

WILLIAM W.L. YUEN 1359
JANNA WEHILANI AHU 10588

DENTONS US LLP
1001 Bishop Street, Suite 1800
Honolulu, Hawai'i 96813-3689
Telephone: (808) 524-1800
Facsimile: (808) 524-4591
Email: william.yuen@dentons.com
janna.ahu@dentons.com

Attorneys for
HG KAUAI JOINT VENTURE, LLC



BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAI'I

In the Matter of the Petition of:

DOCKET NO. A11-791

HG KAUAI JOINT VENTURE, LLC

To Amend the Land Use District Boundary of
Certain Lands Situated at Kapa'a, Island of
Kauai, State of Hawai'i, consisting of
approximately 96 Acres, from the
Agricultural Land Use District to the Urban
Land Use District, Kauai Tax Map Key 4-3-
03: por 01.

AMENDED PETITION FOR LAND USE DISTRICT BOUNDARY AMENDMENT

VERIFICATION

EXHIBIT NOS. 1 - 9

AFFIDAVIT OF MAILING

CERTIFICATE OF SERVICE

AMENDED PETITION FOR LAND USE DISTRICT BOUNDARY AMENDMENT

BEFORE THE LAND USE COMMISSION OF THE STATE OF HAWAII:

COMES NOW, Petitioner HG KAUAI JOINT VENTURE, LLC, a Hawai'i limited liability company ("Petitioner"), whose address and principal place of business is 9911 South 78th Avenue, Hickory Hills, IL 60457, and respectfully petitions the Land Use Commission of the State of Hawai'i (the "Commission") to amend the land use district boundaries of approximately 96 acres of land situated at Kapa'a, Kaua'i, Hawai'i (the "Petition Area"), more particularly described below, from the State Land Use Agricultural District to the State Land Use Urban District for the development and construction of the HoKua Place residential community (the "Project") more particularly described below, and in support of this Petition, respectfully alleges and presents the following:

1. Relief Sought. Petitioner desires to amend the land use district boundaries to reclassify approximately 96 acres of land situated at Kapa'a, Kaua'i, Hawai'i, identified as Kauai Tax Map Key (4) 4-3-03: por. 01, from the State Land Use Agricultural District to the State Land Use Urban District.
2. Authority for Relief Sought. Petitioner has filed this Petition pursuant to Section 205-4, Hawaii Revised Statutes ("HRS") and Section 15-15-46 et seq., Hawaii Administrative Rules ("HAR").
3. Legal Name of Petitioner. Petitioner's exact legal name and location of its principal place of business is:

HG KAUAI JOINT VENTURE, LLC
c/o OAR Management, Inc.
9911 South 78th Avenue
Hickory Hills, IL 60457

4. Communications To Petitioner. The name title and address of the persons to whom correspondence or communications in regard to this Petition are to be served are as follows:

Petitioner: HG KAUAI JOINT VENTURE, LLC
 c/o OAR Management, Inc.
 9911 South 78th Avenue
 Hickory Hills, IL 60457
 Attention: Theresa M. Roche, President
 Phone: (708) 430-9337
 Email: theresa@oaroffice.com

Petitioner's Agent: Jake Bracken
 c/o HG Management, LLC
 5662 W. Clubhouse Drive
 Hurricane, UT 84737
 Telephone: (844) 404-3261, Ext. 809
 Email: jake@hgmoffice.com

Petitioner's Attorney: DENTONS US LLP
 William W.L. Yuen, Esq.
 Janna W. Ahu, Esq.
 1001 Bishop Street, Suite 1800
 Honolulu, Hawaii 96813
 Telephone: (808) 524-1800
 Email: william.yuen@dentons.com
 janna.ahu@dentons.com

5. Description of the Petition Area. The Petition Area is in Kapa'a within the Kawaihau District, an area extending from the Wailua River north to Moloa'a. The Petition Area is bounded on the north by the Kapa'a Middle School and Olohena Road, on the east and south by the Kapa'a Bypass Road, and on the west by other land owned by Petitioner to remain in the Agricultural District. The other land will be developed as an agricultural subdivision to be known as HoKua Farm Lots, formerly known as Kapa'a Highlands Phase I. A map depicting the Petition Area is attached as **Exhibit 1**. A tax map depicting the Petition Area is attached as **Exhibit 2**. A metes and bounds description of the Petition Area is attached as **Exhibit 3**.

Petitioner shall provide such other descriptions and maps of the Petition Area as the Commission may require.

6. Reclassification Sought, Present Use of the Petition Area, Assessment of Conformity.

(a) The Petition Area is fallow former sugar cane land presently classified in the State Land Use Agricultural District. Petitioner seeks to reclassify the Petition Area to the State Land Use Urban District to develop the Project. The HoKua Place residential community will consist primarily of single-family and multi-family residences. Development of the Petition Area will address the demand for affordable housing on Kauai. Petitioner also proposes to develop a 1.4 acre neighborhood commercial center and a 3.1 acre community park. Space for the proposed relocation of the Kapa‘a County swimming pool will be available within the park. Another one acre site on the makai side of the Kapa‘a Bypass Road (southwest corner of Olohena and the Bypass Road) may be used for a police or fire substation or additional neighborhood commercial space. A multi-modal main roadway through HoKua Farm Lots and the Project will include bus stops, sidewalks and a bicycle and walking path connecting from Olohena Road adjacent to Kapa‘a Middle School through the Project to the Kapa‘a Bypass Road, facilitating sustainable travel to and from Kapa‘a Town.

(b) Petitioner’s Final Environmental Impact Statement (“FEIS”) for the Project includes an assessment of conformity of the Petition Area to the standards for determining the boundaries for the Urban District. The FEIS for the Project is attached as **Exhibit 4** (Petitioner is only submitting an electronic copy of the FEIS). Petitioner submits that the Petition Area conforms to standards for determining Urban District boundaries as set forth in §15-15-18, HAR, because lands adjacent to the Petition Area are is characterized by “city-like”

concentrations of people, structures, streets, urban level of services and related land uses. The Petition Area is very close to Kapa‘a, the center of trading and employment in East Kauai.

(c) Basic public services and facilities such as schools, public utilities including water and wastewater, transportation, and police and fire protection are available to the Petition Area.

(d) The Petition Area provides a sufficient reserve are for foreseeable urban growth in the area.

(e) The Petition Area has satisfactory topography and drainage and is reasonably free from the danger of any flood, tsunami, unstable soil condition, and other adverse environmental effects.

(f) The lands contiguous to the Petition Area to the north and east are classified in the Urban District and designated as “Residential Community,” “Neighborhood General” and “Neighborhood Center” by the updated Kauai General Plan. These lands are zoned residential by the County of Kauai.

(g) The Petition Area is in an appropriate location for a new urban concentration. The Petition Area is designated Neighborhood General in Kauai Kakou, the updated County of Kaua‘i General Plan.

(h) Urbanization of the Petition Area will not contribute to scattered spot urban development.

7. Petitioner’s Property Interest in the Petition Area. Petitioner is the owner of the Petition Area in fee simple. The Three Stooges, LLC, a Hawaii limited liability company, filed a petition on November 4, 2011, to amend the Land Use District Boundary of the Petition Area from the State Land Use Agricultural District to the State Land Use Urban District in order

to develop the Project. On November 26, 2012, an Order and Decree of Foreclosure on the Petition Area was entered in the Circuit Court of the Fifth Circuit, State of Hawai'i against The Three Stooges, LLC. On March 6, 2013, Petitioner entered the high bid to purchase a 163.125 acre parcel of land containing the Petition Area at a foreclosure sale. Following confirmation of the foreclosure sale Petitioner acquired the Petition Area by deed dated September 13, 2013, recorded in the Bureau of Conveyances of the State of Hawai'i on September 27, 2013, as Document No. A-50180429. A copy of this deed is attached as **Exhibit 5**. On October 29, 2014, Petitioner filed a motion to substitute as the petitioner in this Docket. By Order filed on December 11, 2014, the Commission granted Petitioner's motion to be substituted for Three Stooges, LLC as the petitioner in this Docket.

Petitioner's counsel's affidavit regarding service of this Amended Petition in compliance with Section 15-15-48, HAR is attached to this Amended Petition.

8. Easements. Exhibit A to the Deed lists as encumbrances the various utility easements in favor of Kauai Island Utility Cooperative and Hawaiian Telecom, Inc., to which the Petition Area is subject. In addition Petitioner's predecessor in interest granted an easement to the State of Hawai'i Department of Transportation to build the Kapa'a Bypass Road, which land is to be conveyed to the Department of Transportation following reclassification and a subdivision of the land under the Kapa'a Bypass Road from the Petition Area.

9. Petitioner's Proposed Development. Petitioner proposes to develop the approximately 97-acre Petition Area into a single-family and multi-family residential community. Petitioner proposes to subdivide approximately 69 acres of the Petition Area into single family lots ranging from 7,500 to 10,000 square feet in size and multi-family lots from one acre to five acres in size. Petitioner proposes to develop 86 single family lots and approximately

683 multi-family units in the Project. Open space, including roadways, will encompass approximately 13.25 acres. The overall density of the project is approximately 8 dwelling units per acre.

10. Sustainability. Petitioner intends to develop a sustainable community. Petitioner has already developed an operational 1.18 MW, four-acre solar facility on the Phase I portion of the Kapa‘a Highlands project. Additional sustainable connectivity concepts planned for the Project include bikeways and walkways to and from the pool, neighborhood commercial areas, Kapa‘a Middle School and Kapa‘a’s town.

11. Development Timetable. Petitioner anticipates that it could commence construction within two to five years following the Commission’s entry of a written Decision and Order approving the Petition. Following the Commission’s approval of this Order, Petitioner must apply sequentially for a change in zoning, and subdivision approval to divide the Property into large lot parcels for development. Petitioner must also obtain grubbing and grading permits prior to starting construction. Petitioner must also complete agreements with the County of Kauai for water system improvements and wastewater connections.

Petitioner estimates it will require at least two years to obtain the necessary change in zoning and other permits and agreements from the County of Kauai. Petitioner would commence site preparation and construction of the proposed off-site improvements once all permits and agreements have been obtained. Petitioner plans to complete construction of the backbone infrastructure (water, electricity and wastewater connections, main Project roadway and on-site drainage improvements) within ten (10) years from the date of the Commission’s Decision and Order.

12. Petitioner's Financial Condition and Funding for the Project. Petitioner's financial condition is reflected in the financial statement prepared on a management basis, including a balance sheet of assets, liabilities and members' equity, and income statement of profit and loss attached as **Exhibit 6**. Petitioner desires a protective order to protect the confidentiality of this information from disclosure under chapter 92F, HRS. Petitioner intends to finance development of the Petition Area by a combination of internal equity contributions or loans from Petitioner's owners, and from bank loans. Petitioner has the financial capability to develop the Project.

13. Description of the Petition Area, Surrounding Areas and Use of Land. The Petition Area is fallow former sugar cane land. Lihue Plantation ceased cultivation of the Petition Area in the mid-1990s. A complete description of the Petition Area and a description of the topography, soil classification and agricultural potential of the Petition Area is included in Sections 4.5.1 and 5.4 of the FEIS. The Kapa'a Highlands Agriculture Master Plan states that "the climate and soils at Kapa'a Highlands are not ideal for the growing of most commercially viable crops due to the poor soil, strong trade winds and the salt spray from the ocean."

14. Assessment of the Impacts of the Proposed Development Upon the Environment; Environmental Impact Statement. Petitioner prepared and submitted an Environmental Impact Statement Preparation Notice ("EISPN") to the State of Hawai'i Office of Environmental Quality Control ("OEQC") on December 17, 2014. Petitioner believed an Environmental Impact Statement ("EIS") is required for the Project, because development of the Project will require use of State or county land for construction of infrastructure, including water and wastewater transmission lines to serve the Project. Use of State lands or State funds is an action described under Section 343-5(a)(1), HRS.

OEQC published notice of the EISPN in the Environmental Notice on December 23, 2014. Petitioner prepared and filed with OEQC a Draft Environmental Impact Statement (“DEIS”) on April 21, 2015, and a Second DEIS on October 18, 2018. OEQC published notice of the DEIS on May 8, 2015, and of the Second DEIS on November 8, 2018, in the Environmental Notice. Petitioner prepared and submitted the FEIS to OEQC on November 13, 2019. OEQC published notice of the submission of the FEIS in the Environmental Notice on November 23, 2019. The Commission accepted the FEIS at a public hearing conducted on December 17, 2019. OEQC published notice of the Commission’s acceptance of the FEIS in the Environmental Notice on January 8, 2020.

The FEIS includes a complete description of the impact development of the Project would have on natural resources, archaeological and cultural resources, public recreation resources, traffic, noise, air quality and socio-economic resources of the Petition Area and the surrounding area.

15. Availability of Public Services and Facilities. Chapter 4 of the FEIS contains descriptions of the availability and adequacy of public services and facilities such as schools, parks, wastewater systems, solid waste disposal, drainage, water, transportation, public utilities, police and fire protection, civil defense and medical services. The FEIS includes a description of the measures the Project will implement to minimize its impact on public facilities such as roadways, drainage, water and wastewater facilities.

16. Location of the Proposed Development in Relation to Adjacent Land Use Districts. The Petition Area is surrounded by remnant former sugar cane lands and residential uses. A Solar farm is located in the adjacent HoKua Farm Lots. Across Olohena Road from the Petition Area are single family residential neighborhoods as well as commercial areas.

17. Economic Impacts of the Proposed Development. Development of the Petition Area will create construction jobs on Kauai, as well as permanent employment opportunities in the commercial areas. Development of the Project will also provide a positive impact on the real property tax base of the County of Kauai. Development of the Project will not have an adverse impact on agricultural production in the County of Kauai as sufficient vacant land is available for agricultural production on Kauai.

18. The Project Will Address Affordable Housing Needs. Kaua'i's affordable housing policy, Kaua'i County Ordinance No. 860, KCC Sec. 7A-2.1 and 2.2 requires up to thirty percent (30%) of the total number of residential units in a project be sold as affordable units at prices affordable to families earning between 80% to 140% of annual median income for family size as determined by the US Department of Housing and Urban Development. Petitioner intends to offer approximately 30% of the total number of housing units and lots to be developed on the Petition Area for sale on site at prices intended to satisfy the affordable housing requirement. Assuming a total of 769 multifamily units and single family lots are constructed on the Petition Area, 231 multifamily units will be sold at affordable prices.

Petitioner intends to offer 7,500 square feet and 10,000 square feet single family lots and house and lot packages, all at market prices, depending on lot size and location.

19. Assessment of Need for the Reclassification. The FEIS and the Updated Kapa`a Housing Market Study comprise Petitioner's assessment of population growth trends and the need for development and construction of the Project to serve Kauai's growing population and to alleviate the unmet need for housing. There is no other comparable vacant parcel of land suitable for development and reasonably accessible to the center of Kapa`a.

20. Assessment of Conformity to State Planning Policies. The FEIS contains a complete discussion of the Project community's conformance to the applicable goals, objectives and policies of the Hawaii State Plan, Chapter 226, HRS, and the applicable priority guidelines and functional plan policies.

21. Assessment of Conformity to Objectives of The Coastal Zone Management Program. The FEIS contains a complete discussion of the Project's conformance to objectives and policies of the Coastal Zone Management program as described in Chapter 205A, HRS.

22. Assessment of Conformity to Applicable County Development Policies. In February 2018, the Kauai County Council and the Mayor approved Kauai Kakou, the updated County of Kauai General Plan. The General Plan designates the Petition Area as Neighborhood General. The Neighborhood General designation is intended to replace the County's prior Urban Center designation of the Petition Area. This designation is intended for medium intensity mixed-use environments that support the town core with housing, services, parks, civic/institutional , home occupation and commercial uses.

23. Assessment of Need for Incremental Reclassification. Petitioner intends to develop and construct the Project in a single phase. Assuming the Commission approves the Petition and Petitioner can obtain the necessary change in zoning and agreements from the County of Kauai, Petitioner intends to commence design and construction of the Project as soon as all discretionary permits have been obtained. Petitioner could commence site preparation and construction of the proposed off-site improvements as early as October 2022. Petitioner plans to complete construction of the backbone infrastructure (water, electricity and wastewater connections, main Project roadway and on-site drainage improvements), and to commence

construction of residential unit within ten (10) years from the date of the Commission's Decision and Order. The Project's design contemplates a main Project roadway running through the center of the Petition Area, with connector streets and utilities radiating from the main Project roadway. It would be impractical to divide the Project into phases for development due to this design. Petitioner requests that no condition be imposed on incremental reclassification of the Petition Area.

24. Assessment of Impacts on Hawaiian Customary and Traditional Rights.

Section 4.2 of the FEIS contains an assessment of the impact development of the Petition Area would have on Native Hawaiian customary and traditional rights under Article XII, Section 7 of the Hawaii State Constitution is included in the FEIS. There are no customary or traditional practices of Native Hawaiians that would be adversely affected by development of HoKua Place. The FEIS includes an assessment of the impact development of the Petition Area would have on access and trails, as well as a Cultural Impact Study.

25. Written Comments to the Petition. Petitioner has included all written comments and responses to the EISPN and each DEIS in the FEIS.

26. Notification of Petition Filing. Petitioner has attached an Amended Notice of Petition Filing as **Exhibit 7**.

27. Climate Change Analysis. Petitioner has attached a climate change analysis of the Project as **Exhibit 8**.

28. Carbon Footprint Analysis. Petitioner has attached a greenhouse gas and carbon footprint analysis of the Project as **Exhibit 9**.

29. Sustainability Principles. In designing and constructing the Project Petitioner will observe sustainability principles and priority guidelines, including walkability, accessibility to bus transit, green infrastructure and heat island effects.

WHEREFORE, Petitioner respectfully requests that the Land Use Commission amend the land use district boundaries of the Petition Area from the State Land Use Agricultural District to the State Land Use Urban District, for the purposes and in the manner proposed in this Petition.

DATED: Hickory Hills, Illinois, August 14, 2020

HG KAUAI JOINT VENTURE, LLC, a Hawai'i
limited liability company

By: Theresa Roche

Name: Theresa Roche

Title: Manager

VERIFICATION

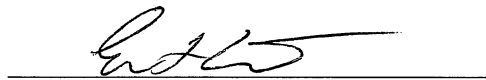
THERESA ROCHE, the person named, being duly sworn on oath, deposes and says that she is Manager of Petitioner HG KAUAI JOINT VENTURE, LLC, a Hawai'i limited liability company, and as such is authorized to make this verification on behalf of Petitioner; that she has read the foregoing Petition for Land Use District Boundary Amendment, Verification and Certificate of Service and knows the contents thereof; and that the same are true to the best of her knowledge, information and belief.



Name: THERESA ROCHE

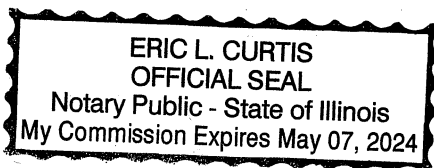
Title: Manager

Subscribed and sworn before me
this 10th day of August, 2020



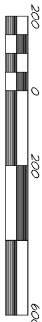
Notary Public, State of Illinois

My commission expires: 5/7/2024

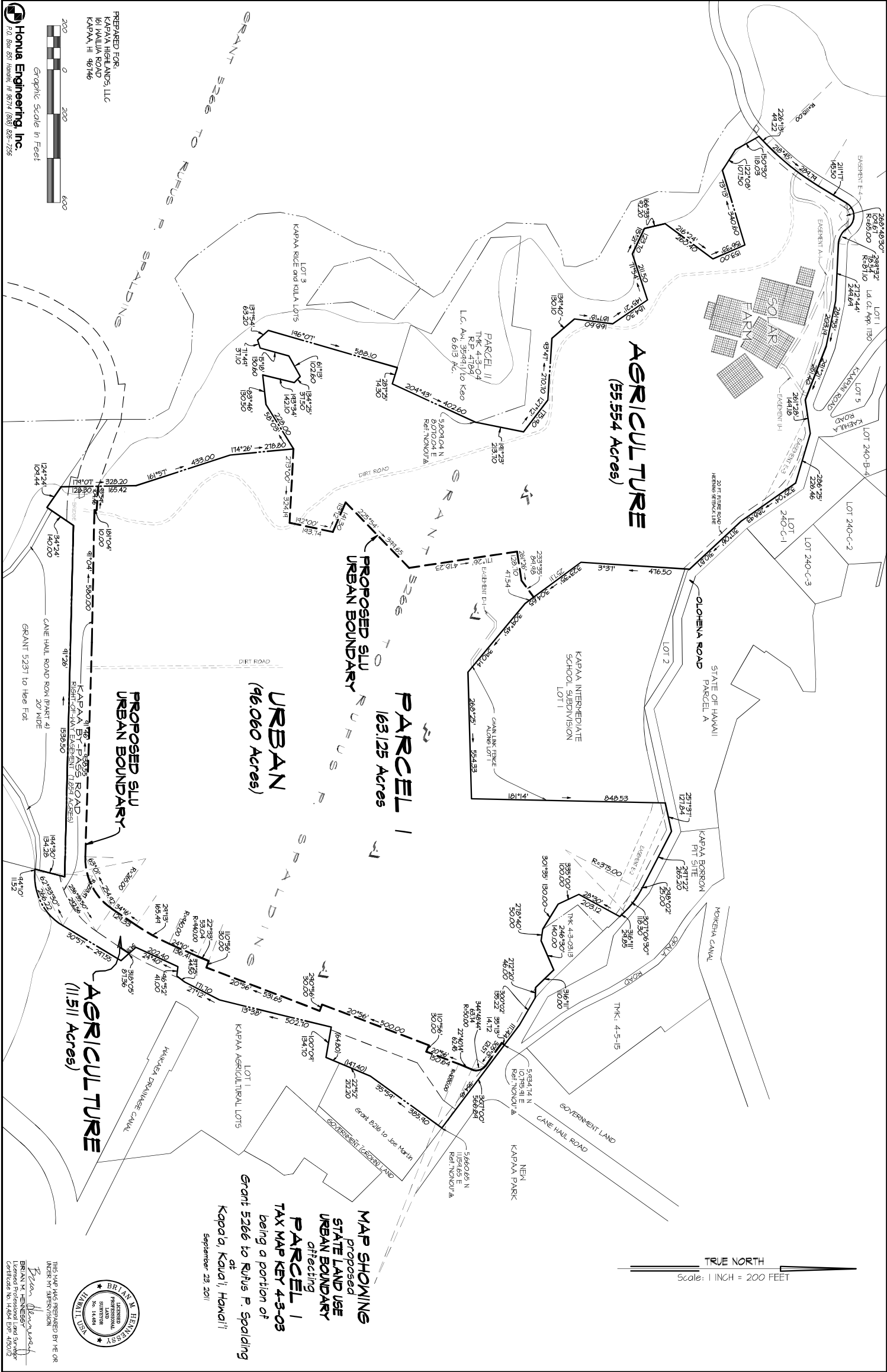




Graphic Scale in Feet



PREPARED FOR:
KAPAA HIGHLANDS, LLC
61 PAULINA ROAD
KAPAA, HI 96746



CONNECTED
JUL 6 1986
NOV 24 1982
APR 23 1986
DEC 3 1981
DEC 3 1980
DEC 3 1979
DEC 3 1978
DEC 3 1977
DEC 3 1976
DEC 3 1975
DEC 3 1974
DEC 3 1973
DEC 3 1972
DEC 3 1971
DEC 3 1970
DEC 3 1969
DEC 3 1968
DEC 3 1967
DEC 3 1966
DEC 3 1965
DEC 3 1964
DEC 3 1963
DEC 3 1962
DEC 3 1961
DEC 3 1960
DEC 3 1959
DEC 3 1958
DEC 3 1957
DEC 3 1956
DEC 3 1955
DEC 3 1954
DEC 3 1953
DEC 3 1952
DEC 3 1951
DEC 3 1950
DEC 3 1949
DEC 3 1948
DEC 3 1947
DEC 3 1946
DEC 3 1945
DEC 3 1944
DEC 3 1943
DEC 3 1942
DEC 3 1941
DEC 3 1940
DEC 3 1939
DEC 3 1938
DEC 3 1937
DEC 3 1936
DEC 3 1935
DEC 3 1934
DEC 3 1933
DEC 3 1932
DEC 3 1931
DEC 3 1930
DEC 3 1929
DEC 3 1928
DEC 3 1927
DEC 3 1926
DEC 3 1925
DEC 3 1924
DEC 3 1923
DEC 3 1922
DEC 3 1921
DEC 3 1920
DEC 3 1919
DEC 3 1918
DEC 3 1917
DEC 3 1916
DEC 3 1915
DEC 3 1914
DEC 3 1913
DEC 3 1912
DEC 3 1911
DEC 3 1910
DEC 3 1909
DEC 3 1908
DEC 3 1907
DEC 3 1906
DEC 3 1905
DEC 3 1904
DEC 3 1903
DEC 3 1902
DEC 3 1901
DEC 3 1900
DEC 3 1899
DEC 3 1898
DEC 3 1897
DEC 3 1896
DEC 3 1895
DEC 3 1894
DEC 3 1893
DEC 3 1892
DEC 3 1891
DEC 3 1890
DEC 3 1889
DEC 3 1888
DEC 3 1887
DEC 3 1886
DEC 3 1885
DEC 3 1884
DEC 3 1883
DEC 3 1882
DEC 3 1881
DEC 3 1880
DEC 3 1879
DEC 3 1878
DEC 3 1877
DEC 3 1876
DEC 3 1875
DEC 3 1874
DEC 3 1873
DEC 3 1872
DEC 3 1871
DEC 3 1870
DEC 3 1869
DEC 3 1868
DEC 3 1867
DEC 3 1866
DEC 3 1865
DEC 3 1864
DEC 3 1863
DEC 3 1862
DEC 3 1861
DEC 3 1860
DEC 3 1859
DEC 3 1858
DEC 3 1857
DEC 3 1856
DEC 3 1855
DEC 3 1854
DEC 3 1853
DEC 3 1852
DEC 3 1851
DEC 3 1850
DEC 3 1849
DEC 3 1848
DEC 3 1847
DEC 3 1846
DEC 3 1845
DEC 3 1844
DEC 3 1843
DEC 3 1842
DEC 3 1841
DEC 3 1840
DEC 3 1839
DEC 3 1838
DEC 3 1837
DEC 3 1836
DEC 3 1835
DEC 3 1834
DEC 3 1833
DEC 3 1832
DEC 3 1831
DEC 3 1830
DEC 3 1829
DEC 3 1828
DEC 3 1827
DEC 3 1826
DEC 3 1825
DEC 3 1824
DEC 3 1823
DEC 3 1822
DEC 3 1821
DEC 3 1820
DEC 3 1819
DEC 3 1818
DEC 3 1817
DEC 3 1816
DEC 3 1815
DEC 3 1814
DEC 3 1813
DEC 3 1812
DEC 3 1811
DEC 3 1810
DEC 3 1809
DEC 3 1808
DEC 3 1807
DEC 3 1806
DEC 3 1805
DEC 3 1804
DEC 3 1803
DEC 3 1802
DEC 3 1801
DEC 3 1800
DEC 3 1799
DEC 3 1798
DEC 3 1797
DEC 3 1796
DEC 3 1795
DEC 3 1794
DEC 3 1793
DEC 3 1792
DEC 3 1791
DEC 3 1790
DEC 3 1789
DEC 3 1788
DEC 3 1787
DEC 3 1786
DEC 3 1785
DEC 3 1784
DEC 3 1783
DEC 3 1782
DEC 3 1781
DEC 3 1780
DEC 3 1779
DEC 3 1778
DEC 3 1777
DEC 3 1776
DEC 3 1775
DEC 3 1774
DEC 3 1773
DEC 3 1772
DEC 3 1771
DEC 3 1770
DEC 3 1769
DEC 3 1768
DEC 3 1767
DEC 3 1766
DEC 3 1765
DEC 3 1764
DEC 3 1763
DEC 3 1762
DEC 3 1761
DEC 3 1760
DEC 3 1759
DEC 3 1758
DEC 3 1757
DEC 3 1756
DEC 3 1755
DEC 3 1754
DEC 3 1753
DEC 3 1752
DEC 3 1751
DEC 3 1750
DEC 3 1749
DEC 3 1748
DEC 3 1747
DEC 3 1746
DEC 3 1745
DEC 3 1744
DEC 3 1743
DEC 3 1742
DEC 3 1741
DEC 3 1740
DEC 3 1739
DEC 3 1738
DEC 3 1737
DEC 3 1736
DEC 3 1735
DEC 3 1734
DEC 3 1733
DEC 3 1732
DEC 3 1731
DEC 3 1730
DEC 3 1729
DEC 3 1728
DEC 3 1727
DEC 3 1726
DEC 3 1725
DEC 3 1724
DEC 3 1723
DEC 3 1722
DEC 3 1721
DEC 3 1720
DEC 3 1719
DEC 3 1718
DEC 3 1717
DEC 3 1716
DEC 3 1715
DEC 3 1714
DEC 3 1713
DEC 3 1712
DEC 3 1711
DEC 3 1710
DEC 3 1709
DEC 3 1708
DEC 3 1707
DEC 3 1706
DEC 3 1705
DEC 3 1704
DEC 3 1703
DEC 3 1702
DEC 3 1701
DEC 3 1700
DEC 3 1699
DEC 3 1698
DEC 3 1697
DEC 3 1696
DEC 3 1695
DEC 3 1694
DEC 3 1693
DEC 3 1692
DEC 3 1691
DEC 3 1690
DEC 3 1689
DEC 3 1688
DEC 3 1687
DEC 3 1686
DEC 3 1685
DEC 3 1684
DEC 3 1683
DEC 3 1682
DEC 3 1681
DEC 3 1680
DEC 3 1679
DEC 3 1678
DEC 3 1677
DEC 3 1676
DEC 3 1675
DEC 3 1674
DEC 3 1673
DEC 3 1672
DEC 3 1671
DEC 3 1670
DEC 3 1669
DEC 3 1668
DEC 3 1667
DEC 3 1666
DEC 3 1665
DEC 3 1664
DEC 3 1663
DEC 3 1662
DEC 3 1661
DEC 3 1660
DEC 3 1659
DEC 3 1658
DEC 3 1657
DEC 3 1656
DEC 3 1655
DEC 3 1654
DEC 3 1653
DEC 3 1652
DEC 3 1651
DEC 3 1650
DEC 3 1649
DEC 3 1648
DEC 3 1647
DEC 3 1646
DEC 3 1645
DEC 3 1644
DEC 3 1643
DEC 3 1642
DEC 3 1641
DEC 3 1640
DEC 3 1639
DEC 3 1638
DEC 3 1637
DEC 3 1636
DEC 3 1635
DEC 3 1634
DEC 3 1633
DEC 3 1632
DEC 3 1631
DEC 3 1630
DEC 3 1629
DEC 3 1628
DEC 3 1627
DEC 3 1626
DEC 3 1625
DEC 3 1624
DEC 3 1623
DEC 3 1622
DEC 3 1621
DEC 3 1620
DEC 3 1619
DEC 3 1618
DEC 3 1617
DEC 3 1616
DEC 3 1615
DEC 3 1614
DEC 3 1613
DEC 3 1612
DEC 3 1611
DEC 3 1610
DEC 3 1609
DEC 3 1608
DEC 3 1607
DEC 3 1606
DEC 3 1605
DEC 3 1604
DEC 3 1603
DEC 3 1602
DEC 3 1601
DEC 3 1600
DEC 3 1599
DEC 3 1598
DEC 3 1597
DEC 3 1596
DEC 3 1595
DEC 3 1594
DEC 3 1593
DEC 3 1592
DEC 3 1591
DEC 3 1590
DEC 3 1589
DEC 3 1588
DEC 3 1587
DEC 3 1586
DEC 3 1585
DEC 3 1584
DEC 3 1583
DEC 3 1582
DEC 3 1581
DEC 3 1580
DEC 3 1579
DEC 3 1578
DEC 3 1577
DEC 3 1



URBAN STATE LAND USE
Portion of Parcel 1

All of that certain parcel of land being the Urban State Land Use District portion of Parcel 1 of Tax Map Key 4-3-03 (4th Division), being a portion of Grant 5266 to Rufus P. Spalding situate at Kapaa, Kauai, Hawaii and more particularly described as follows:

Beginning at the East corner of this parcel of land on the Southwest side of Oloheua Road, the coordinates of which referred to Government Survey Triangulation Station "NONOU" being 5,934.74 feet North and 10,795.91 feet East and running by azimuths measured clockwise from True South:

1. 35 ° 13' 14.72 feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement;
2. 305 ° 13' 121.57 feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement;
3. Thence over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way Easement on a curve to the right with a radius of 50.00 feet, the chord azimuth and distance being:
344 ° 48' 44" 63.74 feet;
4. Thence over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way Easement on a curve to the left with a radius of 1,030.00 feet, the chord azimuth and distance being:
22 ° 40' 14" 62.45 feet;
5. 20 ° 56' 150.64 feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement;
6. 110 ° 56' 30.00 feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement;
7. 20 ° 56' 500.00 feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement;

- | | | | |
|-----|---|--------|---|
| 8. | 290 ° 56' | 30.00 | feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement; |
| 9. | 20 ° 56' | 531.65 | feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement; |
| 10. | 110 ° 56' | 30.00 | feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement; |
| 11. | Thence over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement on a curve to the right with a radius of 940.00 feet, the chord azimuth and distance being:
22 ° 33' 53.04 feet; | | |
| 12. | 24 ° 10' | 136.41 | feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement; |
| 13. | Thence over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement on a curve to the right with a radius of 940.00 feet, the chord azimuth and distance being:
29 ° 13' 165.49 feet; | | |
| 14. | 34 ° 16' | 129.33 | feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement; |
| 15. | Thence over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement on a curve to the right with a radius of 265.00 feet, the chord azimuth and distance being:
63 ° 01' 254.92 feet; | | |
| 16. | 91 ° 46' | 938.55 | feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement; |

17.	91 ° 04'	580.00	feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement;
18.	181 ° 04'	10.00	feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement;
19.	93 ° 59'	104.46	feet over and across Parcel 1, Tax Map Key 4-3-03 along Kapaa By-Pass Road right-of-way easement;
20.	179 ° 07'	165.42	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
21.	161 ° 57'	433.00	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
22.	174 ° 26'	278.80	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
23.	273 ° 00'	324.19	feet over and across Parcel 1, Tax Map Key 4-3-03;
24.	192 ° 00'	193.74	feet over and across Parcel 1, Tax Map Key 4-3-03;
25.	113 ° 12'	141.30	feet over and across Parcel 1, Tax Map Key 4-3-03;
26.	225 ° 54'	399.65	feet over and across Parcel 1, Tax Map Key 4-3-03;
27.	171 ° 26'	478.33	feet over and across Parcel 1, Tax Map Key 4-3-03;
28.	261 ° 26'	128.70	feet over and across Parcel 1, Tax Map Key 4-3-03;
29.	233 ° 35'	89.98	feet over and across Parcel 1, Tax Map Key 4-3-03;

- | | | | |
|-----|---|--------|--|
| 30. | 323 ° 35' | 47.54 | feet along Lot 1, Kapaa Intermediate School; |
| 31. | 309 ° 45' | 390.14 | feet along Lot 1, Kapaa Intermediate School; |
| 32. | 268 ° 25' | 554.33 | feet along Lot 1, Kapaa Intermediate School; |
| 33. | 181 ° 14' | 848.53 | feet along Lot 1, Kapaa Intermediate School, and
Lot 2, Olohena Road widening Parcel; |
| 34. | 257 ° 37' | 127.84 | feet along Olohena Road; |
| 35. | 297 ° 22' | 265.20 | feet along Olohena Road to a pipe; |
| 36. | 298 ° 02' | 25.00 | feet along Olohena Road to a pipe; |
| 37. | Thence along Olohena Road on a curve to the right with a radius of 375.00 feet, the chord azimuth
and distance being:
307 ° 06' 30" 118.30 feet;
to a pipe; | | |
| 38. | 316 ° 11' | 29.85 | feet along Olohena Road to a pipe; |
| 39. | 28 ° 30' | 203.12 | feet along TMK: 4-3-03:13; |
| 40. | 335 ° 00' | 100.00 | feet along TMK: 4-3-03:13; |
| 41. | 301 ° 35' | 130.00 | feet along TMK: 4-3-03:13; |
| 42. | 278 ° 40' | 50.00 | feet along TMK: 4-3-03:13; |
| 43. | 246 ° 30' | 140.00 | feet along TMK: 4-3-03:13; |
| 44. | 316 ° 11' | 110.00 | feet along TMK: 4-3-03:13; |
| 45. | 272 ° 20' | 46.00 | feet along TMK: 4-3-03:13; |
| 46. | 300 ° 02' | 135.22 | feet along Olohena Road; |

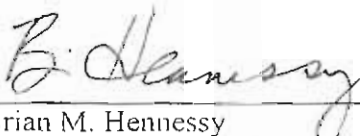
47. 307° 00'

111.44 feet along Olohena Road to the point of
beginning and containing an AREA of
96.060 Acres.



