we've had very good
18 results with them

19 In fact, one is on Kiawah itself at Cinder
20 Creek where it's completed vegetated You
21 can't even see -- can't even tell it's there
22 One on Daniel Island, it's becoming totally
23 propagated with Spartina and other native
24 grasses I mean, we've just had very, very
25 good results with them

1 Q Did KDP follow your recommendation?

2 -- A -- Yes, they did -- -- --

3 Q Who prepared the application that I believe is
4 Petitioner's Exhibit Ten? Did your firm
5 prepare the application?

6 A Yes, our firm prepared the application

7 Q Was it a double application?

8 A Yes, it was a joint application to OCRM and to
9 the Army Corps of Engineers

10 Q Is that typical?

11 A That's very typical

12 Q Why do you have a joint application? Please
13 explain in simple layman's terms why you have
14 to go to two agencies, the Corps and OCRM

15 A Well, there's a federal permitting process and
16 a state permitting process and in order to
17 somewhat streamline the process, they agreed to
18 a joint application procedure several years
19 ago And so that's -- I mean, that's just the
20 process You submit a joint application It
21 goes both to the Army Corps of Engineers and to
22 OCRM and they generally process them on a
23 parallel track

24 Q Yesterday, we took a look at some of the pages
25 of the application, in particular, we spent a

1 little bit of time on page seven of seven If
2 you want to look at it, you can And it would
3 be in the --

4 A I remember That was the one that showed the
5 schematic of the articulated concrete block mat
6 and the bulkhead

7 Q That's correct And if you can answer this
8 question without looking at it, please do Was
9 there anything unusual about that schematic
10 rendering in terms of what you would do
11 typically in seeking permitting for a structure
12 like this?

13 A No, this is pretty typical I mean, I -- you
14 know, we show in general terms pretty -- I
15 mean, they're somewhat schematic because it's
16 not a final design, but we show in general
17 terms what's -- to portray what we want to have
18 permitted to put in the critical area

19 Q In your many years of dealing with OCRM in
20 seeking permits, have you, on behalf of various
21 owners, submitted applications to OCRM for
22 similar projects with comparable detail?

23 A Yes, lots of them

24 Q Is it typical to have construction drawings in
25 every instance for a project like this when you

1 put in the application?

-- 2 A I don't remember when we had construction -----
3 drawings beforehand I mean, I think -- there
4 may be a case, but it is more typical that we
5 submit these schematic drawings and then once
6 we get a permit, then we do the final design
7 and final construction drawings

8 Q When you do the final construction drawings, is
9 that done in conjunction with OCRM?

10 A Well, we usually send them a set of plans so
11 they know what's going on, yes, so -- you know,
12 occasionally, they'll be a slight tweak on the
13 permit In fact, it's probably -- in this kind
14 of environment, it's as much a rule as it is
15 the exception that when you get a final design,
16 you'll tweak something a little bit different
17 than what you anticipated

18 Q In this instance, after you submitted the
19 application to OCRM on February 29, 2008, did
20 OCRM ever come back to you and ask for more
21 clarification over your drawings or
22 construction drawings or anything like that?

23 A No, they did not

24 Q Did you believe that what you were proposing
25 constituted a comprehensive solution?

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1 A Well, we did You know, we looked at lots of
2 things and we felt like it was a good
3 comprehensive solution, protecting all the way
4 from the park down through the neck area where
5 the zone of erosion was occurring

6 MR WALKER At this point, Your Honor -- well, let
7 me qualify a little bit more

8 Q Mr Bohannon, you're a licensed engineer Does
9 your license include or would you have the
10 authority under your license to design
11 structures like this revetment?

12 A Yes

13 Q Do you have people in your office who also
14 design structures, revetment structures?

15 A Yes, we do

16 Q Are these competent, capable people?

17 A Very competent, very capable

18 Q Have you, in your career, evaluated designs for
19 structures like this to determine whether they
20 are sufficient for their intended purpose?

21 A I've been the project manager, project
22 principal on a number of these where we
23 evaluate them, yes Now, the detail design, I
24 have not done, but in general, to make sure it
25 meets the intended purpose and -- yes

1 Q In this instance, before the application was
2 submitted, did you review those seven drawings -
3 that were part of the application?

4 A Yes

5 Q Did you consider them to be sufficient?

6 A Yes, I did

7 Q Do you consider the design to be sufficient --
8 or, first, let me ask you, what do you
9 understand to be the purpose of this revetment?

10 A It's to stop the erosion that's occurring on
11 that bank, which is contributing -- which is,
12 you know, the migration of the bank It's sort
13 of two things It's that erosion's occurring
14 primarily on the bank and then the migration of
15 the bank towards the -- or the bank of the
16 Kiawah River towards the ocean

17 Q In addition to designing bulkheads and
18 revetments, have you monitored bulkhead and
19 revetments that you've designed once they're in
20 place?

21 A Our firm has done that, yes

22 Q Have you observed what's gone on with other
23 bulkheads and revetments?

24 A Oh, yeah, we've seen lots of them

25 Q Does that assist you in determining what's an

1 appropriate solution for erosion control?

2 A I believe it does, yes, sir

3 MR WALKER Your Honor, we would ask the Court to
4 certify Mr Bohannon and as an engineer to
5 render opinions about the engineering
6 sufficiency of this structure

7 THE COURT You said as an engineer Do you mean as
8 an expert?

9 MR WALKER As an expert, Your Honor

10 THE COURT All right

11 MS ARMSTRONG No objection, Your Honor

12 MR WHITFIELD-CARGILE No objection, Your Honor

13 THE COURT All right He's so qualified

14 Q At this point, Mr Bohannon, I want to walk
15 through the project specific regulation dealing
16 with revetments and bulkheads Do you have
17 that in front of you?

18 A Yes, I do

19 Q And that's Regulation 30-12(C) Are you
20 familiar with that?

21 A Yes, I am very familiar with it

22 Q Subpart (C)(1) specifies "In an attempt to
23 mitigate certain environmental losses that can
24 be caused by these structures, the following
25 standards are adopted," and I'm going to go

1 through them one by one

2 "A, Structures must be designed to conform to
3 the critical area line upland boundary to the
4 maximum extent feasible and constructed so that
5 reflective wave energy does not destroy stable
6 marine bottoms or constitute a safety hazard "

7 I would like you to tell the Court whether or
8 not the design that your firm submitted to OCRM
9 is in conformance with that standard

10 MS ARMSTRONG Objection, Your Honor, on a number
11 of grounds One, he's getting ready to make a
12 kind of legal conclusion about whether this
13 regulatory provision has been met and you need
14 to make that determination
15 The other thing is, this really requires an
16 opinion, whether stable marine bottoms are
17 going to be destroyed And I think that as an
18 engineer, he doesn't have the qualifications to
19 determine whether this is a stable marine
20 bottom and whether it's going to be destroyed
21 I mean, we've already heard that there's not
22 really been much of a design even for this
23 structure, so I think, you know, he's not --
24 he's definitely not qualified in that area to
25 give those kind of opinions about destroying

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1 stable marine bottoms And he's already said
-2-- - that they've not really done a design of this --- --- ---
3 structure All we've got is what's in the
4 application

5 THE COURT All right The -- I'll get to you
6 The qualification didn't -- it didn't
7 include qualifying specifically as an
8 expert in constructing revetments, did
9 it?

10 MR WALKER No, but I would ask that he be
11 qualified --

12 THE COURT Well, laying -- or you can either seek
13 that qualification now or you can --

14 MR WALKER I'll ask some more questions

15 THE COURT Okay

16 Q Mr Bohannon, have you, as the principal in
17 Thomas & Hutton, been involved with and
18 actually been the supervising engineer on
19 permit applications for bulkheads and
20 revetment?

21 A Yes, I have

22 Q Have you been integrally involved in the
23 designs of those structures?

24 A Yes, I have

25 Q Have you met with permitting agencies,

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1 including the Army Corps and OCRM, to discuss
2 the facets of those structures?

3 A Many, many times, yes, sir

4 Q Do you, in the course of that, apply
5 engineering principles to the various facets of
6 those structures?

7 A Yes, sir

8 Q Does your engineering experience include not
9 only designing them, but overseeing the
10 construction of them?

11 A Yes, it does

12 Q Have you seen this occur in the field?

13 A Yes

14 Q Have you monitored them?

15 A Yes

16 Q And based on all that, do you believe that from
17 an engineering standpoint you have sufficient
18 familiarity -- or do you have familiarity,
19 working familiarity with all the principals
20 involved?

21 A Yes, I do

22 Q As an engineer

23 A Yes

24 MR WALKER I'd ask that he be qualified

25 THE COURT Qualified in what regard?

1 MR WALKER Qualified as an engineer to render
2 opinions about revetments and bulkheads on the
3 coast of South Carolina and this one, in
4 particular

5 MS ARMSTRONG I don't have an objection to him
6 being qualified as an engineer I think maybe
7 my objection was misunderstood I'm talking
8 about --

9 THE COURT I understand your -- before I can get to
10 what you were arguing about, I had to get to --

11 MS ARMSTRONG I got you Okay

12 THE COURT -- this point first, so we weren't there
13 yet

14 MS ARMSTRONG Okay I apologize

15 THE COURT Any objection to that qualification,
16 Mr Whitfield-Cargile?

17 MR WHITFIELD-CARGILE I don't have an objection to
18 him being qualified as an expert in engineering
19 to render opinions about bulkheads and
20 revetments in South Carolina, but --

21 THE COURT Okay Well, we'll get to the later
22 part

23 MR WHITFIELD-CARGILE Okay

24 THE COURT If you're going into the testimony,
25 let's get to that later Okay So he's so

1 qualified in that regard Now, the question
2 that started all this, if would you repeat
3 that

4 MR WALKER I'll break it in -- yes, sir

5 The question was Does the design that Thomas
6 & Hutton did for this revetment meet the
7 standard that's set forth in (1)(a) of
8 Regulation 30-12(C), that structures must
9 designed to conform to the critical area line,
10 upland boundary, to the maximum extent feasible
11 and constructed so that reflective wave energy
12 does not destroy stable marine bottoms or
13 constitute a safety hazard?

14 THE COURT All right I'll sustain her objection
15 as far as the way it's asked I think that he
16 can testify, from an engineering standpoint,
17 whether the revetment meets the requisites
18 of -- that you're fixing to go through So you
19 can ask the question in that regard

20 MR WALKER I will

21 THE COURT But, now, what's your position on that?

22 MS ARMSTRONG I'm not sure I understand your
23 ruling exactly, Your Honor

24 THE COURT Well, his question simply was, did the
25 structure meet the requirements of the statute

1 I don't know if he can just testify to the
2 legal conclusion of whether they meet the
3 requirements of the statute He can testify
4 based on engineering principles whether the
5 structure is designed to conform with the
6 requisites of the statute So that's what I'm
7 trying to limit his testimony to, that of his
8 expertise

9 MS ARMSTRONG Okay I would agree with the first
10 part, that he could -- would be qualified to
11 testify about whether the structure's designed
12 to conform to the critical area line But when
13 we get to the part about whether it's designed
14 so that it doesn't destroy stable marine
15 bottoms with reflective wave energy, that
16 absolutely, I believe, calls for an opinion in
17 either hydrology, geology, some sort of, you
18 know, scientific -- or marine biology that
19 would -- I think he's not qualified to give an
20 opinion about what the marine bottom is and
21 whether it's going to be destroyed
22 And we're also looking at, you know, wave
23 energy, which is something that KDP's got
24 experts in these other areas and I don't think
25 that this witness has been qualified in those

1 construction drawings until a later date, so --
2 at least that's the testimony I heard- -If I'm ---- - -
3 wrong

4 MR WHITFIELD-CARGILE If on the one hand, Your
5 Honor, he's going to argue that what's in the
6 drawings aren't the plans, that they don't have
7 the construction plans, and then on the other
8 hand he's going to then render opinions as to
9 whether or not this conceptual sketch is
10 sufficient, it's a Catch 22

11 THE COURT That's where you can cross-examine him

12 MR WHITFIELD-CARGILE I understand that, Your
13 Honor But if that's his testimony, I think
14 it's all speculation

15 THE COURT All right

16 MR WHITFIELD-CARGILE And I join in

17 Ms Armstrong's objection as to the expertise

18 THE COURT All right

19 Q Mr Bohannon, when you, as an engineer, and the
20 engineers in your firm design a bulkhead or
21 revetment, do you take into account the
22 reflective energy of wave action?

23 A Yes, sir, we do

24 Q Is that one of the essential considerations
25 that you take into account?

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1 A One -- yes, in fact, because that was one of
2 - - - our concerns here

3 Q Is that something you're trained to take into
4 account?

5 A Yes

6 Q Is it something from an engineering standpoint
7 you're capable of dealing with --

8 A Yes, sir

9 Q -- and you deal with?

10 A Yes, we're capable of doing that

11 Q Is that part of your engineering experience and
12 training?

13 A Yes

14 Q Turning to the design that was submitted here,
15 did your firm design this bulkhead and
16 revetment to conform to the critical line?

17 A Yes, we did

18 Q To the maximum extent feasible, is that
19 correct?

20 A Yes, we sure did

21 Q Did your firm design the bulkhead and revetment
22 taking into account reflective wave energy?

23 A Yes

24 Q Tell us about that, how it's taken into account
25 in this design

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1 A Well, clearly, whenever you put a vertical face
2 against -- on a shoreline in any kind of --- --
3 waterway, you're going to get some kind of wave
4 action up against that And if you don't do
5 something to protect that toe against that
6 reflective energy, it's going to cause even
7 more exacerbated erosion So that's just one
8 of the things --

9 Q And when that happens --

10 A -- you'd have to do

11 Q -- Mr Bohannon, does that erosion occur on the
12 bottom?

13 A Oh, yes

14 Q And it disrupts it?

15 A Yes

16 Q In this particular design, does the revetment
17 part, which is the articulated concrete block
18 matted over the bank, play into reflective wave
19 energy?

20 A Yes

21 Q How so?

22 A Well, it prevents that reflected wave from
23 causing erosion on the bottom

24 Q With respect to the bottom, does it help
25 stabilize the bottom?

1 A Yes

2 - Q -- In this instance, was there anything that you
3 could perceive from an engineering standpoint
4 that would make the design you submitted a
5 safety hazard?

6 A We didn't -- no, there's nothing that we saw
7 that would create a safety hazard

8 Q Mr Bohannon, was the structure that you
9 designed to be constructed within 18 inches
10 from existing escarpments along the bank?

11 A Yes, that's -- that regulation has been in
12 place as long as I can remember

13 Q Is there any of the proposed location for the
14 revetment where marshlands are adequately
15 serving as an erosion buffer?

16 A Up next to the park, there's some of that where
17 there's an escarpment there and the marsh is
18 doing part of that But it's still -- it needs
19 to be protected, even though there's some marsh
20 there But the marsh is doing some of it, but
21 not a complete job and --

22 Q Is it still eroding despite the marsh in front
23 of it?

24 A Yes Yes, it is

25 Q From an engineering standpoint, based on what

1 you could see and the design you came up with,
2 does the bulkhead -- combination bulkhead and
3 revetment prohibit -- or, excuse me, adversely
4 effect public access?

5 A I don't think so I don't know why people
6 couldn't still access that area if they wanted
7 to

8 Q Mr Bulkhead -- not Mr Bulkhead

9 MR WALKER I think I should leave now, Your Honor
10 That's a new Marvel superhero, Mr Bulkhead

11 Q Mr Bohannon, I'm looking at some of the other
12 considerations that must be taken into account
13 by the Department From an engineering
14 standpoint, does the bulkhead/revetment, will
15 it contribute to erosion?

16 A We don't believe so We actually think it's
17 going to prohibit erosion

18 Q From an engineering standpoint, do you see
19 where this structure would cause shoaling of
20 channels or create stagnant water?

21 A No That's one of the things -- one of the
22 reasons we wanted Dr Oertel and Dr Basco
23 involved, make sure it wouldn't -- evaluate the
24 entire system and make sure it wasn't going to
25 be a problem

1 Q Have you been out and walked the site, the

2 specific location where it's proposed? - - - -

3 A I have, yes

4 Q In the specific location where proposed, do you

5 see oysters on the bank in any particular spot

6 where it's proposed?

7 A There were a few there, a couple of old dead

8 trees and stuff, an old rusty pipe There was

9 some oysters growing on those

10 Q Have you gone out and seen these ACB mats after

11 they've been in the intertidal zone for a good

12 bit of time?

13 A Yes, sir, I have

14 Q Do oysters often cling to them?

15 A Oh, they generally propagate in that intertidal

16 zone, yes I say that, if they're not covered

17 with marsh -- with mud But the areas where

18 the ACB is exposed, the oysters will propagate

19 Q There's been some discussion about the length

20 of the revetment How is the length and the

21 location of the revetment determined?

22 A Well, we went out in the field I mean, we've

23 had survey data and a number of studies done

24 We've actually been in the field and located

25 kind of the beginning and end the erosion zones

1 and that's where the revetment -- we're asking
2 to put a revetment It's pretty clear when you
3 go in the field where it starts and stops

4 Q And when you scaled it out, did it come to
5 whatever the distance is, 2,763 or 83 feet?

6 A I think it's 2,783

7 Q Is that what the scaled distance was?

8 A That was the scaled distance

9 Q Within the last two weeks, did you go out and
10 walk the site, again?

11 A Yes, sir, I did In fact, I was out there last
12 week

13 Q Who did you go out with?

14 A I went with Mark Permar

15 Q Did you go from one end to the other?

16 A We walked from one end to the other end and
17 then some

18 Q Did Mark take a series of pictures?

19 A Yes, he did

20 Q Have you seen those pictures?

21 A I have

22 Q Do those pictures fairly and accurately depict
23 what you saw when you went out there?

24 A Yes, they do

25 Q Do they fairly and accurately depict the

1 proposed location of the revetment?

2 A Yes, they do

3 MR WALKER These are photographs that were
4 included on the disk that I gave you last
5 Thursday afternoon that said they were from
6 Permar

7 MS ARMSTRONG Are you providing us copies of
8 these?

9 MR WALKER Yes Well, I've already provided a
10 disk with all the pictures on them

11 MS ARMSTRONG Right, three days ago or something
12 like that

13 MR WHITFIELD-CARGILE Are these the ones -- let me
14 see if I can find these and pull these out
15 Are these copies we can keep, Trenholm?

16 MR WALKER Excuse me?

17 MR WHITFIELD-CARGILE Are these the ones you're
18 using?

19 MR WALKER Yes

20 MR WHITFIELD-CARGILE Okay

21 MR WALKER (Tendering)

22 Q The first thing I'd like for you to do,
23 Mr Bohannon, is tell us whether you went
24 through all those pictures to select some
25 pictures that you thought were representative

1 of the entire location

2 A -- Yes, sir, I did There were quite a large
3 number but, again, I wanted to kind of portray
4 from beginning to end just a couple of
5 photographs, because I think there were 60 or
6 80 or -- a good number of them, but wanted to
7 pick some out that kind of were -- that were
8 representative of illustrating what's actually
9 in the field

10 MR WALKER Your Honor, we would offer these
11 photographs as Petitioner KDP's Exhibit
12 Seventy-five?

13 MS ARMSTRONG No objection, Your Honor

14 THE COURT Mr Whitfield-Cargile?

15 MR WHITFIELD-CARGILE No objection, Your Honor

16 THE COURT They're admitted

17 (KDP's Exhibit Number Seventy-five-A through G was
18 admitted into evidence)

19 Q Mr Bohannon, if you would step down and I'd
20 like for you to go through these photographs
21 with His Honor

22 A Sure

23 Q Why don't you use these and then you can
24 refer -- when you refer to a picture -- and let
25 the lawyers come over -- when you refer to a

1 picture, refer to the exhibit number in the
2 right corner, Seventy-five-A, and we'll hold it
3 up here

4 A Okay This is picture number Seventy-five-A
5 This is the very beginning of the revetment
6 You can kind of see in the photograph there's
7 a fence post here There's a fence by the
8 park You can see how it's leaning out in the
9 photograph and kind of -- this is kind of
10 turning in towards Trenholm, if you will, which
11 reflects -- which is represented on the drawing
12 where the revetment turns at the very end So
13 this is the very beginning on -- at the park
14 end of the revetment (indicating) And you can
15 see there's some marsh grass in front of that
16 But, again, there's signs of erosion because
17 that post is leaning, that bank's continuing to
18 erode

19 Q Seventy-five-B

20 A This is Seventy-five-B Again, following along
21 the park, you can see even more pronounced here
22 that erosion occurring and this vegetation is
23 falling off along this area (indicating) You
24 can see more of the fence and how it's leaning

25 Q All right Seventy-five-C, is that in front of

1 the park?

-- 2--- A No, that's much farther down That's on down -- -- --
3 that -- maybe even around where I called the
4 "bite "

5 The reason I took this photograph, I think it
6 was interesting because we were -- last week we
7 had some pretty high tides, about six, seven --
8 six to eight tides (sic) You can see a real
9 line here where that real high tide had caused
10 erosion even last week (indicating)

11 Q And where's the escarpment on this? If you can
12 put your finger on Seventy-five-C

13 A Well, the escarpment is right here
14 (indicating) You can see right at the base of
15 that escarpment this line of erosion that's
16 occurring even last week

17 Q You said it's around the bend Between this
18 location and the park, is there an escarpment
19 like the one that's shown in Seventy-five-C?

20 A Oh, yes Yes, this escarpment continues all
21 the way around You'll see there's another
22 picture even farther down It gets lower as we
23 get towards the very western end of it where
24 the terminus -- this escarpment becomes lower,
25 but it continues all the way around

1 Q What is Seventy-five-D? Is that farther down
2 the bank? -----

3 A It's just farther down the bank Again, you
4 can see the escarpment continuing right on
5 down In fact, even this illustrates how it
6 begins this reveal much less here, maybe only
7 a couple of feet here, but you can see that's
8 probably four feet or so here (indicating)

9 Q "Reveal" -- will you tell -- we don't know what
10 a "reveal" is Will you tell me what a
11 "reveal" is?

12 A The "reveal" is the height of the exposure of
13 escarpment The height from the bottom -- from
14 the shoreline up to the top of the escarpment
15 is where I'm calling the "reveal" You can see
16 that erosion line continuing right on along,
17 all the way along there (indicating)

18 Q How about Seventy-five-E?

19 A Seventy-five-E I thought was interesting
20 because it shows --

21 Q First, is this even farther down the shore?

22 A This is almost at the terminus We are
23 standing pretty close to the terminus on the
24 western end looking -- and it's interesting
25 because you can see how the marsh juts out here

1 (indicating) and the escarpment ends right
2 along here (indicating) That's the terminus - - - - -
3 of the revetment at this point I mean, it's
4 just so clear when you go out there where the
5 erosion -- this erosion ends

6 THE COURT Would the bulkhead be limited to the
7 height of the escarpment right there?

8 THE WITNESS Yes What we would do is to stop the
9 bulkhead actually short of the height is where
10 I'd like to have it, just below the top of
11 the -- if this is the escarpment (indicating),
12 I'd like to put the bulkhead just below it so
13 that we were right on the very edge of it, so
14 it would stop the erosion But we don't want
15 it to be above the top edge of the erosion

16 THE COURT So the bulkhead there appears -- it
17 would only be about two or three feet?

18 THE WITNESS Right Correct Yes, sir Very,
19 very

20 THE COURT How far would the block go out?

21 THE WITNESS About 40 feet (indicating)

22 THE COURT Well, if the block went out 40 feet, it
23 would pretty well cover all the sand that's in
24 that picture?

25 THE WITNESS Yes Yes, sir

1 THE COURT Why does the block have to go out that
2 - far? - -- -

3 THE WITNESS Well, because this is the zone of
4 erosion and we believe that the shoreline is
5 going to continue to erode There's some
6 velocity erosion occurring along here, as well,
7 as the erosion's coming -- and that's part of
8 what's causing this whole phenomenon You
9 remember that --

10 THE COURT What kind of erosion?

11 MR WALKER Velocity

12 THE WITNESS Velocity erosion What happens when
13 the velocity in the river gets high enough it
14 starts causing sediment transport, which causes
15 this to erode away, which then causes more and
16 more -- and it's not -- it's clearly not as
17 severe --

18 MR WHITFIELD-CARGILE Your Honor, I'm going to
19 object to that last bit of testimony about
20 velocity erosion and what's causing it He's
21 an engineer I don't think he's been at all
22 qualified -- in fact, he testified at his
23 deposition that he had no training geology,
24 geomorphology or any of that stuff If he's
25 relying on his experts, that's all hearsay

1 Q As an engineer, do you consider these dynamic
2 principles that you just discussed-in designing
3 a structure like this?

4 A All the time

5 THE COURT Your objection is overruled

6 Q Now we're down to Seventy-five-F and there's a
7 picture of you in a blue shirt

8 A Yes

9 Q Now, where are you standing?

10 A I'm standing at the terminus of this revetment
11 You can see the slope (indicating), a pretty
12 significant slope here, but you can also see
13 the edge where this marsh clearly stops here,
14 which is the end of the revetment (indicating)

15 Q Following up on Judge Anderson's question, how
16 high would the bulkhead part of the
17 revetment -- well, first let me ask, do you
18 think you, when you got to construction
19 drawings, you would have the vertical face of
20 a revetment -- excuse me, a vertical face of
21 the bulkhead where the escarpment tapers off?

22 A Actually, what I want to do when we get in the
23 final design is, in these areas where there's
24 a shallow enough reveal, to actually just
25 lose -- just do away with the bulkhead and have

1 that revetment, just like we did Daniel Island
2----- where we might just do a slight bit of fill
3 material in here so we can take it right up to
4 the very edge so it's just one continuous slope
5 instead of having this vertical face

6 Q If it's a vertical slope in that location and
7 if there were a creature trying to come up it,
8 assuming it -- if there's a creature that can
9 walk over the block, would there be anything to
10 step over when it got to the land under what
11 you're suggesting in these areas where there's
12 not much of an escarpment? Would it be level?

13 A It would be basically level, right You
14 wouldn't --

15 Q Or uniform

16 A Uniform, yes Level Not level, because level
17 is level, but it would be uniform, without that
18 vertical face (indicating)

19 Q And Seventy-five-G, being the final picture,
20 are you still standing in the same location?

21 A Same location, just another shot showing how --
22 where that zone of erosion actually really
23 stops

24 Q I want to go back to Seventy-five-E, which is
25 one looking, I guess, west, the last two were

1 looking east As you go beyond this area on
2 the bank, does the shoreline continue or does
3 it turn into something else?

4 A It continues It continues quite a ways

5 Q And then what happens? Where does the marsh
6 start?

7 A Well, if I remember, some Spartina starts way
8 down here (indicating), which is -- we didn't
9 even walk that far It was probably another
10 thousand, 1500 feet or so where the Spartina
11 is, I'm guessing, but it was a good ways from
12 where the end of the revetment would be

13 Q All right Thank you You mentioned or we
14 talked a little bit about what you would do in
15 the construction drawings to take into account
16 the very terminus or the last run of the
17 revetment Do you have an estimation of the
18 length where you do not think it will be
19 necessary to have the vertical bulkhead part of
20 it, a plus or minus?

21 A You know, I think it's about a thousand feet
22 And, again, I'm just kind of guessing based on
23 my visit from last week, but there was a
24 fairly -- a good section of it where there was
25 a fairly shallow reveal or the escarpment was

1 very shallow

-- -- 2 Q The first pictures we looked at show that there-- -- -- --
3 was -- even though there was erosion going on
4 on the bank, there was some marsh grass in
5 front of the park where that bluff was

6 A Correct

7 Q When you got to construction drawings for that
8 particular run to reach that location, do you
9 anticipate that your construction drawings
10 would have the full 40 feet of the articulated
11 concrete block mat?

12 A No What I believe we would do, envision us
13 doing, is stopping it short of the marsh grass,
14 putting the bulkhead right at that escarpment
15 and then not putting the entire 40 feet there,
16 stopping it right at -- putting it right to the
17 edge of the marsh grass

18 Q When you do the construction drawings, is there
19 any location that you saw, having walked from
20 one end to the other, where you intend to put
21 articulated concrete block over existing marsh
22 grass?

23 A No

24 Q If this permit is granted and assuming the
25 construction drawings are approved, does Thomas

1 & Hutton intend to monitor the performance of
2 the bulkhead/revetment system?

3 A Yes, we would

4 Q Is that something that you routinely do?

5 A We -- as a matter of course of record, we write
6 out sort of a maintenance plan for our clients
7 now on all these sorts of things

8 THE WITNESS One of the things that happens, Your
9 Honor, is when people build things that we
10 design, they think they build them and they
11 just last forever
12 Like, for instance, people -- I don't know why,
13 but they think roads and things like that, you
14 build them, you never do anything and I think
15 you know the potholes that develop in roads and
16 things like that
17 So in a revetment like this, there will be
18 maintenance that needs to be done And several
19 years ago, because we had clients who weren't
20 really doing maintenance, we started routinely
21 writing a maintenance routine for our clients
22 because, you know, it's a built environment and
23 there just -- there will always be some
24 anomalies in the construction process,
25 anomalies in materials and there will be little

1 areas that have to be fixed or repaired
 2 And so we -- again, we did it as a defensive-
 3 measure on our part so that people would be
 4 aware and know that they had to do maintenance
 5 on these facilities So, yes, there will be
 6 some routine things that we will monitor You
 7 know, we would like to monitor it and we will
 8 certainly ask the client to do so if he chooses
 9 not to have us do it

10 Q Mr Bohannon, to a reasonable degree of
 11 engineering certainty, in your opinion, will
 12 the bulkhead/revetment system as proposed most
 13 probably stabilize the shoreline along the
 14 river?

15 A Yes, sir, I believe it will

16 Q At this point, Mr Bohannon, I want us to go to
 17 the permitting process itself And I'm going
 18 to ask you to get a notebook in front of you,
 19 notebook number one

20 Let me get my notebook number one

21 MS ARMSTRONG Your Honor, we have a little bit of
 22 a water spill that we might need to just
 23 address

24 THE COURT You just want to take a break?

25 MS ARMSTRONG I mean, I hate to interrupt, but

1 we've got -- there's equipment here and I think

2 -- -- we need to address it

3 THE COURT We'll take a short break

4 (Off the record from 3 25 to 3 34 p m)

5 THE COURT Mr Walker?

6 MR WALKER Thank you, Your Honor

7 Q Mr Bohannon, did you and your firm as the
8 agent of KDP in essence serve as the point
9 person in dealing with the permitting agencies
10 on this permit application?

11 A Yes, sir, we did

12 Q Was there a particular individual in your firm
13 who was involved with you on this application
14 in the Charleston office?

15 A Yes, sir, Patrick Rogers was the person that
16 was involved with it He's actually no longer
17 with our firm

18 Q Were you abreast of what was going on the whole
19 way?

20 A Yes, sir

21 Q Did you ever during the course of the pendency
22 of this application meet with any officials of
23 the permitting agencies about the application?

24 A I met with officials from the U S Army Corps
25 of Engineers We did not meet with anyone from

1 OCRM, even though we offered to do so, we never
2 met with them, but we did meet with the Army
3 Corps of Engineers

4 Q We, of course, are here for the OCRM permit,
5 but this is a joint permit application Did
6 the Army Corps of Engineers approve this
7 application under a nationwide permit?

8 MS ARMSTRONG Objection, Your Honor We're
9 talking about a different -- what the Corps
10 decided or didn't decide isn't relevant to your
11 determination of whether this project complies
12 with the state rules and statutes and
13 regulations

14 MR WHITFIELD-CARGILE Same objection, Your Honor
15 THE COURT Is there some rule out there that sets
16 forth that the Army Corp's determination is
17 effective or a consideration or anything like
18 that in OCRM matters?

