CITY OF SANTA BARBARA

SUSTAINABILITY COMMITTEE AGENDA REPORT

AGENDA DATE: February 5, 2026

TO: Sustainability Council Committee

FROM: Chris Hastert, Airport Director

SUBJECT: Santa Barbara Airport Climate Adaptation Plan – Presentation of Draft Adaptation Measures

RECOMMENDATION:

That the Sustainability Council Committee receive a presentation and provide comments on the Santa Barbara Airport Climate Adaptation Plan – Draft Adaptation Measures.

EXECUTIVE SUMMARY:

This report presents an update on the Santa Barbara Airport (SBA) draft Climate Adaptation Plan (CAP) measures. This presentation will focus on the draft measures to reduce flood vulnerabilities identified in the Climate Vulnerability Assessment and Risk Evaluation (CVA)[1] completed by the SBA hired consultant Environmental Science Associates (ESA) in March 2025. Staff is requesting the Airport Commission's feedback on the draft adaptation measures, and the three measures Staff recommends for planning-level cost estimating.

The scope of work for the CAP includes identifying future potential adaptation measures and developing planning-level cost estimates for three measures. It also includes public outreach and preparing a Coastal Land Use Plan update. Subsequent phase - outside the current scope of work - are expected to include feasibility studies (including hydrologic modeling to assess the effectiveness), followed by project planning, design and implementation.

DISCUSSION:

Background Information

On January 15, 2025, the Airport Commission received a presentation on the CVA. The CVA studied different hazards exacerbated by climate change including historic and current flooding, increased rainfall rates during storms, sea level rise, future flood hazards

[1] http://FlySBA.com/SBA_VA

analyses, and SBA asset vulnerability. The analysis also analyzed the impacts of these changes on SBA's economy and habitat changes in Goleta Slough.

Phase I: Vulnerability Assessment and Risk Evaluation (CVA) Main Conclusions

The CVA found that the main source of SBA flooding currently and in the near-term is rainfall and resulting creek flows, which will continue to get worse as precipitation events intensify due to rising atmospheric temperatures. Flood events are projected to become more frequent and severe, affecting airport infrastructure. By the mid-term (~2050), sea level rise is projected to significantly increase Goleta Slough water levels and the frequency and extent of rainfall-driven creek flooding at the airport. The CVA and CAP have concluded that there is an immediate need to move forward with ongoing and planned flood reduction measures.

In the near-term (5-25 years), SBA will need to address projected mid-term increase in flood risk for the northwest quadrant flooding and airport closure. Mid-term adaptation (25-50 years) measures are needed to address projected tidal flooding of the airport on a biweekly basis in the long-term (50+ years), which has the potential to render the airport inoperable between ~2075 and ~2085.

Phase II: Climate Adaptation Plan Development

This current phase of the CAP includes the identification and evaluation of flood management and reduction strategies, balancing nature-based solutions with traditional infrastructure. There are several ongoing and planned flood adaptation measures including County creek basin sediment management, Carneros Creek temporary flood barrier (K-rail), Firestone Channel temporary flood tiger-dam, planned Carneros Creek dredging, and planned storm drain improvements per the Drainage Master Plan.[2] In addition, SBA has identified several potential future adaptation measures, as described below for Goleta Slough and associated creeks and on the Aircraft Operation Area (AOA). The intent of each adaptation measure is to reduce flooding on airport property and reduce airport closure events and durations.

