FLORES-CASE ‘OHANA
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Petitioners pro se

BOARD OF LAND AND NATURAL RESOURCES
STATE OF HAWAII

In the Matter of: A Contested Case Hearing Re Conservation District Use Application (CDUA) HA-3568 for the Thirty Meter Telescope at the Mauna Kea Science Reserve, Ka‘ohe, Hamakua District, Island of Hawai‘i, TMK (3) 4-4-015:009	))))))))))	Case No. BLNR-CC-16-002 FLORES-CASE ‘OHANA’S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION ORDER; CERTIFICATE OF SERVICE Hearing Officer: Hon. Riki May Amano (Ret.)

FLORES-CASE ‘OHANA’S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION ORDER

Petitioner, the FLORES-CASE ‘OHANA, in the capacity as pro se, respectfully submits the Flores-Case ‘Ohana’s Proposed Findings of Fact, Conclusions of Law, and Decision Order, pursuant to Minute Order No.43 filed on April 19, 2017.

Received
Office of Conservation and Coastal Lands
Department of Land and Natural Resources
State of Hawaii
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Table of Contents

I. INTRODUCTION

The Applicant University of Hawaii at Hilo ("Applicant" or "UHH"), an entity of the University of Hawaii ("University" or "UH"), filed a Conservation District Use Application ("CDUA") HA-3568 on September 2, 2010, pursuant to chapter 183C of the Hawaii Revised Statutes ("HRS") and chapter 13-5 of the Hawaii Administrative Rules ("HAR") on behalf of the Thirty Meter Telescope Observatory Corporation for the proposed construction of the Thirty Meter Telescope ("TMT" or "TMT project") on the northern plateau of the conservation district on Mauna Kea in the Mauna Kea Science Reserve ("MKSR"), Ka`ohe, Hāmākua, Hawai`i, TMK (3) 4-4-015:009.

This is the second contested case hearing ("cch") pertaining to CDUA HA-3568 that the Flores-Case ʻOhana and other petitioners, including Mauna Kea Anaina Hou, Clarence Kukauakahi Ching, Paul K. Neves, Deborah J. Ward, and KAHEA: The Hawaiian Environmental Alliance, have participated in as parties to these proceedings. Members of the Flores-Case ʻOhana entered into the cch when it became very evident that the State of Hawaiʻi ("State") through its agencies represented by the Board of Land and Natural Resources ("BLNR" or "Board"), Department of Land and Natural Resources ("DLNR"), and the University failed their statutory duties to fulfill their affirmative constitutional obligations and failed to comply with its governing statues to protect the natural and cultural resources as well as Native Hawaiian traditional and customary rights and practices associated with the lands of Mauna Kea.

In the decision issued in 2015, *Mauna Kea Anaina Hou et al vs. BLNR et al*, the Hawaiʻi State Supreme Court ruled that BLNR violated due process when it approved the permit for CDUA HA-3568 in 2011 for the TMT project prior to holding a cch.

The Flores-Case ʻOhana contends that CDUA HA-3568 was deficient due to its incompleteness and inaccurate information contained within when it was first submitted to BLNR for approval in 2010. These matters were brought to the attention of BLNR, DLNR, and the Applicant prior to, during, and after the first cch that concluded. However, the Applicant failed to update its application or to address these known deficiencies even though the Applicant had sufficient and ample time to do so since the first cch. In addition, the Applicant is not in compliance with its mandated management plans pertaining to the lands of Mauna Kea under its leases and as such could not legally receive approval of any Conservation District Use Permit

("CDUP) at this time. Consequently, BLNR and DLNR failed its statutory duties to require the Applicant to update its application and to be in compliance with its management plans prior to proceeding with this second cch. Furthermore, the BLNR and DLNR, as the State's executive board and agency with jurisdiction over the lands of Mauna Kea, failed to complete an independent "*Ka Pa'akai*" analysis to assess the impacts of the proposed development would have on Native Hawaiian customary and traditional practices as stipulated in the State Supreme Court decision rendered in *Ka Pa'akai O Ka 'Aina v. Land Use Commission*, 94 Hawai'i 31, 47, 7 P.3d 1068, 1084 (2000) prior to proceeding with this second cch. BLNR and DLNR have a duty to preserve and protect customary and traditional Native Hawaiian rights. Why didn't the Applicant, BLNR, and DLNR exercise due diligence prior to proceeding ahead with a second contested case hearing that included several pre-hearing conference days, 44 hearings days and 71 witnesses? This is another example of placing "the cart before the horse." In this case, there are so many carts stacking up in front and the horse is no where to be found. This action resulted in the expenditure of an exorbitant amount of our State resources and public funds as well as uncompensated costs and time of parties such as the Flores-Case 'Ohana serving in the capacity as *pro se*.

As members of the public, the Flores-Case 'Ohana engaged in this process as part of our civic responsibilities. From our perspective, it has been observed that there is an apparent lack of accountability for those decision makers, staff, and legal counsel who are entrusted, but continuously fail to uphold the State's constitution, laws, and regulations. Instead, the burden of ensuring such laws and regulations are properly followed have instead fallen upon members of the public who are forced to enter into such contested case hearings and/or legal appeals. Why aren't these matters properly handled by those of the State who serve in the capacity as trustee of the public trust? There's an underlying perception that these types of projects are typically "rubber stamped" and pushed through the existing State permitting process due to political pressures and/or business influences despite very apparent noncompliance with State laws. What's further disturbing is that both the University and DLNR are State agencies, whom are entrusted and obligated by constitutional and statutory provisions to protect the afore-mentioned resources, rights, and public trust. So once again, the Flores-Case 'Ohana comes before another hearing officer hoping that these matters are handled in a proper and righteous manner that's in alignment with the laws of the land and its people.

II. FINDINGS OF FACT

A. CDUA HA-3568 First Proceeding - Procedural Matters

1. BLNR and DLNR Actions

1. The BOARD OF LAND AND NATURAL RESOURCES ("BLNR") is an executive board that heads the Department of Land and Natural Resources and is an agency of the State of Hawai'i.

2. The DEPARTMENT OF LAND AND NATURAL RESOURCES ("DLNR") is a State Agency, an administrative department of the State of Hawaii, pursuant to Hawaii Revised Statute (HRS) Title 12 Chapter 171 "Public Lands, Management and Disposition of", HRS § 171-3 "Department of Land and Natural Resources", is responsible for the disposition of public lands, including the imposition of reservations, restrictions, and conditions of the disposition of public lands, by sale or lease. The Department is subject to Hawaii Administrative Rules of Practice and Procedure Title 13 "Land and Natural Resources" Chapter 1 § 13-1-1 et. seq.

3. The OFFICE OF CONSERVATION AND COASTAL LANDS ("OCCL") is a department of DLNR.

4. The BLNR and DLNR are subject to all Hawaii State laws and statues.

5. The STATE OF HAWAII ("the State") is a governmental entity and is the trustee of the public land at issue for the benefit of native Hawaiians and the general public, being lands granted to the State by section 5(b) of the Admissions Act and pursuant to Article XVI Section 7 of the State Constitution, as is set forth in the Article XII Section 4 of the Hawaii Constitution (Public Trust).

6. Mr. Samuel Lemmo ("Lemmo"), was the Administrator of OCCL at the time the CDUP application for the proposed 30-meter telescope was submitted. Tr. 2/27/17, V.41 at 216-17.

7. Application CDUA HA-3568 was assigned to OCCL staff planner Mr. Michael Cain ("Cain") for preparation of an OCCL Staff Report. Tr. 2/27/17, V.41 at 218.

8. Public hearings on CDUA HA-3568 for the proposed Thirty Meter Telescope (TMT) in the Mauna Kea Conservation District, Mauna Kea Science Reserve, Ka`ohe Mauka, Hamakua, Hawa`ii, TMK (3) 4-4-015:009 were held: on December 2, 2010 in Hilo and on December 3, 2010 in Kona. Ex. R-7/B.70 at 1, 22.

9. Mr. Cain compiled the information and authored the OCCL staff report for CDUA HA-3568 (Exhibit R-7). Tr. 2/27/17, V.41 at 224.

10. Information included in the staff report was extracted from documents submitted by the Applicant. Tr. 2/27/17, V.41 at 225.

11. Mr. Lemmo reviewed a number of the draft staff reports. Tr. 2/27/17, V.41 at 218 - 219.

12. Mr. Lemmo and Mr. Cain came to an agreement on the final draft of the staff report (Exhibit R-7). Tr. 2/27/17, V.41 at 218-19.

13. Mr. Cain formulated the conclusions for the OCCL Staff Report dated February 25, 2011 for CDUA HA-3568 (Exhibit R-7). Tr. 2/27/17, V.41 at 255.

14. One of the conclusions in the staff report was to approve CDUA HA-3568. Tr. 2/27/17, V.41 at 256.

15. Mr. Cain formulated the recommendations for the staff report dated February 25, 2011 for CDUA HA-3568 (Exhibit R-7). Tr. 2/27/17, V.41 at 257.

16. Exhibit R-7, the February 25, 2011 staff report for CDUA HA-3568, was prepared for the members of the Board of Land and Natural Resources (BLNR) for the February 25th, 2011 meeting. Tr. 2/27/17, V.41 at 219 - 220.

17. Mr. Lemmo presented the staff report (Exhibit R-7) to the BLNR at the February 25, 2011 meeting. Tr. 2/27/17, V.41 at 255.

18. Mr. Lemmon testified that an OCCL staff report submitted to the BLNR should be as complete and accurate as possible so the BLNR members can make informed decisions. Tr. 2/27/17, V.41 at 261.

19. Mr. Lemmon testified that staff recommendations and conclusion to approve CDUA HA-3568 in the OCCL Staff Report were developed before the contested case hearing was held in 2011. Tr. 2/27/17, V.41 at 257 - 258.

20. A CDUA must comply with state laws. Tr. 2/28/17, V.42 at 19.

21. The BLNR approved CDUA HA-3568 and adopted the OCCL staff recommendations and made them conditions of CDUP HA-3568 along with other conditions. Tr. 2/27/17, V.41 at 257

22. On February 25, 2011, the BLNR held a public hearing in Honolulu and voted to approve the CDUA HA-3568 for the Thirty-Meter Telescope. Ex. R-7.

23. Subsequent to the Board's action to approve CDUA HA-3568, they also voted to approve a contested case hearing for this permit at this same meeting on February 25, 2011.

24. Mr. Lemmo testified that once an application goes into a contested case, OCCL's role becomes that of a custodian of the records and OCCL is no longer involved in substantive matters related to the contested case. Tr. 2/27/17, V.41 at 259.

2. Parties

a. Applicant University of Hawai`i at Hilo

25. "University of Hawai'i c/o of University of Hawaii at Hilo" is identified as the "Legal Name" for the Applicant of CDUA HA-3568. Ex. R-1/B.30, CDUA, p. 1.

26. Dr. Donald Straney, Chancellor of UHH, as the agent (signatory) signed CDUA HA-3568 on behalf of the Applicant on September 2, 2010. Ex. R-1/B.30, CDUA, p. 1 - 2.

27. The Applicant UNIVERSITY OF HAWAII ("UH") was established as the state university of the State of Hawai'i (Article X, Section 5 of the Hawaii State Constitution and Hawaii Revised Statues ("HRS") Section 304-2.

28. UHH is a subdivision of the University of Hawaii System. Ex. B.28 at 3-9

b. Petitioners

29. Petitioners that were given standing in the first cch pertaining to CDUP HA-3568 were the following:

Mauna Kea Anaina Hou
Clarence Kukaukahi Ching
Paul K. Neves
Deborah J. Ward
Flores-Case Ohana
KAHEA: The Hawaiian Environmental Alliance

3. CDUP HA-3568 Invalidated

30. On December 2, 2015, the Hawaii Supreme Court issued its decision is *Mauna Kea Anaina Hou* v: *Board of Land and Natural Resources,* 136 Hawai'i 376, 363 P.3d 224 (2015). The Court vacated the circuit court's May 5, 2014 Decision and Order Affirming Board of Land and Natural Resources, State of Hawaii's Findings of Fact, Conclusions of Law and Decision and Order Granting Conservation District Use Permit for the Thirty Meter Telescope at the Mauna Kea Science Reserve Dated April 12, 2013, and final judgment thereon. The Court "remanded [the matter] to the circuit court to further remand to BLNR for proceedings consistent with this opinion, so that a contested case hearing can be conducted before the Board or a new hearing officer, or for other proceedings consistent with this opinion." MO No. 2 at 1.

31. On February 22, 2016, the circuit court issued its remand order in which it also "remand[ed] this matter to the Board of Land and Natural Resources so that a contested case hearing can be conducted before the Board or a new hearing officer, or for other proceedings consistent with the Opinion." MO No. 2 at 1.

32. OCCL was not involved in the process of deciding whether CDUA HA-3568 would come before the BLNR at a public meeting after the Hawai‘i Supreme Court remanded the CDUA back to BLNR. Tr. 2/28/17, V.42 at 63.

B. CDUA HA-3568 Second Proceeding - Procedural Matters

1. BLNR and DLNR Actions

33. The Board of Land and Natural Resources met on February 26, 2016 and after “full discussion of the issue”, the Board delegated the conduct of the contested case hearing to a hearing officer, pursuant to HAR § 13-1-32(b), and confirmed that the chairperson was authorized to engage the services of a hearing officer pursuant to law. MO No. 2 at 1.

a. Hearing Officer Appointment

34. BLNR issued Minute Order No. 1 that provided notice of selection of Riki May Amano as Hearing Officer (“HO”) on subject contested case hearing. MO No. 1 at 1.

b. BLNR Minute Orders

35. On March 31, 2016, in Minute Order No. 1 [Doc. 1], the BLNR Chair issued Notice of selection of Riki May Amano as Hearing Officer on subject contested case.

36. On April 8, 2016, in Minute Order No. 2 [Doc. 3], the BLNR issued Order delegating the conduct of the contested case hearing to a hearing officer, and confirming that the chairperson was authorized to engage the services of a hearing officer.

37. On April 29, 2016, in Minute Order No. 3 [Doc. 11], the BLNR Chair issued Order setting deadlines for responses to Hearing Officer's supplemental disclosures.

38. On May 6, 2016, in Minute Order No. 4 [Doc. 14], the BLNR issued Order regarding objections to the selection process, and regarding objections to the Hearing Officer.

39. On June 3, 2016, in Minute Order No. 9 [Doc. 63], the BLNR issued Order denying Petitioners' motion for reconsideration of Minute Order No. 4 filed on May 6, 2016 and/or Motion to strike selection process and to disqualify various members and Hearing Officer.

40. On July 12, 2016 in Minute Order No. 12 [Doc. 82], the BLNR Chair issued Order denying Temple of Lono's motion for refund of filing fee, filed June 23, 2016.

41. On July 22, 2016 in Minute Order No. 14 [Doc. 124], the BLNR issued Order denying Dwight J. Vicente's motion to disqualify Judge Riki May Amano (ret.); State of Hawaii lack of jurisdiction to hear the contested case hearing.

42. On August 26, 2016 in Minute Order No. 17 [Doc. 245], the BLNR issued **unsigned** Order denying motion objecting to the Hearing Officer and the Hearing Officer Selection Process.

43. On October 14, 2016 in Minute Order No. 36 [Doc. 376], the BLNR issued Order voiding permit.

44. On May 12, 2017 in Minute Order No. 48 [Doc. 631], the BLNR issued Order denying the Temple of Lono's emergency motion to Board to stay proceedings, filed April 27, 2017 [Doc. 573] and related documents [Docs 582, 583, 584, 585, 600, 602, 624].

45. On May 17, 2017 in Minute Order No. 49 [637], the BLNR issued Order denying parties' petition to the Board for online access to the transcripts, filed May 5, 2017 [Doc. 622] and related document [Doc. 627].

46. On May 26, 2017 in Minute Order No. 52 [648], the BLNR issued Order Denying Protector/Parties' Petition for Declaratory Judgment and Motion to Vacate Minute Order No. 43, filed May 11, 2017 [Doc. 629], and Related Document [Doc. 636].

2. Parties/Intervenors

47. Applicant UNIVERSITY OF HAWAI`I AT HILO was represented by the private law firm of Carlsmith Ball, LLP.

48. Petitioners MAUNA KEA ANAINA HOU and KEALOHA PISCIOTTA, CLARENCE KAUAKAHI CHING, PAUL K. NEVES, DEBORAH J. WARD, FLORES-CASE ‘OHANA, and KAHEA: THE HAWAIIAN ENVIRONMENTAL ALLIANCE (hereinafter “Mauna Kea Hui Petitioners”) were represented by attorney Richard Naiwieha Wurdeman.

49. Through Minute Order No. 13, the following were allowed to intervene in this contested case hearing:

TMT International Observatory, LLC
Perpetuating Unique Educational Opportunities, Inc.
Mehana Kihoi
C.M. Kaho`okahi Kanuha
Harry Fergerstrom
Joseph Kualii Lindsey Camara
Jennifer Leina`ala Sleightholm
Maelani Lee
Cindy Freitas
William K. Freitas
Richard Maele DeLeon
Temple of Lono by Lanny Sinkin
Kalikolehua Kanaele
Stephanie-Malia:Tabbada
Tiffnie Kakalia
Glen Kila
Dwight J. Vicente
Brannon Kamahana Kealoha

3. Hearing Officer Witnesses

50. Through Minute Order No. 13, the following were designated as Hearing Officer witnesses:

Crystal F. West
Ivy McIntosh
Wilma H. Holi
Moses Kealamakia, Jr.
Patricia Ikeda

4. Hearing Officer Matters and Minute Orders

51. On May 9, 2016, in Minute Order No. 5 [Doc. 16], the Hearing Officer issued Order setting pre-hearing conference.

52. On May 23, 2016 in Minute Order No. 6 [Doc. 41], the Hearing Officer issued Order setting response date.

53. On May 26, 2016 in Minute Order No. 7 [Doc. 44], the Hearing Officer issued Order setting hearings on motions to intervene and 2nd pre-hearing conference.

54. On May 27, 2016, in Minute Order No. 8 [Doc. 49], the Hearing Officer issued Order setting hearings on motions to intervene and 2nd pre-hearing conference.

55. On June 6, 2016 in Minute Order No.10 [Doc. 65], the Hearing Officer issued Order regarding hearing /conference room rules and extended coverage.

56. On June 9, 2016 in Minute Order No. 11[Doc. 66], the Hearing Officer Order issued regarding relocation of hearings on motions to intervene.

57. On July 21, 2016 in Minute Order No. 13 [Doc. 115], the Hearing Officer issued Order on the hearing on admission or intervention as a party.

58. On August 9, 2016 in Minute Order No. 15 [Doc. 185], the Hearing Officer issued Order regarding change of location for August 12, 2016 continued hearing and 3rd pre-hearing conference.

59. On August 22, 2016 in Minute Order No. 16 [Doc. 238], the Hearing Officer issued Order regarding third prehearing conference.

60. On September 19, 2016 in Minute Order No. 18 [Doc. 274], the Hearing Officer issued Order regarding site visit to Mauna Kea - September 26.

61. On September 23, 2016 in Minute Order No. 19 [Doc. 281], the Hearing Officer issued Order granting Perpetuating Unique Educational Opportunities, Inc.'s motion to set the issues Doc. 99; Order setting issues.

62. On September 26, 2016 in Minute Order No. 20 [Doc. 289], the Hearing Officer issued Order setting fifth pre-hearing conference.

63. On October 10, 2016 in Minute Order No. 21 [Doc. 344], the Hearing Officer issued Order regarding fourth pre-hearing conference.

64. On October 10, 2016 in Minute Order No. 22 [Doc. 345], the Hearing Officer issued Order denying Harry Fergerstrom's (1) Motion to reconsider all motions, application, and/or request for admission or intervention as a party or other parties in this matter; and (2) Motion to strike all motions, applications, decision, etc,: Essentially making moot the entire hearing (Doc. 96).

65. On October 10, 2016 in Minute Order No. 23 [Doc. 346], the Hearing Officer issued Order denying Temple of Lono's motion for partial summary judgement (Doc 78).

66. On October 10, 2016 in Minute Order No. 24 [Doc. 347], the Hearing Officer issued Order denying Kalikolehua Kanaele's motion to exclude/remove PUEO, TMT, UH Manoa/Hilo, and all petitioners seeking for permit for TMT by circumvention of religious protections of the Hawaii Constitution Article XI and HRS 7-11-1107 committing desecration.

67. On October 10, 2016 in Minute Order No. 25 [Doc. 348], the Hearing Officer issued Order denying Stephanie-Malia:Tabbada's motion to vacate entire process for violation of BLNR and University of Hawaii fiduciary trust, rights, responsibilities, breach of contract, etc. mandated the by the law of the land (Doc 97).

68. On October 10, 2016 in Minute Order No. 26 [Doc. 349], the Hearing Officer issued Order denying Maelani Lee's motion to intervene (Doc 84).

69. On October 10, 2016 in Minute Order No. 27 [Doc. 350], the Hearing Officer issued, Order denying Petitioners' request for continuance on submissions and next hearing date (Doc 81) and Petitioners' supplemental request for continuance on submissions and next hearing date (Doc 82).

70. On October 10, 2016 in Minute Order No. 28 [Doc. 351], the Hearing Officer issued Order denying Mehana Kihoi's motion to deny the intervention of Perpetuating Unique Educational Opportunities as a party in the contested case hearing (Doc. 98).

71. On October 10, 2016 in Minute Order No. 29 [Doc. 352], the Hearing Officer issued Order denying Temple of Lono's motion to dismiss for lack of jurisdiction based on unresolved land claims (Doc 126).

72. On October 10, 2016 in Minute Order No. 30 [Doc. 353], the Hearing Officer issued Order denying Kamahana Kealoha: Motion invoking Quo Warranto, respectfully, a

demand of jurisdiction; Declaratory judgement on a constitutional issue / violation resubmitted 8/8/2016 (Doc 180).

73. On October 10, 2016 in Minute Order No. 31 [Doc. 354], the Hearing Officer issued Order denying motion for protective order for the Honorable David Y. Ige, Suzanne Case and Stanley Reohrig (Doc 182).

74. On October 10, 2016 in Minute Order No. 32 [Doc. 355], the Hearing Officer issued Order denying motion to strike motion for protective order for the Honorable David Y. Ige, Suzanne Case and Stanley Roehrig, filed on August 8, 2016 (Doc. 187).

75. On October 10, 2016 in Minute Order No. 33 [Doc. 356], the Hearing Officer issued Order denying Temple of Lono's motion to dismiss out of time (Doc. 179).

76. On October 11, 2016 in Minute Order No. 34 [Doc. 363], the Hearing Officer issued Order denying Kamahana Kealoha's motion demanding inventory of the so-called ceded lands containing the specific land and parcel the TIO plans to be sub-leased by UH who leases said lands from the BLNR, a survey of these lands also (Doc. 191).

77. On October 13, 2016 in Minute Order No. 35 [Doc.365], the Hearing Officer issued Order re: dismissal of Shelley Stephen's request to be part of Contested Case Hearing (Doc. 213).

78. On October 19, 2016 in Minute Order No. 37 [Doc. 388], the Hearing Officer issued Order denying motion to strike Conservation District Use Application, HA-3568, dated September 2, 2010, and/or motion for summary judgement (Doc. 94)

79. On October 19, 2016 in Minute Order No. 38 [Doc. 389], the Hearing Officer issued Order denying motion to disqualify BLNR's and Hearing Officer's counsel (Doc 95).

80. On October 28, 2016 in Minute Order No. 39 [Doc. 406], the Hearing Officer issued Order denying renewed motions to disqualify Hearing Officer (Doc 340).

81. On October 28, 2016 in Minute Order No. 40 [Doc. 407], the Hearing Officer issued Order denying J Leinaala Sleightholm's motion to clarify minute.

82. On January 20, 2017 in Minute Order No. 41 [Doc. 446], the Hearing Officer issued Order regarding date to set witnesses.

83. On February 17, 2017 in Minute Order No. 42 [Doc. 464], the Hearing Officer issued Order granting Flores-Case Ohana's request for subpoena for Samuel Lemmo - Adminstrator, Office of Conservation and Coastal Lands, DLNR, State of Hawaii (Doc. No. 452) and denying the University of Hawaii at Hilo's motion to quash Flores-Case Ohana's request for Samuel Lemmo - Administrator, Office of Conservation and Coastal Lands, DLNR, State of Hawaii (Doc 444).

84. On April 18, 2017 in Minute Order No. 43 [Doc.552], the Hearing Officer issued Order setting post-hearing deadlines.

85. On April 20, 2017 in Minute Order No. 44 [Doc. 553], the Hearing Officer issued Order regarding documentary evidence.

86. On May 2, 2017 in Minute Order No. 45 [Doc. 590], the Hearing Officer issued Order granting in part / denying in part petitioners Mauna Kea Anaina Hou, et al.'s request for further status conference and/or consideration of proposed scheduling (Doc. 254).

87. On May 2, 2017 in Minute Order No. 46 [Doc. 595], the Hearing Officer issued Order related to Temple of Lono motion to recuse Hearing Officer (Doc. Nos. 262, 434, 436, 536, 544).

88. On May 4, 2017 in Minute Order No. 47 [Doc. 609], the Hearing Officer issued Order related to Temple of Lono motion for summary judgement (disqualification) (Doc. 263).

89. On May 23, 2017, in Minute Order No. 50 [646] the Hearing Officer issued Order denying reconsideration of Minute Order No. 43.

90. On May 25, 2017 in Minute Order No. 51 [650], the Hearing Officer issued Order Amending Minute Order No. 44 and Granting In Part/Denying In Part Reconsideration of Minute Order No. 44.

5. Other Matters and Motions

Due to the extensive volume of motions and other filings in this cch, only those filed by the Mauna Kea Hui Petitioners counsel, those filed by Flores-Case ‘Ohana in the capacity as *pro se*, or those associated with such filings are listed below.

91. By motion dated April 15, 2016, Mauna Kea Hui Petitioners filed [Doc. 6] Petitioners‘ objections to selection process and to appointment of Hearing Officer made pursuant to Minute Order No. 1, dated March 31, 2016.

92. By motion dated May 6, 2016, Mauna Kea Hui Petitioners filed [Doc. 15] Petitioners‘ objections regarding procurement committee and process and committee member / BLNR Board member.

93. By motion dated May 13, 2016, Mauna Kea Hui Petitioners filed [Doc. 17] Petitioners' motion for reconsideration of Minute Order No. 4, filed on May 6, 2016 and/or motion to strike selection process and to disqualify various members and hearing officer.

94. By motion dated May 31, 2016, Mauna Kea Hui Petitioners filed [Doc. 52] Petitioners' submissions and positions on record; Exhibit "A."

95. By motion dated June 16, 2016, Mauna Kea Hui Petitioners filed [Doc. 69] Petitioners' memorandum in opposition to Perpetuating Unique Educational Opportunities, Inc.'s motion to intervene, dated May 16 2016.

96. By motion dated June 13, 2016, Mauna Kea Hui Petitioners filed [Doc. 70] Petitioners' memorandum in opposition to TMT's motion to have TMT International Observatory, LLC admitted as a party in the contested case hearing.

97. By motion dated July 11, 2016, Mauna Kea Hui Petitioners filed [Doc. 81] Petitioners Mauna Kea Anaina Hou et al.'s request for continuance on submissions and next hearing date.

98. By motion dated July 12, 2016, Mauna Kea Hui Petitioners filed [Doc. 83] Petitioners Mauna Kea Anaina Hou et al.'s supplement to request for continuance on submissions and next hearing date.

99. By motion dated July14, 2016, Mauna Kea Hui Petitioners filed [Doc. 87] Petitioners Mauna Kea Anaina Hou et al.'s supplement to request for continuance on submissions and next hearing date.

100. By motion dated July 18, 2016, Mauna Kea Hui Petitioners filed [Doc. 94] Petitioners Mauna Kea Anaina Hou et al.'s motion to strike Conservation District Use Application, HA-3568, dated September 2, 2010, and/or motion for summary judgement.

101. By motion dated July 18, 2016, Mauna Kea Hui Petitioners filed [Doc. 95] Petitioners Mauna Kea Anaina Hou et al.'s motion to disqualify BLNR's and Hearing Officer's counsel.

102. By motion dated July 18, 2016 Mauna Kea Hui Petitioners filed [Doc.103] Petitioners Mauna Kea Anaina Hou et al.'s witness list.

103. By motion dated July 18, 2016, Mauna Kea Hui Petitioners filed [Doc. 104] Petitioners Mauna Kea Anaina Hou et al.'s supplemental witness list.

104. By motion dated July 26, 2016, Mauna Kea Hui Petitioners filed [Doc. 130] Petitioners Mauna Kea Anaina Hou et al.'s: (1) Renewal of objections to hearing officer selection process and hearing officer appointment, and (2) supplemental arguments on motion to disqualify BLNR's and Hearing Officer's counsel, filed on July 18, 2016.

105. By motion dated August 1, 2016, Mauna Kea Hui Petitioners filed [Doc. 163] Mauna Kea Anaina Hou, et. al. Petitioners' initial objections to witnesses designated by other parties

106. By motion dated August 1, 2016, Mauna Kea Hui Petitioners filed [Doc. 165] (email) Note for the record.

107. By motion dated August 10, 2016, Mauna Kea Hui Petitioners filed [Doc. 188] Wurdeman correspondence addressed to Hearing Officer Judge (Ret.) Riki May Amano and BLNR Chair Suzanne Case re: Hearing on Petitioners' motion to disqualify BLNR's and Hearing Officer's counsel, Filed on July 18, 2016, filed on August 10, 2016.

108. By motion dated August 17, 2016, Mauna Kea Hui Petitioners filed [Doc. 218] Petitioners Mauna Kea Anaina Hou, et al.'s site visit recommendations

109. By motion dated August 22, 2016, Mauna Kea Hui Petitioners filed [Doc. 233] Petitioners Mauna Kea Anaina Hou, et al.'s memorandum in opposition to motion for protective order for the Honorable David Y. Ige, Suzanne Case and Stanley Roehrig, filed on August 8, 201.

110. By motion dated September 8, 2016, Mauna Kea Hui Petitioners filed [Doc. 254] Petitioners Mauna Kea Anaina Hou, et al.'s request for further status conference and/or consideration of proposed scheduling.

111. By motion dated September 19, 2016, Mauna Kea Hui Petitioners filed [Doc. 270] Mauna Kea Anaina Hou, et al. Petitioners' response to P.U.E.O., Inc.'s proposed minute order granting P.U.E.O., Inc.'s motion to set issues.

112. By motion dated September 23, 2016, Mauna Kea Hui Petitioners filed [Doc. 282] Correspondence regarding notice of contested case hearing.

113. By motion dated September 26, 2016, Mauna Kea Hui Petitioners filed [Doc. 288] Petitioner Mauna Kea Anaina Hou, et al.'s objections to site visit and Minute Order No. 18.

114. By motion dated October 10, 2016, Mauna Kea Hui Petitioners filed [Doc. 340] Petitioners Mauna Kea Anaina Hou, et al.'s renewed motion to disqualify hearing officer.

115. By motion dated October 10, 2016, Mauna Kea Hui Petitioners filed [Doc. 341] Notice of withdrawal of counsel.

116. By motion dated October 10, 2016, Mauna Kea Hui Petitioners filed [Doc. 342] Petitioners Mauna Kea Anaina Hou and Kealoha Pisciotta, Clarence Kukauakahi Ching; Flores Case Ohana, Deborah J. Ward, Paul K. Neves, and Kahea: The Environmental Alliance list of e-mail addresses for service of process.

117. By motion dated October 17, 2016, Mauna Kea Hui Petitioners filed [Doc. 383] Petitioners' Statement of Position in Response to the University's Statement Re Petitioners Renewed Motion to Disqualify Hearing Officer Document 369.

118. By motion dated October 10, 2016, Flores-Case ‘Ohana filed [Doc. 377] Flores-Case 'Ohana's Motion for 30 Day Extension of Start of Contested Case Hearing.

119. By motion dated October 17, 2016, Flores-Case ‘Ohana filed [Doc. 385] Flores-Case 'Ohana's

120. motion to admit first supplemental exhibits into evidence; Memorandum in support of motion.

121. By motion dated January 25, 2017, Flores-Case ‘Ohana filed [Doc. 447] Flores-Case Ohana's request for witness subpoena for 'John Doe' and for a subpoena duces tecum to disclose unidentified Maunakea Observatories Support Services employee involved with the destruction of ahu (shrine) on Mauna Kea in August of 2015.

122. By motion dated January 25, 2017, Flores-Case ‘Ohana filed [Doc. 448] Flores-Case Ohana request for witness subpoena for Samuel Lemmo, Administrator, Office of Conservation and Coastal Lands, DLNR, State of Hawaii.

123. By motion dated January 27, 2017, Flores-Case ‘Ohana filed [Doc. 452] Flores-Case Ohana's amended request for witness subpoena for Samuel Lemmo, Administrator, Office of Conservation and Coastal Lands, DLNR, State of Hawaii; Memorandum in support of amended request; Appendix "A."

124. By motion dated February 16, 2017, Flores-Case ‘Ohana filed [Doc. 465] Flores-Case Ohana's response to applicant University of Hawaii at Hilo's motion for leave to present rebuttal testimony; memorandum in support of response; Exhibit "a."

125. By motion dated February 28, 2017, Flores-Case ‘Ohana filed [Doc. 487] Flores-Case 'Ohana's Motion to Admit Evidence and WDT Into Evidence; Memorandum in Support of Motion.

126. By motion dated March 8, 2017, Flores-Case ‘Ohana filed [Doc. 500] Flores-Case Ohana's motion to admit first supplemental exhibits into evidence; Memorandum in support of motion.

127. By motion dated March 16, 2017, Flores-Case ‘Ohana filed [Doc. 513] Flores-Case Ohana's response to applicant University of Hawaii at Hilo's motion to admit exhibits into evidence; Memorandum in support of response.

128. By motion dated March 22, , Flores-Case ‘Ohana filed [Doc. 532] Flores-Case Ohana's joinder to Mauna Kea Anaina Hou's motion requesting time to respond to exhibits objections and related matters; Flores-Case Ohana's motion in opposition to University of Hawaii at Hilo's opposition to motions to admit exhibits and written direct testimonies (Doc 514) and to TMT International Observatory, LLC's memorandum in opposition to motions to admit exhibits and written direct testimonies (Doc 511); Memorandum in support.

129. By motion dated April 25, 2017, Flores-Case ‘Ohana filed [Doc. 558] Flores-Case 'Ohana's motion to reconsider Minute Order No. 43; Memorandum in support of motion.

130. By motion dated April 27, 2017, Flores-Case ‘Ohana filed [Doc. 577] Flores-Case Ohana's motion to reconsider Minute Order No. 44 and notice of spoliation of evidence; Memorandum in support of motion; Exhibit "A."

131. By motion dated May 7, 2017, Flores-Case ‘Ohana filed [Doc. 623] Flores-Case Ohana's response to applicant University of Hawaii at Hilo's Doc. No.s 592 & 615; Memorandum in support of response.

132. By motion dated May 7, 2017, Flores-Case ‘Ohana filed [Doc. 624] Flores-Case Ohana's joinder to Temple of Lono emergency motion to Board to stay proceedings (Doc. No. 573).

133. By motion dated May 15, 2017, Flores-Case ‘Ohana filed [Doc. 634] Flores-Case Ohana's motion for clarification or, in the alternative, reconsideration re: Minute Orders No. 43 and 44, filed 4/25/17 & 4/27/17 [Doc. Nos. 558 & 577]; Memorandum in support of motion; Declaration of E. Kalani Flores; Exhibit "A."

134. By motion dated May 16, 2017, Flores-Case ‘Ohana filed [Doc. 635] Flores-Case Ohana's joinder to parties' petition to the Board for online access to the transcripts [Doc. No. 622].

135. By motion dated May 16, 2017, Flores-Case ‘Ohana filed [Doc. 636] Flores-Case Ohana's joinder to protector/parties' petition to Board for declaratory judgment and motion to vacate Minute Order 43 [Doc. No. 629].

6. Site Visit

136. Through Minute Order No. 18 [Doc. 274], the Hearing Officer issued Order regarding the site visit to Mauna Kea on September 26, 2016.

137. Mr. Ishibashi testified that they didn’t stop at the actual proposed TMT site during the site visit. As such, participants, including the Hearing Officer, were prevented from getting out to take a first-hand look at the site. Tr. 11/16/16, V.9 at 142 – 146.

138. Mr. Ishibashi also testified their vehicle with himself and Ms. Nagata driving, both personnel of the Applicant as OMKM staff, were in the lead vehicle during the site visitation. Tr. 11/16/16, V.9 at 142 – 146.

7. Contested Case Hearings in 2016-2017

a. Issues set

139. Through Minute Order No. 19 [Doc. 281], the Hearing Officer granted Perpetuating Unique Educational Opportunities, Inc.’s motion to set the issues as such:

- Is the proposed land use, including the plans incorporated in the application, consistent with Chapter 183C of the Hawai`i Revised Statutes, the eight criteria in HAR §13-5-30(c), and other applicable rules in HAR, Title 13, Chapter 5 Conservation District?

- Is the proposed land use consistent with Article XII, Section 7 of the Hawai'i State Constitution and *Ka Pa`akai O Ka`Aina v. Land Use Comm'n. State of Hawai'i*, 94 Hawai'i 31, 7 P.3d. 1068 (2000)?

- Is the proposed land use consistent with Article XI, Section 1 of the Hawai'i State Constitution and the public trust doctrine?

b. Flores-Case 'Ohana Witnesses

140. E. Kalani Flores was presented as a witness along with written direct testimony ("WDT") (Ex. B.02a) on behalf of the Flores-Case 'Ohana. Flores was called on January 30, 2017 to testify on the relevance of facts presented and also provided all parties an opportunity to cross-examine this witness and to submit any rebuttal evidence. Tr.1/30/17 vol 32.

141. The Applicant or any other party did not provide any creditable witness or evidence to rebut any of the facts presented by witness E. Kalani Flores.

142. Prof. Flores, member of the Flores-Case 'Ohana, resides in Pu'ukapu, Waimea, Kohala Waho, Mokupuni o Hawai'i and is a Kanaka Maoli (also identified as a Native Hawaiian, *he hoa'āina o Moku o Keawe*, *he 'ōiwi o ka pae 'āina Hawai'i*, an indigenous person of the archipelago of Hawai'i) and a descendent of native Hawaiians who inhabited the Hawaiian Islands prior to 1778 as established through his genealogical lineage of Hukiku and Keulua. Ex. B.02a at 1 (Flores WDT).

143. Prof. Flores is a cultural practitioner with substantial interest in Mauna a Wākea (also referred to as Mauna Kea), who continues to exercise his traditional and customary Native Hawaiian cultural, spiritual, and religious practices and who continues to engage in cultural practices, protocols, and ceremony gatherings connected to and on Mauna a Wākea. These traditional and customary Native Hawaiian practices, including pilgrimages to the top of Mauna a Wākea, pre-date 1892 as evidenced through *'ike kupuna*, oral traditions, indigenous knowledge, ancestral insight, cultural sites, and several reports. Ex. B.02a at 1 (Flores WDT).

144. Prof. Flores has a B.A. degree in Hawaiian Studies from the University of Hawai'i at Hilo (UHH) along with a D.O.E Teaching Certification and has been an educator for over 30 years with the Hawai'i State Department of Education and the University of Hawai'i systems. Ex. B.02a at 1 (Flores WDT).

145. Prof. Flores is presently employed as a tenured Hawai'i Life Styles - Professor at Hawai'i Community College – Pālamanui instructing Hawaiian Studies courses, including, but not limited to the subjects of Hawaiian language, cultural traditions, spirituality, ethnobotany, and history. Prof. Flores is fluent in the Hawaiian language. Ex. B.02a at 1 (Flores WDT).

146. Prof. Flores is also owner of a consulting firm, *Mana'o'i'o*, specializing in the field of Hawaiian Studies who has consulted on several projects and authored several Hawaiian cultural and historical research reports for Federal and State agencies as well as for private firms. Ex. B.02a at 1 (Flores WDT).