19 MR WALKER There is, Your Honor

20 MR CHANDLER News to me

21 MR WALKER In 2006, the General Assembly modified
22 or at least passed a new statute dealing with
23 decisions on permits by the Department of
24 Health and Environmental Control and --

25 THE COURT Act 387?

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1 MR WALKER (No response)
2 THE COURT Well, go ahead - ---- - - - -
3 MR WALKER It doesn't -- I'm sorry, yes, it's 387,
4 sections 53 and 57, and it's now codified at
5 40-1-60(D)
6 THE COURT 40-1 --
7 MR WHITFIELD-CARGILE Forty-four, isn't it?
8 MR WALKER Forty-four, excuse me, 44-1-60(D) And
9 that section states in part "In making a
10 staff decision on any permit, license,
11 certification or other approval, the Department
12 staff 'shall' take into consideration all
13 material, comments received in response to the
14 public notice 'in determining whether to issue,
15 deny or condition such permit, license,
16 certification or other approval At the time
17 that such staff decision is made, the
18 Department shall issue a Department decision
19 and shall base its Department decision on the
20 administrative record, which shall consist of
21 the application and supporting exhibits, all
22 public comments and submissions, and other
23 documents contained in the supporting file for
24 the permit, license, certification or other
25 approval "

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000625A

1 The Army Corps' determination, the U S Fish &
2 Wildlife letters, the DNR letter were all part
3 of this permit file and by statute, the staff
4 must take them into account in rendering its
5 decision

6 THE COURT All right And how do you know if it
7 was part of the permitting file?

8 MR WALKER They're stamped -- I did a FOI request
9 for the permitting file and it came back
10 OCRM-FOI On December 12, they produced it to
11 me as part of the permitting file and it's
12 stamped "Received DHEC-OCRM " There's no
13 dispute that it's not part of the permitting
14 file

15 THE COURT All right

16 MS ARMSTRONG Just because it's the basis of the
17 permitting file it doesn't mean that it's
18 automatically admissible It still has to, you
19 know, meet with the -- comply with the Rules of
20 Evidence

21 And the Department receives -- I mean, as Your
22 Honor is aware, numerous comments in response
23 to public notices Now, that doesn't mean that
24 they all just come in just because it's
25 something that the Department has to consider

1 And I think what you had asked was whether the
2 State has to consider a Corps decision in--
3 making its own decision I mean, that's not
4 written down anywhere I mean, these are -- it
5 has to consider comments that are submitted,
6 but it doesn't have to consider whether another
7 federal agency's made a decision on a permit
8 by -- under federal law or not

9 THE COURT Mr Whitfield-Cargile?

10 MR WHITFIELD-CARGILE I think it's admissible to
11 show that it was in the file and the Department
12 received it, but, otherwise, I don't think it
13 has any probative value whatsoever

14 THE COURT Well, this goes back to my -- or your
15 request to admit it under the hearsay rule
16 And so far, what my research has revealed is
17 that 803(8) is -- it says -- I don't remember
18 the book -- there's a book I've got on this
19 hearsay alone I don't have it in front of me,
20 but it explained how South Carolina's 803(8) is
21 far more restrictive than the other states and
22 more restrictive, excuse me, than the federal
23 rules
24 I'll tell you what I'd like to hear from you
25 right now, Mr Walker, is, it sets forth

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000625C

1 "However, in criminal cases, 'or criminal cases
2 and matters" --- which are probably not---
3 "observed by police officers and other law
4 enforcement" -- excuse me It's talking
5 about -- it's got "A" and "B" and then at the
6 end of "A" and "B" -- because it's got
7 activities of the officer, it's got --
8 "provided, however" -- that appears to apply to
9 both "A" and "B" -- "investigative notes
10 involving opinions, judgments or conclusion are
11 not admissible "
12 The commentary seems to suggest that South
13 Carolina is far more restrictive than everybody
14 else when it comes to the application of this
15 section And I would also add that had
16 McCormick explained that in making an
17 evaluation of introducing evidence in this
18 regard, that that treatise cited four things
19 that are to be considered pursuant to a Supreme
20 Court decision One of them is the -- I can't
21 find it right off
22 But my problem is, I just don't know if the
23 groundwork is laid for the content of this
24 document to come in And I don't think I've
25 got sufficient evidence for it to be a

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000625D

1 consideration necessarily in this court
2 Because I agree with you -- What Act 387 did is
3 it said that the staff must consider all
4 documents that are submitted to it, but Act 387
5 did not change the Rules of Evidence -- as a
6 matter of fact, it left it intact -- that exist
7 for this Court
8 So, it didn't allow that just hearsay documents
9 come into evidence as a matter of course So
10 I would allow that document in as part of being
11 the Agency file But unless you can correct me
12 to where I'm wrong from what I've been telling
13 you, I have trouble letting it in as far as
14 truth of the matter asserted

15 MR WALKER Well, Your Honor --

16 THE COURT Although, I do see -- you know, and I'll
17 add a little bit more When I was reading a
18 book on hearsay -- Binder I think is the name
19 of the author or that might may be the company
20 that put it out -- they went through each of
21 the levels and one of the levels it addressed
22 was judgments
23 I recognize that the Corps's determination is
24 getting close to a judgment on their behalf in
25 this regard, but it's still an agency

1 determination

2 So with all-that-said,-can you respond to that?

3 MR WALKER I think we're talking about two

4 separate but very closely related things

5 THE COURT I understand that

6 MR WALKER I asked Mr Bohannon if the Army Corps

7 of Engineers made a determination At that

8 moment, I was not asking him or attempting to

9 introduce the document

10 THE COURT Yeah

11 MR WALKER And he has firsthand knowledge that a

12 determination was made

13 THE COURT All right So let's stay on that as far

14 as relevancy, then

15 MR WALKER And that determination was also

16 something that was embodied in a letter that

17 was part of the permitting file By statute,

18 the Agency has to consider that letter in

19 making its determination For it to consider

20 a letter, it has to consider the contents of

21 the letter For their obligation to be legally

22 enforceable, they have to have some

23 accountability

24 In this case, one of our grounds for appeal is

25 that they acted arbitrarily and capriciously

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1 THE COURT But, see, that is an appellate ground
2 - for review Because, as I've said earlier, it
3 doesn't matter if they acted arbitrarily or
4 capriciously You come in, you prove your case
5 in this Court and what evidence you present in
6 this Court is where the final determination is
7 made, so --

8 MR WALKER I'm sorry, go ahead

9 THE COURT Even if they acted arbitrarily and
10 capriciously in their decision, they kind of
11 get -- I don't want to say they get away with
12 it

13 MR WALKER I think they do

14 THE COURT They get to come into this Court and
15 defend their decision, not upon that standard

16 MR WALKER The General Assembly said, "When you
17 make a decision, you have to make it based on
18 your record "
19 You've got a statutory obligation You've got
20 to do that This is a binding regulation If
21 they don't do that, they're in violation of
22 law
23 We're the applicant We're the one who's
24 prejudiced by their failure to do that We
25 need to have a right to enforce the law We

1 need to have a right that if they violate the
--2 --- , -- regulations to prove they violated the
3 regulations If we can't go into that in this
4 case, then what's happening, as you said, it's
5 just meaningless They get away with it
6 I don't think the legislature meant to say,
7 "Okay You at staff level, you have to decide
8 it on the permitting file, but then once you
9 decide it, there's no accountability and so
10 don't worry about it, nor can you be held to
11 the standard that we imposed on you "
12 I think the legislature intended that Your
13 Honor hold them -- that one of the
14 responsibilities and one of the review criteria
15 that you have is to hold them to the standard
16 I'm not saying it's the only one I think you
17 do, of course, hear it de novo I think you
18 determine whether they abided by this duty
19 de novo, but I don't think that we just throw
20 this in the trash and say they never had the
21 duty and it's irrelevant whether they acted on
22 the file or not We have the right to show
23 they violated law
24 And this shows -- we're going to get into it,
25 because what you'll see is that there was

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1 plenty in that permitting file that they

--2 --- -- consciously chose to disregard

3 THE COURT I think that's proper grounds for

4 impeachment, but --

5 MR WALKER It's also a violation of their duty

6 THE COURT Well, I'm just going to have to

7 respectfully disagree with you at this point in

8 time, Mr Walker

9 MR WALKER I understand

10 THE COURT I mean, the way I view the de novo level

11 of hearing, I think it works in your favor in

12 that you get to present all your evidence

13 And, as a matter of fact, there's going to be

14 some objections that they make down the road

15 concerning your witnesses and this de novo

16 thing is going to work against them But I

17 think on this one --

18 MR WALKER All right

19 THE COURT Let's talk about -- so the relevancy, as

20 far as you're setting forth, is that they were

21 required to consider that at staff level At

22 this point in time, I'll sustain the objection

23 MR WALKER May I obtain a response to whether or

24 not the Army Corps of Engineers, what their

25, determination was without putting in the

1 our Exhibits Eleven, Sixteen, Seventeen,

2 Twenty-one, Twenty-two, Twenty-three

3 Your Honor, I'm looking for the letter where

4 the permit was reinstated I don't see it, but

5 we will tender that in the record if we

6 don't -- haven't already done so

7 THE COURT So at this point in time, Exhibits

8 Eleven, Sixteen, Seventeen, Twenty-one,

9 Twenty-two, Twenty-three are admitted as

10 proffers

11 MR WALKER Are they -- may we also offer them as

12 part of the record that they're required to

13 consider to show what was in the record since

14 there was no dispute that they received it?

15 THE COURT Oh, they are also -- well, I did say

16 that they can be admitted as far as for the

17 limited purposes of --

18 MR WALKER Establishing the record

19 THE COURT -- the Agency record, yes

20 MR WALKER But not for the truth of the matter

21 stated

22 THE COURT Not for the truth of the matter stated

23 And are also admitted in regard to your proffer

24 as to the truth of the matters asserted Does

25 that cover it?

1 MR WALKER I think I see your ruling the same way

2 - THE COURT Okay You're not wanting to argue - - - - -

3 anything else, are you?

4 MS ARMSTRONG No, Your Honor

5 THE COURT Okay Since I ruled in your favor, I

6 don't want to mess it up at that point

7 MS ARMSTRONG Yeah

8 THE COURT All right

9 (KDP's Exhibit Numbers Eleven, Sixteen, Seventeen, -

10 Twenty-two, Twenty-three are admitted into evidence

11 as proffers)

12 Q Now, Mr Bohannon, during this permitting
13 process, did you periodically check with
14 persons at OCRM to see where in the hopper a
15 decision was?

16 A Yes, sir, we regularly contacted them to
17 find -- try to get a status report

18 Q Were you doing so in, say, the month of August?

19 A Yes, sir, I'm sure we did We did it quite
20 regularly I can't remember exact dates, but
21 we did it on a very frequent basis

22 Q And what did OCRM indicate to you?

23 A Well, we kept thinking they were going to give
24 us a decision anytime We thought that, I
25 guess, going back all the way to April We

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1 kept thinking anytime we were going to get a
2 decision -

3 It's kind of unusual when -- you know, the way
4 the process has worked in the past years when
5 you submit a permit, if there's questions or
6 concerns, that they would always ask you for
7 more information or call you and say, "I need
8 this or that " Other than the affidavit of
9 publication, which was inadvertently not sent
10 in, we never were asked for anything else So
11 we would have thought that there was a permit
12 being imminent since no questions were being
13 asked

14 Q Since there was no dredging involved in this
15 particular bulkhead application, what was your
16 understanding as to whether it was a minor or
17 major activity?

18 A We thought it was a minor activity

19 Q And what is the return time on a minor
20 activity?

21 A I think like 30 days, 15 days, 30 days

22 Q In September of 2002, did you write Bill Eiser
23 a letter?

24 A Yes, sir, I did, a quite lengthy letter

25 Q Would you turn to tab --

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1 A Twenty-nine

-- 2 Q -- Twenty-nine? What was your purpose for --- -- --
3 writing the letter?

4 A Well, we had not heard anything We kept being
5 promised an answer and we were not -- had not
6 heard anything and we kind of heard some rumors
7 through the grapevine that they have some
8 concerns about some things and so we tried to
9 answer what we had kind of heard through the
10 grape vine in this letter

11 Q Were you also obtaining copies of comment
12 letters that had come in after publicity about
13 this process in August?

14 A Yes

15 Q Was this letter of September 2 also in response
16 to some of those?

17 A Yes

18 Q When you wrote this letter of September 2nd,
19 did you put any enclosures in it?

20 A Yes, I did

21 Q What were you sending to OCRM?

22 A I sent them, if I remember, one of them was the
23 notice of withdrawal of the application for the
24 CBRA line adjustment, one of the things was a
25 report from Dr Oertel and Dr Basco I think

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1 I may have actually sent a copy of a letter
2 - either from the Town of Seabrook -- I'd have to
3 read this letter to be sure, but it was either
4 from the Town of -- it was essentially from
5 Seabrook, one of the representatives saying
6 they did not have an objection, either, if I --

7 Q Did you also enclose the letter from Dr Tim
8 Kana?

9 A Yes, that's the one I was referring to He
10 wrote that for Seabrook Island Property Owners
11 Association where he said, "I do not believe
12 the proposed structures will modify Captain
13 Sam's Inlet, it's hydraulics or migration
14 cycles "

15 Q Is the letter that you enclosed -- is there a
16 copy of it, Petitioner's Exhibit Thirty? If
17 you would turn from tab Twenty-nine to Thirty,
18 is that a copy of the letter that you're
19 referring to?

20 A Yes, it is

21 Q In this letter, did you respond to what you
22 felt were a number of inaccurate statements?

23 A Yes, sir, I did If you'd like me to elaborate
24 on those, I can There was some -- you know,
25 it's kind of one these things where people can

1 say anything they want to It doesn't have to
2 necessarily be substantiated And there was a
3 letter from South Carolina Department of
4 Natural Resources which said the permit was
5 unnecessary, but they never gave any
6 justification for why it was unnecessary And
7 all we asked for was if there was some
8 technical justification of why they thought it
9 was unnecessary for them to proffer that to us
10 so we could respond to it, which they did not
11 Fish & Wildlife service, again --

12 Q Let me ask you this Did you understand there
13 was still a concern about the effect on piping
14 plovers?

15 A Yes, I did

16 Q How did you believe that that had been
17 answered?

18 A Well, the U S Army Corps of Engineers had
19 asked the U S Fish & Wildlife Service to look
20 at that and the U S Fish & Wildlife Service
21 has done so and said --

22 MS ARMSTRONG Objection, Your Honor If he's
23 getting ready to -- he sounds like he's getting
24 ready to go into hearsay with what the Fish &
25 Wildlife Service said

1 MR WHITFIELD-CARGILE Same objection, Your Honor

- 2 MR---WALKER He's giving his explanation as to the -
3 basis for what he said in his letter as to why
4 there wasn't and should not be a concern about
5 piping plovers

6 MR WHITFIELD-CARGILE And, Your Honor, that
7 explanation is based in hearsay

8 THE COURT Yeah I think he can testify without
9 saying what they said in giving his
10 explanation, so

11 Q What was your -- without going into the words
12 of what U S Fish and -- without going into
13 anybody else's words, what was the rationale
14 and justification for your responding to any
15 concerns OCRM might have about piping plovers?

16 A Well, we had heard they had a concern about
17 piping plovers and we also --

18 MR WHITFIELD-CARGILE Object, Your Honor, that's
19 hearsay

20 THE WITNESS You're right, Your Honor My letter
21 was written -- again, if I could -- if you'd
22 beg my patience

23 Q Let me just rephrase it for you

24 THE COURT Well, he said the reason he did what he
25 did was because he had heard that there was

1 some concerns He's not testifying as to the
2 truth of the matter asserted --He's-testifying
3 that that's what he did

4 At this point in time, he's not going into
5 specifically what they said He's going into
6 explaining the reasons he did what he did,
7 so

8 MR WHITFIELD-CARGILE Your Honor, he said he heard
9 that they -- whatever he heard

10 THE COURT Had concerns He didn't go into the
11 specific hearsay testimony He's responding to
12 why he did what he did

13 MR WHITFIELD-CARGILE And he's saying he did that
14 based on what he heard

15 THE COURT Is that something that is prejudicial at
16 all to your case that you wish to object to?

17 MR WHITFIELD-CARGILE Your Honor, if we're going
18 to get into statements of what a federal agency
19 said without them being here to --

20 THE COURT I thought that was a state agency

21 MR WHITFIELD-CARGILE He was talking about Fish &
22 Wildlife, I believe, Your Honor

23 THE COURT Okay I'm not sure which -- I just
24 overrule your objection at this point in time

25 Q **Without going into any detail, has there been**

1 a determination by United States Fish &
2 Wildlife and/or the Corps that was your reason-----
3 for sending this letter?

4 A Yes We had -- again, we had heard that there
5 were concerns and so we wrote this letter
6 outlining that we had heard there were concerns
7 and if there were, you know, we told them what
8 he we had learned of the Army Corps of
9 Engineers and others that if they are real
10 concerns, please let us know, we'd like to
11 address them That was -- the whole intent of
12 this letter was -- just about three or four
13 pages was, we hear through the grapevine that
14 OCRM has these concerns, you will not respond
15 to us and tell us what your concerns are, but
16 please let us know what they are so we can
17 answer them

18 Q Was your response, one of your reasons for
19 writing this letter discussing plovers, in part
20 motivated by the letter of August 14th from the
21 United States Fish & Wildlife?

22 A Yes

23 MR WHITFIELD-CARGILE And, Your Honor, since he's
24 proffered that letter, I feel like I need to
25 reraise my objection for the record only coming

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1 in as inadmissible hearsay

2 THE COURT He didn't just admit the letter He
3 just referenced it I just overrule the
4 objection

5 Q Did you also at that time communicate to the
6 Agency that there had been a velocity study --
7 and I'm now referring to page three at the
8 top -- done by Applied Technology and
9 Management?

10 A Yes, sir Yes, sir, I did

11 Q And did you communicate in essence the
12 substance of what -- how that study did?

13 A Yes We, again, studied the velocities in the
14 river --

15 MR WHITFIELD-CARGILE Object, Your Honor He's
16 talking about a study by ATM That's hearsay
17 Whatever ATM -- the ATM's study is all hearsay
18 ATM's not here to respond

19 THE COURT Okay Rephrase

20 Q Did you enclose graphics from the ATM study as
21 can be seen in the attached two graphics?

22 A I think that I did I'm pretty sure I did

23 Q All right I'm going to ask you to go to page
24 28, at Exhibit Twenty-eight

25 THE COURT Petitioner's

1 MR WALKER Petitioner's Exhibit Twenty-eight I
2 don't have the color version of it - - - - -
3 Twenty-eight is two illustrations

4 Q Are those the two scour potential illustrations
5 that you enclosed with your letter?

6 A Yes

7 THE COURT Did you say Twenty-A?

8 MR WALKER Twenty-eight, I'm sorry

9 THE COURT So it's Petitioner's Twenty-eight, page
10 28

11 MR WALKER I'm sorry, it's Petitioner's --

12 THE COURT Twenty-eight

13 MR WALKER -- Twenty-eight and it's --

14 THE COURT Page --

15 MR WALKER It's page Bates stamped 287 and 288

16 THE COURT Okay

17 MR WALKER It's Petitioner's Exhibit Twenty-eight

18 THE COURT All right

19 Q Did those two exhibits show the scour
20 potential, the hot spots?

21 MR WHITFIELD-CARGILE Object, Your Honor

22 Q As an engineer --

23 MR WHITFIELD-CARGILE That's hearsay, Your Honor
24 That's a study prepared by ATM

25 MR WALKER I'm asking him what they showed

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1 Q Is this the type of material that you as an
2 -engineer designing revetment structures
3 typically rely on in designing a revetment?

4 A Yes, sir We have to rely on a lot of other
5 professionals to provide us information

6 Q Do you take into account studies of velocity
7 that are done by firms such as ATM when they
8 look at water velocities adjacent or close to
9 the structure you're designing?

10 A Yes, sir

11 Q Did you consider that in this case?

12 A Yes, sir

13 Q Did you provide that information to OCRM?

14 A Yes, sir, we did

15 Q Do you consider that information as an engineer
16 helpful to looking and analyzing the proposed
17 structure?

18 A Yes, sir

19 Q Do those illustrations show the variations in
20 velocity that indicate where certain, quote,
21 hot spots are?

22 A Yes, sir, they do

23 Q In this particular instance, for this
24 particular revetment, based on the materials
25 you received from ATM about the scour

1 potential, are the hot spots -- or, in other
2 words, is the water velocity the same-----
3 throughout the whole length of the revetment?

4 MS ARMSTRONG Objection, Your Honor

5 Q Is this something that you typically take into
6 account, relying on material -- findings of
7 velocity by entities such as ATM?

8 A Yes, sir, it is

9 THE COURT You want to ask the question again?

10 Q Mr Bohannon, based on the information that you
11 received from ATM about water velocities, do
12 you have an opinion as to whether the water
13 velocity that would be against this structure
14 is the same at all locations along its length?

15 THE COURT Did you have an objection,
16 Ms Armstrong?

17 MS ARMSTRONG Your Honor, it's just if he's going
18 to be testifying about -- it sounds like he's
19 getting ready to cross into hearsay, to me

20 THE COURT Well, the Rules of Evidence set forth
21 that he's been laying the groundwork on that,
22 that an expert can rely upon hearsay if it's
23 commonly relied upon in the field of the expert
24 in order for them to reach an opinion in the
25 area of their expertise

1 MS ARMSTRONG Right But if he's just reciting

2 the opinion that's in these documents, that's

3 not him coming up -- using these documents to

4 formulate his own opinion

5 THE COURT Well, I said if he's used it to

6 formulate his own opinion

7 MS ARMSTRONG Okay If it's his own opinion, then

8 I'll withdraw the objection

9 THE COURT All right

10 MR WHITFIELD-CARGILE Your Honor, I realize that

11 experts can rely upon hearsay in forming their

12 opinion, but I don't think you can -- this is

13 expertise beyond expertise of an engineer

14 This is expertise of some type of hydrologist,

15 I think

16 THE COURT Well, he's already testified that he

17 commonly relies upon this in reaching his

18 opinion, so

19 MR WHITFIELD-CARGILE I think if you go beyond the

20 scope of his expertise to hearsay within

21 someone else's expertise, I don't think that

22 that rule's that broad, you know, so I'll

23 continue to object

24 THE COURT I think I'll let the Rules of Evidence

25 speak for themselves If you could ask the

1 question again related to him reaching his
2 opinion

3 Q Do you have an opinion as to whether the water
4 velocity would be constant at all locations
5 across the length of this revetment?

6 A Yes, I do

7 Q What's that opinion?

8 A My opinion is that it will vary across the
9 length of this revetment

10 Q Do you have an opinion as to whether or not
11 most probably there would be concentrated areas
12 or hot spots at certain locations?

13 A Yes, I do And it is that there will be some
14 hot spots here or some areas of higher
15 velocity

16 Q Is that unusual in a river bend such as this on
17 an outer river bend of a tidal river such as
18 this?

19 A No, I don't think it's unusual

20 Q Would you expect to find it?

21 A You would expect to find varying velocities

22 Q Did you provide OCRM the information from ATM
23 indicating those hot spots?

24 A Yes

25 Q Going back to your letter where we started this

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1 side trip, which is Twenty-nine

2 MR WHITFIELD-CARGILE I'm sorry, Trenholm - - - - -

3 MR WALKER I'm sorry, did I misstate it?

4 MR WHITFIELD-CARGILE No, I just didn't hear you

5 MS ARMSTRONG Twenty-nine

6 MR WHITFIELD-CARGILE Twenty-nine?

7 MR WALKER It's Twenty-nine and I'm going to page
8 three

9 Q Mr Bohannon, at the conclusion of this letter
10 to Mr Eiser, did you open the door again or
11 did you make any offer with respect to
12 answering questions or cooperation?

13 A Yes, sir I can paraphrase

14 Q You can go ahead and --

15 A You want me to read it?

16 Q Yes

17 A What I said was, "We have attempted to address
18 all outstanding issues associated with this
19 permit request We believe we have done so
20 with substantial engineering and scientific
21 data We do not know of any outstanding issues
22 that have not been addressed and therefore look
23 forward to having the permit issued very soon
24 If there are issues that have not been
25 addressed that would prevent OCRM from issuing

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1 the permit, we request that OCRM inform us of
2 the issue immediately and we will address the
3 concern promptly, otherwise, we expect OCRM to
4 issue the permit very soon so that Kiawah
5 Development Partners can complete this most
6 urgent project " That was September 4th,
7 2008 -- excuse me, September 2nd, 2008

8 Q The final decision on the permit was issued
9 December 18, 2008 During that three month
10 period, did Mr Eiser or anybody else with OCRM
11 get back in response to your question to
12 indicate that they had any concerns or
13 questions or needed any more information?

14 A No, sir, no one from OCRM contacted me in that
15 entire period

16 Q If they had, would you have responded?

17 A We would have tried to do so immediately, just
18 like we did for the Corps when they asked us
19 to

20 MR WALKER Your Honor, we would offer into
21 evidence Exhibits Twenty-nine, Thirty and
22 Twenty-eight -- Twenty-eight, Twenty-nine, and
23 Thirty, which are the two pages from the ATM
24 showing the velocities and hot spots, scour
25 potential, the letter of Mr Bohannon that was

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1 enclosed in to the OCRM and the opinion of --
2 rather the letter of Tim Kana that was enclosed
3 in the letter of Mr Bohannon

4 MS ARMSTRONG Your Honor, I have an objection to
5 all three of those pieces of evidence coming
6 in I guess I'll just address them
7 individually Exhibit Number Twenty-eight was
8 the scour potentials that the ATM study that
9 Mr Bohannon testified that he relied on in
10 making his opinion
11 Now, I understand the Rules of Evidence allow
12 him to give his opinion if he based it on those
13 documents It doesn't make those documents
14 themselves admissible So I object to
15 Twenty-eight on those grounds Exhibit Number
16 Twenty-eight and Mr Bohannon's letter dated
17 September 2nd, 2008, I would object

18 THE COURT So what was the first one, then? I
19 thought he started at Twenty-eight

20 MS ARMSTRONG Twenty-nine I'm sorry, Your Honor
21 Exhibit Twenty-nine, the letter that
22 Mr Bohannon had wrote to the Agency I would
23 object to it coming in for the truth of the
24 matters asserted in the letter I wouldn't
25 object if Your Honor would admit that subject

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1 to the same ruling that you had -- that the
2 other exhibits yesterday on -- for notice and
3 inquiry, that the Agency had notice of their
4 concerns

5 THE COURT Okay

6 MS ARMSTRONG And then Exhibit Number Thirty
7 is a letter from Tim Kana, who's been
8 listed as a witness in this case, we
9 deposed last Friday, who I understand is
10 going to be testifying If they want to get
11 this letter in through him that would be the
12 appropriate source But right now it's hearsay
13 and we don't have an opportunity to
14 cross-examine Mr Kana on this letter and
15 also --

16 THE COURT Was that one submitted to the
17 Department?

18 MR WALKER It was, Your Honor

19 MS ARMSTRONG It was a letter submitted to the
20 Department Yes, it was submitted to the
21 Department

22 THE COURT So notice and inquiry on that one?

23 MS ARMSTRONG Notice -- I would agree to notice
24 and inquiry, but not for the truth of the
25 matters, yes

1 THE COURT Okay

2 MR WHITFIELD-CARGILE Same objections, Your Honor

3 THE COURT All right My understanding of the

4 rules is you proffered -- were allowed to let

5 him state his opinions upon hearsay, but my

6 readings of the case law that have addressed

7 that issue set forth that that doesn't --

8 although, I think there is a few states that

9 have gone otherwise, but the majority of the

10 states have set forth that the opinion itself

11 does not come into evidence for the truth of

12 the matter asserted

13 So based on my understanding on that, I sustain

14 the objection on Twenty-eight I admit for

15 notice and inquiry on both Twenty-nine and

16 Thirty and will hear you for the argument in

17 just a minute in that regard

18 MR WALKER The letter of Twenty-nine enclosed

19 Twenty-eight and Thirty

20 THE COURT Huh?

21 MR WALKER The letter that Mr Bohannon --

22 THE COURT Oh

23 MR WALKER -- enclosed both Twenty-nine and

24 Thirty

25 THE COURT Okay

1 MR WALKER So Twenty-nine went as an enclosure as

2 - - --page two of his letter --

3 THE COURT Well, then all of them would come in as
4 notice and inquiry

5 MR WALKER Thank you, Your Honor I don't want
6 to --

7 THE COURT I should have said that earlier, then

8 MR WALKER And I'm not waiving my earlier position
9 but I'm not going to impose on you anymore with
10 my position about this My earlier arguments
11 apply to these

12 THE COURT Refresh my recollection, your earlier
13 arguments

14 MR WALKER We believe they come in as part of the
15 administrative record --

16 THE COURT Okay I understand

17 MR WALKER -- and all that --

18 THE COURT Yeah

19 MR WALKER -- what I said before

20 THE COURT Okay

21 MR WALKER And since it's a new exhibit, I didn't
22 want to waive it by not imposing it

23 THE COURT I'll tell you what I'll just set forth
24 in the record every time I limit from now on
25 your admission to the Department's -- or

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000641D

1 exhibits that were submitted to the Department
2 and limiting it to notice and inquiry,--that-----
3 your objection that it comes in for the truth
4 of the matter asserted to establish that which
5 the Department should have considered is
6 preserved

7 MR WALKER Thank you

8 (KDP's Exhibit Numbers Twenty-eight, Twenty-nine and
9 Thirty were admitted into evidence)

10 Q As the point person for the applicant in this
11 case, did Bill Eiser or Barbara Neale or
12 anybody else with OCRM get in touch with you
13 before issuing their final decision about
14 whether they had concerns about perceived
15 negative cumulative impacts?

16 A No, sir, they did not

17 Q Did they ever get back to you to ask you to be
18 a conduit to obtain more information about
19 potential development out there?

20 A No, sir, they did not

21 Q Did they ever get back to you and express any
22 concerns about terrapins?

23 A No, sir

24 Q Or any animal other than piping plovers that
25 you had heard about a concern?

INADVERTENTLY
LEFT BLANK

1 A Well, they didn't even express those We just
-2 - heard they had a concern about those

3 Q Was there any animal that they got back to you
4 about stating that they had a concern that
5 there might be an adverse impact?

6 A No, sir

7 Q Mr Bohannon, in your many years of handling
8 applications like this for revetments and
9 bulkheads, has OCRM ever denied one in the
10 entirety like this -- I mean, denied one like
11 this where they only granted ten percent of the
12 requested revetment?

13 A Not to my recollection, no, sir

14 Q To your knowledge, has OCRM ever denied a
15 revetment or bulkhead permit in any of -- that
16 you've handled in part of wholly for negative
17 cumulative impacts?

18 A No, sir, I don't remember one

19 Q Mr Bohannon, you mentioned that your firm has
20 done other revetments on Kiawah including one
21 that involved articulated concrete block?

22 A Yes, sir

23 Q What would be the location of the articulated
24 concrete block revetment?

25 A On Governor's Drive on the inland side of

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1 Cinder Creek where Governor's Drive crosses --
2 it abuts Cinder Creek on one-side and one of
3 the lakes -- I forget the name of it -- Egret
4 Pond on the other side

5 Q Was the permit for that revetment approved by
6 OCRM?

7 A You know, I don't remember It probably -- if
8 the permit was required, it probably was That
9 was done a long, long time ago

10 Q All right Are you familiar with what that
11 looks like today?

12 A Yes, sir, I am, very familiar

13 Q Has vegetation -- what has vegetation done?

14 A It's completely covered it If you didn't know
15 that the revetment was there, you may not be
16 able to find it

17 Q I'm going to hand you a series of photographs
18 and ask you if you can identify those as
19 photographs of the area where the revetment is
20 on Cinder Creek at high side

21 A Yes, sir This is KDP1281-A and -- yes, it
22 is -- KDP1281-A, B, C, D, and E and F, yes

23 Q This is a high tide picture, so I need to ask
24 you whether or not the articulated concrete
25 block sticks above the high tide

1 A Yes

-- 2 - MR WALKER These are the photographs that I -- -- - - -
3 provided you yesterday afternoon

4 THE COURT Are you offering them?

5 MR WALKER I am, Your Honor We would offer them
6 as Plaintiff's Exhibit Seventy-six-A, B, C, D,
7 E and F Actually there's six pictures

8 MS ARMSTRONG Your Honor, I would object on
9 grounds of relevancy I don't know what these
10 pictures go to show These are -- it's an
11 entirely different location It's not -- I
12 mean, it's not even comparable to the outer
13 bend of an inlet/spit system It's pretty
14 clear just from looking at them it's a
15 different system entirely that we're looking
16 at, so I don't see how this is relevant at all
17 to the case that's before Your Honor today

18 MR WHITFIELD-CARGILE I would make the same
19 objection I would also add that we had
20 discovery requests and we issued a subpoena for
21 any photos of -- I can bring out my actual
22 discovery request --

23 MR WALKER I can respond to that, Davis

24 MR WHITFIELD-CARGILE -- that sets forth in my
25 motion to compel last weekend and the motion

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000645

1 for continuance

2 THE COURT All right - - - - -

3 MR WHITFIELD-CARGILE We just got these last
4 night, so

5 THE COURT You wish to respond?

6 MR WALKER Mr Permar took these photographs over
7 the weekend

8 MR PERMAR (Nods head affirmatively)

9 MR WALKER So they were taken over the weekend to
10 document the condition Also, I could do some
11 more examination of him about the location
12 which would bring up similarities to the
13 location

14 THE COURT Go ahead and lay a foundation on that

15 MR WALKER All right

16 Q You mentioned that this on Cinder Creek, is
17 that correct?

18 A It's on Governor's Drive, yes

19 Q But what is the body of water coming around?

20 A Cinder Creek

21 Q Is this the outer bend of Cinder Creek -- an
22 outer bend of Cinder Creek?

23 A There -- boy I think so

24 Q Let me ask you this Was there a problem with
25 erosion at this location?

1 A Yes, there was a problem with erosion

2 Q Was it severe? -----

3 A Yes, it was severe That was the reason for
4 the articulated concrete block revetment

5 Q Has the articulated concrete block revetment
6 performed as intended?

7 A It's been exemplary I mean, it stopped the
8 erosion and now we've got natural vegetation
9 growing there

10 Q Is there a lot of water flowing through Cinder
11 Creek at this location?

12 A There was There was a lot of high -- if I
13 remember, there was a lot of high tide erosion
14 that was occurring there

15 Q Do you believe this is a fair representation of
16 an instance where ACB has worked well?

17 A Yes, I do

18 Q Do you believe that it would work in a
19 comparable way, in a similar way, if the permit
20 is granted and it's installed along the bank of
21 the Kiawah River?

22 A Yes, sir That's, in fact, why we recommended
23 it to our client

24 Q Did you actually have this particular ACB mat
25 in mind when you made the recommendation about

1 materials to KDP?

2 A - Specifically this one and the one on Daniel
3 Island, yes

4 MS ARMSTRONG Your Honor, I have additional
5 grounds for objection now I mean, this is --
6 we don't have any idea where this is I mean,
7 we have no chance to do any discovery I
8 mean, I'm feeling a little ambushed by
9 photographs from an area where I don't know
10 where it is I haven't had any chance to do
11 any discovery of my own, any research
12 investigation to figure out what these
13 photographs mean and how to cross-examine this
14 witness on them I mean --

15 MR CHANDLER We got them last night
16 We couldn't --

17 MS ARMSTRONG We got the pictures last night I
18 mean, we've had continual discovery problems in
19 this case and getting these brand new
20 photographs last night, the League is feeling
21 substantially prejudiced by these

22 MR WHITFIELD-CARGILE I make the same objection
23 THE COURT I'm going to sustain the objection on
24 this since it was --

25 MR WALKER May I make a proffer of them?

1 THE COURT Yes As a matter of fact, Petitioner's
2 Seventy-six A through F is admitted-as-a-----
3 proffer

4 (KDP's Exhibit Numbers Seventy-six A through F were
5 admitted as proffered)

6 MR WALKER Your Honor, I have a couple of more
7 questions with respect to the proffer May I
8 ask them?

9 THE COURT All right

10 MR WHITFIELD-CARGILE I just want to get on the
11 record, I also have an objection as to
12 authenticity of these photos

13 MR BOHANNON - PROFFERED DIRECT EXAMINATION BY MR
14 WALKER

15 Q Mr Bohannon, have you recently been out to the
16 area that is photographed in -- or illustrated,
17 shown in the photographs that are marked as
18 Seventy-six-A through F?

19 A I have been to that area, yes

20 Q Do these photographs fairly and accurately
21 illustrate the existing conditions out there at
22 high tide as you have observed it?

23 A Yes, sir, as I've observed it they do

24 Q I would like you, with this marker, to show how
25 high the articulated concrete block comes since

1 it's a high tide photograph

2 --- A --- (Witness complies) If I recall --

3 MS ARMSTRONG Your Honor, can we just make it
4 clear for the record that this is still part of
5 the proffer?

6 THE COURT He said this was still part

7 MS ARMSTRONG All right Thank you, Your Honor

8 A As I recall, it comes to about right along in
9 here

10 Q Did you mark that with a pink magic marker --

11 A I did

12 Q -- on Seventy-six-A?

13 A I did

14 Q What has been your experience from observing
15 these articulated concrete block mats as to
16 whether they usually serve as -- whether
17 marsh grass and needle grass will grow in
18 them?

19 THE COURT You're moving away from the proffer now?

20 MR WALKER Yeah Thank you, Your Honor

21 MS ARMSTRONG Okay Could you repeat the
22 question?

23 MR WALKER I will

24 MS ARMSTRONG Thank you, Your Honor

25 MR BOHANNON - DIRECT EXAMINATION (Continued) BY MR

1 WALKER

2 Q Based on your observations at the locations
3 where you've put this, have needle grass, marsh
4 grass and other marsh vegetation grown in the
5 holes in the block?

6 A Natural vegetation has grown in the holes in
7 the blocks in those, yes, including marsh
8 grass, some upland species, as well

9 MR WALKER One moment, Your Honor
10 That's all we have at this time

11 THE COURT Ms Armstrong or Chandler

12 MS ARMSTRONG Thank you, Your Honor

13 MR BOHANNON - CROSS-EXAMINATION BY MS ARMSTRONG

14 Q Mr Bohannon, are you familiar with the
15 revetment on Bass Creek?

16 A Yes, I am

17 Q Is that something that Thomas & Hutton have
18 worked on, that project?

19 A We designed the original revetment there, yes

20 Q And the original revetment being a rock
21 revetment structure?

22 A It was a rock revetment, yes

23 Q So there's a concrete block structure on Bass
24 Creek right now Did Thomas & Hutton, did they
25 work on obtaining a permit for that structure?

1 A We did not do that

2 Q Okay Have you seen that structure on-Bass - - - - -
3 Creek?

4 A I have seen it I don't remember it that well,
5 but I have seen it, yes

6 Q Would you describe it as an articulated
7 concrete block?

8 A I don't think it is I think it was one of
9 those fiber form mats, I think If I remember,
10 it's one of those fiber forms that you pump
11 concrete in

12 Q Okay

13 A I could be mistaken, but that's my
14 recollection

15 Q All right Now, do you have the Exhibit
16 Seventy-five in front of you, the series of
17 photographs that you took out on the site?

18 A Is that the one that's marked KDP1280?

19 Q Right

20 A Yes

21 MS ARMSTRONG Your Honor, could we approach the
22 bench for a moment with Seventy-five
23 Is that what you've got?

24 THE WITNESS Yes

25 THE COURT Yeah

1 Q Okay Let me just stand right there so the
2 Judge can see okay And if you will, flip to
3 Seventy-five-F

4 A Okay

5 Q Let's just hold this up so the Judge can see
6 it Now, where you're standing, you're
7 standing on the bank of the Kiawah River,
8 right?

9 A Correct

10 Q And you're standing right at the edge where the
11 revetment would end, is that right?

12 A Correct

13 Q Okay And so the entire area behind you
14 wrapping around -- if you're looking at the
15 photograph -- around to the left, going all the
16 way around that bend almost to the end of the
17 photograph, is that about the approximate
18 length of the revetment?

