

EXHIBIT A

SCOPE OF WORK

1. Grantee agrees to expend grant funds provided by the Commission only for and in accordance with project activities as described under the Scope of Work attached hereto as EXHIBIT A.
2. The Project representatives during the term of this agreement, and the person authorized to sign grant amendments and RFFs on behalf of the grantee, will be:

State Agency: California Coastal Commission	Grantee: City of Arcata
Name: Kelsey Ducklow ("Grant Manager")	Name: Karen Diemer (City Manager)
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3. Primary project contact:

State Agency: California Coastal Commission	Grantee City of Arcata
Section/Unit: Statewide Planning Unit	Section/Unit: Environmental Services Division
Name: Awbrey Yost	Name: Morguine Sefcik
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SCOPE OF WORK

Name of Local Government: City of Arcata

Name of Project: Arcata Sea level Rise Vulnerability Assessment and Capital Improvement Project Adaptation Plan

Funding Source: General Fund

Specific Program: Local Coastal Program Local Assistance Grant Program

Federal Tax ID#: 94-2186507

Budget Summary:

CCC funding:	\$178,000
<u>Other funding:</u>	<u>\$5,000</u>
Total project cost:	\$183,000

Term of Project: 7/14/2023 (or grant agreement execution date) – 2/1/2026

A. PROJECT DESCRIPTION

The City of Arcata's comprehensive update to its Local Coastal Program (LCP) is underway and includes revisions to the Local Coastal Element, with specific attention to planning for coastal resiliency and addressing the impacts of sea level rise. The project will help the City to better understand vulnerabilities to sea level rise, coastal hazards and flooding along Arcata's shoreline and develop adaptation strategies that reduce or accommodate the flooding and erosion associated with sea level rise. The project will include detailed hydraulic modeling, which considers sea level rise as well as the compounding effects of potential wave action, rainfall, and stormwater flows. While the 2018 sea level rise vulnerability analysis included hydraulic modeling, the modeling utilized water levels in Humboldt Bay and projected those water levels across the landscape irrespective of landforms and built features, such as railroad and highway grades. This approach did not provide sufficient information to understand where shoreline overtopping would occur, the pathways of flooding, the depth and duration of flooding, or consider other factors, such as wave runup and overtopping, and rainfall to better inform impacts and adaptation strategies. This project will utilize the tidal water levels series of Humboldt Bay that were generated in previous studies around the Bay and then model how and where those water levels flow over the shoreline and low-lying areas, in addition to rain events.

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The adaptation strategies developed will inform the City's LCP update and planned capital improvement projects (CIP) improvements in the study area. Specifically, the LCP identifies a measured retreat and adaptation strategy. This plan is largely conceptual without detailed hydrological modeling. The thresholds and triggers for implementing adaptation projects and measures will be informed by this work. The project will help inform our understanding of coastal hazards around the Arcata Wastewater Treatment Facility (AWTF), as well as throughout Arcata's shoreline. The project will support additional data collection to inform components of the City's Coastal Hazards Adaptation and Implementation Plan (CHAIP), a special condition of the City's Coastal Development Permit for the AWTF Phase 1 Improvement Project. Development of the CHAIP is being funded through a separate effort with technical assistance through the State Water Resources Control Board.

The study area for the project includes the entirety of the shoreline along Arcata, extending from McDaniel Slough to Washington Gulch (Brainard Slough). The project will utilize the City's GIS data, Humboldt Bay LiDAR and Aerial Imagery (2019) and recently completed studies relevant to the project area, which include: 1) City of Arcata Draft LCP Chapter 8 Sea Level Rise (in progress), 2) Humboldt Bay Shoreline Assessment (2013), 3) Sea-Level Rise in Humboldt Bay Region (2018), 4) Eureka Slough and Highway 101 Safety Corridor Sea Level Rise Adaptation Plan (2021), 5) Natural Shoreline Infrastructure from Brainard to Bracut (2022), and 6) Jacoby Creek Habitat Enhancement Project (in progress).

