EXHIBIT B1

Project Work Plan, Schedule, and Budget

County of Santa Barbara, Planning and Development Department
123 East Anapamu Street, Santa Barbara, CA 93101

Santa Barbara County Coastal Resiliency Project: North Coast Coastal Hazard Modeling, Vulnerability Assessment and Local Coastal Program Amendment

Contact: Selena Evilsizor, Planner (805) 568-3577, sevilsizor@countyofsb.org
Person authorized: Glenn S. Russell, PhD., RPA

Budget Summary -

CCC funding:	$8,000
OPC funding:	$175,000
Other funding:	$57,000
Total project cost:	$240,000

Begin/end dates: June 18, 2015/~~April 30, 2017~~ **December 31, 2017**

A. **PROJECT DESCRIPTION** Santa Barbara County Coastal Resiliency Project (Project) is modeled after The Nature Conservancy's *Building Coastal Resilience for Disaster Risk Reduction and Climate Adaptation* project.[3] Specifically, the County of Santa Barbara's (County) project approach tiers off of the Coastal Resilience Ventura Project.[4]

The goal of the Project is to identify and plan for mitigation of potential coastal hazards associated with climate-related impacts on important infrastructure, ecological resources and community assets and includes two phases. Phase I of the project comprises coastal hazard modeling and a vulnerability assessment which includes developing two regional databases (a resource database[5] and a policy and planning tools database) in order to have useful information for making high resolution planning level decisions, i.e. parcel scale or similar, as appropriate based on best available science and data. The Phase I coastal hazard modeling and a Vulnerability Assessment is partially funded by the State Coastal Conservancy's Climate Ready Grant Program and by the Local Coastal Program (LCP) Sea Level Rise (SLR) Adaptation Grant Program. Phase II includes the development of a Coastal Hazard Adaptation Plan (currently unfunded) and associated LCP amendment (funded by the LCP Planning Grant Program).

At this time, the County is working with a consultant to model coastal hazards for Santa Barbara County's south coast from Jalama Beach County Park south to the

[3] http://coastalresilience.org/
[4] A partnership project with Ventura County, Naval Base Ventura County, and the incorporated Cities of Ventura, Oxnard and Port Hueneme and the Nature Conservancy.
[5] Develop a spatially explicit regional GIS database for social, economic, coastal armoring, water control structures (e.g. storm drains, tide gates, levees, culverts) and ecological resources critical to Santa Barbara County

Santa Barbara/Ventura County line and developing a Vulnerability Assessment. The LCP SLR Adaptation Grant Program funding will complete the coastal hazard modeling for the northern Santa Barbara County coastline from Jalama Beach County Park north to the Santa Barbara/San Luis Obispo County line. Results from the coastal hazard modeling will support analysis of a resource database to support a vulnerability assessment to help analyze future impacts to the County's coastal zone under different climate scenarios. Maps created from the models will illustrate potential future conditions and uncertainties associated with the projections. These maps can be incorporated into long-term policy decisions and short-term permit decisions by staff, decision-makers, and stakeholders to help develop scientifically sound and robust adaptation strategies and to identify appropriate management options for dealing with coastal hazards. These adaptation strategies and management options will provide climate information needed to develop new or enhance existing LCP policies and implementing ordinances. The LCP Planning Grant Program funding will help update the County LCP, specifically the Coastal Land Use Plan and future Community Plan efforts, to include proposed new policies and enhanced existing LCP policies to address impacts from coastal hazards. Additionally, the County's Coastal Zoning Ordinance would be updated to include development and land use regulations in a proposed Coastal Hazard Overlay Zone to guide the form and intensity of new and remodeled projects to moderate coastal hazard risks. The County will submit all deliverables to the Coastal Commission South Central District staff and to the Commission's grant coordinator.

B. TASKS

B.1 North Coast Coastal Hazard Modeling and Vulnerability Assessment

Task 1. Project Kick-off Meeting
After commencement of the consultant contract for coastal hazard modeling, a meeting will be held with Coastal Commission staff and consultants to clarify the County's objectives, exchange documents with the consultant and Commission staffs, clarify the scope of work and schedule, and establish communication protocols.

Task 2. Modeling and Mapping Stakeholder Meetings
The County will lead a series of public project meetings with key stakeholders to discuss coastal hazard modeling. Key stakeholders include but are not limited to: staff from the incorporated Cities in Santa Barbara County, University of California, Santa Barbara, Caltrans, Southern Pacific Railroad, California State Parks, Santa Barbara County Association of Governments, California Coastal Conservancy, local Chambers of Commerce, Environmental Defense Center, Heal the Ocean, Surfrider, Citizens Planning Association, Urban Creeks Council, Santa Barbara Channelkeeper, and BEACON. Additionally, the County and staff from the incorporated Cities in Santa Barbara County and University of California, Santa Barbara meet periodically as part of a regional sea level rise working group to discuss local planning efforts dealing with sea level rise and other coastal hazards.

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The consultant will participate in up to four public project meetings and will provide input on the agenda and/or prepare presentations on technical information relevant to climate change modeling.

Deliverables:

(1) Meeting minutes; and
(2) Stakeholder contact list.

Task 3. ~~Update~~ Populate Regional Resource Database

County staff, staff from the University of California, Santa Barbara (UCSB), and cooperating stakeholders are anticipated to provide social, economic, coastal armoring, water control structures (e.g. storm drains, tide gates, levees, culverts) and ecological resources data for their jurisdiction/authority/influence. The County will house the data and all data will be shared with the Coastal Commission including the update to the shoreline armoring data set.

The consultant will acquire regional databases for social, economic, coastal armoring, water control structures and ecological resources from the County and will integrate the digital information into GIS and compile the individual jurisdictional information into a spatial data set. The County will coordinate with the Coastal Commission's mapping unit to obtain any useful data sets, and to determine protocols for developing LCP maps.

