

DECLARATION OF CHRISTOPHER YUEN

**Electronically Filed
THIRD CIRCUIT
3CCV-22-0000106
06-JUN-2022
11:38 PM
Dkt. 23 DEC**

I, CHRISTOPHER YUEN, declare:

1. I am a resident of North Hilo, County and State of Hawai'i. In such capacity, I have firsthand knowledge of the following facts and could and would competently testify thereto if called upon to do so.

2. In late February, 2022, I reviewed the Preliminary Geotechnical Engineering Evaluation dated January 2022 for Waipi'o Valley Road by engineers Hart Crowser ("Hart Crowser Evaluation"). Attached as Exhibit A is a true and correct excerpt of the pertinent portions (pages 1, 2, 5, 10-17) of the 146 page Hart Crowser Evaluation that is available online. I obtained a copy from a state official who had received it from the County of Hawai'i.

3. After I reviewed and analyzed the Hart Crowser Evaluation, I realized that Hart Crowser had made significant mathematical error in the risk equations they used to calculate potential risk to pedestrians and vehicle occupants using Waipi'o Valley Road. I hold a master's degree in environmental science and am familiar with the use of probability equations in risk analysis. I began corresponding by telephone and email with persons at Hart Crowser and the County of Hawai'i Department of Public Works.

4. Attached as Exhibit B is a true and correct copy of my email sent March 1, 2022 to Steve Pause, an engineer who is employed as the deputy director of the County of Hawai'i Department of Public Works.

5. County Defendants Mitchell Roth and the Department of Public Works relied on the Hart Crowser Evaluation in making the decision to close Waipi'o Valley Road. This fact is clear from the email response to me dated March 9, 2022 by Defendant County of Hawai'i

Department of Public Works' employee Steve Pause, a true and correct copy of which is attached as Exhibit C.

6. Exhibit D is a true and correct copy of an email string between me, DLNR employee Carty Chang (who had contacts with Hart Crowser), and Janice Marsters of Hart Crowser.

7. Exhibit E is a true and correct copy of an email and attachment I sent March 13, 2022 to Steve Pause and Defendant Ikaika Rodenhurst, Director of County of Hawai'i Department of Public Works. I did not receive a substantive response.

8. The Waipi'o Valley Road has a moderate rockfall risk. It does not have a high rockfall risk. Attached as Exhibit F is a true and correct copy of excerpts of a Hart Crowser Technical Memorandum dated October 10, 2019 that I obtained from a Uniform Information Act request from the State Department of Transportation. The Technical Memorandum analyzes rockfall hazards along the Highway 19 of the Hamakua Coast.

9. Comparing the Hart Crowser Evaluation comprising Exhibit A to the Technical Memorandum comprising Exhibit E, Hart Crowser provides RHRS moderate risk ratings of two of the three sections of the Waipi'o Valley Road at 375 and 381. These ratings are comparable to two areas of Highway 19 going north from Hilo that have ratings of 351 and 333, and those places have about 25 times as much traffic as Waipi'o.

10. RHRS scores of 300 to 500 are considered moderate hazard; scores of above 500 are considered high hazard. See <https://outside.vermont.gov/agency/vtrans/external/docs/construction/03GeotechEng/Geology/2015%20RHRS%20REPORT%20FINAL.pdf>, a Vermont Agency of Transportation publication. Vermont also uses the RHRS system.

I declare under penalty of perjury that the foregoing is true.

DATED: Hilo, Hawai'i, June 6, 2022.

