

**STATE OF HAWAII**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**  
**Office of Conservation and Coastal Lands**  
**Honolulu, Hawaii**

December 11, 2020

**Board of Land and  
Natural Resources  
State of Hawaii  
Honolulu, Hawaii**

**REGARDING:** Proposed MEMORANDUM OF AGREEMENT between THE STATE OF HAWAII, Department of Land and Natural Resources-Office of Conservation and Coastal Lands by its Board of Land and Natural Resources and THE STATE OF HAWAII, Department of Transportation to implement a project to Plan for Improved Resilience to Coastal Hazards through Nature-Based Solutions at Punalu'u, O'ahu, Hawai'i

With a cost share award from the Hawaii Department of Transportation (DOT), through the Oahu Metropolitan Planning Organization (OahuMPO), and in coordination with the State's Climate Change Mitigation and Adaptation Commission (Commission), the DLNR's Office of Conservation and Coastal Lands (OCCL) is proposing to implement a beach restoration project for improved resilience to coastal hazards through the use of nature based solutions for O'ahu. The Department is seeking the permission of the Board of Land and Natural Resources (Board) to enter a MOA with the DOT. DLNR attests to the availability of \$50,000 from OCCL's beach fund for its cost share portion. The total project cost is \$250,000. See **Exhibit 1** for the proposed MOA that describes DLNR's responsibilities, period of performance and reporting requirements. Exhibits A and B are attached Exhibit 1 and describe the approved proposal and work plan.

The project fits into the DLNR's and the Commission's priorities to adapt to sea level rise. The State of Hawai'i through the Department of Land and Natural Resources (DLNR) in coordination with the Hawai'i Climate Change Mitigation and Adaptation Commission (Commission), is interested in studying the feasibility of nature-based solutions to protect a critical section of Kamehameha Highway from flooding and erosion while also improving resiliency to sea level rise and coastal storms, and improving recreational resources at Punalu'u Beach Park. The feasibility study will explore nature-based alternatives including beach restoration in order to protect Kamehameha Highway, which provides the only road access to communities along northeast O'ahu from flooding, erosion, and more extreme storms, which are increasing with climate change and sea level rise. The study will serve as a catalytic/demonstration project for a portion of the highly vulnerable coastal highway with the additional benefits of conserving and restoring public beach access.

**DISCUSSION**

1. This project would include completion of a feasibility study that assesses project alternatives through critical coastal and marine geotechnical and biological surveys, agency and community outreach, and production of a final feasibility report that informs the next phase of the larger project. The final report would also be intended to provide demonstration for similar projects likely to be necessary in the future along other vulnerable stretches of Oahu coastal highway;

ITEM K-2

2. The project will engage a consultant to conduct a feasibility study, including necessary geotechnical and/or biological survey work and community outreach, resulting in a feasibility study report assessing options for a nature-based infrastructure project to protect Kamehameha Highway with the co-benefits of restoring the beach environment at Punalu'u, O'ahu;
3. The feasibility study report for this project will provide crucial information for the next step of developing an environmental document, conceptual design, and permitting for the preferred project alternative (through a separate follow-on project); and
4. In the next phase (through a separate follow-on project and funding), there would potentially be an environmental impact statement (EIS) building on the feasibility study report, develop preliminary designs for the preferred alternative, and secure necessary permits for a project to restore the severely eroded shoreline through nature-based alternatives. We anticipate partnering with the Department of Transportation and the City and County of Honolulu, Department of Parks and Recreation on this effort.

The OCCL will work with the Department of the Attorney General to finalize the MOA. If significant changes to the MOA are required, the matter will be resubmitted to the Board for review and approval.

**RECOMMENDATION:**

That the Board of Land and Natural Resources (BLNR) approve the Department enter into a MOA for the subject project and authorize the Chairperson to finalize and sign the MOA subject to the approval, as to form, by the Department of the Attorney General.

