



## WEST CLIFF DRIVE ADAPTATION & MANAGEMENT PLAN CONSULTANT'S SCOPE OF WORK

### Task 1. Public Outreach

1. **Technical Advisory Committee** - Successful Proposer will assist the City in developing a project engagement plan to include identifying date, format and content for TAC and community engagement events as well as any public survey work and coastal restoration opportunities. The Successful Proposer will be responsible for assisting the City with engaging Technical Advisory Committee (TAC) members. City staff will form the TAC to include experts specializing in coastal erosion, coastal engineering, coastal access, climate change and sea level rise, transportation, and climate adaptation strategies. The group will serve as an advisory body, meet quarterly (6 times) for the duration of the project, and provide input prior to City Commissions and City Council reviews.
2. **Community Meetings** - The Successful Proposer will assist in planning and holding community meetings with interested members of the community. Two to four meetings will be held to engage and inform the community of the project process and progress, and gather suggestions and feedback. The number of meetings will be driven by the community needs and the findings identified in tasks 2 and 3. Feedback garnered at these meetings will be incorporated into the final Plan. All meetings will be publicly noticed to ensure maximum attendance and will be in English and Spanish. Smaller focus groups may also be conducted with stakeholder groups as needed. While the Successful Proposer is not expected to conduct the focus groups, they will participate in the development of objectives, content and activities for the focus groups.
3. **Commissions and Council** - The Successful Proposer will assist City staff with formal engagement of the Planning Commission, Parks and Recreation Commission, Transportation and Public Works Commission, and City Council to ensure that policymakers have the best information available to make long term decisions about our transportation and coastal resources. Presentations to the Commissions will be made during Tasks 3, 4 and 5. Presentations to Council be made during Task 5.
4. **Development of a dedicated webpage on city website for Project information** - The Successful Proposer will assist the City in maintaining an up-to-date webpage at the

City's website by providing background information, status updates, other content and visual tools to engage and inform the public.

**Deliverables:** Collaboratively developed Project Engagement Plan, TAC agendas, Community meeting agenda, Council and Commission agendas and minutes, information for webpage.

## **Task 2: Existing Conditions Inventory**

1. **Existing Conditions Inventory** - The Successful Proposer will complete an Existing Conditions Inventory of the following components, including physical description with condition (e.g., in good condition vs. in need of repair; safe or currently threatened), high resolution photos and maps. Spatial data and relational tables shall be provided in an ESRI file geodatabase. The horizontal coordinate system for the data shall be in NAD 1983 State Plane California Zone III Feet (WKID: 2227 Authority: EPSG). All elevation data for the vertical data should be in NAVD88.
  - a. Inventory and documentation of existing coastal armoring, age and current condition. Cross reference the Coastal Armoring inventory from the Climate Adaptation Plan Update (source: California Coastal Commission database) with West Cliff Drive Existing Facilities from 2004 Plan and its subsequent updates, existing seawalls from 2002 inventory, and field check for accuracy and update as needed. Inventory will also include City furnished documentation of armoring permit history.
    - i. Minor field verification of conditions is anticipated.
  - b. Inventory and update of nearshore reef and tidepool systems, habitat/wildlife/ecosystem/ vegetation, including an assessment of native and non-native species and inventory of coastal vegetation restoration efforts to date.
    - i. The City has no data on nearshore reef and tidepool systems.
    - ii. The City's GIS layer for sensitive habitat will need to be supplemented with field work to inventory other wildlife, ecosystems and vegetation.
    - iii. The City will provide GIS data on coastal vegetation restoration efforts to date as provided by Groundswell Coastal Ecology.
  - c. Inventory of existing geology and geomorphology of coastline.
    - i. The City will provide project-specific geotechnical and geologic reports usually associated with repair work. Aside from these reports, data compiled in the City's 2011 Climate Change Vulnerability Assessment, and recent (2006 and 2017) surveys completed at the Lighthouse, the City does not possess other records of geology and geomorphology of the coastline.
  - d. Inventory of existing transportation facilities, and history of emergency repairs.
    - i. Inventory of existing transportation facilities exists in GIS format and we have a condition assessment for the pavement sections in the City's pavement management system. No other information on condition

exists. The City will provide a partial history of project-specific emergency repair documentation.