19 A Yes I don't think it quite gets to the end of
20 it I think the park goes -- I think it
21 extends a little bit farther,

22 Q But pretty close to that?

23 A Pretty close Reasonably close

24 Q Okay

25 A Uh-huh (affirmatively responds)

1 Q So we're going to have a 40-foot wide concrete
2 block mattress that's going to go all-along- ---
3 that entire area, is that right?

4 A Right Correct

5 Q Okay And if you'll look at photograph number
6 Seventy-five-C

7 A C?

8 Q Uh-huh (affirmatively responds) Do you see
9 the -- there's kind of some little stakes with
10 a little flagging on them Do you see them on
11 that picture?

12 A Yes, I do

13 Q I'm going to show you what's been marked as
14 Exhibit Ten-E and ask you, do you see what
15 appears to be the same little staked area
16 (tendering)?

17 A (Perusing)

18 Q If you compare the contours, are you able to
19 identify that as the same area?

20 A You know, I really can't I mean, it could be,
21 but I don't remember if there were more than
22 one of those out there or not, so I just don't
23 know

24 Q All right That's fine You can have a seat
25 You've got the original

1 A (Witness complies)

2 Q --- And you said that that structure is -- as y'all
3 designed it, it's going to be 40-feet wide, is
4 that right?

5 A Right

6 Q Do you have a copy of DHEC Exhibit Twenty?

7 A I don't know

8 Q It was admitted into evidence yesterday I'm
9 not sure where that might be It's a copy of
10 this PowerPoint presentation This is what it
11 looks like on the front

12 MS ARMSTRONG If it's all right with the parties,
13 I've got a copy of Exhibit Twenty Can I just
14 hand him a copy?

15 MR WALKER That's fine

16 MS ARMSTRONG Actually, I'd like to -- if you
17 don't mind, Your Honor, I'm going to share with
18 the witness since I've only got one copy

19 Q Now, you're -- I want you to look at Exhibit
20 Twenty This was admitted yesterday as a study
21 by Dr Oertel and Dr Basco

22 A Okay

23 Q And their advice, they actually recommend that
24 the mattress be increased from 40 feet to 60
25 feet out into the river, isn't that true?

1 A Yes

2 Q Okay And don't they actually also recommend
3 that training jetties are installed to prevent
4 any toe scour from occurring?

5 A Yes

6 Q Okay And they actually designed some --
7 presented designs of what those training
8 jetties would look like, didn't they?

9 A I would really call those concepts, I wouldn't
10 call those designs

11 Q So on the bottom of page seven on that exhibit,
12 when they've got structures that are extending
13 into the Kiawah River that are identified as
14 300 feet in length extending 125 feet out from
15 the river in one location and then another
16 structure, can you tell what the measurements
17 are on that structure?

18 A It's 100 feet on one leg and 50 feet on the
19 other leg -- 150, excuse me, on the other leg

20 Q A those structures would be extending out into
21 the Kiawah River

22 MR WALKER Objection, Your Honor

23 Q Isn't that right?

24 A Yes

25 THE COURT Whoa Let me deal with the objection

1 MR WALKER Relevance Mr Long has said that
2 -- they're not seeking an application for training --
3 jetties There's no application for training
4 jetties before this Court It has nothing to
5 do with the determination of whether to grant
6 the revetment

7 THE COURT Response?

8 MS ARMSTRONG Well, I think they're relevant
9 because there are recommendations made by their
10 experts on how this structure is going to be --
11 what needs to be done to this structure to make
12 sure that it will be able to maintain its
13 integrity
14 Now, Mr Bohannon's testified already about
15 whether this structure is going to perform as
16 function and when their own expert reports that
17 he's --

18 THE COURT I overrule the objection Go ahead

19 MS ARMSTRONG So I think I might have gotten where
20 I needed to go with this witness, but just to
21 kind of cap -- recap

22 Q The training jetties that were presented were
23 an idea that the recommendation by Oertel and
24 Basco to address the potential toe scour, is
25 that true?

1 A Yes

2 Q Now, if one wanted to see the most detailed
3 drawing that Thomas & Hutton has made, would it
4 be the drawings in the permit application, is
5 that true?

6 A I believe so, yes

7 Q So sheet seven of seven on the permit
8 application -- have you got that in front of
9 you? I believe it's Exhibit Number Eleven

10 A The Corps of Engineers permit?

11 Q Wait just a minute to find that

12 A It is Corps of Engineers permit, yes

13 THE COURT You want him to talk about that?

14 MS ARMSTRONG No, not the Corps It's actually
15 Forty-four, Exhibit Number Forty-four

16 THE COURT I kind of sensed a door opening there

17 MS ARMSTRONG I'm closing it as quickly as I can,
18 Your Honor

19 Q So --

20 A Forty-four?

21 Q Yeah, Exhibit Forty-four If you look on sheet
22 seven of seven -- it's identified as seven of
23 seven on the upper right-hand corner of your --

24 A Yes, sheet nine of eleven of the permit?

25 Q Right That's right And that actually shows

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1 a vertical wall that would be extending up from
2 the revetment, is that right? - - - - -

3 A Yes, it does It says -- actually what it
4 shows is a retaining wall and it says "top
5 elevation varies, to be determined by
6 topography and final engineering design," like
7 I described to the Judge earlier

8 Q Okay But there would be -- you testified that
9 there might be about a thousand feet where
10 there wouldn't be a vertical bulkhead That
11 leaves another 1800 feet where there would be
12 a vertical, straight up and down area between
13 the top elevation of the revetment and the
14 actual high ground, is that accurate?

15 A Yes In general terms, yes

16 Q Okay Mr Walker was asking you about whether
17 you've ever had a bulkhead permit applied for
18 I just want to make sure it's clear You've
19 never actually applied for a bulkhead permit,
20 revetment permit, that is anywhere near 2800
21 feet in length, have you?

22 THE WITNESS Your Honor, we actually designed one
23 on Daufuskie that was pretty long at Melrose
24 I don't know the exact length, but it was along
25 an entire fairway, which is three, 400 yards,

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1 so it was, you know, in that range

2 Q What's the longest bulkhead permit application
3 you've ever applied for?

4 A You know, I really don't know

5 Q What about the one that you were speaking about
6 on Cinder Creek, notwithstanding my objection
7 to the admission of those photographs, how long
8 was that structure?

9 A I think it's a few hundred feet

10 MS ARMSTRONG Beg the Court's indulgence for just
11 a minute

12 Q Mr Bohannon, the structure being proposed is
13 2,783 feet, isn't that true?

14 A Correct

15 Q Okay And it would be 40 feet wide --

16 A Right Correct

17 Q -- out into the channel, right?

18 A (Nods head affirmatively)

19 Q Can you calculate how many square feet that is
20 for me?

21 A I could, but I don't have a calculator I used
22 to be able to do it in my head a long time ago,
23 but --

24 Q How about a pen and a piece of paper?

25 A Sure I could still do long multiplication

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1 I could turn my cell phone on and do it with my
2 calculator there, but it might ring ----- --

3 THE COURT You can go ahead and turn it on for
4 that

5 MS ARMSTRONG I don't have a problem --

6 THE COURT Go ahead and turn it on

7 MS ARMSTRONG I don't have a problem with that at
8 all, Your Honor

9 THE WITNESS What was that number?

10 MS ARMSTRONG 2,783 feet in length by 40 feet in
11 width

12 THE WITNESS I got just a slight problem, Your
13 Honor I don't use this thing very much

14 THE COURT Well, I think star is multiply

15 THE WITNESS Well, I keep mashing that and it
16 doesn't seem to want to do that for me for some
17 reason

18 MS ARMSTRONG I mean, it's not --

19 THE WITNESS I'm sorry

20 Q It's not too difficult I mean, I think I can
21 give you a sheet of paper I mean, being an
22 engineer, you work with numbers a lot, don't
23 you, Mr Bohannon?

24 A I do Let me turn this back off Sorry
25 Okay 2,783 times -- if I did that right, it's

1 111,320 square feet

2 Q --- Okay And so that's the total amount of --
3 that's the area that will be taken up by the
4 revetment structure, is that right?

5 A Pretty much

6 Q Okay And how many square feet are there in an
7 acre?

8 A Forty-two thousand two hundred and fifty

9 Q And so that's about how many acres? Can you --
10 I know the math is a little bit longer there,
11 but

12 A A little less than three acres

13 Q A little less than three acres So this
14 structure is actually going to be on a little
15 less than three acres of beach area that's
16 between the mean high watermark and mean low
17 watermark, is that true?

18 A Of shoreline, yes

19 MS ARMSTRONG I don't have any other questions,
20 Your Honor

21 THE COURT Mr Whitfield-Cargile?

22 MR WHITFIELD-CARGILE Yes, Your Honor

23 Oh, I'm sorry Beg the Court's indulgence one
24 minute Not as organized as I should and I
25 apologize

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1 MR BOHANNON - CROSS-EXAMINATION BY MR

2 WHITFIELD-CARGILE - - - - -

3 Q Mr Bohannon, I'm going to show you what's --

4 MR WHITFIELD-CARGILE Sorry, can we mark this

5 as --

6 (Off the record)

7 MR WALKER What exhibit number is this?

8 THE COURT Well, apparently they're not marked yet

9 MR WHITFIELD-CARGILE They're not marked yet I

10 apologize

11 (Off the record)

12 MR WHITFIELD-CARGILE Trenholm, I just gave you

13 Sixty-four And, Your Honor, I appreciate your

14 patience I apologize for my delay

15 MR WALKER So Sixty-four is this e-mail that at

16 the top says Monday, September 29?

17 MR WHITFIELD-CARGILE Yes

18 MR WALKER Sixty-four

19 Q I'm going to show you Exhibit Sixty-four And

20 in Sixty-four -- well, earlier you were making

21 the big fuss out of the permitting delay by the

22 Department, right?

23 A Yes, sir

24 Q And you said that you expected a decision any

25 day, right?

1 A Yes, sir

-- -2- Q But, in reality, you understand that there's no -- - - - -
3 statute or regulation that says that if you
4 don't get your decision in 60 days that you're
5 entitled to a permit, right?

6 A I understand that's the case, yes

7 Q Okay And y'all's strategy is to hype up that
8 issue to try to take away from the substantive
9 issues in the statute, right?

10 MR WALKER Object to the question completely

11 He's asking about the strategy I think he's
12 asking the witness --

13 THE COURT I'll sustain --

14 MR WHITFIELD-CARGILE I'll withdraw the question,
15 Your Honor

16 Q We're talking -- how much did you -- how much
17 is this project going to cost?

18 A Wow I've forgotten Leonard wouldn't forget,
19 but I've forgotten

20 MR WHITFIELD-CARGILE This is Sixty-three

21 MS ARMSTRONG Is this Sixty-three?

22 MR WHITFIELD-CARGILE Sixty-three

23 Q You don't know?

24 A I don't remember

25 Q Okay Is it going to be in the range of \$5 5

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1 million?

2 A That could -- very well could be, yes

3 Q I'm going to give you Exhibit Number --

4 MR WHITFIELD-CARGILE Your Honor, I'll move for

5 the admission of Sixty-four into evidence

6 Are you going to have an objection to

7 Sixty-four, Trenholm?

8 MR WALKER No objection

9 MR WHITFIELD-CARGILE Okay

10 THE COURT Ms Armstrong?

11 MS ARMSTRONG No objection, Your Honor

12 THE COURT It's admitted

13 (DHEC's Exhibit Number Sixty-four was admitted into
14 evidence)

15 Q And Sixty-three What's Sixty-three?

16 A (Reading)

17 Q Is that a draft e-mail that you wrote?

18 A Yes, it is

19 Q And is this in response to an e-mail from
20 Leonard Long?

21 A Yes, it is

22 Q And does Leonard Long state in that e-mail that
23 they -- at the cost that you've quoted them,
24 that even if they win this appeal, they can't
25 build this revetment?

1 A It says that

2 Q Okay And the solution that you've proposed in --
3 your draft is reducing the level of protection
4 that the final revetment would have, is that
5 right?

6 A Could I read this first?

7 Q Well, I withdraw that question So, as it's
8 designed and as you've quoted it, Leonard Long
9 has indicated to you that they can't even build
10 a revetment if they win this appeal, is that
11 right?

12 A That's what this e-mail says

13 Q Okay But, yet, there's a huge hurry to get a
14 decision, is that right?

15 A Yes, we would like a decision very quickly

16 Q Even though you're not going to do anything
17 with the -- you're not going to actually build
18 a revetment

19 A I think the -- all indications that I got from
20 my client is his intent is to build this as
21 quickly as he gets the permit

22 Q Okay Is Exhibit Sixty-three an accurate
23 reflection of an e-mail you drafted to Leonard
24 Long?

25 A I drafted this e-mail

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1 Q And is the e-mail attached to that an accurate
2 depiction of an e-mail you received from
3 Leonard Long?

4 A Yes, it is

5 Q In January 2009?

6 A Yes

7 MR WHITFIELD-CARGILE Okay I'd move for the
8 admission of Sixty-three, Your Honor

9 MR WALKER No objection, Your Honor

10 MS ARMSTRONG No objection, Your Honor

11 THE COURT It's admitted

12 (DHEC's Exhibit Number Sixty-three was admitted into
13 evidence)

14 MR WHITFIELD-CARGILE Your Honor, at this time I'd
15 like to question the witness regarding Exhibit
16 Seventy-six because it's been proffered, but
17 I'm not withdrawing my objection to these
18 photos coming in

19 THE COURT It's been proffered, so it's not even in
20 evidence But you want to question him about
21 it? There's a certain point in time when I
22 think the Court's time is being wasted

23 MR WHITFIELD-CARGILE Well, I'm certainly not
24 trying to waste the Court's time, Your Honor,
25 but -- I'll tell you what

1 THE COURT I'll just ask, what's the purpose?

2 MR WHITFIELD-CARGILE I'll think about-that, Your

3 Honor I might not -- that might not be

4 necessary

5 Q You said you recommended hiring Drs Oertel and

6 Basco?

7 A Yes

8 Q Was that you specifically recommending them or

9 was that Patrick Rogers that made that

10 recommendation to you?

11 A I believe it was me

12 Q Okay Are you aware of Patrick Rogers is a

13 student of Dr Basco?

14 A He's a student of Dr Basco?

15 Q I'm asking if you're aware if he was at the

16 time y'all obtained Dr Basco

17 A No, I was not

18 Q Okay

19 A I'm still not sure he was a student of

20 Dr Basco

21 Q You said you came with the 2,783-foot figure by

22 looking at where there was a scarp line?

23 A Yes

24 Q So if there's a scarp line, you want a

25 40-foot-wide revetment?

1 A Yes, correct

2 Q Did you have any studies that said that you
3 need a 2,783-foot scarp line before you applied
4 for that?

5 A There was some studies that Dr Oertel and
6 Dr Basco had done

7 Q But they didn't recommend 2,783 feet of
8 revetment, did they?

9 A I don't think they made an exact recommendation
10 on the linear footage of it

11 Q All right One of the reasons you say you need
12 a revetment where this site is, or the neck of
13 the river, is because of the velocities of the
14 river that are eroding the bank, is that right?

15 A Right, and that was confirmed -- actually, the
16 exhibit that Ms Armstrong objected to is the
17 one that actually graphically displays that
18 information

19 MR WHITFIELD-CARGILE Well, I'm going to ask the
20 Court to strike his statements of what that
21 report said That was nonresponsive to my
22 question I was asking him if that was the
23 basis of the revetment and I'm going to take
24 that somewhere else

25 THE COURT I'll sustain that

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1 Q You say that marsh grass can grow in the
2 concrete blocks? - - -

3 A I have seen evidence -- I've seen other of
4 these ACB mats we've put in where marsh grass
5 grows -- marsh grass, as well as other
6 vegetation grows in them

7 Q There's no vegetation on that sandy bank right
8 now, is there?

9 A There is some down near the park, yes

10 Q But where you're proposing the revetment,
11 there's no vegetation, really

12 A We don't propose to put it on the vegetation,
13 but there -- in some of the area where the
14 revetment is proposed, there is marsh between
15 the edge of the escarpment and the creek

16 Q Well, let's look at -- do you have Exhibit
17 Seventy-five-C in front of you? It wasn't C
18 Seventy-five-D, do you have that in front of
19 you?

20 A Seventy-five-B, yes, sir, I do

21 Q And if we can kind of show this to the Judge
22 There's no -- the revetment is going to go from
23 the scarp line all the way down to just below
24 mean low water, right?

25 A That's correct

1 Q Okay And there's no vegetation between the
2 scarp line and just below mean low-water, is there?
3

4 A That's correct

5 Q And is one of the reasons there's no vegetation
6 is because of the velocities on that river? It
7 doesn't allow vegetation to grow, does it?

8 A You know, I'm not absolutely certain whether
9 there is or not You know, one of our hopes is
10 we're going to put this in and we believe that
11 very likely it will filled with sand and just
12 sand would cover it, just like in other places
13 marsh mud has covered it and Spartina has
14 covered it

15 I mean, the great thing about this stuff is,
16 when we put it in, it's become naturalized
17 And so we thought, in this instance, the
18 greatest opportunity we had to protect this
19 bank and to preserve as much of the natural
20 environment as we could is use this product
21 That's why we selected it

22 Q But the concrete block sitting on the shore
23 isn't going to slow down the velocity of the
24 river, is it?

25 A I'm sorry, I'm not sure what you said

1 Q The concrete block sitting on the shore isn't
2 going to slow-down the velocity of the river,
3 is it?

4 A No

5 Q Okay So there's still going to be a problem
6 with trying to get something to grow in there,
7 concrete block or not

8 A But it could very well trap the sand Again,
9 this thing is -- if you've ever seen one, it
10 has all these hollow voids in it and we believe
11 and hope that it's going to trap the sand

12 Q Well, there's sand there now, isn't there?

13 A Yes

14 Q Okay And there's nothing growing in that sand
15 now, is there?

16 A Not in the picture you're referring to

17 Q Okay You said that you've presented a
18 complete solution to the erosion problem here,
19 right?

20 A Yes

21 Q But you've -- as Ms Armstrong pointed out, you
22 haven't followed the advice of Drs Oertel and
23 Basco and applied for training jetties and
24 lengthened the length of the mattress, right?

25 A We have not applied for training jetties nor

1 have we applied to lengthen the mat

2 Q I think you said either today or in-your-----
3 deposition that you can kind of take the
4 wait-and-see approach and see if you need them
5 later

6 A Yes

7 THE WITNESS Your Honor, if I could tell you what
8 we propose is, we think we should put it in --
9 again, this is what we do at Kiawah We try to
10 take the minimal approach
11 We believe based on all we've done this is --
12 has a high degree of success We believe it's
13 going to be adequate We also think there
14 could be some hot spots along there where we
15 have some accelerated erosion at the end of
16 that revetment And we believe the proper
17 thing to do is to put this in, to monitor it
18 If we have to come back in a few years and ask
19 for a permit to extend this -- and we think at
20 that time we could put riprap down at that end
21 because it will be a lot less expensive and
22 easier to do, but would by and large protect
23 it, that that would be a proper course of
24 action, not only for our client, because it
25 would be a good thing to do from an economical

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1 standpoint, but also that we wouldn't armor any
- 2 --- -- more of the shore than we'd have to That's
3 what we'd like to do and that's what we've said
4 all along, we've been consistent in that
5 That's what -- you know, we want to protect the
6 bank, we want to do it in the best way we can

7 Q Taking a wait-and-see approach isn't exactly
8 putting forth a comprehensive solution to
9 erosion, is it?

10 A Well, we could have asked for a permit to armor
11 the entire river, from one side to the other
12 That would have been -- I mean, to an extreme,
13 that would have been a complete way to do that
14 But, again, we believe based on the information
15 we had that we've taken the correct approach
16 and then we stand by that approach

17 Q Then you agree that training jetties is kind of
18 an extreme -- you said they're ugly

19 A You know, what I liken it to is that -- again,
20 I'll go back to that period from 1985 to 1988
21 I was asked -- we were asked to design a bridge
22 at Kiawah The folks who were in control then
23 wanted us to put a Jersey rail on the bridge
24 I told my partners that we were going to get
25 fired over this job because we have somebody

1 recommending a solution that's not in
2 accordance with things at Kiawah - -
3 We fought tooth and nail with the then
4 administration to get a timber guard rail on
5 the bridge because it was consistent with
6 Kiawah
7 The training jetties just -- if we absolutely
8 have to have them, if we go out there and we
9 keep monitoring this and it's just clear we
10 have to have them, then that's the only
11 solution, then that's what we have to have
12 But my preference is to take the kind of track
13 and course of action we've always taken at
14 Kiawah, which is let's try an approach that we
15 believe is going to solve the problem and --
16 from the minimalist perspective, and then if we
17 have to come back and do something a little
18 more hard infrastructure later, we'll come back
19 and do that

20 THE WITNESS And that's, Your Honor, what I want --
21 what I recommend and hope that the courts would
22 allow us to do in this case

23 Q Mr Bohannon, I want to get back to my
24 question You said that -- I've forgotten my
25 question Oh, training jetties You don't

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1 want training jetties because they're not
-- -2-- consistent with Kiawah's plan for protecting-- - - - -
3 the general pristineness of the area, is that
4 right? You said you'd get fired if you
5 recommended training jetties Is that what you
6 just told the Judge?

7 A I didn't say that

8 THE COURT I think he was talking about the Jersey
9 rail at that point in time

10 Q And you were comparing that to this situation

11 A In my comparison, what I was trying to convey
12 was that this is certainly a solution and it's
13 more of a conventional, traditional, hard
14 engineering solution and I'd like to take a
15 wait-and-see attitude on it

16 Q Okay But you agree that if you had to get
17 training jetties, that they're huge structures
18 that go out in the middle of the river, right?

19 A They don't necessarily have to be You know,
20 if we have to get to that point, you know, I
21 would propose -- if we get to that point and we
22 really feel like we need training jetties, and
23 again that's assuming this permit gets issued,
24 we get this thing built and we're three, four,
25 five years down the road, what I'd propose

1 starting with is something shallower that
2 stayed below water maybe so it's -- so you
3 don't see it It's just like the storm pipes
4 You don't see any drainage pipes at Kiawah We
5 hide them all We try to -- we put in the
6 infrastructure that we need, but we try to make
7 it so that we -- that man doesn't see those
8 things And so, again, I don't want to do it
9 If we have to, we will, and we'll try to do it
10 in a way that's in keeping with the ambiance
11 that we do at Kiawah

12 Q Exhibit Twenty's up there, I hope

13 MR WHITFIELD-CARGILE Do you have it?

14 MS ARMSTRONG No

15 MR WHITFIELD-CARGILE I have to find the original

16 Q But if we can look at Exhibit Twenty, a copy of
17 it This is the PowerPoint If you open that
18 up to page seven, it's got what a training
19 jetty would look like, right?

20 A No, sir, it doesn't It has -- that is a
21 schematic of a potential location for a
22 training jetty, which is the same exhibit that
23 Ms Armstrong referred to later -- earlier, I
24 mean

25 Q And these training jetties stick out into the

1 river and they block navigation, right?

2 A I wouldn't say they block navigation --The-- ---- -
3 purpose is to direct water flow away from the
4 bank so that you decrease the velocities along
5 the edge of the bank

6 Q Okay They stick out into the channel, right?
7 They don't stick to the shore

8 A I don't think they stick out into the channel
9 They stick out in the river a little bit, but
10 they certainly don't go down to the channel

11 Q They stick out towards the channel in the
12 river

13 A Yes, sir, they do stick out towards the
14 channel, but not in the channel

15 Q Okay He's got a length on here One of them,
16 the one on the western side looks like it would
17 be 500 feet Can you see that? Or is that 300
18 feet? It's kind of hard to read

19 A I think that's 300 If you look at this,
20 that's 150, and based on that being -- that 150
21 and 150, it looks like that's about the same,
22 which I'm going to guess is 300

23 Q So the one on the western side is 300 feet just
24 straight sticking out diagonally from the shore
25 and then on the far eastern side, there's

1 another one that's kind of like a "Y" and it's
2 got 150 feet, 100 feet, and then a little stem
3 that sticks out, looks like it's 50 feet, is
4 that right?

5 A I think there's 150 on each side, if I read
6 that correctly Could be 100, but I believe
7 it's 150 on each side

8 Q What are training jetties made of?

9 A You can make them of -- more than likely they
10 would be made of -- you can make them out of
11 timber, drive timber in the ground to make
12 them You could put concrete piles in You
13 could do steel piles You could use riprap
14 Again, it's anything that would prevent the
15 flow or redirect the flow of water Not
16 prevent but redirect the flow of water

17 Q At your deposition, do you remember saying
18 they're ugly?

19 A Yes I've never seen one -- a pretty one yet

20 Q So in the context of -- or the cumulative
21 effects, if you're just looking at in the
22 context of other potential erosion control
23 structures, even your own experts says there's
24 going to be significant more impacts on the
25 river

1 A I'm sorry, I didn't understand that

2 Q Your own experts have recommended training
3 jetties And if you look at this in the
4 context of future erosion control structures
5 here, there's a high likelihood of these
6 training jetties coming in, right?

7 A I don't know They recommended geotubes, as
8 well We didn't go with that alternative,
9 either Again, the geotube is not appropriate
10 here at Kiawah It's just not appropriate

11 Q Why?

12 A If we have -- you know, if we have to get
13 there, we'll get there, but that's not what we
14 want -- that's not what we want to try, not
15 what we want to do

16 Q Why is a geotube inappropriate?

17 A Gosh, it's ugly as sin I mean, these things
18 are big old tubes, like six feet in diameter,
19 made out almost like of pantyhose material and
20 you pump them full of dirt and you put them on
21 the beach If one gets ruptured, you've got
22 that scattered all up and down the beach
23 They're very effective, but that's not what --

24 Q So esthetics is important

25 A Sure it's important

1 Q You would agree with that, right?

2 - - A - Yes

3 Q Okay Well, you're taking a wait-and-see
4 approach on these training jetties and
5 increasing the width of the mattress Why
6 can't you take a wait-and-see -- you could take
7 a wait-and-see approach before you revet this
8 whole 2,783 feet, couldn't you?

9 A You know, if the Department were willing to
10 condition a permit that we do a vast majority
11 of it --

12 Q I'm not asking you that I'm asking you --
13 THE COURT Wait a second
14 MR WALKER Your Honor, he was answering the
15 question

16 THE COURT Let him answer the question

17 MR WHITFIELD-CARGILE I apologize, Your Honor

18 A I said if the Department were willing to issue
19 a permit with a condition -- in fact, if we had
20 been able to sit down with them and discuss it
21 and they had proffered that, "Mr Bohannon, are
22 you willing to recommend to your client that we
23 armor the worst section of this and we'll put
24 a condition on the permit that if this erosion
25 continues we'll allow you to add some more of

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1 it," I'd have said, "Absolutely We'll move
2 ahead with that "- -----

3 MR WHITFIELD-CARGILE I think I'm going to object
4 to that and ask that that that be stricken
5 He's alluding to what could have been
6 settlement negotiations Is that broad enough
7 to get in?

8 MR WALKER Your Honor, he was saying it in
9 response --

10 THE COURT I overrule the objection It was
11 responsive to the question

12 Q But you could take a wait-and-see approach
13 before you armor 2,783 feet, right?

14 A We can -- under proper conditions from
15 the Agency, if they would allow us to do
16 that, we could not put in the entire
17 almost 3,000, yeah We could put in, you
18 know, the vast majority of it We could go
19 out, again, and look at the very, very
20 worst sections and maybe do some different
21 things

22 Q Well, your photos show that the park is the
23 very worst section, don't they?

24 A No, it doesn't

25 Q At your deposition you agreed that the erosion

1 is most severe at the park, right?

2 A I'm not sure exactly what -- if I said that's --
3 the most severe I think what I told you in my
4 deposition was the most severe erosion is
5 happening right in the bite where it's moving
6 about eight, ten feet a year Now, the erosion
7 is severe at the park, if you look at it I
8 mean, I showed you pictures where the fence is
9 falling in It's certainly severe there It
10 needs to be fixed

11 Q Well, if you got a permit for 270 feet right
12 there at the park where the erosion is most
13 severe, that doesn't prevent you from coming
14 in, you know, ten years down the road and
15 trying to get a erosion control structure, does
16 it? You don't have to have a condition on a
17 permit that says you can come back and try
18 again later, does it? Or do you?

19 A I'm not sure I understand what you're asking
20 MR WHITFIELD-CARGILE I beg the Court's indulgence
21 for just one moment, real quick

22 (Off the record)

23 Q I'm going to show you what's been admitted as
24 Exhibit Four It's right here beside you on
25 the ledge there

1 A Uh-huh (affirmatively responds)

2 Q - You said that you didn't hear anything back
3 from the Department whenever you submitted
4 information, is that right?

5 A I said with the exception of notice about the
6 failure to provide the affidavit for
7 notification

8 Q Okay Well, let's look at page -- one, two,
9 three -- four of Exhibit Four, September 25th
10 letter to Bill Eiser to Mr Ray Pantlik

11 A (Reading) Okay

12 Q And in that letter, he confirms receipt of your
13 information and tells you it will be
14 considered, doesn't he?

15 A You're right He did

16 Q Okay

17 A I stand corrected I see I was even copied on
18 it But I noticed he didn't ask for anything
19 else

20 Q And in October he sent you an e-mail notifying
21 you that PRC's withdrawal of its application
22 would be factored into their decision on your
23 permit, right?

24 A Where is that?

25 Q Sorry, it's the third page of this exhibit,

1 sent you an e-mail -- sent Patrick Rogers an
2 e-mail

3 A Yes

4 Q So you weren't just left out in the dark with
5 no communication from OCRM, were you? That's
6 not really a fair statement, is it?

7 A You're right Those two pieces of
8 correspondence did come What I was
9 specifically referring to in terms of
10 correspondence from OCRM was we kept asking if
11 you needed additional information and we wrote
12 letters, we called asking if you needed
13 additional information in order to make a
14 decision and we never got a response to those
15 requests

16 Q Okay You said that -- Ms Armstrong asked you
17 if you'd ever applied for a permit this long
18 before And the only one you could think of
19 was Melrose?

20 A There was a permit at Melrose for --

21 Q When was that?

22 A Pardon me?

23 Q When was that?

24 A It was probably '85, '86, '87, somewhere along
25 in there, I'm guessing

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1 Q Okay Do you know how long that was?

2 A -----It was the length of the fairway

3 Q Was there already a bulkhead down there?

4 A Yes

5 Q Okay So it wasn't a new structure

6 A It was a bulkhead that was driven behind the
7 critical line

8 Q So it wasn't even in the critical area

9 A Well, we ultimately had to do some permitting
10 in the critical area

11 Q But not for 2,783 feet

12 A I think not

13 Q Okay

14 A That's a pretty unique distance

15 Q Pretty unique distance?

16 A (Nods head affirmatively)

17 MR WHITFIELD-CARGILE No other questions, Your
18 Honor

19 THE COURT Redirect?

20 MR BOHANNON - REDIRECT EXAMINATION BY MR WALKER

21 Q There were questions about the location of the
22 revetment Did Thomas & Hutton prepare an
23 illustration comparing the location along the
24 bank where it was requested and where it was
25 granted? And I'm going to refer you to

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1 Plaintiff's -- excuse me, KDP's Exhibit One

2 A Yes - - - - -

3 Q To your knowledge, does that constitute a fair
4 and accurate representation of what you
5 understand to be the permitted location versus
6 the location that's not permitted?

7 A Yes, it does

8 MR WALKER All right We'd asked that that be
9 admitted

10 THE COURT That would be

11 MR WALKER It would be KDP's Exhibit One

12 THE COURT Any objection?

13 MS ARMSTRONG No objection, Your Honor

14 MR WHITFIELD-CARGILE No objection, Your Honor

15 THE COURT It's admitted

16 (KDP's Exhibit Number One was admitted into
17 evidence)

18 Q And questions about the training jetty, is
19 there any current intent to apply for training
20 jetties?

21 A No current plan No current intent

22 Q Does your opinion about the sufficiency of this
23 structure to stabilize the bank still stand
24 without training jetties?

25 A Yes

1 MR WALKER That's all I have, Your Honor

- 2 - MS ARMSTRONG Nothing on recross, Your Honor - - - - -

3 MR WHITFIELD-CARGILE Nothing, Your Honor

4 THE COURT All right I've got a few questions for
5 you

6 THE WITNESS Yes, sir

7 THE COURT In the area where the -- what's the --
8 "rise"? You had a term

9 THE WITNESS The reveal?

10 THE COURT Reveal Where the reveal is not as
11 high, is that indicative of less of a need for
12 the revetment, or is it just simply an
13 indication of the lay of the land?

14 THE WITNESS Well, the erosion certainly is not as
15 severe there So, you know, my estimation is,
16 is it needed as badly there as the other
17 location? Certainly not, because, I mean, you
18 can even look at the cross slope of the beach
19 is different in that area It's still eroding,
20 but it's not eroding as rapidly as it is down
21 in what we call the "bite "

22 THE COURT Well, when you talked about the "hot
23 spots," is that what you mean by the "bite"?

24 THE WITNESS Well, the bite is certainly one of
25 those, but if you look at the photograph that

1 was prepared that showed the velocity, they
2 kind of get scattered along that whole area
3 (indicating) And if you look at an aerial
4 photograph, it kind of extends from -- there's
5 a creek on Seabrook that comes in kind of
6 directly across from where we start and that's
7 where those areas of velocity started picking
8 up

9 Now, if you ask me Could we stand to shorten
10 it some and monitor it over time? You know,
11 that wouldn't -- that might not be a bad
12 solution In fact, when this permit's issued,
13 I may recommend to my client that we actually
14 do that, turn it in and let's just put maybe
15 something along the very escarpment on that end
16 and then monitor this until the -- until we're
17 getting close to the end of the permit and then
18 if it's stabilized, we may as for -- what I
19 would do is ask for an extension of the permit,
20 so we don't lose our right to come back and do
21 that if the erosion exacerbates and begins to
22 accelerate in that area But, you know, it
23 would be a way to, one, save money and not to
24 put it all out there at one time
25 And, Your Honor, if you could -- you know, I'd

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1 love to take you out there and show you You
2 could see where the erosion -- I mean, it's- ---- - -
3 just so clear where it stops and starts And,
4 again, where it's most severe, it's just so
5 apparent when you're on site

6 THE COURT Well, can you show me the exhibit where
7 you think the erosion -- step up here I think
8 it was a poster board

9 THE WITNESS Well, the worst part --

10 MR WALKER We're referring to Exhibit Forty-eight-
11 C

12 THE COURT Yeah

13 THE WITNESS Again, the revetment, as planned and
14 where I showed you the photograph starts right
15 here (indicating) and goes all the way to right
16 there (indicating) The worst area is probably
17 from about midpoint of the park, from about in
18 here (indicating), to probably about right
19 along in here somewhere (indicating) And I'm
20 guessing based on that it's almost 3,000 feet
21 total, so it's about --

22 THE COURT But you also referenced the channel I
23 see that coming out Is that --

24 THE WITNESS This creek?

25 THE COURT Is that the creek you're referring to?

1 THE WITNESS Yeah The creek -- this is the creek
2 - off of Seabrook, which is immediately adjacent
3 to this area

4 THE COURT So immediately across from that, is that
5 where you're saying that the velocity's the
6 greatest?

7 THE WITNESS Well, the velocity's going to be
8 greatest down in this area (indicating)

9 THE COURT Okay

10 THE WITNESS Again, because this is the narrowest
11 part of the river, so the velocity is going to
12 be greatest where it's narrowest

13 THE COURT Well, is the revetment, based on your
14 expert opinion, needed -- when you said that
15 you would consider a wait-and-see approach for
16 some of the revetment, what area would you
17 think would be possible to do a wait-and-see
18 approach?

