

1 LAND USE COMMISSION

2 STATE OF HAWAI'I

3 HEARING

4)
AO6-771 D.R. HORTON-SCHULER HOMES, LLC)

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6)

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9 TRANSCRIPT OF PROCEEDINGS

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12 The above-entitled matter came on for a Public Hearing

13 at Conference Room 205, Second Floor, Leiopapa A

14 Kamehameha, 235 S. Beretania Street, Honolulu,

15 Hawai'i, commencing at 9:45 a.m. on March 1, 2012,

16 pursuant to Notice.

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REPORTED BY: HOLLY M. HACKETT, CSR #130, RPR

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Certified Shorthand Reporter

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For Intervenor Senator Clayton Hee: ERIC SEITZ, ESQ.
SARAH DEVINE, ESQ.

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1 CHAIRMAN LEZY: (gavel) Good morning. This
2 is a meeting of the State of Hawai'i Land Use
3 Commission. First item on the agenda is the adoption
4 of the minutes from the Commission's February 16, 17,
5 2012 meeting. Commissioners, any revisions? None.
6 Do I hear a motion?

7 COMMISSIONER CONTRADES: So moved.

8 COMMISSIONER TEVES: Second.

9 CHAIRMAN LEZY: All in favor? (aye) All
10 opposed? (none) Passes. Mr. Davidson, the tentative
11 meeting schedule, please.

12 MR. DAVIDSON: Thank you, Chair. You have
13 the tentative meeting schedule for the next several
14 meetings primarily O'ahu and Maui. And as always
15 please contact either me or Chief Clerk Riley Hakoda
16 for any information.

17 CHAIRMAN LEZY: Thank you. The next item on
18 the agenda is a continued hearing on docket A06-771,
19 D.R. Horton-Schuler Homes, LLC, a Delaware limited
20 liability company, dba D.R. Horton-Schuler Division,
21 Honouliuli, 'Ewa, O'ahu to amend the agricultural land
22 use district boundaries into the urban land use
23 district for approximately 1,525.516 acres of land at
24 Honouliuli, 'Ewa District, O'ahu, Hawai'i tax map key
25 numbers (1)9-1-17:4, 059, 072; (1)9-1-18: 001 and 004.

1 Parties, please make your appearances.

2 MR. KUDO: Good morning. Representing D.R.
3 Horton-Schuler, the Petitioner in this proceeding
4 Benjamin Kudo and Naomi Kuwaye. With me at the table
5 is Vice President Cameron Nekota from D.R.
6 Horton-Schuler.

7 CHAIRMAN LEZY: Morning.

8 MR. KITAOKA: Good morning. Don Kitaoka,
9 deputy corporation counsel along with Tim Hata from
10 the Department of Planning and Permitting, city and
11 county of Honolulu.

12 CHAIRMAN LEZY: Morning.

13 MR. YEE: Good morning. Deputy Attorney
14 General Bryan Yee on behalf of the Office of Planning.
15 With me is Mary Lou Kobayashi from the Office of
16 Planning.

17 CHAIRMAN LEZY: Morning.

18 DR. DUDLEY: Good morning. Dr. Kioni Dudley
19 from the Friends of Makakilo. With me is my attorney
20 Linda Paul.

21 CHAIRMAN LEZY: Morning.

22 MS. DUNNE: Good morning. Elizabeth Dunne
23 on behalf of the Sierra Club.

24 CHAIRMAN LEZY: Good morning.

25 MR. SEITZ: Good morning. Eric Seitz

1 representing Senator Clayton Hee. And with me here is
2 my associate Sarah Devine.

3 CHAIRMAN LEZY: Good morning. Let me update
4 the record relative to this hearing. Between
5 January 19, 2012 and February 19, 2012 the Commission
6 received written correspondence or email from 107
7 individuals and organizations whose names are on file
8 with the Commission.

9 On January 25, 2012 the Commission received
10 Intervenor, The Sierra Club's response letter to the
11 Chair's inquiry regarding the credentials of proposed
12 expert witness Michael Lee and forwarding an affidavit
13 with attachments and written direct testimony of the
14 proposed witness.

15 On February 14, 2012 the Commission issued
16 an order granting in part and denying in part
17 Intervenor Senator Clayton Hee's Motion for Issuance
18 of Subpoenas.

19 Also on February 14, 2012 a subpoena for
20 witness William Tam was issued. The subpoena was
21 served on February 28, 2012.

22 On February 28, 2012 a conference was held
23 with the parties at the request of the Chair to
24 discuss planning issues related to the hearing on this
25 docket matter.

1 Let me briefly explain our hearing procedure
2 for today. The Intervenor Sierra Club will continue
3 with its case. Once The Sierra Club is finished the
4 other parties will present their cases starting with
5 Intervenor Friends of Makakilo followed by Intervenor
6 Senator Clayton Hee. As noted on the agenda, public
7 testimony will be taken at 3:00 p.m. tomorrow, March
8 2, 2012.

9 Individuals desiring to provide public
10 testimony for this public hearing will be called in
11 turn to our witness box tomorrow where they will be
12 sworn in.

13 For the information of the parties and the
14 public, today's hearing is planned to extend to
15 6:30 p.m. We will break for lunch at approximately
16 12:00 p.m. depending on where we are with the docket.
17 Lunch would be planned for 45 minutes.

18 I note for the parties and the public that
19 from time to time I will be calling for short breaks.
20 There is one thing the Chair is going to allow public
21 testimony out of order for four witnesses who have
22 been represented to me have traveled from the mainland
23 and are here for a short period of time; will not be
24 here tomorrow for the planned public testimony. We'll
25 take that public testimony prior to starting back into

1 Sierra Club's case.

2 That aside, are there any questions on this
3 hearing or our procedure for today? We'll go ahead at
4 this point in time, then, and take public testimony
5 out of order. Mr. Davidson.

6 MR. DAVIDSON: Thank you, Chair. A 3-minute
7 rule will be enforced. First speaker is Wendell Cox
8 followed by Adrian Moore.

9 THE WITNESS: Thank you.

10 CHAIRMAN LEZY: Good morning. I have to
11 swear you in.

12 THE WITNESS: Yes, indeed.

13 WENDELL COX
14 being first duly sworn to tell the truth, was examined
15 and testified as follows:

16 THE WITNESS: Yes.

17 CHAIRMAN LEZY: Please state your name, your
18 address and proceed.

19 THE WITNESS: Wendell Cox. O'Fallon,
20 Illinois. Thank you, Mr. Chairman and thank you,
21 members of the Commission. The point we want to talk
22 about, I want to describe at this point, is a concern
23 about the ability of the city and county of Honolulu
24 to afford the rail system on which much of this
25 decision is being based.

1 We think about, recognize the fact that
2 Jefferson County, Alabama where Birmingham is located,
3 just filed bankruptcy as a result of its inability to
4 pay its sewer bonds. We have a situation here in the
5 city and county where the unfunded liability for
6 public employee pensions and retiree health benefits
7 has gone up \$6,000 in just five years per household.

8 We have a situation where the state actuary
9 indicates that that situation is going to get worse as
10 the demographics begin to create a situation where
11 there are fewer working people and more older people,
12 so the costs will be going up.

13 You have a \$5 billion or more liability with
14 respect to EPA sewage consent issue. Mayor Hannemann
15 suggested it's going to cost households \$300 more a
16 month in the long run, that the increase in water
17 rates, and one doesn't know how far that will go along
18 in the future.

19 You have the reality that rail projects tend
20 to cost on average 45 percent more than planned, often
21 a hundred percent more. And you will have, as
22 residents of this community, the obligation to pay any
23 cost overruns completely on your own without any help
24 from the federal government.

25 You have the city council apparently, or at

1 least members of the city administration who have
2 suspended the debt limit at the city which creates --
3 which is a real warning sign for the future. The
4 federal government and the state have expressed
5 concerns about the ability of the GET tax to provide
6 sufficient revenue for the project.

7 And you have very rosey ridership revenue
8 projections which create a situation where money,
9 then, is likely to come in will come in.

10 You have the most expensive rail project in
11 the United States per household. Recognize that in
12 Boston in the 1980s they approved a project that was
13 in these dollars, today's dollars, supposed to cost \$5
14 billion, just like yours.

15 It eventually cost \$22 billion including
16 interest. That is the Big Dig. You will have to pay
17 any extra in the long run and that is what you are
18 facing.

19 So my basic bottom line is this rail project
20 costs too much and it does too little. By doing too
21 little, what I'm suggesting is you will not see any
22 traffic congestion reduction as a result of that. And
23 the speakers to follow will describe that to some
24 extent. Thank you.

25 CHAIRMAN LEZY: Parties, questions?

1 MR. KUDO: Mr. Cox, you came from Illinois?

2 THE WITNESS: That's right.

3 MR. KUDO: Did you come here for last
4 night's rally in Kapolei against the rail?

5 THE WITNESS: It was two nights ago. I was
6 one of the speakers.

7 MR. KUDO: Thank you.

8 CHAIRMAN LEZY: County?

9 MR. KITAOKA: Mr. Cox, do you have any
10 familiarity whatsoever with the Project that is before
11 this board?

12 THE WITNESS: Oh, indeed, I do.

13 MR. KITAOKA: What do you know about the
14 Ho'opili Project?

15 THE WITNESS: No. I know about -- I've not
16 studied that particular project. My purpose in this
17 testimony was to talk about -- was to talk about the
18 rail project which is part of the justification for
19 what is the proceeding before this board.

20 MR. KITAOKA: My question was: Do you have
21 any familiarity with the Project that is before this
22 board?

23 THE WITNESS: No.

24 MR. KITAOKA: Thank you.

25 CHAIRMAN LEZY: Any other questions?

1 MR. YEE: No questions.

2 CHAIRMAN LEZY: Commissioners, questions?
3 Commissioner Heller.

4 COMMISSIONER HELLER: Yes. You started out
5 by saying "We have a concern." And I'd just like to
6 clarify who is the "we" that you're testifying on
7 behalf of?

8 THE WITNESS: Oh, I'm testifying on behalf
9 of myself. I'm sorry.

10 COMMISSIONER HELLER: Okay. You're not
11 representing any particular organization.

12 THE WITNESS: No, no. I've been brought in
13 to discuss the issue based upon my research and my
14 expertise. But, no, I'm not representing any
15 organization.

16 COMMISSIONER HELLER: Thank you.

17 CHAIRMAN LEZY: Commissioners, any other
18 questions? One question since you just mentioned it,
19 Mr. Cox. Who brought you in?

20 THE WITNESS: I'm being brought in by the
21 group of people that have been fighting the program
22 and put on the hearings, you know -- not the hearings,
23 the town hall meetings the last couple days.

24 CHAIRMAN LEZY: Does that group of people
25 have a name?

1 THE WITNESS: That's a good question. I
2 don't know. (Laughter).

3 CHAIRMAN LEZY: Thank you very much.

4 THE WITNESS: Oh. I'm sorry. American
5 Dream Coalition. Sorry.

6 MR. DAVIDSON: Next is Adrian Moore followed
7 by John Charles.

8 ADRIAN MOORE
9 being first duly sworn to tell the truth, was examined
10 and testified as follows:

11 THE WITNESS: Yes.

12 CHAIRMAN LEZY: Please state your name, your
13 address and proceed.

14 THE WITNESS: Adrian Moore, Tehachapi,
15 California. Good morning. The light rail project
16 that is, in a sense, the driver for the land use
17 change question before the Commission is the focus of
18 this group.

19 And in particular I want to point out that
20 the plan -- the current transportation plan for the
21 county of O'ahu is to spend 50 percent of all
22 transportation dollars in the next 25 years on
23 transit. Of course, the vast majority of that is on
24 this light rail line.

25 And at the end of that time congestion will

1 be worse, according to the plan, and at the rosiest
2 scenario 9 percent of travelers will use public
3 transit in the county.

4 So the plan is very explicitly to spend
5 50 percent of the money on 9 percent of the travelers,
6 which means there's only going to be 50 percent of the
7 money to spend on the other 91 percent of travelers in
8 the county.

9 That's an extraordinarily unsustainable and
10 unfair situation. The record is in metropolitan area
11 after metropolitan area around the United States of
12 America that those kinds of numbers, which are quite
13 typical, don't result in -- you don't have enough
14 people when it's only 9 percent of travelers riding
15 that rail line, to drive the kinds of radical change
16 that's being discussed here. So it's a proposal of
17 hope over reality.

18 There are many alternatives to providing
19 better transportation. And I think that people in the
20 county of O'ahu should be very upset that they're
21 being offered a transportation plan that says: We are
22 going to spend many billions of dollars over the next
23 25 years.

24 It's primarily going to benefit 9 percent or
25 less of the people and the primary measure of

1 transportation performance, congestion, will get
2 worse.

3 If the school systems came and said, "We're
4 going to spend billions of dollars over the next 20
5 years and test scores will go down," or the sewer
6 system said, "We're gonna spend billions of dollars
7 over the next years and effluent quality will get
8 worse," no one would accept that. Only in
9 transportation are we somehow perversely willing to
10 accept a plan for things to get worse.

11 It doesn't have to be that way. There's
12 ways of building transportation networks in this city
13 and county that will reduce congestion. And the
14 emphasis should be on that and not on putting all of
15 the resources into one project that has a very bold
16 vision but very poor results. Thank you.

17 CHAIRMAN LEZY: Parties, questions?

18 MR. KUDO: Mr. Moore, is it?

19 THE WITNESS: Yes.

20 MR. KUDO: Were you also flown in two nights
21 ago to speak at that anti-rail rally in Kapolei?

22 THE WITNESS: I was not flown in. I flew
23 myself here. Well, let me rephrase that. I bought my
24 own airplane ticket to come here. (Laughter)

25 MR. KUDO: That's what I thought you meant.

1 This particular proceeding is regarding the Ho'opili
2 Project.

3 THE WITNESS: Yes.

4 MR. KUDO: What were you told is the
5 connection between the Ho'opili Project and the rail
6 project?

7 THE WITNESS: That the Ho'opili Project is a
8 form of a Transit-Oriented Development. And so the
9 aspirations for the residents -- the aspirations for
10 the development of that Project hinge upon the access
11 that will be provided by the light rail line.

12 MR. KUDO: So that if this Project were
13 denied it would be a serious detriment to the rail
14 system going forward?

15 THE WITNESS: I don't know about that. The
16 causality is usually the other way around. You've got
17 population growth, you've got some economic growth
18 certainly once the recession is behind us. You're
19 going to need more housing so that's its own question.

20 Whether the rail system will make this
21 Project viable is, I think is the nexus for why we're
22 questioning the viability of the rail project. If
23 that project is not viable that affects the viability
24 of the housing Project. Certainly doesn't completely
25 destroy it but it affects it. That's what I believe

1 the nexus is.

2 MR. KUDO: No further questions.

3 CHAIRMAN LEZY: County?

4 MR. KITAOKA: Mr. Moore, have you conducted
5 ridership projections on the island of O'ahu for
6 public transportation?

7 THE WITNESS: (Pausing)

8 MR. KITAOKA: Yes or no, Mr. Moore.

9 THE WITNESS: I'm -- I direct a lot of
10 researchers so I'm making sure I'm accurate since I'm
11 under oath. Yes, we have for the Honolulu
12 metropolitan area, yes.

13 MR. KITAOKA: Who's "we"?

14 THE WITNESS: Reason Foundation. That's my
15 employer. That's who I'm here on behalf of.

16 MR. KITAOKA: You have conducted ridership
17 projections for O'ahu, is that correct?

18 THE WITNESS: Yes.

19 MR. KITAOKA: Okay. And those projections
20 projected 9 percent ridership for the population?

21 THE WITNESS: No. The Long-Range
22 Transportation Plan that is the official document of
23 the government of O'ahu projects 9 percent. We
24 project something much more like 5 percent.

25 MR. KITAOKA: You projected 5 percent in

1 your ridership calculations?

2 THE WITNESS: Yes. This was a few years
3 ago.

4 MR. KITAOKA: Are you going to provide that
5 projection to us?

6 THE WITNESS: Ah, I can if you would like.
7 It's a sub-set of the larger study on metropolitan
8 transit projects.

9 MR. KITAOKA: Well, if you're saying that
10 you provided a ridership projection for O'ahu, I'd be
11 interested in seeing it.

12 THE WITNESS: Okay. I will see if I can get
13 it to -- someone.

14 MR. KITAOKA: Please forward it to the city
15 and county of Honolulu.

16 THE WITNESS: Okay.

17 MR. KITAOKA: Thank you.

18 CHAIRMAN LEZY: Any questions?

19 MR. SEITZ: Yes.

20 CHAIRMAN LEZY: Mr. Seitz.

21 MR. SEITZ: Mr. Moore, would you give us a
22 little bit of background about what your expertise is
23 and what your training is.

24 THE WITNESS: I have a Ph.D. in
25 Transportation Economics. I have -- my career has

1 been in transportation analysis. I've written several
2 books, et cetera, et cetera.

3 MR. SEITZ: Have you been qualified to and
4 testified previously as an expert in the areas on
5 which you're providing opinions today?

6 THE WITNESS: Yes. Many times before
7 Congress, state legislatures, courts, so forth.

8 MR. SEITZ: With respect to issues before
9 you here today, are you aware of the specific traffic
10 congestion problems which are an issue in connection
11 with this particular proposed development?

12 THE WITNESS: Only loosely with the ones --
13 the trip generation projections with regard to this
14 Project I've only heard, like, a snippet about. I'm
15 more familiar with the overall metropolitan area
16 traffic predictions.

17 MR. SEITZ: So you're familiar with the
18 traffic problems for people who commute in from the
19 'Ewa Plain or West O'ahu into Honolulu, the city core.

20 THE WITNESS: Yes.

21 MR. SEITZ: And generally it's your
22 understanding that this particular development is
23 going to be out there in that area where there are
24 already enormous congestion issues, is that correct?

25 THE WITNESS: That's correct.

1 MR. SEITZ: Have you looked at any of the
2 projections or the problems that have been raised by
3 the state Department of Transportation itself with
4 regard to the traffic impacts of this Project?

5 A Yes. And, in fact, I found most interesting
6 that since the plan is to build the light rail project
7 and that the environmental impact report itself
8 clearly indicates that at every point where they have
9 made point predictions of congestion, that the light
10 rail will make congestion worse without fail at all
11 points. That's according to the environmental impact
12 report. So it's not the solution.

13 Largely what we've been here to talk about
14 is how do you build a transportation network in this
15 metropolitan area that will allow people, however many
16 houses you build out there, to get into the city
17 without suffering all of that congestion.

18 MR. SEITZ: Thank you. No further
19 questions.

20 CHAIRMAN LEZY: Commissioners, questions?
21 Thank you very much.

22 MR. DAVIDSON: John Charles followed by
23 Randall O'Toole.

24 JOHN CHARLES
25 being first duly sworn to tell the truth, was examined

1 and testified as follows:

2 THE WITNESS: I do.

3 CHAIRMAN LEZY: Please state your name, your
4 address and proceed.

5 THE WITNESS: My name is John Charles. I
6 reside near Portland, Oregon. I'm president and chief
7 executive officer of Cascade Policy Institute, a
8 non-profit research center in Portland. My particular
9 research focus for about the last 12 years has been on
10 Transit-Oriented Development.

11 I just wanted -- the reason I've been here
12 the last couple days and today is to share our
13 experience in Oregon with where we have arguably one
14 of the nation's most stringent land use regulatory
15 systems designed to contain urbanization and protect
16 agricultural lands.

17 We also have more than 25 years of
18 experience with rail passenger transit including light
19 rail, street cars and commuter rail. So the
20 conversion of land, agricultural land and other to the
21 developable land near rail is an item of ongoing
22 discussion in Oregon.

23 And I have conducted original field research
24 and published some of it. I'm in the process of
25 publishing more of it. The question if you run a rail

1 line it's sort of the Field of Dreams theory.

2 We have an entire line on the west side of
3 Portland which was run through open space, woodlands,
4 cow pastures and then through the use of zoning and
5 subsidies converted land to Transit-Oriented
6 Development, high density mixed-use development in the
7 hope of generating ridership to justify the large
8 subsidies to the train system in the first place.

9 And the conclusion -- my research has been
10 to go out to TODs, Transit-Oriented Developments, I
11 called them TODs -- after rail lines have been built
12 we simply observe travel patterns. We don't survey
13 people. We don't do computer models. We simply
14 observe actual travel behavior.

15 And in virtually every case the projections
16 for high levels of ridership premised on
17 Transit-Oriented Development have proven to be false.
18 Ridership is far lower than forecasted no matter how
19 much density, no matter how much ways you induce
20 people to ride.

21 It turns out most people commute by car.
22 And after the commute period they, throughout peak
23 trips, they use the car even more.

24 So to the extent that Transit-Oriented
25 Development is part of the conversation related to

1 rail, I would just caution anybody that you should try
2 and learn from our 25 years of experience. I wish it
3 worked better, especially because virtually all of the
4 TODs require subsidies to be feasible. Public monies
5 are put into them. Then it turns out the ridership
6 simply isn't as strong as people had hoped.

7 So you should just go into this with --
8 everyone should have their eyes open regarding rail as
9 a catalyst for Transit-Oriented Development. Thank
10 you.

11 CHAIRMAN LEZY: Parties, questions?

12 MR. KUDO: Mr. Charles, you came here to
13 testify at that rally two days okay, is that correct?

14 THE WITNESS: I didn't know it was a rally.
15 I did come as a speaker to a session several nights
16 ago, yes.

17 MR. KUDO: Were you hired by an organization
18 to come here?

19 THE WITNESS: I definitely wasn't hired.
20 I'm not receiving any payment.

21 MR. KUDO: Okay. Are you -- did somebody
22 ask you to come?

23 THE WITNESS: Yes.

24 MR. KUDO: Who asked you to come?

25 THE WITNESS: I've been asked by The

1 American Dream Coalition, which also asked several of
2 the speakers here.

3 MR. KUDO: The American Dream Coalition, can
4 you explain to the Commission what that exactly is,
5 what kind of organization is it?

6 THE WITNESS: It's a national coalition of
7 people interested in preserving choice in how people
8 live and various other issues. Randall O'Toole, who's
9 following me, is much more involved with American
10 Dream than I am. It's a national organization
11 interested in transportation land use planning.

12 MR. KUDO: Would be it be fair to say that
13 The American Dream Coalition is involved in Hawai'i
14 because of the rail transit project?

15 THE WITNESS: That was probably one reason.
16 I can't really speak for the coalition. I'm not on
17 the board.

18 MR. KUDO: No further questions.

19 MR. KITAOKA: Mr. Charles, do you consider
20 the rail system in Portland a failure then?

21 THE WITNESS: When measured against the
22 stated goals of each line over the last 25 years, and
23 I've examined all those goals rather carefully, I
24 would say it's been quite disappointing. It has cost
25 typically more than projected.

1 Ridership has typically been less than
2 projected. And the entire effort to use
3 Transit-Oriented Development to generate ridership I
4 can tell you empirically it has proven to be a
5 failure.

6 MR. KITAOKA: My understanding of the
7 Portland system is that it is touted as one of the
8 country's success in rail. So you disagree with that?

9 MR. SEITZ: I object to the question as
10 vague and ambiguous. I don't know who's touting what
11 basically. And it supposes all kinds of things which
12 this questioner has not expressed. So my sense is
13 it's not a question anybody can answer.

14 MR. KITAOKA: I'm not laying a foundation
15 for it. I'm asking if he agrees whether it's a
16 success or not.

17 CHAIRMAN LEZY: Objection noted. You can
18 answer.

19 THE WITNESS: I understand the reputation.
20 I've lived there 30 years. I've ridden all of the
21 light rail lines and street car commuter more than --
22 total more than 25,000 times from end to end. I
23 actually like trains.

24 But -- and one reason I studied it is out of
25 curiosity and academic and other to say: Well, we've

1 spent all this money, we've done all this where people
2 probably every week come from around the world for
3 these tours. I have occasionally been asked to speak
4 to out-of-towners when they come for the standard
5 Portland tour. I know the city council here five
6 years ago, some of them came for the tour.

7 And my basic reaction is almost everything
8 out-of-towners think they know about Portland Transit
9 is wrong. There's a huge propaganda machine there.
10 As I said I pay for it through taxes. I wish it worked
11 better.

12 But the huge cost of it is cannibalizing the
13 bus system which has been reduced by 13 percent in the
14 last three years. And buses carry two-thirds of the
15 daily passengers.

16 MR. KITAOKA: My question was quite simple.
17 Do you disagree that Portland's Rail System is a
18 success?

19 THE WITNESS: I do disagree.

20 MR. KITAOKA: You think it's a failure.

21 THE WITNESS: I do think it's a failure.

22 MR. KITAOKA: Thank you.

23 THE WITNESS: You're welcome.

24 CHAIRMAN LEZY: Any other questions?

25 Dr. Dudley.

1 MR. DUDLEY: In your talk you said that you
2 go and measure different ridership, and so forth. But
3 the other night in your talk you talked about the
4 specific Transit-Oriented Developments areas. And you
5 showed where the cars are still much higher than the
6 ridership on the MAX. Could you talk about that,
7 please, and what the average experience is of people
8 living in TODs and their ridership on the train and
9 ridership in cars?

10 THE WITNESS: Although they all vary, I've
11 looked at more than 20 work sites right adjacent to
12 MAX, the light rail system. Frequently 97, 98 percent
13 of workers arrive in the single occupant vehicle. For
14 residential facilities right next to light rail
15 stations, the highest use I've ever observed has been
16 about 11 percent rail ridership. Typically auto
17 ridership is very close to ridership anywhere else in
18 the city.

19 And there are a number of shopping centers
20 that have been developed along the MAX as well. And
21 I've gone at peak shopping days such as Black Friday
22 after Thanksgiving or December 21st. And auto use
23 comprises about 98 percent of passenger trips.

24 So in many cases the rail line, the station
25 has actually repelled development. There's been no

1 development whatsoever, so they have to induce through
2 subsidies development to ride in the first place and
3 then most people there don't use the train.

4 CHAIRMAN LEZY: Mr. Seitz.

5 MR. SEITZ: A couple questions. You talked
6 about the fact that you've done this research for many
7 years. You described the research. Could you tell us
8 a little bit about what your academic and professional
9 qualifications are for the opinions that you've set
10 out today.

11 THE WITNESS: Certainly. I have a Master's
12 in Public Administration through Portland State
13 University. Otherwise my credentials are primarily
14 based on actual field research at these facilities,
15 interviews with people who financed them and build
16 them, and interviews with people who live and work
17 there, and supervising research to compile
18 quantitative and qualitative assessments.

19 MR. SEITZ: And in terms of your motivation
20 for being here in Hawai'i to speak at the meetings
21 that you spoke at and testified this morning, you're
22 not being compensated for the opinions you're
23 expressing?

24 THE WITNESS: That is correct.

25 MR. SEITZ: And you haven't taken out any

1 ads in the newspapers, have you? Or any radio spots,
2 or you haven't organized people to hold signs or done
3 any of those things, have you?

4 THE WITNESS: No, sir.

5 MR. SEITZ: Thank you. Nothing further.

6 CHAIRMAN LEZY: Commissioners, questions.
7 Commissioner Teves.

8 COMMISSIONER TEVES: Aloha, Mr. Charles.
9 In your studies on rail systems have you seen any rail
10 system that's a success?

11 THE WITNESS: You have to first ask what you
12 mean by "success".

13 COMMISSIONER TEVES: Meets your standards.

14 THE WITNESS: I think all cities that
15 develop in a different format such as New York. I
16 would say if you did not have rail transit Manhattan
17 would not function very well day-to-day. It's very
18 important. But I also note that no one's building any
19 more New Yorks. It's, statistically it's an outlier
20 for an example.

21 So for what I call new rail cities such as
22 Portland, who built out in the last 25 to 30 years, I
23 wouldn't call any of them a success at least based on
24 how much money has been put in relative to ridership.

25 COMMISSIONER TEVES: So in your opinion only

1 New York has a successful rail system.

2 THE WITNESS: Well, I'm not -- I'm not
3 really a rail expert.

4 COMMISSIONER TEVES: You're not an expert.

5 THE WITNESS: I haven't studied all the
6 others. And really came to share my expertise about
7 Transit-Oriented Development in Portland, Oregon just
8 because of its outsized reputation internationally. My
9 following colleague Greg O'Toole knows a lot more
10 about the rail systems internationally than I do.

11 COMMISSIONER TEVES: So your studies just
12 concentrate on Portland only then.

13 THE WITNESS: Mostly Transit-Oriented
14 Development and primarily in Portland, yes.

15 COMMISSIONER TEVES: So I don't understand.
16 You mean you only made a study in Oregon but nowhere
17 else?

18 THE WITNESS: My field research -- because
19 it's very time consuming and has gone on for a
20 decade -- I focused on Portland primarily because
21 Portland is an international sort of poster city in
22 this area. So if people learn more about Portland it
23 can potentially have a ripple effect.

24 COMMISSIONER TEVES: So you never studied
25 any of the other cities.

1 THE WITNESS: I've never systematically
2 studied Transit-Oriented Development in terms of field
3 research in other cities, that's correct.

4 COMMISSIONER TEVES: But you do agree that
5 the rail system in New York works. Is that what you
6 said? I'm sorry.

7 THE WITNESS: I grew up 20 miles outside of
8 New York. I used to commute into New York City. I'm
9 somewhat familiar. I would say rail transit is
10 important to New York, New York City.

11 COMMISSIONER TEVES: So you can travel
12 20 miles on the rail system in New York.

13 THE WITNESS: You can travel longer.

14 COMMISSIONER TEVES: So it's even traveling
15 20 miles is a success.

16 THE WITNESS: I would say it's important.
17 I'm not sure it's even successful anymore financially.
18 It's billions of dollars in debt.

19 COMMISSIONER TEVES: So you haven't met any
20 system that you like.

21 THE WITNESS: Well, I didn't say "like". I
22 love flying to Reagan National and taking the Metro
23 Subway. That doesn't make it a financial success.
24 My personal opinions there aren't really important as
25 a matter of public policy. I like lots of train

1 systems. That doesn't make them good public policy.

2 COMMISSIONER TEVES: So you do like rail
3 systems then?

4 THE WITNESS: Personally?

5 COMMISSIONER TEVES: Yeah.

6 THE WITNESS: Yes.

7 COMMISSIONER TEVES: Okay. Okay. Now I
8 understand. You don't like it professionally but you
9 like it personally.

10 THE WITNESS: I like -- I love riding BART.
11 I love riding the Atlanta MARTA. I love New York
12 City's Express Subway. Separating my personal
13 preference from public policy I would say today in
14 today's world they're probably not good investments
15 going forward if you're starting from scratch. That's
16 what my professional opinion is.

17 I happen to like them personally, but
18 they're massively subsidized and most of them are not
19 economically sustainable.

20 COMMISSIONER TEVES: I like 'em too. So I
21 agree with you. Thank you. No further questions.
22 (laughter) Thank you.

23 THE WITNESS: Thank you, sir.

24 MR. DAVIDSON: The final witness is Randall
25 O'Toole.

1 RANDALL O'TOOLE

2 being first duly sworn to tell the truth, was examined
3 and testified as follows:

4 THE WITNESS: Yes.

5 CHAIRMAN LEZY: Please state your name, your
6 address and proceed.

7 THE WITNESS: My name is Randall O'Toole. I
8 live in Camp Sherman, Oregon on a giant megalopolis of
9 140 people. I did grow up in Portland. I founded the
10 American Dream Coalition, which is a non-profit
11 organization that's designed to help people
12 understand and deal with land use and transportation
13 issues in their own communities.

14 We decided to help people here in Honolulu
15 because we know about the controversy about both the
16 land use and the transportation issues here.

17 And the way we help people is we bring in
18 experts like Mr. Cox, Mr. Moore, Mr. Charles and
19 myself to describe the problems with the proposals
20 that are on the table, and help them understand how to
21 solve those problems.

22 When we look at things like rail transit
23 projects and Transit-Oriented Developments, what we
24 see are an obsolete view of the world. It's an
25 obsolete world view that no longer works. Rail

1 transit works great if you build it in a city where
2 people do not have automobiles.

3 The rail transit built in Tokyo in the
4 1950's after the war works great. It's a wonderful
5 world transit system because nobody drove in Tokyo in
6 1950's. Total driving was about 2 percent of all
7 travel.

8 Rail transit worked in New York when it was
9 built in 1904 because nobody drove in New York in
10 1904. Automobile driving was less than 1 percent of
11 all traveling.

12 Rail transit built today in a country, in a
13 city that has lots of auto driving will not work
14 because rail transit does not go from where you are to
15 where you want to go.

