

DISCUSSION PAPER

PROPOSAL FOR REVISIONS
TO CALIFORNIA'S
CENTRAL VALLEY FLOOD
CONTROL SYSTEM

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1. ***Introduction***

The Third District Court of Appeal's recent decision in *Paterno v. State of California* suggests that, now more than ever, flood control agencies are, in effect, insurers against flood damage. This legal standard, however, ignores many of the realities of flood control, including: (i) the fact that levees are designed to reduce the inherent risks of flooding in certain areas, not eliminate the risk completely; (ii) many pre-existing and privately constructed levees were incorporated into regional flood control projects as the most cost-effective way of providing flood control; (iii) voter distrust of government programs, coupled with the presence of Propositions 13 and 218, limits funding available for flood control projects; (iv) despite the inherent risk of flooding, many people do not purchase flood insurance, or purchase flood insurance only at minimum levels; and (v) flood control facilities which reduce the risk of flooding make private property more valuable, yet there is often a disconnect between that increase in value and decisions involving flood control projects.

The purpose of this discussion paper is to outline a program to modify the existing regulatory and legal regime governing flood control in the Central Valley so as to address these and other challenges created by urbanization and the lack of funds for capital improvements and operation and maintenance of that system. The goal of these changes is to create a system that protects public health and safety, minimizes the risk of flooding and the damage to property, and that respects the fiscal realities facing the State of California, local governments, and individual property owners. If each of these goals is achieved, these changes will also help reduce the threatened liability that has been highlighted by the *Paterno* case.

2. ***Key Elements of the Problem***

- a. *Perceptions About Flood Control Abound, and Many Are Incorrect.* Many small districts and some political leaders view flood protection projects as posing engineering questions (e.g., how do we address seepage) rather than public safety questions (e.g., how many people could lose their homes if this levee were to fail). This focus on engineering questions reflects the relative success of the existing system over the past century in reducing damage from flooding from an annual event to an event that occurs much less frequently. Indeed, the public safety aspect to flood control usually invades the public's consciousness only after a flood event, despite the fact that the risk of flood damage to a home situated behind a 100-year rated levee is still greater than the risk of fire for that same home. In addition, many in the water supply community view flood control as an isolated or unrelated issue, a view that has been proven wrong by the recent flooding of Jones Tract. The current flood control regime does not effectively communicate to all Californians the value that all Californians get from an effective flood control system. It also fails to provide the public with adequate notice of the risks of flooding, as a perception of relative safety can lead to public inaction on these issues. These concepts are key to obtaining additional funding and public approval for projects.

- b. *Lack of Supervision and Fragmentation of Oversight.* There is simply inadequate supervision and oversight of the present flood control system. In particular, the current system has fallen short in providing critical oversight with regard to the operation and maintenance of facilities (e.g., levee maintenance or the maintenance of capacity in the bypass system). Some of the lack of effective supervision is as a result of certain flood control facilities being under the jurisdiction of the State, while others are not. As to some of those that are under the State's oversight, the Corps of Engineers establishes general standards for project levees while the State of California, through the Reclamation Board, establishes standards for other areas within floodways. Meanwhile, the Department of Water Resources is responsible for inspecting project levees and other facilities to determine whether they meet the relevant standards.
- c. *Failure to Recognize Urbanization of the Central Valley.* One key element of the problem is the failure to recognize new risk management conditions as a result of the urbanization of the Central Valley that has occurred over the past quarter-century. The current system was designed to address flood control needs in a watershed that was – with the exception of Sacramento and a few minor other areas – entirely agricultural and farmed in a way that allowed substantial percolation of precipitation during the winter season, and the local retention of flood waters during high flow events. The development of the flood control systems in the upper Sacramento and San Joaquin watersheds (along with urbanization) has increased the quantity and flows that the downstream flood control system must handle, largely without providing the new sources of capital funding that are needed to improve the system. Moreover, with development has come a change in perception of the flood control system. Prior to development, farmers and rural flood control districts understood that there would be periodic flooding of their lands and that the cost of eliminating that risk was too great to be justified. With development, however, has come the expectation that protected lands must be protected in all circumstances. This change in perception has, as described below, led to the courts making the flood control participants essentially liable on a strict liability basis.
- d. *Liability Crisis.* The fragmentation of responsibility and the challenges of maintaining the system during a period of urbanization (and hence increasing risk in the event of a levee failure) has led to significant finger-pointing among the agencies involved in flood control.
- (1) Significant efforts are expended to shift liability as between different agencies. In fact, discussions about flood control liability often center around "indemnification clauses" and not necessarily around developing plans to ensure that flooding does not occur or that appropriate aid will be available to those property owners damaged in floods.
 - (2) Further, the current system provides substantial incentives to many local agencies not to fix problems immediately (which, in itself, leads to accusations regarding