19 THE WITNESS I think somewhere about this last
20 thousand feet down here (indicating)
21 Again, what I would -- if you so ruled that we
22 were entitled to the entire permit, what I
23 think I'm inclined to ask -- suggest to my
24 client is that he put it all in from about here
25 (indicating) to along in here somewhere

1 (indicating) It's about 2,000 feet Probably
2 do a little softer approach down-here---
3 (indicating), again, because there's some trees
4 right on the edge that I would -- that we'll
5 try to figure out a way to maybe use -- go back
6 to OCRM, maybe put some stone or something to
7 stop the erosion, but then perhaps something a
8 little different, and then a little bit of the
9 articulated concrete block mat along here
10 (indicating), put the whole 40 feet along here
11 (indicating) That's just something to protect
12 that edge We'll tuck this in and then we'll
13 monitor these areas (indicating), in case we
14 need to put more width here (indicating), and
15 we'll monitor this to make sure we do not cause
16 some adverse effect by stopping along in here
17 (indicating) That's -- again, I would suggest
18 that to him I'd like to have the entire
19 permit You know, if it continues to erode,
20 then we'll come back and quickly add this
21 (indicating), but I'd like to monitor it

22 THE COURT When you say it's something that -- what
23 was it? Something to

24 THE WITNESS Something along that escarpment --

25 THE COURT Yeah

1 THE WITNESS -- to stop the erosion on that
2 -- escarpment And maybe take a couple of these
3 mats, do a little bit of fill just along that
4 edge And, actually, where we've got about a
5 two-foot escarpment, we could come in with a
6 little bit of fill, place a couple of these
7 mats side to side That would stop that
8 erosion and allow the grasses that are -- I
9 can't tell you the name of all the plants that
10 are growing up on the marsh

11 THE COURT It wouldn't go all the way down the
12 shoreline, is that what you're getting at?

13 THE WITNESS No, no Four, to eight feet or
14 something, just enough to stabilize that
15 through this area (indicating) That would
16 seem to be a really -- I think that's what I
17 would want to recommend to our client
18 There's one or two little areas where there's
19 some high dunes We'd have to figure out
20 what -- maybe we might put a little bit of
21 bulkhead along where the dunes are, again, to
22 preserve the dunes from eroding away

23 THE COURT All right Thank you

24 THE WITNESS Yes, sir

25 THE COURT Follow up on what I have asked?

1 MS ARMSTRONG I just have a couple, Your Honor

2 THE COURT Well, then let Mr - Walker go first if he
3 wants to ask

4 MR WALKER I don't have any further questions

5 THE COURT Okay

6 MR BOHANNON - RECROSS-EXAMINATION BY MS ARMSTRONG

7 Q Mr Bohannon, your client, Mr Long, was pretty
8 upset with you when he found out what the price
9 was going to be of that structure, wasn't he?

10 A He wasn't happy

11 MR WALKER Your Honor, this isn't responsive to my
12 redirect

13 MS ARMSTRONG The very next question I'm getting
14 there, Your Honor

15 THE COURT Okay You can ask -- I would think it
16 would be logical that nobody would be thrilled
17 to spend \$5 million, but go ahead

18 MS ARMSTRONG Right

19 Q So part of what you just told the Court about
20 recommending only constructing part of this,
21 that would sort of get you out of the hole of
22 the expense and the anger that your clients got
23 with you because it wouldn't cost as much if
24 you didn't have to build the whole structure,
25 isn't that right?

1 A No, I just threw that on him I mean, he
2 didn't know I was going to say that today - - -

3 Q He what?

4 A He didn't know I was going to say this today
5 I mean, that's -- you asked me my -- when you
6 asked my opinion, I gave the Judge my opinion
7 I don't -- we hadn't even talked about that

8 Q But it would cost less if you didn't have to
9 install the whole structure, wouldn't it?

10 A Well, certainly?

11 MS ARMSTRONG I don't have anything else, Your
12 Honor

13 MR WHITFIELD-CARGILE Just a couple, Your Honor

14 MR BOHANNON - RECROSS-EXAMINATION BY MR
15 WHITFIELD-CARGILE

16 Q Mr Bohannon, you're an engineer, right?

17 A Yes

18 Q You're not a geologist?

19 A No

20 Q You're not a hydrologist?

21 A No

22 Q You're not -- you don't have expertise in
23 geomorphology?

24 A No

25 Q Okay Or hydrodynamics? You don't have

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1 expertise in hydrodynamics?

2 A I know a little bit about it, but I'm not
3 expert in it

4 Q Know a little bit about it So as an engineer,
5 you design structures, right?

6 A We design structures

7 Q You don't assess the need for the structures
8 You rely on other consultants for that, right?

9 A I don't think I'd push it that far It's
10 pretty obvious I mean, you saw the
11 photographs There's obviously a need for some
12 protection of that bank I mean, even somebody
13 unskilled and -- you know, an English major
14 could go out and see there's erosion there

15 Q Well, why we're talking about alternatives,
16 y'all have filed an application for a sheet
17 pile project with the Department, didn't you?

18 A We did

19 Q And in that application, you applied for a
20 340-foot sheet pile wall, is that right?

21 A I think that's the dimension

22 Q Do you remember in e-mail communications to
23 Mr Long where you say that that's going to
24 provide the level of protection you need?

25 A I don't remember, but I -- perhaps I did that

1 If you'll show me the e-mail, I can --

2 Q Well, is that accurate with your recollection? -

3 Do you recall --

4 A I'd like to see the e-mail, if I could

5 THE COURT Mr Whitfield-Cargile, is that

6 responsive to the questions I asked?

7 MR WHITFIELD-CARGILE Yes, Your Honor, I do think

8 it is You were discussing alternatives and

9 alternative lengths

10 THE COURT Okay

11 MR WHITFIELD-CARGILE And he suggested something

12 in excess of a thousand feet, I think closer to

13 1700 feet

14 MR WALKER I object, Your Honor, because he's

15 mixing apples and oranges As we talked about

16 on the various conference calls involving a

17 continuance and the discovery that they wanted

18 and we provided, what he's talking about

19 relates to the entirely separate application

20 that deals with --

21 THE COURT I'll sustain the objection,

22 Mr Whitfield-Cargile, because mine was

23 limiting it to the project at issue and you're

24 trying to go into another project That

25 wasn't -- that's just not -- you had -- I mean,

1 you had your opportunity to cross-examine You
2 - - could have gone into it then I only brought
3 up a limited issue, so I sustain the objection

4 MR WHITFIELD-CARGILE Okay Well, I'd like to
5 proffer one more question, then, or I'd like to
6 ask one more question and I imagine it's going
7 to get the same objection, but I'm going to ask
8 it

9 Q It's entirely possible to build a deep-bed road
10 without any revetment, isn't it?

11 A I'm sorry, I don't know what a deep-bed road
12 is

13 Q It's entirely possible to build a deep
14 foundation road, where the foundation is deeper
15 than mean low water, right?

16 A (No response)

17 Q Essentially a bridge over land?

18 A Is it possible to build a bridge over land?
19 Normally, a bridge means you're -- I mean,
20 you're bridging something

21 Q Okay

22 A So to build a bridge out at grade on land -- I
23 mean, you could build a structure I don't
24 think it'd be called a "bridge," because you're
25 not really bridging anything But I'm not sure

1 what you're asking

2 Q Well, you can build a road, a deep foundation
3 supported road, where you wouldn't need --
4 where if the river keeps eroding towards that
5 road, if it ever got underneath the road, you'd
6 have essentially a bridge in place, right?

7 A In theory, I guess you could

8 Q You're an engineer, right?

9 A Right

10 Q I bet you'd love to design that, wouldn't you?

11 A Well --

12 Q Engineers design structures

13 A Well, again, you know, you're hypothesizing
14 something -- if you go back to what I said
15 about the way we try to do things at Kiawah, I
16 mean, the last thing I think we want to see is
17 build some huge structure, to put a road on
18 that then becomes this thing you've got to look
19 at forever because we couldn't provide some
20 soft solution to it So we could do it, but
21 it's certainly not in keeping with the
22 character of anything we've ever done there
23 Q Concrete blocks aren't a soft solution, are
24 they?

25 A In this case, I believe they are

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1 wrong So I'll come back to that, Your Honor
--2 THE COURT All right Then I rescind what I said - - -
3 earlier
4 MR WALKER I'll give you correct identification in
5 the morning
6 THE COURT Okay
7 DR TIM KANA, having been duly sworn, testifies and
8 examines as follows
9 DR KANA - DIRECT EXAMINATION BY MR WALKER
10 Q Mr -- is it Dr Kana?
11 A Yes, sir
12 Q Dr Kana, where do you live?
13 A (No response)
14 Q Where do you live?
15 A In Columbia, South Carolina
16 Q And what do you do for a living?
17 A I'm a consulting coastal geologist
18 Q Do you also teach?
19 A Yes
20 Q Where do you teach?
21 A University of South Carolina
22 Q What subject area do you teach in?
23 A Coastal processes
24 Q If I were to try to come up with a label for
25 what you do, for a title for you that describes

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1 what you do, what would it be?

2 A Coastal erosion consultant

3 Q How long have you been doing that?

4 A About 30 years

5 Q Do you have graduate degrees in that field?

6 A Yes, I do

7 Q Would you give the Court your educational
8 background, the degrees and what they're in,
9 please?

10 A I have a Bachelor of arts in natural sciences
11 from the Johns Hopkins University in 1971, I
12 have a Master's of science in coastal geology
13 from the University of South Carolina in 1976,
14 and I have a Ph D in coastal processes and
15 coastal geology from the University of South
16 Carolina in 1979

17 Q Since 1979 when you obtained your Ph D , have
18 you published papers dealing with coastal
19 geology and, in particular, coastal geology in
20 South Carolina?

21 A Yes, I have

22 Q Since 1979, have you been almost continuously
23 involved, if not continuously involved, in
24 assessing, analyzing on a day-to-day basis
25 coastal processes in South Carolina?

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1 A Yes, I have

2 Q At my request, did you provide me a copy of a ---
3 resume that lists your credentials, as well as
4 publications that you have?

5 A Yes, I did

6 MR WALKER Your Honor, that is Exhibit Sixty-nine

7 I can -- we offer his resume into evidence

8 THE COURT Any objection?

9 MS ARMSTRONG No objection, Your Honor

10 THE COURT Mr Whitfield-Cargile?

11 MR WHITFIELD-CARGILE No objection

12 THE COURT It's admitted

13 (KDP's Exhibit Number Sixty-nine was admitted into
14 evidence)

15 Q I'm going to start, when we talk about your
16 experience with the coast -- go ahead and pour
17 yourself some water -- with your giving us some
18 background on your beginning the first projects
19 you worked on on the South Carolina Coast,
20 because I think they're pertinent to what we're
21 here for today

22 A Yes, sir One of the first projects as a
23 consultant I worked on in South Carolina was at
24 Seabrook Island for the Seabrook Island
25 Company, which at the time had control over all

1 of the development activities We were
2 retained to study shoreline erosion and
3 evaluate the conditions of Seabrook Island from
4 the vicinity of the south end of Kiawah, or
5 that is the west end, near Beachwalker Park all
6 the way down to Deveaux Banks, which is an
7 offshore shoal associated with North Edisto
8 Inlet

9 Q Where is Seabrook in relation to Kiawah?

10 A It is immediately south or west of Kiawah

11 Q I'm going to --

12 MR WALKER Could we go ahead and put up --

13 Nancy Jane, could you put up Exhibit Four, the
14 first photograph there which is an aerial?

15 MS MURPHY (Complies)

16 Q This is obviously an aerial of Captain Sam's
17 Spit Where is Seabrook on this?

18 A Seabrook Island proper is in the upper
19 left-hand corner including the small area of
20 land that's down where you're pointing along
21 the oceanfront (indicating)

22 Q Are the beaches of Seabrook Island influenced
23 by the inlet?

24 A Yes, they are

25 Q All right And what were you specifically

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1 engaged to do or what was your undertaking for
2 Seabrook? -----

3 A Seabrook Island retained my former firm,
4 Research Planning Institute, Incorporated, to
5 determine as best we could what the causes of
6 erosion were along Seabrook Island We
7 determined that there were three primary
8 causes, the first of which was migration of
9 Captain Sam's Inlet from an east to west
10 direction or north to south, depending on your
11 orientation Northeast to southwest is the
12 truest alignment That was the first cause of
13 erosion and the main problem at the time was
14 that the inlet, as it was migrating south, was
15 trapping sand and denying it to the oceanfront
16 of Seabrook Island

17 Q Where was that sand accumulating that was
18 being trapped?

19 A In what's called the "ebb-tidal delta " Those
20 are the seaward shoals of the inlet immediately
21 seaward of the mouth of the inlet

22 Q Do you know how to work one of these as a
23 professor, because I don't? Let's do that
24 Mark has a laser pointer, which is more user-
25 friendly And when you talk about these

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1 things, if you want -- let me get rid of that
2 -- -- -- pointer

3 All right So whenever you want, you can use
4 your laser So you were talking about --

5 A This is Captain Sam's Inlet This is the mouth
6 of Captain Sam's Inlet and associated with the
7 inlet out in this area here (indicating) is
8 what we refer to as an ebb-tidal delta It's
9 a series of sandbars and shallow areas where
10 sand has shifted from -- through the inlet out
11 into the ocean and deposited in this area
12 (indicating)

13 So that sand body is always present in the
14 position where the channel is The channel
15 over time moves from this position (indicating)
16 in a westerly direction So the inlet shoals
17 move with it

18 As the inlet shoals get closer and closer to
19 Seabrook, they become trapped more and more in
20 this area and are not shifted farther downcoast
21 to the rest of Seabrook in this area way off
22 the photograph (indicating)

23 Q Got it Since we're getting into an area of
24 your expertise and you're going to be rendering
25 opinions --

1 MR WALKER I would offer Dr Kana as an expert
2 capable of rendering opinions in coastal
3 geology

4 THE COURT Coastal geology and coastal erosion?

5 MR WALKER Coastal erosion and coastal morphology,
6 the formation of land mass --

7 Q What is morphology?

8 A Coastal geomorphology is the shape of the coast
9 and the processes that mold and shape the coast
10 into the configurations that we see in present
11 day

12 MR WALKER Also in coastal geomorphology

13 THE COURT All right

14 MS ARMSTRONG No objection, Your Honor

15 THE COURT Mr Whitfield-Cargile?

16 MR WHITFIELD-CARGILE I'm sorry, I'm thinking,
17 Your Honor No objection, Your Honor

18 THE COURT Very good He's so qualified

19 Q With respect to this particular region, is
20 there a dominant direction or -- tell me about
21 sand flow on the coast in this particular
22 location

23 A The ultimate source of sand into this area here
24 (indicating) comes from the very east end of
25 Kiawah Island, about eight miles away Sand

1 originating in Stono Inlet, which is 100 times
-----2 bigger than Captain Sam's Inlet, periodically -
3 is released to the east end of Kiawah It
4 migrates on shore under wave action and then
5 once it's attached to the beach, it spreads
6 laterally through the longshore transport
7 system, which is predominantly from east to
8 west in this locality, moving sand down the
9 beach over time And that sand accumulates at
10 the inlet, forms these curvilinear ridges here
11 (indicating) You can see the signature right
12 along here where the edge of the tree line is
13 and then these dark and light bands here
14 (indicating)
15 As sand moves down and it reaches the inlet, a
16 portion of it will accrete on the spit and
17 gradually build up the high tide beach building
18 out features such as you see right here
19 (indicating) And through time, as that spit
20 builds up, it's also forcing the channel to
21 migrate in a downcoast direction
22 So the principal process going on that is
23 controlling the inlet migration, based on the
24 studies that our group and many others have
25 done over the years, is that sand moving down

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1 Kiawah Island from east to west is in excess of
2 sand that might be moving in the other
3 direction when the winds change
4 So this net sand transport accumulates sand at
5 the spit and that sand accumulation forces the
6 channel to move in a westerly direction into
7 Seabrook foreshortening Seabrook Island as it
8 does that

9 Q Does the sand drift that you talked about --
10 that you're talking about along the coast also
11 have an impact on the beaches of Kiawah other
12 than the mere tip of the spit where you were
13 moving the pointer, primarily?

14 A Yes Kiawah is one of the healthiest beaches
15 in terms of its stability or tendency for
16 accretion, because it's getting an excess sand
17 supply of Stono Inlet Hundreds and hundreds
18 of thousands of cubic yards of sand each year
19 on average bypass Stono Inlet onto Kiawah
20 Island They do it in an episodic fashion, but
21 averaged over time, you can count on literally
22 hundreds of thousands of cubic yards of sand
23 coming on to Kiawah naturally and then
24 spreading from there downdrift And the result
25 is that the shoreline along Kiawah, unlike many

1 other beaches in South Carolina or along the
2 East Coast, has actually accreted on average-----
3 over the last 100 years Some parts of Kiawah
4 have actually built out nearly a mile at the
5 east end The area down here has built seaward
6 by hundreds of feet forming multiple dune
7 ridges that you see right in this area along
8 the front of the spit

9 Q Dr Kana, how many years have you been studying
10 this system, by "this system" I mean, studying
11 the system, the geomorphology, Stono Inlet to
12 Seabrook to North Edisto?

13 A The first time I visited this site was in
14 September 1974 as a graduate student We did
15 various student projects all through the mid to
16 late seventies But as far as specific studies
17 of Kiawah, I myself didn't get involved until
18 around 1978 and since that time, more or less
19 continually since 1978, so 30-some-odd years

20 Q You mentioned a project with Seabrook back in
21 the early seventies Have you been involved in
22 other projects with Seabrook Island dealing
23 with their beach --

24 A Yes, I have

25 Q -- since then? Have you also been involved in

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1 projects on Kiawah Island where you served as
2 - a consultant to make recommendations with
3 respect to sediment and beach issues?

4 A Yes, I have

5 Q In particular at Seabrook Island, were you
6 instrumental in deriving a solution to their
7 eroding beach?

8 A Yes I was involved in the original plan to
9 relocate Captain Sam's Inlet from its point in
10 1982 up to a point that was equivalent to where
11 it was in 1963 That project was completed in
12 1983 That was the first time -- it was
13 somewhat innovative at the time

14 THE WITNESS I think we just lost our image

15 MR WALKER Our operator went to sleep

16 A The inlet in 1979, 1980, was way down here
17 (indicating) It's off the image

18 Q Okay

19 A I believe it's probably in an image that's been
20 entered by others

21 Q So you're now near the end of the flat screen
22 TV?

23 A In 1979, the image was -- the inlet, rather,
24 was probably about 3,000 feet from this
25 position (indicating) -- I'm estimating --

1 somewhere down in here (indicating) In

2 1983 --

3 Q What did your solution involve?

4 A The solution involved cutting a new channel
5 right here (indicating) at the mouth of this
6 creek, which is called Captain Sam's Creek
7 It's very clearly shown on the photograph where
8 it empties into Kiawah River at that point
9 And right opposite the mouth of Captain Sam's
10 Creek was the alignment for the channel for the
11 new inlet in 1983

12 Q You mentioned it was done a second time When
13 was it done a second time?

14 A Yes, in 1996

15 Q Was that done with -- did you need to obtain
16 permits in order to accomplish that?

17 A Yes, we did

18 Q Who were the permits obtained from?

19 A From the Corps of Engineers and South Carolina
20 Coastal Council which is now called DHEC-OCRM

21 Q Was the relocation project -- did it obtain --
22 was it a successes?

23 A In my opinion it was very successful and cost
24 effective and it was highlighted by the
25 National Academy of Science as one of the more

1 innovative erosion control solutions that's
2 environmentally sensitive

3 Q Is the Seabrook Island Property Owners
4 Association in the process of applying for a
5 third inlet relocation?

6 A Yes, that's correct

7 Q Have you been -- are you involved in
8 spearheading that?

9 A Yes Our firm is the engineer for that
10 project

11 Q I want to ask you about the inlet relocations
12 When the inlet is relocated back to the east,
13 in other words, if the inlet as you said in '79
14 was over here and it's relocated back to here
15 (indicating), what is the effect of moving the
16 inlet in terms of this ebb-tidal delta that we
17 were talking about? What is the effect on the
18 spit if the inlet is periodically moved back to
19 the east as you've done two times?

20 A Well, each time the inlet is moved, a new
21 ebb-tidal delta will form seaward of the breach
22 point and these shoals then act as a trap or a
23 barrier to sand moving downcoast
24 So just as you see in this image where there's
25 some sand sticking out here (indicating),

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1 that's the terminus on the north side of the
2 ebb-tidal delta And you see how that's
3 holding the shoreline in place, to some extent
4 So, anytime you have an inlet that shoals in
5 this configuration, and that applies to any
6 inlet in the South Carolina Coast, those shoals
7 will hold in place the immediate updrift
8 shoreline in this vicinity And you can see
9 that --

10 Q In simple terms -- I'm sorry, go ahead

11 A And you can see those sandbars wrapping around
12 here (indicating) with a wider beach in this
13 vicinity than you would say farther upcoast or
14 downcoast

15 Q What is the effect of the ebb-tidal -- if the
16 ebb-tidal delta is located in this approximate
17 area where it's been relocated, does it
18 increase or diminish the sediment accumulation,
19 the sand accumulation on the spit?

20 A It increases it locally over the first few
21 thousand feet, because it tends to trap sand
22 much as a jetty sticking out there would trap
23 sand and so that backs up sediment updrift of
24 the inlet "Updrift" would be to the east
25 This would be the updrift direction

1 (indicating) Sand is drifting to the south or
2 west and so we refer to this as updrift of the -----
3 inlet and this direction is downdrift of the
4 inlet (indicating)

5 Q You earlier were talking about Kiawah Island
6 How would you rank Kiawah in terms of available
7 sediment and accretion in comparison to other
8 islands, barrier islands, on the South Carolina
9 Coast? Is it healthy?

10 A Yes, it's exceedingly healthy compared to just
11 about any beach on the East Coast

12 Q So not just South Carolina

13 A That's correct

14 Q How long have you been studying -- let me
15 rephrase that It's late in the day For what
16 period of time have you studied the shoreline
17 trends of Kiawah? You've talked about the last
18 35 years or so Have you gone back in order to
19 inform your opinions?

20 A We've written annual monitoring reports for the
21 Town of Kiawah Island, for the Kiawah Island
22 Company, for other entities on Kiawah going
23 back to the early eighties I don't know the
24 first date And, of course, those shoreline
25 studies attempt to utilize all historical data

1 going back as far as it's available

2 Q Have you reviewed the historical data going
3 back as far it's available, to the best of your
4 knowledge?

5 A Yes

6 Q And how long would you say that Kiawah has
7 enjoyed this positive sediment budget?

8 A Well, for at least 150 years There were some
9 fairly accurate coastal charts I wouldn't
10 call them precise by today's standards, but
11 coastal charts of the 1850's, I believe, were
12 the earliest that were -- had been done by a
13 detailed survey All the maps prior to that
14 were kind of sketch maps and not very reliable,
15 in my opinion

16 Q To a reasonable degree of geomorphological
17 certainty, will the beaches at Kiawah most
18 probably continue to enjoy accretion?

19 A Yeah, certainly for the next couple of decades
20 We've just monitored a five million cubic yard
21 sand bypassing event that occurred in the
22 nineties adding that much material, that much
23 sand to the east end of Kiawah And that sand
24 is now making its way down the shoreline in the
25 longshore transport system

1 Q You mentioned that the Stono Inlet has proved
2 to be a source of sand for the Kiawah beaches
3 Does it look like it will continue to be a
4 source of sand in the future, most probably?

5 A Yes In fact, after the event of the nineties
6 and one of my students, Dan Gaudiano, with my
7 assistance, had studied the rates of sand
8 bypassing at many of the inlets, including
9 Stono Inlet And what those studies indicated
10 is about every seven years or so, five to seven
11 years, a big sandbar breaks off the inlet,
12 attaches to Kiawah, on average, and is adding
13 hundreds of thousands, if not several million
14 cubic yards to Kiawah
15 That process happened -- it was the largest
16 bypassing event we've ever seen in the nineties
17 to the tune of about five million cubic yards
18 in two events that backed up together
19 Subsequently, within the last three years,
20 there's been another event that's ongoing right
21 now bringing in a new source of sand that is
22 another several hundred thousand yards
23 Q Are portions of that five million cubic yards
24 of sand still making their way down the beach
25 towards Captain Sam's?

1 A Yes, they are

2 - Q -- Would you reasonably expect Captain Sam's to
3 benefit from that sand?

4 A Eventually And the fact that there is so much
5 sand at the east end and it's working its way
6 down gradually means that the accretion is
7 likely to sustain itself along the oceanfront
8 for well over a decade, in my opinion, based on
9 what we're seeing here I would say
10 conservatively, probably 20 years worth of
11 accretion

12 Q Dr Kana, the case today involves an
13 application for a permit to construct a
14 revetment The application is to construct a
15 revetment from just -- from the county park --
16 do you know where the county park is?

17 A Yes, I do

18 Q To a location almost opposite this creek that
19 I'm pointing out Are you familiar with that
20 reach?

21 A Yes, I am

22 Q Would you tell the Court or how would you
23 characterize that stretch of bank on the Kiawah
24 side of the Kiawah River?

25 A Well, that's the outer bank of a meander in

1 Kiawah River and the shoreline along that outer
2 bank is eroding by evidence of the escarpment
3 that is pretty visible --

4 Q Have you -- go ahead, I'm sorry

5 A -- and it appears there is a pinch point --

6 Q Will you show with your pointer?

7 A -- created by the marsh across the way, there
8 is a large tidal marsh here (indicating) and
9 you see right at that apex of the marsh,
10 there's a narrow pinch point right there

11 (indicating) where the channel is narrowest
12 And normally when you're on a river bend such
13 as this, you expect accretion on the point bar
14 side This is referred to as the point bar
15 side and erosion on the cut bank side

16 Q Is that occurring?

17 A This is the cut bank side on Kiawah Spit This
18 is the point bar side over on the Seabrook side
19 of Kiawah River (indicating)

20 Q Is that, in fact, what's occurring based on
21 your observation?

22 A Yes Based on my observations, yes, sir

23 Q You've mentioned that you've looked at
24 historical charts and photographs Do those
25 also document exactly what you're saying?

1 A Yes, they do

2 Q All right As we come out of that meander bend-- -- + -- --
3 of the river, still on the Kiawah River side of
4 Captain Sam's Inlet, how would you characterize
5 the next bit of Captain Sam's from there
6 towards the inlet?

7 THE COURT Let me stop you It's the point bar
8 side and what's the side --

9 THE WITNESS Cut bank side, Your Honor

10 THE COURT Cut bank

11 Q Why is it called "cut bank"?

12 A Because it's the side of the bank that is cut
13 as the river flow meanders through there

14 Q All right And we're getting to the next
15 segment of the shoreline of Captain Sam's going
16 towards the inlet from the cut bank

17 A Well, the cut bank ends somewhere in this
18 vicinity (indicating) I could pinpoint
19 exactly, but you can see where the river itself
20 straightens out in this vicinity (indicating)
21 And this shoreline on the back side of Kiawah
22 Spit is dominated by a fringing marsh, salt
23 marsh, and that's this kind of light, somewhat
24 model gray color here (indicating) And that
25 section of shoreline, I believe, from the

1 observations I have seen from other images, has
2 not changed very much in the last 30 years
3 since I've been studying it

4 Q All right And then when we get towards the
5 inlet, what type of system are we dealing with
6 there?

7 A Well, then you have a point bar here
8 (indicating) See, you're on the outside of
9 the bend On the other side it's Seabrook and
10 you're inside of the bend on the recurve spit,
11 so this is a depositional zone and it's
12 receiving sediment that is wrapping around the
13 spit from the ocean side and falling into the
14 channel right in this location (indicating)
15 It's just accreting a series of curvilinear
16 ridges as the spit builds

17 Q Is the inlet a dynamic area?

18 A Yes

19 Q Is the bank stable in the inlet zone?

20 A No

21 Q Will you tell us what's happening on the ocean
22 side bank of Captain Sam's in the inlet zone?

23 A The ocean side, in this vicinity (indicating)?

24 Q Yes, sir

25 A Well, this is accreting You can see this from

1 a signature of these ridges that have
2 accumulated right here (indicating) -- This area - - -
3 is accreting immediately updrift of the inlet,
4 as I just testified a few minutes ago, because
5 the ebb-tidal delta is trapping and holding
6 sand in that vicinity

7 Q In your --

8 A Then there's accretion in this direction as the
9 spit grows and on the Seabrook side, there's
10 truncation of this area (indicating), because
11 of the meandering and migration of Captain
12 Sam's Inlet, itself It's eating away this
13 segment of shoreline It's actually eating it
14 away and throwing some of the sand in this
15 direction (indicating), that's what this spit
16 is formed from, and some of the sand is
17 shifting down that way (indicating)

18 Q In your 35 years or more of going to this
19 location, have you observed anything with
20 respect to the formation of dunes on Captain
21 Sam's Spit?

22 A On Kiawah Spit, yes

23 Q Kiawah Spit

24 A This entire area here has a series of dune
25 lines, beach -- sometimes they're referred to

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1 as beach ridges -- that parallel the shoreline
2 - - - They represent old high tide marks where sand
3 has accumulated and a dune has begun to grow
4 and some of these dunes here have considerable
5 height, well above the high water inundation
6 line

7 Q Have the rows of dunes grown as you go down the
8 Kiawah Spit?

9 A Yes Grown in terms of number or grown in
10 terms of

11 Q Well, let's talk in terms of number

12 A I can recall seeing about three rows of dunes
13 throughout the length of this spit, even at the
14 narrowest juncture point Farther down,
15 there's probably about four or five rows of
16 dunes that have formed just within the last 30
17 years that I've been watching it, in some
18 places

19 Q Are those dunes healthy dunes?

20 A In my opinion they're healthy, as evidenced by
21 lack of breaches or washovers on the dune
22 Usually you can see a signature of an unhealthy
23 dune that's too low because high tide waves
24 during a storm would wash up and over and knock
25 out a portion of the dune and create a fan of

1 sand landward of the dunes and you'd see that
2 as a little signature But we don't see that
3 here We see a continuous vegetation line
4 without evidence of active washovers in this
5 area (indicating)

6 Q Turning to this specific application and the
7 revetment, in your opinion, will the revetment,
8 if constructed, have any significant effect
9 whatsoever most probably on the inlet?

10 A No And I can say that with a reasonable
11 degree of confidence because the inlet forms
12 and migrates because of sand moving down the
13 oceanfront of Kiawah And we've done some sand
14 budgets to quantify how much sand has to move
15 down and account for the buildup on the spit,
16 the migration rates of the inlet, and the
17 process that's going on here, which really
18 dominates Captain Sam's Inlet, is sand
19 transport moving down Kiawah Island The more
20 sand that moves down Kiawah Island and the
21 faster it moves down, the faster Captain Sam's
22 Inlet migrates into Seabrook causing the
23 problem We've been watching that very closely
24 for the last 30 years We haven't paid much
25 attention to the back side of the spit because

1 it's pretty much -- it goes where the river

2 goes It's independent of what's going on

3 along the oceanfront, in my opinion

4 Q Will the construction of the revetment, if it's

5 permitted, have any effect at all on the dune

6 ridges that we see on Captain Sam's Spit, the

7 sand accumulation along the beach?

8 A No, sir, not in my opinion

9 Q Why not?

10 A Well, those ridges accumulate because of the

11 sand that's brought down along the oceanfront

12 and some of that sand is deposited along the

13 way before it works its way all the way down

14 the inlet and that's what accounts for a

15 long-term growth of these ridges and the

16 formation of new dune lines over time

17 Q Dr Kana, in your work, do you study the

18 effects of hurricanes on the coast?

19 A Yes, we do

20 Q Were you involved in studying the effects of

21 Hurricane Hugo on the portions of the coast

22 most affected by it?

23 A Yes, I was

24 Q And is that an area that you are highly

25 interested in?

1 A Yes, I am

2 Q Is one of the things that you take into account
3 in that study and in your geomorphology the
4 susceptibility of particular places to breach
5 during a large storm?

6 A Yes, we typically consider that in any study
7 One of the interesting things about the South
8 Carolina Coast and a reason that we don't tend
9 to see very many breach inlets form, relative
10 to places like Texas, is that our coastline is
11 already adjusted to a higher tide range and we
12 also -- and because of that, we have more tidal
13 inlets to handle the flow in and out of the
14 marshes

15 So instead of having inlets every 30 or 40
16 miles as you might have on the Texas Coast or
17 the North Carolina Coast, South Carolina has
18 inlets on average about every five miles So
19 there are conduits to handle the flow during
20 any tides A normal tide, a spring tide, a
21 syzygy tide, as it's called when all the moon
22 and stars line up, or a storm surge during a
23 hurricane

24 So when a hurricane, such as Hazel or Hugo in
25 1989 comes along, what we see in South Carolina

1 is less of a tendency for spits to breach than
2 we have I think there were only about three ---
3 breach points, four breach points, in South
4 Carolina during Hugo, whereas, if this had been
5 the Texas Coast, it probably would have been
6 formation of several full-size inlets in that
7 storm alone So that's one thing that's very
8 different about South Carolina compared to many
9 other coasts

10 Q Does the large marsh area behind this island
11 have an effect, too? Does it play into
12 tendency to breach or propensity to breach?

13 A Well, it absorbs the storm surge and then
14 you're getting into some subtle hydraulic
15 issues

16 Q Well, I don't want to -- well, go ahead, I'm
17 sorry

18 A So it has -- it certainly has some incremental
19 effects, but it's not the main thing that
20 controls that, in my opinion

21 Q Based on your experience, training, education,
22 all the work that you've done involving Kiawah
23 and Seabrook, in your opinion, is there -- to
24 a reasonable degree of geomorphological
25 certainty, is it likely that Captain Sam's Spit

1 would breach at the neck down there by that
 2 pinch point?
 3 A Well, if there was going to be a breach -- I
 4 mean, it's intuitively obvious that it will
 5 take the shortest distance But also you have
 6 to look at the height of the dunes, because
 7 it's been shown in a number of studies that
 8 usually low points in the dunes are sort of the
 9 trigger areas for a breach to form
 10 So if the dunes were completely wiped out and
 11 they were very low, then, you know, the neck of
 12 the spit could be the most vulnerable point for
 13 a breach, without a doubt But right now, the
 14 dune lines along the neck are situated well
 15 above the typical 25-year flood level

16 Q Over the last 35 years --
 17 THE COURT Hold on a second So is the answer "no"
 18 that it would likely cause a breach or "yes"?
 19 I mean, you said the reasons why there wouldn't
 20 be one, but you never specifically answered his
 21 question

22 THE WITNESS Well, why don't you repeat the
 23 question and maybe that will help me make it
 24 more -- a clearer answer

25 Q All right Well, I'm not sure -- I'm going to

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1 paraphrase it Based on everything, do you --
2 and by that I mean, education, experience, ---
3 background, your familiarity with this -- do
4 you reasonably expect or is it likely that
5 there would be a breach of Captain Sam's Spit
6 at the neck?

7 A Yes, there is a chance, but I think it's a very
8 small chance based on the trends that we've
9 seen over the last 60 years in this area,
10 because it hasn't breached and because the
11 oceanfront is accreting at a rapid rate and
12 because there is such a large sand supply along
13 the front beach of Kiawah Island that continues
14 to feed this area So each of these things
15 reduces the threat of a breach

16 Q In the highly unlikely event that there were a
17 breach, do you think an inlet would form there
18 or do you think it would heal fairly quickly?

19 MR WHITFIELD-CARGILE Object to the form of the
20 question

21 MR WALKER I will break it down

22 Q In the event of a breach, would you -- let me
23 back up Is there a difference between an
24 inlet and a washover breach?

25 A Yes You could have a washover that doesn't

1 effect -- doesn't create a viable inlet In
2 fact, that's very common, because a lots of
3 these features form at the peak of the storm
4 when the surge, the higher -- the
5 super-elevated water level is higher than
6 normal Of course, the dunes may breach, but
7 the -- whether or not you have an inlet forming
8 will depend on whether there's enough time to
9 scour that washover down to a level that
10 reaches mean sea level or at least the mean
11 tide level, so that the next normal tides that
12 come across can keep scouring that channel
13 open

14 And, generally, that doesn't happen We'll get
15 the washovers in most places, but not a full
16 breach To get a full breach, it takes a --
17 you know, a longer duration of surge and you
18 have to have the breach in place well before
19 the tides peak on both sides of the breach
20 point so that you have the hydraulic head to
21 drive the flow through that breach and keep
22 cutting it down

23 Q We've been talking about the conditions that
24 might lead to the unlikely breach at that
25 location If those conditions were to occur,

1 would a storm of that magnitude also affect the
2 remainder of Kiawah Island? - - - - -

3 A I would say if it's big enough to do a breach,
4 it's going to be big enough to do other damage
5 on Kiawah Island, yes

6 Q You've been talking about the dune ridges Do
7 the dune ridges at Captain Sam's, are they a
8 protector against storm surge?