HONUA ENGINEERING INC.

September 23, 2011
P.O. Box 851
Hanalei, Hawaii 96714



Brian M. Hennessy
Licensed Professional Land Surveyor
Certificate No. 14484
Expires: 04/30/2012

THE ORIGINAL OF THE DOCUMENT
RECORDED AS FOLLOWS:

STATE OF HAWAII
OFFICE OF

BUREAU OF CONVEYANCES

Received for record this 27th
day of September, A.D., 2013
at 8:01, o'clock a m. and
Document No. A-50180429

LAND COURT SYSTEM

REGULAR SYSTEM

After Recordation, Return by: Mail () Pickup ()

HG KAUAI JOINT VENTURE, LLC

TG: 201312008

C/O OAR MANAGEMENT, INC.

TGE: 24213023524

9746 ROBERTS ROAD

Jeri Miyaji-Ventura

PALOS HILLS IL 60465

TYPE OF DOCUMENT:

COMMISSIONER'S DEED

PARTIES TO DOCUMENT:

GRANTOR: CURTIS H. SHIRAMIZU, as Commissioner.

GRANTEE: HG KAUAI JOINT VENTURE, LLC, a Hawaii limited liability company
c/o Oar Management, Inc.
9746 S. Roberts Road, Palos Hill, Illinois 60465

TAX MAP KEY FOR PROPERTY:

(4) 4-3-003-001

COMMISSIONER'S DEED

THIS INDENTURE executed this 24th day of September, 2013, by and between CURTIS H. SHIRAMIZU, as Commissioner, duly appointed as hereinafter set forth, hereinafter called the "Grantor", and HG KAUAI JOINT VENTURE, LLC, a Hawaii limited liability company, whose mailing address is c/o Oar Management, Inc., 9746 S. Roberts Road, Palos Hills, Illinois 60465, hereinafter referred to as "Grantee",

WITNESSETH THAT:

WHEREAS, CURTIS H. SHIRAMIZU, was duly appointed as Commissioner pursuant to that certain Findings Of Fact, Conclusions Of Law And Order Granting Plaintiff's Motion For Summary Judgment And Decree Of Foreclosure As To Count I Of The Complaint For Foreclosure Filed July 2, 2012; Exhibit "A" (hereinafter referred to as "Findings of Fact"), filed on November 26, 2012, in Civil No. 12-1-0234 in the Circuit Court of the Fifth Circuit, State of Hawaii;

WHEREAS, pursuant to said Findings of Fact, Grantor herein duly held a public auction on March 6, 2013, wherein the property hereinafter described was offered for sale, and wherein Grantee was the purchaser of said property, subject to the confirmation of said Court;

WHEREAS, said sale has been confirmed by that certain Order Approving Report Of Commissioner, Granting Defendants The Three Stooges, LLC, Allen Family, LLC, Greg L. Allen, Sr. and Greg L. Allen, Jr's Motion For Confirmation Of Sale, And Directing Distribution Of Proceeds, filed on August 1, 2013, in the aforesaid proceeding, and in and by the terms of said Order, the Grantor herein was directed to make a quitclaim conveyance of the property hereinafter described to Grantee herein, or its nominee;

NOW, THEREFORE, Grantor, as Commissioner, for and in consideration of the sum of FOUR MILLION AND NO/100 DOLLARS (\$4,000,000.00), paid by the Grantee, the receipt of which is hereby acknowledged, and in compliance with said Court Order as hereinafter set forth, does hereby remise, release and quitclaim unto the Grantee, as a tenant in severalty, its successors and assigns, the property described in Exhibit "A" attached hereto and incorporated herein by reference.

AND the reversions, remainders, rents, issues, and profits thereof, and all of the estate, right, title and interest of the Grantor, both at law and in equity, therein and thereto.

TO HAVE AND TO HOLD the same, together with the improvements thereon and all rights, easements, privileges and appurtenances thereunto belonging or appertaining or held and enjoyed therewith, unto the Grantee, according to the tenancy herein set forth, forever.

This Commissioner's Deed has been executed by CURTIS H. SHIRAMIZU, in his capacity as Commissioner aforesaid, and not in his individual capacity. The Grantee expressly

acknowledges and agrees that no personal liability or obligation under this instrument shall be imposed or assessed against said CURTIS SHIRAMIZU in his individual capacity.

The Grantee confirms that Grantee has inspected the property being conveyed and specifically attests that Grantee is purchasing the property on an "AS IS" basis, without any representations or warranties, express or implied, with a full understanding that only Grantee and not the Grantor will be responsible for any and all imperfections, defects, obsolescence, wear and tear, and all other conditions of said property and hereby waives any claim hereafter against the Grantor for breach of express or implied warranty as to the condition of the property.

This conveyance and the respective covenants of the Grantor and the Grantee shall be binding on and inure to the benefit of the Grantor and the Grantee, respectively. The terms "Grantor" and "Grantee" as and when used herein, or any pronouns used in place thereof, shall mean and include the singular or plural number, individuals, partnerships, trustees and corporations, and each of their respective heirs, personal representatives, successors and assigns. All covenants and obligations undertaken by two or more persons shall be deemed to be joint and several unless a contrary intention is clearly expressed herein.

This Commissioner's Deed may be executed in counterparts. Each counterpart shall be executed by one or more of the parties hereinbefore named and the several counterparts shall constitute one instrument to the same effect as though the signatures of all the parties are upon the same document.

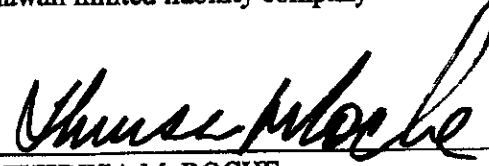
IN WITNESS WHEREOF, the Grantor and the Grantee have caused these presents to be duly executed on this 24th day of September, 20 13.

(SIGNATURES CONTINUED ON NEXT PAGE)

GRANTEE:

HG KAUAI JOINT VENTURE, LLC,
a Hawaii limited liability company

By



THERESA M. ROCHE
Its Manager

By

GREG ALLEN
Its Manager

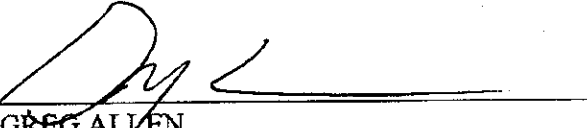
GRANTEE:

HG KAUAI JOINT VENTURE, LLC,
a Hawaii limited liability company

By

THERESA M. ROCHE
Its Manager

By



GREG ALLEN
Its Manager

STATE OF Illinois)
) SS:
COUNTY OF Cook)

On this 24th day of September, 20 13, before me appeared THERESA M. ROCHE, to me personally known, who, being by me duly sworn, did say that she is a Manager of HG KAUAI JOINT VENTURE, LLC, a Hawaii limited liability company, that the foregoing COMMISSIONER'S DEED dated September 27, 20 13, which document consists of 15 page(s), was signed in behalf of said entity, and the said THERESA M. ROCHE acknowledged said instrument to be the free act and deed of said entity.



M. McGuire
Name of Notary: Melissa McGuire
Notary Public, in and for said County and State.

My commission expires: July 19, 2015

STATE OF HAWAII)
) SS:
COUNTY OF KAUAI)

On this _____ day of _____, 20____, before me appeared GREG ALLEN, to me personally known, who, being by me duly sworn, did say that he is a Manager of HG KAUAI JOINT VENTURE, LLC, a Hawaii limited liability company, that the foregoing COMMISSIONER'S DEED dated _____, 20____, which document consists of _____ page(s), was signed in behalf of said entity, and the said GREG ALLEN acknowledged said instrument to be the free act and deed of said entity.

Name of Notary:
Notary Public, Fifth Judicial Circuit,
State of Hawaii.

My commission expires: _____

STATE OF _____)
) SS:
COUNTY OF _____)

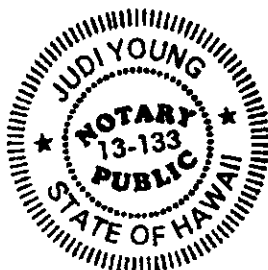
On this _____ day of _____, 20____, before me appeared THERESA M. ROCHE, to me personally known, who, being by me duly sworn, did say that she is a Manager of HG KAUAI JOINT VENTURE, LLC, a Hawaii limited liability company, that the foregoing COMMISSIONER'S DEED dated _____, 20____, which document consists of _____ page(s), was signed in behalf of said entity, and the said THERESA M. ROCHE acknowledged said instrument to be the free act and deed of said entity.

Name of Notary:
Notary Public, in and for said County and State.

My commission expires: _____

STATE OF HAWAII)
) SS:
COUNTY OF KAUAI)

On this 24th day of September, 2013, before me appeared GREG ALLEN, to me personally known, who, being by me duly sworn, did say that he is a Manager of HG KAUAI JOINT VENTURE, LLC, a Hawaii limited liability company, that the foregoing COMMISSIONER'S DEED dated undated, 2013, which document consists of 15 page(s), was signed in behalf of said entity, and the said GREG ALLEN acknowledged said instrument to be the free act and deed of said entity.



Name of Notary: Judi Young
Notary Public, Fifth Judicial Circuit,
State of Hawaii.

JUDI YOUNG
Expiration Date: April 28, 2017

My commission expires: _____

EXHIBIT "A"

All of that certain parcel of land (being portion of the land(s) described in and covered by Parcel 1 of Tax Map Key 4-3-03 (4th Division), being a portion of Grant 5266 to Rufus D. Spalding) situate at Kapaa, Island and County of Kauai, State of Hawaii, and thus bounded and described as per survey dated November 12, 1997, revised September 11, 1998, to-wit:

Beginning at the "+" on a concrete driveway at the east corner of this parcel of land at the north corner of Grant 8216 to Joe Martins on the southwest side of Olohena Road, the coordinates of which referred to Government Survey Triangulation Station "NONOU" being 5,660.65 feet north and 11,159.65 feet east and running by azimuths measured clockwise from true South:

1. 35° 59' 385.90 feet along Grant 8216 to Joe Martin to a pipe;
2. 22° 52' 212.20 feet along Grant 8216 to Joe Martin; and Kapaa Agricultural Lot 1 to a pipe;
3. 100° 09' 134.70 feet along Kapaa Agricultural Lot 1 to a pipe;
4. 13° 38' 502.70 feet along Kapaa Agricultural Lot 1 to a pipe;
5. 27° 12' 171.70 feet along Kapaa Agricultural Lot 1 to a pipe;
6. 37° 25' 44.50 feet along Kapaa Agricultural Lot 1 to a "+" on the rock;
7. 96° 52' 41.00 feet along Kapaa Agricultural Lot 1 to a pipe;
8. 24° 40' 202.40 feet along Kapaa Agricultural Lot 1 to a pipe;
9. 318° 05' 87.36 feet along Kapaa Agricultural to a pipe;
10. 30° 57' 297.55 feet along Kapaa Agricultural Lot 1 to a pipe;
11. Thence along Kapaa Agricultural Lot 1 on a curve to the right with a radius of 253.97 feet, the chord azimuth and distance being: 62° 33' 30" 266.22 feet to a pipe;
12. 94° 10' 11.52 feet along Kapaa Agricultural Lot 1 to a pipe;
13. 194° 30' 134.28 feet along the Canc Haul Road Right-of-Way (Part 4) and Grant 5237 to Hee Fat to a pipe;

14.	91° 26'	1538.50	feet along Grant 5237 to Hee Fat to a pipe;
15.	34° 24'	140.00	feet along Grant 5237 to Hee Fat and the Cane Haul Road Right-of-Way (Part 4) to a pipe;
16.	124° 24'	109.44	feet along Grant 5237 to Hee Fat;
17.	179° 07'	328.20	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
18.	161° 57'	433.00	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
19.	174° 26'	278.80	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
20.	58° 03'	228.00	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
21.	83° 46'	130.50	feet along Lot 3, Kapaa Rice and Kula Lots;
22.	193° 34'	142.10	feet along Lot 3, Kapaa Rice and Kula Lots;
23.	134° 25'	37.50	feet along Lot 3, Kapaa Rice and Kula Lots;
24.	61° 13'	102.60	feet along Lot 3, Kapaa Rice and Kula Lots;
25.	15° 18'	130.60	feet along Lot 3, Kapaa Rice and Kula Lots;
26.	71° 49'	37.10	feet along Lot 3, Kapaa Rice and Kula Lots;
27.	137° 54'	63.20	feet along Lot 3, Kapaa Rice and Kula Lots;
28.	196° 07'	588.10	feet along Lot 3, Kapaa Rice and Kula Lots;
29.	287° 25'	74.30	feet along L.C. Aw. 3554:1 to Keo;
30.	204° 43'	402.60	feet along L.C. Aw. 3554:1 to Keo to a pipe;
31.	191° 23'	213.70	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
32.	127° 12'	175.90	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
33.	93° 47'	270.70	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
34.	139° 40'	130.10	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
35.	187° 18'	168.60	feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;

36. 145° 21' 184.30 feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
37. 71° 54' 211.50 feet along Lot 3, Kapaa Rice and Kula Lots;
38. 115° 21' 123.70 feet along Lot 3, Kapaa Rice and Kula Lots;
39. 166° 33' 92.20 feet along Lot 3, Kapaa Rice and Kula Lots;
40. 216° 24' 260.40 feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
41. 156° 33' 153.00 feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
42. 73° 13' 340.60 feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
43. 122° 08' 107.50 feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
44. 150° 30' 118.03 feet along Lot 3, Kapaa Rice and Kula Lots to a pipe;
45. 226° 13' 49.22 feet along Olohena Road to a pipe;
46. Thence along Olohena Road on a curve to the left with a radius of 1,115.00 feet, the chord azimuth and distance being: 218° 45' 289.79 feet to a P-K nail;
47. 211° 17' 145.50 feet along Olohena Road to a P-K nail;
48. Thence along Olohena Road on a curve to the right with a radius of 65.00 feet, the chord azimuth and distance being: 268° 48' 30" 109.67 feet to a pipe;
49. Thence along Olohena Road on a curve to the left with a radius of 87.10 feet, the chord azimuth and distance being: 299° 32' 78.54 feet to a pipe;
50. 272° 44' 249.69 feet along Olohena Road to a pipe;
51. 281° 55' 203.91 feet along Olohena Road to a pipe;
52. 291° 21' 251.40 feet along Olohena Road to a pipe;
53. 261° 28' 149.18 feet along Olohena Road to a pipe;
54. 286° 25' 226.46 feet along Olohena Road to a pipe;
55. 325° 04' 288.93 feet along Olohena Road to a pipe;

56. 317° 06' 310.87 feet along Olohena Road to a pipe;
57. 3° 37' 476.50 feet along Lot 2, Olohena Road widening parcel and Lot 1, Kapaa Intermediate School, and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
58. 323° 35' 304.65 feet along Lot 1, Kapaa Intermediate School, and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
59. 309° 45' 390.14 feet along Lot 1, Kapaa Intermediate School, and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
60. 268° 25' 554.33 feet along Lot 1, Kapaa Intermediate School, and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
61. 181° 14' 848.53 feet along Lot 1, Kapaa Intermediate School, and Lot 2, Olohena Road widening Parcel and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
62. 257° 37' 127.84 feet along Olohena Road;
63. 297° 22' 265.20 feet along Olohena Road to a pipe;
64. 298° 02' 25.00 feet along Olohena Road to a pipe;
65. Thence along Olohena Road on a curve to the right with a radius of 375.00 feet, the chord azimuth and distance being: 307° 06' 30" 118.30 feet to a pipe;
66. 316° 11' 29.85 feet along Olohena Road to a pipe;
67. 28° 30' 203.12 feet along TMK: 4-3-03:13 and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
68. 335° 00' 100.00 feet along TMK: 4-3-03:13 and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
69. 301° 35' 130.00 feet along TMK: 4-3-03:13 and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
70. 278° 40' 50.00 feet along TMK: 4-3-03:13 and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
71. 246° 30' 140.00 feet along TMK: 4-3-03:13 and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;

72. 316° 11' 110.00 feet along TMK: 4-3-03:13 and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
73. 272° 20' 46.00 feet along TMK: 4-3-03:13 and along the remainder of Grant 5266 to Rufus P. Spalding to a pipe;
74. 300° 02' 135.22 feet along Olohena Road;
75. 307° 00' 566.89 feet along Olohena Road to the point of beginning and containing an area of 163.125 acres, more or less.

Said above described parcel of land having been acquired as follows:

1. By ALLEN FAMILY, LLC, an Arizona limited liability company, as to an undivided thirty-two percent (32%) interest, by the following:

(A) WARRANTY DEED of KAPAA 160 LLC, a Hawaii limited liability company, as to an undivided twenty percent (20%) interest, dated April 13, 2001, recorded in the Bureau of Conveyances of the State of Hawaii as Document No. 2001-056858; and

(B) WARRANTY DEED of KAPAA 160 LLC, a Hawaii limited liability company, as to an undivided twelve percent (12%) interest, dated May 17, 2002, recorded as Document No. 2002-098922;

2. By MOLOA'A BAY VENTURES, LLC, a Hawaii limited liability company, as to an undivided ten percent (10%) interest, by WARRANTY DEED of KAPAA 160 LLC, a Hawaii limited liability company, dated April 13, 2001, recorded as Document No. 2001-056859; and

3. By THREE STOOGES LLC, a Hawaii limited liability company, as to an undivided fifty-eight percent (58%) interest, by the following:

(A) WARRANTY DEED of KAPAA 160, LLC, a Hawaii limited liability company, as to an undivided fifty-seven percent (57%) interest, dated December 10, 2003, recorded as Document No. 2004-017361; and

(B) WARRANTY DEED of KAPAA 160, LLC, a Hawaii limited liability company, as to an undivided one percent (1%) interest, dated December 10, 2003, recorded as Document No. 2005-110182.

SUBJECT, HOWEVER, to the following:

1. Mineral and water rights of any nature in favor of the State of Hawaii.
2. Free flowage of a stream shown on survey map prepared by Ronald J. Wagner, Licensed Professional Land Surveyor with Wagner Engineering Services, Inc., dated November 12, 1997, revised September 11, 1998.
3. Government Survey Registered Map No. 2324, Classification of Lands of Kapaa, Kauai, shows Triangulation Survey Stations "PUEO" and "POINT" being located within the land under search. Attention is invited to the provisions of Section 172-13 of the Hawaii Revised Statutes relating to the destruction, defacing or removal of survey monuments.
4. GRANT to HAWAIIAN TELEPHONE COMPANY, now known as HAWAIIAN TELCOM, INC., dated November 16, 1964, and recorded in said Bureau in Liber 4914 at Page 487, granting an easement for utility purposes.
5. GRANT to HAWAIIAN TELEPHONE COMPANY, now known as HAWAIIAN TELCOM, INCL, dated October 28, 1975, and recorded in said Bureau in Liber 11015 at Page 529, granting a perpetual right and easement for utility purposes.
6. SETBACK (20 feet wide) for future road widening purposes, as shown on survey map prepared by Ronald J. Wagner, Licensed Professional Land Surveyor with Wagner Engineering Services, Inc., dated November 12, 1997, revised September 11, 1998.
7. Easement for the Temporary Kapaa By-Pass Road Right-of-Way (7.859 acres) as shown on survey map prepared by Ronald J. Wagner, Licensed Professional Land Surveyor with Wagner Engineering Services, Inc., dated November 12, 1997, revised September 11, 1998.
8. Dirt roads, as shown on survey map prepared by Ronald J. Wagner, Licensed Professional Land Surveyor with Wagner Engineering Services, Inc., dated November 12, 1997, revised September 11, 1998.
9. DESIGNATION OF EASEMENT "E-1" (60 feet wide) for electrical transmission lines and poles, as shown on survey map prepared by Ronald J. Wagner, Licensed Professional Land Surveyor with Wagner Engineering Services, Inc., dated November 12, 1997, revised September 11, 1998.
10. DESIGNATION OF EASEMENT "E-2" (60 feet wide) for electrical transmission lines and poles, as shown on survey map prepared by Ronald J. Wagner, Licensed Professional Land Surveyor with Wagner Engineering Services, Inc., dated November 12, 1997, revised September 11, 1998.
11. DESIGNATION OF EASEMENT "E-3" (60 feet wide) for electrical transmission lines and poles, as shown on survey map prepared by Ronald J. Wagner, Licensed Professional

Land Surveyor with Wagner Engineering Services, Inc., dated November 12, 1997, revised September 11, 1998.

12. DESIGNATION OF EASEMENT "E-4" (60 feet wide) for electrical transmission lines and poles, as shown on survey map prepared by Ronald J. Wagner, Licensed Professional Land Surveyor with Wagner Engineering Services, Inc., dated November 12, 1997, revised September 11, 1998.

13. GRANT to CITIZENS UTILITIES COMPANY, now known as CITIZENS COMMUNICATIONS COMPANY, whose interest is now held by KAUAI ISLAND UTILITY COOPERATIVE, dated May 12, 1998, and recorded in said Bureau as Document No. 98-161869, granting a perpetual right and easement for utility purposes over said Easements "E-1", "E-2", "E-3" and "E-4", more particularly described therein.

14. EXCEPTING AND RESERVING UNTO THE GRANTOR, its successors and assigns, all of the rights in favor of the Grantor with respect to the "Kapaa Bypass Road" and the "Kapaa Bypass Road License" (as those terms are defined in the Purchase Agreement) affecting the portion of the Property described in Exhibit "B" attached hereto, which rights include, without limitation: (i) the right to receive an allocated portion of the license fee payable under the Kapaa Bypass Road License; (ii) easement rights for access, roadway and utility purposes, and for agricultural equipment operation, over and across such portions of the Kapaa Bypass Road affecting the Property as may be reasonably required or convenient for the Grantor's agricultural activities on the Property or other lands owned or leased by the Grantor or Amfac-Related Entities (as that term is defined in the Purchase Agreement); and (iii) all rights and interests of the "Owner" under the Kapaa Bypass Road License relating to continued use of the Kapaa Bypass Road for the Grantor's agricultural operations; such rights, and related rights and agreements, being more particularly set forth and fully described in Section 9 of the Purchase Agreement, the terms and conditions of said Section 9 being incorporated herein by this reference.

FURTHER EXCEPTING AND RESERVING UNTO THE GRANTOR, its successors and assigns, the right to designate and convey easement rights, within the area cross-hatched on Exhibit "C" attached hereto, to Citizens Utilities Company for electrical transmission and distribution line purposes, such right being more particularly set forth and fully described in Section 10 of the Purchase Agreement, the terms and conditions of said Section 10 being incorporated herein by this reference.

THE GRANTEE, for itself, any person or entity claiming by or through it and their respective successors and assigns, acknowledges that the Property is located near or adjacent to properties (the "Adjacent Properties") which are or may be used for various agricultural and related or ancillary purposes. As such, it is expected that the Property will periodically be affected by noise, dust, smoke, soot, ash, odor or other adverse conditions of any kind created by or resulting from such agricultural activities. The Grantee, for itself, any person or entity claiming by or through it and their respective successors and assigns, further acknowledges and agrees that neither the Grantor, Amfac-Related Entities, the owners of the

Adjacent Properties, nor any of their respective successors in title or assigns, shall be held liable for any nuisance, personal injury, illness or other loss, damage or claim which is caused by or related to the presence, operation and/or use of the Adjacent Properties for agricultural and related or ancillary purposes."; as set forth in DEED AND RESERVATION OF RIGHTS AND EASEMENTS dated as of April 5, 1999, recorded as Document No. 99-051737.

15. The terms and provisions contained in unrecorded COTENANCY AGREEMENT dated April 13, 2001, between ALLEN FAMILY, LLC, an Arizona limited liability company, and KAPAA 160 LLC, a Hawaii limited liability company, as mentioned in instrument dated May 17, 2003, recorded as Document No. 2002-098923.

16. The terms and provisions contained in the LAND USE AGREEMENT dated March 14, 2003, recorded as Document No. 2003-229571, by and between KAPAA 382, LLC, a Hawaii limited liability company, KAPAA 160, LLC, a Hawaii limited liability company; THE HANCOCK AND COMPANY, INC. PROFIT SHARING PLAN AND TRUST, WILLIAM R. HANCOCK, TRUSTEE, and JUNE VAN DAHM and KRIS VAN DAHM, husband and wife; ROBERT VALENTI, husband of Kristen M. Valenti; and KAREN B. COLE, formerly known as Karen Flynn.

17. NOTICE OF DEDICATION dated January 1, 2006 and January 31, 2006, recorded in said Bureau as Document No. 2006-024715, by THREE STOOGES, LLC, ALLEN FAMILY, LLC, and MOLOAA BAY VENTURES, LLC, regarding dedication of the land for agriculture purposes for a period of 10 years.

18. MEMORANDUM OF LEASE AGREEMENT; TMK 4-3-003-001, dated October 18, 2010, recorded in said Bureau as Document No. 2010-158402, memorializes the Lease Agreement dated August 9, 2010, by and between THREE STOOGES LLC, a Hawaii Liability Company, MOLOA'A BAY VENTURES, LLC, a Hawaii Limited Liability Company and ALLEN FAMILY, LLC, an Arizona Limited Liability Company as "Lessor" and KAPAA SOLAR LLC, a Hawaii Limited Liability Company, as "Lessee", as mentioned in instrument dated August 1, 2013, recorded as Document No. A-49950500.

19. GRANT to KAUAI ISLAND UTILITY COOPERATIVE dated March 4, 2011, recorded in said Bureau as Document No. 2011-045886, granting an easement for utility purposes over Easement "U-1" and an easement for access purposes over Easement "A-1", being more particularly described therein.

20. Claims arising out of customary and traditional rights and practices, including without limitation those exercised for subsistence, cultural, religious, access or gathering purposes, as provided for in the Hawaii Constitution or the Hawaii Revised Statutes.

21. Discrepancies, conflicts in boundary lines, shortage in area, encroachments or any other matters which a correct survey or archaeological study would disclose.

22. Unrecorded Lease effective May 20, 2011, by and between the THREE STOOGES LLC, a Hawaii Limited Liability Company, MOLOA`A BAY VENTURES, LLC, a Hawaii Limited Liability Company and ALLEN FAMILY, LLC, an Arizona Limited Liability Company, as Lessor, and KRB LLC, a Hawaii limited liability company, as Lessee, as mentioned in instrument dated August 1, 2013, recorded as Document A-49950500.

HG KAUAI JOINT VENTURE LLC
FINANCIALS
MANAGEMENT BASIS
DECEMBER 31, 2019

HG KAUAI JOINT VENTURE LLC
STATEMENT OF
ASSETS, LIABILITIES, AND MEMBERS' EQUITY
MANAGEMENT BASIS
DECEMBER 31, 2019

ASSETS

Current Assets	\$ 12,614
Other Assets:	
Investment in Real Estate	10,600,000
Member Loan Accrued Interest	2,228,347
Other Assets	<u>1,043,609</u>
Total Other Assets	<u>13,871,956</u>
Total assets	<u><u>\$ 13,884,570</u></u>

LIABILITIES AND MEMBERS' EQUITY

Current Liabilities	
Accounts Payable	\$ 319,946
Lines of Credit	
Arboretum Holdings LLC (\$15,000.00)	
Goldman Sachs Group Inc (\$5,000,000)	<u> </u>
Total Current Liabilities	<u>319,946</u>
Long-term Liabilities	<u> </u>
Total Liabilities	319,946
Members' Equity	
Members' Equity	10,340,639
Member Loans Payable	995,638
Member Loan Accrued Interest	<u>2,228,347</u>
Total Members' Equity	<u>13,564,624</u>
Total liabilities and members' equity	<u><u>\$ 13,884,570</u></u>

HG KAUAI JOINT VENTURE LLC
STATEMENT OF
NET PROFIT (LOSS)
MANAGEMENT BASIS
YEAR ENDED DECEMBER 31, 2019

Revenues	\$ <u>162</u>
Costs and Expenses	
Insurance	675
Other costs and expenses	<u>3,558</u>
Total Costs and Expenses	<u>4,233</u>
Net Operating Profit (Loss)	(4,071)
Property Taxes	<u>(34,768)</u>
Net Profit (Loss)	<u><u>\$ (38,839)</u></u>

August 20, 2020

NOTICE OF AMENDED PETITION FILING

This notice is to advise you that an amended petition to amend the State Land Use District Boundaries with the following general information has been submitted to the State Land Use Commission:

Docket No.:	A11-791
Petitioner Address:	HG KAUAI JOINT VENTURE, LLC c/o OAR Management, Inc. 9911 South 78th Avenue Hickory Hills, IL 60457
Landowner Address	HG KAUAI JOINT VENTURE, LLC c/o OAR Management, Inc. 9911 South 78th Avenue Hickory Hills, IL 60457
Tax Map Key No.:	(4) 4-3-003:001 (por.)
Location:	Kawaihau District, Kapa'a, Kaua'i
Requested Reclassification:	Agricultural to Urban
Acreage:	96 acres
Proposed Use:	single-family and multi-family residential community
Date Submitted:	August 19, 2020

You may review detailed information regarding the amended petition at the Land Use Commission office or the Kauai County Planning Department.

The Land Use Commission Office is located at 235 S. Beretania Street, Room 406, Honolulu, Hawaii. Office hours are from 7:45 am to 4:30pm, Mondays through Fridays.

A hearing on this petition will be scheduled at a future date. If you are interested in participating in the hearing as a public witness, please write or call the Commission office at P.O. Box 2359, Honolulu, Hawaii 96804-2359; Phone: 587-3822. If you intend to participate in the hearing as an intervenor, pursuant to §15-15-52, Hawaii Administrative Rules, you should file a notice of intent to Intervene with the Commission within 30 days of the date of this notice. Please contact the Commission office for further information.

This Notice contains the correct Docket No. of the Petition.



HOKUA PLACE

Kawaihau District, Kapa'a, Kaua'i, Hawai'i

TMK (4) 4-3-003:001 (por.)

Sea Level Rise Assessment



Prepared By:

HG Kaua'i Joint Venture LLC
9911 S. 78th Avenue
Hickory Hills, IL 60457

July 2020



HOKUA PLACE

Kawaihau District, Kapa'a, Kaua'i, Hawai'i

TMK (4) 4-3-003:001 (por.)

Sea Level Rise Assessment

HOKUA PLACE

Applicant:

HG Kaua'i Joint Venture LLC
9911 S. 78th Avenue
Hickory Hills, IL 60457

Submitted To:

State of Hawai'i
Land Use Commission
235 S Beretania Street
Suite 406,
Honolulu, HI 96813

Prepared By:

G7O
Architecture, Civil Engineering, Planning and Interior Design
111 S. King Street, Suite 170
Honolulu, Hawai'i 96813

July 2020



Table of Contents

SECTION	PAGE
List of Figures	ii
List of Tables	ii
1.0 Introduction	1-1
1.1 Project Information Summary	1-1
1.2 Report Purpose and Scope	1-2
1.3 Regional and Local Setting	1-2
1.4 Proposed Project Description	1-2
2.0 Environmental Setting	2-1
2.1 Sea Level Rise Overview	2-1
2.2 Historic Shoreline Trends	2-3
2.3 Hawai'i Sea Level Rise Predictions	2-3
2.4 Sea Level Rise Anomalies	2-3
2.5 Coastal Hazards	
2.5.1 Passive Flooding	2-4
2.5.2 Wave Inundation	2-4
2.5.3 Storm Surge	2-4
2.5.4 Coastal Erosion	2-6
2.5.5 Saltwater Intrusion	2-6
2.6 Existing Conditions	2-7
2.6.1 Flooding	2-7
2.6.2 Sea Level Rise Exposure Area	2-7
2.6.3 Shoreline Conditions	2-7
3.0 Regulatory Setting	3-1
3.1 Hawai'i's Climate Change Mitigation and Adaptation Initiative	3-1
3.2 Land Use Commission Rules HAR Chapter 15-15-50(c)	3-1
3.3 Kaua'i General Plan	3-1
4.0 Project Sea Level Rise Analysis	4-1
4.1 Roadways and Access	4-1
4.2 Drainage	4-2
4.3 Water Supply	4-2
4.4 Wastewater	4-3
4.5 Power and Communications	4-4
4.6 Conclusions	4-5

List of Figures

Figure	Page
1-1 County of Kaua'i, TMK Parcel Map of Project Area.....	1-4
1-2 Conceptual Land Use Plan for the Project Area.....	1-5
2-1 Measured MSL Trends at Nawiliwili Station 1611400 (NOAA, 2017)	2-2
2-2 Hawai'i Sea Level Rise Scenarios (adapted from NOAA, 2017)	2-4
2-3 Central Pacific Historical Hurricane Tracks (1949 to 2018).....	2-5
2-4 Hawai'i Historical Hurricane Tracks (1949 to 2018).....	2-5
2-5 Hawai'i Historical Tropical Storms and Depressions (1949 to 2018).....	2-6
2-6 FEMA Flood Insurance Map Designation, 1500020204F	2-8
2-7 Sea Level Rise Exposure Area (3.2 ft rise scenario).....	2-9
2-8 Erosion Rates Along Kapa'a Coastline (Fletcher, 2009)	2-10
2-9 Erosion Rates Along Wailua Coastline (Fletcher, 2009)	2-11

List of Tables

Table	Page
1-1 Summary of Project Land Uses	1-4
2-1 Water Level Data for Nawiliwili Tide Station 1611400	2-2
2-2 Hawai'i Sea Level Rise Scenarios (adapted from NOAA, 2017)	2-3

Chapter 1

Introduction

1.1 Project Information Summary

Type of Document:	Sea Level Rise Assessment
Project Name:	HoKua Place
Applicant:	HG Kaua'i Joint Venture LLC 9911 S. 78 th Avenue Hickory Hills, IL 60457
Agent:	G7O 111 S. King St., Suite 170 Honolulu, HI 96813
Approving Agency:	Hawai'i State Land Use Commission 235 S Beretania Street Suite 406, Honolulu, HI 96813
Project Location:	Kawaihau District, Kapa'a, Kaua'i
Tax Map Keys (TMK)	(4) 4-3-003:001 (por.)
State Land Use District:	Agriculture
Kaua'i General Plan:	Neighborhood General
Kaua'i County Zoning	Agriculture
Special Management Area:	Outside SMA
Flood Zone:	X: Area determined to be outside the 100-year floodplain with minimal flooding

1.2 Report Purpose and Scope

The purpose of this report is to evaluate the potential sea level rise (SLR) impacts associated with the implementation of the planned HoKua Place Project (Project). This assessment was triggered by the Project's petition to the Land Use Commission (LUC) for a State Land Use Boundary Amendment. Specifically, the petition is to change the State's Land Use District from Agricultural Land Use District to Urban Land Use District. Per Hawai'i Administrative Rules (HAR) Chapter 15-15-50(c)(24): Application Requirements for Boundary Amendment Petitions, *the petitioner shall prepare a statement and analysis addressing (A) the impacts of SLR on the proposed development and (D) the location of the proposed development and the threat imposed to the proposed development by SLR, based on the maps and information contained in the Hawai'i Sea Level Rise Vulnerability Adaptation report and the proposed mitigation measures taken to address those impacts.*

This SLR Assessment describes the existing setting of the project site, describes the relevant regulatory setting, and discusses the methodology used to evaluate SLR impacts related to the Project. Measures the Project will take to mitigate potential impacts will also be discussed.

1.3 Regional and Local Setting

The Project site is located in the residential/resort town of Kapa'a along the eastern coast of the Island of Kaua'i (*Figure 1-1*). The Project area consists of an approximately 96-acre portion of the 163-acre parcel (TMK (4) 4-3-003:001). The site is located within the traditional moku of Kawaihau and the ahupua'a of Kapa'a.

The Project site is situated at the north-west corner of the Kapa'a Bypass Road and Olohena Road. The Kapa'a Bypass Road, located south and east of the property, separates the Project site from the Kapa'a town center. Olohena Road runs along and adjacent to the northern boundary of the property. The Kapa'a Middle School is located on the northern end of the subject parcel, fronted by Olohena Road. The western boundary of the Project site is bordered by a small intermittent stream. The stream flows from north to south along the boundary, passes under a bridge on the Kapa'a Bypass Road at the southwest corner of the property, and empties into the Waiākea drainage canal downstream from the property.

