

City of Olympia – Sea Level Rise Response Plan**DRAFT Scope of Work**

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Phase 1 Scope of Work (Tasks 1-4)**Task 1. Project Management (\$22,050)**

- Three AECOM staff will participate in monthly check-in calls of 1 hour duration
- Monthly invoicing and schedule/budget tracking
- Internet-based project site to facilitate the exchange of data between AECOM and the project partners.

Assumptions:

- *AECOM assumes a project duration of 20 months*

City's role: Participate in monthly check-in calls with AECOM project team; coordinate with LOTT and Port as needed

Task 2. Project Initiation & Scope of Work Finalization (\$6,390)

- Three AECOM staff will participate in a kick-off meeting and site walk in Olympia.
- AECOM will work with City, LOTT, and Port to finalize scope of work following kick-off meeting

AECOM Deliverables:

- Finalized scope of work and list of project deliverables for the SLR Response Plan

Task 3. Data Review (\$12,240)

- Review prior studies (such as Coast & Harbor SLR study and Brown and Caldwell LOTT study) to understand previously identified vulnerabilities and identify strategies to carry forward into Sea Level Response Plan; solicit City's input and feedback on prior studies, findings, and recommendations.
- Review existing data (such as sea level response inundation layers, topography data, available GIS data of asset locations, etc.) to evaluate suitability for use in present study; identify data gaps.
- Review best available climate science related to sea level rise in Puget Sound and hydrology/watershed trends (if available); discuss sea level rise scenarios with City, LOTT, and Port to reach consensus; prepare memorandum to summarize findings and recommend a planning horizon and scenarios for Sea Level Response Plan.

AECOM Deliverables:

- Climate Science Memorandum (to be incorporated into SLR Response Plan)

City's role: Organize and distribute prior studies to AECOM; coordinate with City departments, LOTT, and Port to obtain available asset data; distribute data to AECOM; provide information on City organizational structure and department roles; seek and gain City acceptance of scenarios for adoption in the Sea Level Response Plan.

Task 4. Travel and Expenses (\$7,000)

- Includes travel expenses for three AECOM staff to attend kick-off meeting and site walk
- Includes travel expenses for two AECOM staff to attend up to five workshops and meetings
- Includes budget for other expenses (for example, printing, hard drives for data transfer, meeting materials, etc.) as needed within allocated budget

Phase 2 Scope of Work (Tasks 5 to 9)

Task 5. Develop SLR Planning Framework (\$13,300)

- Work with City, LOTT, and Port staff to develop overall SLR Planning Framework that can be shared with City departments, LOTT, Port, and community
- The SLR Planning Framework will outline the adaptation planning process and define the SLR Response Plan purpose, goals, planning horizon, and guiding principles (to be agreed upon by City, LOTT, and Port)
- Planning Framework will be shared with community at Community Workshop #1 (see Task 8)
- Prepare SLR Planning Framework Memorandum

AECOM Deliverables:

- SLR Planning Framework Memorandum (to be incorporated into SLR Response Plan)

City's role: Provide input on roles and responsibilities of City, LOTT, and Port in SLR planning process; assist in identifying opportunities and constraints

Task 6. Vulnerability and Risk Assessment (\$40,960)

- Review previously completed vulnerability assessment work by City and LOTT and incorporate findings as appropriate; identify gaps in prior work to focus efforts for this study
- *Asset data collection.* Collect additional asset-specific data as needed for vulnerability and risk assessment (for example, condition data, elevations, as-built drawings, etc.)
- *Asset data meeting.* In-person meeting with City, LOTT, and Port staff to review available asset data and preliminary findings; identify additional data needed for vulnerability and risk assessment
- Combined storm system overview. Using existing data regarding frequency of overland flooding and rate of inflow into combined storm drains for various SLR scenarios, assess and describe the frequency and intensity of added flows to LOTT's Budd Inlet Treatment Plant.

- Identify critical assets in coordination with City, LOTT, and Port staff, including identification of non-infrastructure assets such as social values and amenities
- *Vulnerability and risk assessment.* Conduct vulnerability¹ and risk² assessments for downtown area (including Port and LOTT assets), building on vulnerability work already completed
- AECOM will provide guidance and metrics to the City, LOTT, and Port to evaluate risk (consequence) ratings for critical assets considering economic, social, and environmental factors; City staff will assign risk ratings based on local knowledge and understanding of asset criticality and function
- Prepare vulnerability and risk assessment memorandum highlighting key vulnerabilities of City, LOTT, and Port assets, including impacts from increased peak flows to LOTT’s treatment plant.
- *Community Workshop #1.* Present findings of vulnerability and risk assessment at Community Workshop #1 (see Task 8); obtain feedback on key vulnerabilities and risks, observed flooding issues

AECOM Deliverables: Vulnerability and Risk Assessment Memorandum (to be incorporated into SLR Response Plan)

