STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT
MEETING DATE: August 12, 2015

ITEM **7**

SUBJECT: **The San Francisco Estuary Institute: Opportunities for Increased Estuary Institute/Regional Water Board Coordination –** Update by Warner Chabot, Executive Director of the Institute, and Other Institute Staff

DISCUSSION: At the April 2015 Board meeting, Warner Chabot, the Institute's Executive Director, gave an update to the Board on the major initiatives the Institute is working on now and where he sees the Institute's work expanding in the coming years. As part of that update, he discussed opportunities for further coordination on evolving issues, including how the Institute can work with the Board on such issues as adapting to climate change and sea level rise. This workshop is an opportunity to further discuss these opportunities for increased coordination.

As part of any discussion on adapting to climate change and sea level rise, it is worth reviewing what regulatory actions the Board has taken on these issues to date. Appendix A is a summary of the types of actions the Board has taken in its regulatory programs.

RECOMMEN-DATION: No action needed – information item.

APPENDIX A: Examples of Sea Level Rise/Climate Change Impact Provisions in Regulatory Actions

Appendix A

Examples of Sea Level Rise/Climate Change Impact Provisions in SF Bay Regional Water Board Regulatory Actions as of August 2015

Waste Discharge Requirements and Site Cleanup Requirements for Land Disposal Facilities

In 2009, with the issuance of updated waste discharge requirements (WDRs) for the Redwood Landfill, we started requiring all owners/operators of land disposal facilities located adjacent to or near the Bay, rivers, or the ocean to regularly submit "long term flood protection" plans that consider sea level rise. The first paragraph below is the finding from Redwood Landfill's WDRs, and the second is the provision in those WDRs that requires updating this plan every five years.

Long term flood protection planning at the Landfill is done in accordance with the long term flood protection plan dated October 16, 2008, which takes into account rising sea levels and 100-year storm run-off associated with anticipated climate change impacts to the San Francisco Bay Region.

> "Long-Term Flood Protection Report: The Discharger shall submit a report, acceptable to the Executive Officer, for long-term flood protection at the Landfill. The plan shall include a consideration of feasible options for achieving protection from the 100-year flood in the face of rising sea levels and increased flood frequency and intensity. The plan shall consider the methods developed by the San Francisco Bay Conservation and Development Commission to predict and protect against future flooding. The Plan shall be updated every 5 years throughout the operational life and post-closure maintenance period of the Landfill with the most recently available and credible information at the time of the update."

Where we have required land disposal facilities to implement site cleanup and other corrective actions under Water Code section 13304 (Site Cleanup Requirements or SCRs), we have modified the opening sentence of this provision (taken from the 2014 SCRs for the Shell Martinez Refinery) as follows:

> "The Discharger shall submit a report, acceptable to the Executive Officer, for long-term flood and/or sea level rise protection of the Corrective Action Areas vulnerable to sea level rise."

Water Quality Certification

Where we need to certify infrastructure projects located adjacent to or near the Bay, its Baylands, and/or river/ocean shorelines, we have started including certification conditions requiring regular review of the infrastructure's susceptibility to sea level rise or other climate change impacts. The following is from the 2014 certification issued to the Sonoma-Marin Area Rail Transit (SMART) Project, which is a commuter rail system being built on the alignment of a former freight rail line that goes through the Baylands and crosses multiple bridges. We asked SMART to submit a proposed climate change adaptation or sea level rise (SLR) strategy as part of its application. The first paragraph is a finding in the certification that describes the strategy that we accepted; the second is a condition in the certification that requires implementation of the strategy.

> *"Climate Change Adaptation Strategy*
> The SLR Strategy provides a technical and scientific understanding of changes to the hydrology of creeks and wetlands resulting from continuing sea level rise and identifies potential adaptation measures that would avoid and minimize hydraulic constrictions, discharges, and the loss of wetlands. As described in the SLR Strategy, the periodic reviews will monitor SMART system performance to smaller event flooding to protect from repeated flooding damage, review available scientific information on sea level rise data and projections, review SMART system vulnerability in light of available data at that time, identify a long term plan of improvements in the context of the SMART capital

improvement program, and identify opportunities for partnership with other local and regional parties for sea level rise adaptation. The SLR Strategy, as proposed, calls for a review of the document every ten years; however, the SLR Strategy needs to be reviewed every five years to be considered adequate. Furthermore, the SLR Strategy documents the Applicant's commitment to cooperate on a long term basis with stakeholders in good faith to identify regional solutions to the challenges of sea level rise. Water Board staff is prepared to work with the Applicant and other local entities to identify long term regional sea level rise adaptation measures."

"To adapt to sea level rise impacts, the Applicant shall implement the SLR Strategy and perform formal periodic reviews of the SLR Strategy every five years. The Applicant shall also cooperate with public and private stakeholders to identify long-term regional adaptation measures that would avoid and minimize hydraulic constrictions, creek erosion and sedimentation, and the loss of wetlands along the length of the Project as a result of continued sea level rise."

The following is a condition from the 2015 certification issued to the San Francisquito Creek Joint Powers Authority (JPA) for its flood control project on lower San Francisquito Creek:

"The JPA shall submit, at least once every five years, a technical report proposing revisions to the Operations and Maintenance Manual, acceptable to the Executive Officer, and describe adaptive management strategies to be implemented, and a corresponding implementation schedule, designed for the continued healthy functioning of the creek channel within the Project area and the creek-marsh interface along the Faber Tract Levee. This technical report shall address the best balance for sediment and hydrology and landscape conditions for the creek channel and marsh in the context of sea level rise and other potential climate change impacts, such as changes in storm surges and the tidal prism, for the primary purpose of implementing long-term protection strategies for the endangered species dependent on the creek channel and marsh. The technical reports shall make recommendations to adjust the Project as necessary to manage potential future impacts based on the most current climate change science within each five-year cycle."

NPDES Permitting

We have yet to require individual NPDES permittees to regularly evaluate their facilities' susceptibility to sea level rise or other climate change impacts. However, in 2014, we issued a general NPDES permit to all municipal wastewater dischargers discharging to SF Bay that requires those 37 dischargers to evaluate their ability to upgrade or optimize treatment at their POTWs to increase nutrient removal. As part of the provision that requires submittal of that evaluation, we included the following language that essentially requires all dischargers to do this evaluation in context of adapting to the impacts of sea level rise on their facility. During the comment period for the draft permit, many dischargers noted that standard provision language already requires them to consider sea level rise impacts as part of their POTW reliability studies. In response, we kept the provision in the permit but re-worded it as follows to make the nexus to the nutrient removal evaluation clear.

"Dischargers who have planned or are implementing facility upgrades or modifications to address the impacts of sea level rise and climate change alone, or as part of infrastructure renewal, shall also include in its nutrient removal evaluation, consideration of the impacts of sea level rise and climate change on identified nutrient upgrade options."