The following data will be obtained and integrated:

- *Infrastructure and asset data* – to be provided in digital form by local jurisdictions;
- *Habitat data* – to be provided in digital format by local jurisdictions, UCSB, or other national level data sets; and
- *Coastal armoring* – the consultant will improve the 2006 Coastal Commission armoring data set with improved spatial location and crest elevations based on LIDAR or jurisdictional supplied survey data (see Task 5.1 for more details). To the extent feasible, the consultant and/or County staff will evaluate the legal status of existing coastal armoring, and permit numbers, dates, and other relevant data will be included in the attributes of the spatially-explicit regional GIS database.

Deliverables:

(1) Summary table of all acquired and relevant data sets; and
(2) GIS shapefiles with metadata of the compiled spatially-explicit regional GIS database.

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Task 4. Update to Existing Policy and Planning Tool Database
County Planning and Development staff will update the Policy and Planning Tool Database (developed as part of the South Coast modeling effort) that catalogues existing, proposed, and innovative coastal hazard planning policies and planning tools utilized around the state by the California Coastal Commission and other state agencies. The Policy and Planning Tool Database summarizes and compares existing relevant coastal policies at UCSB, the County of Santa Barbara, and the Cities of Carpinteria, Santa Barbara, and Goleta. The database is available for each jurisdiction in the County to use to screen and rank the policies and tools based on criteria that measure governmental support, scale of area impacted, timing and cost of implementation, flexibility, and the available policy framework for coastal hazard planning activities. The ability to rank policies and tools in the Policy and Planning Tool Database will help planners, decision-makers, and stakeholders make informed decisions and take actions to reduce risks to climate hazards and enable climate-resilient development. This will also help in the development of new policies by allowing planners, decision-makers, and stakeholders to see what already exists within this policy framework; by seeing what already exists, planners can build on existing policies and expand in other areas that lack existing policies. The County will conduct outreach and training on the database to ensure other local government and Coastal Commission staff are able to take full advantage of the tool.

Deliverables:
(1) Update<u>d</u> ~~summary table of~~ policy and planning tool database.

Task 5. Model and Map Coastal Hazards for Climate Scenarios
The NOAA SLR viewer shows some impacts to low lying areas in the County, but the lack of inclusion of coastal erosion and detailed hydraulic connectivity especially in areas of critical infrastructure require more detailed technical modeling analysis. The consultant will model physical processes necessary to identify planning level changes to the extent feasible given existing data in future coastal erosion and coastal flooding hazards. The coastal hazard modeling will be based on the best available science on sea level rise, and will be consistent with the DRAFT guidance of sea level rise by the California Coastal Commission, and the final guidance once approved by the Commission. This will include modeling of at least three (3) sea level rise scenarios and three (3) planning horizons (plus existing conditions). The consultant will follow a similar range of scenarios and planning horizons as those utilized in the Coastal Resilience Ventura Project and the coastal hazard modeling completed for Santa Barbara County's south coast (Phase 1). This same model was initially built as part of the 2009 Pacific Institute work, and has been substantially improved upon during the Coastal Resilience Ventura work and as part of the Monterey Bay Sea Level Rise Vulnerability Assessment. To accomplish the modeling and mapping tasks, there are several subtasks with interim deliverables that the consultant will deliver:

5.1 Backshore Inventory
The consultant will develop a backshore inventory that includes parameters necessary to drive the coastal hazards model. The inventory will be an update of the initial baseline developed for the Pacific Institute study (Revell et al 2011) and

consistent with the Phase 1 Santa Barbara County Coastal Resilience Project. The inventory will be an offshore baseline segmented at a maximum of 500 meters (~1500 feet) spacing ("blocks") to conduct the coastal modeling at a scale appropriate to decision making. In areas of smaller geological units or backshore type (e.g. pocket beaches), the block distance may be smaller. Each block will be assigned a set of parameters including backshore type (dune/cliff/inlet), presence of coastal armoring, geology, erosion rates, median/minimum toe elevations, dune/cliff crest elevation, beach slope, foreshore slope, and the 100-year total water level.

The consultant will utilize available LIDAR including the State funded LIDAR (2010/11), the NOAA, NASA, USGS LIDAR (1997 and 1998), and potentially other relevant topographic data sets. The consultant will also use readily available offshore depth data sets and interpolate between LIDAR and underwater depths, as appropriate. Readily available nearshore profile data from BEACON will be reviewed to inform the profile generation. The consultant will analyze a range of beach profiles from multiple seasons, at 300-foot spacing along the shoreline, and extract the following information:

1. Beach slopes (important for calculating wave run-up);
2. Backshore toe elevation (important for calculating erosion potential); and
3. Crest elevation (important for calculating wave overtopping and flooding).

This geomorphic information will be included in the backshore inventory layer.

5.1.1 Erosion Rates

The consultant will update the USGS National Assessment of Shoreline Change data (USGS 2006) for the study area using shoreline and cliff reference features extracted from the 2009-2011 State LIDAR data using the Digital Shoreline Analysis System from the USGS. This task will also compile existing erosion rates for sandy shorelines and cliff backed shorelines throughout the Phase 2 study area to provide ground-truth data for comparison with the updated USGS data.

5.1.2 Coastal Armoring Database

The consultant will start with the Coastal Commission shoreline armoring data set (Dare 2006) available for both the Phase 1 and Phase 2 study reaches. We will solicit input on structures from stakeholders and receive and compile changes based on the jurisdictions input and any available surveyed data. The consultant will spatially register all existing armoring (using Coastal Commission geodatabase methods for Monterey). The consultant will QA, QC LIDAR data based on surveyed elevation data of parking lots from Cities and County (to try and correct any bias that would affect LIDAR measurements of crest elevations. Finally, we will attribute the crest elevation from LIDAR if surveyed data is unavailable.

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Deliverables for all of Task 5.1 Tasks:

(1) GIS shapefiles with metadata of backshore inventory attributed with geomorphic and erosion rate data[6];
(2) Mean High Water shoreline and cliff edge extracted from the most recent LIDAR data;
(3) Shapefiles for EXISTING CONDITIONS extents of cliff, dune, and coastal flooding hazards that include consideration for existing coastal armoring and water control infrastructure; and
(4) Updated coastal armoring data shapefiles with spatially explicit location information with an attribute for the best available crest elevation.