/Christopher Yuen/

Christopher Yuen

DECLARATION OF PANOS PREVEDOUROS

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Dkt. 30 DEC

I, Panos Prevedouros (full legal name Panagiotis Dimitrios Prevedouros), hereby declare as follows:

1. I make this declaration based on personal knowledge.
2. I am a Professor Emeritus of Civil Engineering at the University of Hawai‘i at Manoa and a licensed civil engineer in the European Union, License No. 45.151 (issued in Greece.)
3. I obtained an Engineering Diploma (5-year program) in Land Surveying from Aristotle University of Thessaloniki, Greece in 1985. I earned Masters and Doctorate degrees in Civil Engineering (in 1987 and 1990, respectively) from Northwestern University’s McCormick School of Engineering and its Transportation Center in Evanston, Illinois. I moved to Hawaii in July 1990 as Assistant Professor with the Department of Civil Engineering at the University of Hawaii at Manoa, and became Full Professor in 2004. I was Graduate Program Chair in the Department of Civil and Environmental Engineering from 1998 to 2003. I was department chair from January 2015 to July 2020. I retired from the UH in November 2021.
4. My professional expertise is in traffic engineering, intelligent transportation systems, demand forecasting, driverless technologies, energy production, life-cycle analysis and sustainable infrastructure. I have published over 100 technical articles and reports, and co-authored the internationally adopted textbook Transportation Engineering and Planning (Prentice Hall, 1993 and 2001.).
5. Attached hereto as Exhibit AAA is a true and correct copy of my resume.
6. I was retained to conduct an assessment of a technical report titled Preliminary Geotechnical Engineering Evaluation, Waipi‘o Valley Road, Hāmākua, Hawai‘I, Prepared for County of Hawai‘i, Department of Public Works, prepared by Hart Crowser and dated January 2022. I refer to it as the **HC report** throughout my declaration.
7. This report applies probability theory and a number of reasonable assumptions to arrive at an estimate of risk for a fatality due to a rock falling on a vehicle driving on a segment of road with a length of 4,100 ft leading to and from Waipio valley.
8. The report appears to be following the methodology presented in a technical paper titled “Assessment of the hazard from rock fall on a highway” authored by C.M. Bunce, D.M. Cruden,

and N.R. Morgenstern and published in the Canadian Geotechnical Journal, volume 34, pages 344–356 published in 1997. I refer to it as the **BCM paper** throughout my declaration.

9. The BCM paper has a section of it dedicated in the detailed derivation of risk due to the “[i]mpact of a falling rock on a moving vehicle.” This section of the BCM paper offers two alternative methods for estimating the risk probability, both of which yield the same exact risk probability.

10. The HC report has erroneously combined elements of both methodologies in the BCM paper, and this has resulted in an erroneous (exaggerated) assessment of the risk for a fatality.

11. I developed Exhibits BBB and CCC which use the data in the HC report and the two methodologies in the BCM paper to assess the risk for a fatality: (i) due to a rock falling on a vehicle driving on a segment of road with a length of 4,100 ft leading to and from Waipio valley, as shown in Exhibit BBB, and (ii) due to a rock falling on a pedestrian walking on the same road, as shown in Exhibit CCC.

12. According to the HC report, the risk for a fatality due to a rock falling on a vehicle driving on a segment of road with a length of 4,100 ft leading to and from Waipio valley is 5.94 over one million which is approximately 6 over one million.

13. My estimation of the same risk based on a correct application of the methods in the BCM paper is 6.13 over one hundred million which is approximately 6 over one hundred million.

14. To be exact, the risk assessment in the HC report is 97 times larger than it should be. In other words, the estimated risk for a fatality in a vehicle is about 100 times less than what is presented in the HC report.

15. Similar analysis was done for pedestrians. The first table in Exhibit CCC is analysis that replicates that in the **HC report**. The second table is analysis based on the **BCM paper** of pedestrians walking alone. The third table is analysis based on the **BCM paper** of pedestrians walking in a pair, as in the **HC report**.

16. According to the HC report, the risk for a fatality due to a rock falling on a pair of pedestrians on a segment of road with a length of 4,100 ft leading to and from Waipio valley is 55 over one million.

17. My estimation of the same risk based on a correct application of the methods in the BCM paper for a single pedestrian (a person walking alone) is 0.2 over one million.

18. My estimation of the same risk based on a correct application of the methods in the BCM paper for two pedestrians (two persons walking with a persons space between them) is 0.19 over one million.