9 A Yes, absolutely

10 Q The first line of defense?

11 A The first line of defense is the beach The
12 second line of defense is your foredune and the
13 successive ridges And the more dune ridges
14 you have, the more protection you have,
15 obviously

16 MR WALKER Nancy Jane, could you go to one of the
17 aerial photographs that shows in this exhibit
18 the dune ridges at end of the spit, please?

19 MS MURPHY (Complies)

20 MR WALKER Go to the next one It's near the end

21 MS MURPHY (Complies)

22 MR WALKER Yeah, go back to where you were

23 MS MURPHY (Complies)

24 MR WALKER Very good There you are

25 Q Are those the dune ridges that you're talking

1 about?

--2 A Yeah, this is --

3 MR WHITFIELD-CARGILE Trenholm, what exhibit is
4 this?

5 MR WALKER This is part of Exhibit Four, aerial
6 paragraphs, admitted yesterday

7 Q Go ahead

8 A Generally, we see ridges being less vegetated
9 and the myrtles growing in the swales between
10 the ridges I can't say that that happens all
11 the time, but that's normally the trend
12 So let's assume that for a moment here --
13 without having a topographic map, I can't
14 testify to that -- but this is normally what we
15 expect The myrtle -- this is wax myrtle, low
16 bushes and shrubs, that are growing in the
17 swale between successive ridges They need
18 some sheltering from the winds and salt spray
19 and so on So they propagate and a dune line
20 forms

21 This dune line here -- we'll assume that's one
22 of the ridges -- that predates anything that's
23 seaward of that, because as the beach is
24 building out, the earliest dune line and beach
25 line would have been way back here

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1 (indicating) Then you'd have a successive
2 ridge forming in this area (indicating), maybe
3 a few tens of feet seaward, and then another
4 one here (indicating) And in between you
5 have, again, a row of low shrubs pretty much
6 aligned in between those dune ridges
7 So you can see -- you can count them One,
8 two, three -- at least four down in the lower
9 part of the spit here, before you even get to
10 the edge of the present dry sand beach The
11 edge of the dry sand beach is about there
12 (indicating) The edge of the wet sand beach
13 is off the figure The wet sand beach is way
14 out here (indicating) off the --

15 Q Would you say that those rows of dunes provide
16 good lines of defense for Captain Sam's?

17 A. Yes, I would

18 Q Are there other beaches, settled beaches, on
19 South Carolina (sic) that have less lines of
20 defense and less dune protection than Captain
21 Sam's?

22 A Yes I'll try not to be facetious, but there
23 are many

24 Q Could you give the Court some examples of fully
25 populated beachfronts where there is less dune

1 protection that Captain Sam's, including
2 Captain Sam's at the neck? --- -- --
3 A Well,* let's start at Litchfield Beach, Pawley's
4 Island, Central DeBordieu Island, Folly Beach,
5 Edisto Beach, portions of Hilton Head Island
6 Is that enough?
7 Q That's fine
8 MR WALKER Could we go back to where we were?
9 MR WHITFIELD-CARGILE Trenholm, could you tell me
10 what page --
11 MR WALKER Nancy Jane, could you tell him what
12 page that is?
13 MS MURPHY I can tell you what the Bates number
14 is
15 MR WHITFIELD-CARGILE Which page of Exhibit Four
16 is it, so I can refer to it?
17 MS MURPHY 866
18 MR WHITFIELD-CARGILE 866, thank you
19 Q Going back to the migration of the channel --
20 or let me ask you Is the channel going to,
21 without any type of revetment, continue to
22 migrate -- the channel of the Kiawah River in
23 the river bend, is it going to continue to
24 migrate southerly towards what would be the
25 direction of the ocean?

1 A In this area here (indicating)?

2 Q Right --

3 A Yes In my opinion, it will as long as this
4 marsh keeps building up on the opposite side of
5 this pinch point here (indicating)

6 Q You've discussed the accretion of the beach at
7 Kiawah Is the beach accreting right at that
8 neck, too, on Captain Sam's?

9 A Yes, it is On the oceanfront side, it's
10 accreting here (indicating) and it's eroding on
11 the back side

12 Q From your observations of aerial photographs
13 and your studies, is the beach accreting
14 faster, slower or at about the same pace as the
15 riverbank is migrating towards the beach?

16 A I'd have to say about the same pace, more or
17 less It really depends on what time period
18 you're looking at, but more or less the same
19 pace

20 Q We talked about whether the revetment would
21 have an effect on the inlet or the dunes
22 Would the revetment have any effect at all on
23 the marsh area that you pointed out between the
24 revetment and the inlet?

25 A On this marsh?

1 Q On that right reach right there

2 A I don't believe it would have a significant
3 impact There might be some very localized
4 scours, Mr Bohannon testified But I believe
5 because you're getting into the straight
6 section of Kiawah River here, your tendency for
7 scour due to channel meander lessens
8 significantly And, also, considering that
9 you're gaining sediment from the spit working
10 its way in -- this light sandy color, this is
11 sand that was working its way into the inlet at
12 this locality (indicating) -- further helps to
13 stabilize this portion of Kiawah Spit on the
14 back side

15 Q Will the revetment have an effect on the mud
16 banks and sand banks that we see near the
17 inlet, the tidal -- intertidal areas on either
18 side, the sandbars --

19 A You'll have to show me where you're talking
20 about, please

21 Q I'm talking about the mud flats and sandbars in
22 this area of the inlet

23 A No

24 Q Will the revetment have any negative effect on
25 them?

1 A No

2 -MR -WALKER One moment, Your Honor

3 That's all I have Thank you, Your Honor

4 MS ARMSTRONG Your Honor, I'll be glad to start

5 with Dr Kana It's 6 30 I'm probably going

6 to be at least an hour, I would imagine

7 THE COURT Well, go ahead and start

8 MS ARMSTRONG Okay

9 DR KANA - CROSS-EXAMINATION BY MS ARMSTRONG

10 Q Dr Kana, when Mr Walker was asking you about
11 areas that are spits that you thought were more
12 susceptible than Captain Sam's, you mentioned
13 DeBordieu and Hilton Head Those aren't spits,
14 are they?

15 A No I think I recall the question being, "Are
16 there any areas where there is development that
17 doesn't have that kind of protection?" I may
18 have misunderstood the question, but as far as
19 if you want to limit it to spits, I could say
20 South Litchfield Spit, Pawley's Spit along
21 Spring Street, Spring Avenue, those two in
22 particular have far less protection

23 Q Okay What about Folly and Edisto, are
24 those -- would you consider those spit areas?

25 A Well, certainly, the south end of Edisto is a

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1 spit of land growing into South Edisto River
2 Inlet But I was referring to the entire
3 oceanfront of Edisto Beach not having a large
4 dune ridge seaward of the development

5 Q The last photograph that we looked at right
6 before this, I believe it's still in Exhibit
7 Four, it showed the tip, the southwestern end
8 of the island, of the spit That image right
9 there

10 A Yes

11 Q And you said that there are about four or five
12 dune ridges there and that they give some
13 protection from storms, is that right?

14 A Yes

15 Q Now, that's not the area where the proposed
16 revetment would go, though, is it?

17 A No This is at the south or west end of the
18 spit

19 Q So the area where the proposed revetment would
20 go doesn't have nearly the amount of dune
21 protection that this -- the western end has,
22 does it?

23 A Well, it's certainly narrower, yes

24 Q Dr Kana, how many days ago were you asked by
25 Mr Walker to be an expert witness in this

1 case?

- 2 A I can't recall offhand, but it was a few weeks --- ---
3 ago I've been out-of-pocket and traveling and
4 quite a bit for the last month for a number of
5 reasons

6 Q Do you remember telling me last Friday at your
7 deposition that he had contacted you about
8 testifying in this case ten days ago?

9 A Yes, I would seem to recall it was around ten
10 days ago, which of course was said on Friday,
11 but I can't recall the exact date I'll have
12 to look back at my records

13 Q And this revetment structure as its proposed,
14 is it going to stop the movement of the spit on
15 the river side?

16 A It should certainly slow or stop the erosion
17 where the structure is placed on the river side
18 of the spit I believe that's its intended
19 purpose

20 Q All right Let me back up a question here
21 Right now, the river side of the spit is moving
22 towards the ocean, is that right?

23 A Yes

24 Q Okay And once we put a hard revetment
25 structure, you're going to stop that natural

1 movement of the spit, is that right?

2 A --I think that--is the whole purpose of the
3 application

4 Q And when you talk about not having any impact
5 on Captain Sam's Inlet, what you're actually
6 talking about is the very specific area where
7 the river dumps out and terminates in the
8 ocean, isn't that right?

9 A Yes

10 Q So you haven't considered the impacts of
11 actually where the revetment structure is going
12 to go itself, have you?

13 A In what regard?

14 Q Well, you've been to this area before, haven't
15 you?

16 A Yes, I have

17 Q And are you aware that the public uses the
18 riverbank area of the spit where the proposed
19 revetment is going to go as a beach-like area
20 for recreation?

21 A I really don't know what the public uses on the
22 back side of the spit I know the public uses
23 the front side of the spit I see the public
24 down at the inlet I see them launching kayaks
25 from the Beachwalker Park, but I don't -- as

1 far as what they do on the back side of the
2 spit where the revetment is, I don't know that --
3 that's a common landing area Because, from my
4 experience, along those cut banks, there's not
5 much of a beach to work with there, certainly
6 at high tide, because there's an escarpment
7 right there

8 Q There's not much on the front -- not much beach
9 on the front -- not much on the front beach at
10 high tide, either, though, is there?

11 A Well, there's considerably more because of the
12 flat slopes

13 Q Have you ever seen people kayaking, crabbing or
14 fishing in the river in that area?

15 A I have from Beachwalker Park just in passing
16 and in driving over Kiawah bridge, which is
17 just upstream from there

18 Q And once a 40-foot-long, 40-foot-wide, almost
19 3,000-foot-long structure is on that sandy
20 beach where people fish and crab and kayak,
21 they're not going to be able to do that anymore
22 there, are they?

23 A Not be able to do what?

24 Q Stand on the beach and pull up their boat on a
25 hard structure, stand on a rocky structure and

1 fish and crab and do the other activities that
2 - - - they do there right now

3 A Well, actually, you know, whenever you put in
4 a hard structure on the coast, and we don't
5 have a lot of hard structures on this
6 sedimentary coast of ours, oftentimes you have
7 a new suite of organisms attracted to it
8 Certain fish like hard-bottom habitat and it
9 may change -- I'm not going to say it's going
10 to improve or change -- hurt things, because
11 I'm not an expert in that area, but I think
12 it's pretty well known in the popular
13 literature that when you place a hard structure
14 in the water, it attracts a new suite of
15 organisms We see that through the barnacles
16 and oysters that attach to groins, jetties,
17 structures such as that
18 So I would expect that this structure, at least
19 the underwater part, will create some different
20 type of habitat, whether that's good or bad,
21 that's not for me to judge, but it's different
22 habitat --

23 Q Fair enough, but --

24 A -- which offers different recreational
25 opportunities

1 Q But you hadn't done any look at what the impact
2 of this structure would be on public access,
3 have you?

4 A No, I would -- I don't feel qualified to see
5 that I don't know the specific plan in that
6 detail

7 Q We were talking about -- we talked a little bit
8 or you talked with Mr Walker about the inlet
9 relocating itself That inlet at Captain Sam's
10 Spit, it's relocated itself naturally in the
11 past, hasn't it?

12 A Yes, it has, a number of times

13 Q Okay It has a number of times Since about
14 1661, we've got data that shows that that
15 inlet's breached, what, four times, is that
16 right?

17 A I don't know the exact number, but it's
18 probably no more than four times in the record
19 up through around 1948, '49

20 Q And most recently when we had a breach or a
21 washover, that was in 1949, wasn't it?

22 A We think it was around 1948 or '49, but we
23 can't be absolutely certain because the
24 inlet -- there's no data between the 1920's and
25 1949 when there was an aerial photograph So

1 all you can do is go by what was there in 1949,
-- - 2 which was the last aerial image around the time -
3 of the inlet So, again, we don't know when it
4 happened and how it happened

5 Q Have you seen a recent photograph of the 1949
6 aerial photograph?

7 MR WALKER We have one right here Show it to
8 him

9 MS ARMSTRONG Okay All right

10 THE WITNESS Sure We've had this in our files at
11 my office for 30 years

12 MS ARMSTRONG Okay Could we show the Judge
13 exactly where -- what we're looking at here and
14 what's going on, where the inlet is right now
15 If you don't mind stepping up

16 THE WITNESS Sure

17 MS ARMSTRONG If you don't mind if we approach the
18 bench I didn't even ask you, Your Honor

19 THE COURT That's fine

20 MS ARMSTRONG Show the Court what's going on here

21 THE COURT Go ahead and step around

22 MS ARMSTRONG Step around the other side

23 THE WITNESS (Complies)

24 Q So this is the 1949 aerial image, is that
25 right?

1 A Yes It was done in -- I think that's

2 March 11, 1949 - - - - -

3 Q Okay And where is Captain Sam's Spit on this
4 map?

5 A Captain Sam's Spit is this feature right here
6 (indicating)

7 Q So it's on --

8 A Beachwalker Park -- today's Beachwalker Park
9 would be situated right about this location
10 (indicating) and this would be Kiawah River
11 coming down to the south and bending

12 Q Okay And so you're talking about the upper
13 right-hand corner is where the spit of sand
14 that's kind of coming out from that corner --

15 A That's right

16 Q -- that's where Captain Sam's Spit And
17 exactly -- can you use words to describe where
18 Beachwalker Park is? Is it where the
19 vegetation starts and vegetation ends?

20 A Beachwalker Park would be the upper right-hand
21 corner where this dark vegetation terminates
22 This would be approximately where the dune
23 walkover for the present day park is located
24 (indicating)

25 Q And I'm looking at this image, I see what looks

1 like what I would describe as two inlets Is
2 that kind of an accurate description? - - - - -

3 A Yeah, there are two small channels, one here
4 (indicating), which is the easternmost, and
5 then there's a second channel coming out
6 several hundred feet to the west, this being
7 the westerly direction (indicating)

8 Q All right And that easternmost channel, is
9 that cutting through -- the location of that
10 channel the approximate location of where
11 there's high ground and multiple dune ridges
12 and what we've been talking about as the spit
13 today?

14 A No Today's spit, of course, encompasses this
15 entire area (indicating), approximately here
16 extending at least down to somewhere in this
17 vicinity (indicating) This is the mouth of
18 Captain Sam's Creek, presently empties
19 somewhere around here (indicating)

20 Q Okay So where Captain --

21 A So the spit proper today is basically in this
22 area (indicating)

23 Q Okay So where the spit is today, on this map,
24 if we're looking at -- if we were to
25 superimpose this map on where the spit is

1 today, there's actually two sort of inlets that
2 - cut-across-that area of land, is that accurate?

3 A Yes, at that point in time

4 MS ARMSTRONG Okay All right Your Honor, I
5 don't -- this isn't marked, but I'd like to
6 introduce this into evidence I've got my own
7 copy I don't know, Trenholm, if you've got --

8 MR WALKER I put it on my list, too, and no
9 objection

10 MS ARMSTRONG Okay How do you want to --

11 MR WALKER If you want to mark yours, because it's
12 easier to go in the record, and we'll just use
13 my poster board for -- because it's easier

14 MS ARMSTRONG Yeah, we'll mark this one -- let me
15 get the correct number for you

16 MR WALKER No, I meant we'd mark the paper one and
17 we can refer to the poster board so the clerk
18 wouldn't have to carry around the poster board

19 MS ARMSTRONG Okay

20 THE COURT Or the Court would have to store it

21 MR WALKER Or the Court would have to store it

22 MS ARMSTRONG We've got multiple copies of the
23 1949 one, Your Honor This will be exhibit --
24 Coastal Conservation League Exhibit Three-A

25 (Off the record)

1 Q Dr Kana, when you first graduated, you started
2 working with Miles Hayes, is that true? - - -

3 A Yes, I did

4 THE COURT Wait a second

5 MS ARMSTRONG Oh, I'm sorry

6 THE COURT REPORTER Was that admitted or just
7 marked?

8 MS ARMSTRONG I was offering it into evidence

9 MR WALKER No objection

10 MR WHITFIELD-CARGILE No objection, Your Honor

11 THE COURT It's admitted

12 (CCL's Exhibit Number Three-A was admitted into
13 evidence)

14 Q You worked for Dr Miles Hayes, is that
15 accurate?

16 A Yes, I did

17 Q And what was the company that you worked with?

18 A Research Planning Institute, Incorporated

19 Q And Miles Hayes has been doing coastal geology
20 work for a pretty long time around South
21 Carolina, hadn't he?

22 A I consider him the father of coastal geology in
23 this state

24 Q Father of coastal geology, all right Right
25 there to your right, there's an exhibit on the

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1 table It's Environmental Inventory marked as

2 — — —Petitioner's Exhibit Number One You're

3 familiar with this document, aren't you?

4 A Yes, I am

5 Q Okay This is something that Miles Hayes

6 produced, is that accurate?

7 A He and a number of students and other

8 colleagues at the University of South Carolina

9 put together this inventory and I believe it

10 was published in 1975 It was done before any

11 development of Kiawah Island for purposes of

12 giving the new owners an inventory of what they

13 had, what they had just purchased

14 Q And when you say "inventory," would you

15 consider the geology section, which is what's

16 marked as Exhibit One, a comprehensive analysis

17 of the geology and coastal processes going on

18 at Kiawah when the study was done?

19 A Based on the state of our understanding of the

20 South Carolina Coast back then, yes, this was

21 considered, you know

22 THE COURT Can you move that so I can see him?

23 THE WITNESS (Complies)

24 THE COURT There you go Thank you

25 A Yes, this was considered an important document

1 at the time because it broke a lot of new
2 ground - - - - - - -

3 MS ARMSTRONG Okay Your Honor, I had moved to
4 admit this into evidence earlier and there was
5 an objection and I -- actually, I do have a
6 witness that I said was one of the writers of
7 this document But, actually, I think that
8 this document actually comes in under Rule
9 803(16) It's an ancient document It's been
10 in existence 20 years or more, the
11 authenticity, which is established -- I mean,
12 we've got two witnesses, they say they know
13 what it is, they know who the author is who
14 wrote it and this actually is an exhibit that
15 was provided by KDP, so they had it in their
16 possession or were well aware of it, so I'd
17 seek to have it admitted into evidence at this
18 point

19 THE COURT First time I ever heard that rule used

20 MS ARMSTRONG Mr Chandler pointed it out to me
21 last week

22 MR WALKER Your Honor, I don't believe that this
23 rule was meant to apply to documents like this,
24 that anything over 20 years comes into evidence
25 automatically

1 This is filled with opinions and we do not have
-- 2 - the persons who rendered those opinions here to - - - - -
3 cross-examine them It's hearsay We think
4 it's highly prejudicial that this document come
5 in I don't think it qualifies under the
6 rules, nor was it intended to apply to
7 opinions

8 In our estimation, at most, it would be a
9 learned treatise under 803(18) that she could
10 use to cross-examine our expert, but it's not
11 something that comes into evidence as an
12 ancient document

13 THE COURT Now, for you to say that it has hearsay,
14 the problem with that is that this is the
15 exception to the hearsay rule, so I kind of got
16 to ignore that part, because that's the whole
17 purpose of the exception to the hearsay rule is
18 that hearsay things come in

19 So I'd have to go back to, if he's identified
20 it as authenticate and it's been in existence
21 20 years or more, then why would it be improper
22 given those two points?

23 MR WALKER I would like to look -- consistent with
24 prior case law, I'd like to look at prior case
25 law tonight I don't think it was meant

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1 certainly for opinion evidence I think
2 ancient documents --

3 THE COURT Well, I'll hold off on my ruling,
4 because, like I said, this is the first time
5 I've ever had this brought up I need to look
6 at the law myself, to be honest

7 MR WALKER Well, we agree it's an antique and it
8 doesn't apply, but I want to study it under the
9 hearsay rule

10 THE COURT Well, I mean, you can make that argument
11 as to whether or not -- the probative value of
12 it It may be 20 years old, but you can argue
13 that that doesn't have nearly as much probative
14 value, but that's a different issue about
15 whether it's introduced

16 MR WALKER I understand

17 THE COURT But I am going to look at that tomorrow
18 morning since we're getting close to finishing
19 up now, anyway So thank you for presenting
20 something interesting

21 MS ARMSTRONG I just want to make sure you've got
22 some work to do this evening, also, Your Honor

23 THE COURT I have some work this evening and
24 tomorrow morning The more you lose here, the
25 more you can come up with interesting arguments

1 to make, Mr Chandler
2 It applies to my father, too, apparently---But ----
3 then that means that he should have an equal
4 adversary on the other side over here

5 MS ARMSTRONG Ouch

6 THE COURT Okay I'm going to consider it tonight

7 MS ARMSTRONG Okay

8 Q Dr Kana, looking at Exhibit One, I want you to
9 turn with me to G -- what's marked as G-117,
10 page G-117 Actually starts at G-116

11 A (Witness complies) Okay I got it

12 Q Okay Now, there's -- in the middle of the
13 page it says "recurve spit beach," and it talks
14 about the tidal inlet at the mouth of the
15 Kiawah River has steadily migrated towards the
16 west over the past few decades That's
17 referring to Captain Sam's Spit and Inlet,
18 isn't that true?

19 A Yes, it is

20 THE COURT You're referring to that document that
21 we haven't introduced yet?

22 MS ARMSTRONG Right Well, I think -- I thought
23 it was admitted subject to being linked up --

24 THE COURT Oh, okay

25 MS ARMSTRONG -- by my expert who authored it

1 While I was thinking about it and remembered
2- - - the ancient documents rule --
3 THE COURT Okay
4 MS ARMSTRONG -- I thought -- to make sure I got
5 it in I didn't want to forget to link it up,
6 so I thought I would --
7 THE COURT Okay
8 MS ARMSTRONG -- ask you to admit it under the
9 ancient documents
10 Q And then on -- while we're talking about the
11 spit under -- on page G-116, it talks about the
12 fact that it's migrating in a westerly
13 direction at over a hundred feet in a year, is
14 that right?
15 A That's what it says here, yes
16 Q Okay And this was something that was produced
17 by Dr Miles Hayes, your former employer?
18 A And his students
19 Q And his students, okay And when you turn over
20 to page G-117, Dr Hayes gives some
21 recommendations on the uses of the spit It
22 starts about the middle of the page If you
23 could just read that for the Court where -- the
24 sentence that starts with "with" and go to the
25 end of that paragraph

1 A Sure "With reference to stability and
2 susceptibility to erosion, we consider this an
3 area that should not be developed for the
4 following reasons One, this land has been
5 completely eroded and redeposited at least
6 twice during the past 200 years, two, the neck
7 of the spit is obviously susceptible to
8 overwash during hurricanes, and, three, if an
9 overwash were to develop, the inlet could be
10 relocated near Osprey Point (refer to figure
11 one) "

12 Q And you don't disagree that the land's been
13 completely eroded and redeposited at least
14 twice during the past 200 years, do you?

15 A No, no There's evidence that that has
16 happened, yes
17 But the one thing I would like to add here,
18 that I think is relevant, is there's a
19 reference to observations that the group made
20 back in -- this is 1974, the summer of '74,
21 just before I came to University of South
22 Carolina as a graduate student The reason I
23 remember this summer quite well is, I joined
24 the University in 1974, and we heard a lot --
25 we did a lot of review of the Kiawah history in

1 the 1974, 1975 time period and that's what
--2 -- gives me some familiarity with this
3 There's a mention in this section on page G-116
4 to the evidence for overwash at the neck of the
5 spit during the past decade That's on the
6 bottom of page 116 And the interesting point
7 I think that's relevant that should be brought
8 out here is that in the last 30 years, since
9 1975, there have not been washovers anywhere
10 along that portion of the neck of the spit and
11 there's much more that we know about the spit
12 growth and why it grows today than this group
13 knew back in 1974, in my opinion

14 Q And how many hurricanes have we had since then?

15 A We had Hurricane David in 1979 that directly
16 impacted this area It washed out a big
17 section of revetment on Seabrook Island, caused
18 extensive destruction of the revetment in front
19 of the Beach Club, and this is just three
20 miles, four miles downcoast It caused some
21 dune recessions, scarping of the dunes along
22 Kiawah Island I know that from firsthand
23 observations It realigned one of the
24 secondary channels of Captain Sam's Inlet, and
25 that was reported in a study by Jerry Sexton

1 for his Master's thesis in 1982 And after
2 1979, the next hurricane was Hurricane Hugo,
3 which impacted the coast entering in the
4 vicinity of Sullivan's Island and Island of
5 Palms, which was to the north So Kiawah
6 Island and Seabrook Island and Captain Sam's
7 Inlet did not sustain the same degree of storm
8 surge that places like Isle of Palms did,
9 nevertheless, they did have some very heavy
10 wave action

11 Q But Ivan was in Charleston

12 A Did I say Ivan?

13 Q The eye of Hugo The eye of Hugo --

14 A The eye of Hugo, yes

15 Q -- was in Charleston It wasn't down in --

16 A It was north of Kiawah, that's correct

17 Q Right Okay If you could turn with me now to
18 page G-163 And just looking at the
19 "conclusions", the Environmental Inventory
20 study identified about -- under "conclusions"
21 number one, about the middle line, they
22 identified that there's a source of sediment
23 from Kiawah and they also say that -- at the
24 end of that paragraph, that major reversal in
25 the present depositional trends of sands from

1 Folly and up northeast is not expected to occur
2 within the next 50 years

3 So we're still really within that 50-year time
4 period where Hayes said in '74 that we'd still
5 be experiencing accretion on Kiawah, isn't that
6 right?

7 A And you're referring to what's said in the
8 first conclusion?

9 Q Right

10 A Would you just give me a moment to read that?

11 Q Sure

12 A It's a long paragraph (Reading) Okay

13 Q So you would agree that we're still within that
14 50-year time period that Hayes predicted we'd
15 experience continued deposition and accretion
16 on the spit?

17 A Yes

18 Q All right And so we've got still another 25
19 years or so that we can expect deposition,
20 according to this study

21 A If you took -- if you want to take that
22 literally

23 Q Okay

24 A I would testify, though, based on what I know
25 now, 30 years later, that you can expect

1 continued accretion even longer than the next

2 - 25 years - - - -

3 The other thing that I would clarify here is
4 that the source of sand that's referred to by
5 Hayes, et al, is the erosion of Folly Beach and
6 Morris Island, the updrift islands immediately
7 to the east and north, however, much of the
8 sand that we're seeing coming onto Kiawah
9 Island originates in the present Stono Inlet
10 ebb-tidal delta

11 Studies after, subsequent to this report, done
12 by the University of South Carolina and others
13 have shown that Stono Inlet holds and traps
14 upwards of 100 million cubic meters of sand or
15 about 120,000 cubic yards of sand in its
16 ebb-tidal delta complex One hundred twenty
17 million cubic yards of sand

18 A portion of that volume periodically breaks
19 free of the inlet and migrates ashore at the
20 east end of Kiawah, attaches to the beach and
21 then migrates down and accounts for the
22 accretion of Kiawah

23 Now, whether or not that sand in the ebb delta
24 originated at Folly Beach, perhaps much of it
25 did, but erosion of Folly Beach alone would not

1 account for the accumulation of a hundred
2 million cubic meters of sand in that-ebb delta
3 There had to be some other sources earlier
4 So that is a subtle change that I think we've
5 learned since this report was done Remember,
6 this was one of the earliest reports of the
7 coastal geology of the South Carolina Coast
8 It was done in -- fieldwork in 1974, two years
9 after Miles Hayes moved to South Carolina

10 THE COURT All right We're going to take a break
11 now at this point
12 So what time do y'all want to be back tomorrow
13 at?

14 MS ARMSTRONG I'd be good with 9 30, but it's up
15 to

16 THE COURT I would prefer 9 00 just to make sure we
17 get him through tomorrow

18 MR WHITFIELD-CARGILE What time is his class,
19 11 00?

20 THE WITNESS Well, Your Honor, I have an
21 alternative for my class tomorrow where I can
22 get a substitute teacher

23 (Off the record)

24 THE COURT I'd like to get this case through this
25 week I don't know if it's going to happen,

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1 but nine o'clock, if that's okay

2- MS -ARMSTRONG All right That's fine

3 THE COURT Thank y'all for your time

4 (The proceedings adjourned at 7 03 p m and

5 reconvened Wednesday, August 26, 2009, at 9 00 a m

6 as follows)

7 THE COURT All right I'm going to go ahead and

8 address one of the legal issues that we left

9 with yesterday and that's admission of a

10 document -- I don't remember the exhibit

11 number, the ancient -- what you were seeking

12 under the ancient documents

13 MS ARMSTRONG Exhibit Number One

14 THE COURT Exhibit Number One?

15 MS ARMSTRONG Yes, Your Honor

16 THE COURT 803(16), I've researched it and, on one

17 hand, I've looked through McCormick's

18 two-volume set on evidence, Practitioner's

19 Series, and I've reviewed "Hearsay Handbook,"

20 Fourth Edition, by David F Binder Both of

21 them addressed this subject and both of them

22 have soundly criticized the rule

23 But, just for the record, I want to put in

24 Mr Binder's comment was "This is a terrible

25 exception to the hearsay rule The drafters of

1 the Federal Rules of Evidence have, I'm afraid,
2 fallen prey to the pernicious Persian
3 platitude, quote, the longer the beard, the
4 greater the wisdom, end quote As I've
5 formerly said something similar, that just
6 because something is more than 20 years old
7 doesn't mean that the truth -- its truth is any
8 more truer than the day it was uttered," so I
9 recognize all that But I'm not the one who
10 was asked to consider the Rules of Evidence in
11 this regard

12 And I've also found the case of George v
13 Celotex Corp, 914 Fed 2nd 26 It's the Second
14 Circuit, 1990, and it involved an unpublished
15 scientific document and it allowed the
16 admission of that document of more than 20
17 years because it was more than 20 years old
18 I will state that my readings certainly have
19 made it clear to me that just because the
20 document is admissible, certainly doesn't mean
21 that it carries much probative weight Its
22 probative weight will be judged on -- and
23 especially, even more so, if -- because I think
24 maybe the theory of this document, it all
25 depends on how you read it You've got one

1 person making a statement and you've got
 - - -2--- hearsay on hearsay or statements within the - - -
 3 document, the probative value is lessened
 4 So the bottom line is I'm admitting it For
 5 what weight it carries, I'll address that down
 6 the road But it is admitted and I know
 7 subject to your objection
 8 MR WALKER May I be heard when you finish?
 9 THE COURT Yeah If you found something to the
 10 opposite I'm propounding what I've been --
 11 MR WALKER As I said, I had not looked at it and
 12 I looked at it last night, too What I could
 13 determine is that it applies to statements in
 14 documents, not the document It says here
 15 "statements in a document " It doesn't say the
 16 document is inadmissible, it says "statements
 17 in the document " The cases I found talked
 18 about particular statements in document
 19 THE COURT Okay Let me -- keep on going
 20 MR WALKER All right Also, while there wasn't
 21 much law, Your Honor, what I could find
 22 indicated that it applied only to statements
 23 and not to opinions
 24 Now, you did bring up the Celotex case I
 25 didn't find the Celotex case and I'm not going

1 to argue about holding because I haven't read
2 the Celotex case -
3 THE COURT Well, if you need to get it -- it says
4 the document is admissible as a statement in an
5 ancient document pursuant to -- so it did admit
6 the whole document

7 MR WALKER I would think that would be contrary
8 to, because it says "statements in a document "
9 It doesn't say "a document containing
10 statements " It says "statements in a
11 document " So the first thing, if it's
12 admissible, we'd like them to identify the
13 statements that they claim are the statements
14 that they want to --

15 THE COURT All right I don't have any problem
16 with that I want to hearing their argument on
17 that

18 MR WALKER The second thing is, I looked in South
19 Carolina and it does recite the rule, but two
20 instances where I could find it -- or three --
21 dealt with true statements And I did look in
22 the res gestae exception to the hearsay rule
23 and there's a case which I have, and I can hand
24 up in a minute, that says that res gestae
25 exception for statements doesn't apply to

1 opinions because opinions are not statements
2 And in this instance, you know, there's a rule--- -
3 on opinion testimony, there's a rule on
4 hearsay, and hearsay applies to where a
5 statement is offered by an out-of-court
6 declarant for the truth of the matter stated
7 therein

8 My reading of the cases is that the
9 overwhelming majority of the cases considered
10 involve instances where there are statements of
11 percipient witnesses where facts are being
12 affirmed through the use of documents, not
13 opinions

14 THE COURT I just don't -- do you have any cases
15 that address -- distinguish the facts versus
16 opinions, because that's the one thing I
17 haven't found

18 MR WALKER I do have one

19 THE COURT I read this quickly in both Binder and
20 McCormick I didn't see the distinction in
21 facts versus opinions

22 MR WALKER All right I'm going to hand up -- and
23 this on the hearsay rule, in general, and the
24 res gestae exception to it, which I think would
25 apply

1 THE COURT The res --

2- MR WALKER - -Res gestae --

3 THE COURT -- gestae doesn't really exist anymore

4 The hearsay rule took it apart and separated it

5 into two distinct variables

6 MR WALKER But the case law would still apply as

7 to what's a statement Maybe the common law

8 doctrine doesn't exist anymore

9 THE COURT Well, arguably -- the case law is

10 interesting on that because they say it does

11 and it doesn't exist because -- the theory has

12 been adopted through the two exceptions in that

13 regard But go ahead

14 MR WALKER The case that I found, and I didn't

15 have an enormous amount of time, but it's Baine

16 vs Self Memorial, 314 Southeast 2nd 603, Court

17 of Appeals, 1984 And as far as res gestae was

18 concerned, it said statements of fact come in

19 under the res gestae exception to the hearsay

20 rule, but not opinions In other words,

21 opinions are not statements So I offer it for

22 the case law that opinions are not statements

23 May I approach to provide it to the Court?

24 THE COURT Yeah

25 MR WALKER (Tendering)

1 THE COURT All right

2 MR WALKER We also believe that you're the--
3 gatekeeper, you know, and the admission of
4 evidence is in your discretion Where we have
5 a document that is full of opinions and
6 interpretations with nobody to cross-examine,
7 we don't think it exhibits the trustworthiness
8 that would be a threshold requirement for
9 admission without the writers of the document
10 being available for cross-examination We
11 think it's prejudicial that we can't
12 cross-examine them, but we do take some solace
13 in your comments about you weigh and will
14 consider --

15 THE COURT That's still something to consider, that
16 the writers aren't present Okay

17 MR WALKER They are living -- some of them are
18 living and they're not here

19 THE COURT Okay

20 MR WALKER They could have brought them, but they
21 didn't bring them

22 THE COURT All right Ms Armstrong, he's got a
23 statement or case involving res gestae and I'll
24 state, for the record, as I said earlier, res
25 gestae arguably did not survive the Rules of

1 Evidence, but I think it survived in theory,
-2-- - because what the writers did is they took the - -- -
3 elements of res gestae and they separated them
4 from presence sense impression in the hearsay
5 rule and excited utterance, because what they
6 were doing with res gestae, if it was a running
7 continuum, a way to examine that continuum
8 All that said, I think the -- I think it is
9 pertinent to consider the case law concerning
10 the theory of res gestae as application of the
11 hearsay rule But, obviously, we're not
12 dealing with those two concepts at this point
13 in time, but we're also dealing with the
14 concept of admission of hearsay, which is the
15 basic gate through which we pass before we get
16 to the document But with all that said, can
17 I hear your argument?