Respectfully submitted,

*Anukriti Little*

ANUKRITI HITTLE, State Climate Change Mitigation and  
Adaptation Coordinator, Office of Conservation and Coastal  
Lands

Approved for submittal:

By:

*Suzanne Q. Case*  
\_\_\_\_\_  
SUZANNE CASE, Chairperson  
Board of Land and Natural Resources

**Exhibit 1**  
MEMORANDUM OF AGREEMENT  
BETWEEN  
THE DEPARTMENT OF TRANSPORTATION, STATE OF HAWAII,  
AND  
THE DEPARTMENT OF LAND AND NATURAL RESOURCES, STATE OF HAWAII

THIS MEMORANDUM OF AGREEMENT (hereinafter referred to as "MOA") is entered into this \_\_\_\_ day of \_\_\_\_, 2020, by and between the DEPARTMENT OF TRANSPORTATION, State of Hawaii, (hereinafter referred to as "DOT"), and the DEPARTMENT OF LAND AND NATURAL RESOURCES, State of Hawaii (hereinafter referred to as "DLNR"), with HDOT and the DLNR hereinafter collectively referred to as the "PARTIES".

WHEREAS, the purpose of this MOA is to have written formal understanding of an agreement between PARTIES;

WHEREAS, this MOA is prepared in accordance with the requirements set forth in Title 23 United States Code (U.S.C.), Title 49 U.S.C., 23 Code of Federal Regulations (CFR) Subpart C, 49 CFR 5303, and 2 CFR 200, as well as all applicable State statutes, administrative rules, and local ordinances. The most current versions of the U.S.C, the CFR and the Stewardship Oversight Agreement on Project Assumption and Program Oversight shall govern in cases where these terms are silent;

WHEREAS, the Oahu Metropolitan Planning Organization (hereinafter "OahuMPO") is established as a semi-autonomous government agency pursuant to and authorized by 23 United States Code § 134( d)(1)(A) and 49 United States Code § 5303( d)(1)(A) and Hawaii Revised Statutes 279D, as amended, and for administrative purposes is attached to DOT;

WHEREAS, DOT, through the OahuMPO, administers federal grant funding for transportation planning studies pursuant to 23 CFR 450 Subpart C ("Metropolitan Transportation Planning & Programming");

WHEREAS, the OahuMPO develops an annual Overall Work Program (hereinafter "OWP") pursuant to 23 CFR 450.308 to program planning activities with metropolitan transportation planning funds provided under 23 U.S.C. 104(d), 49 U.S.C. 5305(d) and 49 U.S.C 5307;

WHEREAS, the OWP for the State Fiscal Year 2021, approved by the OahuMPO Policy Board on May 27<sup>th</sup>, 2020 and approved by the Federal Highway Administration and the Federal Transit Administration on June 26, 2020, includes \$200,000 in funds for a study proposed by the DLNR, entitled "[Insert Study Name]," hereinafter "STUDY");

WHEREAS, metropolitan transportation planning funds provided under 23 U.S.C. 104(d), 49 U.S.C. 5305(d) and 49 U.S.C 5307 require a match from local funding sources equal to 20% of the total cost of the STUDY and DLNR attests to the availability of \$50,000 in funds as local match;

WHEREAS, pursuant to 2 CFR 200.331 "Requirements for Pass-Through Entities", Table 1 in Exhibit A identifies information about the federal award through which the STUDY is funded;

WHEREAS, Exhibit B details the objectives, schedule, work products, and task descriptions for the STUDY as proposed by DLNR;

WHEREAS, the period of performance identified in Exhibit A, Table 1 applies to the federal award for the entire Overall Work Program;

WHEREAS, the period of performance/project schedule for the STUDY begins on July 1, 2020 and ends on July 31, 2023; and

WHEREAS, the approval and authorization of metropolitan transportation planning funds permits OahuMPO and subrecipients to execute contracts and incur costs toward work elements in the OWP, and funds will be provided upon submission of consultant invoices with supporting documentation, if applicable;

NOW THEREFORE, in consideration of the premises stated above, the parties deem it mutually advantageous to cooperate and hereby agree as follows:

