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Co-Counsel for Petitioner
KAHEA: The Hawaiian Environmental Alliance,
a domestic non-profit Corporation

BOARD OF LAND AND NATURAL RESOURCES

STATE OF HAWAII

In the Matter of:)	Case No. BLNR-CC-16-002
)	
A Contested Case Hearing Re)	KAHEA: THE HAWAIIAN
Conservation District Use Permit)	ENVIRONMENTAL ALLIANCE'S
(COUP) HA-3568 for the Thirty Meter)	PROPOSED FINDINGS OF FACT AND
Telescope at the Mauna Kea Science)	CONCLUSIONS OF LAW; EXHIBIT A;
Reserve, Kaohe Mauka, Hamakua)	CERTIFICATE OF SERVICE
District, Island of Hawai'i, TMK (3) 4-4-)	
015:009)	
)	
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**KAHEA: THE HAWAIIAN ENVIRONMENTAL ALLIANCE'S
PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW**

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INTRODUCTION

This contested case came on for hearing on October 20, 24-27, 31,
November 2, 15-16, December 1-2, 5-6, 8, 12-13, 16, 19-20, 2016,
January 3-5, 9-12, 19, 23-26, 30-31, February 13-16, 21-23, 27-28, March

1-2, 2017 before Hearings Officer Riki May Amano, in Hilo, Hawaii.

Participating were the following parties: Yuklin Aluli and Dexter K. Kaiama, for KAHEA: The Hawaiian Environmental Alliance, a domestic non profit corporation, Kealoha Pisciotto, Mauna Kea Anaina Hou, Keomailani Von Gogh, Deborah Ward, Clarence Ching, E. Kalani Flores and Pualani Case for the Flores-Case Ohana, Timothy Lui-Kwan, Ian Sandison and John P. Manaut for the University of Hawaii at Hilo, J. Douglas Ing and Ross Shinyama for TMT International Observatory LLC (hereafter TIO), Harry Fergerstrom, Mehana Kihoi, Lincoln Ashida for Perpetuating Unique Educational Opportunities, Inc. (P.U.E.O.), Jennifer Leinaala Sleightholm, Tiffnie Kakalia, Dwight J. Vincente, Brannon Kealoha, Cindy Freitas, William Freitas, Lanny Sinkin for the Temple of Lono, Wilma Holi, and Joseph Camara.

Pursuant to the opinion of the Supreme Court filed on December 2, 2015 in Mauna Kea Anaina Hou et al vs. Board of Land and Natural Resources et al 136 Hawaii 376 (2015) and the Judgment on Appeal filed by the Supreme Court on December 29, 2015 and Order of Remand filed by the Third Circuit Court on February 22, 2016 (Civ. No 13-1-0349) the Hearings Officer has heard and considered the evidence presented, and being fully apprised of the premises, makes the following Findings of Fact and Conclusions of Law. These Findings of Fact and Conclusions of Law shall be construed as follows:

(1) If it is later determined that a Finding of Fact should be properly deemed to be a Conclusion of Law, the Hearings Officer so concludes on those legal issues.

(2) If it is later determined that a Conclusion of Law should

properly be deemed to be a Finding of Fact, the Hearings Officer so finds on those factual issues.

(3) To the extent that any of the following Findings of Fact and Conclusions of Law include a mix of finding of fact and conclusion of law, each shall be given full effect.

FINDINGS OF FACT

1. KAHEA: The Hawaiian-Environmental Alliance (hereafter "Kahea") is a non profit corporation incorporated in the Hawaii in 2001, whose mission is to advocate for the protection of environmentally significant and culturally sacred places in Hawaii.
2. The University of Hawaii at Hilo is the applicant for a conditional use permit for the construction of thirty meter telescope (hereafter TMT project) on a portion of its lands at the Mauna Kea summit area /northern plateau held under General Lease No. S-1491. This conditional use permit application was submitted in 2010. A001
3. TMT International Observatory LLC (hereafter TIO) is a Delaware limited liability corporation with a tax exempt status under Section 501 of the Internal Revenue Code. B.58 and B.59
4. Perpetuating Unique Educational Opportunities (hereafter P.U.E.O.) is a Hawaii non profit corporation.
5. PARA 5 . Identify the individual intervenenors who participated in the contested case hearing.
6. PARA 6
7. PARA 7
8. PARA 8
9. PARA 9

10. PARA 10
11. PARA 11
12. PARA 12
13. PARA 13
14. PARA 14
15. PARA 15
16. PARA 16
17. PARA 17
18. PARA 18
19. PARA 19
20. PARA 20
21. PARA 21
22. The land upon which the proposed TMT project would be situated is located in the Mauna Kea Summit Region Historic District and was determined to be eligible for listing on the National Register in 1999 (Ex. A055, FAIS-AP, p 1-1). See also McCoy Ex. A-122 at iii; Nees, Tr. 12/05/16, Vol. 12 at 11:9-18.
23. The subject property is leased to the Applicant by the State of Hawaii and that lease will terminate in 2033. This lease requires the approval of the Board of Land and Natural Resources (hereafter BLNR) to a sublease, assignment, or transfer of any rights conferred under said General Lease No. S-4191. Ex. B.17f
24. The UH has proposed new Master Leases for the Mauna Kea Science Reserve and has given notice of the preparation of an environmental impact statement for said Master Leases. Ex. B.02k
25. The Applicant had entered into a sublease with TIO in 2014 (Ex.

- B.02f) which has been vacated by the Third Circuit Court in its orders dated April 5, 2016 in Civ. No. 14-1-324. Ex. B.02g
26. The Applicant has entered into an Operating Agreement with TIO for the construction and operation of the TMT project on that portion of land which is subleased to TIO.
 27. That portion of the land being subleased by the State of Hawaii to the Applicant as the proposed site of the TMT project is described in the sublease and is appended hereto as Exhibit A . Ex. B.02f.
 28. On December 29, 2015 the Hawaii Supreme Court entered its Judgment on Appeal vacating the Third Circuit Court's affirmation of the BLNR's issuance of a CDUP to the applicant. The matter was remanded to the circuit court for remand to the BLNR "so that a contested hearing can be conducted before the Board or a new hearing officer, or for other proceedings consistent with the opinion."
 29. The Order of Remand on February 22, 2016 in Civ. No. 13-1-0349 adopted the same language as that of the Hawaii Supreme Court.

I. MAUNA KEA IS SACRED TO NATIVE HAWAIIANS

30. Mauna Kea is born of the gods Wakea and Papa, these same gods are also the progenitors of the Hawaiian race. Kanahele, Tr. 1/24/17, Vol. 29, at 143: 1-9; Ex. B.11a at 2.
31. The summit of Mauna Kea is wao akua, the place where the gods reside, where water, snow and mists are found, far removed from the wao kanaka where humans can reside. Kanahele, Tr. 1/24/17, Vol. 29, at 143-44: 25-3.

32. Citing to E O E Mauna Kea, in her testimony Kanahale described the specific water akua residing in Mauna Kea wao akua, being Poliahu, Lilinoe, Waiau and Kalauakolea, the snow, the mists, the lake and the fog drip. Tr. 1/24/17, Vol. 29 at 148; Ex. B.11a, p.3.
33. It is the belief of Hawaiian people that the summit of Mauna Kea touches the sky in a unique and important way, as a piko by which connections to the ancestors are made known to the them, as, too, is their collective knowledge. Tr. 1/24/17, Vol. 29, at 147-49: 21-25, 1-25.
34. Mauna Kea can be considered the piko ho'okahi, the single navel, which ensures spiritual connections, genealogical connections, and the rights to the regenerative powers of all that is Hawaii. It is from this "world navel" that the Hawaii axis emerges. Ex. A009 at ii.
35. Mauna Kea is an ancestor. It was a purpose of the birth chant , E O E Mauna Kea, to establish the relationship of the Hawaiian people to their primordial parents, Papa and Wakea, and to their ancestor, Mauna Kea. Kanahale, Tr. 1/24/17, Vol 29 at 162: 3-11.
36. Mauna Kea is considered sacred by people all over the world. Neves, Tr. 1/31/17, Vol. 33 at 193:21-25. However, it is specifically the calling of Native Hawaiians to maintain their relationship with Mauna Kea. Tr. 1/24/17, Vol. 33 at 206-207. "We were given this kuleana...we [have] to do all the things we do to keep that mountain in unblemished form." Tr. 1/31/17, Vol. 33 at 207:19-22.
37. In fact, Mauna Kea, as the first born of Papa and Wakea and piko of the island, has all the hallmarks of what Mircea Eliade referred to as a "sacred center". McCoy Ex. A-122 at 7-11.