18 MS ARMSTRONG Well, I guess what it comes down to
19 is, I don't see any exception in Rule 16 for
20 opinions coming in that are in ancient
21 documents and, not having researched this
22 issue, turning to the note for subsection 16,
23 there are two cases where documents more
24 than -- the actual document itself more than 30
25 years old under prior case law where 30 years

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1 was considered an ancient document, there are
2 two cases where those documents -- the
3 documents themselves were admitted
4 So I think when it comes to the document
5 itself, rather than just statements in the
6 document, the document itself is admissible and
7 I don't -- as far as the opinions, there isn't
8 anything in 803(16) that would limit the
9 admission of hearsay documents just because it
10 contains opinions
11 I mean, I think what Your Honor's ruling was on
12 the -- I think it was the first day, was that
13 this document was admitted subject to linking
14 it up --

15 THE COURT Yeah

16 MS ARMSTRONG -- to a witness And I've got a
17 witness tomorrow If Your Honor wants to
18 withhold the ruling on the 803(16) --

19 THE COURT I'll do that, then That will save us
20 time, anyway

21 MS ARMSTRONG Yeah

22 THE COURT Okay If you fail in that attempt with
23 your witness --

24 MS ARMSTRONG We can revisit?

25 THE COURT I'll make a ruling on this before that

1 You're the Judge, Your Honor

2 THE COURT I'm not going to burn somebody for-- -- -- --

3 turning it off Okay All right

4 Q All right Dr Kana, you were talking
5 yesterday about the high volume of sand that's
6 coming down from Stono into Kiawah, is that
7 accurate?

8 A Yes

9 Q Okay Where is that -- and you said that there
10 wasn't enough sand coming from Morris and
11 Folly Where is the sand coming from that's
12 feeding --

13 A Kiawah?

14 Q -- Kiawah?

15 A It's from the ebb-tidal delta of Stono Inlet
16 Stono Inlet is, in simple terms, about a
17 hundred times as large as Captain Sam's Inlet,
18 so it contains about a hundred times more sand
19 in its ebb-tidal delta, those seaward shoals,
20 than Captain Sam's does, so that equates to
21 about 100 million cubic yards or cubic meters
22 of sand

23 Q Okay

24 A And so portions of that ebb-tidal delta
25 periodically break free of the delta and

1 migrate ashore under wave action And it's a
2 natural process Sometimes it's referred to as
3 bar bypassing or shoal bypassing, but it's the
4 process by which sand that is formerly trapped
5 just offshore beyond the beach is freed in some
6 manner to migrate ashore by wave action And
7 once it attaches to the beach, then the only
8 way it can go is back toward the inlet or
9 southwest along Kiawah Island

10 Q And that sand in the ebb-tidal delta, where
11 does that come from?

12 A Well, it's part of the entire littoral system
13 of the South Carolina Coast If you look at
14 the sand bodies of our coast, they're found in
15 the barrier islands, they're found in ebb-tidal
16 deltas, and then sometimes they're found in
17 isolated offshore ridges But these are all
18 concentrated deposits of sand that are
19 interspersed among deposits of muddier
20 sediments and so this is part of the matrix
21 that makes up the South Carolina Coast So
22 much of it is unseen It's under water, but
23 it's trapped in the form of ebb-tidal deltas,
24 fairly shallow platforms that are maintained by
25 tidal action going in and out of the inlet and

1 the sandbars coalesce out there and form these
2 low landforms, underwater submerged landforms
3 So it's a portion of that body of sand that is
4 periodically released to the downdrift beach
5 and that's how Kiawah gets its sand

6 Q And how did the sand get to that underwater
7 sandbar or delta? Where did that come from?

8 A Well, going back far enough in geologic times,
9 a lot of that sand would have come down from
10 the Piedmont It's been reworked, so it comes
11 down through the rivers, the river system And
12 the sea level rises, then that sand is
13 concentrated in these bars, some of which form
14 our barrier islands, some of which remain in
15 the deltas And then other sand over decadal
16 to millennial scale will shift from one barrier
17 island to another, but it has to take a very
18 circuitous path across Stono Inlet So some of
19 the sand originated in Folly Beach and then
20 that sand would have fallen into Stono Inlet
21 and been part of the Stono Inlet deposits
22 But just to put some numbers on this, let's say
23 that you lost in Folly Beach 10 million cubic
24 yards of sand over a period of 25 or 30 years
25 I'll just throw out a round number Compare

1 that amount with the volume of sand that's in
2 ---Stono Inlet, which I just said is about 100
3 million cubic yards or cubic meters Okay
4 So, in other words, about one-tenth of the
5 volume that's in the delta may have come from
6 Folly Beach over a 25- or 50-year time frame,
7 just in real rough numbers So we know that
8 in -- we now know, based on more studies in the
9 last 30 years, that most of the sand that's
10 coming onto Kiawah has been hanging out in
11 Stono Inlet for the last 50 years

12 Q Okay And how much longer will that sand in
13 Stono last?

14 A Well, at the rate it's bypassing onto Kiawah
15 and it's -- it's going to last for many, many
16 decades, centuries, literally

17 Q What is the rate that it's passing?

18 A To Kiawah?

19 Q Yes

20 A Well, Dan Gaudiano, one of my students --

21 THE COURT REPORTER Can you spell that?

22 THE WITNESS Sorry It's G-A-U-D-I-A-N-O,
23 Gaudiano

24 A Dan Gaudiano's thesis was about the process of
25 sand bypassing and he estimated how frequently

1 and how large in magnitude these -- these bars
2 were - - - - -

3 I don't recall, off the top of my head, the
4 exact frequency of bypassing, but I think it
5 was somewhere around seven years Every seven
6 years there was an event, on average And I
7 think his finding was a couple of hundred
8 thousand cubic meters to maybe half a million
9 cubic meters bypassed in each event So the
10 average annual rate was whatever that fraction
11 was, divide the number of years into that
12 volume

13 That estimate by Gaudiano probably
14 underestimated the quantities, and that's for
15 a number of technical reasons, because the
16 methodology and the data he had available, he
17 was just working off of aerial photography, so
18 he didn't have detailed bathymetric surveys to
19 quantify this in great detail, so he took a
20 fairly conservative approach

21 The long and short of it is, as I testified
22 yesterday, there were two events in the 1990's
23 which we were able to measure a little more
24 accurately and we estimate that they provided
25 upwards of five million cubic yards in those

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1 two sandbars that came ashore somewhere between
2 1994 and 1998, thereabouts They merged
3 together They attached to the beach They
4 literally built a nearly three-mile-long
5 barrier island seaward of Kiawah's shoreline,
6 so the old shoreline, say from 1989, is
7 completely enveloped by a new sandbar system
8 that if you measured it from one end to the
9 other would wrap around the east end of Kiawah
10 to the tune of about two and a half to three
11 miles And behind that sandbar was a lagoon
12 that had a dimension of about 1500 feet wide
13 So this how we arrive at this estimate of about
14 five million cubic yards has been added to the
15 east end of Kiawah, okay, in that one event
16 Now, there's another event going on, as we
17 speak, a sandbar that has been migrating
18 onshore and I believe the -- our preliminary
19 estimates are it contains a couple of hundred
20 thousand cubic yards I don't have the exact
21 figure in -- off the top of my head, but it's
22 of that order of magnitude And so it's come
23 on on top of these other bars and is now
24 attaching at the east end
25 So I can't tell you exactly how many cubic

1 yards per year are released from Stono Inlet
2 onto Kiawah Island, but whatever number has
3 been published in the past by Gaudiano, or any
4 other group, including our company, would
5 probably be an underestimate of what has come
6 in in the last 15 years by perhaps an order of
7 magnitude

8 Q But you just don't actually know what that
9 number is, so you can't say for sure how long
10 that sand is going to continue to supply
11 Kiawah

12 A No And that's -- and that's a -- that's a
13 very difficult number to come by, but the -- I
14 think the point to make here is that it's a
15 process that Gaudiano, I think, identified
16 perhaps ten events going back to the 1940's up
17 to the 1990's when he was doing his research
18 Since the 1990's we've had at least three
19 events, because we had two in the 1990's and
20 then we had one that's been ongoing for the
21 last three years, so that's kind of keeping up
22 this track record of periodic shoal bypassing
23 from Stono Inlet to Kiawah, and I think there's
24 sufficient evidence to believe that that
25 process will continue It's not going to just

1 stop next week or next year or the next decade
2 I believe, truly, that process will happen -- --- --
3 But even if it doesn't happen, and perhaps this
4 is the more salient point here, there is so
5 much sand bottled up at the east end of Kiawah
6 that is what I would call out of equilibrium,
7 the shoreline is still adjusting to this
8 massive influx of sand And by that I mean
9 some of that sand, once it migrates onshore, is
10 going to work its way downcoast in the littoral
11 transport system and that process will continue
12 whether or not the east end receives sand

13 THE WITNESS So let's say for a scenario -- I'm
14 probably running on too long here, Your
15 Honor -- but let's say all the sand bypassing
16 at the inlet stops today and there's no more
17 events for the next 30 years, say Then what
18 happens is the east end of Kiawah, all this
19 sand that's accumulated becomes the source of
20 sand to supply the rest of Kiawah So, in
21 other words, the east end of Kiawah is
22 cannibalized to allow the west end of Kiawah to
23 continue growing And that process will
24 continue regardless of whether sand comes off
25 of Stono Inlet or not I'm sorry for the long

1 answer, Your Honor

2 THE COURT That's fine, sir

3 Q And you talked about an event that brought five
4 million cubic yards to the east end of Kiawah,
5 is that right?

6 A Two -- two events that merged together

7 Q Are those natural events?

8 A Yes

9 Q Okay But you're familiar with the Ocean
10 Course Golf Course on the east end, aren't you?

11 A Yes

12 Q Despite all that huge volume of sand on Stono
13 Inlet, they still had to do a renourishment
14 project several years ago on the Ocean Course
15 to prevent the 18th hole from washing into the
16 ocean, didn't they?

17 A Yes

18 Q You said that hurricanes were a specific
19 interest of yours yesterday, is that --

20 A Yes

21 Q -- true?

22 A Can I also add, since you brought up the Stono
23 Inlet course, the east end of Kiawah, when it
24 experiences these shoal bypassing events, goes
25 through a cycle and part of that cycle involves

1 erosion immediately adjacent to the point of
2 shoal attachment, when these bars come in, they
3 change the wave patterns around, so while one
4 area is accreting very rapidly, building up
5 hundreds or even thousands of feet, in this
6 case, the adjacent just immediate downcoast
7 area may be eroding by hundreds of feet
8 And that's, indeed, what happened in front of
9 the Ocean Course They were just downcoast of
10 the leading edge of this big sandbar and so
11 they lost 700 feet of dunes in the space of a
12 couple of years because you had this monstrous
13 big bar coming in that was focusing the waves
14 immediately ahead of it So by shifting sand
15 from a part of the bar into the area which was
16 eroding and closing that flushing channel, they
17 were able to straighten out the shoreline so
18 the flow of sand would continue uninterrupted
19 or with less interruption So it speeded up
20 that process of getting the bars onshore I
21 wouldn't call it nourishment in the sense of
22 bringing of a whole new sand supply It was
23 simply shifting sand from one portion of the
24 shoal to the eroding section

25 Q So right on Kiawah Island on two areas that

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1 were adjacent to each other you had one that
2 was experiencing significant accretion and one
3 right next to it that was experiencing severe
4 erosion, is that right?

5 A Right, and that was part of the short-term
6 cycle that's associated with all bar bypassing,
7 shoal bypassing from the inlets to the beach

8 Q And are these the kind of events that typically
9 occur on inlets on barrier islands?

10 A They do more so in the South Carolina Coast
11 because of the nature of our deltas and the
12 size of the shoals offshore There's a
13 tendency for these to be more prominent than
14 they are on other beaches, such as the east
15 coast of Florida, where the inlets are much
16 smaller

17 Q Now, would you -- speaking specifically about
18 Captain Sam's Spit, would you agree that the
19 breaches on the spit are related to a history
20 of severe storms with large storm surges in
21 that area?

22 A Well, the conventional wisdom, what we were all
23 brought up to believe, and -- the conventional
24 wisdom is that in a -- a migrating sand spit
25 that's bounded by a shallow inlet, such as

1 Captain Sam's, it's unstable in terms of its
2 position A setting like that, if the inlet is
3 shifted downcoast because of elongation of the
4 sand spit that forces the inlet downcoast, that
5 inlet becomes less efficient for the flows
6 coming out of the estuary

7 In other words, if the -- it's easier for the
8 flow to go straight out from the marsh directly
9 into the ocean than it is for the flow to go
10 out toward the ocean and then be diverted by a
11 sand spit several thousand feet or several
12 miles downcoast and then go out That's
13 somewhat less efficient hydraulically than if
14 you just have a straight shot through

15 So those spit breaching events could be --
16 could be the result of storms, they could be
17 the result of just chronic erosion along some
18 portion of the back side of the spit, weakening
19 it We've seen that in other settings where
20 there -- there are inlets that have formed at
21 times when there weren't storms, so there's a
22 number of processes

23 I can't speak to whether all of the breach
24 events at Captain Sam's Inlet throughout
25 history occurred as a result of storms, because

1 we don't have any records back in the 1600's or
2 1800's or 1700's that say, "Guess what, a new
3 inlet was cut as a result of the hurricane of
4 1776," or whatever There's just no record of
5 that

6 Q What kind of force, in your opinion, would it
7 take to break through the neck of the spit and
8 cause a breach?

9 A Well, the whole breach process is initiated by
10 high waves or high water levels that overtop
11 the barrier, the elevation of the spit
12 Usually the breach is going to be initiated by
13 a washover fan, a washover event where the dune
14 is pushed across the barrier and knocked down
15 so the dune no longer has as much height That
16 initiates the event And you have to remember
17 that during a storm surge, there's a water
18 level increase on the ocean side, followed by
19 a water level increase on the lagoon side So
20 the ocean comes up, the storm comes in, it
21 brings its high waves, it cuts away the dune
22 And if it cuts away a single foredune, for
23 example, then it can penetrate landward and
24 wash sand into that creates these washover
25 fans, okay? And that's happening as the storm

1 surge is coming in and rising

2 The actual cutting of a breach channel -- --

3 typically occurs on the outgoing tide, because

4 what's happening is the lagoon is now filling

5 up and it's full of water and the water levels

6 on both sides of the barrier may be the same

7 And if they are, then nothing is going to

8 happen But if the ocean falls, leaving a head

9 of water, a higher water level in the lagoon,

10 then that provides a pathway for the water to

11 leak out

12 So then the key thing -- and this is where --

13 this is one reason we don't have very many

14 breaches -- the timing of these things has to

15 be such that there's enough time for the

16 outgoing water coming over that sill, which is

17 well above high water where the dunes were,

18 that has to be able to trickle out and start

19 falling down to catch up with the ocean tide

20 fast enough to carve out a channel And if it

21 does that, then, yes, you have a new channel,

22 you have a full breach

23 But most of the time what you have instead is

24 just a partial breach The water level in the

25 ocean goes down, the water level in the lagoon

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1 goes down Why? Because there's another inlet
2 nearby for it to go out So if it goes out
3 fast enough, then there's no gradient for the
4 water to keep going through the breach That's
5 why we end up with more washovers after storms
6 than more inlets after storms And that's why
7 South Carolina typically doesn't have complete
8 breach inlets One of the few that we've had
9 in recent history was the Pawley's Inlet breach
10 during Hurricane Hugo And that was a case
11 where Pawley's Creek was so close to the ocean,
12 there was only about 100 feet separating the
13 creek and the ocean During Hurricane Hugo,
14 the ocean surge just overtopped it There
15 wasn't very much material that had to wash out
16 in that case

17 Q Right So when this idea that the water -- the
18 storm surge comes in and then it comes out, is
19 it -- I want to make sure I understand -- the
20 river curves around Is it looking for the
21 fastest way out? Is that why it cuts through
22 the neck?

23 A Yes, sure

24 Q When you talk about a washover event, that's
25 water that's coming, sloshing over the top of

1 the spit or at least the neck area of the spit

2 MR WALKER Object to the form of the question -- --- -

3 Q Is that accurate?

4 MR WALKER He didn't say that He said that it
5 involved -- the dune would be crested and the
6 water -- the sand would fan out on the other
7 side of the dune He said nothing about it
8 going over the top of the whole neck

9 THE COURT Well, she's on cross, but -- you do have
10 a proper objection as to -- or have a right to
11 object as to misquoting the evidence testimony
12 I didn't follow it close enough to catch the
13 exact --
14 I heard you say that there was a washover event
15 and then the particulars that occurred
16 thereafter, my mind didn't catch, so if you
17 could

18 MS ARMSTRONG Well, I think -- I can do that I
19 mean, I think --

20 Q Okay Dr Kana, when you were talking about
21 fanning out, you were talking about when the
22 water was coming in from the ocean into the
23 lagoon, is that right?

24 A Yeah, let me clarify this because I think
25 there's a -- you have a misunderstanding

1 There's a difference between the water coming
2 into the land at the intersection that's still
3 water, without any wave action on it It comes
4 into land and if that still water level is 20
5 feet above normal sea level, then the entire
6 spit, any -- most of the coast of South
7 Carolina is inundated, okay? Anything that's
8 below 20 feet sea level is under water right
9 there

10 But these washover events don't relate to that
11 elevation They relate to the height that the
12 waves can penetrate They tend to be higher
13 than that because a wave, when it breaks, it
14 washes up the beach So the washover is really
15 a feature as -- it's part of what a single or
16 several waves in succession will do They'll
17 run up the beach, up the platform above the
18 still water level, the level without any wave
19 action, they'll run above that over top of the
20 dune And then that water, it's like a wave
21 splash on a beach, every day it goes up and
22 down every few seconds That wave -- one of
23 those waves is a little higher than the others
24 and it will wash up and over And when it gets
25 over that dune crest, then it drives sand

1 downhill to the other side of the dune crest,
2 as simple as that

3 Q So the washover event is coming from the ocean
4 side

5 A Yeah, the washover is a wave-generated feature
6 It's from ocean side to lagoon side But it's
7 higher than the water level out in the ocean
8 and it's usually associated with the highest
9 waves in a set
10 If you've done any surfing, you know that there
11 are sets of waves that come in and some are
12 higher than others And it's those handful of
13 high waves that go up and over and deposit the
14 sand And then you'll have a period of time
15 where the rest of the waves are just sloshing
16 back and forth, they're not going up and over
17 So that's why these breach events are not as
18 common, because we can have washovers during
19 storms in many places, but to get the breach,
20 the water level in the lagoon has to be high
21 enough to get over that sill, that washover
22 sill It has to penetrate that and it has to
23 start cutting down with a channel It just
24 keeps eating away And if you don't get to
25 that point, you're not going to have an inlet

1 cut

2 --Q Do you know how high the sill is at the neck of
3 this spit?

4 A I'm not -- I'm not sure exactly, but I think
5 the elevations today are about 15 feet above
6 sea level on an average on the dune crest
7 But, again, if you could give me a survey that
8 I could read here, I'll be happy to call off
9 the numbers

10 Q So what are the forces that actually lead to
11 the breach in a hurricane? Walk me through
12 once the water comes in, it's in the lagoon
13 I want to make sure I understand

14 A Well, the forces are the waves knock down the
15 dunes, so that's wave forces creating these
16 washovers, okay? But then the lagoon water
17 level has to be above that sill elevation And
18 then what happens is you have a hydraulic
19 gradient between the lagoon water level and the
20 ocean water level and, because of that
21 difference, we call it the difference in head,
22 between the lagoon and the ocean level, that
23 will drive some flow through, okay? And it's
24 that flow that's cutting across the barrier
25 that then has to cut down this washover to a

1 depth that will sustain an inlet after the
2 storm goes away

3 Q Why wouldn't the water just follow the normal
4 path out the river into the inlet?

5 A Well, it does It is going out there But
6 it's also taking other shortcuts So you have
7 the main channel handling much of the flow, but
8 then you have, you know, these other low spots
9 that may be handling a trickle of the flow So
10 most of the flow is still going in the main
11 inlet and so this new incipient inlet that
12 you're talking about, the breach inlet, it
13 starts at a very -- it starts from nothing and
14 it has to grow And it takes time for a
15 channel like that to grow before it can achieve
16 the dimensions of the existing inlet that's
17 nearby And so that's another reason we don't
18 tend to have fully matured breach channels
19 forming in South Carolina, because there's a
20 nearby inlet to handle the flow

21 Q So when the storm comes in, it's like a big
22 wall of water? It's higher than -- how would
23 you describe that as it comes -- that water is
24 coming in?

25 A A storm surge is a superelevation of the tide

1 The winds pile the water up against the coast
2 It's not a wall It's just the water level - -
3 gradually rises It rises faster than normal,
4 but it's rising over several hours And as it
5 does this, whatever waves are associated with
6 that storm are coming in on top of that water
7 They're just acting wherever the water level
8 is

9 THE COURT You said that the inlet allows the
10 release of water -- so that I can understand --
11 you also said that in South Carolina the
12 distinction is that the mouths of the inlet are
13 significantly bigger than other areas, so for
14 that reason that is also one of the compounding
15 factors that limits the occurrence of breaches?

16 THE WITNESS Yes, sir As I testified yesterday,
17 South Carolina has more tidal inlets along it
18 per mile than other shorelines Also, our
19 tidal inlets tend to be quite large, like Stono
20 Inlet, North Edisto Inlet Captain Sam's Inlet
21 is one of the smaller ones

22 THE COURT So it's not the size of the inlets that
23 discourages the occurrence of breaches, it's
24 the amount of them, or is it both?

25 THE WITNESS It's the frequency of inlets along the

1 coast, one every five miles

2 THE COURT Okay

3 THE WITNESS That gives plenty of ways for the tide
4 to get out after a storm

5 And then the width of our barrier islands in
6 general is also an ameliorating factor\ Many
7 of our barrier islands are a mile wide or more
8 So those two factors cut down on the number of
9 breaches that we would expect

10 THE COURT All right

11 Q Dr Kana, I'd like you to look at a map with
12 me It's a 1922 US Geodetic Survey It hasn't
13 been marked yet I want to talk about the kind
14 of event that might have caused the inlet at
15 Captain Sam's Inlet to look the way it looks on
16 this map

17 MS ARMSTRONG Your Honor, may we approach the
18 bench?

19 THE COURT Yeah, but speak up

20 MS ARMSTRONG Okay

21 THE COURT Whenever y'all hear a greater noise, get
22 louder

23 MS ARMSTRONG This is Two-A Dr Kana, if you
24 wouldn't mind coming around just to -- I want
25 the Judge to be able to see Thank you

1 It's a fairly large map, Your Honor, but I
2 think we've got it folded so we can see what is
3 going on down at Kiawah

4 Q Dr Kana, can you just point to the Judge where
5 Captain Sam's Spit is on this map or where it
6 would be located, the land mass?

7 A Yeah, this is an interesting map because it
8 shows -- this would be Seabrook down here,
9 because this is North Edisto Inlet and Kiawah
10 is here (indicating) There's also an inlet in
11 the middle of Kiawah and then there's an inlet
12 here, which actually has a wide entrance,
13 according to the way this map -- this has been
14 mapped up out, and I think Kiawah Spit would
15 be -- present day Kiawah Spit would be in this
16 vicinity right here (indicating)

17 Q Can you just take this highlighter and write on
18 that map about where the spit would be today

19 A Today's spit?

20 Q Today's spit

21 A (Drawing) Without overlaying this, I can't be
22 absolutely certain, but it's similar, in this
23 vicinity

24 THE WITNESS I'm looking for some other landmarks,
25 too, but I believe it would be around there,

1 Your Honor, if this was rectified and overlaid

2 - - - with a --

3 THE COURT All right So this is a 1972 map

4 MS ARMSTRONG 1922

5 THE COURT Oh, so why does it reflect the current
6 conditions today?

7 THE WITNESS Does it -- are you asking -- I'm
8 sorry

9 THE COURT Because it's a 1922 map, it doesn't
10 reflect the current conditions of today?

11 THE WITNESS No, not at all

12 THE COURT All right

13 Q But the area where you've indicated the spit
14 would be today is mostly all in the ocean, is
15 that right?

16 A Yes But, you know, again, you can't -- based
17 on my experience with dealing with charts, once
18 you get to the shoreline, the accuracy and the
19 detail really becomes questionable because in
20 the early days a lot of these sandbars were not
21 surveyed accurately because the crews could not
22 get out there I can't attest to that I
23 didn't do this map But we've had problems
24 trying to rectify land masses that are drawn on
25 some of these charts with -- or through

1 rectified photographs from today Things don't
2 always line up as well as they should
3 In my opinion -- and this is -- you may not
4 want to accept this -- but these charts are for
5 navigation purposes, so the focus of the
6 effort, I believe, is on identifying the depths
7 of water for navigation purposes And when you
8 come to a major inlet, that's important because
9 that's a conduit for commerce But these small
10 ephemeral inlets, such as Captain Sam's Inlet
11 or the little breach through the front of
12 Kiawah, I'm not convinced in my mind that the
13 coastal geodetic survey back in the 1800's or
14 early 1900's was really focused on getting
15 detail in these small areas, because there
16 wasn't navigation, and it was difficult to get
17 the crews But, again, you may not want to
18 accept that opinion I don't know that for a
19 fact, but I think it is relevant to say that,
20 you know, these are charts of water depths and
21 the land mass features that are shown on them
22 are generally not done in a scale or an
23 accuracy that, you know, we would use for
24 rigorous analysis these days

25 Q Are these maps something that you would use in

1 your research and your papers and written
 2 documents where you're providing opinions on --
 3 what is happening at Captain Sam's Spit?

4 A Oh, sure, absolutely You have to go by
 5 something and --

6 Q So this is the most reliable information that
 7 we've got of what it looked like in 1922?

8 A From this point in time, without question

9 Q And there are some maps taken prior to 1922
 10 that you've seen and you've used to show the
 11 spit where it's actually a little bit closer to
 12 what you've drawn on it looks like today, isn't
 13 that true?

14 A Yeah, I can't remember what the -- there were
 15 some charts from the 1800's, 1850, perhaps, or
 16 1870 I don't even recall I think it's
 17 1854 -- in this setting that show this area

18 Q Looking more like what it looks like today, is
 19 that --

20 A I can't recall, but I think there is a spit
 21 there in 1854 If you get it out, I'll be
 22 happy to speak to that

23 Q What kind of force would it have taken to
 24 change from what we have similar to today to
 25 looking like what it looked like in 1922, in

1 this image?

2 A Well, chronic erosion can create this kind of
3 configuration We've seen this at Edingsville
4 Beach and other places where the beach line is
5 very narrow and it's backed by marsh deposits
6 and you have -- just continued chronic erosion
7 will expose the meanders of the creeks and open
8 up new inlets So the -- a very relevant area
9 where this happens -- it's happening today --
10 is between Edisto Beach and Seabrook Island
11 That breach there, which is called Edingsville
12 Beach, is a washover barrier and it's
13 retreating at about 15 feet per year And as
14 it does that, it occasionally retreats across
15 a meander of a creek and, all of a sudden, the
16 next day there's a new inlet where it's
17 intersected the creek And that's a process
18 that is very common
19 And so it's possible back in the 1910-1920
20 period there was some sustained erosion down in
21 this area that may have caused the shoreline to
22 retreat wholesale But we know that since the
23 1940's, certainly since '49, this area has been
24 accreting very rapidly and accumulating enough
25 sand, so that's why it's much different today

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1 than it was then

2 Q So the event that caused the spit to- - - - -
3 practically disappear in 1922 could have been
4 caused just by chronic natural erosion, is that
5 what you're saying?

6 A It could have, yes

7 Q We're done with this for right now If you'll
8 hand it to the court reporter

9 A (Witness complies)

10 Q Are there any other possibilities aside from
11 chronic erosion that could have caused what we
12 see in that 1922 image?

13 A Well, yes, storms

14 Q I want to talk a little bit specifically --

15 MS ARMSTRONG I'd like to admit Coastal
16 Conservation League Exhibit Two-A into
17 evidence, please '

18 MR WALKER No objection

19 MR WHITFIELD-CARGILE No objection, Your Honor

20 THE COURT It's admitted
21 (CCL's Exhibit Number Two-A was admitted into
22 evidence)

23 Q What are the hurricanes that have hit the South
24 Carolina Coast that you can identify?

25 A I'm sorry I didn't do my homework before this,

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1 but there were about 20 in the 20th century
2 that have hit our coast I can't cite all --
3 I should be able to cite all of them off the
4 top of my head, but I can't
5 The ones in the last 30 years are Hurricane
6 David in 1979 and Hurricane Hugo And then
7 there were numerous close misses and there were
8 a few storms that were exiting storms where
9 they came up through the Gulf and then came
10 through the South Carolina Coast within the
11 last five years or so

12 Generally, when it comes to hurricanes, I look
13 it up in the tables that are in some of our
14 reports that we summarize from data from NOAA
15 and others that compile these records

16 Q What was the path that Hurricane David took?

17 A My recollection is Hurricane David entered the
18 coast somewhere around Savannah to south of
19 Edisto on a diagonal path, oblique to the
20 coastline, almost in a due northerly direction,
21 I guess, and so anything -- any properties,
22 barrier islands to the north of that landfall
23 point were in the area of maximum surge
24 That's why Seabrook and Edisto got hit pretty
25 hard, as I recall

1 Q Where was the eye of that storm? Where did it
2 come ashore? - - - - -

3 A I believe the eye came ashore somewhere in the
4 Hilton Head area

5 Q And what category storm was David?

6 A I think it was only a Category I

7 Q Do you know where the highest sustained winds
8 were?

9 A No, I don't

10 Q Do you know how far out from the eye of the
11 storm there were hurricane force winds?

12 A No, not off the top of my head

13 Q Do you know what the height of the storm surge
14 was in Hurricane David?

15 A No, I don't

16 Q Do you know where the maximum surge occurred?

17 A Not off the top of my head It would have been
18 somewhere in probably the Edisto to Seabrook,
19 Kiawah area

20 Q Talking a little bit about Hurricane Hugo, do
21 you know what the path of Hurricane Hugo was?

22 A Yes, it was -- it entered the coast on the --
23 would have been near midnight on the 21st of
24 September 1989 It was an approach path that
25 was a direct -- directly perpendicular to the

1 shoreline of South Carolina, so it was moving
2 in a northwesterly direction I believe the
3 eye passed over Sullivan's Island and the south
4 end of Isle of Palms I believe the maximum
5 sustained winds were 135 miles an hour when it
6 made landfall I believe the point of maximum
7 surge was in the McClellanville/Awendaw area,
8 which is in Bull's Bay, so there was a water
9 level setup, because it's an embayment, and I
10 think that as about an elevation of 21 feet
11 I believe the open coast surge at Isle of Palms
12 was 16 feet above mean sea level And I
13 believe the surge up in the Pawley's Island
14 area was about 11 feet above mean sea level

15 Q Did you say --

16 A These are just some numbers I can think of off
17 the top of my head

18 Q Did you say 21 feet -- where was the 21 foot
19 surge? McClellanville?

20 A In the Awendaw/McClellanville area, which is
21 landward of Bull Bay Bull Bay is an embayment
22 about 40 miles north of Charleston and that
23 embayment amplified the surge up into the marsh
24 area because the water was able to be piled up
25 by the wind action to a higher level

1 Q So what -- I'm getting a little bit into my
2 next question What affects the height of a
3 storm surge?

4 A Several factors, but the wind stress is the
5 principal one The stronger the winds in the
6 onshore direction, the more tendency there is
7 for water to be piled up against the coastline

8 Q Okay And what category was Hugo?

9 A I believe it was Category III when it made
10 landfall

11 Q What about Hurricane Hazel, what was the path
12 of Hazel?

13 A Hurricane Hazel came in in the Grand Strand
14 area I don't know the exact landfall point
15 I believe it was the Litchfield/Garden City
16 area, because the Myrtle Beach area just to the
17 north, I believe, had a 15-foot mean sea level
18 surge associated with it At least that's the
19 figure that I've seen in the ancient
20 literature

21 Q Do you know what category Hazel was?

22 A Not off the top of my head, but I believe it
23 was a Category III

24 Q Do you know what the maximum sustained winds
25 were from Hazel?

1 A I don't

2 Q Do you know how high the storm surge was in - - -
3 Hurricane Hazel?

4 A As I said, there were some reports of water
5 levels in the Myrtle Beach area at about 15
6 feet mean sea level

7 Q And do you know where the maximum storm surge
8 occurred in Hurricane Hazel?

9 A No As I testified, it was somewhere in the
10 Grand Strand, as far as I can recall from the
11 Corps of Engineers literature and so on,
12 related to the storm

13 Q What about Hurricane Andrew, do you know about
14 the path of Hurricane Andrew?

15 A What year was that?

16 Q Well, first, I asked the question Second, I'm
17 not really sure I remember what year Hurricane
18 Andrew was

19 A What I recall Hurricane Andrew was the one down
20 in Miami Beach, I believe Is that --

21 THE WITNESS I'm looking for some nodding heads,
22 I'm sorry, Your Honor

23 A I believe that was the storm that impacted Dade
24 County/Miami Beach area Was it 1992, perhaps?
25 It actually did not have, as I -- the

1 interesting thing about that storm -- and

2 I'm -- - - -

3 THE WITNESS Again, I'm not an expert on Hurricane

4 Andrew, Your Honor

5 A -- but its storm surge was not as high I

6 think it was reported at eight to ten feet

7 range in the Miami area, but there was much

8 more wind damage associated with Hurricane

9 Andrew, if I remember correctly

10 Q Do you know what those maximum sustained winds

11 were?

12 A Certainly not off the top of my head, but it

13 was possibly Category IV when it made landfall

14 THE COURT Storm surge in Andrew wasn't as high

15 because it was fast-moving, is that --

16 THE WITNESS I don't know, Your Honor, off the top

17 of my head I think that was one of the

18 factors But also the storm surge in that area

19 of the continental shelf is not likely to be as

20 high -- because of the topography offshore, not

21 as likely to be as high as we would have here

22 in South Carolina, if I'm remembering this --

23 the flood levels correctly

24 But there are far more qualified people that

25 make their careers in studying storm surges and

1 hurricanes and could give you all that detail
2 I'd be happy to give you a reference for-that,
3 if you want

4 THE COURT That's okay Go ahead, Ms Armstrong

5 Q So -- and just touching on Hurricane Katrina,
6 are you familiar with that? Do you know what
7 the height of the storm surge was at its
8 highest point with Katrina?

9 A The reports I've seen indicate in some places
10 it may have as high as 27 feet above mean sea
11 level, which is extraordinary

12 Q Is there any way to predict when the next
13 hurricane's going to hit the coast of South
14 Carolina?

15 A I would be doing something else if I could do
16 that

17 Q So the longer that time --

18 A The answer is "no "

19 Q The longer that times goes on, we don't have
20 any less of a chance of a hurricane next year
21 than we do in five or ten years, do we?

22 A That's correct

23 Q You said as long as the beach is growing faster
24 than the river bend, we've got a -- faster than
25 the river's retreating, we're really got less

1 and less of a chance of a breach, is that
2 right?

3 A That's right, yes

4 Q Now, the storms, the 1949 storm, at least, that
5 opened up the new inlet at Kiawah, the
6 exhibit -- I think it was one of our exhibits,
7 Three-A, yesterday I think that's what it's
8 marked as, the 1949 aerial The storm that
9 caused those new inlets to open up, did it
10 cause any land mass changes on other parts of
11 Kiawah that you know of?

12 A The first --

13 MR WALKER Objection, there was no proof that what
14 we're looking at was opened up by a storm I
15 mean, I don't think that was the witness'
16 testimony

17 THE COURT I guess the objection is to the
18 phraseology of the question, the assumption of
19 facts not in evidence

20 MR WALKER That, as well as suggesting that the
21 witness said something he didn't say

22 THE COURT Okay I'll sustain the objection

23 Q Dr Kana, in your opinion would it be a storm
24 event that would have caused Captain Sam's Spit
25 to look the way it did in the 1949 picture,

1 photograph?