16 The belief of urban planners is that there's
17 a connection between land use and transportation. So
18 they want to build rail transit and support that rail
19 transit with Transit-Oriented Development. And then
20 expect the Transit-Oriented Development will support
21 the rail transit, so it's a circular argument.

22 You need the Transit-Oriented Development to
23 get people to ride the rail transit. You need the
24 rail to make the Transit-Oriented Development viable.
25 The problem is that neither of these things work. In

1 order to get economic development you need to have
2 cheaper travel, faster travel, new travel.

3 And according to the environmental impact
4 statement, if the rail transit project is built here,
5 the 20-mile rail line, out of 4 million trips taken
6 per day in Honolulu in 2030 only 800 will be new
7 trips.

8 That 800 trips is not enough to generate any
9 new development, any new jobs, any new benefits. In
10 fact this rail transit project seems to us to be
11 designed to fail. Adrian Moore called it light rail.
12 Some people call it heavy rail. What is it?

13 Well, what it is it's a hybrid. It's a
14 hybrid that has all the cost disadvantages of heavy,
15 which is very expensive to build -- and as the
16 Honolulu Star-Advertiser pointed out this morning, it
17 has all the capacity disadvantages of light rail which
18 can hardly move more than a few people. Because it
19 will move so few people it will actually create more
20 congestion than it will relieve.

21 According to the environmental impact
22 statement, at every single place where they compared
23 congestion in 2030 with and without the rail, the rail
24 alternative will have more congestion than not having
25 the rail alternative -- not more than today, more than

1 in 2030 without the rail.

2 So the rail will increase congestion. And
3 projects like the land use Project under consideration
4 today, will make the congestion worse.

5 As John Charles' research has shown even
6 people living in so-called Transit-Oriented
7 Developments hardly ever ride transit. They drive for
8 almost all of their travel.

9 And putting all those housing units at one
10 end of the rail line will simply make congestion far,
11 far worse on the highways to Honolulu.

12 So for all these reasons we are very
13 sceptical of the design-to-fail rail project, and what
14 we believe is the design-to-fail land use Project
15 associated with that rail project. If that land use
16 Project is depending on the success of the rail
17 project the land use Project will fail as well. Thank
18 you.

19 CHAIRMAN LEZY: Parties, questions? County,
20 questions.

21 MR. KITAOKA: No questions.

22 CHAIRMAN LEZY: Intervenor questions?

23 MR. SEITZ: No.

24 CHAIRMAN LEZY: Commissioners? Commissioner
25 Judge.

1 COMMISSIONER JUDGE: Good morning
2 Mr. O'Toole. If I understand you correctly, then,
3 what you're saying is with or without rail if a
4 project is -- if this Project that we're contemplating
5 is going to generate traffic, with or without rail
6 there's going to be -- there's going to be impacts,
7 right, traffic impacts?

8 So with rail -- some people tell us with
9 rail those impacts will be less. You're saying even
10 with rail the impacts are going to be greater. Is
11 that what I hear you saying?

12 THE WITNESS: That's what the enviromental
13 impact statement says. And the reason is that
14 building a rail actually reduces the capacity of the
15 arterials to move traffic because the rail will take
16 up space that could be used for left-turn lanes, for
17 on- and off-ramps and so on, so forth.

18 So with the rail you'll have more congestion
19 than without the rail. The land use Project will add
20 to that congestion. And with the rail and the land
21 use Project you will have more congestion than without
22 the rail and the land use Project.

23 With the rail and without the land use
24 Project you'll have more congestion than without the
25 rail and without the land use Project.

1 So any way you go, the rail and the land use
2 Project are adding congestion both. Whether you
3 build the rail or not the land use Project is adding
4 congestion. And the rail will simply make it worse.

5 COMMISSIONER JUDGE: So traffic mitigation
6 is critical.

7 THE WITNESS: Traffic mitigation is
8 critical. I suggest instead of building the rail line
9 and then mitigating the impacts, skip the intervening
10 step and simply mitigate the impacts of the additional
11 congestion. Skip the rail line.

12 But if you don't have the rail line, then I
13 suggest this development would be designed completely
14 differently. It would not make sense to build it the
15 way they're contemplating it without the rail line.
16 On the other hand, I don't think it will succeed with
17 the rail line.

18 As we found in Portland, numerous so-called
19 Transit-Oriented Developments built right next to rail
20 stations built to similar standards as the proposed
21 development, went bankrupt because, frankly, people
22 don't want to live that way.

23 COMMISSIONER JUDGE: Thank you.

24 CHAIRMAN LEZY: Commissioners, any other
25 questions? Thank you for all your testimony.

1 Mr. Maunakea-Forth, why don't you step up. Thank you
2 for your patience. Ms. Dunne, as I recall Sierra
3 Club's done with its direct exam and has passed
4 Mr. Maunakea-Forth for cross-examination.

5 MS. DUNNE: That's correct.

6 CHAIRMAN LEZY: Mr. Kudo, you're prepared to
7 proceed?

8 MR. KUDO: We don't have any
9 cross-examination questions. I just wanted to express
10 our gratitude to this particular speaker for his
11 efforts in helping young people in the
12 Nanakuli/Waianae area.

13 MR. KITAOKA: No questions.

14 MR. YEE: No questions.

15 CHAIRMAN LEZY: Let me just re-swear you.

16 GARY MAUNAKEA-FORTH
17 being first duly sworn to tell the truth, was examined
18 and testified as follows:

19 THE WITNESS: I do.

20 CHAIRMAN LEZY: Just state your name again.

21 THE WITNESS: My name is Gary
22 Maunakea-Forth. I reside in Nanakuli.

23 CHAIRMAN LEZY: Dr. Dudley.

24 xx

25 xx

1 CROSS-EXAMINATION

2 BY DR. DUDLEY:

3 Q Mr. Forth, are you aware that the average
4 farmer on O'ahu is 55 years old?

5 A Correct. I think a fraction older actually
6 but, yeah.

7 Q And it's often said that they're all dying
8 off and that young kids don't want to farm. Can you
9 respond to that?

10 A I've heard that said at neighborhood
11 meetings. In my experience farming with a group of
12 young people that are roughly college age, between 17
13 and 25, that raise small gardens in intermediate and
14 high schools, there's certainly a perception amongst
15 that age group that farming is for poor people, for
16 the uneducated. I've heard teachers and school
17 principals say that as well.

18 Q Could you tell us about Ma'o Farms and how
19 it's set up and how it relates with students?

20 A Ma'o Farms is actually a non-profit
21 organization. The parent non-profit is called --

22 CHAIRMAN LEZY: Mr. Maunakea-Forth, I'm
23 sorry. I didn't mean to interrupt you. But,
24 Dr. Dudley, that came out in detail on
25 Mr. Maunakea-Forth's direct.

1 MR. DUDLEY: I just --

2 CHAIRMAN LEZY: Allow me to finish, please.
3 That came out in detail in Mr. Maunakea-Forth's direct
4 testimony.

5 MR. DUDLEY: Okay.

6 CHAIRMAN LEZY: So please confine your
7 questions to something that's not been testified to.

8 Q (Mr. Dudley): Okay. People visiting your
9 farm see young people doing all kinds of things. Can
10 you describe the progression of jobs that a student
11 goes through as they progress through your -- through
12 your training.

13 A Ma'o's an attempt at a different business
14 model for agriculture in Hawai'i. So young people
15 come to the farm as interns with the intent that
16 they're using agriculture. And working on farm's a
17 gateway to college.

18 So, yeah, young people that we work with in
19 the high schools through internship programs, paid and
20 unpaid internships, learn about the farm. They come
21 to the farm. They're funded under an internship
22 program to go to college. Most of them in their
23 formative years attend Leeward Community College.

24 Currently that's about 32, 33 young people.
25 What we found is that as the farm has grown -- we

1 started with five acres; we're now 24 acres -- that
2 some of the those young people actually like to farm
3 and want to continue farming.

4 So they've been rehired as farm
5 professionals funded by the farm revenues. So we
6 currently have five young people age 22 to 27 who
7 attend the University of Hawai'i either Manoa or West
8 O'ahu. And they run the organic farm business
9 operations.

10 Q Good. And tell us what are the principal
11 problems these young people expect are going to face
12 today in becoming farmers.

13 A Well, I mean, you know, they -- to become a
14 farmer in Hawai'i that would take up a whole day's
15 testimony. If you could see someone coming out of,
16 say, for example, culinary arts program at KCC how
17 would it be for them to start their own restaurant.
18 So that's all kinds of problems: How to finance that
19 restaurant. Whether or not they have enough
20 experience to start that restaurant.

21 So you can imagine a young person with some
22 farming background, either through college or through
23 his parents or through working in the community, is
24 still going to have the same problems starting up
25 their own business.

1 On top of that we have the obvious problem
2 of access to land. Whether it's available or not is
3 one issue. Whether it exists in the community is the
4 first part.

5 The second part, whether it's leasable,
6 whether it is -- you can purchase it. And then the
7 next step I guess is the figuring out how much it's
8 going to cost you to get a piece of land ready to farm
9 and make money and pay the bills.

10 Q Have you looked for land for your students?

11 A As I explained in the past testimony, I
12 think, we spent six years looking for land for the
13 organization. I think that for young farmers to farm
14 in Hawai'i there needs to be a lot more done in terms
15 of, like, accessibility to land. So we've looked in
16 terms of just a general survey of land.

17 In fact, two nights, again I was on line
18 again looking at pieces of land up in Wahiawa and
19 Waialua.

20 Q Can you describe any connections Ma'o Farms
21 has with Leeward Community College?

22 A We have a partnership with Leeward Community
23 College that we send our young people to LCC. The
24 partnership involves recruiting young people
25 particularly from the Wai'anae Coast to college. It

1 involves retention of those young people, counseling
2 young people. That's about the most of the
3 organization.

4 We still have to raise the funds to pay the
5 UH system, LCC in this case, to send the kids to
6 college for their tuition.

7 Q Okay. Do you have any program with
8 University of Hawai'i West O'ahu?

9 A We have developing programs with UH West
10 O'ahu for their new campus which include now a degree
11 program in Agriculture connecting Hawaiian studies,
12 Agriculture and Botany and Social Enterprise. The new
13 campus is supposed to be finished for the incoming
14 semester, fall of this year.

15 We have been working with Gene Awakuni and
16 some of the professors over there to replicate a
17 program at UC Santa Cruz in agri-ecology with the goal
18 that it will create more young farmers. And Gene
19 Awakuni has pledged to dedicate 10 acres on their
20 campus to an organic farm.

21 Q So you will be farming on their campus.

22 A That hasn't been decided yet. We went to
23 UC Santa Cruz. It's the university that farms their
24 land. They have two farms, one 25 acres and one 2
25 acres. And the university farms that system.

1 We're supporting them unpaid at the moment
2 in terms of getting people to college. That's our
3 motivation first and foremost.

4 The second motivation is definitely the
5 farmland. As I pointed out in the past testimony
6 there's this giant demand for locally produced
7 products, and an inability to supply that demand. So
8 that's a secondary but very important issue that we
9 face and we're working on that.

10 Q Okay. Thank you. Speaking, then, about the
11 UH West O'ahu program. How large do you think that
12 program could grow?

13 A We have just submitted a grant to the U.S.
14 Department of Agriculture to do three years of
15 formative development which includes hiring professors
16 and building out the program. By the time it's built
17 out the idea is to accept 75 students under the
18 program each year. That's the degree program.

19 We'll also run a six-month apprenticeship
20 manager or apprenticeship program in organic
21 agriculture where we'll accept probably 12 to 16
22 people for a six month professional apprenticeship.
23 And those are programs that are modeled off, as I
24 said, UC Santa Cruz.

25 Q Okay. And then isn't the University of

1 Hawai'i West O'ahu next door to the Ho'opili property?

2 A Yeah. When you drive down the road heading
3 makai, University of Hawai'i's on the right-hand side.
4 The bulk of the land is on the left-hand side. So
5 across the street?

6 Q Are there ways that you see in the near
7 future or the far future how those farms, Jefts Farms
8 and Aloun Farms being the farms on the Ho'opili
9 Project, how they might become involved with your
10 program at UH West O'ahu?

11 A Well, the problems of attracting people,
12 young people especially, to farming as a career are
13 sort of well documented in the press. Aloun Farms has
14 had some problems with that obviously. We don't have
15 a culture of getting young people to work in those
16 careers.

17 They're thought of still to this day as a
18 remnant of the plantation era where they're not
19 lucrative, and they're entry level positions and they
20 sort of stay that way. We've trying to show that
21 agriculture is a much more dynamic industry, that
22 there's leadership positions involved.

23 My experience in New Zealand is that
24 independent entrepreneurs farm a range of different
25 products and make very lucrative careers of that.

1 Could be tied to the education system as well. So
2 there's a need to have educated people on farms
3 producing our food.

4 Q Okay. Have you heard recently that Aloun
5 Farms might be moving to another property?

6 A Yes. I saw in the newspaper.

7 Q And presuming that's the case would you see
8 them moving as a positive thing as far as the opening
9 up of more property for farming?

10 A Yeah, of course. The last paragraph of my
11 testimony says what we don't need less land. We need
12 more land. So whatever: 80,000 acres or whatever's
13 available technically now in our state right now, we
14 need more land. The issue is beyond that as well.

15 In our community we have agriculturally
16 zoned land but 7,000 acres of that is Lualualei Naval
17 Base which has been under use by the US Navy since the
18 '20s. And that's prime agriculture land. That land
19 sits on -- that base sits on Lualualei vertisol soil,
20 we found a mile and-a-half away from some of the
21 flattest land, nicest land.

22 Q Okay. I also wanted to ask you: First Lady
23 Michelle Obama visited the Ma'o Farms during APEC.
24 Has she come at any other time to visit your farm?

25 A She came before Christmas with her children.

1 Q Does she say anything at all when she's here
2 about farms, what she's there -- what is her project
3 all about?

4 MR. KUDO: Objection. I'm not sure what the
5 relevance of this line of questioning is.

6 CHAIRMAN LEZY: Dr. Dudley, you're getting a
7 little bit far afield.

8 MR. DUDLEY: Okay. I think I'll just wrap
9 then in closing with the First Lady.

10 CHAIRMAN LEZY: Mr. Seitz.

11 CROSS-EXAMINATION

12 BY MR. SEITZ:

13 Q Well, let me reiterate that question. What
14 is it about Ma'o Farms that would draw the wife of the
15 president and dignitaries from OPEC to go all the way
16 to Wai'anae to look at your operation?

17 A Well, we represent a new business model, I
18 think one that produces food, one that grows young
19 people into college positions, one that's changed the
20 stereotype. Our community has a stereotype that young
21 people are criminals, they're dangerous.

22 The school system produces young people that
23 still, when they graduate, need remedial classes just
24 to get to community college. So our public school
25 system is, is not working for our young people.

1 So she saw the nexus of the agricultural
2 production, health, education, land use, if you will,
3 as a place where the 21st Century needs business
4 models like this I think.

5 Q And, in fact, isn't it true that your farm
6 is a model not only locally and nationally but
7 internationally as evidenced by the OPEC interest in
8 what you're doing?

9 A I would agree. We've even had
10 representatives of the Department of Agriculture in
11 China come out to the farm by way of the Harold Castle
12 Foundation. So there's a lot of interest in certainly
13 sustainable agriculture.

14 The macro situation in agriculture around
15 the world is that we have peak oil, we are depleting
16 our soils, we are depleting our water and we have this
17 climate instability.

18 So the 21st Century is going to be very,
19 very interesting for agriculture, so new models will
20 be needed for sure.

21 Q You farm about 20 acres, is that correct?

22 A Yeah, correct.

23 Q And what are the crops that you produce for
24 the market on those 20 acres?

25 A We produce a range of crops 30, 40 different

1 things, salad greens, cooking greens, herbs, fruit and
2 vegetables, taro, bananas, citrus fruits, as many
3 different things as we can to absorb any risk we'd
4 have of someone importing products and us having to
5 compete with a lower price.

6 Q Where do you sell your products?

7 A Again, to a range of different customers.
8 We sell to a whole bunch of restaurants, right next
9 door Downtown Restaurant through to natural food
10 stores like Whole Foods, then to regular grocery like
11 Foodland. We also do direct-to-customers through
12 farmers market and a community-supported agricultural
13 program.

14 Q Is there a demand for the products that you
15 grow?

16 A A huge demand. I have e-mails I've gotta
17 answer after this from the Hyatt Regency, from the BLT
18 in Waikiki, from the Foodland produce buyer who's
19 trying to get us into the Foodlands. It's enormous.

20 Q If you had more land you could produce more
21 products on, that land of the same nature that you're
22 currently producing, would you be able to sell them
23 locally in Hawai'i?

24 A Absolutely, yes.

25 Q To what do you account for the change? At

1 least some years ago people were reluctant to buy
2 local produce which wasn't as physically attractive.
3 And we were buying tomatoes in Safeway that came from
4 Chile and places like that. To what do you currently
5 attribute the desire on the increased support for
6 local products?

7 A It's multiple things I think coming to sort
8 of a head right now. I think people are more
9 connected with their food. Things from the Food
10 Channel on TV to people wanting to home cook for
11 themselves. I think people are concerned about what
12 their kids eat. There's a lot of information out
13 there.

14 I think locally in Hawai'i we understand
15 that buying local food is good for the economy. More
16 people understand that. I think there's a freshness
17 that's important.

18 I think five or six years ago the Hawai'i
19 Farm Bureau started the first farmers market that was
20 really focused towards a hundred percent locally
21 produced products. That helped to change people's
22 conception of things.

23 I think, then, the advent of Whole Foods,
24 which was thought as the place where wealthy people
25 go. But we've got kids on the farm who go and buy

1 products there because they recognize they're better
2 quality and they're willing to pay for better.

3 So I think the quality's improved. I think
4 people's perception of where agriculture is at has
5 improved. I think that's opened the door to this
6 enormous demand.

7 Q Do you also believe that there's an
8 increased awareness of the necessity for food
9 self-sufficiency here in Hawai'i?

10 A That's a critical piece of the written
11 testimony that I've provided that's well documented by
12 the state, well researched by the state. We have the
13 problem -- the immediate problem if there's a natural
14 disaster, God forbid a terrorist act or something like
15 that.

16 Then there's the next level just if we can't
17 provide, if we can't feed ourselves, if we don't have
18 institutions, if we don't have the young people. And
19 then on top of this we don't have the land. So my
20 interest is having access availability to the land in
21 this particular case.

22 Q You are, as Dr. Dudley asked you, familiar
23 with not only the land that's an issue here but what's
24 grown there currently, correct?

25 A I'm somewhat familiar, yes, yeah.

1 Q Is there any good reason or justification
2 that you can think in terms of the concerns and
3 objectives that you testified to this morning for
4 taking that land out of cultivation?

5 A It makes no sense to me at all.

6 MR. SEITZ: Thank you. I have no further
7 questions.

8 CHAIRMAN LEZY: Ms. Dunne, redirect?

9 MS. DUNNE: None.

10 CHAIRMAN LEZY: Commissioners, questions?
11 Commissioner Judge.

12 COMMISSIONER JUDGE: Good morning,
13 Mr. Maunakea-Forth. Were you here when the
14 Petitioner's agricultural witness Bruce Plasch
15 testified?

16 THE WITNESS: I wasn't here, Ma'am.

17 COMMISSIONER JUDGE: I'm just trying to
18 understand. He was telling us a little bit about what
19 his version of the future of agriculture. And he was
20 talking a lot about hydroponics and greenhouse farming
21 and how there was a huge trend towards that, and in
22 the future that perhaps you could do farming anywhere.
23 It didn't really require agricultural land.

24 And then I hear you saying that even the
25 70,000 or however many acres the state claims to have,

1 that's not enough land to have a successful future in
2 agriculture.

3 I'm trying to -- could you kind of talk
4 about that, what you see the hydroponics, the future
5 of hydroponics and are you looking at that all?

6 THE WITNESS: Directly to an answer that
7 question, no we're not looking at that right now.
8 We're soil farmers. We farm soil. But I think the
9 first part of that question really means delving back
10 into our history which is one of industrial
11 agriculture where everything was imported, fertilizer,
12 labor, everything. So it was -- everything was
13 exported. So that's the industrial model. Any
14 byproducts, whether it's waste or whatever, was dealt
15 with as cheaply as possible. That's the industrial
16 model.

17 I think the 21st Century there's a need, as
18 I said, for the macro problems and the global
19 environment to develop different models. And I think
20 in Hawai'i what we've been doing we've been farming
21 like we're a continent.

22 We need to farm like we're an island. And
23 so that to me means that we have to do that by closing
24 agricultural cycles.

25 So the system would be developed where when

1 we produce waste that is recycled back into the
2 system. That would be, for example, having a chicken
3 farm and reusing the chicken manure, which to some
4 degree occurs, but in a patchwork right now.

5 So hydroponics and those kinds of industries
6 would fit into that. The problem is that we hear
7 sometimes that we only have ten days or 12 days food
8 left on the islands. But what about: How much
9 fertilizer do we have? That's important as well. So
10 we rely on all of these things coming in containers
11 into the islands.

12 If we really wanted to farm to feed
13 ourselves and to make ourselves food secure, we would
14 figure out the system as a whole. And land like this
15 is part of that system. You need large amounts of
16 land to farm.

17 I think also there's a quality of life issue
18 as well. We put young people back on the land because
19 we think they're disconnected from the values
20 associated with farming and the values associated
21 with the earth. We tell young people their kuleana is
22 to malama the land, for aloha 'aina.

23 And that's to -- to not just love land but
24 to love the land which feeds us. So there's some
25 cultural reasons we do that. I think also as we're

1 seeing, especially in the last five years, the
2 connection to the tourism industry.

3 Ten years ago if I called anyone in Waikiki
4 to sell vegetables they would laugh me back to
5 Wai'anae. Now we have those calls coming in. We
6 can't keep up with those like the Hyatt Regency that
7 called a couple of days ago.

8 So I think -- and we have Japanese tourists
9 call us all the time to come out to Wai'anae -- to
10 come out to Wai'anae. I should underscore that, yeah.
11 Ten years ago tourists were told not to go to
12 Wai'anae.

13 So there's definite changes in agriculture
14 that are needed. I would argue that the industrial
15 model is not going to work in Hawai'i. It's going to
16 cause us more problems than we care to deal with.

17 COMMISSIONER JUDGE: Thank you.

18 CHAIRMAN LEZY: Commissioners, any other
19 questions? I have a question for you,
20 Mr. Maunakea-Forth. Good morning again.

21 THE WITNESS: Good morning.

22 CHAIRMAN LEZY: There was recently some
23 information in the newspaper indicating that the
24 Petitioner had come to some sort of tentative
25 agreement with Ho Farms on the North Shore to be a

1 tenant in their urban/agricultural plots. I'm just
2 wondering if you had any observations on that.

3 THE WITNESS: Well, I read the same story
4 that you did. I've been in meetings with Ho Farms.
5 For example, the mayor called a meeting of small
6 farmers to get input on what problems small farmers
7 face. I think there was a common, a common theme if
8 we wanted to grow how are we going to grow. That was
9 probably three months ago Laura Thielen called that
10 meeting.

11 Shin and Neil discussed their problem, which
12 was they had 50 acres in production, I think, and
13 three or four leases, most of them very short-term
14 leases. And all with clauses where the owner could
15 put them off the property in six months if they had a
16 better use for the property. So they're looking for
17 land.

18 And in the current state of affairs with
19 demand being what it is, you have to take what you can
20 get in some cases. It doesn't surprise me that they
21 are working with those folks.

22 I think from what they said they need much
23 more land than 18 acres. They wanted more than the
24 50 acres they had. I don't know whether they will
25 continue farming the land in Kahuku or not. Maybe

1 there's some pressure from that land.

2 The issue we face, I guess, is it's very
3 easy if we're making some money and enough to run
4 their operations. It's just to do what we do and not
5 grow at all.

6 So I think in terms of the state and
7 municipality of O'ahu where we have most of our
8 population, if farmers get to the point where we'll
9 say, "Enough already. We'll just be happy with what
10 we've got." And entrepreneurially we decide not to
11 grow any more.

12 I think we've reached a threshold where we
13 have a big problem. And I sense that we're somewhere
14 near there now.

15 The direct answer is I think the people will
16 take whatever land they can get. In our community we
17 have neighbors that are farming basil on very
18 short-term leases.

19 They're growing basil very aggressively
20 using a lot of inputs, producing as quickly as they
21 possibly can and exporting it all. The word in the
22 community is in Lualualei Valley, those guys will take
23 a 3-month lease to turn around basil and get on and
24 off the land as quickly as they can. They have
25 offered to lease our land from us.

1 CHAIRMAN LEZY: Thanks for your testimony.

2 Next, Ms. Dunne.

3 MS. DUNNE: Sierra Club would like to call
4 its next witness Michael Kumukauoha Lee.

5 MICHAEL KUMUKAUOHA LEE
6 being first duly sworn to tell the truth, was examined
7 and testified as follows:

8 THE WITNESS: Yes.

9 CHAIRMAN LEZY: Please state your name and
10 your address.

11 THE WITNESS: My name is Michael Kumukauoha
12 Lee. I reside at 9100 Keaunui Drive.

13 CHAIRMAN LEZY: Ms. Dunne.

14 DIRECT EXAMINATION

15 BY MS. DUNNE:

16 Q Good morning, Mr. Lee. Thank you for being
17 here today. Can you tell us in what capacity are you
18 testifying today.

19 A I am testifying as a Native Hawaiian
20 cultural practitioner.

21 Q Can you briefly describe what it means to be
22 a Native Hawaiian cultural practitioner.

23 A Yes. It is basically practicing the culture
24 that I was taught by my grandfather Kimo Valentine
25 Guerrero with the limu and the limu medicine that I

1 was taught.

2 And it is through the lens of the Hawaiian
3 culture, which is not based on money as its primary
4 motive, but on the cycles of nature and how to
5 increase the opportunity of abundance.

6 And how in our spiritual side with the limu
7 named lipoa or limua is Ke Akua in the limu.
8 Everything is a prayer. So the substance is activated
9 by a prayer.

10 Q And have you been recognized as a Native
11 Hawaiian cultural practitioner in the state?

12 A Yes. The Honolulu City Council Certificate
13 of Recognition for the 'Ewa Limu Project as being one
14 of the three main founders in January 28, 2004.

15 The First Circuit Court Judge Hifo in the
16 2007 Michael Lee vs. Haseko Ewa, Inc. Hapipi Road
17 drainage. I was recognized as a cultural practitioner
18 of the limu medicine.

19 Third. "Limu Delays Project to Ease Ewa
20 Flooding," Star Bulletin Volume 13 Issue 20 Monday
21 January 28th, 2008. The Star-Advertiser Sunday
22 December 11, 2011: 'Ewa Marina flow persists despite
23 Haseko's change of plans. The Office of Hawaiian
24 Affairs, the O'ahu Island Burial Council, the Native
25 Hawaiian Historical Council.

1 Q Now, I'd like to direct your attention to
2 Sierra Club Exhibit 53B which is entitled Affidavit of
3 Michael Lee.

4 A Yes.

5 Q Which has been filed with the Land Use
6 Commission.

7 A Yes.

8 Q Did you prepare this affidavit?

9 A That is correct.

10 Q Does your affidavit accurately describe your
11 lineage as a Native Hawaiian student?

12 A That is correct.

13 Q Does the affidavit accurately describe some
14 of the culturally significant sites in the Petition
15 Area?

16 A That is correct.

17 Q And does that affidavit accurately describe
18 the customary and traditional practices that Native
19 Hawaiians practic in the Petition Area?

20 A That is correct.

21 Q Does the affidavit accurately describe the
22 proposed development's impacts on these cultural sites
23 and the customary and traditional practices of Native
24 Hawaiians?

25 A No, it doesn't.

1 Q Well, does it -- let me rephrase that
2 question. Does it accurately describe the impacts of
3 the proposed development, the potential harms that
4 could result?

5 A It doesn't -- it doesn't say that there'll
6 be any harm because it doesn't acknowledge there are
7 any cultural resources on the proposed Project area.

8 Q Just to clarify. We're talking about your
9 affidavit --

10 A Yeah.

11 Q -- that you submitted in this case.

12 A Right.

13 Q I think you're referring to the cultural
14 surveys.

15 A Yes, the cultural surveys prepared by D.R.
16 Horton.

17 Q I'm looking -- I want to ask you to look at
18 that, your affidavit that we submitted to the Land Use
19 Commission, Sierra Club Exhibit 53B. I'm going to give
20 you a second to get that in front of you. Do you have
21 that document in front of you?

22 A Right here.

23 Q Okay. So in that document do you describe
24 your opinion as to the development's impact on
25 cultural resources?

1 A Yes. I see that here, 40, yeah.

2 Q And so is your description regarding the
3 impact on cultural resources accurate as described in
4 the affidavit?

5 A It is.

6 Q I'd like to direct your attention to Sierra
7 Club Exhibit 54B which is the two-page written
8 testimony, summary of your testimony.

9 A Yes.

10 Q Which we filed with the Land Use Commission.
11 Did you prepare this testimony?

12 A I did.

13 Q Now, at the time that you prepared the
14 affidavit and written testimony, Sierra Club's
15 Exhibits 53 and 54B --

16 A Yes.

17 Q -- have you reviewed -- have you had an
18 opportunity to review the full cultural survey
19 prepared by Cultural Surveys Hawai'i?

20 A No, I didn't.

21 Q And since that time have you now reviewed
22 the full cultural survey?

23 A Yes, I have.

24 CHAIRMAN LEZY: Ms. Dunne, I don't mean to
25 interrupt you, but I don't recall that Mr. Lee was

1 stipped as an expert.

2 MS. DUNNE: He's not been.

3 CHAIRMAN LEZY: It sounds to me like you're
4 getting into testimonial issues. Are you going to
5 offer him as an expert?

6 MS. DUNNE: I'm offering him as a Hawaiian
7 cultural practitioner. So whether the Land Use
8 Commission wants to treat him as an expert or Native
9 Hawaiian cultural practitioner I think it's more a
10 matter of terminology.

11 I was going to -- I want to clarify that the
12 affidavit and the written testimony are admitted as
13 exhibits in the record. I know they've been filed
14 with the Land Use Commission, so we could do that in
15 this proceeding or we could do that as a separate, as
16 part of my questioning here.

17 CHAIRMAN LEZY: I think, and it's really a
18 matter of semantics, I think you're offering him as an
19 expert in the subject matter. So I would suggest you
20 tender him as an expert.

21 MS. DUNNE: Sure, if that's the preference.
22 So at this point I'd like to offer Michael Lee as an
23 expert in cultural issues of Native Hawaiians.

24 THE WITNESS: Excuse me. I'm a Hawaiian
25 cultural practitioner. Article XII, Section 7

1 protects me, not a Hawaiian cultural expert. There's
2 a big difference in the lot. I just want to note
3 that.

4 MS. DUNNE: Thank you. So I think what we
5 have here is sort of the, what it means to be a Native
6 Hawaiian cultural practitioner coming up against
7 terminology used in court and administrative
8 proceedings.

9 CHAIRMAN LEZY: I understand that. And,
10 Mr. Lee, that's not meant as any sort of criticism or
11 to somehow put a label on you. It's simply for
12 purposes of our proceedings procedurally. So what I
13 suggest, Ms. Dunne, is based on the qualifications
14 that you've already outlined, that you tender him as
15 an expert.

16 MS. DUNNE: Yes. Okay. So again, based on
17 the qualifications, Mr. Lee's testimony and as stated
18 in his affidavit and written testimony I'd like to
19 tender him as an expert.

20 CHAIRMAN LEZY: On?

21 MS. DUNNE: Cultural issues and customary
22 and traditional rights and practices of Native
23 Hawaiians.

24 CHAIRMAN LEZY: Okay. Parties, any
25 objections?

1 MR. KUDO: I have no doubt that Mr. Lee is a
2 Native Hawaiian practitioner, and we have no problem
3 with that. But pursuant to the exhibits that we were
4 given, in particular the city and county resolution
5 that acknowledged him as such, it was limited to two
6 things.

7 One is in limu, the area of One'ula which is
8 a seaward area of the Ewa coast. With that we'd allow
9 him to be an expert as a Native Hawaiian practitioner.

10 CHAIRMAN LEZY: Your objection, then, is the
11 scope of testimony?

12 MR. KUDO: Is the scope and also in terms of
13 his limiting his expertise to that area and limu
14 which is what his expertise is in.

15 CHAIRMAN LEZY: Any other objections? None.
16 Okay. He will be admitted and we'll take his
17 testimony as it comes.

18 Q (Ms. Dunne): So let me just pick up where I
19 left off, then, regarding your affidavit and your
20 written testimony. I believe you had just stated that
21 you had -- since preparing those documents you had
22 since reviewed the cultural survey prepared by D.R.
23 Horton consultants. You looked at it.