1. DLNR will provide the STUDY scope-of-work, procurement documents, and independent cost estimates to OahuMPO for review as to form and concurrence prior to releasing the documents to consultants and/or the general public;<sup>1</sup>
2. DLNR accepts and will comply with the Overall Work Program Processes and Procedures;
3. DLNR will invite OahuMPO staff to observe the Selection Committee meeting(s) during which offerors are evaluated and/or ranked;
4. DLNR will provide supporting documents with invoices. Supporting documents may include paid invoices, receipts, copies of agreements, timesheets, certified payrolls, and other documents, as necessary;
5. DLNR will submit progress reports in the format and according to the schedule established by OahuMPO;
6. DLNR will provide copies of all products developed under the work element to OahuMPO in hard copy and digital formats for transmittal to USDOT. These products include, but are not limited to maps, plans, reports, manuals, and databases;
7. DLNR will obtain prior written approval from OahuMPO for the following changes to the Work Element:
  - a. Budgetary. Any increase in Federal funds (49 CFR 18.30(c)(1)(i)).
  - b. Programmatic. A change in the scope or objectives of activities (e.g., adding or deleting line items), extending the work element schedule past the approved work program period, transferring substantive programmatic work to a third party (e.g., consultant work not identified in the original Work Element), and capital expenditures including purchase of equipment (49 CFR 18.30(d)(1), 49 CFR 18.30(d)(2), 49 CFR 18.30(d)(4), and 2 CFR 200, respectively).
  - c. Travel. Any travel events not specifically identified in the work element as it appears in the approved Overall Work Program.<sup>2</sup>
8. DLNR will include the following disclaimer statement on all products and deliverables:

*"This report was funded in part through grants from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation. The views and opinions of the agency expressed herein do not necessarily state or reflect those of the U.S. Department of Transportation."*<sup>3</sup>
9. DLNR will include the following on all covers and title pages of all products and deliverables:

*"Prepared by DLNR, State of Hawaii, in Cooperation with the Oahu Metropolitan Planning Organization and the United States Department of Transportation."*
10. DLNR will complete close outs tasks in a timely fashion upon completion of the STUDY, which includes presentation of the draft plan for consideration by the OahuMPO Policy Board and its Advisory Committees.

This MOA may be amended or terminated at any time by written consent of the parties of this agreement.

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<sup>1</sup> See also 2 CFR 200.324(a)

<sup>2</sup> See 2 CFR 5200.474

<sup>3</sup> See 23 CFR 420.117(e)

IN WITNESS WHEREOF, the undersigned have executed these presents as of the day and year first written above.

BY \_\_\_\_\_ Date \_\_\_\_\_  
Director of Transportation  
State of Hawaii

BY \_\_\_\_\_ Date \_\_\_\_\_  
Chairman, Board of Land and Natural Resources  
State of Hawaii

APPROVED AS TO FORM:

BY \_\_\_\_\_ Date \_\_\_\_\_  
Deputy Attorney General  
For Department of Transportation

BY \_\_\_\_\_ Date \_\_\_\_\_  
Deputy Attorney General  
For Department of Land and Natural Resources

Exhibit A

Table 1

Overall Work Program (OWP) Information	OWP ID:	
	OWP Name:	
Subrecipient Information	Organization:	
	Project Manager:	
	Phone:	
	Email:	
	DUNS:	
Award – Basic Information	EIN:	
	Effective Date (Notice to Proceed):	
	Period of Performance:	
	Federal Award ID:	
Award – Funding Information	Federal Award Date:	
	Total Cost for this OWP ID:	
	Amount of Federal Award for this OWP ID:	
	Amount of Local Funds for this OWP ID:	
Basic Information	Total Federal Funds Awarded to Subrecipient in this Fiscal Year:	
	Location & Principal Place of Performance:	Honolulu, Hawaii
	Congressional District:	1 <sup>st</sup>
	Federal Awarding Agency:	Federal Highway Administration
	Pass-Through Entity:	Oahu Metropolitan Planning Organization
	Awarding Official:	Alvin K.C. Au, Executive Director
	Telephone:	808-586-2307
	Email:	alvin.au@oahumpo.org
	CFDA Number:	20.205
	CFDA Name:	Highway Planning and Construction
Indirect Cost Rate:	N/A	
<i>De minimis rate?</i>	N	