The lands surrounding the Project to the north and east are designated as "Residential Community" and "Neighborhood General" by the Updated Kaua'i General Plan. The Property is contiguous to existing urban lands, to the south and across the Kapa'a Bypass Road. These existing lands are classified Urban by the State Land Use Commission and zoned Residential by the County of Kaua'i.

1.4 Proposed Project Description

HG Kaua'i Joint Venture LLC is planning to develop a residential community consisting of a mix of single-family and multi-family residential, market and affordably priced homes, commercial, community park, and open green space. The Project is designed as a sustainable community that aims to preserve the rural character of Kapa'a while accommodating Kaua'i's growing housing needs.

Approximately 96-acres will be subdivided into single family and multifamily lots providing for a total of 683-multi-family units and 86-single family lots and homes. Approximately 30 percent of the housing units are designated as affordable. The Project also includes open space encompassing 13.25-acres; a 3.1-acre park adjacent to the existing Kapa'a Middle School with an area for the county's proposed

relocation of the Kapa‘a county swimming pool; and 1.4-acres for commercial use. In accordance with County and State Department of Transportation requirement, improvements will include an intersection on Kapa‘a Bypass Road, bus stops, sidewalks and bike and walking paths to the existing Kapa‘a Middle School.

The Project plans to share a portion of the infrastructure with the adjacent and adjoining HoKua Farm Lots. A 4-acre solar farm, located within the Farm Lots, generates 1.18 MW of electricity that feeds into the Kaua‘i Island Utility Cooperative’s (KIUC) distribution grid.

A Project’s planned land uses are summarized in *Table 1-1* below and shown conceptually in *Figure 1-2*.

Table 1-1: Summary of Project Land Uses			
Land Use	Acreage	Number of Units	Population*
Large Lot Single Family Homes (10,000 sf)	8.26	36	113
Medium Lot Single Family Homes (7,500 sf)	8.60	50	157
Multi-Family Dwelling (4 Plex)	45.82	452	1,415
Affordable Housing Dwellings (low-rise)	15.63	231	723
Commercial	1.40		
Community Park and Pool	3.10		
Open Space	13.25		
Total	96.06	769	2,408

*Populations estimates derived from average Kaua‘i household size from 2008-2014, <https://www.census.gov/quickfacts/kauaicountyhawaii>

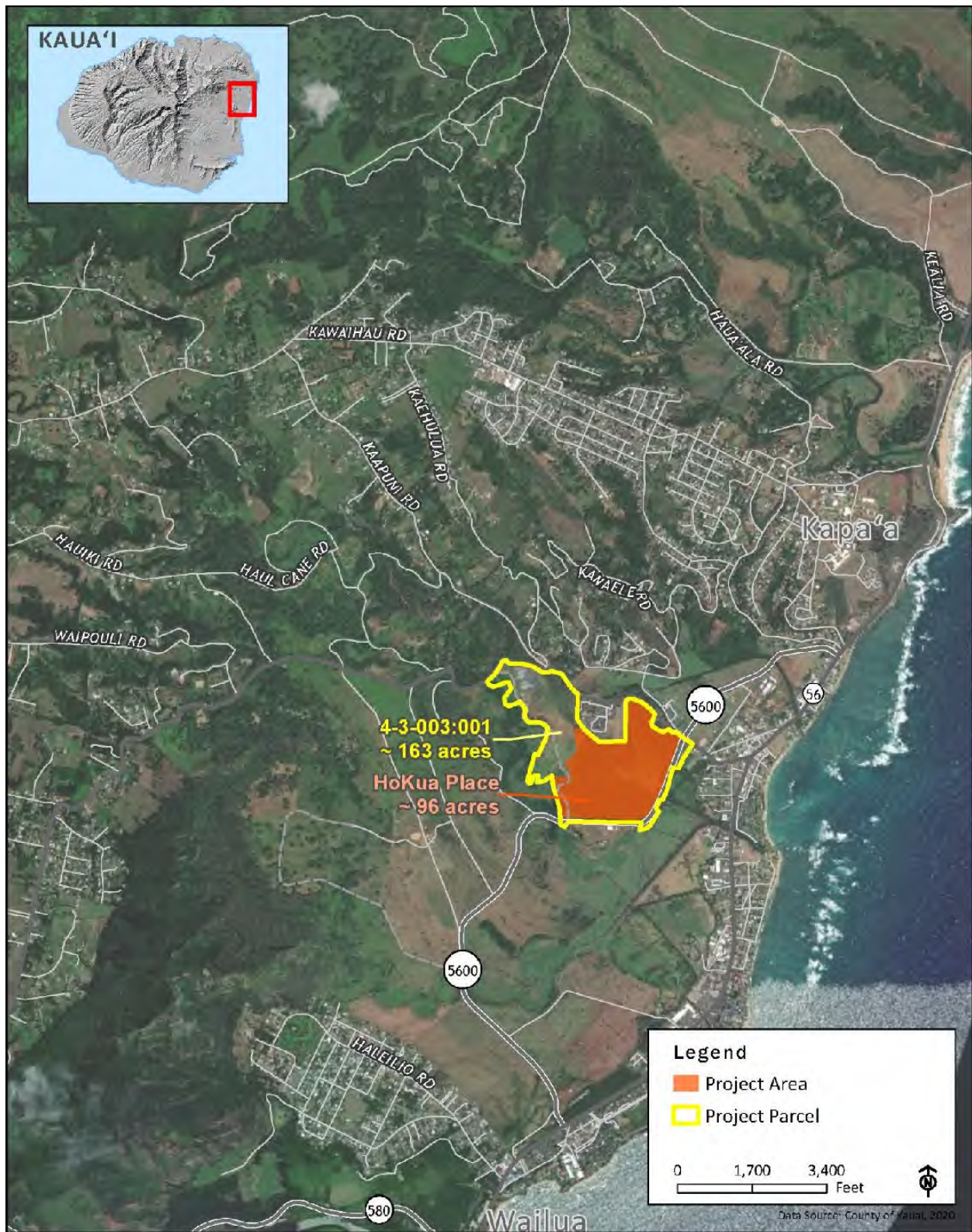


Figure 1-1

County of Kaua'i, TMK Parcel Map of Project Area

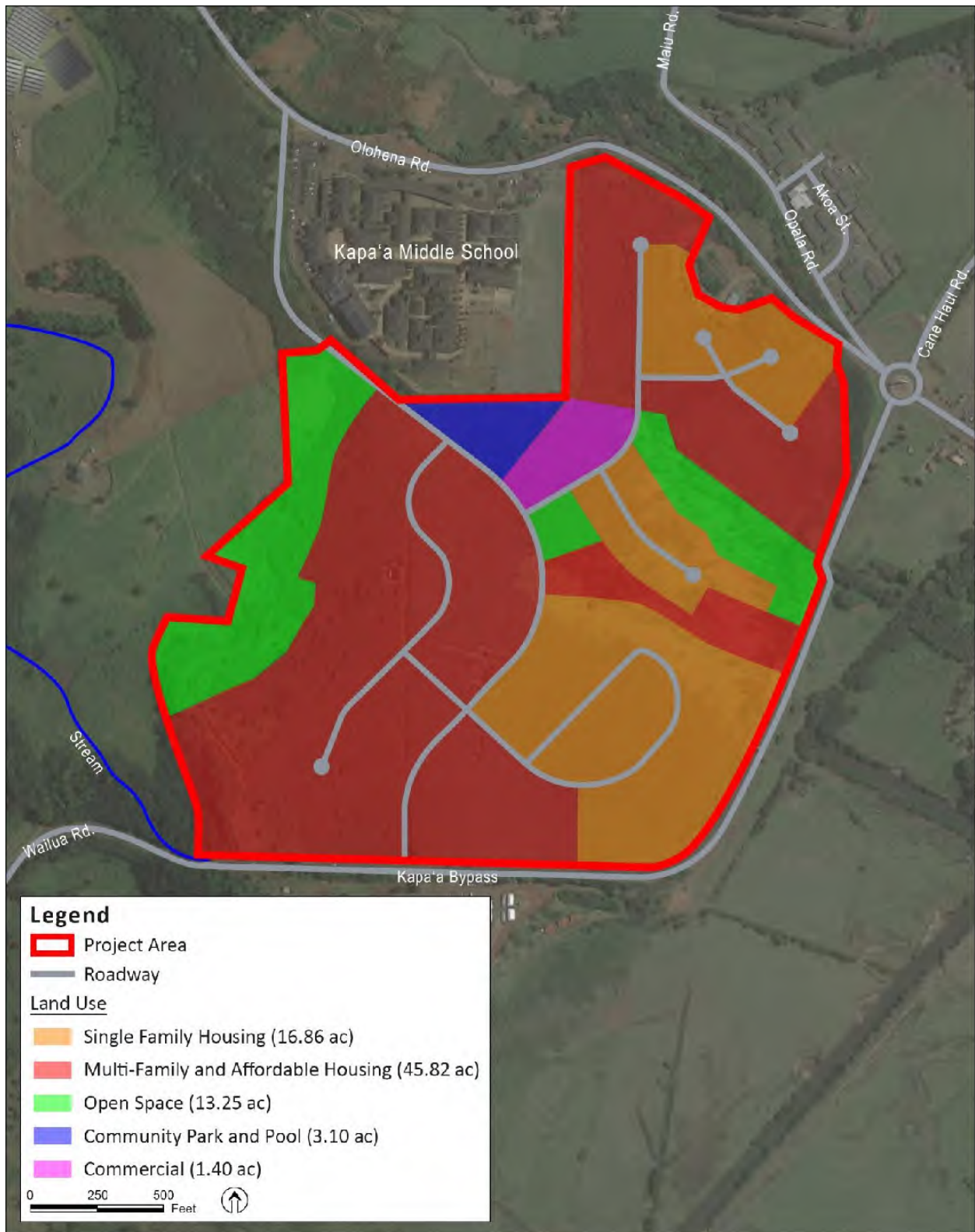


Figure 1-2

Conceptual Land Use Plan of the Project Area

Chapter 2

Environmental Setting

2.1 Sea Level Rise Overview

The ocean is the largest solar energy collector on Earth. Not only does water cover more than 70 percent of our planet's surface, but it can also absorb large amounts of heat without a large increase in temperature. The ability to store and release heat over long periods of time gives the ocean a central role in stabilizing Earth's climate system.

Rising amounts of greenhouse gases (GHG) are preventing heat radiated from Earth's surface from escaping into space as freely as it used to. Most of the excess atmospheric heat is passed back to the ocean. As a result, upper ocean heat content has increased significantly over the past two decades. Presently, warming of ocean water is raising global sea level because water expands as it warms.

Land-based ice, such as glaciers and ice sheets, are also greatly affected by global warming. These reserves of ice are located in places like Greenland and Antarctica. Typically, they experience melt during the warmer months of the year and the ice is replenished in colder months. With the average year-round global temperatures rising, however, ice caps and glaciers are experiencing a disproportionate amount of melting at an accelerated rate.

SLR is an inevitable outcome of global warming that will continue through many centuries even if human-generated GHG emissions were stopped today. Rising ocean levels will increasingly threaten natural ecosystems and human structures near coastlines around the world.

2.2 Historic Shoreline Trends

SLR at specific locations may be more or less than the global average due to local factors such as land subsidence from natural processes and withdrawal of groundwater and fossil fuels, changes in regional ocean currents, regional ocean temperatures, and flexure of the underlying crust from the compressive weight of glaciers or volcanism. According to the University of Hawai'i School of Ocean and Earth Science and Technology (SOEST), sea levels in the central western Pacific Ocean may reach approximately 1 to 2.5 ft higher than the global average sea level rise by the end of the century.

The National Oceanic and Atmospheric Administration (NOAA) records water level information at tidal stations throughout the state. Long-term records from tide stations around Hawai'i show that sea level is rising around the islands. Relative rates of sea level rise, however, vary among the islands. In fact, the relative rate of SLR on the Island of Hawai'i is almost twice the rate on Kaua'i (NOAA, 2017).

The nearest tidal station to the Project area is located at the Nawiliwili Harbor, approximately ten miles away. For each tidal station, NOAA provides a set of standard sea level elevations (datums) defined by certain phases of the tide. Tidal datums are used as references to measure local water levels. The tidal datums defined for the Nawiliwili Station are presented in Table: 2-1 below.

Table 2-1: Water Level Data for Nawiliwili Station 1611400 (NOAA, 2017)		
Datum	Elevation (feet, MLLW)	Elevation (feet, MSL)
Mean Higher High Water (MHHW)	1.83	1.01
Mean High Water (MHW)	1.42	0.60
Mean Sea Level (MSL)	0.82	0.00
Mean Low Water (MLW)	0.20	-0.62
Mean Lower Low Water (MLLW)	0.00	-0.82

Historic records from NOAA's tidal station show that sea levels have been gradually rising along Kaua'i's eastern coast (Figure 2-1). The sea level values are relative to the MSL datum established at the station. The relative sea level trend is approximately 0.067 inches per year based on monthly mean sea level data from 1955 to 2019 which is equivalent to a change of approximately 0.56 feet over 100 years.

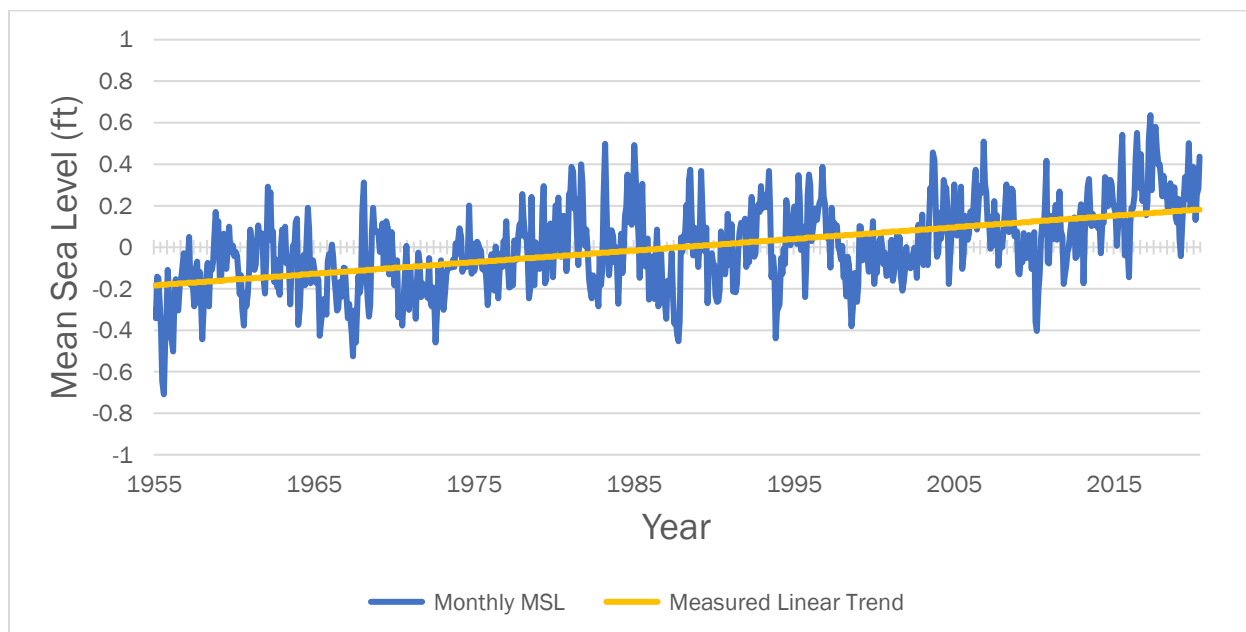


Figure 2-1 Measured MSL Trends at Nawiliwili Station 1611400 (NOAA, 2017)

2.3 Hawai'i Sea Level Rise Predictions

The Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) provides projections of global mean sea level rise for four GHG emissions scenarios (2014). These scenarios are called representative concentration pathways (RCPs). The RCPs describe possible climate futures based on how much GHGs are emitted.

The “business as usual” (RCP8.5) scenario is regarded as the most likely scenario and is used in modeling coastal hazards in the 2017 Hawai'i Sea Level Rise Vulnerability and Adaptation Report. The RCP8.5 scenario predicts a rise of 0.5 feet in 2030, 1.1 feet in 2050, 2.0 feet in 2075, and 3.2 feet in 2100.

According to a 2017 NOAA report looking at the most up-to-date scientific literature on SLR projections, global mean SLR in the range of 6.4 feet to 8.8 feet is “physically plausible” by the end of this century. These high-end projections are based on observations and models of potential rapid ice melt in Greenland and Antarctica. Further, the 2017 NOAA report indicates that SLR in the area around Hawai'i will exceed projections of global mean SLR due to mass and gravitational changes with the melting of the Greenland and Antarctic ice sheets.

The 2017 NOAA report provides six SLR scenarios ranging from “low” to “extreme” The predicted SLR scenarios for the state of Hawai'i are presented in Table 2-2 and Figure 2-2 below.

Table 2-2: Hawai'i Sea Level Rise Scenarios (adapted from NOAA, 2017)											
Scenario (feet)	2000	2010	2020	2030	2040	2050	2060	2070	2080	2090	2100
Low	0.1	0.2	0.3	0.4	0.5	0.7	0.9	1.0	1.1	1.2	1.3
Int-Low	0.1	0.2	0.4	0.5	0.7	0.9	1.1	1.3	1.4	1.6	1.8
Intermediate	0.1	0.3	0.5	0.7	1.0	1.4	1.8	2.3	2.8	3.3	4.0
Int-High	0.1	0.4	0.6	0.9	1.4	2.0	2.6	3.4	4.3	5.2	6.4
High	0.1	0.4	0.7	1.1	1.8	2.5	3.5	4.6	5.9	7.2	8.9
Extreme	0.1	0.4	0.7	1.3	2.0	3.0	4.1	5.5	7.0	8.7	10.9

2.4 Sea Level Rise Anomalies

Hawai'i is subject to periodic extreme tide events due to large oceanic eddies and other oceanographic phenomena that propagate through the islands. Mesoscale eddies produce tide levels that can be up to 0.5 feet higher than normal for periods up to several weeks (Firing and Merrifield, 2004). An additional temporary sea level rise on the order of 0.5 feet has also been associated with phenomena related to the El Niño / Southern Oscillation.

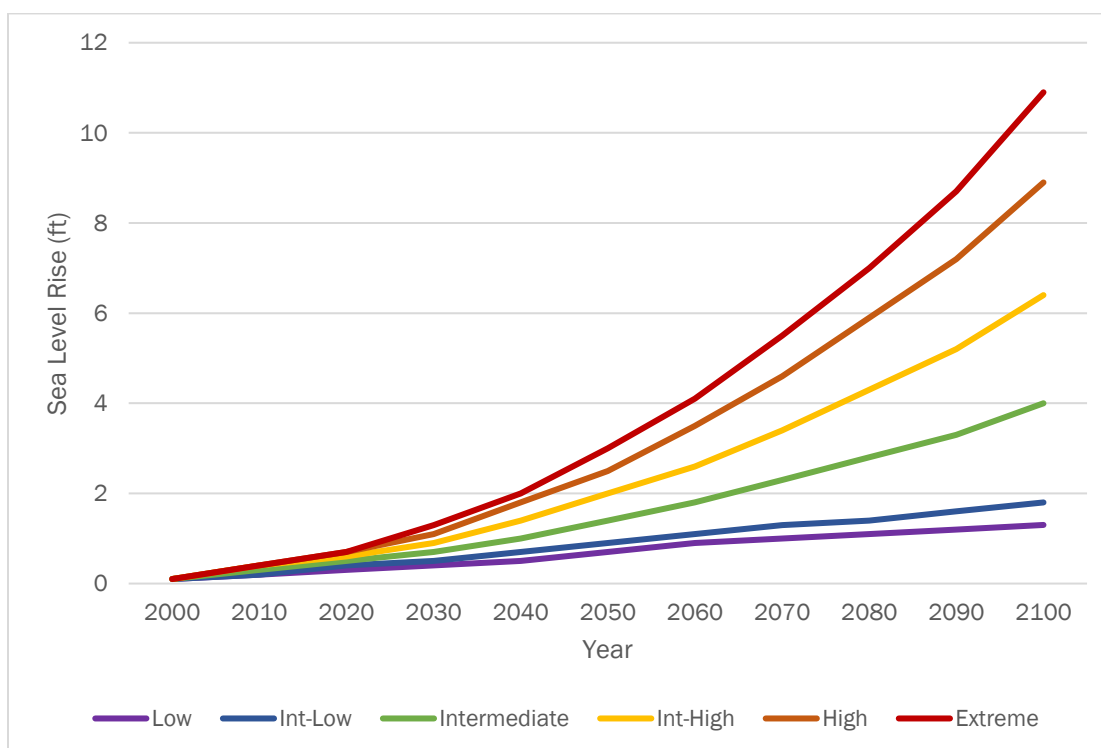


Figure 2-2 Hawai'i Sea Level Rise Scenarios (adapted from NOAA, 2017)

2.5 Coastal Hazards

2.5.1 PASSIVE FLOODING

SLR exposes coastlines to greater risks of flooding. Passive flooding includes marine flooding over the shoreline by still water flow into the lands that lie below the water level. It also depicts low-lying areas indirectly flooded by SLR through water table rise. Passive flooding is exacerbated by rainfall as it prevents drainage and as such, runoff and marine waters combine to produce larger impacts.

2.5.2 WAVE INUNDATION

In addition to passive flooding, SLR allows more wave energy to reach the shoreline. This results in higher wave runup and overtopping of the beach berm that can cause flooding.

2.5.3 STORM SURGE

When severe storms such as hurricanes move toward land from the ocean, low pressure and strong winds can push abnormally high water levels onto the coast. Along ocean coasts, storm surges can produce water levels much higher than normal high tide, resulting in extreme coastal and inland flooding.

Figure 2-3 shows the historical tracks of tropical storms and hurricanes in the central Pacific from 1949 to 2018. While direct hits to the Hawaiian Islands are rare, hurricane tracks to the north or south

of the islands are not infrequent and can generate large, damaging waves which can have impacts along the shorelines throughout Hawai'i. The historical tracks of hurricanes that have passed near the Hawaiian Islands from 1948 to 2018 are shown in Figure 2-4. The tracks of tropical storms and tropical depressions that have passed near Hawaii are shown in Figure 2-5.

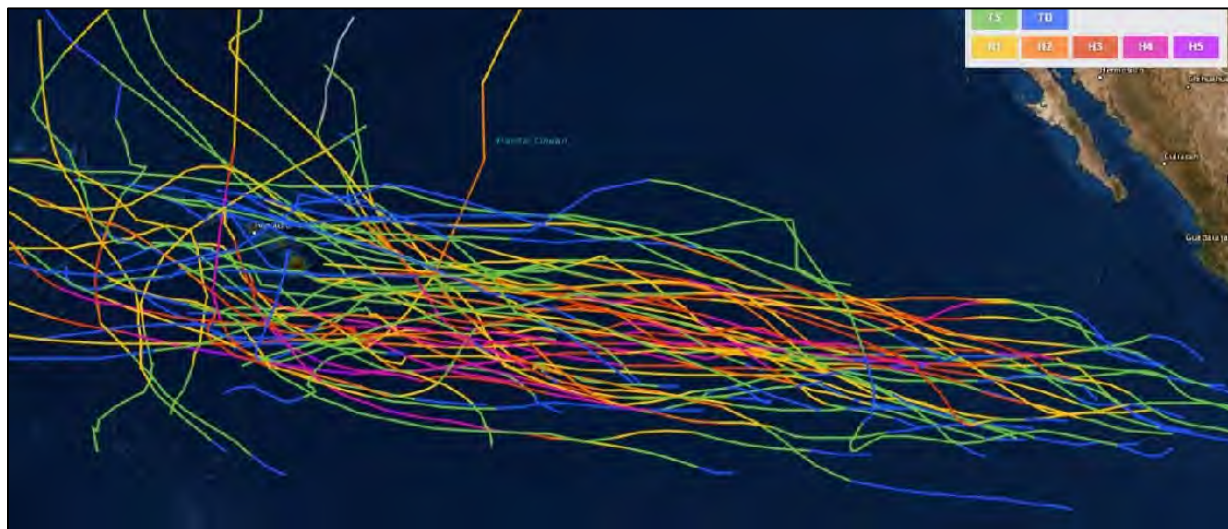


Figure 2-3 Central Pacific Historical Hurricane Tracks (1949-2018)

*Source: <https://coast.noaa.gov/hurricanes/>

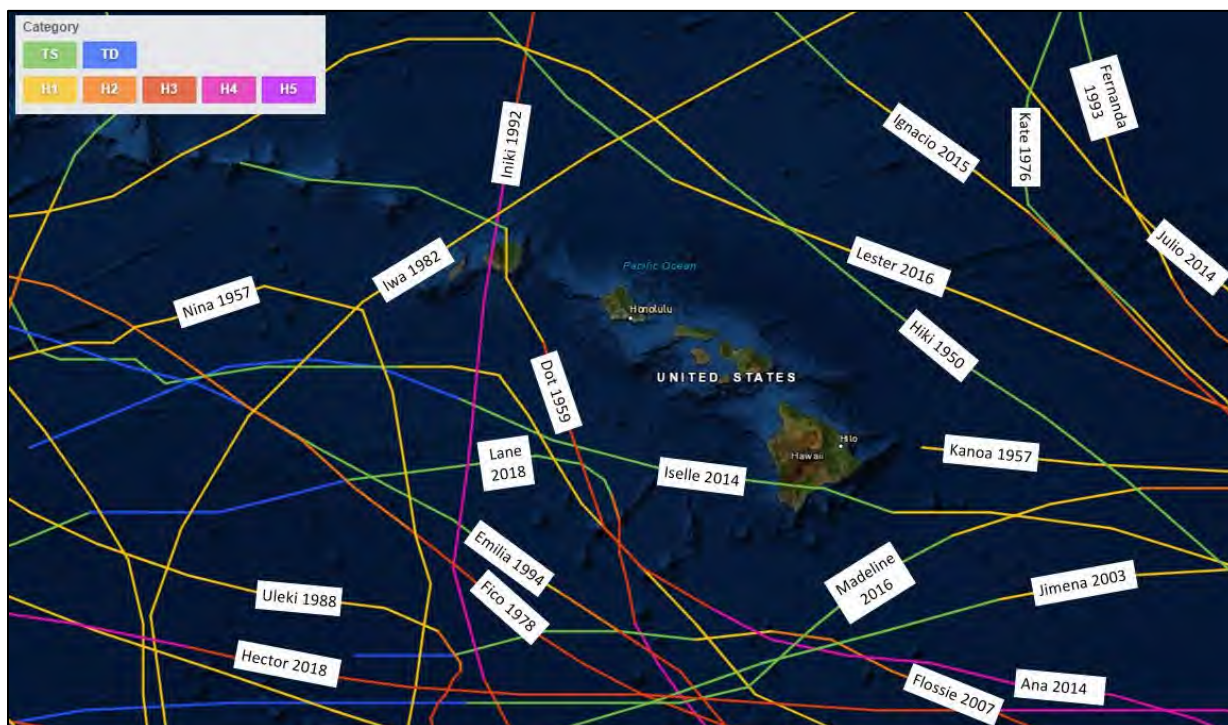


Figure 2-4 Hawai'i Historical Hurricane Tracks (1949-2018)

*Source: <https://coast.noaa.gov/hurricanes/>

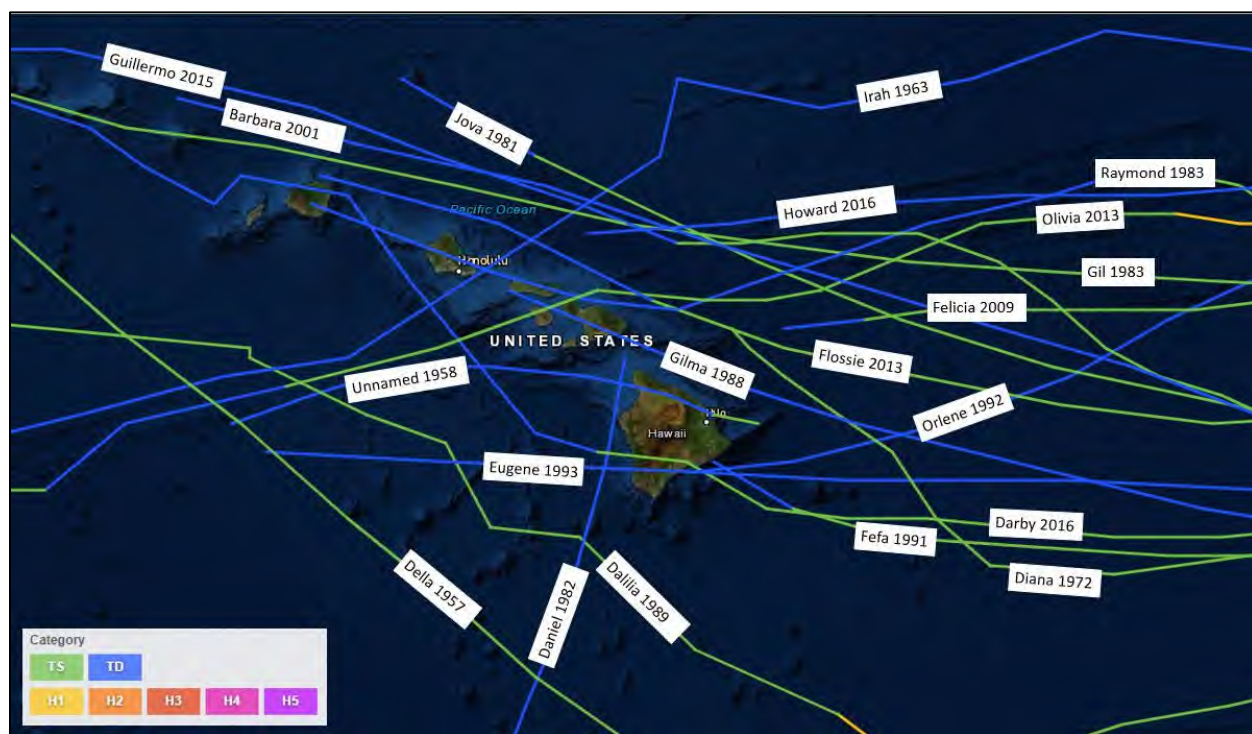


Figure 2-5 Hawai'i Historical Tropical Storm and Depression Tracks (1949-2018)

*Source: <https://coast.noaa.gov/hurricanes/>

2.5.4 COASTAL EROSION

Coastal erosion is the process by which local SLR, strong wave action, and coastal flooding wear down or carry away rocks, soils, and sands along the coast. Erosion threatens the integrity of structures and infrastructure located along the coast. Studies of historical shoreline change using aerial photographs and survey maps show that 70% of beaches on Kaua'i, O'ahu, and Maui shoreline are eroding (Fletcher et al. 2012).

2.5.5 SALTWATER INTRUSION

Saltwater intrusion is the movement of saline water into freshwater aquifers, which can lead to groundwater quality degradation. Saltwater intrusion decreases freshwater storage in the aquifers, and, in extreme cases, can result in the abandonment of supply wells.

2.6 Existing Conditions

2.6.1 FLOODING

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the Project Area is located in Zone X, an area determined to be minimal flood risk (Figure 2-6). The site is not located within a FEMA Special Flood Hazard Area (SFHA).

The HoKua Place property is located atop a plateau mauka of the Kapa'a Bypass Road. The southern border of the Property, along the Bypass Road, is elevated approximately 55 feet above MSL. The property rises in elevation to the northern border approximately 130 feet above MSL. The property is not vulnerable to flooding or subject to any flood regulations.

2.6.2 SEA LEVEL RISE EXPOSURE AREA

The Hawai'i Sea Level Rise Vulnerability and Adaptation Report (2017) uses modeling to identify the potential exposure of each island to multiple coastal hazards resulting from SLR. Three chronic flooding hazards were modeled inclusive of passive flooding, annual high wave flooding, and coastal erosion. The footprints of these three hazards were combined to define the projected extent of chronic flooding due to SLR, called the sea level rise exposure area (SLR-XA). Each of these hazards were modeled for four future sea level rise scenarios: 0.5 feet, 1.1 feet, 2.0 feet and 3.2 feet based on the upper end of the IPCC AR5, RCP8.5, or "business as usual" sea level rise scenario.

The Project site is located entirely outside of the maximum 3.2 ft SLR-XA area (Figure 2-7). Much of the land located makai of the Project would be inundated with flooding. Although the Project would not be directly impacted by chronic flooding, it would likely be impacted indirectly by the inundation of the surrounding land.

2.6.3 SHORELINE CONDITIONS

The coastline along the Kapa'a and Wailua region is composed primarily of carbonate sand interrupted by basalt headlands, hardened shoreline and boulder groins with a fringing reef offshore. This stretch of coast is experiencing chronic coastal erosion due to persistent tradewinds and rough seas throughout the year. On average, erosion is occurring at a rate of approximately -1.1 ft/year (Figure 2-8 and Figure 2-9). Although erosion will not impact the Project area directly within the next century, it could have indirect impacts to site access and infrastructure.

