Final Work Program, Schedule and Budget
City of Del Mar
Local Coastal Program Amendment to Address Sea-Level Rise

Organization:	**City of Del Mar, Planning and Community Development Department**
Contact:	**Joseph Smith, AICP, Senior Planner**
	Email: coastalplanning@delmar.ca.us
	Phone: (858) 755-9313
Term of Project:	**April 16, 2015 to April 30, 2017**
Project Cost:	**$200,000**
	$100,000 Funding, Ocean Protection Council Grant Award
	$ 77,794 Funding, City of Del Mar General Fund
	$ 22,206 In-kind services, City of Del Mar

I. PROJECT DESCRIPTION

The City of Del Mar Local Coastal Program Amendment (LCPA) will develop and incorporate retreat, protection, and accommodation strategies into its certified LCP. The LCPA will be targeted specifically on addressing sea-level rise (SLR) and coastal flooding impacts to its most vulnerable coastal resources, visitor-serving amenities, and residences. In particular, vulnerable areas include the following: 1) San Dieguito Lagoon State Marine Conservation Area (SMCA) and bordering tidelands; 2) Northern limit of the Los Peñasquitos Lagoon; 3) Del Mar Racetrack and Fairgrounds; 4) North Beach and coastal bluff at north City limit; 5) Public beach from 29th Street south to Powerhouse Park; 6) Public beach from Powerhouse Park to south City limit, including the flanking 1.5-mile coastal bluff and rail corridor; 7) Various public access points to the coast; and 8) Crest to Coast Trail, including the Lagoon Boardwalk and RiverPath Del Mar segments.

The LCPA is anticipated to add a new chapter to the LCP Implementing Ordinances (IO) specific to SLR with modifications to existing IO provisions, LCP Land Use Plan (LUP) policies, and boundaries of applicable Overlay Zones and the Post-LCP Permit and Appeal Jurisdiction Map. Corollary amendment to the City's Community (General) Plan and the Del Mar Municipal Code (DMMC) may also be required to ensure the Community (General) Plan and Municipal Code is consistent with the proposed LCPA. Technical studies will include the preparation of a Vulnerability Assessment, Risk Assessment, and Adaptation Plan. Review pursuant to the California Environmental Quality Act (CEQA) is not anticipated pursuant to Public Resources Code Section 21080.9 which exempts local governments from activities and approvals that are necessary for the preparation and adoption of an LCPA.

The City will submit all grant deliverables to the California Coastal Commission (CCC) San Diego Coast District Office and the CCC's grant coordinator. For reports and the LCPA, the City will discuss an outline or scope of work with CCC San Diego staff before commencing work, and will share drafts of reports with CCC San Diego staff for review before finalizing. The

City will work with the CCC to update work products based on an iterative exchange of comments.

The Work Program has four main objectives:

Objective 1: Understand the degree of vulnerability posed to Del Mar's beaches, lagoons, bluffs, visitor-serving amenities, and residences by examining the magnitude of risks and sensitivities associated with SLR and coastal flooding. A Vulnerability Assessment will be prepared in early 2016 using the best available science on SLR, which examines historical erosion and storm data, and creates a model of the current and projected Mean High Tide Line (MHTL). This assessment will serve as the foundation for the Update and necessary technical studies.

Objective 2: Evaluate how expected sea-level rise impacts will affect California Coastal Act resources, people, development, infrastructure, and natural resources located in areas vulnerable to sea-level rise. A Risk Assessment will be prepared in early 2016 and will prioritize areas to target with sea-level rise strategies as part of an Adaptation Plan.

Objective 3: Create an Adaptation Plan that identifies effective shoreline Accommodation, Protection and Retreat strategies through rigorous analysis of sea-level rise and community/stakeholder input. The Plan will prioritize adaptation strategies based on ability to protect coastal resources and to implement *Safeguarding California: Reducing Climate Risk* principles (see Task 3.1). Once designed in mid-2016, the Adaptation Plan will be integrated into the LCP and will serve as the City's long-range planning guide for SLR management.

Objective 4: Consolidate the findings from the prior three objectives into an updated LCPA that would include land use policies and implementation measures related to SLR and coastal flooding impacts.

II. TASKS

TASK 1: PROJECT COMMENCEMENT

Task 1.1 Issue a Request for Proposal

The City will issue a Request for Proposal (RFP) for a 43-day review period to obtain bids from consultants experienced in SLR analysis and technical assessments.

Deliverables
Confirmation of RFP posting

Task 1.2 Establish a Stakeholder-Technical Advisory Committee

The City will also establish the selection framework for a SLR Stakeholder-Technical Advisory Committee (STAC) to assist the City throughout the LCPA process. The STAC will be comprised of several stakeholders in SLR issues. Examples may include any of the following: 1) those who could be directly impacted by sea-level rise, including property owners of beachfront and bluff-top parcels and users of City beaches and trails; 2) those with a broader interest in coastal resources including citizen groups, non-profits, and regional organizations; 3) those with technical expertise in sea-level rise, dynamic modeling, and coastal engineering, including researchers and practitioners; 4) a biologist experienced in wetland preservation and restoration; 5) a representative from the 22nd District Agricultural Association and/or the North County Transit District; and 6) members from the City advisory committees (e.g., San Dieguito Lagoon Committee, Parks & Recreation Committee, and/or Sustainability Advisory Board).