Through a Request for Qualifications (RFQ) process, the City will hire a consultant, who will provide the City with services to accomplish tasks 1-3 in the project, which include: 1) develop a hydraulic model, 2) conduct a coastal exposures and vulnerability assessment considering potential flooding from tidal still water, wave action, and rainfall, and 3) develop an adaptation concept plan for CIPs, including but not limited to AWTF, additional wastewater and water infrastructure, storm drains, roads, public facilities. The City will work with the selected consultant to ensure public and stakeholder outreach are incorporated into Task 3. City staff will work closely with the consultant and City staff time will provide matching funds to the project for all tasks. The fourth task includes an update to the City's LCP, which will be led by City staff. The City will share findings with the public and stakeholders throughout the process and solicit input at City Council meetings, City Committee meetings (e.g. Wetlands and Creeks Committee), and through direct outreach. The City will share all draft documents with the Coastal Commission for review and feedback and incorporate the feedback into the final products.

B. TASKS

Task 1. Hydraulic Model Development

The City of Arcata will secure a consultant to develop a two-dimensional hydrodynamic model of the study area (McDaniel Slough to Washington Gulch).

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Subtask 1.1 Initial Model Development

The City will work with the selected consultant to develop a model that will utilize existing 2019 LiDAR data for topography/bathymetry and available stormwater infrastructure from the City's GIS data. Hydrology information for stream flows will be obtained from StreamStats or from other studies for up to three rainfall runoff events (i.e. 2-yr, 10-yr, 100-yr recurrence storm events). Up to three peak tidal water levels will be developed that represent a range of recurrence and future tidal water levels with sea level rise. Historical tidal water levels will be developed based on the North Spit Tide Gage and adjusted for the Arcata Wharf and sea level rise or utilize available, modeled water levels from previous projects and studies using the best available science.

Subtask 1.2 Coastal Scenario Modeling

The City will work with a consultant to identify and develop up to five Coastal Scenarios (combinations of tidal water levels and precipitation storm events using the best available science) that align with the City's desired LCP and CIP planning horizons, for use in the Vulnerability Assessment under Task 2. Scenarios will be modeled to assess flooding pathways (from riverine and tidal sources), and depth and duration of flooding within the study area.

Deliverables:

- a. Hydraulic Model Technical Memorandum

Task 2. Vulnerability Assessment

The City will work with the consultant to use the hydraulic model results from Task 1 to assess multiple Planning Scenarios of sea level rise and coastal exposures, such as extreme water levels, waves, and rainfall runoff events. The existing shoreline condition will be identified using existing GIS data sets from the Humboldt Bay Sea Level Rise study. The project will consider a variety of possible future Planning Scenarios with multiple simulated exposures, e.g., water levels, wind waves, fluvial/stormwater, and timeframes to support identification of feasible adaptation concepts (Task 3). A range of adaptation concepts will be developed and include managed retreat and enhancement of existing infrastructure depending on the timeframe, asset lifespan, and exposure.

Subtask 2.1. Planning Scenarios

For each Planning Scenario, the consultant will identify the following vulnerabilities and conditions, and create a map detailing the Planning Scenario:

- Locations and primary pathways of flooding within the project area from tidal still water, wave overtopping from both wind waves and storm surges, rainfall runoff

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- reports, and groundwater information from USGS' Coastal Storm Modeling System of Groundwater mapping, as well as any site-specific groundwater data.
- Flood depth and duration of flooding on/to transportation infrastructure, i.e. roads and trails.
 - Flood depth and duration of flooding on/to flood-sensitive utilities, i.e., pump station electrical, treatment plant processes, sewer manhole inflow, storm drainage system capacity (assuming saturated conditions as well as functional/working storm drain pipes and minimal infiltration), and linear infrastructure (water, sewer, storm drainage system) within proximity to erosion exposure.