38. "Rising to a majestic 13,796 feet above sea level, 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." *Mauna Kea Anaina Hou v. Board of Land and Natural Resources*, concurring opinion; 136 Hawai'i 376, 399; 363 P.3d 224 247 (2015).
39. The TMT FEIS states that the upper mountain region, is a sacred landscape. The TMT FEIS states: "Due to the spiritual and sacred attributes of Maunakea in Native Hawaiian traditions, traditional and customary cultural practices are preformed in the summit region, including. . . Practices associated with the belief in that the upper mountain region of Mauna Kea, from the Saddle area up to the summit is a sacred landscape, personifying the spiritual and physical connection between one's ancestors, history, and the heavens." Ex A003 (TMT FEIS) at S-4.
40. Adopting the same interpretation as that of witness Kuulei Kanahele of Mauna Kea as hiapo to all Native Hawaiians and the origin point or piko of the island, McCoy describes the ascent of Mauna Kea as "a walk upward and backward in time to cosmological origins" and opines that "[b]ased on the large number of shrines in the summit area it is clear that Hawaiians went to the top of the mountain with a sacred purpose in mind....[t]he ritual landscape that exists today is almost certainly the result of journeys by a number of families and adze makers over many generations."

Ex. A-122 at 7-12.

41. More importantly, McCoy opines that archaeological evidence of ascent and descent routes littered with lithic artifacts, ritual stations, burials, and propitiation ahu, supports a pan-island production system having political and land use implications on the Island of Hawaii. Ex. A-122 at 7-43 to 7-49, 7-60 to 7-61; Fig 7.6 at 7-46.
42. The applicant called only one archaeologist to testify in the course of these proceedings, Richard Nees, on December 5, 2017.
43. Nees worked with Dr. Patrick McCoy from 2005 through 2013 in his work on Mauna Kea. Tr. 12/5/17, Vol 12 at 121:21-25, at 122:1.
44. Nees is listed as the coauthor of Ex. A122. Id. Vol. 12 at 121:9-19.
45. Nees agrees with the conclusions of A122 as they relate to the sacredness of Mauna Kea and the activities that took place there. Id. Vol. 12 at 123:8-25, at 124: 1-13.
46. Nees agreed that the activities which took place in the adze quarry took place throughout the upper mountain region. Id. Vol 12 at 125: 2-25.
47. Nees stated that he drew Figure 7.6 on page 7-46 of Exhibit A122. Id . Vol 12 at 126: 1-25, at 127: 1-25, at 128: 1-5. He also confirmed his agreement with the conclusions in the report as to what is depicted in Fig. 7.6.
48. In her WDT, Dr. Meyer stated that we cultivate transpatial relationships with Maunakea, or relationships that transcend space and distance. Ex. B.05a at 1.
49. According to Dr. Meyer, indigenous epistemologies, or ways of knowing, are integral for understanding those things that are

ineffable, or too grand to be measured for value using “mainstream” or “empirical” methods. Maunakea, she argued, is one such entity that must be understood with indigenous wisdom if we are to truly understand why it is “beloved” to people. Ex. B.05a at 2.

50. Dr. Meyer explained that “Ku Kia’i Mauna” is to “care for our [collective] beloved inspiration.” Tr. 04/01/17 vol. 31 at 32.
51. Dr. Meyer affirmed that she believed her Hawaiian ancestors identified places and natural resources that had healing powers. Tr. 04/01/17 vol. 31 at 83.
52. 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.
53. 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.
54. 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.
55. 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.

56. In her WDT, Dr. Meyer stated that continuing to change or drastically alter the environment will force Native Hawaiians to also compromise cultural values and relationships with the environment, relationships that are found within indigenous epistemologies. Ex. B.05a at 1.
57. Contemporary expressions of Aloha ‘Āina, as Dr. Meyer explained, grew from older understandings of aloha ‘āina: treating ‘āina as “beloved ancestor who has give us our [Native Hawaiian] lives” and caring for the ‘āina as being “central to continuity.” Ex. B.05a at 1, 2.
58. Dr. Meyer articulated that “mainstream” interpretations of “ownership” in a capitalist system allow for exclusion and not for the “necessity of care,” which has ultimately led to the “destruction of our planet.” Tr. 04/01/17 vol. 31 at 28.
59. Dr. Meyer made the distinction that “spirituality” has nothing to do with “religion” and that being asked for physical evidence of “religion,” like a church, collapses spirituality. It implies that there is only one way, one truth, one agreed upon way of being. Tr. 04/01/17 vol. 31 at 37, 39-40.
60. Spirituality, as Dr. Meyer explained, is a “synonym for indigeneity and for continuity and therefore aloha.” Tr. 04/01/17 vol. 31 at 41.
61. As an employee of the University of Hawai‘i system, hired under the Papa o ke Ao directive, Dr. Meyer affirmed that the university’s

application for another facility on Mauna Kea is not in alignment with the university's strategic directive to become an indigenous serving institution. Tr. 04/01/17 vol. 31 at 109-110.

62. As a UH employee, specifically under the Papa o ke Ao directive, Dr. Meyer understood that it was her job to say "no," that the TMT is not in alignment with the university's indigenous-serving goals. As an individual, however, she also explored the "why," or why the TMT is not appropriate for our time. She stated that there are other ways to learn about the stars. Tr. 04/01/17 vol. 31 at 110.
63. Dr. Meyer defined culture as the "best practices of a people," and argued that Hawaiian culture is what allowed Hawaiians to survive in Hawai'i for so long. Tr. 04/01/17 vol. 31 at 48.
64. 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 vole. 31 at 70.
65. Ms. Rios testified that she descends from a line of "seers, of medicine people" and that healing is in her lineage; this is where her practices come from. She is also a dancer and chanter. (Tr. 2/14/2017 vol.36 at 130-131)
66. Ms. Rios testified that Mauna Kea is a temple, one of highest significance, a place of prayer and worship where ceremonies are conducted. These ceremonies are about the supreme law of the universe. (Tr. 2/14/2017 vol. 36 at 131-132)
67. Ms. Rios testified that she is a haka, a seer, a medium that has received these gifts genealogically. This is a traditional gift that allows her to receive ancestral insight. Her mediumship has taken

place on Mauna Kea in areas at the Northern Plateau, Lake Waiau and different pu'u. Mediumship allows her to receive information that others like archaeologists might not receive. (Tr. 2/14/2017 vol.36 at 142-144)

68. Ms. Rios testified that she has received ancestral knowledge through mediumship in areas on the Northern Plateau. Ms. Rios explained the significance of shrines along the Northern Plateau, its connection to one another, their alignment with the constellations and tides at certain times of the year, and that they are portals which connect to celestial bodies of the universe. In particular, the Northern Plateau is a place of learning, a celestial realm in the cosmos that is also connected to voyaging. She describes the Northern Plateau as "a very sacred space of higher learning, spiritual learning, higher consciousness" (Tr. 2/14/2017 vol.36 at 149-152). These shrines were built and cared for by certain families and that there is knowledge that is embedded into the site. She explained that: "The knowledge from these ancient beings of a celestial realm and of the kupuna realm are in the fabric of the mountain. They are a part of the portal that exists there. They're not separate."
69. Ms. Rios testified that by destroying one particular site or ahu you cause destruction to others. If built, the TMT project would cause destruction to some of these sites severing, permanently closing, access to knowledge of the celestial realm. (Tr. 2/14/2017 vol.36 at 153-154)
70. Ms. Pua Case testified that the chanting, the dancing and the

practices, the foundation of which has carried Case all through her life, from Pu'uHuluhulu to the Wekiu, the top of Mauna a Wakea.