147. Prof. Flores has served for over 30 years on commissions, committees, and boards including, but not limited to Hawai'i County Public Access, Open Space, & Natural Resources Preservation Commission (5 yrs); Kaua'i County Historic Preservation Review Commission (6 yrs); OHA - Native Hawaiian Historic Preservation Council (10 yrs); Bishop Museum Native Hawaiian Culture & Arts Program (7 yrs) that included the review of archaeological surveys, mitigation plans, technical reports, and other similar types of documents. As such, Prof. Flores has established his extensive experience and knowledge in the review and assessment of reports and documents. Ex. B.02a at 1 (Flores WDT); Ex. B.02b at 2 – 3 (Flores Vitae).

148. Based upon the legal standards covered in Hawai'i Rules of Evidence – Rule 702, Prof. Flores would be qualified as an expert witness through his knowledge, skills, experience, training, ancestral connections, and education in the subject matter pertaining to Hawaiian cultural traditions. Ex. B.02a at 1 (Flores WDT).

149. B. Pualani Case was presented as a witness along with WDT (Ex. B.21a) on behalf of the Flores-Case 'Ohana. Ms. Case was called on January 11, 2017 to testify on the relevance of facts presented and also provided all parties an opportunity to cross-examine this witness and to submit any rebuttal evidence. Tr. 1/11/17 vol 25.

150. Ms. Case, member of the Flores-Case 'Ohana, resides in Pu'ukapu, Waimea, Kohala Waho, Mokupuni o Hawai'i and is a Kanaka Maoli (also identified as a Native Hawaiian, *he hoa'āina o Moku o Keawe*, *he 'ōiwi o ka pae 'āina Hawai'i*, an indigenous person of the archipelago of Hawai'i) and a descendent of native Hawaiians who inhabited the Hawaiian Islands prior to 1778 as established through her family lineage connected to the clan of 'Awini and her grandfather, 'Umihulumakaokalanikia'imaunao'awini, seven generations ago who guarded the pass of 'Awini at the time of Kamehameha's birth. Ex. B.21a at 1 (Case WDT).

151. Ms. Case is a cultural practitioner, Kumu Hula, chanter, and parent with connections to Mauna a Wākea. Ex. B.21a at 1 (Case WDT).

152. Ms. Case acknowledges the *pueo*, *manō* and *mo'o* as her *'aumākua.* Ex. B.21a at 1 (Case WDT).

153. Ms. Case has a B.A. degree in Hawaiian Studies from the University of Hawai'i at Hilo along with a D.O.E Teaching Certification and has been an educator for nearly 30 years in the Hawaii Sate public school system. Ex. B.21a at 1 (Case WDT).

154. Ms. Case is fluent in the Hawaiian language and is presently a Hawaiian cultural consultant, teacher, lecturer and community leader and resource. Ex. B.21a at 1 (Case WDT).

155. Based upon the legal standards covered in Hawai‘i Rules of Evidence – Rule 702, Ms. Case would also be qualified as an expert witness through her knowledge, skills, experience, training, and education in the subject matter pertaining to Hawaiian cultural traditions. Ex. B.21a at 1 (Case WDT).

156. The Applicant or any other party did not provide any creditable witness or evidence to rebut any of the facts presented by witness B. Pualani Case.

157. Kapulei Flores was presented as a witness along with WDT of behalf of the Flores-Case ‘Ohana. However, she was later withdrawn as a witness along with her WDT. Tr. 1/25/17 vol. 30.

158. Dr. Kū Kahakalau was presented as a witness along with written direct testimony (Ex. B.06a) on behalf of the Flores-Case ‘Ohana. Dr. Kahakalau was called on January 9, 2017 to testify on the relevance of facts presented and also provided all parties an opportunity to cross-examine this witness and to submit any rebuttal evidence. Tr. 1/9/17 vol. 23.

159. As native Hawaiian cultural practitioners, her family regularly engages in Hawaiian ceremonies and protocol and has raised their daughters in these traditions, which include daily family protocols, healing rituals, monthly ceremonies based on the moon cycle, multiple yearly makahiki and other ceremonies like house blessings, graduations etc. Ex. B.06a at 1.

160. Dr. Kahakalau has a Bachelor’s in Secondary Education and a Professional Diploma in Hawaiian Language, and a Master’s Degree in European Languages and Literature. She is the first person in the world to earn a Ph.D. in Indigenous Education. Dr. Kahakalau has over 30 years of experience teaching Hawaiian language, history and cultural studies to learners of all ages and levels, in and outside of the classroom. She has developed and implemented multiple educational pilots and spent over two decades researching the impact of Hawaiian-focused education on native learners. Ex. B.06a at 1.

161. Dr. Kahakalau is a native Hawaiian educator, researcher, scholar, composer and recognized expert in Hawaiian language and culture. She has served as an expert witness in various contexts, including testifying in contested case hearings. Dr. Kahakalau has lectured all over the world on diverse aspects of Hawaiian language and culture revitalization through culturally-driven models of education. Tr. 01/09/17 vol. 23 at 71, Ex. B.06a at 1.

162. Dr. Kahakalau has extensive experience in teaching, particularly in Hawaiian-focused educational settings for native learners. She is the founder and former director of Kanu o ka ʻĀina New Century Public Charter School, Hālau Wānana Indigenous Center for Higher Learning, Mālamapōkiʻi Early Childhood Program, the Kanu o ka ʻĀina Learning ʻOhana and Kauhale ʻŌiwi o Puʻukapu, all located in Waimea on Hawaiʻi Island. She is dedicated to educating through EA, a pedagogy based on the concept of "Education with Aloha." Ex. B.06a at 1 - 2.

163. Over the years, Dr. Kahakalau has received many awards including the Order of Princess Pauahi from the Kamehameha Schools. This is the highest and most distinguished award given to those whose extraordinary lifetime contributions have positively impacted the Hawaiian community and who exemplify the values and vision of the Princess Bernice Pauahi Bishop. Ex. B.06a at 2.

164. Dr. Kahakalau is also an active community leader, serving on multiple non-profit boards, representing Hāmākua for eight (8) years on the Hawaiʻi Island Burial Council and currently serving as chair of the Hawaiʻi County Board of Ethics. Ex. B.06a at 1.

165. The Applicant or any other party did not provide any creditable witness or evidence to rebut any of the facts presented by witness Dr. Kū Kahakalau.

166. Dr. Manulani Aluli Meyer was presented as a witness along with written direct testimony (Ex. B.05a) on behalf of the Flores-Case ʻOhana. Dr. Meyer was called on January 26, 2017 to testify on the relevance of facts presented and also provided all parties an opportunity to cross-examine this witness and to submit any rebuttal evidence.

167. Dr. Meyer is a Native Hawaiian scholar and practitioner of Hawaiian knowledge. She earned her PhD in Education from Harvard University in 1998 and has since published widely and has also worked with indigenous communities and scholars around the world. Ex. B.05b. at 1.

168. Dr. Meyer has extensive experience in *hoʻoponopono* (Hawaiian healing practices and processes) and education. In addition to teaching in the field of education, Dr. Meyer has directed and led various indigenous education programs in both Hawaiʻi and Aotearoa, New Zealand. She has studied and made significant contributions to the field of Indigenous Epistemology, or the Philosophy of Knowledge. Ex. B.05a at 1.

169. The Applicant or any other party did not provide any creditable witness or evidence to rebut any of the facts presented by witness Dr. Manulani Aluli Meyer.

170. Ruth Aloua was presented as a witness along with written direct testimony (Ex. B.24a) on behalf of the Flores-Case ʻOhana. Ms. Aloua was called on February 15, 2017 to testify on the relevance of facts presented and also provided all parties an opportunity to cross-examine this witness and to submit any rebuttal evidence. Tr. 2/15/2017 vol. 26.

171. Ms. Aloua has a Bachelor of Arts in Anthropology from the University of Hawaiʻi at Hilo and a Master of Arts in Archaeology from Simon Fraser University in British Columbia, Canada. She has experience as an archaeologist for private firms and the National Park Service. Ms. Aloua has knowledge and skills ranging from familiarity with archaeological and anthropological practices, policies, and management plans at the county, state, and federal levels. Ex. B.24a at 1.

172. Ms. Aloua is a Kanaka Maoli (Native Hawaiian) and is a traditional and customary practitioner of Mauna Kea. Ex. B.24a at 1; Tr. 2/15/2017 vol. 26 at 91.

173. The Applicant or any other party did not provide any creditable witness or evidence to rebut any of the facts presented by witness Ruth Aloua.

174. Diana LaRose was presented as a witness along with written direct testimony (Ex. B.25a) on behalf of the Flores-Case ʻOhana. Ms. LaRose was called on January 19, 2017 to testify on the relevance of facts presented and also provided all parties an opportunity to cross-examine this witness and to submit any rebuttal evidence.

175. Ms. LaRose, M.A., is of Canadian Cree Nation ancestry and has been a traditional native healing practitioner for over 25 years. She has been termed a "sensitive," that is she can see, feel, and communicate with animals, the forces of nature, the Earth, and others. Ms. LaRose comes forward as an earth-keeper, who has been called to share her experiences concerning Mauna Kea Ex.B.25a at 1.

176. Ms. LaRose has ability to see with inner vision, the other dimensions which exist there. She has had this gift all of her life and it has been proven accurate. For the past eight years, she have been doing this spiritual work with Native Hawaiian cultural practitioners in Hawaiʻi and elsewhere. LaRose has gone to ceremonies on Mauna Kea for about eight years with Hawaiian cultural practitioners. Ex.B.25a at 2. Tr. 1/19/17 vol. 27 at 234.

177. The Applicant or any other party did not provide any creditable witness or evidence to rebut any of the facts presented by witness Diana LaRose.

C. Mauna Kea Lands

1. Sacredness and Cultural Significance of Mauna a Wākea

178. The *inoa* (name) of **Mauna a Wākea** literally means, "Mountain of Wākea". This name is also reverberated by the ancestral guardians connected to this sacred mountain. Wākea (Sky Father) is personified in the atmosphere and heavenly realm that envelops Papahānaumoku (Mother Earth). This mountain is also referred to as "Mauna a Kea", "Mauna Kea", or just "Wākea". Ex. B.02a at 18, Flores WDT.

179. Mauna Kea is the highest insular volcano in the world. It is home to numerous unique geologic features and a truly awe inspiring natural environment. Revered by Hawaiians for centuries, Mauna Kea still evokes feelings of spirituality from its visitors through majestic views and a landscape that reflect the volcanic history of our planet. Ex. B.28 at 5-24, CMP.

180. It is known that Mauna Kea has long been regarded by many native Hawaiians as the most sacred place on the island, and it has been, and continues to be used as a place to conduct traditional and customary practices. Cultural and religious practices associated with the mountain include prayer, burial, and other rituals, and construction of small shrines. Ex. B.42 at 2-24, CMP MKPAP.

181. "Mauna Kea is now widely regarded by some as not only a sacred place, but the most important of all of the sacred places on the island of Hawai`i." Ex. B.40, CMP CRMP.

182. Mauna Kea is a sacred site to the Native Hawaiian community (Maly 1999; Maly and Maly 2005). Ex. B.28 at 2-2, CMP.

183. "It is clear that to many Hawaiians, Mauna Kea is more than a mountain; it is the embodiment of the Hawaiian people." Ex. B.28 at 1-1, CMP.

184. Revered by Hawaiians for centuries, Mauna Kea remains a place of significant worship for Hawaiians, as well as non-Hawaiians. Ex. B.28 at 5-24, CMP.

185. The physical prominence of Mauna Kea as well as its stationing nearest to the heavens holds a spiritual significance for the Hawaiian people, a significance that can be expressed in likening the mountain to a sacred alter. Ex. B.28 at 1-3, CMP.

186. For some Hawaiians, Mauna Kea is so revered that there is no desire to ascend it, no desire to trespass on what is considered sacred space. Simply viewing the tower, the mountain, from afar, both affirms its presence, and reaffirms the sense of connection with both place and personage. For this reason, many Hawaiians feel that activities on Mauna Kea that lead

to visible alterations of the landscape not only have a significant effect on the mountain itself, but also have a damaging effect on everything and everyone that is physically, genealogically, spiritually and culturally tied to Mauna Kea. Ex. B.28 at 1-4, CMP.

187. Pualani Kanakaʻole Kanahele has stated, "Mauna Kea was always *kupuna* [an elder, ancestor] to us. Mauna Kea and Mauna Loa, the tips, they were always *kūpuna* [elders, ancestors]. and there was no wanting to go on top. You know, just to know that they were there was just satisfying to us. And so it was kind of a hallowed place that you know is there, and you don't need to go there. You don't need to bother it. But it is there, and it exists. And it was always reassuring because it was the foundation for our island." Ex. B.37 at V-15, MP.

188. Ms. Kanahele describes the summit region of Mauna Kea as a "sacred landscape." Indeed for some people it was so sacred, that there was no desire to even walk upon it Mauna Kea - the Mountain of Wākea and first born of Hawai'i, is *kupuna* (an elder or ancestor). Just seeing Mauna Kea from afar provided Hawaiians with a sense of well-being and security. Pua states that seeing Mauna Kea today with construction upon it is hurtful and shameful. Ex. B.38 App. I at 23, MP.

189. "It is Mauna Kea, the most sacred mountain in all of Polynesia…The entire mountain is a temple, a heiau and the mountain itself is kapu—sacred…the scientists didn't know this when they built their telescope on the mountain's summit. Nor did they ask permission to do so from the caretakers of that sacred place, and the mountain does have kahus. Yet we cannot be too hard on the scientist, for they were simply operating from a place of ignorance, a place of theory, and they are just passing through." (Ancestral wisdom uttered by Hawaiian Shaman, Elder and Teacher, Hale Kealohalani Makua, in the book titled; "The Bowl of Light", by Hank Wesselman, Ph.D., p. 192) Ex. B.21a at 1, Case WDT.

190. For native Hawaiians, both ancient and modern, the feelings for Mauna Kea go beyond wonder and astonishment, to the recognition of the mountain as a sacred domain. These profound feelings of reverence are expressed in the saying: "*O Mauna Kea ko kākou kuahiwi laʻa*" (Mauna Kea, our sacred mountain). Ex. B.37 at I-1, MP.

191. The ancient saying "*Mauna Kea kuahiwi ku haʻo i ka mālie*" (Mauna Kea is the astonishing mountain that stands in the calm) (Pukui 1983: No. 2147), expresses the universal feeling experienced by all who come in contact with this special place. Ex. B.37 at I-1, MP.

192. According to *ʻike kupuna,* indigenous knowledge and ancestral insight, the top of Mauna a Wākea is one of the three most sacred and significant places on Hawaiʻi Island. It is indeed a sacred ***piko***. Ex. B.02a at 18, Flores WDT.

193. Mauna Kea is "*ka piko o ka moku*," which means "Mauna Kea is the navel of the island." Understanding the word *piko* may give a deeper understanding of why Mauna Kea is the *piko*, or navel, of the island. This perspective is further described in the Cultural Anchor of the CMP. Ex. B.28 at i-ii, CMP.

194. Sacred mountains such as Mauna a Wākea, due to their geological composition and extreme height, are a *piko* (portal) that allows for the transference of energy from one source to another. This understanding is reflected in the traditional Hawaiian concept of the "triple *piko*" of a person. In essence, the *piko* on the summit of the mountain is comparable to the *piko* located on the tops of one's head at the fontanel. Ex. B.02a at 20, Flores WDT.

195. "When we understand the three *piko* of the human anatomy, we may begin to understand how they manifest in Mauna Kea. Mauna Kea as the fontanel requires a pristine environment free of any spiritual obstructions." Ex. B.28 at ii, CMP.

196. Exhibit B.02x provides a sketch of triple *piko* perspective. Exhibit B.02x.

197. The Kanaheles (1997) tell of Mauna Kea as the *piko* or origin point for the island of Hawai'i, and specifically the northern half of the island. Mauna Kea is, therefore, a place of great *mana*. Kanahele has also said that the three *pu'u*, Poli'ahu, Līlīnoe, and Wai'au are named for three sister goddesses who are female forms of water. Poli'ahu is embodied in the snow, Līlīnoe in mist, and Wai'au in the lake. These *pu'u* are where the goddesses manifest themselves. Of these three landforms two, Poli'ahu and Līlīnoe, are located in the Science Reserve. Wai'au is located in the Natural Area Reserve (Figure V-6). Ex. B.37 at V-15, MP.

198. It is this *piko* on top of the summit where energies and life forces flow from the Creator and higher dimensions, through the realm of Wākea, and then into the Earth. Ex. B.02a at 21. Flores WDT.

199. Mauna a Wakea is a significant piko of this earth that is connected to other very significant pikas [sic] of other places. Tr. 1/11/17 vol. 25 at 183.

200. On 4 March 2011, a photograph was taken from Waimea by Kehaulani Marshall showing a portal opening above the *piko* of Mauna a Wākea when such an event was occurring. Ex. B.02w; Ex. B.02a at 21, Flores WDT.

201. Ms. Case has personally witnessed a portal opening overhead in the sky above the *piko* of Mauna Kea. [see photo in Ex. B.02w] Likewise, she has seen and experienced other divine occurrences connected with the mountain during their ceremonies. Ex. B.21a at 6, Case WDT.

202. Mauna a Wākea anchors a very complex multi-dimensional over-fold, and does so through its very conscious geometric grid, complex frequencies, and unique electromagnetic field. The summit is also an area where vortexes of energy occur. Vortexes distribute energy outward in what is termed electrical vortexes, and inward in what is termed magnetic vortexes. Ex. B.02a at 21, Flores WDT.

203. Exhibit B.02x provides a diagram of vortex energies at Mauna a Wākea. Exhibit B.02x.

204. Mauna a Wākea also resonates in harmonic oscillation with Mount Shasta in California, Mount Fuji in Japan, and other specific mountains around the world. Due to these energetic connections between these mountains, impacts upon Mauna a Wākea also impacts other mountains and vice versa. Ex. B.02a, at 21, Flores WDT.

205. There are countless mountains around the world considered sacred by cultures past and present. These holy mountains are also keystones to indigenous religions that regarded these areas as the abodes of certain gods, goddesses, deities, divine beings, natural forces, and spirits. In addition, pilgrimages to sacred mountains have been taking place for thousands of years. Whether it is Mauna a Wākea, Mount Shasta in California, Mount Fuji in Japan, Mount Teide in the Canary Islands, or Mount Sagarmāthā (Everest) in Nepal, their sacredness has resonated from centuries past. Ex. B.02a, Flores at 20, WDT

206. Exhibit B.02v provides a series of photos of mountains around the world such as Mauna a Wākea that are considered sacred by cultures past and present. Exhibit B.02v.

207. The knowing of Mauna a Wākea as being ***kapu*** (sacred) was known from the remote times of the ancient ones. It is for this reason that amongst the countless ancestors of Kanaka Maoli and numerous *ali'i* (chiefly) dynasties that lived in these islands, they never built any large *heiau* (temples) on the summit in this realm that is considered *kapu*. This is the reason that none of the Mauna Kea archaeological surveys have ever located a traditional man-made structure on the summit. Ex. B.02a at 18, Flores WDT.

208. Mauna Kea is a wahi kupuna of the highest sort. Tr. 01/19/2017, vol. 27 at 52.

209. Dr. Osorio testified that there is a distinction in the level of sacredness between the Wao Akua, the realm of the gods, and the Wao Kanaka, the realm of the people. Tr. 05/11/2017, vol. 26 at 140.

210. Dr. Kahakalau articulated that "the entire mountain, as a first born, has a unique, special status for culturally-connected Hawaiians and exudes mana, Mauna Kea's summit, based on what I was taught, as the highest peak not just in Hawai'i but the entire Pacific, is also clearly a Wao Akua. A Wao Akua, versus a Wao Kanaka, is reserved for deities and spirits and should only be accessed for specific, always and only spiritual practices, involving special protocols." Ex. B.06a at 3.

211. Dr. Kahakalau explained that "The special mana of Mauna Kea can be felt by all whose ancestral gauges are calibrated correctly. In fact, this super natural power is acknowledged not just by Hawaiians, but by people from all over the world, who regard Mauna Kea, and other summits of high mountains, as places that bring us more closely into connection with the spiritual world, hence Wao Akua." Ex. B.06a at 3.

212. The *mo'olelo* and *mo'oku'auhau* of Mauna Kea also make it an extraordinarily sacred place. Tr. 01/19/2017, vol. 27 at 78-79.

213. Based on a *mele hānau*, or birth chant for Kauikeaouli, Mauna Kea, Mauna a Kea, or Mauna a Wakea - all of these names can be used interchangeably – is such an entity, a sacred child of the highest birth. The chant states, "'*O hānau ka mauna a Kea, 'ōpu'u a'e ka mauna a Kea 'O Wakea ke kāne, 'o Papa, 'o Walinu'u ka wahine. Hānau Ho'ohōkū, he wahine. Hānau Hāloa, he ali'i. Hānau ka mauna. He keiki mauna na Kea*." This primary source substantiates that Mauna Kea is a child of the gods, it's not just a *mauna*, or mountain, it is an *ali'i*, a chief, it is an *akua*, a god, it is sacred. Ex. B.06a at 2 - 3.

214. In the times of the ancestors, individuals such as *kahuna kuhikuhi pu'uone* were consulted prior to constructing structures. Consultation and direct communication between intermediaries and those of the ancestral realm associated with such places was an essential and integral part of the process so as not to create a physical and/or spiritual disturbance, disconnection, or imbalance between man and his *akua*, and between man and his environment. Ex. B.02a at 18. Flores WDT.

215. The process of consultation with those recognized as the ancestral *akua*, *kupua*, and *kūpuna* of Mauna a Wākea was not done by the Applicant and was also never done by any previous astronomy projects built on the mountain. Mo'oinanea has affirmed that they did not get permission from the ancestral *akua* and *kupua* to build on their home. Ex. B.02a at 18, Flores WDT.

216. As a result of its prominence, isolation, and extreme environmental conditions Mauna Kea's place in the culture and history of the Hawaiian people is significant. This "cultural significance" extends beyond a physical setting, sites or particular features which have

been previously identified in archaeological site studies. Mauna Kea is a prominent feature on the cultural landscape of Hawai`i which has been and continues to be viewed from afar, and to which spiritual and cultural significance is attributed. Ex. B.37 at 3, MP, App. I.

217. The origins of Maunakea and it central place in Hawaiian genealogy and cultural geography are told in *mele* (poems, chants) and *mo`olelo* (stories and traditions). Native Hawaiian traditions state that ancestral *akua* (gods and goddesses, deities) reside within the mountain summit area. Several natural features in the summit region are named for, or associated with, Hawaiian *akua*; these associations indicate the importance of Maunakea as a sacred landscape. Each part of the mountain contributes to the integrity of the overall cultural, historical and spiritual setting. Ex. R-3/B.32 at 3-11. FEIS.

218. "Native Hawaiian traditions state that ancestral *akua* (gods, goddesses, deities) reside within the mountain summit area. These personages are embodied within the Mauna Kea landscape – they are believed to be physically manifested in the earthly forms as various *pu`u* and as the waters of Waiau. Because these *akua* are connected to the Mauna Kea landscape in Hawaiian genealogies, and because elders and *akua* are revered and looked to for spiritual guidance in Hawaiian cultural, Mauna Kea is considered a sacred place." Ex. B.28 at 5-3, CMP.

219. "A number of place names recorded for this mountain landscape are associated with Hawaiian gods. Other place names are descriptive of natural features and resources, or document events that occurred on the mountain." (Maly, 1999) "Native families also retain names such as Maunakea, Poli'ahu, Lilinoe, and Wai'au, which in some cases are directly tied to the mountain landscape." (Maly, 1999) Ex. B.37 at V-13 & V-15, MP.

220. Members of the Flores-Case 'Ohana have connected with some of those *akua, kupua,* and *kūpuna* of Mauna a Wākea through genealogical ties as well as through customary and traditional practices. Through these practices, *'ike kupuna*, indigenous knowledge, and ancestral insight, information and understanding were provided about those connected to this sacred mountain. Ex. B.02a at 23, Flores WDT.

221. Poliahu, "*ka wahine i ke kapa hau"* (the woman in the mantel of snow), is at times referred to as an *akua wahine*. She is a part of Mauna a Wākea and creates the rain, snow, hail, and sleet on this mountain. She serves as caretaker and guardian for the mountain and grants permission to certain spirits coming to the mountain. Poliahu has two attendants assisting her, Lilinoe and Lihau. She is a part of the landscape features with a highly evolved consciousness. Both oral and written native Hawaiian traditional accounts have documented Poli'ahu's connection to Mauna a Wākea. Ex. B.02a at 23 – 24, Flores WDT.

222. Moʻoinanea, *moʻo wahine* and guardian of Lake Waiau, is at times referred to as a *kupua*. She is described in several traditional accounts and has genealogical ties to the Mauna a Wākea. Firstly, it is difficult to explain or define who Moʻoinanea is for those who may lack an understanding. The existence of her as a *moʻo wahine* goes beyond anyone's personal belief, cultural attributes, or religious persuasion. We contend that just because other individuals are not able grasp this understanding, do not easily dismiss Moʻoinanea's existence on Mauna a Wākea. Moʻoinanea is a revered and significant figure in both oral and written native Hawaiian traditional accounts that have documented her connection to Mauna a Wākea. She is able to communicate with individuals who have the cultural sensitivity and 'gift' to see, hear, and interact with her. Ex. B.02a at 24, Flores WDT.

223. As a *moʻo wahine*, coexisting with humanity on this physical realm while resonating at a higher vibration, Moʻoinanea can transform into a full human form, full *moʻo* (reptile/dragon) form, or part human (top half of her body) and *moʻo* (bottom half) at times. This is due in part because her genealogy includes both *moʻo* ancestry as well as human ancestry. Moʻoinanea has shared with our family her genealogy going back several generations. She is the oldest of five siblings born to 'Elua (father who is from Hilo) and Melemele (mother who is from South Oʻahu). In addition, she was born on the summit of Mauna a Wākea and assumed the responsibility as guardian of Lake Waiau from her mother who was the former guardian of this sacred body of water. Ex. B.21a at 3, Case WDT.

224. Assisting Moʻoinanea are her two female *moʻo* attendants, Kīpuʻupuʻu and Kupukupu as well as others, including spirit attendants. Some serve as guards who watch the whole mountain while her attendants watch the lake when she is gone because there are certain other spirits such as those that might steal something or pranksters that they do not want on the mountain. Moʻoinanea also serves as counselor to Poliahu and assists with some of her problems. Ex. B.21a at 3, Case WDT.

225. Exhibit B.23b provides a portrait of Moʻoinanea done by Diana LaRose in 2011. Exhibit B.23b.

226. There are a number of guardian forces of nature connected to Mauna a Wākea. In a ceremony conducted by members of the Flores-Case 'Ohana near the summit on 8 May 2011, a guardian force of nature from the depths of Mauna a Wākea came forth to provide the following insight. He is a guardian who came from the very depths of the mountain, way below the crust of the ocean floor, one who carries the ancient knowledge. He was filled with sadness because of the observatories on her (the mountain's) shoulders and breasts were causing such desecration. He was aware of her feelings because they are all connected. Other guardians on the mountain have been awakened and are on alert regarding this proposed development. They are all in full communication with the Creator who can see all things through Wākea. He declared that those

who are planning to cause further desecration on Mauna a Wākea are "ignorant and lost". In addition, he explicitly stated a message to them, "You are responsible for what you do not know and you will be held responsible." He also mentioned that everyone is accountable for one's own actions. Furthermore, he emphasized that, "You don't know what is coming when you do this, you have been warned." He is the one who has the power to shake the earth. Ex. B.02a at 23, Flores WDT.

227. (Guardian – rough English translation of name, "The one who sees far into the heavens"), an ancestral guardian connected to a *pōhaku* and previously unidentified site within the vicinity of the proposed TMT site. This guardian explained the significance of many of the sites on the northern plateau as they are interconnected like a large star map. Individuals from certain family lines were guided to come up to the mountain during certain times of the year to reestablish, construct, align, activate, and/or maintain these sites. The TMT construction activities of excavating, grading, and rock-crushing in the area have already caused a great disturbance amongst these sites and guardians. This ancestral guardian also reiterated some of the significant impacts that would result from the building of this telescope and the consequences of attempting to pursue this project on this sacred landscape. Ex. B.02a at 23, Flores WDT.

228. Kūpuna, ancestors, including *ali'i* of the past, are also on Mauna a Wākea serving in different capacities or having come to this mountain under different circumstances. Some serve as guardians of various sites and places on the mountain. Others had ventured up to this sacred mountain during various different periods of time. Members of the Flores-Case 'Ohana have encountered and engaged with these *kūpuna* on several occasions through our cultural practices, ceremonies, and visits on the mountain. One such group that we had encountered had fled up towards the top of their sacred mountain at the time after western contact (circa mid-1800's) when foreign diseases and epidemics swept through the villages along the Kona coast. Many of them were being persecuted by foreigners, particularly missionaries, during this time when many were dying by the hundreds. So for those who could, they fled up to the mountain to die in the realm closer to Wākea. One *kūpuna* recounted this account as she was the last one alive amongst her family and others in her group. She sang to them as they each had passed away until she was the very last one to pass. There were literally hundreds of them who had passed during these times and their remains are scattered around the mountain depending upon where they ended up. Ex. B.02a at 24 – 25, Flores WDT.

2. Ka'ohe, Hāmākua

229. The *ahupua'a* of Ka'ohe spans the summit of Mauna Kea and includes the Mauna Kea Science Reserve The lower slopes of Mauna Kea reach into the *ahupua'a* of Humu'ula and Ka'ohe. Ex. B.37 at V-2, MP.

The summit of Mauna Kea, which now comprises the conservation district were Hawaiian Kingdom Government lands, created as public property of the government by the Māhele. Ex. B.07a at 2.

3. Cultural Landscape

230. There are many place names on the landscape of Mauna Kea that remind us of the broad relationship of natural landscape to the culture and practices of the Hawaiian people. Ex. B.38 App. I at D-25, MP.

231. The occurrence of place names extending from the shore line to the summit of Mauna Kea, is important in that it demonstrates the Hawaiian familiarity with the sites and features, and varied elevations of the mountain. Ex. B.38 App. I at D-25, MP.

232. Through a study of historic literature it is seen that the landscape of Mauna Kea has played an important role in the growth and evolution of the Hawaiian traditionary narratives and the cultural significance of Mauna Kea to the Hawaiian people.Ex. B.38 App. I at D-26, MP.

233. Early traditional and historic accounts, as well as a number of historic survey maps from ca. 1862-1892 identify several sites and features that bear the names of Hawaiian gods and goddesses that are intimately associated with the history of the mountain (such maps include Register Maps No.s 668, 1210, 1641, 1718, and 1860). Ex. B.38 App. I at D-26, MP.

234. In the summit region of Mauna Kea (from approximately 11,000 feet and above) and on the lower mountain slopes are found several features associated with Hawaiian gods and deity. Ex. B.38 App. I at D-26, MP

235. "Perhaps as a result of its prominence, isolation, and extreme environmental conditions, Mauna Kea's place in the culture and history of the Hawaiian people is significant. This 'cultural significance' extends beyond a physical siting, sites or particular features which have been previously identified in archaeological site studies. Mauna Kea is a prominent feature on the cultural landscape of Hawai'i which has been and continues to be, viewed from afar, and to which spiritual and cultural significance is attributed." Maly, 1999, p. 3, Ex. B.37 at V-13, MP.

236. In the *Mauna Kea Oral History Study and Archival Literature Research* done by Kepā Maly as part of the *2000 Master Plan*, it states that "[d]ocumentation found in native traditions, historic accounts, and oral history interviews (cited in this study), and the presence of cultural features on the ground all speak to the uniqueness of, and significance of Mauna Kea." Ex. B.38 App. I at 3, MP.

237. The summit of Mauna Kea has been referred to as *wao akua* (region of the gods). The most common understanding of *wao akua* is that it was a remote desolate location where spirits, benevolent or malevolent, lived and people did not live. Usually these places were deep interior regions, inhospitable places such as high mountains, deserts and deep jungles. These areas were not necessarily *kapu* but were places generally avoided out of fear or respect. Different people and family had different protocols when they traveled through these remote regions. (George Atta personal communication with Holly McEldowney and Pat McCoy, June 2, 1999) Ex. B.37 at V-13, MP.

238. Dr. Meyer affirmed that Mauna Kea was identified by Hawaiian ancestors as a place of great healing. She explained that it was in the *wao akua* and was a place of inspiration, or renewal and rejuvenation. Tr. 04/01/17 vol. 31 at 84.

239. The ancient saying "*Mauna Kea kuahiwi ku ha'o i ka mālie*" (Mauna Kea is the astonishing mountain that stands in the calm) (Pukui 1983: No. 2147), expresses the feeling that Mauna Kea is a source of awe and inspiration for the Hawaiian people. The mountain is a respected elder, a spiritual connection to one's gods. Thus, the landscape can be interpreted as a significant facet of a Hawaiian's identify. Mauna Kea is the focal point of numerous traditional and historical Hawaiian practices and narratives recorded by both native Hawaiians and foreign visitors. Views of the mountain landscape are presented in Figure V-5. Ex. B.37 at V-13, MP.

240. According to Dr. Meyer, "the minute you…have a relationship with something and you love it, it loves you back." This was said in reference to the relationship that people have with Mauna Kea. Tr. 04/01/17 vol. 31. at 85.

241. Spirituality, as Dr. Meyer explained, is often dismissed. Indigenous epistemologies, or ways of knowing, similarly, are often dismissed as "soft science" by the so-called "hard sciences." But this leads to dysfunction. Spirituality is real and cannot be confused with religion. Tr. 04/01/17 vol. 31 at 117-119.

242. In response to questioning, Dr. Meyer explained that wailua, or spirit, *is* a reality. Although it is unseen, and therefore has no form, we *see* the expression of wailua in life: in places, in natural elements, etc. If these things are then polluted, then the spirit will find its end. Tr. 04/01/17 vol. 31 at 120.

243. Ms. Aloua testified that Mauna Kea is a cultural landscape that is deeply connected to traditional, Native Hawaiian traditional and customary practices. This landscape includes man made objects and places, in addition to, natural features. Tr. 2/15/15 vol.36 at 104.

4. Native Hawaiian Traditional and Customary Practices

244. The summit region of Mauna Kea "…is also by any standard of comparison one of the most culturally significant and archaeologically important places in the Hawaiian Islands. A number of Native Hawaiians regard Mauna Kea as the most sacred place on the island and some use the mountain as a place to conduct traditional and customary practices." Ex. A-55 at 1-1, FAIS-AP.

245. What we know today of Mauna Kea's ancient use and meaning we have learned from the physical clues left behind on the mountain. Ethnographic research explores more recent human activity and the traditions that have been handed down within families over time. Ex. B.37 at V-4 MP.

246. There is no doubt that there are Native Hawaiians who are exercising traditional and customary rights on Mauna Kea. Ex. B.28 at 2-8, CMP.

247. The trails of Mauna Kea linked communities and cultural and natural resources together. To reach the summit, people left the near-shore and plains lands and traveled the mountain slopes to the summit. The trails ascend the slopes of Mauna Kea from nearly all of the major, and many of the smaller *ahupua'a* which lie upon Mauna Kea's slopes. Ex. B.37 at V-8, MP.

248. Traditions pertaining to journeys on the mountain trails, and knowledge of Mauna Kea are still retained as important family history today. Ex. B.37 at V-8, MP.

249. Significantly, many of these trails converge at Wai'au. Ex. B.37 at V-9, MP.

250. Ms. Case has been present at times when Mo'oinanea, *mo'o wahine* and guardian of Lake Waiau, has shared her personal accounts about herself and her family as well as described the type of cultural traditions the *kūpuna* of old practiced on the Mauna a Wākea. Mo'oinanea has expressed her concerns about the existing observatories and proposed further desecration on the mountain with the new project. Ex. B.21a at 3, Case WDT.

251. According to Mo'oinanea, when *kanaka* of old travelled up to the summit, they went by Lake Waiau to leave an offering or left an offering at the bottom of mountain. Offerings were made to Poliahu and Mo'oinanea. Offerings often included fish, *kalo*, *mai'a*, *'uala* wrapped in *lā'ī*. Women sometimes gave *lehua* (white, orange, and red were usual colors/if white was not found, they used yellow), *kukui*, *kupukupu*, *māmane,* and young *lā'ī,* wrapped with dried brown *lā'ī* leaves. The flower bundle was usually tied to the top of the food *pū'olo*. Ex. B.21a at 3-4, Case WDT.

252. According to Mo‘oinanea, *kanaka* of old would collect snow to see how it was or they used to go up there to get centered. Ex. B.21a at 4, Case WDT.

253. According to Mo‘oinanea, *kahuna* would also go for their chief to gather water from the lake as an offering for chiefs or places they travel to. First, they would have to state why they wanted to collect this water and their purpose for it. They also needed to state how much water was needed. Then a *lā‘ī* (ti-leaf) was put on the lake. If permission was granted, *lā‘ī* floats. If not, *lā‘ī* sinks. If the wind blows one back, they have to leave the mountain immediately. If one lies to her, they would be banished from mountain for a period of time. If it was an exchange of water from this same island, a *lā‘ī* was not needed. If from another island, then a *lā‘ī* was needed. One needed to state where the water was from first. If there was an exchange of water and permission was granted, one would collect water first and then pour their water in afterwards. Ex. B.21a at 4, Case WDT.

254. Mo‘oinanea is fine with people putting their *piko* in the lake, but one has to have roots to the mountain. Ex. B.21a at 4, Case WDT.

255. Ms. Case as a cultural practitioner has consistent Native Hawaiian traditional and customary practices connected to the entire mountain, including the northern plateau. Ex. B.21a at 5 Case WDT.

256. Ms. Case’s traditional and customary practices include, but are not limited to, recitation of specific chants uttered on Mauna a Wākea, chants that ask for blessings, chants that express gratitude, chants that ask for rain and snow, chants that honor Poli‘ahu, chants that call upon Wākea, Sky Father. Ex. B.21a at 5, Case WDT.

257. Ms. Case’s traditional and customary practices include rituals and ceremonies at *ahu* and sites there and dances we share only on the summit. These are the prayers and the chants connected to place, to the abode of Poli‘ahu, and on the *pu‘u* that bears her name. These are the chants in the realm of *wao akua*, in the domain of Wākea and the deities who make their presence known through the elements. These are the honoring chants that speak of her genealogical connections between the heavens and the earth and from the mountains to the sea. Ex. B.21a at 5, Case WDT.

258. In addition, Ms. Case has held many formal ceremonies up on the *pu‘u* of Waimea with each ceremony beginning with facing Mauna Kea and gathering the breath and heartbeat of the mountain within my body. [see photo in Exhibit B.21e] As the sacredness and immensity of its vibration fills her and each dancer standing by her side, they honor the mountain’s beauty and cultural importance with the words of chants such as this one: Ex. B.21a at 5, Case WDT.

259. Exhibit B.21e includes photos depicting Native Hawaiian customary and traditional practices associated with ceremonies on Puʻu ʻOwaowaka greeting Mauna a Wākea as well as on Mauna a Wākea. Exhibit B.21e.

260. Ms. Case's tie to the mountain and cultural practices are formal and sacred, tied with deep and abiding *Aloha*. Ex. B.21a at 6, Case WDT.

261. Customary and traditional practices relating to the Northern Plateau of Mauna Kea include going there at sunrise to welcome the sun In the only way that you can on that spot, reciting particular chants in which the vantage points that we look at dictate that we are there, honoring the ancestors whose bones are there. Tr.1/11/17 vol. 25 at 129, 130

262. Case and daughters go to the Northern Plateau to pray and chant and make correct for those who would disturb that area, to make pono in the best way, to pray the forgiveness chants, to shed tears, and to pray that chants assure our ancestors that we will do whatever can be done that they may never know that disturbance. Tr.1/11/17 vol. 25 at 130.