responsibility for a problem). For instance, a local agency can benefit from a declaration of an emergency, which allows for the infusion of federal funds from PL 84-99 and the lifting of environmental restrictions, as compared to the cost and limitations of doing the work before there is an emergency. More importantly, as noted in the *Paterno* decision, the State of California has and continues to face substantial budgetary woes. Deferring maintenance of the flood control system (or even the oversight of the system) meets a short-term need but creates long-term consequences.

- (3) Finally, while no court has explicitly admitted this, the concept that liability would only accrue to an agency that acts unreasonably has now evolved into the concept that liability accrues to flood control agencies (including the State of California) practically based on a standard of strict liability. The cases on flood liability have previously developed a complex set of factors to be considered in determining the reasonableness of a public agency's decisions on flood control. Among the 18 factors identified thus far by the courts are factors on risk-bearing capability, benefits to the landowner from the flood control projects, and whether the land was historically subject to flooding. The bias associated with these factors has historically been split evenly between those favoring flood victims, those favoring flood control agencies, and those that are truly neutral. The recent decision in *Paterno*, however, has "re-oriented" some of these formerly neutral or agency-favorable factors to factors that now favor a flood victim.
- e. *Financial Crisis.* The ability of the flood control system to respond to these challenges has been eroded by the very stringent limitations on financial resources allocated to flood control. For instance, State funding for projects is limited by Proposition 13 and the challenge of raising income and sales taxes; local funding for projects is limited by Proposition 218; and, especially after the terrorist attacks of September 11th, commercially offered hazard insurance is virtually unavailable.
 - f. *Lack of Consideration for the Environment.* The majority of flood control facilities in the Central Valley were designed with goals that were at odds with the goal of considering the environment; dams and rocked levees, for example, have been favored facilities that have ignored environmental values. Flood control projects in the Central Valley were largely constructed prior to the recognition by flood system managers that the natural environment can (and does) often provide important benefits to a flood control system. For instance, a natural berm that harbors riparian habitat can help to protect a main flood control levee. Similarly, native grasses can provide substantial protection from erosion at low river velocities.

All of these factors have made it increasingly likely there will be devastating flood damages in the Central Valley and that State will be forced to step in and address the consequences of the damages on an emergency basis.

3. ***Key Elements of a Solution – The Three-Legged Stool***

- a. *Responsibility/Accountability.* A revised flood control system must define the duties of each actor clearly so that all participants (including the public) will know what must be done, by whom, and whether it has been done. The system needs to be subject to regular and serious oversight by an independent commission charged with public safety. That commission needs to be able to order appropriate individuals and/or organizations to perform work or to do the work itself and charge those parties for work that they should have performed.
- b. *Financial Resources.* A revised flood control system must provide the participating entities with sufficient financial resources to carry out their respective duties. In addition, there must be sufficient financial resources to be able to compensate property owners (whether homeowners, renters, or businesses) damaged by a flood, thereby achieving the purpose of, and avoiding the need for, inverse condemnation lawsuits.
- c. *Revised Liability Framework.* The Legislature needs to act to bring the liability standards that courts apply in flood cases back to liability standards similar to those used in other inverse condemnation actions, and not the almost strict liability approach that now predominates in decisions involving flooding.