2 A We don't know We can't say with any certainty
3 because we don't have any records of the storm
4 events or what the condition of the spit was
5 leading up to that 1949 image What I would
6 want to see is some other photography predating
7 those events so that you could piece the story
8 together more accurately

9 Q What other kind of events could have caused
10 there to be two channels running across where
11 Captain Sam's Spit now exists?

12 A Well, you could have two low points in the
13 dunes that are breached in a storm and it
14 creates two channels You could have chronic
15 erosion along the back side of the spit where
16 channel meander hits two areas and maybe leaves
17 a small bar in between There could have been
18 one inlet formed initially after the storm with
19 an incipient inlet nearby that became more
20 developed in weeks or a matter of just a few
21 months after the storm
22 For example, after the hurricane that breached
23 Westhampton Beach in 1992 -- or was it a
24 northeaster? There was an event that caused
25 the breach at Westhampton Beach, Long Island,

1 in 1991, 1992, and I believe there were two
--2 - washovers, but only one inlet formed initially
3 And then a second inlet formed and that became
4 the dominant channel And all this happened
5 very, very quickly over several months
6 So whenever you have an event like this that
7 changes the configuration of the shoreline very
8 rapidly and you can have, just like the shoal
9 bypassing events, sandbars coming on in a
10 matter of weeks to months and creating new
11 channels and so on, you're going to have the
12 same thing during a storm
13 I don't think that answered your question
14 fully, but it's not a simple thing to just
15 answer with a "yes" or "no "

16 Q If you had to give an opinion on what you think
17 would be the most likely cause of the changes
18 that occurred around the time that 1949 image
19 was taken, what would be your best guess, as a
20 coastal geologist?

21 A There was probably a narrow portion of the spit
22 with very little separation distance between
23 Kiawah River and the ocean, because the river
24 had meandered into the spit, or something like
25 that, and then it could have been a

1 northeaster, it could have been a bigger storm
2 than a northeaster, a low grade tropical storm,
3 perhaps, any of those things could create those
4 conditions for a breach

5 Q So most likely it was some sort of storm event
6 that caused what happened --

7 A No, I wouldn't --

8 Q -- in 1949?

9 A I wouldn't say that because on our coast,
10 again, we see new inlets forming where if the
11 shoreline has not accreted in recent -- you
12 know, for a period of time, you know, we go
13 through these cycles and the neck of a spit
14 gets very narrow Then just chronic erosion
15 will effect the breach And that may be more
16 true where you have these multiple inlets
17 forming But we just -- you know, we're
18 speculating here So I wouldn't give one or
19 the other favorable treatment for the cause

20 Q One of your clients is the Town of Seabrook or
21 Seabrook Island Homeowners Association, is that
22 right?

23 A Yes

24 Q Okay I'd like you to show me --

25 MS ARMSTRONG Your Honor, if we may approach the

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1 bench If I could use --

2 THE COURT That's fine, go ahead - ---

3 MS ARMSTRONG If I could use this image right

4 here, it's KDP, or Kiawah Exhibit

5 Forty-eight-C Actually, I need to grab a

6 highlighter

7 Q Dr Kana, I'd like for you to take this

8 highlighter and on this map, if you'll show the

9 Judge about where you're currently working --

10 you've done two inlet relocation projects for

11 Seabrook, is that right?

12 A Yes

13 Q And you're currently working on another inlet

14 relocation project for Seabrook, is that right?

15 A Yes

16 Q Okay And what do those inlet relocation

17 projects involve?

18 A I believe I testified yesterday they involve

19 excavating a channel, a basin, across the spit,

20 leaving it connected at either end, excavating

21 it to the approximate dimensions of an inlet,

22 taking those excavations down to the edge of

23 the existing inlet, building up a dyke and

24 then, before closing the existing inlet,

25 breaching the seaward end of the basin, letting

1 the water flow in, filling the basin and
2 breaching the landward end of the basin, at
3 high tide, letting the water flow out And
4 that begins the process of cutting away the
5 channel through breachway Then the equipment
6 is moved over to the existing inlet and effects
7 the closure over one or two tidal cycles later

8 Q If you could take this highlighter and show the
9 Judge where on the spit you would be proposing
10 to excavate

11 A Well, if you could show me where the town line
12 is, I could show you with a little more
13 accuracy

14 Q I'm not sure where the town line is on that
15 I see a river channel up on the upper left
16 side

17 A I can certainly say that it's approximately
18 here (indicating)

19 Q Can you use the highlighter and just kind of
20 mark the general area where it would be

21 A Okay (Witness complies) And I'm just going
22 by the location of the mouth of this creek,
23 which should be exactly opposite the position
24 of the channel But the way you can tell more
25 accurately where it would be is if there is a

1 town boundary drawn on a map anywhere, then the
2 edge of the channel would be positioned -
3 approximately 100 feet to the west of the town
4 line

5 Q Now, the area that's highlighted in pink, that
6 is identified on this Exhibit Forty-eight-C as
7 the mean high water line around Kiawah from
8 August 2009 Would the area that would be
9 excavated go all the way through the spit or
10 would it just be the area that you've included?

11 A I'm sorry, because I -- I haven't seen this
12 I just wanted to read the key (Reading)
13 Okay

14 Q So I'm wondering -- I guess my question is,
15 this pink boundary line is the current mean
16 high water line Would the area that's
17 excavated go from one end to the other end of
18 this highlighted area?

19 A Yes, the excavations will go to wherever the
20 edge of the foredune is, if today's foredune is
21 out here (indicating) The foredune is not
22 going to be at the mean high water line
23 According to this key, this is what we call a
24 datum-based mean high water It's positioned
25 at 3 2 feet above National Geodetic Vertical

1 Datum of 1929, which is a fixed plane that

2 - surveyors commonly use

3 And so if you go 3 2 feet above there, that's
4 the position of where the beach intersected on
5 the day of this particular survey If you go
6 on another day, it might be shifted, because
7 this is across the active beach It's a very
8 flat, sloping area, so depending on which day
9 this was done, it could be 50 feet landward or
10 50 feet seaward, but it's a datum-based
11 shoreline, mean high water shoreline, taken on
12 that particular date depicting those
13 conditions

14 Q But it would start at the mean high water line
15 on the river side, that's where the excavation
16 would begin --

17 A It would start --

18 Q -- where you've identified it?

19 A It would start landward of that, because we
20 would leave it closed to the creek We would
21 not do the excavations with a connection, a
22 hydraulic connection there, until the very day
23 of the breach

24 Q And then you'll actually open it up so that the
25 river and the ocean --

1 A River will then start to flow

2 Q -- are connected through the neck area

3 A That's correct

4 Q Okay

5 A And at that point in time, we would have this
6 channel active and the existing inlet active at
7 the same time

8 Q And that area that you're talking about where
9 you excavate, are those part of the dune field
10 that we looked at on the aerial photographs
11 yesterday?

12 A Yes Much of that is presently dune field
13 For the most part, it's vegetated by grasses
14 and not any trees, because it hasn't been there
15 but 13 years

16 Q All right Thanks, Dr Kana

17 MS ARMSTRONG If could set this exhibit down

18 Q Dr Kana, are there any ethical standards or
19 professional standards that apply to
20 geologists?

21 A I'm not sure what you -- I'd like to think that
22 we have ethical standards

23 Q Professional standards that guide geologists

24 A Well, there's registration for professional
25 geologists I am a registered professional

1 geologist, if that's what you mean And, yes,
2 we have a code of conduct that we're expected
3 to uphold

4 Q I'm just curious about whether you see any
5 conflict of interest in representing the Town
6 of Seabrook in its pending request to remove --
7 excavate sand and create a new inlet through
8 part of KDP's -- the spit that KDP is proposing
9 to develop

10 A No, I -- I don't I think I would give the
11 same advice to the Town of Kiawah, to KDP, to
12 Seabrook Island POA, to the people on Folly
13 Beach And I've tried judiciously to follow
14 that guidance throughout my career, perhaps to
15 financial detriment in some cases But I don't
16 see a conflict in this particular case, and I
17 did give it some thought before accepting this
18 assignment

19 Q I want to go back to the Environmental
20 Inventory that we were talking about yesterday
21 I believe it's to your right It's marked as
22 CCL Exhibit Number One, and ask if you would
23 look at what's marked as page G-59 with me

24 A (Witness complies)

25 MS ARMSTRONG Your Honor, I believe you have a

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1 copy of that There should be a big blue
2 folder that's-the Judge's exhibits folder

3 THE COURT All right I've got it

4 Q Okay We're looking at Exhibit One and it's
5 page G-59 And that's identified, Dr Kana, as
6 the historical changes of Kiawah River Inlet,
7 is that right?

8 A Yes

9 Q And what years are identified as years where
10 the spit and the river inlet changes are
11 identified?

12 A Well, each of 1661, 1822, 1854, 1922 and 1938

13 Q And there's kind of two maps that sort of
14 relate to each other The next one's on G-61
15 What years were assessed on the G-61 map?

16 A 1939, 1949, 1963, 1967 and 1973

17 Q And do these years indicate years for which
18 there was data on what the conditions were at
19 Kiawah Island?

20 A Yes The second group were based on aerial
21 photographs, as far as I can recall The first
22 group would have been based on sketch maps or
23 charts such as you've just presented as one of
24 your exhibits for 1922, for example

25 Q All right And that 1922 image on G-59, is

1 that a fairly accurate representation of the
2 map we were just looking at on CCL Exhibit --- - -
3 Two-A?

4 A I wouldn't call any of these depictions of the
5 inlet as accurate There's no registration
6 marks These are sketch maps

7 Q I don't think that answered my question,
8 Dr Kana What I was asking is, is this image
9 on G-59, right next to the 1922, is that a
10 fairly accurate representation of the image
11 that we just looked at on CCL Exhibit Number
12 Two-A, when it comes to the outline of the
13 inlet and the spit?

14 A I thought I answered your question, that I
15 don't consider it to be accurate because it
16 doesn't have coordinate marks The scaling is
17 very approximate It's sketched with an
18 attempt to make it about the same size, but I
19 think if you look at the details on the
20 nautical chart of 1922, there is quite a bit
21 more detail than you would see on this
22 particular sketch map

23 Q And this particular sketch map is just focused
24 on the changes at the Kiawah River Inlet, isn't
25 that right?

1 A Yes, it's a general depiction of the changes

2 Q And it's got right at the bottom of each of
3 these little images of river inlet changes,
4 there's a reference point so that you know
5 where you are in each image, is that --

6 A Right, that's the attempt to help the reader
7 see the gross morphologic changes in the area

8 Q And on G-61 in the 1949 image, we've already
9 looked at a 1949 aerial that shows two channels
10 cutting across what's now Captain Sam's Spit
11 Does this image on G-61 from 1949 also show
12 roughly two channels cutting over where the
13 spit is?

14 MR WALKER Object to the form, Your Honor She's
15 making arguments in her questions She keeps
16 saying two inlets cutting across what is now
17 Captain Sam's Spit She should just ask about
18 the aerial photograph

19 MS ARMSTRONG Your Honor, yesterday he referred to
20 them as two channels cutting across the inlet,
21 so I'm using his words I really thought it
22 was just one, but when I heard him say "two,"
23 when I can call it two channels, but that's
24 what I heard the witness say yesterday, Your
25 Honor

1 THE COURT I'm going to just overrule your
2 objection I think the witness is fully-
3 capable of responding to the question
4 A The photograph shows two channels
5 Q Okay And this image shows two channels, as
6 well, doesn't it?
7 A Yes
8 Q If you look with me on G-134 of this
9 Environmental Inventory, now, this -- Captain
10 Sam's Spit -- this whole report is about Kiawah
11 Island and the two inlets, isn't that right?
12 A Yes
13 Q And when it talks -- it talks at the very
14 bottom paragraph about development of
15 inlet-influenced beaches, doesn't it? Very
16 last paragraph
17 A Yes
18 Q Could you read that last sentence for me on the
19 bottom of page G-134
20 A "Therefore we" -- where it starts "therefore"?
21 Q Yes
22 A "Therefore, we recommend that no permanent
23 structures be built within this type of beach
24 area "
25 Q And then turn over to G-163 for me

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1 A (Witness complies)

-2 - Q I think we started talking about this
3 yesterday, about the conclusions that are on
4 page 163 Do you remember that?

5 A Yes

6 Q And we talked about the report acknowledging
7 that there was a large volume of sand feeding
8 the beach on Kiawah, is that right?

9 A Yes

10 Q Okay Yet this report's got some
11 conclusions -- and I'd like you to read the
12 third conclusion for me, please

13 MR WALKER Objection, Your Honor That isn't a
14 question She's just having him read the
15 report I think if she has a question, she
16 should ask the question

17 THE COURT Well, the exhibit's currently in
18 evidence, until ruled out otherwise, so she can
19 request that -- have the witness publish the
20 exhibit, can she not?

21 MR WALKER I thought she was asking a question
22 The exhibit speaks for itself She can read
23 the exhibit, if that's what we're going to do
24 But there's no question She's just asking
25 him -- nor is there any indication there's

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1 going to be a question Why not ask a
2 question? - - - -

3 THE COURT When you get to do your
4 cross-examination, I'll let you do your
5 cross-examination as you wish I'm going to
6 allow her to do hers as she wishes
7 I assume you're asking him to publish a portion
8 of the exhibit

9 MS ARMSTRONG I am, Your Honor It's item number
10 three on G-163 It's not very long, three
11 sentences

12 THE COURT All right

13 Q Could you please read that

14 A Sure "The Kiawah River recurved spit system
15 is also considered to be unstable, especially
16 the neck area, which has apparently been
17 overwashed by storms during the past decade
18 This area should not be developed, either,
19 inasmuch as the end of the spit could be cut
20 off by the formation of a new tidal channel
21 through the present neck This would isolate
22 the entire end of the spit "

23 Q Dr Kana, in your work for Seabrook, you've
24 done a number of reports, is that accurate?

25 A Yes

1 Q One of those reports, it was a final report
2 It's at -- I'm going to kind of go back - - - - -
3 chronologically, starting with one that you did
4 in April -- or one that's identified in April
5 1981 It's called "Preliminary Design and
6 Permit Application for Breach in Kiawah Spit
7 North of Captain Sam's Inlet "

8 MS ARMSTRONG Has that been marked?

9 (Off the record)

10 MS ARMSTRONG I don't have a copy This is a
11 document that was produced It's a KDP-T&H1632
12 through 1666

13 Do you want to look at it?

14 MR WALKER I'll look at it later Is it being
15 introduced at this time --

16 MS ARMSTRONG I haven't --

17 MR WALKER -- or are you just going to ask him
18 some questions?

19 MS ARMSTRONG I haven't introduced it yet

20 MR WALKER All right That's fine

21 Q Dr Kana, you've got what's marked as CCL
22 Exhibit Thirty-four before you Is this a
23 document that you prepared?

24 A Yes, it is

25 Q Okay And you prepared it in connection with

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1 Miles Hayes, is that right?

2 A - Yes, I did ---

3 Q And this is the same Miles Hayes that conducted
4 the Environmental Inventory that we just were
5 discussing, is that right?

6 A Yes

7 Q I want to look at page one on that document
8 I'll give you just a minute to look at the
9 second half of the page that talks about the
10 cycles of change at Captain Sam's Inlet

11 A Are you on page one --

12 Q Page one

13 A -- of the main text, not the "executive
14 summary"?

15 Q At the top it says "General Statement "

16 A Yes, okay (Reading)

17 Q And in this report you identify several cycles
18 of change that the inlet has undergone since
19 1696, isn't that right?

20 A Yes

21 Q Okay And those cycles of change include a
22 breaching of the spit at the neck, migration of
23 the spit, extension of the spit and then
24 another breach, isn't that right?

25 A Yes

1 Q Okay And you identified that those breaching
2 events are caused during storm events,--isn't-
3 that right?

4 A And that was our belief at the time

5 Q And you say that that cycle has been clearly
6 documented from historical charts and vertical
7 aerial photographs, isn't that right?

8 A Well, back then, it was easier to be confident
9 in what we know I think as I get older, I
10 realize how much we don't know But not to be
11 flippant about it, yes, we -- the conventional
12 wisdom back in the 1970's and early eighties
13 when we were doing studies in this area was
14 that storm events would cause the breach events
15 to Captain Sam's Spit and, in fact, we were
16 secretly hoping that there would be a breach so
17 we could prove that point

18 But, unfortunately, for the last 30 years,
19 there hasn't been a breach The spit has been
20 growing bigger and bigger throughout this time
21 and that's why I testified yesterday that
22 there's less of a threat of a breach to the
23 spit than there was back when these studies
24 were produced

25 Q And looking back 30 years, when y'all talked

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1 about the cycle, you didn't say that cycles

- 2 - - - were only 30 years, did you? - -

3 A No, the cycle -- that terminology was not mine
4 That was something that originated by Miles
5 Hayes And, you know, I was the senior author
6 of the report This is not to say that I wrote
7 every word of this report I had three
8 co-authors, I believe you'll see on the cover
9 there

10 Q Right I did see that and I did see that you
11 were listed as the senior author on this
12 report
13 On page three, couple pages over, you've got --
14 again, in your report you identify the
15 historical changes of the Kiawah River Inlet
16 And this map, I noticed they're very similar to
17 what was presented in the Environmental
18 Inventory, except you had some new data in 1981
19 when you conducted this 1981 report, didn't
20 you? You actually had a 1979 image that was
21 incorporated into the historical changes?

22 A Yes, I recall that

23 Q So you actually did do some more work in '81,
24 you updated this report?

25 A We simply added another sketch map, as I

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1 recall, because in 1981 there was a 1979
2 photograph available to us, so we included
3 that, which is pretty standard operating
4 procedure

5 Q And you referenced these drawings, these
6 historical changes of Captain Sam's Inlet in
7 figure two on page three as clearly documenting
8 the cycle of spit breaching, migration and
9 extension, didn't you?

10 A We referred generally to cycles, but we don't
11 say -- we can't ascertain from these data what
12 that cycle is, what the frequency of it is,
13 whether it's every 30 years or 60 years or 100
14 years There's no way of telling from this
15 data

16 Q Now, on page four of that report, the first
17 full paragraph, you actually identify that the
18 instability of Captain Sam's Inlet has directly
19 caused much of the erosion on Seabrook Beach,
20 isn't that true?

21 A Yes

22 MS ARMSTRONG Your Honor, at this point I'd like
23 to admit CCL Exhibit Thirty-Four into evidence

24 MR WALKER Your Honor, it sounds like she read it
25 as a prior inconsistent statement and, if

1 that's the case, I don't think it comes in as
- -2 substantive evidence - - - - -

3 MS ARMSTRONG This report was something that was
4 prepared by this witness He's authenticated
5 it He's right here, he's available I mean,
6 I've examined him on it He's available for
7 cross-examination on it I mean, it's a report
8 that he's done It is reflective of his
9 opinions at that time and I'd like to use these
10 documents to show what Dr Kana's opinions have
11 been over time

12 THE COURT As it stands now, I'll sustain his
13 objection, unless you explain to me -- because
14 I'm familiar with the rule on prior
15 inconsistent statements and he didn't deny it
16 So you've asked him questions about it As I
17 understand the rule, it doesn't come in unless
18 he denies the statement

19 MS ARMSTRONG All right, Your Honor I guess the
20 way I'll handle it is if we've got to read
21 everything inconsistent into evidence, we'll
22 handle it that way

23 Q Dr Kana, do you recall attending a conference
24 of coastal engineering in Australia in March
25 1980?

1 A Yes, I did

2 Q - And what was your role in that proceeding?

3 A I was a participant in the conference

4 MS ARMSTRONG I'll have the court reporter mark

5 CCL Exhibit Thirty-five, if I could, please

6 (Off the record)

7 Q Dr Kana, if you'd take a look at what's marked

8 as Exhibit Number Thirty-five

9 A (Witness complies)

10 Q And turn with me, on the bottom of these pages

11 I think there's marked -- there's not a page

12 number on the document when it was created, but

13 there is a KDP-T&H1633, and on that page you

14 identify in this proceeding changes of the

15 Kiawah River Inlet, is that right?

16 A That's right

17 Q Okay And in this figure nine you've got a

18 diagram showing the shoreline changes from 1853

19 to 1978, is that right?

20 A Right I don't think anybody's going to be

21 able to read this --

22 Q All right

23 A -- copy here

24 Q Okay Is this image similar to the images that

25 we were just looking at in Exhibit Number

1 Thirty-four and in Exhibit Number One?

2 A I'll attest to that, but I ----

3 Q Okay

4 A -- I think this one shows 1978 on this, whereas
5 the other one showed 1979, if I'm remembering
6 correctly

7 Q All right And in this proceeding, you
8 identified the same cycle of change that you
9 say has occurred at least four times since
10 1661, isn't that right?

11 A Yes

12 Q And that cycle, again, would be breaching of
13 the spit at the neck during a major storm,
14 migration of the spit southward, extension of
15 the spit to the southwest end of Seabrook and
16 then breaching of the spit again by another
17 storm, is that right?

18 A Yes And this also goes on to say, under B,
19 this migration of the spit is at a rate of 100
20 feet per year That was the estimate published
21 in this paper But subsequently we observed a
22 rate that was significantly higher, at about
23 225 feet per year, I believe, since --
24 between -- in the 1980's
25 So, again, that represents a significant

1 difference in the migration rate from what we
2 understood it to be in 1981, showing that
3 different results accrue as you assemble more
4 data and you have more observational history to
5 go on

6 Q So you observe that it's moving faster, but the
7 same kind of process is happening, it is
8 migrating and moving

9 A Right And then I can show you another period
10 where the average erosion rate for about a
11 decade was somewhat slower, closer to about 150
12 feet per year

13 Q Turn with me to what's KDP1626

14 A (Witness complies)

15 Q And here you say that tidal inlets are the most
16 dynamic feature of barrier island shorelines,
17 isn't that right?

18 A Yes, in a nutshell

19 Q And you talk about geographic and geomorphic
20 instability What do you mean by geomorphic
21 instability?

22 A Well, there could be changes in the shape of
23 the shoreline as a result of the sandbars
24 detaching from the adjacent inlet, coming
25 ashore --

1 THE COURT Hold on one second

2 (Off the record) - - - -

3 THE COURT Okay

4 A There could be conditions where, as I testified
5 earlier, if you have a sandbar coming onshore,
6 that immediately creates a geomorphic
7 instability, geomorphology being the overall
8 shape of the coast, planform, as we call it
9 So a geomorphic instability can be related to
10 a lot of factors like that, but a sandbar
11 coming ashore, creating this sudden bulge and
12 then erosion along its flanks, would be a major
13 geomorphic instability Migration of an inlet
14 is a more specific process

15 Q So the idea of geomorphic instability is that
16 at any given point, at any given time within an
17 inlet there could be a change in channels,
18 adjacent beaches, shifting in position or
19 orientation, isn't that what that means?

20 A Yes, that's right And geographic instability
21 usually refers to the whole inlet could be
22 shifting out of place, or something like that
23 I think that's what the use of those two terms
24 are But, again, they're taken in a very
25 general context here

1 MS ARMSTRONG Bear with me one moment, Your Honor

2 (Off the record)

3 MS ARMSTRONG I'd like the court reporter to
4 please mark CCL Exhibit Thirty-six for me

5 (Off the record)

6 THE COURT All right It's marked

7 MS ARMSTRONG Okay Thank you

8 Q Dr Kana, if you'll look at CCL Exhibit
9 Thirty-six with me, look at page four of the
10 document -- well, actually, before we get to
11 page four, what is this document?

12 A It's a report called "Shoreline Stability Along
13 Block 16, Seabrook Island "

14 Q Okay And is this a document that you
15 prepared?

16 A Yes, along with my colleague, Walter J Sexton

17 Q Okay And it's looking at trends and
18 alternatives for shoreline protection, is that
19 right?

20 A Yes, in specific reference to Block 16 on
21 Seabrook Island

22 Q This report was done in June of 1982?

23 A Yes

24 Q And on page four you've got a chart in there
25 called "The Historical Changes of Captain Sam's

1 Inlet", is that right?

2 A Is it labeled page four?

3 Q It's page four at the very top

4 A My copy is missing -- I don't have a page

5 four

6 MR WALKER You've got a front and back copy We

7 don't Just copied the front pages

8 MS ARMSTRONG Oh, I do have a front and back copy

9 Sorry about that

10 MR WALKER I've done that many times

11 (Off the record)

12 THE COURT Have you got your class covered,

13 apparently?

14 THE WITNESS Well in hand, Your Honor

15 THE COURT All right

16 THE WITNESS Thank you

17 Q Would you look at page four of that document,

18 please

19 A Yes, that has the diagram

20 Q Okay And those are the diagrams that are on

21 page G-59 and G-61 of Exhibit One, the

22 Environmental Inventory, is that right?

23 A Yes

24 Q Okay So those are something that you used in

25 your report in '81, looking at shoreline

1 changes and approaches for addressing erosion
2 on Seabrook? - - - - -

3 A Yes, I would just say that the 1979 or '78, the
4 last image added there is -- two different
5 dates were referenced on some of those reports,
6 so that's the only thing that might have been
7 different

8 Q So other than just some updating with new
9 information?

10 MS ARMSTRONG I've got another document that I
11 don't have multiple copies of that I'm going to
12 have marked as Exhibit Thirty-seven It's a
13 portion of this design report from 1995,
14 Trenholm I've only got through page 20
15 because we were copying --

16 THE COURT Is he an author, then?

17 MS ARMSTRONG He is

18 MR WHITFIELD-CARGILE The 1995?

19 MS ARMSTRONG 1995, September 1995

20 MR WALKER Was that also produced in the Thomas &
21 Hutton documents?

22 MS ARMSTRONG This was produced -- Mr Chandler
23 sent you this file, the link, to documents
24 from the 1981 and 1995 permitting file I'm
25 not sure if this was also in the Thomas &

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1 Hutton files, as well

2 MR WALKER ' Is this part of the permitting file for
3 the 1995 relocation?

4 MS ARMSTRONG Yes, it is

5 MR WALKER That's fine, no problem

6 Q Okay Dr Kana, I want you to look with me
7 on -- what is this document?

8 A This is entitled "Relocation of Captain Sam's
9 Inlet and Beach Restoration Plan, Seabrook
10 Island, South Carolina," dated September 1995

11 Q And it indicates it was prepared by Coastal
12 Science & Engineering?

13 A Yes

14 Q And that's your company?

15 A Yes

16 Q So you were an author of this design report?

17 A Yes

18 Q And this report, was this report prepared in
19 connection with the 1995 relocation of Captain
20 Sam's Inlet?

21 A Yes, it was It was actually the 1996
22 construction date, but it was a 1995 report
23 preliminary to period of construction

24 Q Okay And on page three of that report, you've
25 got what's marked as figure two, historical

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1 changes of Captain Sam's Inlet All except the
2 1978 map were reported by Hayes in the --
3 environmental impact -- Environmental
4 Inventory Is that, again, the same figure
5 that was identified on G-59 and G-61 of the
6 Environmental Inventory?

7 A Yes And that's why it says it's after Hayes,
8 et al, 1979 It's a review of the previous
9 literature

10 Q Okay So you included that in your report with
11 the addition of a -- well, it says 1978 in the
12 text, but it says 1979 in the map But that
13 was the information that you included
14 additional to what Hayes reported in '74?

15 A That's correct

16 Q So even in 1995 you were using that information
17 from Hayes as an indicator of what was going on
18 at Captain Sam's Inlet, isn't that right?

19 A Yes, as just a review of previous research that
20 had been done in the area

21 Q Okay And on --

22 A I guess you might notice that that particular
23 map, that diagram there, figure two, does not
24 have any more updated maps comparing 1992 or
25 1988 or some other dates that would have been

1 available by that time, including the 1983
2 inlet relocation maps
3 This was published in 1995 after the 1983 inlet
4 relocation maps We had many other aerial
5 photos of Captain Sam's Inlet that were done
6 subsequent to the 1983

7 Q So you just didn't update that figure to show
8 what was going on currently --

9 A Because that --

10 Q -- is that right?

11 A -- that information is contained elsewhere and
12 it's done in a different format, looking at
13 biometric changes and so it's done in looking
14 at actual rates of migration of the inlet So
15 we're not comparing apples to apples with the
16 more -- with the later information This is
17 simply to reprint what had been done before for
18 the benefit of the reader, to give them
19 background on previous studies going back to
20 the eighties

21 Q Would you consider this a scientific report?

22 A It's an engineering report for purposes of
23 evaluating alternatives in looking at a plan to
24 relocate Captain Sam's Inlet And it does have
25 reference to the changes that have occurred

1 during the period that we have data for, yes

2 Q And on page 11 of that report that-you
3 prepared, you've got something identified as
4 figure nine Do you see that?

5 A Yes

6 Q Okay And in that figure, you identify sort of
7 a trend or a model of what happens with bar
8 bypassing, is that right?

9 A This is a figure out of -- that was prepared by
10 a former colleague of mine, Danny Hubbard, in
11 1977 and it's just repeating a cycle, a
12 three-stage model, as he calls it, for what
13 happens If you effect a breach, where does
14 the sand go after you make a breach? It's a
15 very simplified model here It's been in the
16 literature for a long time So we were showing
17 this as a conceptual idea

18 Q And in his study and in this figure, is he
19 talking about artificial breaches, then, or
20 natural breaches?

21 A It could be either

22 Q Okay So he's identified sort of a similar
23 pattern to what you've identified of inlet
24 growth accretion and then breaching, is that
25 right?

1 A Yeah, I believe he got the idea before I did

2-- MS ARMSTRONG Your Honor, I'm going to have the -- - - - -
3 court reporter mark as Exhibit Thirty-eight

4 (Off the record)

5 THE COURT While she's at it, can you go ahead and
6 have her mark everything else, rather than just
7 sporadically do it?

8 MS ARMSTRONG Your Honor, I would have liked to
9 have these all marked before I even came in
10 here, but we -- I think there's one more It's
11 already marked as Exhibit Thirty, my last one

12 THE COURT Okay

13 MR WHITFIELD-CARGILE What's Thirty-eight?

14 MR WALKER I'm sorry, what was Thirty-eight?

15 MS ARMSTRONG Thirty-eight is the final report
16 updated shoreline assessment prepared for the
17 Town of Kiawah by Coastal Science & Engineering
18 and dated September 1999 It's KDP726 And
19 I'm only admitting through KDP 757

20 THE COURT Y'all just hold on one moment Go
21 ahead

22 Q Dr Kana, do you have CCL Exhibit Number
23 Thirty-eight?

24 A Yes, I do

25 Q Would you look at page five with me, please

1 Are you on page five?

2 A Yes, I am - - - - -

3 Q That very first paragraph -- actually, back to
4 the front, we need to talk about what this
5 document is for a minute What is this
6 document that we're looking at?

7 A It's a report entitled "Updated Shoreline
8 Assessment and Condition of the Beach, Kiawah
9 Island, South Carolina "

10 Q And who was this prepared for?

11 A It's prepared for the Town of Kiawah Island

12 Q And who prepared this report?

13 A Coastal Science & Engineering

14 Q So were you the author of this report?

15 A I was one of the authors, yes

16 Q Were you the primary author?

17 A Yes, I was

18 Q Okay And back to page five, that first
19 paragraph, I believe it's the third sentence,
20 you identify that the Environmental Inventory
21 conducted by Hayes was the first comprehensive
22 look -- it's a comprehensive look at Kiawah's
23 shoreline, is that right?

24 A Yes

25 Q And then on page six, the very next page, could

1 you read the first two sentences of the first
2 full paragraph on that page, publish them for -- ----
3 the record?

4 A Starting with "the other"?

5 Q "The southwesternmost zone "

6 A "The other southwesternmost zone (figure two)
7 represented a rapidly changing shoreline around
8 Captain Sam's Inlet As Hayes and colleagues
9 confirmed, the mile-long beach west of West
10 Beach Village, which became Beachwalker Park,
11 had formed as a migrating spit in less than 25
12 years Later studies by Kahn & Mason prove the
13 Kiawah spit marched westward because of about
14 100,000 cubic yards of sand per year moving
15 downcoast along Kiawah Island This influx of
16 sand forces Captain Sam's Inlet to migrate
17 towards Seabrook at more than 250 feet per
18 year

19 Q So that in your 1999 report you confirmed that
20 the spit had migrated in less than 25 years,
21 isn't that right?

22 A Repeat the question I'm not sure what you're
23 trying to ask me there I think I know,
24 but

25 Q Well, this is a report that you wrote We'll

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1 let it stand at that

2 **A** **Yeah**

3 THE WITNESS Your Honor, I'll be happy to try to
4 answer that I'm not sure I understood her
5 question, but --

6 MS ARMSTRONG Sir, I'm fine --

7 THE COURT I think Mr Walker can do redirect, if
8 need be

9 THE WITNESS Okay Very good

10 MS ARMSTRONG I'm fine with withdrawing that
11 question, Your Honor

12 THE COURT All right

13 **Q** If you could look with me on page 28, please,
14 Dr Kana

15 **A** (Witness complies) I have

16 **Q** Okay And we have been talking about a cycle
17 that you had identified of breaching,
18 migration, accretion and breaching Do you
19 remember that?

20 **A** Yes

21 **Q** And in your report in 1999 you identified that
22 those breach cycles occur in the past at 40- to
23 80-year intervals, isn't that right?

24 **A** Yes, and that was taken right out of previous
25 literature by Miles Hayes and others --

1 Q So in 1999 --

2 A -- without attribution here --- -----

3 Q In 1999 you were still using that information
4 and research done by Miles Hayes, is that
5 right?

6 A Yes

7 Q And, in fact, figure 14 at the bottom of that
8 page is, again, another reproduction of the
9 historical changes of the inlet that Dr Hayes
10 presented initially in his 1974 report, is that
11 right?

12 A That's correct

13 Q Turn with me to page 29, the very next page

14 A (Witness complies)

15 Q And I'd like you to read into the record the
16 very last paragraph on that page, starting with
17 "While artificial relocations," please

18 A "While artificial relocations at Captain Sam's
19 Inlet are critical to Seabrook, they have had
20 no adverse impact on Kiawah Island's shoreline
21 Much more sand has entered Kiawah's beach
22 system at the east end than has been lost to
23 Captain Sam's Inlet over the past century
24 Presently, the Towns of Kiawah and Seabrook
25 have designated the two-mile reach between

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1 Beachwalker Park and Seabrook's development as
2 a conservation area and inlet management zone
3 The hope is that this dynamic beachfront area
4 will always remain undeveloped and serve as a
5 natural buffer between the two developments "

6 Q So when you conducted relocations in the past,
7 you said that you're just pretty much mimicking
8 the natural process of spit breaches that has
9 occurred during -- in the past storm events,
10 isn't that right?

11 A That's correct

12 MS ARMSTRONG Bear with me for just a minute, Your
13 Honor I've got a lot of exhibits that are
14 marked and I'm trying to figure out how I'm
15 going to handle them before I finish with this
16 witness, and I'm real close to being done

17 (Off the record)

18 THE COURT Mr Whitfield-Cargile, as you think
19 through your cross-examination, I don't need to
20 hear the same areas or the same things gone
21 into again

22 MR WHITFIELD-CARGILE I appreciate that, Your
23 Honor You might be surprised at what I hope
24 to be a short cross-examination I'll be
25 surprised if I'm successful at that

1 THE COURT Well, then we'll both achieve that
2 plateau - - - -

3 MS ARMSTRONG Trenholm, I had e-mailed y'all this
4 proceedings of the conference on South Carolina
5 migrating beaches, sent that by e-mail

6 MR WALKER Was that the Sea Grant Consortium? I
7 receive that

8 Q Dr Kana, I'm going to hand to you what's been
9 marked as CCL Exhibit Number Thirty and ask
10 you, what is this document?