Deliverables
Initial STAC roster with a preliminary meeting schedule

Task 1.3 Consultant Selection

The City and its appointed members will review RFP bids, conduct interviews, and select a consultant to assist in sea-level rise analysis and technical assessments. The selection will be presented to the City Council at a public hearing and a contract award will be authorized.

Deliverables
Executed consultant contract
Summary of consultant RFPs received and interviewed

Task 1.4 Prepare the Public Involvement Process

The City, with STAC input, will prepare a program and schedule for community meetings and stakeholder outreach to engage the broader public throughout the process. Community meetings will be coordinated in relation to each of the project benchmarks in order to assist the City in defining the Planning Area, identify potential vulnerabilities and risks, development implementation strategies and policies, and evaluate the feasibility and costs associated with those strategies and policies.

Additional stakeholder outreach will be conducted, including polling and/or citywide surveys, to encourage additional input throughout the process. As part of the outreach efforts, at minimum, in addition to CCC staff, the following groups will be invited to participate in the project: 1) Del Mar residents, businesses, and interest groups, especially those in the Planning Area; 2) Cities of Solana Beach, Encinitas, Carlsbad, and the City and County of San Diego; 3) The San Diego Foundation; 4) Surfrider Foundation, San Diego Chapter; 5) San Diego Coastkeeper; 6) San Dieguito River Valley Joint Powers Authority; 7) San Dieguito River Valley Conservancy; 8) Friends of San Dieguito River Valley; 9) Sierra Club, San Diego Chapter; 10) Scripps Institute of Oceanography, School of Marine Sciences; 11) Climate Collaborative Network; 12) San Diego

County Supervisor, District 3; 13) State Assembly Member, District 78; and 14) State Senator, District 39.

Task 1.5 Regional Coordination

Additionally, the City will coordinate and share information and lessons learned as appropriate with other LCP planning grant recipients, regional local governments, and other entities, as appropriate. The City will hold regular coordination meetings (phone or in-person) with CCC San Diego staff on a monthly basis, or as needed, throughout the duration of the project.

Deliverables
Outreach program
Schedule for community meetings

TASK 2: ASSESSMENT PREPARATION

Task 2.1 Compile Data and Existing Analyses, Determine Data and Information Gaps

Prior to initiating Tasks 2.2, 2.4 and 2.5, complete an analysis to assess all existing data and information available, including the documents identified in Task 2.4, and identify data and information gaps.

Deliverable
Gaps analysis

Task 2.2 Define the Planning Area

Conduct an extensive refinement of the preliminary Planning Area boundaries included in the grant request. The City will coordinate with the CCC's Mapping Unit on the development of maps, including maps of the Coastal Zone, Coastal Appeal Zone, and other maps as required by the Coastal Act. The following activities are anticipated to be components of this Task:

1. Create a detailed hydrodynamic model of the Planning Area to provide an accurate picture of the future floodplain based on SLR scenarios.

2. Expand beyond the baseline data provided by the Federal Emergency Management Agency (FEMA) and National Oceanic and Atmospheric Administration (NOAA) to include the following:
    a. Coastal Storm Modeling System (CoSMoS) information, including CoSMoS 3.0 once it is made available in late 2015
    b. Both coastal and river flood scenarios as an example for aggregating coastal and river flooding
    c. Historical shoreline and bluff positions and coastal armoring
    d. Wave and tide profiles
    e. Climate change data to determine baseflow and future run-off projections

f. A range of SLR projections for 2030, 2060, and 2100 including low and high values for each time period
g. Culvert outfall and surface discharge points
h. Backshore characterization (dune, inlet, cliff, and armoring) and geology
i. Potential erosion impacts of a large storm wave event
j. Shoreline, bluff, and river sedimentation
k. Wave modeling and run-up calculations

3. Establish planning horizons for years 2030, 2060 and 2100.

Deliverables
Geographic Information System (GIS) layers outlining the Planning Area as a whole, by site type, and specific sites for use

Task 2.3 STAC and Community/Stakeholder Meetings – Planning Area and Assessments

Facilitate STAC and community/stakeholder meeting(s) to obtain input on Planning Area refinement and proposed methodologies for SLR modeling.

Provide an introduction into the next task that will evaluate vulnerabilities and risks associated with SLR and obtain input.

Deliverables
STAC and community meeting reports
Stakeholder outreach reports

Task 2.4 Vulnerability Assessment Preparation

The Vulnerability Assessment (VA) serves as part of the underlying foundation for the Adaptation Plan (Task 3) and the LCPA overall. Specifically, the VA will provide an understanding of the degree of vulnerability posed to the City's beaches, lagoons, bluffs, visitor-serving amenities, public access areas, residential/commercial, and infrastructure by examining the magnitude of risks and sensitivities associated with SLR and coastal flooding, and combination of SLR and storms or extreme high water events. In addition, the VA will examine historical erosion and storm data along the City's coastline, and the results of the hydrodynamic model of the Planning Area created in Task 2.2.