4. ***A New Flood Control Framework***

- a. *Reorganize the Reclamation Board.* The first element of an improved flood control framework is a reorganized Reclamation Board. New legislation should reorganize the Reclamation Board, provide it greater authority and budget, thereby creating a state agency responsible for overseeing flood protection in the Central Valley, or perhaps throughout the State. Specifically:
 - (1) Members of the Reclamation Board should be appointed to represent specific constituencies, e.g., members of the public, environmental interests, representatives of local agencies, cities/counties, and law enforcement. At least one of these individuals should be required to be a licensed civil engineer. There should also be geographic diversity to reflect the different conditions in different portions of the Central Valley. For instance, the Board should have members from the Sacramento Valley, from the Delta, from metropolitan areas, and from the San Joaquin Valley.
 - (2) The new membership of the Reclamation Board would have enhanced responsibilities and budgetary authority to conduct the oversight role discussed above in a manner that puts public safety first. Included within that enhanced authority would be cease and desist and/or administrative civil liability authority so that the Board could act expeditiously to address threats to public safety from potential flooding. Also included would be provision for a substantially improved

inspection program that would use the technological tools available to better understand and manage the risk associated with specific levee conditions. The Reclamation Board would also have its own staff instead of having to borrow staff from other agencies.

- (3) Part of the budget for the Reclamation Board's new activities should come from the General Fund, as it is part of the effort by the State of California to provide for public safety. Part of the budget should come from local governments with lands use authority in the Central Valley (hence, the seat(s) on the Board). Additional funding should come from the state and federal governments to recognize the very great benefits for the State Water Project and the Central Valley Project that are provided by flood control efforts in the Delta. The remaining funding for the Reclamation Board should come from a regional flood assessment and/or a statewide natural hazard risk pool (see below).
- (4) The Reclamation Board should also be charged with providing the Legislature, every five years, with a comprehensive plan for flood control facilities and operations in the Central Valley. The plan should also identify capital improvement needs for the following five, ten and twenty-five years to allow for the orderly improvement of the system as the Central Valley completes urbanization. Such a flood management plan would include limits on development that would be binding on local governments unless the local government is able to demonstrate that it has physical facilities to protect homes/businesses in the floodplain (beyond the 100 year protection required by FEMA) and a financial plan to adequately compensate residents in the event of a flood. The plan needs to examine the role of operation and maintenance (and who performs this O&M) and needs to propose detailed objectives and solutions for the following five years to achieve the goals set forth. Finally, the plan must include a financing plan that allows for the collection of sufficient revenues to protect public safety.
- (5) In developing the comprehensive plan for flood control, the Reclamation Board, in collaboration with local stakeholders, should consider the level of flood protection that is to be provided to a given area. For instance, downtown Sacramento should receive the highest possible level of flood protection, given the risk of loss of life, property damage, and overall economic impacts on the region that would result from such flooding. By contrast, some agricultural areas may be willing to accept limited protection from flooding and limited development in exchange for limitations on financial obligations for flood control. In essence, such areas would agree to subject themselves to flooding more often than at present in exchange for lower flood insurance or other payments.