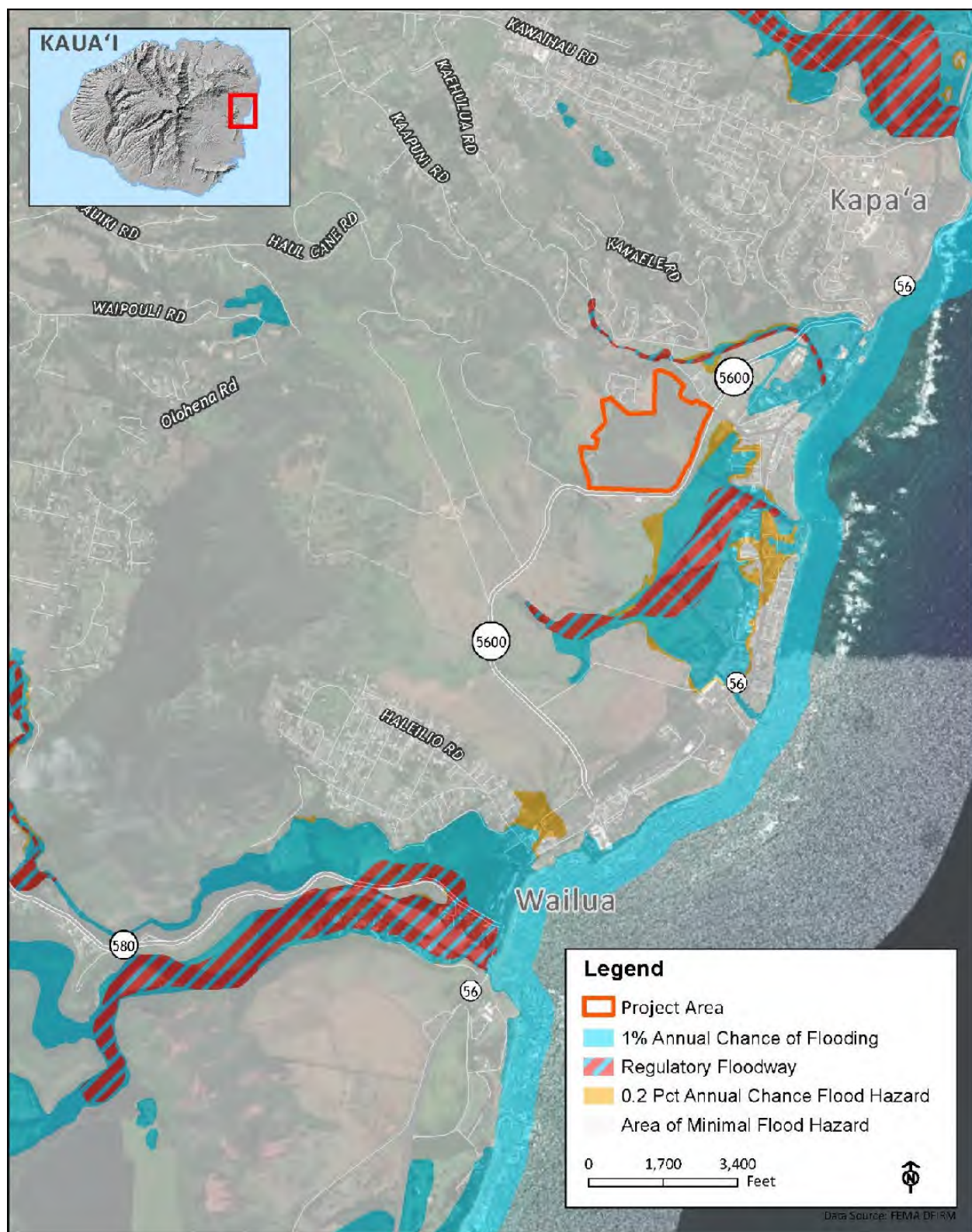


Figure 2-6

FEMA Flood Insurance Map Designation, 1500020204F

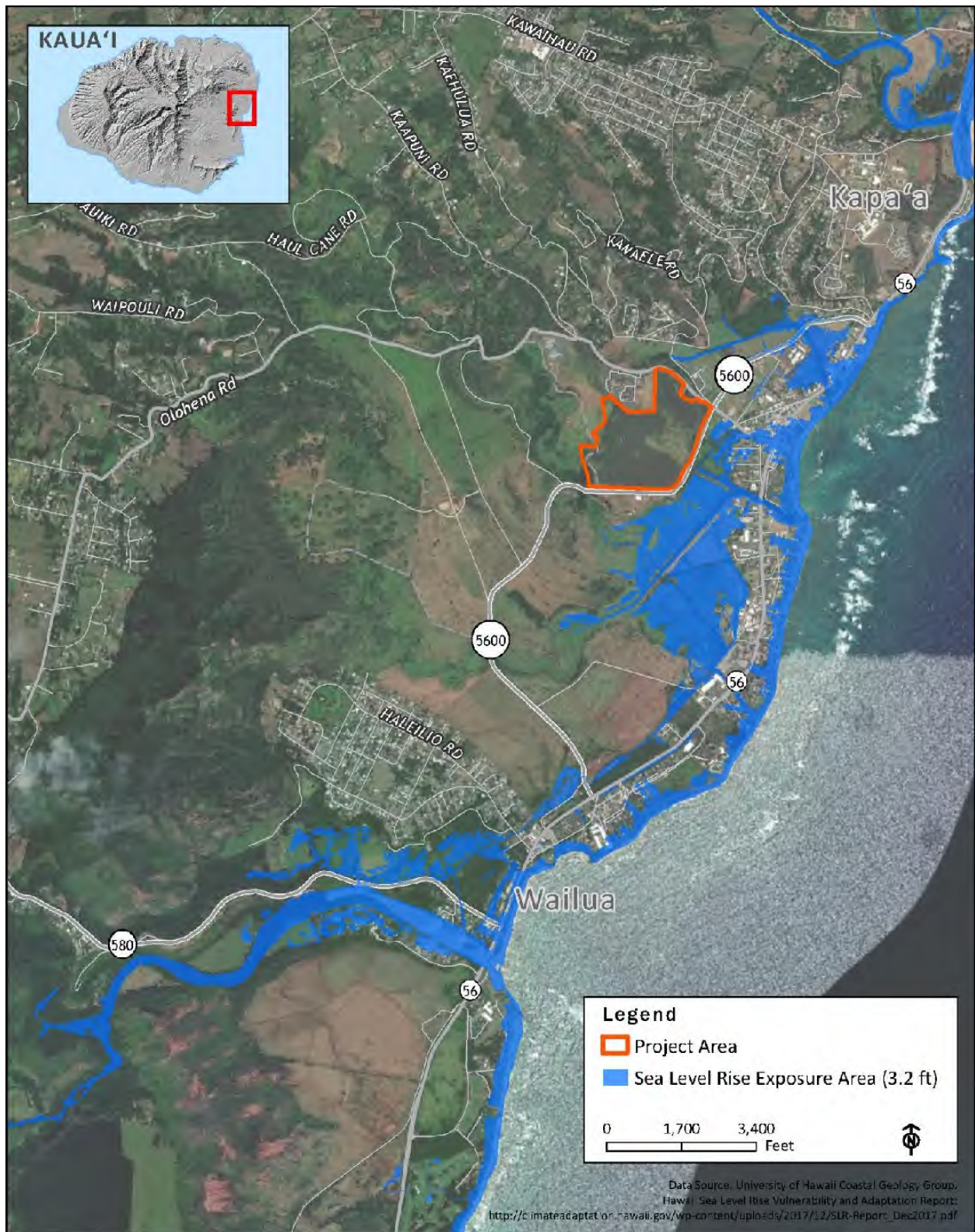


Figure 2-7

Sea Level Rise Exposure Area (3.2 ft rise scenario)

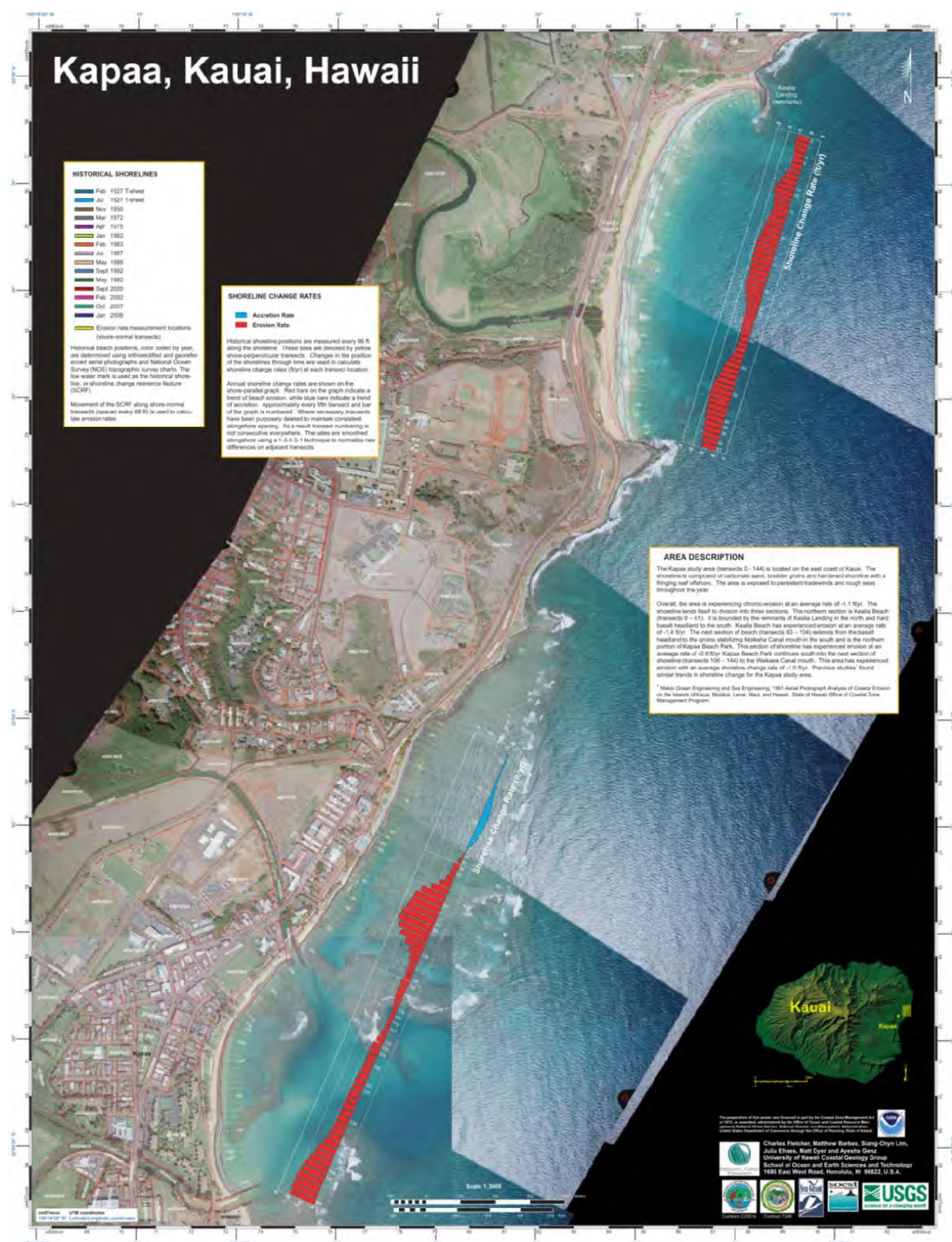


Figure 2-8

Erosion Rates Along Kapa'a Coastline (Fletcher, 2009)

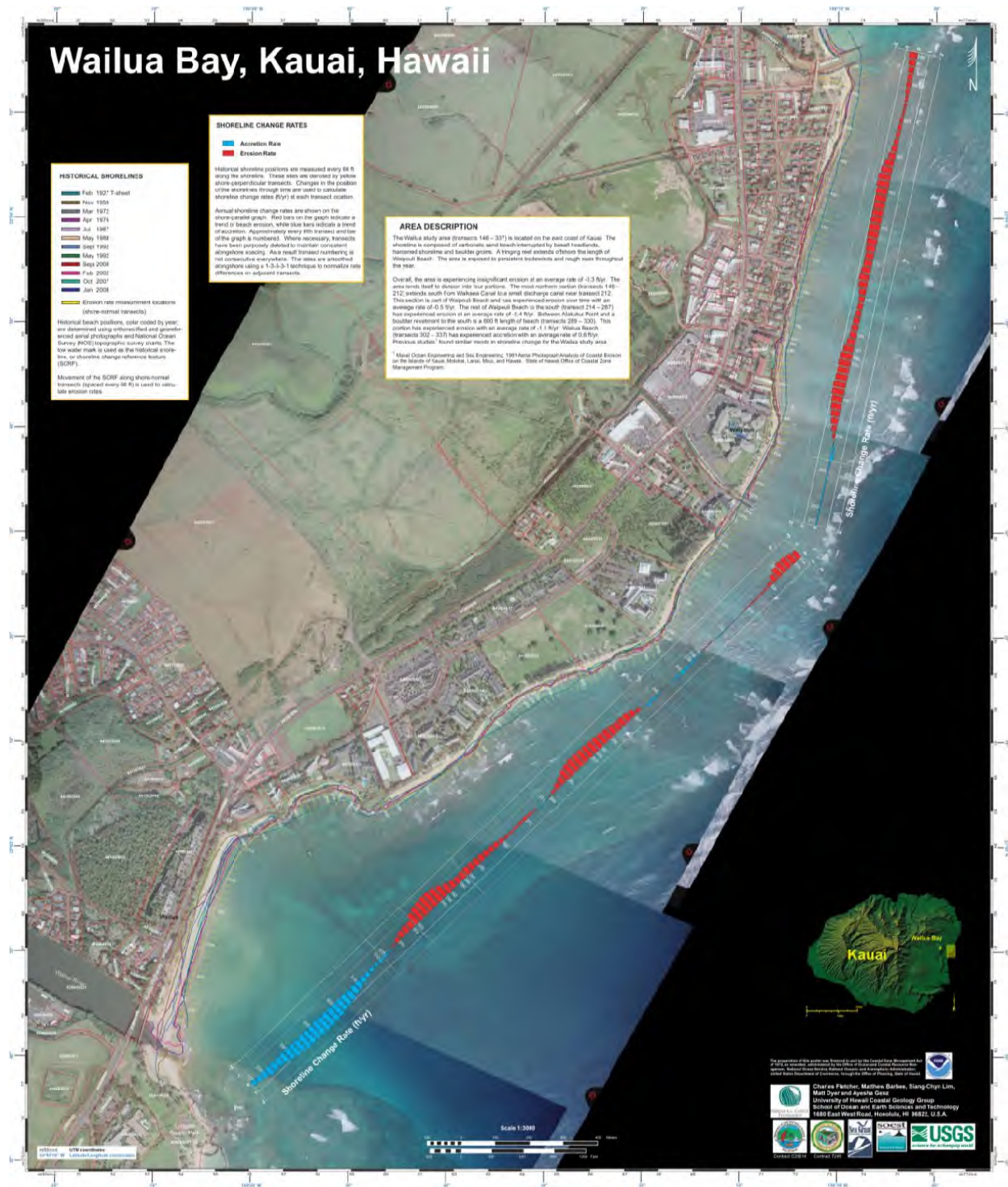


Figure 2-8

Erosion Rates Along Wailua Coastline (Fletcher, 2009)

Chapter 3

Regulatory Setting

3.1 Hawai‘i’s Climate Change Mitigation and Adaptation Initiative

In 2014, the Hawai‘i State Legislature passed the Hawai‘i Climate Adaptation Initiative Act (Act 83, Session Laws of Hawai‘i) declaring that climate change poses both an urgent and long-term threat to the state’s economy, sustainability, security, and way of life. This legislation created an Interagency Climate Adaptation Committee, housed within the State Department of Land and Natural Resources (DLNR), and called for the development of a statewide Sea Level Rise Vulnerability and Adaptation Report. This report, completed in December 2017, includes recommendations to reduce exposure to SLR along with recommendations to increase the state’s capacity to adapt. The report is also intended to serve as a model for future efforts to address other climate related threats and climate change adaptation priorities, ultimately leading to a Climate Adaptation Plan for the State of Hawai‘i.

3.2 Land Use Commission Rules HAR Chapter 15-15-50(c)

The Project has submitted a petition to LUC for a boundary amendment. The petition is to change the State’s Land Use District from Agricultural Land Use District to Urban Land Use District. Per HAR Chapter 15-15-50(c)(24): Application Requirements for Boundary Amendment Petitions, *the petitioner shall prepare a statement and analysis addressing (A) the impacts of SLR on the proposed development and (D) the location of the proposed development and the threat imposed to the proposed development by SLR, based on the maps and information contained in the Hawai‘i Sea Level Rise Vulnerability Adaptation report and the proposed mitigation measures taken to address those impacts.*

This SLR assessment has been developed in support of the Project’s petition for State Land Use District Boundary Amendment, and to satisfy the intent of HAR Chapter 15-15-50(c)(24).

3.3 Kaua‘i General Plan

The 2017 Kaua‘i General Plan expresses the island’s commitment towards mitigating the impacts of climate change and SLR. An overarching goal of the plan is to reduce the island’s overall carbon footprint by promoting higher density residential development near job centers and amenities, while strongly discouraging development that will require residents to commute via automobile to jobs in other areas of the Island. The Project’s goal of developing a sustainable residential community near the Kapa‘a town center is in alignment with this objective. Various planned elements inclusive of bicycle routes, pedestrian pathways, bus stops, and local destinations are designed to reduce automobile dependence and reduce vehicle miles traveled.

The General Plan outlines nine permitting actions and code changes aimed at minimizing the risk of coastal hazards associated with SLR.

1. Use the best available climate and hazard science to inform and guide decisions. Determine a range of locally relevant (context specific) sea level rise (SLR) projections for all stages of planning, project design, and permitting reviews. At the time of this General Plan Update publication, the science suggests planning targets of at least one foot by 2050 and three feet by 2100.
2. Regularly review and refine relevant policies, rules, and regulations based on the most currently available climate and hazard science and projections
3. Identify lands/areas that may serve as buffers from coastal hazards and restrict development within them.
4. Periodically update the shoreline setback and coastal protection article of the comprehensive zoning ordinance to allow for adjustments in the setback calculations based upon best-available SLR data.
5. Update the Floodplain Management Program to incorporate sea level rise planning information, utilizing options detailed in the Kaua'i Climate Change and Coastal Hazards Assessment or other relevant resources.
6. Within the special management area (SMA) and Zoning Permit program: (a) Require applicants to analyze coastal hazard impacts and include mitigation in permit applications; (b) impose development conditions upon permits that minimize the impacts of exacerbated flooding, storm surge, and erosion due to sea level rise; (c) strengthen rebuilding restrictions for nonconforming structures such that these structures are relocated a safe distance from the shoreline in hazardous areas; and (d) add conditions that prohibit shoreline armoring.
7. Update the subdivision standards to: (a) restrict residential subdivisions in areas prone to current and future coastal hazards, including sea level rise; (b) outside of these natural hazards areas, provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources.
8. Periodically update the building code to ensure that the standards for strengthening and elevating construction to withstand hazard forces in hazardous areas utilize the best available science and planning information.
9. When considering project alternatives during the environmental review process, evaluate relocation outside of hazardous areas, elevation of structures, and "soft" hazards such as beach nourishment. When considering environmental mitigation, incorporate climate resilience measures.

This SLR assessment supports the county's effort to determine the hazard risk to the planned Project and evaluates the SRL exposure area above the 3ft recommended planning target. The Project area is located entirely outside of the identified natural hazard areas and does not include any type of shoreline hardening. Structures will be constructed in compliance with state and county building codes and will be designed to withstand the anticipated hazard forces along the coastal region.

Chapter 4

Project SLR Analysis

For the planned HoKua Place project, sea level impacts to the property were estimated using the SLR_{XA} model results presented in the 2017 Hawai'i Sea Level Rise Vulnerability Adaptation report (Figure 2-7). According to the SLR_{XA}, the Project will not be inundated by flooding as a result of SLR. The Project's location was selected due to the proximity to the Kapa'a Town Center as well as its elevation above the hazard area and sufficient regional access.

4.1 Roadways and Access

The Project site is located at the mauka convergence of the Kapa'a Bypass Road and Olohena Road (State Highway 581). The Kapa'a Bypass Road, located south and east of the property, separates the Project site from the Kapa'a town center. Olohena Road runs along and adjacent to the northern boundary of the property. Regional access to the site is primarily via Kūhīo Highway. The location of the Project site in the mauka area of Kapa'a has the benefit of avoiding the direct impacts of SLR and coastal erosion. With an elevation ranging between 55 ft to 130 ft, the Project area is well above the 3.2 ft projected SLR scenario (Figure 2-7).

The 2017 Hawai'i Sea Level Rise Vulnerability Adaptation report estimates that 6.5 miles of major roads island-wide would be flooded with 3.2 ft of sea level rise. This includes portions of Kūhīo Highway that could become chronically flooded and eroded away. This could result in wide-spread regional issues such as loss of commerce and increased traffic on other roads and highways.

Access to the Project site from Kūhīo Highway could be compromised by chronic inundation and erosion by 2100. Most of the flooding locally would be generated by passive flooding caused by groundwater inundation and spillover of the Waikāea Canal into low-lying areas mauka of Kūhīo Highway. It is possible that the Kapa'a Bypass Road could become the major inland roadway in the future. Olohena Road offers an additional route from Kapa'a to Wailua at an even higher elevation.

To ensure the continued usage of the existing Kapa'a Bypass Road, the Project will donate the area along the property frontage for State Department of Transportation (DOT) dedication and future improvements. Widening of the north leg of the Kapa'a Bypass Road between Olohena Road and Kūhīo Highway Place (North Junction) to provide at a two-way, two-lane roadway would provide additional capacity in the northbound direction.

To accommodate the potential for an increase in traffic on the surrounding roadways, the Project will construct a new connector road between the Kapa'a Bypass Road to Olohena Road above the Kapa'a Middle School. This new road is expected to mitigate the traffic impacts at the roundabout intersection of the Kapa'a Bypass Road and Olohena Road. A new roundabout will also be constructed at the intersection of the new road and the Kapa'a Bypass to increase intersection capacity in anticipation of the increase demand resulting from the future widening of the Kapa'a Bypass Road.

4.2 Drainage

The topography of the Project site varies from gently sloping, bluff top property, to steep areas that drop off into drainage gullies. A stream exists within the Project site flowing from north to south along the western border of the property. The stream flows along the boundary, passes under a bridge on the Kapa'a Bypass Road at the southwest corner of the property, and empties into the Waiākea drainage canal about 800 feet downstream from the property.

According to the Natural Resource Conservation Service (NRCS) soil survey the soils on the property are Ioleau and Puhi silt clay loams. The NRCS hydrologic classification for these soils is Group C for the Ioleau soils and Group B for the Puhi soils. Group B soils have a moderately low runoff potential, while the Group C soils have a moderately high runoff potential. Both soils are in Group I erosion resistance classification, which is the least erodible of the NRCS classifications.

SLR can push salty water upstream in coastal areas, threatening surface water supplies and ecosystems. According to the SLRXA model, the rising oceans will overwhelm the capacity of the Waiākea drainage canal causing overflow and inundation of the surrounding low-lying area. Portions of the land makai of the Project site could become chronically flooded by as early as 2050. If left unmitigated, this low-lying area could transform into a salt marsh environment

HoKua Place is committed to keeping the flow of the stream consistent to prevent any potential health and mosquito problems associated with streams when not flowing naturally. Per the County of Kaua'i's Storm Water Runoff System Manual (2001), all developments of this scope are required to maintain the existing storm water flows and patterns as feasibly possible so that downstream properties are not subject to any additional storm water flows that are created by the increases in impervious surfaces of the watershed by the proposed Project.

To mitigate the stormwater increases from the new neighborhood and streets, a variety of strategies utilizing practices of Low Impact Development (LID) and stormwater detention ponds will be integrated into the Project. The key component of LID is to minimize impervious surfaces on the property. The Project will cluster development to maximize use of flat areas on the property and not allow development in the natural drainageways. Greenbelts will be established surrounding the nature drainageway and infiltration will be enhanced through the use of bio-swales, trees, and detention basins.

Post construction Best Management Practices (BMPs) will be implemented to prevent storm water runoff and sedimentation from impacting coastal waters, groundwater resources, or newly formed marshlands resulting from elevated sea levels. The Project's drainage improvements include the installation of drain inlets and shallow drywells, landscaping, and grassing of disturbed areas. The water table is not expected to elevate to levels that could impact the on-site drywells or interfere with their ability to dispose of stormwater into the ground.

4.3 Water Supply

The source of water for the Project is in the Anahola Aquifer System. The state's 2019 updated Water Resource Protected Plan (WRPP) indicates a Sustainable Yield of 21 million gallons per day (MGD) for the aquifer. The WRPP of 2008 indicates that the pumpage for the Anahola Aquifer was at 2.8 MGD. The County of Kauai Department of Water Supply (DOW) assessment of demand for the Anahola Aquifer in 2014 stated that the demand for full built-out under the County Zoning is 5.5 MGD and for the General Plan 10.85 MGD.

The Project has proposed two alternatives to furnish potable water for the property. First, under the Project's Water Master Plan, the Project's well site will be dedicated to the DOW to furnish water to the Department's storage tanks and existing water system. In return, the Department will provide HoKua Place with storage for water. In the event the Department does not approve of the Project's Water Master Plan, then the petitioner will develop a private water system, using the well to furnish water to the Project.

With the implementation of either alternative, the onsite well and water delivery system will not be impacted with a 3.2 rise in SLR. The Project site is located at an elevation safety above the anticipated SLR exposure area. Although water pipes will be buried below ground level, the groundwater is not anticipated to rise to levels that could intrude utility trenches.

SLR, in combination with increased groundwater pumping, has the potential to increase saltwater intrusion into groundwater aquifers. When groundwater is pumped from a coastal aquifer, lowered water levels can cause seawater to be drawn toward the freshwater zones of the aquifer. Saltwater intrusion into groundwater aquifers can increase treatment costs for drinking water facilities or render groundwater wells unusable.

Geologic studies in the region have concluded that an impermeable layer of strata over 100 feet thick rest above the Anahola Aquifer. This underlying layer of dense rock could act as a natural barrier to saltwater intrusion. It will be important for the future well operator to routinely monitor and assess the groundwater resources. Water-quality monitoring networks are important to serve as early-warning systems of seawater movement toward freshwater supply wells, as well as providing information on the rates of seawater encroachment.

4.4 Wastewater

The Project will connect to the County's existing sewer system to be treated at the Wailua Wastewater Treatment Plant (WWTP). The WWTP is located in Wailua adjacent to the Lydgate Beach Park. The existing collection system is centered in the coastal area along the Kūhīo Highway and consists of gravity lines, pump stations, and force mains. The Project is not expected to adversely impact the capacity of the Plant.

As the Project site is located above the 3.2 ft SLR exposure area, there are no anticipated impacts to the on-site wastewater system, however, SLR could impact the county collection system and treatment plant. Wastewater treatment plants are often located at low elevations near the coastline to minimize the cost of collecting wastewater and discharging treated effluent. The location of the collection system and treatment plant along the active eastern coastline make it potentially vulnerable to future nuisance flooding and storm surge.

To mitigate potential impacts to the County wastewater system, the HoKua Place Project will be contributing funds to upgrade the deferred maintenance and repairs to the WWTP. Improvements may include elevating or waterproofing pump stations or other facilities to protect them from flooding and storm surge. It will also be important to monitor sewer infiltration and inflow as it could change from groundwater level fluctuations. It may be necessary to implement pipe lining in susceptible areas to reduce that infiltration into gravity sewers.

4.5 Power and Communications

The Kaua'i Island Utility Cooperative (KIUC) is the sole electric utility on Kaua'i, serving over 23,300 customers. According to the Kaua'i General Plan, the Kawaihau region is served via a tap off the mauka transmission line that connects the Wainiha Hydroelectric Plant with Port Allen. This tap provides power via the Kapa'a Switchyard at Kapa'a Town and other developed coastal areas. The Kapa'a Switchyard is also linked to the Lydgate Substation and the Līhu'e Switchyard. Numerous cell towers across the island provide cellular phone service to the area. The Project site will also be served by Hawaiian Telcom telephone lines.

There currently are high voltage electrical lines around part of the Project area's perimeter. Strong hurricane or tropical storm force winds can topple electrical lines and lead to power outages and wildfire risk. The Project will replace these electrical lines with underground lines thru the Project.

Although SLR will not directly impact power or communication infrastructure at the Project site, flooding of electric and telecommunication transmission lines along the coast could result in service disruptions. Incorporating renewable energy systems and energy conservation measures at the Project site will help mitigate potential service disruptions that arise from SLR.

The Project is designed to be a sustainable residential community that incorporates photovoltaic (PV) systems and other on-site renewable energy sources. Energy conservation and efficiency measures will also be implemented and emphasized where applicable. Energy-efficiency technologies to be considered include:

- Solar energy for water heating
- Photovoltaic systems, fuel cells, biofuels and other renewable energy sources
- Optimal utilization of daytime sunlight
- High efficiency light fixtures
- Roof and wall insulation, radiant barriers and energy efficient windows
- Optimized airflow
- Installation of heat resistant roofing
- Intelligent Landscaping to provide for shading, dust control, and heat-mitigation
- Portable solar lighting (i.e. parking lots)

The Project is also designed to share a portion of the electrical infrastructure with the HoKua Farm Lots, an adjoining agricultural community. To date, the HoKua community has already been developed with an operational four-acre solar facility on the adjacent Farm Lots. The PV system spreads over five acres and includes 5,376-solar panels mounted on posts and piers. The system produces 1.18 megawatts of energy that feeds into the KIUC distribution grid.

4.6 Conclusions

Overall, the Project site is an ideal location for accommodating Kaua'i's growing housing demand while anticipating and adapting to the threats of SLR. The Project is not anticipated to experience direct impacts from SLR, however indirect impacts could occur due to flooding and erosion of the nearby coastal area. These impacts will be mitigated through the Project's design elements and through funding for public road and infrastructure improvements.

HOKUA PLACE

Kawaihau District, Kapa'a, Kaua'i, Hawai'i

TMK (4) 4-3-003:001 (por.)

Greenhouse Gas Assessment



Prepared By:

HG Kaua'i Joint Venture LLC
9911 S. 78th Avenue
Hickory Hills, IL 60457

July 2020



HOKUA PLACE

Kawaihau District, Kapa'a, Kaua'i, Hawai'i

TMK (4) 4-3-003:001 (por.)

Greenhouse Gas Assessment

HOKUA PLACE

Applicant:

HG Kaua'i Joint Venture LLC
9911 S. 78th Avenue
Hickory Hills, IL 60457

Submitted To:

State of Hawai'i
Land Use Commission
235 South Beretania Street, Ste 406
Honolulu, Hawai'i 96813

Prepared By:

G7O
Architecture, Civil Engineering, Planning and Interior Design
111 S. King Street, Suite 170
Honolulu, Hawai'i 96813

July 2020



Table of Contents

SECTION	PAGE
List of Figures	ii
List of Tables	ii
1.0 Introduction	1-1
1.1 Project Information Summary	1-1
1.2 Report Purpose and Scope	1-2
1.3 Regional and Local Setting	1-2
1.4 Proposed Project Description	1-2
2.0 Environmental Setting	2-1
2.1 Climate Change Overview	2-1
2.1.1 Greenhouse Gases and other Climate-Forcing Substances	2-1
2.1.2 Sources of Greenhouse Gas Emissions	2-3
2.1.3 Carbon Sequestration	2-4
2.1.4 Potential Effects of Climate Change	2-4
2.2 Existing Climate Conditions	2-5
2.2.1 Winds	2-5
2.2.2 Temperature and Sunlight	2-5
2.2.3 Rainfall	2-9
2.2.4 Biomes and Plant Species Ranges	2-9
3.0 Regulatory Setting	3-1
3.1 Hawai'i's Climate Action Policy	3-1
3.2 Land Use Commission Rules HAR Chapter 15-15-50(c)	3-1
3.3 Kaua'i General Plan	3-1
4.0 Project GHG Analysis	4-1
4.1 Construction Related Greenhouse Gas Emissions	4-1
4.1.1 Construction Activities	4-1
4.1.2 Construction Greenhouse Gas Emissions	4-3
4.2 Operational Related Greenhouse Gas Emissions	4-4
4.2.1 Area Sources	4-4
4.2.2 Energy Sources	4-4
4.2.3 Mobile Sources	4-5
4.2.4 Solid Waste	4-6
4.2.5 Water and Wastewater	4-6
4.2.6 Operational Greenhouse Gas Emissions	4-6
4.3 Carbon Sequestration	4-7
4.4 Conclusions	4-8

List of Figures

Figure	Page
1-1 County of Kaua'i, TMK Parcel Map of Project Area.....	1-4
1-2 Conceptual Land Use Plan for the Project Area.....	1-5
2-1 Hawai'i 2016 GHG Emissions by Sector and Gas.....	2-3
2-2 Windspeed.....	2-6
2-3 Mean Annual Air Temperature	2-7
2-4 Mean Annual Solar Radiation	2-8
2-5 Average Minimum and Maximum Temperatures at the Līhu'e Airport	2-9
2-6 Annual Rainfall	2-10
2-7 Moisture Zones	2-11
2-8 Land Cover Biome Unit	2-13
2-9 Plant Hardiness Zone	2-14

List of Tables

Table	Page
1-1 Summary of Project Land Uses	1-3
2-1 Average Annual Rainfall: Kapa'a Stables Station 1104, 1940-1978	2-1
4-1 Construction Phasing Assumptions	4-1
4-2 Construction Scenario Assumptions.....	4-2
4-3 Estimated Annual Construction GHG Emissions.....	4-3
4-4 Energy Use Rates	4-5
4-5 Estimated Annual Operational GHG Emissions.....	4-6
4-6 Estimated Loss of Sequestered Carbon	4-7
4-7 Estimated Gain of Sequestered Carbon	4-8
4-8 Estimated Annual Net GHG Emissions	4-8

Chapter 1

Introduction

1.1 Project Information Summary

Type of Document:	Greenhouse Gas Assessment
Project Name:	HoKua Place
Applicant:	HG Kaua'i Joint Venture LLC 9911 S. 78 th Avenue Hickory Hills, IL 60457
Agent:	G7O 111 S. King St., Suite 170 Honolulu, HI 96813
Approving Agency:	State of Hawai'i Land Use Commission 235 South Beretania Street, Ste 406 Honolulu, Hawai'i 96813
Project Location:	Kawaihau District, Kapa'a, Kaua'i
Tax Map Keys (TMK)	(4) 4-3-003:001 (por.)
State Land Use District:	Agriculture
Kaua'i General Plan:	Neighborhood General
Kaua'i County Zoning	Agriculture
Special Management Area:	Outside SMA
Flood Zone:	X: Area determined to be outside the 100-year floodplain with minimal flooding

1.2 Report Purpose and Scope

The purpose of this report is to evaluate the potential greenhouse gas (GHG) emissions impacts associated with the implementation of the planned HoKua Place Project (Project). This assessment was triggered by the Project's petition to the Land Use Commission (LUC) for a State Land Use Boundary Amendment. Specifically, the petition is to change the State's Land Use District from Agricultural Land Use District to Urban Land Use District. Per Hawai'i Administrative Rules (HAR) Chapter 15-15-50(c)(24)(C): Application Requirements for Boundary Amendment Petitions, *the petitioner shall prepare a statement and analysis addressing the overall carbon footprint of the proposed development and any mitigation measures or carbon footprint reductions proposed.*

This GHG Assessment describes the existing setting of the project site, describes the relevant regulatory setting, and discusses the methodology used to evaluate GHG emissions related to the Project. The assessment evaluates potential impacts related to GHGs that would result from construction and operations, and identifies mitigation measures as necessary related to implementation of the Project.

1.3 Regional and Local Setting

The Project site is located in the residential/resort town of Kapa'a along the eastern coast of the Island of Kaua'i (*Figure 1-1*). The Project area consists of an approximately 96-acre portion of the 163-acre parcel (TMK (4) 4-3-003:001). The site is located within the traditional moku of Kawaihau and the ahupua'a of Kapa'a.

The Project site is situated at the north-west corner of the Kapa'a Bypass Road and Olohena Road. The Kapa'a Bypass Road, located south and east of the property, separates the Project site from the Kapa'a town center. Olohena Road runs along and adjacent to the northern boundary of the property. The Kapa'a Middle School is located on the northern end of the subject parcel, fronted by Olohena Road. The western boundary of the Project site is bordered by a small intermittent stream. The stream flows from north to south along the boundary, passes under a bridge on the Kapa'a Bypass Road at the southwest corner of the property, and empties into the Waiākea drainage canal downstream from the property.

The lands surrounding the Project to the north and east are designated as "Residential Community" and "Neighborhood General" by the Updated Kaua'i General Plan. The Property is contiguous to existing urban lands, to the south and across the Kapa'a Bypass Road. These existing lands are classified Urban by the State Land Use Commission and zoned Residential by the County of Kaua'i.

1.4 Proposed Project Description

HG Kaua'i Joint Venture LLC is planning to develop a residential community consisting of a mix of single-family and multi-family residential, market and affordably priced homes, commercial, community park, and open green space. The Project is designed as a sustainable community that aims to preserve the rural character of Kapa'a while accommodating Kaua'i's growing housing needs.

Approximately 96-acres will be subdivided into single family and multifamily lots providing for a total of 683-multi-family units and 86-single family lots and homes. Approximately 30 percent of the housing units are designated as affordable. The Project also includes open space encompassing 13.25-acres; a 3.1-acre park adjacent to the existing Kapa'a Middle School with an area for the county's proposed

relocation of the Kapa‘a county swimming pool; and 1.4-acres for commercial use. In accordance with County and State Department of Transportation requirement, improvements will include an intersection on Kapa‘a Bypass Road, bus stops, sidewalks and bike and walking paths to the existing Kapa‘a Middle School.

The Project plans to share a portion of the infrastructure with the adjacent and adjoining HoKua Farm Lots. A 4-acre solar farm, located within the Farm Lots, generates 1.18 MW of electricity that feeds into the Kaua‘i Island Utility Cooperative’s (KIUC) distribution grid.

A Project’s planned land uses are summarized in *Table 1-1* below and shown conceptually in *Figure 1-2*.