263. Traditional chants found in resource books have been done and new ones based on those chants, understanding, practices, beliefs and life ways. Tr.1/11/17 vol. 25 at 130.

264. The prayers and the chants done on the Northern Plateau and the ceremonies are different than what would be done else where Tr.1/11/17 vol. 25 at 227, 228

265. The chanting, the dancing and the practices, the foundation of which, is what has carried Case all through her life, from Pu'u Huluhulu to the Wekiu, the top of Mauna a Wakea. Tr.1/11/17 vol. 25 at 128

266. No shrines have been identified on top of cinder cones in the Mauna Kea Science Reserve. McCoy believes that these high and remote places were reserved for burying the dead. Ex. B.37 at V-9, MP.

267. Hawaiians also buried the bones of their dead on the slopes of Mauna Kea. Ex. B.37 at V-4, MP.

268. Continuity in the use of the summit area from pre-contact times to the present is evidenced in modern altars (*lele*) and less formal rock piles without offerings. B.62 at ii, FAIS MKSR .

269. Alika and Anita (Kamaka'ala) Lancaster and many other native Hawaiians associate a number of the natural and cultural features on the landscape of Mauna Kea with their ancestor's activities and as repositories of their remains. Ex. B.38 App. I at 24, MP.

5. Historic/Cultural Resources

270. "Cultural resources" is a broad term that encompasses cultural and religious practices and beliefs plus historic properties, such as structures over 50 years old and archaeological sites according to the TMT FEIS. Ex. R-3 at 3-8.

271. The TMT project proposes to be built in an undeveloped area amongst the hundreds of the documented and undocumented *ahu* (shrines) and cultural sites. The concentration and placement of these sites on this northern plateau was not randomly done by our *kūpuna*. They were erected and established with specific intentions. Many of these *ahu* are interconnected similar to a star map. B.02a at 25, Flores WDT.

272. Embedded within these ahu and stones is *'ike kupuna* and ancestral knowledge along with ancestral guardians. As such, construction of the TMT observatory in this vicinity would sever our past, present, and future generational connections with the *'ike kupuna* and ancestral knowledge implanted at these sites. With the understanding that many of these sites serve as depositories of ancient wisdom as well as multi-dimensional portals, the massive extent of destruction proposed in this culturally sensitive landscape would also adversely impact our Native Hawaiian customary and traditional practices that are still connected to these sites. B.02a at 25, Flores WDT.

273. Once this landscape is excavated by the proposed TMT construction, it can never be repaired and restored. Many of these sites are interconnected and the detrimental impact on those in the vicinity of the proposed TMT site would also negatively impact the other sites and ancestral guardians connected to them. Ex. B.02a at 25, Flores WDT.

274. All aspects of Hawaiian life were steeped in ritual. For the Hawaiian people, spiritual beliefs, cultural practices and all facets of daily life were intricately bound to the natural landscape of the islands. Ex. B.37 at V-2, MP.

275. The term 'shrine' is used by [Patrick] McCoy to describe all of the religious structures that exist in the summit region of Mauna Kea. The most common of the archaeological features on Mauna Kea, shrines are characterized by the presence of one or more upright stones. The shrines at Mauna Kea range from single uprights to more sophisticated complexes with pavements and prepared courts. The majority of shrines on Mauna Kea are located conspicuously on ridgetops or at breaks in the slope. It is not surprising that shrines were placed

in prominent locations with commanding views of the landscape. Shrines have not been found on the tops of cinder cones. Ex. B.37 at V-7, MP.

276. Most of the shrines in the Science Reserve are found on the northern and eastern slopes just above and below the 13,000 foot elevation. Ex. B.37 at V-12, MP.

277. Stone uprights were typically set in a crack in the bedrock and braced with a few stones. In other shrines, most notably those in the north and east slopes, uprights were set on the top of a boulder. In shrines dispersed throughout the summit area, stone uprights were set into low rubble heaps or piles of stones. In only a few cases, cairns were built to support the stone upright. Platforms were also built to support one or more uprights. Ex. B.37 MP, at V-7.

278. The non-occupational shrines range in complexity from simple features with a small number of uprights to more complex structures with courts and larger numbers of uprights. Most of the shrines found on Mauna Kea have just 1 to 3 uprights, however, some have as many as 24 or 25 stone uprights. McCoy speculates that the simple shrines were built and used by small family groups and the larger, more complex structures were built and maintained by a priesthood. McCoy reasons that the larger number of uprights indicate a larger number of gods than most Hawaiians would probably have known. In addition, many of these more complex sites are isolated from the main areas of worship. Ex. B.37 at V-7, MP.

279. Mr. McCoy has interpreted the shrine complex in the summit region as evidence of an historically undocumented pattern of pilgrimage to worship the snow goddess, Poli‘ahu, and other mountain gods and goddesses. Ex. B.37 MP, at V-7.

280. Archaeologist Pat McCoy suggests that shrines located at the edge of the summit plateau may mark the transition to a spiritual zone associated with the summit of Mauna Kea (McCoy and McEldowney, 1982). The shrines may be associated with the snow line and thus represent shrines to Poli‘ahu and/or other deities. Ex. B.37 at V-2 & V-4, MP

281. In August of 2016, LaRose accompanied Native Hawaiian cultural practitioners to the proposed TMT site and was able to provide *‘ike kupuna* (ancestral insight) into the significance and interconnection of many of the cultural sites on the northern plateau of Mauna Kea. Based up her gifts as a ‘sensitive’, the following account is what was shown to her. “On this day, we were asked to see what was there in the past times. After the opening pule, my inner sight opened like a T.V. screen and clearly saw this scene: there were 2 large circles of stones approximately 30 feet in diameter. In both circles directly in the center was a black rock cylinder about 3 feet high with a hole in the center. It was perfect in shape and looked like it was made by using a mold. One circle had perfect black rock walls radiating out from the center cylinder; 4 pairs about 2 ½ ft. high. Like spokes on a wheel. The other had perfectly formed wedge-shaped black rocks also radiating outwork from the center cylinder. There were other stone

circles further away and all were contained in a very large circle of stones on the perimeter. The stones radiating out from the center were almost as high as the cylinder. [see Exhibit B.25b] Then I was shown the night sky and how the constellations appeared to move across the sky throughout the seasons. Then a constellation stopped beamed a column of starlight directly into the cylinder and it went into the earth. Other stars beamed their light into the other cylinders. The beam of light contained information which the ancient astronomers and navigators received directly into their whole being, a living transmission of knowledge and energy. Then the navigators had this living connection to the stars with which to sail the oceans. Then I was shown that there was a duplicate pattern of stones above the ones on the ground, but this was made of brilliant golden light that shown far into the sky. It was a beacon that could be seen from space by star beings. Star ancestors. This still exists in the dimension of a higher frequency then ours that is made of golden light. This place is what would now be called a star gate. The other three seers all saw the stone circles and received other information also in sync with what I saw. I have never seen anything like this before and have no previous knowledge of this." Ex. B.25a at 1-2.

282. Exhibit B.25b is a diagram of cultural sites on the northern plateau on Mauna Kea shown to Ms. LaRose. Exhibit B.25b.

283. Ms.LaRose testified that the real importance of these cultural sites on the northern plateau is that at these sites, people can receive these specific knowledge directly through the crown of their head from particular stars. And these teachings are very similar to other nations on how they got star knowledge and how their navigators and their people could be so connected to the stars and know a lot of things that you could never know. Even with telescopes, you could not know or receive this knowledge. Tr. 1/19/17 vol. 27 at 207.

6. Mauna Kea Summit Region Historic District

284. In 1999, the Mauna Kea Summit Region Historic District ("MKSRHD") was determined eligible for listing on the National Register. Ex. A-55 , at 1-1, FAIS-AP.

285. The proposed TMT project would be located within the Mauna Kea Summit Region Historic District (State Inventory of Historic Place #50-10-23-26869) which was determined by the DLNR - State Historic Preservation Division to be historically and culturally significant under all five criteria (A, B, C, D, & E) of the Hawai‘i Register of Historic Places and Hawai‘i Administrative Rules (§13-275) and under all four criteria (A, B, C, & D) of the National Register of Historic Places. Ex. R-1 at 4-1.

286. The five criteria established for evaluating the significance of historic properties and assessing eligibility for placement on the National/Hawai‘i Registers of Historic Places are:

A) Associated with events that have made an important contribution to the broad patterns of our history;
B) Associated with the lives of persons important in our past;
C) Embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, or possesses high artistic value;
D) Have yielded, or is likely to yield information important for research on prehistory or history;
E) Have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property, or due to associations with traditional beliefs, events or oral history accounts – these associations being important to the group's history and cultural identity. Ex. R-5/B.34, FEIS, at G-54.

287. The MKSRHD is significant under all four National Register criteria, and criterion "e" of the Hawaii Administrative Rules, Chapter §13-275-6. The district is significant under criterion "a" because of the presence of the Mauna Kea Adze Quarry Complex (a National Historic Landmark), which was used over a period of 500 years or more and the hundreds of shrines in and outside of the quarry. Both the quarry and the shrines are associated with broad patterns and events in Hawaiian prehistory. The district is significant under criterion "b" because of the association with several gods who may have been deified ancestors. These include Kukahau`ula, Lilinoe and Waiau. The sites in the adze quarry and many of the shrines embody distinctive characteristics of traditional Hawaiian stone tool manufacture by craft specialists and a distinctive type of shrine construction found in only a few other places in the Hawaiian Islands. These make the district significant under criterion "c." Studies of the Mauna Kea Adze Quarry Complex and the on-going archaeological survey of the Mauna Kea Science Reserve have already made a significant contribution to our understanding of Hawaiian prehistory and history, and hold the potential to make even more contributions. The district is thus significant under criterion "d." Finally, the district is significant under criterion "e" because of the presence of numerous burials and the hundreds of shrines which have been interpreted as evidence of a previously unknown land use practice in the form of pilgrimages to the summit of Mauna Kea to worship the gods and goddesses. Ex. R-5/B.34, FEIS; Ex. B.62 FAIS MKSR, at ii – iii.

288. SHPD has begun working on the nomination of the MKSRHD to the National Register of Historic Places. Ex. A-55 at 7-1, FAIS-AP.

289. SHPD has repeatedly stated that they consider the summit region to be a historic district in a number of letters regarding astronomy and astronomy-related projects (See, Don Hibbard letter to Dierdre Mamiya, April 24, 2002; Don Hibbard letter to Robert McLaren, January 10, 2001; Timothy Johns letter to Kenneth Kumor, October 26, 2000; Don Hibbard letter to Robert A. McLaren, May 3, 1999). Ex. R-4/B.33 at 27, FEIS.

290. With the recognition of the MKSRHD as eligible for the National Register there is now a single frame of reference that can be used in evaluating site significance for all of the historic properties on the top of Mauna Kea. Ex. A-55 at 7-2, FAIS-AP.

291. Per the Mauna Kea Historic Preservation Plan [2000] prepared by SHPD: Within the [Mauna Kea Summit Region] historic district, the significance of properties is not evaluated individually because the summit region as a whole is considered eligible for inclusion in the National Register. Instead, the required assessments consider how each newly or previously recorded property potentially affected by a project contributes to the significance of the historic district as a whole. Ex. R-5/B.34 at G-55, FEIS.

292. Pu‘u Kukahau‘ula State Historic Property (SIHP Site No. 50-10-23-21438) is a contributing component of the Mauna Kea Summit Region Historic District. Ex. R-5/B.34 at G-55, FEIS.

293. Prior to the historic period, there are no other known sites on the series of cinder cones, including Pu‘u Kukahau‘ula, that comprise the ‘summit’ of Mauna Kea with the single exception of a cairn (Site 50-10-23-21209). There is a virtual absence of archaeological sites on the very top of the mountain. Ex. A-55 at 6-4, FAIS-AP.

294. Consideration of the properties included within the MKSRHD, and their associated practices and beliefs, suggests it to represent a type of historic property best referred to as a “**cultural landscape**”. A cultural landscape is a geographical definable area that clearly reflects patterns of occupation and land use over a long time period, as well as the cultural values and attitudes which guide and regulate human interaction with the physical environment. (Emphasis added.) Ex. B.37 at 45, MP, App. N.

295. This “cultural landscape” has been determined eligible for the National and State Register of Historic Places under multiple criteria including cultural significance to the native Hawaiian People (cf. letter of D. Hibbard to R. Evans, September 12, 1991). As a result, archaeologists with DLNR-SHPD have referred the summit region of Mauna Kea as a **“ritual landscape”** with all of the individual parts contributing to the integrity of the whole summit region. (Emphasis added.) Ex. B.37 at 3, MP, App. I.

296. Based on the Native Hawaiian traditional cultural practices and beliefs associated with Mauna Kea, as documented in the Maly (1999) oral history and consultation study, the MKSRHD could perhaps even more appropriately be considered a special type of cultural landscape referred to by the National Park Service as ethnographic landscapes: “those landscapes imbued with such intangible meanings that they continue to be deemed significant or even sacred

by contemporary people who have continuous ties to the site or area". Ex. B.37 at 45, App. N.

297. Such an ethnographic landscape would seem to be embodied in the concept of "cultural attachment" use by Maly (1999:27) to describe the connection of many Native Hawaiians to Mauna Kea. Ex. B.37 at 45, MP, App. N.

298. "*Cultural Attachment*" embodies the tangible and intangible values of a culture. It is how a people identify with and personify the environment (both natural and manmade) around them. Cultural attachment is demonstrated in the intimate relationship (developed over generations of experiences) that a people of a particular culture share with their landscape--for example, the geographic feature, the natural phenomena and resources, and traditional sites, etc., that make up their surroundings. This attachment to environment bears direct relationship to their beliefs, practices, cultural evolution, and identity of a people. In Hawai`i, cultural attachment is manifest in the very core of Hawaiian spirituality and attachment to landscape. The creative forces of nature which gave birth to the islands (e.g., Hawai`i), the mountains (e.g. Mauna Kea) and all forms of nature, also gave birth to *na kanaka* (the people), thus in Hawaiian tradition, island and human kind share the same genealogy…" Ex. B.37 at 27, MP, App. I.

299. Figure 3.7 of this archaeological inventory survey identified the locations of historic properties, traditional cultural properties, and find spots in the MKSR. Ex. A-55 at 3-12, FAIS-AP.

300. The amount of data obtained in the surveys was overwhelming when compared to most archaeological surveys in Hawai`i. This has limited the data analyses that could be undertaken to the shrines and selected artifact assemblages from the Pohakuloa Gulch quarry-workshop site complex. Also, due to the large number of artifacts, the number of analyzed attributes is also limited in number. Ex. B.62 at i, FAIS –MKSR.

301. The largest concentration of historic properties and cultural resources is on the northern slope of Mauna Kea below the summit cones. Ex. A-55 at 6-1, FAIS-AP.

302. Many of these sites are located within a narrow 220-ft contour interval, between the 12,900-ft and 13-100-ft elevations on the northern slope. Ex. A-55 at 6-1, FAIS-AP.

303. A total of 263 historic properties were identified in the archaeological surveys of the MKSR. Ex. B.62 at i, FAIS-MKSR.

304. The term 'shrine' is used by Archaeologist [McCoy] to describe all of the religious structures that exist in the summit region of Mauna Kea. Ex. B.37 at 21, MP, App. N.

305. Most of the shrines found on Mauna Kea have 1 to 3 uprights. However, some have as many as 24 or 25 stone uprights. Ex. B.37 at 21, MP, App. N.

306. Shrines were placed in prominent location with commanding views of the landscape. Ex. B.37 at 21, MP, App. N.

307. There are 29 historic properties with a total of 48 features recorded in the MKSR that are interpreted as *Burials or Possible Burials*. Ex. B.62 at 5-44 & 5-45, FAIS-MKSR.

308. PSCI's recommendation as part of the Cultural Resources Management Plan (CRMP): Section 4.3.2: In view of the documented existence of human burials in the Science Reserve there is a need to develop a burial treatment plan (BTP) to protect all known burial sites. Given the possibility that more human remains will be found inadvertently in the Science Reserve in the future there is also a need to develop an Inadvertent Discovery Plan. Ex. A-55 at 8-2, FAIS-AP.

309. The functions of 15 historic properties recorded in the MKSR are listed as *Stone Markers/Memorials*. Ex. B.62 at 5-27, FAIS-MKSR.

310. One of the more ambiguous classes of sites are piles or stacks of rocks believed to be markers of some kind or memorials to a person or event. In all but a couple of cases, the actual function is unclear. Ex. B.62 at 5-45, FAIS-MKSR.

311. Cultural resources in the Science Reserve include a large number of remains that at present cannot be classified as historic properties or sites, as normally defined in State and Federal laws, but which nevertheless need to be considered in developing appropriate management strategies which, according to Tom King (1998:235), need to consider all cultural resources. Ex. B.62 at 5-54. FAIS-MKSR.

312. As noted above in the summary of previous archaeological work in the Science Reserve (Section 3.1), in 1997 SHPD instituted a process of recording what were initially referred to as "locations" but are now being termed "find spots," although this term generally refers to isolated artifacts (cf. McCoy1984a). "Find spots" are cultural resources that are either obviously modern features (e.g., camp sites with tin cans, pieces of glass and other modern material culture items), or features that cannot be classified with any level of confidence as historic sites because of their uncertain age and function (e.g., a pile of stones on a boulder). Ex. B.62 at 5-54, FAIS-MKSR.

313. A 1997 SHPD reconnaissance survey began the process of recording what were initially referred to as "locations" but are now being termed "find spots" – a general term

referring to man-made remains that are either obviously modern features or features that cannot be classified by archaeologists with any level of confidence as historic sites because of their uncertain age and function. Ex. A-55 at 3-10, FAIS-AP.

314. Remains that are either modern or cannot be classified with any level of confidence as historic sites because of their uncertain age, such as many of the rock piles, were recorded as "find spots," following a practice begun by the State Historic Preservation Division (SHPD) during a reconnaissance survey of selected areas of the Mauna Kea Science Reserve in 1997. Ex. B.62 at ii, FAIS-MKSR.

315. "Find spots" are cultural resources. Ex. A-55 at 5-20, FAIS-AP.

316. A total of 339 cultural resources ("find spots") were recorded in the MKSR. It is highly likely that some of these are actually historic properties, but to demonstrate this would require a more detailed analysis of their morphology and location. Ex. B.62 at ii, FAIS-MKSR.

317. The functions of the vast majority (over 250) of these find spots recorded in the MKSR are listed as *Markers*. Ex. B.02y-2, FAIS-MKSR, Appendix E.

318. The functions of over 65 of these find spots recorded in the MKSR are listed as *Unknown*. Ex. B.02y-2, FAIS-MKSR, Appendix E.

319. Only about 16 of these find spots recorded in the MKSR have been identified as potentially being modern features. Ex. B.02y-2, FAIS-MKSR, Appendix E

320. Some of the find spots could not be definitely dated and could possibly be over 50 years in age and would instead be classified as historic properties. Ex. A-63 at 1, SHPD letter.

321. It is highly likely that some of these find spots are actually historic properties, but to demonstrate this would require a more detailed analysis of their morphology and location. Ex. B.62 at ii, FAIS-MKSR.

322. In August 2005, PCSI was contracted by OMKM to undertake an archaeological inventory survey of the Astronomy Precinct, located within the MKSR. Ex. A-55 at 1-1 & 1-3, FAIS-AP.

323. The archaeological field survey crew for the Astronomy Precinct and surrounding lands was limited to PSCI co-principal investigators, Patrick McCoy and Dennis Gosser, and staff, Richard Nees and Reid Yamasato. Ex. A-55 at 1-4, FAIS-AP.

324. This field survey crew did not include any Native Hawaiian cultural practitioners. Ex. A-55 at 1-4, FAIS-AP.

325. The confidence level of archaeologists in assigning functions to many of the sites and component features varies. Ex. A-55 at 4-4, FAIS-AP.

326. "No universally accepted definitions of site and feature exist in Hawaiian archaeology, and it is unlikely that any ever will because of the architectural complexities of the archaeological landscape in many areas of the Hawaiian Islands, and the different perspectives that archaeologists hold on how the archaeological landscape should be observed and recorded." Ex. A-55 at 4-3, FAIS-AP.

327. "While sites and features can be easily described in terms of formal attributes, there is in reality no dichotomy between form and function, since function is inferred from form,…" Ex. A-55 at 4-3, 4-4, FAIS-AP.

328. Archaeological classifications are not immutable. They may require revision. (Ex. A-55 at 4-3, FAIS-AP.

329. Due to the uncertainty of archaeologists, a number of sites in the MKSR have not been accurately identified and/or their functions are listed as *Unknown*. Ex. B.02y-2, Appendix E, FAIS-MKSR.

7. Traditional Cultural Properties

330. A Traditional Cultural Property [TCP] can be defined generally as one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. Ex. A-55 at 5-15 & 5-17, FAIS-AP.

331. The National Register Bulletin 38 "*Guidelines for Evaluating and Documenting Traditional Cultural Properties*" (Parker and King 1990), provides agencies further guidance for assessing the importance of traditional cultural beliefs or practices (or cultural attachment) while assessing cultural resources and proposed actions that will affect their integrity. Ex. B.37 at 27 MP, App. I.

332. In defining *"traditional cultural properties*", the National Register explains: "traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the

role the property plays in a communities historically rooted beliefs, customs, and practices. Ex. B.37 at 27 MP, App. I.

333. The entire mountain region of Mauna Kea from approximately the 6,000 foot elevation to the summit, including the Mauna Kea Science Reserve, was identified in the Cultural Impact Assessment [CIA] Study (1999) as a potential TCP. Ex. A-67 at 39, CIA.

334. The CIA identified a number of potential traditional cultural properties within the Mauna Kea Science Reserve Master Plan project area. These are historic properties that are of importance to Native Hawaiians because they possess traditional cultural significance derived from associated cultural practice and beliefs. These historic properties include the following:

- The entire mountain region, from approximately the 6,000 feet elevation (The saddle area) to the summit;
- Pu`u Kukahau`ula--a cinder cone that is the summit peak of Mauna Kea (sometimes also referred to by the modern name of Pu`u Wekiu);
- Pu`u Poliahu--a prominent summit region cone situated west of Pu`u Kukahau`ula;
- Pu`u Lilinoe--a prominent summit region cinder cone situated to the south east of Pu`u Kukahau`ula;
- Waiau--a shallow lake and its adjacent cinder cone situated in the summit region, to the southwest of Kukahau`ula;
- Pu`u Makanaka and Kaupo vicinity-a cluster of two prominent cinder cone situated near the edge of the summit region to the northeast of Pu`u Kukahau`ula;
- Mauna Kea--Umikoa Trail-and foot and horse trail extending between Kuka`iau in Hamakua to immediately south of the summit area;
- Mauna Kea-Humu`ula Trail-a foot and horse trail extending from the Humu`ula sheep station up to the summit area; and
- A number of lesser foot and horse trails-including the Mauna Kea-Laupahoehoe-Waipunalei Kanakaleonui Trail, the Mauna Kea-Makahalau-Kemole Trail, and the Waiau-Waikiki-Pu`u La`au Trail. Ex. B.37 at 39-40, MP, App. N.

8. National Natural Landmark

335. The Mauna Kea National Natural Landmark is held in trust by the State of Hawai`i, and its 83,900 acre boundary incorporates the lands within the conservation district, including the Mauna Kea Science Reserve, Ice Age Natural Area Reserve and the Mauna Kea Forest Reserve. Ex. R-4/B.33 at 3-6. FEIS Vol. II.

336. Mauna Kea was listed as a National Natural Landmark in 1972. One of the reasons given for placing the mountain on this register by the National Park Service is that

Mauna Kea is the "Most majestic expression of shield volcanism in the Hawaiian Archipelago, if not the world." Ex B.28 Appendix 4 at 9, CMP.

337. Since 1972, Mauna Kea has been designated as a National Natural Landmark and listed in the registry of National Natural Landmarks as a result of its singular topography, morphology, and geology. Ex R-3/B.32 at 3-106, FEIS.

338. The objectives of the NNL program are fourfold: to encourage the preservation of sites illustrating the geological and ecological character of the United States; to enhance the scientific and educational value of the sites thus preserved; to strengthen public appreciation of natural history; to foster a greater concern for the conservation of the nation's natural heritage. Ex. R-4/B.33 at p 19 of 531, FEIS Vol. II.

339. "Few sites posses [*sic*] better credentials to justify their national significance than does Mauna Kea." (quoting a Mauna Kea NNL program).Ex R-3/B.32 at 3-106, FEIS.

340. First and foremost, Mauna Kea is the exposed portion of the highest insular mountain in the United States, rising up over 30,000 feet above its submerged base in the Pacific Ocean. Second, on its slopes is found Lake Waiau, the highest lake in the United States. Third, though located in the tropics, indisputable evidence of glaciations is present above the 11,000 foot level. Lastly, possibly transcending all of these nationally significant qualities, is the fact that Mauna Kea is the most majestic expression of shield volcanism in the Hawaiian Archipelago if not in the world. (quoting Rory Westberg, Acting Regional Director, NPS) Ex. R-4/B.33 p 4 of 531, FEIS Vol. II.

341. "Rising nearly 33,000 feet from the ocean floor, with a peak elevation of 13,796 feet, Mauna Kea is the highest point in the Pacific Basin and the highest island mountain in the world. Ex B.28 Appendix 4 at 9, CMP.

342. Abundant evidence of glacial striae, boulders, police and grooves shows that an ice cap covered Mauna Kea's summit during the Pleistocene era. Ex R-3/B.32 FEIS Vol. 1, at 3-106.

343. "Mauna Kea is currently estimated to be between 600,000 and 1.5 million years old and is considered by the U.S. Geological Survey (USGS) to be an active post-shield volcano. While there has been no recent volcanic activity at Mauna Kea, volcanologists believe that it "is likely to erupt again". Ex B.28 at 5-24 – 5-25, CMP.

344. Though located in the tropic, indisputable evidence of glaciation is present above the 11,000 foot level. Lastly, possible transcending all of these nationally significant qualities is

the fact that Mauna Kea is the most majestic expression of shield volcanism in the Hawaiian Archipelago if not in the world. Ex. R-4/B.33 at 3-6, FEIS Vol. II.

345. Other unique geologic features of Mauna Kea include numerous cinder cones (puʻu) that rise above lavas of the upper plateau, and evidence of glaciers that covered nearly 27-square miles of the summit region during the Pleistocene Epoch (Ice Ages) approximately 18,000 years before present." Ex B.28 at 9, CMP Appendix 4.

346. "Because of its elevation, Maunakea's summit was repeatedly glaciated during the past few hundred thousand years, and preserves the best glacial record of any oceanic volcano on Earth." Ex R-3/B.32 at 3-105, FEIS.

347. Hawaiian Hotspot' magmas, pushed up through the oceanic crust, began building Mauna Kea approximately 750,000 years ago. Throughout its building stages, aʻa and pahoehoe lavas flowed from three main rift zones, forming a volcano resembling a warrior's shield. Towards the end of the post-shield stage eruptions became more explosive, discharging magma referred to as tephra. These eruptions created the numerous cinder cones dotted across the highest elevations of Mauna Kea. Ex B.28 CMP at 9, Appendix 4.

348. "Three cinder cones (*puʻu*) make up the summit of Mauna Kea (Puʻu Hauʻoki, Puʻu Wēkiu, Puʻu Haukea), collectively referred to as Puʻu o Kūkahauʻula, a traditional deity associated with fisherman families. There are additional cinder cones (e.g., Puʻu Keonehehe'e, Puʻu Makanaka, Puʻu Poepoe, Puʻu Poliʻahu, Māhoe, and Puʻu Waiau) below the summit." Ex B.28 at 9, CMP Appendix 4.

349. Mauna Kea has two series of volcanic rocks. The older Hamakua series, mostly composed of olivine basalts, forms the bulk of the mountain. The Laupahoehoe series consists of "hawaiites" and comprises a veneer that overlays the upper part of the mountain. Ex B.37 at IV-1, MP.

350. Subglacial volcanic eruptions gave rise to lava flows that cooled quickly, yielding a fine grained, dense black rock called obsidian, prized by Hawaiians for adzes, at a site known as Keanakako`i. Ex B.37 at IV-2, MP.

351. Due to glaciation during the last ice age of the Pleistocene era, ice covered approximately 27 square miles of the summit and ranged in thickness from 200-350 feet, to elevations of 10,500 feet, where ash and cinder were scraped away by glacial flow erosion. Ex. B.37 at IV-1, MP.

352. Glacial moraine and meltwater deposits of fine sediments, and glacially sculpted features of cinder cones are evidence of summit glaciation that led to the formation of Lake Waiau, one of the highest lakes in the United States. Ex. B.37 at IV-2, MP.

353. The proposed TMT location is entirely underlain by a single lava flow. A single chemical analysis of this lava flow shows the flow to be of typical "hawaiite" composition (a type or alkali-rich basalt). Ex R-3/B.32 at 108, FEIS, Vol. 1.

354. Glacial Features: Mauna Kea has been repeatedly glaciated over the past several hundred thousand years (Porter, 1979b), but evidence of the earlier glacial episodes becomes more fragmentary with time, as glacial deposits are buried by younger lavas and glacial deposits. Ex. B.38 App. H at 8.

355. The glacial features of Mauna Kea are unique in Hawaii and are important for public education and appreciation. They are not widely known to Mauna Kea visitors, and the most appropriate management tool for their preservation and utilization as educational resources is public awareness. Brochures to describe these unique features and public exhibits to document their locations and modes of origin will allow Hawaii residents and visitors to realize their importance to the environment of Mauna Kea. B.38 App. H at 16.

356. In the *Mauna Kea Science Reserve Geological Resources Management Plan* done by J. Lockwood of Geohazards Consults International, Inc. (2000) included in the *2000 Master Plan*, this report states the following:

> Many geologic features and structures found within the Mauna Kea Science Reserve are unique in Hawaii and some are rare elsewhere on Earth. Because of the remoteness of the Mauna Kea summit area and the lack of vegetation, these features are generally well-preserved and have great value as esthetic and as educational resources.
>
> Mauna Kea is the world's best example of a glaciated oceanic tropical volcano, and preserves the only glacial deposits and glacial features found in Hawaii.
>
> The interaction of molten lava and glacial ice during the Ice Ages has formed unique geologic features that are well-preserved in some areas and are amongst the world's best examples of these rare structures.

Ex. B.38 App. H at 2.

D. Mismanagement of Mauna Kea Conservation District and Public Trust Lands

1. Overview of Management Area

357. The management area begins at approximately 9,200 ft (2,804 m) on Mauna Kea and extends to the summit, at 13,796 ft (4,205 m), encompassing three distinct areas: the Mauna Kea Science Reserve (Science Reserve), the mid-level facilities at Hale Pōhaku, and the Summit Access Road (see Figure 3-1). These areas are collectively referred to as the "UH Management Areas." The UH Management Areas on Mauna Kea are classified in the resource subzone of the state conservation district lands. Ex. B.28 at 3-1, CMP.

358. Figure 3-1 in the CMP depicts the UH Management Areas. Ex. B.28 at 3-2.

359. The largest area is the Mauna Kea Science Reserve (TMK: (3) 4-4-15:09), which was established in 1968 through a 65-year lease (General Lease No. S-4191) between the BLNR and the University. Originally, the UH Management Areas encompassed approximately 13,321 acres (5,391 ha), but in 1998, 2,033 acres (823 ha) were withdrawn as part of the Mauna Kea Ice Age Natural Area Reserve (NAR). The area now encompasses 11,288 acres of state land (4,568 ha) above approximately 11,500 ft (3,505 m) elevation, which, according to the lease is to be used "as a scientific complex." Ex. B.28 at 3-1, CMP.

360. The University's *2000 Master Plan* for the UH Management Area designated 525 acres (212 ha) of the leased land as an "Astronomy Precinct," where development is to be consolidated to maintain a close grouping of astronomy facilities, roads and support infrastructure. The remaining 10,763 acres (4,356 ha) are designated a Natural/Cultural Preservation Area in order to protect natural and cultural resources within the UH Management Areas. Ex. B.28 at 3-1, CMP.

361. Situated at an elevation of about 9,200 ft (2,804 m), the mid-level facilities at Hale Pōhaku (TMK (3) 4-4-15:12) also fall under the area of management responsibility of this CMP by General Lease No. S-5529, which extends through 2044. This parcel comprises 19.3 ac (7.8 ha) on the south slope of Mauna Kea and encompasses the Onizuka Center for International Astronomy, the Visitor Information Station (VIS), and construction laborer camp, comprising two old buildings and four modern cabins. Ex. B.28 at 3-4, CMP.

362. The third management area, the Summit Access Road, extends from Hale Pōhaku to the boundary of the UH Management Areas, at approximately 11,500 ft (3,505 m). Although the Grant of Easement (No. S-4697) includes only the Summit Access Road, the 1995 Management Plan added a strip approximately 400 yards (366 m) wide on either side of the road but excluding areas within the NAR, to the UH Management Area. Ex. B.28 at 3-4, CMP.

363. In 1964, Mauna Kea lands were placed within the state's Conservation District, giving management authority to the BLNR. Ex. B.28 at 3-5, CMP.

364. The UH Management Areas are in the resource subzone of the State Conservation District. For this reason, any land use in these areas is regulated by the BLNR, and all activities and uses within the UH Management Areas must be in compliance with BLNR's Conservation District regulations. Ex. B.28 at 2-2, CMP.

365. The State of Hawaii, by its BLNR issued General Lease S-4191 to the University of Hawai‘i, all of that certain parcel of land situated at Ka‘ohe, Hamakua, County and Island of Hawai‘i for the term of 65 years from January 1, 1965 to the last day of December, 2033. Ex. B.17f at 1, GL.

366. According to Exhibit A of the General Lease contains all of that certain parcel of land being a portion of the Government land of Ka‘ohe, being also a portion of Mauna Kea Science Reserve covered by General Lease S-4191 to the University of Hawai‘i situated at Ka‘ohe, Hamakua, Island of Hawai‘i, Hawai‘i.

367. BLNR/DLNR, representing the State as the Lessor, has the sole legal obligation, duty, and responsibility to appropriately manage and protect the conservation and public trust lands of Mauna Kea. Ex. B.02a at 4.

368. The State leases the Mauna Kea Science Reserve to the University of Hawai`i, with day-to-day management delegated by the Board of Regents to the Office of Mauna Kea Management. Ex. R-7/B.70 at 8.

369. The University also controls approximately 19 acres of Land and at Hale Pōhaku, the site of the mid-elevation support facilities. Ex. R-7/B.70 at 8.

370. A third management area is the Summit Access Road that extends from Hale Pōhaku to the boundary of the Science Reserve. This includes a 400-yard corridor on either side of the road, excluding those areas within the adjacent Mauna Kea Ice Age Natural Area Reserve. Ex. R-7/B.70 at 8.

371. The General Lease (S-4191), dated June 21, 1968, states that the university 12.) "shall not damage, remove excavate, disfigure, deface, or destroy and object of antiquity, prehistoric ruin, or monument of historic value." Ex. B.17f at 5, GL.

372. The General Lease (S-4191) requires that: 5.) "The lessee shall not sub-lease, subrent, assign or transfer any rights there under without the prior written approval of the BLNR." Ex. B.17f at 4, GL.

373. The General Lease (S-4191) states that: 2.)"The lessee shall keep the demised premises and improvements in a clean, sanitary, and orderly condition Ex. B.17f at 3, GL.

374. The General Lease (S-4191) states that "improvements shall be such improvements may be abandoned in place.… removed or disposed of by the Lessee at the expiration or sooner termination of the lease, provided, that with the approval of the Chairman requires that items be removed before the lease termination, or be abandoned with prior approval from the BLNR." Ex. B.17f at 4, GL.

375. The General Lease (S-4191) states that: 1a) "No activity shall be permitted which will result in the pollution of the waters of Lake Waiau" Ex. B.17f at 2, GL.

376. General Lease S-4191 from DLNR to the University for the use of the Mauna Kea Science Reserve does not confer an expectation of exclusivity onto the University. Ex. B.17f at 4, GL.

377. The University has entered into scientific partnership agreements with various organizations to develop and use observatory facilities on Mauna Kea. As a part of these agreements, the University has subleased parcels of the UH Management Areas to those organizations. Ex. B.28 at 6-1, CMP.

378. Twelve telescope facilities are in operation in the summit area. These include: eight major optical/infrared telescopes, one 0.6 meter telescope, two single-dish millimeter/submillimeter-wavelength telescopes, and a submillimeter array. The VLBA Antenna Facility is situated at the 12,200 foot elevation of the UH Management Area. B.28 at 6-1, CMP.

379. All telescope subleases occur within the University-designated "Astronomy Precinct," except for one antenna that was built before the Astronomy Precinct was established by the University. Ex. B.28 at 3-1, CMP.

2. Management Responsibilities and Mandates

a. Hawai‘i State Agencies

380. The Department of Land and Natural Resources. DLNR is headed by the BLNR and manages the state's public lands. Several divisions within DLNR share management responsibility for Mauna Kea lands, including the Division of Aquatic Resources (DAR),

Division of Conservation and Resource Enforcement (DOCARE), the Division of Forestry and Wildlife (DOFAW), the Natural Area Reserves Commission, the Land Division, the Office of Conservation and Coastal Lands (OCCL), and the State Historic Preservation Division (SHPD). Ex. B.28 at 3-12.

381. Division of Aquatic Resources. DAR has as its mission to manage, conserve and restore the state's unique aquatic resources and ecosystems for present and future generations. This agency sets overall water conservation, quality and use policies; defines beneficial and reasonable uses; protects ground and surface water resources, watersheds and natural stream environments; establishes criteria for water use priorities while assuring appurtenant rights and existing correlative and riparian uses and establishes procedures for regulating all uses of Hawai'i's water resources. Ex. B.28 at 3-12.

382. Division of Conservation and Resource Enforcement. DOCARE is responsible for enforcing all laws and rules that apply to all lands managed under DLNR. This includes protecting and conserving the state's lands and natural resources, investigating complaints and violations, and monitoring all leases, permits, and licenses issued by DLNR. Pursuant to Act 226 Session Laws of Hawai'i 1981, DOCARE's enforcement officers have full police powers to execute all state laws and rules within all state lands. The division's Island of Hawai'i branch includes Mauna Kea in the East Hawai'i district. Ex. B.28 at 3-12.

383. Division of Forestry and Wildlife. DOFAW is charged with protecting and managing watersheds, natural resources, outdoor recreation resources, and forest product resources. It is also charged with public education and develops and manages statewide programs on forest and wildlife resources as well as natural area reserves and trail and access systems. DOFAW manages the Mauna Kea Forest Reserve. DOFAW also manages outdoor recreation programs and activities, including hunting, which occurs on state-owned lands on Mauna Kea. Ex. B.28 at 3-12.

384. Natural Area Reserves Commission. The Natural Area Reserves Commission is administratively attached to DLNR; its staff is in DOFAW. It establishes criteria that are used in determining whether an area is suitable for inclusion within the state reserves system. The commission also establishes policies and criteria for the management, protection, and permitted uses of the reserves system. The statewide reserves system was established with the mandate of protecting the best remaining examples of native ecosystems and geological sites on state managed lands. There are currently 19 reserves, including the Mauna Kea Ice Age NAR. Ex. B.28 at 3-12.

385. Land Division. The Land Division is responsible for managing state-owned lands in ways that will promote the social, environmental, and economic well-being of Hawai'i's

people and for ensuring that these lands are used in accordance with the goals, policies, and plans of the state. Lands that are not set aside for use by other government agencies come within the direct purview of the Land Division, as do the management and enforcement of leases, permits, executive orders, and other encumbrances for public lands. The division also investigates local land problems, maintains data for the State Land Information Management System, serves as custodian for all official transactions relating to public lands, and maintains a central repository of all government documents dating back to the "Great Māhele" of 1848. Ex. B.28 at 3-12.