Subtask 2.2 Develop Vulnerability Assessment

The vulnerability of City assets and infrastructure will be evaluated based on the exposure, sensitivity, and adaptive capacity and described in the Vulnerability Assessment section of the CIP Adaptation Concept Plan described in Task 3. Outcomes from the vulnerability assessment will be shared with the public and stakeholders at City meetings, which could include City Council meetings and City Committee meetings (e.g., Wetlands and Creeks Committee).

Subtask 2.3 Draft Vulnerability Assessment Section to Commission staff for review

The Vulnerability Assessment Section of the CIP Adaptation Concept Plan will be shared with the Coastal Commission for review and feedback (approximately 6-week review period).

Subtask 2.4 Revise Vulnerability Assessment Section

The Vulnerability Assessment Section will be revised to incorporate CCC and stakeholder comments.

Deliverables:

- a. Planning Scenario Exposure Maps
- b. Draft Vulnerability Assessment Section of CIP Adaptation Concept Plan
- c. Final Vulnerability Assessment Section of CIP Adaptation Concept Plan

Task 3. Adaptation Plan for Capital Improvement Projects (CIP)

The City will work closely with the Consultant to develop adaptation strategies that reduce or accommodate the flooding and erosion vulnerabilities identified through Task 2. These adaptation strategies will inform the LCP update and planned CIP projects within the project area.

Subtask 3.1 Adaptation Strategies Development

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The City will consider a variety of conceptual adaptation strategies such as nature-based adaptation strategies, hybrid approaches that use strategies from multiple categories, managed retreat, and enhancement of existing infrastructure. The adaptation strategies chosen will consider a variety of options depending on the exposure and the most appropriate techniques to address those exposures. The adaptation strategies will consider the location, engineering feasibility, costs, environmental impacts, as well as consistency with the Coastal Act, City LCP Policy, current State and Coastal Commission sea level rise planning guidance, and other relevant guidance and regulations as necessary. The adaptation strategies will consider both the location of assets, as well as the condition and age (where known) and proximity to other natural and built landscapes at risk to determine if there are opportunities for multi-benefit adaptation strategies that address both climate adaptation, as well as long term capital planning.

Subtask 3.2 CIP Adaptation Concept Plan Development

The adaptation strategies will be described in the CIP Adaptation Concept Plan and accompanied with conceptual graphics of the proposed improvements and reduced flooding exposure. The graphics will include mapping layers of coastal resources, where available, and the potential impacts to the coastal resources will be identified based on the concept footprint and characteristics of the adaptation strategies. Future work around adaptation strategies and selection of specific strategies at specific locations will include a more detailed assessment of impacts to coastal resources. The graphics will be developed to convey the planning intent for the entire Arcata shoreline and include Zones 1 and 2, which are currently presented in the Local Coastal Element of the draft LCP. The CIP Adaptation Concept Plan will also include descriptions of the methods and results from Tasks 2 and 3. Public and stakeholder outreach will be conducted throughout execution of Task 3 and could include presentations at public meetings, such as City Council meetings and City Committee meetings, e.g. Wetlands and Creeks Committee, mailers to property owners in potentially affected areas, and community meetings to inform selection of adaptation strategies.

Subtask 3.3 Draft CIP Adaptation Concept Plan to Commission staff for review

The CIP Adaptation Concept Plan will be shared with the Coastal Commission for review and feedback and comments will be incorporated in the final draft of the Plan (approximately 2-month review).

Subtask 3.4 Revise CIP Adaptation Concept Plan

The CIP Adaptation Concept Plan will be revised to incorporate CCC and stakeholder comments.

Deliverables:

- a. Draft CIP Adaptation Concept Plan
- b. Final CIP Adaptation Concept Plan

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Task 4. LCP Update

The City will update the Sea Level Rise chapter of the Local Coastal Element and the Coastal Zoning Ordinance to reflect the adaptation strategies identified in Task 3 of the project. This update will be submitted as an LCP amendment to the Coastal Commission. Due to the technical and granular nature of the work of this project, the updates to the LCP will necessarily be fairly general. The City anticipates incorporating policy elements in the LCP that support additional study based on lessons learned and outcomes from the project. The LCP amendment will incorporate an implementation measure that enacts the policy as part of the adaptation strategies identified through the project. Since the City is currently preparing a comprehensive LCP update, the update associated with this project will be a subsequent amendment to the comprehensive update.