Exhibit B  
See Attached Approved Project



O'ahu Metropolitan Planning Organization  
**Proposed Planning Study or Project – Overall Work Program FY2021**

<b>I. Identification</b>			
WE Name	Planning for Improved Resilience to Coastal Hazards through Nature-Based Solutions at Punalu'u, O'ahu, Hawai'i		
Agency	DLNR	Phone Number	808-587-0391
Project Manager	Sam Lemmo, Administrator, OCCL	E-mail address	sam.j.lemmo@hawaii.gov

<b>II. Objectives</b>
Provide a brief synopsis of the proposed planning study or project description of the objectives to be accomplished.
<p>The State of Hawai'i through the Department of Land and Natural Resources (DLNR) in coordination with the Hawai'i Climate Change Mitigation and Adaptation Commission (Commission), is interested in studying the feasibility of nature-based solutions to protect a critical section of Kamehameha Highway from flooding and erosion while also improving resiliency to sea level rise and coastal storms.</p> <p>The feasibility study will explore nature-based alternatives including beach restoration in order to protect Kamehameha Highway, which provides the only road access to communities along northeast O'ahu from flooding, erosion, and more extreme storms, which are increasing with climate change and sea level rise. The study will serve as a catalytic/demonstration project for a portion of the highly vulnerable coastal highway with the additional benefits of conserving and restoring public beach access.</p>

<b>III. Planning Study or Project Information</b>	
A.	<p><b>Project Schedule.</b> Provide a start and end date for the following phases <u>if applicable</u>:</p> <p><u>Obligation of Local Match:</u> 07/20 – 09/20</p> <p><u>Procurement of consultant services:</u> 10/20 – 03/21</p> <p><u>Notice to proceed through contract close out (Provide more information on task breakdown in Section IV below):</u> 04/21 – 06/22</p>

B.	<p><b>Work Products.</b> Provide a complete listing of the work products and deliverables (including their format) that will be produced by this planning study or project.</p> <p>This project would include completion of a feasibility study that assesses project alternatives through critical coastal and marine geotechnical and biological surveys, agency and community outreach, and production of a final feasibility report that informs the next phase of the larger project. The final report would also be intended to provide demonstration for similar projects likely to be necessary in the future along other vulnerable stretches of Oahu coastal highway.</p>
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In the next phase (through a separate follow-on project and funding), we plan to develop an environmental impact statement (EIS) building on the feasibility study report, develop preliminary designs for the preferred alternative, and secure necessary permits for a project to restore the severely eroded shoreline through nature-based alternatives.

**C. Description.**

The project will engage a consultant to conduct a feasibility study, including necessary geotechnical and/or biological survey work and community outreach, resulting in a feasibility study report assessing options for a nature-based infrastructure project to protect Kamehameha Highway with the co-benefits of restoring the beach environment at Punalu'u, O'ahu. The project will build on an initial investigation by Sea Engineering, Inc. for the City & County of Honolulu that identified vulnerabilities to erosion and proposed solutions for erosion management. The project will be managed by the State of Hawai'i Department of Land and Natural Resources through its Office of Conservation and Coastal Lands (DLNR-OCCL). The DLNR-OCCL working with the project consultant will be responsible for consultation and coordination with partner agencies including the City & County of Honolulu and State DOT. The project will also tap in-house expertise, at no additional cost to the project, from University of Hawai'i Sea Grant coastal geologists working with the DLNR-OCCL under existing cooperative agreements. The project is expected to take approximately 12 months to complete from the time the consultant is hired. The feasibility study report for this project will provide crucial information for the next step of developing an environmental document, conceptual design, and permitting for the preferred project alternative (through a separate follow-on project).