386. Office of Conservation and Coastal Lands. DLNR reorganized the Land Division in 2002, creating the OCCL. The office regulates and enforces land use for approximately two million acres of private and public lands that lie within the state's conservation district, including Mauna Kea. OCCL is also responsible for processing conservation district land use requests, developing administrative rules for the conservation district, investigating complaints and violations, and monitoring all CDUP conditions. Ex. B.28 at 3-13.

387. State Historic Preservation Division. SHPD helps to carry out the responsibilities outlined in the National Historic Preservation Act (NHPA) (see Section 3.4.1). The goal of the NHPA is to preserve and protect historical and culturally significant properties. The division is guided by the Statewide Historic Preservation Plan (2001)6 and the rules and regulations set forth in Chapter 6E of the Hawai'i Revised Statues. SHPD manages several programs to promote the use and conservation of historic properties, including those on Mauna Kea. These programs include: Statewide Inventory of Historic Properties, Burial Sites Program, Certified Local Government Program, National Main Street Program, Historic Preserves Program, Information and Education Program, Interagency Archaeological Services, and maintenance of the Hawai'i and National Register of Historic Places. SHPD also reviews proposed development projects to ensure minimal effects of change on historic and cultural assets. Ex. B.28 at 3-13.

388. Hawai'i Island Burial Council. The management of all human remains over 50 years old falls under the jurisdiction of SHPD. Island burial councils are administratively attached to SHPD to address concerns relating to Native Hawaiian burial sites. The burial council determines whether to relocate or preserve in place any previously identified Native Hawaiian burial sites. The burial council also works to educate landowners as to the cultural beliefs and views regarding burials encountered on their lands. Any burial protection plan or burial treatment plan for Mauna Kea must be done in consultation with Hawai'i Island Burial Council (HIBC). Ex. B.28 at 3-13.

b. University of Hawai'i

389. As the lessee, the University has responsibility for managing the UH Management Areas. The UH Board of Regents ("UH BOR") has final approval authority over major projects. Ex. B.28 at 3.9.

390. The acceptance of the 2000 Master Plan by the UH BOR prompted the creation of Office of Mauna Kea Management (OMKM), the Mauna Kea Management Board ("MKMB"), and Kahu Kū Mauna. The MKMB serves in an advisory capacity to the UHH Chancellor and Kahu Kū Mauna serves in the advisory capacity, primarily to the MKMB, but also to the UHH Chancellor. The MKMB has also established several advisory committees, including the MKMB Environmental Committee and the MKMB Hawaiian Cultural Committee. Ex. B.28 at 3.9.

391. While policy-making authority ultimately rests with the UH BOR, development of policy matters related to UH Management Areas on Mauna Kea originates with OMKM and University of Hawai‘i at Hilo ("UHH"), and as needed, in coordination with other UH divisions, State and Federal agencies, and appropriate community organizations. Ex. B.02z at 1, CMP IP.

392. Office of Mauna Kea Management. OMKM was established in 2000 and is responsible for the day-today management of the cultural and natural resources of the UH Management Areas. OMKM is housed within and funded by the UH-Hilo, and OMKM staff report directly to the Chancellor of UH Hilo. Included within OMKM's charge is the responsibility to "protect, preserve and enhance the natural, cultural, and recreational resources of Mauna Kea"; a significant piece of this mandate is coordination with other stakeholders, both public and private. OMKM also works with other agencies on issues that are related to the mountain but outside OMKM's jurisdiction. In addition, OMKM establishes management policies and oversees the ranger program. Ex. B.28 at 3.9.

393. Mauna Kea Management Board. The MKMB is comprised of seven members of the community who are nominated by the UH Hilo Chancellor and approved by the UH Board of Regents. The MKMB advises the Chancellor and OMKM. The volunteer members represent a cross section of the community and serve as the community's main voice, advising on activities, operations and land uses planned for Mauna Kea. MKMB works closely with Kahu Kū Mauna. Ex. B.28 at 3.11.

394. Kahu Kū Mauna. Kahu Kū Mauna (Guardians of the Mountain) is a nine-member volunteer council whose members are approved by the MKMB. Kahu Kū Mauna advises the MKMB, OMKM, and the UH Hilo Chancellor on Hawaiian cultural matters affecting the UH Management Areas. The council comprises individuals from the Native Hawaiian community. Members are selected on the basis of their awareness of Hawaiian cultural practices, traditions and significant landforms as applied to traditional and customary use of Mauna Kea, and their sensitivity to the sacredness of Mauna Kea. Ex. B.28 at 3.11.

395. Advisory Committees. Other committees have been formed to advise OMKM and the MKMB on specific topics. They include the MKMB Environment Committee, which

provides expertise on environmental issues; the Hawaiian Cultural Committee, which assists in integrating Hawaiian perspectives into OMKM's programs; the Wēkiu Bug Scientific Committee; and the Public Safety Committee. These committees are coordinated by OMKM. Ex. B.28 at 3.11.

396. Rangers. Shortly after its founding in the fall of 2000, OMKM established the ranger program to help educate visitors, monitor for violations of the permitted uses within the UH Management Areas, and generally help provide for the health and safety of visitors. A key responsibility is conducting patrols by 4 wheel drive vehicles to the summit four times daily. The primary purpose of these patrols is to observe and document the activities of the general public, observatory personnel, and commercial tour operators. Patrol reports are submitted to OMKM daily. Rangers perform a variety of other duties including providing emergency assistance for lost or injured people in the summit area, assisting stranded motorists, coordinating litter removal, conducting trail maintenance, inspecting the observatories for compliance with their CDUPs, and providing visitors some cultural information about Mauna Kea. The rangers typically have diverse backgrounds, from those with cultural ties to the land, to those drawn to the mountain because of astronomy, to those looking to share their knowledge about the important natural resources of the area. Ex. B.28 at 3.11.

397. Institute for Astronomy. The IfA, based at UH Mānoa, conducts state-of-the-art astronomical research. Its faculty and staff are also involved in astronomy education, and in the development and management of the observatories on Haleakala and Mauna Kea. IfA oversees the conduct and coordination of astronomical research in the Science Reserve, including long-term planning and visioning.

398. Mauna Kea Observatories Oversight Committee. The Mauna Kea Observatories Oversight Committee is composed of representatives from all of the observatories including those operated by IfA. Each observatory pays into accounts held by The Research Corporation of the University of Hawaii that are used to fund MKSS activities including road maintenance, snow removal, facilities maintenance and management at Hale Pōhaku, common utilities and the VIS. Ex. B.28 at 3.11.

399. Mauna Kea Observatories Support Services. Mauna Kea Observatories Support Services (MKSS) operates under the direction of the observatories through the Mauna Kea Observatories Oversight Committee funds and oversees the general maintenance and logistical services to all Mauna Kea observatories and the facilities at Hale Pōhaku. MKSS also supports, under the direction of OMKM, ranger services. Under the 2000 Master Plan, at least some of MKSS' services are to be transferred to OMKM, but no deadline was specified and the transfer has not occurred. The MKMB recently approved the transfer of the management and oversight of MKSS to OMKM. Ex. B.28 at 3.11.

400. The UH BOR approved the *Mauna Kea Science Reserve Master Plan* ("*2000 Master Plan*") in June 2000. Ex. B.28 at 3-9, CMP.

401. The *2000 Master Plan* was not adopted nor approved by BLNR. Ex. B.28 at 3-9, CMP.

402. In the *2000 Master Plan*, the University concluded that there was a need for a single entity to manage the comprehensive plan for the Science Reserve and called for the management organization to be housed within the University system and funded as an ongoing program unit of the UHH. Ex. B.28 at 3-9, CMP.

403. In accordance with the *2000 Master Plan*, UHH Chancellor established the OMKM on August 1, 2000 and charged the office with ensuring compliance with and implementation of the *2000 Master Plan*. Ex. B.28 at 3-9, CMP.

404. UHH, through its OMKM, together with the MKMB and the Kahu Kū Mauna Council, comprise the University of Hawai‘i's management entity for its managed lands on Mauna Kea. Ex. B.02z at 1, CMP IP.

405. On management issues, OMKM consults with Kahu Kū Mauna Council and MKMB. The latter shall recommend a course of action. OMKM reports MKMB's recommendations directly to the UHH Chancellor, who in turn forwards their recommendations to the UH President for final decision. If required, the UH Board of Regents has final approval. Ex. B.02z at 1, CMP IP.

406. The MKMB is comprised of seven members, plus two UH-BOR members ex-offio, who advise UHH and OMKM. Ex B.28 at 3-1, CMP.

407. MKMB members are nominated by the UHH Chancellor and approved by the UH BOR. Ex B.28 at 3-1, CMP.

408. Kahu Kū Mauna advises MKMB, OMKM, and UHH regarding Hawaiian cultural matters affecting the UH Management Areas. Ex B.28 at 3-11, CMP.

409. Kahu Kū Mauna members are approved by the MKMB. Ex B.28 at 3-11, CMP.

410. In the review and approval process for projects, including major projects, UHH follows the guidelines established in the *2000 Master Plan*, and protocols and policies established by the UH BOR. Ex. B.02z at 1, CMP IP.

411. Upon approval of the UH Comprehensive Management Plan ("CMP"), the BLNR made the UH BOR responsible for implementing the CMP. In accepting that responsibility, the UH BOR delegated implementation of the CMP through normal UH governance channels to UHH, OMKM, and MKMB and also assigned two members of the UH BOR to sit as ex-officio, nonvoting members on the MKMB. Ex R-3/B.32 at 3-148, FEIS.

412. The UHH, through OMKM, is responsible for implementing the CMP for UH Management Areas on Mauna Kea. Ex. B.02z at 1, CMP IP.

413. The OMKM has primary responsibility for managing the UH Management Areas, ensuring the coordinated planning and execution of activities so they are consistent with applicable legal mandates, authorities, and policies. Ex B.28 at 3-1, CMP.

414. OMKM is responsible for ensuring compliance with and implementation of the *2000 Master Plan*. Ex. B.28 at 3-8, CMP.

415. Included within OMKM's charge is the responsibility to "protect, preserve and enhance the natural, cultural, and recreational resources of Mauna Kea"; a significant piece of this mandate is coordination with other stakeholders, both public and private. Ex. B.28 at 3-9, CMP.

416. OMKM is tasked to work with other agencies on issues that are related to the mountain but outside OMKM's jurisdiction. Ex. B.28 at 3-8, CMP.

417. In addition, OMKM establishes management policies and oversees the ranger program. Ex. B.28 at 3-8, CMP.

3. Applicant is NOT in Compliance with Mauna Kea CMP and Sub-Plans

418. Consistency or *Pono* – The University understands that when the CMP is implemented, it is especially important that its actions are consistent with the contents of the plan. Doing so not only validates the content of the plan, but also reinforces the input provided by those who contributed to its preparation and strengthens the relationships that were formed during the process. Ex. B.28 at 4-1, CMP.

419. The CMP specifically addressed multiple land uses and resource values within the UH Management Areas. Pursuant to Judge Hara's decision, *Mauna Kea Anaina Hou, et al v. Board of Land and Natural Resources*, Civ. No. 04-1-397, Decision and Order dated January 19,

2007 (Hara 2007), BLNR shall approve a comprehensive management plan that considers multiple uses as a precondition for any future development on Mauna Kea (see Section 3.2). The CMP was prepared in accordance with Judge Hara's decision. Ex. B.28 at 2-2 to 2-3, CMP.

420. The Board of Land and Natural Resources approved a Comprehensive Management Plan ("CMP") for the Mauna Kea Science Reserve on April 9, 2009.

421. The CMP built on pre-existing management plans, including the 1995 Management Plan for UH Management Areas and the 2000 Mauna Kea Master Plan.

422. Unlike the CMP and Subplans, the *1995 Management Plan for UH Management Areas* and the *2000 Master Plan* were not reviewed or approved by BLNR. Ex. R-7/B.70 at 8.

423. Once approved, the CMP will be the controlling management plan for the UH Management Areas; it will supersede and replace the 1995 Management Plan. Ex. B.28 at 2-3, CMP.

424. The CMP will not replace the *2000 Master Plan*, which continues to serve as the University's development planning framework for the responsible stewardship and use of the UH Management Areas. As the CMP maintains consistency with the 2000 Master Plan, future updates to that plan should be consistent with the CMP. Ex. B.28 at 2-3, CMP.

425. It is important to maintain compatibility and consistency of recommendations between the 2000 Master Plan and the CMP, to ensure that identified facility needs and designs are consistent with the overarching management plan put forth in the CMP (see Section 7.2.1). Ex. B.28 at 7-58, CMP.

426. The CMP will be the "approved management plan" for any future land use. Accordingly, all activities and uses within the UH Management Areas will be consistent with the management actions described in the CMP. This will provide consistency and long-term viability of the management objectives. Ex. B.28 at 2-3, CMP.

427. A Comprehensive Management Plan differs from the standard Management Plan referred to in Hawai`i Administrative Rules (HAR) §13-5 Exhibit 3, MANAGEMENT PLAN REQUIREMENTS. The standard Management Plans discussed in Exhibit 3 are intended for projects with a specific, limited use (e.g. forestry, or aquaculture). A CMP, by contrast, is needed for larger parcels with multiple significant land uses. Ex. R-7/B.70 at 8.

428. The CMP was developed with the following concepts in mind:

- Mauna Kea is a culturally significant site.

- The high elevation areas of Mauna Kea represent a unique global resource that should be preserved for future generations.
- Management activities will be focused on limiting the impacts of human activities on cultural and natural resources.
- The planning and execution of resource management programs will involve input from the larger community (e.g., managers, scientists, educators, cultural practitioners, and the public). Ex. B.28 at 2-4, CMP.

429. Implementing the Mauna Kea CMP requires careful planning, sufficient funding, adequate staffing, and ongoing review and evaluation of program successes and failures. The *Implementing and Evaluating the Comprehensive Management Plan for UH Managed Lands on Mauna Kea* provides a strategy for implementing the Mauna Kea CMP, with a focus on immediate and short-term needs. It also identifies a methodology for evaluating the success of the plan and for determining any needed changes in management strategies. B.02z at 1, CMP IP.

430. The CMP provides a framework and guidelines for each use, and identifies areas of joint or shared responsibility. Ex. R-7/B.70 at 8.

431. The need for a comprehensive management plan to ensure resource protection was also identified in the audits of the University and their management of Mauna Kea and the Mauna Kea Science Reserve conducted by the Office of the Legislative Auditor in 1998 and 2005. Ex. B.28 at 2-2, CMP.

432. The role of the CMP in considering future land use is to guide the evaluation of proposed projects from the standpoint of potential impacts to cultural and natural resources, and to provide management actions that can be adopted by BLNR as special conditions in any CDUPs that it may issue. Ex. B.28 at 7-55, CMP.

433. The principles of adaptive management require regular review of the program and revision of management goals, objectives, actions, and techniques, to improve the performance of the program. There are two primary reasons to evaluate the implementation of the Mauna Kea CMP. The first is to demonstrate that by implementing the management actions, desired outcomes are being achieved. The second is to continually improve the management program in terms of efficiency and quality. Ex. B.02z at 16.

434. Two review processes, an annual progress report and a five-year management outcome assessment, are recommended to assess the success of the management program and to enable revision of the CMP. Ex. B.02z at 16.

435. It should be noted that any land use proposal for Mauna Kea would still need to go through the complete environmental review process; the CMP is corollary to the review process, and provide an additional framework for project development. Ex. R-7/B.70 at 8.

436. The CMP provides a process through which it can be regularly updated as part of an adaptive management strategy. That process will allow the BLNR and the University to evaluate and modify management approaches over time based on new information (see 7.4.2) that may become available. Ex. B.28 at 2-3, CMP.

437. Section 7.4.2 of the CMP outlines the requirements and process for monitoring, evaluating, and updating the CMP. Ex. B.28 at 7-63, CMP.

438. Regular monitoring and evaluation of the CMP is needed to determine if management actions are effective over time and are meeting management needs, and to ensure that the best possible protection is afforded Mauna Kea's resources. Ex. B.28 at 7-64, CMP

439. The CMP will need to be reviewed and revised as new, pertinent information becomes available about the resources being managed. Ex. B.28 at 7-64, CMP

440. Monitoring and evaluation of the effectiveness of the CMP should occur annually, and an annual progress report should be prepared. **A major review and revision of the CMP should occur every five years**, using information contained in the annual reports. (emphasis added) Ex. B.28 at 7-64, CMP

441. Five-year evaluation and revision should include consultation with federal and state agencies and the local community, to inform stakeholders on program progress, and to gather input on changes or additions to management activities. Ex. B.28 at 7-64, CMP

442. The CMP must also be updated to comply with any requirements or conditions imposed by the BLNR on the CMP upon acceptance of the plan. Ex. B.28 at 7-64, CMP

443. The requirement for UH to complete a "major review every five years" of the CMP is further stipulated in the CMP Implementation Plan (2010) as outlined below:

> 4.2.2 Five-Year Management Outcome Analysis and CMP Revision
> The OMKM program should be subjected to a major review every five years, and the CMP should be revised, as necessary. This process should involve input from State and Federal agencies and the public. Ex. B.02z at 17, CMP IP.

444. As the CMP was submitted to and approved by the BLNR on April 9, 2009, the required five-year major review and revision of the CMP would be due April 2014. Ex. B.02a at 4 – 5

445. The Applicant has failed to update and complete the five-year major review and revision of the CMP as required and stipulated in this plan. Ex. B.02a at 5.

446. Mr. Lemmo testified that the Applicant has not submitted the required five-year major evaluation update of the CMP. Tr. 2/27/17, V.41 at 236, 242.

447. The *2015 Annual Report* submitted by UHH to BLNR reaffirms that the required CMP five-year major review and revision is overdue and hasn't been completed yet as noted in comments for Management Action MEU-2: "Five-year CMP revision interval is 2014. Revision process initiated by OMKM for eventual submission to BLNR." Ex. A-21 at 27. Ex. B.02h at 27.

448. The most recent *2016 Annual Report* submitted by UHH to BLNR further reaffirms that the required CMP five-year major review and revision is overdue and hasn't been completed yet. Ex. A-22 at 28 & 36.

449. The OCCL Staff Report, dated February 25, 2011, includes recommended condition No. 12 which states "The applicant [University of Hawai'i at Hilo] will allow BLNR to name a BLNR representative to participate in the five-year management review process." (quoting Ex. A-7 at 65. Tr. 2/28/17, V.42 at 51.

450. BLNR has not yet appointed a representative to participate in UHH's five year management review process. Tr. 2/28/17, V.42 at 52.

451. The CMP should also be updated with a major review and revision as the proposed TMT project was beyond the scope of the CMP as noted below:

> 2.1.4 Issues and Concerns Beyond the Scope of the CMP
> Through the extensive community outreach that took place during the preparation of this CMP (see Section 4), it became clear that the community had a number of issues and concerns related to past and future activities on Mauna Kea and specifically within the UH Management Areas that were beyond the scope of this CMP. These issues and concerns are listed below and policy makers are urged to consider them in their broader decision making related to Mauna Kea.
> - Termination of the State Lease between the University and the BLNR
> - Use of ceded lands for $1 a year or nominal consideration
> - Subleases between the University and the observatories

- Extension of the State lease beyond 2033
- Proposed new development on Mauna Kea, including the Thirty Meter Telescope (TMT) and Pan Starrs
- Community benefit package with increased educational benefits
- Guaranteed employment opportunities for Native Hawaiians and the people on the Island of Hawai‘i

Ex. B.28 at 2-3, CMP.

452. The BLNR adopted the following Mauna Kea CMP sub-plans on March 25, 2010, *Cultural Resources Management Plan, Natural Resources Management Plan, Decommissioning Plan for the Mauna Kea Observatories,* and *Public Access Plan* for the UH Management Areas on Mauna Kea. Ex. R-1/B.30 at 2-3, CDUA.

453. Mauna Kea CMP and sub-plans are the approved management documents for land use and activities in the UH Management Areas on Mauna Kea, including the TMT project. Ex. R-1/B.30 at 2-3, CDUA.

454. The Mauna Kea CMP contained 103 management actions and associated reporting requirements that would govern the future of Mauna Kea. A condition of BLNR approval was that the University develop a *Project Development and Management Framework* and four resource sub-plans *Natural Resources Management Plan; Cultural Resource Management Plan; Public Access Plan;* and *Decommissioning Plan*. Ex. R-7/B.70 at 8 - 9.

455. The BLNR action also required the Applicant to submit an annual status report on the development of each sub plan and a status report on the development of each management action. Ex. R-7/B.70 at 8.

456. The Applicant has failed to implement and complete several significant components of these management action plans identified in the following Tables in the CMP that required immediate implementation. Ex. B.02a at 5.

Table 7-1. Management Actions: Native Hawaiian Cultural Resources (Ex. B.28 at 7-7 to 7-8)
Table 7-3. Management Actions: Natural Resources (Ex. B.28 at 7-15)
Table 7-4. Management Actions: Education and Outreach (Ex. B.28 at 7-23)
Table 7-5. Management Actions: Astronomical Resources (Ex. B.28 at 7-28)
Table 7-9. Management Actions: Activities and Uses (Ex. B.28 at 7-34 to 7-35)
Table 7-10. Management Actions: Permitting and Enforcement (Ex. B.28 at 7-41)
Table 7-11. Management Actions: Infrastructure and Maintenance (Ex. B.28 at 7-45)
Table 7-12. Management Actions: Construction Guidelines (Ex. B.28 at 7-49)
Table 7-13. Management Actions: Site Recycling, Decommissioning, Demolition and Restoration (Ex. B.28 at 7-54)
Table 7-14. Management Actions: Considering Future Land Use (Ex. B.28 at 7-57)
Table 7-15. Management Actions: Operations and Implementation (Ex. B.28 at 7-60)

Table 7-16. Management Actions: Monitoring, Evaluation and Updates (Ex. B.28 at 7-64)

457. OMKM was tasked with overseeing and implementing the management actions identified in the CMP Implementation Plan (2010). However, there were several significant management actions that were originally listed in the 2009 timeframe as Immediate (1-3 years) and Short-term (4-6 years) that have not yet been implemented and accomplished. Ex.B.02a at 6.

458. In the table below is a sampling of some of the significant incomplete CMP management actions. Ex. B.02a at 6 - 7.

CMP	**Management Actions**	**Implementation Schedule**
CR-2	Support application for designation of the summit region of Mauna Kea as a Traditional Cultural Property, per the National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470 et seq. in consultation with the larger community.	Short-term
CR-4	Establish a process for ongoing collection of information on traditional, contemporary, and customary cultural practices.	Short-term
NR-3	Maintain native plant and animal populations and biological diversity.	Mid and Long-term
NR-4	Minimize barriers to species migration to help maintain populations and protect ecosystem processes and development.	Mid and Long-term
NR-12	Create restoration plans and conduct habitat restoration activities, as needed.	Mid and Long-term
EO-4	Develop and implement a signage plan to improve signage throughout the UH Management Areas (interpretive, safety, rules and regulations). [*Comment: This was originally classified as Immediate implementation but has been deferred to Short Term to accommodate the accrual of additional resource information.]	Short Term*
IM-14	Encourage observatories to investigate options to reduce the use of hazardous materials in telescope operations.	Short-Term
FLU-2	Develop a map with land-use zones in the Astronomy Precinct based on updated inventories of cultural and natural resources, to delineate areas where future land use will not be allowed and areas where future land use	Short-Term*

	will be allowed but will require compliance with prerequisite studies or analysis prior to approval of Conservation District Use Permit. [*Comment: This was originally listed for Immediate implementation. However, this task will require additional data gathered from baseline surveys of the resources.]	
OI-4	Establish grievance procedures for OMKM, to address issues as they arise.	Short-term
MEU-2	Conduct regular updates of the CMP that reflect outcomes of the evaluation process, and that incorporate new information about the resources.	Short-Term

459. OMKM changed their reporting methods assigned to the progress status definitions. This resulted in having the existing CMP status plans being submitted annually to BLNR for review without any definitive timeframes and dates listed for the implementation of these management actions that in many cases are considered crucial in the protection of Mauna Kea's natural and cultural resources. Ex. B.02a at 6.

460. For reporting purposes in 2010 and 2011, each management action was initially assigned one of four progress status designations: **As Needed**, **Short to Long Term**, **Ongoing**, or **Completed**. For the 2012 report, the **Ongoing** category was further divided into two groups, **Ongoing** and **In Progress**, to distinguish management actions that are part of OMKM's regular responsibilities and those that require specialized implementation. For the 2014 report, based on feedback from the Office of the Auditor, State of Hawaii, OMKM again refined these definitions. **Ongoing** refers to activities that have established processes in place and are performed as part of OMKM's daily responsibilities. For example, processes for reporting disturbances to historic properties are established while actual reporting is **Ongoing** as necessary. **In Progress** refers to actions that require specialized implementation such as the development of policies or hiring consultants and researchers, and while efforts are **In Progress** the action or process is not yet complete. Ex. A-22 at 1 – 2.

461. Management Action FLU-1 in the CMP states that future facility planning should follow the guidelines presented in the University of Hawai'i *Mauna Kea Science Reserve Master Plan*, referred to as the *2000 Master Plan.* Ex. R-1/B.30 at 1-6, CDUA.

462. FLU-1 in the CMP stipulates the management action to be taken by UH: "Follow design guidelines presented in the 2000 Master Plan." Ex. B.28 at 7-57, CMP

463. Additional considerations for FLU-1. Master Plan Design Guidelines: Section XI of the 2000 Master Plan contains a set of design guidelines to direct development of renovations of existing facilities and new construction in a way that

integrates the facility into the landscape (Group 70 International 2000). General goals address: facility siting; scale; heights and widths; colors; surfaces, textures and materials; parking; roadway and utility development; roofs; fences, walls and barriers; and signage. Ex. B.28 at 7-57, CMP.

464. FLU-2 in the CMP stipulates the management action to be taken by UH: "Develop a map with land-use zones in the Astronomy Precinct based on updated inventories of cultural and natural resources, to delineate areas where future land use will not be allowed and areas where future land use will be allowed but will require compliance with prerequisite studies or analysis prior to approval of Conservation District Use Permit.

465. Additional considerations for FLU-2. Land use zones*:*
Any potential future observatories will be located inside the Astronomy Precinct. The goal of this process is to refine telescope siting areas defined in the 2000 Master Plan based on updated cultural and natural resource information (see Section 7.1.1 and Section 7.1.2). Land use zones will be developed that will delineate areas where future land use will not be allowed and areas where future land use will be allowed, but where compliance with prerequisite studies or analyses prior to approval of a CDUP, will be required. When assessing proposed infrastructure expansion, additional consideration will be given to the location of current infrastructure and previously disturbed areas (see Section 7.3.1). New land uses should be located close to existing infrastructure or previously disturbed areas, to reduce impacts on undisturbed areas and to minimize unnecessary damage to geological features. As stated in the 2000 Master Plan, all major undeveloped cinder cones and their intervening areas will be protected from future development by astronomical or other interests. These include the following puʻu: Ala, Hoaka, Kūkahauʻula, Līlīnoe, Māhoe, Mākanaka, Pōepoe, Poliʻahu, and Ula. Ex. B.28 at 7-58, CMP.

466. As stipulated in FLU-2, the Applicant has failed to complete a map with land-use zones based on updated inventories of cultural and natural resources prior to proposing new development such as the TMT project. Ex. B.02a at 5 – 6.

467. The *2015 Annual Report* submitted by UHH to BLNR reaffirms that FLU-2 hasn't been completed yet as noted in comments: "This was originally listed for Immediate implementation. However, this task will require additional data gathered from baseline surveys of the resources." Ex. B.02h at 26.

468. The most recent *2016 Annual Report* submitted by UHH to BLNR further reaffirms that FLU-2 hasn't been completed yet. Ex. A-22 at 27 & 36.

469. Mr. Lemmo testified that a number of entities are responsible for ensuring compliance with the implementation of the CMP management actions including the BLNR, UH BOR, UH IfA, OMKM, Maunakea Management Board, and OCCL-DLNR. Tr. 3/22/17 vol. 41 at 237.

470. UH has submitted Annual Reports to BLNR since 2010 through 2016 regarding the status of the implementation of the Comprehensive Management Plan. Ex. A-16, A-17, A-18, A-19, A-20, A-21, A-22.

471. The purpose of the Annual Reports as identified in the 2009 Mauna Kea Comprehensive Management Plan, management action MEU-1 states: OMKM shall produce an annual progress report on the management goals, objectives, and actions for the year and what progress was made towards meeting them. "This Progress Report is not intended to be a status report on the resources in the UH Management Areas; rather, it is meant to inform management and stakeholders of the progress of the program and direction it is to take in the future." Ex. A-22 at 1.

472. Mr. Lemmo testified that OCCL receives the annual reports from the Office of Maunakea Management and reviews them to understand the management actions UH undertook that year. Tr. 2/27/17, V.41 at 238.

473. Mr. Lemmo testified that OCCL presents the annual report to the BLNR as a non-action item. Tr. 2/27/17, V.41 at 238.

4. Applicant's Mismanagement Continues to Adversely Impact the Natural and Cultural Resources of Mauna Kea

a. Failure to complete significant CMP Management Actions

474. In the CMP Cultural Resources Management Plan ("CRMP"), several management actions are identified for the purpose of protecting cultural resources. Ex. A-11 at 5.1 to 5.8.

475. Once such management action item is identified with a priority of High to Medium scheduled to be completed in Year 1 is listed as such: "Develop a list of individuals, families, organizations who should be consulted when individual development projects are being proposed or when other issues arise that may be a concern". Ex. A-11 Table 5.1 at 5.2.

476. Ms. Stephanie Nagata, OMKM Director, testified that the OMKM has not yet finalized such a list of individuals, families, organizations, or Native Hawaiian cultural

practitioner despite this action item being identified with the priority of High to Medium. Tr. 12/12/16 vol 18 at 120 – 127.

477. Ms. Nagata also disclosed that several other such CMP CRMP management actions have not yet been completed or implemented by OMKM despite this action item being identified with the priority of High to Medium and with a scheduled completion date of Year 1 or 2. Tr. 12/12/16 vol 18 at 116 – 127.

478. OMKM has not finalized rues regarding the construction of new Hawaiian cultural features. Tr. 11/16/16, V.9 at 151

479. OMKM has not finalized rules regarding the scattering of cremated human remains. Tr. 11/16/16, V.9 at 151

480. OMKM has not finalized rules regarding the building of ahu or stacking rocks. Tr. 11/16/16, V.9 at 151

b. Failure to provide oversight of UH personnel

481. Mr. Ishibashi was initially hired as the cultural advisor in Jun 2012 in which he was responsible to monitor "cultural events on the mountain" Tr. 11/16/16, V.9 at 135:22 - 136:7

482. Mr. Ishibashi stated that though he is no longer the cultural advisor, that he continues to advise OMKM on cultural issues Tr. 11/16/16, V.9 at 138:2-14

483. Mr. Ishibashi has been the senior advisor at OMKM, since 2013. Tr. 11/16/16, V.9 at 110.

484. Mr. Ishibashi is not the cultural officer for OMKM. Tr. 11/16/16, V.9 at 135.

485. Mr. Ishibashi stated that his background and forte was "construction and renovating, improving facilities on the summit region. Tr. 11/16/16, V.9 at 137.

486. Mr. Ishibashi stated that in his role as Senior Advisor he does "monitoring the construction renovations and cultural sites on the mauna" Tr. 11/16/16, V.9 at 141.

487. Mr. Ishibashi defined the role of Senior Ddvisor as advising OMKM on "whatever issues arising to renovation or whatever permitting, ensuring that the construction is whatever permitting, ensuring that the construction is following the proper procedures on the best managing practices during their term of the contract or repairs or whatever they got to do." Tr. 11/16/16, V.9 at 137 – 138.

488. In the archaeological monitoring report for geotechnical boring at the proposed TMT site, it states that "The two upright stones were later dislodged by OMKM staff". Ex. B.02i at 12.

489. Mr. Ishibashi testified that he was the OMKM staff person identified in this monitoring report who was involved with this incident. Tr. 11/16/16 vol 9 at 172.

490. Mr. Ishibashi testified that he had intentionally knocked down an upright stone associated with Native Hawaiian cultural practices that was near the northern boundary of the proposed TMT site on the northern plateau. Tr. 11/16/16 vol 9 at 162-175.

491. Mr. Ishibashi testified that he did not consult with Kahu Ku Mauna prior to taking action to knock down an upright stone associated with Native Hawaiian cultural practices. Tr. 11/16/16 vol 9 at 164-165.

492. Mr. Ishibashi testimony verified that he is not very familiar with the rules and policies pertaining to the protection of Native Hawaiian cultural practices and resources. Tr. 11/16/16 vol 9 at 158 – 166.

493. Mr. Ishibashi testified that Mauna Kea rangers remove ho`okupu and items left on ahu even though they do not have the authority to do so. Tr. 11/16/16, V.9 at 162.

c. Failure to properly train individuals through Maunakea User Orientation

494. Mr. Ishibashi states that all employees working on the mauna must participate in a cultural/natural resource orientation

495. Mr. Ishibashi states that there is no test at the end of the cultural training to determine if they've understood the information presented; that they need only attend the training. Tr. 11/16/16, V.9 at 148 – 149.

496. Mr. Nees was working on various projects contracted by OMKM through PCSI since 2005 as either a crew member, field supervisor, or field director. Tr. 4/3/17 vol. 12 at 69.

497. Mr. Nees stated that he never attended an orientation or training by OMKM and was not aware of his colleagues attending any as well. Tr. 4/3/17 vol. 12 at 70.

498. Mr. Nees stated that he never attended an orientation or training regarding Native Hawaiian customary and traditional practices on Mauna Kea. Tr. 4/3/17 vol. 12 at 70.

5. State's Failure of their Constitutional Obligations and Statutory Duties

a. State allowed cumulative impacts upon Mauna Kea's cultural and natural resources to be substantial, significant, and adverse

499. It remains undisputed that the cumulative impacts on cultural, archaeological, historic, and geologic resources on Mauna Kea has been substantial, significant, and adverse. Ex. R-3 Sect 3.16.6 at 3-243.

b. Failure to Protect Public Trust Lands

The BLNR allowed the TMT Observatory Corporation/TIO to take possession of said public trust lands and commence with construction activities including grading, excavation, and geotechnical boring on the proposed site prior to consenting to a sublease for this area. Ex. B.02e; Ex. B.02i.

These activities, between August and October 2013, resulted in irreparable harm and damage to this unique and pristine geological and cultural landscape. Ex. B.02e; Ex. B.02i.

Mr. Sanders affirmed that TMT conducted geotechnical studies at the TMT site in 2013, including drilling cores of material at load bearing spots and grading on the jeep trail for the drilling rig. Tr. 01/3/2017, V. 20 at 26-27.

The BLNR issued a consent to sublease under General Lease No. S-4191 to the TMT International Observatory LLC over eight months later on June 27, 2014. Exhibit B.02f.

The consent to sublease for the proposed TMT project was appealed in the Third Circuit Environmental Court (Civil No. 14-1-324). It was later remanded back to BLNR as noted in the Order for Remand. Ex. B.02 at 4; B.02g.[1]

It's very evident that OCCL-DLNR staff did not take a 'hard look' at significant aspects of CDUA HA-3568 in the initial submittal. Instead, information was cut and pasted in their entirely directly from the Application's submittals and included in the OCCL Staff Report that was submitted to Board members for their consideration on February 25, 2011. Ex. B.35; R-7/B.70.

[1] The consent to this sublease has later invalidated by Judge Greg Nakamura in Civil No. 14-1-324, *E. Kalani Flores v. Board of Land and Natural Resources, et al.*

c. Failure to Protect to Native Hawaiian Customary and Traditional Practices and Rights

The requirement for BLNR/DLNR to fulfill their their statutory and constitutional obligations under *Ka Pa'akai o Ka 'Aina v. Land Use Comm'n State of Hawai'i*, 94 Hawai'i 37, 7 P.3d 1068 (2000) has been brought directly to the attention of BLNR/DLNR since the first contested case hearing for CDUA HA-3568 as well as at subsequent BLNR meetings through both oral and written testimony regarding the Mauna Kea Master Lease and TMT sublease. In addition, this matter was once again brought to the attention of BLNR/DLNR in the agency appeal Civil No. 14-1-324, *E. Kalani Flores v. Board of Land and Natural Resources, et al.* as noted in those documents and briefs filed in that case. Ex. B.02a at 3, Flores WDT.

500. BLNR/DLNR has not been able to produce a copy of any such independent *Ka Pa'akai* analysis completed by this State agency despite a formal UIPA request to produce such a copy. Ex. B.02a at 3, Flores WDT; Ex. B.02c; Ex. B.02c-2.

501. UH reaffirms that the afore-mention *Ka Pa'akai* analysis is required as referenced in their own management plan; "Further, this analysis should be applied before an action is approved and begun, and the analysis should be completed by the State and not delegated by the State to the entity applying for approval." Ex. B.02a at 2 - 3, Flores WDT; Ex. B.42 at 2-29.

502. Mr. Lemmo testified that when preparing a staff report on a CDUP application, he informed his OCCL staff that "when you're looking at the *Ka Paakai* analysis, that you can't just take what the applicant says verbatim and cut and paste it and place it into your staff report,… and determine that that's okay. I've told them that they need to take a look at the information that's been presented to them. They need to think about whether they need to go and look at independent sources of information, and then to come up with, in their own words, whether they feel that there's been adequate review or adequate representation of Native Hawaiian interests in the matter." Tr. 2/27/17, V.41 at 253.

503. Mr. Lemmo affirmed that part of OCCL's job under the Hawaii State Constitution is to take it upon themselves to protect Native Hawaiian rights, beliefs and values and not rely on the applicants to do so. Tr. 2/27/17, V.41 at 253.

504. Mr. Lemmo affirmed that OCCL cannot rely solely on information from the applicant to determine whether or not Native Hawaiian values, interests, and beliefs have been assessed and considered and whether mitigation measures have been imposed that reduce impacts to those values and interests. Tr. 2/27/17, V.41 at 254.

505. Mr. Lemmo testified that OCCL did not conduct a cultural impact assessment for the lands of Mauna Kea. Tr. 2/27/17, V.41 at 253.

506. Mr. Lemmo testified that, "If you're asking me did I go out and do a cultural assessment, no, I did not. I do not have the resources to go and do a cultural assessments, nor the time." Tr. 2/27/17, V.41 at 253.

507. Mr. Lemmo testified further that they "don't have the staffing, the resources, the time to go and take on… doing independent analyses of these things." Tr. 2/27/17, V.41 at 254.

508. Mr. Lemmo testified that OCCL did not contract anyone to conduct a cultural impact assessment for Mauna Kea. Tr. 2/27/17, V.41 at 254.

F. Issues and Impacts of Proposed TMT Project

1. CDUA HA-3568 is Deficient, Incomplete, and Inaccurate

a. Failure of Applicant to properly update CDUA

509. The outdated CDUA HA-3568 inaccurately identifies the TMT project developer as such, "**On behalf of the TMT Observatory Corporation, the University of Hawai'i is seeking a Conservation District Use Permit (CDUP)** from the State of Hawai'i Board of Land and Natural Resources (BLNR) that will allow the construction, operation, and eventual decommissioning of the Thirty Meter Telescope (TMT) Observatory within an area below the summit of Mauna Kea that is known as "Area E"." (emphasis added) Ex. R-1/B.30 at 1-5, CDUA.

510. The outdated CDUA HA-3568 inaccurately states, "**The TMT Observatory Corporation is a private non-profit corporation that will be responsible for constructing the TMT project and for managing its operations**." (emphasis added) Ex. R-1/B.30 at 1-5, CDUA.

511. The outdated CDUA HA-3568 inaccurately states, "**The TMT project is currently a partnership among the TMT Observatory Corporation (TMT)**, the University of California (UC), the California Institute of Technology (Caltech) and the Association of Canadian Universities for Research in Astronomy (ACURA). The National Astronomical Observatory of Japan (NAOJ) is a collaborator and potential partner, and the National Astronomical Observatories of the Chinese Academy of Sciences (NAOC) and India's Department of Science and Technology (DST) are observers and potential partners in the TMT project." (emphasis added Ex. R-1/B.30 at 1-5 – 1-6, CDUA.