Tr.1/11/17 vol 25 at 128

71. 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
72. Case and her 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
73. 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
74. In this contested case hearing members of Case's ohana identified as cultural practitioners with connections to Mauna a Wakea. Tr.1/11/17 vol 25 at 131
75. Case indicated she had not ever been consulted regarding "traditional customary practices" related to Mauna Kea by DLNR, the Office of Mauna Kea Management, and Kahu Ku Mauna. Tr. 1/11/17 vol 25 at 130, 131
76. No archeologists who conducted surveys on Mauna Kea Science

Reserve consulted with Case Tr. 1/11/17 vol 25 at 132

77. No archeologists consulted with Case with regard to the significance of cultural sites on the Northern Plateau. Tr.1/11/17 vol 25 at 132
78. Ms. Case testified that between the last contested case hearing and now, she has not been consulted in any way including under 106, by the TMT, BLNR, Board of Land and Natural Resources, the University of Hawaii at Hilo, the University of Hawaii at Manoa, or the Institute for Astronomy. Tr. 1/11/17 vol 25 at 156
79. No one from the University of California or Caltech asked Case to consult. Tr. 1/11/17 vol 25 at 157
80. No one has asked Case in all of these years to consult as to the impact of the TMT project. Tr. 1/11/17 vol 25 at 157
81. Ms. Case testified that the TMT project, if built, would obstruct the open space characteristics of the Northern Plateau. Tr. 1/11/17 vol 25 at 239
82. Ms. Case states: "In chants the way water was regarded was water was sacred, Hawai'i wai'ola, Hawai'i wai kapu, water is life, and so the place that the water fell upon, if we could just keep that clean, sacred. So if we don't have a business going to where the first water falls, perhaps we didn't need to go there. When the water falls on the mauna, it's going to end up being somebody's water, because it is our water aquifer, it is our watershed, it is the spirit of our water." Tr. 1/11/17 vol 25 at 176, 177
83. Pua testified she is one of the 14 percent, who would see it every day, every moment of the day. Her window faces the mauna. She

- would see it from the moment her eyes open until the moment that she goes to bed. Her life would change. Tr. 1/11/17 vol 25 at 136
84. When asked, Case affirmed that if the Thirty Meter Telescope was built without doing their part to prevent it, it would cause her such guilt and despair that she would also be embarrassed to go there and try to pretend as though nothing happened. Tr. 1/11/17 vol 25 at 179
85. The telescope would block the mo'o's views, block the portal's piko to Ke Akua. Tr. 1/11/17 vol 25 at 222
86. The TMT would impact the mo'o and other religious and gods that dwell on the summit or deities Tr. 1/11/17 vol 25 at 223 If the TMT project was built on the Northern Plateau, it would curtail Pua's traditional and customary cultural practices. Tr. 1/11/17 vol 25 at 239
87. No matter where this project is put on the mountain, it's still going to be at least 12-and-a-half acres of construction, destruction and desecration, and Pua stated its should that it should impact her, because she loves this Hawaii more than anything. It's her home land. Tr. 1/11/17 vol 25 at 240
88. 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).
89. 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. Ex. B.21a at 6 (Case WDT)

90. 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. Ex. B.21a at 6 (Case WDT)
91. 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. Ex. B.21a at 6 (Case WDT)
92. 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)

II. CDUA FAILS TO MEET CRITERIA FOR APPROVAL

93. Dr. Fujikane, is an English professor specializing in Hawai'i literary and cultural studies and has published work on the mo'olelo (stories/histories) of Māui in Wai'anae. Ex. B.13a at 1.
94. Dr. Fujikane's testimony was made in two parts: the first part

focused on the rhetorical problems, the faulty and self-contradictory logic in the TMT's Conservation District Use Application (CDUA) that attempt to make substantial, adverse, and significant impacts "disappear." The second part focused on the cultural value of the integrity of land embodied in mo'ō'āina land divisions, where relationships between land forms are unseverable.

95. Dr. Fujikane stated that the TMT CDUA cannot fulfill the 8 Conservation District Use Criteria because cumulatively, the TMT project would add to the impacts of existing observatories that are "substantial, adverse, and significant." Tr. 01/9/2017, V. 23 at 209-210.
96. Dr. Fujikane reaffirmed NASA's 2005 Final Environmental Impact Statement for the Outrigger Telescopes project on Mauna Kea where it concluded that the impact of existing astronomical activities on Mauna Kea has been substantial, adverse and significant: "From a cumulative perspective, the impact of the past, present, and reasonably foreseeable future activities on cultural and biological resources is substantial, adverse and significant" (Ex. B13d at 4-124).
97. Dr. Fujikane states that as NASA's FEIS indicates, Mauna Kea is already overbuilt. The EIS claims that the TMT Project will add a "limited increment" to the level of cumulative impact is irrelevant because what must be considered is not the individual impact of the TMT Project but the cumulative impact of the TMT Project and the existing observatories. Tr. 01/9/2017, V. 23 at 211.
98. HAR §11-200-12 "Significance criteria" provides the state's

definition of "significance." The 8th criterion states: "In most instances, an action shall be determined to have a significant effect on the environment if it "Is individually limited but cumulatively, has considerable effect upon the environment or involves a commitment for larger actions." Ex. B.13e at 1.

99. Dr. Fujikane testified that the TMT's FEIS Vol. 1 also acknowledges that cumulatively, the TMT can only add to the substantial, significant and adverse impact on Mauna Kea: "From a cumulative perspective, the impact of past and present actions on cultural, archaeological, and historic resources is substantial, significant, and adverse; these impacts would continue to be substantial, significant, and adverse with the consideration of the Project and other reasonably foreseeable future actions" Ex. B32 at S-8. Tr. 01/9/2017, V. 23 at 210.
100. Dr. Fujinkane states that the TMT's CDDA claims, "As detailed in this CDDA, locating the TMT project in Area E will result in less than significant impact on historic properties, cultural practices and Native Hawaiian rights, as well as viewplanes, species habitat and existing facilities." (Ex. A002 at 2-27, cited in Ex. B.13a at 3) is contrary to the CDDA which points out that "As the Astronomy Precinct is the site of many existing astronomical observatories, the TMT project will be compatible with existing land uses" (Ex. A002 at 2-27).
101. Dr. Fujikane testified that, instead, however, the proposed TMT site is located in a pristine area that falls in the Mauna Kea Summit Region Historic District and the TMT site is an integral part of the

- cultural and natural resources of Mauna Kea. Ex. A002 at 2-6, Exhibit B.13c at 2-31, cited in Ex. B.13a at 3.
102. Dr. Fujikane has conducted research on the ways Hawaiians culturally valued the integrity of land, and that cultural value is encoded in a land division known as “mo‘o‘āina.” Tr. 01/9/2017, V. 23 at 214-215.
103. “Mo‘o‘āina” is defined by Mary Kawena Pukui and Samuel H. Elbert as a “narrow strip of land, smaller than an ‘ili.” Ex. B.13j at 253-254. Mo‘o‘āina as a series of smaller land divisions that is part of a larger land base. Mo‘o‘āina foreground the relationality between land formations. Mo‘o‘āina are defined by what lies on their borders, by their relationality to other mo‘o‘āina. Exhibit B.13c is LCA Award 3131 illustrating a mo‘o‘āina land division. Key here is that mo‘o‘āina are not defined by abstract cardinal directions north, south, east or west but in their relation to other land formations. Tr. 01/9/2017, V. 23 at 214-215.
104. The term “mo‘oāina,” then, indicates that Mo‘oinanea’s presence on Mauna Kea is also about the integrity of land there, and that the undivided ahupua‘a of Ka‘ohe represents an even higher expression of this integrity of land. Ex. B.13.m at 2-5, cited in Ex B.13a at 10. As surveyor Curtis J. Lyons explained in 1875, “The whole main body of Mauna Kea belongs to one land from Hamakua, viz., Ka‘ohe.” Ex. B.13o at 14, cited in Ex. B.13a at 10. Siting the TMT on the northern plateau would violate this integrity of the land.
105. Dr. Fujikane stated that the CDUA failed to address the State

Desecration Law. Ex. B.13h, cited in Tr. 01/9/2017, V. 23 at 214-215. “if all of Mauna a Wakea is considered sacred from Saddle Road up to the summit, and the NASA Environmental Impact Statement for the Outrigger project deemed that there is already adverse, substantial—that there is cumulative, adverse, substantial and significant impact, the building of the TMT would be desecrating a place that is held sacred by Hawaiians and by many who are not Hawaiian. And in that sense, I think that the Cдуа doesn’t address the Desecration Law at all, and I’m not sure why there’s that huge omission, because one of the questions has to do with the protection of Native Hawaiian rights and cultural practices.” Tr. 01/9/2017, V. 23 at 222-223.