Table 1-1: Summary of Project Land Uses			
Land Use	Acreage	Number of Units	Population*
Large Lot Single Family Homes (10,000 sf)	8.26	36	113
Medium Lot Single Family Homes (7,500 sf)	8.60	50	157
Multi-Family Dwelling (4 Plex)	45.82	452	1,415
Affordable Housing Dwellings (low-rise)	15.63	231	723
Commercial	1.40		
Community Park and Pool	3.10		
Open Space	13.25		
Total	96.06	769	2,408

*Populations estimates derived from average Kaua‘i household size from 2008-2014, <https://www.census.gov/quickfacts/kauaicountyhawaii>

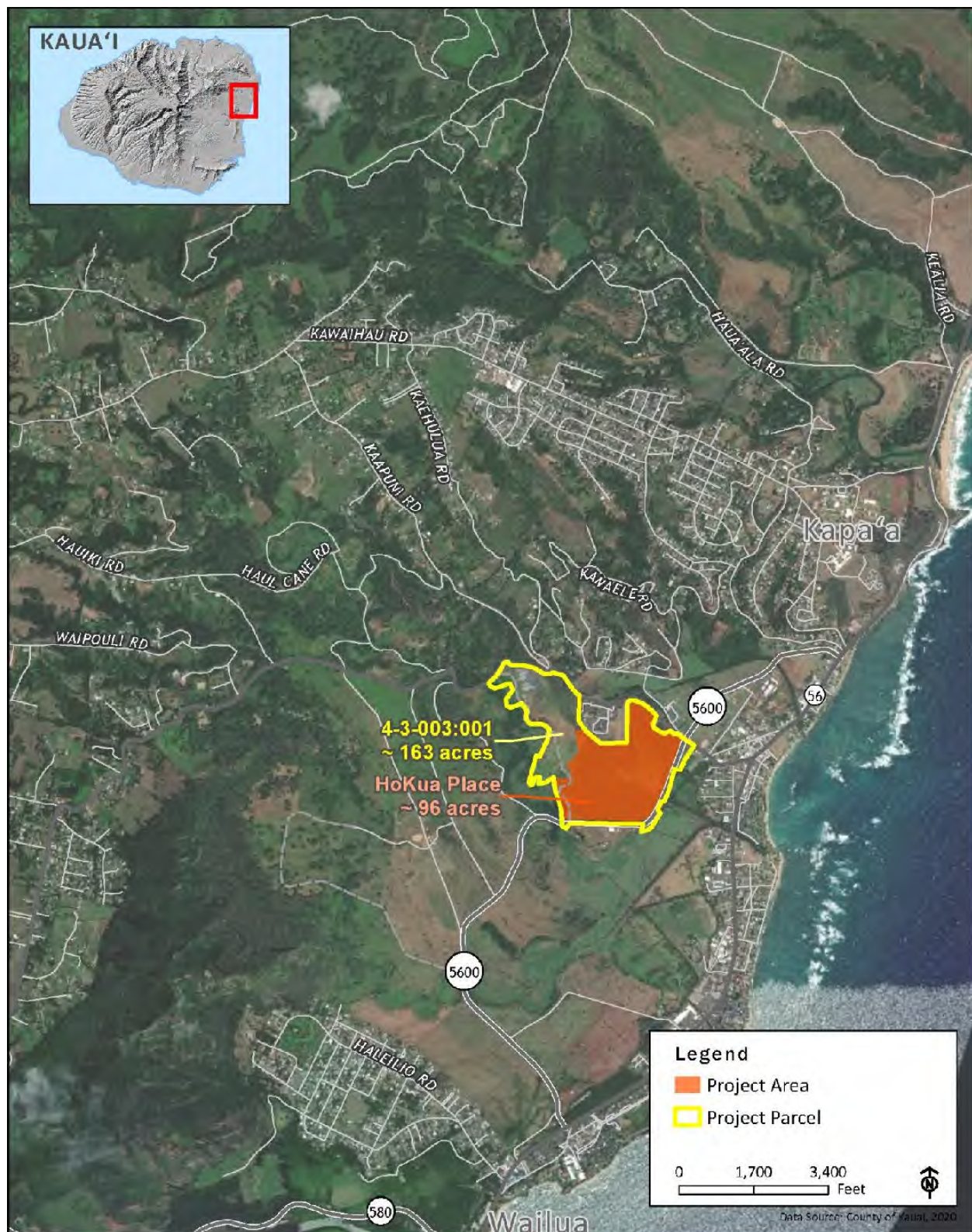


Figure 1-1

County of Kaua'i, TMK Parcel Map of Project Area

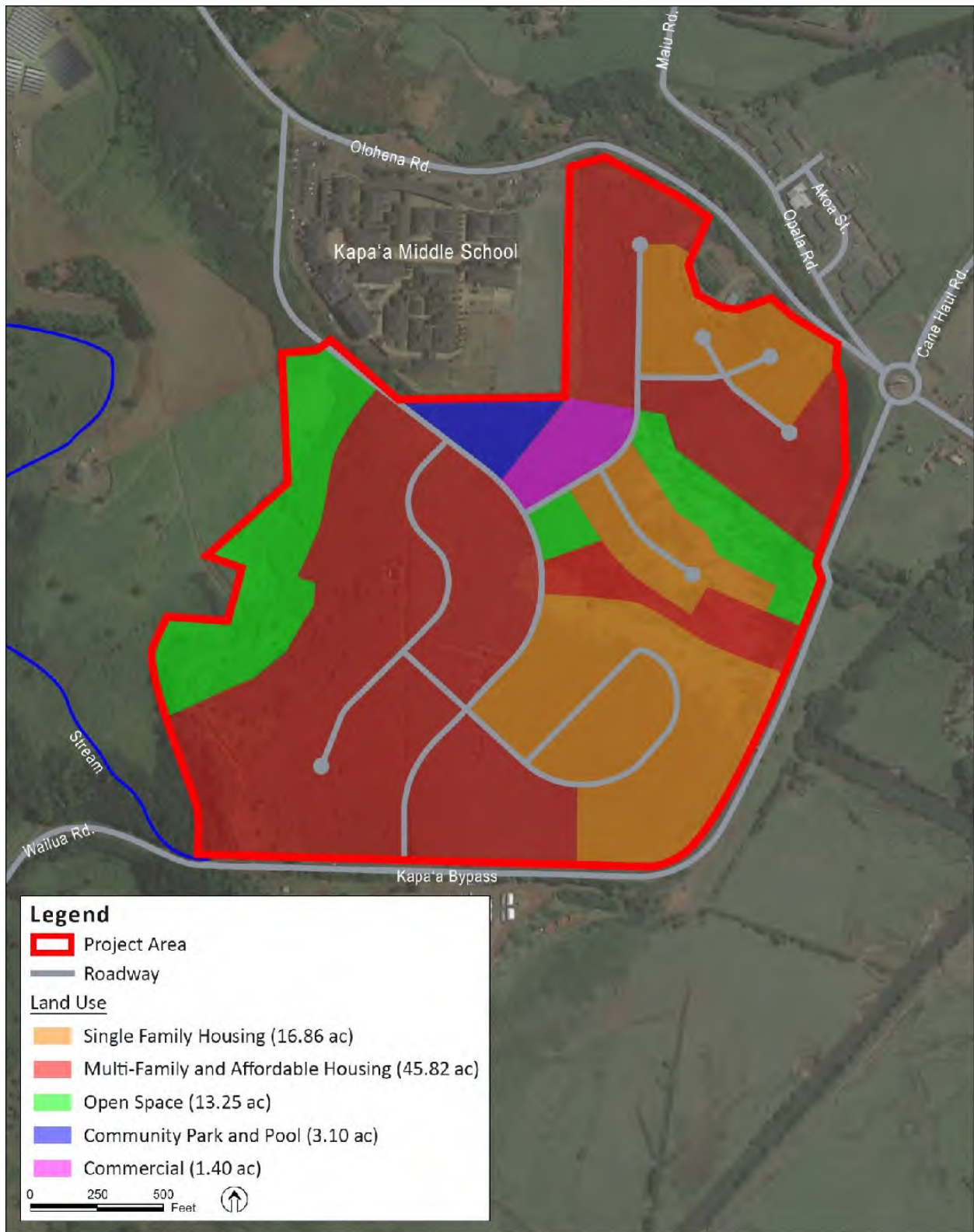


Figure 1-2

Conceptual Land Use Plan of the Project Area

Chapter 2

Environmental Setting

2.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the Sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and accumulation of heat in the Earth's atmosphere by gases and particulates known as GHGs. Approximately half of the Sun's light reaching Earth's atmosphere passes through the air and clouds to the surface, where it is absorbed and then radiated upward in the form of infrared heat. About 90 percent of this heat is then absorbed by the GHGs and radiated back towards the surface. The greenhouse effect is a naturally occurring process that contributes to the regulation of Earth's temperature and is what creates the comfortable, livable environment on the planet.

Human activities that emit additional GHGs to the atmosphere, increase the amount of infrared radiation that gets absorbed before escaping into space. A build-up of radiation in the atmosphere can enhance the greenhouse effect and cause the Earth's surface temperature to rise. The atmospheric concentrations of GHGs have increased to levels not seen in the last 800,000 years. The primary drivers for this increase in GHGs are fossil fuel emissions and emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system.

2.1.1 GREENHOUSE GASES AND OTHER CLIMATE FORCING SUBSTANCES

A GHG is any gas that absorbs infrared radiation in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), water vapor (H₂O), hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Some GHGs, such as CO₂, CH₄, and N₂O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO₂, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF₆, which are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included below.

Carbon Dioxide CO₂ is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO₂ include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing;

and decomposition of dead organic matter. Human activities that generate CO₂ are from the combustion of fuels such as coal, oil, natural gas, and wood, and changes in land use.

Methane CH₄ is produced through both natural and human activities. CH₄ is a flammable gas and is the main component of natural gas. CH₄ is produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide N₂O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N₂O. Sources of N₂O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N₂O as a propellant (such as in rockets, race cars, and aerosol sprays).

Fluorinated Gases Fluorinated gases are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric O₃-depleting substances.

Sulfur Hexafluoride SF₆ is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF₆ is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.

Chlorofluorocarbons CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O₃.

Hydrochlorofluorocarbons HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon Black carbon is a component of fine particulate matter (PM_{2.5}), which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential (GWP). Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants.

Water Vapor The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone Tropospheric O₃, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O₃, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O₂), plays a decisive role in the stratospheric

radiative balance. Depletion of stratospheric O₃, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

2.1.2 SOURCES OF GREENHOUSE GAS EMISSIONS

Human activities are responsible for the majority of the increase in GHGs in the atmosphere over the last 150 years. The largest source of greenhouse gas emissions from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation (EPA 2017).

According to Hawai'i Department of Health's (DOH) Greenhouse Gas Emissions Report (2019), total GHG emissions in Hawai'i were 19.58 million metric tons of carbon dioxide equivalent (MMT CO₂ Eq.) in the year 2016. Net emissions, which take into account carbon sinks, were 13.07 MMT CO₂ Eq. Emissions from the Energy sector accounted for the largest portion (87 percent) of total emissions in Hawai'i, followed by the Agriculture, Forestry, and Other Land Use (AFOLU) sector (6 percent), the Industrial Processes and Product Use (IPPU) sector (4 percent), and the Waste sector (4 percent). CO₂ was the largest single contributor to statewide GHG emissions in 2016, accounting for roughly 89 percent of total emissions. CH₄ is the second largest contributor (6 percent), followed closely by HFCs and PFCs (4 percent), N₂O (2 percent), and SF₆ (less than 0.1 percent). *Figure 2-1* below shows Hawai'i emissions for 2016 by sector and gas.

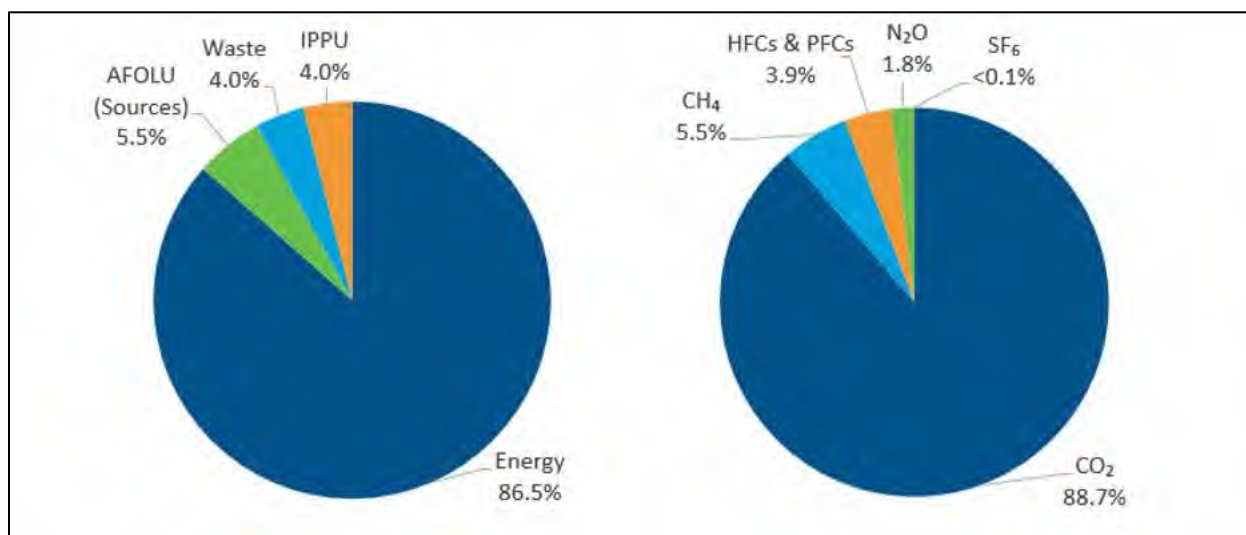


Figure 2-1

Hawai'i 2016 GHG Emissions by Sector and Gas

2.1.3 CARBON SEQUESTRATION

Carbon sequestration is the process by which atmospheric CO₂ is taken up by trees, grasses, and other plants through photosynthesis and stored as carbon in biomass (trunks, branches, foliage, and roots) and soils.

According to the Intergovernmental Panel on Climate Change's (IPCC) Climate Change and Land report (2019), when natural or forested areas are developed for urban land uses, a larger amount of CO₂ enters the atmosphere due to the absence of trees and their function in the carbon cycle. The development of the forested areas may also impact the surface temperature and evapotranspiration levels in the region. As sunlight reaches the land surface, a portion of light is reflected back into the atmosphere and a remaining portion is absorbed and converted into heat. Darker surfaces absorb more solar radiation than lighter surfaces, therefore, urban land uses will reflect a greater proportion of solar radiation into the atmosphere than the darker colored canopy of forests.

Conversely, planting new trees has the potential to capture CO₂ from the atmosphere and mitigate or reverse global warming. A mature hardwood tree can absorb as much as 48 pounds of carbon dioxide per year (SOER, 2015). The sink of carbon sequestration in forests and wood products helps to offset sources of CO₂ to the atmosphere, such as deforestation, forest fires, and fossil fuel emissions.

2.1.4 POTENTIAL EFFECTS OF CLIMATE CHANGE

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. The University of Hawai'i (UH), Center for Island Climate Adaptation and Policy published a Briefing Sheet summarizing specific changes observed in Hawai'i (Fletcher, 2010). Based on peer-reviewed scientific journals and government reports, it presents evidence of climate change in Hawai'i as:

1. Rising surface temperature,
2. Decreased rainfall and stream flow,
3. Increased rain intensity,
4. Increased sea level and sea surface temperatures, and
5. Ocean acidification.

Due to the heat-trapping effects of GHG, climate scientists project that if GHG emissions continue to accelerate at current output trends, then the average global temperature will likely increase by three to seven degrees Fahrenheit (1.7 to 3.9 degrees Celsius) by the year 2100. These figures were derived from a number of global climate models, which were based on various scenarios of changes in the concentrations of GHG in the Earth's atmosphere.

2.2 Existing Climate Conditions

Climate encompasses variable factors including temperature, humidity, wind, precipitation, and other meteorological measurements in a given region over time. Climate can be contrasted to weather, which is the present condition of these elements and their variations over shorter periods. A microclimate is a local atmospheric zone where the climate is distinct from the surrounding climate. In the present case the area of concern with respect to microclimatic effects is the area on and immediately adjacent to the 96-acre project site where such things as air temperature, wind speed/direction and humidity could be altered by construction and operation of the proposed facilities.

The Hawaiian Island chain is situated south of the large Eastern Pacific semi-permanent high-pressure cell, the dominant feature affecting air circulation in the region. This high-pressure cell produces very persistent winds over the islands called the northeast trade winds. During the winter months, cold fronts sweep across the north central Pacific Ocean, bringing rain to the Hawaiian Islands and intermittently modifying the trade wind regime. Thunderstorms, which are rare but most frequent in the mountains, also contribute to annual precipitation. There is great climatic variation across the island of Kaua'i.

2.2.1 WINDS

The northeast trade winds are the most important determinant of Kaua'i's climate. The trade wind zone moves north and south seasonally with the sun, so that it reaches its northernmost position in the summer. Consequently, the trade winds are strongest and most persistent from May through September, when the trades are prevalent 80 to 95 percent of the time. From October through April, Hawai'i is located to the north of the heart of the trade winds, and their frequency decreases to about 50 percent (as a monthly average). Kaua'i's topography interacts with the winds to produce large variations in conditions from one locality to another. Air blowing inland as part of the trade wind flow is redirected horizontally and vertically by the mountains and valleys. This complex three-dimensional flow of air results in marked wind speed and directional differences from place to place in wind speed, cloudiness, and rainfall. The winds in the subject Project area typically vary between about 5 and 6 meters per second (*Figure 2-2*).

2.2.2 TEMPERATURE AND SUNLIGHT

Temperatures in the Project site are mild and comfortable. The average annual temperature is approximately 73 to 75 degrees Fahrenheit (*Figure 2-3*). Data from the Līhu'e Airport, which is at a slightly lower elevation but otherwise similar to the Kapa'a area, are shown in *Figure 2-5*. The average monthly low temperature is 68°F and the average monthly high is 76°F.

The length of the day in Kapa'a varies over the course of the year. In 2020, the shortest day is December 21, with 10 hours, 47 minutes of daylight; and the longest day is June 20, with 13 hours, 29 minutes of daylight. The Project area receives an annual average of approximately 205-220 W/m² of solar radiation (*Figure 2-4*).

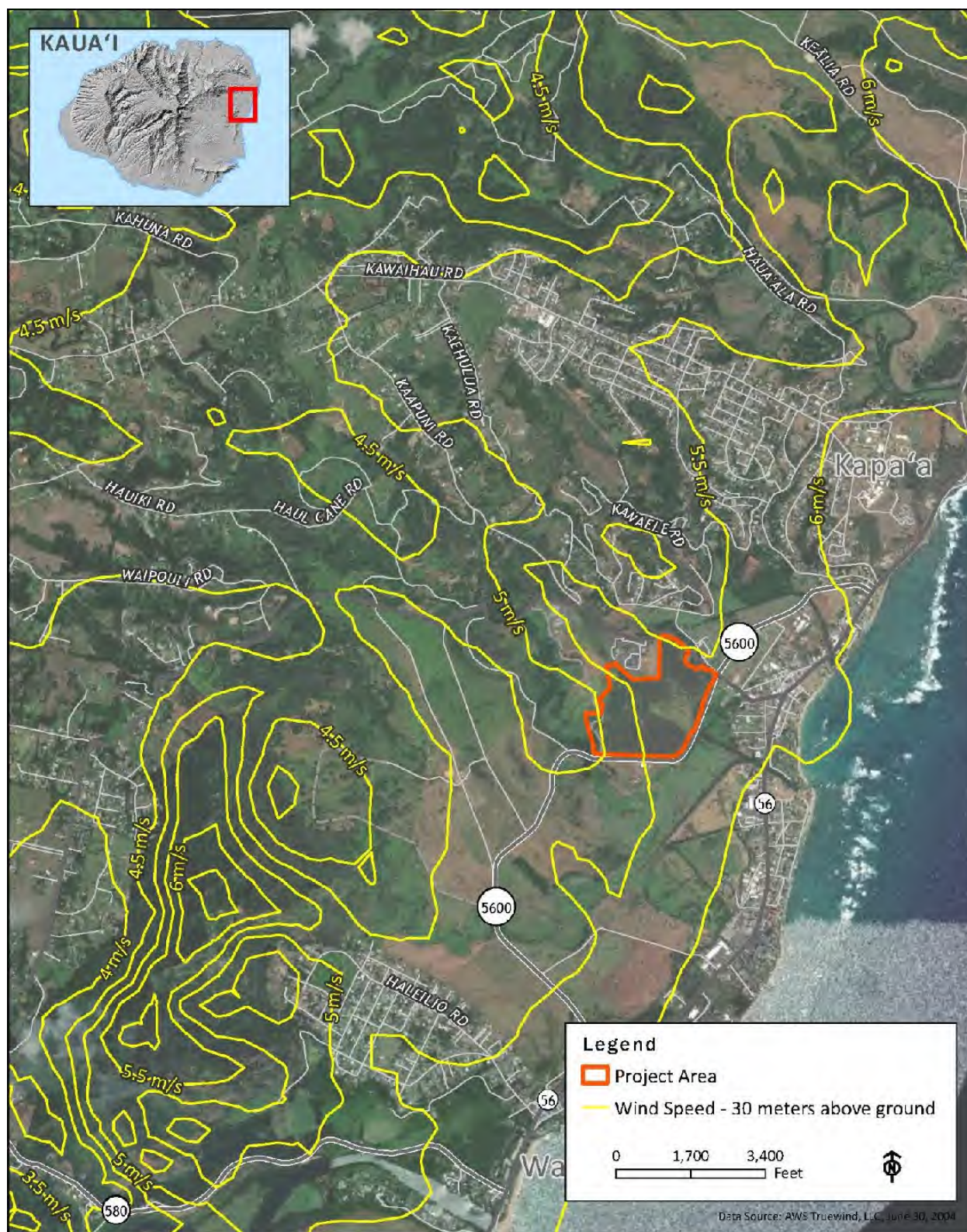


Figure 2-2

Windspeed

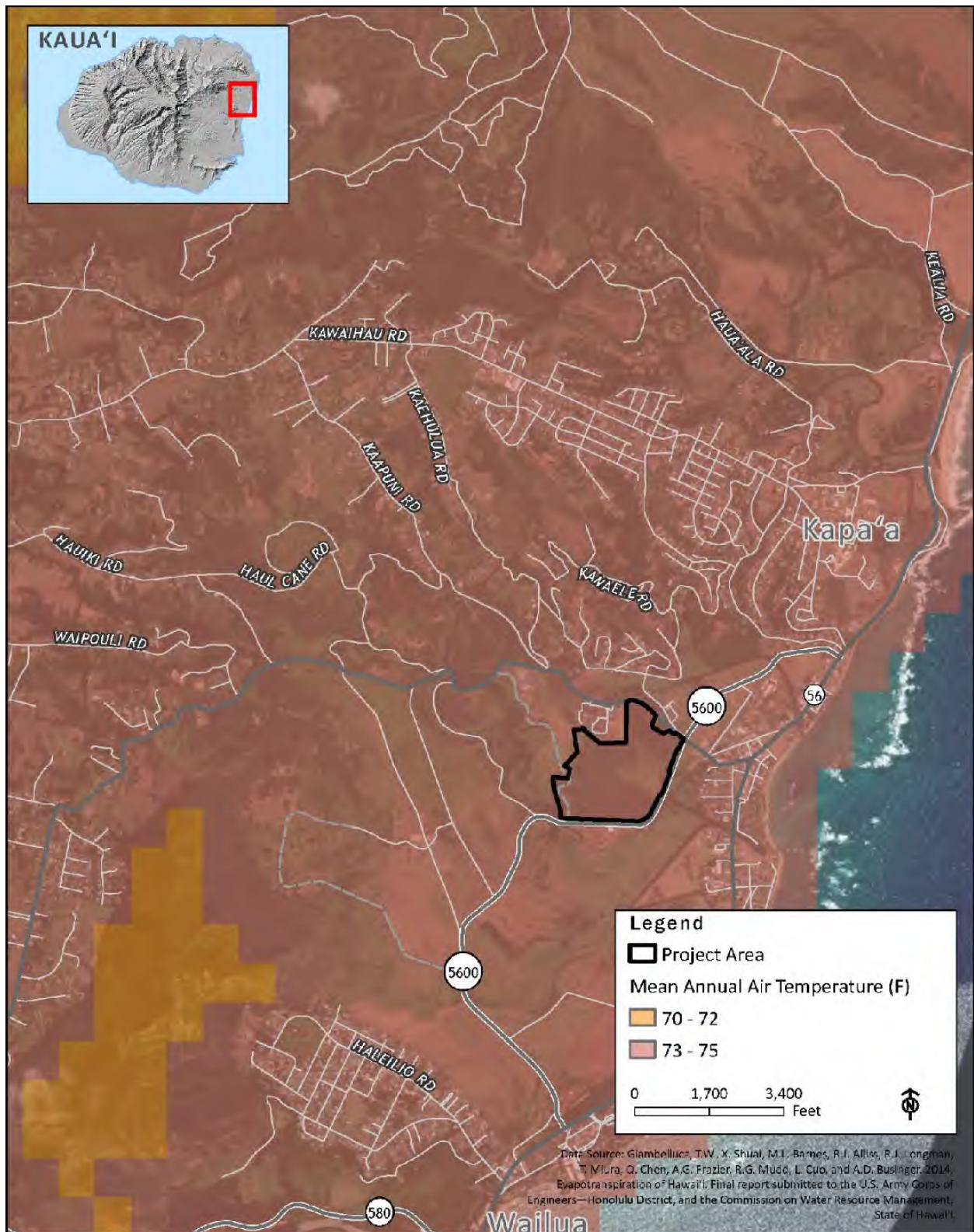


Figure 2-3

Mean Annual Air Temperature

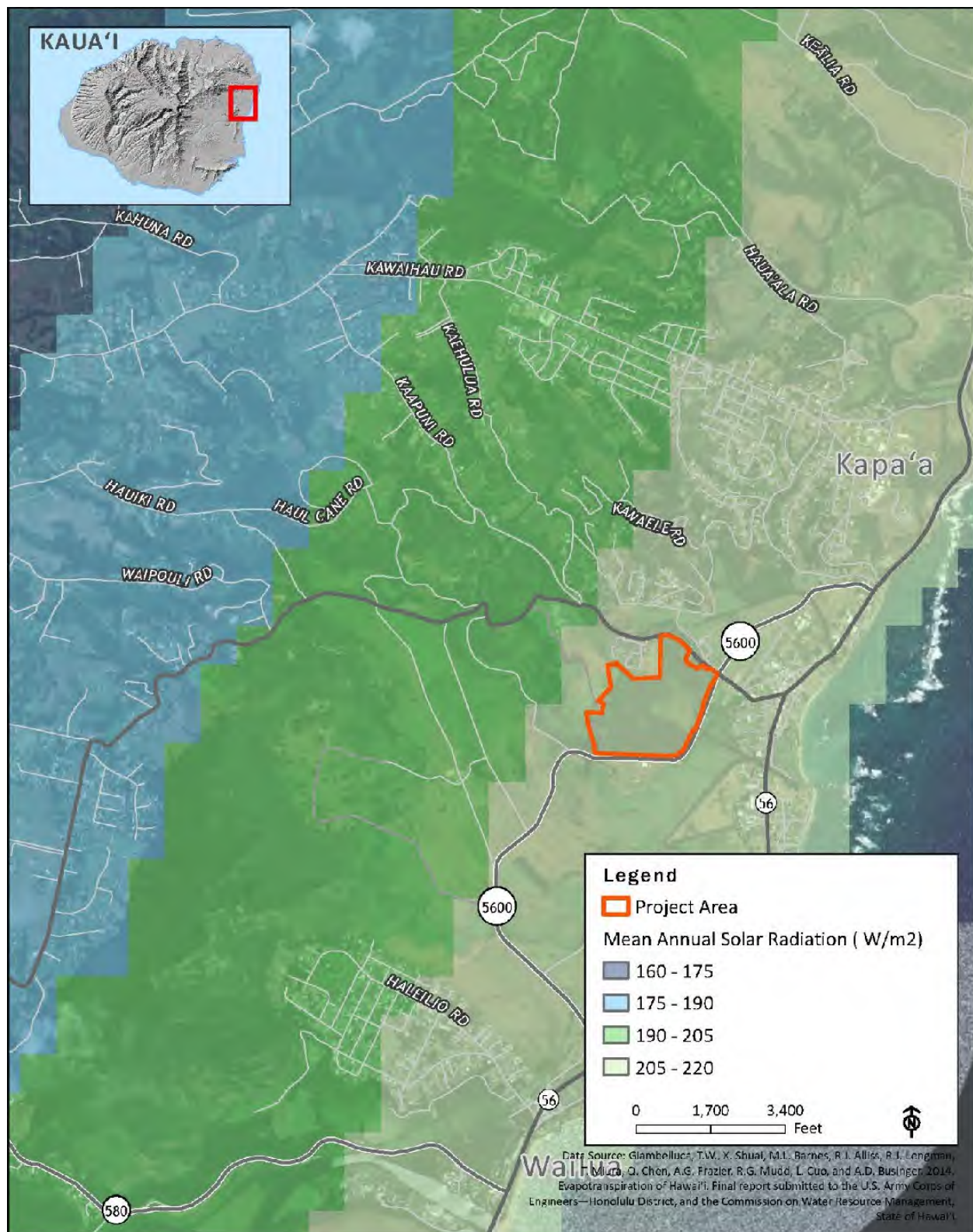


Figure 2-4

Mean Annual Solar Radiation

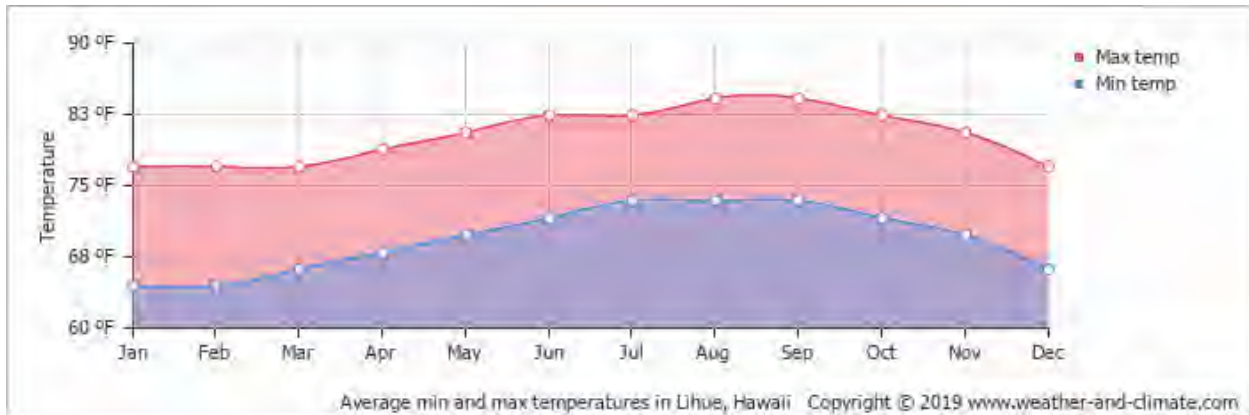


Figure 2-5 Average Minimum and Maximum Temperatures at the Līhu'e Airport

2.2.3 RAINFALL

The eastern and northern region of Kaua'i are typically wetter than the western and southern regions. The average annual rainfall at the Project site is approximately 45 to 50 inches (*Figure 2-6*).

The nearest rain gauging station to the proposed Project site is at Kapa'a Stables (Station 1104), just a few hundred feet mauka of the project site. The average annual precipitation at this location between 1940 and 1978 was approximately 55 inches. With average monthly rainfall of 6.8 inches and 7.3 inches, respectively, December and January were the wettest months during that period. With 2.1 inches, June was, on average, the driest month. Average annual rainfall data is summarized in *Table 2-1* below.

Table 2-1: Average Annual Rainfall: Kapa'a Stables Station 1104, 1940-1978													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Inches	7.3	5.2	5.8	5.4	3.6	2.1	2.4	2.6	2.5	4.8	6.4	6.8	54.9

*Source: <http://www.worldclimate.com/cgi-bin/data.pl?ref=N22W159+2200+513159C>; Kapa'a Stables 1104, Kaua'i data derived from NCDC Cooperative Stations. 33 complete years between 1940 and 1978.

2.2.4 BIOMES AND PLANT SPECIES RANGES

Climate in Hawai'i is often characterized in terms of the distribution of vegetation. Patterns of species distribution correlate with specific climate conditions that foster the emergence of natural ecosystems. A primary influence on the geographic range of plant species is moisture availability. Moisture Availability is a function of annual precipitation and potential evapotranspiration, which represents the moisture demand of the atmosphere as a function of temperature and humidity and is strongly driven by the amount of incoming solar radiation (HCSU, 2007). A Moisture Availability Index (MAI) is calculated by subtracting the potential evapotranspiration from the median annual precipitation.

There are seven moisture zones for the main Hawaiian Islands that represent general patterns of species distribution: Very Wet ($MAI > 3,161$), Moderately Wet ($3,161 > MAI > 1,661$), Moist Mesic ($1,361 > MAI > 861$), Seasonal Mesic ($861 > MAI > 0$), Moderately Dry ($0 > MAI > -389$), Very Dry ($-389 > MAI > -689$), an Arid ($MAI < -689$). The Project area is located in the region delineated as Moderately Dry (*Figure 2-7*).



Figure 2-6

Annual Rainfall

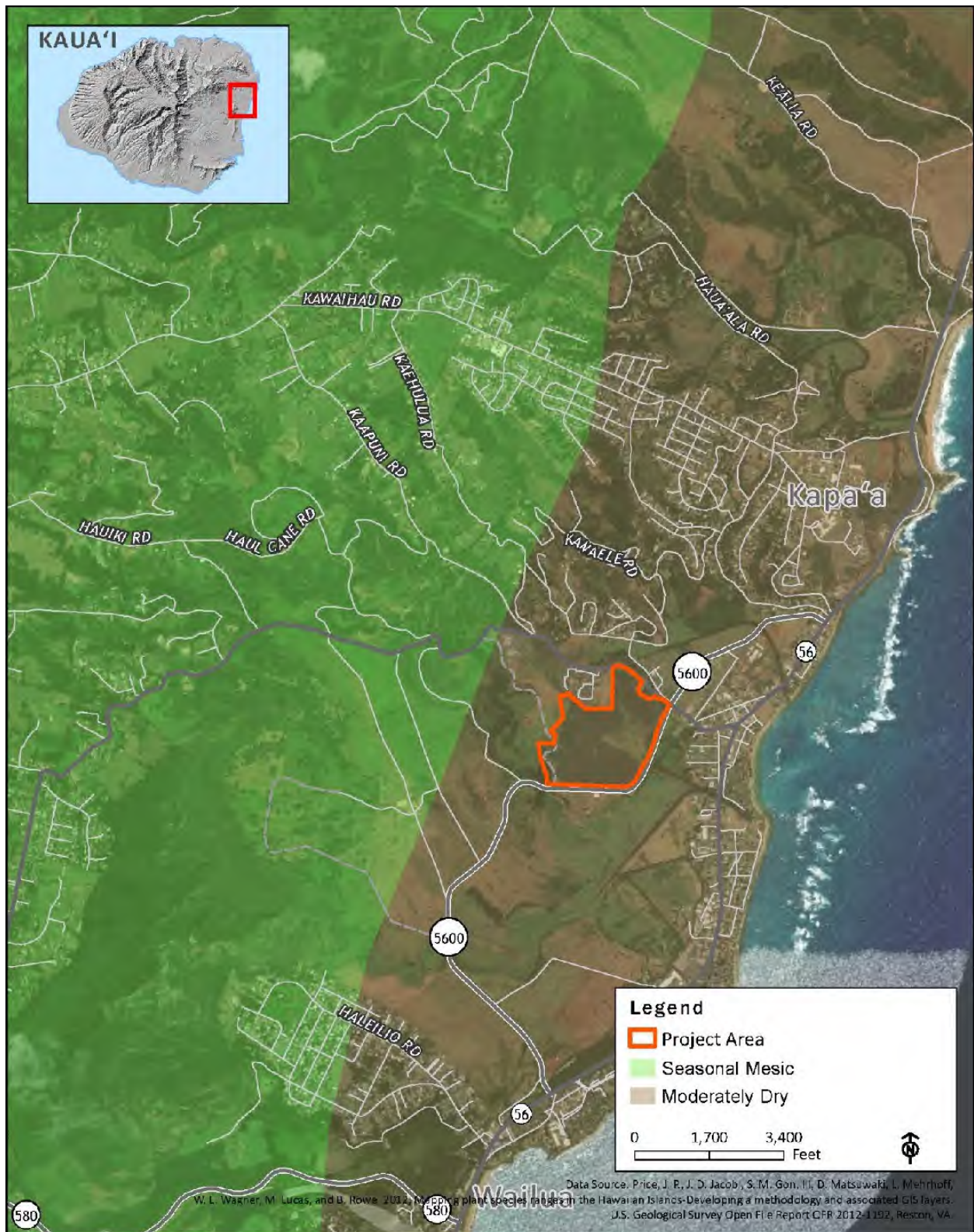


Figure 2-7

Moisture Zone

In 2017, the United States Geological Survey (USGS) conducted a national biologic carbon sequestration assessment throughout the country. The assessment was designed to meet the requirements of the Energy Independence and Security Act of 2007, which calls for coverage of all 50 states and all ecosystems (including forests, grasslands, wetlands, agricultural lands, and rivers, lakes, and estuaries). The assessment focused on current and potential amounts of carbon stored in the ecosystems, and effects of both natural and anthropogenic processes (such as fire, climate change, and land use change) on carbon sequestration.

As part of the USGS national carbon assessment, the Carbon Assessment of Hawai'i (CAH) Land Cover Biome Map was produced to serve as a base map for estimating current carbon stocks and potential change in carbon sequestration for the Hawaiian Islands under future climate change scenarios (2017). 13 CAH biome units were identified that incorporate a combination of vegetation structure (for example, forest, shrubland, and grassland) and moisture zones.

The study revealed that the majority of land on Kaua'i island is represented by Wet Forest (23.9 percent), Mesic Forest (20.4 percent), and Agriculture (10.6 percent). The land underlying the Project area was identified as Dry Grassland (*Figure 2-8*). In total, 2.4 percent of Kaua'i island's land cover was categorized as Dry Grassland.