512. TMT Corporation was formed to manage initial planning, design, and development of the TMT Observatory to house a 30-meter primary mirror telescope. Ex. C-1 at 2.

513. TIO witness, Mr. Fred Stone, joined the Thirty Meter Telescope Corporation in 2004 and served as chairman and vice-chairman until May 2014 when he became Executive Director of newly-formed TMT Observatory International, LLC ("TIO". Ex. C-1 at 1.

514. TIO was established to carry out the construction and operation phases of the TMT Project. Ex. C-1 at 1.

515. The current Members of TIO are Caltech, UC, the National Institutes of Natural Science of Japan, the National Astronomical Observatories of the Chinese Academy of Sciences, the Canadian National Research Council and the Indian Department of Science and Technology. Ex. C-1 at 1.

516. Major funding for the TMT project has been provided by the Gordon & Betty Moore Foundation. Ex. C-1 at 1.

517. Mr. Stone affirmed TIO was formed because the members of the TMT Observatory Corporation, a California corporation, would have been equal partners. However, there was a need to issue proportionate interest and shares in their votes regarding the TMT project. So instead, the TIO was formed as a LLC, a Delaware corporation. Tr. 12/19/16 vol 18 at 10-12.

518. TIO is organized exclusively for exempt purposes under Section 501(c)(3} of the Internal Revenue Code. TIO may not carry out activities that are not permitted by Section 501 (c)(3) of the Code. Ex. C-1 at 2.

519. In May 2014, TIO became official and as result the TMT project is now "owned" by the members of TIO and overseen by the Board of TIO. Tr. 12/19/16 vol 18 at 13.

520. The TMT Observatory Corporation turned over what it had developed as well as transferred its employees to TIO. Tr. 12/19/16 vol 18 at 10-12

521. TIO and its members seek to develop, design, finance, construct, commission, operate and decommission a next generation segmented mirror telescope and associated observatory on Mauna Kea. Ex. C-1 at 2.

522. TIO witness, Mr. Gary Sanders, TMT Project Manager, affirmed that the TMT Observatory Corporation transitioned into the TIO whose partners pledged in writing their

contributions to TIO, both cash contribution and in-kind contributions. Tr. 01/4/2017, V. 21 at 76-77.

523. In 2004, Dr. Sanders became the Project Manager for the Thirty Meter Telescope for the California Institute of Technology and the University of California, which formed the TMT Observatory Corporation (TMT Corporation). He has been with the TMT Corporation since 2004 and since May 2014 with the TIO. He is responsible for managing the design and construction of the Thirty Meter Telescope. The TMT International Observatory (TIO) was formed on May 6, 2014 and he reports to its board of directors. Ex. C-2 at 1.

524. According to Mr. Sanders, they set up the mechanisms for TIO to take on the employees of the TMT Observatory Corporation. It took until about October of 2016 to have things like benefits, insurance, and all the personnel system in place. And then instead of purchasing the services of the employees of the TMT Observatory Corporation, the employees were moved over in to TIO. Tr. 01/4/2017, V. 21 at 76-77.

525. According to Mr. Sanders, "So in the end, TIO is responsible for all of the construction and all of the operations in the future, and employs people. And TMT Observatory Corporation will in time disappear." Tr. 01/4/2017, V. 21 at 76-77.

526. Mr. Sanders also stated that the TMT Observatory Corporation is still managing the ends of a few contracts and is completing the management of the planning grant with the NSF which will go through some portion of 2017, or maybe till the end of 2017. Little by little, the TMT Observatory Corporation is reducing its role as part of a transition from one corporation to a successor corporation." Tr. 01/4/2017, V. 21 at 77.

527. Mr. Sanders further clarified that the TMT Observatory is currently governed by a board, which consists of members from its two owners, University of California and California Institute of Technology. Tr. 01/4/2017, V. 21 at 78.

528. The CDUA states that the TMT Observatory Project involves four major phases: planning and design, construction and testing, operation, and decommissioning of the TMT Observatory after it reaches the end of its planned useful life. However, the expected life of the TMT Observatory is not disclosed in the CDUA. Ex. B.28 at 1-18.

529. The project schedule and Table 1.3 in the CDUA needs to be updated. Ex. B.28 at 1-18 to 1-19.

b. Failure of Applicant to submit a complete and accurate CDUA

530. Several significant deficiencies in the CDUA were brought to the attention of the Applicant during the first contested case hearing in particular to **Sect. 4 Cultural Resources** and **Sect. 7 Visual Impact**. As such, the Applicant had several years to address these matters, make necessary revisions and corrections, and resubmit this application. Ex. B.02a.

i. Analysis and data in CDUA relied upon draft or non-existence documents

531. The TMT Management Plan in the CDUA only included a Draft Historic Preservation Mitigation Plan (included as an appendix in Exhibit B) R-1 at R-4, CDUA.

532. The CDUA was submitted to BLNR in October 2010 prior to the acceptance of the final *Archaeological Inventory Survey for the Thirty-Meter-Telescope (TMT) Observatory Project* ("TMT FAIS") by the State Historic Preservation Division ("SHPD"). Ex. R-1/B.30, CDUA.

533. *Archaeological Inventory Survey for the Thirty-Meter-Telescope (TMT) Observatory Project* conducted by Cultural Surveys Hawai'i, Inc. went through three drafts due to concerns by the SHPD prior to being accepted as final in January 2011. Ex. A-66 at 1.

534. Relevant information pertaining to historic properties and cultural resources from the TMT FAIS was not included in the CDUA. Ex. R-1/B.30, CDUA.

535. Applicant failed to submit this TMT FAIS as evidence in this cch to substantiate the completeness and accurateness of the information in Sect. 4 Cultural Resources of the CDUA.

536. At the time of the CDUA submittal, the Decommissioning Funding Plan ("DFP") as a requirement of the CMP's Decommissioning Plan was not made available for review by DLNR staff, BLNR, and the general public as part of this application process. Ex. C-1 at 5.

537. The DFP contains a cost estimate for decommissioning, a description of the method for assuring that funds are available, and the method for adjusting the cost estimate and funding level over the life of the sublease. The DFP describes and documents the sublessee's assurance that a prescribed amount of funding is secured for decommissioning and site restoration. Initially this is based on a conceptual cost estimate and plan to fulfill these requirements. TIO didn't provided its initial DFP to OMKM until 2014. Ex. C-1 at 5.

538. Ms. Aloua testified that only a Draft Historic Preservation Mitigation Plan was included as part of the CDUA review. Tr. 2/15/2017 vol. 36 at 112.

539. Ms. Aloua testified that the final report for the Archaeological Inventory Survey Report for the TMT project was not part of the CDUA and the Final EIS. The CDUA should be updated to reflect this final report. Tr. 2/15/2017 vol. 36 at 113-115.

ii. CDUA Sect. 4 Cultural Resources failed to appropriately assess project impacts upon the Mauna Kea Summit Region Historic District

540. Based upon an extensive review and examination of the CDUA, associated documents, and related archaeological surveys and reports, it was determined that significant parts of the **CDUA Sect. 4 Cultural Resources** pertaining to Mauna Kea are incomplete, inaccurate, and omits significant information. Ex. B.02a at 11.

541. The TMT proposes to be located within the Mauna Kea Summit Region Historic District (SIHP #50-10-23-26869) which is historically and culturally significant under all five criteria of the Hawai‘i Register of Historic Places (HRHP) and Hawai‘i Administrative Rules (§13-275) and under all four criteria of the National Register; and this Historic District is eligible for inclusion in the National Register of Historic Places (NRHP) as well as eligible for designation as a Traditional Cultural Property (TCP). Ex. B.02a at 11-12.

542. The MKSRHD includes a concentration of significant historic properties that are linked through their setting, historic use, traditional associations, and ongoing cultural practices. The properties include shrines, adze quarry complexes and workshops, burials, stone markers/memorials, temporary shelters, historic campsites, traditional cultural properties, historic trails, and sites of unknown function. Ex. B.02a at 12.

543. Despite the known historic and cultural significance of Mauna Kea, the CDUA was incomplete for failing to:

- disclose the impacts of the TMT upon the integrity of the historic properties within the broader context of the Mauna Kea Summit Region Historic District.
- assess the impacts of the TMT upon the NRHP criteria for eligibility.
- assess the impacts of the TMT upon the HRHP integrity.
- assess the impacts of the TMT upon the TCP criteria for eligibility.

Ex. B.02a at 12.

544. The CMP stipulates that any potential siting of new observatories in the summit region needs to consider potential impacts to the cultural landscape, which includes both landforms and the recognized cultural significance of summit region. Ex. 28 at 7-57, CMP.

545. Despite this guideline in the CMP, the CDUA was incomplete for failing to:

- assess the impacts of the TMT upon the cultural landscape on the northern plateau that is presently undeveloped without any telescopes.

Ex. B.02a at 12.

546. Dr. Abad testified that archaeologists following best practices will look at regional perspectives. Tr. 01/19/2017, vol 27 at 25: 3-6.

547. Dr. Abad stated, "A regional perspective and unit of analysis is also strongly advised from an academic, archaeological perspective concerned with the scientific significance of sites." This is because "studies using a smaller sized site as a unit of analysis lack rigor and fail to glean the full explanatory potential from the archaeological record, especially as it relates to surface artifacts." Ex. B.08a at 6.

548. A site-specific focus on high density areas of artifacts may exclude low density areas and result in a detrimental, biased view of the past of unrelated, uneven spots of high cultural activity. Ex. B.08a at 6.

549. These concerns are applicable to finds at Mauna Kea, where a historical district would be an appropriate scale of study as opposed to a scale focused on each of 263 separate sites within that district. Ex. B.08a at 6-7.

550. Dr. Abad testified, "If we don't look at what's happening at a regional level, we miss the importance of how these sites might be interacting with one another." Tr. 01/19/2017, V. 27 at 24: 10-14.

551. Where one site has very high significance, its importance emanates out to other areas, and may be given a buffer of respect. Tr. 01/19/2017, V. 27 at 25.

552. Dr. Abad testified that the TMT CDUA did not include assessment of the visual impacts on the Mauna Kea regional historic district. Tr. 01/19/2017, V. 27 at 63.

553. At Mauna Kea, there is a huge district at a regional level that includes hundreds of some of the most important, significant cultural and archaeological sites. "[F]rom every view, they're astounding and they're extraordinary on so many levels." Tr. 01/19/2017, V. 27 at 29.

554. The scale and relatively huge footprint of the TMT project within the regional landscape would compromise the integrity of historic sites in that area. Tr. 01/19/2017, V. 27 at 33.

555. In preparing her oral and written testimony, Dr. Abad reviewed the CDUA, the FEIS, and the incorporated CIA and AIS, for the TMT project. Ex. B.08a at 1. Dr. Abad opined that these documents lacked the appropriate unit of analysis - a wide lens regional perspective – and were also flawed in regard to the process of who was involved at what point to inform the reports and determinations. Tr. 01/19/2017, V. 27 at 56.

556. On January 25, 2017, Dr. Peter Mills, who has been teaching at the UHH for nineteen years, was called as a witness by Mauna Kea Anaina Hou. Tr. 01/25/2017, V.30 at 11.

557. Dr. Mills, who has a Ph.D degree and a M.A. degree in Anthropology, is a qualified archaeologist who meets the standards of the Secretary of the Interior (36 CFR Part 61), and Hawai‘i’s rules covering professional qualifications for principal investigators on archaeological projects in Hawai‘i (HAR §13-281-8). He has served as the President of the Society of Hawaiian Archaeology and specifically conducted geological and archaeological research on the Mauna Kea Adze quarry. Dr. Mills has a considerable amount of experience reviewing environmental impact statements under federal processes and Massachusetts state processes, through his work at the Massachusetts Historical Commission. At UHH, Dr. Mills developed a Heritage Management graduate program that deals with issues such as the ones raised by the TMT CDUA. Ex. B.12a at 1; Ex. B.12b; Tr. 01/25/2017, V.30 at 12.

558. Dr. Mills stated that the eligibility of the Mauna Kea Region Historic District is particularly relevant when determining the “Area of Potential Effect” (APE) of any proposed project, including the TMT. Ex. B.12a at 1.

559. Dr. Mills testified that portions of Mauna Kea have been assigned as traditional cultural properties (TCPs) and eligibility determinations have been made under the National and State Historic Registers. Tr. 01/25/2017, V.30 at 84: 22-25.

560. Federal regulations define “APE” as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist[.]” 36 C.F.R. §800.16[b]. APE is also referenced under HRS Chapter 343 and associated guidelines for cultural impact assessments: “In scoping the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment.” Ex. B.12a at 2. (citing *Guidelines for Assessing Cultural Impacts,* Office of Environmental Quality Control (OEQC), State of Hawai‘i, Nov. 19, 1997, p. 11. Ex. B.12c).

561. Dr. Mills testified that OEQC Guidelines assist in clarifying what should be considered in assessing an APE for the TMT. Tr. 01/25/2017, V.30 at 89: 11-14.

562. Ms. Aloua reiterated that the CDUA neglects to evaluate how the TMT project would impact the Mauna Kea Summit Region Historic District as a whole. The CDUA should be deemed incomplete until these evaluations are provided. Ex. B24a at 1.

563. Nees affirmed that when doing an analysis within a Historic District, it's important to look at how the project would potentially impact all the sites within that district. Tr. 4/3/17 vol. 12 at 85.

564. Nees affirmed that his firm PCSI did not conduct a viewplane analysis of the historic properties or find spots within the Astronomy Precinct in relationship to the proposed TMT project. Tr. 4/3/17 vol. 12 at 102.

565. Nees affirmed that his firm PCSI did not conduct a viewplane analysis of the historic properties or find spots outside the Astronomy Precinct in relationship to the proposed TMT project. Tr. 4/3/17 vol. 12 at 102-103.

566. Nees disclosed that the evaluation of determining whether a site is a historic property or not is typically done back at the office by Dr. (Patrick) McCoy based upon photos and data collected by the field crew. Tr. 4/3/17 vol. 12 at 110-112.

567. Nees affirmed that while working in field on various projects pertaining to Mauna Kea, his firm PCSI did not consult with or utilize any cultural practitioners in the field to assist in identifying some of the 'unknown' sites. Tr. 4/3/17 vol. 12 at 109-110.

568. Ms. Nagata testified that PSCI did not do the AIS for the TMT project specific. Tr. 12/12/16 vol 18 at 110 – 111.

569. The AIS of the Mauna Kea Science Reserve conducted by PCSI is void of any consultation with Native Hawaiian cultural practitioners associated with customary and traditional practices in the vicinity of the proposed TMT project. Ex. B.02a at 11 – 13.

570. As a result, significant cultural sites in the vicinity of the proposed TMT project have been overlooked and the functions and purposes of previously identified sites have been inaccurately depicted. Ex. B.02a at 11 – 13.

571. Members of the Flores-Case 'Ohana have identified significant sites through *'ike kupuna*, indigenous knowledge and ancestral insight within the vicinity of the proposed TMT

that have not been identified in archaeological surveys that would be adversely impacted by such a project in the proposed location. Ex. B.02a at 13.

572. Many of the *ahu* (shrines) and other formations on the northern plateau are interconnected by location, function, orientation, and energetic lines. The TMT would be situated amongst these sites causing adverse disturbance and impacts between the grid of interconnected sites. Ex. B.02a at 13.

iii. CDUA Sect. 4 Cultural Resources failed to properly assess project impacts upon the historic and cultural properties

573. The *2000 Master Plan* stipulates the following guideline for Siting Criteria for telescope development:

> Minimum visual impact from significant cultural areas. Views from the pu‘u and archaeological sites will be respected in the siting of future facilities. The location of new facilities will avoid interference with the visual connections between the major pu‘u and the shrine complexes. Ex. B.28 at IX-22.

574. Despite this guideline in the *2000 Master Plan*, the CDUA was incomplete for failing to:

- assess the impacts of the TMT upon the view planes and spatial relationship amongst the hundreds of *ahu* (shrines) considered historical properties and cultural resources.
- assess the impacts of the TMT upon the visual alignments between the various *ahu* (shrines) and the summit and noted *pu‘u* (i.e. Pu‘u Kūkahau‘ula, Pu‘u Poliahi).

Ex. B.02a at 12.

575. Dr. Abad testified that the TMT Project CDUA failed to properly assess upright sites or ahu of various shapes and sizes on Mauna Kea, which do not exist in isolation, but are rather alignments that connect to other ahu or ridge peaks, for example. Tr. 01/19/2017, V. 27 at 35.

576. Dr. Abad also testified that the viewplane marked by these alignments are tremendously important and it is very likely that the TMT will block important viewplanes. Tr. 01/19/2017, V. 27 at 36.

577. CDUA HA-3568 was incomplete for failing to:

- disclose the impacts upon SIHP Site Nos.16169 and 21447 along with other cultural resources referred to as “find spots” (Nos. 1997.034, 2005.05, 2005.06,

2000.7, & 2005.08) that are within the Astronomy Precinct and within the vicinity of the proposed TMT project area. The CDUA omitted any reference to these sites even though they are identified in archaeological reports and survey maps.

- assess the impact of construction activities upon historical properties and cultural resources within the vicinity of the proposed TMT project area and the potential of toppling over of *ahu* due to ground disturbing activities.
- assess the impacts upon the historic & cultural resources due to the increased intensity of the conservation district land use with further subdivision with the subleasing to TMT
- assess the impact of construction activities associated dust and noise upon cultural practitioners and their practices.
- assess the impact of construction activities upon the access of cultural practitioners to cultural sites on the northern plateau and near the Batch Plant.

Ex. B.02a at 12.

578. TMT CDUA arbitrarily and inappropriately limited review to within 200 feet of the Project site and 500 feet of the Batch Plant. The TMT CDUA isolated the project area from the contiguous historic district, as evident in its Figure 2-1. Ex. B.08a at 7.

579. "There's no explanation as to where the 200 feet came from. Why 200? Why not 2,000? Why not the whole historic district?" Tr. 01/19/2017, V. 27 at 70.

580. Similarly, there is no explanation as to why 500 feet was used as the limit for assessing individual historic properties located near the Batch Plant. Tr. 01/19/2017, V. 27 at 70.

581. There is no explanation regarding why sites in the required wider regional perspective were excluded from the map and analysis and how the seemingly arbitrary 500-feet limit was determined. In fact, upon closer examination, the statement itself is false since one of the 17 sites depicted, the Kūkahauʻula traditional cultural property (TCP), "is located approximately 50 feet to the east of the Batch Plant area". R-1 at. 2-4; Ex. B.08a at 7-8.

582. The TMT CDUA apparently excluded Kūkahauʻula as a site for inclusion in their analysis under the belief that the portion of Kūkahauʻula located within the arbitrary 500 feet radius of the Batch Plant does not include "individual historic properties" is a site complex or district comprised of multiple sites, which constitutes a distinct historic property bearing its own site number (SIHP No. 50-10-23-21438). It greater significance, scale, and complexity than other sites identified in the area. Ex. B.08a at 7-8.

583. HAR §13-276-2 defines "historic property" as "any building, structure, object, **district,** area, or site, including heiau and underwater site, which is over fifty years old" (emphasis added). Ex. B.08a at 7-8.

584. "The Kūkahauʻula TCP is a historic property (SIHP No. 50-10-23- 21438) occupying an area of approximately 463 acres" (TMT CDUA, p. 2-2). It "consists of a group of puʻu commonly known as Puʻu Hauʻoki, Puʻu Wēkiu, and Puʻu Kea" and "has been determined to be a historic [district] by SHPD owing its association with legendary figures and ongoing Native Hawaiian cultural practices" (Ibid.). Ex. B.08a at 7-8.

585. "Approximately 1,100 feet of the 3,400 foot long Access Way serving the TMT Observatory would cross Kūkahauʻula." This statement offered in the TMT CDUA is not accompanied by an analysis demonstrating how the TMT project will not create substantive adverse impacts to Kūkahauʻula. Ex. B.08a at 7-8.

586. "[E]very time information is omitted, we have less context for what we're trying to interpret." Tr. 01/25/2017, V.30 at 24: 4:6.

587. The TMT CDUA omitted a number of "find spots" and even sites (SIHP -1619 and -21447) that are identified within the UH managed areas of the Mauna Kea summit. Ex. B.12a at 2.

588. In 1997, SHPD instituted a process of recording locations termed "find spots," which are cultural resources that are either obviously modern features or features that cannot be classified with any level of confidence as historic sites because of their uncertain age and function. Tr. 01/25/2017, V.30 at 67-68.

589. "Find spots" nominate sites that are potentially culturally important and may include sites that are less than fifty years old. Tr. 01/25/2017, V.30 at 25, 26: 4-6.

590. Just because modern materials are found in an area does not immediately remove the site from the realm of ritual practice. Tr. 01/25/2017, V.30 at 68:18-20.

591. Recent ritual practices on Mauna Kea need to be considered within the scope of a cultural impact assessment. Tr. 01/25/2017, V.30 at 26: 22-25.

iv. CDUA Sect. 4 Cultural Resources omitted consultation with Native Hawaiian practitioners

592. Dr. Abad testified that any activities proposed within the Mauna Kea regional district should have triggered high levels of cultural conversations, consultation, engagement, decision making, but this did not occur. Tr. 01/19/2017, vol. 27 at 55-56.

593. The TMT Project CDUA further failed to consider intangible resources, including the feeling and integrity of a site, which are considered under significance criteria described in HAR §13-284-6. To be significant, a historic property shall possess integrity of location, design, setting, materials, workmanship, feeling, and association and shall meet one of the historic property criteria. Tr. 01/19/2017, V. 27 at 36-37.

594. Bulletin 38 offered similar guidance at the federal level. Tr. 01/19/2017, V. 27 at 36: 20-25. Bulletin 38 guidance states how sites should be evaluated and how to identify them in tandem with cultural consultations, particularly for archaeologists that lack cultural knowledge. Tr. 01/19/2017, V. 27 at 38: 10-12 citing Exhibit B.08j. Such archaeologists cannot make determinations of cultural importance or impacts, rather that call must come from within the culture. Tr. 01/19/2017, V. 27 at 41:10-12. Bulletin 38 counseled that some informants may have inappropriate motivations and, in such cases, to also look at historical evidence such as ethnohistoric written records and to question the integrity of informants and whether the informant is judged to be credible by the pertinent cultural group. *Id.*, at 89-90.

595. "[T]he role of a cultural perspective is absolutely necessary in all levels of analysis, and this is what anthropologists and archeologists [*sic*] would refer to as emic perspectives." Tr. 01/19/2017, V. 27 at 26: 7-11.

596. An emic perspective is necessary to applying historic preservation legal criteria A, B, C, D, E. Criterion E, under HAR §13-284-6, concerns properties that have an important value to the Native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events, or oral accounts, these associations being important to the group's history and cultural identity. This requires archaeologists to ask someone from within the applicable culture about the property's importance. Tr. 01/19/2017, V. 27 at 27 - 28.

597. One of the largest flaws in archaeological and cultural impact documents prepared for the TMT project is that the two functions of consulting with knowledgeable Native Hawaiians and looking at sites has been bifurcated. Tr. 01/19/2017, V. 27 at 28.

598. [T]he way the research was conducted is that people were asked, tell us about why Mauna Kea is important, and they were never asked, here, this is what we found when we looked at the archaeology. Here's a picture. Here's – here's the report. Come. Let's go look. Let's go look in person. What do you folks think? That important step to bridge the two never occurred. And so, you had archeologists saying, oh, I don't think that's going to be a significant impact, this – planned project. No significant impact. Tr. 01/19/2017, V. 27 at 28-29.

599. In reference to the preparers of TMT Project documents, Dr. Abad stated, "what they've done is just said this is all we're going to look at, and we're not even going to ask people

about the interaction between their beliefs and this – these set[s] of findings." Tr. 01/19/2017, V. 27 at 29.

600. Dr. Abad opined that these documents did not fulfill standards of the discipline of archaeology, in contrast to, for example, the NASA Report. Tr. 01/19/2017, V. 27 at 33; Ex. B.03ap.

601. It was not only the quantitative lack of consultation with Native Hawaiian cultural practitioners, but also the types of questions that were asked and the kinds of information that were provided in the asking of the questions. Tr. 01/19/2017, V. 27 at 84.

Dr. Mills testified that together, the AIS and CIA were required to consult with cultural practitioners to understand how they perceive a place, and what the spiritual qualities of that place may be and to frame proposed TMT project plans in a way which recognizes what those values are. Tr. 01/25/2017, V.30 at 102:1-18.

The CDUA relied on those two document and did not cover the Cultural Impact Assessment side adequately. Tr. 01/25/2017, V.30 at 102:1-18.

A major reason for the CIA's inadequacy was the limited area of potential effect it considered. Tr. 01/25/2017, V.30 at 102:1-18.

602. Cultural impact assessments of the TMT Project have focused on physical effects on historic properties, and not adequately considered indirect effects on cultural practitioners and traditional and customary practices. Tr. 01/25/2017, V.30 at 14: 10-20.

603. "The potential of the proposed action to introduce elements which *may alter the setting* in which cultural practices take place." Ex. B.12a at 2 citing B.12c (OEQC *Guidelines* at 13).

604. OEQC guidelines are particularly relevant because the TMT would be visible to cultural practitioners over much of the island, thus introducing an expansive APE that would include large portions of Hilo, Kohala, and Kona. Ex. B.12a at 2.

605. The expectation is that assessment of the project's effects are to be broadly scoped to try to consider the impacts of these undertakings on cultural practitioners. Tr. 01/25/2017, V.30 at 15.

606. A cultural practitioner in Waimea who wakes up in the morning and sees a Thirty Meter Telescope on Mauna Kea from their home should be considered within the scope of adverse effects on cultural practitioners, even if they aren't on the mountain or within the Mauna Kea Historic District. Tr. 01/25/2017, V.30 at 15.

607. That assessment is not in the CDUA. Tr. 01/25/2017, V.30 at 15.

608. The lives of cultural practitioners who wake up in their own homes every day and see the TMT on Mauna Kea, and who do not want that telescope in their environment, would be profoundly affected, in a very recognizable way, and in a way that is adverse. Tr. 01/25/2017, V.30 at 35.

609. The review process is supposed to help identify these kinds of impacts so that decisions can be made to lessen this kind of encumbrance. Tr. 01/25/2017, V.30 at 110.

610. Documents prepared in support of the TMT CDUA should have had a better analysis of where Native Hawaiian cultural practitioners were living and conducting cultural practices, and where viewplanes of the proposed TMT would intersect with those people and places. Tr. 01/25/2017, V.30 at 111-112.

611. The CDUA underestimated the visual impact of the project (and former telescopes) on cultural practitioners, particularly in part stating, "there is no evidence suggesting that the presence of the existing observatories has prevented *or impacted* (emphasis added) those [observances and rituals/traditional customary] practices" (CDUA page 4-7). Ex. B.12a at 2.

612. Subsequent sections of the CDUA (4.2.2 through 4.2.6) emphasize physical impacts to tangible resources but failed to adequately recognize adverse effects caused by the altered setting referred to in the accepted OEQC *Guidelines for Assessing Cultural Impacts*. Ex. B.12a at 2 citing B.12c.

613. Professor Mills noted that the map included with the CDUA application was cropped from the version prepared by Pacific Consulting Services, Inc. (PCSI) to limit presentation to an even smaller implied "Area of Potential Effect." Ex. B.12a at 2.

614. For a project of this magnitude and visibility around the island, Professor Mills found this limited presentation and discussion of cultural impacts inadequate. Ex. B.12a at 2. Even in view of mitigation measures taken in the TMT project design and studies of visual impacts in the environmental review process, Professor Mills opined that the CDUA inadequately acknowledges the broad range of adverse effects to traditional and customary practices that will be caused by this significant construction project in the summit region. Ex. B.12a at 2.

615. In regard to mitigation consisting in locating the TMT on the northern plateau, Professor Mills stated, "the viewplane issue changes when you consider [that] large communities every day will see it." Tr. 01/25/2017, V.30 at 39: 7-9.

616. Those standing at the base of Puʻu Lilinoe may receive a benefit to the TMT northern plateau site, but that site may affect a much larger number of people in a particular community. Tr. 01/25/2017, V.30 at 39:9-16.

617. This was not evaluated as part of the cultural impact assessment process and there are things in the decision making process concerning the TMT location that were overlooked. Tr. 01/25/2017, V.30 at 39: 15-18.

618. However, how the process of evaluation for cultural appropriate behavior gets established is incredibly difficult in a colonized world where one of the major ways where the process gets set up is through something like the Office of Mauna Kea Management and Kahu Ku Mauna. Tr. 01/25/2017, V.30 at 30:17-25.

619. Further, for the CDUA to determine that there would be no effect on archeo-astronomy, it would need to have a full understanding of the cultural values of those shrines through extensive discussion with cultural practitioners who may have cultural knowledge of how those shrines should be used. Tr. 01/25/2017, V.30 at 83: 1-11.

620. Ms. Aloua testified that Native Hawaiian cultural practitioners were not consulted regarding conclusions made by SHPD staff and Pat McCoy of two find spots on Mauna Kea. Without consulting with Native Hawaiian cultural practitioners the sites were not determined nor had the potential to be determined as historic properties making it convenient to bulldoze and continue the TMT project. Tr. 2/15/2017 vol.36 at 106-110.

621. Ms. Aloua testified that conclusions made in the AIS that determined CSH 1 and CSH 2 as Find Spots were made without consulting traditional cultural practitioners. Ex. B.24a at 1-2.

v. CDUA Sect. 4 Cultural Resources included inaccurate and manipulated information

622. Upon closer examination of CDUA Figure 4.1 (p. 4-2) when compared to Figure 5.17 (Ex. A-55 at 5-59 AIS, Vol. 1.), both attributed to PSCI, as well as Figure 2.9 (Ex. B.40 at 2-52, CMP CRMP.), it is very apparent that information in CDUA Figure 4.1 has been manipulated and altered to downplay and reduce the significance of historic properties and cultural resources within the vicinity of the proposed location of the TMT. Ex. B.02l, B.02m, B.02n. Ex. B.02a at 13. Ex. R-1/B.30 at 4-2, CDUA.

623. CDUA Figure 4.1 has been cropped to exclude the historic properties and cultural sites located directly north of the Astronomy Precinct. Ex. R-1/B.30 at 4-2, CDUA. Ex. B.02a at 13.

624. In CDUA Figure 4.1, SIHP site numbers were eliminated from sites located in right corner of this figure. Ex. R-1/B.30 at 4-2, CDUA. Ex. B.02a at 13.

625. In CDUA Figure 4.1, locations and numbers of all cultural resources were eliminated from this figure. Ex. R-1/B.30 at 4-2, CDUA. Ex. B.02a at 13.

626. Figure 5.1 in the Pacific Consulting Services Inc. (PCSI) AIS (Exhibit B.02m) includes sites that were not noted in Figure 4.1 of the CDUA. Tr. 01/25/2017, V.30 at 77-80.

627. Rather than simply reproducing the map from the PCSI report, a decision was made to remove the find spots and zoom into the specific footprint of the TMT, and consequently many fewer sites are represented in the CDUA map, despite the fact that PCSI is cited as the source of the map. Tr. 01/25/2017, V.30 at 96: 10-20.

628. In order to assess TMT impacts on viewplanes and shrines, the CDUA could not approach this as a mathematical problem of size or height. Tr. 01/25/2017, V.30 at 82.

629. A full understanding of why the shrines were built and where you would be standing when you were observing them was needed to answer questions of potential effect. Tr. 01/25/2017, V.30 at 82.

630. The TMT CDUA (Exhibit R-1) contained inaccurate and misleading statements that cultural activities have not been associated with a specific historic property in or near the Project Area. Tr. 01/19/2017, V. 27 at 60.

631. Another example of a lack of comprehensive assessment concerns the significance of hundreds of shrines on Mauna Kea, which has been referred to as a ring of shrines. Tr. 01/19/2017, V. 27 at 134-35. There has not been adequate study to address the relationship of all of these shrines and relative to the undertaking. *Id.* at 135: 11-14.

vi. Applicant failed to provide any creditable witness or evidence to substantiate information in CDUA Sect. 4 Cultural Resources

632. Applicant failed to provide any witness in this cch associated with Cultural Surveys Hawai‘i, Inc. to substantiate the TMT site specific archaeological survey, report, and findings.

633. Information in the CDUA regarding the cultural resources and historic properties within the vicinity of the TMT project is attributed to Pacific Consulting Services Inc. ("PCSI") who had actually done the general Archaeological Inventory Survey ("AIS") for the Mauna Kea Science Reserve and Astronomy Precinct and not the TMT site specific archaeological survey, report, and findings. Ex. B.02a at 12-13. Tr. 12/12/16 vol 18 at 110 – 111.

634. Applicant failed to provide any creditable witness associated with PCSI to substantiate the completeness and accurateness of the information in Sect. 4 Cultural Resources of the CDUA.

635. Applicant presented witness Mr. Richard Nees, senior archaeologist of PCSI on 4/3/17. Tr. 4/3/17 vol. 12 at 9.

636. Mr. Nees stated that he was not familiar with and had not seen the CDUA (also referred to as Exhibit A-1 and R-1) prior to this cch. Tr. 4/3/17 vol. 12 at 70-71, 99-100.

637. Upon cross-examination, Mr. Nees disclosed that the majority of his WDT was not his own and instead it was based upon a template given to him by Sara Collins. Tr. 4/3/17 vol. 12 at 71-74.

638. Mr. Nees affirmed that it was another archaeological firm, not PCSI, that did the TMT study that would have done the analysis of the potential impact of the project upon all the sites within a Historic District. Tr. 4/3/17 vol. 12 at 85.

vii. CDUA Sect. 7 Visual Impact included inaccurate and manipulated information

639. Based upon an extensive review and examination of the CDUA, personal observations and experiences, it was determined that significant parts of the **CDUA Sect. 7 Visual Impact** including the **Visual Impact Technical Report** ("VITR") are flawed with inaccuracies and are incomplete. Ex. B.02a at 13-15.

640. Prof. Flores personally testify that he has observed the visual impacts of the existing telescopes during various times of the day and from various locations from the districts of Kohala, Hāmākua, Hilo, and Kona. Ex. B.02a at 13.

641. The visual impact of the TMT is a significant reason why this project doesn't meet the HAR § 13-5-30(c) criteria. Ex. B.02a at 13.

642. Upon closer examination of the CDUA, it is very evident that information presented is inaccurate as noted below:

- "…the TMT Observatory dome will be a reflective aluminum-like finish, similar to that of the Subaru observatory." Ex. R-1/B.30 at 7-9, CDUA.
- "…the aluminum-like exterior finish was selected over white and brown because the aluminum-like finish reflects the colors of the sky and ground, which helps the dome blend into its setting and reduces the visual impact…" Ex. R-1/B.30 at 7-9, CDUA.
- TMT is not visible from Mauna Kea Summit Ex. R-1/B.30, Table 7.5 at 7-8, CDUA.
- "…its visual impact is less than significant." Ex. R-1/B.30 at 2-27, CDUA.

Ex. B.02a at 13.

643. The CDUA inaccurately depicts the reflective qualities of TMT dome in the following figures:

- Figure 1.7: Preliminary Architectural Renderings Ex. R-1/B.30 at 1-16 to 1-17, CDUA.
- Figure 7.5: TMT Observatory, Aluminum-Like Finish – "Binocular" View from Waimea w/o Snow Ex. R-1/B.30 at 7-10, CDUA.
- Figure 7.8: Simulation of the TMT Observatory from Near Keck Observatory Viewing North Ex. R-1/B.30 at 7-12, CDUA.

Ex. B.02a at 14.

644. The CDUA inaccurately compares the dome shape of the TMT observatory with the cylinder shape of the Subaru observatory which are significantly different. Due to the extremely different shapes of the TMT and Subaru observatories, the reflective qualities are also extremely different. Instead, the TMT dome is similar to the Gemini Observatory dome. Ex. B.02o; Ex. B.02a at 14.

645. The proposed aluminum-like coating would actually be more visible due to the reflective sunlight and would not reflect the sky or ground to reduce the visual impacts as implied. Ex. B.02a at 14.

646. The use of the aluminum-like finish for the TMT dome does not adhere to the Design Guidelines in the *2000 Master Plan* as it would not blend into the landscape, but would instead be more reflective and visible from distances near and afar. Ex. B.37 at XI-6.

647. Prof. Flores, he has attested to the fact based upon his personal observations of the observatory domes at various times of the day from various vantage points on the summit, from his front yard, along the coast, and at numerous other areas, the aluminum-like coating of the Gemini Observatory dome does not reflect the sky or ground. The primary reason for this is that the dome shape causes the sunlight to reflect directly back into your eyesight. Likewise, its practically impossible for the ground to be reflected due to the dome shape as the ground terrain

would have to be located above the height of the dome. It's for these reasons that renderings and Figures 7.5, and 7.8 in the CDUA, created through a software program, inaccurately depicts the reflective nature of the TMT dome. Ex. B.02p; B.02q; B.02r; B.02a at 13 – 14.

648. The Applicant has failed to provide any concrete evidence such as a genuine photo of an observatory dome similar in shape to the TMT dome such as the Gemini Observatory dome that actually demonstrates it could reflect the sky or ground. Instead, the CDUA includes inaccurate photo simulations of these non-existent reflective qualities. Ex. B.02a at 13 – 14. R-1 at 1-16, 1-17, 7-10, 7-12.

649. Information in the CDUA is inaccurate regarding TMT's visual impacts. In Figure 7.5 in the CDUA, Line No. 16 states that the TMT is not visible from the Mauna Kea Summit. However, based upon site visits during the first and present cch, the TMT observatory would be clearly visible from Puʻu Kūkahauʻula (also considered the Mauna Kea Summit) as evidenced by the red balloon demonstration. Ex. B.02a at 14.

650. The CDUA falsely downplayed the adverse visual impacts of the proposed TMT observatory and its non-compliance with the Hawaiʻi County General Plan (2005). Ex. B.02s.

651. The CDUA (Sect. 7.1.1) only briefly mentions one goal (b) and disregards the other two goals (a & c) in the Hawaiʻi County General Plan (Natural Beauty section) as outlined below especially since the TMT project is not capable of meeting these goals:

> *7.2 GOALS*
> (a) Protect, preserve and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources.
> (b) Protect scenic vistas and view planes from becoming obstructed.
> (c) Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty. Ex B.02s at 7-2.

652. The CDUA fails to assess the adverse visual impacts of the proposed TMT observatory upon Native Hawaiian traditional and customary practices. Ex. R-1/B.30, CDUA.

653. Ms. Aloua testified that her traditional and customary practices are negatively impacted by visual impacts (e.g., telescopes, roads) and noises (e.g., cars, traffic). Tr. 2/15/17 vol. 36 at 95.

c. Failure of BLNR to follow HAR Chapter 1 of Title 13 and HRS Chapter 92

654. BLNR issued Minute Order No. 2 that stated Board members met on February 26, 2016 and conducted a "full discussion of the issue", and took action outside of a regular meeting in which the public was excluded in violation of HAR § 13-1-5 and HRS Chapter 92, delegated

the conduct of the contested case hearing to a hearing officer, and confirmed that the chairperson was authorized to engage the services of a hearing officer pursuant to law. There aren't any records of this item being included on the agenda of any meeting in order for BLNR to take any appropriate Board action on this matter. MO No. 2 at 1; HAR § 13-1-5. HRS Chapter 92.

655. BLNR issued Minute Order No. 36 that was undated to provide notice that "the Board now declares and affirms that conservation district use permit HA-3568 is void." Similar to Minute Order No. 2, BLNR took action outside of a regular meeting in which the public was excluded in violation of HAR § 13-1-5. MO No. 36 at 1-2; HAR § 13-1-5.