- e. Inventory of existing non-transportation infrastructure, including water, power, communications, sanitary and storm sewer.
    - i. Existing water, sanitary and storm sewer inventory exists through the City's GIS to be provided to Successful Proposer.
    - ii. The City does not maintain records of power or communications, however, and will need to work with those service providers and Successful Proposer to obtain those records.
  - f. Inventory and analysis of existing storm drainage facilities, drainage basins and discharge destination, including coastal erosion caused by existing drainage facilities and resultant threats to the transportation system.
    - i. Existing storm sewer inventory exists through the City's GIS to be provided to Successful Proposer.
    - ii. Successful Proposer will work with engineering staff to document the history of coastal erosion caused by existing drainage facilities and unpiPED drainage pathways, past and potential future threats to the transportation system, and identification of past repairs and future repair priorities.
  - g. Integrate city-furnished inventory of existing lighting, restroom, drinking fountains, artistic and landscape enhancements, benches, bike parking, directional and interpretive signs, accessways, stairways, and overlooks along West Cliff Drive into project deliverables.
  - h. Define socially vulnerable populations from the Climate Adaptation Plan Update, their relationship to West Cliff Drive, and how they are impacted by climate change.
    - i. No additional data collection anticipated.
  - i. Directional traffic counts of West Cliff Drive and surrounding alternate routes for bicyclists, pedestrians, and automobiles.
  - j. Analysis of existing coastal access for pedestrians, cyclists, and autos including inventory of lost accessways (e.g., stairways and footpaths that have been covered in riprap or otherwise lost).
    - i. Current coastal access points for pedestrians to access beaches exists in GIS format but lost pedestrian access and current and lost access points for other modes does not exist. It is anticipated that few, if any, lost access points have occurred.
  - k. Quantitative analysis of resident and non-resident parking supply and occupancy data (provided by City from manual traffic counts and monitoring camera data).
  - l. Emergency access locations (e.g., for water rescues).
    - i. Does not exist in GIS format but City staff will provide locations to Successful Proposer
2. **Base Condition Assessment and Future Exposure Assessment** - The Successful Proposer will create a Base Condition Assessment to identify the current condition and projected future of items identified in the Existing Conditions Inventory along the Project area.

Information on projected sea level rise hazard zones will be based on the Climate Adaptation Plan Update's sea level rise vulnerability assessment maps and reference newer sources (e.g., United States Geological Survey's Coastal Storm Modeling System). The Successful Proposer will prepare a memo comparing the various model results for existing conditions based on historic and projected storm events and, with staff input, recommend the best science, model, and scenarios to use in the Base Condition Assessment and Future Exposure Assessment. This Assessment will include specific components such as:

- a. Nearshore reef and tidepool systems, beach profile analysis, with respect to effects of sea level rise including wave height predictions, and projected hazard zones at time horizons of 2030, 2060 and 2100 and varying sea level rise increases.
- b. Identification of facilities, infrastructure, landscaping and ecosystems within hazard zones and future vulnerabilities with respect to climate change and sea level rise.
- c. Identification of short-, mid-, and long-term threats to the transportation system, including specific facilities, road sections, infrastructure, and emergency and coastal access. It will include impacts to multiuse pathway system, resultant impacts to users and likely responses (e.g., use of other routes, loss of access)
- d. Identification of threats to adjacent beaches, nearshore reef and tidepool systems, and other habitats, particularly as those threats relate to trade-offs associated with protecting built infrastructure (e.g., protecting West Cliff Drive may mean the loss of tide pool habitats as sea levels rise).