106. Dr. Fujikane also recalled charges of desecration proposed by the Office of Hawaiian Affairs in a letter to Stephanie Nagata, Director of the Office of Mauna Kea Management (OMKM) calling for the investigation of an OMKM staff member who bulldozed an ahu (altar) erected at the TMT site. Tr. 01/9/2017, V. 25 at 68-69.
107. The Cдуа fails to address Mauna Kea itself as a cultural resource. Tr. 01/9/2017, V. 23 at 249-250. Dr. Fujikane states that this is a result of a discrepancy between the TMT’s Cдуа quoting the State Land Use Law (Chapter 183C, Hawai’I Revised Statutes) instead of Hawai’I Administrative Rule §13-5-1 as it is cited in the first application question (Exhibit B.13f: HAR §13-5-1). Ex. B.13a at 3-4.
108. These two texts differ, and the result is that the TMT’s Cдуа omits the protection of “cultural resources” as stated on the actual

application. The TMT's CDUA states the purpose of the Conservation thus: "The purpose of the Conservation District to conserve, protect, and preserve the natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety and welfare." Ex. A002 at 2-1.

109. The application itself actually states that it is the "natural and cultural resources" that is to be conserved, protected and preserved. The application states, "The purpose of the Conservation District to conserve, protect, and preserve the 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" (emphasis mine). The TMT project cannot "conserve, protect, and preserve" the natural or cultural resources of the northern plateau, the sacred ground that will be desecrated by the construction of the TMT. Tr. 01/9/2017, V. 23 at 225.
110. Dr. Fujikane states, "what the CDUA is trying to say is that cultural practices will not be infringed upon, but it says nothing about the cultural resources, and the land is a cultural resource because it reminds us of the mo'olelo. Some people will try to argue that you can still remember the mo'olelo if you build the TMT, but it will not be the same. So the land itself is a map that reminds us of the mo'olelo, and certain features of the land will trigger connections that we can make to other mo'olelo. But if it's built upon we will lose that capacity to connect mo'olelo through, you know, being in

those places.” Tr. 01/9/2017, V. 23 at 225.

111. Dr. Fujikane stated that viewplanes are an important cultural resource on Mauna Kea, and that city and county ordinances in Honolulu recognize that viewplanes are an important aspect of preserving natural beauty. Tr. 01/9/2017, V. 23 at 90.
112. “So viewplanes are recognized in the CDUA application itself when it asks whether a development project will preserve open space and natural beauty. That to me is a recognition of the importance of viewplanes, and it’s also again reinforcing other kinds of city ordinances, where you need height variance applications when you build a building beyond a certain height.” Tr. 01/9/2017, V. 23 at 90.
113. Dr. Fujikane specifies the viewplanes of Mauna Kea: “So the viewplanes in the mo’olelo are very important because there are recognized viewplanes from Mauna a Wākea all the way to Kaua’I where there is an ahu, the Ahu o Poli’ahu on Kaua’I. And I have heard on a clear day--and this is in the Cultural Impact Assessment of the TMT--you can see Kaua’I from--I think you can see Kaua’I from Mauna a Wākea, but why do you have an ahu on Kaua’I, Ahu o Poliahu, unless there is a viewplane and a connection between these sacred points?” Tr. 01/9/2017, V. 23 at 90-91.

III. THE CDUA FAILS TO PROVIDE A REGIONAL AND EMIC ANALYSIS OF THE IMPACTS AND EFFECTS OF THE PROPOSED TMT PROJECT

114. Mauna Kea is rich in mo’olelo, mele, and olelo no’eau associated

with akua and storied places (wahi pana). Ex. B.44 at 4.

115. The cultural landscape that is Mauna Kea cannot be viewed as one that is bounded by lines on a map. Rather, like the quarry that features so predominantly at the summit, it should be viewed as a “process, of ascent, production, and descent, that involved a series of changes in the social persona, thus, emphasizing the ‘being’ and ‘becoming’ aspects of social life.” Ex. A122 at 7-18.
116. As has been attested to by Dr. Peter Mills in his written and oral testimony, the CDUA has failed to adequately determine the “Area of Potential Effect” (APE) of the proposed TMT project as required under 36 CFR Sec. 800.16(b) and the Guidelines for Assessing Cultural Impacts. Ex. B.12a, B.12c; Tr. 1/25/17, Vol. 30 at 89:11-14. In particular, the CDUA has wholly failed to consider the adverse effects of the altered setting which would occur by building the proposed TMT project. Tr. 1/25/17, Vol 30 at 15:16.
117. Further, the CDUA has failed to consider intangibles in its assessment of cultural impacts, giving value only to historical properties lying within the project site and no value in the natural object or thing having great significance with cultural practice and in the minds of the cultural practitioner. Id. at 43:16-25, at 97: 16-23, at 83-84, at 97-98; Abad Tr. 1/19/17, Vol 27 at 36-37; Ex. B.08j.
118. The TIO Archaeological Inventory Survey (Ex. C-12) is also found to be incomplete and hence inadequate in its failure to mention the genealogical chant of Kauikeouli (Tr. 1/25/17, Vol. 30 at 22:14-20, at 23:4-12, 16) as well as a review of pertinent literature (Id. at 21-22, at 93, at 92:1-10).

119. The CDUA and its accompanying EIS (Ex. A003, A004, A005) fail to provide the wide -lens focus on regions as required under HAR Sec. 11-200-17(g) and 13-5-30(c)(4). Ex. B.08a at 6; Abad Tr. 1/19/17, Vol. 27 at 22:17-25.
120. The summit region of Mauna Kea can be best understood as comprising different places, each with its own defining characteristics, but also exhibiting evidence of inter-connections. McCoy Ex. A122, Sec.7.2.3.1.
121. Both Mills and Abad hold PhDs in anthropology and are qualified archaeologists who meet the standards of the Secretary of the Interior (36 CFR Part 61) and HAR 13-281-8). See Ex. B.12a and B.08b. Both testified to the need for an emic cultural perspective to have been considered at all levels of analysis, which are notably missing from the submissions tendered by the applicant and TIO. Id. at 26:7-11, at 27:8-11, 14-21, at 28: 7-14; Mills Tr. 1/25/17 , Vol 30 at 97.
122. The applicant's CDUA lacks such a regional and emic analysis.

**IV. THE DRAFT EIS SUBMITTED BY THE UH DID NOT
INCLUDE ANY OF THE RECOMMENDATIONS MADE
IN THE PRELIMINARY DRAFT REPORT FOR REVIEW**

123. The Draft EIS for the proposed TMT project did not include in its Summary any of the recommendations made in the Preliminary Draft Report for Review (Ex. B.44 at 13, B.45 at vii, A148 at vii) including that "no further development, including the TMT Observatory Project and the Mid-Level Support facilities at Hale Pohaku, take place on Maunakea." Hayes, Tr. 10/31/16 at 108-112,

Ex. B-57 at 1.

124. FEIS Vol. 1 at page 7, signed by UH Hilo Chancellor Rose Tseng and dated April 26, 2010 states that: "The Final EIS and all ancillary documents were prepared under the University of Hawai'i at Hilo's (University) direction or supervision and the information submitted, to the best of the University's knowledge, fully addresses the document content requirements as set forth in Hawai'i Administrative Rules section 11-200-17 and 11-200-18." Ex. A-003 at 4/Ex. B.32 at 7.
125. A Preliminary Draft Cultural Impact Assessment (Draft CIA) was prepared by Cultural Surveys Hawaii (Mr. Brian Cruz) and submitted to Parsons Brinckerhoff for the TMT Project in early March, 2009. Ex B.44; Tr. 02/2816 Vol. 42:102:22-25.
126. The Draft CIA included recommendations "that Project proponents strongly consider no further development, including the TMT Observatory Project and the Mid-Level Support Facilities at Hale Pohaku, take place on Maunakea. Consequent to this determination of no action, it is further suggested that Project proponents consider alternative proposals and remediation measures suggested by CIA study participants (see Community Consultation Results above) (hereinafter referred to as "no further development" recommendation). Ex B.44, 13; Tr. 02/28/16 Vol. 42:102:22-25.
127. The Draft CIA also recommended measures to help minimize the adverse impact, should the project move forward in Hawai'i (hereinafter referred to as recommended "mitigation measures").

Ex B.44, 13-15.