Several studies and projections have been completed in the region that includes information and data on SLR. To the maximum extent feasible, the VA will include the existing data and analyses from the following studies and projections:

1. Coastal Storm Modeling System (CoSMoS): Southern California 1.0, including CoSMoS Southern California 3.0 once it is made available in late 2015 *http://cosmos.deltares.nl/SoCalCoastalHazards/index.html*

CoSMoS 1.0 was initially developed and tested for the Southern California coast in collaboration with Deltares. The Southern California 1.0 study area extends 470 kilometers from Pt. Conception, California, south to the Mexican border and includes microtidal basins but has few significant inlets or narrow straits that would focus tidal currents in the nearshore. The coastline is highly variable in terms of its orientation (west to south facing), morphology (rocky to wide, flat beaches), structures (seawalls, jetties, groins, breakwaters, and so on), exposure (open to significant island sheltering), and backbeach development (for example, rural coast to urban beach front). CoSMoS 1.0 will be used to assess coastal vulnerability within the region.

CoSMoS 3.0 is currently in development and is anticipated for completion in Fall 2015. Funding for the updated study has been provided from the California Coastal Conservancy with additional support from local jurisdictions, and features top coastal and climate scientists from Scripps Institution of Oceanography, Oregon State University, the private sector, and USGS. As part of CoSMoS 3.0, model enhancements for Southern California will include the following elements to be used to assess coastal vulnerability in the region.

- Long-term coastal evolution modeled, including sandy beaches and cliffs
- Downscaled winds from Global Climate Models (GCMs) for locally generated seas and surge
- Discharge from rivers for event response and long-term sediment supply
- An improved baseline-elevation Digital Elevation Model (DEM) developed by the California Coastal Conservancy and the National Oceanic and Atmospheric Administration (NOAA) that incorporates the most recent bathymetric and topographic surveys available

2. Coastal Data Information Program at Scripps Institution of Oceanography
http://cdip.ucsd.edu/

The Coastal Data Information Program (CDIP) at Scripps Institute of Oceanography (SIO) is a valuable, local resource for obtaining environmental data on a number of wave and beach conditions. As part of the LCPA, this source would be used to research historical trends of wave and beach profile information monitored by CDIP since 1975. Additional sources will include the Focus 2050 Study that was created in large part by SIO in 2008. The Study assessed SLR in six low-lying areas in San Diego County and is one of first comprehensive regional assessment of climate change impacts to San Diego County. The range of impacts presented in the Study (which includes SLR as one such impact) are based on projections of climate change using three climate models and two emissions scenarios drawn from those used by the Intergovernmental Panel on Climate Change (IPCC). As part of the LCPA, the models and scenarios utilized in the study would be used to help determine comparable effects of SLR and coastal flooding impacts in the City, respectively.

3. CCC Draft Sea-Level Rise Policy Guidance
   http://www.coastal.ca.gov/climate/slrguidance.html

   The City will use the best available science on SLR, the CCC's Draft Sea Level Rise Guidance document, and the Final Sea Level Rise Guidance Document, once adopted by the CCC, to inform the LCP update. It will be a fundamental component of the design methodologies considered for use in planning and regulating development at risk of SLR impacts. The Guidance provides techniques for assessing SLR vulnerability, and strategies for reducing risks from SLR. The Guidance contains guiding principles for addressing SLR in California's Coastal Zone; a discussion of the best available science on SLR; and step-by-step guidance for addressing SLR in LCPs and the Coastal Development Permit process, the two fundamental land use planning and regulatory mechanisms established by the California Coastal Act. The Guidance will assist in the preparation of the LCPA and in addressing SLR in future coastal development permits issued by the City.

4. Sea-rise projection analysis in the San Diego Bay Sea Level Rise Strategy prepared by ICLEI-Local Governments for Sustainability USA, with the support of the San Diego Foundation
   http://www.icleiusa.org/climate_and_energy/Climate_Adaptation_Guidance/san-diego-bay-sea-level-rise-adaptation-strategy-1

   The San Diego Bay Sea Level Rise Strategy was completed in January 2012 through a collaborative effort by the San Diego Unified Port District, the San Diego County Regional Airport Authority, and five bay front cities including San Diego, National City, Chula Vista, Imperial Beach, and Coronado. The Strategy is a useful source of information for the LCPA since it provides an initial framework of organizing stakeholder engagement and guiding principles to utilize during the course of the process. The Strategy consists of a VA that evaluates how community assets could be impacted by SLR; and a Recommendations Section to build in resilience of those community assets. The Strategy would be used as a reference document in developing its VA and Adaptation Plan. Even though the Strategy was targeted on jurisdictions surrounding San Diego Bay, the Strategy will provide valuable guidance on assessing vulnerabilities typical of those in the San Diego region. These include ecosystems and critical species, stormwater management and wastewater, potable water, local transportation facilities, building stock, emergency response facilities, parks and recreation areas, and public access. The Strategy provides some historical data for SLR analysis in San Diego Bay between 1910 and 2010, and projected sea-level change by 2050 and 2100, which would be considered as part of the City's analysis. The Strategy further illustrates SLR management practices that were identified by the participating jurisdictions for implementation, including hard defense, soft defense, accommodation, and withdrawal.