24 A That is correct.

25 Q Now, does your review of that full cultural

1 survey change any of the conclusions you made in your
2 affidavit and written testimony regarding the proposed
3 development's impact on cultural sites and customary
4 and traditional practices of Native Hawaiians?

5 A No, it does not.

6 Q I'd like to highlight just some of the
7 points made in your affidavit and written testimony
8 about the cultural sites and the customary and
9 traditional rights of Native Hawaiians.

10 Can you briefly describe how you're familiar
11 with the Honouliuli lands which D.R. Horton-Schuler
12 seeks to develop?

13 A This is my family land. And my family iwi
14 is buried in the underground karst system, which is
15 the system that runs underneath registered with the
16 State Historic Preservation Council, seven sites of
17 the seven underground karst cave systems.

18 And also in the executive session of the
19 O'ahu Island Burial Council, April 14, 2010, a
20 protective order was put out to protect these iwi,
21 which I'm also the kahu or keeper in my Native
22 Hawaiian cultural practice.

23 Q Are there culturally significant sites
24 within the Petition Area?

25 A Yes. These burial sites run from the ocean

1 through the underground, all the way up to Haleauau
2 Heiau where one of my seven great-grandmothers is
3 buried there.

4 Q And how do you know that your family's iwi
5 are buried in the --

6 A In D.R. Horton's Appendix F Cultural Impact
7 Assessment page 35, talks about the caves that are in
8 back of Pu'uloa. They mention my fifth great-uncle
9 Keali'ihonui, the son of King Ka'umuali'i who's my
10 sixth great-grandfather.

11 His granddaughter, Princess Harriet
12 Kawekinikipi, my cousin and aunt married my fourth
13 great uncle John Meek, Jr. II in 1837, March 28. And
14 that is found in the Sandwich Island Gazette Commerce
15 April 15th, 1837.

16 Q Can you tell us what the customary and
17 traditional rights that you and other Native Hawaiians
18 practice in or near the Petition Area?

19 A Yes. The connectivity between the mountain,
20 the area of D.R. Horton and the sea is the underground
21 karst system that brings nutrient-rich freshwater that
22 makes hale olimu at One'ula, the ancient name of the
23 house of limu grow.

24 We use these limus for our traditional
25 medicines for our health purposes as well as food.

1 The invertebrates there that grow at the sea, the
2 haukiuki, the opihi, and also the pu'umo'o or the
3 chiton we use in our mawaewae ceremony.

4 Q And how long has limu gathering taken place
5 in this area?

6 A Well, documented over 500 years in the chant
7 of Ku'uali'i offered in Exhibit 53B of Sierra Club
8 lines 499 and 500. My eighth great-grandfather, King
9 Ku'umuli'i of O'ahu gathered lipoa and limu koho known
10 as na nui in lines 499 and 500 in the place called
11 Kanehili, which is the area of Barbers Point to the
12 'Ewa Marina which I still gather those same limus
13 today.

14 Q And how often do you and other ahupua'a
15 tenants who are Native Hawaiians gather limu?

16 A I do it during minus tide, during the new
17 moon. So that's about twice a month.

18 Q As a Native Hawaiian cultural practitioner
19 are you familiar with the concept known as konohiki?

20 A Yes, I am.

21 Q Can you describe that concept?

22 A Konohiki is the system which is non-western.
23 It's a system that takes the mountain, the land, the
24 sea as one complex. It's a complex of how we look at
25 the cycles of nature and what increases the

1 opportunity of abundance without collapsing the
2 natural cycles of regeneration and birth.

3 So it's a system of conservation where when
4 Captain Cook came to Hawai'i in March 19th of 1778
5 there were 1.2 million Hawaiians and tens of thousands
6 of monk seals coexisting and taking from the ocean the
7 same primary food source without collapsing the
8 populations of fish for 1.2 million people, without
9 Matson bringing in food.

10 They were completely sustainable because we
11 used fishponds cold loko i'a, lo'i. We also terraced
12 the mountains to protect against erosion. And we
13 utilized the streams for the 'opae that were there as
14 well. So it was an on and off cycle to protect and
15 rest our cultural resources of the ocean for food
16 protein.

17 Q And what impacts would the proposed
18 development have on the practice of using konohiki as
19 a model for planning we'll say?

20 A The main impact would be: Aia mahia ka wai
21 a kane? Where are the waters of Kane? In this
22 particular area we know of the caves that are under
23 here called pao ana or pao kaina. They're a network
24 of caves that go to Waipahu. And they also come out
25 at Waimanalo, places at Kahana. And they go out to

1 Honolulu underneath the I'olani Palace and shoot over
2 to Kawaiaha'o where the old Advertiser Building is.

3 These underground cave systems are very
4 important as an aqueduct system to bring nutrient
5 freshwater to our endemic limu at the ocean.

6 Taking from the wells uncontrollably,
7 removing freshwater decreases the population and the
8 diversity of our gathering rights vis-a-vis the limu.
9 We have noticed since 1980, since the development has
10 come in, people who have gathered limu in 'Ewa in 1980
11 would see about 2 feet high and just hundreds of yards
12 down full of limu.

13 As we progressed and more water was taken
14 out for these developments, the golf courses and
15 everything, we noticed a decrease in the limu where
16 the last time we saw about a foot of limu about 30
17 yards long was in April 1999.

18 If you go to 'Ewa, One'ula Beach or anywhere
19 along the coast of 'Ewa you'll no longer see stacks of
20 limu piled high. So we as cultural practitioners know
21 that limu needs freshwater to be abundant. As you
22 decrease the freshwater our cultural practice
23 decreases. And under Article XII Section 7 it says
24 you cannot overregulate or decrease or destroy
25 Hawaiian religious or gathering practices for the

1 health of the Hawaiian people.

2 Q And what effects would the Ho'opili
3 development have on the iwi within the burial caves?

4 A Building in certain zones are for commerce.
5 So that if you put pylons down into that you can break
6 the underground karst system.

7 As I said we have seven that are
8 egress/ingress out to the sea, but it goes right back
9 to the mountains. So it could endanger with pylons
10 going through and with the rail as well.

11 Q I have a few brief questions about D.R.
12 Horton's cultural survey. You testified earlier that
13 you've since reviewed the cultural survey provided by
14 D.R. Horton's expert?

15 A That's correct.

16 Q And even though you're the only recognized
17 cultural descendant in the Honouliuli area, did anyone
18 from the Cultural Surveys Hawai'i team consult with
19 you in preparing that?

20 A No, they did not.

21 Q What did D.R. Horton's cultural survey
22 conclude with regard to the development's impact on
23 cultural sites?

24 A That there are basically no cultural sites
25 and there's no harm, therefore no mitigation needs to

1 take place.

2 Q Do you agree with the conclusions in the
3 cultural survey?

4 A No, I do not.

5 Q In your opinion is more information needed
6 to determine the extent of the proposed development's
7 impact on Native Hawaiian rights?

8 A Yes, I do.

9 Q What kind of information would be helpful in
10 making this determination?

11 A Several. I put in for NHHPC, the Native
12 Hawaiian Historic Preservation Council, the advisory
13 board to the OHA Board of Trustees to do underground
14 mapping of these karst systems to protect them as a
15 Hawaiian cultural resource.

16 Also I've gone to the Rail, to Matt
17 McDermott who is the contracted archeologist, and
18 asked if they would also similarly do a radar
19 penetrating to define these boundary zones as 'stay
20 away from this' as a mitigation. So that if you're
21 going to a building project or whatever, you keep out
22 of these zones.

23 Because to understand what is a cultural
24 resource, let me let you know it's our fishery that
25 these waters that bring the food chain for the limu to

1 grow that brings in shrimp and invertebrates that
2 bring in smaller fish that bring in larger fish. That
3 is our coastal fishery.

4 That is a public trust resource as well as a
5 Native Hawaiian gathering rights resource. That's how
6 important the karst is.

7 The limu is medicine. We also have coral
8 medicines there. Those are public trust resources as
9 well as Hawaiian cultural resources, as well as the A
10 and B type soil is a cultural resource and a Native
11 Hawaiian resource because all the LCA maps in this
12 area all said lo'i, lo'i, lo'i.

13 Koloi Gulch is one of the three arms of the
14 drainage systems. And in it is the lo'i with the
15 underground punawai, the springs, the karst.

16 Q So it's your testimony that further studies
17 are required to protect the constitutional rights.

18 A Are required.

19 Q Can you give us an idea of what could be
20 done to mitigate impact on limu gathering rights?

21 A Yes. One of the things that's missing in
22 D.R. Horton's proposal is the specific drainage. I
23 have standing in the Koloi Gulch drainage system, and
24 Koloi is one of the three arms of the drainage --
25 there needs to be a long-term study on what are the

1 runoff from the asphalt and the concrete once all of
2 this area has been concretized and channels water that
3 has pollutants like oil.

4 If you were to take the glass of water and
5 pour oil in it would you want to drink it? Take that
6 directly to the ocean by the drainage, it's gonna have
7 an impact on my cultural practice, i.e. the limu.

8 So what is the long-term cumulative effects
9 of heavy metal, fertilizers, your weed killers and
10 non-source pollutants on my cultural practice through
11 Kaloi Gulch that goes right into my area where I
12 utilize the limu?

13 So what is also needed to mitigate is
14 retention dams so it naturally percolates. Right now
15 there's a natural percolation that takes place. But
16 when you concretize and asphalt everything and you
17 concentrate all that water runoff that has oil that
18 has dripped on the concrete, and it mixes with that,
19 you have fertilizers, and you have weed killers,
20 everything and jetting out into the ocean, you're
21 going to have a direct impact on Article XII, Section
22 7 of my gathering rights.

23 Q Thank you. You mentioned the -- you
24 mentioned fertilizers, impact of fertilizers which
25 people often associate with agricultural operations.

1 I wanted to ask you if you had an opinion as to
2 whether the proposed development would be more
3 detrimental to your rights as a Native Hawaiian
4 cultural practitioner than leaving the land in
5 agriculture?

6 A Well agriculture as it is right now does use
7 some degree of fertilizers but mostly pesticides. But
8 right now everybody knows 'Ewa, it doesn't rain a lot.
9 I mean you just have to live in Hawai'i long enough to
10 figure that one out.

11 So the impact of the rain and washing that
12 into the soil pretty much stays into the soil so far
13 unless you have this really 100-year massive rain,
14 which we've actually seen in 1996 and 2006, I guess
15 global warming.

16 But outside of that, generally it takes, it
17 takes 6 feet of penetration of water into the soil
18 before the soil is super-saturated and no longer take
19 any water and just jut it right to the sea.

20 So but for that the way things have been
21 historically it hasn't, it hasn't interrupted growth
22 to the sea.

23 Q You testified about a number of measures
24 that could be taken to mitigate the impact of limu
25 gathering rights. Are you aware of instances where

1 such actions have been required?

2 A Yeah. The Papipi Road drainage case Haseko
3 wanted to build a drain at Papipi Road and just take
4 the water off of Papipi Road and just put it into the
5 ocean. And I said, "No, you cannot do that." So I
6 took them to First Circuit Court in 2007.

7 Judge Hifo mandated that Haseko-'Ewa, Inc.
8 do two things: Either first they did a long-term
9 study on the cumulative effects of heavy metals and
10 other pollutants on my cultural practice, A.

11 B. If they didn't, then they would have a
12 retaining dam that would percolate the water through
13 the sand and keep the heavy metals on the land and
14 protect my cultural practice, which is what is
15 happening right now.

16 And another thing was the Hokulia case on
17 the Big Island, Oceanside Partners, where the billion
18 dollar development put a luxury golf course in. And
19 the karst system there, with a heavy rain that took
20 place, washed the fertilizer and the pollutants of
21 killing bugs and everything into the karst.

22 Hawaiians noticed that the fish died right
23 after that big heavy rain: Collected them in zip lock
24 baggies. It was tested to find out whose fertilizers
25 killed them. So there is a connectivity.

1 Q Are you aware of any efforts to implement
2 those type of mitigation measures in this case at this
3 time?

4 A No, there are not.

5 MS. DUNNE: I have no further questions.

6 CHAIRMAN LEZY: Mr. Kudo.

7 CROSS-EXAMINATION

8 BY MR. KUDO:

9 Q Good morning, Mr. Lee.

10 A Good morning, Mr. Kudo.

11 Q Based on your affidavit that you submitted
12 in these proceedings --

13 A Yes.

14 Q -- and I draw your attention to paragraph
15 35, correct me if I'm wrong. It seems that your
16 belief is that the karst system --

17 A Yes.

18 Q -- that underlies Ho'opili is based on the
19 Chant of Kane's Sacred Water, is that correct?

20 A Yes.

21 Q This chant indicates that the headwaters
22 flow in the system from Waiahole Valley on the
23 Windward side.

24 A Yes.

25 Q In Ko'olaupoko.

1 A Yes.

2 Q I guess under the Ko'olau Mountain Range?

3 A Yes.

4 Q Through Kunia, then to Honouliuli and 'Ewa,
5 is that correct?

6 A Yes. Hmm-hmm.

7 Q Now, you also cite in paragraph 36 of your
8 affidavit that the outlets of this underground karst
9 system, that is where the freshwater meets the sea?
10 Is that correct?

11 A That is correct.

12 Q That you call it the aqueduct?

13 A Right.

14 Q Is referenced in multiple written sources
15 which you list in your Attachment 3 --

16 A That is correct.

17 Q -- of your affidavit. Could you turn to our
18 Attachment 3 of your affidavit? Do you have that?

19 A Are we talking about line 36?

20 Q Paragraph 36?

21 A Yeah, paragraph 36. Sites of O'ahu.

22 Q Do you have Attachment 3 before you?

23 A Yes.

24 Q Can you tell me exactly where there's
25 reference to these outlets that you refer to in your

1 Paragraph 36?

2 A Yes. It says, where the -- paragraph one,
3 two, three, four, five, six, it says that it comes out
4 at the caves situated at the beach at Honouliuli.

5 Q Which paragraph is that now?

6 A Right here, it's the sixth paragraph.

7 Q And that's in the "Legend of Namakaokapaoo?"

8 A Yeah.

9 Q And it says -- which paragraph is that now?

10 A It's the third paragraph to the bottom with
11 "They threw the head towards Waipouli cave situated at
12 the beach at Honouliuli."

13 Q So he picked up the head and threw it
14 towards Waipouli, a cave situated at the beach. So
15 the cave is what you're referring to as an outlet.

16 A That is correct.

17 Q Now, I want to put on the screen here your
18 Attachment 10 to your affidavit. Just a minute while
19 we try to bring it up. Okay. Is this your Attachment
20 10?

21 A That is correct.

22 Q And you prepared this particular drawing?

23 A No, I did not. That drawing was done by the
24 rail people. Matt McDermott got one of our
25 cartographers to do that.

1 Q So the cartographer drew the red lines?

2 A That is correct.

3 Q Where in this map is your ancestral, the
4 iwi, those seven sites that you were talking about
5 earlier?

6 A I'm going to show it. But just to let you
7 know by law I don't have to, under SHPD. Because
8 these sites are -- but just a general clarity.

9 Q Just in general.

10 A For you to see. (approaching map off mic)
11 There are one, two, three. Then by Kulia Lions Club
12 there are three more sites here. Those sites at Kulia
13 Lions Club -- I'm sorry -- (on mic) the sites here at
14 Kulia Lions Club: Snake up through the proposed
15 Project. The sites that we just mentioned from that
16 myth snake up this way. These are the -- these are
17 the two snaking areas that go up to the mountain.

18 So they missed this, your Project Area.
19 These are these two sections. We have several other
20 sections here that snake up through this Project Area
21 the same like this in that arc shape, but they're at
22 the Kulia Lions Club section which is down here that
23 comes up in this way to going this way.

24 Q Where is your limu gathering activities in
25 One'ula?

1 A It's this whole coastline down here all the
2 way down to -- past Barbers Point -- all the way here
3 where the Kulia Lions Club was and where Tad Farms is
4 now.

5 Q Thank you. If I understand your testimony,
6 what you're saying is that the area in the red on the
7 right side, we'll point to that, this area here --

8 A Yes.

9 Q -- is part of a karst system that goes all
10 the way to the Windward side of the island?

11 A It goes up to the mountains and it
12 continues in a cave system called Pohukaina, which is
13 a massive cave system throughout the island. So there
14 are multiple -- if I may try to educate...(approaching
15 diagram) See, these mountains are the source here for
16 these two caves which has nothing to do with what
17 we're talking about.

18 This section here goes in with Waipahu to
19 the Pohukaina cave system. We also have water coming
20 from Honouliuli. They did the tunnel back in 1916
21 where they drilled through.

22 Q The Waiahole Tunnel.

23 A The Waiahole Tunnel. But beneath that
24 tunnel there's a natural cave system. Aia ma hea ka
25 wai a kane. So you have multiple sources: One, the

1 Pohu'aina or pahu'aina cave system that also goes down
2 across to I'olani Palace.

3 And there's also for the Waipahu Spring. So
4 that's pohu'aina. This cave system is not part of any
5 of that. So you have multiple cave systems.

6 Q Okay. Now, are you aware that in the red
7 area that I just pointed to right here --

8 A Yes.

9 Q -- this is where you're saying the karst
10 system is located.

11 A Part of it, yes.

12 Q And the Ho'opili lands are all here, right?

13 A On this side, yes.

14 Q Are you aware that within those red borders
15 there are two gulches that transect the red areas?

16 A Yes.

17 Q Okay. I'd like to show right now
18 Petitioner's Exhibit? Which is our topographic map.
19 This is a topo map that has contours on it. Now,
20 based on this what I'd like to do is place that red
21 line over the topo map for demonstration purposes only
22 just to show how it fits onto the contours of that
23 map.

24 So now you see the red karst line over the
25 Ho'opili site and the topographic lines. This is one

1 of the gulches here. And this is the second gulch
2 that transects the entire red area.

3 Now, based on your testimony, and correct me
4 if I'm wrong, Mr. Lee, you're saying that your concern
5 is that buildings, the footings of the buildings, the
6 residences, et cetera, would impact the karst system
7 that underlies the Ho'opili lands?

8 A Right.

9 Q And it would somehow cause some type of
10 damage to the karst system that exists there.

11 A Right.

12 Q Do you know how deep the karst systems are?
13 Do you have any idea?

14 A No, I don't. So, you know, it could be
15 60 feet. It could be 70 feet. So what we need to do
16 is that's why for the mapping, there's no way that I
17 could probably know how deep it was.

18 Q This is in our construction plans, but the
19 maximum footing for our buildings is about 10 feet and
20 utility lines are 10 feet.

21 A Right.

22 Q Okay. Now, the --

23 A Oh, but just an addendum. The rail is
24 putting in 90-foot pylons that are going through. So
25 that's why just overlapping your Project as well. So

1 we put out a notice. Excuse me for interrupting.

2 Q The two gulches, however, according to that
3 topographic map, the first gulch on the top that
4 transects the karst system is at a depth of 55 --

5 A Right.

6 Q -- to 65 feet.

7 A Right.

8 Q And the bottom gulch is approximately
9 70 feet deep?

10 A Right.

11 Q From the surface of the land.

12 A Right. So can you go back to the other one
13 so I can show you something?

14 CHAIRMAN LEZY: Before you do that.

15 Mr. Kudo, you're just using this as a demonstrative?

16 MR. KUDO: Right.

17 THE WITNESS: So if you could go back to the
18 other one because we know it's within that -- we know
19 it's right here. When I showed for the rail because I
20 did -- it's not in here -- but the rail have it on
21 file -- the karst system goes this way towards this
22 area.

23 It does not impact this way. It's on
24 rail -- it's on file with the archaeologist that the
25 karst system follows this green line here that goes

1 over the property -- this is all part of your property
2 extending out that-a-way. It goes over this, where
3 this big -- this is where the rail is going.

4 Q Okay.

5 A It goes this way, skirts these two areas
6 that you're talking about. It's going through this
7 area here and going right up here.

8 Q Mr. Lee, we're basing it on what your
9 affidavit has.

10 A Yes, I understand, but I'm trying to
11 clarify.

12 Q What you're saying right now is brand new to
13 me. But based on your affidavit and your testimony
14 this map as submitted as part of it's on the property.

15 A Again, this was put in by the topographical
16 people, not by me. So I'm not using this to designate
17 where the karst is. The karst comes up this way. I
18 don't know why it wasn't put in on this. But we have
19 it independently in another agency.

20 Q Well, I'm basing it on what your testimony
21 is so excuse me if I don't get it correct from what
22 you're saying right now.

23 Based on the contours of the topographic
24 map, the depth of those gulches are 65 to 70 feet
25 deep.

1 A Right.

2 Q Now, were you present during these hearings
3 to hear the testimony of Ho'opili's civil engineer
4 David Bills?

5 A No, I wasn't.

6 Q Have you reviewed his civil engineering
7 report --

8 A No, I haven't.

9 Q -- that is attached as an exhibit to the
10 environmental impact statement.

11 A No, I haven't.

12 Q Have you -- were you here during the
13 testimony of the Petitioner's archeologist David
14 Shideler?

15 A Somewhat because I had to leave early.

16 Q And you reviewed his archaeological report
17 that was part of the final environmental impact
18 statement?

19 A Yes, somewhat.

20 Q Now, are you aware that their oral testimony
21 before this Commission and their field investigation
22 reports, which are part of the EIS --

23 A Right.

24 Q -- indicate no observation of any karst or
25 limestone layer in the gulches which they walked?

1 A I'm sure it's not. I'm sure it's not. But,
2 again, that red line, I'm not putting it down. And
3 I'm explaining to you that's not where I'm saying the
4 karst are.

5 This is a topographical map that was done by
6 the topographical people of the city. I'm not
7 claiming that the karst is there at all. The two red
8 lines there are on the side is where I claim that one
9 of the sets of karsts are.

10 Q Mr. Lee, you're getting ahead of us. I'm
11 jus referring to your testimony as you submitted.

12 A I agree with everything that you're saying
13 based on your experts that there couldn't be a karst
14 there that is not deeper than a hundred feet. If it
15 does exists it would have to be deeper. I agree with
16 that.

17 Q Now, you also stated in your affidavit, I
18 believe it was paragraph 42, that you had talked to
19 Mr. McDermott who was working for the rail project.

20 A That is correct.

21 Q And you expressed you concern about the rail
22 project.

23 A That is correct.

24 Q Okay. And as a result of their construction
25 on the site, is that correct?

1 A That is correct.

2 Q Are you personally against the rail?

3 A Personally against the rail? No. I'm
4 personally against crushing my family iwi kupuna.

5 Q I understand.

6 A But I've never been against development.
7 I've never been against the rail. What I'm just
8 saying is there are boundary markers that need to be
9 identified. Build left, build right, but don't crush
10 them.

11 MR. KUDO: Thank you. No further questions.

12 CHAIRMAN LEZY: County?

13 CROSS-EXAMINATION

14 BY MR. KITAOKA:

15 Q Mr. Lee, I'm Don Kitaoka. I work for the
16 city. You just said you're not against development.

17 A No.

18 Q I understand that you are concerned with the
19 protection of cultural resources and the preservation
20 of cultural practices, correct?

21 A Correct.

22 Q So whatever use of land that is made, say,
23 above the resource, you're not opposed to it so long
24 as your cultural resources are protected.

25 A That is correct.

1 Q So whether it be agriculture or urban
2 development or whatever it is, you're not opposed to
3 what goes on on the land if it doesn't affect your
4 cultural resources.

5 A That is correct. That is correct.

6 Q So whether it's agriculture or urban you
7 don't have an opinion.

8 A No, I do not.

9 MR. KITAOKA: No further questions.

10 CHAIRMAN LEZY: Office of Planning?

11 MR. YEE: I don't have any cross-examination
12 questions, but I do have an inquiry. I believe the
13 exhibits that have been discussed by everyone so far
14 have they been admitted into evidence?

15 CHAIRMAN LEZY: I believe so.

16 MR. YEE: I'm sorry. I thought we had
17 submitted that after -- they were submitted late when
18 we couldn't decide if Mr. Lee was or wasn't an expert
19 witness. They were submitted on conditions.

20 CHAIRMAN LEZY: Objections? Anybody?
21 They're admitted.

22 MR. YEE: Nothing further.

23 CHAIRMAN LEZY: Dr. Dudley?

24 MR. DUDLEY: No questions.

25 MR. SEITZ: No questions.

1 CHAIRMAN LEZY: Commissioners, questions?

2 MS. DUNNE: I had a -- I'm sorry.

3 CHAIRMAN LEZY: I'm sorry, redirect?

4 MS. DUNNE: I had a couple questions on
5 redirect. But I don't know if you procedurally --

6 CHAIRMAN LEZY: Go ahead.

7 MS. DUNNE: Go first, okay.

8 RE-DIRECT EXAMINATION

9 BY MS. DUNNE:

10 Q Just a couple brief questions.

11 A Yes.

12 Q There were some discussion we just heard now
13 when you were being questioned by Petitioner's
14 attorney regarding the mapping of the karst system?

15 A Right.

16 Q Are you aware of any current projects that
17 would potentially map the karst system?

18 A Yes. I have put in for OHA to spend money
19 to map the karst system, which was passed by their
20 Advisory Board in October. The NHPPC, the Native
21 Hawaiian Historical Preservations Council October 17,
22 2011 page two of their agenda: The One'ula burials
23 and Schofield Barracks.

24 Also in the December 2011, 106 for the
25 outlets that front Barbers Point in the 106 of the

1 Hunt Development Solar Farm Project, we have it also
2 down there for their archeologist to map these karst
3 systems to protect them.

4 Q So is it your understanding that the Office
5 of Hawaiian Affairs will be considering this request?

6 A That is correct.

7 Q And that's because of the importance of the
8 these cultural sites.

9 A That is correct. And also my request to
10 Matt McDermott again to hit all bases with the rail,
11 that they also put in for this as well because it's
12 Article XII, Section 7 the highest law of the state.
13 It's brought to their attention. They cannot claim
14 they don't know.

15 Q As you know the land is currently being used
16 for agricultural production. Are you concerned that
17 the development, if it goes forward, will have a
18 greater impact on the cultural resources and your
19 gathering rights?

20 A In the sense of the mitigation of the usage
21 of water. If we take -- if the wells take up all the
22 water, you're going to collapse my cultural resource.
23 So the monitoring of water flowing to the ocean is
24 paramount to keeping the health of the ocean alive.
25 That's part of konohiki system.

1 MS. DUNNE: No further questions.

2 CHAIRMAN LEZY: Commissioners, questions?
3 Commissioner Heller.

4 COMMISSIONER HELLER: Yes. I just wanted to
5 go back to one point you raised. Regarding the limu
6 and the effect of runoff and pesticides and
7 fertilizers, you mentioned that as a concern. Now, in
8 agricultural use there can be problems with runoff in
9 terms of what pesticides and fertilizers they're
10 using, correct?

11 THE WITNESS: Correct.

12 COMMISSIONER HELLER: So that's not
13 necessarily a problem that relates to conversion from
14 agriculture to urban use, is it?

15 THE WITNESS: In this case you have to look
16 at the big picture. You have to look at where the
17 agriculture was here in 'Ewa. The plains of 'Ewa
18 barely rain. All the water comes to the ocean from
19 the mountains, on the winds on the mountaintops where
20 a lot of rain takes place in the water cycle. So all
21 the activity is underground.

22 So but for a hundred year flood will you get
23 that pushing soil into the ocean. And before you see
24 what we have at the ocean is we have sand berms that
25 act as a natural filtration. Once it gets down there

1 and backs and starts to puddle, then we get these big
2 puddles, you have the sand berms to naturally drain
3 whatever through the sand and leave it on the land.

4 But now that they're starting to take away
5 all those protection systems, the foliage, the sand,
6 the pickle weed and everything. The natural berms are
7 being removed seaside. We're channelizing everything
8 on the land where it normally percolates so it doesn't
9 directly go into the ocean.

10 So because of human activity for whatever
11 for purposes, if it's development, you're increasing
12 the load on the ocean that normally isn't there but
13 for the development.

14 COMMISSIONER HELLER: But in terms of the
15 actual use of fertilizers and pesticides on the land
16 would that be any worse in urban use than it is in
17 agricultural use?

18 THE WITNESS: It would be if you're on
19 Kaua'i, and it rains here a lot of heavy like it does
20 all over Kaua'i. And that pesticide goes right into
21 the ocean because it's super saturated like Kaua'i
22 always does get super saturated.

23 But for the fact you're in 'Ewa, but for the
24 fact the rain is, like, nil, that makes a big
25 difference in that specific question that you're

1 asking.

2 COMMISSIONER HELLER: So is your answer yes
3 or no? Because --

4 THE WITNESS: It depends on the area. The
5 answer is "no" in this case. "Yes" if you took it to
6 Kaua'i. So what you're asking is a standard
7 across-the-board answer. I'm saying you have to go
8 case-by-case on location and rainfall to be accurate
9 to the kernel of what you're asking for.

10 COMMISSIONER HELLER: Okay. So in this
11 particular case dealing with this particular piece of
12 property.

13 THE WITNESS: Yes.

14 COMMISSIONER HELLER: Is the concern about
15 the use of pesticides and fertilizes a bigger concern
16 if it's converted to urban use --

17 A Yes. If it's converted to urban use it
18 would be bigger because you're channelizing. You're
19 taking away the protection that's normally afforded
20 for this region, yes.

21 COMMISSIONER HELLER: Okay. Now I
22 understand what you're saying.

23 CHAIRMAN LEZY: Commissioners, any other
24 questions? Commissioner McDonald.

25 COMMISSIONER McDONALD: Good morning,

1 Mr. Lee.

2 THE WITNESS: Good morning.

3 COMMISSIONER McDONALD: Thank you for your
4 testimony. To clarify, you had a concern with regards
5 to the water resources, the impact on water resources
6 as a result of the development.

7 THE WITNESS: That's correct.

8 COMMISSIONER McDONALD: If the land was to
9 be kept in the Agricultural District and the
10 1,500 acres were to be used in active agriculture,
11 would you still have a concern as far as the water
12 resources?

13 THE WITNESS: No, I wouldn't. Because when
14 you look at the sugarcane that was there for a long
15 time, we had the biggest bumper crop of limu ever.
16 So, you know, as far as when you go by the track
17 record of history and what is and not theory, we did
18 fine with agriculture taking place there with our
19 limu. In fact 'Ewa is known as one of the most
20 biggest limu gathering sites.

21 COMMISSIONER McDONALD: It's interesting to
22 me, though, as far as the agricultural use and the
23 requirements afforded to water, the demands may
24 actually be greater for utilizing a 1500 acres for
25 agricultural production.

1 THE WITNESS: You have to understand the
2 history of the area. If you look at one of my
3 exhibits, that shows the wells that have been dug.
4 When you just had ag the water usage that was tapped
5 in by the wells that they did, did not also tap into
6 the other parts of the water that was running beneath
7 it.

8 So you had a flow taking place even though
9 it was being konohiked or a portion of that water was
10 being used for ag, i.e. the sugarcane. Okay.

11 When you start to build homes and you have
12 to directly tap into wells to provide water to your
13 development, which is part of law when you make a
14 development, you're now taking a bigger source.

15 When you're taking golf courses that do a
16 million gallons of water a day, then you take homes
17 and developments and you start adding that up, that's
18 a major take that's taking place from a finite
19 resource.

20 And replenishment as we know -- we've been
21 in droughts and stuff -- is not direct. It takes a
22 long time to replenish those resources.

23 Out at Ihilani they broke one of the sources
24 that drain freshwater for three years out there. Poor
25 management and understanding the wai, that freshwater

1 needs to be managed properly and get to the ocean has
2 been part of the problem with rubber stamping
3 development without seeing the consequence of Article
4 12, Section 7 but for cultural practitioners that can
5 show you the connectivity of knowing the wai.

6 COMMISSIONER McDONALD: Thank you.

7 CHAIRMAN LEZY: Commissioners, any other
8 questions? Thank you for your testimony. This seems
9 like a logical point to take a lunch break. It's
10 11:30 now. So let's be back and prepared to go at
11 quarter past 12. Thank you.