128. Shortly following submission of the Draft CIA, Brian Cruz was contacted by Jim Hayes of Parsons Brinckerhoff, demanding Mr. Cruz remove the "no further (action) development" from the Draft CIA. Mr. Cruz refused to remove the recommendations from the Draft CIA Tr. 02/28/16 Vol. 42: 103: 2-5.
129. On March 9, 2009 the Draft EIS was published for the 45-day commentary period without recommendations in the Draft CIA submitted to Parsons Brinckerhoff, including the (do not build) "no further development" recommendation. Ex. B.45; Tr. 02/28/16 Vol 42: 103: 5-10; 116: 7-14.
130. Sometime after publication of the Final Environmental Impact Assessment (FEIS) in May, 2010, Cruz learned that the "no further development" and mitigation measures recommendations were "put back in" the CIA for the Final EIS. Exh. A-5/R-5, App. D at xiv-xv; Exh. B.34, App. D at xiv-xv; Tr. 02/28/16 Vol 42: 103: 11-13.
131. Thereafter Cruz made a complaint to the Office of Environmental Quality Control (OEQC), to address the discrepancy between the CIA for the Draft and Final EIS, submitted by Parsons Brinckerhoff had taken out those recommendations. No action was taken by OEQC on the complaint made by Mr. Cruz. Tr. 02/28/16 Vol 42: 103: 13-21.
132. Hawaii Administrative Rule, HAR 11-200-17, requires the Draft EIS to include the mitigation measures and alternative measures or alternative actions. Tr. 02/28/16 Vol 42: 103: 22-25; 104: 1-3; 106:13-25; 107: 1-3.

133. Cruz testified that failure to include those ("no further development" and mitigation measures) recommendations means that a key component is missing from the Draft EIS and renders the CIA to the Final EIS flawed and invalid. Tr. 02/28/16 Vol 42: 106: 13-25; 107: 1-3 and 15-22; 111:10-25; 116: 7-22; 117: 7-17; 123: 24-25; and 124: 1-4

V. THE CDUA DID NOT CONSIDER IMPACTS OF THE PROPOSED TMT PROJECT ON THE UNIQUE HABITAT OF THE MAUNA KEA SUMMIT REGION

134. Eric Hansen holds both a bachelors and masters degree in Environmental Sciences from UH Hilo (Ex. B.10b) and led a fieldcrew for five months doing a baseline botanical survey at the alpine and subalpine zones of Mauna Kea beginning in May 2011. Hansen, Tr. 1/19/17, Vol. 27 at 143:12-14, at 144:22-25, at 145:1-6, at 150: 9-21, at 173: 22-24; Ex. B. 10a at 1, B.10.b at 3.
135. In conducting the 2011 Mauna Kea Baseline Botanical Report (Ex. B.64) on the northern plateau where is situated the proposed TMT site, fieldwork disclosed unique assemblages of botanical communities and species not present in other areas at the same or similar elevations on Mauna Kea. Hansen, Tr. 1/19/17, Vol 27 at 148: 7-25, at 194: 4-6 Ex. B.10a.
136. The substrate of the northern plateau and hence the TMT site is pahoehoe, unlike the cinder substrate upon which the other observatories are built. Vol. 27 at 154:3-18, 156:25, 157:1-8, 184:3-11, 185:11-15.
137. Cinder cones are not conducive for providing habitat for species of

- botanical origins. Id. Vol. 27 at 180:14-16.
138. Moving rocks and altering substrate will destroy the highly evolved, unique botanical assemblages found in the northern plateau and the site of the proposed TMT. Ex. B.10a at 2, Vol. 27 at 148:13-19, 158: 14-25, 159: 1-3, 11-12.
139. After substrate disturbance in the northern plateau recolonization of these unique assemblages would be very slow, if possible at all. Id. Vol 27 at 159: 22-25, 160: 1-3, 11-13.
140. The TMT FEIS (Ex. A003/B.32, A004/B.33, A005/B.34) were prepared before the Botanical Baseline Survey (Ex. B.64), were not comprehensive, and did not include any of that survey's findings. Id. Vol. 27 at 161:2-5, 162:5-9, 163:1-5.
141. The proposed land use proposed in the CDUA will cause substantial adverse impact to the existing botanical communities present only on the northern plateau and the TMT site. Ex. B.10a at 2.

**VI. TIO HAS NOT COMPLIED WITH THE
DECOMMISSIONING PLAN (EXHIBIT A013)**

142. TIO is a Delaware limited liability company formed in May 2014 and obtained its tax exempt status in May 2015. Ex. B.47 at 7 and 13.
143. Gary Sanders (hereafter Sanders) has been the project manager for the TMT project since 2004. Ex. C-2 at 1.
144. Sanders testified "[w]e assume the [master] lease extension will take place." Tr. 1/3/17, Vol 20 at 30: 10-11.
145. Sanders testified that he did not sign the Decommissioning

- Funding Plan (Ex. C-39) because “[i]t was not necessary for him to sign it because financial assurances were provided later in the document by the people I report to.” Id. at 139:16-23.
146. Financial assurance mechanisms are addressed in 3.2 of Exhibit A013 at 15-17.
147. The statements of intent appended to Ex. C-39 were all dated May 6, 2014, without the presence of Sanders. Tr. 1/3/17, Vol. 20 at 152:25.
148. When asked whether the Statements of Intent were signed by persons purporting to be whom they are with no other corresponding authority for the governments they purportedly represent, Sanders stated: “As far as I know, these people signed these in good faith understanding their authority.” Id. at 152:18-23.
149. When asked how he knew that the signatures were duly authorized and binding on their respective governments Sanders replied : “I don’t know that they are, but I have no reason to doubt it.” Id at 153-154:23-25, 1-4.
150. The Statements of Intent appended to Exhibit C-39 do not conform with the formalities and authorizations set forth on the Guarantee Given on Behalf of Her Majesty’s Government in the United Kingdom to the Board of Land and Natural Resources of the State of Hawaii, dated July 18, 1978, appended to Exhibit B.03f, last page.
151. The process for approval of decommissioning funding plans requires approvals by first the Mauna Kea Management Board, then the President of the University of Hawaii, then its Board of

- Regents, and finally the BLNR. Ex. A013 at 14, Table 4.
152. A Decommissioning Funding Plan is required of TIO under Para 10 the sublease (Ex. B.02f at 8-9).
 153. Sanders acknowledged that he was not aware of any other approvals of the Decommissioning Funding Plan. Tr. 1/3/17, Vol. 20 at 145:6-9.
 154. Under the terms of the Decommissioning Plan, Ex.A013 at 13, para 3.2, there must be support for all assumptions made in the financial assurances of the Decommissioning Funding Plan.
 155. When asked whether Ex C-39 was prepared under his supervision, Sanders answered in the negative and was unable to provide a basis for the assumption of 3% inflation in columns A and B of the Sinking Fund Plan, nor was there any source cited within the plan itself. Tr. 1/3/17, Vol 20 at 156: 6-7, 15-19, at 157: 3-5.
 156. When asked if the sinking fund will fund decommissioning sufficiently by 2033, Sanders replied: "It-the idea of the sinking fund is to be sufficient at the end of the 50 year lifetime. I believe it's a positive balance in the year, the 27th year." Id. Vol 20 at 40:22-25.
 157. Sanders deemed himself unqualified to explain the discrepancy between his testimony that the members of TIO had contributed \$129 million in cash and the TIO financials as stated in Ex. B.47 which reflects \$10 million in assets. Id. Vol 20 at 171-172:18-25, 1-7.

**VII. NATIVE HAWAIIANS WHO EXERCISE THEIR
TRADITIONAL AND CUSTOMARY PRACTICES
ON OR ABOUT MAUNA KEA WILL SUFFER**

**HARM FROM THE CONSTRUCTION OF THE
PROPOSED TMT ON ITS NORTHERN PLATEAU**

158. Dr. Maile Taulii (hereafter Taulii) is an assistant professor of Public Health at the University of Hawaii, Office of Public Health Studies, as well as an assistant professor at the Hawaiiinuiakea School of Hawaiian Knowledge. Ex. B.04b. Her expertise is in public health informatics, epidemiology, genetics and indigenous health. Tr. 1/24/17, Vol 29 at 16:10-13.
159. Statistically Native Hawaiians have the highest rates of heart disease in the United States, which are attributed in part to the high stress levels associated with cultural desecration, language loss, loss of access to lands. Tr. 1/24/17, Vol. 29 at 11:9-20, 12:8-20.
160. A physical effect of this stress is high blood pressure, which is associated with high levels of cortisol, which is a chemical that's released in the body when you undergo fight or flight, the reaction that we normally have when we're under attack or feeling stressed, that can cause high blood pressure. It can cause heart related conditions. Id at 13:11-18.
161. Taulii went on to describe the impact of micro aggressions such as the daily barrage of cultural identity being shrift away, the daily attack on the spiritual self, and the macro aggressions such as the building of the telescope on Mauna Kea, produce the production of cortisol. Studies show that native populations then suffer from cortisol which doesn't react appropriately anymore, it gets out of whack, and it can affect your heart. Id at 120-121: 14-25, 1-25.