5.2 Wave Transformations

The complex setting of the Santa Barbara County north coast with Point Arguello and the multitude of reefs north of Point Conception require that wave transformation modeling be conducted to provide accurate wave conditions along the variety of shoreline orientations.

The consultant will leverage its existing wave transformation modeling initially developed for Santa Barbara County Phase 1. This existing SWAN model will be further calibrated with available offshore buoy observations. This model uses the same fine-scale modeling grid previously developed by the USGS. The consultant will work with the County staff to select the nearshore transformed wave data extraction points (also known as "model output points" or MOPs). Input wave data will consist of the USGS Global Climate Model (GCM) outputs consistent with details worked out with the USGS during Phase 1. The consultant will continue coordination with USGS during the ongoing COSMOS 3.0 work. This will also facilitate the incorporation of results into the existing web mapping decision support tool.[7]

Deliverables:

(1) Output files for time series of total water levels; and
(2) Output files for inland extent of wave run-up and maximum wave run-up elevations.

5.3 Mapping Future Coastal Hazards

The consultant will model the impacts of storm waves and SLR onto the shoreline at 10-year time steps. The modeling will evaluate three scenarios (low, medium, and high) consistent with State and Federal guidance and the Coastal Commission's "DRAFT guidance on sea level rise," and the final guidance once approved by the Coastal Commission. These scenarios and modeling approaches will use a total water level approach and be consistent with the Phase 1 project and the methodology used in Coastal Resilience Ventura. These scenarios will include relevant tectonics, changes to wave climate, and sea level rise scenarios.

[6] Geomorphic data refers to the interpreted LIDAR data sets including toe and crest elevations, and beach slopes that are used in the modeling and analysis.
[7] www.coastalresilience.org

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Output GIS shapefiles will be generated for multiple planning horizons (2010, 2030, 2060, and 2100). The modeling, as mentioned above, will generate hazard zones which will include:

- Short-term, storm-induced erosion;
- Long-term or multi-year erosion;
- Coastal flooding from storms;
- Coastal inundation; and
- Wave impact zone.

In addition, a spatial aggregation method is used to provide spatial representation to the range of relative risk and uncertainties.

Deliverables:

(1) GIS shapefiles and metadata for each of the coastal erosion, coastal inundation, coastal flooding, and wave impacts.

5.4 Mapping Coastal Hazards with Existing Armoring

Existing coastal armoring in Santa Barbara County will be represented geospatially with characteristics as described in Task 5.1.2. While the scope does not include armoring in the City of Santa Barbara, the consultant anticipates integrating their deliverables with those developed by the City to provide a seamless mapping of future hazard scenarios. Hazard mapping will be provided for existing, 2030, 2060, and 2100 time horizons.

By 2060, the time span is long enough to result in degradation of coastal armoring if not adequately maintained. Also, higher sea levels and narrower beaches will likely increase the loadings on coastal structures, indicating that renovation or even reconstruction may be needed to accommodate increased loadings. Therefore, a qualitative assessment of armoring condition relative to future conditions loadings will be conducted. Hazard modeling and mapping can then proceed for the 2060 and 2100 time horizon. The consultant will develop and apply a Seawall Index (SWI) that can provide a numeric ranking of structure capacity to prevent erosion. The consultant anticipates building upon the work of Patrick et al, 2006 who developed the SWI for existing conditions. The consultant will use available information developed in the base scope, including the future coastal hazards mapping, to assess the likelihood of structure failure. The consultant will then review their assessment with the County, Coastal Commission staff, and local jurisdictions to modify the likelihood of failure based on their perception whether the individual structures would be maintained and improved to prevent failure or removed.

Deliverables:

(1) GIS shapefiles and metadata for the suite of hazard zones with existing armoring representing the 2030, 2060 and 2100 planning horizons.

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5.5 Spatial Aggregation/Relative Risk
Due to the wide range of uncertainties associated with sea level rise and increasing hazards a spatial aggregation method will be used provide to spatially represent the range of relative risk and uncertainties. This is done by calculating hazard extents for all of the scenarios by planning horizon. For each planning horizon, all of the hazards are overlapped and the number of overlaps are counted. The number of overlaps are attributed to this spatial aggregation layer and illustrate the relative risk based on the frequency of overlapping hazards.

Deliverables:
(1) GIS shapefiles and metadata for two spatial aggregation/relative uncertainty layers (with and without armoring) for each planning horizon.

Task 5.6 Technical Methods Report
The methodology, specific methods and assumptions along with examples of the output data sets will be written up in a technical methods report.

Deliverables:
(1) Technical methods report which describes the specific methods and assumptions for the modeling and mapping of the coastal erosion, tidal inundation, coastal flooding, and wave impact hazards.

Task 6. Analyze Social, Economic, and Ecological Conditions

The mapping application (Task 5) will allow planners, decision makers, and stakeholders to analyze social, economic, and ecological conditions and their relative vulnerability to coastal hazards. This web mapping tool can simplify complex relationships through visual spatial display to convey a specific ecological or social concept, or compare different future sea level rise and storm surge condition scenarios.

Available habitat data will be collected and displayed along with different SLR scenarios. These maps will be helpful to illustrate the coastal habitat's relative vulnerability to coastal hazards and to help illustrate coastal habitat's natural ability to protect human communities. The mapping application can help identify where marshes may have the highest potential to reduce risk to people and property, allowing them to examine different conservation and restoration scenarios.

Census block demographic data can be combined with economic data to identify the potential economic damage of future SLR and floods based on the present-day economic landscape. Adequate information on the risks of coastal hazards, the community's vulnerability to them, economic exposure, potential loss of coastal infrastructure from storms and SLR, and environmental conditions is important data for planners, decision-makers and stakeholders to look at when making land use decisions.

