



American River Watershed Project

Post Authorization Change Report
American River Watershed Project
Folsom Dam Modification and
Folsom Dam Raise Projects

Appendix H
**U.S. Army Corps of Engineers 12 Actions for
Change: Improving Our Nation's Infrastructure**



US Army Corps
of Engineers

Sacramento District
South Pacific Region

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U.S. ARMY CORPS OF ENGINEERS 12 ACTIONS FOR CHANGE: IMPROVING OUR NATION'S INFRASTRUCTURE

The “12 Actions for Change” are a set of actions that the Corps will focus on to transform its priorities, processes, and planning. These were identified by the Corps and other investigative teams analyzing the performance of the Greater New Orleans Hurricane Protection System. They point to the need to transform the way the Corps serves the Nation and its Armed Forces. These 12 Actions were developed from that analysis and from other internal and external examinations of the Corps in the recent past. The Corps will use the 12 Actions to guide ongoing and future work, and to ensure the Corps is an organization that is adaptable, flexible, and responsive to the needs of the Nation.

The 12 Actions for Change fall within three overarching themes: effectively implement a comprehensive systems approach; communication; and reliable public service professionalism. Following is a description of how the Folsom Modification Project and Folsom Dam Raise Project, as described in the Post Authorization Change Report, account for and contribute towards each of the 12 Actions for Change.

Effectively Implement a Comprehensive Systems Approach: Comprehensively design, construct, maintain, and update engineered systems to be more robust, with full stakeholder participation.

1. Employ integrated, comprehensive and systems-based approach.

The Folsom Modification Project and Folsom Dam Raise Project are part of the overall American River Watershed Project, which consists of a number of authorized projects that work together to reduce the risk of flooding to the Sacramento area as well as to restore ecosystem values along the American River and to address transportation needs in the vicinity of the City of Folsom. Though the projects were authorized separately over the years, they have origins in a comprehensive investigation of the American River Watershed (American River Watershed Investigation, 1991). That investigation, as well as all subsequent ones up to and including the current Post Authorization Change (PAC) Report, included extensive public and agency participation which encompassed close coordination with downstream and upstream interests as well as evaluation of system wide benefits and adverse effects to physical, biological, and socioeconomic resources. In order to verify the recommendations of this PAC Report, a parallel investigation, the Economic Reevaluation Report, is underway updating the hydrology, hydraulic, and economic information that has been the basis for the American River Watershed Project components for almost 20 years. Corps HQUSACE, South Pacific Division Region, which is also the Corps Center of Expertise for Flood Damage Reduction, as well as a collection of experts in economics and cost engineers both internal and external to the Corps, have been engaged in review throughout development of the PAC Report.

2. Employ risk-based concepts in planning, design, construction, operations, and major maintenance.

In accordance with Corps regulations, risk-based analysis has been undertaken for hydrology, hydraulic, geotechnical, and economic evaluations for all aspects of the current PAC Report and for the Economic Reevaluation Report. Risk communication is employed to more accurately articulate both risk reduction and residual risk.

3. Continuously reassess and update policy for program development, planning guidance, design, and construction standards.

Development of the PAC Report included application of current Planning and Engineering guidance. It is the District's first formal application of External Peer Review (EC 1105—2-408). Local objectives were considered in the PAC Report and the Economic Reevaluation report is addressing the for four accounts set forth in the Water Resource Development Principles and Guidelines, including a quantified assessment of Other Social Effects and Regional Economic Development (Planning in a Collaborative Environment, EC 1105-2-409).

4. Employ dynamic independent review.

Seamless and Formal Independent Technical Review were undertaken throughout development of the current PAC Report and is continuing for the Economic Reevaluation Report. The ITR team primarily comprised experts from other Corps districts, and was supplemented by contractors. A project briefing was held via VTC early on to provide an overview to the ITR team, and a field trip overview was offered and ultimately conducted for one interested ITR team member. Onboard review/issue resolution sessions were held twice in Sacramento, once prior to release of the draft PAC Report and once prior to submittal of the final PAC Report. A separate team was convened for External Peer Review.

5. Employ adaptive planning and engineering systems.

The American River Watershed Project consists of a collection of authorized project components, some of which have been implemented (Common Features) and some of which are being updated via further investigation (Natomas Common Features and Folsom Reoperation). For example, an Early Flood Warning System was constructed for the Sacramento River area. Project components, such as Natomas Common Features, are being adjusted based on updates to previously authorized project components.