**VIII. THE OCCL RECOMMENDATION DID NOT CONSIDER
INFORMATION OR REPORTS AFTER FEBRUARY 25, 2011**

162. Samuel Lemmo (hereafter Lemmo) is the administrator of the Office of Conservation of Coastal Lands of the Department of Land and Natural Resources (hereafter OCCL). Tr. 2/27/17, Vol. 41 at 215:10-15.
163. The CDUA which is the subject of the contested case hearing was submitted in 2010. The OCCL was responsible for compiling the staff report dated February 25, 2011. Ex. R-7, Vol 41 at 217:4-9, at 219: 22-25, 1-3.
164. Exhibit R-7 was presented to the BLNR at its February 25, 2011 meeting. Id. Vol. 41 at 255: 5-8.
165. Information included in the staff report was extracted from documents submitted by the applicant, UH. Id. Vol. 41 at 225: 19-23.
166. Exhibit R-7 (the OCCL staff report) states that the UH is seeking a permit on behalf of the TMT Observatory Corporation. Tr. 2/27/17, Vol 41 at 238: 22-25, 249: 1-2.
167. Lemmo agreed that in preparing its staff report, the OCCL cannot take the applicant's Ka Pa'akai analysis verbatim. Instead the staff needs to take a look at the information presented and consider whether they must look at independent sources of information. Id. Vol 41 at 253:1-13.
168. OCCL determined an adequate Ka Pa'akai analysis had been made by looking at the cultural impact statement which accompanied the CDUA and by "ask[ing] applicant[s] to do the Ka

Pa'akai analysis. Tr. 2/28/27, Vol 42 at 75:5-20.

169. OCCL did not conduct a cultural impact assessment for Mauna Kea, nor did it solicit comments from Kahu Ku Mauna. Tr. 2/27/17, Vol 41 at 253:21-22, Tr. 2/28/17, Vol 42 at 45:22-25, at 46: 1-5.
170. Lemmo testified that the OCCL cannot rely solely on information from the applicant to determine whether or not Native Hawaiian values, interests, and beliefs have been assessed and consider whether mitigation measures have been imposed that reduce impacts to those values and interests. Tr.. 2/27/17, Vol 41 at 254:1-8.
171. Lemmo testified that OCCL's recommendation in favor the TMT application was based on the fact that: "The mountain is already experiencing significant impact, cultural and environmental impact ...That there's a significant effect already from astronomy development. Does that make me happy? Not really. It's a beautiful mountain.....In fact, my first impression was surprise at what happened to the summit when I first went there in 1996.". Tr. 2/28/17, Vol. 42 at 69: 10-20, at 70:1.
172. Lemmo further acknowledged that he did not have the information presented at the contested case hearing relating to public health issues "when the report was written." Id. Vol 42 at 71:3-17.
173. Further Lemmo acknowledged that with respect to the Ka Pa'akai assessment done by the OCCL staff: "I ask the staff to consider the Ka Pa'akai analysis in terms of, in their own words as much as possible, do they feel that the valued cultural resources and cultural practices are protected, not to rely exclusively on what the

applicant or the applicant's consultant has said. I ask them to kind of think about it, you know, find the truth, and to basically make a quick conclusion about the matter." Id. Vol 42 at 75: 12-20.

174. When asked if he was aware that the cultural impact assessment in the draft EIS was not the same as the cultural impact assessment provided in the final EIS, Lemmo was unable to provide or recall that level of detail. Id. Vol. 42 at 76: 5-24. He did however acknowledge that a recommendation in the cultural impact assessment would have been given "quite a bit" of weight. Id. Vol 42 at 77:12-24.
175. Lemmo did acknowledge that OCCL report did not consider information after February 25, 2011. Id. Vol. 42 at 91: 9-22.

**IX. RECENTLY VACATED SUBLEASE TO TIO
CONSTITUTES A SUBDIVISION OF LAND
AND INTENSIFICATION OF LAND USE IN
IN THE CONSERVATION DISTRICT**

176. UH has entered into 13 subleases and/or operating agreements for the construction and operation of observatories on the summit of Mauna Kea. All of said subleases and/or operating agreements contemplate or contain a metes and bounds description of a demise. Ex. B.03e, B.03f, B.03g, B.03h, B.03i, B.03j, B.03k, B.03l, B.03m, B.01ac, B.01ad, B.01ae, B.01af.
177. In each instance the operator/subleasee was to construct its own facilities and provide for its own electric metering.
178. General Lease No. S-4191 (Exhibit B.17f) contains a property description of one parcel of land consisting of 13,321.054 acres.

179. HAR 13-5-30(c)(7) forbids that subdivision of land be utilized to increase the intensity of land uses in the conservation district.
180. Land use is defined in HRS Sec. 183C-2(4) as the construction, reconstruction, demolition, or alteration of any structure, building, or facility on land.
181. Subdivision is not defined in HRS Chapter 183C-2.
182. The UH has by its subleases and operating agreements on the lands described in the general lease, identified multiple construction sites on a single parcel of land so as to create a building development. This is a subdivision.
183. Dr. Fujikane testified that the 7th Conservation District Use criterion clearly states that conservation lands are not to be subdivided. Doc. B.13a at 6-7.
184. She testified that the (CDUA) application states, "If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District." Subdivision is defined in HAR 13-5-5 as "the division of land into more than one parcel." Tr. 01/9/2017, V. 23 at 229. In actuality, it is precisely the subdivision of land that we see in the CDUA that describes the location of the TMT site as a "five-acre site" called "Site 13-North (13N)" in "Area E" in the "Astronomy Precinct" in the "Mauna Kea Science Reserve (MKS)." Ex. A002 at 1-6
185. The CDUA attempts to justify how the project is consistent with existing observatories: "As the Astronomy Precinct is the site of many existing astronomical observatories, the TMT project will be compatible with existing land uses." Ex. A002 at 2-27.

186. Dr. Fujikane states that by claiming that the TMT project is consistent with these “many astronomical observatories” to prove consistency with existing uses, the CDUA describes the intensification of land use for astronomical observatories in a subdivision that is a part of the Mauna Kea Summit Region Historic District. Ex. B.13a at 4; Tr. 01/09/2017, V. 23 at 229.
187. Ms. Marti Townsend, current Director of the Sierra Club (Hawai’i), former Director of Petitioner KAHEA and party participant to the first contested case hearing for the TMT project testified that “HAR 13-5-2 defines subdivision as division of a parcel into more than one parcel. Section 22 under those regulations indicates that subdivision is a concern in Conservation Districts because it increases the density and the intensity of land uses.” Tr. 01/10/2017: Vol. 24:13:19-23; 45:16-25; 46:1-15
188. “The TMT CDUA represents the exact type of urban sprawl and intensifying of land uses that the Conservation District rules were designed to prevent. Exhibit B.03t, the report by Gall Atwater, documents the logic behind the Conservation District rules. And while the rules have been updated, the relevant sections are still in the current rules. And it states that the purpose of the Conservation District is to protect natural resources of Hawaii, the things that make Hawaii unique.” Tr. 01/10/2017: vol. 24:15:16-25
189. “The problem with the approach the University takes to subleasing sections of the Astronomy Precinct is that it is a subdivision. It functions as a subdivision. Even if it doesn’t go through specific county subdivision approval, it -- because you have metes and

bounds, maps drawn with lines that indicate, you know, a specific telescope operator's land and distinct from some -- a different telescope operator's land. It has the effect of subdividing of the parcel and increasing the land use. And it is de facto subdivision, it meets the definition of subdivision in the regulations and is therefore not allowed in the Conservation District." Tr. 01/10/2017: Vol. 24:16:16-23; Vol. 24:59:22-25; Vol. 24:60:1-17.