19. My estimates in points 18 and 19 indicate that the risk of walking alone or in a couple is very similar.

20. The pedestrian risk assessment in the HC report is 279 to 282 times larger than it should be. In other words, the estimated risk for a pedestrian fatality is about 300 times less than what is presented in the HC report.

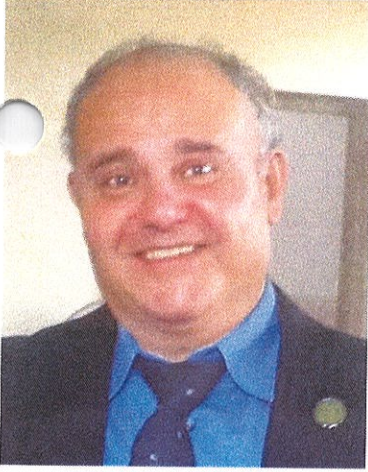
I declare under penalty of perjury that the foregoing is correct.

DATED: Reno, Nevada, May 26, 2022.



P. D. PREVEDOUROS, PHD

Panos D. Prevedouros



Emeritus Professor of Civil and Environmental Engineering

Office: Post 203

Phone: (808) 956-9698

E-mail: pdp@hawaii.edu

Areas of Specialty and Research Interest

- Transportation engineering including traffic analysis and simulation, demand forecasting, and intelligent transportation systems (ITS); infrastructure sustainability including energy and environmental assessment.

Education

- Ph.D., Civil Engineering, Northwestern University, Evanston, Illinois, 1990
- M.S., Civil Engineering, Northwestern University, Evanston, Illinois, 1987
- B.S., Civil Engineering, Aristotle University, Thessalonica, Greece, 1984

Professional Registration

- Registered Professional Engineer in Greece and the European Community, No 45.151
- ENVISION Sustainability Professional (ENV SP), Institute for Sustainable Infrastructure, 2017

Experience

- Assistant Professor (1990-1993), Associate Professor (1994-2004), Professor (2005-2021), Chairman (1/2015-7/2020), Department of Civil and Environmental Engineering, University of Hawaii at Manoa.
- Consultant for Attica Tollway (Attiki Odos), Olympia Odos, Aegean Motorway, The IBI Group, Inc., the Pacific International Center for High Technology Research, INTRACOM S.A., The R. M. Towill Corporation, Cambridge Systematics, Inc., and other engineering and law firms.

AAA

Courses Taught (in the last five years)

- CEE361: Fundamentals of Transportation Engineering (F'14)
- CEE462: Traffic Engineering (S'15, S'16, F'16, F'20)
- CEE444: Infrastructure: Project Impacts, Policy and Sustainability (F'15, F'17, F18, S'20)
- HONORS 491: The Automobile: A Multidisciplinary Analysis
- CEE499: Special Problems (S'16, F'16, F'17, F'18, S'19)
- CEE660: Transportation Evaluation and Logistics
- CEE661: Intelligent Transportation Systems (S'18, S'19)
- CEE664: Advanced Transportation Modeling
- CEE696: Selected Topics in Civil and Environmental Engineering (S'17, F'19)