**Deliverables:** Existing Conditions Inventory, Key Decisions and Coastal Hazard Model Comparison Memo, Base Condition Assessment Report

### **Task 3: Adaptation Strategy Alternatives**

1. **Adaptation Strategy Alternatives** - The Successful Proposer will perform a comprehensive analysis of alternatives to adapt to climate change and respond to threats to the transportation network and associated systems (environmental, recreational, and access) and consider the phased timing of alternative strategies. Adaptation strategies discussed in the Climate Adaptation Plan Update aim to bolster climate readiness of hazard response, habitat/wildlife/ecosystem, recreation and tourism, utilities, and transportation system modifications. Adaptation strategies for the Project as proposed in this RFP will include:
  - a. Prevention measures
  - b. Managed retreat policies
  - c. Protective structures
  - d. Shoreline restoration / enhancement
  - e. Least Environmentally Damaging Alternative

Each adaptation strategy alternative will include a **Transportation Alternatives Analysis**. This will include an analysis of alternatives to adapt to climate change while maintaining

an appropriate level of service and protecting the transportation system. All alternatives shall identify coastal access points and maintain public access to the coastline to the maximum extent feasible. Example alternatives include:

- a. One-way alternative, where previous travel lane converts to two-way protected bicycle facility
- b. Partial one-way alternative, where previous travel lane converts to two-way protected bicycle facility
- c. Partial relocation
- d. Full closure to automobiles
- e. Partial closure to automobiles
- f. Status quo
- g. Other

Alternatives will be evaluated, programmed and phased along 2030, 2060 and 2100 time horizons and varying increases of sea level rise to compare capital costs, multimodal transportation implications, ongoing costs, effectiveness at achieving management objectives, and social, technical, administrative, political, legal and environmental dimensions, including consistency with the Coastal Act and Local Coastal Program policies as well as the Coastal Commission's Sea Level Rise Policy Guidance.

**2. Monitoring and Trigger Thresholds** - The Successful Proposer will be responsible for creating a Plan that specifies an adaptation pathways approach, i.e., the monitoring metrics required to trigger implementation of adaptation infrastructure and policy. The monitoring plan should include required data sources and monitoring equipment, tracking and reporting tools, frequency of data collection and reporting, identification of responsible monitoring parties, process for initiating adaptation strategies, and specific metric thresholds that trigger a process for initiating specific adaptation strategies. The monitoring plan will provide a baseline set of monitoring metrics and indicate.

The Successful Proposer will be responsible for depicting the monitoring and trigger thresholds and adaptation response options through visualizations that facilitate understanding of flexible adaptation pathways over time horizons and increases of sea level rise. The Memorandum should also include costs for monitoring, equipment and tools as well as potential funding options or resources for them (e.g., grants, non-profit partnerships, state or federal government agencies, etc.).

**Deliverables:** Alternatives Analysis Report, Monitoring Plan and Trigger Thresholds Memorandum

#### **Task 4: Conceptual Design**

**1. Conceptual Design Alternatives** - The Successful Proposer will develop conceptual representations of the adaptation alternatives aimed at addressing various threats/locations along West Cliff Drive. A minimum of three adaptation options will be

considered, ranging in styles of adaptation. One of the alternatives will be full-preservation of the existing transportation network. Design alternatives will be inclusive of transportation, landscaping, drainage, alignment, parking, public access and physical adaptation strategies required (e.g., beach nourishment, additional coastal armoring, etc.). Special considerations should be provided to the design to ensure the recommendations are consistent with the scenic coastal setting. Illustrations will be made, at minimum, in plan view and cross sections from public/private property to street to ocean. A transportation model simulation will be developed for each alternative to demonstrate benefits, impacts, and tradeoffs on the surrounding transportation network. The alternatives will be prepared and presented to the TAC, Commissions, and Council.