**D. Project Justification.**

Shoreline erosion near Punalu'u Beach Park has narrowed the beach park such that the edge of the shoreline vegetation is now within fifty feet of the highway (see Figures 1 and 2). Initial investigations have identified beach-quality sand in a channel in the nearshore fringing reef between 1,000 and 2,000 feet from the proposed project site, which could be delivered to the beach so as to protect the highway, using environmentally-conscious recovery methods. Building on this investigation, inclusion of groins (shore-perpendicular rock structures) and improvements to intermittent storm drainages will also be investigated in various configurations as a means for improving protection of the highway and stability of the restored beach to provide continued protection to the highway. Restoration of low back-shore dunes and re-vegetation using native species will also be assessed as a further means to reduce erosion and flooding threats to the highway during high wave and high water-level conditions.

Punalu'u is an ideal location for a catalytic/demonstration project for protecting a critical highway by restoring and expanding natural infrastructure, which also recognizes community values and serves to improve ecological resources. The study will assess a true integrated approach to sea level rise adaption by investigating combinations of nature-based and more traditional engineering approaches such as groins to stabilize a restored beach and drainage improvements to create an overall climate-resilient effort. Partnerships, lessons learned, and methods employed through this project may be applied to many other vulnerable lengths of shorefront highway on O'ahu and statewide.

This project will demonstrate innovative and much needed multi-agency coordination to address multiple concerns in the State—especially that of protection of critical coastal highways, human communities, and natural ecosystems. The project also directly addresses the priorities of the State's Climate Change Mitigation and Adaptation Commission, a high-level multi-jurisdictional body that recommends policies for climate change response.



Figure 1: Aerial view of Punalu'u beach park showing coastal erosion close to the highway.



Figure 2: Shoreline erosion at Punalu'u Beach Park with Kamehameha Highway in the background.

- E. **Previous or Ongoing Work Related to Proposed Planning Study or Project.**  
The project area, at MP 24+0.21 to MP 24+0.48, is characterized in the DOT's *Statewide Coastal Highway Program Report* (August 2019) to be of medium susceptibility to coastal hazards (see Figure 3 below, and on p. 254 in the *Report*). This project addresses DOT's adaptation recommendation for this area of hard/soft protection, before erosion reaches the highway and becomes critical. It also echoes the main message in the FHWA's *Nature-Based Solutions for Coastal Highway Resilience: An Implementation Guide*, August 2019 (FHWA-HEP-19-042) that nature-based solutions provide risk-reduction benefits to coastal highways by reducing coastal flooding, wave heights, and erosion, and can serve as a first line of defense and improve the resilience of coastal highways.