656. BLNR issued several minute orders through this cch in this same manner. Minute Order Nos. 2, 4, 14, 36, 48, 49, 52.

d. Failure of BLNR to require Applicant to submit an updated CDUA and CMP

657. It appears that DLNR staff did not take a 'hard look' at significant aspects of this CDUA in the initial submittal. Instead, information was cut and pasted in their entirely directly from the Application's submittals and included in their OCCL Staff Report that was submitted to Board members for their consideration. Ex. R-7/B.70; R-1; R-3; B.02a at 11.

658. The BLNR should have required the Applicant to update and resubmit their application to be heard at a Board meeting and required public hearing to ensure due process of law. B.02a at 11.

659. BLNR chose to move ahead with the original application and failed to address its deficiencies without having it come before the BLNR for a new and proper hearing since CDUP HA-3568 was vacated by the Hawai'i State Supreme Court's decision in *Mauna Kea Anaina Hou, et al. v. Board of Land and Natural Resources, et al.*. Ex. B.02a at 3-4.

660. The Applicant has not reviewed and updated the CMP and subplans that were required to be completed by April 2014 in order to be in compliance with the rules of the Conservation District. Ex. B.02a at 4 – 5.

661. In addition, DLNR should have revisited and updated their staff report in this matter. B.02a at 11.

662. The OCCL Staff Report dated February 25, 2011 also inaccurately states, "The University is seeking the permit on behalf of the non-profit TMT Observatory Corporation." Ex. R-7/B.70 at 13.

663. The OCCL Staff Report states, "The Corporation was founded in 2003 by the California Institute of Technology, the University of California, and the Association of Canadian Universities for Research in Astronomy. The National Astronomical Observatory of Japan (NAOJ) joined as a Collaborating Institution in 2008; the National Astronomical Observatories of the Chinese Academy of Sciences joined as an Observer in 2009; and India joined as an Observer in June 2010." Ex. R-7/B.70 at 13.

664. The OCCL Staff Report doesn't include any reference to TIO. Ex. R-7/B.70 at 13.

2. TMT Project is Inconsistent with Mandated Plans

665. The CDUA reaffirms that the CMP, subplans, and TMT Management Plan are intended to fulfill the purpose of the Conservation District concerning the TMT project. In addition to this and in conjunction with one another, these plans are intended to fulfill the requirements for the Resource subzone, specifically management plan requirements under Exhibit 3 to the Conservation District Rules." Ex. R-1/B.30 at 2-3 to 2-4.

666. In addition to a board permit, astronomy facilities also require an approved management plan according to HAR §13-5-24(c). Ex. R-1/B.30 at 2-2.

667. The TMT Management Plan is intended to provide site-specific information and be an extension of the CMP and subplans and together (CMP, subplans and TMT Management Plan), these documents are intended to fulfill the purpose of the Conservation District concerning the TMT project. Ex. R-1/B.30 at 2-3, CDUA.

668. In addition to this and in conjunction with one another, these plans are intended to fulfill the requirements for the Resource subzone, specifically management plan requirements under Exhibit 3 to the Conservation District Rules. Ex. R-1/B.30 at 2-3 – 2-4, CDUA.

669. In addition, the CMP and its subplans provide the primary framework for managing the development and operation of astronomy and other uses within the UH management areas on Mauna Kea. Ex. R-1/B.30 at 2-4, CDUA.

a. TMT Management Plan is Deficient and Outdated

670. The outdated CDUA states, "If approved, the TMT Observatory Corporation will implement the TMT Management Plan." Ex. R-1/B.30 at 2-2, CDUA.

671. The outdated TMT Management Plan states, "On behalf of the TMT Observatory Corporation, the University of Hawai‘i is seeking a Conservation District Use Permit (CDUP) from the State of Hawai‘i Board of Land and Natural Resources (BLNR) that will allow the

construction, operation, and eventual decommissioning of the Thirty Meter Telescope (TMT) Observatory within an area below the summit of Mauna Kea that is known as "Area E"." Ex. R-1/B.30 at S-2, TMT Management Plan, CDUA.

672. The TMT Management Plan included only a Draft Historic Preservation Mitigation Plan (included as an appendix in Exhibit B). Ex. R-1/B.30 at 2-4, CDUA.

673. This TMT Management Plan was also developed to work in conjunction with the BLNR approved Comprehensive Management Plan (CMP) and the four CMP subplans: (1) Cultural Resources Management Plan; (2) Natural Resources Management Plan; (3) Decommissioning Plan for the Mauna Kea Observatories; and (4) Public Access Plan for the UH Management Areas on Mauna Kea. The CMP and subplans are the primary management documents governing activities and uses in the UH Management Areas on Mauna Kea. These documents have and will continue to guide the TMT Project development. Ex. R-1/B.30 at S-2, TMT Management Plan, CDUA.

674. In the CDUA, it states that "the TMT Management Plan fulfills the requirements of the Conservation District Rules, HAR § 13-5, particularly Exhibit 3 regarding management plan requirements, and therefore, this Plan together with the CMP and subplans fulfill the purpose of the Conservation District concerning the TMT project and the UH Management Areas." Ex. R-1/B-30 at 2-1, CDUA.

675. OCCL Administrator, Mr. Lemmo, testified that OCCL's administrative rules, HAR section 13-5 were revised on or around August 11, 2011. Tr. 2/27/17, V.41 at 232.

676. Mr. Lemmo, testified that OCCL's revised administrative rules were not in place when CDUA HA-3568 was submitted to OCCL. Tr. 2/27/17, V.41 at 232.

677. Mr. Lemmo, testified that OCCL would require an application to follow HAR section 13-5, Management Plan Requirements if the application was submitted after August 12, 2011. Tr. 2/27/17, V.41 at 233, 235.

678. Table 4.1: Management Actions Detailed in the CMP and Subplans in the TMT Management Plan in Exhibit B of the CDUA inaccurately identified the applicability to the TMT project to significant management actions. Several of these management actions that would directly or indirectly apply to the TMT project were instead identified as being "Not Applicable". Ex. R-1, App. B at 4-1 to 4-9, CDUA.

679. In the table below is a sampling of some of the significant management actions that were inaccurately identified by OMKM as being "Not Applicable" to the TMT project and that were not previously completed by the Applicant. Ex. R-1, App. B at 4-1 to 4-9, CDUA.

CMP	Subplans	Management Actions
CR-1	NRMP 4.4.2 CRMP 4.3.3 PAP 4.2, 5.2, 6.1	Kahu Kū Mauna shall work with families with lineal and historical connections to Mauna Kea, cultural practitioners, and other Native Hawaiian groups, including the Mauna Kea Management Board's Hawaiian Culture Committee, toward the development of appropriate procedures and protocols regarding cultural issues.
CR-2	CRMP 2.4.2.1	Support application for designation of the summit region of Mauna Kea as a Traditional Cultural Property, per the National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470 et seq. in consultation with the larger community.
CR-10	CRMP 4.3.1 PAP 5.2	Develop and implement a historic property monitoring program to systematically monitor the condition of the historic district and all historic properties, including cultural sites and burials.
CR-13	CRMP 4.3.2, 4.3.7	Develop and implement a burial treatment plan for the UH Management Areas in consultation with Kahu Kū Mauna Council, MKMB's Hawaiian Culture Committee, the Hawai'i Island Burial Council, recognized lineal or cultural descendants, and SHPD.
NR-15	NRMP 4.1	Conduct baseline inventories of high-priority resources, as outlined in an inventory, monitoring, and research plan.
NR-17	NRMP 4.1.2.3	Conduct research to fill knowledge gaps that cannot be addressed through inventory and monitoring.
NR-18	NRMP 4.1, 4.5	Develop geo-spatial database of all known natural resources and their locations in the UH Management Areas that can serve as baseline documentation against change and provide information essential for decision-making.
EO-7	NRMP 4.4.2 CRMP 5.3 PAP 5.2, 6.3, 6.8	Continue and increase opportunities for community members to provide input to cultural and natural resources management activities on Mauna Kea, to ensure systematic input regarding planning, management, and operational decisions that affect natural resources, sacred materials or places, or other ethnographic resources with which they are associated.
FLU-2	NRMP 4.3.3.1	Develop a map with land-use zones in the Astronomy Precinct based on updated inventories of cultural and natural resources, to delineate areas where future land use will not be allowed and areas where future land use will be allowed but will require compliance with prerequisite studies or analysis prior to approval of Conservation District Use Permit.

b. TMT Project is NOT in Compliance with the MKSR Master Plan (2000)

680. The CMP clearly articulates a need, during the project design review process, for OMKM to provide clear facility planning guidelines to project proposers that address siting and design considerations, and to enforce them, so that proposed facilities result in minimal impacts to cultural and natural resources and the astronomical qualities of the Science Reserve. Many of these considerations have been developed in the *2000 Master Plan*, although there are additional management needs set forth in the CMP. Adequate bonding may be required for to ensure site restoration. (emphasis added) Ex. B.28 at 7-56, CMP.

681. It is important to maintain compatibility and consistency of recommendations between the *2000 Master Plan* and the CMP, to ensure that identified facility needs and designs are consistent with the overarching management plan put forth in the CMP (see Section 7.2.1). Ex. B.28 at 7-58, CMP.

682. There are two aspects of facility planning location and design that need to be considered in order to protect cultural and natural resources. Location refers to the siting of facilities, while design refers to characteristics of the physical structure, and both of these must be directed at minimizing impacts to resources. Ex. B.28 at 7-56, CMP.

683. The TMT Management Plan affirms that CMP management action FLU-1, "Follow design guidelines presented in the *2000 Master Plan*", are "Directly Applicable" to the TMT Project. Ex. R-1/B.30 at 4-8, TMT Management Plan, CDUA.

684. Section XI of the *2000 Master Plan* provides design guidelines to direct development for both renovations of existing facilities and new construction in a manner that would integrate development into the summit environment. Topics addressed include: facility siting, scale, height and width, color, surface texture and material, roofs, fences, roadways and parking. Ex. B.28 at 7-56, CMP.

685. Section XI of the *2000 Master Plan* outlines the following General Review Standards:

> In reviewing plans and specifications the DRC, Mauna Kea Management Board and UH will be concerned with both the overall design concept, design details and overall impact. General concerns will include whether the proposed project:
>
> - Conforms to the goals and objectives of the Mauna Kea Master Plan;
> - Is consistent with the Design Guidelines in the plan;
> - Will not negatively impact adjacent facilities or uses;
> - Promotes resource conservation and sustainability;
> - Relates harmoniously to the surrounding landscape.

- Does not add significantly to negative cumulative impacts.

Plans found to be inconsistent with the Master Plan concepts and objectives shall be rejected. Major variations from development standards shall also be rejected. Determinations of consistency shall be at the sole discretion of the University of Hawai‘i.

Ex. B.37 at XI-7 to XI-9, 2000 MP.

686. The *2000 Master Plan* also lists criteria to assist in the selection of an appropriate site for a ground-based telescope with a primary mirror of 25 to 50 meters in diameter (generically referred to as a "Next Generation Large Telescope", or NGLT in the *2000 Master Plan*). Ex. R-1/B.30 at 1-6, CDUA.

687. The *2000 Master Plan* identifies Area E as the preferred location for an NGLT. Area E is located approximately 1/2-mile northwest of the nine existing optical/infrared observatories located near the summit. Ex. R-1/B.30 at 1-6, CDUA.

688. The proposed siting of the TMT observatory is not in compliance with the Design Guidelines and criteria stipulated in the *2000 Master Plan* as noted below. Ex. B.37 at IX-22 to IX-23, 2000 MP.

689. The *2000 Master Plan* outlines Design Guideline No. 4. Avoidance of archaeological sites. There are three existing archaeological shrines within the Astronomy Precinct, and these sites must be avoided in future facility siting. In addition, any new facilities will be set back at least 200 feet from the clustered group of shrines found outside the Precinct boundary on the northern slope. Ex. B.37 at IX-23, 2000 MP.

690. The *2000 Master Plan* outlines Design Guideline No. 5. Minimum visual impact from significant cultural areas. Views from the pu‘u and archaeological sites will be respected in the siting of future facilities. **The location of new facilities will avoid interference with the visual connections between the major pu‘u and the shrine complexes**. (emphasis added) Ex. B.37 at IX-22, 2000 MP.

691. OMKM, charged by the Applicant with ensuring compliance with and implementation of the *2000 Master Plan*, failed to enforce Design Guideline No. 5 stipulated in the 2000 Master Plan. Due to the proposed placement and the massive size of the TMT observatory amongst the shrine complexes on the northern plateau, it will definitely interfere with the visual connections between the major pu‘u such as Pu‘u Kūkahau‘ula and Pu‘u Poliahu and the hundreds of shrines at this particular elevation. The CDUA and survey reports have failed to address this impact. Ex. B.28 at 3-9, CMP.; Ex. B.02a at 15-17.

692. The *2000 Master Plan* outlines Design Guideline No. 6. Avoid or minimize views from Waimea, Honoka‘a and Hilo. Sites for proposed new facilities will maximize the use of the existing topography to shield views from the downslope communities. Prominent sites along the ridges or pu‘u will not be selected for new development of astronomy or other research and education facilities. Ex. B.37 at IX-23, 2000 MP.

693. OMKM, charged by the Applicant with ensuring compliance with and implementation of the *2000 Master Plan*, failed to enforce Design Guideline No. 6 stipulated in the *2000 Master Plan.* From Waimea, Honoka‘a, and other areas, views of the TMT observatory will be another prominent eyesore and ‘pimple’ on this sacred landscape. A large population of Native Hawaiians as well as other residents and visitors in these areas will be impacted with this adverse visual impact. Ex. B.28 at 3-9, CMP. Ex. B.02a at15-17.

694. The *2000 Master Plan* outlines Design Guideline No. 7. Close to roads and existing infrastructure. Sites for proposed new development will be selected close to the existing roadways to minimize the amount of disturbance to the natural terrain. Utilities and communications service to new sites will be extended along the existing roadway routes to minimize disturbance. Ex. B.37 at IX-23, 2000 MP.

695. OMKM, charged by the Applicant with ensuring compliance with and implementation of the *2000 Master Plan*, failed to enforce Design Guideline No. 7 stipulated in the *2000 Master Plan*. Instead of using the existing roads within the SMA area, this project intends to cut a 800 feet road segment and installation of underground utilities through the side of Pu‘u Kūkahau‘ula, a *wēkiu* bug habitat, Traditional Cultural Property, and designated State Historic Property (SIHP #50-10-23-21438). Ex. B.28 at 3-9, CMP. Ex. B.37 at 4-3.

696. The TMT is classified as a Type IV. Next Generation Large Telescope (NGLT), “A single optical/IR telescope of 25 m. aperture or greater. This is currently only being discussed in the astronomy community and there is a 50 percent possibility that this facility may be developed in the next 20 years.” Ex. B.37 at IX-27, 2000 MP.

697. Figure IX-16 in the *2000 Master Plan* illustrates the height and size scale of potential new observatories in comparison with existing facilities. Ex. B.37 at IX-28, 2000 MP.

698. Figure IX-16 illustrates the proposed NGLT based upon the Design Guidelines with a height drastically lower than existing observatories. Ex. B.37 at IX-28, 2000 MP.

699. The large scale of the proposed NGLT makes the visual impact considerations very important in the facility siting and design. The NGLT would not be appropriately located at Mauna Kea’s summit ridge, due to the major earthwork requirements that would disturb wēkiu

bug habitat and the visibility of a large telescope placed atop the ridge. Ex. B.37 at IX-37, 2000 MP.

700. In addition, telescope engineers have indicated that wind forces acting on the structure are expected to be severe and problematic. To minimize potential obscuration of existing observatories, the potential site for this facility must also be located in an area that is distant from the prominent topography at the summit ridge and nearby *pu'u*. Ex. B.37 at IX-37, 2000 MP.

701. The *2000 Master Plan* stipulates strict design guidelines will dictate the size and color of the NGLT. The preliminary design concept proposed for the NGLT employs a unique sliding dome mirror enclosure with a sub-grade foundation, as shown in Figure IX-21. The lower half of this observatory will be built below grade to minimize the apparent height and mass of the facility. The facility shown in the concept has a 30-m. mirror, with a dome shaped and colored to simulate a small *pu'u* to blend well with the surrounding landscape. Ex. B.37 at IX-37, 2000 MP.

702. Figure IX-21 in the *2000 Master Plan* illustrates the NGLT observatory design with a dome shaped and colored to simulate a small *pu'u* to blend well with the surrounding landscape. Ex. B.37 at IX-38, 2000 MP.

703. To mitigate the visual impact of the telescope, requirements will be imposed to color the telescope enclosure to blend into the surrounding site. Ex. B.37 at IX-39, 2000 MP.

704. This design measure will serve to significantly diminish the visual impact of the telescope from both on-mountain and off-mountain locations. Coloring of the telescope enclosure and other strategies are included in the Design Guidelines. Ex. B.37 at IX-39, 2000 MP.

705. The purpose of the design guidelines in the *2000 Master Plan* is to direct development in a manner which integrates it into the summit environment. The design guidelines would apply to both renovations of existing facilities as well as new construction. Ex. B.37 at XI-4, 2000 MP.

706. The proposed TMT project is NOT in compliance with many of the design guidelines in the *2000 Master Plan* as noted in the examples of non-compliance guidelines noted below. Ex. B.37 at XI-4 to XI-6, 2000 MP.

707. ***Facility Siting***: Siting decisions are the first steps in design and often determine the range of options that are available. Siting of various facilities are identified in the Physical

Planning Guide. New facilities are sited generally. Individual instrument locations are not specified. The NGLT and facilities on new site locations may require adjustments after viewing tests and archaeological inventory level surveys are conducted. The following siting criteria should be considered early in project development:

- Where known archaeological, cultural and natural resources exist the following sequence of evaluation is to be followed: 1) avoid disturbance of the resource, 2) minimize impact if unavoidable and 3) mitigate impact as needed. Natural resources include biological populations and geo-morphological features and geochemical resources.
- Set sufficient buffer distances between the facility and the cultural or natural resource. Buffer distances should be assessed individually based on the feature and the proposed facility.
- Site facilities to minimize visual impact from both the summit areas and off-mountain locations such as Hilo, Hāmākua and Waimea.
- Cluster facilities for proximity to roadway and utility lines. This should reduce site development costs and minimize visual impacts and unnecessary disturbances of the natural environment.

Ex. B.37 at XI-4 to XI-5, 2000 MP.

708. ***Surfaces, Textures and Material***: Surfaces, textures and material used for construction in the Science Reserve should seek to blend the facility into the landscape. Selection criteria are as follows:

- As much as possible, surfaces should be non-reflective in the visible spectrum to minimize glare and visibility from distant areas.

Ex. B.37 at XI-6, 2000 MP.

709. The *2000 Master Plan* outlines the Design Guideline for ***Surfaces, Textures and Material***. The use of the aluminum-like finish for the TMT dome is not adhering to the Design Guidelines in the Master Plan (p. XI-6) as it would not blend into the landscape, but would instead be more reflective and visible from distances near and afar. Ex. B.37 at XI-6, 2000 MP.

710. ***Colors***: Color plays an important part in visibility and thermal impacts. Color choices should seek to minimize the visual impact of the facility from surrounding areas. While it is understood that the mitigation of thermal impacts on observatory functions is an important consideration, domes should be colored to aid in masking and blending facilities into the natural landscape. The following strategies are to be employed:

- For off-ridge facility enclosures use colors and patterns such as the mottled brown tones of the surrounding lava landscape.

Ex. B.37 at XI-5 to XI-6, 2000 MP.

711. ***Scale***: Facilities should be scaled to minimize their impact on the natural landscape of the summit area. As much as practical, telescope enclosures should be designed to minimally accommodate the instrument. Where the size of the enclosure is necessarily large, strategies should be considered to blend it into the surrounding landscape. The following are some strategies for reducing apparent scale:

- Bury portions of the structure as practicable.
- Place berms against the building to reduce visible areas.
- Shape superstructures using natural and curved forms which blend into the environment rather than orthogonal geometries.
- Color surfaces to blend into the landscape.
- Design exterior articulations and changes in color and texture to break up large continuous surfaces.
- Use materials that blend into the natural landscape.

Ex. B.37 at XI-5, 2000 MP.

3. TMT Project FAILS to Satisfy the Eight Criteria of HAR §13-5-30(c)

712. In Sect. 2.1 Purpose of Conservation District of the CDUA, it inaccurately states that "[t]he University of Hawai‘i and TMT Observatory Corporation are both committed to management measures that will achieve these purposes." Ex. R-1 at 2-1, CDUA.

713. The Applicant states further that they would met Criteria 1 of HAR §13-5-30(c) through the implementation of the CMP and subplans that "provide management strategies designed to preserve and protect the resources located in the UH Management Areas" and that "the University is committed to their implementation".

714. The TMT Observatory Corporation has also developed a TMT Management Plan (provided as Exhibit B) that adopts the approach, goals, objectives, findings, recommendations, and management strategies and actions of the CMP and subplans in their entirety.

715. In addition, the TMT Management Plan fulfills the requirements of the Conservation District Rules, HAR § 13-5, particularly Exhibit 3 regarding management plan requirements, and therefore, this Plan together with the CMP and subplans fulfill the purpose of the Conservation District concerning the TMT project and the UH Management Areas.

716. The design of the TMT project itself is consistent with the CMP and subplans. Ex. R-1 at 2-1, CDUA.

717. Dr. Osorio testified that the TMT, particularly in addition to existing telescopes on Mauna Kea, is not consistent with the purpose of the conservation district. Tr. 05/11/2017, V. 26 at 24: 10-19.

718. The TMT Management Plan is intended to provide site-specific information and be an extension of the CMP and subplans and together (CMP, subplans and TMT Management Plan), these documents are intended to fulfill the purpose of the Conservation District concerning the TMT project. In addition to this and in conjunction with one another, these plans are intended to fulfill the requirements for the Resource subzone, specifically management plan requirements under Exhibit 3 to the Conservation District Rules. Ex. R-1 at 2-3 to 2-4, CDUA.

719. In Sect. 2.2 Objective of Subzone of the CDUA, it states "[t]he objective of the Resource subzone is to allow development when it is accompanied by proper management that ensures sustained use of natural resources in these areas. Astronomy facilities are an identified use in the Resource subzone (see HAR §13-5-24(c) [R3/D1]) under an approved management plan. Ex. R-1 at 2-2, CDUA.

720. In addition to being an identified use, as discussed throughout this CDUA, both the University and the TMT Observatory Corporation are committed to managing the natural and cultural resources throughout the UH Management Areas in a way that fulfills the objective of the Resource subzone of the Conservation District. The proposed use is consistent with the provisions of the applicable UH Management Area and site-specific management plans discussed in the following subsections. If approved, the TMT Observatory Corporation will implement the TMT Management Plan. Together with the CMP and its subplans, the TMT Management Plan will ensure the sustained use of the natural and cultural resources in the Resource subzone. This is further evidence of the proposed use's consistency with the objectives of the Resource subzone. Ex. R-1 at 2-2, CDUA.

721. The CMP and subplans are consistent with the purposes of the Conservation District lands and the objectives of the Resource subzone. Ex. R-1 at 2-3, CDUA.

722. The activities that the TMT Observatory Corporation would carry out if the TMT project is approved and implemented are consistent with the management actions described in the CMP and subplans. This provides consistency and viability of management objectives, which include ensuring the sustained use of natural resources in the Resource subzone under HAR § 13-5-13. Ex. R-1 at 2-3, CDUA.

723. Ms. Aloua testified that the TMT project will not help preserve or improve upon the natural beauty and open space characteristics of Mauna Kea. Tr. 2/15/2017 vol.36 at 42.

a. Results in further subdivision and intensity of land use

724. The 2000 Master Plan divided the UH Management Areas into two areas, the Natural/Cultural Preservation Area, which encompasses 10,760 acres, and the Astronomy Precinct, which is 525 acres. Ex. 28 at 7-56, CMP.

725. Figure IX-13 in the *2000 Master Plan* defines the Astronomy Precinct of approximately 525 acres with the Northern, Eastern, Southern, and Western boundaries within the Mauna Kea Science Reserve. Ex. 37 at IX-20 to IX-21, 2000 MP.

726. The *2000 Master Plan* designates future development in the Astronomy Precinct and identifies Areas A through F within it as preferred sites. Ex. R-1/B.30 at 1-6, CDUA.

727. Figure 1.3: *Mauna Kea Summit Region: Existing Facilities, Features, & Future Development Areas* in the CDUA identifies Areas A through F. Ex. R-1/B.30 at 1-4, CDUA.

728. UH's actions of subleasing their general lease has resulted in the intensity of the development and land use on Mauna Kea. Ex. B.02a at 17-18.

729. The act of subleasing these lands resulted in the "division" of a greater parcel into smaller parcels. Ex. B.02a at 17-18.

730. In other words, that act is a "subdivision" which is defined by the BLNR's own rules as "a division of a parcel of land into more than one parcel." HAR § 13-5-2.[2]

731. Webster's Merriam Dictionary defines "division" as something that "divides, separates or marks off," as in a "border." (See, http://www.merriam-webster.com/thesaurus/division, accessed November 14, 2011)

732. To further amplify this subdivision of land into smaller parcels, the existing subleases also include maps and legal descriptions along with metes and bounds defining their subdivided parcels. Ex. B.02a at 17-18.

733. Likewise, the proposed TMT Sublease also explicitly identified an additional proposed subdivision of the premises and easement areas through maps and legal descriptions along with metes and bounds.[3] Ex. B.02f.

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[2] "Subdivision" means a division of a parcel of land into more than one parcel." The County of Hawaii also defines a "subdivision" in similar manner. See Section 23-3(29), Hawaii County Code.

734. The act of subdividing the 8.7 acres of land out of 11,288 acres for TIO's use, occupancy, and construction work is deemed to be a special form of "land use" that would further intensify the existing land uses and development on Mauna Kea. However, this aspect has not been addressed in the CDUA. Ex. B.02a at 17-18.

4. TMT Project Would Cause Significant Effects

735. According to Mo'oinanea, she has shared that the existing observatories have created obstructions and hazards for those who reside on Mauna a Wākea. Ex. B.21a at 4 (Case WDT).

736. Mo'oinanea stated that she and others feel that these developments are blocking their views and the areas they used to occupy. In addition, those who constructed these observatories did not get permission from them to build on their home, nobody said they could. Ex. B.21a at 4 (Case WDT).

737. Moreover, it blocks the *piko* (portal) to connect with Ke Akua (the Creator) and *'aumākua*. Also, it might change and affect the weather patterns on the mountain and in the surrounding areas below such as Waimea. They wished that the observatories were never there and they don't like the roads either. In regards to people coming up to the mountain, it is not too bad. If they had to choose between observatories vs. people coming up, they would choose the people way over the observatories. Ex. B.21a at 4 (Case WDT).

738. Likewise, the proposed new observatory would adversely impact Mo'oinanea and others who dwell on the summit. The importance of Mauna a Wākea to her is that it's her home and she was born and raised there. She wants to have children up there without any more observatories. For Poliahu, it has impacted her sleeping area and it is where she and others connect with Ke Akua. It is so high, the point on the top that they put their hands up to connect to the heavens. They wish to have no other observatories on the mountain for if they continue to build, some might have to move off mountain. Others would not come up there because they had to move. What we do not know is if it will snow anymore if Poliahu is off the mountain and if she is able to make it snow from somewhere else? The importance of Mauna a Wākea a to her is that it's her home and she was born and raised there. She wants to have children up there without any more observatories. The importance of Mauna a Wākea to her is that it's her home

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[3] 3. Survey/Site Specific Description. The site shown in Ex. B.02f [Exhibit C-l hereto] has been surveyed. The area covered by the Subleased Premises is specifically described in the metes and bounds description in Ex. B.02f [Exhibit C-2 hereto]. The area covered by the Easement Area is specifically described in the metes and bounds description in Ex. B.02f [Exhibit C-3 hereto].

and she was born and raised there. She wants to have children up there without any more observatories. Ex. B.21a at 4 (Case WDT).

739. In the same way that Case has experienced this loss of hula traditions tied to place over the years, she sees that it would happen again if the Thirty Meter Telescope is built in the upper region of our Mauna. Ex. B21.a at 5 (Case WDT).

740. The traditional practice of ceremonies including chanting, dancing, honoring at these places would be impacted by the building of the eighteen stories. The place with its pristine form would be no more, it would be under concrete along with an enormous visual eyesore, the place would have been desecrated, destroyed. The *kanaka maoli* and those who share these practices physically and spiritually would not be able to recite and perform the hula traditions there because of the overwhelming sense of despair and guilt that we would be consumed with. The people cannot stand by and witness the desecration, destruction and construction and then conduct the same ceremonies we have done for years on the mountain. For Case, it would be akin to forfeiting her right to be there if she was unsuccessful in protecting the mountain. She could not return there to chant, dance and sing in the same manner. She would not be able to pray in the way that she have been led to do. A connection would be lost between the ancestral realm and the human realm. Information shared and knowledge passed down ancestrally would be lost. Interaction between the mountain and the human would be diminished like a loss of a family member, and the death of a way of life. Ex. B.21a at 6 (Case WDT).

741. In 2013, Mo‘oinanea stated to Case‘s daughter Kapulei that she could not resonate with even the intention of building the massive Thirty Meter Telescope, the actions of the attempts to begin construction in this sanctified place were too much and she was leaving Lake Waiau because of the disturbance on the upper regions. Mo‘oinanea said to Kapulei that she would leave a sign and that Pua would know that she had left the lake and it would be an indication of how the physical landscape would be altered, beyond the obvious physical construction impacts. At the beginning when she had first spoken to Case and Kapulei, she stated that if built, everything would change because all of the ancestral guardians and caretakers would leave the mountain and their environmental forms would leave as well. And at this time, she showed them all what that meant. Mo‘oinanea left the land and the Lake Waiau dried up to almost nothing. (see Exhibit B.21g) And the change shook everyone. It had never been that dry before in the time of historic records. Ex. B.21a at 7 (Case WDT).

742. The customary ceremonies that had previously occurred at the Lake were halted, ceremonies as dictated in the past, collection of water for ceremonies, placing umbilical cord of those connected to the mountain stopped, purification and cleansing ceremonies as documented by Queen Emma on her historic journey there could not be continued. Mo‘oinanea demonstrated for her people, the descendants of the mountain, what it would be like if the TMT were built,

traditions would end there because the climate would change, the landscape would be affected. That would pertain to more than Lake Waiau, it would pertain to the entire mountain. Ex. B.21a at 7 (Case WDT).

743. While in prayer on Mauna Kea, LaRose has felt the heavy, oppressive weight of the observatories on her own chest and also felt the blockage they created like giant rocks damming a river, the river being the flows of energy around and above Mauna Kea. Ex. B.25a at 1.

744. LaRose asks all who are considering in allowing the building of the proposed new observatory to take into consideration the rights and needs of the sentient life of Mauna Kea, including the forces of nature such as Mo‘oinanea, guardian of Lake Waiau. Along with others, LaRose states in her WDT, that she has have felt and seen her. The feelings Mo‘oinanea conveyed to LaRose were of concern and sadness for the mountain and uncertainty of what will happen to Lake Waiau. The concern is also for our own consequences and what we don't know of the impact that will be created on all life forms on the mountain. Ex. B.25a at 1.

745. LaRose testified on the impacts of building the TMT on Mauna Kea, "You'll feel it in your own body, and there will be a lot lost." Tr. 1/19/17 Vol. 27At 219.

746. LaRose testified, "of course, those telescopes are a major impact on this mountain, just the presence of them, whether or not you're for or against them. It's a physical alteration that is huge." Tr. 1/19/17Vol. 27at 225.

747. When asked if the building of the thirty meter telescope would in any way block access to the kind of information (ancestral information) that was available through those stones on the northern plateau at the proposed site of the Thirty Meter Telescope LaRose indicated that it would actually bulldoze them over. Tr. 1/19/17Vol. 27at 227.

748. If the pohaku at the proposed TMT site was destroyed, it would cause LaRose great sorrow because she knows there is a lot of knowledge there waiting. Tr. 1/19/17 Vol. 27at 237.

749. Dr. Abad testified that Mauna Kea has the highest significance of a wahi kupuna and "[t]he same degree that these wahi kupuna hold, that degree of impact will . . . reverberate throughout our lahui if anything were to destroy its integrity." Tr. 01/19/2017, V. 27 at 57: 1-5.

750. Irreparable harm caused by the TMT Project will include physical harm to sites in the immediate area; relationships of sites to one another, intangibles such as the feeling

associated with sites and the cultural practices associated, the akua. Psychological harms caused by desecration of a site considered sacred cannot be mitigated. Tr. 01/19/2017, V. 27 at 72, 81.

751. Amongst the questions that should have been asked by archaeologists in determining whether the TMT Project AIS would have impacts was posed during oral arguments in the 2011 TMT CDUA hearings by BLNR Chair William Aila to cultural practitioner and petitioner Pua Case. Chair Aila asked, "how would you be impacted? Would you still go up there?" Petitioner Case responded that she would continue to go up the Mauna, but it would be with a different purpose because everything will have changed. She would not be there to enjoy and honor and celebrate this beautiful place and her connection to it. She would have to go there to apologize and to try to heal from and *mihi* for what she could not stop. When a people have to change from honoring a place to asking forgiveness of a place, the kaumaha, the heaviness, the sadness, the weight, of what has happened weighs very heavily on the shoulders, the *na'au*, the very core of people's being, and it creates a consistent sadness and *eha*, hurt, in the character of – of this being – this person. Tr. 01/19/2017, V. 27 at 42, 43, 66.

752. Dr. Osorio states that the "TMT will add to the significant, sustained and adverse affects that already resulted from the previous 13 telescopes on the mountain." Ex. B07 at 3.

753. Dr. Osorio commented on the approval of multiple industrial telescope projects in the Mauna Kea summit region: "If one wants to have confidence in government, if one wants to have confidence in political society, then decisions should be made and approvals should be given in a way that makes sense that is rational. I don't believe that this is – when you – on the face of it, it doesn't look rational to me." Tr. 05/11/2017, V. 26 at 25.

754. Dr. Osorio states that the TMT would have a "devastating" impact on Hawaiian emotional, mental and physical health. Dr. Osorio goes on to state that "it is especially offensive for the TMT, building a monstrosity on a sacred place, to claim a cultural connection with the Native people because astronomy looks at the same stars as our voyager ancestors." He points out that there have been extensive efforts on the part of those who find the TMT culturally, environmentally, and legally offensive to protect Mauna Kea, and that evidence of this can be found in "a few hundred reasons in the form of men and women who braved the elements and the possibility of arrest last year in order to proclaim their commitment to the mountain." Ex. B07 at 3.

755. Dr. Osorio states that approval of the TMT by the DLNR evidences "the state's failure to protect vulnerable communities and willingness to ignore inconvenient regulations in its rush to approve sizable capital projects," as well as "Hawaiians' increasing impatience with the state's management of our national lands." Ex. B07 at 3.

756. As a historian, Dr. Osorio compares the movement to protect Mauna Kea with the magnitude of the civil rights movement. He states, "So this brings to mind much more the civil rights movement, where you really have a broad base of people, not just Hawaiians but people from many different communities who participate because they consider this an issue of involving really an important statement about being human." He goes on to point out that this movement to protect Mauna Kea has garnered international support: "I think that this movement has shown a tremendous -- that it has a tremendous impact on people in many, many parts of the world." Tr. 05/11/2017, V. 26 at 59.

757. Prof. Flores has been present at times when Poliahu has shared her concerns about the existing and proposed further desecration on the mountain. She has explicitly remarked that she does not want the existing and any new observatories on this sacred mountain. They are blocking the *piko* on the summit. If she is dislocated due to the new telescope, it might create new problems and affect the weather patterns on the mountain as well as other areas on the island. Ex. B.02a at 24 - 25, Flores WDT.

758. UH's witness Mr. Ishibashi disclosed that the construction of the TMT on Mauna Kea would damage, deface, disfigure and mar the landscape. Tr. 12/1/2016, V. 10 at 32:4-16

759. TIO's witness Mr. Sanders admitted that based on his recommendation, the Chilean site at Cerro Quemal was dropped from the list of potential locations for the TMT Observatory because of the "cultural sensitivity" of the mountain to the Atacamenans, a tribe. Tr. 01/4/2017, V. 21 at 89: 9-19.

760. He states, "There were four mountains that we were considering, Cerro Tolar and Cerro Armazones, and there were two mountains, Cerro Tolonchar and Cerro Quemal where the communities have cultural sensitivity. And based on the discussions, one of those was dropped." Tr. 01/4/2017, V. 21 at 91: 1-7.

761. When asked why Mauna Kea was not dropped from the list due to its sacredness to Native Hawaiians, Mr. Sanders replied, "I can't speculate and replay history." Tr. 01/4/2017, V. 21 at 91: 20.

762. Noelani Goodyear–Kaʻōpua is Associate Professor of Political Science, specializing in Native Hawaiian and Indigenous politics. One of her areas of expertise is in the politics of education, particularly Indigenous education. Ex. J-6 at 1.

763. Ms. Goodyear–Kaʻōpua has done extensive research on and implementation of Hawaiian culture-based education, including co-founding a school and writing an academic book on Indigenous education. Ex J-6 at 1.

764. She testified that constructing the **TMT** would be a **harm** to Hawaiian educational practices. She explained that ‘āina-based education and aloha ‘āina as “multiplicity of land- based literacy,” which “include observational, interpretive and expressive skills.” Tr. 2/22/17 vol 39 at p.155.

765. Ms. Goodyear–Ka‘ōpua articulated how the project would impact Native Hawaiian educational initiatives, educators, and practitioners as such:

- The proposed construction of the Thirty-Meter Telescope (TMT) would substantially harm Hawaiian cultural practitioners and educators who are designing and practicing Hawaiian land-based educational initiatives.
- Such practitioners and educators are trying to preserve and perpetuate kuleana relationships between Kānaka Maoli and this mauna, and the TMT would inhibit and harm such relationships.
- Aloha ‘ āina has been a practice of Kanaka Maoli survivance for generations, and it is based on the understanding that lands, including Mauna a Wākea, are familial kin.
- Kānaka Maoli are not just related to the land but are indeed part of it. The health of kānaka and their cultural identities is directly tied to the health of the land and is thus harmed when the ‘āina is harmed.
- When you modify the summit of the highest mountain, which Kānaka practitioners recognize as sacred, through the construction of a massive structure such as the TMT, you harm the ability of kānaka to fully be kānaka. You harm their ability to transmit knowledge about who they are in relation to this place to future generations.

Ex.J-6 at 1 - 2.

766. Moreover, what impacts the ‘āina, or the environment, also impacts kanaka, or man. Especially children and youth are shaped based on the values and practices of the adults in their lives. Ex. B.06a at 3.

767. As a Hawaiian educator, Dr. Kahakalau believes that Mauna Kea can and should become a local, national and international symbol of aloha ‘āina, a testimony of respect for the Hawaiian culture, and a validation of our commitment to perpetuate Hawaiian values and traditions and protect the rights of native Hawaiians. By sending a clear signal to our next generation that the protection of our environment, our earth, is more important than any other endeavor, we will set a new standard in 21st century environmental protection for the benefit of both the environment and humans. Ex. B.06a at 3.

768. Based on the principles of Pedagogy of Aloha, building the TMT is NOT pono, or ethical, and does not demonstrate a balance of science and culture on Mauna Kea, nor a respect for Hawaiian culture, as advertised on the TMT website. Rather such desecration signifies to kanaka (native Hawaiians), kama'aina (local) and malihini (foreigner) alike that we do not value the ancient practice of aloha and mālama ‘āina and that we do not respect the inherent mana of

Mauna Kea and the importance of maintaining this sacredness, by adhering to the ancient kapu of the Wao Akua. It also validates for young and old that our island resources are for sale and that when enough dollars are involved, nothing is protected from development, i.e. nothing is sacred enough. Ex. B.06a at 4.