Subtask 4.1 Draft LCP Amendment

The City will summarize the CIP Adaptation Concept Plan into a group of new policies in the Local Coastal Element. The implementation measures will be drafted for incorporation into the Local Coastal Element or the Coastal Zoning Ordinance, depending on whether the measures are programs or zoning standards, respectively.

4.2 Draft LCP Amendment to Commission staff for review (approximately 2-month review)

The City will send the draft LCP amendment to Commission staff for review and feedback.

4.3 Public Review and Engagement

The City will conduct public engagement on the draft LCP updates. Engagement will include public hearings before the Planning Commission and City Council and one public workshop. This task will culminate in a hearing at which the Council will provide authorization to apply for an LCP amendment.

4.4 Submit LCP Amendment Application

The City will apply for an LCP amendment. Depending on the timing of this work and the comprehensive LCP amendment, the submittal will be combined with or separate from the major amendment.

Deliverables:

- a. Draft LCP Amendment
- b. Submittal of Final LCP Amendment

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C. SCHEDULE

Project Term: 07/14/2023 (or grant agreement execution date) – 2/1/2026

Task 1. Hydraulic Model Development	8/1/2023 – 10/31/2023
1.1 Initial Model Development	8/1/2023 to 9/15/2023
1.2 Coastal Scenario Modeling	9/16/2023 to 10/31/2023
Outcome/Deliverables: a. Hydraulic Model Technical Memo	a. 10/31/2023
Task 2. Vulnerability Assessment	11/1/2023 – 5/24/2024
2.1 Planning Scenarios	11/1/2023 to 12/15/2023
2.2 Develop Draft Vulnerability Assessment	12/15/2023 to 2/15/2024
2.3 Draft Vulnerability Assessment Section to Commission staff for review	2/16/2024 to 4/12/2024
2.4 Revise Vulnerability Assessment Section	4/13/2024 to 5/24/2024
Outcome/Deliverables: a. Planning Scenario Exposure Maps b. Draft Vulnerability Assessment Section c. Final Vulnerability Assessment Section	a. 12/15/2023 b. 2/15/2024 c. 5/24/2024
Task 3. Adaptation Plan for CIP	5/25/2024 – 1/15/2025
3.1 Adaptation Strategies Development	5/25/2024 to 7/12/2024
3.2 CIP Adaptation Concept Plan Development	7/13/2024 to 9/20/2024
3.3 Draft CIP Adaptation Concept Plan to Commission staff for review	9/21/2024 to 11/11/2024
3.4 Revise CIP Adaptation Concept Plan	11/12/2024 to 1/15/2025
Outcome/Deliverables: a. Draft CIP Adaptation Concept Plan b. Final CIP Adaptation Concept Plan	a. 9/21/2024 b. 1/15/2025
Task 4. LCP Update	1/15/2025 – 11/22/2025
4.1 Draft LCP Amendment	1/15/2025 to 4/7/2025
4.2 Draft LCP Amendment to Commission staff for review	4/8/2025 to 5/23/2025
4.3 Public Review and Engagement	5/26/2025 to 9/26/2025
4.4 Submit LCP Amendment Application	9/27/2025 to 10/27/2025
Outcome/Deliverables: a. Draft LCP Amendment b. Submittal of Final LCP Amendment	a. 4/7/2025 b. 10/27/2025

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D. BENCHMARK SCHEDULE

ACTIVITY	COMPLETION DATE
Hydraulic Model Development	10/31/2023
Vulnerability Assessment	5/24/2024
CIP Adaptation Concept Plan	1/15/2025
Submittal of LCP update to Commission	10/27/2025