190. On urban sprawl on the mountain. Ms. Townsend testified that the UH master plan calls for 40 telescopes, construction of one telescope justifies the construction of a second telescope, which is used to justify a third telescope, on so forth and so on. Tr. 01/10/2017: Vol.24:93: 21-25; 94:1-25; 95:1-4
191. Additionally on urban sprawl and impact to viewplanes, Ms. Townsend testified that "As It Is now, we find substantial adverse impacts to viewplanes, but at least now you can still find a few quiet places where you can't hear the hum of air-conditioning, where you can't see the shiny silver or white Industrial buildings that need a paint job. You know, you can find those places, and unfortunately the Northern Plateau of Mauna Kea, one of those last few places. And so If we build there, we would be engaging In urban sprawl that will allow the Industrial footprint of the telescopes to spread Into a new area and It's that kind of urban sprawl that the Conservation District rules seek to prevent." Tr. 01/10/2017:Vol. 24:23:25: 24: 1-12.

CONCLUSIONS OF LAW

1. The proposed TMT project will cause significant and substantial adverse impacts to the existing natural, cultural, archaeological and historic resources of the Mauna Kea summit region down to Hale Pohaku.
2. The proposed TMT project will cause substantial and significant adverse impact to existing natural resources within the surrounding area, community, and region.
3. The proposed TMT project substantially and adversely impacts the traditional and customary practices of Native Hawaiians on the Island of Hawaii and throughout Hawaii.
4. The proposed TMT project on the northern plateau of the Mauna Kea summit region is not consistent with the purpose of the conservation district of Mauna Kea.
5. The sublease with TMT is a subdivision of land which intensifies land uses on the property described in Exhibit A .
6. The Department of Land and Resources of the State of Hawaii, through its OCCL, failed to undertake an independent Ka Pa'akai analysis so as to support its recommendation.
7. The proposed TMT project is materially detrimental to the health, safety and welfare of Native Hawaiians .
8. The proposed TMT project will irrevocably destroy or cause the loss of the natural and cultural resources within the Mauna Kea summit region, within the area leased to the UH, on the Island of Hawaii, and throughout the State of Hawaii.

9. The proposed mitigation measures of the OCCL and the applicant fail to reduce the significant adverse effects of the proposed project.

10. A community benefits package as proposed by TIO and the applicant is not a mitigation measure.

11. The Public Trust Doctrine Applies to the TMT Project.

12. Article XI, Section 1 of the Hawai'i State Constitution provides:

For the benefit of present and future generations, the ***State and its political subdivisions shall conserve and protect Hawai'i 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. [Emphasis added].

13. The Hawai'i Supreme Court, in its concurring opinion in *Mauna Kea Anaina Hou v. Board of Land and Natural Resources*, 136 Hawai'i 376, 408; 363 P.3d 224, 256 (2015), following its comprehensive analysis of the public trust, held as follows:

"Accordingly, based on the plain language of Art. XI, Sec.1, the application of principles guiding interpretation of constitutional provisions, the special history of the public trust doctrine in this State, and this court's precedents implicating the public trust doctrine in land cases ... ***Mauna Kea, as state conservation land, is within the public trust and entitled to the protections that the public trust doctrine provides.***" *Id.* At 408

[Emphasis added].

14. The Board of Land and Natural Resources acknowledges the applicability of the public trust doctrine covering the site of the proposed TMT project. "In assessing the project and determining whether the criteria of the [Department of Land and Natural Resources rules] have been satisfied, and **the State must protect the public trust and the customary and traditional rights and practices of native Hawaiians.**" *Mauna Kea Anaina Hou v. Board of Land and Natural Resources, concurring opinion, footnote 10*, 136 Hawai'i at 406; 363 P.3d at 255 (2015) [Emphasis added].
15. The State and Applicant UH Hilo have failed to meet their obligations and duties under the public trust doctrine.
16. Removal of "no further development, including the TMT Observatory Project and the Mid-Level Support Facilities at Hale Pohaku, take place on Maunakea." (hereinafter referred to as "no further development") recommendation and the recommended mitigation measures from the Preliminary Draft Cultural Impact Assessment [Exh. B.44, pages 12-15] in the Draft EIS [Exh. B.45] for the public commentary period subverts the EIS process provided under HRS Chapter 343 and violates the authorities, duties and obligations mandated under the public trust doctrine as follows:
 - (a) to the University of Hawaii at Hilo, as the applicant, a political subdivision of the State; and the party responsible (either directly or through its agent) for its removal, from the CIA in the Draft EIS and its post-public review and comment period replacement in the CIA of the Final EIS, of the "no further development" and mitigation measures recommendations; and

(b) to the State, through its political subdivision agent, the Office of Environment Quality Control (OEQC), responsible for ensuring compliance with the HRS Chapter 343 process, in failing to take necessary corrective measures to the FEIS, after having been so informed of the removal of "no further development" and mitigation measures recommendations in submission of the DEIS for review and comment under the provisions and protections provided under HRS Chapter 343.

17. Removal of "no further development" and mitigation measures recommendation, from the CIA in the Draft EIS and the post public review and commentary period reinstatement of the CIA in the Final EIS invalidates Final Approval of the FEIS and CDUA application.
18. Evidence and testimony submitted and received in this Contested Case Hearing supports invalidation of the Final EIS, notwithstanding its prior final approval. The removal, and consequent withholding, of the "no further development" and mitigation measures recommendations from public scrutiny process, provided pursuant to HRS Chapter 343, violates the compelling and affirmative duties and obligations mandated by the public trust doctrine. Significantly, the withholding of the recommendations in Ex. B.44 inherently taints submission of the CDUA for approval in this case.
19. HAR 11-200-17 requires ("shall") required inclusion of the "no further development" and mitigation measures recommendation in the CIA of the Draft EIS. Its omission can only be associated with a decapitation of the HRS 343 process.

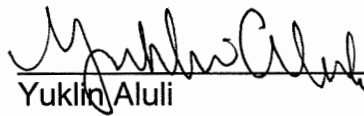
20. The CDUA is incomplete and requires an updated revision and resubmission for consideration. Approval of the current CDUA facilitates a subversion of HRS 343 process, undermines the duties and obligations imposed by public trust doctrine, and encourages an atmosphere of concealment instead of full transparency and disclosure. Approval of the current CDUA for the TMT project must be rejected.
21. Additionally, by its removal of the "no further development" mitigation measures recommendations from public review and comment, provided for under HRS Chapter 343, UH Hilo failed to meet its compelling duty to consider the cumulative impact of existing and proposed diversions on trust purposes for the TMT project. The UH failed to implement reasonable measures to mitigate its impact, including the use of alternative sources.
22. The State, through the OEQC, violated this compelling duty, when it failed to take corrective measures to the FEIS, prior to its final approval, after having been so informed of the removal of "no further development" recommendations from the CIA to the DEIS.
23. Ultimately, evidence and testimony produced in this Contested Case Hearing (as well as produced in the first contested case hearing) convincingly establishes that the Applicant UH Hilo cannot meet its burden of proof and compelling, affirmative duties, under the public trust doctrine, to address the additional impacts on archaeological and historic properties, cultural practices and Native Hawaiian custom and usage, as well as viewplanes, species habitat and existing facilities. The TMT project will add to the

impacts that cumulatively are already substantial, adverse, and significant.

PROPOSED ORDER

Based upon the entire record, pursuant to HRS §91-9, the Hearing Officer recommends that BLNR order the CDUA in this proceeding be denied.

Dated: Kailua, Hawai'i, May 30, 2017.

A handwritten signature in black ink, appearing to read 'Yuklun Aluli', is written over a horizontal line.

Yuklun Aluli

Dexter K. Kaiama

Co-counsel for Petitioner KAHEA:

The Hawaiian Environmental Alliance,
a domestic non-profit Corporation

DESCRIPTION

TMT SITE PREMISES

All of that certain parcel of land being a portion of the Government Land of Kaohe, being also a portion of Mauna Kea Science Reserve covered by General Lease S-4191 to the University of Hawaii
Situat at Kaohe, Hamakua, Island of Hawaii, Hawaii

Beginning at the southwest corner of this parcel of land referred to the Hawaii State Plane Coordinate System, Zone 1 (NAD83) 362,519.00 feet North and 1,646,660.00 feet East and the direct azimuth and distance from the Government Survey Triangulation Station "SUMMIT 1955" being 129° 52' 08"; 6,166.86 feet and running by azimuths measured clockwise from True South:

1. 152° 35' 33" 304.14 feet along the remainder of the Government Land of Kaohe and the remainder of Mauna Kea Science Reserved covered by General Lease S-4191 to the University of Hawaii;
2. 180° 00' 00" 190.00 feet same;
3. 270° 00' 00" 630.00 feet along same;
4. 0° 00' 00" 430.00 feet along same;
5. 90° 00' 00" 320.00 feet along same;
6. 0° 00' 00" 30.00 feet along same;
7. 90° 00' 00" 170.00 feet along the same to the point of beginning and containing an area of 5.9986 acres, more or less.