Assumptions:

- AECOM will rely on a topographic DEM provided by the City
- The City will provide shapefiles of asset locations, asset inventories, design drawings, condition assessment, as-builts, survey data, and building footprints where available
- AECOM will rely on previously completed SLR inundation mapping and data layers to evaluate asset exposure and combined storm system volumes from SLR and flooding
- Vulnerability assessment will be based on qualitative ratings such as high/moderate/low and will not develop a quantitative scoring system; however, input data may be quantitative in nature (such as population affected, value of buildings, level of use, etc.)
- Vulnerability assessment will focus on exposure to SLR and flooding, including estimating the timing of impacts to inform the required timeline for adaptation, but will also include consideration of impacts from increased peak flows to LOTT’s treatment plant.
- AECOM will evaluate sensitivity and adaptive capacity in a qualitative sense based on asset type/category and will not develop unique sensitivity and adaptive capacity indicators or scores for each individual asset

¹ **Vulnerability** refers to the degree to which an asset is susceptible to and unable to cope with adverse impacts of climate change. Vulnerability includes three components: exposure (is an asset exposed to a given climate hazard?), sensitivity (is an asset sensitive to the impacts of a climate hazard?), and adaptive capacity (can the asset be adapted or modified to cope with the climate impacts?) – together, these three factors define an asset’s vulnerability.

² **Risk** is a measure of climate change impact that incorporates both the likelihood of an impact occurring as well as the consequence of its occurrence. Oftentimes, only the consequence piece is considered for climate change risk assessments. Risk and vulnerability are often used interchangeably but they are different terms. The primary difference is that risk represents the combination of likelihood and consequence factors. An asset may be highly vulnerable to the impacts of climate change; however, it may represent a low risk if the consequences are small or the impacts are unlikely. For example, a surface parking lot may be flooded once per year during King Tides and therefore may be considered vulnerable; however, the risk is low because the consequence of that impact is relatively minor. In contrast, a wastewater treatment plant may be exposed to flooding during a 100-year storm event. While this is a relatively rare occurrence (low likelihood), the consequences are significant and therefore the risk may be considered significant.

City's role: City, LOTT, and Port staff will assist AECOM in compiling necessary asset data for vulnerability assessment using forms and templates provided by AECOM and an in-person asset data meeting. City, LOTT, and Port staff will assist AECOM in identifying critical assets and assigning risk (consequence) ratings for SLR and flooding impacts to specific assets based on staff's local knowledge and expertise (using consequence guidance and metrics provided by AECOM). City will provide topographic DEM and asset data and shapefiles to AECOM.

Task 7. Evaluate Adaptation Strategies and Develop Preferred Plan (\$90,430)

- The adaptation strategy evaluation and development of a preferred plan will occur in two phases. The first phase will develop an initial set of potential adaptation strategies to address the SLR vulnerabilities and risks identified in Task 6 for City, LOTT, and Port assets. The second phase will incorporate input from the community, City, LOTT, and Port staff to develop a preferred plan for adoption in the SLR Response Plan.
- *Develop initial strategies and scenarios.* The initial strategies will be developed in collaboration with the City, LOTT, and Port staff and can be thought of as a menu of strategies that can be selected and paired together to create comprehensive adaptation scenarios for the downtown Olympia area. AECOM will review previously developed strategies from earlier studies and identify the most feasible and promising strategies to carry forward in the adaptation planning process. AECOM will supplement these previously developed strategies with additional concepts from other projects, cities, and discussions with City, LOTT, and Port staff. AECOM proposes creating three to four high-level scenarios that emphasize different values and focuses, such as infrastructure, recreation/public access, ecology,. These scenarios will be shared at Community Workshop #2 for public feedback.
- *Community Workshop #2.* Present the initial strategies and scenarios at Community Workshop #2 (see Task 8) to solicit community feedback on plan features, strategies, and community values.
- *Develop preferred plan.* Incorporating the input received at Community Workshop #2, develop a preferred plan and adaptation strategies to address SLR vulnerabilities and risks in the downtown area in collaboration with City, LOTT, and Port staff. AECOM will participate in one in-person meeting with City, LOTT, and Port staff following Community Workshop #2 to discuss public feedback and develop elements of the preferred plan. The preferred plan will lay out a vision for Olympia's shoreline that integrates shoreline and stormwater/wastewater actions, including locations and extents of shoreline improvements and delineation of segments along which to "hold the line" and potential areas of retreat. The shoreline actions will target low-lying segments of the shoreline that may act as pathways for overland flooding and will aim to balance often competing goals of flood protection and shoreline access. Key stormwater/wastewater strategies will be identified based on findings from previous studies such as the Coast and Harbor Engineered Response Study and LOTT Brown and Caldwell technical memos coupled with the results of Task 6 (Vulnerability and Risk Assessment). AECOM will work with LOTT and City staff to identify the most appropriate and feasible strategies to address the key vulnerabilities and risks of the stormwater/wastewater system that fit within

the broader context of the downtown strategy. Shoreline strategies will also address Port operations and maritime access along the shoreline critical for continued port operations.