Professional Activities

- Technical expert and temporary agent of the World Bank in Nepal, in the area of traffic safety, 2016, 2017
- Member, Scholars Strategy Network.
- Quality Assurance Panel member, New Cooperative Business Models and Guidance for Sustainable City Logistics–NOVELOG project, European Commission, 2016-2018.
- National Research Council, TRB representative to the UH, 1990-present.
- TRB committee AHB20: Freeway operations; 02/03-04/12 and 4/15-3/18.
- Chair, Freeway Simulation Subcommittee AHB20(2) (5/05-present)
- TRB Task Force AH010T: Surface Transportation Weather; 9/05-4/08.
- ASCE, national committee on Street and Highway Operations; 7/93-present.
- External evaluator for engineering programs, Greek Ministry of Education, 2011, 2013.
- Local Organizer, Steering Committee Member and Technical Program Coordinator: 2nd International Symposium of Freeway and Tollway Operations, TRB, Honolulu, Hawaii, June 21-24, 2009.
- Past member of National Research Council, TRB committees A1C04 on traveler behavior and values (1993-2002), A1J04 on airport terminals and ground access (1992-2004), A1J05 on airfield and airspace capacity and delay (1992-1998), A1F04 on transportation vibration and noise (1994-2000), A3B05/A3B11 on Traffic Records and Accident Analysis (1996-1998, 1999-2002).
- Chair of the transportation technical group, Hawaii section of ASCE (1993-1996, 2000-2002).
- Established and advisor of ITE Student Chapter at the UH-Manoa (1993-2003).
- Reviewer for Transportation Research (Pergamon Press), Transportation Research Record (National Research Council), Transportation (Kluwer Academic Publishers), World Conference on Transport Research, ASCE journals, and the Greek Ministry of Education.
- Developer and coordinator of the Traffic and Transportation Laboratory (TTL).
- President, Hawaii Highway Users Alliance (2008-2010).

Awards and Honors

- 1994 Listed in American Men and Women of Science.
- 1995 Best Paper Award on Transportation Noise, TRB, National Research Council.
- 1996 Outstanding Civil Engineering Faculty Award, ASCE-Hawaii.
- 1996 Listed in Who's Who Among America's Teachers.
- 2003 One of Hawaii Reporter's 50 people who Rocked Hawaii in 2003.
- 2005 Institute of Transportation Engineers Van Wagoner Award for ITE Journal Paper on Urban Underpasses.
- 2008 State of Hawaii House of Representatives, Certificate of Honor for Congestion Study for Oahu by UH Traffic and Transportation Laboratory.
- 2008 candidate for Mayor of the City and County of Honolulu; received 17% of the vote.
- 2009 One of Hawaii Reporter's "Hawaii's Seven Superheroes."
- 2009 One of Star Bulletin's "Ten People Who Made a Difference in Hawaii in 2008."
- 2009 Service Award, Freeway Operations, TRB, National Research Council.
- 2010 Certificate of Service 20 Years, University of Hawaii.
- 2010 Certificates of Appreciation: Air Cargo Association of Hawaii, Manoa Waioli Lions Club, Engineers and Architects of Hawaii.
- 2010 candidate for Mayor of the City and County of Honolulu; received 19% of the vote.
- 2011 Sustainability Paper Award, World Road Association, PIARC 2011 Conference, Mexico City.
- 2012 Letter of Appreciation, Advanced Research and Training Institute, Kathmandu, Nepal.
- 2012 Council of the City and County of Honolulu, Honor Certificate for Public Service.

Research Projects (2000 – 2022)

1. Zhang, Guohui and Panos D. Prevedouros, Center for Safety Equity in Transportation (CSET): serving Rural, Isolated, Tribal, and Indigenous Communities, University Transportation Center, U.S. DOT, 2017-2022.
2. Prevedouros, Panos D. (P.I.) and Alan Horowitz, CEE, University of Wisconsin-Milwaukee, "Traffic Forecasting Guidelines," Project funded by the FHWA (80%) and the Hawaii DOT (20%), 2012-2014.
3. Prevedouros, Panos D. (P.I.) "HAVO Traffic And Parking: Current Issues, Future Solutions," Hawaii Volcanoes National Park (HAVO), Department of the Interior, (100%), 2007-2010.
4. Prevedouros, Panos D. (P.I.) "Investigation of ASIM 29X, CANOGA, RTMS, SAS-1 and SMARTSENSOR for LTP, AVC AND RTTM," Project funded by the FHWA (80%) and the Hawaii DOT (20%), 2007-2010.
5. Prevedouros, Panos D. (P.I.) "Traffic Noise Analysis and Abatement Guidelines," Project funded by the FHWA (80%) and the Hawaii DOT (20%), 2006-2011.
6. Prevedouros, Panos D. (P.I.) "Simulation of Westbound Interstate H-1 Freeway between the Airport Viaduct and Waialeale," Project funded by the Oahu Metropolitan Planning Organization with FHWA (80%) and the Hawaii DOT (20%) funds, 2004-2005.