12 (Lunch recess was held 11:30-12:20)

13 (Deputy Attorney General Russell Suzuki now
14 present for Deputy Attorney General Diane Erickson)

15 CHAIRMAN LEZY: Ms. Dunne.

16 MS. DUNNE: Tom Giambelluca.

17 THOMAS GIAMBELLUCA

18 being first duly sworn to tell the truth, was examined
19 and testified as follows:

20 THE WITNESS: Yes.

21 CHAIRMAN LEZY: Please state your name and
22 your address.

23 THE WITNESS: My name is Thomas Giambelluca.
24 My address is 520 Lunalilo Home Road, Honolulu.

25 CHAIRMAN LEZY: Ms. Dunne.

1 DIRECT EXAMINATION

2 BY MS. DUNNE:

3 Q Good afternoon, Mr. Giambelluca.

4 A Hello.

5 Q I'd first like to direct your attention to
6 Sierra Club Exhibit 42B which is already in the
7 record. And this is a composite exhibit consisting of
8 your CV and your written testimony. Are there any
9 changes or updates you have to make to your CV?

10 A That was submitted in October. So since
11 that time we have completed a few additional things.
12 One paper that was in review at the time was now
13 published.

14 Probably the biggest change was that we
15 completed and published the new Rainfall Atlas of
16 Hawai'i which is an online publication released around
17 the end of October.

18 Q We'll get to the specifics of that study in
19 a minute. But please step back and just ask what you
20 do in your position as a geography professor at the
21 University of Hawai'i.

22 A Many things. But in terms of research
23 that's relevant here I specialize in climate and
24 climate change in Hawai'i and other parts of the
25 tropics.

1 Also do research on what we call
2 eco-hydrology or where land/atmosphere interaction.
3 Essentially that's studying the role of plants and
4 land covers within the hydrological cycle or the water
5 cycle of the environment.

6 Q How long have you been researching climate
7 change impacts on Hawai'i's environment?

8 A I would say we began to focus on climate
9 change specifically in the 1990s, early 1990s. So
10 between 15 and 20 years.

11 Q Can you briefly describe some of your most
12 recent research?

13 A Yes. As I said we have recently completed
14 the Rainfall Atlas of Hawai'i which is mainly looking
15 at the current spatial patterns of rainfall rather
16 than the temporal change. As part of that and the
17 additional work that we're going to do or currently
18 doing spinoff from that, we are studying the
19 historical trends in rainfall in the state.

20 We developed a new database of monthly
21 rainfall from 1920 to 2007 which gives us a tool for
22 doing that that we never had before.

23 And we are also -- so we're both looking at
24 trends in various climate variables including
25 rainfall. But we're also looking ahead. We're using

1 a technique called statistical downscaling, which is a
2 way of getting information from global climate models
3 which are the only tool we have for looking ahead for
4 climate looking into the future, but then using that
5 in a way that gives relevant information to small
6 areas like Hawai'i, specific points in Hawai'i.

7 So we're using statistical downscaling to
8 project how rainfall will change by the mid-century
9 and the late 21st Century in Hawai'i. So you want me
10 to go into the details of what we're finding there?

11 Q Well, that was actually my next question.
12 What conclusions have you drawn from your research
13 about Hawai'i's rainfall?

14 A Okay. First, looking back --

15 MR. KUDO: Excuse me. Is she laying
16 foundation to offer? Because we'd stipulate to his
17 expertise in climatology if that's what she's trying
18 to do.

19 MS. DUNNE: Yeah. My understanding was that
20 there wasn't a dispute as to these experts. But,
21 yeah, I'm offering him as an expert in climatology and
22 his research on -- he's going to be talking about his
23 research in the area of rainfall averages as well as
24 drought in Hawai'i.

25 CHAIRMAN LEZY: Any objections?

1 MR. YEE: No objection.

2 CHAIRMAN LEZY: He's admitted. Just for
3 future reference, Ms. Dunne, for each of your
4 witnesses it's best that you offer.

5 MS. DUNNE: Okay. Thanks.

6 Q So back to that question of what -- you
7 mentioned the Rainfall Atlas of Hawai'i, that's the
8 recent study that you completed. And what conclusions
9 have you drawn from your research about Hawai'i's
10 rainfall?

11 A Okay. So as I said we've been looking both
12 in the past for trends and projecting into the future.
13 For the studies of past rainfall, what we see are
14 different kinds of availability. There's natural
15 variability. And we're aware of that.

16 But on top of that we see a slow downward
17 trend in rainfall in Hawai'i. This is apparent
18 across, roughly, 90 to a hundred year record. It is
19 consistent with our understanding of how climate
20 change, global climate change will influence weather
21 patterns in Hawai'i, specifically the storm tracks
22 that affect us in the winter and disrupt our normal
23 atmospheric structure which has a tradewind version
24 about 2,000 meters, about 6-7,000 feet above sea
25 level.

1 And it caps the clouds. That is disrupted
2 by these storms, Kona storms, cold fronts and so
3 forth. And those disturbances are happening less
4 frequently because the storm tracks are moving
5 forward, moving away from us as a result of global
6 warming.

7 So as a result of that we have a more stable
8 atmosphere. We have stable conditions more frequently
9 and we have less rainfall overall.

10 Now, looking ahead, these studies are very
11 much in progress, ongoing. And, of course, we are
12 much less certain about, you know, conclusions about
13 the future than we are about what's happening in the
14 past.

15 But given those caveats, I would say the
16 weight of evidence is we will see a continued decline
17 in rainfall in the future and an increase in the
18 frequency of droughts, particularly in the drier parts
19 of the state.

20 Q Now, do you have any experiences relevant to
21 water resources management?

22 A Yes. Much of our research is intended to be
23 relevant to water resources management. We study
24 numerous problems that are related to management
25 questions including land use, but also water

1 management decisions, and so forth.

2 So we see land management, water management
3 are linked, especially in places like Hawai'i. We
4 try -- I say 'we' my group, my students,
5 post-doctorates and so forth, try to produce research
6 that's relevant that will be useful to decision-makers
7 in that context.

8 Q In your experience how have government
9 agencies typically gone about predicting the
10 availability of water resources?

11 A This touches on my written testimony, my
12 written submission which lays out and explains how
13 this has always been done.

14 It's been done by using the past, using
15 records from the past, to determine the probability,
16 the range of values you would have for something like
17 rainfall, for example, or stream flow or groundwater
18 recharge and using that as a guide to the future.

19 The underlying assumption there is that
20 everything in the system is stationary. That is it
21 varies but the variability's within a fixed range and
22 the mean does not change -- the average does not
23 change over time.

24 That's called the Assumption of
25 Stationarity. That assumption is no longer valid.

1 It's been challenged by leading scientists and by
2 water managers.

3 In the present context we cannot assume that
4 what's happened in the past century, for example, is
5 going to be an adequate guide for what's going to
6 happen in the next century.

7 So planning, in my opinion, needs to move
8 from looking at the past to looking at the future and
9 using more caution because of the degree of
10 uncertainty we have about the future.

11 Q That was my next question. Given your
12 conclusions about decreased rainfall and increased
13 drought frequency, do you have any recommendations as
14 to how the state and government should manage water
15 resources?

16 A Yes. I think both the projections of
17 decrease and the uncertainty associated with that,
18 both of those things argue toward exercising a greater
19 degree of caution in making decisions that commit us
20 to water uses or providing water, providing for new
21 water uses out into the future. Because we, you know,
22 we may not have the same level of water availability
23 that we have at present -- or we have had in the
24 recent past.

25 Q And in evaluating water resources do you

1 look at all the various demands on the water resources
2 or what's the appropriate approach?

3 A Well, you know, land use affects both the
4 supply of water by affecting the flows of water
5 through the system to the groundwater into streams.
6 And affects the demand for water. So both sides of
7 that equation have to be examined in making decisions
8 about any particular new land use.

9 So if you're going from a land use that,
10 let's say plantation agriculture in the past, to
11 residential development, you have to look at the
12 groundwater recharge and effects on other possible
13 water sources such as streams in some cases, not so
14 much here, but in other places, and then look at the
15 new water use -- the new land use and see how those
16 effects on water resources -- water resources are
17 changing as a result of the land cover change.

18 In addition, you have to look at the water
19 uses, how much water is required for the existing land
20 cover and how much will be required for the future
21 land cover.

22 Q Do you have an opinion as to the impact of
23 developed land as compared to agricultural land on
24 water quality?

25 A Yes. Any land use, of course, has water

1 quality, and there should be water quality concerns.
2 If agriculture pesticides and herbicides are used, but
3 those same chemicals are used in a developed landscape
4 in a residential area and perhaps even at higher rates
5 by untrained individuals.

6 And, you know, in the case of agriculture
7 you have trained certified people applying these in a
8 regulated way in a wise and, you know -- in the way
9 that that's intended.

10 So moving from one land cover to another may
11 not affect that. It may make it worse. But with a
12 developed landscape you also are adding a number of
13 new sources of pollutants.

14 And in particular, and I emphasize
15 landscape -- you have -- you're putting lots of
16 automobiles on the landscape and roads, paving the
17 surface. Those cars are producing myriad of new
18 additional pollutants, heavy metals, hydrocarbons from
19 oil and gasoline and so forth.

20 And in addition to that you're now paving
21 the landscape which promotes much faster, much greater
22 amounts of runoff from the surface. So it delivers
23 these pollutants to the streams much more quickly and
24 out to the ocean and nearshore environment much more
25 effectively.

1 Q Based on your research on climate change and
2 water resources, do you have an opinion as to whether
3 the land in this case should be developed or should
4 remain in agriculture?

5 A Well, I would say in general when weighing
6 big land changes like this, you know, significant
7 areas involved, that it's generally preferable to keep
8 the land in agriculture.

9 Given that water resources are going to
10 become more scarce in the future and that's because of
11 increasing competition for water as well as climate
12 change affects possible increase in rainfall,
13 increased in evaporative demand, we should not be
14 quick to lock in large, new water demands that will
15 become essentially permanent in the landscape as
16 opposed to agriculture, which is much more flexible in
17 its water requirements.

18 Farmers are able to adapt to changing water
19 availability. They can plant different crops. They
20 can use less of the land. They can plant more
21 sparsely and they can adapt to that. Whereas, once
22 you put houses in place and you have a certain number
23 of people there, you can't really renege on that
24 promise to provide water.

25 So I think it provides more flexibility to

1 stay in agriculture. And, you know, in that regard
2 that would seem to be the favorable choice.

3 Q We heard some testimony earlier in this case
4 that desalinization is pretty much inevitable, I
5 think, for the next 15 years or so in order to meet
6 the demand for water on O'ahu.

7 Does the potential of desalinization
8 alleviate any of your concerns about water scarcity in
9 the future?

10 A Well, desal can be used to provide more
11 water. If that choice is made, then water can be
12 provided. But that's a big bridge to cross. I think
13 if we say that there's any water concern we'll just
14 desal, we'll just go to desal, that's putting us into
15 a new, new era. I think it's a decision that has to
16 be made very carefully.

17 It means that we no longer consider natural
18 water sources as a criterion for deciding about land
19 cover changes or approvals and permits and so forth.
20 So I think that's a big jump to make to go to to say
21 well, we'll just take care of it with desal. The
22 reason is that desalination carries a number of
23 additional costs.

24 It is expensive because of the cost
25 installing the plant; is expensive because of

1 installing a new system to extract either saltwater
2 from the ocean or brackish water from a shallow
3 aquifer.

4 It's expensive environmentally because of
5 the damage those things can do to the nearshore
6 environment. You have to dispose of the brine.

7 And, lastly, it's very energy intensive.
8 And this would put the decision in direct conflict
9 with the State's desire to achieve energy
10 self-sufficiency. So it would add a huge new energy
11 requirement to our landscape.

12 Q Do you believe that roads should be
13 curtailed by the availability of natural water
14 resources?

15 A Yes.

16 MS. DUNNE: I have no further questions.

17 CHAIRMAN LEZY: Mr. Kudo?

18 MR. KUDO: No questions.

19 CHAIRMAN LEZY: Mr. Kitaoka.

20 CROSS-EXAMINATION

21 BY MR. KITAOKA:

22 Q Maybe you can help me understand a couple
23 things. Your expertise is in climatology; is that
24 right?

25 A It's in climate and hydrology,

1 eco-hydrology, land/atmosphere interaction.

2 Q So it's also in hydrology.

3 A In areas of hydrology, yes.

4 Q Is there, like, a hydrology department of
5 UH?

6 A No, there's not. There's, in fact, only one
7 hydrology department in the world. Hydrology is
8 mainly taught and degrees are awarded for expertise in
9 hydrology in a variety of other departments such as
10 civil engineering, geology and geography. My degree's
11 in geography.

12 Q Okay. Are there other hydrologists at UH
13 in the, say, the civil engineering department?

14 A There are some, yes.

15 Q With respect to development you're saying
16 that development may affect runoff because of
17 impervious surfaces; is that right?

18 A Right.

19 Q Okay. So my question would be: Can water
20 be effectively managed in an urban situation so that
21 there are no adverse effects of water management?

22 A Well, I would say in answer to that that
23 management and the plans and the design make a
24 difference. But I would not go as far to say you
25 could design it so there are no impacts.

1 Q Right. But you can design it so it's
2 basically effective for an urban environment; is that
3 correct?

4 A I don't know what you mean by "effective".

5 Q Okay. Can you design an urban environment
6 such that water management is done in a way that it
7 won't have substantial adverse impacts?

8 A It would have to depend on the situation and
9 the design. That's too generic a question. I can't
10 answer.

11 Q I'm just looking at it as a lay person. You
12 have to excuse my ignorance. But as a lay person if
13 there's enough -- what is the opposite of impervious?

14 A Pervious.

15 Q Okay. If there's enough pervious surfaces
16 in an urban development, then it wouldn't have too
17 much of an adverse impact, right?

18 A As I said design makes a difference. And
19 you can reduce the impacts. I don't think you can
20 eliminate the impacts. Really, the answer to that
21 really depends on the place, the existing situation,
22 the soil and the design, the climate, all those things
23 would matter. I haven't analyzed this particular --

24 Q Project?

25 A -- Project, no.

1 Q Have you ever seen any of the hydrological
2 studies for this Project?

3 A No.

4 MR. KITAOKA: No further questions.

5 CHAIRMAN LEZY: Mr. Yee?

6 MR. YEE: No questions.

7 CHAIRMAN LEZY: Dr. Dudley?

8 DR. DUDLEY: No questions.

9 CHAIRMAN LEZY: Mr. Seitz?

10 MR. SEITZ: I have a few.

11 CROSS-EXAMINATION

12 BY MR. SEITZ:

13 Q What is the significance, why do we care
14 about the fact that we're facing a prospect of
15 decreased rain?

16 A Well, we live on islands. We're thousands
17 of miles from the nearest alternative freshwater
18 sources, natural freshwater sources. We have a
19 growing population. And, you know, we have finite
20 resources. So in terms of sustainability, in terms of
21 carrying capacity for these islands it's essential
22 that we pay attention to how much water we have.

23 If rainfall is declining in the future
24 that's something we need to plan for.

25 Q What is the -- how does the rain system work

1 in terms of how it affects availability of water here
2 other than through catchment?

3 A All of our water comes from rainfall or fog
4 interception, basically another type of precipitation.
5 Everything that we use gets into the groundwater or
6 into streams through various pathways in the
7 environment. But ultimately it all comes from
8 rainfall. So if rainfall decreases everything's
9 affected.

10 Q We've heard testimony in this case that
11 there is so much water available by millions of
12 gallons in the area of the island where this
13 particular development is proposed to be built.

14 And along with that testimony we've heard
15 essentially how portions of that available water is
16 already committed, which suggests that there is ample
17 water now that could, in fact, be allocated for the
18 purposes of this development.

19 Is that kind of analysis something which you
20 think is an adequate and sufficient analysis to
21 determine whether or not the water needs of this
22 additional community can be met?

23 A There's two things that I would -- two
24 issues that I would raise there. First of all, it's
25 based completely on historical information and does

1 not account for changes in the future. That's the
2 one. No. 1. And that's the point I brought up
3 earlier.

4 In addition, because of uncertainty in the
5 future, we should exercise a higher level of caution
6 as we -- so I think we cannot use as we have in the
7 past, use our experience. We cannot have the same
8 confidence in the decisions we make as we have had in
9 the past.

10 We cannot use our experience to establish
11 competence in these decisions because of the
12 uncertainty about what's going to happen in the
13 future.

14 Q How long have you been observing water
15 policy development and implementation in Hawai'i?

16 A Well, I've been observing it for 34 years
17 that I've been here, but someone with a more
18 professional interest I would say over the past
19 approximately 25 years or so.

20 Q And in that time have you ever seen the
21 development on this island, or in the state as a
22 whole, of a comprehensive water management policy
23 which takes into account the kinds of concerns that
24 you've raised here?

25 A Yeah, I'm not an expert in, you know, in

1 this case, water law. So I'm familiar with it, but I
2 wouldn't give myself the level of expertise to answer
3 that question. I know there's a Water Code. And I
4 know some aspects of the Water Code but...

5 Q Tomorrow we're going to hear from William
6 Tam. Are you familiar with Mr. Tam?

7 A Yes.

8 Q Do you regard him as an expert in dealing
9 with issues of water policy management?

10 A Yes. Of course.

11 MR. SEITZ: Thank you.

12 CHAIRMAN LEZY: Ms. Dunne, redirect?

13 MS. DUNNE: I have no questions.

14 CHAIRMAN LEZY: Commissioners, questions?

15 COMMISSIONER McDONALD: Thank you for your
16 testimony. You had mentioned that you folks just
17 revised your Rainfall Atlas. I'm interested to hear
18 what on average the annual precipitation rates have
19 decreased.

20 THE WITNESS: Well, we haven't got the
21 answer to that yet, unfortunately, because we have --
22 we could -- we could take the new Rainfall Atlas and
23 just compare it to the old Rainfall Atlas. But that
24 actually doesn't answer your question.

25 The reason is that we've used a

1 substantially better dataset and much more updated
2 techniques to develop the new Rainfall Atlas. So
3 there are differences between the old Rainfall Atlas
4 which we did in 1986 and the new Rainfall Atlas which
5 we did in 2011. Some of those differences are due to
6 climate change. And some of those differences are
7 just due to the different way we did. So I'm not
8 comfortable in just making that comparison and saying,
9 "That's due to climate change."

10 But to answer the question, we're very close
11 to completing it, a study in which we are using the
12 exact same methodology to analyze the rainfall
13 patterns for the entire state in every month from
14 January 1920 to December 2007.

15 Once we have that, and it will be in a
16 matter of weeks, we'll be able to give a complete
17 answer to that question.

18 But I can tell you that we know from changes
19 at specific gauges. One, for example, would be Mount
20 Waialeale which was, until recently, identified as the
21 wettest rain gauge, wettest location in Hawai'i. It
22 no longer is. It's just slightly still very wet but
23 it's slightly lower than another site. And it has
24 decreased roughly 10 percent since the previous
25 30-year estimates.

1 So that's a 30-year average, the most recent
2 average at least ending in 2007. And the previous one
3 was a 30-year average ending about 1984. Between that
4 last one and this one there's been a decrease in
5 rainfall at that site of about 10 percent. That
6 doesn't really answer your questions because there
7 could be different changes at other sites. And there
8 are.

9 Another example, though, is the Kona area of
10 the Big Island. They have had even larger decreases
11 in rainfall. And much of that is probably, we believe
12 may be due to effects of the volcanic plume affecting
13 the clouds and the rainfall in the downwind area.

14 But I would say overall we have seen a
15 decrease in rainfall. We also see ups and downs in
16 rainfall that last decades at a time. And the most
17 recent period has been in one of the downward parts of
18 that cycle.

19 But overall on top of that we do see a
20 decline.

21 COMMISSIONER McDONALD: One more question.
22 You had mentioned some concern with regards to the
23 storm runoff as a result of the development and the
24 potential pollutants it could bring to our streams,
25 ocean, whatnot.

1 Are you familiar with the city and county's
2 storm drainage standards? And if so what's your
3 thought as far as the criteria that has been developed
4 for the engineers to design to? Do you feel they're
5 adequate to address those type of concerns?

6 THE WITNESS: I'm not an engineer. I really
7 can't comment on that. I'm sorry. My role in that
8 would be estimating the frequency, the return
9 frequency of rainfall events, storms of different
10 size. And that would be my contribution to those
11 things.

12 But as to evaluating the adequacy of the
13 statutes, the regulations and guidelines, I'm not, not
14 qualified to answer that.

15 COMMISSIONER McDONALD: Thank you.

16 CHAIRMAN LEZY: Commissioners, any other
17 questions? I've a question for you, Mr. Giambelluca.
18 Thank you for your testimony. I'm going to see if I
19 can at least, as far as I understood it, sum up the
20 core opinion, I think, that you provided. And tell me
21 if I'm over simplifying it.

22 But I think what I heard you say is that
23 based on the fact that this stationary assumption is
24 no longer valid, that it's your opinion that in the
25 state of Hawai'i there should be no urban development

1 period going forward, is that correct?

2 THE WITNESS: No, that's certainly, I would
3 say that's an oversimplification. Can I say it in my
4 own terms?

5 CHAIRMAN LEZY: Of course.

6 THE WITNESS: I would say the job that you
7 have and the other Commissioners have, is made
8 somewhat more difficult by this situation because you
9 cannot easily rely on historical information. You
10 still have important decisions to make. I'm not
11 saying that no development can be done.

12 But whatever decisions you make carry this
13 burden of making judgments with an uncertain future.
14 So I just think that greater levels of precaution have
15 to be applied in your decision-making process.

16 CHAIRMAN LEZY: Thank you. Thank you for
17 your testimony. Ms. Dunne.

18 MS. DUNNE: Next witness is Linda Cox.

19 LINDA COX

20 being first duly sworn to tell the truth, was examined
21 and testified as follows:

22 THE WITNESS: I do.

23 CHAIRMAN LEZY: Please state your name and
24 your address.

25 THE WITNESS: Linda Cox, 46-483 Makena

1 Street, Honolulu, Hawai'i.

2 CHAIRMAN LEZY: Ms. Dunne.

3 DIRECT EXAMINATION

4 BY MS. DUNNE:

5 Q Good afternoon. Could you tell us what is
6 your profession?

7 A I'm a community economic development
8 specialist at the University of Hawai'i at Manoa.

9 Q And your CV and written testimony are
10 already in the record as Exhibit, Sierra Club's
11 Exhibit 46B. Do you have any updates to your resumé?

12 A It would be minor things. In general I
13 update by resumé monthly because I am producing
14 something every month. It would probably be I have a
15 recent paper on feral cat management which would
16 probably be the only, that and my sustainable
17 agriculture newsletter that came out in January, two
18 biggest editions. Since that was October I sent that
19 resumé.

20 Q And the written testimony that's in the
21 record is that an accurate summary of your testimony
22 in this case?

23 A Yes.

24 MS. DUNNE: And we're offering Linda Cox as
25 an expert in the community economic development

1 specialist and also she's an economist.

2 CHAIRMAN LEZY: Objections?

3 MR. KITAOKA: No objection.

4 MR. YEE: No objection.

5 CHAIRMAN LEZY: The witness is admitted.

6 Q (Ms. Dunne): Can you tell us what you do as
7 a community economic development specialist?

8 A Well, I work with the Cooperative Extension
9 Service out of the College of Trop Agriculture and
10 Human Resources. And what I do in that capacity is I
11 work in communities across the state helping them
12 decide how to use their resources.

13 Ultimately we have a situation where we have
14 a finite amount of resources, human resources,
15 infrastructure, manmade resources and natural
16 resources.

17 And communities, according to the view of
18 economists, have unlimited wants and have limited
19 resources. So they must make decisions on how to use
20 those resources in order to get the maximum well being
21 for their community.

22 And I work with them helping them understand
23 how to do that. As you can imagine as you get more
24 than one person in a room there's going to be some
25 disagreement on how to best use resources. And at the

1 same time sometimes they need me to do specialized
2 research for them to investigate things.

3 For example, feral cat management where we
4 would do a cost benefit analysis on two different
5 options, two different management options. So I
6 sometimes will work with them on that.

7 We will provide specialized education and
8 facilitation also as they bring their issues forward
9 and ask for my assistance.

10 Q Do you have experience specifically working
11 with local and state government agencies?

12 A Yes, I do.

13 Q Could you highlight some of your experience
14 in that area?

15 A Well, this morning I am working on a project
16 with Department of Agriculture and the Pacific
17 Immigrants Center trying to get more new farmers
18 started. And, in fact, this morning we were
19 discussing land use issues. So that's just the most
20 recent example.

21 I'm working with Hawai'i Tourism Authority
22 on sustainable coastal tourism and global climate
23 change, as Dr. Giambelluca just pointed out. This is
24 a big concern.

25 I've worked with DBNT on small business

1 development which is another one of my areas. I work
2 a lot with small businesses helping them and advising
3 them.

4 I also work with the individual economic
5 development offices in the counties across the state,
6 particularly generally in agricultural development
7 issues, helping them identify information that would
8 help the agricultural community. It's a variety of
9 things. Or maybe even some specialized research that
10 they want done.

11 Q I'd like you to help explain a couple of
12 economic concepts. And one of those is the difference
13 between market versus non-market benefits. As an
14 economist and a community development specialist are
15 you familiar with this concept?

16 A Yes, I am.

17 Q And what are -- can you tell us what market
18 benefits are?

19 A Well, when a community uses their resources,
20 you will have different benefits that can come from
21 those resources. Economic developers are really
22 generally looking at economic benefits. And those are
23 generally what we would see in markets.

24 Markets are there because in the United
25 States we allocate the bulk of our private resources

1 based on private markets. The consumers kind of vote
2 with their dollars, if you will.

3 Do we want to produce Hummers or do we want
4 to produce bicycles? Well, we vote in the
5 marketplace. If we're willing and able to pay for it
6 then, in fact, we want those goods and services.
7 Those are benefits that we want the economy to be
8 producing for us, and we want those resources being
9 used up to produce those benefits.

10 If we don't want those benefits, if that
11 market opens up and no one buys it, then we're
12 signalling we don't want that benefit. And market's
13 allocation mechanisms are the, by most economists'
14 points of view, the best way to allocate resources.
15 Because consumers are allowed to vote with their
16 dollars.

17 And the entrepreneurs make decisions on how
18 to use the resources and what to produce with those
19 resources and how that production will occur.

20 Q Can you compare that, then, with the concept
21 of non-market benefits? What does that refer to
22 non-market benefits?

23 A Non-market benefits are benefits that we get
24 from using resources where we are not buying and
25 selling things. I think all of us would agree that

1 there's things in this world that are more important
2 than what one might buy at Wal-Mart.

3 Of course, some of us may think it's
4 possible to buy love for an hour or two in general.
5 Most people want to love their families, love their
6 communities.

7 They want to feel safe in their homes. They
8 want to have access to healthcare. They want to know
9 that their kids can get an education.

10 And we would like, in the United States I
11 think or I completely believe I guess, that those are
12 benefits that our citizens want to enjoy.

13 In many cases those may not be provided in
14 the marketplace because not everybody, they maybe want
15 it but they don't have the ability to pay. Does that
16 mean your child will not be educated?

17 Does that mean that if you can't pay for a
18 road you can't use it? Does that mean if you need to
19 be safe in your home then you will have to pay for a
20 private police officer?

21 So in those cases economists see situations
22 where markets simply do not provide the non-market
23 benefits that our communities want.

24 Q I'd like to ask you, then, how does a
25 community safeguard those non-market benefits?

1 A Well, there's two types of institutions
2 generally seen in a community that safeguard those.
3 You will see many non-profits coming in and trying to
4 safeguard those by providing services at no cost to
5 certain people who cannot afford to pay. We support
6 them through donation or grants or whatever that
7 organization does.

8 But I think the bulk of that protection of
9 the non-market benefit structure really resides with
10 government agencies and institutions who are charged,
11 for example, like the Land Use Commission, with really
12 looking at some of the non-market benefits associated
13 with land use and safeguarding some of those benefits
14 which the market may want to come in and do that.

15 But you're saying, no, I don't think --
16 while that's attractive and sometimes in the market
17 things are very attractive, but maybe that's not the
18 best thing to do because the community really gets a
19 lot of non-market benefits from that, and we would
20 like to safeguard that.

21 So in general economists see the government
22 playing the largest role in safeguarding those
23 non-market benefits.

24 Q Have you looked at the non-market benefits
25 of preserving agricultural land in Hawai'i?

1 A I have examined some of the non-market
2 benefits. It's difficult to examine non-market
3 benefits because you don't have this common measuring
4 stick.

5 When you go into a market everything is
6 measured in terms of dollars. It's easy for us all to
7 add up because we have a common valuation of us.

8 In non-market benefit valuation it becomes
9 more difficult. It's extremely expensive and a lot of
10 people don't want to fund that type of work.

11 I have looked at the value of open space
12 views. Agricultural open space views in particular do
13 have a non-market benefit. I have done research in
14 this area.

15 There's a lot of other non-market benefits
16 which are clearly recognized from agriculture. For
17 example, in Europe they subsidize livestock production
18 because they don't want their landscapes to be solid
19 forests. They want some open space. So they value
20 agriculture livestock operations because they maintain
21 open space.

22 Q I'd like to turn your attention to the
23 market analysis prepared by D.R. Horton's expert Ann
24 Bouslog. Are you familiar with that analysis?

25 A I did read through the work.

1 Q Did you look at the model that Ms. Bouslog
2 used to make conclusions about housing and how -- the
3 housing market and job creation?

4 A Mm-hmm. I did. And the underlying
5 assumptions of the model.

6 Q Do you have an opinion regarding the model
7 that Ms. Bouslog used?

8 A Well, I'm not a paid consultant so I just
9 read the paper. That was all my time could allow. I
10 think that, again, we're facing a situation, first of
11 all, as Dr. Giambelluca pointed out, that it's the
12 dawn of the new century. And I think we would all
13 agree that things have changed.

14 There has been social situations we have
15 seen recently that has never been seen before. The
16 economic situation is puzzling even the most staunch
17 economists who thinks they know what they're talking
18 about. So I think to base anything on historical data
19 is very risky in this time of great change.

20 Another issue with that model is, again, it
21 was a partial model. In general we do partial
22 modeling when we're only concerned with one part over
23 here. But there are other impacts when you introduce
24 new things into the whole general system. And that
25 did not account for that. It only talked about this

1 parcel right here. It didn't say: Oh, if this
2 retailer opened here, but it doesn't say did that
3 retailer come from over here? So now we have an open
4 spot over here and a loss on this side? Or is this
5 retailer from outside O'ahu that's now relocated over?

6 Those sort of things make a big difference,
7 those linkages from other communities. That's very
8 important when you're looking at community economic
9 development strategies.

10 Q Have you read the report prepared D.R.
11 Horton's agricultural expert Bruce Plasch?

12 A I have read the report.

13 Q And did you look at the model that
14 Mr. Plasch used in making his conclusions?

15 A I did. And, again, I think it's similar
16 types of discussions. That it is true that the
17 producers that are there now would probably be willing
18 to relocate. We don't know what the impact will be on
19 them. They don't know what impact will be on them.
20 Again, these are business situations. Sometimes those
21 projections are wrong. We've seen it.

22 We've seen a lot of change relative to
23 business projections gone wrong where it can go south
24 very, very quickly.

25 And I have to say that in this case relative

1 to agriculture it honestly is the riskiest business on
2 earth. It has the lowest profit breaks. It is
3 something that it can go south very quickly. So, of
4 course, they can be relocated and particularly if the
5 deal is good, naturally those things are possible.
6 But it's never really easy to say what's going to
7 happen.

8 And I think in particular in agriculture
9 that Gary Maunakea-Forth made a very good point. I'm
10 seeing it myself. If you asked five years ago, if my
11 classes who wanted to be a farmer no one would raise
12 their hand.

13 Now, I get at least 30 to 45 percent
14 students who are staunchly dedicated to going into
15 agriculture if they could only get land. This always
16 is the first thing that comes up. It is difficult to
17 get attractive leases particularly for small,
18 inexperienced producers.

19 So one cannot really say that the situation
20 with this growing demand for a local food source and
21 this increasing interest in a food security system
22 that can withstand long periods of no imports, is not
23 going to produce a structural change.

24 It has not already produced a structural
25 change which Dr. Plasch did not pick up in his model

1 simply because the data is just not there in
2 sufficient volume to make decent predictions.

3 Q You mentioned increased interest in local
4 food production. Can you describe more what kind of
5 change we are seeing as far as local agriculture
6 production?

7 A Well, I think if you would look at
8 publications put out by the College of Trop
9 Agricultural and Human Resources you would see that we
10 are now in a position where in the past vegetable
11 production really has not been primarily done here.

12 But, in fact, we're seeing much greater
13 increase in local food production. The group I work
14 in particular with is beef. We see a huge increase in
15 local beef products that we have not seen in the past.

16 Q Can you describe some of the benefits local
17 food production has for the local economy?

18 A Well, there's, of course, the economic
19 benefits, job creation, you know, sales and all those
20 other multipliers that become associated with that.
21 But there's also other things, mostly non-market
22 things.