5. Sea-rise projection and mitigation analysis in the San Diego County Hazard Mitigation Plan Update
   http://www.sandiegocounty.gov/oes/emergency_management/oes_jl_mitplan.html

The Multi-jurisdictional Hazard Mitigation Plan is a countywide plan that identifies risks and ways to minimize damage caused by natural and manmade disasters (of which coastal storm/erosion is included). The Plan covers 20 beachfront and non-beachfront jurisdictions, and provides tools for enhancing public awareness and improving inter-jurisdictional coordination, and gives a methodology for promoting compliance with hazard regulations. The Plan was last revised in 2010 and is currently undergoing another review to reflect changes in hazards threatening San Diego, as well as the programs in place to minimize or eliminate those hazards. The Plan would be used as a reference document in developing the Risk Assessment as it provides some preliminary data on potential hazard-related exposure and loss in the City including exposed population, residential and commercial buildings, and critical facilities based on projections provided by FEMA, the National Inventory of Dams, and the University of Southern California on coastal storm/erosion, dam failure, 100- and 500- year flooding, and tsunami. The Plan also provides general goals, objectives, and actions to assist in achieving the City's hazard mitigation goals.

6. Bridge assessment analysis from the San Diego Double Track Project for the replacement of the Camino del Mar pedestrian and vehicle bridge, and the railroad trestle bridge crossing the inlet to the San Dieguito Lagoon
http://www.keepsandiegomoving.com/Lossan/lossan_san_dieguito_double_track.aspx

   Over the next 20 years, the San Diego Association of Governments (SANDAG) plans to construct approximately $1 billion in improvements in the 60-mile San Diego segment of the 351-mile Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor, including a primary effort to double-track the corridor from Orange County to downtown San Diego. Specific to the City, this project would result in the replacement of a 100-year-old, wooden trestle train bridge over the San Dieguito River Bridge, add a mile of second mainline rail track from Solana Beach to Del Mar, and construct a special events platform at the Del Mar Fairgrounds for North County Transit District (NCTD) Coaster and Amtrak Pacific Surfliner trains. The new bridge and tracks would be elevated above the 100-year floodplain. In addition, a second project is under consideration to replace the existing Camino del Mar vehicle and pedestrian bridge over the San Dieguito River. The relevant material contained in the technical and environmental analysis being prepared by SANDAG (estimated completion date in early 2015) would be used to assist in the City's VA and Risk Assessment, as well as Adaptation Planning methodologies.

7. Shoreline preservation strategies, storm-related flooding analysis and coastal modeling within the San Dieguito River Valley
http://www.sandag.org/index.asp?subclassid=32&fuseaction=home.subclasshome

   SANDAG has prepared several resources as part of its regional shoreline monitoring program and sand replenishment programs for several beaches between Oceanside and Imperial Beach, of which Del Mar's North Beach area is included. As part of its shoreline monitoring program, SANDAG has measured the changes in beach width

overtime, documents the benefits of sand replenishment projects and helps to improve the design and effectiveness of beach fills. Collectively, this information would be used to help determine comparable effects of SLR and coastal flooding impacts in the City, respectively, and provide guidance on preparation of the VA and Adaptation Plan.

- Regional Shoreline Monitoring Program, beach profile data, yearly monitoring reports, and information on the 2001 and 2012 Regional Beach Sand Project is available at: http://www.sandag.org/index.asp?classid=17&subclassid=32&projectid=298&fuseaction=projects.detail

- SANDAG's Shoreline Preservation Strategy for the San Diego Region, July 1993 is available at: http://www.sandag.org/uploads/publicationid/publicationid_1256_5880.pdf

8. SLR analysis included in the preliminary bridge assessments/optimizations for both the Interstate 5 (I-5) and the rail corridors were conducted as a part of the North County Corridor (NCC) Public Works Plan/Transportation and Resource Enhancement Program (PWP/TREP) *http://www.keepsandiegomoving.com/North-Coast-Corridor/North-Coast-PWP.aspx*

9. Long-term beach profile monitoring data completed by Southern California Edison (SCE) in association with the San Dieguito Wetlands Restoration Project *http://coastalenvironments.com/reports/*

The following activities are anticipated to be components of this Task:

1. Identify site-specific areas ("sites") to analyze impacts resulting from SLR, including beaches, lagoons, bluffs, visitor-serving amenities, residential/commercial, and infrastructure.