7. Prevedouros, Panos D. (P.I.) "Investigation of Traffic Detectors for Use in Hawaii". Project funded by the FHWA (80%) and the Hawaii DOT (20%), 1999-2004.
8. Prevedouros, Panos D. (P.I.) "Evaluation of LightGuard Flashing Lights at Pedestrian Crossings on Pali Hwy." Project funded by the FHWA through the Highways Division, State of Hawaii DOT, 2/2000-12/2000.
9. Prevedouros, Panos D. (P.I.) "Evaluation of the Effects of Experimental Closure of the Bingham Street off-ramp." Project funded by the Highway Division, State of Hawaii DOT, 9/2000-8/2001.

Journal Publications (2010 – 2017 sample)

1. Zhang, Lin and Panos D. Prevedouros. **User Perceptions of Signalized Intersection Level of Service Using Fuzzy Logic.** Transportmetrica, 7, No. 4, pp. 279-296, Taylor & Francis Journals, July 2011.
2. Yu, Xin (Alyx), Goro Sulijoadikusumo and Panos Prevedouros. **Analysis of Downstream Queues on Upstream Capacity Expansion of Urban Signalized Intersection.** Journal of Transportation Systems Engineering and Information Technology, Vol. 12, No. 3, pp. 98-108, Elsevier, 2012.
3. Yu, Xin (Alyx) and Panos Prevedouros, **Left Turn Prohibition and Partial Grade Separation for Signalized Intersections: Planning Level Assessment.** ASCE Journal of Transportation Engineering, Vol. 139, No. 4, pp. 399-406, April 2013.
4. Mitropoulos, Lambros and Panos D. Prevedouros, **Sustainability Assessment for Transportation Vehicles.** Transportation Research Record, 2344: 88-97, 2013.
5. Yu, Xin (Alyx) and Panos Prevedouros, **Performance and Challenges in Utilizing Non-Intrusive Sensors for Traffic Data Collection.** Advances in Remote Sensing, Vol. 2 No. 2, pp. 45-50, 2013.
6. Mitropoulos, Lambros and Panos D. Prevedouros, **Multicriterion Sustainability Assessment in Transportation: Private Cars, Carsharing, and Transit Buses.** Transportation Research Record, 2403: 52-61, 2014.
7. Mitropoulos, Lambros and Panos D. Prevedouros, **Emissions and Cost Model for Urban Light Duty Vehicles.** Transportation Research Part D: Transport and Environment, Vol. 41, pp. 147-159, Elsevier, 2015.
8. Mitropoulos, Lambros and Panos D. Prevedouros, **Urban Transportation Vehicle Sustainability Assessment with a Comparative Study of Weighted Sum and Fuzzy Methods.** Journal of Urban Planning and Development, Vol. 142, (4). ASCE, 2016.
9. Mitropoulos, Lambros and Panos D. Prevedouros, **Incorporating Sustainability Assessment in Transportation Planning: An Urban Transportation Vehicle Based Approach,** Transportation Planning and Technology, Vol 39, (5), 2016.
10. Shi, Liang and Panos D. Prevedouros, **Operational Analysis of Roundabouts with a Mix of Driverless Vehicles.** Forthcoming in Transportation Research Record, DOI: 10.3141/2615-14, TRB, 2017.
11. Yu, Xin (Alyx) and Panos Prevedouros, **Risk Assessment: Method and Case Study for Traffic Projects.** Journal of Modern Transportation, 25(4), pp. 236–249, Springer, 2017.