Near-Term (5-25 years): Now to 0.8 ft SLR (~2050)

Goleta Slough and creeks adaptation measures	Aircraft Operation Area adaptation measures
• Carneros Creek flood management – Berm to replace K-rail, realign channel, expand creek channel, restore floodplain habitat and conveyance and/or construct flood detention basin north of Carneros Creek (Reynolds Wetland basin) • Goleta Slough remnant levee removal/channel expansion – removal of remnant levees along tidal areas	• Firestone Road drainage channel flood management – Channel clearing, raising Firestone Rd, and/or new drainage channel and detention basin • Groundwater management – Dewatering and/or raising grades in low areas

[2] http://FlySBA.com/Drainage

Near-Term (5-25 years): Now to 0.8 ft SLR (~2050)

Goleta Slough and creeks adaptation measures	Aircraft Operation Area adaptation measures
• Tidal habitat restoration and flood storage/conveyance - restore bermed tidal areas southwest of SBA and the Goleta Slough channel	• Storm drainage improvements - Pressurize storm drain networks with pump systems
• Channel sediment management and wetland sediment augmentation - Dredging Goleta Slough and placing sediment as a thin layer on tidal areas to augment tidal wetland sedimentation to keep pace with sea level rise	• Utility upgrades - wastewater inflow and infiltration study, flood proofing electrical conduits, and pipe material inventory and corrosion risk assessment
• Goleta Slough mouth management - Beach berm grading and lowering (beach priming), siphon pipe system to discharge Slough water when mouth is closed	• Floodproof buildings and sensitive equipment within buildings
• San Pedro Creek flood management - San Pedro Creek stormwater detention basin upstream of Hollister/across Creek from golf course and/or raised bank(s) and channel clearing	• Modify/improve the existing airfield - incremental airfield pavement lift and grading, raise Runway 15R threshold, raise northern taxiway to block flooding from north

During near-term SBA will reassess conditions and improvements made during near-term and refine the mid-term plan accordingly.

Mid-term (25-50 years): 0.8 ft (~2050) to 2.5 ft SLR (~2075)

Goleta Slough and creeks adaptation measures	Aircraft Operation Area adaptation measures
• Upstream flood detention in coordination with other jurisdictions	• Modify the existing airfield - incremental pavement lift and grading

The CAP focuses on near-term and mid-term measures and also considers measures in the long-term (50+ years) with SLR between 2.5 ft (~2075) and 3.3 ft (~2085). The CVA projects that the airport could become inoperable by ~2075 to ~2085. SBA will reassess conditions and improvements made during mid-term and refine the long-term plan accordingly. Long-term planning should consider the costs and impacts of protecting the

airport in place, a regional flood control system, elevating airport infrastructure, other regional air-service solutions, like the possibility of relocating the airport. Any potential relocation decision will be informed by future monitoring and extensive coordination with the regional jurisdictions, the community, and other agencies to explore opportunities inside and outside of the City. Any potential relocation decision will be informed by future monitoring and extensive coordination to explore opportunities inside and outside of the City for relocation.

Priorities and Recommendations

Feasibility and Effectiveness Study of Adaptation Measures

The CAP has focused on identifying the potential adaptation measures above and recommends a study of the feasibility and effectiveness of adaptation measures. This feasibility and effectiveness study should include hydrologic analysis and modeling to confirm and quantify flood reduction benefits of adaptation measures and evaluate potential negative impacts to offsite flooding. The study should also include developing concept plans and estimating costs of adaptation measures to inform selection of priority adaptation measures that have the highest benefits and cost-effectiveness. This study is not within the current scope of the CAP due to the complexity and level of effort required to perform the study and because additional data collection is needed to support the study (e.g., surveys of creek depths and groundwater levels in potential flood detention basins). Additional funding is needed to perform a feasibility and effectiveness study.

Adaptation Measures Selected for Cost Estimating

The scope of the CAP includes preparing planning-level cost estimates for up to three adaptation measures. The purpose of the cost estimates is to provide an indication of potential funding needed to implement future adaptation measures. SBA engineering staff have chosen the three near-term adaptation measures below for cost estimating. Staff are requesting the Airport Commission's agreement to proceed with cost estimating for these adaptation measures.

These three near-term adaptation measures were selected for preliminary cost analysis to address immediate flooding issues on airport property, particularly the recurring flooding of the northwest quadrant.