11 A It's entitled "South Carolina's Migrating
12 Beaches, Proceedings of a Conference,"
13 Charleston, South Carolina, December 9th, 1983,
14 edited by Henrietta S Wilson

15 Q And during this proceeding you gave an oral
16 presentation, is that right?

17 A Yes

18 Q Okay And is this a recording of that
19 presentation?

20 A (Reading)

21 Q Or did you provide a written statement?

22 A It appears that it's recorded -- it's possible
23 that Ms Wilson, the editor, sent me a copy of
24 a transcript and I may have edited the
25 transcript for clarification to get rid of some

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1 of the "um's" and "ah's," I guess, if you will
 2 But I can't recall, off the top of my head It - - -
 3 does look like it was taken from the verbal
 4 presentation

5 Q All right And you started off talking about
 6 something that you referred to as not uncommon
 7 at all, and that was the development on the
 8 northeastern corner of Fripp Island, do you
 9 remember that?

10 A Yes, okay I'm refreshing my memory here

11 Q Okay And you identified the problem that
 12 happened is Fripp Island was a really nice
 13 place to develop and so people built condos out
 14 there that are worth a lot of money, right on
 15 the northeastern corner of Fripp, isn't that
 16 right?

17 A Let me just reread this, because this has
 18 been -- so I can --

19 Q Absolutely

20 A -- have a consistent testimony here, please

21 Q Let me know when you're ready

22 A Sure (Reading)

23 Q Dr Kana, if it helps --

24 A Okay

25 Q -- I'm only going to be asking you about what's

1 on the first page, not the entire proceeding

2 A Okay - I'm ready-

3 Q You identified that there had been a problem
4 that was fairly common and you were referring
5 to development on Fripp Island, do you remember
6 that?

7 A Yes

8 Q Okay And that was that people built condos on
9 the northwestern corner of Fripp island with
10 views to the north and to the south, do you
11 remember that?

12 A Yes

13 Q And that's an accurate statement?

14 A (Nods head affirmatively)

15 Q And then after the condos were built, the beach
16 started to erode and they had to build seawalls
17 to protect those houses from erosion, is that
18 right?

19 A Yes

20 Q Okay And so you had -- after analyzing this
21 problem and other similar problems, you had
22 kind of came up with what you called the B-4
23 scenario, which was buy, build, bulkhead and
24 bailout, isn't that right?

25 A Yes

1 MS ARMSTRONG I don't have any other questions for
2 this witness - - - - -
3 Before I finish, I would like to again move to
4 introduce Exhibits Thirty, Thirty-four through
5 Thirty-eight and, Your Honor, the basis of that
6 is that we've got a witness here who is the
7 author of those documents, he's testified that
8 he's made these documents It's more than just
9 impeachment This goes to the heart of this
10 case Some of the information in these
11 documents go to just the key issues in this
12 case and I think they're scientific reports and
13 they're relevant to what's -- the issues that
14 are before you

15 THE COURT When you say that he's the author of the
16 reports, the whole concept of prior
17 inconsistent statement is that which is a
18 statement made by someone else, which
19 presumably had to be the author of the
20 statement So how do you distinguish that from
21 the rule?

22 MS ARMSTRONG I'm not offering it just for
23 impeachment, Your Honor I'm offering it for
24 affirmative evidence Reports produced by
25 experts are routinely, you know, admitted into

1 evidence to show what their opinions were And
2 that's what we're using it for, to show he did
3 research, he did studies, he formulated
4 opinions They are recorded in these reports

5 THE COURT You're offering this to prove your case?

6 MS ARMSTRONG Yes, Your Honor

7 THE COURT For impeachment purposes or --

8 MS ARMSTRONG Not for impeachment purposes

9 THE COURT Well, then what elements of his report
10 proves that which you seek? Because you're not
11 even in your case in chief right now You're
12 in --

13 MS ARMSTRONG I know Doesn't stop me from
14 making, you know --

15 THE COURT I know, but, you know, you're at the
16 stage of impeaching and I don't -- I haven't
17 heard anything that would lead me to the
18 understanding that there's elements in this
19 report that are -- you're offering it for to
20 prove your case

21 MS ARMSTRONG Well, part of the issue in this case
22 is that we're dealing with a highly dynamic
23 system, and area that's come and gone
24 historically back to the recorded time that
25 we've got back in 1661, 1696 We've got

1 evidence, we've got studies that were done,
2 looking at the drastic dynamic changes that
3 have occurred on the spit ever since, we've got
4 maps, aerial photographs documenting those
5 changes

6 Dr Kana has incorporated those into his
7 reports as early as 1999 and so we absolutely
8 think that his statements about the historic
9 changes that have gone on at Captain Sam's
10 Inlet support our case and, further, he's got
11 statements in here that -- where he
12 recommends -- his opinion is that Captain Sam's
13 Spit shouldn't be developed based on these --
14 what we know about Captain Sam's Spit cycle of
15 breaching, migration and breaching again
16 So if he's making recommendations that the spit
17 not be developed in his reports, I absolutely
18 think that that goes to the heart of our case
19 and, yes, I would use them as part of my case
20 in chief and not just for impeachment purposes

21 THE COURT All right So I can be clear, then,
22 you're seeking to impeach him in certain areas,
23 but you find that his reports are credible in
24 other areas Is that the further purpose of
25 introducing these reports? On one hand, you

1 think that --

-2 - MS ARMSTRONG We think --

3 THE COURT -- his report disagrees with the

4 testimony he's offering, but then you're

5 offering that to prove your case I'm just

6 asking It's not a trick question

7 MS ARMSTRONG I guess it could be a little bit of

8 both, Your Honor I mean, he's got -- yeah, I

9 am using it to prove my case, because I think

10 there are statements in here that he says that

11 go to our case in chief

12 THE COURT Okay

13 MS ARMSTRONG And there are -- his testimony today

14 about whether the -- I mean, I guess I'm

15 thinking for impeachment purposes when he spoke

16 about this 1974 report sort of being, you know,

17 old or "we have new information now " I used

18 it for impeachment to show that we've got --

19 he's still using those same documents in

20 reports in his studies, even current through

21 ten years ago and so -- but we believe that

22 they are still relevant So I guess it's a

23 little bit of both, Your Honor

24 THE COURT All right Mr Walker?

25 MR WALKER Thank you, Your Honor The reports

1 were used seemingly in an effort to impeach
2 the witness That has been acknowledged The
3 reports are hearsay We'd object that she's
4 already used them for the purpose that were
5 initially presented, and that was impeachment,
6 plus, they're hearsay and shouldn't come in
7 under the hearsay rule ,

8 MS ARMSTRONG Your Honor, this doesn't meet the
9 definition of hearsay We've got a witness
10 that is sitting here today in the courtroom

11 THE COURT Admission by a party opponent, but he's
12 not a party

13 MS ARMSTRONG The --

14 THE COURT He's an expert witness

15 MS ARMSTRONG Your Honor, the hearsay rule,
16 801(c), "hearsay is a statement other than one
17 made by the declarant while testifying at
18 trial " This statement was made by the
19 declarant I mean, hearsay is a statement
20 that's made --

21 THE COURT Not the report you're offering

22 MS ARMSTRONG Pardon?

23 THE COURT It says "made other than by the
24 declarant while testifying at trial " It's an
25 out-of-court statement You're trying to take

1 off a -- I can't remember my English term for
2 that phrase, it's not a Jerry phrase -- while-----
3 testifying at trial

4 Well, at this point in time, I deny the
5 admission other than for impeachment purposes
6 In your case in chief if we need to address it
7 again, I'll address it again

8 MS ARMSTRONG Your Honor, we may address it again,
9 but at this point I'd like to at least make a
10 proffer

11 THE COURT Well, the proffer is pretty simple All
12 the exhibits that you just referred to will be
13 admitted for purposes of proffer All right?

14 MS ARMSTRONG Thank you

15 THE COURT And those are? Give me the numbers
16 again

17 MS ARMSTRONG Thirty-four, Thirty-five,
18 Thirty-six, Thirty-seven and Thirty-eight

19 THE COURT Okay

20 MS ARMSTRONG And Thirty

21 THE COURT All right

22 MS ARMSTRONG Your Honor, can I request a break,
23 please?

24 THE COURT Yes We can take a little break
25 (CCL's Exhibit Numbers Thirty and Thirty-four

1 through Thirty-eight were admitted into evidence as

2 - proffered) - --

3 (Off the record from 11 25 to 11 30 a m)

4 THE COURT Mr Whitfield-Cargile

5 MR WHITFIELD-CARGILE Yes, Your Honor

6 DR KANA - CROSS-EXAMINATION BY MR WHITFIELD-

7 CARGILE

8 Q Mr Kana, I'd like you to flip in one of those
9 big blue binders to your left, to KDP's Exhibit
10 Thirty

11 A (Witness complies)

12 Q And that's a letter dated August 28th, 2008?

13 A Yes

14 Q Do you recall in your deposition saying that
15 was a casual opinion based on no specific data
16 on the back side of the spit at the time?

17 A Yes

18 Q Okay I want to talk about the 1949 aerial for
19 a moment You have that right there behind
20 you And why don't we come up and show this to
21 the Judge

22 A (Witness complies)

23 Q This breach that comes across --

24 THE COURT Whoa, you're not showing it to me

25 MR WHITFIELD-CARGILE I'm sorry Can you see

1 that?

2 Q This breach that comes across the spit, that
3 doesn't go directly across the neck of the
4 spit, does it, or this channel that comes
5 across the spit?

6 A The inlet on this date emptied at this location
7 at low tide

8 Q Right

9 A At high tide, it was across the -- at the end
10 through here (indicating)

11 Q Okay You can see some --

12 A I can't say where it was when it breached
13 because there's no evidence for that

14 Q Okay

15 A It could have breached here It could have
16 breached here

17 Q Okay But it doesn't cut -- the channel in
18 this image doesn't cut straight across this
19 short neck, right?

20 A No, but there's evidence that this -- where it
21 entered in here --

22 Q Uh-huh

23 A -- may have indicated where water flowed
24 through --

25 Q Okay

1 A -- months before We can't tell We don't
2 have -- that's what I testified earlier,
3 there's no way of telling where the breach
4 occurred exactly

5 Q Okay When this channel is formed, would that
6 have followed maybe a dune, a low lying (sic)
7 between dunes before it pushed its way out to
8 sea?

9 A Once the breach occurs, if this entire area was
10 low along here, which I suspect it was, that's
11 why you have multiple channels, then the inlet
12 could go wherever it wants to go very rapidly

13 Q Okay Does it --

14 A I don't know I'm speculating there

15 Q Okay Does it -- would the water coming out
16 want to find the lowest point, is that --

17 A Right

18 Q -- what you testified to?

19 A The point I tried to make is that that low
20 point can shift and it's smaller like -- like
21 this, it's shallow at low tide This is a low
22 tide image

23 Q Okay

24 A Okay This is when the tide's gone out When
25 the tide is up, the width of the channel would

1 be at least that wide (indicating)

2 Q Okay - -

3 A Okay This is a dry sandy beach It might

4 even be this wide --

5 Q Okay

6 A -- through that area That's the high tide

7 width This is the low tide width

8 Q Okay Were you --

9 A Follow me?

10 Q Yeah Were you here yesterday when Mr Permar

11 was testifying about where potential home lots

12 might be?

13 A No, I wasn't

14 Q Okay You can go back to your seat Actually,

15 come back here, please, sir If I told you --

16 if I were to represent to you that the home

17 lots would be in this area between where the --

18 there's a -- you can see where there's a

19 distance mark between the setback line and the

20 critical line If I told you that the

21 development of any potential home lots would be

22 in this area here, could you show me where that

23 would be on the 1949 image?

24 A Not exactly, but somewhere in this general

25 vicinity Here's Captain Sam's Creek that

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1 comes out here Somewhere in that vicinity

-- - 2 (indicating) - - - - -

3 Q So approximately where the channels are?

4 A Right

5 Q Okay Thanks You said you weren't sure what
6 the dune elevations are on Captain Sam's Spit,
7 but you suspected they'd be somewhere around 15
8 feet?

9 A I believe so, in places

10 Q Okay I'm going to show you -- I don't have
11 the one that's in evidence

12 MR WHITFIELD-CARGILE (Trenholm, do you know
13 where --

14 MR WALKER It's Forty-eight-B

15 MR WHITFIELD-CARGILE Forty-eight-B?

16 MR WALKER I think it's Forty-eight-B

17 Q Okay I'm going to show you my copy of
18 Forty-eight-B And on here, do you see the top
19 of the dune elevations indicated?

20 A (Reading) Yeah Those marks are for those
21 particular points

22 Q Okay

23 A They are not representing anything that's along
24 the main body of the spit Those look like
25 they're at the top of an escarpment on the

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1 river side of the spit

2 Q Okay Well, you see this arrow that says --
3 that points to the top of dune elevations and
4 it says, parentheses, "TYP, August 2009" --

5 A That's right That says --

6 Q -- and it points to those numbers?

7 A Pointing to 11 3 in that particular case,
8 that's correct

9 Q What's the lowest dune elevation that you see'
10 marked that he's identified?

11 A This is simply showing the elevation --

12 Q Okay

13 A -- on the back escarpment -- top of escarpment

14 Q It's showing the dune elevations on the back
15 side of the spit?

16 A No, it's showing the elevation of the crest of
17 the escarpment The dune elevations are across
18 the spit There's no data in there

19 Q Did you prepare this document?

20 A No

21 Q Okay It says "Top of Dune Elevations," right?
22 That's what it says

23 A It says "Top of Dune Elevations" --

24 Q What's the lowest --

25 A -- and there's a tick mark -- there is a tick

1 mark --

2 THE COURT Hold on Let him finish ---- - - - -

3 MR WHITFIELD-CARGILE I apologize

4 THE COURT -- answering the question Go ahead

5 THE WITNESS Your Honor, there is a -- I did not

6 prepare this My understanding of the way

7 topographic surveys are usually depicted -- and

8 I believe you could get the originator to

9 testify to this -- is that a little dot or

10 square is indicated on the map and it's

11 georeferenced and that dot represents the

12 elevation at that point

13 Q Okay

14 A Okay? So at that point it's 11 3 At the

15 adjacent point, it's 5 1

16 Q Okay What's the lowest point identified --

17 A This is the top --

18 Q -- on it

19 A It's labeled "top of dune," but there are rows

20 of dunes along the length of the spit, so the

21 lowest elevation here is completely irrelevant

22 to the elevations that are back in here

23 Q You said a minute ago you thought these top of

24 dune elevations was the point on the

25 escarpment, is that what you said?

1 A Yes, there's one here that's at 15 9 I
2 - believe I just testified that there were some
3 elevations on the spit commonly 15 feet above
4 sea level Again, if I had a comprehensive
5 topographic map encompassing the whole spit,
6 I'd be happy to --

7 Q Okay

8 A -- discuss that in more length All this is
9 showing is the elevation of the top of the
10 escarpment as it existed on whatever day this
11 was taken

12 Q Well, let's pursue that for a minute There's
13 another line on here that shows a DHEC -- that
14 shows a critical line, do you see that?
15 There's another line that's labeled --

16 A Is that the dashed line?

17 Q Well, this second bold line shown as "DHEC
18 critical line", do you see that?

19 A Okay I believe it's the dashed line, but I'm
20 not -- see, I think the dashed line refers to
21 the critical line that follows the edge of the
22 marsh --

23 Q Let's spread this out

24 A You see the dashed line here? This is labeled
25 further down the spit "DHEC-OCRM Critical Line,

1 September 2002," this dashed line Am I
2 missing something? - - - - -

3 Q You see this bold line here?

4 A Yes

5 Q That comes around here and that same bold line
6 comes all the way down here You see this?
7 And that's labeled "August 2009 Mean High
8 Water," right?

9 A Okay And that's -- that's mean high water,
10 not the label for critical line

11 Q Let me ask you this Of the top of dune
12 elevations labeled on here, what's the lowest
13 one labeled?

14 A 5 1 feet, 5 7, 5 7 5 1, it appears

15 Q Okay You said that you're familiar with these
16 other dunes in here?

17 A Generally familiar, but I don't have the exact
18 elevations

19 Q Do you know what the lowest point on there is?

20 A Not off the top of my head

21 Q Okay How long has sand been in the Stono
22 Inlet? You said that there was about
23 100-some-odd million cubic yards of sand, is
24 that right?

25 A Yes

1 Q How long has that been there?

-- 2----A - Well, for several thousand years? ---

3 Q Several thousand years?

4 A But it's not -- it's sand that remains in flux
5 where the sand bar is shifting around, so it
6 receives influxes from upcoast, which would be
7 Folly Beach area, Morris Island area, and then
8 it releases some sand to Kiawah

9 Q Sure

10 A So to trace a particular sand grain, if the
11 sand grain is buried deep and that shoal
12 doesn't move, then it would have been there for
13 thousands of years, several thousand years

14 Q Okay

15 A But if it is exposed, a channel cuts into the
16 deposit, frees up some of that material, shifts
17 it to another part of the ebb-tidal delta, and
18 then that part of the delta breaks free of the
> 19 inlet, migrates ashore, then that sand is not
20 residing in there

21 Q Do you know how long there's been some kind of
22 a dynamic process at Stono Inlet where that
23 sand is where the sand has periodically --

24 A Present day Stono Inlet?

25 Q In that region where that sand supply is you're

1 talking about

2 A I'm not following your question

3 Q I asking how long it's been there How long
4 has it been dynamic?

5 A Since its history

6 Q Okay And over that same period of time, your
7 studies have identified natural breaches of
8 Captain Sam's Spit, is that right?

9 A Now, wait a minute, I thought we were talking
10 about Stono Inlet

11 Q Right, we were I asked you how long that sand
12 has been there

13 A Uh-huh (affirmatively responds)

14 Q Now I'm asking you, over that same period of
15 time that there's been sand in Stono Inlet if
16 there have been breaches and this natural
17 process of breach, migration --

18 A Sure, yeah There have also been breaches on
19 the front beach of Kiawah Island, which there
20 aren't now What we've seen in the last
21 hundred years is a very large accumulation of
22 sand along the front beach It's overwhelmed
23 the area where there was a breach inlet in the
24 middle of Kiawah Island It's closed that
25 inlet off, it's added all the sand at the east

1 end So if I had to speculate, I would say
2 that there has been a more rapid influx of sand - - - -
3 over the last hundred years than perhaps in
4 previous times, but, again, we don't know -- we
5 don't have any data for --

6 Q And there's been --

7 A -- more than a hundred years

8 Q And there's been a breach over the last 100
9 years

10 A A breach?

11 Q At --

12 A At Captain Sam's Inlet? In the 1940's was the
13 last one

14 Q Okay You said yesterday that you think the
15 revetment that's been proposed by KDP will stop
16 erosion on the river bend?

17 A On the river bend, yes

18 Q But that's not entirely true, is it? It's
19 going to shift erosion, right?

20 A No, it will stop erosion and, at some point,
21 the river meanders back to the other direction
22 and so you now have a point bar situation, so
23 the system will equilibrate around that
24 And then with periodic inlet relocations to the
25 area where the town line is in that inlet

1 management zone, then you can maintain that

2 - inlet indefinitely

3 Q Where that revetment's going to go, you're
4 stopping the shore from migrating, right?

5 A Right

6 Q But the channel of the river is going to
7 change It's going to get deeper to make up --
8 you have that point bar --

9 A It will get deeper until it reaches some
10 equilibrium

11 Q Okay So until it reaches some equilibrium,
12 there's going to be erosion in the bottom of
13 the river You're shifting the --

14 A You would expect some erosion in the bottom of
15 the river

16 Q Okay

17 A You can't say how much

18 Q Okay Have you done any -- do you have any
19 published reports since 1999 where you have
20 disavowed this 40- to 80-year cycle of spit
21 breaching and then migration and growth and
22 then rebreaching?

23 A I don't recall any papers, but I don't recall,
24 also, laying claim to that 40- to 80-year cycle
25 as my own I believe it was attributed to

1 MILES HAYES

2 Q You're adopting it in your reports - - - - -

3 A Yes, we --

4 Q -- right?

5 A We put it in there, that's correct

6 Q Have you done any studies that -- any reports
7 that dispute it?

8 A I believe some of our recent reports, including
9 the 1999 report, speak to the issue of lower
10 likelihood of a breach of Captain Sam's -- of
11 Kiawah Spit, for the simple reason that it has
12 been accreting so rapidly and it has accreted
13 multiple rows of dune ridges

14 Q I understand that

15 A I can't remember exactly where that's been
16 written, but it's something that I certainly
17 have believed, based on the observations that
18 we made over the last 30 years

19 Q But you haven't published any --

20 A As I testified yesterday, the spit is less
21 likely to breach today than it was 30 years
22 ago

23 Q I understand your testimony and I understand
24 that you think the spit is less likely to
25 breach than it was 30 years (sic) What I'm

1 asking you is, have you done any reports which
2 disprove or discredit this cycle that you've
3 cited all the way up until 1999?

4 A Well, in a sense we've disproved it because we
5 have artificially relocated Captain Sam's Inlet
6 in 1983 and 1996, so that has changed the
7 sequence of events down there

8 Q Okay You've changed the sequence, but have
9 you done any reports, have you published
10 anything that's peer reviewed that discredits
11 or disproves that theory?

12 A The theory of the 40- to 80-year cycle?

13 Q Yes

14 A I don't recall publishing anything specific to
15 that

16 Q Okay

17 A But the 40- to 80-year cycle is a very general
18 statement there that's been repeated by many
19 people

20 Q Including yourself

21 A Including myself

22 Q And you haven't done anything published that
23 disputes it That's all I'm asking

24 A No

25 Q Okay

1 A But as I said --

2 Q Thank you -----

3 MR WHITFIELD-CARGILE No further questions, Your
4 Honor

5 THE COURT Hold on one moment Let me catch up

6 All right Go ahead

7 MS ARMSTRONG Your Honor, if I may just address
8 the evidentiary issue that we've been talking
9 about I'd like to raise again the admission
10 of Exhibits Thirty, Thirty-four, Thirty-five,
11 Thirty-six, Thirty-seven, Thirty-eight Under
12 Rule 801(d)(1), "a statement is not hearsay if
13 the declarant testifies at trial or hearing, is
14 subject to cross-examination," and under A,
15 "the statement is inconsistent with the
16 declarant's testimony," because the statements
17 contained in these documents that we've
18 referred to are inconsistent with the idea that
19 the information in the 1974 was outdated or not
20 relevant or something like that, because he's
21 still using them to this day and they're in his
22 reports I think they're inconsistent with --

23 THE COURT I made it clear that you could put in
24 those statements that were inconsistent with
25 his testimony I think when Mr Walker

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1 objected, that's what he -- he made a request
2--- that you address only those statements that
3 were inconsistent So that was my previous
4 ruling and I allowed that I have not
5 disallowed that, so --

6 MS ARMSTRONG So is your --

7 THE COURT The entire report is a different issue,
8 unless you're saying that every aspect of the
9 report was nothing but an inconsistent
10 statement

11 MS ARMSTRONG Well, then, so I can have the
12 sections of the report made -- perhaps I need
13 to redact them to the areas that are
14 inconsistent I mean, I'd be glad to redact
15 the reports --

16 THE COURT Well, my understanding of the --

17 MS ARMSTRONG -- so that I can get the document
18 in

19 THE COURT -- rule concerning inconsistent
20 statement is you bring it to the attention --
21 I think there's four criteria and it's set
22 forth in case law, but you bring the time, the
23 date, the substance of the testimony -- and
24 there's one more minor thing -- to the
25 attention of the witness

1 At that point in time, you give the witness the
2 opportunity to confirm or deny the statement
3 If the witness confirms the statement, then he
4 has been impeached and no further evidence
5 shall be offered If the witness denies the
6 statement, then you are allowed to submit that
7 portion of the evidence into the record and --
8 now, you said D, which one?

9 MS ARMSTRONG (d)(1)(A) It's Rule 801(d)(1)(A)

10 THE COURT Yeah Which that is read, I believe, in
11 correlation with the other rule of evidence
12 concerning the impeachment of a witness'
13 testimony with a prior inconsistent statement
14 I think that both are read together I don't
15 think that's just read by itself If I'm
16 wrong, I'm wrong
17 Mr Walker, I want to keep the record clean, so
18 is --

19 MR WALKER I agree with your characterization

20 THE COURT I'm not asking you to agree, unless you
21 think that's a correct ruling I mean, that's
22 what I thought your objection was previously

23 MR WALKER I did think the ruling was correct I
24 think it's proper if it's an inconsistent
25 statement that you lay the groundwork, he can

1 respond to it He admitted it Under Rule
2 613(b) there's no -- extrinsic evidence is not --
3 allowed if the witness acknowledges the
4 inconsistency, which we don't contend it's
5 inconsistent, but he acknowledged it He
6 didn't --

7 THE COURT Yeah, I know

8 MR WALKER So that does not make the reports
9 admissible 801(d)(1)(A) that Ms Armstrong
10 has just alluded to is what opens the door to
11 let her bring up the inconsistent statement in
12 the first place

13 THE COURT I agree I said that they were read
14 together

15 MR WALKER Right

16 THE COURT I'm going to stand by my ruling, Ms
17 Armstrong I like to keep the record pristine
18 I don't like screwing up or messing up the
19 record, but I think I'm making the correct
20 ruling, so -- you may have to correct me if I'm
21 wrong on appeal, but at least I'm trying to
22 All right With that said, redirect

23 MR WALKER Thank you, Your Honor

24 DR KANA - REDIRECT EXAMINATION BY MR WALKER

25 Q **This goes to what we were just talking about,**

1 Dr Kana You've got two notebooks in front of
 2 you, a one and a two What I'm going to ask
 3 you about is in two Would you turn to tab 63,
 4 which is Exhibit Sixty-three
 5 Does that appear to be a copy of a letter that
 6 you wrote in February 25, 2000, to Tim Eubanks
 7 at Charleston PRC on the subject of the
 8 stability of the Kiawah Spit?

9 A Yes

10 Q Would you take a minute, since that letter was
 11 a while ago, to look over your letter?

12 A Yes (Reading)

13 MR WHITFIELD-CARGILE Which exhibit did you say,
 14 Trenholm?

15 MR WALKER It's KDP Exhibit Sixty-three

16 MR WHITFIELD-CARGILE Thanks

17 A Yes, okay

18 Q What was the purpose of that letter that you
 19 wrote to Mr Eubanks?

20 A My recollection is that Mr Eubanks, the
 21 director of Charleston PRC at the time, was
 22 looking at -- he was concerned about the south
 23 end of Folly Beach, which is a sand spit of
 24 similar configuration as Captain Sam's Inlet
 25 and Kiawah Spit And so we were trying to draw

1 some comparisons between what was happening at
2 Kiawah Spit with what might happen at Folly
3 Beach Spit, as I recall

4 Q Did your letter also address your opinions as
5 to the stability of Captain Sam's Spit and your
6 opinion as to its susceptibility to breach?

7 A I believe I did, yes I think on page two
8 there's a statement --

9 Q Would you go to --

10 A -- to that effect

11 Q Going to page two, if you go down to the bottom
12 third of the letter, did you discuss
13 specifically the topic we've been talking about
14 the last two hours dealing with the
15 susceptibility of the spit to breach?

16 A Yes

17 Q Would you please publish that starting at "as
18 a result of "

19 A "As a result of continued accumulation of sand
20 along Kiawah Spit and vertical growth of the
21 dunes, the possibility of a natural beach near
22 present Beachwalker Park has diminished each
23 year since 1949 We have seen little change
24 along the back side of the spit at the critical
25 turn in Kiawah River adjacent to Beachwalker

1 Park where channel meandering would be expected
2 to cut into the spit This is likely because
3 further down the river marsh exists on both
4 sides of the channel, helping to anchor it in
5 position The worst erosion along Beachwalker
6 Park at present is along the parking lot in the
7 area where canoes are sometimes launched, i e ,
8 upstream before the bend at the neck "

9 Q Please continue on with your conclusory
10 paragraph there

11 A "In my opinion, inlet relocations lessen the
12 tendency for Kiawah River to migrate into the
13 back side of the spit or breach it from
14 behind "

15 Q Now I want to pause there When you say "inlet
16 relocations," are you talking about the kind of
17 manmade inlet relocation done in '83 and '96?

18 A Yes

19 Q All right Continue on

20 A "This is not to say it will never happen, but
21 all the shoreline trends of the past 50 years
22 point to a decrease in breach potential on the
23 Kiawah side of Captain Sam's Inlet In the
24 event of a catastrophic hurricane, the spit
25 could breach But based on the experience of

1 Captain Sam's relocation and closure of the
2 Pawley's Spit breach after Hugo, emergency
3 closure could be accomplished quickly and at
4 low cost, as long as it is done soon after the
5 storm before the breached channel has time to
6 enlarge "

7 Q In your estimation, Dr Kana, does the periodic
8 relocation of the inlet, as was in done in '83
9 and '96, have an influence on the potential for
10 the spit to breach, and, if so, what is that
11 influence?

12 A In my opinion, whenever the inlet is relocated
13 further to the north, again, as I testified
14 yesterday, it tends to trap sand and create a
15 fillet on the upcoast side of the inlet and
16 thereby accounting for more rapid growth
17 immediately updrift or to the east of Captain
18 Sam's Inlet

19 Q When you were talking yesterday about --

20 THE COURT The question was, does a periodic
21 relocation of the inlet affect the potentiality
22 of a breach at Captain Sam's?

23 THE WITNESS Yes, it reduces -- it reduces the
24 potential for a breach because it traps more
25 sand along the spit, lessening the tendency to

1 have a breach at the neck of the spit or

2 elsewhere along the spit, Your Honor-- - - - -

3 THE COURT Okay

4 Q When the inlet has moved, as you've done two
5 times and are proposing to do again, when you
6 do that, does that prevent the spit from
7 becoming elongated, as some of those old charts
8 show?

9 A Yes

10 Q And during that elongation, as I understand the
11 dynamics of what you've told us, the farther
12 away the inlet gets from Captain Sam's, the --
13 or let me say the farther away it gets from the
14 neck, the less sand is going to accumulate on
15 the neck

16 A That is correct

17 Q Okay And you keep moving it back, which keeps
18 pushing the sand back

19 A Yes

20 Q All right In this letter, in the portion you
21 just read, you mention that you had seen little
22 change on the back side of the spit at the
23 critical turn at Kiawah River This letter was
24 February 25, 2000 Have you seen change there
25 since you wrote this letter?

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1 A Yes, there has been accelerated erosion on the
2 back-side-of the-spit in that vicinity since
3 this letter was taken -- was written

4 Q Mr Whitfield-Cargile asked you about your
5 letter of August 28, 2008 That's in the other
6 notebook, Dr Kana, behind tab 30 If you
7 could please get notebook one out and turn to
8 tab 30

9 A (Witness complies) Okay I have it

10 Q Is this the letter that you wrote to the
11 Seabrook Island Properties Association
12 indicating your opinion that you did not
13 believe the revetment would have an adverse
14 effect on sand of Seabrook island?

15 A Yes

16 Q Mr Whitfield-Cargile asked you about the data
17 and whether you had hard data then Have you
18 since --

19 MR WHITFIELD-CARGILE Your Honor, I didn't ask him
20 that I just asked him -- I'm going to object
21 on the same basis he is, mischaracterizing
22 questions and testimony

23 MR WALKER I'll rephrase it, Your Honor

24 Q Since preparing this letter, have you looked at
25 data to determine the validity of the

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1 conclusions in this letter?

2 A Yes, we looked at erosion in more detail and --
3 came up with a more quantitative analysis of
4 the changes

5 Q Without going into the quantitative analysis,
6 did that data confirm or refute the opinions of
7 this letter of August 28, 2008?

8 MR WHITFIELD-CARGILE I'm going to object, Your
9 Honor We had a conference with the Judge on
10 Friday and it was -- Mr Walker made clear that
11 he wasn't going to try to get information in
12 from that report that was produced on Friday
13 and, by asking him what he concluded from his
14 report without -- he's essentially still
15 getting that same information in I think it's
16 highly prejudicial and I think it's
17 inconsistent with your order on Friday

18 THE COURT All right

19 MR WALKER Mr Whitfield-Cargile asked the witness
20 if at the time he wrote the letter it was based
21 on "casual data," I think the word was He
22 opened the door as creating a question mark as
23 to the validity of the opinion I'm not going
24 to go into the details of the report The
25 point of my question was to show that he has

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1 data to back it up and that he believes his

2 opinion to be as solid as it --

3 THE COURT Mr Chandler, you can't

4 Go ahead

5 MR WALKER He is suggesting that Dr Kana's

6 opinions today are willy-nilly, that he doesn't

7 have data My question is to establish that he

8 did confirm the opinions through data, the same

9 opinions that he expressed in this letter,

10 without going into the detail of what the

11 quantitative findings were in terms of movement

12 of different shoreline positions, which was the

13 essence of his report that he did for Seabrook

14 that was produced at his deposition

15 THE COURT Okay You did ask him about the data --

16 MR WHITFIELD-CARGILE Your Honor, the only thing

17 I --

18 THE COURT -- and whether he had data to back it

19 up

20 MR WHITFIELD-CARGILE Your Honor, the only thing

21 I asked him was how he characterized his own

22 report at his deposition That's the only

23 question I asked him I don't think that opens

24 the door as to --

25 THE COURT You didn't ask him whether he had data

1 to back it up?

2 MR WHITFIELD-CARGILE -- I asked him if he remembered
3 - saying something at his deposition
4 characterizing that letter And, you know, if
5 he had data to back it up and he wants to now
6 introduce it -- Mr Walker was at the
7 deposition He knows how this witness
8 characterized the document that he's got
9 admitted for purposes of notice only He could
10 have produced that report He should have back
11 in June And I don't think this is a way to
12 backdoor it in
13 I asked a very limited question about how he
14 characterized his own report and I don't think
15 I opened the door to any additional data coming
16 in Trenholm was at the deposition He heard
17 what he said

18 THE COURT Well, I seem to remember that you asked
19 about whether there was a data to back up, but
20 I can't remember --

21 MR WHITFIELD-CARGILE The only question I said
22 was, "Do you remember" --

23 THE COURT Not only do I seem -- I distinctly
24 remember you asking about data backing up

25 MR WHITFIELD-CARGILE The question I asked was,

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1 "Do you recall saying at your deposition that
2 that letter- was a casual-opinion based on no
3 specific data on the back side of the spit at
4 the time?" That's how he characterized his
5 letter By asking him if he remembered saying
6 that at his deposition, that that's how he
7 characterizes his letter, I don't think I
8 opened the door for him to now come with this
9 report

10 THE COURT Repeat that question one more time so I
11 can be --

12 MR WHITFIELD-CARGILE The question I asked was,
13 "Do you remember saying at your deposition that
14 this letter, August 28, 2008, was a casual
15 opinion based on no specific data on the back
16 side of the spit at the time?" That's the
17 direct quote from him By asking him if that's
18 how he characterized that letter, I am not
19 opening the door, Your Honor, I don't believe

20 THE COURT All right

21 MS ARMSTRONG Your Honor, the League's joining in
22 on that objection

23 THE COURT I understand All right Mr Walker,
24 any response?

25 MR WALKER I am not asking him for the substance

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1 of the report Whether he did a report or did
2 not doesn't change the empirical fact that he
3 looked at data and the data has confirmed his
4 opinion
5 I'm not asking him to do an analysis of the
6 data I'm not asking him to go through the
7 arithmetic calculations that his report focused
8 on I'm simply asking whether he reviewed data
9 and whether that data substantiated the opinion
10 in the letter We threw the report out , It's
11 not --

12 THE COURT I sustain the objection

13 MR WALKER Your Honor, may I also say that they've
14 had the report for four days and they can
15 cross-examine him on the report

16 MR WHITFIELD-CARGILE Your Honor, if I may respond
17 to that

18 THE COURT Well, no, you don't need to respond to
19 it I understand that and, just to be clear,
20 my ruling on Friday was not that this evidence
21 could not be gone into My ruling on Friday
22 was that Mr Walker agreed that the report --
23 and I think you agreed -- the report was not
24 going to be admitted

25 MR WALKER I represented, and I stand by it, we're

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