Selected Other Publications

1. C. S. Papacostas and P. D. Prevedouros. *Transportation Engineering and Planning*, 3rd edition, Prentice Hall, Englewood Cliffs, N.J., 2001, (690 pp.)
2. Dehnert, Greg and Panos D. Prevedouros, Reducing Congestion with Low Clearance Underpasses at Urban Intersections: Investigation and Case Study. *ITE Journal*, 74, No. 3: 36-47, March 2004. Received 2005 Institute of Transportation Engineers Van Wagoner Award.
3. *Federal Highway Administration, Freeway Ramp Management and Control Handbook*, Section 11.5 "Ramp Closure – Honolulu, Hawaii", U.S. DOT, Washington, D.C., 2005.
4. Prevedouros, Panos D. and Martin Stone. Reversible Express Lanes. *Yearbook of Science and Technology 2008*. McGraw-Hill, pp. 288-291, 2008.
5. Mitropoulos K.L., P. D. Prevedouros and E.G. Nathanail, *Sustainability Framework: A Case Study of Urban Transportation Vehicles*. XXIVth World Road Congress. Mexico City, Mexico. September 2011. Received Sustainability Paper Award.
6. Prevedouros, Panos D. and Alyx Yu. Integrated Process for Traffic Project Evaluation and Decision Making. *Yearbook of Science and Technology 2013*. McGraw-Hill, 2013.
7. Shi, Liang and Panos D. Prevedouros, Is the HCM Ready to Handle Driverless Cars? An Assessment of Uninterrupted Flow Chapters, Paper 15-2401, *94th Annual Meeting of TRB*, Washington, D.C., 2015.
8. Prevedouros, Panos D. and Bill M. Halkias, Expressway Forecasts in the Volatile Economic Environment of Greece, Proceedings of the *International Symposium on Enhancing Highway Performance (ISEHP)* and 3rd ISFO. Berlin, Germany, 2016.
9. Prevedouros, Panos D. and Lambros K. Mitropoulos, A Practical Assessment Model for Sustainable Transportation, *7th Civil Engineering Conference in the Asia Region (CECAR 7)*, Asian Civil Engineering Coordinating Council, August 30 – September 2, Honolulu, HI, 2016.
10. Mitropoulos, Lambros and Panos D. Prevedouros, Conventional, Battery-powered and Other Alternative Fuel Vehicles: Sustainability Assessment, Chapter 5 in *Behaviour Of Lithium-Ion Batteries In Electric Vehicles*, Springer series on Green Energy and Technology, 2018.

Exhibit **BBB**

HC Report	P h	P S:H	P T:S	V D:T	Prob Death
HC	6	0.0022	0.0015	0.3	5.9E-06

	P h	Veh L	V speed (km/hr)	N veh	L (m)*	P S:H	P S	P A = P S (uniform)	annual trips	PAV hit vehicle	V D:T	Prob Death +	diff
B C M 1	6	4.8	16.0	174	1250	0.0022	0.0130	1.3E-02	63,510	2.0E-07	0.3	6.1E-08	97

	P h	Veh L	V speed (km/hr)	N veh	L (m)*	P S:H	P S	t (hr)	P T:S	PAV hit vehicle	V D:T	Prob Death +
B C M 2	6	4.8	16.0	174	1250	0.0038	0.0228	0.0781	8.9E-06	2.0E-07	0.3	6.1E-08

* 4,100 ft

+ PAV

Exhibit CCC

HC Report	P h	P S:H	P T:S	V D:T	Prob Death
HC	6	0.0016	0.0057	1	5.5E-05

Single Pedestrians

	P h	Ped L	P speed (km/hr)	N peds	L (m)*	P S:H	P S	P A = P S (uniform)	annual trips	PAV hit peds	V D:T	Prob Death	diff
B C M 1	6	0.46	1.6	137	1250	0.0016	0.0098	9.8E-03	50,005	2.0E-07	1	2.0E-07	279

	P h	Ped L	P speed (km/hr)	N ped groups	L (m)*	L (m)*	P S:H	P S	t (hr)	P T:S	V D:T	Prob Death
B C M 2	6	0.46	1.6	137	1250	0.0004	0.0022	0.7813	8.9E-05	2.0E-07	1	2.0E-07