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Deliverables:
(1) Social, Economic, and Ecological Conditions Maps

Task 7. ~~Prepare a~~ Update the Coastal Hazard Vulnerability Assessment
The two databases (Task 3 and Task 4), mapping tools (Task 5), and social, economic, and ecological conditions analysis (Task 6) will be helpful in updating the County's Coastal Hazard Vulnerability Assessment for the north coast of Santa Barbara County. The consultant will support the County to outline the vulnerability approach then to interpret the results of the modeling and mapping, and provide interpretative input and review of the resulting analysis to include in the update to the existing Vulnerability Assessment by the County. The report will include an assessment of vulnerability of all relevant Coastal Act resources to sea level rise. As part of the development of the Coastal Hazard Vulnerability Assessment, the County will share a scope of work, outline, and draft with the Coastal Commission staff for review during regular coordination meetings. The County and the Commission will work together through iterative exchange of comments to identify adaptation strategies and to develop the final report.

There will be a community engagement process that includes a project website, media outreach and news releases, social media outlets, and the identification of key stakeholders to review the County's Coastal Hazard Vulnerability Assessment. Stakeholder engagement is a crucial piece that will contribute to the Coastal Hazard Vulnerability Assessment, help identify adaptation strategies, and provide input on new and enhance existing LCP policies.

In addition to UCSB, potential stakeholder groups include but are not limited to: Caltrans, Southern Pacific Railroad, California State Parks, Santa Barbara County Association of Governments, California Coastal Conservancy, local Chambers of Commerce, Environmental Defense Center, Heal the Ocean, Surfrider, Citizens Planning Association, Urban Creeks Council, Santa Barbara Channelkeeper, and BEACON.

Deliverables:
(1) Draft and final Update to the County of Santa Barbara Coastal Hazard Vulnerability Assessment.
(2) Incorporation of stakeholder and Coastal Commission comments into Vulnerability Assessment.

B.2 Local Coastal Program Amendment

Task 8. LCP ~~Amendment~~ Community Stakeholder Meetings ~~and~~ Workshops
The County will lead a series of public project meetings with key stakeholders (listed in Task 7 with the addition of staff from the incorporated Cities in Santa Barbara County) to identify adaptation strategies and provide input on new and enhance existing LCP policies. The County will qualitatively evaluate the costs and benefits of potential adaptation strategies. The costs and benefits assessment will evaluate the

ability of adaptation strategies to protect coastal resources, protect California's most vulnerable populations, reduce greenhouse gas emissions, and achieve multiple benefits. A quantitative evaluation of the costs and benefits of potential adaptation strategies will be part of a future work effort that will include additional stakeholder meetings and public workshops. Up to four public project meetings are anticipated.

As part of this task, the County will coordinate and share information and lessons learned as appropriate with other LCP planning grant recipients, regional local governments, and other entities, as appropriate. This includes participating in webinars, regional workshops and other events, and scheduling coordination meetings as needed. Additionally, the County and staff from the incorporated Cities in Santa Barbara County and UCSB meet periodically as part of a regional sea level rise working group to discuss local planning efforts dealing with sea level rise and other coastal hazards.

Deliverables:

(1) Public stakeholder meeting minutes and sign-in sheets;
(2) Stakeholder contact list; and
(3) Qualitative adaptation strategy assessment.

Task 9. Develop New and Enhance Existing Coastal Hazard Policies

County staff and stakeholders will review the Coastal Hazard Vulnerability Assessment to identify future areas of concerns and discuss new and enhance existing coastal development and adaptation policies that integrate social, ecological and economic considerations to address coastal hazards. The County's LCP would be updated, specifically the Coastal Land Use Plan and future Community Plan efforts, to include the proposed new policies and enhanced existing LCP policies to address impacts from coastal hazards. Potential policies and regulations County Planning and Development staff will consider incorporating in the LCP update include: restricting development in high risk areas; conditioning development on improved coastal construction standards, identifying bluff erosion setbacks; identifying areas appropriate for managed retreat as implemented through rolling easements; protection, restoration, and enhancement of coastal resources; and maintaining public access to beaches and the coastline including coastal trails. These new and enhanced existing policies would be consistent with the California Coastal Commission's Sea Level Rise Policy Guidance, NOAA's Coastal Zone Management Program, the State of California' Sea Level Rise Guidance Document, the Safeguarding California Plan for Reducing Climate Risk, and the Resolution of the California Ocean Protection Council on Sea Level Rise. The County's Coastal Zoning Ordinance would be updated to include development and land use regulations in a proposed Coastal Hazard Overlay Zone to guide the form and intensity of new and remodeled projects to moderate coastal hazard risks. Lastly, the Coastal Resiliency Project would build upon the County's Multi-Jurisdictional Hazard Mitigation Plan updated for FEMA and Cal EMA in 2011.

Preference will be given to adaptation measures that adhere to the *Safeguarding California Plan for Reducing Climate Risk* principles, including measures that protect

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California's most vulnerable populations, achieve multiple benefits from efforts to reduce climate risks and prioritize green infrastructure solutions, and that integrate climate risk reduction with emissions reductions to the fullest extent possible.

Deliverables:

(1) Prepare Draft LUP~~LCP~~ Amendment

Task 10. Coastal Commission Coordination and Review

10.1 Coordination with Coastal Commission

The County will hold regular coordination meetings (phone or in-person) with Coastal Commission district staff as needed.

*10.2 Commission Review of the Initial Draft **LUP**~~LCP~~ Amendment*

The County will provide an initial draft of the **LUP**~~LCP~~ amendment to Coastal Commission district staff for review and comments prior to environmental review, public hearings, and any formal LCP amendment submittal. The County will submit the initial draft **LUP**~~LCP~~ amendment documents (text, maps, and/or exhibits) to the Coastal Commission staff in paper hardcopy as well as an electronic copy in permanent format (such as an Adobe Acrobat .pdf file) and one electronic copy in an editable format (such as in Microsoft Word .doc). The County and Commission staff will exchange drafts and comments through an iterative review process prior to completing the Draft **LUP**~~LCP~~ amendment.