2. Evaluate SLR and flooding impacts to public access to and along the shoreline.

3. Utilize modeling data to examine the magnitude of SLR impacts to the sites.

4. Create a vulnerability matrix to identify the various sites' relative vulnerability to SLR impacts, based on the following components:
    a. Exposure
    b. Sensitivity to SLR impacts
    c. Adaptive capacity

5. Expand detail on the current vulnerability of sites, including:
    a. Identify the sites' vulnerabilities to existing stressors
    b. Identify existing conditions that affect the stressors

6. Estimate the following future resource conditions:
    a. Projected change in conditions with associated time periods
    b. Projected impacts to conditions [without adaptation actions]
    c. Projected changes in existing stressors
    d. New stressors resulting from changed conditions

7. Estimate the following future vulnerabilities:
    a. Estimate sites' sensitivities to SLR change
    b. Estimate sites' resiliency to SLR change

8. Analyze the following:
    a. Sites' current ability to accommodate SLR change
    b. Barriers to the sites' ability to accommodate SLR change
    c. Existing stressors that affect the sites in ways that will limit the ability to accommodate SLR change
    d. Rate of projected change compared to the rate of site adaptability
    e. Current efforts to address SLR impacts

9. Produce a ranking system against a range of SLR scenarios for the 2030, 2060 and 2100 planning horizons to assess and prioritize the vulnerability of the Planning Area as a whole, by site type, and by specific site.

Deliverable
Vulnerability Assessment draft
GIS layers for identified hazard zones

Task 2.5 Risk Assessment Preparation

The Risk Assessment (RA) will evaluate how expected sea-level rise impacts will affect people, development, infrastructure, and natural resources located in areas vulnerable to sea-level rise. In addition, the RA will prioritize areas to target with SLR strategies as part of an Adaptation Plan (Task 3).

The following activities are anticipated to be components of this Task:

1. Identify the specific hazards creating risks either caused or exacerbated by SLR change.

2. Determine the consequences associated with SLR changes that have the potential to carry environmental, financial, public accessibility, and social costs.

3. Determine risk by assessing the likelihood and relative consequences of identified hazards.

4. Prioritize at-risk components in context to other identified risks.

5. Assess risk mitigation that includes the following components:
    a. Whether or not adaptation is appropriate
    b. Timing and location to focus adaptation efforts

Deliverables
Risk Assessment draft

Task 2.6 STAC and Community/Stakeholder Meetings – Assessments

Facilitate STAC and community/stakeholder meeting(s) to feedback on the VA and RA, including site locations, vulnerabilities, and risks/hazards.

Provide an introduction into the next task that will evaluate vulnerabilities and risks associated with SLR and obtain early input on the development of an Adaptation Plan (Task 3.1).

Deliverables
STAC and community meeting reports
Stakeholder outreach reports

TASK 3: ADAPTATION PLAN DEVELOPMENT

Task 3.1 Determine SLR Strategies and Adaptation Plan Preparation

The Adaptation Plan (AP) will serve as the City's long-range planning guide for SLR management and will be integrated into the City's LCP, and will draw from the prior work completed under Tasks 1 and 2. Specifically, the AP will identify and require effective shoreline Accommodation, Protection, and Retreat strategies through a rigorous analysis of SLR and community/stakeholder input.

In development of the adaptation strategies, preference will be given to adaptation measures that adhere to the *Safeguarding California Plan: Reducing Climate Risk* principles (http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf), including measures that protect 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.

As part of the AP preparation, the City will also evaluate additional measures to further reduce the effects of climate change on the environment. This includes a special emphasis on the confluence of the ocean and San Dieguito River, which occurs in the San Dieguito Lagoon, since the by-product of a changing climate is an increase in the MHTL and potential changes in river flow. This will incorporate analysis that has been completed as part of the City's Greenhouse Gas Inventory and the draft Climate Action Plan, and will utilize its ongoing partnership with the Climate Collaborative Network (CCN), of which the City is an active participating member.

Development of long-range planning for SLR and coastal flooding management will include the following activities:

1. Complete a rigorous analysis of the established Planning Area against VA and RA findings incorporating community/stakeholder input.

2. Identify effective shoreline Accommodation, Protection, and Retreat strategies applied to each site type and/or specific site.

3. Assess the ability of adaptation strategies to protect public access to and along the shoreline, scenic views, sensitive habitats, and other coastal resources.

4. Evaluate whether the Beach Overlay Zone and Shoreline Protection Area (LCP IO Chapter 30.50) will be effective in protecting public access in the future from SLR and the combined impact of SLR and coastal flooding.

5. Evaluate whether other accommodation strategies and provisions in the LCP, specifically the Lagoon Overlay Zone (IO Chapter 30.53), Coastal Bluff Overlay Zone (IO Chapter 30.55), Floodplain Overlay Zone (IO Chapter 30.56) will be effective in protecting vulnerable coastal resources from the combined impact of SLR and coastal flooding.

6. Evaluate strategies for climate change adaptation, with an emphasis on potential impacts to the confluence of the ocean and San Dieguito River in the San Dieguito Lagoon with consideration for changing conditions to the (upstream) coastal watershed, sediment transport, and sediment management activities.