23 You feel better about supporting local
24 producers. You get more nutrition. You have the
25 agricultural vistas. You have agricultural operations

1 for visitors to visit.

2 You have situations where people who feel
3 that the agricultural lifestyle is suited to what
4 they're doing are more able to engage in that
5 lifestyle. So you have a better quality of life for
6 those citizens.

7 Q Some people have suggested that Hawai'i's
8 food should be grown on other islands other than
9 O'ahu. Is there a reason why we should produce on
10 food on O'ahu?

11 A Well, I don't know about, I would call it a
12 reason, but economists see a situation where
13 comparative advantage is important. The bulk of the
14 population in the state lives on this island. As
15 energy prices go up it will become increasingly
16 expensive to grow the food somewhere else and ship it
17 in. This is why we don't want to be dependent on
18 imports.

19 That's going to be the same situation if
20 you're depending on another island to send over your
21 food. Reducing food miles, which is the distance that
22 food has to travel from the producer to the consumer,
23 really is best reduced if you produce it on O'ahu.

24 Q And you're familiar with where the land is
25 located at issue in this case?

1 A Yes.

2 Q And is that land located close to markets?

3 A Yes, it is. And it's also located in a
4 situation where there's the needed infrastructure to
5 get to market. That's another challenging situation.

6 You have to be able to provide the
7 transportation and have that infrastructure receiving
8 facilities, for example, and dispersion facilities to
9 get it out to the consumers.

10 Q I'd like to talk briefly about the Hawai'i
11 State Plan which incorporates questions of the 2050
12 Sustainability Plan. Are you familiar with the State
13 Plan and the 2050 Sustainability Plan?

14 A Yes.

15 Q What role do those plans play with regard to
16 community economic development, your area of
17 expertise?

18 A Well, it is, in fact, they are the
19 embodiment of community economic development because
20 community development alone would just look at social
21 benefits.

22 Economic development would maybe just look
23 at possibly depending on who's looking at it, just the
24 economic benefits. But what we really want to do is
25 really take a holistic approach.

1 So it's very important that we understand
2 sustainability and it's, frankly, very challenging to
3 achieve. So to me planning for it is a step towards
4 moving us in that direction. Because this is going to
5 be a very long, slow process to reach sustainability.

6 Q I have a couple questions about some
7 specific portions of that plan. Are you familiar with
8 the Hawai'i State Plan's objectives and policies for
9 the economy, in particular what is described as
10 potential growth activities?

11 A Yes, I am. Again, you always will see
12 diversified agriculture in those plans. This constant
13 interest in having a system of agricultural production
14 that provides us with food security is always in the
15 plans. There has always be an interest since I moved
16 here in 1983 to encourage diversified agriculture.

17 Q Do you think, in your opinion is the
18 proposed Ho'opili development consistent with the
19 policy to increase diversified agriculture?

20 A No.

21 Q Now, are there provisions of the Hawai'i
22 State Plan which set forth objectives for the state's
23 economy with regard agriculture?

24 A Yes, there are.

25 Q Can you describe some of those objectives?

1 A Well, they are to facilitate investment and
2 employment and economic activities that have potential
3 for growth. And, again, diversified agriculture is in
4 there.

5 Q And are you familiar with some of the things
6 the state has committed to doing to advance these
7 objectives, some of the goals the state has set forth?

8 A Yes. It's been a while since I've read them
9 all.

10 Q Can you highlight some of these that come to
11 mind?

12 A Well, I think, let me think now. They
13 generally try to do things like develop agricultural
14 parks because land is always brought up as a problem.
15 So you will see plans to try and make those lands
16 available.

17 Water and issues associated with water rates
18 are generally involved in those sorts of things. So
19 you will also see support in the form of these kind of
20 economic development activities where they would talk
21 to me and we would go out and provide specialized
22 assistance.

23 Whether it's helping to identify facilities
24 that they need to build or specialized information,
25 assistance with transportation.

1 For example, if you wanted to have a cooling
2 facility, then you would seek, you know, plans to do
3 those sorts of things, that kind of specialized
4 investment.

5 Q Are there any goals in the Hawai'i State
6 Plan with regard to food production?

7 A I think so. I'm not sure exactly how they
8 quantify it.

9 Q Okay. In the plan. Would you say is the
10 proposed Ho'opili development consistent with the
11 policies set forth in the State Plan regarding
12 agriculture?

13 A No.

14 Q Are you aware of the State's goal of food
15 self-sufficiency?

16 A Yes.

17 Q Do you think the proposed Ho'opili
18 Development is advancing that goal or consistent with
19 that goal?

20 A No.

21 MS. DUNNE: I have no further questions.

22 CHAIRMAN LEZY: Mr. Kudo.

23 MR. KUDO: I've no cross, but I've been
24 kinda patient listening to Ms. Dunne's questions in
25 this cross here. The latter part of the testimony has

1 all been outside of the written testimony that was
2 submitted with regard the State Plan and is outside
3 the scope of their direct examination. Just wanted to
4 point that out to the Commission.

5 CHAIRMAN LEZY: Mr. Kitaoka.

6 MR. KITAOKA: Well, I hope the Commission
7 excuses me 'cause this is my first time that I'm
8 actually sitting in this proceeding so I may have
9 missed a lot of things. So just bear with me and tell
10 me if I'm overstepping any bounds.

11 CHAIRMAN LEZY: Will do.

12 CROSS-EXAMINATION

13 BY MR. KITAOKA:

14 Q A lot of the assumptions that I normally
15 make are kind of being questioned. So I kinda want to
16 explore some of the non-market benefits that
17 government is supposed to -- I'm from the City by the
18 way -- government is supposed to preserve and protect.
19 So one of the assumption's that population will grow
20 on O'ahu. Is that a valid assumption?

21 A Well, I'm not sure if it will or not. I am
22 not sure of what we've seen as it becomes more and
23 more expensive, if people will then leave the state at
24 an increasing rate. It would appear to me that it's
25 becoming much more difficult to support a family here.

1 So what I'm hearing is in college is that a
2 lot more of my students are wanting to leave. That
3 will affect the population growth. And it would be my
4 hope as an academic that we would continue to further
5 one basic premise of sustainability, that we would
6 have reduced population growth.

7 Q That would be a goal to reduce population
8 growth?

9 A Yes.

10 Q Okay. So the historical growth of
11 population on O'ahu is not something that can be
12 relied upon. Is that what you're saying?

13 A I don't think so, no.

14 Q Well, assuming that there is growth.

15 A Yes. Assume that there is.

16 Q Assume that there is growth on O'ahu. Isn't
17 it a good idea to direct and manage that growth on
18 O'ahu?

19 A Well, I would expect that that is a very
20 good idea.

21 Q Okay. If the city has made a policy to
22 direct growth to the 'Ewa Plain, wouldn't that be a
23 good thing to prevent overgrowth in other areas of the
24 island?

25 A Well, I think if one looks at other models

1 in Europe that have a recognition of higher density,
2 then what may have seemed like a good idea 20 years
3 ago, maybe that idea should be revisited.

4 Q Okay. That brings me to a more basic
5 question then. So do you think it's a bad idea to
6 have a policy that directs growth to the 'Ewa Plain?

7 A For an economist to use the word "bad" or
8 "good" is not generally --

9 Q I'm a lay person so you can help --

10 A You know what I'm saying? Again, at the
11 time maybe it seemed great. For me I would say that
12 given the increase in costs of transportation, some of
13 those issues, maybe under redevelopment might be
14 closer in and not all the way out at the 'Ewa Plain.
15 I would like to see more re-examination. Because to
16 me some of the underlying reasons why that decision
17 was made 20 years ago have changed.

18 Q Okay. So you're saying that the city's
19 policy to direct growth to the 'Ewa Plain should be
20 re-examined?

21 A Yes.

22 Q Are you basing that on any empirical data
23 that you have or that's just your opinion?

24 A No, that's just my opinion.

25 Q That opinion is based on that things change

1 and we should re-examine how things have changed?

2 A I'm not a planner, but I am of the opinion,
3 and I am in my own life every year re-examining my
4 plans. I don't set a plan and it sits there, okay, I
5 made that plan 20 years ago, oh, must still be a good
6 plan.

7 I'm always updating my plans. And I --

8 Q Okay.

9 A -- would suggest that that would be a good
10 move for any plan, whatever plan, whoever's planning.

11 Q Wherever the city decides to direct growth
12 then, is it a noble or valid effort to try and develop
13 a policy to direct growth in certain regions?

14 A Well, I'm not a huge --

15 MS. DUNNE: I'm going to object to that
16 question because the witness is not a planning expert.
17 And those questions are directed --

18 Q (Mr. Kitaoka) That's fine. If you're not
19 able to answer.

20 A I'm not a planner.

21 Q Land use planning is not your area.

22 A Well, I'm not a planner. I do land use
23 issues. But, again, some of the words you're using
24 "growth"...

25 Q Directed growth.

1 A You know, it implies that you want to have
2 growth. And that's kind of, we're still kind of
3 working on that issue.

4 Q I'm not implying that we want to have
5 growth. I'm assuming that there will be growth.
6 You're saying that maybe that's not, that's not a
7 valid assumption.

8 But assuming that there will be growth, just
9 from my lay point of view I think it's a good idea to
10 direct it so that other areas are not subject to urban
11 pressures.

12 MS. DUNNE: I object to counsel testifying.

13 MR. KITAOKA: I'm not testifying. I'm just
14 laying my understanding of urban land use planning.
15 So...

16 CHAIRMAN LEZY: Ask your question,
17 Mr. Kitaoka.

18 Q (Mr. Kitaoka): My question is you're not
19 qualified to answer whether, in fact, it's a good idea
20 to have a policy of directed growth on O'ahu?

21 A Well, I have given an opinion, but
22 qualifications, I don't know what that means to you.
23 So I can't really say what means 'qualified' to you
24 and what means 'qualified' to me.

25 MR. KITAOKA: Okay. I'll just leave it

1 there. No further questions.

2 CHAIRMAN LEZY: Mr. Yee.

3 CROSS-EXAMINATION

4 BY MR. YEE:

5 Q I think in your oral testimony you had a
6 criticism of Dr. Bouslog's study because of failure
7 to consider leakages, is that correct?

8 A Well, leakages just in a very community
9 sense. Not from the island. But, for example, if a
10 business moved from downtown over here or out to there
11 then.

12 Q There's no net gain of a job.

13 A There's no net gain of a job.

14 Q My recollection of Dr. Bouslog's testimony
15 which that she gave us two different numbers. One was
16 the total number of jobs that would be on the site and
17 the total number of net new jobs that would be created
18 by the Project.

19 Would that be the kind of analysis that
20 would take into account leakage?

21 A It should. When I read it I didn't see that
22 that discussion that satisfied me, is all I can say
23 about that.

24 MR. YEE: Okay. Thank you. Nothing
25 further.

1 CHAIRMAN LEZY: Dr. Dudley.

2 xx

3 CROSS-EXAMINATION

4 BY DR. DUDLEY:

5 Q Dr. Cox, you mentioned open space and the
6 value of open space. Was it you that did a study of
7 the value of open space?

8 A I did. On O'ahu.

9 Q Could you tell us something about that, how
10 you valued it?

11 A Well, again, these are non-market things.
12 These always run into questions I have to say because
13 you're asking people's opinions. People, bless their
14 hearts, can change their opinions on a daily basis.
15 And we found that an agricultural open space view was,
16 in fact, highly valued.

17 The community did value it. It did have a
18 non-market value. And we determined the Land Use
19 Commission was doing a pretty good job to keep some of
20 this agricultural land in agriculture because of the
21 value of that open space.

22 Q Thank you. Dr. Cox, you're in agriculture
23 and you're also an economist. Part of the material
24 that was given to us as exhibits by the Sierra Club
25 was the Ping article.

1 A Hmm-hmm, (phonetic) Ping So Leung.

2 Q Could you comment on in that article they
3 talk about the various advantages of increasing food
4 production by 10 percent. Could you talk to us a
5 little bit about that?

6 A They use a technique called input/output
7 analysis which just looks at the relationship between,
8 in those market relationships. So if I buy something
9 from you, how much do you then spend on buying
10 something from somebody else.

11 So they found here that if you increased
12 agricultural production by 10 percent, then you would
13 get \$94 million more at the farm gate.

14 By the time that cycled through that was
15 spent, re-spent, re-spent, re-spent that that would
16 total \$180 million and generate 6 million in taxes and
17 2300 jobs.

18 So there is an interest at the Department of
19 Agriculture, because one of their people worked on
20 this study, to really understand how important it is
21 to the economy to increase diversified agricultural
22 production in the state. That's really the purpose of
23 that research.

24 Q Those jobs, did that include direct jobs and
25 indirect jobs?

1 A Yes, indirect and direct jobs.

2 Q Thank you very much. Let me move to
3 something entirely different. You talk about the
4 non-market benefits, but there were also non-market
5 problems.

6 And I'm particularly concerned about the
7 problems of sitting in traffic for hours and hours.
8 Have you ever done any kind of studies on non-market
9 problems like this?

10 A Not particularly this one. We do have this,
11 again, this feral cat thing is kind of a non-market
12 problem because you have a problem that's happening
13 that is kind of a byproduct of a market activity.

14 There's a lot of byproducts in market
15 activities that we have to bear the cost for even
16 though that's not what we paid for necessarily.

17 So I bought a house out there but I didn't
18 really pay to have more traffic. And I didn't really
19 want to be spending more time in traffic and all the
20 negativities associated with that, for example.

21 So there's lots of situations. You know,
22 you're sitting on the bus and someone's yackin' on the
23 cell phone. That's a non-market -- you paid to get on
24 the bus but you didn't pay to sit next to someone
25 disturbing your peace with a cellphone.

1 So these are common things I've done
2 research in, nothing to do with development. I
3 generally look at agriculture. And we do have
4 negativities associated, occasionally community speaks
5 negatively associated with agriculture that we do
6 examine.

7 MR. DUDLEY: Thank you. No further
8 questions.

9 CHAIRMAN LEZY: Mr. Seitz.

10 CROSS-EXAMINATION

11 BY MR. SEITZ:

12 Q Dr. Cox, you have a Bachelor of Science
13 Degree in Business, is that correct?

14 A Yes.

15 Q And you have a Master's Degree in Economics?

16 A Applied Economics.

17 Q And you have a Ph.D. in Agricultural
18 Economics, is that correct?

19 A Yes.

20 Q And according to your curriculum vitae you
21 have authored or co-authored, produced and edited
22 nearly 200 journal articles, books, book chapters, et
23 cetera, is that right?

24 A Yes.

25 Q And you've also organized conferences,

1 taught undergraduate/graduate courses. You are truly
2 an expert in agricultural economics. Is that fair to
3 say? I'm impressed. Is that fair to say?

4 A Thank you. Thank you. (Laughter).

5 Q I want to contrast that to a man by the name
6 of Bruce Plasch. Do you know Mr. Plasch?

7 A I've never met him personally. But I do
8 review a lot of his work. They send it to me. I do
9 it as a service. So you do -- he's a consultant -- so
10 I encounter his work a lot.

11 Q Mr. Plasch has apparently a degree in
12 Economics. Are you aware of that?

13 A Yes.

14 Q But he has no experience in agriculture
15 other than apparently some work that he's done for
16 people as an consultant. Are you aware of that?

17 A Well, he's a consultant.

18 Q Mr. Plasch testified here that basically if
19 this Project were to proceed, in his opinion it would
20 have no adverse impact on agriculture in Hawai'i. Do
21 you agree with that opinion?

22 A No.

23 Q Why don't you agree?

24 A Again, I disagree with some of his
25 underlying assumptions. I think that when you're not

1 out there on the frontline working with farmers every
2 day, you don't understand, really, the basic changes
3 that have happened in the past four or five years.

4 I'm out there every week working with
5 farmers, with students who want to be farmers trying
6 to help them, you know, get into markets. I started
7 in 1983 saying, "Oh, you know, you need to learn how
8 to merchandise." Been telling them for years.

9 We are now seeing the success of that
10 educational effort and some very fantastic growth,
11 actually, in agriculture if you really look at some of
12 the diversified ag in the areas where they were able
13 to get onto land and crops that don't require a huge
14 investment like basil where you can get in and out in
15 three months, you can see a lot of interest.

16 And Dr. Plasch, being a consultant, is not
17 exposed to those same sorts of situations. When
18 you're not around the young people you don't
19 understand the changes that will come as they mature
20 and take over.

21 Q Dr. Plasch also testified that if -- excuse
22 me -- Mr. Plasch also testified that if Aloun Farms is
23 required to move from its present location that he
24 doesn't think that it would have any adverse effect
25 either on Aloun Farms or on agriculture in Hawai'i.

1 Do you agree with that?

2 A I don't think I can say what impact it will
3 have. Aloun Farms has done a very good job of
4 growing. I think they have faced some challenges in
5 paying the high cost of being in agricultural
6 production.

7 I think that -- my understanding is that
8 they have been very successful in getting a lot of
9 federal help for what they do. They've been very
10 successful -- they've also diversified to get rid of
11 some of their risk by having an agricultural
12 attraction there.

13 But you can't really say what's gonna happen
14 because they can get wiped out in a minute. Crops
15 that they may be very competitive in, in five years
16 maybe they won't be competitive. Maybe we won't have
17 an interest in buying those crops.

18 So you really cannot say with farming
19 because it's extremely risky on the production end and
20 on the market end. It has also, the nature of demand
21 for food is very funny because how much can you eat in
22 a day?

23 The structure of the demand is very finicky.
24 So you have to pay a lot of attention to that. So
25 it's very difficult to really make those kinds of

1 statements about any one farm.

2 MR. SEITZ: Thank you. No further
3 questions.

4 CHAIRMAN LEZY: Redirect, Ms. Dunne?

5 MS. DUNNE: No.

6 CHAIRMAN LEZY: Commissioners, questions?
7 Commissioner Heller.

8 COMMISSIONER HELLER: Yes. You were
9 explaining a few minutes ago about how if you take a
10 piece of land and use it for diversified agriculture
11 that creates a certain number of jobs. And then the
12 money for those jobs gets circulated in the community
13 and has an overall impact on the economy.

14 Now, if you take that same piece of land and
15 put houses on it, put people in the houses, that also
16 creates jobs and has some kind of ultimate effect on
17 the economy, right?

18 THE WITNESS: But if you're building a house
19 it's not a permanent job. Once the house is
20 constructed and people move into it the job
21 disappears.

22 COMMISSIONER HELLER: Okay. I understand
23 that. But if you have a group of people living there
24 who are presumably shopping somewhere, engaging in
25 other activities, doesn't that also contribute to the

1 economy?

2 THE WITNESS: Well, it kind of depends.

3 Again, we're back to this idea did she accurately
4 account for if they moved from downtown, where did
5 they shop when they were downtown?

6 And then they moved out there. It only
7 creates new jobs if they're buying additional goods
8 and services that they didn't buy before. You see
9 what I'm saying?

10 COMMISSIONER HELLER: And the same thing
11 would apply in the agriculture context. If they moved
12 there from some other piece of land it wouldn't be new
13 agricultural jobs.

14 THE WITNESS: Yes. Yeah, that's right.

15 COMMISSIONER HELLER: So my question is do
16 you have any opinion, one way or the other, as to
17 whether the ultimate economic effect is bigger using
18 the land for agriculture or using the land for
19 housing?

20 THE WITNESS: I don't understand the
21 question, the "ultimate effect".

22 COMMISSIONER HELLER: If I understood your
23 testimony correctly you're saying that by using land
24 for diversified agriculture we get certain economic
25 benefits in terms of jobs, in terms of dollars in the

1 economy and tax revenue.

2 THE WITNESS: Mmm-hmm.

3 COMMISSIONER HELLER: Presumably we get some
4 similar sorts of benefits from using the land for
5 housing as well. Right?

6 THE WITNESS: Again, for housing? No.
7 Because once the house is sold it's not a permanent
8 job. If you're talking about retailing or commercial
9 then commercial, yes.

10 COMMISSIONER HELLER: Okay. Let's talk
11 about development in general --

12 THE WITNESS: You keep saying 'housing' and
13 then it interferes.

14 COMMISSIONER HELLER: Okay. Let's talk
15 about development in general including schools and
16 retail and whatever else may be included.

17 Are you expressing an opinion on whether the
18 overall economic benefit is greater in agricultural
19 use versus development use?

20 THE WITNESS: Well, in general the work I've
21 done in this -- because we have regional groups that
22 look on this in general, there is an impression that
23 development is not continually that expensive.

24 In general most of the research that I've
25 looked at and participated in, that agriculture in

1 general tends to be less costly to maintain. Also --
2 right? Because you don't -- development is more tax
3 intensive.

4 COMMISSIONER HELLER: So that produces more
5 revenue for the government.

6 THE WITNESS: No. It reuses more taxes.
7 You got it, it's more intense. You got to pay for
8 more services in a residential community than you
9 would in an agricultural community. You have schools.
10 Schools are -- teachers are paid for it with tax
11 dollars.

12 Those are not new monies. You see what I'm
13 saying? That comes from tax dollars. So we've gotta
14 not buy something else so we can build a school right
15 here. Police officers, all that kind of stuff you
16 wouldn't have to do for agriculture. So the tax
17 situation definitely is not the same.

18 And, secondly, you cannot be sure that --
19 and this is another problem we've seen in many places
20 where they think that that business that they have
21 been attracted to that place is going to stay.

22 When CompUSA leaves or when Borders leaves,
23 then you're left with this big thing that there's not
24 much more you can do.

25 Agriculture results in land banking. So

1 while today, this second, it may not be this way,
2 agriculture lets you in the future engage in
3 land-banking and use it later.

4 That's the issue, frankly, with development
5 is you're making the decision that I'm going to use
6 the resource now which means I can't use it in the
7 future which affects sustainability issues. With
8 agriculture you're land banking.

9 COMMISSIONER HELLER: I understand that.
10 But my question is: Are you expressing an opinion --

11 THE WITNESS: Yes, I guess I am, yes.

12 COMMISSIONER HELLER: -- one way or the
13 other --

14 THE WITNESS: That I think agriculture in
15 the long run over the space of a hundred years, which
16 is the appropriate sustainability timeframe, I think
17 it would do a better job than development because this
18 is prime agriculture land located by an urban area.

19 COMMISSIONER HELLER: Okay. And
20 specifically in terms of contribution to the State's
21 overall economy --

22 THE WITNESS: Over the long term.

23 COMMISSIONER HELLER: -- you're saving
24 agricultural use will contribute more to the State's
25 overall economy in your opinion --

1 THE WITNESS: Over the long term.

2 COMMISSIONER HELLER: -- than developments.

3 THE WITNESS: But that's a very long term.

4 It's not, I believe, maybe in five, ten years, yes. I
5 believe that the business situation looks attractive
6 in a short timeframe. But if you looked at the
7 appropriate timeframe for making sustainability
8 decisions it's a hundred years. I believe over that
9 timeframe that you'll face a different situation.

10 COMMISSIONER HELLER: Okay. So just to be
11 clear on the bottom line of your opinion. You're
12 saying it's your opinion that agricultural use over
13 that long-term horizon will contribute more to the
14 State's economy than development use.

15 THE WITNESS: I think so.

16 COMMISSIONER HELLER: Okay.

17 CHAIRMAN LEZY: Commissioners, any other
18 questions? Commissioner Matsumura.

19 COMMISSIONER MATSUMURA: Dr. Cox, maybe you
20 can clarify something for me. You mentioned food
21 distribution, distribution center. You mean food
22 distribution or food processing, marketing center,
23 which includes labeling, food safety, et cetera?

24 THE WITNESS: Well, for us the word
25 "distribution" would be all the things you need to

1 move the food out to the consumer.

2 So whether that's a chilling facility,
3 whether that's an inspection facility, because we have
4 big challenges with doing all those things. Those are
5 all done when you import stuff. All those services
6 are provided and that they might go directly to
7 Safeway are wherever you're going to buy it.

8 But if we're going to do our own
9 production/marketing system, maybe some of the pricing
10 mechanisms are missing. For example, if you want to
11 get a price for beef cattle or something, sometimes
12 you have to actually go to mainland markets and you
13 add on a transportation cost.

14 So we have price discovery issues. You have
15 people selling things on consignment, they don't get
16 paid for three months, all that kind of infrastructure
17 has to be there. And those are really what we call
18 the distribution system, moving it out to the
19 consumer.

20 COMMISSIONER MATSUMURA: So it's not the
21 same system that we have in Hawai'i where we import
22 agricultural product and they distribute to the
23 stores. You're not talking about that. You're
24 talking about something --

25 THE WITNESS: Not necess -- there's some

1 additional services that, you know, like grading,
2 sorting, storage because you can do just-in-time
3 ordering where it just comes off the boat and comes
4 right into your store.

5 But if you're dealing with a local
6 production/consumption system, then sometimes there's
7 additional things like, for example, even these farmer
8 markets, getting them constructed, you know, all that
9 kind of stuff. It does take a coordinated system.

10 COMMISSIONER MATSUMURA: Like a centralized
11 system in O'ahu, in Honolulu?

12 THE WITNESS: I don't know if 'centralized'
13 but it does take some adaptation.

14 COMMISSIONER MATSUMURA: Okay. Thank you.

15 CHAIRMAN LEZY: Any other questions? Thank
16 you for your testimony. Do you want to take a break,
17 Holly? Let's take a 1-minute break.

18 (Laughter)

19 Let's take a 10-minute break. Sorry, Holly.

20 (Recess was held.)

21 HECTOR VALENZUELA

22 being first duly sworn to tell the truth, was examined
23 and testified as follows:

24 THE WITNESS: Yes.

25 CHAIRMAN LEZY: Please state your name,

1 address.

2 THE WITNESS: Hector Valenzuela, 94-170
3 Anania Circle No. 107, Mililani, Hawai'i.

4 CHAIRMAN LEZY: Ms. Dunne.

5 DIRECT EXAMINATION

6 BY MS. DUNNE:

7 Q Good afternoon, Mr. Valenzuela. Are you
8 familiar with the Sierra Club's Exhibit 43B which is a
9 composite exhibit consisting of your CV and your
10 written testimony in this case?

11 A Yes.

12 Q And is your written testimony an accurate
13 summary of your testimony in this case?

14 A Yes.

15 Q And looking at your resumé it says that you
16 have a BS in Agronomy, is that correct?

17 A Correct.

18 Q And an MS in Horticulture; and a Ph.D. in
19 Vegetable Crops.

20 A Yes.

21 MS. DUNNE: I'd like to offer Mr. Valenzuela
22 as an expert in agriculture, in particular, vegetable
23 crops.

24 CHAIRMAN LEZY: Parties?

25 MR. DUDLEY: No objection.

1 CHAIRMAN LEZY: He's admitted.

2 Q (Ms. Dunne): I'd like to talk briefly about
3 the loss of prime agricultural lands in Hawai'i. Can
4 you tell us how much prime agricultural land has been
5 lost in Hawai'i over the past 50 years?

6 A About 53 percent.

7 Q And how much prime agricultural land on
8 O'ahu has been reclassified from Agricultural to Urban
9 over the last 20 years?

10 A About 3200 acres.

11 Q Turning your attention to the Honouliuli
12 lands at issue in this case, do you have an opinion as
13 to the value of these lands for agriculture?

14 A From my perspective the agricultural lands
15 in that area are among the most productive and
16 valuable lands in the state because of their proximity
17 to market and ideal growing conditions, which include
18 about a 20 percent higher solar radiation, and
19 temperature than in similar areas on the North Shore;
20 lower humidity and, again, greater temperatures and
21 ideal soil conditions that are flat and level so
22 there's little erosion.

23 And these's environmental conditions result
24 in higher yields, in faster, earlier harvest so you
25 can get you crops earlier to market. And even faster

1 turnaround. That means when you harvest a crop you
2 can start with your next crop right away as compared
3 to wetter areas where it rains more and you may have
4 to wait several weeks before you again start planting.

5 So historically, for example, with the
6 plantation industry, yields of sugarcane in that area
7 were about 50 percent greater than the state average.
8 And we have conducted research trials in different
9 sites of the state. Yields in that area have been
10 among the highest of all the different sites.

11 Q Now, as a vegetable crop specialist can you
12 tell us why isolation from other areas of agricultural
13 production is important?

14 A Isolation is important at least from a
15 couple aspects. One of them is because isolated areas
16 often have the ideal environmental conditions to grow
17 specific crops. So as a farmer if you grow those
18 crops you have a competitive advantage.

19 And an example is the Kona Coffee on the Big
20 Island and also the Maui Sweet Onions in Kula. Both
21 of those sites have the ideal conditions to grow those
22 crops. And growers can command the highest prices in
23 the United States, if not the world, for selling those
24 crops. So that's one side.

25 And on another side because of the danger of

1 losing your entire crops. If you -- farmers often
2 lose entire crops because of weather or pests. So
3 it's important to have isolated areas because if you
4 lose your crop in one area of the state, you still
5 have production in other areas.

6 If you concentrate all of your industry in
7 one of two major areas, if those areas are lost
8 because of diseases or weather, you pretty much lost
9 all of your crop in the state. So it leaves the state
10 very vulnerable to food security and to problems of
11 access to local food supplies.

12 Q So in your opinion would it be a bad idea to
13 concentrate all of the agricultural production on
14 O'ahu's North Shore?

15 A It would, yes. To me it would not make
16 sense from a marketing standpoint and also from an
17 environmental standpoint. In terms of food security
18 and sustainability and adapting to climate change and
19 other potential environmental factors, it's good to
20 have as many diversified production sites in different
21 parts of the state to maintain self-sufficiency and
22 sustainability in the state.

23 Q Let's talk about climate change impacts for
24 a minute. Have you looked at the impacts of climate
25 change on agricultural systems?

1 A Yes, I have followed some of those studies.

2 Q How might climate change impact crop
3 productivity?

4 A Well, the international consensus seems to
5 be that we may expect a lot more volatility in the
6 weather patterns, increased floods and droughts. Also
7 that some areas may seem to -- will experience more
8 consistent droughts over long periods of time.

9 In Hawai'i we know that we've been in a
10 drought over the past at least ten, 12 years. And we
11 know that the aquifers have also been declining over
12 the years.

13 Studies that have been conducted in the
14 Tropics indicate that in the future we can expect
15 lower yields per acre.

16 If we are -- based on past studies -- we're
17 used to having so much productivity on an acre basis,
18 it is predicted that in the future those yields may
19 decline.

20 So my perspective is that from a perspective
21 of self-sufficiency that in the future we may need
22 more land to grow the same amount of crops that we
23 grow today in lower amounts of land.

24 So if today we need 10 acres to grow so much
25 crop, in the future we may need 20 acres to grow the

1 same amount of yields for that crop.

2 Q Now, I'd like to direct your attention to a
3 letter submitted by Russell Kokubun dated January 18
4 to the Land Use Commission. Have you reviewed that
5 letter?

6 A Yes. I've read it.

7 Q So you know in that letter he mentioned
8 innovative agricultural practices such as irrigation
9 technologies. Are you familiar with the latest
10 irrigation technologies?

11 A Yes.

12 Q What are those technologies?

13 A Well, they're technologies designed to try
14 to use water more effectively. And some of the latest
15 techniques include drip irrigation, which consists of
16 drip irrigation with pipelines lying by the row crops.
17 And also scheduling technique, so improving your
18 amount of schedule, the scheduling of your crop.

19 Q And in your opinion do those technologies
20 replace the need for good soil and proper climate
21 conditions?

22 A I believe that these technologies complement
23 ideal growing conditions but are not a substitute.
24 The challenge for our growers is to grow a crop
25 competitively against competitors on the mainland or

1 in other islands of the state.

2 So it is important to have ideal crop soil
3 conditions, environment, so you can continue to grow
4 competitively. And so drip irrigation is just another
5 piece of the puzzle that allows you to grow your crop
6 competitively.

7 Q And in the January 18th letter Mr. Kokubun
8 also mentioned hydroponics as an innovative
9 agricultural practice. Are you familiar with growing
10 vegetables hydroponically?

11 A Yes.

12 Q And in your opinion would this replace the
13 need for prime agricultural land on O'ahu?

14 A Not from my perspective. Hydroponics
15 represent a different sector of agriculture which
16 consist of capital-intensive, concentrated production
17 of high-value vegetable crops. It does not talk about
18 the production of large-scale staple crops which are
19 needed to feed the population.

20 Again, the ideal conditions in the Ho'opili
21 site are the environment, the ideal soil which you can
22 grow basils on an expansive of large acreages. And
23 hydroponics would not substitute for the need of that
24 large acreage.

25 Q What is the impact on O'ahu's agricultural

1 production if this land were where D.R. Horton seeks
2 to develop is taken out of agricultural production?