6. Focus on sustainability.

The Refined Authorized Projects were developed to be compatible with both the existing and planned downstream levee improvements as well as with any future projects the local sponsors may wish to pursue for a greater reduction of flood risk. The plan is consistent with the Corps Environmental Operating Principles:

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- **Environmental Operating Principles:** The Corps has reaffirmed its commitment to the environment by formalizing a set of "Environmental Operating Principles" applicable to all its decision-making and programs. These principles foster unity of purpose on environmental issues, reflect a new tone and direction for dialogue on environmental matters, and ensure that employees consider conservation, environmental preservation, and restoration in all Corps activities. By implementing these principles, the Corps will continue its efforts to develop scientific, economic, and sociological measures to judge the effects of its projects on the environment and to seek better ways of achieving environmentally sustainable solutions.
 - **Achieve Environmental Sustainability.** An environment maintained in a healthy, diverse, and sustainable condition is necessary to support life.

The focus of work at the Folsom Dam area instead of, for example, creation of new upstream storage, minimizes environmental impacts in the watershed. The Folsom Dam Raise Project includes an authorized ecosystem restoration project that will contribute to reestablishing native floodplain habitat and processes along the Lower American River, thereby benefiting an array of Federal and State special status species. Mitigation for the Refined Authorized Project has been coordinated with appropriate resource agencies. The Refined Authorized Projects have less adverse effects than if the Corps and Reclamation had independently implemented flood damage reduction and dam safety projects.

- **Consider Environmental Consequences.** Recognize the interdependence of life and the physical environment. Proactively consider environmental consequences of Corps programs and act accordingly in all appropriate circumstances.

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- **Seek Balance and Synergy.** Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.

The project achieves balance between public safety for the community with improved risk management and, in addition to the authorized ecosystem restoration project, minimal environmental effects relative to the Corps and Reclamation working independently of each other or in relation to new upstream storage.

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- **Accept Responsibility.** Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that effect human health and welfare and the continued viability of natural systems.

The Corps and Reclamation, while addressing their respective authorities and programs, have worked together to be more efficient from an overall Federal perspective.

- **Mitigate Effects.** Seek ways and means to assess and mitigate cumulative effects to the environment; bring systems approaches to the full life cycle of our processes and work.

Compliance with environmental laws and regulations has been documented in an Environmental Impact Statement/Environmental Impact Report developed by Reclamation in cooperation with the Corps. Reasonable mitigation for impacts has been identified as appropriate. Cumulative impacts are disclosed. The Refined Authorized Projects have less adverse effects than if the Corps and Reclamation had independently implemented flood damage reduction and dam safety projects.

- **Understand the Environment.** Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and effects of our work.

The project was developed with extensive input from Corps and partnership experts, as well as consultant staff, and with the appropriate resource agencies.

- **Respect Other Views.** Respect views of individuals and groups interested in Corps activities, actively listen, and learn from their perspective in the search to find innovative win-win solutions to the Nation's problems, solutions that also protect and enhance the environment.

The local and regional communities have been active in the project development, for which public workshops were held to solicit involvement. The local objective in flood damage reduction, though somewhat different from the Federal objective, was recognized to be important in local decision making and was identified and characterized throughout the project refinement process.

7. Review and inspect completed works.

The Refined Authorized Projects address the Nation's highest priority dam safety issue in Reclamation's Safety of Dams Program, which is Folsom Dam. By addressing both the dam safety problem and flood-related problems in the region through collaboration, the Corps and Reclamation have increased efficiency in managing the Nation's assets.

8. Assess and modify organizational behavior.

The Refined Authorized Projects were developed with an unprecedented level of coordination with Reclamation. This was necessary because both agencies had projects planned for the same location; when the opportunity came to review planned work for the area for efficiencies, the Corps and Reclamation worked together to develop a project that satisfied the requirements of both agencies. Collaborative project development team meetings were regularly held with the internal Corps team and the project partners to ensure shared information and timely response. For further facilitated internal coordination, an American River Design Branch was created that consisted of the engineering design team, who were collocated. Most elements of the American River Team ultimately sat relatively close to each other, which greatly enhanced coordination.

9. Effectively communicate risk.

The American River Project partnership has worked to improve risk communication. A few years ago, the State of California published an issue paper that described the flood risk in the northern and central California regions. SAFCA periodically mails a publication to residents in the floodplain that gives updates on project efforts and residual risk. The Corps has worked to improve the understanding by local media of regional flood risk to ultimately improve the understanding of the general public.

10. Establish public involvement risk reduction strategies.

Though SAFCA has an initial goal of attaining and maintaining FEMA certification of the project at the 100-year level, the ultimate goal of this local sponsor is significant flood risk reduction for the 200-year frequency event. This goal is published by SAFCA and the affected community is assessed to fund projects.

11. Manage and enhance technical expertise and professionalism.

The American River Project is a large and significant study and design effort that has spanned 20 years. In order to ensure that the incredibly complex technical project history is understood by the current project team, former Corps employees have been retained to work on this PAC and to mentor newer team members. Additionally, seasoned resources from other Corps districts have been engaged in the project as part of independent technical review, external peer review, and served as the director of the overall American River Program.

12. Invest in research.

The Economic Reevaluation is specifically undertaking research to develop Regional Economic Development and Other Social Effects benefits. This is an area that had not previously been investigated for the American River Project.

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