7. Evaluate impacts and opportunities for sediment management processes associated with SLR and coastal flooding with respect to beach nourishment, wetland preservation, and water quality improvements.

8. Evaluate strategies against timeframe of risks, cost-benefit considerations, and constraints and/or limitations.

9. Develop operational responses and design strategies for each site type and/or specific site based on identified adaptation strategy.

10. Develop detailed policy guidance for operational responses.

11. Develop detailed design guidelines and protocol for design strategies.

12. Review the LCP for inconsistencies with operational responses and design guidelines and protocol.

13. Prepare new GIS layers for adaptation strategies. The City will work with the CCC's Mapping Unit to develop LCP maps.

14. Draft framework summary for incorporation of LCP amendments.

15. Identify final modifications to the Planning Area, SLR modeling, VA and/or RA, if needed.

Deliverable
Adaptation Plan draft
GIS layer for selected adaptation strategies
Draft framework for incorporation into the LCP
Final Planning Area GIS layers, if modified
Final Vulnerability and/or Risk Assessments, if modified

Task 3.2 STAC and Community/Stakeholder Meetings – Adaptation Plan

Facilitate multiple STAC and community/stakeholder meetings to obtain input on SLR adaptation strategies including accommodation, protection, and retreat.

Deliverables
STAC, community meeting and stakeholder outreach reports

TASK 4: AMENDMENT DRAFTING

Task 4.1 Draft Amendments to the Del Mar LCP

Based on the information completed in Tasks 1, 2 and 3, a formal amendment to the LCP will be drafted. The LCPA is anticipated to add a new chapter to the LCP IO specific to SLR with necessary modifications to existing IO provisions and LUP policies. Specific modifications to the IO and LUP would largely be understood during the preparation of the Adaptation Plan in Task 3.1. Should changes to the LUP be deemed necessary, the City anticipates filing for a consolidated LCPA submittal that includes changes to both the IO and LUP. In addition, modifications may be included to the Overlay Zone maps and the Post-LCP Permit and Appeal Jurisdiction Map in order to reflect existing tidelands and lands below the MHTL, with consideration for delineating future changes to tidelands and MHTL based on SLR and climate change. The CCC mapping unit will make certain maps, including the Post-LCP Permit and Appeal Jurisdiction Map, as required by the Coastal Act.

The City will submit the draft LCP documents (text, maps, and/or exhibits) to CCC 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
Draft LCPA
Amended Overlay Zone maps
Amended Post-LCP Permit and Appeal Jurisdiction Map

Task 4.2 Identify and Prepare Corollary Amendments

The DMMC and Community (General) Plan will be evaluated to identify any corresponding sections that would require corollary amendments consistent with the LCPA.

Deliverable
Draft amendment outline to the DMMC and Community Plan

TASK 5: CITY PUBLIC HEARINGS

Task 5.1 Planning Commission

Public hearing(s) before the Planning Commission to review the LCPA and corollary amendments.

Deliverable
Recommending Resolution to the City Council

Task 5.2 City Council

Public hearing(s) before the City Council to review the LCPA and corollary amendments.

Deliverable
Resolution approving the LCPA and corollary amendments, and authorizing LCPA submittal to the CCC for review and certification.

TASK 6: LCPA SUBMITTAL TO CCC

Task 6.1 Submit LCPA package to CCC for review and certification

Formal LCPA submittal to the CCC prior to the grant deadline of May 2017. The City will submit the LCP documents (text, maps, and/or exhibits) to CCC 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).

Additional information may be requested by CCC staff prior to completing the LCPA review and scheduling for hearing.

Task 6.2 CCC Certification Hearing

CCC hearing on the City's LCPA. Note that additional time may be needed in the event of the following actions by the CCC: 1) follow-up City Council meeting to consider any suggested modifications to the LCPA; 2) resubmittal to the CCC; and 3) follow-up CCC certification hearing.

Task 7 Coordination with Coastal Commission

The City will hold regular coordination meetings (phone or in-person) with CCC San Diego Coast District staff every other monthly, or as needed, throughout the entire grant period. This task involves early review of work products by the CCC staff and iterative exchange of comments between the City and the CCC staff.