*10.3 Preparation of the Draft **LUP**~~LCP~~ Amendment*

The County will prepare the Draft **LUP**~~LCP~~ Amendment pursuant to the iterative review and feedback process with Commission staff.

10.4 Development of Draft Implementation Plan

The County will develop Implementation Plan material (e.g., zoning ordinance amendments, guidelines for site-specific analysis, etc.) following iterative review between County and Coastal Commission staff.

Deliverables:

(1) Prepare Draft LUP Amendment pursuant to iterative review and feedback process with Commission staff

Prepare Draft Implementation Plan pursuant to iterative review and feedback process with Commission staff

Task 11. Environmental Review

Amendments to the LCP will undergo environmental review. ~~An initial study will be conducted for the proposed LCP policies.~~ It is anticipated that the proposed LCP policies will have impacts that are beneficial to the environment therefore a mitigated

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negative declaration or environmental impact report would not be warranted~~.~~, **but the County will determine the proper compliance route under CEQA.**

Deliverables:

(1) County CEQA Environmental Review / Determination (Categorical Exemption)

Task 12. Decision Maker Hearings

The findings and new and enhanced existing policies would be presented to decision makers in public hearings, allowing for further public input. The County must notify the public of hearings and availability of review drafts at least 6 weeks before final adoption of the **LUP**~~LCP~~ amendment (14 CCR 13515(c)). Three decision-maker hearings are anticipated, these hearings include the Montecito Planning Commission, County Planning Commission and the Board of Supervisors. The County will review changes to the **LUP**~~LCP~~ Amendment from the decision maker hearings with Commission staff through an iterative exchange of comments as needed.

Deliverables:

(1) Planning Commission resolution
(2) Board of Supervisors resolution

Task 13. Formal LUP~~LCP~~ Amendment Submittal to Coastal Commission

After decision-maker hearings, County staff will submit the **LUP**~~LCP~~ Amendment to the California Coastal Commission (CCC) for approval, in compliance with the LCP amendment submittal requirements of the Coastal Act and the California Code of Regulations. The County will submit the locally-approved **LUP**~~LCP~~ amendment documents (text, maps, and/or exhibits) to the Coastal Commission staff in paper hardcopy as well as an electronic copy in permanent format (such as an Adobe Acrobat .pdf file) and one electronic copy in an editable format (such as in Microsoft Word .doc).

Deliverables:

(1) Submittal of the locally-approved LUP amendment documents to the Coastal Commission

Task 14. Post-Grant Coordination and Certification Process

Once the County's LCP Amendment has been approved by the California Coastal Commission, County staff will present the approved LCP Amendment to the Board of Supervisors for final acceptance of any suggested modifications by the Commission. Lastly, County staff will incorporate the LCP Amendments, as certified by the CCC, into the Coastal Land Use Plan and Coastal Zoning Ordinance documents and provide Commission staff with an electronic copy of the final documents.

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C. SCHEDULE

Project begin/end dates: Start Date: 6/16/2015 End Date: ~~4/30/2017~~ **12/31/2017**

Santa Barbara Coastal Resiliency Project	Begin Date: 6/16/15 End Date: ~~4/30/17~~ **12/31/2017**
Task 1. Project Kick-off Meeting	Begin Date: 6/16/15 End Date: 5/15/16
Task 2. Modeling and Mapping Stakeholder Meetings	Begin Date: 7/1/15 End Date: 9/30/16
Deliverables: **(1) Meeting minutes; and** **(2) Stakeholder contact list.**	**End Date: 9/30/16**
Task 3. Populate Regional Resource Database	Begin Date: 7/1/15 End Date: 9/15/15
3.1 Compile and review existing coastal armoring data	Begin Date:7/1/15 End Date: 8/31/15
3.2 Collect demographic information (e.g. age and income) using Census block data from the US Census Bureau	Begin Date:7/1/15 End Date: 8/31/15
3.3 Gather critical infrastructure information through spatial analysis of aerial photos or utilizing existing County GIS data. Physical obstacles (e.g. roads and buildings) which can prevent wetlands from moving landward will also be included in this database.	Begin Date: 7/1/15 End Date: 8/31/15
3.4 Pull together current economic data and future economic forecast information provided by County Executive Office staff and UCSB researchers	Begin Date: 7/15/15 End Date: 8/31/15
3.5 Collect coastal habitat data (e.g. wetlands, rock reefs, and kelp beds) through research, reviewing existing biological reports, and spatial analysis	Begin Date: 7/15/15 End Date: 8/31/15
3.6 Convert Excel database into GIS format	Begin Date: 8/31/15 End Date: 9/15/15
~~Outcome~~ **Deliverables** – Resource Database Excel Spreadsheet Shapefiles for existing conditions; Updated coastal armoring data shapefile	Completion Date: 9/15/15
Task 4. Update to Existing Policy and Planning Tool Database	Begin Date: 8/1/15 End Date: 8/31/15
~~Outcome~~ **Deliverables** – Updated Policy and Planning Tool Database	Completion Date: 8/31/15
Task 5. Model and Map Coastal	Begin Date: 9/1/15 End Date: 5/15/16