- b. *Affirm the Role of Local Agencies.* The strength of the current system is that it relies upon local agencies, which generally have lower costs, better knowledge of local circumstances, and the greatest incentive to make sure that flood control facilities actually protect people and property from flooding. The weakness of the current system is that, increasingly, these agencies are being asked to shoulder the oversight and planning roles once occupied by the State of California. A new flood control framework should affirm the role of local agencies to operate and maintain flood control facilities. It should also, where appropriate, rely on local knowledge in designing capital improvements to the flood control system. This reaffirmed role, however, should not lessen the State's role in maintaining those flood control facilities which have system-wide benefits (see e.g., Water Code section 8361); indeed, it may be that additional facilities should be maintained by the State due to those facilities' system-wide role.
- c. *Provide for Sustainable Funding.* A number of mechanisms for raising funds could help fund needed maintenance and upgrades and create a fund to address unavoidable damages. While recently passed propositions made available certain funds in the form of partial reimbursements or loans, these funds cannot even begin to properly fund the needed flood control facility maintenance and upgrades.
- (1) *Regional Assessments.* An approach which requires only those landowners within a district to pay for (or repay) the cost of the work performed on district facilities ignores the interconnectedness of the flood control system. As was evidenced by the levee failure on Jones Tract, our flood control world is far more integrated than was previously thought. Thus, the regional assessment would need to be imposed not only on lands within the 100-year floodplain but also (i) on lands that drain into that floodplain, (ii) lands that would be in the 100-year floodplain absent flood control works, and (iii) potentially on lands that benefit from the lack of disruption that flood control seeks to offer. The legal rationale for an assessment on lands draining onto the 100-year floodplain is fairly direct; it is well-established that upper landowners cannot concentrate or accelerate their drainage so as to have a negative impact on lower landowners. Urban development in the Central Valley – for instance in Roseville – has had the cumulative effect of concentrating and accelerating the demands on the flood control system because of decreased percolation and increased runoff during storm events. Accordingly, such lands should pay for their impacts on the flood control system.

In addition, there is recent precedent for such an assessment. The Sacramento Area Flood Control Agency's (SAFCA) operation and maintenance assessment, among other provisions, divided lands into “wet” and “dry” areas. Lands within the “dry” areas would not themselves benefit from flood protection because they were not anticipated to flood; on the other hand, those lands contributed to the flooding problem in the “wet” lands and reaped the economic benefits of

development in the floodplain. For those reasons, SAFCA found – appropriately – that lands within the “dry” zone benefited from flood control efforts and should bear some portion of the costs. A similar approach would impose some type of assessment on upland areas that directly drain into the Central Valley flood system from Redding to Fresno and from Roseville and Rocklin to Vacaville.

- (2) *Insurance Premiums.* As a practical matter, the political will to impose such an assessment on a homeowner in Roseville to provide flood protection for someone living in Rio Vista may be lacking. Accordingly, it may be easier to pursue an “all natural hazard” assessment that could be levied throughout California. Such an assessment would be based on actuarial data and would attempt to provide a fund that would allow the State to manage its risks from flooding, wildfires, and earthquakes.

As an alternative, the State could develop a comprehensive flood insurance program. Such a program might mandate participation by all property owners within a 200 year flood plain, whether or not those property owners hold federally-backed mortgages or not (unlike the current FEMA-based flood insurance program which is mandated only for property owners with federally-backed mortgages within 100-year flood plains). While analogies to the Worker's Compensation Program are not all favorable at this point, as with the Worker's Comp Program, a mandatory state-wide flood insurance program could ensure protection for all property owners, with an appropriate cap on damages, all without placing financial blame on local or state flood control entities.

- (3) *Federal Contributions.* As a general rule, the federal government now pays 65% of the capital costs of flood control projects and it is likely that, in light of the federal budget deficit, that cost-sharing percentage may be reduced in the future. It is important to realize, however, that much of the capital cost for projects needed to protect the Central Valley from flooding is the direct result of the design of Shasta Reservoir and the Sacramento River Flood Control Project: narrow floodways that were intended to move the silt created by placer mining through the system and into San Francisco Bay. Given that the United States helped to create the system in its configuration, it would be appropriate for the United States to increase its share of the costs of projects beyond the usual 65%.
- (4) *Development Fees.* A supplemental funding mechanism could be the imposition of development fees upon new developments located in the flood plain, or located upland from the flood plain but which generate additional run-off. Development fees could be used for a number of purposes, including: necessary O&M on the flood control features to be affected by the development; the purchase of "mitigation" flood lands which, in conjunction with site-specific set-back levees, might lessen the burden on the existing flood control features; the purchase of

flood easements on certain farmland to be used as a "pressure valve," much like the function of the current bypasses; and the funding of necessary capital improvements.