3 A My perspective is that in the state, in
4 O'ahu you need isolated sections of land so you can
5 grow crops competitively. And all of these isolated
6 places add to the overall self-sufficiency and
7 sustainability of the state.

8 Currently in the area of -- that area of
9 Central O'ahu the value of the crops represent about
10 30 percent of the entire production of vegetables in
11 Hawai'i.

12 Several of the crops that are grown in
13 Ho'opili represent from 40 to 70 percent of the entire
14 production in the state.

15 So the question is if we no longer produce
16 crops in Ho'opili, where else are we going to grow
17 them? Again, Ho'opili has an ideal combination of
18 environmental growing conditions.

19 So some of the crops that are grown in
20 Ho'opili, may be very difficult to grow them
21 competitively in other parts of the state.

22 We used to import a large amount of melons.
23 Pumpkins and zucchini that we grow, that we consume
24 but now they're grown in that specific area after
25 Aloun moved in. So it would be very difficult to grow

1 pumpkins or melons in other parts of the state
2 competitively.

3 MS. DUNNE: Thank you. No further
4 questions.

5 CHAIRMAN LEZY: Mr. Kudo.

6 MR. KUDO: No questions.

7 CHAIRMAN LEZY: Mr. Kitaoka?

8 MR. KITAOKA: I'm just curious.

9 CROSS-EXAMINATION

10 BY MR. KITAOKA:

11 Q Dr. Valenzuela, have you testified before in
12 opposition to other projects on O'ahu?

13 A Koa Ridge.

14 Q Koa Ridge. What about Mililani?

15 A No.

16 Q What about Kapolei?

17 A No.

18 Q Any other projects?

19 A No. This is my second occasion.

20 Q Koa Ridge and this one. But you were here
21 for 20 years, right? Is that right?

22 A Correct.

23 Q And in those 20 years you've had this
24 opinion all along, is that correct?

25 A Correct.

1 Q But there was substantial development in the
2 past 20 years, right?

3 A Yes.

4 Q And so all of the areas in 'Ewa including
5 Kapolei, 'Ewa Beach, 'Ewa by Gentry, Kahakolei, Royal
6 Kunia, I guess, all of those have the same kind of
7 concerns about ag lands, right?

8 A Correct.

9 Q But you've only testified in the past year
10 or so, is that correct?

11 A Yes.

12 MR. KITAOKA: No further questions.

13 CHAIRMAN LEZY: Mr. Yee?

14 MR. YEE: No questions.

15 CHAIRMAN LEZY: Dr. Dudley?

16 CROSS-EXAMINATION

17 BY DR. DUDLEY:

18 Q Dr. Valenzuela, are you familiar with our
19 Friends of Makakilo Exhibits P, Q and R?

20 A Yes.

21 Q And could you tell us about what P and Q
22 are?

23 A I believe they're -- it's a -- I'm just
24 gonna speak very generally.

25 MR. KUDO: I don't believe those exhibits

1 have been admitted yet.

2 CHAIRMAN LEZY: One moment, Dr. Valenzuela.
3 Have you offered them into evidence, Dr. Dudley?

4 MR. DUDLEY: We did offer them in evidence.
5 They've never been approved yet.

6 CHAIRMAN LEZY: All right. Let's have a
7 look.

8 MR. KUDO: I don't believe any foundation
9 has been laid as to the genuineness or where these
10 documents come from. And therefore we have no basis
11 of knowing whether to object.

12 MR. SEITZ: My understanding is it's a
13 little premature to object because he's just asking
14 him if he's familiar with them and he's laying a
15 foundation.

16 MR. KUDO: But he's referencing these
17 documents as part of his testimony.

18 CHAIRMAN LEZY: It seems to me that
19 Dr. Dudley was making reference but that it could be
20 construed as laying foundation. So, Dr. Dudley --
21 well, let me ask first. I assume you're questioning
22 foundation for all three.

23 MR. KUDO: Yes.

24 CHAIRMAN LEZY: Dr. Dudley, you understand
25 the Petitioner -- well, let me ask first. Do any of

1 the other parties have objections at this point on
2 anything other than foundational basis?

3 MR. KITAOKA: Just foundation.

4 MR. YEE: No objection.

5 CHAIRMAN LEZY: Okay. Dr. Dudley, I suggest
6 that as you're asking Mr. Valenzuela questions about
7 these documents that you do so with the intent of
8 showing there's a foundation for where they came from
9 and as to their authenticity. Do you understand what
10 I mean by that?

11 MR. DUDLEY: Yes.

12 CHAIRMAN LEZY: Okay.

13 Q (Mr. Dudley): Dr. Valenzuela, then, can you
14 tell me --

15 MS. PAUL: How are you familiar with these?

16 MR. DUDLEY: How are you familiar with
17 these?

18 A First --

19 CHAIRMAN LEZY: Why don't we take them one
20 at a time, Dr. Dudley.

21 Q (Mr. Dudley): Let's take a look at Exhibit
22 P, Page 1. This said the Farmland Conversion Impact
23 Rating. This is a form from the NRCS which would be
24 the Natural Resources Conservation Service. It's form
25 #106. It seems to be completed according to the

1 second line, question 5 by the FTA and the County of
2 Honolulu, Hawai'i.

3 And there's a signed off on in the fourth
4 line by Tony Rolfus and by some other party evidently
5 by the City or Parsons Brinkerhoff at the bottom dated
6 10-16-2008.

7 Can you tell me how you're familiar with
8 this?

9 A First I have to say I'm not an expert on
10 government permitting and paperwork to allow these
11 projects to go through. But in general terms this is
12 called the Farmland Conversion Impact Ruling.

13 And it is part of the permitting process to
14 evaluate development projects on, a group on
15 agricultural corridors that receive federal funding.

16 And they require to develop an index of the
17 value of agriculture in that site. And based on that
18 index if it goes above a certain level, then the
19 development has to look for alternative ways to use
20 that agricultural land so as not to -- so as not to
21 disrupt agricultural production. If the index is
22 below the required level it's okaying to go ahead with
23 the development.

24 MR. KUDO: Mr. Chairman, I'm not sure,
25 looking at this document, whether it pertains to the

1 Ho'opili Project or it was done for the rail project
2 on other lands that are affected by the rail. So I
3 would have to object to the fact it's not clear what
4 the document pertains to.

5 Q (Mr. Dudley): Okay. And did you answer
6 this survey for the Ho'opili --

7 CHAIRMAN LEZY: One moment, Dr. Dudley. Can
8 you respond to that concern raised by Mr. Kudo,
9 Dr. Dudley?

10 MR. DUDLEY: Yes. If we go to our Exhibit
11 No. Q this is a letter from Lawrence Yamamoto who is
12 the director of the Pacific Islands area NRCS which is
13 responsible for the form.

14 In that letter to Wayne Yoshioka, who is the
15 head of the Department of Transportation Services for
16 the city and county of Honolulu, he thanks him, Wayne
17 Yoshioka, and a Ms. Amy Zariff, a project manager of
18 Parsons Brinkerhoff, for helping to provide -- for
19 completing the conversion rating. That's in the first
20 paragraph of our Exhibit No. Q.

21 CHAIRMAN LEZY: Bear with me for a moment.

22 MR. DUDLEY: And Dr. Valenzuela also was a
23 person who evaluated the property using this rating.

24 MR. KUDO: I still can't tell from looking
25 at Q and P whether we're dealing with Ho'opili lands

1 on some other lands.

2 CHAIRMAN LEZY: Right. It seems to be
3 addressed to the transit corridor, Dr. Dudley. I'll
4 allow it, given that the Petition Area falls within
5 the transit corridor. You can certainly cross on
6 specific deficiencies that you might find.

7 So let's deal, then, with the -- let's get
8 to the admission of these things out of way. I note,
9 Mr. Kudo, Exhibit P appears to be, actually be part of
10 the City and County's transit website at least based
11 on what's been offered up by Dr. Dudley. Is that your
12 representation, Dr. Dudley?

13 DR. DUDLEY: That...?

14 CHAIRMAN LEZY: That the Farm Impact
15 Conversion Rating that you're offering as Exhibit P is
16 actually found on the County's transit website?

17 MR. DUDLEY: Yes.

18 CHAIRMAN LEZY: I'll take judicial notice,
19 then, the fact that it is a valid document. So it
20 will be admitted. P is admitted. Q. Dr. Dudley,
21 where did Exhibit Q come from?

22 MR. DUDLEY: Exhibit Q is the letter from --

23 CHAIRMAN LEZY: I understand what it is.
24 But where did it come from?

25 MR. DUDLEY: Basically it came from the

1 NRCS, sir. I believe it was he who sent it, it was
2 Lawrence Yamamoto who sent me a copy of it himself.

3 CHAIRMAN LEZY: Okay. I'll admit it. And
4 R.

5 MR. DUDLEY: R is the representation of the
6 rail route which is also from the City and County's
7 website.

8 CHAIRMAN LEZY: Okay. I will also take
9 notice of that. So P, Q and R are admitted. Please
10 proceed.

11 Q (Mr. Dudley): Can you tell us how you are
12 familiar with this? Have you seen it before
13 testifying today?

14 A Yes. Basically you yourself sent me this
15 document and asked me if I independently could look at
16 it and provide my own personal review, provide the
17 index values based on my own experience with
18 agriculture in Hawai'i. And that's how I became
19 familiar with it.

20 Q Okay. Did you have any other connection
21 with me or this Project before I sent it to you asking
22 you as a disinterested third-party?

23 A Not really. My only experience in Ho'opili
24 is working with the farmers in that area.

25 Q Okay. Good. All right. Then tell us about

1 the impact rating itself. This is done for the
2 purpose of what?

3 A So the impact of the index assessment is to
4 assess the impact on agricultural production in that
5 area that is going to be impacted by the agricultural
6 corridor.

7 So you make an assessment how is agriculture
8 going to be impacted, the services that impact the
9 Project, the services that support agriculture in the
10 area. And if the index value goes over a specific
11 threshold it means that the Project should look for
12 alternative sources for using of that land.

13 Q So as not to impact the agriculture --

14 A -- so as not to impact on the agriculture.

15 Q So this is a federal requirement when they
16 use federal money to take a look at the land and
17 decide if it's worth it to impact that land.

18 A And the goal is to protect valuable
19 agricultural lands in projects that are receiving
20 federal funding.

21 Q Good. Could you tell us some of the
22 questions that were in the impact rating?

23 A Just in very general terms it asks about the
24 impact of agricultural lands, about non-agricultural
25 uses close to that farmland and also about support

1 services such as chemical retailers that assist with
2 the growers, companies that sell irrigation services,
3 retailers and so on.

4 Q Okay. So all the various impacts on that
5 kind --

6 A The whole infrastructure that supports the
7 agricultural industry in that zone.

8 Q And can you tell me what was the score that
9 you gave?

10 A I believe it was 206.

11 Q Okay. I think I have it down as 211.

12 A That's right. That's right. Sorry.

13 Q And there were other people who scored this
14 too who were disinterested parties, is that correct?

15 A Yes.

16 Q And what was the average score of the five
17 people who scored it?

18 A I believe it was 260.

19 Q I think that was the max score, the highest
20 it could go. The average score for the others
21 including yourself I think was 226. Would that be
22 correct?

23 A I think so, but I, I don't have the data
24 with me right now it.

25 MR. KUDO: Leading the witness here.

1 MR. DUDLEY: I guess I am leading the
2 witness. We both have the same information. It's
3 just that he's not finding it right now, Sir.

4 CHAIRMAN LEZY: Dr. Dudley, please ask the
5 witness questions and he'll respond.

6 Q (Dr. Dudley): Okay. Basically, then, so
7 the score of the people who scored it was over 200
8 points.

9 A Yeah, over 200 points.

10 Q Okay. And the threshold was 160. So
11 actually it was 40 points above the threshold.

12 A So the average score that the so-called
13 independent reviewers came up with was about 60 points
14 above what the city council -- what the city study
15 came up with.

16 Q Okay. And the city came in with a 120
17 points, is that correct?

18 A Correct.

19 Q So they were actually 40 points below the
20 threshold, is that correct?

21 A Correct.

22 Q Okay. So because the city's score was so
23 low then they were -- they went ahead and allowed --

24 MR. KITAOKA: I object. I'm new to the
25 proceedings but he's giving the witness the answers

1 and asking for confirmation. If that's not leading I
2 don't know what it is.

3 MR. DUDLEY: Sir, I'm just repeating the
4 stuff that's in our exhibit.

5 CHAIRMAN LEZY: Dr. Dudley, I understand
6 that you're a lay person. And please listen to me for
7 a moment.

8 MR. DUDLEY: Yes.

9 CHAIRMAN LEZY: I understand that you're a
10 lay person. I try to give you some leeway.

11 MR. DUDLEY: Thank you.

12 CHAIRMAN LEZY: But you have to at least
13 couch these as questions.

14 MR. DUDLEY: Okay.

15 CHAIRMAN LEZY: So please don't suggest the
16 answer in your question.

17 MR. DUDLEY: Okay. I'll try not to from now
18 on. I do apologize. I thank you for your indulgence.

19 Q So if the city had a low score of 120, then
20 this allowed any impact -- what does it allow?

21 A So in essence the city study came up with a
22 value that was a lot lower than the threshold. So
23 that means that the Project did not have to look for
24 alternative uses of the ag land; that they could go
25 ahead and develop the land.

1 MR. DUDLEY: Thank you very much. That's
2 the end of my questions.

3 CHAIRMAN LEZY: That was an excellent last
4 question.

5 (Laughter)

6 MR. DUDLEY: Thank you.

7 CHAIRMAN LEZY: Mr. Seitz?

8 MR. SEITZ: No questions.

9 CHAIRMAN LEZY: Redirect?

10 MS. DUNNE: No.

11 CHAIRMAN LEZY: Commissioners, questions?
12 Thank you, Mr. Valenzuela.

13 MS. DUNNE: Are you ready for our next
14 witness, sir?

15 CHAIRMAN LEZY: Yes, please.

16 MS. DUNNE: Glenn Martinez.

17 GLENN MARTINEZ

18 being first duly sworn to tell the truth, was examined
19 and testified as follows:

20 THE WITNESS: I do.

21 CHAIRMAN LEZY: Please state your name and
22 address.

23 THE WITNESS: Glenn Martinez, 41-1140
24 Waikupanaha in Waimanalo, Hawai'i.

25 CHAIRMAN LEZY: Ms. Dunne.

1 xx

2 xx

3 DIRECT EXAMINATION

4 BY MS. DUNNE:

5 Q Good afternoon. Mr. Martinez, are you a
6 member of the farmer -- and organization of farmers?

7 A Yes. The Hawai'i Farmers Union United.

8 Q What's your position with that organization?

9 A I'm the president second term.

10 Q And are you testifying here today on behalf
11 of that organization?

12 A The organization's favor for it. We are for
13 agriculture obviously. We're the second largest
14 agricultural organization, umbrella organization.
15 There are many organizations in Hawai'i, whether
16 you're a cherry picker or you're macadamia or you're
17 coffee.

18 Then there's the Farm Bureau. There's a
19 Hawai'i Farmers Union United which are two of the
20 largest umbrella encompassing all of them. Generally
21 we are pro-farming obviously. Want to keep anything
22 that's currently cultivated in cultivation. It's just
23 the general policy.

24 Q What's the mission of Hawai'i Farmers Union?

25 CHAIRMAN LEZY: I'm sorry. Ms. Dunne, I

1 didn't get an answer to the question you asked. Are
2 you testifying on behalf of your organization?

3 THE WITNESS: Yes.

4 CHAIRMAN LEZY: Okay. You are.

5 THE WITNESS: Yes.

6 Q (Ms. Dunne) Has there been -- has there been
7 an official vote among the board of the Farmers Union
8 either -- I should say to have you come testify here
9 today?

10 A It's discussed at the board meeting. There
11 are general consensus for it, and required board
12 action. I'd normally and regularly testify at the
13 State Legislature. I'm not allowed to make any public
14 statement or any policy statement regarding any issue
15 without it being vetted through the board. And this
16 is generally accepted, you know, and discussed at our
17 board.

18 Q About how many members are there in the
19 Hawai'i Farmers Union?

20 A We run between 230 to 362. You have about
21 230 farms and you have more people. You have some
22 farms have two people, some have four. So you have a
23 range as far as the membership goes.

24 Q Has your membership been increasing over the
25 past few years?

1 A Been increasing.

2 Q So I think you referred to this before. Is
3 there a general consensus among members of the Farmers
4 Union with regard to this Project?

5 A Yes.

6 Q What is the position of the members of the
7 Farmers Union?

8 A The overall policy from the National Farmers
9 Union all the way down to Hawai'i, their written
10 mission statement is to support family farming. We're
11 anti-agribusiness. We don't tend to go for the large
12 mono-cropping, you know, Monsanto, GMO, not so much
13 the GMO thing as far as the large agribusiness part
14 of, you might say, farming. And we're more orientated
15 toward the small farmer.

16 So we see diversified farming as opposed to
17 mono-cropping. So sugarcane would not join Hawai'i
18 Farmers Union. They would join the Farm Bureau.
19 Monsanto would join the Farm Bureau, but they would
20 not even be allowed membership in our organization
21 just because of the nature of the business. They're
22 an agribusiness and we're for family farming.

23 Q So you're president of the Hawai'i Farmers
24 Union. Are you also a member of the Farm Bureau?

25 A Yeah. Been a member on and off for 15 years

1 in the Farm Bureau. And many of our members are.

2 About 30 percent of our members in Hawai'i Farmers
3 Union also belong to Farm Bureau.

4 It's an economic reality that Farm Bureau on
5 this island, particularly, runs about five of the most
6 largest farmers markets. And you need to be a Farm
7 Bureau member to have your -- to get the marketplace.

8 The other thing, there's issues of crop
9 insurance, et cetera. So there's some business
10 reasons to belong to the Farm Bureau, just like
11 joining Better Business Bureau or Chamber of Commerce.
12 May have nothing to do with farming.

13 Q So going back to this particular Project.
14 To your knowledge has the Farm Bureau taken an
15 official position either for or against the proposed
16 Ho'opili Development?

17 A It's generally recognized and by Dean
18 Okimoto, that the Farm Bureau supports the
19 development. And it's generally recognized the
20 Farmers Union opposes it.

21 Q But you're not aware of an official vote by
22 the Farm Bureau.

23 A No. This is the largest complaint we have
24 within for membership for the Farm Bureau. The way
25 they do business is they have one delegate for each 20

1 members. Those delegates go to convention and they
2 vote and set the policies. So members do not have a
3 direct vote.

4 And Farmers Union is the exact opposite.
5 We're not allowed to make any public statement, take a
6 policy or any action unless it's been vetted to the
7 membership. So we have to send out an opinion poll.

8 Q You mentioned Dean Okamoto. Have you heard
9 him talk about this Project?

10 A I see his advertisements and I deal with him
11 regularly. We go to Legislature, both of us, sit side
12 by side many times. And we agree on many things, you
13 know. When it's family farming we tend to get along.
14 When it's agribusiness or development we tend to butt
15 heads.

16 Q And do you have any knowledge as to whether
17 he's getting paid to consult on this Project?

18 A It's been generally recognized and it's in
19 advertisements and up on You-Tube. And he advertises
20 that he is a paid consultant with D.R. Horton, which
21 as president of the Farm Bureau raises some eyebrows.

22 If I were to take a paid position from any
23 developers or anybody that opposed our mission
24 statement, I would probably be dismissed.

25 Q I want to shift to focusing on a little bit

1 more of what you do. Can you tell us what is your
2 business?

3 A I'm a owner of Olomana Gardens. It's a
4 certified organic farm, about five acres. Previous
5 life I was an electrician for five years for Ameron
6 HC&D. Was an industrial electrician for 'em. Helped
7 build the Kapa'a Quarry, manned the sand plant there.

8 So my life, starting in 1974, for five years
9 was much construction, very much development. And
10 very proud of it. I mean I participated in pouring
11 Pioneer Plaza and a lot of major buildings here.

12 I left them in '79 and opened up Glenn's
13 Electrical. And I did that 'til the '90s. So we were
14 a construction shop with up to 17 electricians. So
15 very much into development.

16 And then as the things, the development
17 waned, we went into home maintenance, maintaining what
18 you previously built kind of a thing. So I was in
19 construction until '96. I bought Olomana Gardens, and
20 went a separate path to farming.

21 Q So since that time you've been farming, and
22 been involved in organic farming?

23 A Yes.

24 Q Do you specialize? Is there any area that
25 you specialize in at Olomana Gardens?

1 A In aquaponics. I'm considered one of the
2 leaders in aquaponic here in Hawai'i and for America.
3 I travel extensively. I lecture for University of
4 Hawai'i. University of Hawai'i sent me to the
5 Philippines, they've sent me to American Samoa.

6 I teach at colleges. I teach aquaponics,
7 doing it. II teach curriculum instruction, write
8 articles and books on it.

9 I currently, right now University of Hawai'i
10 has an OTE program. That's online training education.
11 It's the first division five college to offer online
12 training in aquaculture, aquaponics. And I'm the lead
13 instructor in aquaponics. And it's a certificate
14 course for the Outreach College. So we do a lot
15 online training.

16 And I go to the Philippines, Korea, China,
17 American Samoa, Western Samoa, Tonga, Fiji and here.

18 Q So we've heard some testimony in this case
19 that hydroponics and aquaponics could replace the need
20 for this prime agricultural land.

21 Do you have an opinion as to whether that's
22 possible?

23 A No. Yes, I have an opinion. I have a
24 strong opinion. One, love aquaponics. Through
25 University of Hawaii and the Outreach College we teach

1 a lot of weekend courses to homeowners, et cetera.

2 It's a fantastic teaching tool.

3 When I go overseas most of the time it's for
4 curriculum development, working with the high school
5 teachers and college teachers teaching 'em how to take
6 aquaponics -- it happens to be the darling of the
7 educational world first, still.

8 Science, technology, engineering, and math
9 because you've got it all. You've got the weather,
10 you've got the flow, you've got physics, you have the
11 chemistry, you got biology.

12 So if you're looking for an all-in-one
13 project, aquaponics is a great thing for an
14 instructor, you know, for an educational system to do.

15 Here in Hawai'i I've done over 480 backyard
16 systems. I'm a board of director of Hawai'i
17 Aquaculture and Aquaponics which is the largest
18 aquaponics and aquaculture and oldest in Hawai'i.

19 Q Let me ask you. You're talking about the
20 backyard aquaponics. And obviously you have extensive
21 experience in this area. Are you familiar with
22 aquaponic on a large scale?

23 A Yes. I worked with everybody from Fred Lau
24 who's one of the most successful here in Mililani,
25 with his project there, consulted with him.

1 And I also worked with some people called
2 Maui Aquaponics. Unfortunately, I was there three
3 days later -- I mean three days ago. And it's one of
4 the larger operations in the state and it's folding.
5 It's going -- Hawaiian Electric is turning off the
6 electricity today or tomorrow, and they're shutting
7 down. So we've had some bumpy rides in the aquaponics
8 when it comes to commercial.

9 But that's the story in the national, in the
10 nation. We only know of five aquaponic systems that
11 you could call commercial, i.e. where you employ
12 people and you make a net profit that are successful.
13 As much as I love aquaponics, right now it seems
14 better as an educational tool than backyard
15 aquaponics.

16 So I don't go around talking people into
17 trying to go into aquaponics as a way to save their
18 home or to make a retirement income. It's just not
19 quite there yet.

20 Q So in your opinion it's not feasible to have
21 a large-scale aquaponics, a successful large-scale
22 aquaponics operation in Hawai'i.

23 A The problem is the cost of the land. If
24 you're gonna do aquaponics, you're going to be
25 commercial, it absolutely must be on a flat surface.

1 The energy will kill you.

2 The people I referred to, Maui Aquaponics,
3 built on a piece of land that from the top of it to
4 the bottom of it was 20-foot. At the height their
5 electric bill was \$10,000 a month. They finally got
6 it down to \$5,000 a month but it broke their back.

7 So the point -- like we look at Ho'opili
8 where they've drawn in where they're going to do the
9 farmland, and it's in ravines. If you gave me a flat
10 level place like Fred Lau has out in Mililani, ideal
11 situation you don't have to pump. He puts his fish
12 tanks in the ground. He only has to lift the water
13 about 3 feet. It flows through, grows his plants and
14 returns to it. And he's gone solar.

15 So if you're in a place where you have level
16 land and the construction costs are low. But where
17 Dr. Hector Valenzuela mentioned about capital
18 intensive, you're starting off at \$100,000 to be able
19 to support two people.

20 So at a hundred thousand dollar entry level
21 we have a problem on the Big Island that many people
22 got second mortgages on their home, put little
23 commercial systems in their back, and they're not
24 making it. We have four homes in foreclosure.

25 So it has not been -- I mean I'm an advocate

1 of aquaponics. I love the stuff. But I would not let
2 any member of my family go take a second mortgage to
3 put it in through their backyard.

4 One of the worst problems we have with it is
5 the crops that we grow. We're growing leafy green
6 lettuce. It's a low nutritional food. It's fun to
7 eat with salad dressing and all of that, but it's a
8 staple. It's not potatoes, it's not the onions, it's
9 not -- it's mostly leafy green things that -- it's
10 like hydroponics. The roots hang in the water and the
11 plants are growing up.

12 And so the move now and what we're trying to
13 take it to is to grow nutritional food.

14 But you could not compare aquaponics if
15 you're growing taro or a field of potatoes or a field
16 of corn, you know, real solid nutrition, high calorie
17 food. We tend to grow what grows real fast. We like
18 to grow it and harvest it before the bugs find it.

19 Q So it's your testimony that aquaponics and
20 hydroponics is not a substitute for high quality
21 farming.

22 A No. One of the biggest problems we have
23 with hydroponics is it's not organic. There's
24 virtually no such thing as an organic hydroponic. I'm
25 one of 11 certified organic farmers on this island.

1 There's less of 100 acres of it being farmed. The
2 hydroponic people we have on the islands down on the
3 Big Island and that, none of them are organic.

4 Well, when you have soil you can go organic.
5 You know, the Aloun Farms and some of the people out
6 there are not organic. Not everybody is out there.
7 But it could be. So that's a big issue.

8 On the state, when we worked with the Ag
9 Department, the biggest problem we have is invasive
10 species. And what Hector mentioned his is about the
11 crops that they grow.

12 So the most valuable thing for anybody in
13 aquaponics, hydroponics and dirt in Hawai'i is to grow
14 the most dangerous plants which are the leafy greens.
15 And that's what the state is encouraging the farmers
16 to do. Because we import this stuff and it comes in
17 and it's the most contaminated.

18 It's the highest risk health-wise. The
19 spinach things you saw, the melons you saw, the
20 avocado, all of these issues.

21 So what we want to do is grow the most
22 dangerous food close to the market and not be shipping
23 it the long term. And so that is the official policy
24 of the Agricultural Department.

25 Of course, I was shocked, you know, listen

1 to Mr. Russell Kokubun's testimony. We don't need the
2 land when all the efforts of the department are to
3 encourage growing the very crops that those people are
4 growing 70, 80 percent of the state's. So I'm at a
5 loss at that.

6 MS. DUNNE: Thank you. I have no further
7 questions.

8 CHAIRMAN LEZY: Mr. Kudo?

9 MR. KUDO: Just a few questions.

10 CROSS-EXAMINATION

11 BY MR. KUDO:

12 Q Mr. Martinez, on our property are at least
13 three major tenants: Alex Sou, Aloun Farms; Larry
14 Jefts and Syngenta. Are any of these farmers members
15 of your organization?

16 A No, they're not.

17 Q Would you consider these farmers to be
18 Agribusiness?

19 A No. They're family owned. You look at
20 Aloun I see two brothers. And Hawai'i Farmers Union
21 tends to attract the smaller farmers. 85 percent of
22 the farmers in Hawai'i are under 2 acres. So about a
23 hundred percent of my membership are people with less
24 than 5 acres. We have very few, maybe 2 or 3 percent,
25 that have more than 5 acres. But that goes to

1 profile.

2 You've got about 20 farms that dominate
3 here. They do not tend to join, you know, the Hawai'i
4 Farmers Union. So we don't have large companies.

5 Q So do you favor companies like Syngenta and
6 Monsanto growing corn as part of the agricultural
7 activities in the state?

8 A Yeah. I see them like a person growing --
9 they're not growing food in my opinion. Okay? But
10 Hawai'i Farmers Union does not restrict its membership
11 to just food farmers and certainly not just organic.

12 They could be cotton farmers. My family
13 comes from the Mississippi area. I mean some people
14 don't -- they only look at peanut farmers. They don't
15 think you're really doin' food or macadamias. Is it
16 really food? So we're against them growing the corn.

17 From an organic side I don't like GMO if
18 you're going to contaminate. But it's not a major
19 problem because nobody's growing organic corn.

20 So we don't have that cross-contamination
21 issue as many -- when I go to the National Farmers
22 Union conventions and that major issue, if you were an
23 organic corn farmer and it was blowing over.

24 But as far as being an employer growing -- I
25 wouldn't care if it was cotton. It's a textile. It's

1 another crop. But it's farming. You're in the
2 ground, you're working. They got the same problems
3 with bugs that everybody else does.

4 Q If we were looking at -- you made a
5 statement that you support backyard farming.

6 A I love it, love it.

7 Q If Ho'opili were to encourage homeowners by
8 providing an area for growing backyard plots, and
9 providing the irrigation system to those backyard
10 plots, would you be in support of that type of
11 activity?

12 A I would love it. The problem comes in that
13 at Olomana Gardens we make a thing called POG garden,
14 you know, a lot of us that's passion orange juice.
15 But POG garden is -- and I went and did a patent
16 pending on it -- is palette organic garden. And it
17 grew out of the 'Ewa Beach plains.

18 Here was the problem: The developers in
19 their restrictions on the people's land preclude them
20 from digging in their backyards. They cannot go out
21 and dig up their backyard due to the dust. I mean
22 it's a society that doesn't allow clothes lines for
23 gosh sake. Right? So they have covenants on them.

24 So out of this we made a business. In that
25 business we take plastic pallets, put a quarter tube

1 of high side on it, vinyl or wood, whatever and fill
2 it full of legal composting soil and we sell them.
3 The things sell for \$2 or \$300 a piece. We put them
4 in schools because they can't dig in the ground.
5 Okay. So we have them in most of the school systems.
6 So it's a way for somebody to farm without digging
7 into the ground. With schools you don't want to hit
8 conduits and on those kind of issues.

9 But out in the 'Ewa Plains the developers
10 put this restrictions or the homeowners association
11 and they can't dig in the ground.

12 So they come buy my pallets. So for me it's
13 a good business, but to tell the truth not a great
14 business. Maybe one out of hundred homes. I fly over
15 that regularly just because I'm interisland. There's
16 no backyard gardening going on. It's a few
17 individuals that do it. And a few schools do the
18 tokenism of it.

19 But if it was a reality you would fly over
20 there and it'd be like flying into Dallas, you see a
21 swimming pool in every backyard. You do not see the
22 backyard. Philosophically is it great? I love it.

23 Q So if the Ho'opili Project, for instance,
24 didn't have any restrictions about backyard farms and
25 provided an area in the homes for backyard farming and

1 also irrigation lines --

2 A Right. Yeah. That'd be great. That would
3 be wonderful. And aquaponics has been the darling
4 because there are no restrictions on it. You can go
5 do aquaponics in your backyard, on your roof, on your
6 condo, lana'i.

7 It's kind of -- it's slid in between all the
8 goal posts or past any barriers because we're not
9 digging, we don't have dust. You don't have fumes.
10 And we -- I tend to be organic so there's no chemical.
11 So you go put aquaponics in any piece of land that's
12 level.

13 The one problem we have, though, is when you
14 start talking irrigation you're implying to me you're
15 going in the soil. Being in Waimanalo we got
16 firsthand look at what a developer does. I've been up
17 to your place out there.

18 They go in and they dig up the entire area
19 and they take out the clay. Then they put down the
20 coral. Okay, 2 feet deep, 3 feet deep so they can
21 pour the concrete slab.

22 I can personally sympathize. I lived on
23 Iolani Street just by Kalaheo High School. And many
24 people in this community are quite familiar that they
25 did not do that, which is a prudent thing to keep the

1 concrete.

2 And my backyard slid into the neighbor's
3 yard. Luckily, a year after I sold it. But it was a
4 common problem all the way Iolani Street the homes
5 cracked.

6 When I bought my home they gave me, like,
7 40 percent off because the concrete slab was broken.
8 It broke apart all the plumbing inside and we had to
9 replumb the house around the outside.

10 So it's a very prudent thing. Take out the
11 clay. It swells when it rains and the things all
12 break up. But on the other hand, I guess the good
13 news is it drove people to aquaponics and raise their
14 gardening.