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Hazards for Climate Scenarios ~~Multiple Coastal Hazards~~	
5.1 Backshore Inventory	Begin Date: 9/1/15 End Date: 12/31/15
5.1.1 Erosion Rates	Begin Date: 9/1/15 End Date: 3/31/16
5.1.2 Coastal Armoring Database – North and South Coast	Begin Date: 9/1/15 End Date: 3/31/16
5.2 Wave Transformations	Begin Date: 9/1/15 End Date: 3/31/16
5.3 Mapping Future Coastal Hazards	Begin Date: 9/1/16 End Date: 5/15/16
5.4 Mapping Future Coastal Hazards Existing Armoring	Begin Date: 9/1/16 End Date: 5/15/16
5.5 Spatial Aggregation/Relative Risk	Begin Date: 9/1/16 End Date: 5/15/16
5.6 Technical Report	Begin Date: 9/1/16 End Date: 5/15/16
~~Outcome~~ **Deliverables** – GIS Shapefiles and metadata **for subtasks 5.1 through 5.6 including output files for subtask 5.2 and technical method report for subtask 5.6**	Completion Date: 5/15/16
Task 6. Analyze Social, Economic, and Ecological Conditions	Begin Date: 9/1/15 End Date: 9/30/16
6.1 Map habitat data with different sea level rise scenarios based on variables of accretion, erosion, land use/cover, elevation, and projected sea level	Begin Date: 9/1/15 End Date: 9/30/16
6.2 Map Census block demographic data combined with economic data to forecast the potential economic damage of future SLR and floods based on present-day economic landscape	Begin Date: 9/1/15 End Date: 5/13/16
6.3 Analyze Social, Economic, and Ecological Conditions	Begin Date: 2/1/16 End Date: 9/30/16
~~Outcome~~ **Deliverables** – Social, Economic, and Ecological Conditions Maps	Completion Date: 9/30/16
Task 7. Update the Coastal Hazard Vulnerability Assessment	Begin Date: 9/1/15 End Date: 9/30/16
7.1 Collect information on historical vulnerability and damage from coastal hazards in the County	Begin Date: 9/1/15 End Date: 5/31/16
7.2 Incorporate the historic coastal hazard event and erosion rate data for the County's northern coastline into the existing Coastal Hazard Vulnerability Assessment. Long and short-term projected data for future coastal hazards	Begin Date: 9/1/15 End Date: 5/31/16

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events and erosion rate data used in the coastal hazard modeling effort will also be utilized	
7.3 Describe the results from the analysis (Task 5 and Task 6) of existing GIS parcel, infrastructure, and ecological data and how coastal resources and priority uses addressed in County's Local Coastal Program will be affected by coastal hazards. These coastal resources and priority uses in the analysis include but are not limited to: public access-ways, recreation sites, environmentally sensitive habitat areas, agricultural areas, new and existing development, coastal-dependent uses, and critical infrastructure.	Begin Date: 4/1/16 End Date: 9/30/16
7.4 Utilize the previously developed community engagement process that includes media outreach and news releases, social media outlets, and key stakeholders to review the updated County Coastal Hazard Vulnerability Assessment	Begin Date: 8/1/16 End Date: 9/30/16
7.5 Continue working with key County Departments to provide input on the updated County Coastal Hazard Vulnerability Assessment	Begin Date: 8/1/16 End Date: 8/31/16
~~Outcome~~ **Deliverables – Draft and Final** Santa Barbara County Coastal Hazard Vulnerability Assessment**; incorporation of stakeholder and Coastal Commission staff comments**	Completion Date: 9/30/16
Task 8. LCP Community Stakeholder Meeting and Workshops	Begin Date: 8/1/15 End Date: 9/30/16
8.1 Hold workshops to develop new and enhance existing coastal hazard policies and adaptation strategies	Begin Date: 8/1/15 End Date: 9/30/16
~~Outcome~~**Deliverables** – ~~Report on Stakeholder Input~~ **Public stakeholder meeting minutes and sign-in sheets; Stakeholder contact list; and Qualitative adaptation strategy assessment**	Completion Date: 9/30/16
Task 9. Develop New and Enhance Existing Coastal Hazard Policies	Begin Date: 8/1/15 End Date:10/31/16
9.1 Review existing coastal development	Begin Date: 8/1/15 End Date: 8/31/15

EXHIBIT B1

and adaptation strategies	
9.2 Preparation of draft ~~LCP~~**LUP** Amendment/Update to ~~LCP~~**LUP** by creating new and enhancing existing coastal hazard policies, implementation measures, and adaptation strategies. County staff shall coordinate with Commission staff on a regular basis. Commission staff will provide review and feedback on draft policies and implementation measures for use by the County in its preparation of the draft ~~LCP~~ **LUP**Amendment.	Begin Date: 9/1/15 End Date: 9/30/16 (Note: Although initial Commission review/feedback will occur during the development and preparation of the draft ~~LCP~~**LUP** amendment, Commission review and feedback will continue through the end of grant term.)
~~Outcome~~**Deliverables** – Prepare Draft **LUP** ~~LCP~~ Amendment	Completion Date: 10/31/16
Task 10. Coastal Commission Coordination and Review	Begin date: 6/16/15 End Date: ~~4/30/17~~ **12/31/2017**
10.1 Coordination with Coastal Commission	As needed. Begin date: 6/16/15 End Date: ~~4/30/17~~ **12/31/2017**
10.2 Commission Review of the Initial Draft **LUP**~~LCP~~ Amendment	Begin date: 8/1/15 End Date: ~~10/1/16~~**12/31/2017*** *Commission review and feedback will continue after initial review until end of grant term.
10.3 Preparation of the Draft **LUP**~~LCP~~ Amendment	Completion Date: ~~10/31/16~~ **6/30/2017**
10.4 Development of Draft Implementation Plan	**Begin Date: 04/01/2017** **End Date: 12/31/2017**
~~Outcome~~**Deliverables** – Prepare Draft **LUP**~~LCP~~ Amendment **and Draft Implementation Plan** pursuant to the iterative review and feedback process with Commission staff	Completion Date: ~~10/31/16~~ **12/31/2017**
Task 11. Environmental Review	Begin Date: 10/31/16 End Date: ~~1/3/17~~ **7/31/2017**
11.1 Environmental review	Begin Date: 10/31/16 End Date: ~~1/3/17~~ **7/31/2017**
11.2 Continue coordination with California Coastal Commission staff to address any potential changes to Draft LCP Amendment	Begin Date: 10/31/16 End Date: ~~1/3/17~~ **7/31/2017**
~~Outcome – Initial Study resulting in CEQA Exemption or Negative Declaration~~ **Deliverable: County CEQA**	Completion Date: ~~1/3/17~~ **7/31/2017**