EXHIBIT A1

DEFINITIONS

1. The term “Agreement”; this Grant Agreement.
2. The term “Budget Act”; the annual enacted version of the Budget Bill which makes appropriations for the support of the government of the State of California.
3. The term “Chief Deputy Director”; the Chief Deputy Director of the Commission.
4. The terms “Commission” or “Coastal Commission” and the acronym “CCC” all refer to the California Coastal Commission.
5. The term “Executive Director”; the Executive Director of the Commission.
6. The term “Grant” or “Grant Funds”; in the case of LCP grants, the money provided by the California Climate Investments program or, in the case of Public Education grants, sales and renewals of the WHALE TAIL[®] Specialty License Plate, or California’s Voluntary Tax Check-Off Program, or General Fund/Local Assistance, and administered by the Coastal Commission to the Grantee pursuant to this Agreement.
7. The term “Grant Manager”; the representative of the Commission with authorization per the Executive Director to administer and provide oversight of the Grant.
8. The term "Grantee"; an applicant who has a signed agreement for Grant Funds.
9. The term "Project"; the activity described under the Scope of Work, attached as EXHIBIT A, to be accomplished with Grant Funds.
10. The term “Project Budget”; the Commission approved cost estimate submitted to the Commission’s Grant Manager for the Project. The Project Budget shall describe all labor and material costs of completing each component of the Project. The Project Budget shall contain itemized amounts permissible for each item or task described in the Scope of Work. The Project Budget must include the set administrative and indirect costs agreed upon by the Parties if applicable.
11. The term “Public Agency”; any State of California department or agency, a county, city, public district or public agency formed under California law.
12. The term “Scope of Work” refers to EXHIBIT A, including the approved Project Description, Tasks, and Schedules.
13. The term “Termination Date”; the date by which all activity for the project must be concluded, as specified in the signature page of this Agreement. Work performed after this date cannot be reimbursed.

EXHIBIT B1

BUDGET

Application Budget Information

Funding Request: \$ 178,000

Total Project Cost: \$ 183,000

<i>City of Arcata</i>	<i>CCC Grant Total</i>	<i>Match/Other Funds</i>	<i>Total (LCP Grant Funds + Match/Other Funds)</i>
LABOR COSTS¹			
County/City Staff Labor			
Task 1 – Hydraulic Model Development	\$1,386	\$0	\$1,386
Task 2 – Vulnerability Assessment	\$1,983	\$0	\$1,983
Task 3 - Adaptation Plan for CIP	\$2,556	\$0	\$2,556
Task 4 – LCP Update	\$15,000	\$5,000	\$20,000
Total Labor Costs	\$20,925	\$5,000	\$25,925
DIRECT COSTS			
County/City Staff Project Supplies			
A			
B, etc.			
Total	\$0	\$0	\$0
County/City Staff Travel In State²			
Mileage			
Hotel, etc.			
Total	\$0	\$0	\$0
Consultants³/Partners			
Consultant (TBD)			
Task 1 – Hydraulic Model Development	\$45,000		\$45,000
Task 2 – Vulnerability Assessment	\$50,000		\$50,000
Task 3 – Adaptation Plan for CIP	\$60,000		\$60,000
Consultants Total	\$155,000		\$155,000

¹ Amount requested should include total for salary and benefits.

² Travel reimbursement rates are the same as similarly situated state employees.

³ All consultants must be selected pursuant to a bidding and procurement process that complies with all applicable laws.

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<i>City of Arcata</i>	<i>CCC Grant Total</i>	<i>Match/Other Funds</i>	<i>Total (LCP Grant Funds + Match/Other Funds)</i>
Total Direct Costs	\$155,000		\$155,000
OVERHEAD/INDIRECT COSTS⁴			
Total County/City Staff Overhead/Indirect Costs	\$2,075	\$0	\$2,075
TOTAL PROJECT COST	\$178,000	\$5,000	\$183,000

⁴ Indirect costs include, for example, a pro rata share of rent, utilities, and salaries for certain positions indirectly supporting the proposed project but not directly staffing it. Amount requested for indirect costs should be capped at 10% of amount requested for "Total Labor."