15 'Cause what you guys are doin' you've
16 trashed the place. There's no way you're going to do
17 backyard gardening in that coral. It precludes any
18 attempt.

19 So you'd have to do raised beds. You'd have
20 to build boxes up. Which is -- it's legitimate. The
21 city and county does raised bed gardening. But you're
22 not going to farm in the ground or any normal
23 conception of it.

24 Q You made an assumption that we're going to
25 take the dirt off, the medium, and put coral and put

1 this clay on top.

2 A Yes.

3 Q Is that what your assumption is?

4 A Yeah.

5 Q If that assumption is incorrect would you
6 change your position?

7 A Oh, yeah, but since I've flown over the
8 area and seen the vast acreages, and I've watched the
9 developments go down like that, since I've gone out
10 there and seen it with my own eyes and we have
11 pictures.

12 Dr. Dudley's got some great color pictures
13 of vast acreage being dug out, put the coral back on.
14 I'm under the belief --

15 Q You're talking about other projects.

16 A No. Your Project.

17 Q Well, you can't do any construction.

18 A Excuse me. The projects in the area.

19 Q Other projects.

20 A It seems to be a very prudent way to build
21 if you're gonna do a concrete slab. I mean got no
22 arguments, since I made my living for some years
23 working for a rock quarry.

24 MR. KUDO: Thank you, Mr. Martin. No
25 further questions.

1 CHAIRMAN LEZY: Mr. Kitaoka?

2 MR. KITAOKA: No questions.

3 CHAIRMAN LEZY: Mr. Yee?

4 MR. YEE: No questions.

5 CHAIRMAN LEZY: Dr. Dudley?

6 MR. DUDLEY: Yes. I'd like a little
7 preparation. I've got to get some things to look at.

8 THE WITNESS: He told me to keep my answers
9 short. Am I doing okay? (laughter)

10 CHAIRMAN LEZY: Good try.

11 Q (Mr. Dudley): Mr. Martinez, you've told us
12 now about backyard gardening, what you think of that.
13 I'd like you to talk now about the commercial farms
14 and where the commercial farms are going to go and
15 what, as the head of the Farmers Union, you think can
16 be done as far as the farmer in the commercial farm
17 areas here.

18 A Well, I went out, took a site tour. I took
19 the site tour as a courtesy when the Land Commission
20 went up, we drove up, we overlooked it from the hill.
21 After that official tour and we thanked them, we took
22 a car ride down and we went and looked at the ravines.
23 And from my experience in working with a lot
24 of people at DLNR and Department of Ag, when a farmer
25 goes out onto his land the first criteria is how much

1 of the land can be farmed. And the standard role of
2 the Department of Agriculture and with the Tax
3 Department we pay no taxes on the ravines. That area
4 is crossed out.

5 Anything that's over so many degrees slope
6 or a tractor couldn't go on they take it out. So if I
7 were to take a look at this and see where they drove,
8 where they're going to do their commercial farms is
9 exactly the areas we would never pay tax on and it
10 would be declared un-farmable.

11 So it to me is like somebody painting a
12 different picture, black is white and white is black.
13 It's an absurdity to say you're going to do ravines
14 that are 50 to 70 foot deep.

15 I've been asked to, if I would go out as
16 commercial like the aquaponics guy and put something
17 stepping down. Well, conceivable you could to it.
18 Water flows downhill. The problem is we have the most
19 expensive electricity in the world. From an
20 agriculture standpoint they'll pump it back up. The
21 constructions costs would kill you.

22 But if I was representing a farmer and he
23 was going to rent the land, I would block out
24 everything they've got green and say no way we're
25 paying taxes on it or rent on it. And I wouldn't have

1 an argument with the Department of Ag.

2 I've leased land from them where you have a
3 stream coming through, you have ravine. They do that.
4 You got an auwai, they black it out. When you get
5 your five acres, you know, you only have to pay tax
6 and rent on the three acres.

7 But what I see here, going by their color
8 code are ravines I can't even walk across. I mean
9 you'd have to repel down or jump or put protective
10 clothing on. So I don't see that going down. It
11 looks green. It looks nice. But it's like you took
12 the worst piece of land you can't do anything else
13 with and said, "You know what? We'll give that to the
14 farm."

15 If somebody is inventive and go do a
16 landfill and island is certainly looking for landfill,
17 I don't know why somebody doesn't propose to fill the
18 bloody things, put a layer of topsoil and that'd be a
19 legitimate farm area.

20 I mean why not? I mean we're begging for
21 land. I'm not talking garbage or trash. I'm just
22 talking about the dirt where they build highways and
23 everything else. But why, if there's a ravine in
24 there, why not make it grade A property? If that land
25 was flat and level and had put a top soil it'd be a

1 great farm area. But as I see it I don't know what
2 you do with it.

3 MR. DUDLEY: Thank you very much. No
4 questions.

5 CHAIRMAN LEZY: Mr. Seitz?

6 MR. SEITZ: No.

7 CHAIRMAN LEZY: Redirect?

8 MS. DUNNE: No.

9 CHAIRMAN LEZY: Commissioners, questions?
10 Commissioner Judge.

11 COMMISSIONER JUDGE: Yes. Thank you,
12 Mr. Martinez. Can you just clarify for me. You keep
13 saying aquaponic, hydroponic. Are they the same thing
14 or are they different?

15 THE WITNESS: No. Both use water.
16 Hydroponics is "water working" that's in Greek.
17 Aquaponics is "water working". The difference is in
18 hydroponics it's nonorganic. And by legal definition
19 it basically is petrochemicals NPK. You take it, you
20 mix it up in water.

21 And they have two solutions. And they named
22 them, internationally everybody agreed, on Mondays you
23 put in A. Tuesdays you put in B. You rotate back and
24 forth.

25 The difference is in aquaponics every six to

1 eight weeks you have to throw the whole batch out and
2 you have to start all over again. On the other
3 hand -- and there's nothing alive.

4 In between batches they sterilize everything
5 with bleach water or some similar compound so they
6 grow in a dead, sterile environment, static
7 environment. And they will give the plant whatever
8 the plant needs.

9 Of course the more they give it the more it
10 cost. But there's no way for them to be organic.
11 Okay? But they can grow in some tough conditions.

12 Take aquaponics, exactly the opposite. All
13 the aquaponics are organic. Okay? What we do is we
14 take fish, put 'em in the tank, you know, a 1200
15 gallon tank, throw thousand fish in it, you feed them,
16 they poop in the water and it makes ammonia.

17 The water gets pumped through a cinder bed,
18 Big Island cinder bed, clay balls, marbles, whatever,
19 and a magical thing happens with Mother Nature takes
20 the ammonia, turns it to nitrite then into nitrate,
21 that's nitrogen that the plants can eat. And then we
22 get these beautiful leaf, particularly leafy green
23 things and they go up.

24 But we specialize in is what the Australians
25 do is called berma aquaponics, which is where you

1 raise worms in those gravel beds and they convert the
2 micronutrients and we put worm castings in so we get
3 the trace elements.

4 So what you have is one totally inorganic,
5 inorganic not by or like organic, are you certified
6 organic but, in other words, grown with dead things.
7 Petrochemical and aquaponics is a living system. You
8 never use bleach. Obviously you'd kill your bacteria.
9 So -- and the nice thing about it is you get your
10 protein. You get your fish. So you get your fish and
11 we never throw the water away.

12 So we're in my valley in Waimanalo,
13 aquaculture is illegal almost, DAGS agriculture
14 department and DLNR outlaw the aquaculture business.

15 And that was because we took 20,000 gallons
16 a day, ran it through the pond or the stream and it
17 went out the other stream into the river and the creek
18 and headed for the ocean. And they had awesome algae
19 blooms and that because they were throwing away the
20 nutritious water.

21 An American named John Todd over in Boston
22 came up with an idea of running the water, that
23 nutritious water, through plants and give it back to
24 the fish. And he changed the world, back in the '70s.
25 And it's spreading like a brushfire because of the

1 conservation effort.

2 If you're in a desert or even here water's
3 getting scarce. My farm has gone from 20,000 gallons
4 usage a day from a stream to 50 gallons a day. So if
5 you were going to do an irrigation system for that, no
6 need. They'd take it right out of the house faucet,
7 save yourself a fortune.

8 You'd fill it up one time, it stays full and
9 you only top it off for evaporation or what the plants
10 are drinking.

11 I always love it when people, they want to
12 use as little water as possible like they want to get
13 the best gas mileage on their car. I say, "When you
14 bit in the juicy tomato, where do you think the water
15 came from?" I mean, in other words, it's got to use
16 some water.

17 But basically aquaponics only uses 2 to 5
18 percent of the water that any other form of farming
19 does. And it grows eight times more food in the same
20 space. Now, those are universal recognized that
21 that's average better.

22 So if you were in a community like they were
23 talking earlier about we're into declining water
24 usage, aquaponics is a winning strategy. The downside
25 of it is capital intensive. They haven't -- they

1 haven't really gotten down to -- we bail 'em out of 50
2 gallon drums.

3 But the capital is a little problem. That's
4 the only downside of aquaponics farming. So we teach
5 people to go to Home Depot and buy plastic trays, to
6 55 gallon drum and make an affordable system that in
7 the average little backyard you can grow the food that
8 that family needs.

9 The problem is hydroponic or the aquaponic
10 is can you make a living doing it. You might
11 supplement your income but when you grow your own food
12 in your backyard and you eat it, you're getting full
13 retail value for it.

14 You eat a \$4 tomato you just saved \$4. When
15 I go to sell the tomato I sell it for 2, half the
16 price. So it's a little bit tougher nut.

17 So aquaponics in the backyard, a community
18 replacing its food, if everybody could grow half or
19 two-thirds of their leafy green salads and all that it
20 would make a major economic impact. And it'd certainly
21 be a benefit to a community to do so.

22 And from a standpoint of building a house,
23 throw in \$3,000 for an aquaponic system. If you were
24 to do that and not have to do all the irrigation, that
25 would be a good thing, you know, and it's clean. It's

1 free. It's got a lot going. But that wasn't a short
2 answer, was it?

3 (Laughter)

4 COMMISSIONER JUDGE: No. But it was
5 fascinating. Thank you.

6 CHAIRMAN LEZY: Commissioners, any other
7 questions? Thank you for your testimony.

8 Commissioners, any other questions? Let's take a
9 10-minute break for our court reporter.

10 (Recess was held 3:10)

11 CHAIRMAN LEZY: Ms. Dunne, so you are done
12 for the day and you still have Mr. Deenik then before
13 you rest your case, correct?

14 MS. DUNNE: That's correct.

15 CHAIRMAN LEZY: And you will be done on
16 March 15th.

17 MS. DUNNE: Yes. Although I -- yes. I'm
18 reconfirming his availability. He's traveling all
19 around. But as far as I know. I'll let you know if
20 there's any reason that changes and I'll --

21 CHAIRMAN LEZY: You'll be done on the 15th.

22 MS. DUNNE: -- work on something else
23 instead. Yes.

24 CHAIRMAN LEZY: Okay. Dr. Dudley, you're
25 prepared to proceed?

1 MR. DUDLEY: Yes.

2 CHAIRMAN LEZY: Please do.

3 MR. DUDLEY: Mr. Stollenberger.

4 LEON STOLLENBERGER

5 being first duly sworn to tell the truth, was examined

6 and testified as follows:

7 THE WITNESS: Yes.

8 CHAIRMAN LEZY: Please state your name and
9 your address.

10 THE WITNESS: Leon Stollenberger. I live on
11 Waialua Beach Road in Haleiwa.

12 CHAIRMAN LEZY: Dr. Dudley.

13 DIRECT EXAMINATION

14 BY DR. DUDLEY:

15 Q Mr. Stollenberger, can you give us a short
16 history of your work?

17 A I grew up in the farm in Pennsylvania and
18 lived here about 14 years. In that time I have farmed
19 and done custom work. And I install irrigation
20 equipment.

21 Q Where are you now employed?

22 A My wife and I own a company called Share Ag,
23 Incorporated. (phonetic)

24 Q And what do you do there?

25 A We do custom tillage. We clean reservoirs

1 and ditches, install irrigation equipment, and just
2 general farm services. For the most part what we do
3 is provide field preparation and other kinds of work
4 for other farms.

5 Q And where do you do that work?

6 A I have farmed or done custom work in the
7 blast zone of Pearl Harbor south of H-1 in the area
8 under consideration, all of the land that Del Monte
9 was farming in pineapple when they closed down and
10 also the Galbraith Estate which Del Monte had
11 surrendered a few years before their final shutdown.

12 I have done custom work and/or irrigation
13 installation on Helemano, Kalaeloa, Waimea Ridges on
14 the North Shore, all of the area between Waialua and
15 Dillingham airstrip and just a little bit on the other
16 side of the airstrip. And I've gone around Waimea Bay
17 as far as just across from Turtle Bay.

18 Q So you know this area really well.

19 A Pretty much.

20 Q And what is your specialty?

21 A It started out I was growing corn silage for
22 dairy farms. The dairy farms are all out of business
23 now on this island. So the business evolved into
24 custom tillage and irrigation installation. I do
25 probably about half of each now.

1 Q How did this work -- I think maybe this is
2 already answered -- but how did this work prepare you
3 to give testimony about the qualities of the
4 agricultural land on the island?

5 A I've driven most of it in the tractor. I've
6 also worked on the irrigation systems, so I'm pretty
7 familiar with both the productivity and the challenges
8 of those pieces of ground.

9 When I was working with Del Monte I
10 particularly got involved in learning the aspects of a
11 lot of the land in the Kunia area because we were
12 there continuously for several years and saw firsthand
13 what those fields would do at various times of the
14 year.

15 Q Okay. And can you tell us the Land Use
16 Commission, a little bit about your educational
17 background?

18 A I have a Bachelor's of Science Degree from
19 Penn State University, and a whole lot of experience
20 in agriculture. And grew up farming and it's really
21 all I've ever done.

22 Q I'd like to refer you to Exhibits 37 and 38.
23 Are they your resumé and your written testimony?

24 A Yes.

25 Q Okay. And what did you do in preparation

1 for this case?

2 A I've been following it; know the ground
3 pretty well. I know some of the people involved and
4 I've read accounts of it in the newspaper.

5 Q And have you testified before in this area
6 of expertise?

7 A I have not.

8 Q Has anyone paid you to be here today?

9 A No.

10 MR. DUDLEY: Chairman Lezy, I would like to
11 offer Leon Stollenberger as an expert on the
12 characteristics of agricultural lands in the Central
13 and North Shore areas of this island.

14 CHAIRMAN LEZY: Objections?

15 MR. KUDO: No.

16 CHAIRMAN LEZY: No objection. Nobody else
17 has objections? He's admitted.

18 MR. DUDLEY: Thank you.

19 Q Mr. Stollenberger, could you -- we'll let
20 you go to it. You said you wanted to start from the
21 south and move to the north. Do you have any general
22 statement to begin?

23 A I do. I have a couple things I'd like to
24 point out. The first thing I want to point out is
25 agricultural land is not a crop to be harvested. It's

1 a fixed asset. When it's gone it's gone. And with it
2 go the characteristics of that land has.

3 I'd like to talk about what makes this piece
4 of ground so valuable compared to the other pieces of
5 land that have been offered as substitutes for it.
6 And I want to point out one thing. In agronomy
7 there's a theory that's often referred to as the
8 "short stave".

9 In other words, if you have a barrel with 10
10 staves and you cut up one stave shorter than the
11 others, that limits the amount of water that barrel
12 can hold.

13 What it means is this: If you are growing a
14 crop and the crop needs sunshine and water and
15 fertility and a certain degree a humidity, a certain
16 temperature, if one of those elements is missing you
17 cannot compensate for that by increasing your input
18 with one of the other elements.

19 For instance, if the crop needs rain you
20 can't make it grow by giving it more sunshine. If a
21 crop needs a certain temperature you cannot make it
22 grow in a cold climate by giving it more water. Crops
23 have specific needs and specific combinations of
24 needs.

25 And this piece of ground happens to be one

1 of the most suited to vegetable production literally
2 in the world. And there are two reasons for that.
3 One is the conditions are ideal.

4 And the other reason is we can grow on it
5 365 days a year. I'd like to give you an example of
6 how crucial location is when it comes to dealing with
7 the differences in climate.

8 When I was doing tilly's work for Del Monte
9 I realized rather quickly that there was a very
10 sophisticated and careful pattern to the way they laid
11 out the planting and harvesting schedules.

12 If you've ever dealt with pineapple you know
13 that the harvest date for that crop is actually set
14 before the seeds' even put in the ground. They work
15 that far ahead.

16 Del Monte had ground roughly from the
17 satellite station on Kunia Road, which is right before
18 you get to Schofield, all the way down almost to H-1.

19 There were times, many times in the winter
20 when the ground from the satellite station down to the
21 packing house or a little farther down, would be so
22 wet that the trucks couldn't drive on their dirt roads
23 with tire chains on.

24 I've seen many times that the trucks would
25 slip and spin. They might hook a tractor to them and

1 try to pull them.

2 But basically they were working in a bog.
3 I'm talking about mud that would sink the truck to the
4 axles. It was impossible to work on those fields
5 during that time.

6 Go about two miles farther south and we
7 would be discing and they would be planting pineapple
8 and they would be harvesting. That's how crucial it
9 is to take into account the microclimates in Hawai'i.

10 As you go farther north from Kunia you see
11 more and more of that effect. Wahiawa is one of the
12 wettest parts of productive cropland in Hawai'i.

13 And it rains -- a lot of times it will rain
14 in Wahiawa and the land around it when farther south
15 or farther north it can be worked.

16 There's a reason when Del Monte closed down
17 its pineapple operation that the first piece it gave
18 up was Galbraith Estate. Galbraith Estate is about
19 17-1800 acres now. It was 2,000 at the time. A
20 little of it has been sold off.

21 They gave that up first for two reasons:
22 The elevation was too high. And with that elevation
23 came too much cloud cover. And with that cloud cover
24 they got such a much lower growth rate that there were
25 certain varieties they couldn't even grow there. And

1 it turns out those varieties were the most valuable,
2 marketable pineapple they had.

3 They gave that land up. And it's been
4 sitting idle ever since. It's grown up in trees now.
5 It's grown up in high grass. And it's basically a
6 piece of ground that, while it does have value as ag
7 land, it does not have the utility of the ground that
8 we're talking about south of H-1.

9 Any time that you move up the hill -- and,
10 really, if you look at O'ahu the farther south you go
11 and once you leave Wahiawa the father north you go
12 you're going down a hill -- any time you move up the
13 hill you're getting into more expensive water because
14 you have to pump at a higher distance and you're
15 getting into more cloud cover.

16 The land that Ho'opili represents is some of
17 the lowest cloud cover and the highest sunshine that
18 you can get. Add into that the fact that you have an
19 abundant supply of quality water, you are close to the
20 market center, and it is flat.

21 There are lots of pieces of land available
22 on O'ahu. None of them can put that combination of
23 factors together. If you go to Kunia, first of all,
24 most of the Kunia land that was originally in
25 pineapple, the Del Monte land which was owned by

1 Campbell Estate has been sold off, most of that is now
2 spoken for.

3 The vast majority of it is seed corn.
4 Monsanto bought some, Syngenta bought some. There is
5 a commercial vegetable operation there. Fat Lau farms
6 between 3- and 400 acres. In fact I've done a lot of
7 work on that piece of ground. And that is vegetable
8 production.

9 But that land is already running into limits
10 with their water supply. They get water from two
11 sources. They get water from Kunia Water Users
12 Association, which is the old wells that Del Monte
13 Pineapple had.

14 And they also will get water from the
15 Waiahole Ditch. But the Waiahole Ditch water is not
16 as plentiful as it used to be. And there are limits
17 as to how much of that they can get.

18 The farther north you go, if you go north of
19 the old Del Monte lands, and you get to the Wahiawa
20 area, pretty much everything from there to the North
21 Shore is primarily irrigated with water that comes
22 from Lake Wilson.

23 Lake Wilson is R2 water. It's a tiny
24 fraction of it that's R2 water but nonetheless the
25 rules are very clear. Any R2 water discharged into

1 Lake Wilson -- and it all comes from the Wahiawa
2 Wastewater Treatment Plant -- that water is all
3 classified as R2 water. R2 water has restrictions on
4 what it can be used to grow.

5 And the basic rule of thumb with R2 water as
6 a watering source is you can use it to grow food crop
7 but only if the water does not come in contact with
8 the part of the plant that you're going to eat.

9 An example: You can grow bananas because
10 the bananas are up in the air and the water's down.

11 But you cannot grow carrots or potatoes or
12 root crops. It's kind of a gray area whether you can
13 use it to grow, for instance, snap beans that might
14 hang down on the ground or certainly melons that would
15 be grown on the ground.

16 There is some freshwater available on the
17 North Shore as you go farther north. There's about a
18 thousand acres of Dole land that can be irrigated from
19 the Tanada Reservoir. But currently that water is
20 already pretty much in use to grow pineapple.

21 There is more land north of Wahiawa. Again,
22 that is all irrigated either with R2 water from Lake
23 Wilson or a mixture of R2 water from Lake Wilson and
24 some wells that are in the Haleiwa/Waialua area.

25 All of the land from Waialua out to

1 Dillingham Air Strip is now in seed corn. Seed corn
2 can use R2 water. A big portion of Kalaeloa and
3 'Opae'ula Ridges are in seed corn. And they too can
4 use the R2 water.

5 In addition there are many crops like
6 tuberose, plumeria. There are some bananas and
7 papayas because those can use R2 water with no real
8 restrictions. Waimea Ridge, where I used to also do
9 some farming producing cattle feed, is the wettest,
10 rainiest ridge on the North Shore.

11 And the old-time sugar growers tell me that
12 they always scheduled Waimea Ridge to be harvested the
13 summer because in the winter they literally couldn't
14 get the haulers up the hill.

15 And if they did get them up the hill that's
16 when it got really exciting because they couldn't stop
17 from coming down the hill, and a few of them actually
18 went into the ditch.

19 After you go around Waimea Ridge then you
20 come to the bay. And if you go out to the area
21 between Waimea Bay and Kahuku, Turtle Bay is on the
22 oceanside, there is a little ground to the other side.
23 And some of that, which is owned by the state, is used
24 for rather small-scale vegetable production. But
25 there aren't the big, open fields and the abundant

1 water. That's rather expensive water over there if I
2 remember right. There aren't really big useable
3 tracts.

4 You're talking about taking a thousand acres
5 of some of the best land. It would take far more than
6 that to replace it with inferior land.

7 And there would be some times of the year
8 that these high elevation fields just would not be
9 productive with the kinds of crops that are currently
10 being grown on this land in the area south of H-1.

11 Q Are you going to use the map and do any kind
12 of work on trying to point out anything?

13 A Yeah. (approaching map) If you look at
14 this map you can see pretty much the corridor of
15 farmlands is basically the part between the two
16 mountain ranges. There's a little bit along the
17 coastline and some in Wai'anae. But most of it is
18 right up here.

19 It looks like a big green area but it's not
20 as impressive as you might think if you actually look
21 at it. Down here on the very tip --

22 MS. KUWAYE: Chair, just for the record we
23 need to know which exhibit the witness is referring
24 to.

25 CHAIRMAN LEZY: Mr. Stollenberger, if you

1 could just hold on for a second. Dr. Dudley, is that
2 map --

3 MR. DUDLEY: That is an exhibit. I don't
4 have the number right now. But it is one of the
5 exhibits that I have. That's the ALISH map.

6 CHAIRMAN LEZY: Can you please provide us
7 with an exhibit number. Is it No. 6, Exhibit 6,
8 Dr. Dudley?

9 MR. DUDLEY: Yes. That's it.

10 CHAIRMAN LEZY: All right. Okay.

11 THE WITNESS: Exhibit 6 it is. First of
12 all, there's some of this already been gone. You can
13 see the Waipio Peninsula. That's now been turned into
14 soccer fields. The blast zone here along West Loch
15 apparently is slated for solar panels.

16 And truth is that's a pretty stoney piece of
17 ground that isn't all that productive anyway.

18 But this area going up here, a lot of this,
19 especially as you're going north on H-2, the part to
20 your right, the eastern side, a lot of this is rather
21 steep and hilly. It's got a lot of gulches in it.
22 You can sort of get the idea.

23 If you look at this map you can see it's not
24 a big open expanse. It's got little white lines.
25 Those white lines represent gulches for the most part

1 A lot of that ground has not been farmed for a long
2 time. It could theoretically be put into production.
3 But the water system would no longer be operational,
4 and it would be a pretty major expense to take it on.

5 This land, the part that's roughly on both
6 sides of Kunia Road, a big part of that is either
7 currently in production of vegetables or is currently
8 in production for seed corn.

9 There's some, as you go north on Kunia Road
10 and you would look back towards the Wai'anae
11 Mountains, you'll see some of that ground is not yet
12 in production but it has all been sold, and is all in
13 the process of being opened up and put into
14 production. That will be primarily seed corn.

15 When you get up to Wahiawa, this big tract
16 right here in the middle is the Galbraith Estate. And
17 the Galbraith Estate is, as I said before, it's about
18 the rainiest part of this whole corridor. And it is
19 limited as to what it can do. And particularly
20 limited as to the times of the year can be utilized.

21 And then this area along here, these are the
22 ridges -- this is a combination of Dole and Bishop
23 land. Lot of this is the lower part, maybe the lower
24 one third of this green area is actually irrigated.

25 And that would be all Lake Wilson water and

1 a series of tunnels that come out of the mountains.

2 But it almost all has Lake Wilson water in it. So
3 it'd all be classified as R2.

4 The lower fields, the part down next to Kam
5 Highway, is all pretty much in use except for some
6 ground on Waimea Ridge.

7 The upper part of those fields, it may show
8 green on the map and it may be classified as ag land,
9 but for the most part it is cattle ranching or a few
10 very small orchards. And a lot of it is mostly
11 growing Albesia trees right now.

12 There is a section on the upper part of
13 Waimea Ridge, which would be about in this area, that
14 is currently being developed as a wind power farm.
15 There may be some animal agriculture around that, just
16 grazing cattle to keep the grass from growing up under
17 the windmills. But in terms of practical production
18 value it's pretty low.

19 Again, it's a grassland. It's wet, rainy up
20 there for half the year. It has some value but
21 certainly nothing that would replace the vegetable
22 production of Ho'opili.

23 Q (Mr. Dudley): Okay. Could you tell us
24 about other problems that one would run into with that
25 higher ground, taking over from pineapple and the

1 things that were in the ground and the kinds of rot
2 and things like that that they would run into?

3 A The biggest single factor that's going to
4 limit production long term is water. There's a saying
5 among irrigators, "How do you make water run uphill?"
6 The answer is, "Throw money at it."

7 Well, any time you need to water a piece of
8 ground you can spend enough money to get water to it.
9 The question is: Can you do it profitably? And the
10 answer is: Usually not if you have to pump it very
11 far or very high.

12 The Galbraith Estate is located right next
13 to Lake Wilson and also has a well on it. That well
14 is about a thousand feet -- I think it's 980 some feet
15 deep. And when they were growing pineapple it was
16 adequate because pineapple doesn't need very much
17 water. But the same well that could irrigate about
18 1800 acres for pineapple would only irrigate about 5-
19 or 600 acres for lettuce, because the water use rates
20 for leafy crops are so much higher. Pineapple's a
21 bromeliad. And as such it can get by with a very
22 small amount of water and the natural rainfall that
23 occurred.

24 But leafy crops and melons and that kind of
25 thing I seriously I doubt melons could be successfully

1 grown there just because of the cloud cover. On a
2 personal note, I did try to grow some pumpkins on
3 Waimea Ridge one time. And I thought I was going to
4 make a lot of money because I had a crop that really
5 looked good. The vines were healthy and the set was
6 good and the pumpkins got nice and big.

7 And then about a month before we were ready
8 to harvest them the clouds got me and the rain got me
9 and they all rotted in the field. And that's not
10 unusual with those kinds of crops.

11 One of the advantages of growing a crop in a
12 dry area is the low humidity. Because there are a
13 pretty big variety of diseases, plant diseases that we
14 have in Hawai'i, and most of them do best under humid
15 conditions.

16 A lot of the fungal and bacterial diseases
17 that we have, and a lot of the crops that are grown in
18 the 'Ewa Plain area are those crops that are most
19 susceptible to those fungal diseases.

20 And one of the reasons is because it's an
21 attempt to get away from the conditions where those
22 diseases can cause the most trouble. A dry climate is
23 a real advantage for many of these specialty
24 high-value crops.

25 Q Okay. Just to close, then, you would say

1 that it's -- what would you say about sacrificing this
2 land?

3 A Any time you have an asset it's always a
4 question of what's the best use for this asset. And
5 it's usually going to be a decision: Do you cash it
6 in or do you put it to work long term?

7 This is some of the most productive
8 agricultural land on the face of the earth. And we
9 only get one time to destroy it. Once it's gone it's
10 gone. And it will never come back, not in our
11 lifetime, not in the lifetimes for many, many,
12 generations to come. It's gone.

13 We have a limited amount of land on this
14 island. And the people who live on this island need
15 lots of things that can come from that land. The
16 world's population is growing. The world's arable
17 land base is shrinking.

18 The two biggest concerns that we need to be
19 considering right now are our food supply and our
20 energy supply.

21 I do some consulting for a couple of
22 companies that are looking at producing energy from
23 crops, biofuels. It takes a lotta land to produce a
24 marketable energy crop. It takes a lotta land to feed
25 a population.

1 Any time that you have a piece of ground
2 that has high fertility, a good water supply, an ideal
3 climate, and is close to the market, that should be
4 protected at all costs.

5 And instead we're talking about taking the
6 most productive piece of ground on this island, really
7 in the state, and building houses on it. That's a
8 one-time decision.

9 And when it's gone, it's gone. And a
10 valuable resource that could make the difference in
11 whether people want to live in Hawai'i in the future
12 is lost forever.

13 There is a value to having food
14 self-sufficiency. We're nowhere near it yet, but
15 we're in the process of getting there. The first
16 commercial sugar production in Hawai'i was well over a
17 hundred years ago.

18 There was a Chinese man came over and grew a
19 few acres that he harvested by hand, crushed the cane
20 by hand and boiled the sap in an iron pot over an open
21 fire. He did it for two or three years and he went
22 broke and went back to China.

23 And out of that inauspicious beginning sugar
24 grew to become the dominant economic force in this
25 state. But it took time. It didn't happen overnight.

1 Sugar has been gone for about 15 years. And
2 agriculture has had nowhere near enough time to get
3 itself reoriented towards the new realities of the
4 market we live it.

5 It takes time for agriculture to come up
6 with the investment, to build the infrastructure, to
7 learn how to grow new crops, to learn how to market
8 those crops, to put the process into place where we
9 can be food self-sufficient.

10 We're not going to get there if we cut off
11 the best piece of ground available and throw it away
12 before it really gets a chance to start.

13 I don't want you to think about this as a
14 decision that affects Aloun Farms or Jefts Farms or
15 the seed corn growers or anyone else.

16 I want you to think about this as a decision
17 that affects the next generation and the generation
18 after that and all the people who have yet to be born
19 who will someday live in Hawai'i and need what this
20 land can produce and provide for the rest of us.

21 MR. DUDLEY: Thank you very much. No more
22 questions.

23 CHAIRMAN LEZY: Mr. Kudo.

24 CROSS-EXAMINATION

25 BY MR. KUDO:

1 Q Just a few questions. Mr. Stollenberger, as
2 I understand your testimony today, are you saying that
3 the R2 water generated at the Wahiawa Wastewater
4 Treatment Plant is a limiting factor for lands, the
5 Galbraith lands, North Shore lands in terms of growing
6 crops?

7 A Galbraith land is currently not supplied by
8 Lake Wilson. And the only water supply to the
9 Galbraith land is the well which is only a thousand --
10 I'm sorry -- about 1 million-gallon a day if I
11 remember right. It's been a long time since I saw
12 those figures. But it's 900 some feet deep and
13 extremely expensive to pump.

14 It would take -- actually it would take an
15 agreement between the owners of the lake and the
16 owners of Galbraith land to get Lake Wilson water to
17 the Galbraith land.

18 But virtually everything north of Wahiawa is
19 watered by a system of ditches and syphons that feeds
20 out of Lake Wilson. And Lake Wilson is all classified
21 as R2 water.

22 Q Are you aware of the Department of
23 Agriculture's plans to irrigate the Galbraith lands
24 from the wastewater treatment plant and to also
25 elevate the R2 water to R1 water?