Native Mesic and Wet Forests store the highest amount of total carbon among ecosystem types with an estimated 96.3 Teragrams of Carbon (TgC) statewide. Approximately 61 percent of the total carbon in Native Mesic and Wet Forests was in soil, 33 percent in live biomass, and 6 percent in dead biomass. In contrast, grasslands, shrublands, and bare ground, which together cover nearly three times the total area of Native Mesic and Wet Forests statewide, store a total of only 67.9 TgC combined, about 30 percent less than in Native Mesic and Wet Forests.

Another commonly used indicator of the influence of climate on plant growth and survival is the Hardiness Zone. Hardiness Zones are geographic areas defined to encompass a certain range of climatic conditions relevant to plant growth and survival. The United States Department of Agriculture (USDA) Plant Hardiness Zone Map is the standard by which gardeners and growers determine which plants are most likely to thrive at a location. The map is based on the average annual minimum winter temperature, divided into 10-degree Fahrenheit zones.

The Plant Hardiness Zone for the subject Project area is 12b (*Figure 2-9*). The range of minimum average temperatures for zone 12b is between 50 and 60 degree Fahrenheit. This Plant Hardiness Zones is represented by warm, tropical environments that are best suited for plants tolerant of intense heat. Zones 12 is the second warmest of all the USDA hardiness zones featuring tropical plants and exotic fruits.

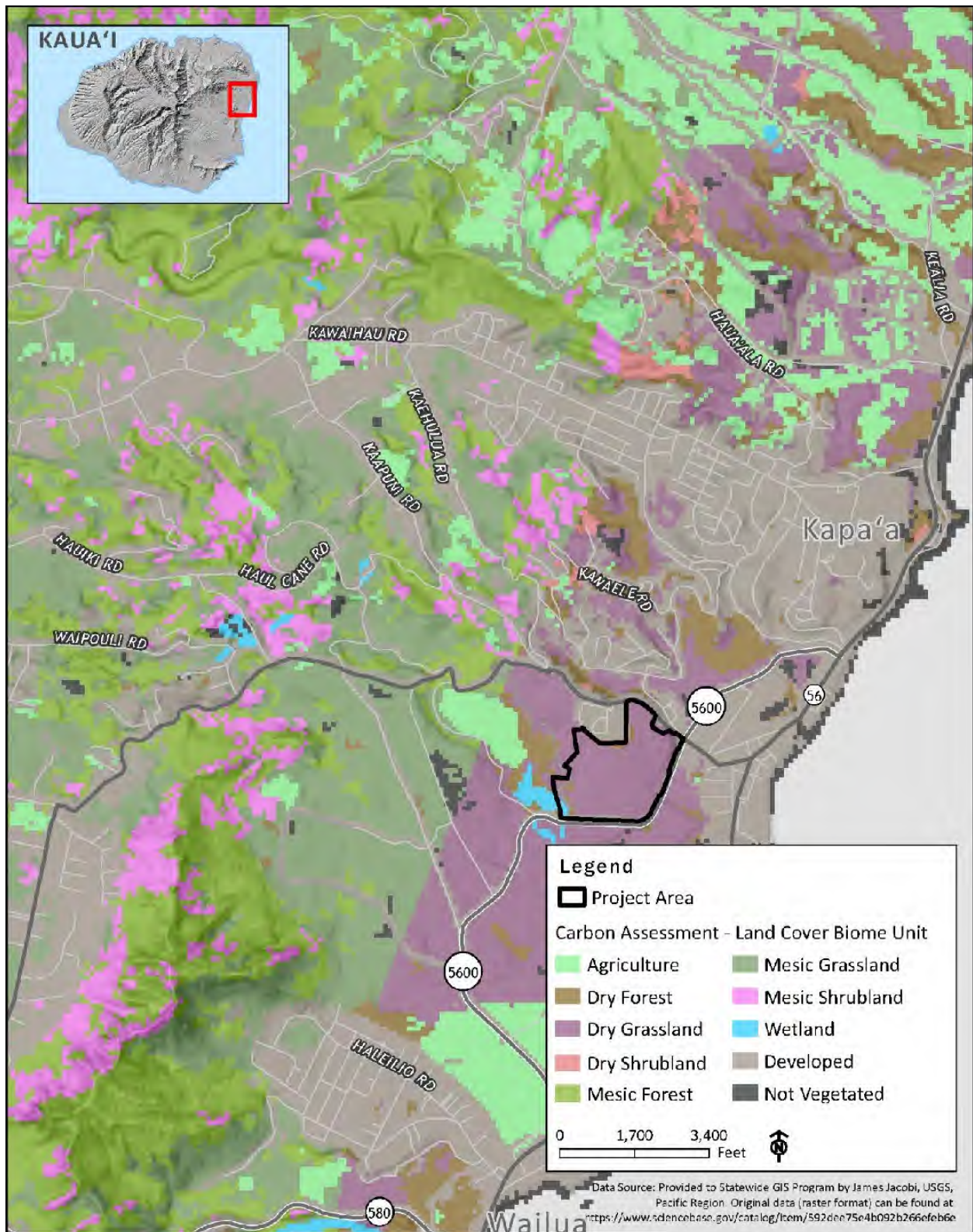


Figure 2-8

Land Cover Biome Unit

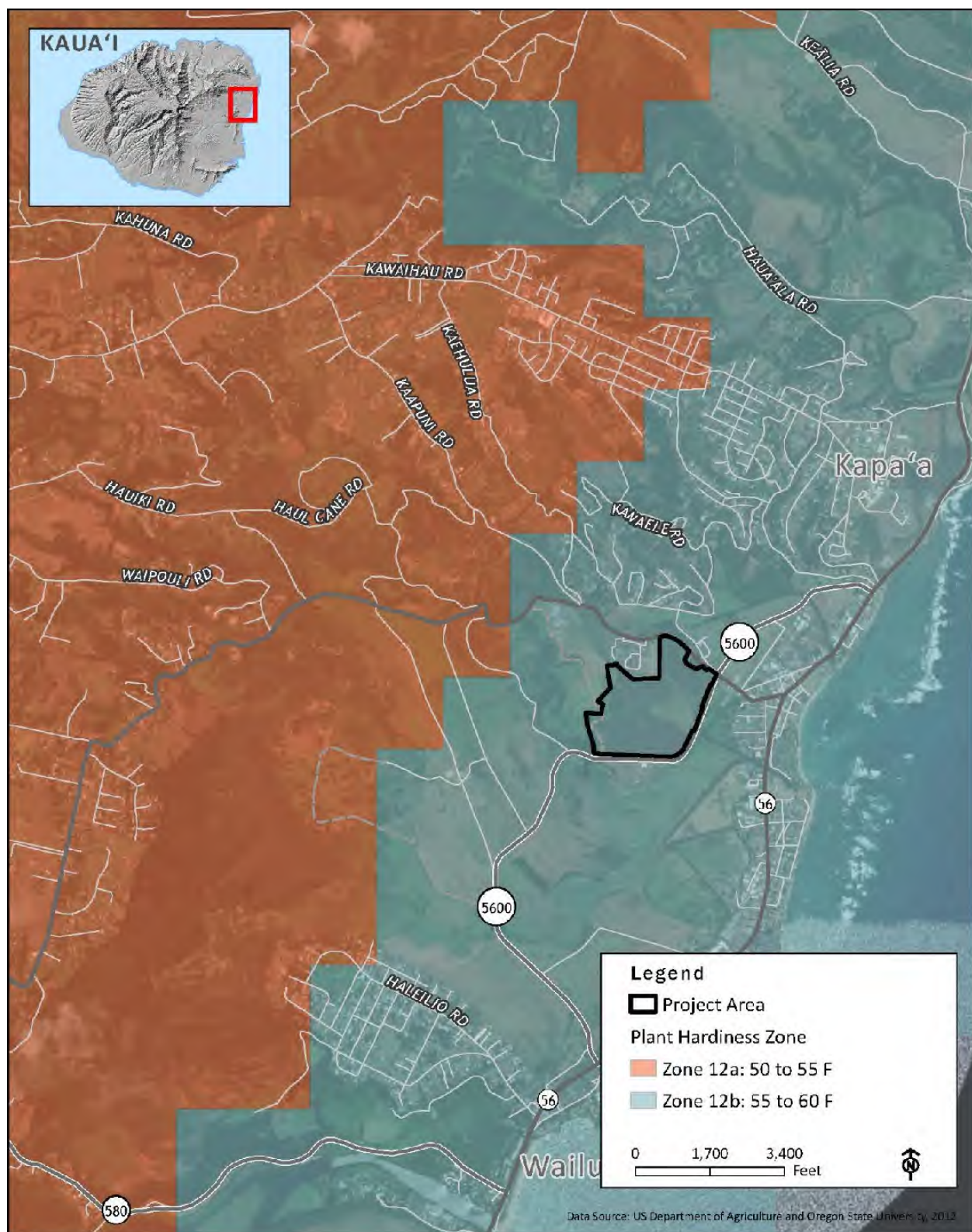


Figure 2-9

Plant Hardiness Zone

Chapter 3

Regulatory Setting

3.1 Hawai‘i’s Climate Action Policy

In 2007, Hawai‘i became the second state in the Nation to set a binding cap on GHG emissions through Act 234, Session Laws of Hawai‘i, which established the state’s policy framework and requirements to reduce GHG emissions statewide to 1990 levels by the year 2020. The Statewide GHG limit was set at 13.66 MMT CO₂ Eq based on 1990 levels. Act 234 directs to the State to adopt rules focused on the “maximum practically and technically feasible and cost-effective reductions in greenhouse gas emissions” (Act 234, Page 12, Line 12). Parts of Act 234 are codified in Hawai‘i Revised Statutes (HRS), Chapter 342B-72, Air Pollution Control Part IV: Greenhouse Gas Emissions rules (2011).

On June 30, 2014, the DOH amended HAR, Chapter 11-60.1 to adopt the Hawai‘i Greenhouse Gas Program with the purpose of combatting the threat of climate change and sea level rise. This program utilizes the Air Pollution Control Permit process of DOH’s Clean Air Branch to regulate GHG emissions statewide, in conjunction with other Federal and Hawai‘i State programs to mitigate GHGs.

On June 6, 2017, Governor Ige signed Act 32 (SB-559), which enshrined the principles and goals of the Paris Climate Agreement as the framework for Hawai‘i to pursue climate change planning. The act expanded the strategies and mechanisms the state could implement to reduce GHG emissions statewide.

3.2 Land Use Commission Rules HAR Chapter 15-15-50(c)

The Project has submitted a petition to LUC for a boundary amendment. The petition is to change the State’s Land Use District from Agricultural Land Use District to Urban Land Use District. Per HAR Chapter 15-15-50(c)(24)(C): Application Requirements for Boundary Amendment Petitions, *the petitioner shall prepare a statement and analysis addressing the overall carbon footprint of the proposed development and any mitigation measures or carbon footprint reductions proposed.*

This GHG assessment has been developed in support of the Project’s petition for State Land Use District Boundary Amendment, and to satisfy the intent of HAR Chapter 15-15-50(c)(24)(C).

3.3 Kaua‘i General Plan

The 2017 Kaua‘i General Plan expresses the island’s commitment towards mitigating the impacts of climate change by reducing and ultimately eliminating emissions caused by the burning of fossil fuels. The General Plan outlines five permitting actions and code changes aimed at reducing Kauai’s overall carbon footprint.

1. Promote higher density residential development near job centers and amenities, while strongly discouraging development that will require residents to commute via automobile to jobs in other areas of the Island.

2. Reduce the carbon footprint of both new and existing buildings and infrastructure through policies and actions that maximize efficiency and minimize the use of fossil fuel resources on the grid.
3. Accelerate the transition to alternative, carbon-free fuels in the ground transportation sector with regulations and policies that support electric vehicle adoption and other alternative fuel infrastructure.
4. Require large new developments and infrastructure projects to include a project carbon footprint analysis estimating the anticipated change in emissions resultant from the proposed project and documenting the emissions reduction strategies deployed by the project to minimize its emissions.
5. Support continued reductions in emissions from local energy production.

This GHG assessment supports the county's effort to quantify the emissions produced by the construction and operations over the lifetime of the Project and to document the mitigation strategies deployed to minimize the overall carbon footprint. The Project's goal of developing a sustainable residential community near the Kapa'a town center is in alignment with the General Plans objective of increasing density near job centers and amenities. Various planned elements inclusive of bicycle routes, pedestrian pathways, bus stops, and local destinations are designed to reduce automobile dependence and reduce vehicle miles traveled. The Project has also been planned with energy conservation and efficiency measures aimed at reducing the community's long-term operational emissions. The Hokua Farm solar farm was constructed to offset the Project's energy consumption and support local energy production.

Chapter 4

Project GHG Analysis

For the planned HoKua Place project, emissions were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (CAPCOA 2017). The CalEEMod model provides a platform to calculate emissions generated from the construction and operations of a land use project, using equipment emission factors (mass of emissions per unit time) from sources such as United States Environmental Protection Agency (USEPA), California Air Resources Board (CARB) and site-specific information. CalEEMod also provides default values when site-specific information is not available. Modeling assumptions and results are presented in Appendix A. The estimated project lifetime was assumed to be 30 years.

4.1 Construction Related Greenhouse Gas Emissions

4.1.1 CONSTRUCTION ACTIVITIES

For the purposes of modeling, it was assumed that construction of the Proposed project would commence in October 2022 and would occur over a period of approximately 10 years, ending in October 2031.

The Proposed Project would grade approximately 82.81 acres of the 96.06-acre site. Cut-and-fill quantities would be balanced on site (within the Project area) and no external soil export would be required. Soil balance would occur within each subset area and hauling would not be required between subset areas. Balancing activities are anticipated to be performed through the use of off-road construction equipment (e.g., excavators, graders, dozers, and scrapers). The analysis contained herein is based on the assumptions outlined in *Table 4-1* (duration of phases is approximate).

Table 4-1: Construction Phasing Assumptions		
Proposed Project Construction Phase	Construction Start Month/Year	Construction End Month/Year
Site Preparation	10/03/2022	12/26/2023
Grading	12/27/2023	7/30/2024
Building Construction	7/31/2024	11/26/2030
Paving	11/27/2030	4/29/2031
Architectural Coating	5/01/2031	10/01/2031

The construction equipment mix used for estimating the construction emissions of the Proposed Project is shown in *Table 4-2*. Construction phasing specifications were provided by the project applicant, while the default values generated by CalEEMod were used for the construction equipment mix. This equipment mix accounts for both on-site construction equipment, as well as construction equipment required for off-site improvements. For the analysis, it was generally assumed that heavy construction equipment would be operating both on the project site and at the off-site improvement areas for approximately 8 hours per day, 5 days per week (22 days per month) during project construction. CalEEMod defaults were applied for the worker, haul, and vendor trips. Construction worker and vendor trips were calculated using the methodology presented in CalEEMod Users Guide, Appendix A (CAPCOA 2017). In CalEEMod, the estimate of worker trips for site preparation, grading, paving, and trenching are based on 1.25 workers per each individual piece of equipment. The CalEEMod worker rate was utilized for all phases of construction.

Table 4-2: Construction Scenario Assumptions						
Construction Phase	One-way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Site Preparation	18	0	0	Rubber Tired Dozers	3	8
				Tractors/Loaders/Backhoes	4	8
Grading	20	0	0	Excavators	2	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Scrapers	2	8
				Tractors/Loaders/Backhoes	2	8
Building Construction	861	216	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Welders	1	8
Paving	15	0	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	2	8
Architectural Coating	172	0	0	Air Compressors	1	6

The CalEEMod software allows the user to select pre-programmed “Mitigations” to control certain emissions. The measures selected and assumed to be implemented are:

- Using soil stabilizers
- Replacing ground cover of area disturbed
- Applying water to disturbed surfaces and haul roads three times a day; and
- Reducing speed on unpaved roads to <15 miles per hour

These measures are common practices that are required by local and state regulations to control dust.

4.1.2 CONSTRUCTION GHG EMISSIONS

Table 4-3, shows the estimated annual GHG construction emissions associated with the Proposed Project by year.

Table 4-3: Estimated Annual Construction GHG Emissions				
Construction Year	CO ₂	CH ₄	N ₂ O	CO ₂ Eq
	Metric Tons per Year			
2022	1.7496	0.0005	0.0000	1.7616
2023	112.1961	0.0352	0.0000	113.0759
2024	912.5224	0.1762	0.0000	916.9270
2025	1138.2663	0.0978	0.0000	1,140.7119
2026	1119.4066	0.0967	0.0000	1,121.8233
2027	1102.6743	0.0956	0.0000	1,105.0646
2028	1083.8769	0.0943	0.0000	1,086.2347
2029	1075.0353	0.0938	0.0000	1,077.3803
2030	1029.3391	0.0336	0.0000	1,030.1800
2031	152.2791	0.0059	0.0000	152.4273
Total	10,504.7842	0.7296	0	7,745.5866

As shown in Table 4-3, estimated total Project-generated construction GHG emissions are approximately 7,746 MT CO₂ Eq over 10 years (2022 through 2031). To interpret the amortized emission of the Project, CO₂ Eq was divided by a life time of 30 years, resulting in 258 MT CO₂ Eq annually.

4.2 Operational Related Greenhouse Gas Emissions

Emissions from the operational phase of the planned Project were estimated using the CalEEMod. Operational year 2032 was assumed as it would be the first full year following completion of construction.

4.2.1 AREA SOURCES

CalEEMod was used to estimate operational emissions from area sources, including emissions from landscape maintenance equipment. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. For the Project area, the average annual number of summer days is estimated at 180 days (CAPCOA 2017).

4.2.2 ENERGY SOURCES

As represented in CalEEMod, energy sources include emissions associated with building electricity. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, because criteria pollutant emissions occur at the site of the power plant, which is typically off site.

The KIUC is the sole electric utility on Kuau'i, serving over 23,300 customers. Approximately 92% of KIUC's electricity comes from the burning of imported fossil fuels.

It is the intent of the Project to develop a sustainable community. The Project will incorporate energy conservation and efficiency measures, inclusive of solar energy for water heating and encouraging photovoltaic (PV) systems and other renewable energy sources. To reduce net energy consumption and demand, the Project will consider the implementation of elements of the USEPA Energy Star Program, including efficient insulation, high performance windows, compact construction, efficient ventilation systems, and energy efficient lighting elements and appliances. Furthermore, the Project will seek to harness energy conservations and technologies to facilitate the possibility of net energy metering in building design to empower residents and tenants to reduce their electricity costs and provide energy back to the grid. As there are seldom cold weather days in Kapa'a, the Project will not include the use of hearths or fireplaces for heating.

The Project is designed to share a portion of the infrastructure with the HoKua Farm Lots, an adjoining agricultural community. To date, the HoKua community has already been developed with an operational four-acre solar facility on the adjacent Farm Lots. The PV system spreads over five acres and includes 5,376-solar panels mounted on posts and piers. The system produces 1.18 megawatts of energy that feeds into the KIUC distribution grid. The electricity produced by these PV arrays will allow KIUC to reduce the output and fuel combustion at its existing fossil fuel-fired generating facilities while still meeting the needs of its customers. Since burning oil at power plants produces CO₂, CH₄, and other greenhouse gases, this will ultimately lower KIUC's emissions of those pollutants.

To allocate the appropriate energy consumption rate for each of the Project's land use type, default proportions in CalEEMod were used to calculate an energy intensity rate for each energy category (e.g., Title 24 electricity, Non-Title 24 Electricity, lighting electricity). The creation and long-term operation

of this associated solar energy facility represents a significant offset to anticipated GHG production by the HoKua project.

The Project's energy use rates input into CalEEMod are presented in *Table 4-4*.

Table 4-4: Energy Use Rates			
Land Use	Title 24 Electricity	Non-Title 24 Electricity	Lighting Electricity
	kWh per unit per year		
Single-Family	331.07	6,155.97	1,608.84
Multi-Family	227.22	3,795.01	1,001.10
Affordable Housing	260.86	3,172.76	810.36
Commercial	3.18	3.16	6.22
Community Park and Pool	0	0	0
Open Space	0	0	0

4.2.3 MOBILE SOURCES

To quantify emissions associated with the Project's operational mobile sources, trip generation rates and trip lengths for each analyzed land use were calculated in CalEEMod to estimate the overall weekday daily trips (5,740 trips) and the total average daily vehicle miles traveled (VMT) length data (10.8 miles per trip). Notably, because the Project includes a mix of uses including residential, recreational and commercial uses, the Project would include a mixed-use trips reduction (5% of the total trips). With the increase in population created by this Project in the area, more businesses will develop thus creating jobs where residents can live and work without the use of motor vehicle transportation. In order to account for the mixed-use reduction from the traffic analysis, the traffic mitigation section of CalEEMod was updated to reflect a VMT reduction of 5% by selecting suburban center and increase diversity options in CalEEMod.

The model was also adjusted to account for a reduction in internal vehicle trips based on the Project's pedestrian, bicycle, and transit improvements, assuming residents will walk, bus or ride bicycles to visit Kapa'a Town or the neighborhood parks and commercial area. The Project will meet the County recommendations of the "Complete Streets" and the "Multi-Model Land Transportation" Ordinances, as well as the proposed "Smart Code." The Project is designed with short residential blocks, pedestrian walkways at reasonable intervals within a block, two new bus stops, and walking and bicycle paths integrated with Kapa'a Town's future paths.

CalEEMod default data, including trip characteristics, variable start information and emissions factors were used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles consistent with CalEEMod default vehicle fleet assumptions. Emission factors for 2032 (the first full year of project operation) were used to estimate emissions associated with full buildout of the Project.

4.2.4 SOLID WASTE

The Project will generate solid waste, and therefore, result in GHG emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste. To mitigate the amount of waste generated, the Project will include measures and provisions such as collection systems and storage for recyclables.

4.2.5 WATER AND WASTEWATER

Supply, conveyance, treatment, and distribution of water for the Project require the use of electricity, which will result in associated indirect GHG emissions. Similarly, wastewater generated by the Project requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. The total water demand for each land use type were allocated based on the default proportions from CalEEMod's indoor and outdoor water use. To reduce net water consumption and demand, the Project will implement water efficient landscape and irrigation systems, and low-flow faucets, toilets, and showerheads.

4.2.6 OPERATIONAL EMISSIONS

The Project will generate operational GHG emissions from area sources (landscape maintenance equipment), energy sources (electricity consumption), mobile sources (vehicle trips), water supply and wastewater treatment, and solid waste. *Table 4-5* presents the Project's operational GHG emissions. Emissions values are shown as unmitigated and with the mitigations discussed above, which includes energy offsets from on-site PV system production.

Table 4-5: Estimated Annual Operational GHG Emissions (2031)					
Emissions Source	Category	CO ₂	CH ₄	N ₂ O	CO ₂ Eq
		Metric Tons per year			
Area	Unmitigated	9.3271	0.00889	0	9.5493
	Mitigated	9.3271	0.00889	0	9.5493
Energy	Unmitigated	2141.187	0.062	0.0128	2146.559
	Mitigated	2095.602	0.0607	0.0126	2100.86
Mobile	Unmitigated	5205.116	0.2014	0	5210.15
	Mitigated	4536.848	0.1823	0	4541.405
Solid Waste	Unmitigated	85.2927	5.0407	0	211.3092
	Mitigated	68.2342	4.0325	0	169.0473
Water and Wastewater	Unmitigated	337.1608	0.0704	0.0406	351.0099
	Mitigated	284.8869	0.0568	0.0325	296.0043
Total	Unmitigated	7778.083	5.38339	0.0534	7928.578
	Mitigated	6994.898	4.34119	0.0451	7116.866

As shown in *Table 4-5*, the annual operational emissions for the Project with mitigation will be approximately 7,117 MT CO₂ Eq per year (or 237 MT CO₂ Eq per year when amortized over 30 years).

4.3 Carbon Sequestration

The Property is located on the north side of Kapa‘a town on former sugarcane lands. Following the closing of Lihue Plantation, the Project area was fallowed, and has since been dominated by alien vegetation. The Project area is classified as the Dry Grassland biome unit (*Figure 2-8*).

The calculation methodology and default values provided in CalEEMod (CAPCOA 2017) were used to calculate potential GHG emissions associated with the one-time change in carbon sequestration capacity of a vegetation land use type. The calculation of the one-time loss of sequestered carbon is the product of the converted acreage value and the carbon content value for each land use type. The loss of sequestered carbon resulting from the removal of vegetation on site is estimated based on the carbon sequestration rate for the vegetation type and the approximate acreages.

It is conservatively assumed that all sequestered carbon from the removed vegetation will be returned to the atmosphere; that is, the vegetation will not be re-used in a solid form or another form that would retain carbon. GHG emissions generated during construction activities, including clearing, tree removal, and grading, are estimated in the construction emissions analysis.

CalEEMod calculates GHG emissions resulting from land conversion and uses six general IPCC land use classifications for assigning default carbon content values (in units of MT CO₂/acre). CalEEMod default carbon content values were assumed to estimate the loss of sequestered carbon (release of CO₂) from the removal of the grasslands (4.3 MT CO₂/acre) vegetation category, which is based on data and formulas provided in the IPCC reports. The Project would permanently disturb a total of 82.81 acres of the Project Area. It is assumed that the 13.25 acres of open space will remain undisturbed.

Table 4-6 presents the estimated one-time carbon-stock change resulting from the Project’s land use change.

Table 4-6: Estimated Loss of Sequestered Carbon			
Vegetation Land Use Category	Total Acres	Biogenic CO ₂ Sequestered Factor (MT CO ₂ /Acre)	Sequestered CO ₂ (MT CO ₂)
Grassland	82.81	4.3	356.9111

The one-time carbon-stock change from planting new trees was also estimated based on the default values provided in CalEEMod. Trees sequester CO₂ while they are actively growing. Thereafter, the accumulation of carbon in biomass slows with age and is assumed to be offset by losses from clipping, pruning, and occasional death. Active growing periods are subject to, among other things, species, climate regime, and planting density; however, for modeling purposes, CalEEMod assumes the IPCC active growing period of 20 years (CAPCOA 2017).

CalEEMod calculates GHG sequestration that results from planting of new trees and has default carbon content values (in units of MT CO₂/tree/year) for ten different general tree species and a miscellaneous tree category. The Project estimates the planting of approximately 300 new trees throughout the site. Due to the potentially large number of different trees which will be planted within

the project site, the CO₂ sequestration rate for the miscellaneous category of 0.0354 MT CO₂/tree/year was assumed in this analysis. It is assumed that all 300 trees will grow for a minimum of 20 years.

Table 4-7 presents the estimated one-time carbon-stock change resulting from the planting of new trees.

Table 4-7: Estimated Gain of Sequestered Carbon				
Tree Category	Growing Period (year)	Number of Trees	Tree CO ₂ Sequestered Factor (MT CO ₂ /Tree/Year)	Gain of Sequestered CO ₂ (MT CO ₂)
Miscellaneous	20	300	0.0354	212.4000

The Project will result in the removal of grassland vegetation of approximately 82.21 acres. The removal of vegetation will result in the one-time release of sequestered carbon of approximately 357MT CO₂ Eq. (or 11.9 MT CO₂ Eq per year when amortized over 30 years). The emissions associated with the removal of vegetation will be in most part offset by the planting of at least 300 new trees, which will result in the one-time sequestration of approximately 212 MT CO₂ Eq (or 7 MT CO₂ Eq per year when amortized over 30 years).

4.4 Conclusions

The Project represents a responsibly designed community that will help meet the housing needs for Kaua'i while minimizing the overall carbon footprint. The Project is expected to generate GHG emissions related to construction, operations, and the one-time land use change from grassland to a residential neighborhood. There are numerous offsetting mitigating aspects of the Project, including energy efficient design, best management construction practices, planting new trees, multi-modal transportation options, and a four-acre solar farm. The Project is not anticipated to interfere with the state's commitment to reduce its emission levels to below 1990 levels.

Table 4-8 shows the Estimated Annual Net GHG Emissions for the Project.

Table 4-8: Estimated Annual Net GHG Emissions	
Emissions Source	CO ₂ Eq Metric Tons per Year
Construction Emissions (Amortized Over 30 Years)	258
Annual Operational Emissions	7,117
Loss of Carbon from Vegetation Removal (Amortized Over 30 Years)	12
Annual Gain from Sequestered Carbon (Amortized Over 30 Years)	-7
Total Annual Emissions	7,380
Project Population	2,408
Service Person/Per Capita GHG Efficiency	3.06

The total Project emissions during operation were estimated to be approximately 7,117 MT CO₂ Eq per year which includes amortized construction emissions of 258 MT CO₂ Eq per year and the loss of carbon from vegetation removal of 12 MT CO₂ Eq per year. Furthermore, the planting of trees will reduce the amount of operational emissions by an estimated 7 MT CO₂ Eq per year resulting in an overall operational GHG impact of 7,380 MT CO₂ Eq per year. Based on a population of 2,408 people, the Project will result in GHG emissions of approximately 3.06 MT CO₂ Eq /person/yr.

Appendices

HoKua Place GHG Assessment - Statewide , Annual

HoKua Place GHG Assessment

Statewide , Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.00	Acre	13.25	0.00	0
Recreational Swimming Pool	1.00	1000sqft	3.10	131,526.00	0
Apartments Low Rise	231.00	Dwelling Unit	15.63	231,000.00	723
Condo/Townhouse	452.00	Dwelling Unit	45.82	452,000.00	1415
Single Family Housing	36.00	Dwelling Unit	8.26	360,000.00	113
Single Family Housing	50.00	Dwelling Unit	8.60	375,000.00	157
Convenience Market (24 Hour)	1.00	1000sqft	1.40	60,984.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	5.5	Precipitation Freq (Days)	180
Climate Zone	13			Operational Year	2032
Utility Company	Statewide Average				
CO2 Intensity (lb/MWhr)	1001.57	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

HoKua Place GHG Assessment - Statewide , Annual

Project Characteristics - Project Area is located in Kapaa Kauai. Windspeed of Project Area is 5.5 m/s according to AWS Truewind, LLC (2004). Climate Zone 13 selected as best proxy for Kapaa temperature ranges. Utility Company service area is KIUC.

Land Use - Land Use - Affordable housing was assumed to be 1.5 times more dense than multi-family homes. The building area for the pool / park was derived by subtracting the area of a 82 ft by 42.8 ft swimming pool from the 3.1 acre park.

Construction Phase - Construction Phase - Demolition is not required for the project

Grading - Grading - Area for grubbing is assumed to be the total Project area (96.06 ac) minus the areas reserved as open/green space (13.25 ac).

Woodstoves - Woodstoves - Fireplaces and woodstoves will not be required for heating.

Landscape Equipment -

Energy Use - Natural Gas is not included in the Project's energy profile.

Water And Wastewater - The Project is served by the County Wastewater System and will not include septic tanks or facultative lagoons.

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation - These measures are common practices that are required by local and state regulations to control dust.

Mobile Land Use Mitigation - Mix of uses and density increase. Project will meet the County recommendations of the Complete Streets, Multi-Model Land Transportation Ordinances, and the proposed Smart Code. Residents can live and work without the use of a motor vehicle.

Mobile Commute Mitigation -

Area Mitigation -

Energy Mitigation - 1.18 MW produced by Solar Farm.

Water Mitigation - Water restrictions during drier periods, public education and efficient landscaping practices. Consumption could be reduced through end-user conservation. Efficient fixtures and appliances will reduce indoor water use.