EXHIBIT B1

Environmental Review/Determination (Categorical Exemption)	
Task 12. Decision Maker Hearings	Begin Date: 1/3/17 End Date: ~~4/24/17~~ **12/31/2017**
12.1 Present Coastal Hazards **LUP**~~LCP~~ Amendment to the Montecito and County Planning Commissions	Begin Date: ~~1/3/17~~ **7/1/2017** End Date: ~~3/31/17~~ **10/31/2017**
12.2 Present Coastal Hazards **LUP**~~LCP~~ Amendment to the Board of Supervisors	Begin Date: ~~4/1/17~~ **11/1/2017** End Date: ~~4/21/17~~**12/5/2017**
12.3 Continue coordination with California Coastal Commission staff to address any potential changes to Draft **LUP**~~LCP~~ Amendment	Begin Date: 1/3/17 End Date: ~~4/24/17~~ **12/31/2017**
~~Outcome~~/Deliverables – Planning Commission and Board of Supervisors Resolutions	Completion Date: ~~4/24/17~~ **12/31/2017**
Task 13. Submittal of Coastal Hazard LUP~~LCP~~ **Amendment to California Coastal Commission**	Begin Date: ~~4/1/17~~ **12/5/2017** End Date: ~~4/30/17~~ **12/31/2017**
13.1 Submit Coastal Hazards **LUP**~~LCP~~ Amendment to Coastal Commission Staff	Completion Date: ~~4/30/17~~ **12/31/2017**
~~Outcome – Coastal Hazard LCP Amendment~~ **Deliverables - Submittal of the locally-approved LUP amendment documents to the Coastal Commission**	Completion Date: ~~4/30/17~~ **12/31/2017**
Task 14. Post-Grant Coordination and Certification Process	Post-Grant Coordination
14.1 Continued coordination with Coastal Commission staff prior to Coastal Commission Hearing	Post-Grant Coordination
14.2 Present Coastal Commission Recommendations for the Coastal Hazard LCP Amendment to the Board of Supervisors for Approval	Post-Grant Coordination
14.3 Incorporate Adopted Coastal Hazard Amendments in the County LCP	Post-Grant Coordination
~~Outcome - Certified Coastal Hazard LCP Amendment~~	~~Post-Grant Coordination~~

D. BENCHMARK SCHEDULE

BENCHMARK SCHEDULE

ACTIVITY	COMPLETION DATE
Regional database for social, economic,	Completion Date: 9/15/15

EXHIBIT B1

coastal armoring, water control structures, and ecological resources	
Coastal Hazard Modeling	Completion Date: 5/15/16
Social, economic, and ecological conditions and their relative vulnerability to coastal hazards analysis	Completion Date: 9/30/2016
Coastal Hazard Vulnerability Assessment	Completion Date: 9/30/2016
Community Stakeholder Workshops	Completion Date: 9/30/2016
LUP~~LCP~~ Amendment (**first draft)**	Completion Date: ~~10/31/16~~ **11/30/2016**
Draft LUP Amendment pursuant to the iterative review and feedback process with Commission staff	**12/31/2017**
Draft IP pursuant to the iterative review and feedback process with Commission staff	**12/31/2017**
Environmental Review	Completion Date: ~~1/3/17~~ **7/1/2017**
Board of Supervisors Hearing	Completion Date: ~~4/24/17~~ **12/5/2017**
LUP~~LCP~~ Amendment Application Submittal	Completion Date: ~~4/30/17~~ **12/31/2017**
Coastal Commission Certification	Post-Grant

E. EVALUATION AND REPORTING

a. The Grantee shall promptly provide Project reports with payment requests at least every three months, and upon request by the Commission. Project reports are subject to the Coastal Commission Executive Director's review and approval. The Project report shall include a description of work tasks and deliverables completed to date, and a description of completed benchmarks, or progress toward completing benchmarks. In any event Grantee shall provide the Commission a report showing total final Project expenditures with the final Request for Funds and required closing documents. Grantee shall submit all documentation for Project completion, as applicable, and final reimbursement by the Termination Date

b. Final payment is contingent upon Commission verification that Project is consistent with the Scope of Work as described in Exhibit B1, together with any Commission approved amendments.

c. Grantee must report to the Commission in the Project Budget all sources of other funds for the Project.

EXHIBIT B1

F. BUDGET

LABOR COSTS						
Position Title	Hourly Rate (salary plus benefits, incl. fringe benefits- see guidelines [1]	*# of Hours*	***CCC Total (# of hours x rate per hour)***	***OPC Total (# of hours x rate per hour)***	***Match/ Other Funds***	***Total (LCP Grant Funds + Match/ Other Funds)***
Task 1 – Project Kick-off Meeting						
County Staff as needed					$568.75	$568.75
Total Task 1			**$0.00**	**$0.00**	**$568.75**	**$568.75**
Task 2 – Modeling and Mapping Stakeholder Meetings						
County Staff as needed					$1,199.64	$1,199.64
Total Task 2			**$0.00**	**$0.00**	**$1,199.64**	**$1,199.64**
Task 3 – Update Populate Regional Resource Database						
County Staff as needed					$4,260.41	$4,260.41
Total Task 3			**$0.00**	**$0.00**	**$4,260.41**	**$4,260.41**
Task 4 – Update Policy and Planning Tool Database						
County Staff as needed				$1,964.90		$1,964.90
Total Task 4			**$0.00**	**$1,964.90**	**$0.00**	**$1,964.90**
Task 5 – Model and Map Coastal Hazards for Climate Scenarios						
County Staff as needed				$1,902.00		$1,902.00
Total Task 5			**$0.00**	**$1,902.00**	**$0.00**	**$1,902.00**
Task 6 – Analyze Social, Economic, and Ecological Conditions						
County Staff as needed					$4,948.83	$4,948.83
Total Task 6			**$0.00**	**$0.00**	**$4,948.83**	**$4,948.83**
Task 7 – Prepare a Update the Coastal Hazard Vulnerability Assessment						
County Staff as needed				$12,319.10		$12,319.10
Total Task 7			**$0.00**	**$12,319.10**	**$0.00**	**$12,319.10**
Task 8 – LCP Amendment Community Stakeholder Meeting and Workshops						
County Staff as needed					$2,984.32	$2,984.32
Total Task 8			**$0.00**	**$0.00**	**$2,984.32**	**$2,984.32**
Task 9 – Develop New and Enhance Existing Coastal Hazard Policies						
County Staff as needed			$8,000.00	$1,274.58	$4,931.65	$14,206.23