1 A That's been talked about for years, but
2 there's a difference between talking about it and
3 doing it.

4 Q Are you aware that that project is ongoing
5 and it's going to be finished probably by the end of
6 this year?

7 A It may be finished by the end of the year. I
8 don't know. But even if you had an adequate supply of
9 clean water for the Galbraith lands, you still haven't
10 dealt with the fact that it's cloudy and rainy and
11 it's cold compared to the 'Ewa Plain.

12 And even with a water system there of high
13 quality water you're still going to be very limited
14 with what that land can grow.

15 Q Now, is it your position that certain crops,
16 like melons grown presently at Ho'opili, cannot be
17 grown on the Galbraith lands or near it?

18 A There have been attempts to grow melons on
19 the North Shore, which would actually be a little
20 easier said if conditions than Galbraith Estate, and
21 they all failed. They did produce some melons. But
22 given their yield and the cost of growing them they
23 didn't succeed.

24 Q Would you be surprised to know that Aloun
25 Farms is presently growing melons at Helemano, which

1 is right near the Galbraith lands?

2 A I know they're doing some work there. I
3 think you're talking about a piece of ground that's
4 probably going to succeed part of the year, but I
5 don't think it's going to succeed year 'round.

6 MR. KUDO: No further questions.

7 CHAIRMAN LEZY: Mr. Kitaoka.

8 CROSS-EXAMINATION

9 BY MR. KITAOKA:

10 Q Mr. Stollenberger, just so I understand the
11 scope of what you're testifying to. You're saying
12 below H-3 and, say, from Ko'olina to West Loch is the
13 best farmland?

14 A Below H-1.

15 Q Oh, yeah, H-1. I'm sorry. Below H-1 from
16 Ko'olina to West Loch?

17 A Well, you get out to Ko'olina you get into
18 some stuff that's pretty stoney. But...

19 Q Well, what is the scope of where you think
20 is the best farmland, then, on that 'Ewa Plain?

21 A Right where you're talking about building
22 houses.

23 Q Okay. So like Kapolei wouldn't be prime
24 farmland.

25 A There are parts of it that are pretty good.

1 But the point is this: If you take the very best and
2 take it out of production it's gone.

3 Q Yeah. But I'm trying to determine the scope
4 of where you think is prime land. So you're saying
5 that Kapolei is not prime. So we're moving west from
6 there and so...

7 A Basically the set of conditions that is
8 ideal for production, the high sunshine, low rainfall,
9 low cloud cover and a water supply would be any of the
10 land south of probably the Waiahole Ditch. But the
11 farther south you go the better it gets. And really
12 south of H-1 is the best land.

13 Q What are east/west parameters of that prime
14 farmland?

15 A If you get to Campbell Industrial Park, that
16 area it gets pretty stoney. And if you go towards
17 town, Fort Weaver Road is pretty much the limit.

18 Q Okay. So 'Ewa Beach would be pretty
19 productive.

20 A 'Ewa Beach?

21 Q Right.

22 A Well, it's pretty well gone now. When you
23 get down to 'Ewa Beach proper, then you get into real
24 shallow topsoil because the coral outcroppings are
25 right up at the surface. But probably from Renton

1 Road north is the best of that area.

2 Q Okay. You're saying that those areas have
3 already been developed. Is that what you're saying?

4 A A big part of 'em have. If you drive down
5 Fort Weaver Road it's hard to miss.

6 Q Right. But that would have been considered
7 prime farmland too.

8 A In its day there was some pretty good
9 farmland there.

10 Q So if, in fact, that's what you consider
11 prime farmland, where would you suggest to accommodate
12 growth or development on the 'Ewa Plain? Where would
13 you suggest is a good place to build a development?

14 A My personal preference would be to see
15 people build up instead of out. I don't really think
16 sprawl is something that anyone benefits from. But if
17 you are going to insist on that then I'd far rather
18 you build in the gulches than on the farm ground.

19 Put the houses in the gulch and let the farm
20 ground stay farm ground. Up on the side of a ridge.
21 If you go to the east side of Honolulu there is a lot
22 of development going up like Halekoa Drive.

23 And that area that was not farm ground.
24 That was steep ground and actually some pretty fine
25 houses up there and a nice view. I'd far rather see

1 that and leave the farmland alone.

2 Q So you're saying that for flat land in the
3 'Ewa Plain that should be reserved for farming and
4 then steep land should be reserved for housing and
5 commercial development.

6 A It makes a lot more sense because you can
7 build houses on steep ground but it's real hard to
8 farm. And that flat ground we only get one chance
9 with it. Once it's gone, it's gone.

10 MR. KITAOKA: I have no further questions.

11 CHAIRMAN LEZY: Mr. Yee?

12 MR. YEE: No questions.

13 CHAIRMAN LEZY: Ms. Dune?

14 MS. DUNNE: No questions.

15 CHAIRMAN LEZY: Mr. Seitz?

16 MR. SEITZ: No questions.

17 CHAIRMAN LEZY: Redirect?

18 REDIRECT EXAMINATION

19 BY DR. DUDLEY:

20 Q Just one question. It's been suggested that
21 the Wahiawa Wastewater Treatment Plant is going to be
22 putting out R1 water. Are you aware that there has to
23 be a certification for that?

24 And that part of the certification is that
25 there is a runoff for nonpoint water? And that it has

1 to go into an injection well and that the treatment
2 plant is 10 miles away from the injection?

3 MR. KUDO: Objection. He's leading the
4 witness and answering the question he's asking.

5 Q (Mr. Dudley): Could you answer anything
6 about that? (Laughter).

7 A I can tell you this. The Wahiawa Wastewater
8 Treatment Plant has been a problem for a lot of years.
9 And, in fact, has been operating under a consent
10 decree for many years.

11 The issue of can you get R2 water down to R1
12 has come down to -- it's actually a question at one
13 point the issue was simply they didn't have enough
14 room at the plant location to add the additional
15 equipment to clean it up.

16 I also know that the Wahiawa Wastewater
17 Treatment Plant to be way above the no pass line. So
18 I can't think an injection well would be a real easy
19 source.

20 The simple fact is that for years Wahiawa
21 wastewater has simply dumped into Lake Wilson. For a
22 long time it didn't bother anybody because all that
23 water was going to irrigate sugarcane. And sugarcane
24 was an appropriate use for R2 water and nobody really
25 thought much about it.

1 The sugarcane is gone. And now those fields
2 are pretty severely limited as to what can be grown
3 there. Like I said at the beginning, any water
4 problem can be solved if you throw enough money at it.

5 But even if you had clean water coming out
6 of Lake Wilson, you still don't have the same set of
7 attributes that you already have in place at Ho'opili
8 because any land that Lake Wilson irrigates is higher
9 elevation, higher cloud cover, less sunshine, higher
10 humidity, and more subject to the really wicked winter
11 storms that sometimes make it virtually impossible to
12 do any work in those fields for days or weeks at a
13 time.

14 MR. DUDLEY: Thank you.

15 CHAIRMAN LEZY: Commissioners, questions?
16 Commissioner Heller.

17 COMMISSIONER HELLER: Yes. Just going back
18 for a minute to the question about what is the best
19 growing land in your opinion.

20 In terms of micro-climate and the other
21 factors that you mentioned, is there a significant
22 difference between the land just below or makai of H-1
23 and just above or mauka of H-1?

24 THE WITNESS: Not very much. But remember
25 most of the land that's north of H-1 is already spoken

1 for. Some of it's in vegetable production now. A
2 good bit of it is in seed corn and seed corn research
3 ground. Park has a little bit up there.

4 And as you go west on H-1 you get into a big
5 difference. To the ocean side it's basically still a
6 plain and flat ground. To the mountain side it's
7 really steep.

8 And you can, you can get into some ground
9 that is, is much steeper, much harder to farm just
10 because of the topography of it.

11 COMMISSIONER HELLER: In terms of acreage,
12 do you have any idea how much land there is mauka of
13 H-1 that's equivalent or roughly equivalent in
14 agricultural production potential to what's below H-1?

15 THE WITNESS: It would be a pretty small
16 percentage. Because really as you go north the
17 elevation increases. I can give you an anecdotal
18 answer.

19 When I was at Del Monte the cutoff was
20 roughly where the Royal Kunia development is. That
21 area south was the driest. And it was a pretty
22 noticeable difference.

23 If you look at the road that goes back to
24 the new Monsanto facility, from there south is quite a
25 bit drier in the winter than from there north. That's

1 roughly where the Waiahole Ditch goes across.

2 COMMISSIONER HELLER: Thank you.

3 CHAIRMAN LEZY: Commissioners, any other
4 questions? Questions? I have a question for you,
5 Mr. Stollenberger. First, though, thank you very much
6 for your testimony. I'll pose a little bit of a
7 hypothetical to you.

8 If I hired you as a consultant and I said,
9 "I want you to find the best replacement land on the
10 Island of O'ahu for the farm operations that are
11 currently ongoing at Ho'opili," where would you put
12 them?

13 THE WITNESS: The only land I would know of
14 on that scale that would be available at this point
15 would be north of Wahiawa. It's not going to be a
16 substitute. You can call me a ballerina but that
17 doesn't make me a dancer. And calling some of that
18 ground a substitute for Ho'opili doesn't make it so.

19 It's all going to have some restrictions on
20 it in terms of the suitability for the crops and what
21 we can and can't do with it.

22 But to answer your question directly, the
23 only land available on that scale is going to be north
24 of Wahiawa. And by definition it's going to be
25 probably a minimum of several hundred feet above sea

1 level.

2 CHAIRMAN LEZY: And subject to the
3 limitations that you discussed earlier.

4 THE WITNESS: You're going to have all the
5 cloud cover and all the rainfall, and the R2 water for
6 the most part. There's a little bit of clean water up
7 there but for the most part it's R2.

8 CHAIRMAN LEZY: Thank you. Dr. Dudley?

9 MR. DUDLEY: We have Peter Apo next. He's
10 in an orange shirt and I'm looking at orange shirts.
11 (laughter).

12 PETER APO
13 being first duly sworn to tell the truth, was examined
14 and testified as follows:

15 THE WITNESS: I do.

16 CHAIRMAN LEZY: Please state your name and
17 your address.

18 THE WITNESS: Peter Apo, 98-021 Kamehameha
19 Highway, Aiea 96701. (check zip)

20 CHAIRMAN LEZY: Dr. Dudley.

21 DIRECT EXAMINATION

22 BY DR. DUDLEY:

23 Q Mr. Apo, what is your current position and
24 where are you employed?

25 A I'm president of the Peter Apo Company.

1 It's a cultural tourism consulting firm. I also wear
2 another hat. I'm a trustee at the Office of Hawaiian
3 Affairs.

4 Q Thank you. What does your firm do?

5 A We consult to developers mostly in the area
6 of developing hotel properties and destinations,
7 visitor destinations.

8 We do some other work for other kinds of
9 institutions but we assist in carrying out
10 architectural Hawaiian sense of place themes and
11 programs and services that are Hawaiian-based.

12 Q Could you give us kind of a summary of your
13 employment history?

14 A Sure. OHA trustee, State legislator,
15 Director of Culture and Arts for the city and county
16 of Honolulu, Special Assistant Hawaiian Affairs/
17 Governor Cayetano; Director of Waikiki Development,
18 city and county of Honolulu; and a founding member of
19 the NCO of the Native Hawaiian Hospitality
20 Association.

21 Q Could you tell us about boards and
22 commissions on which you serve or have served.

23 A Oh, Lord. Yeah. I served on a number of
24 'em: State Foundation on Culture and Arts; Chaminade
25 University regent. I was appointed as a civilian aide

1 to the Secretary of the Army for the Island of O'ahu
2 and Kaua'i. Served on a whole number of Hawaiian
3 institutions particularly in the area of culture and
4 education.

5 Q And are there professional organizations or
6 associations which you're a member of?

7 A Yeah. There are a number of those in terms
8 of professional. I belong to several societies that
9 are interested in or are affiliated with tourism
10 projects and interfaces between the Hawaiian community
11 and the visitor industry.

12 Q I'd like to refer you to Exhibit B-11. Is
13 that your written testimony and your resumé?

14 A Yes.

15 Q Have you testified before in this area of
16 expertise?

17 A Yes.

18 Q Are you familiar with this case?

19 A Yes.

20 Q What materials did you review in preparation
21 for your testimony on this case?

22 A Read a number of news accounts, looked at
23 the D.R. Horton and the Ho'opili website.
24 Particularly interesting I found a 2008 Office of
25 Hawaiian Affairs response to the environmental impact

1 statement from 2008 that was pretty thorough in laying
2 out a lot of the issues.

3 Although some of the conditions have changed
4 from then to this time in the Project, the fundamental
5 issue was still there: Farmland, land management and
6 public policy and constitutional mandates on how we
7 approached agriculture and its support.

8 Q Okay. And has anybody paid you to be here
9 today?

10 A Well, my wife offered me some money to get
11 out of the house. (Laughter) But I turned her down.
12 So the answer's no.

13 MR. DUDLEY: Chairman Lezy, I'd like to
14 offer Peter Apo as an expert witness.

15 CHAIRMAN LEZY: Objection?

16 MR. KUDO: No objections.

17 CHAIRMAN LEZY: Okay. So admitted.

18 Q (Mr. Dudley): Mr. Apo, would you like to
19 amplify any more about that 2008 testimony sent in by
20 the Office of Hawaiian Affairs?

21 A Well, the major theme that I drew from it is
22 they did an exhaustive account on public policy and
23 the growth model for the state of Hawai'i, and
24 referenced several statutes and constitutional
25 references to the importance of agriculture. And that

1 should trigger implementing actions and --
2 governmental actions that would support the growth of
3 agriculture as part of a preferred future and
4 alternative economics.

5 Essentially I don't think it's changed much
6 since then. We import 90 percent of our food. So it
7 was a document that was founded in regurgitating
8 public policy. Of course, this is about public
9 policy, farmland versus houses.

10 Q Good. Thank you. Let's move on to talking
11 about tourism. You stated in your testimony that
12 O'ahu's market share of tourists is negatively
13 affected by urban sprawl. Just how is it negatively
14 affected?

15 A You know, a visitor experiences largely a
16 search for sense of place, and searching for an
17 experience that's different from the place from which
18 you come.

19 Our industry here is market driven
20 totally -- advertising driven I should say. So if you
21 track the bait that we send out through our mega
22 million dollar advertising programs, you don't see
23 cities in there. You don't see traffic. You don't
24 see urban sprawl like you do running down from Los
25 Angeles to San Diego.

1 What you see are really pretty pictures.
2 You see open space. You see green space. You see
3 trees. You see beaches.

4 The themes themselves that are developed
5 through the visitor industry marketing programs like
6 the Hawai'i Visitors Convention Bureau are romance,
7 golf, adventure, themes along those lines.

8 So when a visitor who makes a destination
9 choice -- and believe me the competition is stiff out
10 there -- makes a destination choice and chooses
11 Hawai'i over some other tropical destination, and
12 arrives in a place, first of all, by a really bad
13 airport experience and then begin to drive through
14 urban sprawl, through traffic, through basically
15 high-density urban living, crowded beaches, this does
16 not help us in terms of attracting and keeping our
17 market share.

18 So Hawai'i -- I mean O'ahu, has essentially
19 the joke is O'ahu is the place you fly over on your
20 way to Maui.

21 And so it's something that I think for as
22 much as we depend on tourism as our number one
23 industry, it's amazing how distanced we are from
24 actually protecting the product mix and wanting to
25 contribute to the sense of place and the visitor

1 experience by, in my opinion, far better land use
2 planning and clustering and accommodating a growth
3 that's sustainable not only to the people but to the
4 industry.

5 So again, you know, we get back to public
6 policy on how that growth should occur.

7 Q Tell us what is the impact on the tourist
8 industry when development-focused city land use policy
9 drives the longer term state land use policy and
10 planning?

11 A I'm sorry. Question, again?

12 Q Which is: What is the impact on the tourist
13 industry when the development-focused city land use
14 policy drives the long-term state land use policy and
15 planning, the longer term?

16 A Yeah, it's not good. I think I kinda
17 answered that in my previous, my previous answer.

18 Q Okay. Let's move to the next one.
19 Following the developer-driven establishment of an
20 Urban Growth Boundary by the city council, has the
21 amount of open space on O'ahu increased or decreased?

22 A (Laughing) I think it's pretty obvious it's
23 diminished drastically. I might say I grew up in
24 Makaha. And I had to -- went to high school in
25 Honolulu.

1 So this was before we had an H-1. So I
2 commuted every day. And, you know, that commute was a
3 wonderful commute. It took twice as long -- well, not
4 twice -- it took a long time to get from Makaha. The
5 bus stopped -- the bus service stopped at Halawa Gate
6 at Pearl Harbor.

7 But it wasn't -- it was an enjoyable
8 experience because there were fields of green for as
9 far as your eye could see.

10 The seasons when the cane tassels would
11 below in the wind, I mean it was magnificent. I
12 didn't mind it. So the answer to your question is all
13 of that has disappeared. It's gone.

14 Seventy-five percent at least of that 'Ewa
15 corridor in terms of the experience of accessing that
16 environment, particularly from the visitor's
17 perspective is 75 percent diminished.

18 You know, one of the things that I -- that
19 sometimes, you know, I wonder. We keep talking about
20 the visitors, the visitors, the visitors. And we
21 ought to be talking about local people.

22 I used to get upset when people always used
23 to say, which we finally did, "We need to fix the
24 highway, Nimitz Highway from the airport to Waikiki
25 because of the visitors."

1 And I say, why don't we fix it for
2 ourselves? Why do we have to do stuff for the
3 visitor? So in this case the experience of traveling
4 that corridor I think is just as valid to defend that
5 open space and being able to look out at
6 agriculturally alive land is as valuable to local
7 people as it would be to any tourist.

8 Q Okay. Could you describe how agriculture
9 and tourism work together?

10 A Yeah. I mean it's not rocket science.
11 Particularly as I mentioned the way we market Hawai'i,
12 lot of open space, lot of green space. So space
13 becomes productive in that way that it does preserve
14 sense of place.

15 Certainly preserves island sense of place so
16 that the visitor feels again that, you know, he's --
17 he or she, has arrived at a real destination, it was
18 worth the price of a ticket.

19 One of ironies I think in that 'Ewa corridor
20 is in the initial stages of the Ko Olina development
21 back under, when Herbert Horita first began the
22 development, the drive out there was still pretty
23 pleasant. Kapolei was still, still sort of an idea,
24 just sort of bubbling under.

25 But as time has passed over the years it's

1 now not so good. I remember people who, friends of
2 mine as we would leave Honolulu and drive, soon as we
3 passed Waipahu there would be sort of this "all right"
4 'cause you're in the country, you know. That
5 experience is gone now.

6 Now, it's like "chh-chh-chh-chh-chh"
7 (driving a car motion) Some of the people who live
8 out -- I saw this really funny cartoon once that
9 speaks to urban sprawl that kinda springs up on
10 people. It's a picture of an elderly man in a rocking
11 chair on a lanai, on a porch in the front yard. And
12 his house is surrounded by high-rises.

13 And the quote, the caption says, "I used to
14 live in the country. Now I live in the city, and I
15 haven't moved." So that kind of -- thought that was
16 kind of a clever way of making a statement.

17 Q Are you aware of the 10-foot high cement
18 wall for noise mitigation that's mentioned in the
19 Exhibit 22 of --

20 A Yes.

21 Q -- of the -- by the Petitioner. And what do
22 you think that 10-foot cement wall along the freeway
23 is going to be like?

24 A Well, from a driver's seat level you're
25 going to be looking at a 10-foot wall. So it will

1 obviously pretty much obliterate any viewplane of
2 mauka makai.

3 Q And what will that do to tourism?

4 A Again, you know, what will it do for locals?
5 They'll hate it. And of course tourists are not going
6 to like it.

7 Q Okay. Is there a tourist demand for locally
8 grown fresh produce?

9 A You betcha. Today's visitors is far more --
10 well, I don't know if they're -- yeah, they're very
11 sophisticated, you know, as we've all learned to
12 appreciate quality of life. So fresh produce is an
13 important, important to quality dining experience.

14 And the challenge for here is the supply and
15 demand. That it's difficult for a large food
16 operation, a hotel, to make commitments to local
17 producers because the supply is not consistent. So
18 that's always a challenge.

19 One model that tries to get around that
20 Whole Foods -- you know, their whole branding is about
21 quality fresh, locally grown produce -- actually had
22 to go and spend two years cultivating relationships
23 with farmers to get commitments. So produce is --
24 fresh produce is important. And, again, to locals
25 too. We eat fresh food too.

1 Q As a cultural expert please tell us about
2 the traditional Hawaiian land use policies and how
3 precontact Hawaiians managed their environment.

4 A Wow. You know, Hawaiians had a different
5 system of dividing land. I think everybody is
6 familiar with the concept of an ahupua'a where all the
7 conditions, the quality of life, was supposed to occur
8 within that mountain to the outer edges of the reef.

9 And that the management of the system was
10 you placed things that made sense so that there was
11 this sort of synergy between where you lived, where
12 you worked, where you grew the food, where you had
13 recreation.

14 So if you were to apply that over several, I
15 guess, moku or the entire coastline it would -- it
16 would be, I think from a Hawaiian perspective, being a
17 lot more, putting a lot more thought into how you
18 cluster the human activity.

19 And I think we do a better job on managing
20 and trying to prevent the urban sprawl under a
21 Hawaiian management system of that environment.
22 Again, in the case of the 'Ewa Plain the mauka to
23 makai I think would have done a better job.

24 Also I have to comment. I think I see
25 people in the room who were here back when. That

1 whole Kapolei, 'Ewa Plain development all sprung out
2 of -- the theme of the movie The Descendants about a
3 family trust that was going to be dissolved, legally
4 dissolved. And they needed to figure out a way -- the
5 Campbell Estate -- Campbell needed to figure out a way
6 to provide a steady revenue stream for the some 80,
7 100 dependents. The movie is not about the Campbells
8 but it's the same concept.

9 So I had spent a lot of time in Southern
10 California. And I was amazed at how closely the
11 planning of that entire 'Ewa Plain was patterned after
12 Irvine, California.

13 You needed -- you needed a deep draft -- you
14 needed a harbor. You needed a college. Of course you
15 needed homes. And Irvine was all farms at one time.
16 You needed an airport. They tried to get an airport
17 but they couldn't.

18 So as the development began to occur through
19 -- and I'm not saying it's bad, what happened is bad.
20 But the plan to build, to create a Second City and
21 then the way it impacted all the adjacent lands all
22 the way now to Waipahu, was pretty astounding at how
23 that growth, that growth occurred.

24 Frankly, I think we, the government, I think
25 we coulda done a little better job in how we managed

1 that growth. And, you know, I want to tell you I am
2 for housing. I'm not opposed to housing. We need
3 housing absolutely. There's no question in my mind.

4 But we also need farms. I would echo the
5 last presenter's statement. The growth in Hawai'i,
6 the two pedestals is going to be and is energy and
7 food production, both of which we import 90 percent.

8 I think the energy thing we're gonna kinda
9 do all right. People seem to understand energy. They
10 understand business models and how numbers work with
11 energy. We need to get a handle on agriculture.

12 What worries me most about the decision
13 that -- a tough decision that this body has to make,
14 is the public policy statement of actually taking
15 active, producing high-yield ag land out of
16 production. That's far different from taking land
17 that is lying fallow zoned agriculture and building
18 houses on that.

19 So in terms of what our growth policies are
20 in terms of our kuleana and our responsibility to try
21 to be true to our constitution, true to our -- the
22 laws that we have on the books that are supposed to
23 guide our policy in making wise decisions, not easy
24 decisions, not for a moment I wouldn't want to be in
25 any of the Commission's shoe's on this one because

1 this is a tough one. 'Cause people want houses. So
2 rock and a hard place.

3 Q Do you have any closing comments you'd like
4 to make?

5 A Just God bless you. I hope you make the
6 right decision.

7 DR. DUDLEY: Thank you. No more questions.

8 CHAIRMAN LEZY: Mr. Kudo.

9 CROSS-EXAMINATION

10 BY MR. KUDO:

11 Q Mr. Apo, good afternoon.

12 A Good afternoon.

13 Q You talked about the green belts and the
14 visual impact on tourism. Would you agree as an
15 expert in tourism that tourists go to the islands for
16 various types of experiences?

17 A Of course.

18 Q For instance, they may want to see the
19 island of Kaua'i, beautiful waterfalls and green
20 valleys. But they also would like to see the urban
21 setting of Waikiki as well. Are you advocating that
22 there should be more green belt areas on the Island of
23 O'ahu; that this area of 'Ewa/Kapolei area should have
24 remained in green?

25 A No. I'm saying this Project will close out

1 the last of the green spaces that's left.

2 Q Okay.

3 A From Kapolei to Waipahu. And you will have,
4 again, you'll have a Southern California viewplane.

5 Q This island has the highest number of
6 citizens residing in the entire state. Would you
7 agree?

8 A Yes.

9 Q So there are tough decisions relative to
10 where people should reside and work?

11 A Yes.

12 Q A part of that process was a process started
13 years ago to develop the Second City which was a joint
14 effort by both the state and the city.

15 A Yes.

16 Q To decide where directed growth would occur?

17 A Yes.

18 Q Now, you're saying that as a policymaker
19 perhaps they could have made a better decision.

20 A Yes. I tell you what, what amazes me. As a
21 policymaker I really don't understand how the state
22 can classify land Agriculture, and then the county
23 comes with an overlay of Urban. That confuses the
24 developer. It confuses people.

25 Because it raises expectations on the part

1 of the developer that even though that land is
2 classified as Agriculture, that it's okay to start
3 pumping money down. And you cross your fingers and
4 you hope you're gonna able to get it reclassified.

5 Q I'm not sure that's so --

6 A And I'm not blaming you folks for that. But
7 it puzzles me how that happens.

8 Q I'm not sure that's the way it occurs with
9 regard to city and state laws. But the state has to
10 urbanize it before the city can literally zone that
11 piece of land.

12 But if you -- part of the tradeoff in
13 developing the 'Ewa Development Plan area and the
14 Second City, was the tradeoff that growth would be
15 directed toward 'Ewa rather than the North Shore or
16 the Windward side of the island.

17 When you say they could have done a better
18 job, are you advocating that growth or urbanization
19 should have occurred on the North Shore or the
20 Windward side of the island rather than in 'Ewa?

21 A No. I'm saying that in this case I think
22 there's enough other spaces to develop other than on
23 this 1,500 acres. There's plenty of development. I
24 mean you've got thousands of acres going all the way
25 out to Kapolei.

1 You can go in the other direction. You got
2 Ko Olina happening. You got the mauka lands. Why
3 this particular site? Why this footprint where we're
4 producing food? I don't get that part. That's what
5 I'm saying.

6 Q The whole 'Ewa area is within what is called
7 the Urban Growth Boundary which was decided by the
8 state long ago. It includes lands mauka of the H-1
9 Freeway as well as makai.

10 Are you saying that growth should occur in
11 lands outside of that Urban Growth Boundary?

12 A I agree with the previous speaker that if
13 you're going to build houses you should build it in
14 ravines and up mountainsides and gullies and leave the
15 flat land to ag. I thought that was pretty neat,
16 pretty good explanation.

17 Q Would you agree that there might be some
18 limitations about building homes on ravines that have
19 slopes greater than 15 percent?

20 A Sure. Probably cost more, yeah.

21 Q In regard to the 'Ewa development, Ho'opili
22 is the last piece that will complete the Second City.
23 You earlier, I believe, testified that you didn't have
24 any problems with Kapolei.

25 A Mmm-hmm.

1 Q That is part of the Kapolei area, the Second
2 City. I mean it's included in that city.

3 A Mmm-hmm.

4 Q I guess I can't understand why you are
5 having a problem with Ho'opili.

6 A Because what we should do is go up. We
7 should have taken Kapolei -- you know we are so far
8 behind the curve in our planning in Hawai'i. I mean
9 sometimes I wonder if any of us travel anywhere.

10 The number one growth place in the world in
11 handling urban development is Dallas, Texas where the
12 whole idea of urban sprawl and suburbs is over.

13 People don't want to drive miles to work
14 anymore. The new model is to go up. The new model is
15 to bring people back to the city. We're not even
16 close to getting to that kind of planning.

17 So in terms of Kapolei, yes, I do
18 understand. And I do acknowledge that Ho'opili falls
19 within the way we had planned it. What I'm saying
20 it's bad planning.

21 MR. KUDO: No further questions.

22 CHAIRMAN LEZY: Mr. Kitaoka?

23 MR. KITAOKA: No questions.

24 CHAIRMAN LEZY: Mr. Yee?

25 MR. YEE: No questions.

1 CHAIRMAN LEZY: Mr. Dudley? Mr. Seitz?

2 MR. SEITZ: No.

3 CHAIRMAN LEZY: Redirect?

4 MR. DUDLEY: No.

5 CHAIRMAN LEZY: Commissioners, questions?

6 Thank you, Mr. Apo. Let's take a ten minute break.

7 DR. DUDLEY: Mr. Chair, we don't have

8 anybody else.

9 CHAIRMAN LEZY: So, Dr. Dudley -- still on
10 the record, Holly -- you are then withdrawing Aki and
11 Wong as witnesses?

12 MR. DUDLEY: Yes.

13 CHAIRMAN LEZY: Okay. All right. It
14 appears, then, that that's the last of the witnesses
15 for today. For planning purposes tomorrow, then,
16 Mr. Seitz, we'll have Mr. Tam first. And then after
17 that, Dr. Dudley, Dr. Prevedouros?

18 MR. DUDLEY: Yes.

19 CHAIRMAN LEZY: And then with
20 Dr. Prevedouros that will end your case for this
21 hearing, correct?

22 DR. DUDLEY: Yes.

23 CHAIRMAN LEZY: And we'll take up
24 Mr. Coffman and Paul Brewbaker at the next meeting,
25 correct?

1 MR. DUDLEY: Yes, 15th and 16th.

2 CHAIRMAN LEZY: Then that will be the extent
3 of the witnesses tomorrow, correct?

4 MR. DUDLEY: Yes.

5 MR. KUDO: Mr. Chair, in light of FOM's
6 withdrawal of the two witnesses, I assume that the
7 Exhibits B-11, B-12, B-13, B-14 will also be
8 withdrawn. B-36 excuse me.

9 CHAIRMAN LEZY: Sorry.

10 MR. DUDLEY: Yes. I presume that's their
11 resumés and --

12 MR. KUDO: B-13 and B-14.

13 MR. DUDLEY: -- statements, written
14 statements. If so. Yes, they're withdrawn.

15 CHAIRMAN LEZY: Okay. They're withdrawn
16 then. I'm sorry. Shintani --

17 MS. DUNNE: It doesn't look like
18 Dr. Shintani is going to be available to give oral
19 testimony. We had asked that his written testimony
20 be, remain in the record and be given whatever weight
21 the Commissioners deem appropriate. It goes to the
22 increased nutritional value of locally produced food.

23 MR. KUDO: Doesn't matter to us.

24 CHAIRMAN LEZY: All right. So we'll clear
25 Dr. Shintani then as out, withdrawn.

1 MS. DUNNE: As a live witness, that's
2 correct.

3 CHAIRMAN LEZY: Okay. With that, then, the
4 hearing -- just one, pardon me, one announcement from
5 the executive officer regarding public testimony
6 tomorrow.

7 MR. DAVIDSON: In view of the gap that looks
8 inevitable tomorrow between the two witnesses and the
9 agendized public testimony, the signup sheet will be
10 out first thing in the morning.

11 And if any public testifiers want to testify
12 after Mr. Tam and Dr. Prevedouros, the Commission can
13 accommodate that.

14 Now, because it's on the agenda the
15 Commission will be here at 3:00 p.m. But others who
16 may want to testify earlier can always be
17 accommodated.

18 CHAIRMAN LEZY: Anything else? Thank you
19 very much. The Chair will entertain a motion to go
20 into executive session.

21 COMMISSIONER JUDGE: I move to go into
22 executive session.

23 COMMISSIONER McDONALD: Second.

24 (Executive session held) (The public proceedings
25 were adjourned at 3:40 p.m.)

1 C E R T I F I C A T E

2

3 I, HOLLY HACKETT, CSR, RPR, in and for the State
4 of Hawai'i, do hereby certify;

5 That I was acting as court reporter in the
6 foregoing LUC matter on the 1st day of March 2012;

7 That the proceedings were taken down in
8 computerized machine shorthand by me and were
9 thereafter reduced to print by me;

10 That the foregoing represents, to the best
11 of my ability, a true and correct transcript of the
12 proceedings had in the foregoing matter.

13

14 DATED: This _____ day of _____ 2012

15

16

17

18

19 _____
20 HOLLY M. HACKETT, HI CSR #130, RPR
21 Certified Shorthand Reporter
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