

DATE: July 11, 2008

TO: INTERESTED PARTIES

**FROM: Stein M. Buer, Executive Director
(916) 874-7606**

**SUBJECT: INFORMATION – NATOMAS LEVEE IMPROVEMENT PROGRAM
UPDATE**

SUMMARY

As the Natomas Levee Improvement Program implementation team moves forward with planning, design, and construction activities, SAFCA staff and senior consultants are reviewing the overall project execution in terms of schedule, total project costs, cash flow, and financing requirements.

NLIP is on an extremely challenging schedule, while dealing with very complex and changing design criteria, right-of way constraints, permitting and mitigation issues, and cost escalation. All of these issues will be taken into consideration in developing an updated execution plan and financing strategy, to be presented to the SAFCA Board at the August 21 meeting.

As described in the May 2008 report to the Board, there are several factors that could potentially delay implementation of the Natomas Levee Improvement Program (NLIP).

The NLIP costs are increasing due to ongoing analysis of the levees and anticipated changes to levee design criteria driven by U.S. Army Corps of Engineers (USACE) national and California Department of Water Resources (DWR) state-wide design criteria updates.

This report provides an update on the status of the NLIP, schedule risks factors and factors that may increase the cost of the program.

Update on NLIP Schedule and Cost Risk Factors

A schedule for the NLIP was presented at the May 2008 SAFCA Board meeting that focused on achieving completion of 50 percent of the levee improvements by November 2009 and completion of all of the repairs necessary to certify that the levees meet 100-year requirements by the end of 2010. If met, this schedule would result in achieving a FEMA Flood Insurance Rate Map Zone A99 status by June 2010 and the Natomas Basin being mapped out of the FEMA 100-year floodplain by June 2011. Additional improvements would likely still be required to achieve 200-year protection and would be initiated in 2011. This information was preliminary and subject to completion of data collection efforts and analysis of the entire Natomas Basin perimeter levee system.

Based on very aggressive assumptions about the durations and relationships

between program tasks, the schedule indicated that that SAFCA would be in a position to award construction contracts for all work needed to achieve the A99 Zone goal by April 2009. However, significant risks were identified that could delay the schedule. The primary risk factors include:

- The USACE Section 408 process would take longer than currently reflected in the schedule.
- The proposed 2008 utility and canal relocation work could be delayed, adding to the work that must be done in 2009, as well as delaying the start of the levee work in those reaches.
- The Central Valley Flood Protection Board (CVFPB) staff may need more detailed information than has typically been provided in the past for their Board to take action.
- The NLIP design team is moving at an extremely aggressive pace for the 2009 work. Data collection efforts as well as USACE, CVFPB, and SAFCA's own Board Of Senior Consultants (BOSC) review may lead to substantive changes in the levee system, utility alignments, or canal designs, making it difficult to stay on schedule.

To mitigate these risks, proposed 2009 construction was limited to that which is needed to achieve the A99 Zone goal, while minimizing the near term purchase of private property and relocation of homes.

Given the complexity and number of real estate and traffic issues which need to be thoroughly addressed for the 2010 work, maintaining the schedule for completing all of the 100-year improvements by the end of 2010 was identified as a significant challenge.

Since the May Board meeting, the SAFCA team has met with USACE and CVFPB staff to incorporate their input into the schedule. The updated schedule for the NLIP ([Attachment 1](#)) remains focused on achieving completion of 50 percent of the levee improvements by November 2009 and completion of all of the repairs necessary to certify that the levees meet 100-year requirements by the end of 2010. This schedule would result in achieving the requirements for a FEMA Flood Insurance Rate Map A99 Zone designation by June 2010 and the Natomas Basin being mapped out of the FEMA 100-year floodplain by June 2011. The current construction phasing map is also attached ([Attachment 2](#)). In addition to the focus on refining the schedule, SAFCA has also been continuously updating the cost estimate for the program as progress is made on defining the problems and designing the levee improvements.

The schedule risk factors previously identified have been evaluated and the team is looking at ways to minimize these risks. As part of this effort, the team has identified new factors that represent risks to meeting the schedule, as well as risks to increasing the program cost. The following is a summary of the risk factors and

actions the team is taking to reduce the risk:

- The USACE Section 408 process will take longer than currently reflected in the schedule.
 - *Action – The SAFCA team has met with the USACE and agreed on a schedule that will meet our goals. We will continue to work closely with the USACE to maintain the schedule.*
- The proposed 2008 utility and canal relocation work could be delayed, adding to the work that must be done in 2009, as well as delaying the start of the levee work in those reaches.
 - *Action – The SAFCA team is working with the USACE and Resource Agencies to identify a path to permit this work to allow for critical construction in 2008.*
- The Central Valley Flood Protection Board staff may need more detailed information than has typically been provided in the past for their Board to take action.
 - *Action – The SAFCA team has met with CVFPB staff and they are reviewing our schedule to determine how we can accommodate their needs and still meet our timeline.*
- The NLIP design team is moving at an extremely aggressive pace for the 2009 work. Data collection efforts as well as USACE, CVFPB, and SAFCA's own BOSC review may lead to substantive changes in levee system, utility alignments, or canal designs, making it difficult to stay on schedule.
 - *Action – The design process continues to evolve based on additional data, analysis, agency input and BOSC participation. To date, this has not resulted in delays to the schedule but may result in increased program cost to meet new criteria.*

Other program risks:

- Construction of the Sacramento River East Levee may be delayed during construction by nesting birds and raptors such as the Swainson's Hawk. We have been aware of the constraints these species pose, but are now focusing on the cost implications of trying to do all of the work in one year that we had planned to construct in 2008 and 2009. We have limited ability to predict where these birds and raptors will nest and for what duration. Once an active nest is established, current protocol requires that construction activity maintain a strict distance from the nest unless a biologist determines, in consultation with the California Department of Fish and Game, that the activity will not likely cause the nest to fail. The distance varies from species to species. We are working with the Resource Agencies to determine what flexibility the Resource Agencies have in allowing for a deviation from this restriction. The implications of this risk are twofold. First, we will be unable to predict where we will be delayed within the construction footprint and for what duration until we are already in construction. Second, since the delays are not predictable, we could likely

incur construction change orders, increasing the cost of the program and likely resulting in at least a one year delay in meeting both A-99 Zone and 100-year certification goals.

- *Action – To the extent allowed by our CEQA documents and permits, we will remove trees that are within the project footprint prior to the nesting season (note that this would not include any trees recently used by Swainson's Hawk for nesting). We will also consult Swainson's Hawk experts to better understand how we can modify our program or monitor the birds' behavior to allow for more flexibility in our construction activities. To mitigate the cost implications, we are evaluating the potential to structure the contracts to be two-year contracts. The downside to this approach is it would result in a one year delay in our goal of meeting A-99 Zone criteria by June 2010 and could delay meeting FEMA 100-year certification by June 2011.*
- The Program is proceeding at a pace that requires significant design progress before all of the problem identification data is collected and allows little time for working through complex issues associated with designing improvements to meet current engineering standards. As a result, the tendency is to be conservative in the design process and do more than may be required. This is a reasonable approach to executing an aggressive schedule if cost is not a factor. However, as we progress with the Program, estimates of costs are increasing and could rise to the point that it would be beyond the capability of our current financing strategy.
 - *Action – The SAFCA team is working to reduce the footprint of the project, thereby controlling real estate costs, and is also exploring various alternatives and implementation timelines to reduce Program costs. The NLIP BOSC is providing critical guidance as the design team seeks to achieve the Program goals within cost constraints.*
- Changing design standards. The levee failures in New Orleans, and most recently in the Midwest, have led to a reevaluation of modes of levee and floodwall failure and may lead to further changes in the USACE levee design manuals to minimize the potential for levee failure at stages above the design event. This may also lead to design criteria that minimize the chances a levee or floodwall will experience catastrophic failure, even when overtopped. In addition, DWR is preparing criteria to define 200-year protection to comply with their mandates provided in SB 5. DWR is considering design criteria that would require more conservative factors of safety, at elevations above the design water surface elevation, than have currently been contemplated. These changes are being proposed to reduce the risk of levee failure and potential for loss of life. However, they will likely result in a significant increase in the cost of the NLIP.
 - *Action – The SAFCA team is working closely with the USACE and DWR to understand what is being proposed and then quantify the cost of changing the criteria so that these agencies can make informed decisions.*

To keep the Board and the interested public informed of the ongoing and often changing Program, the schedule will be updated and reports will be provided to the Board and posted on the SAFCA website on a regular basis as the Program moves forward.

Environmental Documentation

The draft Environmental Impact Statement for Phase 2 of the NLIP program (formerly designated 2008 Construction Project) is currently undergoing public review, with a public meeting scheduled for July 16, 2008 from 4:00 PM to 7:00 PM at the Teal Bend Golf Club. The comment period ends on July 28, 2008.

Meanwhile, preparation of the Phase 3 joint EIS/EIR will soon get underway. The Notice of Preparation for the EIS/EIR will be published in the Federal Register on July 18, formally initiating the federal process under the National Environmental Policy Act. A separate Notice of Intent will be issued to initiate the process under the California Environmental Quality Act.