769. As a 21st century educator, Dr. Kahakalau strongly supports integrating technological advances into 21st models of education. At the same time, I also resolutely maintain that these advances must be ethical, meaning that furthering the search of knowledge for mankind, must not override protecting natural, cultural and spiritual resources from destruction. This view is in alignment with enlightened educators and thinkers worldwide who assert that Indigenous practices and values like aloha and mālama ʻāina can provide new ways of educating for global ecological thinking and environmental sustainability. Dr. Kahakalau proposes that Hawai'i stands in the forefront of this movement by not allowing the construction of the TMT on sacred Mauna Kea. Ex. B.06a at 4.

5. Significant Effects of TMT Project NOT Mitigated

a. Visual Impact Mitigation Measures are Inadequate or Non-Existent

770. The Applicant knows that the visual impact of the TMT will be substantial and significant due to the dome height at nearly 190 feet and with a diameter of 216 feet. However, there aren't any actual measures that could mitigate this visual impact. Ex. B.02a at 15.

771. The Applicant proposes the following non-existent mitigation measures in the CDUA to mitigate the known substantial and significant visual impact of the proposed TMT dome height at nearly 190 feet and with a diameter of 216 feet. Ex. R-1/B.30 at 1-8, CDUA.

1. locate the TMT "north of and below the summit"
2. design the dome "to fit very tightly around the telescope"
3. to have an aluminum-like coating "that reflects the sky and reduces the visibility of the structure"

Ex. R-1/B.30 at 2-17, CDUA.

772. These are <u>not</u> mitigation measures for the adverse visual impacts within the Mauna Kea Summit Region Historic District upon the natural beauty and open space of the undeveloped northern plateau. Ex. B.02a at Ex. B.02a at 16.

773. The CDUA states that the "location of the TMT project is the primary impact avoidance measure" for its visual impacts. Ex. R-1/B.30 at 2-17, CDUA

774. In contradiction to this proposed mitigation measure, the location of the TMT on the northern plateau is actually due to the fact that there isn't any available space available on the summit. Ex. B.02a at 16.

775. UH's witness Mr. McLaren testified that it's simply out of the question to put the telescope that large on the summit ridge. 11/15/16 Tr. Vol 7: 195:3-4

776. In addition, even if an existing telescope site could be recycled for this project, the TMT would obstruct and impact the other existing telescopes due to its massive size and height of nearly 190 feet. Ex. B.02a at 16.

777. The *2000 Master Plan* clearly outlines below why the TMT is proposed to be located on the northern plateau instead of on the summit due to its extremely large size and not as a reason to mitigate its adverse visual impact.

> Existing astronomy facilities require a clear line of sight to approximately 12 degrees above the horizon in a full circle. The location of proposed new facilities cannot obscure the observation function of the existing telescopes on the mountain." Ex. B.37 at IX-22, MP.
>
> Future telescope redevelopment on the summit ridge will limit these facilities to a maximum height and diameter of approximately 130 feet, to limit the visual impact along the ridge. Ex. B.37 at IX-31, MP.
>
> In addition, telescope engineers have indicated that wind forces acting on the structure are expected to be severe and problematic. To minimize potential obscuration of existing observatories, the potential site for this facility must also be located in an area that is distant from the prominent topography at the summit ridge and nearby *pu'u*. Ex. B.37 at IX-37, MP.

778. Despite the existing design of the TMT dome to fit tightly around the telescope, it still doesn't mitigate its adverse visual impact. Ex. B.02a at 16 - 17.

779. Furthermore, this design is inconsistent with the Design Guidelines in the *2000 Master Plan* for the Next Generation Large Telescope (NGLT) with a mirror of 25 to 50 m. in diameter such as the TMT. The TMT design deviated from these guidelines that proposed a "unique sliding dome mirror enclosure with a sub-grade foundation" that would have actually drastically reduced the height less than the nearly 190 feet of the existing design. (see Figures IX-16 & IX-21) The adverse visual impact of its massive size and height still exists and has not been mitigated. Ex. B.02a at 16 - 17. Exhibits B.02t-u).

780. Strict design guidelines will dictate the size and color of the NGLT. The preliminary design concept proposed for the NGLT employs a unique sliding dome mirror

enclosure with a sub-grade foundation, as shown in Figure IX-21. The lower half of this observatory will be built below grade to minimize the apparent height and mass of the facility. The facility shown in the concept has a 30-m. mirror, with a dome shaped and colored to simulate a small *pu'u* to blend well with the surrounding landscape. Ex. B.37 at IX-21, MP.

781. The other mitigation measure to have an aluminum-like coating "that reflects the sky and reduces the visibility of the structure" is also not true as previously discussed. This also does not follow the Design Guidelines of the Master Plan as it proposed a "dome shaped and colored to simulate a small *pu'u* to blend well with the surrounding landscape." If the shape and color of the TMT design was in compliance with these guidelines, it could have actually mitigated its adverse visual impacts. Ex. B.02a at 16-17.

782. Likewise, other proposed mitigation measures do nothing to directly or indirectly mitigate any of the adverse impacts of this project as noted below:

- The TMT project facilities will be furnished with items to provide a sense of place and acknowledge the cultural sensitivity and spiritual attributes of Mauna Kea.
- TMT project staff will work with OMKM and 'Imiloa to develop exhibits regarding natural resources.
- The TMT project's outreach staff will work with 'Imiloa and OMKM to develop exhibits for the Visitor Information Station (VIS) and 'Imiloa regarding the cultural and archaeological resources of Mauna Kea and support/fund programs specific to Hawaiian culture.
- TMT project daytime activities will be minimized on up to four days per year identified by Kahu Kū Mauna.

783. Based on her knowledge and expertise, Dr. Meyer affirmed that the proposed mitigation that the "TMT project facilities will be furnished with items to provide a sense of place and acknowledge the cultural sensitivity and spiritual attributes of Mauna Kea" is *not* a sufficient mitigation. Tr. 04/01/17 vol. 31 at 139.

784. Dr. Meyer testified that the TMT project will adversely impact traditional cultural practices as well as cultural and spiritual views of the mauna. Tr. 04/01/17 vol. 31 at 70.

785. Dr. Kahakalau testified that, while these proposed measures to appease the Hawaiian community have been cited by some Hawaiians as primary reasons they are supporting the construction of TMT, the proposed measures clearly lack a commitment to Hawaiian values. In fact, they are an insult to Hawaiian practitioners and educators like myself on many levels. For example, any educator knows that any training conducted once a year is not nearly enough for any employee, contractor and sub-contractor to gain an understanding and respect for any cultural and religious practices, and/or a sensitivity to the negative impacts on cultural resources.

Moreover, limiting cultural practices on Mauna Kea to four (4) days out of 365 days, chosen by some agency, is a violation of the American Indian Religious Freedom Act, which "protects and preserves the inherent right of freedom of belief, expression, and exercise of traditional religions...including but not limited to access to sites, use and possession or sacred objects, and the freedom to worship through ceremonials and traditional rites." Ex. B.06a at 5.

786. Finally, creating educational materials and opportunities like "cultural tours" emphasizing "objective" content and experience, detached from community and violating traditional values, actually amplifies the current crisis of American education, by continuing the practice of conditioning students to exist as marginal participants and perpetual observers. It also assists in the further alienation of modern man from his own being and the natural world. Ex. B.06a at 5.

6. Project Lifecycle Extends Beyond 2033 Expiration of General Lease

787. It is common knowledge that the life of the proposed $1.4 billion TMT observatory is more than 50 years and its life would extend considerably beyond 2033 when the GL No. S-4191 expires. Ex. B.02a at 10-11.

788. According to the proposed project schedule in the CDUA construction would take seven years or longer. R-1 at 1-18 to 1-19.

789. If construction were to resume within two years from the conclusion of this contested case hearing and potential legal appeals, the observatory might be operational around 2025, leaving only 6 years or less of service before the termination of the lease and decommissioning. Ex. B.02a at 10-11.

790. Based upon the Decommissioning Plan for the Mauna Kea Observatories – a subplan of the CMP, the TMT observatory would have to be decommissioned, including removal and site restoration, before the expiration of the existing general lease. Ex. B.43 at 31.

791. UH, Lessee of the MKSR, submitted a request at the BLNR Nov. 8, 2013 meeting (Agenda Item D-5) for an issuance of new direct 65-year general leases. Ex. B.02a at 10-11.

792. This action was deferred at the BLNR Dec. 13, 2013 meeting (Agenda Item D-15) upon the request of UH in order to prepare and complete an Environmental Impact Statement (EIS) as required by HRS Chapter 343 and HAR Chapter 200 of Title 11 for proposed new long-term general leases for the MKSR and related facilities and easements to replace its existing leases. Ex. B.02a at 10-11.

793. Based upon the EIS Preparation Notice (EISPN), submitted Dec. 23, 2014, to the State Office of Environmental Quality Control regarding issuance of new general leases, it discusses three alternatives. These three alternatives and potentially additional alternatives advanced by stakeholders during the EISPN review period are still yet to be fully evaluated in this environmental assessment process. Alternative 1 is a "*No Action Alternative*", under which the existing MKSR GL No. S-4191, would run its course and UH and its sublessees would terminate their uses no later than the end of 2033.[4] Ex. B.02k at 2-2, EISPN.

794. Should the "*No Action Alternative*" be selected, no new telescopes (including the TMT) should be built and all of the existing facilities would eventually be decommissioned and the land would be returned to DLNR. Ex. B.02k at 2-5, EISPN.

795. According to Robert McLaren, Associate Director of the University of Hawaii Institute for Astronomy, if it were known today that there would be no extension of the lease beyond 2033, he's virtually certain that the TMT would not decide to proceed. Tr.11/2/16 Vol 7: 161, 202.

796. Mr. McLaren affirmed that it would beneficial to the partners of TlO of the proposed $1.4 billion project to have the matter pertaining to the new general lease determined before TIO starts construction. Tr. Tr.11/2/16 Vol 7: 202:20-24

[4] Alternatives 2 and 3, respectively, include a new master lease encompassing all the area covered by the existing master lease, and one that reduces the portion of the summit under UH control.

III. CONCLUSIONS OF LAW

A. Jurisdiction and Standing

1. The Board of Land and Natural Resources ("BLNR") has jurisdiction over UHH's Conservation District Use Application ("CDUA") HA-3568 designated upon public lands in the Conservation District on Mauna Kea.

2. BLNR has the authority and jurisdiction to NOT approve CDUA HA-3568 if it is determined that the application is deficient, incomplete, and inaccurate and/or if the Applicant is not in compliance with the mandated management plans associated with the UH Management Area of Mauna Kea.

3. UHH, the Applicant of CDUA HA-3568, has standing as a party to appear in this contested case.

4. Petitioners Mauna Kea Anaina Hou, Clarence Kukauakahi Ching, Paul K. Neves, Deborah J. Ward, the Flores-Case 'Ohana, and KAHEA: The Hawaiian Environmental Alliance, who established standing and were admitted as parties in the first contested case hearing, maintains their standing to appear in this second contested case hearing as parties and are properly before the BLNR.

B. Preliminary Issues

1. BLNR Actions in Violation of HRS Chapter 92 and HAR § 13-1-5

5. The BLNR, as a state entity, must comply with all federal and state laws and regulations, including the State of Hawaii Sunshine Laws, HRS Chapter 92 as well as DLNR's own Rules of Practice and Procedure. Under HRS § 92-3 and HAR § 13-1-5, BLNR is required to hold open public meetings when conducting official business. Plainly, BLNR is a public body subject to public accountability.

6. HRS § 92-1: Declaration of policy and intent, articulates the reason why an open governmental process is one of the foundational aspects of democracy.

> In a democracy, the people are vested with the ultimate decision-making power. Governmental agencies exist to aid the people in the formation and conduct of public policy. Opening up the governmental processes to public scrutiny and participation is the only viable and reasonable method of protecting the public's interest. Therefore, the legislature declares that it is the policy of this State that the formation and conduct of public policy - the discussions, deliberations, decisions, and action of governmental agencies - shall be conducted as openly as possible. To implement this policy the legislature declares that:
>
> (1) It is the intent of this part to protect the people's right to know;

(2) The provisions requiring open meetings shall be liberally construed; and

(3) The provisions providing for exceptions to the open meeting requirements shall be strictly construed against closed meetings.

HRS § 92-1.

7. HRS § 92-3: Open meetings, stipulates the rules that the BLNR's are subject to as it pertains to open meetings.

> Every meeting of all boards shall be open to the public and all persons shall be permitted to attend any meeting unless otherwise provided in the constitution or as closed pursuant to sections 92-4 and 92-5; . . . The boards shall afford all interested persons an opportunity to submit data, views, or arguments, in writing, on any agenda item. The boards shall also afford all interested persons an opportunity to present oral testimony on any agenda item. HRS § 92-3.

8. HAR § 13-1-5: Meetings, also stipulates the rules that the BLNR's are subject to as it pertains to open meetings.

> (d) All meetings of the board shall be open to the public; provided, that the board may meet, pursuant to sections 92-4 and 92-5, HRS, in executive session, from which the public may be excluded, by a recorded vote of two-thirds of the members present. No order, ruling, contract, appointment, or decision shall be finally acted upon in the executive session. HAR § 13-1-5.

9. The BLNR has executed Board actions from the onset and throughout the duration of this contested case hearing and has issued minute orders to this effect without including any of these action items on any of the Board's agendas or meetings.

10. Minute Order Nos. 2, 4, 9, 14, 17, 36, 49, 51, and 52 were executed and approved by the Board outside the purview of the general public. These minute orders were approved and signed by Board members outside of a public regular or special meeting. As such, there are no records, BLNR agendas or meeting minutes to substantiate that these Board actions were properly and legally executed, resulting in violation of HRS § 92-7. Most significantly, these Board actions were done without public scrutiny and participation, resulting in violations of HRS § 92-3 and HAR § 13-1-5.

11. The only record that the Board has been meeting outside of their regular meetings to take actions of those matters pertaining to this cch is evidenced in the minute orders themselves.

12. As stated in Minute Order No. 2, "The Board of Land and Natural Resources met on February 26,2016, as part of and to discharge its adjudicatory function governed by Haw. Rev. Stat. § 91-9."

13. As stated in Minute Order No. 4, "The Board met on April 22, 2016, and on May 4, 2016, to deliberate in order to carry out its adjudicatory functions under HRS § 91-9."

14. As noted, this is a continuous pattern of the BLNR conducting governmental business in a manner that is in violations of state laws. Thus, these violations should be reviewed collectively as to why these actions of the BLNR should be voided.

2. Motions to Disqualify Hearing Officer

15. The law addressing conflicts of interest that would disqualify a judge from hearing a case, HRS § 601-7, states in relevant part:

> No person shall sit as a judge in any case in which the judge's relative by affinity or consanguinity within the third degree is counsel, or interested either as a plaintiff or defendant, or in the issue of which the judge has, either directly or through such relative, any pecuniary interest; nor shall any person sit as a judge in any case in which the judge has been of counselor on an appeal from any decision or judgment rendered by the judge.

C. Legal Framework

1. Burden of Proof

16. The Conservation District rules state that "[t]he applicant shall have the burden of demonstrating that a proposed land use is consistent with" the criteria set forth in HAR § 13-5-30(c).

17. As the party proposing a land use in the Conservation District, UH/UHH is clearly the "applicant" in this matter. Therefore, the burden of proof rests decisively upon the Applicant to prove that it meets the requirements for the granting of the CDUA. The degree of proof is a preponderance of the evidence. HAR § 13-5-30(c); HRS § 91-10(5).

18. The quantum of proof in this contested case proceeding is preponderance of the evidence. HAR § 13-5-30(c); HRS § 91-10(5)

2. Constitutional Authority

19. Preamble of the Hawai'i State Constitution states:

> We, the people of Hawaii, grateful for Divine Guidance, and mindful of our Hawaiian heritage and uniqueness as an island State, dedicate our efforts to fulfill the philosophy decreed by the Hawaii State motto, "*Ua mau ke ea o ka aina i ka pono*."
> We reserve the right to control our destiny, to nurture the integrity of our people and culture, and to preserve the quality of life that we desire.

We reaffirm our belief in a government of the people, by the people and for the people, and with an understanding and compassionate heart toward all the peoples of the earth, do hereby ordain and establish this constitution for the State of Hawaii.

20. Article I, Section 4, of the Hawai‘i State Constitution states:

No law shall be enacted respecting an establishment of religion, or prohibiting the free exercise thereof, or abridging the freedom of speech or of the press or the right of the people peaceably to assemble and to petition the government for a redress of grievances.

21. Article I, Section 5, of the Hawai‘i State Constitution states:

No person shall be deprived of life, liberty or property without due process of law, nor be denied the equal protection of the laws, nor be denied the enjoyment of the person's civil rights or be discriminated against in the exercise thereof because of race, religion, sex or ancestry.

22. Article XI, Section 1, of the Hawai‘i State Constitution states:

For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State.

All public natural resources are held in trust by the State for the benefit of the people.

23. Article XI, Section 7, of the Hawai‘i State Constitution states:

The State has an obligation to protect, control and regulate the use of Hawaii's water resources for the benefit of its people.

The legislature shall provide for a water resources agency which, as provided by law, shall set overall water conservation, quality and use policies; define beneficial and reasonable uses; protect ground and surface water resources, watersheds and natural stream environments; establish criteria for water use priorities while assuring appurtenant rights and existing correlative and riparian uses and establish procedures for regulating all uses of Hawaii's water resources.

24. Article XI, Section 9, of the Hawai‘i State Constitution states:

Each person has the right to a clean and healthful environment, as defined by laws relating to environmental quality, including control of pollution and conservation, protection and enhancement of natural resources. Any person may enforce this right against any party, public or private, through appropriate legal proceedings, subject to reasonable limitations and regulation as provided by law.

25. Article XII, Section 4, of the Hawai‘i State Constitution states:

The lands granted to the State of Hawaii by Section 5(b) of the Admission Act and pursuant to Article XVI, Section 7, of the State Constitution, excluding therefrom lands defined as "available lands" by Section 203 of the Hawaiian Homes Commission Act, 1920, as amended, shall be held by the State as a public trust for native Hawaiians and the general public.

26. Article XII, Section 7, of the Hawai‘i State Constitution states:

The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua'a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights.

27. Article XIV, of the Hawai‘i State Constitution states:

The people of Hawaii believe that public officers and employees must exhibit the highest standards of ethical conduct and that these standards come from the personal integrity of each individual in government. To keep faith with this belief, the legislature, each political subdivision and the constitutional convention shall adopt a code of ethics which shall apply to appointed and elected officers and employees of the State or the political subdivision, respectively, including members of the boards, commissions and other bodies.

Each code of ethics shall be administered by a separate ethics commission, except the code of ethics adopted by the constitutional convention which shall be administered by the state ethics commission. The members of ethics commissions shall be prohibited from taking an active part in political management or in political campaigns. Ethics commissioners shall be selected in a manner which assures their independence and impartiality.

Each code of ethics shall include, but not be limited to, provisions on gifts, confidential information, use of position, contracts with government agencies, post-employment, financial disclosure and lobbyist registration and restriction. The financial disclosure provisions shall require all elected officers, all candidates for elective office and such appointed officers and employees as provided by law to make public financial disclosures. Other public officials having significant discretionary or fiscal powers as provided by law shall make confidential financial disclosures. All financial disclosure statements shall include, but not be limited to, sources and amounts of income, business ownership, officer and director positions, ownership of real property, debts, creditor interests in insolvent businesses and the names of persons represented before government agencies.

28. Article XVI, Section 7, of the Hawai‘i State Constitution provides:

> Any trust provisions which the Congress shall impose, upon the admission of this State, in respect of the lands patented to the State by the United States or the proceeds and income therefrom, shall be complied with by appropriate legislation. Such legislation shall not diminish or limit the benefits of native Hawaiians under Section 4 of Article XII.

29. Amendment I of the U.S. Constitution provides:

> Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

3. Public Trust and Native Hawaiian Rights Court Rulings

30. In Public Access Shoreline Hawai 'i v. Hawai'i County Planning Comm 'n, 79 Haw. 425, 903 P.2d 1246 (1995) ("PASH'), the Hawai'i Supreme Court stated:

> 79 Haw. 425, 903 P.2d 1246 (1995) *("PASH'),* the Hawai'i Supreme Court stated: The State's power to regulate the exercise of customarily and traditionally exercised Hawaiian rights ... necessarily allows the State to permit development that interferes with such rights in certain circumstances. . . . Nevertheless, the State is obligated to protect the reasonable exercise of customary and traditionally exercised rights of Hawaiians to the extent feasible.

PASH, 79 Haw. at 450 n.43, 903 P.2d at 1271 n.43.

31. In PASH, the Hawaii State Supreme Court interpreted Kalipi’s discussion of customary rights derived from the Hawaiian usage exception in HRS § 1-1 (2009)3 and affirmed that “the reasonable exercise of ancient Hawaiian usage is entitled to protection under article XII, section 7.” 79 Hawai‘i at 442, 903 P.2d at 1263. Further, the court declared that the regulatory power reserved for the State in Article XII, Section 7 does not equate to the authority to extinguish traditional and customary Hawaiian rights because they have become “inconsistent with generally understood elements of the western doctrine of ‘property.’” Concurring Opinion *Mauna Kea Anaina Hou et al. v. BLNR et al.* (2015)

32. In *Ka Pa'akai o Ka 'Aina v. Land Use Comm'n,* 94 Hawai'i 31, 7 P.3d 1068 (2000) *("Ka Pa 'akai"),* the Hawai'i Supreme Court held that to fulfill its duty to preserve and protect customary and traditional native Hawaiian rights to the extent feasible, an agency must examine, and make specific findings and conclusions as to protecting Native Hawaiian traditional and customary rights.

33. In the *Ka Pa'akai* decision, the Hawaii Supreme Court articulated an analytical framework for the State's obligation to protect Native Hawaiian traditional and customary rights. The court ruled:

(1) the state and its agencies are obligated to protect the reasonable exercise of customarily and traditionally exercised rights of Native Hawaiians to the extent feasible;
(2) agencies are obligated to make an assessment, independent of the developer or applicant of impacts on customary and traditional practices of Native Hawaiians; and.
(3) the independent assessment must include the three factors (A, B, and C) listed below, otherwise known as the "*Ka Pa'akai* framework."

A) the identity and scope if "valued cultural, historical, or natural resources" in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;
B) the extent to which those resources-including traditional and customary native Hawaiian rights-will be affected or impaired by the proposed action; and
C) the feasible action, if any, to be taken by the LUC to reasonably protect native Hawaiian rights if they are found to exist.

Ka Pa'akai, 94 Hawai'i at 47,7 P.3d at 1084 (footnotes omitted).

34. When an individual of Native Hawaiian descent asserts that a traditionally exercised cultural, religious, or gathering practice in an undeveloped or not fully developed area would be curtailed by the proposed project, the State or the applicable agency is "obligated to address" this adverse impact in its findings and conclusions pursuant to the *Ka Pa'akai* framework. *Ka Pa'akai,* 94 Hawai'i at 46, 50, 7 P.3d at 1083, 1087. Concurring Opinion *Mauna Kea Anaina Hou et al. v. BLNR et al.* (2015) at 9. Consequently, if customary and traditional Native Hawaiian practices are to be meaningfully safeguarded, "findings on the extent of their exercise, their impairment, and the feasibility of their protection" are paramount. *Ka Pa'akai*, 94 Hawai'i at 50, 7 P.3d at 1087. *Id.* At 9-10.

35. In *State v. Hanapi,* 89 Hawai'i 177,970 P.2d 485 (1998) *("Hanapi"),* the Hawai'i Supreme Court ruled that a person claiming constitutional protection for a right under *PASH* should demonstrate following three factors:

> First, he or she must qualify as a "native Hawaiian" within the guidelines set out in *PASH. ... PASH* stated that those persons who are "descendants of native Hawaiians who inhabited the island prior to 1778," and who assert otherwise valid customary and traditional Hawaiian rights are entitled to [constitutional] protection, regardless of their blood quantum.
>
> Second, once [a person claiming a *PASH* right] qualifies as a native Hawaiian, he or she must then establish that his or her claimed right is constitutionally protected as a customary or traditional native Hawaiian practice. . ..

> Finally, a [person] claiming his or her conduct is constitutionally protected must also prove that the exercise of the right occurred on undeveloped or "less than fully developed property."

Hanapi, 89 Hawai'i at 177,970 P.2d at 495 (citations and emphasis omitted).

36. The meaning of Article XII, Section 7 was first examined by this court in Kalipi v. Hawaiian Trust Co., 66 Haw. 1, 656 P.2d 745 (1982). Chief Justice Richardson, writing for the court, stated that "any argument for the extinguishing of traditional rights based simply upon the possible inconsistency of purported native rights with our modern system of land tenure must fail," for the exercise of these traditional rights are protected pursuant to the express terms of the Hawai'i Constitution. Id. at 4, 656 P.2d at 748. The Kalipi court held that "lawful occupants of an ahupua'a may, for the purposes of practicing native Hawaiian customs and traditions, enter undeveloped lands within the ahupua'a to gather those items enumerated in the statute." *Id.* at 7-8, 656 P.2d at 749. Concurring Opinion *Mauna Kea Anaina Hou et al. v. BLNR et al.* (2015)

37. As outlined in *In re Waiāhole Combined Contested Case Hearing (Waiāhole I),* 94 Hawai'i 97,137,9 P.3d 409,449 (2000), the Hawai'i Supreme Court upheld the exercise of Native Hawaiian and traditional and customary rights as a public trust purpose (which has priority over private commercial uses). Therefore, the Commission on Water Resource Management ("Commission") must "ensure that it does not 'abridge or deny' traditional and customary rights of Native Hawaiians." *Waiāhole I*, 94 Hawai'i at 153, 9 P.3d at 465 (citing H.R.S. §§ 174C-63, 101(c)).

38. In *In Re Water Use Permit Applications*, 94 Hawai`i 97, 9 P.3d 409 (2000) ("the *Waiāhole Ditch Case"*), the Hawai`i Supreme Court recognized that public trust doctrine was "a fundamental principle of constitutional law in Hawai`i." Haw. Const., Art. XI, section 1, P.133, 9 P.3d at 444.

39. The duties imposed by the public trust doctrine in this case are not supplanted or made superfluous by HRS Chapter 183C or the regulations promulgated there under. "Mere compliance by [agencies] with their legislative authority is not sufficient to determine if their actions comport with the requirements of the public trust doctrine. The public trust doctrine at all times forms the outer boundaries of permissible government action with respect to public trust resources." *Id.* at 132, 9 P.3d at 445 (citing to *Kootenai Envtl. Alliance v. Panhandle Yacht Club, Inc.*, 105 Idaho 622, 671 P.2d 1085, 1095 (Idaho 1983)). Thus, BLNR, like the Commission on Water Resource Management in the *Waiāhole Ditch Case*, has an "affirmative duty" to take the public trust into account in permitting the use of public lands located in the conservation district and "**to protect the public trust uses whenever feasible**."

40. There is no dispute that Mauna Kea is a "public natural resource" of the class protected under Article XI, section 1 of Hawaii's Constitution. See, *Waiahole Ditch Case* at 133, 9 P.3d at 444. Mauna Kea is part of the "ceded lands trust," lands ceded by the federal government back to the State of Hawai`i by Section 5(b) of the Admission Act and pursuant to Article XVI, Section 7, of the Hawai`i Constitution. These lands are held by the State as "a public trust for native Hawaiians and the general public." Haw. Const., Art. XII, sec. 4.

41. Mauna Kea has also been designated a National Natural Landmark because of its unique geological and biological features. It is eligible for listing in the National Register of Historic Places as a traditional cultural property. There is no doubt that it is a public natural resource of invaluable worth to the public and Native Hawaiians.

42. Therefore, BLNR must independently uphold the Constitutional mandate that it "shall conserve and protect Hawaii's natural beauty and all natural resources…in a manner consistent with their conservation." Haw. Const., Art. XI, sec. 1.

43. Where uncertainty exists, a trustee's duty to protect a public trust resource mitigates in favor of choosing presumptions that also protect the resource. *Waiahole I,* 94 Haw. at 154.

44. "[T]he public trust has never been understood to safeguard rights of exclusive use for private commercial gain." *Waiahole I,* 94 Hawai'i at 138. Therefore, a higher level of scrutiny is employed when considering or private commercial use. *Kauai Springs,* 133 Hawai'i at 172 (citing *Waiahole I* at 142).

4. Burdens of Proof

45. Permit applicants bear the ultimate burden of demonstrating that their proposed use will not harm traditional and customary Native Hawaiian practices in the water law context. Thus, "simply pointing to an empty record and claiming no impact to indigenous rights will no longer suffice; permit applicants bear an affirmative burden of demonstrating that a proposed use will not impact traditional and customary Native Hawaiian rights and practices." Arguably, the burden of proof should be similarly allocated in other civil contexts including, but not necessarily limited to, applications for permission to develop land. Ex. B.02d at 19.

46. As noted in the following cases, that burden to "demonstrate affirmatively" that the proposed TMT project would not adversely impact Native Hawaiian customary and traditional practices and rights falls clearly upon the Applicant as well as the State agency represented by BLNR and DLNR.

> In *In re Wai'ola o Moloka'i. Inc. (Wai'ola),* 103 Hawai'i 401, 409, 83 P.3d 664,672 (2004), the court held that the Commission failed to adequately protect natural resources traditionally and customarily gathered by Native Hawaiians-specifically, several species of fish and limu. The court also held that the permit applicant bears the burden to "demonstrate affirmatively" that the proposed project would not affect Native Hawaiians' rights.
>
> In *In re Kukui (Moloka'i). Inc.,* 116 Hawai'i 481,486,174 P.3d 320,325 (2007), the court held that the Commission "impermissibly shifted the burden of proving harm" to individuals claiming a right to traditionally and customarily gather crab, fish, limu, and octopus on Moloka'i. Instead, the burden of demonstrating that a proposed use will not impact traditional and customary Native Hawaiian rights and practices rests with the applicant.

Finally, in *In re 'Iao Ground Water Mgmt. Area High-Level Source Water Use Permit Applications (Na Wai Eha)*, 128 Hawai'i 228,248-49,287 P.3d 129, 149-50 (2012), the court held that the Commission failed to analyze the effect of reduced stream flow on Native Hawaiian traditional and customary practices such as kalo cultivation and other gathering rights, and failed to assess the feasibility of protecting those practices.

5. Statutory and Regulatory Authority

a. County Level

47. The Hawai'i County General Plan describes the importance of Hawai'i's natural and scenic beauty as a "valuable" and "irreplaceable" asset as part of the public trust as noted below:

> **The natural beauty of Hawaii is a universally recognized characteristic and one of the most significant and valuable assets of this island.** In a relatively small area exists a great range of environments, from lush green tropical valleys to snow-capped mountains.
>
> **Hawaii's natural beauty is both an irreplaceable asset and a part of the public trust.** It is fragile and although often enhanced by man can easily be adversely affected. Measures must be taken to insure its protection, both now and in the future, for the enjoyment of Hawaii's residents and visitors. Ex. B.02s at 7-1.
>
> **The importance of natural and scenic beauty and its true evaluation as an asset of public trust to be protected for future generations remain with the people of this island.** While public planning and regulation are instrumental in achieving the goals set forth for this element, it is public awareness and interest that will maintain the natural beauty of the island of Hawaii. Ex. B.02s at 7-2.

b. State Level

48. HRS Chapter 205, State Land Use Law outlines the establishment and purpose of the classification of the four major land use districts in which all lands in the State shall be placed. The conservation district is the most restrictive and is defined to include:

> areas necessary for protecting watersheds and water sources; preserving scenic and historic areas; providing park lands, wilderness, and beach reserves; conserving indigenous or endemic plants, fish and wildlife, including those which are threatened or endangered; preventing floods and soil erosion; forestry; open space areas whose existing openness, natural condition or present state of use, if retained, would enhance the present or potential value of abutting or surrounding communities, or would maintain or enhance the conservation of natural or scenic resources; areas of value for recreational purposes; other related activities; and other permitted uses not detrimental to a multiple use conservation concept.

HRS § 205-2(e).

49. HRS Chapter 183C, Conservation District outlines the administration of public lands within the conservation district and articulates this public policy:

> The legislature finds that lands within the state land use conservation district contain important natural resources essential to the preservation of the State's fragile natural ecosystems and the sustainability of the State's water supply. It is therefore, the intent of the legislature to conserve, protect, and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety and welfare.

HRS § 183C-1.

50. HRS § 183C-3 outlines the powers and duties of BLNR and DLNR in the administration of public lands within the conservation district. Relevant parts of this statute are listed below:

> (3) Adopt rules, in compliance with chapter 91 which shall have the force and effect of law;
> (4) Set, charge, and collect reasonable fees in an amount sufficient to defray the cost of processing applications for zoning, use, and subdivision of conservation lands;
> (5) Establish categories of uses or activities on conservation lands, including allowable uses or activities for which no permit shall be required;
> (6) Establish restrictions, requirements, and conditions consistent with the standards set forth in this chapter on the use of conservation lands; and
> (7) Establish and enforce land use regulations on conservation district lands including the collection of fines for violations of land use and terms and conditions of permits issued by the department.

HRS § 183C-3.

51. HRS § 183C-6 outlines DLNR's duties pertaining to permits and site plans for land use in the conservation district. Relevant parts of this statute are listed below:

> (a) The department shall regulate land use in the conservation district by the issuance of permits.
> (c) The department shall hold a public hearing in every case involving the proposed use of land for commercial purposes, at which hearing interested persons shall be afforded a reasonable opportunity to be heard. Public notice of the time and place of the hearing shall be given at least once statewide and in the county in which the property is located. The notice shall be given not less than twenty days prior to the date set for the hearing. The hearing shall be held in the county in which the land is located and may be delegated to an agent or representative of the board as may otherwise be provided by law and in accordance with rules adopted by the board. For the purposes of its public hearing or hearings, the department shall have the power to summon witnesses, administer oaths, and require the giving of testimony. As used in this subsection, the term "commercial purposes" shall not include the use of land for utility purposes.

(d) The department shall regulate the construction, reconstruction, demolition, or alteration of any structure, building, or facility by the issuance of site plan approvals.

HRS § 183C-6.

52. HRS Chapter 205A, Coastal Zone Management addresses issues from an integrated ecosystem perspective and all lands of the State are considered to be in the coastal zone management area.

53. The objectives and policies of the coastal zone management program relate to recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, beach protection and marine resources. HRS § 205A-2.

54. HRS § 205A-2 outlines the objectives and policies of the coastal zone management program. Relevant parts of this statute are listed below:

(a) The objectives and policies in this section shall apply to all parts of this chapter.
(b) Objectives.
(2) Historic resources;
(A) Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
(3) Scenic and open space resources;
(A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.
(c) Policies.
(2) Historic resources;
(A) Identify and analyze significant archaeological resources;
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.
(3) Scenic and open space resources;
(A) Identify valued scenic resources in the coastal zone management area;
(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;

HRS § 205A-2.

55. HRS § 205A-5 articulates that all agencies shall be in compliance with this chapter.

(a) All agencies shall ensure that their rules comply with the objectives and policies of this chapter and any guidelines enacted by the legislature.

(b) All agencies shall enforce the objectives and policies of this chapter and any rules adopted pursuant to this chapter.

HRS § 205A-5

56. HRS Chapter 226, Hawaii State Planning Act provides guidance for all state agencies to "set forth the Hawaii state plan that shall serve as a guide for the future long-range development of the State; identify the goals, objectives, policies, and priorities for the State".

57. HRS § 226-12 outlines the Hawaii State Planning Act's objective and policies for the physical environment--scenic, natural beauty, and historic resources.

(a) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.

(b) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:

(1) Promote the preservation and restoration of significant natural and historic resources.
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.

HRS § 226-12

58. HAR Title 13, Chapter 1, Rules of Practice and Procedure "governs practice and procedure before the board of land and natural resources of the State of Hawaii under chapter 91, Hawaii Revised Statutes (HRS), the public land laws of the State and such other related acts as may now or hereafter be administered by the board. These rules shall be construed to secure the just, speedy, and cost-effective determination of every proceeding." HAR § 13-1-1.

59. HRS § 92-2 Definitions. As used in this part:

"Meeting," means the convening of a board for which a quorum is required in order to make a decision or to deliberate toward a decision upon a matter over which the board has supervision, control, jurisdiction, or advisory power.

60. HRS § 92-3 Open meetings. Every meeting of all boards shall be open to the public and all persons shall be permitted to attend any meeting unless otherwise provided in the constitution or as closed pursuant to sections 92-4 and 92-5; provided that the removal of any person or persons who wilfully disrupts a meeting to prevent and compromise the conduct of the

meeting shall not be prohibited. The boards shall afford all interested persons an opportunity to submit data, views, or arguments, in writing, on any agenda item. The boards shall also afford all interested persons an opportunity to present oral testimony on any agenda item. The boards may provide for reasonable administration of oral testimony by rule.

61. HAR §13-1-8 Chairperson. (a) The chairperson shall, in addition to any other duties, have charge of the board's official records and shall be responsible for the maintenance and custody of the files and records of the board, including transcripts of testimony and exhibits, with all papers and requests filed in proceedings, the minutes of all action taken by the board and all of its findings, determinations, reports, opinions, orders, rules, and approved forms.

62. HAR §13-1-9 Government records. (a) All government records of the board shall be available for inspection in the office of the board, Honolulu, Hawaii, during established office hours unless public inspection of these records is prohibited by law; provided that except where the records are open under any rule of court, the attorney general may determine which records may be withheld from public inspection when the records pertain to the preparation of the prosecution or defense of any action or proceeding to which the State is or may be a party or to maintain the attorney-client and attorney work product privileges. (b) Government records printed or reproduced by the board in quantity shall be given to any person requesting the same by paying the fees established by law. Photocopies of government records shall be made and given by the chairperson to any person upon request and upon payment of the fees established by law. Certified copies of extracts from government records shall also be given by the chairperson upon payment of the fees established by law.

63. HAR Title 13, Chapter 5, Conservation District regulates "land use in the conservation district for the purpose of conserving, protecting, and preserving the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare." HAR § 13-5-1.

64. BLNR amended its administrative rules, Chapter 5 HAR, relating to the Conservation District on August 12, 2011. HAR § 13-5.

65. One of the new amendments to Chapter 5 HAR, included a new definition in HAR § 13-5-2: "Comprehensive management plan" means a comprehensive plan to manage multiple uses and activities in order to protect and conserve natural and cultural resources. HAR § 13-5-2.

66. According to the OCCL Staff Report, "Comprehensive management plan" was added to provide for the preparation of a comprehensive management plan. The ability of the Department to require broader plans covering larger geographic areas is provided by adding a definition of "Comprehensive Management Plan" to this chapter, e.g. Mauna Kea Comprehensive Management Plan. Ex. B.02ad at 2

Amended "Management plan" to clarify that certain management plans may be specific, such as aquaculture, forestry, and agriculture projects. The ability of the Department to require broader

plans covering larger geographic areas is provided by adding a definition of "Comprehensive Management Plan" to this chapter — e.g., Mauna Kea Comprehensive Management Plan (see above). Ex. B.02ad at 2.

67. HAR § 13-5-39 Management plan approvals, was significantly revised and amended to state:

> (a) Where required, management plans shall be submitted with the board permit application and shall include the requirements listed in Exhibit 3, entitled "Management Plan Requirements: August 12, 2011", which is located at the end of this chapter and made a part of this section.
> (b) The department or board may require the preparation of a comprehensive management plan where it finds that further development may lead to significant natural, cultural, or ecological impacts within the conservation district. The geographic area, specific resources to be protected and conserved, and other content of a comprehensive management plan shall be determined by the department or board.
> (c) An annual report to the department is required which shall include the status of compliance of the permit conditions and the implementation of land uses pursuant to the approved management plan schedule.

68. Astronomy facilities in the Resource subzone require a Board permit and an approved management plan. Haw. Admin. R. § 13-5-24. Under the recently amended version of Section 13-5-24, a management plan "approved simultaneously with the permit" is required.