Group of two pedestrians

	P h	Ped L	P speed (km/hr)	N ped groups	L (m)*	P S:H	P S	P A = P S (uniform)	annual trips	PAV hit peds	V D:T	Prob Death	diff
B C M 1	6	1.38	1.6	69	1250	0.0025	0.0147	1.5E-02	25,003	5.9E-07	0.33	1.9E-07	282

	P h	Ped L	P speed (km/hr)	N ped groups	L (m)*	P S:H	P S	t (hr)	P T:S	PAV hit ped group	V D:T	Prob Death
B C M 2	6	1.38	1.6	69	1250	0.0011	0.0066	0.7813	8.9E-05	5.9E-07	0.33	1.9E-07

* 4,100 ft

DECLARATION OF MACK ASATO

I, Mack Asato, declare:

1. I am resident of North Hilo District, Hawai'i and a retired employee of the County of Hawai'i, Department of Public Works. In such capacities, I have first hand knowledge of the following facts and could and would testify thereto if called upon to do so.

2. From 1980 to 2015, I worked continuously in various positions for the County of Hawai'i Department of Public Works, Highways Division, North Hilo / Hamakua roads and North / South Kohala roads section. I started out as a Laborer in 1980 and retired in 2015 as a District Road Overseer II.

3. I am very familiar with Waipi'o Valley Road. As part of my work, I inspected the road at least six times a year for work that was needed. Often, it was more than six times in a given year. I was also often called on as a Department of Public Works employee if there was any incident along Waipi'o Valley Road, especially during or just after heavy rains.

4. During my employment with Department of Public Works, the assessment, removal, and mitigation and repair of rock falls and landslides on Waipi'o Valley Road was within the scope of my duties. During my thirty five years employment, I did not see or hear of any incident in which a person was injured or killed from a rock fall or landslide on Waipi'o Valley Road.

5. I am not an engineer, but I worked with engineers at their direction during my employment at the Department of Public Works. I have read the January 2022 Preliminary Geotechnical Engineering Evaluation for Waipi'o Valley Road prepared by Hart Crowser. The report does not conclude that Waipi'o Valley Road is in imminent threat of slope and roadway failure as stated by the Mayor in his emergency proclamation of February 25, 2022.

DECLARATION OF ARIEL TERGEOGLOU

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I, ARIEL TERGEOGLOU, declare:

1. I am a resident of Kamuela, County and State of Hawai'i and a director of Plaintiff MĀLAMA I KE KAI 'O WAIFI'O. In such capacity, I have firsthand knowledge of the following facts and could and would competently testify thereto if called upon to do so.

2. Plaintiff MĀLAMA I KE KAI 'O WAIFI'O is a nonprofit volunteer association organized under chapter 429, Hawai'i Revised Statutes ("HRS"). Its members include adults, their children and their grandchildren of native Hawai'ian ancestry who have enjoyed access to the ocean and beach and a clean and healthful environment at Waipi'o, County and State of Hawai'i and engaged in spiritual, traditional and customary practices there. Adult members of Plaintiff MĀLAMA I KE KAI 'O WAIFI'O, including some of its members of native Hawai'ian ancestry, have enjoyed ocean and beach access and a clean and healthful environment at Waipi'o, County and State of Hawai'i and access to Waimanu and its State camping areas via Waipi'o and the Mulawai trail pursuant to Article 1, sections 2, 5, and 8 and Article 11, sections 1, 6 and 9 of the Hawai'i Constitution, the administrative rules and regulations of the State of Hawai'i, Department of Land & Natural Resources, and the common law.

3. I have reviewed the Complaint filed herein. I verify that all factual allegations referring to Plaintiff MĀLAMA I KE KAI 'O WAIFI'O and its members and the history and use of Waipi'o are true, including paragraphs 27 -36 thereof.

I declare under penalty of perjury that the foregoing is true.

DATED: Kamuela, Hawai'i, June 6, 2022.

/ARIEL TERGEOGLOU/
ARIEL TERGEOGLOU