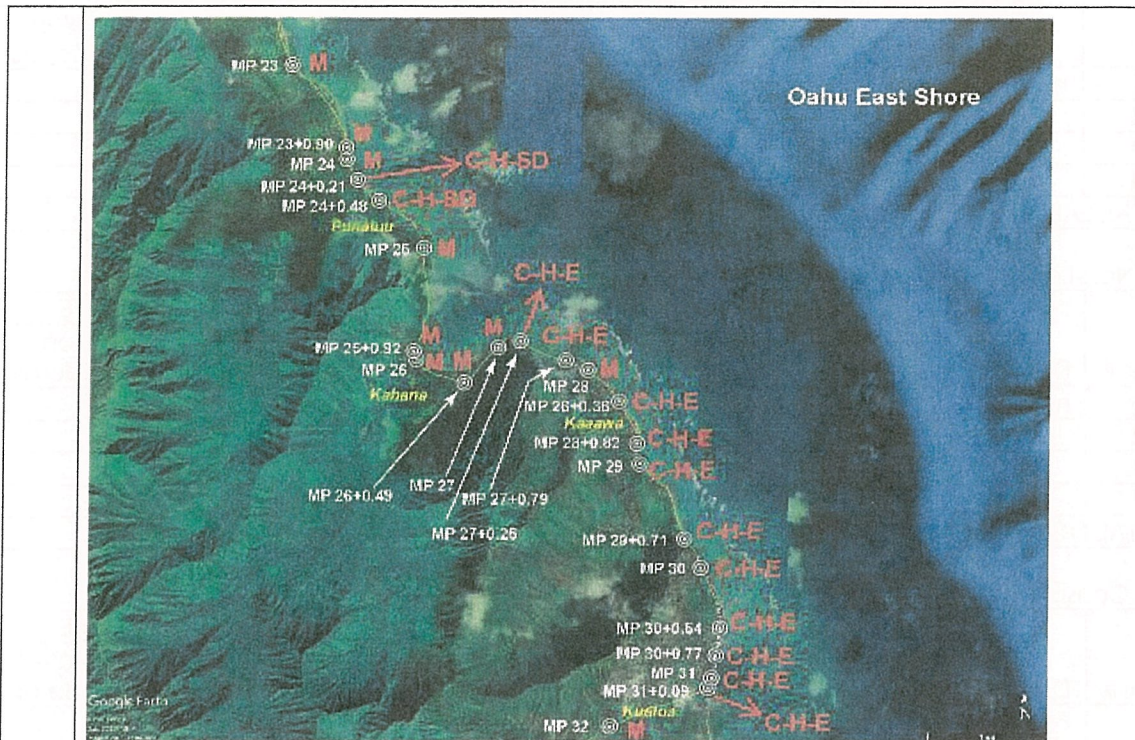


Figure 3: Kualoa to Punalu'u adaptation recommendations from the Statewide Coastal Highway Program Report (Francis, et al.; prepared for the Hawai'i Department of Transportation, August 2019). The recommendation for the proposed project site at Punalu'u (MP 24+021 to 24+0.48) is combined hard/soft protection (C-H-SD). R-N is road relocation; P-SD is living dunes; C-H-E is elevate/hard protection; M is no action/monitor.

#### IV. Work Element Tasks and Schedule

List all the expected tasks and expected completion dates for the project. This must be tied to the written description provided in III.C above.

Task #	Task Description	Start Date (Mo/Yr)	Expected Completion Date (Mo/Yr)	Cost
1	Consultant services including feasibility assessment, geo and bio technical surveys, community outreach, and feasibility study report	10/20	06/22	\$250,000
2				
3				
4				
TOTAL WORK ELEMENT COST				\$250,000

#### V. Work Element Budget

##### A. Staff Labor Expenditures

Task #	Position/Agency	LABOR	Total	FUNDING SOURCE
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		Hrs	\$/Hr	Additive _____%	Federal		Non-Federal
					FHWA	FTA	
1	n/a						
2							
3							
4							
TOTAL LABOR EXPENDITURES							

B. Non-Labor Expenditures (excluding contract services)

Task #	Description	Total	FUNDING SOURCE		
			Federal		Non-Federal
			FHWA	FTA	
1	n/a				
2					
3					
4					
TOTAL NON-LABOR EXPENDITURES					

C. Consultant Services & Scope of Work

Task #	Description	Total	FUNDING SOURCE		
			Federal		Non-Federal
			FHWA	FTA	
1	Feasibility assessment, geo and bio technical surveys, community outreach, and feasibility study report	\$250,000			\$50,000
2					
3					
4					
TOTAL CONTRACT SERVICE EXPENDITURES					

Proposals utilizing consulting services must include a high-level scope of work that includes the work products expected, contract amount, and tentative project schedule.

**VI. Overall Budget**

Provide the total project budget for each State fiscal year (if multiple fiscal years) in which the proposed activity is to take place. Highlight **in bold** the current fiscal year.

FY		Total	FUNDING SOURCE		
			Federal		Non-Federal
			FHWA	FTA	
	<b>Current Fiscal Year</b>	<b>\$250,000</b>			<b>\$50,000</b>
TOTAL WORK ELEMENT COST					

**VII. Disadvantaged Business Enterprise Goal**

Provide the total estimated DBE Goal for this project (applies only if consulting services are part of this request):

Race conscious: \_\_\_\_\_

Race neutral: \_\_\_\_\_

Prepared by: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_