III. SCHEDULE

Term of Project: April 16, 2015 to April 30, 2017

Project Schedule	**Duration and Completion Dates**
Task 1. Project Commencement	**April 16, 2015 to September 30, 2015**
1.1 Issue a Request for Proposal (RFP) – *consultant for preparation of technical studies and Tasks 1.4 through 6.2; 43-day RFP period*	Opens: April 16, 2015 Ends: May 29, 2015
1.2 Establish a Stakeholder-Technical Advisory Committee (STAC)	July 6, 2015
1.2 Consultant Selection	August 3, 2015
1.4 Prepare the Public Involvement Process	September 8, 2015
1.5 Regional Coordination	April 16, 2015 to April 30, 2017
Deliverables	
1.1 Confirmation of RFP posting	April 16, 2015
1.2 Initial roster of STAC members and prelim meeting schedule	July 31, 2015
1.3 Executed consultant contract	August 21, 2015
1.3 Summary of consultant RFPs received and interviewed	August 21, 2015
1.4 Outreach program	September 30, 2015
1.4 Schedule of community meetings	September 30, 2015
Task 2. Assessment Preparation	**August 21, 2015 to April 29, 2016**
2.1 Compile Data and Existing Analyses, Determine Data and Information Gaps	September 30, 2015
2.2 Define Planning Area	December 4, 2015
2.3 STAC and Community/Stakeholder Meetings – Planning Area and Assessments	December 11, 2015
2.4 Vulnerability Assessment Preparation	February 8, 2016
2.5 Risk Assessment Preparation	March 14, 2016
2.6 STAC and Community/Stakeholder Meetings – Assessments	April 15, 2016
Deliverables	
2.1 Gaps analysis	September 30, 2015
2.2 GIS layers for project area and sub-areas	January 29, 2016
2.3 STAC and community meeting reports	January 29, 2016
2.3 Stakeholder outreach reports	January 29, 2016
2.4 Vulnerability Assessment draft	April 30, 2016
2.4 GIS layer for hazard zones	April 30, 2016
2.5 Risk Assessment draft	April 30, 2016
2.6 STAC and community meeting reports	April 30, 2016
2.6 Stakeholder outreach reports	April 30, 2016

Task 3. Adaptation Plan Development	**May 2, 2016 to August 31, 2016**
3.1 Determine Sea-Level Rise Strategies and Adaptation Plan Development	July 29, 2016
3.2 STAC and Community/Stakeholder Meetings – Adaptation Plan	August 21, 2016
Deliverables	
3.1 Adaptation Plan draft	August 31, 2016
3.1 GIS layer for selected adaptation strategies	August 31, 2016
3.1 Draft framework for incorporation into the LCP	August 31, 2016
3.1 Final Planning Area GIS layers, if modified	August 31, 2016
3.1 Final Vulnerability and/or Risk Assessment, if modified	August 31, 2016
2.5 STAC and community meeting reports	August 31, 2016
2.5 Stakeholder outreach reports	August 31, 2016
Task 4. Amendment Drafting	**September 1, 2016 to December 23, 2016**
4.1 Draft Amendments to the Del Mar LCP	October 28, 2016
4.2 Identify and Prepare Corollary Amendments to the Del Mar Zoning Code and Community (General) Plan	October 28, 2016
Deliverables	
4.1 Draft LCP amendment, including an amended Post-LCP Permit and Appeal Jurisdiction Map (if applicable)	October 28, 2016
4.2 Amended LCP overlay zone maps	October 28, 2016
Task 5. City Public Hearings	**November 8, 2016 to April 17, 2017**
5.1 Planning Commission	January 13, 2016
5.2 City Council	April 3, 2017
Deliverables	
5.1 Planning Commission Resolution to City Council	December 27, 2016
5.2 City Council Resolution approving the LCPA	April 17, 2017
Task 6. LCPA Submittal to the CCC	**April 30, 2017 to TBD**
6.1 Submit LCPA package to CCC for review and certification *Formal LCPA submittal to the CCC prior to the grant deadline of May 2017. Additional information may be requested by CCC staff prior to completing the LCPA review and scheduling for hearing*	April 30, 2017
6.2 CCC certification hearing *Note that additional time may be needed in the event of the following actions by the CCC: 1) follow-up City Council meeting to consider any suggested modifications to the LCPA; 2) resubmittal to the CCC; and 3) follow-up CCC certification hearing*	TBD

Task 7. CCC Coordination	**April 16, 2015 to April 30, 2017**
Coordination with CCC and bi-monthly meetings with CCC San Diego Coast District staff	April 16, 2015 to April 30, 2017

IV. BENCHMARK SCHEDULE

ACTIVITY	**COMPLETION DATE**
Project Commencement – RFP; STAC; Consultant	September 30, 2015
Prepare Gaps Analysis	September 30, 2015
Define Planning Area	December 4, 2015
Community/Stakeholder Meetings – Planning Area/Assessments	December 11, 2015
Prepare Vulnerability and Risk Assessments	March 14, 2016
Community/Stakeholder Meeting – Assessments	April 15, 2016
Determine SLR Strategies and Develop Adaptation Plan	July 29, 2016
Community/Stakeholder Meeting – Adaptation Plan	August 21, 2016
Draft LCP Amendment Package	October 28, 2016
Planning Commission Hearing	January 13, 2016
City Council Hearing	April 3, 2017
CCC Amendment Submittal	April 30, 2017
CCC Certification Hearing	TBD

V. BUDGET

Project Cost: **$200,000**
$100,000 Funding, Ocean Protection Council Grant Award
$ 77,794 Funding, City of Del Mar General Fund
$ 22,206 In-kind services, City of Del Mar