- *Community Workshop #3.* Present the proposed preferred plan at Community Workshop #3 (see Task 8) to solicit community feedback.
- *Refine Preferred Plan.* Incorporate community feedback from *Community Workshop #3* to refine the preferred plan for incorporation into the SLR Response Plan.
- *Governance and informational strategies.* Develop governance and informational strategies (for example, identifying strategies to fill data gaps or additional studies) to supplement the proposed physical strategies in the preferred plan for inclusion in the SLR Response Plan.
- *Concept level cost estimates.* Develop concept level cost estimates for preferred plan elements for shoreline, stormwater, and Port actions.

Deliverables:

- One in-person meeting with City, LOTT, and Port staff to discuss feedback from Community Workshop #2 and develop elements of the preferred plan.
- Memorandum describing the elements of the preferred strategy, including shoreline, stormwater/wastewater, and Port actions. Memo will include concept level cost estimates for preferred plan elements.
- Graphics illustrating overall vision for the preferred strategy (plan view) and three to four renderings showing key elements of the proposed plan (such as oblique views of shoreline features or Heritage Park strategies).
- Memorandum describing proposed governance, informational, and operational strategies for inclusion in the SLR Response Plan

Assumptions:

- Tasks 7 and 8 will progress in parallel to allow for public and stakeholder input and feedback on the development of strategies and preferred plan
- Shoreline strategy development will rely on available wave and water level data and estimates of flood elevations (for example, from preliminary FEMA study); AECOM will not perform any modeling or detailed analysis of coastal flood hazards
- Stormwater/wastewater strategy development will rely on available modeling and analysis from the 2011 Coast and Harbor study, LOTT Brown and Caldwell prior work, and City and LOTT staff knowledge and input; AECOM will not perform any supplemental modeling or detailed analysis of the stormwater/wastewater system but will assess existing data and prepare a description of anticipated increases in peak flow volumes (volume and frequency) to the treatment plant from the combined storm system.
- Conceptual level sections and drawings will be schematic and graphical (for example, plan view alignments showing approximate location and representative cross sections or renderings); cost estimates will represent rough order-of-magnitude engineer’s opinion of probable construction costs and will be developed using unit cost measures and representative costs for plan elements taken from similar projects and prior studies.

Task 8. Community and Stakeholder Engagement (\$23,340)

- Two AECOM staff will participate in three community workshops and up to three companion elected official workshops to solicit input and feedback on the SLR Response Plan process and findings; timing of workshops will be determined in coordination with City, LOTT, and Port staff. Companion workshops may include a daytime workshop with elected officials and an evening workshop the same day for the public. Workshops are anticipated to occur as follows:
 1. **Community Workshop #1** – Present SLR Planning Framework, site conditions, opportunities and constraints, and findings of vulnerability and risk assessment; obtain feedback on project goals, key vulnerabilities and risks, observed flooding issues
 2. **Community Workshop #2** – Present initial strategies and high-level scenarios focused on different values such as infrastructure, recreation/public access, and ecology; obtain feedback on preferred plan features and strategies
 3. **Community Workshop #3** – Present proposed adaptation plan for downtown Olympia; obtain feedback on plan features and strategies
- Prepare written and graphical materials to support the City’s community and stakeholder engagement process; materials may include flyers, posters, FAQ, graphics for the City’s SLR website or public presentations, etc. on an as-needed basis within allocated budget

Deliverables:

- Participation in three community workshops and up to three companion elected officials workshops
- Written and graphical materials to support outreach and engagement on an as-needed basis

Assumptions

- City staff will lead the community workshops; AECOM will provide input on format and develop materials to support the workshops and attend

Task 9. SLR Response Plan (\$34,280)

- Prepare the SLR Response Plan which summarizes the findings of Task 2 through 8 and lays out a plan of action for the City of Olympia to protect its downtown area and critical assets, including timing of adaptation actions
- SLR Response Plan will be organized to identify comprehensive city-wide actions as well as specific LOTT and Port actions to facilitate incorporation of actions into City, LOTT, and Port planning and budgeting processes and make it easier for each project partner to identify actions applicable to their assets
- Discussion of next steps towards implementation (for example, data gaps, additional studies, necessary permits, etc.)

Deliverables: SLR Response Plan

Assumptions:

- AECOM will not evaluate financing strategies for proposed adaptation strategies as part of this scope of work; however, AECOM will incorporate information regarding financing strategies for adaptation strategies into the Plan, as provided by the City or its financial consultant. For example, AECOM may incorporate information on availability of financing into the timing of implementation for selected strategies