Waste Mitigation - Measures and provisions such as collection systems and storage for recyclables

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	55
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	55
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	1.00
tblConstructionPhase	NumDays	1,550.00	1,650.00

HoKua Place GHG Assessment - Statewide , Annual

tblConstructionPhase	PhaseEndDate	2/17/2023	10/3/2022
tblConstructionPhase	PhaseEndDate	5/12/2023	12/26/2023
tblConstructionPhase	PhaseEndDate	12/15/2023	7/30/2024
tblConstructionPhase	PhaseEndDate	11/23/2029	11/26/2030
tblConstructionPhase	PhaseEndDate	4/26/2030	4/29/2031
tblConstructionPhase	PhaseEndDate	9/27/2030	10/1/2031
tblConstructionPhase	PhaseStartDate	2/18/2023	10/4/2023
tblConstructionPhase	PhaseStartDate	5/13/2023	12/27/2023
tblConstructionPhase	PhaseStartDate	12/16/2023	7/31/2024
tblConstructionPhase	PhaseStartDate	11/24/2029	11/27/2030
tblConstructionPhase	PhaseStartDate	4/27/2030	5/1/2031
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	1.09	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	T24NG	7,045.49	0.00
tblEnergyUse	T24NG	10,202.85	0.00
tblEnergyUse	T24NG	1.14	0.00
tblEnergyUse	T24NG	19,206.92	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00

HoKua Place GHG Assessment - Statewide , Annual

tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	127.05	0.00
tblFireplaces	NumberGas	248.60	0.00
tblFireplaces	NumberGas	47.30	0.00
tblFireplaces	NumberNoFireplace	23.10	0.00
tblFireplaces	NumberNoFireplace	45.20	0.00
tblFireplaces	NumberNoFireplace	8.60	0.00
tblFireplaces	NumberWood	80.85	0.00
tblFireplaces	NumberWood	158.20	0.00
tblFireplaces	NumberWood	30.10	0.00
tblGrading	AcresOfGrading	0.00	82.81
tblLandUse	LandUseSquareFeet	43,560.00	0.00
tblLandUse	LandUseSquareFeet	1,000.00	131,526.00
tblLandUse	LandUseSquareFeet	64,800.00	360,000.00
tblLandUse	LandUseSquareFeet	90,000.00	375,000.00
tblLandUse	LandUseSquareFeet	1,000.00	60,984.00
tblLandUse	LotAcreage	1.00	13.25
tblLandUse	LotAcreage	0.02	3.10
tblLandUse	LotAcreage	14.44	15.63
tblLandUse	LotAcreage	28.25	45.82
tblLandUse	LotAcreage	11.69	8.26
tblLandUse	LotAcreage	16.23	8.60
tblLandUse	LotAcreage	0.02	1.40
tblLandUse	Population	661.00	723.00
tblLandUse	Population	1,293.00	1,415.00
tblLandUse	Population	103.00	113.00
tblLandUse	Population	143.00	157.00

HoKua Place GHG Assessment - Statewide , Annual

tblProjectCharacteristics	PrecipitationFrequency	54	180
tblProjectCharacteristics	WindSpeed	2.2	5.5
tblSequestration	NumberOfNewTrees	0.00	300.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	11.55	0.00
tblWoodstoves	NumberCatalytic	22.60	0.00
tblWoodstoves	NumberCatalytic	4.30	0.00
tblWoodstoves	NumberNoncatalytic	11.55	0.00
tblWoodstoves	NumberNoncatalytic	22.60	0.00
tblWoodstoves	NumberNoncatalytic	4.30	0.00

HoKua Place GHG Assessment - Statewide , Annual

tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

HoKua Place GHG Assessment - Statewide , Annual

2.1 Overall Construction**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	1.3400e-003	0.0129	0.0105	2.0000e-005	6.0000e-005	6.2000e-004	6.8000e-004	1.0000e-005	5.8000e-004	5.9000e-004	0.0000	1.7496	1.7496	4.8000e-004	0.0000	1.7616
2023	0.0865	0.8787	0.6023	1.2800e-003	0.8046	0.0402	0.8447	0.3309	0.0369	0.3679	0.0000	112.1961	112.1961	0.0352	0.0000	113.0759
2024	0.4394	3.7321	3.8313	0.0102	0.9539	0.1376	1.0915	0.3525	0.1273	0.4798	0.0000	912.5224	912.5224	0.1762	0.0000	916.9270
2025	0.4248	2.8579	3.8746	0.0125	0.6633	0.0742	0.7376	0.1798	0.0698	0.2495	0.0000	1,138.2663	1,138.2663	0.0978	0.0000	1,140.7119
2026	0.4133	2.8349	3.7645	0.0123	0.6633	0.0741	0.7374	0.1798	0.0696	0.2494	0.0000	1,119.4066	1,119.4066	0.0967	0.0000	1,121.8233
2027	0.4022	2.8136	3.6664	0.0121	0.6633	0.0738	0.7372	0.1798	0.0694	0.2491	0.0000	1,102.6743	1,102.6743	0.0956	0.0000	1,105.0646
2028	0.3895	2.7851	3.5676	0.0119	0.6608	0.0732	0.7340	0.1791	0.0688	0.2479	0.0000	1,083.8769	1,083.8769	0.0943	0.0000	1,086.2347
2029	0.3789	2.7786	3.4991	0.0118	0.6633	0.0733	0.7366	0.1798	0.0689	0.2486	0.0000	1,075.0353	1,075.0353	0.0938	0.0000	1,077.3803
2030	0.3425	2.0524	3.3062	0.0114	0.6012	0.0254	0.6266	0.1629	0.0251	0.1880	0.0000	1,029.3391	1,029.3391	0.0336	0.0000	1,030.1800
2031	26.0164	0.3570	0.8665	1.7500e-003	0.0527	0.0154	0.0681	0.0141	0.0154	0.0295	0.0000	152.2791	152.2791	5.9300e-003	0.0000	152.4273
Maximum	26.0164	3.7321	3.8746	0.0125	0.9539	0.1376	1.0915	0.3525	0.1273	0.4798	0.0000	1,138.2663	1,138.2663	0.1762	0.0000	1,140.7119

HoKua Place GHG Assessment - Statewide , Annual

2.1 Overall Construction**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	1.3400e-003	0.0129	0.0105	2.0000e-005	6.0000e-005	6.2000e-004	6.8000e-004	1.0000e-005	5.8000e-004	5.9000e-004	0.0000	1.7496	1.7496	4.8000e-004	0.0000	1.7616
2023	0.0865	0.8787	0.6023	1.2800e-003	0.3644	0.0402	0.4045	0.1495	0.0369	0.1865	0.0000	112.1960	112.1960	0.0352	0.0000	113.0758
2024	0.4394	3.7321	3.8313	0.0102	0.5891	0.1376	0.7268	0.2019	0.1273	0.3293	0.0000	912.5218	912.5218	0.1762	0.0000	916.9263
2025	0.4248	2.8579	3.8746	0.0125	0.6633	0.0742	0.7376	0.1798	0.0698	0.2495	0.0000	1,138.2659	1,138.2659	0.0978	0.0000	1,140.7116
2026	0.4133	2.8349	3.7645	0.0123	0.6633	0.0741	0.7374	0.1798	0.0696	0.2494	0.0000	1,119.4062	1,119.4062	0.0967	0.0000	1,121.8230
2027	0.4022	2.8136	3.6664	0.0121	0.6633	0.0738	0.7372	0.1798	0.0694	0.2491	0.0000	1,102.6740	1,102.6740	0.0956	0.0000	1,105.0643
2028	0.3895	2.7851	3.5676	0.0119	0.6608	0.0732	0.7340	0.1791	0.0688	0.2479	0.0000	1,083.8765	1,083.8765	0.0943	0.0000	1,086.2343
2029	0.3789	2.7786	3.4991	0.0118	0.6633	0.0733	0.7366	0.1798	0.0689	0.2486	0.0000	1,075.0350	1,075.0350	0.0938	0.0000	1,077.3800
2030	0.3425	2.0524	3.3061	0.0114	0.6012	0.0254	0.6266	0.1629	0.0251	0.1880	0.0000	1,029.3387	1,029.3387	0.0336	0.0000	1,030.1796
2031	26.0164	0.3570	0.8665	1.7500e-003	0.0527	0.0154	0.0681	0.0141	0.0154	0.0295	0.0000	152.2790	152.2790	5.9300e-003	0.0000	152.4272
Maximum	26.0164	3.7321	3.8746	0.0125	0.6633	0.1376	0.7376	0.2019	0.1273	0.3293	0.0000	1,138.2659	1,138.2659	0.1762	0.0000	1,140.7116

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	14.06	0.00	12.75	18.88	0.00	14.37	0.00	0.00	0.00	0.00	0.00	0.00

HoKua Place GHG Assessment - Statewide , Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-3-2022	1-2-2023	0.0102	0.0102
5	10-3-2023	1-2-2024	1.0018	1.0018
6	1-3-2024	4-2-2024	1.1602	1.1602
7	4-3-2024	7-2-2024	1.1599	1.1599
8	7-3-2024	10-2-2024	0.9610	0.9610
9	10-3-2024	1-2-2025	0.8755	0.8755
10	1-3-2025	4-2-2025	0.8128	0.8128
11	4-3-2025	7-2-2025	0.8143	0.8143
12	7-3-2025	10-2-2025	0.8234	0.8234
13	10-3-2025	1-2-2026	0.8309	0.8309
14	1-3-2026	4-2-2026	0.8041	0.8041
15	4-3-2026	7-2-2026	0.8059	0.8059
16	7-3-2026	10-2-2026	0.8149	0.8149
17	10-3-2026	1-2-2027	0.8219	0.8219
18	1-3-2027	4-2-2027	0.7958	0.7958
19	4-3-2027	7-2-2027	0.7980	0.7980
20	7-3-2027	10-2-2027	0.8070	0.8070
21	10-3-2027	1-2-2028	0.8135	0.8135
22	1-3-2028	4-2-2028	0.7972	0.7972
23	4-3-2028	7-2-2028	0.7910	0.7910
24	7-3-2028	10-2-2028	0.7998	0.7998
25	10-3-2028	1-2-2029	0.8059	0.8059
26	1-3-2029	4-2-2029	0.7809	0.7809
27	4-3-2029	7-2-2029	0.7838	0.7838
28	7-3-2029	10-2-2029	0.7925	0.7925
29	10-3-2029	1-2-2030	0.7949	0.7949

HoKua Place GHG Assessment - Statewide , Annual

30	1-3-2030	4-2-2030	0.6261	0.6261
31	4-3-2030	7-2-2030	0.6277	0.6277
32	7-3-2030	10-2-2030	0.6347	0.6347
33	10-3-2030	1-2-2031	0.4958	0.4958
34	1-3-2031	4-2-2031	0.2749	0.2749
35	4-3-2031	7-2-2031	10.7229	10.7229
36	7-3-2031	9-30-2031	15.2006	15.2006
		Highest	15.2006	15.2006

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.5663	0.0657	5.6949	3.0000e-004		0.0317	0.0317		0.0317	0.0317	0.0000	9.3271	9.3271	8.8900e-003	0.0000	9.5493
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2,141.1868	2,141.1868	0.0620	0.0128	2,146.5592
Mobile	0.9692	6.7767	11.0221	0.0560	5.0567	0.0307	5.0873	1.3655	0.0286	1.3941	0.0000	5,205.1155	5,205.1155	0.2014	0.0000	5,210.1502
Waste						0.0000	0.0000		0.0000	0.0000	85.2927	0.0000	85.2927	5.0407	0.0000	211.3092
Water						0.0000	0.0000		0.0000	0.0000	17.7738	319.3870	337.1608	0.0704	0.0406	351.0099
Total	10.5355	6.8423	16.7170	0.0563	5.0567	0.0623	5.1190	1.3655	0.0602	1.4258	103.0666	7,675.0163	7,778.0829	5.3834	0.0534	7,928.5777

HoKua Place GHG Assessment - Statewide , Annual

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.5663	0.0657	5.6949	3.0000e-004		0.0317	0.0317		0.0317	0.0317	0.0000	9.3271	9.3271	8.8900e-003	0.0000	9.5493
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2,095.602 2	2,095.602 2	0.0607	0.0126	2,100.860 2
Mobile	0.9120	6.4511	9.7766	0.0488	4.3234	0.0268	4.3503	1.1675	0.0250	1.1925	0.0000	4,536.847 7	4,536.847 7	0.1823	0.0000	4,541.405 1
Waste						0.0000	0.0000		0.0000	0.0000	68.2342	0.0000	68.2342	4.0325	0.0000	169.0473
Water						0.0000	0.0000		0.0000	0.0000	14.2191	270.6679	284.8869	0.0568	0.0325	296.0043
Total	10.4783	6.5167	15.4714	0.0491	4.3234	0.0585	4.3819	1.1675	0.0566	1.2242	82.4532	6,912.444 9	6,994.898 1	4.3412	0.0451	7,116.866 2

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.54	4.76	7.45	12.81	14.50	6.19	14.40	14.50	5.98	14.14	20.00	9.94	10.07	19.36	15.56	10.24

HoKua Place GHG Assessment - Statewide , Annual

2.3 Vegetation**Vegetation**

	CO2e
Category	MT
New Trees	212.4000
Vegetation Land Change	-356.9111
Total	-144.5111

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/3/2022	10/3/2022	5	1	
2	Site Preparation	Site Preparation	10/4/2023	12/26/2023	5	60	
3	Grading	Grading	12/27/2023	7/30/2024	5	155	
4	Building Construction	Building Construction	7/31/2024	11/26/2030	5	1650	
5	Paving	Paving	11/27/2030	4/29/2031	5	110	
6	Architectural Coating	Architectural Coating	5/1/2031	10/1/2031	5	110	

Acres of Grading (Site Preparation Phase): 82.81**Acres of Grading (Grading Phase): 387.5****Acres of Paving: 0**

HoKua Place GHG Assessment - Statewide , Annual

Residential Indoor: 2,871,450; Residential Outdoor: 957,150; Non-Residential Indoor: 486,054; Non-Residential Outdoor: 162,018; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

HoKua Place GHG Assessment - Statewide , Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	597.00	114.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	119.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3200e-003	0.0129	0.0103	2.0000e-005		6.2000e-004	6.2000e-004		5.8000e-004	5.8000e-004	0.0000	1.6995	1.6995	4.8000e-004	0.0000	1.7115
Total	1.3200e-003	0.0129	0.0103	2.0000e-005		6.2000e-004	6.2000e-004		5.8000e-004	5.8000e-004	0.0000	1.6995	1.6995	4.8000e-004	0.0000	1.7115

HoKua Place GHG Assessment - Statewide , Annual

3.2 Demolition - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.8000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0501	0.0501	0.0000	0.0000	0.0501
Total	2.0000e-005	2.0000e-005	1.8000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0501	0.0501	0.0000	0.0000	0.0501

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3200e-003	0.0129	0.0103	2.0000e-005		6.2000e-004	6.2000e-004		5.8000e-004	5.8000e-004	0.0000	1.6995	1.6995	4.8000e-004	0.0000	1.7114
Total	1.3200e-003	0.0129	0.0103	2.0000e-005		6.2000e-004	6.2000e-004		5.8000e-004	5.8000e-004	0.0000	1.6995	1.6995	4.8000e-004	0.0000	1.7114

HoKua Place GHG Assessment - Statewide , Annual

3.2 Demolition - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.8000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0501	0.0501	0.0000	0.0000	0.0501
Total	2.0000e-005	2.0000e-005	1.8000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0501	0.0501	0.0000	0.0000	0.0501

3.3 Site Preparation - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5859	0.0000	0.5859	0.3027	0.0000	0.3027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0798	0.8257	0.5473	1.1400e-003		0.0380	0.0380		0.0349	0.0349	0.0000	100.3521	100.3521	0.0325	0.0000	101.1635
Total	0.0798	0.8257	0.5473	1.1400e-003	0.5859	0.0380	0.6239	0.3027	0.0349	0.3376	0.0000	100.3521	100.3521	0.0325	0.0000	101.1635

HoKua Place GHG Assessment - Statewide , Annual

3.3 Site Preparation - 2023**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6800e-003	1.1100e-003	0.0122	4.0000e-005	3.9600e-003	3.0000e-005	3.9900e-003	1.0600e-003	3.0000e-005	1.0900e-003	0.0000	3.4709	3.4709	9.0000e-005	0.0000	3.4731
Total	1.6800e-003	1.1100e-003	0.0122	4.0000e-005	3.9600e-003	3.0000e-005	3.9900e-003	1.0600e-003	3.0000e-005	1.0900e-003	0.0000	3.4709	3.4709	9.0000e-005	0.0000	3.4731

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2637	0.0000	0.2637	0.1362	0.0000	0.1362	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0798	0.8257	0.5473	1.1400e-003		0.0380	0.0380		0.0349	0.0349	0.0000	100.3520	100.3520	0.0325	0.0000	101.1634
Total	0.0798	0.8257	0.5473	1.1400e-003	0.2637	0.0380	0.3016	0.1362	0.0349	0.1711	0.0000	100.3520	100.3520	0.0325	0.0000	101.1634

HoKua Place GHG Assessment - Statewide , Annual

3.3 Site Preparation - 2023**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6800e-003	1.1100e-003	0.0122	4.0000e-005	3.9600e-003	3.0000e-005	3.9900e-003	1.0600e-003	3.0000e-005	1.0900e-003	0.0000	3.4709	3.4709	9.0000e-005	0.0000	3.4731
Total	1.6800e-003	1.1100e-003	0.0122	4.0000e-005	3.9600e-003	3.0000e-005	3.9900e-003	1.0600e-003	3.0000e-005	1.0900e-003	0.0000	3.4709	3.4709	9.0000e-005	0.0000	3.4731

3.4 Grading - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2145	0.0000	0.2145	0.0272	0.0000	0.0272	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9800e-003	0.0518	0.0421	9.0000e-005		2.1400e-003	2.1400e-003		1.9700e-003	1.9700e-003	0.0000	8.1803	8.1803	2.6500e-003	0.0000	8.2464
Total	4.9800e-003	0.0518	0.0421	9.0000e-005	0.2145	2.1400e-003	0.2167	0.0272	1.9700e-003	0.0291	0.0000	8.1803	8.1803	2.6500e-003	0.0000	8.2464

HoKua Place GHG Assessment - Statewide , Annual

3.4 Grading - 2023**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	6.0000e-005	6.8000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1928	0.1928	0.0000	0.0000	0.1930
Total	9.0000e-005	6.0000e-005	6.8000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1928	0.1928	0.0000	0.0000	0.1930

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0965	0.0000	0.0965	0.0122	0.0000	0.0122	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9800e-003	0.0518	0.0421	9.0000e-005		2.1400e-003	2.1400e-003		1.9700e-003	1.9700e-003	0.0000	8.1803	8.1803	2.6500e-003	0.0000	8.2464
Total	4.9800e-003	0.0518	0.0421	9.0000e-005	0.0965	2.1400e-003	0.0987	0.0122	1.9700e-003	0.0142	0.0000	8.1803	8.1803	2.6500e-003	0.0000	8.2464

HoKua Place GHG Assessment - Statewide , Annual

3.4 Grading - 2023**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	6.0000e-005	6.8000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1928	0.1928	0.0000	0.0000	0.1930
Total	9.0000e-005	6.0000e-005	6.8000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1928	0.1928	0.0000	0.0000	0.1930

3.4 Grading - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6632	0.0000	0.6632	0.2738	0.0000	0.2738	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2446	2.4607	2.1069	4.7200e-003		0.1015	0.1015		0.0934	0.0934	0.0000	414.3484	414.3484	0.1340	0.0000	417.6986
Total	0.2446	2.4607	2.1069	4.7200e-003	0.6632	0.1015	0.7646	0.2738	0.0934	0.3671	0.0000	414.3484	414.3484	0.1340	0.0000	417.6986

HoKua Place GHG Assessment - Statewide , Annual

3.4 Grading - 2024**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4500e-003	2.8200e-003	0.0318	1.0000e-004	0.0112	8.0000e-005	0.0112	2.9800e-003	8.0000e-005	3.0600e-003	0.0000	9.4171	9.4171	2.2000e-004	0.0000	9.4225
Total	4.4500e-003	2.8200e-003	0.0318	1.0000e-004	0.0112	8.0000e-005	0.0112	2.9800e-003	8.0000e-005	3.0600e-003	0.0000	9.4171	9.4171	2.2000e-004	0.0000	9.4225

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2984	0.0000	0.2984	0.1232	0.0000	0.1232	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2446	2.4607	2.1069	4.7200e-003		0.1015	0.1015		0.0934	0.0934	0.0000	414.3479	414.3479	0.1340	0.0000	417.6981
Total	0.2446	2.4607	2.1069	4.7200e-003	0.2984	0.1015	0.3999	0.1232	0.0934	0.2166	0.0000	414.3479	414.3479	0.1340	0.0000	417.6981

HoKua Place GHG Assessment - Statewide , Annual

3.4 Grading - 2024**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4500e-003	2.8200e-003	0.0318	1.0000e-004	0.0112	8.0000e-005	0.0112	2.9800e-003	8.0000e-005	3.0600e-003	0.0000	9.4171	9.4171	2.2000e-004	0.0000	9.4225
Total	4.4500e-003	2.8200e-003	0.0318	1.0000e-004	0.0112	8.0000e-005	0.0112	2.9800e-003	8.0000e-005	3.0600e-003	0.0000	9.4171	9.4171	2.2000e-004	0.0000	9.4225

3.5 Building Construction - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0809	0.7394	0.8892	1.4800e-003		0.0337	0.0337		0.0317	0.0317	0.0000	127.5170	127.5170	0.0302	0.0000	128.2709
Total	0.0809	0.7394	0.8892	1.4800e-003		0.0337	0.0337		0.0317	0.0317	0.0000	127.5170	127.5170	0.0302	0.0000	128.2709

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2024**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.4683	0.1169	1.6400e-003	0.0387	5.3000e-004	0.0393	0.0113	5.1000e-004	0.0118	0.0000	157.8129	157.8129	7.1000e-003	0.0000	157.9905
Worker	0.0962	0.0610	0.6865	2.2500e-003	0.2408	1.7800e-003	0.2426	0.0645	1.6300e-003	0.0661	0.0000	203.4270	203.4270	4.7000e-003	0.0000	203.5445
Total	0.1095	0.5292	0.8034	3.8900e-003	0.2796	2.3100e-003	0.2819	0.0758	2.1400e-003	0.0779	0.0000	361.2400	361.2400	0.0118	0.0000	361.5350

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0809	0.7394	0.8892	1.4800e-003		0.0337	0.0337		0.0317	0.0317	0.0000	127.5169	127.5169	0.0302	0.0000	128.2707
Total	0.0809	0.7394	0.8892	1.4800e-003		0.0337	0.0337		0.0317	0.0317	0.0000	127.5169	127.5169	0.0302	0.0000	128.2707

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2024**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.4683	0.1169	1.6400e-003	0.0387	5.3000e-004	0.0393	0.0113	5.1000e-004	0.0118	0.0000	157.8129	157.8129	7.1000e-003	0.0000	157.9905
Worker	0.0962	0.0610	0.6865	2.2500e-003	0.2408	1.7800e-003	0.2426	0.0645	1.6300e-003	0.0661	0.0000	203.4270	203.4270	4.7000e-003	0.0000	203.5445
Total	0.1095	0.5292	0.8034	3.8900e-003	0.2796	2.3100e-003	0.2819	0.0758	2.1400e-003	0.0779	0.0000	361.2400	361.2400	0.0118	0.0000	361.5350

3.5 Building Construction - 2025**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2025**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0305	1.0988	0.2669	3.8800e-003	0.0919	1.2400e-003	0.0932	0.0268	1.1800e-003	0.0280	0.0000	372.0926	372.0926	0.0166	0.0000	372.5065
Worker	0.2159	0.1318	1.5087	5.1200e-003	0.5714	4.1300e-003	0.5756	0.1529	3.8000e-003	0.1567	0.0000	463.5188	463.5188	0.0101	0.0000	463.7719
Total	0.2464	1.2306	1.7756	9.0000e-003	0.6633	5.3700e-003	0.6687	0.1798	4.9800e-003	0.1848	0.0000	835.6114	835.6114	0.0267	0.0000	836.2784

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2025**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0305	1.0988	0.2669	3.8800e-003	0.0919	1.2400e-003	0.0932	0.0268	1.1800e-003	0.0280	0.0000	372.0926	372.0926	0.0166	0.0000	372.5065
Worker	0.2159	0.1318	1.5087	5.1200e-003	0.5714	4.1300e-003	0.5756	0.1529	3.8000e-003	0.1567	0.0000	463.5188	463.5188	0.0101	0.0000	463.7719
Total	0.2464	1.2306	1.7756	9.0000e-003	0.6633	5.3700e-003	0.6687	0.1798	4.9800e-003	0.1848	0.0000	835.6114	835.6114	0.0267	0.0000	836.2784

3.5 Building Construction - 2026**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2026**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0297	1.0867	0.2589	3.8500e-003	0.0919	1.2100e-003	0.0931	0.0268	1.1500e-003	0.0280	0.0000	369.9234	369.9234	0.0163	0.0000	370.3302
Worker	0.2052	0.1209	1.4066	4.9400e-003	0.5714	4.0000e-003	0.5754	0.1529	3.6800e-003	0.1566	0.0000	446.8283	446.8283	9.2500e-003	0.0000	447.0596
Total	0.2349	1.2076	1.6655	8.7900e-003	0.6633	5.2100e-003	0.6686	0.1798	4.8300e-003	0.1846	0.0000	816.7517	816.7517	0.0255	0.0000	817.3898

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2026**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0297	1.0867	0.2589	3.8500e-003	0.0919	1.2100e-003	0.0931	0.0268	1.1500e-003	0.0280	0.0000	369.9234	369.9234	0.0163	0.0000	370.3302
Worker	0.2052	0.1209	1.4066	4.9400e-003	0.5714	4.0000e-003	0.5754	0.1529	3.6800e-003	0.1566	0.0000	446.8283	446.8283	9.2500e-003	0.0000	447.0596
Total	0.2349	1.2076	1.6655	8.7900e-003	0.6633	5.2100e-003	0.6686	0.1798	4.8300e-003	0.1846	0.0000	816.7517	816.7517	0.0255	0.0000	817.3898

3.5 Building Construction - 2027**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2027**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0290	1.0752	0.2522	3.8300e-003	0.0919	1.1800e-003	0.0931	0.0268	1.1300e-003	0.0280	0.0000	368.0028	368.0028	0.0160	0.0000	368.4027
Worker	0.1948	0.1112	1.3152	4.7700e-003	0.5714	3.7900e-003	0.5752	0.1529	3.4900e-003	0.1564	0.0000	432.0166	432.0166	8.4700e-003	0.0000	432.2284
Total	0.2238	1.1864	1.5674	8.6000e-003	0.6633	4.9700e-003	0.6683	0.1798	4.6200e-003	0.1844	0.0000	800.0195	800.0195	0.0245	0.0000	800.6311

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2027**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0290	1.0752	0.2522	3.8300e-003	0.0919	1.1800e-003	0.0931	0.0268	1.1300e-003	0.0280	0.0000	368.0028	368.0028	0.0160	0.0000	368.4027
Worker	0.1948	0.1112	1.3152	4.7700e-003	0.5714	3.7900e-003	0.5752	0.1529	3.4900e-003	0.1564	0.0000	432.0166	432.0166	8.4700e-003	0.0000	432.2284
Total	0.2238	1.1864	1.5674	8.6000e-003	0.6633	4.9700e-003	0.6683	0.1798	4.6200e-003	0.1844	0.0000	800.0195	800.0195	0.0245	0.0000	800.6311

3.5 Building Construction - 2028**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2028**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0284	1.0620	0.2460	3.8000e-003	0.0916	1.1500e-003	0.0927	0.0267	1.1000e-003	0.0278	0.0000	365.0342	365.0342	0.0157	0.0000	365.4258
Worker	0.1834	0.1021	1.2306	4.6100e-003	0.5692	3.5000e-003	0.5727	0.1523	3.2200e-003	0.1556	0.0000	417.3474	417.3474	7.7800e-003	0.0000	417.5418
Total	0.2118	1.1641	1.4766	8.4100e-003	0.6608	4.6500e-003	0.6655	0.1791	4.3200e-003	0.1834	0.0000	782.3816	782.3816	0.0234	0.0000	782.9676

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2028**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0284	1.0620	0.2460	3.8000e-003	0.0916	1.1500e-003	0.0927	0.0267	1.1000e-003	0.0278	0.0000	365.0342	365.0342	0.0157	0.0000	365.4258
Worker	0.1834	0.1021	1.2306	4.6100e-003	0.5692	3.5000e-003	0.5727	0.1523	3.2200e-003	0.1556	0.0000	417.3474	417.3474	7.7800e-003	0.0000	417.5418
Total	0.2118	1.1641	1.4766	8.4100e-003	0.6608	4.6500e-003	0.6655	0.1791	4.3200e-003	0.1834	0.0000	782.3816	782.3816	0.0234	0.0000	782.9676

3.5 Building Construction - 2029**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2029**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0280	1.0570	0.2422	3.8000e-003	0.0919	1.1400e-003	0.0931	0.0268	1.0900e-003	0.0279	0.0000	364.9917	364.9917	0.0155	0.0000	365.3790
Worker	0.1725	0.0943	1.1579	4.5000e-003	0.5714	3.2700e-003	0.5747	0.1529	3.0100e-003	0.1559	0.0000	407.3887	407.3887	7.1600e-003	0.0000	407.5678
Total	0.2004	1.1513	1.4001	8.3000e-003	0.6633	4.4100e-003	0.6678	0.1798	4.1000e-003	0.1839	0.0000	772.3805	772.3805	0.0227	0.0000	772.9468

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2029**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0280	1.0570	0.2422	3.8000e-003	0.0919	1.1400e-003	0.0931	0.0268	1.0900e-003	0.0279	0.0000	364.9917	364.9917	0.0155	0.0000	365.3790
Worker	0.1725	0.0943	1.1579	4.5000e-003	0.5714	3.2700e-003	0.5747	0.1529	3.0100e-003	0.1559	0.0000	407.3887	407.3887	7.1600e-003	0.0000	407.5678
Total	0.2004	1.1513	1.4001	8.3000e-003	0.6633	4.4100e-003	0.6678	0.1798	4.1000e-003	0.1839	0.0000	772.3805	772.3805	0.0227	0.0000	772.9468

3.5 Building Construction - 2030**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1545	0.9363	1.9065	3.6500e-003		0.0175	0.0175		0.0175	0.0175	0.0000	310.1760	310.1760	0.0124	0.0000	310.4871
Total	0.1545	0.9363	1.9065	3.6500e-003		0.0175	0.0175		0.0175	0.0175	0.0000	310.1760	310.1760	0.0124	0.0000	310.4871

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2030**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0249	0.9486	0.2157	3.4200e-003	0.0831	1.0100e-003	0.0841	0.0243	9.6000e-004	0.0252	0.0000	328.9604	328.9604	0.0138	0.0000	329.3057
Worker	0.1454	0.0784	0.9832	3.9700e-003	0.5167	2.7500e-003	0.5194	0.1383	2.5300e-003	0.1408	0.0000	359.1225	359.1225	5.9500e-003	0.0000	359.2713
Total	0.1703	1.0269	1.1989	7.3900e-003	0.5998	3.7600e-003	0.6036	0.1626	3.4900e-003	0.1660	0.0000	688.0828	688.0828	0.0198	0.0000	688.5770

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1545	0.9363	1.9065	3.6500e-003		0.0175	0.0175		0.0175	0.0175	0.0000	310.1756	310.1756	0.0124	0.0000	310.4867
Total	0.1545	0.9363	1.9065	3.6500e-003		0.0175	0.0175		0.0175	0.0175	0.0000	310.1756	310.1756	0.0124	0.0000	310.4867

HoKua Place GHG Assessment - Statewide , Annual

3.5 Building Construction - 2030**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0249	0.9486	0.2157	3.4200e-003	0.0831	1.0100e-003	0.0841	0.0243	9.6000e-004	0.0252	0.0000	328.9604	328.9604	0.0138	0.0000	329.3057
Worker	0.1454	0.0784	0.9832	3.9700e-003	0.5167	2.7500e-003	0.5194	0.1383	2.5300e-003	0.1408	0.0000	359.1225	359.1225	5.9500e-003	0.0000	359.2713
Total	0.1703	1.0269	1.1989	7.3900e-003	0.5998	3.7600e-003	0.6036	0.1626	3.4900e-003	0.1660	0.0000	688.0828	688.0828	0.0198	0.0000	688.5770

3.6 Paving - 2030**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0173	0.0890	0.1981	3.5000e-004		4.1300e-003	4.1300e-003		4.1300e-003	4.1300e-003	0.0000	30.1244	30.1244	1.4100e-003	0.0000	30.1597
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0173	0.0890	0.1981	3.5000e-004		4.1300e-003	4.1300e-003		4.1300e-003	4.1300e-003	0.0000	30.1244	30.1244	1.4100e-003	0.0000	30.1597

HoKua Place GHG Assessment - Statewide , Annual

3.6 Paving - 2030**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.1000e-004	2.6200e-003	1.0000e-005	1.3800e-003	1.0000e-005	1.3800e-003	3.7000e-004	1.0000e-005	3.7000e-004	0.0000	0.9559	0.9559	2.0000e-005	0.0000	0.9562
Total	3.9000e-004	2.1000e-004	2.6200e-003	1.0000e-005	1.3800e-003	1.0000e-005	1.3800e-003	3.7000e-004	1.0000e-005	3.7000e-004	0.0000	0.9559	0.9559	2.0000e-005	0.0000	0.9562

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0173	0.0890	0.1981	3.5000e-004		4.1300e-003	4.1300e-003		4.1300e-003	4.1300e-003	0.0000	30.1244	30.1244	1.4100e-003	0.0000	30.1597
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0173	0.0890	0.1981	3.5000e-004		4.1300e-003	4.1300e-003		4.1300e-003	4.1300e-003	0.0000	30.1244	30.1244	1.4100e-003	0.0000	30.1597

HoKua Place GHG Assessment - Statewide , Annual

3.6 Paving - 2030**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.1000e-004	2.6200e-003	1.0000e-005	1.3800e-003	1.0000e-005	1.3800e-003	3.7000e-004	1.0000e-005	3.7000e-004	0.0000	0.9559	0.9559	2.0000e-005	0.0000	0.9562
Total	3.9000e-004	2.1000e-004	2.6200e-003	1.0000e-005	1.3800e-003	1.0000e-005	1.3800e-003	3.7000e-004	1.0000e-005	3.7000e-004	0.0000	0.9559	0.9559	2.0000e-005	0.0000	0.9562

3.6 Paving - 2031**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0588	0.3026	0.6736	1.1900e-003		0.0141	0.0141		0.0141	0.0141	0.0000	102.4229	102.4229	4.8000e-003	0.0000	102.5430
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0588	0.3026	0.6736	1.1900e-003		0.0141	0.0141		0.0141	0.0141	0.0000	102.4229	102.4229	4.8000e-003	0.0000	102.5430

HoKua Place GHG Assessment - Statewide , Annual

3.6 Paving - 2031**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2100e-003	6.5000e-004	8.3500e-003	4.0000e-005	4.6800e-003	2.0000e-005	4.7000e-003	1.2500e-003	2.0000e-005	1.2700e-003	0.0000	3.1787	3.1787	5.0000e-005	0.0000	3.1799
Total	1.2100e-003	6.5000e-004	8.3500e-003	4.0000e-005	4.6800e-003	2.0000e-005	4.7000e-003	1.2500e-003	2.0000e-005	1.2700e-003	0.0000	3.1787	3.1787	5.0000e-005	0.0000	3.1799

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0588	0.3026	0.6736	1.1900e-003		0.0141	0.0141		0.0141	0.0141	0.0000	102.4228	102.4228	4.8000e-003	0.0000	102.5429
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0588	0.3026	0.6736	1.1900e-003		0.0141	0.0141		0.0141	0.0141	0.0000	102.4228	102.4228	4.8000e-003	0.0000	102.5429

HoKua Place GHG Assessment - Statewide , Annual

3.6 Paving - 2031**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2100e-003	6.5000e-004	8.3500e-003	4.0000e-005	4.6800e-003	2.0000e-005	4.7000e-003	1.2500e-003	2.0000e-005	1.2700e-003	0.0000	3.1787	3.1787	5.0000e-005	0.0000	3.1799
Total	1.2100e-003	6.5000e-004	8.3500e-003	4.0000e-005	4.6800e-003	2.0000e-005	4.7000e-003	1.2500e-003	2.0000e-005	1.2700e-003	0.0000	3.1787	3.1787	5.0000e-005	0.0000	3.1799

3.7 Architectural Coating - 2031**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	25.9367					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1900e-003	0.0471	0.0989	1.6000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	14.0429	14.0429	5.7000e-004	0.0000	14.0571
Total	25.9439	0.0471	0.0989	1.6000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	14.0429	14.0429	5.7000e-004	0.0000	14.0571

HoKua Place GHG Assessment - Statewide , Annual

3.7 Architectural Coating - 2031**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0125	6.6600e-003	0.0857	3.6000e-004	0.0480	2.4000e-004	0.0482	0.0129	2.2000e-004	0.0131	0.0000	32.6346	32.6346	5.1000e-004	0.0000	32.6473
Total	0.0125	6.6600e-003	0.0857	3.6000e-004	0.0480	2.4000e-004	0.0482	0.0129	2.2000e-004	0.0131	0.0000	32.6346	32.6346	5.1000e-004	0.0000	32.6473

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	25.9367					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1900e-003	0.0471	0.0989	1.6000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	14.0429	14.0429	5.7000e-004	0.0000	14.0571
Total	25.9439	0.0471	0.0989	1.6000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	14.0429	14.0429	5.7000e-004	0.0000	14.0571

HoKua Place GHG Assessment - Statewide , Annual

3.7 Architectural Coating - 2031**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0125	6.6600e-003	0.0857	3.6000e-004	0.0480	2.4000e-004	0.0482	0.0129	2.2000e-004	0.0131	0.0000	32.6346	32.6346	5.1000e-004	0.0000	32.6473
Total	0.0125	6.6600e-003	0.0857	3.6000e-004	0.0480	2.4000e-004	0.0482	0.0129	2.2000e-004	0.0131	0.0000	32.6346	32.6346	5.1000e-004	0.0000	32.6473

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Increase Density

Increase Diversity

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

Provide Traffic Calming Measures

Expand Transit Network

Implement School Bus Program

HoKua Place GHG Assessment - Statewide , Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9120	6.4511	9.7766	0.0488	4.3234	0.0268	4.3503	1.1675	0.0250	1.1925	0.0000	4,536.847 7	4,536.847 7	0.1823	0.0000	4,541.405 1
Unmitigated	0.9692	6.7767	11.0221	0.0560	5.0567	0.0307	5.0873	1.3655	0.0286	1.3941	0.0000	5,205.1155	5,205.1155	0.2014	0.0000	5,210.150 2

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,522.29	1,653.96	1402.17	4,347,569	3,717,172
City Park	1.89	22.75	16.74	14,926	12,761
Condo/Townhouse	2,626.12	2,562.84	2187.68	7,287,446	6,230,766
Convenience Market (24 Hour)	737.99	863.10	758.45	577,874	494,082
Recreational Swimming Pool	33.82	9.10	13.60	49,519	42,339
Single Family Housing	342.72	356.76	310.32	970,246	829,560
Single Family Housing	476.00	495.50	431.00	1,347,563	1,152,167
Total	5,740.83	5,964.01	5,119.96	14,595,143	12,478,847

4.3 Trip Type Information

HoKua Place GHG Assessment - Statewide , Annual

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	41.40	19.30	39.30	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.40	19.30	39.30	86	11	3
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	24	15	61
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Single Family Housing	10.80	7.30	7.50	41.40	19.30	39.30	86	11	3
Single Family Housing	10.80	7.30	7.50	41.40	19.30	39.30	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.566993	0.036471	0.195999	0.104620	0.012045	0.005044	0.020401	0.048153	0.002146	0.001482	0.005176	0.000799	0.000671
City Park	0.566993	0.036471	0.195999	0.104620	0.012045	0.005044	0.020401	0.048153	0.002146	0.001482	0.005176	0.000799	0.000671
Condo/Townhouse	0.566993	0.036471	0.195999	0.104620	0.012045	0.005044	0.020401	0.048153	0.002146	0.001482	0.005176	0.000799	0.000671
Convenience Market (24 Hour)	0.566993	0.036471	0.195999	0.104620	0.012045	0.005044	0.020401	0.048153	0.002146	0.001482	0.005176	0.000799	0.000671
Recreational Swimming Pool	0.566993	0.036471	0.195999	0.104620	0.012045	0.005044	0.020401	0.048153	0.002146	0.001482	0.005176	0.000799	0.000671
Single Family Housing	0.566993	0.036471	0.195999	0.104620	0.012045	0.005044	0.020401	0.048153	0.002146	0.001482	0.005176	0.000799	0.000671

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Kilowatt Hours of Renewable Electricity Generated

Install Energy Efficient Appliances

HoKua Place GHG Assessment - Statewide , Annual

[illegible]

HoKua Place GHG Assessment - Statewide , Annual

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

HoKua Place GHG Assessment - Statewide , Annual

5.2 Energy by Land Use - NaturalGas

Mitigated

[illegible]

HoKua Place GHG Assessment - Statewide , Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	980359	445.3817	0.0129	2.6700e-003	446.4992
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	2.27055e+006	1,031.5189	0.0299	6.1800e-003	1,034.1071
Convenience Market (24 Hour)	765959	347.9787	0.0101	2.0800e-003	348.8518
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	291452	132.4078	3.8300e-003	7.9000e-004	132.7400
Single Family Housing	404794	183.8997	5.3200e-003	1.1000e-003	184.3612
Total		2,141.1868	0.0620	0.0128	2,146.5592