1. Construct a permanent berm along Carneros Creek to replace the temporary K−rail. The earthen berm would serve as a permanent barrier to flooding from Carneros Creek onto the AOA.
2. Restore wetland floodplain habitat north of Carneros Creek (Reynolds Wetland basin) and potentially expand Carneros Creek. The elevation of the area between Carneros Creek and Hollister would be lowered to increase conveyance and storage of creek flows during storm events and lower creek water levels. Wetland habitat would be restored by revegetating the area with native plants. The channel could also be excavated and widened to increase flood conveyance.
3. Construct Firestone stormwater detention facility north of Runway 15. A facility to hold rainfall-runoff and/or flood overflow from Firestone Channel during storm events would be constructed north of Runway 15. The facility would preferably be

buried underground if groundwater levels are low enough to allow for this to avoid attracting birds.

These measures are intended to reduce flooding of runways, taxiways, and other AOA infrastructure in the northwest quadrant.

Ongoing and Planned Adaptation Measures

Note that the CAP also recommends implementing the SBA Drainage Master Plan in the immediate term (0-5 years).

Outreach

Staff held a meeting with SBA managers and other City staff on December 17, 2025, to present the draft adaptation measures and get staff feedback. Staff also made this presentation to the Goleta Slough Management Committee on January 15, 2026, and the Airport Commission on January 21, 2026. Outreach with key stakeholders and public workshops will continue through the completion of this phase.

Next steps

- Completion of Phase II: Climate Adaptation Plan Development
  Following identification of priority adaptation measures, consultant team will estimate costs of three adaptation measures and prepare a draft CAP by April 2026 for internal review. Following an inter-departmental staff review, a public draft plan will be released for review in July 2026. A public outreach process will follow the release of the public draft plan, including a local public workshop. The final CAP will then be presented again to the Airport Commission, Sustainability Committee, Planning Commission, and City Council.
- Phase III: Airport Coastal Land Use Plan Update
  SBA will update its Coastal Land Use Plan to incorporate adaptation policies, aligning with the latest state and local guidance on sea level rise and resource protection. These updates will then be presented to Planning Commission, City Council, and finally certified by the California Coastal Commission (CCC).
- Phase IV (Funding not identified): Feasibility and Effectiveness Study of Adaptation Measures
  SBA will pursue and secure funding for a study the feasibility and effectiveness of adaptation measures identified in the CAP. SBA will then perform the study, including hydrologic modeling of adaptation measures, additional cost estimating, and recommendation of adaptation measures with the highest benefits and cost effectiveness.

BUDGET/FINANCIAL INFORMATION:
Full financial implications of the CAP are yet to be detailed; however, funding will be necessary for both the adaptation measures and ongoing assessments to mitigate flooding risks. The CAP is funded through the Airport Budget ($255,000), and two separate grants from the CCC ($245,000 and $243,000).

SUSTAINABILITY IMPACT:

The CAP aims to align sustainability goals by addressing environmental vulnerabilities and enhancing the resilience of SBA operations against climate change impacts.

ENVIRONMENTAL REVIEW:
A feasibility or planning study for possible future actions does not require the preparation of an Environmental Impact Report or a Negative Declaration but does require the consideration of environmental factors (Section 15262 of the California Environmental Quality Act (CEQA) Guidelines). Natural resource protection is a key consideration in the Adaptation Plan. In addition, the Adaptation Plan is part of a larger effort to update the Airports Local Coastal Program. California Public Resources Code Section 21080.9 and CEQA Guidelines Section 15265 exempt CEQA review for the preparation, adoption, and amendment of LCPs.

The projects identified in the second phase of the CAP will be subject to additional California Environmental Quality Act (CEQA) review. Any projects that are selected for development will be subject to the National Environmental Policy Act (NEPA), as well as the California Coastal Act.

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ATTACHMENTS: A – Adaptation Measure Figures