EXHIBIT B1

Total Task 9			**$8,000.00**	**$1,274.58**	**$4,931.65**	**$14,206.23**
Task 10 – ~~Environmental Review~~ Coastal Commission Coordination and Review						
County Staff as needed				**$15,539.42**	$11,999.07	~~$11,999.07~~ **$27,539.49**
Total Task 10			**$0.00**	~~**$0.00**~~ **$15,539.42**	**$11,999.07**	~~**$11,999.07**~~ **$27,539.49**
Task 11 – ~~Decision Maker Hearings~~ Environmental Review						
County Staff as needed				~~$15,539.42~~ **$0.00**		~~$15,539.42~~ **$0.00**
Total Task 11			**$0.00**	~~**$15,539.42**~~ **$0.00**	**$0.00**	~~**$15,539.42**~~ **$0.00**
Task 12 - ~~Coastal Commission Certification~~ Decision Maker Hearings						
County Staff as needed					$13,836.70	$13,836.70
Total Task 12			**$0.00**	**$0.00**	**$13,836.70**	**$13,836.70**
Total Labor Costs			**$8,000.00**	**$33,000.00**	**$44,729.37**	**$85,729.37**
OTHER DIRECT COSTS						
Expense	*Unit Rate/Cost*	*# of Units*	***CCC Grant Funds (Unit Rate x # of Units)***	***OPC Total (# of hours x rate per hour)***	***Match/Other Funds (Source #2)***	***Total (LCP Grant Funds + Match/ Other Funds)***
Project Supplies						
Postage/Shipping			$0.00	$0.00		$0.00
Supplies/Materials			$0.00	$0.00		$0.00
Total			***$0.00***	***$0.00***		**$0.00**
Travel In State[2]						
Mileage			$0.00	$0.00	$0.00	$0.00
Hotel, etc.			$0.00	$0.00	$0.00	$0.00
Total			***$0.00***	***$0.00***	***$0.00***	***$0.00***
Subcontractors[3]						
Task 1 - Project Kick-off Meeting						
Consultant			$0.00	$1,200.00	$0.00	$1,200.00
Total Task 1			**$0.00**	**$1,200.00**	**$0.00**	**$1,200.00**
Task 2 - Modeling and Mapping Stakeholder Meetings						
Consultant			$0.00	$7,975.91	$0.00	$7,975.91
Total Task 2			**$0.00**	**$7,975.91**	**$0.00**	**$7,975.91**
Task 3 – ~~Update~~ Populate Regional Resource Database						
Consultant			$0.00	$300.00	$0.00	$300.00
Total Task 3			**$0.00**	**$300.00**	**$0.00**	**$300.00**

EXHIBIT B1

Task 4 – Update Policy and Planning Tool Database						
Consultant			$0.00	$0.00	$0.00	$0.00
Total Task 4			**$0.00**	**$0.00**	**$0.00**	**$0.00**
Task 5 – Model and Map Coastal Hazards for Climate Scenarios						
Consultant For subtasks 5.1-5.6			$0.00	$112,892.25	$0.00	$112,892.25
Project Management				$5,172.50		$5,172.50
5% Subconsultant Mark-up on Labor				$4,151.00		$4,151.00
Expenses				$1,875.84		$1,875.84
Contingency					$10,011.00	$10,011.00
Total Task 5			**$0.00**	**$124,091.59**	**$10,011.00**	**$134,102.59**
Task 6 – Analyze Social, Economic, and Ecological Conditions						
Consultant			$0.00	$0.00	$0.00	$0.00
Total Task 6			**$0.00**	**$0.00**	**$0.00**	**$0.00**
Task 7 – Prepare & Update the Coastal Hazard Vulnerability Assessment						
Consultant			$0.00	$8,432.50	$0.00	$8,432.50
Total Task 7			**$0.00**	**$8,432.50**	**$0.00**	**$8,432.50**
Task 8 – LCP Amendment Community Stakeholder Meeting and Workshops						
Consultant			$0.00	$0.00	$0.00	$0.00
Total Task 8			**$0.00**	**$0.00**	**$0.00**	**$0.00**
Task 9 – Develop New and Enhance Existing Coastal Hazard Policies						
Consultant			$0.00	$0.00	$0.00	$0.00
Total Task 9			**$0.00**	**$0.00**	**$0.00**	**$0.00**
Task 10 – Environmental Review, Coastal Commission Coordination and Review						
Consultant			$0.00	$0.00	$2,260.00	$2,260.00
Total Task 10			**$0.00**	**$0.00**	**$2,260.00**	**$2,260.00**
Task 11 – Decision Maker Hearings, Environmental Review						
Consultant			$0.00	$0.00	$0.00	$0.00
Total Task 11			**$0.00**	**$0.00**	**$0.00**	**$0.00**
Task 12 – Coastal Commission Certification, Decision Maker Hearings						
Consultant			$0.00	$0.00	$0.00	$0.00
Total Task 12			**$0.00**	**$0.00**	**$0.00**	**$0.00**
		Total subcontractors	**$0.00**	**$142,000.00**	**$12,271.00**	**$154,271.00**
		Total Direct Costs	**$0.00**	**$142,000.00**	**$12,271.00**	**$154,271.00**
OVERHEAD / INDIRECT COSTS[4]			**$0.00**	**$0.00**	**$0.00**	**$0.00**
TOTAL PROJECT COST			**$8,000**	**$175,000**	**$57,000**	**$240,000**

EXHIBIT B1

[1] Amount requested for benefits not to exceed 40% of amount requested for salary or wage.
[2] Travel reimbursement rates are the same as similarly situated state employees.
[3] All subcontractors must be selected pursuant to a competitive bidding process that seeks at least three (3) bids from responsible bidders.
[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 Personnel."