**2. Cost/Benefit Analysis** - The Successful Proposer will conduct a cost-benefit analysis (CBA) to compare the various adaptation strategies and conceptual design alternatives (and combinations of each) and a business as usual (emergency repairs) scenario. This will include financial modeling of alternatives at a low-, medium- and high-investment level including evaluation of multi modal transportation benefits, and external factors such as tourism, recreation, ecosystems, and greenhouse gas emissions. The Successful Proposer will also develop a recreational user intercept survey of visitors and residents and provide analysis of raw data collected. The City and Successful Proposer will identify higher education students as interviewers using tablets and online survey technologies to quickly assemble data sets for the analysis. The results will give policy decision makers the economic insight and reality of each option and alternative over medium- and long-term horizons. The final product will include a draft funding plan to implement the recommended options. The CBA is expected to:

- a. consider externalities,
- b. specify secondary effects over medium and long-term time horizons,
- c. potentially employ nonmarket valuation techniques for environmental resource value and travel-cost methods for estimating benefits of recreation and tourism based on expenditures that visitors make,
- d. verify assumptions,
- e. account for equity,
- f. provide a framing of uncertainty through sensitivities.

**Deliverables:** Conceptual Design Package, CBA Memorandum

#### **Task 5: Management Plan**

**1. Draft West Cliff Drive Adaptation and Management Plan** - Based on the adaptation priorities and strategies, conceptual design, and cost/benefit analysis, the Successful Proposer will collaboratively prepare a draft report outline and draft report. This will include standards for implementation of any coastal protection measures; bike, pedestrian, and auto infrastructure; landscaping program for habitat and native/non-native species; etc. The draft report will also evaluate funding mechanisms available to implement adaptation strategies and transportation system modifications (including local and non-local sources). The draft report will also evaluate the regulatory environment, demonstrate

recommendations are in compliance with relevant local, state and federal regulation, and include any policy prescriptions or changes required to be put in place on the local level. The regulatory review should also include any permitting required to implement recommendations. The draft report will be reviewed by the TAC and presented at Commissions for public comment. The draft plan will be circulated to California Coastal Commission staff for review and comment. The draft Plan will then be presented to City Council. Draft West Cliff Drive Adaptation and Management Plan must comply with and support Association of Monterey Bay Area Government’s 2040 Metropolitan Transportation Plan / Sustainability Community Strategy, Executive Order S-13-08 (Safeguarding California), the California Transportation Plan 2040 (Goal 2 “Preserve the Multimodal Transportation System,” Policy 3 “Adapt the transportation system to reduce impacts from climate change), and Assembly Bill 1358 (Complete Streets Act).

**2. Final West Cliff Drive Adaptation and Management Plan** – The Successful Proposer will prepare the final Plan which will address comments provided by the TAC, Coastal Commission staff, and Commissions. The Successful Proposer will also prepare a final slide deck to be presented to Council.

**3. City Council Adoption** – The City Council will review and adopt the final West Cliff Drive Management and Adaptation Plan and Successful Proposer will modify plan pursuant to City Council direction, as needed. The City’s final Plan will be presented to the California Coastal Commission for approval, and revised by Successful Proposer as necessary pursuant to Coastal Commission comments. The successful Proposer should plan to attend the City Council and Coastal Commission meetings. The Successful Proposer will provide four hard-copies and an electronic copy of the Plan to be submitted to CalTrans. Credit of the financial contribution of the grant program will be provided on the cover of the Plan.

**Deliverables:** Draft West Cliff Drive Adaptation and Management Plan Outline, Draft West Cliff Drive Adaptation and Management Plan, Summary of TAC and Commission comments memorandum, Final West Cliff Drive Adaptation and Management Plan.

#### **FEE SCHEDULE**

- Task 1 – Public Outreach - \$36,192
- Task 2 – Existing Conditions Inventory - \$146,729
- Task 3 – Adaptation Strategy Alternatives - \$22,704
- Task 4 – Conceptual Design - \$64,606
- Task 5 – Management Plan - \$72,034

#### **WORK SCHEDULE**

Work shall commence on March 1, 2019 and is expected to be complete by December 15, 2020.