Description Prepared By:
Engineering Partners Inc.

Ronaldo B. Aurelio

RONALDO B. AURELIO
Licensed Professional Land Surveyor
Certificate Number 7564
Expires April 30, 2014

Hilo, Hawaii, March 10, 2014

Exhibit C-3 to Sublease

Legal Description of Easement Area

(attached)

DESCRIPTION

NON-EXCLUSIVE ACCESS AND UTILITY EASEMENT

All of that certain parcel of land being a portion of the Government land of Kaohe, being also a portion of Mauna Kea Science Reserve covered by General Lease S-4191 to the University of Hawaii
Situate at Kaohe, Hamakua, Island of Hawaii, Hawaii

Beginning at the southwest corner of this parcel of land referred to the Hawaii State Plane Coordinate System, Zone 1 (NAD83) 361,104.89 feet North and 1,647,460.58 feet East and the direct azimuth and distance from the Government Survey Triangulation Station "SUMMIT 1955" being 122° 50' 16"; 4,680.47 feet and running by azimuths measured clockwise from True South:

1. 147° 03' 17" 30.07 feet along the remainder of the Government Land of Kaohe and the remainder of Mauna Kea Science Reserved covered by General Lease S-4191 to the University of Hawaii;

Thence along the same on a curve to the left with a radius of 15.00 feet, the chord azimuth and distance being;

2. 144° 25' 01" 1.38 feet;
3. 141° 46' 45" 73.94 feet along same;

Thence along the same on a curve to the right with a radius of 135.00 feet, the chord azimuth and distance being;

4. 149° 50' 37" 37.88 feet;
5. 157° 54' 28" 14.29 feet along same;
6. 67° 54' 28" 15.00 feet along same;
7. 157° 54' 28" 32.04 feet along same;
8. 148° 47' 42" 37.18 feet along same;
9. 238° 47' 42" 15.00 feet along same;

Thence along the same on a curve to the right with a radius of 435.00 feet, the chord azimuth and distance being;

10. 152° 25' 35" 55.11 feet;
11. 156° 03' 28" 17.62 feet along same;

Thence along the same on a curve to the left with a radius of 365.00 feet, the chord azimuth and distance being;

12. 149° 09' 32" 87.69 feet;
13. 142° 15' 36" 89.55 feet along same;

Thence along the same on a curve to the right with a radius of 435.00 feet, the chord azimuth and distance being;

14. 145° 06' 28" 43.22 feet;
15. 147° 57' 20" 86.90 feet along same;

Thence along the same on a curve to the right with a radius of 435.00 feet, the chord azimuth and distance being;

16. 158° 27' 14" 158.52 feet;
17. 168° 57' 08" 156.20 feet along same;

Thence along the same on a curve to the right with a radius of 155.00 feet, the chord azimuth and distance being;

18. 179° 43' 11" 57.92 feet;
19. 190° 29' 14" 45.76 feet along same;

Thence along the same on a curve to the left with a radius of 85.00 feet, the chord azimuth and distance being;

20. 181° 19' 15" 22.08 feet;

21. 172° 09' 16" 43.65 feet along same;

Thence along the same on a curve to the left with a radius of 365.00 feet, the chord azimuth and distance being;

22. 163° 49' 06" 105.84 feet;

23. 155° 28' 55" 25.44 feet along same;

Thence along the same on a curve to the left with a radius of 185.00 feet, the chord azimuth and distance being;

24. 138° 43' 43" 106.65 feet;

25. 121° 58' 31" 82.07 feet along same;

26. 31° 58' 31" 10.00 feet along same;

27. 121° 58' 31" 15.18 feet along same;

Thence along the same on a curve to the right with a radius of 275.00 feet, the chord azimuth and distance being;

28. 127° 44' 21" 55.24 feet;

29. 223° 30' 11" 10.00 feet along same;

Thence along the same on a curve to the right with a radius of 265.00 feet, the chord azimuth and distance being;

30. 138° 12' 29" 43.47 feet;

31. 142° 54' 46" 47.07 feet along same;

Thence along the same on a curve to the right with a radius of 105.00 feet, the chord azimuth and distance being;

32. 162° 13' 04" 69.43 feet;

33. 181° 31' 22" 1.83 feet along same;

34. 270° 00' 00" 70.02 feet along the TMT Building Site Easement:

35. 1° 31' 22" 3.69 feet along the remainder of the Government Land of
Kaohe and the remainder of Mauna Kea Science
Reserved covered by General Lease S-4191 to the
University of Hawaii;

Thence along the same on a curve to the left with a
radius of 35.00 feet, the chord azimuth and
distance being;

36. 342° 13' 04" 23.14 feet;

37. 322° 54' 46" 47.07 feet along same;

Thence along the same on a curve to the left with a
radius of 195.00 feet, the chord azimuth and
distance being;

38. 312° 26' 39" 70.86 feet;

39. 301° 58' 31" 97.25 feet along same;

Thence along the same on a curve to the right with a
radius of 255.00 feet, the chord azimuth and
distance being;

40. 318° 43' 43" 147.01 feet;

41. 335° 28' 55" 25.44 feet along same;

Thence along the same on a curve to the right with a
radius of 435.00 feet, the chord azimuth and
distance being;

42. 343° 49' 06" 123.13 feet;

43. 352° 09' 16" 43.65 feet along same;

Thence along the same on a curve to the right with a
radius of 155.00 feet, the chord azimuth and
distance being;

44. 1° 19' 15" 49.38 feet;

45. 10° 29' 14" 45.76 feet along same;

Thence along the same on a curve to the left with a radius of 85.00 feet, the chord azimuth and distance being;

46. 359° 43' 11" 31.76 feet;

47. 348° 57' 08" 156.20 feet along same;

Thence along the same on a curve to the left with a radius of 365.00 feet, the chord azimuth and distance being;

48. 338° 27' 14" 133.01 feet;

49. 327° 57' 20" 86.90 feet along same;

Thence along the same on a curve to the left with a radius of 365.00 feet, the chord azimuth and distance being;

50. 325° 06' 28" 36.27 feet;

51. 322° 15' 36" 89.55 feet along same;

Thence along the same on a curve to the right with a radius of 435.00 feet, the chord azimuth and distance being;

52. 329° 09' 32" 104.50 feet;

53. 336° 03' 28" 17.62 feet along same;

Thence along the same on a curve to the left with a radius of 365.00 feet, the chord azimuth and distance being;

54. 332° 25' 35" 46.24 feet;

55. 328° 47' 42" 43.96 feet along same;

56. 337° 54' 28" 53.11 feet along same;

Thence along the same on a curve to the left with a radius of 65.00 feet, the chord azimuth and distance being;

57. 329° 50' 37" 18.24 feet;

58. 321° 46' 45" 73.94 feet along same;

Thence along the same on a curve to the right with a radius of 85.00 feet, the chord azimuth and distance being;

59. 324° 25' 01" 7.82 feet;

60. 327° 03' 17" 30.07 feet along same;

61. 57° 03' 17" 70.00 feet along same to the point of beginning and containing an area of 2.6653 acres, more or less.



Description Prepared By:
Engineering Partners Inc.

A handwritten signature in black ink, appearing to read "Ronaldo B. Aurelio".

RONALDO B. AURELIO
Licensed Professional Land Surveyor
Certificate Number 7564
Expires April 30, 2014

Hilo, Hawaii, March 10, 2014

BOARD OF LAND AND NATURAL RESOURCES

STATE OF HAWAII

Contested Case Hearing Re Conservation
District Use Application (CDUA) HA-3568
for the Thirty Meter Telescope at the Mauna
Kea Science Reserve, Ka'ōhe Mauka,
Hāmākua, Hawai'i, TMK (3) 4-4-015:009

BLNR Contested Case HA-16-02

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the attached document was served upon the following parties by the means indicated:

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Custodian of the Records

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Witness for the Hearing Officer

Signature:

Name:

Date:

Yuklun Auli
5-30-17