69. HAR § 13-5-2 defines natural resources as "resources such as plants, aquatic life and wildlife, cultural, historic, recreational, geologic, and archeological sites, scenic areas, ecologically significant areas, watersheds, and minerals."

70. HAR § 13-5-30 Permits, stipulates that "Land uses requiring comprehensive review by the board are processed as board permits, management plans, or comprehensive management plans, and temporary variances. Departmental permits and emergency permits are processed by the department and approved by the chairperson. Site plans are processed by the department and approved by the chairperson or a designated representative. If there is any question regarding the type of permit required for a land use, an applicant may write to the department to seek a determination on the type of permit needed for a particular action." HAR § 13-5-30.

71. HAR § 13-5-30(c) stipulates that when evaluating the merits of a proposed land use, the department or board shall apply the following eight criteria:

> (1) The proposed land use is consistent with the purpose of the conservation district;
>
> (2) The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur;

(3) The proposed land use complies with provisions and guidelines contained in chapter 205A, HRS, entitled "Coastal Zone Management", where applicable;

(4) The proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community, or region;

(5) The proposed land use, including buildings, structures, and facilities, shall be compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels;

(6) The existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, whichever is applicable;

(7) Subdivision of land will not be utilized to increase the intensity of land uses in the conservation district; and

(8) The proposed land use will not be materially detrimental to the public health, safety, and welfare.

72. Because it has accepted the burden of proof in this proceeding with respect to the criteria set forth in Haw. Admin. R. § 13-5-30(c), the burden is on UHH to prove that it meets the requirements for the granting of CDUP HA-3568. UHH must prove that it satisfies those requirements by a preponderance of the evidence. Haw. Admin. R. § 13-5-30(b); Haw. Rev. Stat. § 91-10(5).

73. HAR § 13-5-24 identifies land uses in the resource subzone and stipulates that identified land uses beginning with letter (D) such as R-3 Astronomy Facilities require a board permit and a management plan.

(D-1) Astronomy facilities under a management plan approved simultaneously with the permit, is also required. HAR § 13-5-24.

74. HAR § 13-5-39 Management plan approvals, stipulates:

(a) Where required, management plans shall be submitted with the board permit application and shall include the requirements listed in Exhibit 3, entitled "Management Plan Requirements: August 12, 2011", which is located at the end of this chapter and made a part of this section.

(b) The department or board may require the preparation of a comprehensive management plan where it finds that further development may lead to significant natural, cultural, or ecological impacts within the conservation district. The geographic area, specific resources to be protected and conserved, and other content of a comprehensive management plan shall be determined by the department or board.

(c) An annual report to the department is required which shall include the status of compliance of the permit conditions and the implementation of land uses pursuant to the approved management plan schedule.

75. Chapter 13-5, Exhibit 3 outlines Management Plan Requirements: August 12, 2011.

1 General description of the proposed use (e.g., forestry, fishpond, astronomy, aquaculture, agriculture).
2 Project location (e.g., island map, location map, site plan (drawn to scale).
3 Natural resource assessment including descriptive information about the natural resources in the project vicinity such as biological, archaeological, cultural, geological, coastal, recreational, and scenic resources, where applicable. The presence of any threatened or endangered species shall be disclosed.
4 Natural hazard assessment including descriptive information of erosion, flooding, slope, tsunami, and volcanic hazards, where applicable.
5 A description of best management practices used during project construction and implementation (e.g., mitigation measures).
6 A description of the best management practices to be used during the lifetime of the project (e.g., mitigation measures).
7 A description of the conservation methods and applications to be used in the short term and long term (e.g., mitigation measures).
8 Description of existing uses and facilities, if any.
9 Description of proposed facilities and uses, including phases, if applicable.
10 Activity schedule
Project schedule including description of project sequencing from project construction to project completion and on-going maintenance plans, including a description and timing of natural resource monitoring and maintenance plans.
A description of the annual reporting requirements.
11 Any other information or data, as required by the department.

76. HRS Chapter 343, Environmental Impact Statements articulates this public policy:

> The legislature finds that the quality of humanity's environment is critical to humanity's well being, that humanity's activities have broad and profound effects upon the interrelations of all components of the environment, and that an environmental review process will integrate the review of environmental concerns with existing planning processes of the State and counties and alert decision makers to significant environmental effects which may result from the implementation of certain actions. The legislature further finds that the process of reviewing environmental effects is desirable because environmental consciousness is enhanced, cooperation and coordination are encouraged, and public participation during the review process benefits all parties involved and society as a whole.
>
> It is the purpose of this chapter to establish a system of environmental review which will ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations.

HRS § 343-1.

77. HRS § 344-3, Environmental policy, stipulates it shall be the policy of the State, through its programs, authorities, and resources to conserve the natural resources and enhance the quality of life. Relevant parts of this statute are listed below:

(1) Conserve the natural resources, so that land, water, mineral, visual, air and other natural resources are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State's unique natural environmental characteristics in a manner which will foster and promote the general welfare, create and maintain conditions under which humanity and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the people of Hawaii.

(2) Enhance the quality of life by:

(C) Establishing communities which provide a sense of identity, wise use of land, efficient transportation, and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian; and

(D) Establishing a commitment on the part of each person to protect and enhance Hawaii's environment and reduce the drain on nonrenewable resources.

HRS § 344-3.

78. HRS § 344-4 outlines guidelines for all agencies, in the development of programs, shall, insofar as practicable, consider in pursuance of the state policy to conserve the natural resources and enhance the quality of life. Relevant parts of this statute are listed below:

(2) Land, water, mineral, visual, air, and other natural resources.

(A) Encourage management practices which conserve and fully utilize all natural resources;

(D) Encourage management practices which conserve and protect watersheds and water sources, forest, and open space areas;

(E) Establish and maintain natural area preserves, wildlife preserves, forest reserves, marine preserves, and unique ecological preserves;

(F) Maintain an integrated system of state land use planning which coordinates the state and county general plans;

(3) Flora and fauna.

(A) Protect endangered species of indigenous plants and animals and introduce new plants or animals only upon assurance of negligible ecological hazard;

(B) Foster the planting of native as well as other trees, shrubs, and flowering plants compatible to the enhancement of our environment.

(4) Parks, recreation, and open space.

(A) Establish, preserve and maintain scenic, historic, cultural, park and recreation areas, including the shorelines, for public recreational, educational, and scientific uses;

(C) Promote open space in view of its natural beauty not only as a natural resource but as an ennobling, living environment for its people.

(5) Economic development.

(A) Encourage industries in Hawaii which would be in harmony with our environment;

(D) Encourage all industries including the fishing, aquaculture, oceanography, recreation, and forest products industries to protect the environment;

(10) Citizen participation.

(A) Encourage all individuals in the State to adopt a moral ethic to respect the natural environment; to reduce waste and excessive consumption; and to fulfill the responsibility as trustees of the environment for the present and succeeding generations; and

(B) Provide for expanding citizen participation in the decision making process so it continually embraces more citizens and more issues.

HRS § 344-4

79. HRS §171-13 Disposition of public lands. Except as otherwise provided by law and subject to other provisions of this chapter, the board may:

(1) Dispose of public land in fee simple, by lease, lease with option to purchase, license, or permit; and

(2) Grant easement by direct negotiation or otherwise for particular purposes in perpetuity on such terms as may be set by the board, subject to reverter to the State upon termination or abandonment of the specific purpose for which it was granted, provided the sale price of such easement shall be determined pursuant to section 171-17(b).

No person shall be eligible to purchase or lease public lands, or to be granted a license, permit, or easement covering public lands, who has had during the five years preceding the date of disposition a previous sale, lease, license, permit, or easement covering public lands canceled for failure to satisfy the terms and conditions thereof.

80. HRS §171-17 Appraisals. (a) The appraisal of public lands for sale or lease at public auction for the determination of the upset price may be performed by an employee of the board of land and natural resources qualified to appraise lands, or by one but not more than three disinterested appraisers whose services shall be contracted for by the board; provided that the upset price or upset rental shall be determined by disinterested appraisal whenever prudent management so dictates. No such lands shall be sold or leased for a sum less than the value fixed by appraisal; provided that for any sale or lease at public auction, the board may establish the upset sale or rental price at less than the appraisal value set by an employee of the board and the land may be sold or leased at that price. The board shall be reimbursed by the purchaser or lessee for the cost of any appraisal required to be made by a disinterested appraiser or appraisers contracted for by the board.

(b) The sale price or lease rental of lands to be disposed of by drawing or by negotiation shall be no less than the value determined by:

(1) An employee of the board qualified to appraise lands; or

(2) A disinterested appraiser or appraisers whose services shall be contracted for by the board, and the appraisal, and any further appraisal with the approval of the board, shall be at the cost of the purchaser;

provided that the sale price or lease rental shall be determined by disinterested appraisal whenever prudent management so dictates; provided further that if the purchaser does not agree upon the sale price or lease rental, the purchaser may appoint an appraiser who shall conduct an appraisal on behalf of the purchaser. If, after the purchaser's appraisal, the board and the purchaser do not agree on the sale price or lease rental, the parties shall make a good faith effort to resolve the dispute through nonbinding mediation by a single mediator, appointed by mutual agreement of the parties. The cost of mediation shall be borne equally by the parties. If mediation does not resolve the dispute, the purchaser's appraiser together with the board's appraiser shall appoint a third appraiser, and the sale price or lease rental shall be determined by arbitration as provided for in chapter 658A, which shall be final and binding. The purchaser shall pay for all appraisal costs, except that the cost of the third appraiser shall be borne equally by the purchaser and the board.

(c) In the repurchase of any land by the board, the board shall have the option to repurchase the land for the original sale price or the fair market value at the time of repurchase, whichever is the lower. Any improvements affixed to the realty shall be purchased at their fair market value. At the time of the repurchase, the fair market value of the land, and the improvements, if any, shall be determined by a qualified appraiser whose services shall be contracted for by the board; provided that if the owner does not agree upon the value, the owner may appoint the owner's own appraiser who shall conduct an appraisal on behalf of the owner. If, after the owner's appraisal, the board and the owner do not agree on the sale price, the parties shall make a good faith effort to resolve the dispute through nonbinding mediation by a single mediator, appointed by mutual agreement of the parties. The cost of mediation shall be borne equally by the parties. If mediation does not resolve the dispute, the owner's appraiser together with the board's appraiser shall appoint a third appraiser, and the value shall be determined by arbitration as provided in chapter 658A. The owner shall pay for all appraisal costs, except that the cost of the third appraiser shall be borne equally by the owner and the board.

(d) If a reopening of the rental to be paid on a lease occurs, the rental for any ensuing period shall be the fair market rental at the time of reopening. At least six months prior to the time of reopening, the fair market rental shall be determined by:

(1) An employee of the department qualified to appraise lands; or

(2) A disinterested appraiser whose services shall be contracted for by the board;

and the lessee shall be promptly notified of the determination and provided with the complete appraisal prepared by the board or the board's appraiser; provided that if the lessee does not agree upon the fair market rental, the lessee may appoint the lessee's own appraiser and the lessee shall provide the board with the complete appraisal prepared by

the lessee's appraiser. Each party shall pay for its own appraiser. If the board's and the lessee's appraisers do not agree upon the lease rental, the lessee and the board shall in good faith attempt to resolve the dispute by nonbinding mediation by a single mediator mutually agreed upon by the parties. If the dispute is not resolved by the mediation, the fair market rental shall be determined by arbitration as provided in chapter 658A, which shall be final and binding. Either the board or the lessee may initiate arbitration by a written demand to the other party. The arbitration shall be conducted by a single arbitrator, who shall be an attorney licensed in the State, a person with experience in contracts and real estate valuation, or another qualified person, who shall be mutually agreed upon by the parties. If an arbitrator is not selected within fifteen days of the demand for arbitration, appointment of an arbitrator may be requested by either party by motion made to the circuit court in the circuit in which the land is located. The cost of mediation or arbitration shall be borne equally by the lessee and the board. Any language in present leases to the contrary notwithstanding, the provisions of this subsection, when possible and notwithstanding the six-month notice required, shall apply to leases with original lease rental reopening dates effective before and after July 1, 1996.

(e) Complete appraisal reports, including all comparables relied upon in the appraisal reports, shall be available for study by the public. All complete appraisal reports shall be provided to the opposing party prior to the commencement of mediation or arbitration, if applicable, of the valuation

81. HRS §91-9 Contested cases; notice; hearing; records**.** (a) Subject to section 91-8.5, in any contested case, all parties shall be afforded an opportunity for hearing after reasonable notice.

(b) The notice shall include a statement of:

(c) Opportunities shall be afforded all parties to present evidence and argument on all issues involved.

(d) Any procedure in a contested case may be modified or waived by stipulation of the parties and informal disposition may be made of any contested case by stipulation, agreed settlement, consent order, or default.

(e) For the purpose of agency decisions, the record shall include:

82. HRS §91-10 Rules of evidence; official notice. In contested cases:

83. HRS §91-13 Consultation by officials of agency. No official of an agency who renders a decision in a contested case shall consult any person on any issue of fact except upon notice and opportunity for all parties to participate, save to the extent required for the disposition of ex parte matters authorized by law.

D. Discussion and Conclusions

1. Cultural Significance of Mauna Kea Undisputed

84. "Mauna Kea, the highest mountain peak in the Hawaiian Islands, is of profound importance in Hawaiian culture. The summit region is sacred to Native Hawaiians, and because of its spiritual qualities, traditional and customary cultural practices are exercised throughout the summit area." This statement regarding Mauna Kea's cultural significance is affirmed in the Concurring Opinion from *Mauna Kea Anaina Hou, et al. v. Board of Land and Natural Resources, et al.,* 136 Hawai'i 376 (2015).

85. It remains undisputed that Mauna Kea is culturally significant. The sacredness and cultural significance of this mountain is reiterated in traditional Native Hawaiian accounts, testimonies of numerous witnesses, and in the Applicant's primary documents such as the Mauna Kea CMP, 2000 Master Plan and TMT FEIS.

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86. It remains undisputed that Native Hawaiian traditional and customary practices and rights are associated with the lands of Mauna Kea including the cultural landscape of the northern plateau in the vicinity of the proposed TMT project.

2. CDUA HA-3568 is Deficient, Incomplete, and Inaccurate

87. CDUA HA-3568 ("CDUA") should not be approved because significant sections of this application are deficient, incomplete and inaccurate. All information, materials, reports, and documents inserted and referenced in this application are subject to further review and scrutiny in the cch process to determine their completeness and accuracy.

88. The Applicant assumes the burden and responsibility that the CDUA is complete and accurate.

89. Several significant deficiencies in the CDUA were brought to the attention of the Applicant during the first cch. Thus, they had several years to address these matters, make necessary revisions and corrections, and resubmit this application.

90. Several significant deficiencies in the CDUA were brought to the attention of the BLNR and DLNR through both written and oral testimony presented at the hearings in 2010-2011 as well as during the first cch. Thus, BLNR/DLNR should have required the Applicant to address these matters, make necessary revisions and corrections, and resubmit this application.

91. However, a decision was made to move ahead with the original application without addressing its deficiencies and without having it come before the BLNR for a new and proper hearing since CDUP HA-3568 was vacated by the Hawai'i State Supreme Court's decision in *Mauna Kea Anaina Hou, et al. v. Board of Land and Natural Resources, et al.*.

92. The Applicant failed to update CDUA HA-3568 to reflect the significant change that the proposed conservation district use permit was now being requested on behalf of the Thirty Meter Telescope International Observatory, LLC (TIO) instead of the Thirty Meter Telescope Observatory Corporation (TMT Corporation).

93. The significance of the change from the TMT Corporation to the TIO is that throughout the CDUA, there are numerous specific references to the TMT Observatory Corporation assuming responsibilities for the implementation of mandated management plans and other conditions.

94. The Applicant did not provide any evidence in the cch that the newly-formed TIO was assuming any type of responsibilities for the implementation of the mandated management plans and other conditions stipulated in CDUA HA-3568.

95. It remains undisputed that TMT Corporation transitioned into TIO in May 2014 and that TIO is now the new project developer for the proposed TMT project.

96. TIO witnesses Mr. Stone and Dr. Sanders also affirmed this in their testimony.

97. TMT Observatory Corporation or any counsel on its behalf did not petition to intervene in this cch. Instead, counsel for TIO petitioned to intervene in this cch.

98. Also, TIO, not TMT Observatory Corporation, entered into a sublease with the Application for the proposed TMT project.

99. There were other noted deficiencies in the CDUA that were brought to the attention of the Applicant during the first contested case hearing.

100. It remains undisputed that HAR Chapter 13-5 was revised and amended on August 12, 2011. It included significant changes to these rules, particularly HAR § 13-5-39 and Exhibit 3 pertaining to the Management Plan that the TMT project is mandated to complete. As a result, criteria for Exhibit 3 in the amended 2011 version is significantly different than the former version.

101. Analysis and data in the CDUA relied upon draft or non-existence documents.

102. The CDUA, Sect. 4 Cultural Resources, failed to properly assess the project impacts upon the Mauna Kea Summit Region Historic District, various historic and cultural properties, and Native Hawaiian traditional customary practices and rights.

103. The CDUA omitted consultation with Native Hawaiian cultural practitioners.

104. The CDUA, Sect. 4 Cultural Resources, included inaccurate information and manipulated Figures.

105. Applicant failed to provide any creditable witness or evidence in the cch to substantiate information in Sect. 4 Cultural Resources.

106. The CDUA, Sect. 7 Visual Impact, failed to properly assess the project impacts upon the view planes and open space characteristics on the northern plateau of Mauna Kea.

107. The CDUA, Sect. 7 Visual Impact, included inaccurate information and photo simulations.

108. Applicant failed to provide any creditable witness or evidence in the cch to substantiate information in Sect. 7 Visual Impact.

109. For the reasons stated above is why the Applicant was required to submit an updated, complete, and accurate CDUA for the proposed TMT project.

110. The DLNR is obligated to verify and substantiate that the information in the CDUA is complete and accurate pursuant to HAR § 13-5-31 (c).

111. It appears that DLNR staff did not take a 'hard look' at significant aspects of this CDUA in the initial submittal. Instead, information was cut and pasted in their entirely directly from the Application's submittals and included in their OCCL Staff Report that was submitted to Board members for their consideration.

112. It has been over six years since October 10, 2010 when this application was submitted to BLNR/DLNR for review. Since that time, significant aspects pertaining to Mauna Kea have evolved and changed.

113. The BLNR is also obligated to verify and substantiate that the information in the CDUA is complete and accurate.

114. The BLNR should have required the Applicant to update and resubmit their application to be heard at a Board meeting and required public hearing to ensure due process of law. In addition, DLNR should have revisited and updated their staff report in this matter.

115. For the same reasons stated above is why the BLNR and DLNR were required to have the Applicant submit an updated, complete, and accurate CDUA for the proposed TMT project.

116. BLNR and DLNR failed to require the CDUA HA-3568 to be in compliance with the revised HAR Chapter 13-5 (August 12, 2011).

117. Failure of BLNR to follow HAR Chapter 1 of Title 13 and HRS Chapter 91

3. TMT Project is Inconsistent with Mandated Plans

118. The Applicant failed to follow and enforce its own mandated Design Guidelines (in particular those that pertained to ***Facility Siting, Surfaces, Textures and Material, Colors; and Scale)*** as set forth in the *2000 Master Plan.* As a result, the proposed TMT project is <u>not</u> able to mitigate its adverse impacts upon the natural and cultural resources.

119. BLNR failed to require the Applicant to follow and enforce its own mandated Design Guidelines (in particular those that pertained to ***Facility Siting, Surfaces, Textures and Material, Colors; and Scale)*** as set forth in the *2000 Master Plan.* As a result, the proposed TMT project is not able to mitigate its adverse impacts upon the natural and cultural resources.

120. The *2000 Master Plan* clearly states:

> "Plans found to be inconsistent with the Master Plan concepts and objectives shall be rejected. Major variations from development standards shall also be rejected.'" (emphasis added) Ex. B.37 at XI-9.

121. For the reasons above and those set forth in the findings of fact, the proposed TMT project is inconsistent with the UH BOR approved *2000 Master Plan*.

122. For the reasons set forth in the findings of fact, the proposed TMT project is also inconsistent with the BLNR approved CMP and subplans.

4. TMT Project FAILS to Satisfy the Eight Criteria of HAR §13-5-30(c)

123. Applicant UHH has not proven by a preponderance of the evidence that it meets all the requirements and conditions for the granting of a CDUP for the proposed TMT Project.

124. Furthermore, the Applicant UHH has not by a preponderance of the evidence demonstrated that the TMT Project satisfies all the eight criteria 8 of HAR § 13-5-30(c).

125. HAR § 13-5-30(c) states that "[i]n evaluating the merits of a proposed land use, the department or board shall apply the following criteria," followed by the list of eight criteria quoted above. (emphasis added)

126. In the plain language as noted with the use of "**and**" preceding criteria 8, HAR § 13-5-30(c) stipulates that a proposed land use must satisfy all eight criteria if applying the literal rule.

127. The purpose of the Conservation District is "to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety and welfare." HRS § 183C-1.

128. The purpose of the Conservation District rules is "to regulate land-use in the conservation district for the purpose of conserving, protecting, and preserving the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare." HAR § 13-5-1.

129. The proposed land use is not consistent with the purpose of the conservation district because the TMT Project is being proposed in an extremely sensitive environmental and cultural area that is still undeveloped. The use of this undeveloped area would further contribute to the "significant, substantial, and adverse" cumulative impacts upon the natural and cultural

resources of Mauna Kea. As a result, this project would not contribute to the protection, preservation and long-term sustainability of the surrounding areas within the conservation district.

130. Many of Chapter 205A's objectives, such as protection of historic resources, scenic and open space resources, and recreational resources, parallel the objectives of the Conservation District. Thus, for the same reasons that the proposed TMT Project is not consistent with the purpose of the Conservation District, this proposed project is also not consistent with the objectives of Chapter 205A.

131. For all these reasons, and for the reasons set forth in the findings of fact above, the TMT project does not satisfy the eight criteria requirements for issuing a CDUP under HAR § 13-5-30. The TMT is not consistent with the purpose of the conservation district, the resource subzone, or requirements of the CZMP. Moreover, it is an acknowledged and unmitigated source of substantial adverse impact that is not compatible with, nor improves upon the wide-open space of the northern plateau. The TMT would further subdivide the conservation district for the purpose of intensifying land use. Lastly, it poses a further risk to the public's health and welfare. For these reasons, the BLNR cannot issue a permit to build the massive TMT observatory in the conservation district of Mauna Kea.

132. For all these reasons above, and for the reasons set forth in the findings of fact, the TMT Project is not consistent with the purpose of the Conservation District.

133. It remains undisputed that the cumulative effects of astronomical development and other uses in the summit area of Mauna Kea have previously resulted in impacts that are substantial, significant. and adverse. In addition, the proposed TMT Project would add further to these cumulative effects.

134. The visual impact analysis, photos renderings of the TMT dome, and information presented in the CDUA are significantly inaccurate. Likewise, the immense and enormous size of the proposed TMT observatory in the conservation district would create an adverse visual impact upon the sacred landscape of Mauna a Wäkea and this would not preserve or improve upon the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics. Also, the visual impacts of the TMT are not in compliance with the Hawai‘i County General Plan (2005) and MKSR Master Plan (2000). It very apparent that the TMT project can't meet the following criteria set forth in HAR § 13-5-30(c):

5. Applicant is NOT in Compliance with Mandated Plans

135. Before BLNR approves the CDUA or any other actions within the Mauna Kea Science Reserve (MKSR), the Applicant must be in compliance with the BLNR approved management plans and conditions of the Conservation District Rules.

136. Presently, the Applicant is not in compliance with the BLNR approved Mauna Kea CMP and associated subplans.

137. In addition, the Applicant is not in compliance with the UH BOR approved MKSR 2000 Master Plan.

138. BLNR/DLNR has the statutory duty and legal obligation to ensure that the Applicant is in compliance with these plans as they related to the proper management of the public lands of Mauna Kea that are part of general leases issued to UH.

139. In the CDUA, it explicitly states that the Mauna Kea CMP, subplans, and TMT Management Plan fulfill the requirements of the Conservation District Rules for the proposed TMT project. Thus, if the Applicant is not in compliance with these mandated plans, then CDUA HA-3568 is not capable of fulfilling the purpose of the Conservation District concerning the TMT project and the UH Management Areas.

140. The Applicant failed to complete the required five-year major review and revision of the CMP that was due in 2014.

141. The proposed TMT project was beyond the scope of this CMP at the time this plan was developed.

142. The Applicant failed to implement and complete several significant components of the CMP management action plans dating back to 2009 that required immediate implementation prior to approving any new CDUPs such as the proposed TMT project within a Conservation District.

143. The CMP identified specific management actions in order to protect the natural and cultural resources on Mauna Kea.

144. The OMKM of the UHH is directly responsible for implementing these actions or is required to ensure its implementation by others.

145. The outdated TMT Management Plan is not in compliance with HAR Chapter 13-5, particularly HAR § 13-5-39 and Exhibit 3 as specific requirements for HAR Chapter 13-5 were amended in 2011 subsequent to the submittal of CDUA HA-3568.

146. As a result, the outdated CMP, subplans, and TMT Management Plan are not capable of conserving, protecting, and preserving the natural and cultural resources of Mauna Kea.

147. BLNR approved the mandated CMP and subplans. As such, they also have the obligation and statutory duty to require the Applicant to be in compliance with these mandated plans.

148. BLNR and DLNR failed to require the Applicant to be in compliance with the conditions and management actions outlined in the mandated CMP and subplans.

6. Applicant's Mismanagement Continues to Adversely Impact the Natural and Cultural Resources of Mauna Kea

149. UH's ineffective management and unlawful actions of its own employees and individuals under their jurisdiction have resulted in adverse impacts upon Mauna Kea's natural and cultural resources as well as Native Hawaiian traditional and customary practices and rights.

150. The Applicant has failed to follow the appropriate procedures for adopting implementing administrative rules for those lands and resources under their management. In the interim, staff and personnel of the OMKM have failed to follow existing rules and protocols as outlined the CMP.

151. It remains undisputed that individuals associated with the Applicant have desecrated and dismantled cultural sites on Mauna Kea.

152. It remains undisputed that personnel directly under the supervision of the OMKM Director have desecrated and dismantled cultural sites on Mauna Kea in the vicinity of the proposed TMT site.

153. It remains undisputed that personnel under the oversight of the OMKM have desecrated and bulldozed a cultural site along the access road leading to the summit of Mauna Kea.

154. The OMKM, who the Applicant has charged with the proper management of the UH Management Areas of Mauna Kea, has failed to adequately consult Native Hawaiian cultural practitioners. Since 2010, OMKM has failed to even compile a formal list of cultural practitioners that it should consult with on cultural matters pertaining to Mauna Kea.

155. The OMKM has failed to properly consult with Native Hawaiian cultural practitioners to develop and implement CMP Cultural Resources policies.

156. The OMKM has failed to properly train individuals through the Maunakea User Orientation and to properly provide oversight of UH personnel.

7. TMT Project Would Cause Significant Effects and Adverse Impacts

157. The collective and cumulative impacts of the proposed TMT project are not nominal, but instead significant, substantial, and adverse resulting in this project being inconsistent with the purpose of the Conservation District.

158. The proposed TMT project is inconsistent with the *2000 Master Plan* concepts, objectives, and design guidelines. As such, the present plans for the TMT project would cause significant effects to the natural and cultural resources of Mauna Kea and thus approval of CDUA HA-3568 should be rejected.

159. As a result of not following the *2000 Master Plan* concepts, objectives, and design guidelines, the siting amongst the cultural sites, massive size, extreme height of over 18 stories, and aluminum-like dome finish of the proposed TMT observatory would cause significant effects, adverse impacts, and irreparable harm upon the presently undeveloped northern plateau.

160. The proposed TMT construction and development within the environmentally and culturally sensitive landscape would cause adverse impacts and irreparable harm upon the sacred *piko* as well as the natural and cultural resources of Mauna a Wäkea.

161. The proposed TMT construction and development would cause adverse impacts and irreparable harm upon Native Hawaiian traditional and customary practices and rights connected to Mauna a Wäkea.

8. Significant Effects of TMT Project NOT Mitigated

162. None of the proposed mitigation measures directly address or mitigate the harm that would be caused by the TMT project or telescope development and activities.

163. Instead, some of these measures would actually provide direct financial benefits to the Applicant such as providing funds and support staff for exhibits and programs for UH's facilities at ʻImiloa and Visitor Information Station. In other words, the Applicant is going to personally benefit from the adverse impacts of this project.

164. The TMT project proposes to decorate its facilities with a "sense of place and acknowledge the cultural sensitivity and spiritual attributes of Mauna Kea" – the very aspects that its construction development proposes to adversely impact.

165. The TMT project proposes to minimizing the TMT project's daytime activities on up to four days per year. However, most of the telescope activities are already minimized during the day because most of their activity is night related.

166. Because the significant, substantial, and adverse impacts can't be mitigated to a level that is less than substantial, the BLNR cannot approve this CDUA without further attributing to the cumulative impacts upon the natural and cultural resources of Mauna Kea.

9. EIS for to a New Master Lease Should be Completed First

167. Prior to BLNR approving a permit for the TMT project that would extend beyond the expiration of General Lease (GL) No. S-4191 for the MKSR, UH should complete an EIS first.

168. UH, Lessee of the MKSR, submitted a request to the BLNR in 2013 for an issuance of new direct 65-year general leases for the MKSR and related facilities and easements to replace its existing leases. However, Board action was deferred in order for UH to prepare

and complete an Environmental Impact Statement (EIS) as required by HRS Chapter 343 and HAR Chapter 200 of Title 11.

169. Should the "*No Action Alternative*" be selected in this EIS, no new telescopes (including the TMT) should be built and all of the existing facilities would eventually be decommissioned and the land would be returned to DLNR. The TMT project will no longer be viable if it has to be decommissioned by 2033, only six years or less after it is proposed to become operational.

170. Approving CDUA HA-3568 for a project whose lifecycle extends far beyond the expiration of General Lease (GL) No. S-4191 would be a violation of due process as it would prejudice the outcome of the EIS process for a proposed new master lease as the State would be obligated to move forward with a limited scope of Alternatives.

171. It has been testified to the fact that the lifecycle of the proposed $1.4 billion TMT observatory is more than 50 years and its life would extend considerably beyond 2033 when the GL No. S-4191 expires.

172. According to the proposed project schedule in the CDUA construction would take seven years or longer. If construction were to resume within one year from the conclusion of this contested case hearing and potential legal appeals, the observatory might be operational around 2025, leaving only six years or less of service before the termination of the lease and decommissioning.

173. Based upon the Decommissioning Plan for the Mauna Kea Observatories – a subplan of the CMP, the TMT observatory would have to be decommissioned, including removal and site restoration, before the expiration of the existing general lease.

174. If the TMT project needed to be decommissioned by 2033 and the project was abandoned in place, the CDUA and the Applicant has failed to articulate where the funding for site restoration would be obtained from.

175. Then BLNR/DLNR should first determine the legality and impacts of issuing any new long-term general leases for the public lands of Mauna Kea prior to approving CDUA HA-3568. Otherwise, this would be another example of putting "the cart before the horse".

10. BLNR/DLNR and UH have FAILED their Constitutional and Statutory Obligations

176. BLNR/DLNR, representing the State as the Lessor, has the sole legal obligation, duty, and responsibility to appropriately manage and protect the conservation and public trust lands of Mauna Kea.

177. BLNR/DLNR has improperly executed their duties and responsibilities that have allowed the Applicant to not be in compliance with the BLNR and UH BOR approved plans for Mauna Kea.

178. The failure of BLNR/DLNR to assume its appropriate role as Lessor has resulted in substantial, adverse, and significant impacts to the natural, cultural, and historic resources on Mauna Kea. This matter has been previously brought to the attention of the BLNR/DLNR for several decades by the Hawaii State Auditor, State Legislature, and members of the public.

179. State agencies such as DLNR and BLNR as its executive board are responsible for protecting traditional and customary Native Hawaiian rights must conduct detailed inquiries into the impacts on those rights to ensure that proposed uses of land and water resources are pursued in a culturally appropriate way. Agencies must make these inquires independent of the developer or applicant.

180. State agencies responsible for protecting traditional and customary Native Hawaiian rights must complete the analysis outlined in *Ka Pa'akai* to ensure that proposed uses of land and water resources are pursued in a culturally appropriate way.

181. The analytical framework introduced in *Ka Pa'akai* assists BLNR and DLNR as a State agency in balancing their legal obligations to protect traditional and customary practices against private property (as well as competing public) interests, by requiring specific findings and conclusions

182. This means that agencies may not delegate this constitutional responsibility to others by, for example, directing the applicant to independently attempt to protect traditional and customary rights.

183. Instead, agencies must actively research and consider the cultural, historical and natural resources of a subject property as they relate to Native Hawaiian rights, when determining what restrictions should be placed on land or water use.

184. For example, in the *Kukui* and *Wai'ola* cases the court invalidated permits issued by the State Water Commission. An agency's failure to condition permitted uses upon protection of Native Hawaiian traditional and customary practices is sufficient grounds for invalidating that agency's decision to grant the underlying permit.

185. BLNR/DLNR, failed to meet their statutory and constitutional obligations under *Ka Pa'akai o Ka'aina v. Land Use Commission (Ka Pa'akai)* 94 Hawaii 31, 7 P.3d 1068 (2000) to preserve and protect traditional and customary rights of Native Hawaiians.

186. Prior to approving a permit or other actions pertaining to the culturally sensitive lands of Mauna Kea, BLNR/DLNR is required to complete an assessment/analysis independent of the developer or applicant.

187. Witnesses or evidence was <u>not</u> provided by any party that could substantiate that an independent *Ka Pa'akai* analysis was ever completed by or for BLNR/DLNR.

188. Subpoena witness Samuel Lemmo, OCCL Administrator, disclosed that DLNR has not completed such a *Ka Pa'akai* analysis due lack of staff time and resources.

189. BLNR/DLNR is not able to delegate this constitutional responsibility to the project developer, the TMT Observatory Corporation/Thirty Meter Telescope International Observatory LLC or the Applicant, UH.

190. Due to the fact BLNR/DLNR failed to identify and adequately assess customarily and traditionally exercised rights and practices of Native Hawaiians associated with the proposed TMT project on public lands prior to these lands being fully developed, they are not capable of protecting such rights and practices because such rights and practices are unknown to them.

191. Consequently, **BLNR/DLNR is obligated to complete an independent *Ka Pa'akai* analysis prior to approving CDUA HA-3568**.

11. Burdens of Proof

192. The Applicant bears the ultimate burden of demonstrating that the proposed land use will not harm Native Hawaiian customary and traditional practices and rights.

193. Substantial and overwhelming evidence was provided throughout the contested case hearing that the proposed TMT project would cause harm upon Native Hawaiians and adversely impact their customary and traditional practices and rights.

194. The Applicant failed to present any witnesses or evidence to "demonstrate affirmatively" that the proposed project would not impact such practices and rights. As noted in the following cases, that burden falls upon the Applicant as well as the State agency represented by BLNR and DLNR.

195. Applicant did not offer reliable, probative, substantial, and credible evidence, whether from expert or lay witnesses, that would support the conclusion that the TMT Project would not cause substantial adverse impact to plants, aquatic life and wildlife, cultural, historic, and archaeological sites, minerals, recreational sites, geologic sites, scenic areas, ecologically significant areas, or watersheds.

196. The reliable, probative, substantial, and credible evidence demonstrates that the TMT Project will cause substantial adverse impacts to cultural, historical, and archaeological sites.

197. The Applicant did not provide any adequate mitigation measures for these impacts. Instead, the Applicant along the TMT project consultants have fabricated non-existent or inadequate measures.

12. Violations of Due Process of Law

198. Board actions in violation of HAR § 13-1-5 and HRS Chapter 92. In the same manner that the first contested case hearing ("cch") was flawed from the onset with procedural errors and violations of due process, this second cch follows suit.

199. The BLNR excluded public scrutiny and participation and failed to protect the public's interest by executing Board actions in violation of HAR § 13-1-5 and HRS Chapter 92 by without properly scheduling matters on their agendas, having closed meetings, and excluding the public when they issued several minute orders through the course of this contested case hearing.

200. If a BLNR vote is needed to approve a cch, then such a Board action would need to be listed as an agenda item for a regular or special meeting. However, this wasn't done in this case. Instead, Board members met on February 26, 2016, "as part of and to discharge its adjudicatory function governed by Haw. Rev. Stat. § 91-9" outside of their regular meeting. "After full discussion of the issue, the Board delegated the conduct of the contested case hearing to a hearing officer, pursuant to HAR § 13-1-32(b), and confirmed that the chairperson was authorized to engage the services of a hearing officer pursuant to law." Then six weeks later on or about April 8, 2016, Minute Order No. 2 was signed by Chair Suzanne D. Case, and fellow members Stanley H. Roehrig, Keith "Keone" Downing, James A. Gomes, Thomas Oi, Ulalia Woodside, and Christopher Yuen served to parties by U.S. mail on this date.

201. However, this isn't an isolated incident as the Board systematically issued at least nine minute orders in the same manner that excluded the public. Minute Order Nos. 2, 4, 14, 36, 48, 49, 52.

202. In addition, the BLNR has a pattern of executing actions that are comparable to "putting the cart before the horse". Minute Order No. 1 was issued by the BLNR Chair Suzanne D. Case on March 31, 2016 giving notice that Riki May Amano was selected as the Hearing Officer. However, the Board signs and issues Minute Order No. 2 on April 8, 2016 that "confirmed that the chairperson was authorized to engage the services of a hearing officer pursuant to law."

203. During the cch there was an undisputed case of spoliation of evidence by OCCL Staff that effected the integrity of this administrative hearing and the Hearing Officer failed to provide any disclosure on the matter. This was referenced in the Motions filed by the Flores-Case 'Ohana in Docs. No. 577 and 623. There's an expectation of integrity in this process.

204. Flores-Case 'Ohana was prejudiced in these proceedings by the time frames of motions and other procedural irregularities during this hearing. In addition, the response to motions were untimely which also resulted in violations of due process.

E. Summary

If any of the above findings of fact is deemed a conclusion of law, it shall so be construed as a conclusion of law. Likewise if any of the above conclusions of law is deemed a finding of fact, it shall so be construed as a finding of fact.

In summary, based upon these proceedings and the evidence put forth, it is very evident that the answers to the following issues set forth is – **NO**.

- Is the proposed land use, including the plans incorporated in the application, consistent with Chapter 183C of the Hawai`i Revised Statutes, the eight criteria in HAR §13-5-30(c), and other applicable rules in HAR, Title 13, Chapter 5 Conservation District?

- Is the proposed land use consistent with Article XII, Section 7 of the Hawai'i State Constitution and *Ka Pa`akai O Ka`Aina v. Land Use Comm'n. State of Hawai'i*, 94 Hawai'i 31, 7 P.3d. 1068 (2000)?

- Is the proposed land use consistent with Article XI, Section 1 of the Hawai'i State Constitution and the public trust doctrine?

IV. DECISION AND ORDER

Based on the evidence and arguments presented and in light of the above Findings of Fact and Conclusions of Law, good cause having been shown,

IT IS HEREBY DECLARED AND ORDERED

that Conservation District Use Application HA-3568 is deficient and hereby DENIED.

DATED: Pu'ukapu, Hawai'i, May 30, 2017

E. Kalani Flores
Representing Flores-Case 'Ohana

BOARD OF LAND AND NATURAL RESOURCES
STATE OF HAWAI'I

Contested Case Hearing Re Conservation District Use Application (CDUA) HA-3568 for the Thirty Meter Telescope at the Mauna Kea Science Reserve, Ka'ohe, Hāmākua, Hawai'i, TMK (3) 4-4-015:009	BLNR Contested Case HA-16-002 Document title: FLORES-CASE OHANA'S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION ORDER; CERTIFICATE OF SERVICE

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the above referenced documents were served upon the following parties by the means indicated below:

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