TABLE 1: DIRECT FUNDING (BY TASK)				
Task Number	**Task**	**Total Cost**	**Allocation of total cost among funding sources**	
			Grant Funding	City Funding
1	**Project Commencement**			
1.1	*Issue RFP*	*$0*	*$0*	*$0*
1.2	*Establish STAC*	*$0*	*$0*	*$0*
1.3	*Consultant Selection*	*$0*	*$0*	*$0*
1.4	*Prepare Public Involvement*	*$ 1,000*	*$0*	*$ 1,000*
	Total (Task 1)	**$ 1,000**	***$0***	***$ 1,000***
2	**Assessment Preparation**			
2.1	*Define the Planning Area*	*$25,000*	*$25,000*	*$0*
2.2	*Comm/Stakeholder Meetings*	*$ 4,000*	*$3,000*	*$ 1,000*
2.3	*Vulnerability Assessment*	*$15,000*	*$15,000*	*$0*
2.4	*Risk Assessment*	*$14,000*	*$14,000*	*$0*
2.5	*Comm/Stakeholder Meetings*	*$ 3,500*	*$3,000*	*$ 500*
	Total (Task 2)	**$ 61,500**	***$60,000***	***$ 1,500***
3	**Adaptation Plan Development**			
3.1	*SLR Strategies and Adaptation Plan*	*$83,810*	*$40,000*	*$43,810*
3.2	*Comm/Stakeholder Meetings*	*$10,000*	*$0*	*$10,000*
	Total (Task 3)	**$93,810**	***$40,000***	***$53,810***
4	**Amendment Drafting**			
	Total (Task 4)	**$ 9,000**	**$0**	**$ 9,000**
5	**City Public Hearings**			
5.1	*Planning Comm*	*$ 2,000*	*$0*	*$ 2,000*
5.1	*City Council*	*$ 2,461*	*$0*	*$ 2,461*
	Total (Task 5)	**$ 4,461**	***$0***	***$ 4,461***

6	**CCC Review and Certification**			
6.1	*LCPA Package and CCC Requests*	*$ 5,523*	*$0*	*$ 5,523*
6.2	*CCC Hearing*	*$ 2,500*	*$0*	*$ 2,500*
	Total (Task 6)	**$ 8,023**	***$0***	***$ 8,023***
	TOTAL	**$ 177,794**	***$100,000***	***$ 77,794***

TABLE 2: IN-KIND SERVICES (PROVIDED BY CITY STAFF)					
Department	**Hourly Rate**	**Hours** *(24-Month Project Life)*	**Value** *(Hourly Rate Includes Salary and Benefits)*	**Material Costs**	**Task**
Planning	$49.63 *Staff:* *100% JS*	256 *(4 hours/week)*	$12,705 *$9,425 salary* *$3,280 benefits*	$ 300	Manage day-to-day project organization, communication, and consultant services
Planning	$67.63 *Staff:* *33% KG* *33% AB* *33% JS*	45	$ 3,043 *$2,349 salary $694 benefits*	0	Review technical reports for consistency with existing policy and practice
Engineering	$186	10	$ 1,860 *City consultant rate*	$ 0	Review technical reports for consistency with existing policy and practice
Planning	$57.60 *Staff:* *75% JS* *25% KG*	20	$ 1,152 *$872 salary $280 benefits*	$ 500	Facilitate community and stakeholder outreach including any necessary expenses associated with travel, meeting organization, communications and presentation materials
Planning	$61.67 *Staff:* *50% JS* *40% AB* *10% KG*	10	$ 617 *$472 salary $145 benefits*	$ 0	Prepare the LCP amendments and corollary amendments to the City's Zoning Code and Community Plan as necessary
Planning	$67.63 *Staff:* *33% KG* *33% AB* *33% JS*	30	$ 2,029 *$1,566 salary* *$463 benefits*	0	Process the amendment package through the Planning Commission, City Council, and CCC for review and certification.
		371 hrs	$ 21,406	$ 800	**TOTALVALUE: $ 22,206**

Budget Summary

Personnel:

Salaries and Wages [1]		$14,684
Benefits [2]		$4,862
Total Personnel		$19,546

Operating Expenses

Postage/Shipping		$300
Supplies/Materials [3]		$500 (Mtg materials)
Travel [4]		
Indirect Costs [5]		
Other:		
- Engineering consultant		$1,860 (City Engineer)
- Public Outreach Prep		$1,000
- Risk & Vulnerability Assessments	$60,000	$1,500
- Adaptation Plan	$40,000	$53,810
- Amendment Drafting		$9,000
- City Public Hearings		$4,461 (technical consultant assistance)
- CCC Review/Certify		$8,023 (technical consultant assistance)
Total Operating Expenses	$100,000	$80,454
Total Budget	**$100,000**	**$100,000**

[1] See Table 2 – In-Kind Services for an explanation of rates and hours for each position.
[2] Amount requested for benefits not to exceed 40% of amount requested for salary or wage.
[3] List of the major meeting supplies and materials with anticipated costs.
[4] No travel reimbursement rates anticipated (would be the same as similarly situated state employees).
[5] No indirect costs included (would include a pro rata share of rent, utilities, and salaries for certain positions indirectly supporting the proposed project but not directly staffing it. Amount for indirect costs would be capped at 10% of amount requested for "Total Personnel.")