HoKua Place GHG Assessment - Statewide , Annual

5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	954979	433.8515	0.0126	2.6000e-003	434.9400
City Park	-168.571	-0.0766	0.0000	0.0000	-0.0768
Condo/Townhouse	2.21089e+006	1,004.4156	0.0291	6.0200e-003	1,006.9357
Convenience Market (24 Hour)	765790	347.9021	0.0101	2.0800e-003	348.7750
Recreational Swimming Pool	-168.571	-0.0766	0.0000	0.0000	-0.0768
Single Family Housing	285231	129.5818	3.7500e-003	7.8000e-004	129.9069
Single Family Housing	396220	180.0045	5.2100e-003	1.0800e-003	180.4561
Total		2,095.6022	0.0607	0.0126	2,100.8602

6.0 Area Detail**6.1 Mitigation Measures Area**

No Hearths Installed

HoKua Place GHG Assessment - Statewide , Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.5663	0.0657	5.6949	3.0000e-004		0.0317	0.0317		0.0317	0.0317	0.0000	9.3271	9.3271	8.8900e-003	0.0000	9.5493
Unmitigated	9.5663	0.0657	5.6949	3.0000e-004		0.0317	0.0317		0.0317	0.0317	0.0000	9.3271	9.3271	8.8900e-003	0.0000	9.5493

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.5937					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.8023					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1703	0.0657	5.6949	3.0000e-004		0.0317	0.0317		0.0317	0.0317	0.0000	9.3271	9.3271	8.8900e-003	0.0000	9.5493
Total	9.5663	0.0657	5.6949	3.0000e-004		0.0317	0.0317		0.0317	0.0317	0.0000	9.3271	9.3271	8.8900e-003	0.0000	9.5493

HoKua Place GHG Assessment - Statewide , Annual

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.5937					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.8023					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1703	0.0657	5.6949	3.0000e-004		0.0317	0.0317		0.0317	0.0317	0.0000	9.3271	9.3271	8.8900e-003	0.0000	9.5493
Total	9.5663	0.0657	5.6949	3.0000e-004		0.0317	0.0317		0.0317	0.0317	0.0000	9.3271	9.3271	8.8900e-003	0.0000	9.5493

7.0 Water Detail**7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

Use Water Efficient Landscaping

HoKua Place GHG Assessment - Statewide , Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	284.8869	0.0568	0.0325	296.0043
Unmitigated	337.1608	0.0704	0.0406	351.0099

HoKua Place GHG Assessment - Statewide , Annual

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	15.0506 / 9.48841	99.8289	0.0211	0.0122	103.9750
City Park	0 / 1.19148	3.9542	1.1000e-004	2.0000e-005	3.9641
Condo/Townhouse	29.4496 / 18.5661	195.3362	0.0412	0.0238	203.4490
Convenience Market (24 Hour)	0.0740725 / 0.0453993	0.4870	1.0000e-004	6.0000e-005	0.5074
Recreational Swimming Pool	0.0591431 / 0.036249	0.3889	8.0000e-005	5.0000e-005	0.4051
Single Family Housing	5.60325 / 3.53248	37.1657	7.8400e-003	4.5200e-003	38.7093
Total		337.1608	0.0704	0.0406	351.0099

HoKua Place GHG Assessment - Statewide , Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	12.0405 / 8.90962	84.2401	0.0170	9.7400e-003	87.5680
City Park	0 / 1.1188	3.7130	1.1000e-004	2.0000e-005	3.7223
Condo/Townhouse	23.5597 / 17.4335	164.8334	0.0332	0.0191	171.3452
Convenience Market (24 Hour)	0.059258 / 0.0426299	0.4106	8.0000e-005	5.0000e-005	0.4269
Recreational Swimming Pool	0.0473145 / 0.0340378	0.3278	7.0000e-005	4.0000e-005	0.3409
Single Family Housing	4.4826 / 3.317	31.3621	6.3200e-003	3.6300e-003	32.6011
Total		284.8869	0.0568	0.0325	296.0043

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

HoKua Place GHG Assessment - Statewide , Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	68.2342	4.0325	0.0000	169.0473
Unmitigated	85.2927	5.0407	0.0000	211.3092

HoKua Place GHG Assessment - Statewide , Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	106.26	21.5698	1.2747	0.0000	53.4383
City Park	0.09	0.0183	1.0800e-003	0.0000	0.0453
Condo/Townhouse	207.92	42.2059	2.4943	0.0000	104.5633
Convenience Market (24 Hour)	3.01	0.6110	0.0361	0.0000	1.5137
Recreational Swimming Pool	5.7	1.1571	0.0684	0.0000	2.8665
Single Family Housing	97.2	19.7307	1.1661	0.0000	48.8820
Total		85.2927	5.0407	0.0000	211.3092

HoKua Place GHG Assessment - Statewide , Annual

8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	85.008	17.2559	1.0198	0.0000	42.7507
City Park	0.072	0.0146	8.6000e-004	0.0000	0.0362
Condo/Townhouse	166.336	33.7647	1.9954	0.0000	83.6506
Convenience Market (24 Hour)	2.408	0.4888	0.0289	0.0000	1.2110
Recreational Swimming Pool	4.56	0.9256	0.0547	0.0000	2.2932
Single Family Housing	77.76	15.7846	0.9328	0.0000	39.1056
Total		68.2342	4.0325	0.0000	169.0473

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

HoKua Place GHG Assessment - Statewide , Annual

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-144.5111	0.0000	0.0000	-144.5111

HoKua Place GHG Assessment - Statewide , Annual

11.1 Vegetation Land Change**Vegetation Type**

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	96.06 / 13.25	-356.9111	0.0000	0.0000	-356.9111
Total		-356.9111	0.0000	0.0000	-356.9111

11.2 Net New Trees**Species Class**

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	300	212.4000	0.0000	0.0000	212.4000
Total		212.4000	0.0000	0.0000	212.4000

WILLIAM W. L. YUEN 1359
JANNA WEHILANI AHU 10588

DENTONS US LLP
1001 Bishop Street, Suite 1800
Honolulu, Hawai'i 96813
Telephone: (808) 524-1800
Facsimile: (808) 524-4591
Email: william.yuen@dentons.com
janna.ahu@dentons.com

Attorneys for
HG KAUAI JOINT VENTURE, LLC

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of:	)	DOCKET NO. A11-791
	)	
HG KAUAI JOINT VENTURE, LLC	)	
	)	
To Amend the Land Use District Boundary of	)	
Certain Lands Situated at Kapa`a, Island of	)	
Kauai, State of Hawai'i, consisting of	)	
approximately 97 Acres, from the	)	
Agricultural Land Use District to the Urban	)	
Land Use District, Kauai Tax Map Key	)	
4-3-03: por 01.	)	
	)	

AFFIDAVIT OF MAILING

STATE OF HAWAII)
) SS:
CITY AND COUNTY OF HONOLULU)

JANNA WEHILANI AHU, being duly sworn on oath deposes and says:

1. I am an attorney with the law firm of Dentons US LLP, duly licensed to practice law in the State of Hawai'i, and am one of the attorneys for HG KAUAI JOINT VENTURE, LLC, Petitioner in the above-captioned petition to amend land use district boundaries.

2. I make this affidavit based on my personal knowledge and belief, and am competent to testify on such matters.

3. I make this affidavit pursuant to Section 15-15-50(c)(5)(C) and Section 15-15-50(d), HAR.

4. That pursuant to Section 15-15-48(a), HAR, I have served a copy of the following documents:

- a. Amended Petition for Land Use District Boundary Amendment (“Petition”)
- b. Verification
- c. Exhibit Nos. 1-9
- d. This Affidavit

on the Kauai County Planning Department and the Kauai County Planning Commission and the following parties with a Petition Area interest in the Petition Area that is the subject of this Petition as recorded in the Kauai County real Petition Area tax records or who may claim an interest at their last known addresses by hand delivery or by depositing the same in the U.S.

Mail, postage prepaid, on August 25, 2020.

Copies mailed or delivered to:
(At last known address)

Mary Alice Evans, Director
Office of Planning
State of Hawaii, Office of Planning
235 South Beretania Street, 6th Floor
Honolulu, HI 96813

Dawn Takeuchi Apuna, Esq.
Department of the Attorney General
425 Queen Street
Honolulu, HI 96813

Glenda Nogami-Streufert, Chair
Planning Commission
c/o County of Kauai Planning Department
4444 Rice Street, Suite A473
Lihue, Kauai 96766

Ka‘āina S. Hull, Director
Kauai County Planning Department
4444 Rice Street, Suite A473
Lihue, HI 96766

Sierra Club – Kauai Group of the Hawaii
Chapter (CD)
Attn: Rayne Regush
Post Office Box 3412
Lihue, HI 96766

Likookalani Maltin
Post Office Box 564
Anahola, HI 96703

Wailua-Kapaa Neighborhood Association (CD)
Attn: Sid Jackson
340 Aina Uka Street
Kapaa, HI 96746

State of Hawai`i
Department of Transportation Highways
Division
Edwin H. Sniffen, Deputy Director
869 Punchbowl Street
Honolulu, HI 96813

5. That pursuant to Section 15-15-50(d), HAR, I have mailed the attached Notice of Amended Petition Filing to persons on the attached hard copy mailing lists provided by the Executive Officer of the Land Use Commission, and sent by electronic mail the attached Notice of Amended Petition Filing to persons on the attached electronic mailing lists provided by the Executive Officer of the Land Use Commission.

FURTHER AFFIANT SAYETH NAUGHT:



JANNA WEHILANI AHU

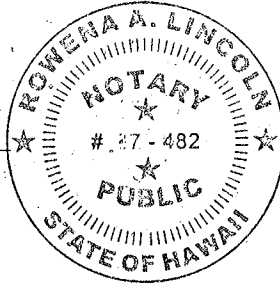
Subscribed and sworn to
Before me this 24th day of August 2020.

Rowena A. Lincoln

Print Name: Rowena A. Lincoln

Notary Public, State of Hawai'i

My commission expires: July 31, 2021



Date: August 24, 2020

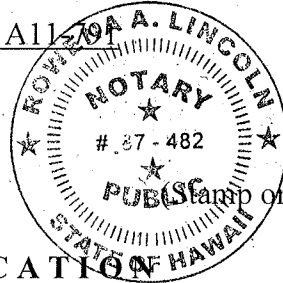
Pages: 14

Name: Rowena A. Lincoln

First Circuit

Doc. Description: Affidavit of Mailing, Docket No. A11201

Rowena A. Lincoln
Notary Signature



(Stamp or Seal)

NOTARY CERTIFICATION

August 27, 2020

NOTICE OF AMENDED PETITION FILING

This notice is to advise you that an amended petition to amend the State Land Use District Boundaries with the following general information has been submitted to the State Land Use Commission:

Docket No.:	A11-791
Petitioner Address:	HG KAUA'I JOINT VENTURE, LLC c/o OAR Management, Inc. 9911 South 78th Avenue Hickory Hills, IL 60457
Landowner Address	HG KAUA'I JOINT VENTURE, LLC c/o OAR Management, Inc. 9911 South 78th Avenue Hickory Hills, IL 60457 (4) 4-3-003:001 (por.) Kawaihau District, Kapa'a, Kaua'i Agricultural to Urban 96 acres single-family and multi-family residential community August 19, 2020
Tax Map Key No.:	
Location:	
Requested Reclassification:	
Acreage:	
Proposed Use:	
Date Submitted:	

You may review detailed information regarding the amended petition at the Land Use Commission office or the Kauai County Planning Department.

The Land Use Commission Office is located at 235 S. Beretania Street, Room 406, Honolulu, Hawaii. Office hours are from 7:45 am to 4:30pm, Mondays through Fridays.

A hearing on this petition will be scheduled at a future date. If you are interested in participating in the hearing as a public witness, please write or call the Commission office at P.O. Box 2359, Honolulu, Hawaii 96804-2359; Phone: 587-3822. If you intend to participate in the hearing as an intervenor, pursuant to §15-15-52, Hawaii Administrative Rules, you should file a notice of intent to Intervene with the Commission within 30 days of the date of this notice. Please contact the Commission office for further information.

This Notice contains the correct Docket No. of the Petition.



Michael Yadao
Director of Government Relations
General Contractors Association of Hawaii
1065 Ahua Street,
Honolulu, HI 96819

Derek Simon
Carlsmith Ball LLP
1001 Bishop St., Suite 2100
Honolulu, HI 96813

STATEWIDE MAILING LIST
Last Updated: 7/10/2020
Est 130

Director of Planning
County of Maui
2200 Main Street, Suite 315
Wailuku, HI 96793

Hawaii Operating Engineers
2181 Lauwilwili Street Ste 102
Kapolei, HI 96707

Ashford & Wriston Library
P. O. Box 131
Honolulu, HI 96810

Associated Press
500 Ala Moana Boulevard, Suite 7-590
Honolulu, HI 96813

Jennifer Darrah
102 Prospect Street
Honolulu, HI 96813

Alden Alayvilla
PO Box 33
Kalaheo, HI 96741

Michael J. Belles, Esq.
Belles Graham Proudfoot Wilson & Chun
4334 Rice Street, Suite 202
Lihue, HI 96766

Gene Zarro
22 Ulunui Place
Pukalani, HI 96768

Dawn T. Hegger-Nordblom
Hawaii Army National Guard – NEPA Coordinator
P.O. Box 1057
Kihei, HI 96753

Mr. James Garrigan
P O Box 3143
Kailua-Kona, HI 96745

Mr. Kenneth Okamura
641 Polipoli Road
Kula, HI 96790

James S. Greenwell
Lanihau Properties LLC
P.O. Box 9032
Kailua-Kona, HI 96745

Patrick Borge, Sr.
536 Haawina Street
Paia, HI 96779-9609

U.S. Pacific Command
Commander in Chief
Box 64028
Camp H.M. Smith, HI 96861-4028

Building Industry Association of Hawaii
94-487 Akoki Street
Waipahu, HI 96797

Kika Bukoski
HI Building and Construction
Trade Council
735 Bishop Street, Suite 412
Honolulu, HI 96813

Roy A. Vitousek III
Cades Schutte LLP
75-170 Hualalai Road, Suite B-303
Kailua-Kona, HI 96740

Mr. Greg Apa, President
Leeward Land LLC
87 2020 Farrington Hwy
Waianae, HI 96792-3749

Mr. Charles Trembath
4152 Palaumahu
Lihue, HI 96766

DOT Highways / Maui District Office
Engineer Program Manager
650 Palapala Drive
Kahului, HI 96732

Dwight Vicente
2608 Ainaloa Dr.
Hilo, HI 96720

Governor's Rep. East-Hawaii
75 Aupuni Street,
Hilo, HI 96720

Walter Mensching
RSS Ltd.
1658 Liholiho Street, Suite 306
Honolulu, HI 96822

Ms. K. Chun
P. O. Box 3705
Honolulu, HI 96811

City Desk Clerk-Public Hearings
Honolulu Star Advertiser
500 Ala Moana Boulevard, Unit 210
Honolulu, HI 96813-4914

Ms. Eleanor Mirikitani
c/o Waikoloa Land Co.
150 Waikoloa Beach Drive
Waikoloa, HI 96738

Mr. Robert J. Smolenski
PO BOX 161207
Honolulu, HI 96816-0926

Castle & Cooke Hawaii
Dole Office Building Suite 510
680 Iwilei Road
Honolulu, HI 96817

Honglong Li
1001 Bishop Street, Suite 2400
American Savings Bank Tower
Honolulu, HI 96813

Irene Anzai
Rush Moore LLP
737 Bishop Street, Suite 2400
Honolulu, HI 96813

Karen Piltz
Chun Kerr Dodd Beaman & Wong
999 Bishop Street Suite 2100
Honolulu, HI 96813

Mr. Steve Kelly
James Campbell Company, LLC
1001 Kamokila Boulevard, Suite 200
Kapolei, HI 96707

United States Marine Corps
Commander, Marine Forces Pacific
Attn: G4. Box 64118
Camp H.M. Smith, HI 96861-4118

Ms. Iris Nakagawa
Carlsmith Ball LLP
1001 Bishop St., Ste 2200
Honolulu, HI 96813

U.S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm. 3-122
Honolulu, HI 96850

Department of the Army
Directorate of Public Works
Attn: Planning Division
Schofield Barracks, HI 96857-5013

Mr. Albert K. Fukushima
1841 Palamoi Street
Pearl City, HI 96782

Mr. Ka'āina S. Hull, Director
Planning Department - Kauai
4444 Rice Street, Suite 473
Lihue, HI 96766

J. Gillmar
P. O. Box 2902
Honolulu, HI 96802

Chairman - Planning Commission
County of Kauai
4444 Rice Street, Suite 473
Lihue, HI 96766

Isaac Hall, Esq.
2087 Wells Street
Wailuku, HI 96793

CBRE, Inc
The Hallstrom Group Team
1003 Bishop Street Ste 1800
Honolulu, HI 96813

Mr. Richard Poirier
95-584 Naholoholo
Mililani, HI 96789

Emi L.M. Kaimulua, Esq.
Watanabe Ing LLP
999 Bishop Street, 23rd Floor
Honolulu, HI 96813

Department of Transportation
Highways Division, Kauai District Office
1720 Haleukana Street
Lihue, HI 96766

Outdoor Circle- Bob Loy
1314 S. King St. Suite 306
Honolulu, HI 96814

Matthew Ragasa
94-1124 Awalua Street
Waipahu, HI 96797

Honolulu Star Advertiser
Mr. Gordon Pang
500 Ala Moana Blvd # 7-500
Honolulu, HI 96813

The Pele Defense Fund
P. O. Box 4969
Hilo, HI 96720

Beverly Pauole-Moore
Volunteer Governor's Rep., Molokai
P. O. Box 88.
Kaunakakai, HI 96748

Department of the Navy
Commander in Chief, U.S. Pacific Fleet
Commander in Chief
250 Makalapa Drive
Pearl Harbor, HI 96860-3131

U.S. Pacific Command
Commander in Chief
Box 64028
Camp H.M. Smith, HI 96861-4028

Navy Region Hawaii
Commander
850 Ticonderoga Street, Suite 110
Pearl Harbor, HI 96860-5101

Lawrence Ing, Esq.
Ing, Horikawa & Jorgensen
2145 Wells Street, Suite 204
Wailuku, HI 96793-2222

DOT Highways / Hawaii District Office
Engineer Program Manager
50 Makaala Street
Hilo, HI 96720

Law Offices of Kyong-Su Im LLLC
1608 Laukahi St.
Honolulu, HI 96821

Bill Mills, Chairman
The Mills Group
1100 Alakea Street, Suite 2200
Honolulu, HI 96813

Brenda Luana Machado Lee
P. O. Box 133
Captain Cook, Kona, HI 96704

Julie Ann Miyashiro
3247 Catherine St.
Honolulu, HI 96815

Randall Sakumoto, Esq.
McCorriston Miller Mukai MacKinnon LLP
P. O. Box 2800
Honolulu, HI 96803-2800

Mr. John M. White
Hawaii Land Company
P. O. Box 10
Honolulu, HI 96810

Hawaii Thousand Friends
335 Hahani Street
PO Box#342132
Kailua, HI 96734

Stanford S. Carr, President
Stanford Carr Development LLC
1100 Alakea Street, 27th Floor
Honolulu, HI 96813

Jean McManus
47-314 Lulani St.
Kaneohe, HI 96744

Claudia Rohr
369 Nene St.
Hilo, HI 96720

Hawaiian Telcom Inc.
1177 Bishop Street Suite 50
Honolulu, HI 96813

Major General Arthur J. Logan
Adjutant General-State of Hawaii
Department of Defense
3949 Diamond Hear Road
Honolulu, HI 96816

Steven Lee Montgomery, Ph.D.
94-610 Palai Street
Waipahu, HI 96797-4535

KITV News 4
Attn.: Assignment Desk
801 S. King Street
Honolulu, HI 96813

West Hawaii Today
Attn: Tom Hasslinger
P. O. Box 789
Kailua-Kona, HI 96745-0789

Shannon Wood
Koolau News
P.O. Box 6366
Kaneohe, HI 96744

Mr. Bruce A. Coppa
Communications Pacific
600 Queen St., Unit 2808
Honolulu, HI 96813

John White
Executive Director
The Pacific Resource Partnership
1100 Alakea St. 4th Floor
Honolulu, HI 96813

Burt Lau, Esq.
999 Bishop St., Ste. 2600
Honolulu, HI 96813

Land Use Research Foundation of Hawaii
1100 Alakea Street, Suite 408
Honolulu, HI 96813

Dain P. Kane
Maui County Council
200 South High Street
Wailuku, HI 96793

Pat Lee & Associates, Inc.
45-248A Pahikaua Place
Kaneohe HI 96744

League of Women Voters
49 South Hotel Street, Rm. 314
Honolulu, HI 96813

Dickson C. H. Lee, Esq.
Takushi Wong Lee & Yee
841 Bishop Street, Suite 925
Honolulu, HI 96813

Wilson Okamoto & Associates
Attn: Earl Matsukawa
1907 S. Beretania Street
Honolulu, HI 96826

Life of the Land
P.O. Box 37158
Honolulu, HI 96837

Sierra Club, Kauai Group
P. O. Box 3412
Lihue, HI 96766

Crockett & Nakamura
38 S. Market Street
Wailuku, HI 96793

Wesley R. Segawa & Associates
736 South St. #206
Honolulu, HI 96813

Matsubara, Kotake & Tabata
ATTN: Benjamin M. Matsubara, Esq.
888 Mililani Street, Suite 308
Honolulu, HI 96813

Sue White
1118 Maunawili Road
Kailua, HI 96734

Mr. Gregory Kugle
Damon Key Bocken Leong & Kupchak
1003 Bishop Street, #1600
Honolulu, HI 96813

William W.L. Yuen, Esq.
1001 Bishop Street, Suite 1800
Alston, Hunt, Floyd and Ing
Honolulu, HI 96813-7984

Sierra Club, Hawai'i Chapter
P. O. Box 2577
Honolulu, HI 96803

Mr. Steven Strauss
P. O. Box 11517
Hilo, HI 96720

Elaine Wender
2180 W, Vineyard St # 305
Wailuku, HI 96793

Ms. Donna Ann Kamehaiku Ono
He'e'ia Historical Society
46-522 Haiku Plantations Drive
Kaneohe, HI 96744

Papakipuka
ATTN: Donna Camvel
46-522 Haiku Plantations Drive
Kaneohe, HI 96744

Franklin Mukai, Esq.
McCorriston Miller Mukai MacKinnon
P. O. Box 2800
Honolulu, HI 96803-2800

National Resources Conservation Svc.
Pacific Islands Area (PIA) State Office
Attn: PIA Soil Scientist
P. O. Box 50004
Honolulu, HI 96850-0050

Leticia "Letty" Castillo
Volunteer Governor's Rep. Lanai
P. O. Box 630806.
Lanai City HI 96763

Native Hawaiian Legal Corporation
1164 Bishop Street, #1205
Honolulu, HI 96813

Nathan Natori, Esq.
1003 Bishop Street, Suite #1360
Honolulu, HI 96813

KW Honolulu
ATTN: Matthew Ragasa
94-1124 Awalua St
Waipahu, HI 96797

County of Hawaii, Planning Department
ATTN: Duane Kanuha
101 Pauahi Street, Suite 3
Hilo, HI 96720

James M Stone Jr
142A Palapu Street
Kailua, HI 96734

Sanoe Laea
84121 Kiapā Place
Wai'anae, HI 96792

Land Management Division
Dept. of Land & Natural Resources
1151 Punchbowl Street, Room 131
Honolulu, HI 96813

Department of the Corporation Counsel
City and County of Honolulu
530 S. King Street, Rm. 110
Honolulu, HI 96813

Mr. Eugene Takahashi
C&C Department of Planning & Permitting
650 South King Street
Honolulu, HI 96813

Deputy Director
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

DOT Highways / Oahu District Office
Engineer Program Manager
727 Kakoi Street
Honolulu, HI 96819

The Honorable David Ige
Governor, State of Hawaii
State Capitol
Honolulu, HI 96813

Derek Chow, Deputy Director
DOT Harbors Division
79 S. Nimitz Highway
Honolulu, HI 96813-4898

Department of Transportation
Harbors Division
79 South Nimitz Highway
Honolulu, HI 96813

Mr. Gordon Matsuoka
DAGS - Public Works Division
P. O. Box 119
Honolulu, HI 96810

Laura McIntyre, AICP
DOH-Environmental Planning Office
Mgr, Rm. 312
919 Ala Moana Boulevard
Honolulu, HI 96814

Commission on Resource Management
Dept. of Land & Natural Resources
1151 Punchbowl Street, Room 227
Honolulu, HI 96813

Ms. Sara Collins
DLNR - Historical Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, HI 96707

Senator Donovan M. Dela Cruz
Hawaii Capitol Room 202
415 South Beretania Street
Honolulu, HI 96813

DAGS- Automotive Management Division
Parking Control Office-Attn: Brian Saito
PO Box 119
Honolulu, HI 96819-0119

Representative Ryan I. Yamane
Hawaii State Capitol Room 420
415 South Beretania Street
Honolulu, HI 96813

Department of Land and Natural Resources
Land Division, Coastal Lands Program
PO Box 621
Honolulu, HI 96809-0621

Dept. of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

DOT Transportation Planning Office
869 Punchbowl Street
Honolulu, HI 96813

Deputy Director
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Mr. Ronald F. Tsuzuki
Highways Division, Planning Branch
869 Punchbowl Street
Honolulu, HI 96813

Director
DBEDT
P. O. Box 2359
Honolulu, HI 96804-2359

Director
Office of Planning
P. O. Box 2359
Honolulu, HI 96804-2359

Representative David Tarnas
7th District
State Capitol, Room 328
Honolulu, HI 96813

Dawn T. Apuna, Esq.
Deputy Attorney General
Hale Auhau
425 Queen Street
Honolulu, Hawaii 96813

Ke'ala Nichols-Administrative Assistant
Public Policy-Office of Hawaiian Affairs
737 Iwilei Rd. Suite 200
Honolulu, HI 96817

Dept. of Land & Natural Resources
Chairperson's Office
1151 Punchbowl Street, Room 130
Honolulu, HI 96813

Councilman Ikaika Anderson
530 S. King St. Rm 202
Honolulu, HI 96813

Statewide only 8-4-2020

joy@joygoldunlimited.com; tschnell@pbrhawaii.com; dsimon@carlsmith.com; dockline3@yahoo.ca;
ptummons@gmail.com; cindy13850@gmail.com; dbedt.director@hawaii.gov;
dawn.t.apuna@hawaii.gov; jngchi@hawaii.rr.com; vshigekuni@pbrhawaii.com; tschnell@pbrhawaii.com;
twitten@pbrhawaii.com; krk@hawaiiilawyer.com; anitam@oha.org; zuria@oha.org;
bryan.c.yee@hawaii.gov; bkudo@awlaw.com; stanaka@awlaw.com; dyasui@abhi.com;
ds@avalonhi.com; cokcouncil@kauai.gov; lucy@hawaii.edu; agomes@staradvertiser.com;
tlane@wik.com; janice.n.takahashi@hawaii.gov; karlynn@munekiyohiraga.com; jlim@carlsmith.com;
slim@carlsmith.com; Esther09@hawaiiantel.net; adrienne.sato@cbre.com; lkodama@castlecooke.com;
rbiffle@castlecooke.com; Jeffrey.Hallstrom@cbre.com; llum@wik.com; jmagin@bizjournals.com;
jveles@moriharagroup.com; lincolnmichele@yahoo.com; scombs@princeville.com;
lromas@princeville.com; rezentesc@aol.com; dlnr.cwrn@hawaii.gov; wyamamoto@lurf.org;
punab4@gmail.com; senthielen@capitol.hawaii.gov; pennlawcenter@gmail.com; jbaptist@prp-
hawaii.com; pifwo_admin@fws.gov; bchong2@honolulu.gov; peter.k.albinio.jr@hawaii.gov;
peter.k.albinio.jr@hawaii.gov; dws@hawaiidws.org; allison.au-iniba@hawaiiantel.com;
julianne.hughes@hawaiiantel.com; htf3000@gmail.com; hphw@hawaiiantel.net;
gpknopp@gkenvllc.com; bruce@townscapeinc.com; laluzmaui@gmail.com; mching@abhi.com;
Robyn_Loudermilk@notes.k12.hi.us; blau@ksglaw.com; cdelaunay@prp-hawaii.com;
jkimura@hawaiiilecet.org; wgreig@oe3.org; skchawaii@gmail.com; khester@kauai.gov;
mhubbard@kauai.gov; r.cral@capitol.hawaii.gov; Earl.J.Yamamoto@hawaii.gov;
bsalgado@hawaiiinternow.com; hsk@landtecinc.com; wmatubara@nanhawaii.com;
jkimura@hawaiiilecet.org; Randall.S.Nishiyama@hawaii.gov; pmigliorato@prp-hawaii.com;
rspacer@yahoo.com; ctabata@m-klawyers.com; jennie.ym.kobayashi@hawaii.gov;
legacyland@hawaii.gov; shaoyu.l.lee@hawaii.gov; cmkido@awlaw.com; kwager@earthjustice.org;
kaishik@nhlchi.org; jdk@stratlaw.com; faith.caplan@hartcrowser.com; mpoffice@earthjustice.org;
NancyC@daylum.com; jane.e.f.tam@hawaii.gov; cyjohnas@ksbe.edu; peteryoung@hookuleana.com;
souki@hawaii.edu; savekaiwaridge@hotmail.com; shannon.alivado@hawaiianelectric.com;
gladys@gcawhawaii.org; pane@hoeisf.com; kgarson@carlsmith.com; kmorse@dmlhawaii.com;
alsalave@ksbe.edu; jimmarquez@att.net; miswartm@ksbe.edu; annehugginswalton@gmail.com;
kdruidas@gmail.com; mpoffice@earthjustice.org; cmsakoda@gmail.com; craig.k.hirai@hawaii.gov;
ahofschneider@civilbeat.com; robyn_loudermilk@notes.k12.hi.us; stifel@m4law.com;
libalia@gmail.com; jennie.ym.kobayashi@hawaii.gov; oeqchawaii@doh.hawaii.gov;
dianeerickso@gmail.com; DBM2DBM@AOL.COM; shanes@jamescampbell.com;
joannk@jamescampbell.com; mattc@jamescampbell.com; makakilovsc@gmail.com;
kameaaloha40@gmail.com; ghiraga@munekiyohiraga.com; papakipuka@gmail.com;
mike@kiheice.com; governmentrelations@ksbe.edu; jason.bradshaw@ilwulocal142.org;
matgeneric@gmail.com; stifel@m4law.com; duane.kanuha@hawaiicounty.gov; rsmith@lanihau.net;
poshiro@abhi.com; anitam@oha.org; lcwshum@gmail.com; jordan.hart@co.maui.hi.us;
rachelyra@gmail.com; publicmatt.hawaii@gmail.com; lley@earthjustice.org; cthstab@gmail.com;
soshiro@hawaiiipublicradio.org; BIANCA@KAHEA.ORG; cordylinecolor@gmail.com;
crogers@bchdesign.com; jamesstonejr8@gmail.com; danielle.m.bass@hawaii.gov;
mspearing@culturalsurveys.com; andrewk@gentryhawaii.com; leilanip@pacificrimland.com;

execdir@hawaiiconstructionalliance.org; iaea_s@yahoo.com ; fkrantz@honolulu.gov;
Jks75@icloud.com; bvoss@legalthawaii.com

Mauna Kea Trask, Esq.
Office of the County Attorney
County of Kauai
4444 Rice Street, Suite 220
Lihue, HI 96766

County Engineer
Department of Public Works
4444 Rice Street, Suite 275
Lihue, HI 96766-1340

KAUAI MAILING LIST
Last Updated: 01/06/20
Est 19

Jean Nishida Souza
P.O. Box 3390
Lihue, HI 96766

Ms. Judy Dalton
4330 Kauai Beach Drive, Apt. F-12
Lihue, HI 96766

Ken Taylor
1729-A Makaleha Pl
Kapa'a, HI 96746

Commander – Pac Missile Range Facility
Barking Sands, Kauai
P. O. Box 128
Kekaha, HI 96752-0128

KUAI Radio
4271 Halenani St.
Lihue, HI 96766

Jack Lundgren DDS
6375B Poo Road
Kapaa, HI 96746-8449

Harry Guirewand
6163 Waipouli Road
Kapaa, HI 96746

Terrie Hayes & Llewellyn
Kahohelaulii
2249 Kauai Road
Poipu, Koloa, HI 96756

Marge Freeman
4-820 Kuhio Hwy #D405
Kapaa, HI 96746

Ginger Bray
P.O. Box 441
Kapaa, HI 96746

U.H. Extension Service
Kauai County Office
3060 Eiwa Street, Room 210
Lihue, HI 96766-1881

Kauai County Water Department
4398 Pua Loke Street
Lihue, HI 96766

Saiva Siddhanta Church
107 Kaholalele Road
Kapaa, HI 96746

Gabriela Taylor
1010B Kealoha Road
Kapaa, HI 96746

Kauai Civil Defense Agency
3990 Kaana Street
Lihue, HI 96766

Gerald N. Takemura
Kauai District Health Office
3040 Umi Street
Lihue, HI 96766

The Garden Island
Attn: Editor
3137 Kuhio Highway
Lihue, HI 96766

KAUAI only 8-4-2020

kboss@aloha.net; cokcouncil@kauai.gov; laurel.loo@hawaiiintel.net; Kaimanacd22@yahoo.com;
makuna@kauaiwater.org; bwienand@kauaiwater.org; gabrielataylor40@gmail.com; siddha@hindu.org;
jhiguchi@kauai.gov; kaoki@kauaiwater.org; dbrinkerhoff@kauai.gov; Dennis@esakimap.com;
randall.j.machado@hawaii.gov; carrice.gardner@hawaii.gov; rayneregush@aol.com;
judydalton123@gmail.com; gabrielataylor40@gmail.com; seanmahoneykealia@gmail.com;
tphillips@kauai.gov; littlewheel808@gmail.com; awapuhilei83@gmail.com; gpete2012@hotmail.com;
jahs@kauai.gov; gabrielataylor40@gmail.com

WILLIAM W. L. YUEN 1359
JANNA WEHILANI AHU 10588

DENTONS US LLP
1001 Bishop Street, Suite 1800
Honolulu, Hawai'i 96813
Telephone: (808) 524-1800
Facsimile: (808) 524-4591
Email: william.yuen@dentons.com
janna.ahu@dentons.com

Attorneys for
HG KAUAI JOINT VENTURE, LLC

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of:	)	DOCKET NO. A11-791
	)	
HG KAUAI JOINT VENTURE, LLC	)	
	)	
To Amend the Land Use District Boundary of	)	
Certain Lands Situated at Kapa`a, Island of	)	
Kauai, State of Hawai'i, consisting of	)	
approximately 97 Acres, from the	)	
Agricultural Land Use District to the Urban	)	
Land Use District, Kauai Tax Map Key	)	
4-3-03: por 01.	)	
	)	

CERTIFICATE OF SERVICE

I hereby certify that a copy of the following documents:

- a. Amended Petition for Land Use District Boundary Amendment
("Petition")
- b. Verification
- c. Exhibit Nos. 1-9
- d. Affidavit of Mailing

have been duly served on the following parties at their last known addresses by hand delivery or depositing in the US mail, postage prepaid on August 19, 2020.

Copies mailed or delivered to:
(At last known address)

Mary Alice Evans, Director
Office of Planning
State of Hawaii, Office of Planning
235 South Beretania Street, 6th Floor
Honolulu, HI 96813

Dawn Takeuchi Apuna, Esq.
Department of the Attorney General
425 Queen Street
Honolulu, HI 96813

Glenda Nogami-Streufert, Chair
Planning Commission
c/o County of Kauai Planning Department
4444 Rice Street, Suite A473
Lihue, Kauai 96766

Ka'aina S. Hull, Director
Kauai County Planning Department
4444 Rice Street, Suite A473
Lihue, HI 96766

Sierra Club – Kauai Group of the Hawaii
Chapter (CD)
Attn: Rayne Regush
Post Office Box 3412
Lihue, HI 96766

Wailua-Kapaa Neighborhood Association (CD)
Attn: Sid Jackson
340 Aina Uka Street
Kapaa, HI 96746

Likookalani Maltin
Post Office Box 564
Anahola, HI 96703

State of Hawai'i
Department of Transportation Highways
Division
Edwin H. Sniffen, Deputy Director
869 Punchbowl Street
Honolulu, HI 96813

DATED: Honolulu, Hawai'i, August 27, 2020.



WILLIAM W. L. YUEN
JANNA WEHILANI AHU

Attorneys for
HG KAUAI JOINT VENTURE, LLC