- (5) *Amending Proposition 218.* Proposition 218 was enacted with a goal of ensuring financial limitations on local government agencies that were raising rates without sufficient input from the population being served. One rationale behind the proposition was to tie local agency spending to limited local agency revenue, without a vote of the people. But unlike some government services (such as longer park hours, or new street-lights), flood control operation and maintenance needs to occur whether or not supported by a majority of the voters. Failure to properly operate and maintain flood control facilities results in flood damages that, if the facilities were designed or built by the State, can subject the residents of the entire state to extensive liability. One approach to addressing this disconnect is to once again entrust local leaders with the ability to raise funds to perform needed operation and maintenance. This approach would require an amendment to Proposition 218 which would exempt flood control projects from those projects requiring a vote of the people.
- d. *Compensate for Flood Losses Without Open-Ended Liability.* As noted above, at present, flood control agencies (including the State of California and local governments) are faced with very large potential losses from a flood event and no realistic way to pay for any damages. The public may or may not be compensated, depending on a variety of factors. Such a system does not serve the public interest in promptly compensating the public for losses (and thus encouraging rebuilding and a minimal economic disruption), protecting responsible flood control practices (including, for instance, discouraging building in a floodplain) and forcing irresponsible flood control agencies (including, for instance, local governments that allow building in floodplains) to bear the financial consequences of their decisions.

As discussed above, some variant of all natural hazard risk insurance/assessments or mandatory flood insurance could serve to fund needed improvements and O&M for the existing system with appropriate compensation for flooding victims, all while encouraging sound flood control activities and discouraging poor practices.

In addition to providing for compensation for losses, the legal system must limit the ability of courts to require flood control agencies, in effect, to become insurers against flooding. The cases on flood liability have developed a complex set of factors to be considered in determining the reasonableness of a public agency's decisions on flood control. Among the 18 factors identified thus far by the courts are factors on risk-bearing capability, benefits to the landowner from the flood control projects, and whether the land was historically subject to flooding. The bias associated with these factors has historically been split evenly between those favoring flood victims, those favoring flood control

agencies, and those that are truly neutral. The recent decision in *Paterno*, however, has "re-oriented" some of these formerly neutral or agency-favorable factors to factors that now favor a flood victim. The Legislature should consider the factors previously identified by the courts in judging the reasonableness of an agency's decisions and should describe the application of those factors with appropriate standards that might be considered by the courts in interpreting the factors. Thus, the Legislature's specific standards would then be considered by a court in judging the reasonableness of the agencies' decisions.

- e. *Encourage Bank Protection.* One of the problems with the existing system is that there is little, if any, incentive for local agencies to repair bank erosion sites at the earliest possible time. A revised flood control system should substantially improve and enhance the levee inspection program and eliminate "drive-by" inspections. With such an enhanced program that would inspect levees twice a year, a local agency with a potential bank erosion site might, for example, be reimbursed for 90% of costs if the needed work were undertaken within the subsequent summer; 75% of costs if the needed work were undertaken during the second summer; 50% of costs during the third summer; and nothing if the work was delayed beyond that time. Such a program would be based on the assumptions that: (i) the local agency has sufficient funds, either from its own assessment or the regional assessment, to perform the work, (ii) there is in place a regional permit from the Corps of Engineers that authorizes such work, and (iii) it is to the benefit of the State (and the public as a whole) to have these issues addressed quickly, before they transform into multi-million dollar challenges that tax our current financial resources.
- f. *Encourage Multi-Objective Projects.* There is general consensus that new flood control projects need to be built as part of multi-objective projects that not only provide flood protection but also improve the environment, provide water supply or quality benefits etc. This consensus, of course, is one of the key concepts underlying the CALFED Bay-Delta Authority. The Reclamation Board and local agency should be encouraged to develop new multi-objective projects that enhance the current level of flood protection in the system. To the extent that projects are needed to retrofit the existing system (e.g., constructing slurry walls to minimize seepage), funding should be preferentially directed to those projects that also include environmental restoration elements. In pursuing multi-objective projects, however, the Reclamation Board and local agencies cannot lose sight of the fact that the ultimate purpose of the flood control system is to protect public safety.

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