Item 10B

TIER II – Proposed Revisions

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CALIFORNIA CODE OF REGULATIONS, TITLE 23 – PROPOSED TECHNICAL CHANGES

(Legal review pending)

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April 22, 2011

Legend Notes

Existing ~~Deletion~~ Addition

Division 1. Central Valley Flood Protection Board

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Division 1. Central Valley Flood Protection Board
(Originally Printed 7–25–45)

Chapter 1. Organization, Powers and Standards

Article 1. Authority, Purpose, Scope, and Intent

§ 1. Authority

These regulations are promulgated by the Central Valley Flood Protection Board pursuant to Water Code sections 8571, 8608 and 8610.5.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8610.5 and 8710, Water Code.

HISTORY
1. Amendment of article 1 heading, new article 1 (sections 1 through 3) and section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment of division heading, section and NOTE filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 2. Purpose, Scope

(a) The purpose of these regulations is to carry out the ~~board's~~Board's duties pursuant to Water Code sections 8534, 8608 and 8710 8723. Under these statutes, the Board is required to enforce, within its jurisdiction, on behalf of the State of California, appropriate standards for the construction, maintenance, and protection of adopted flood control plans that will best protect the public from floods.
(b) The area of the ~~board's~~Board's jurisdiction includes the entire Central Valley, including all tributaries and distributaries of the Sacramento and San Joaquin Rivers and Tulare and Buena Vista basins.
(c) This division does not apply to the construction, operation, or maintenance of the Central Valley Project or the State Water Resources Development System or any parts thereof.
(d) This division does not apply to any activities of the United States or its agencies.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8534, 8536, 8608 and 8710, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 3. Intent

The State has a primary interest in:
(1) Adequately protecting lands subject to overflow;

(2) Confining the waters of rivers, tributaries, bypasses, overflow channels, and basins within their respective boundaries;
(3) Preserving the welfare of residents and landowners;
(4) Maintaining and protecting the banks of the Sacramento and San Joaquin Rivers, their tributaries, bypasses, overflow channels, and basins; and
(5) Good and sufficient levees and embankments or other works of flood control and reclamation, to adequately protect lives and property from floods.

The regulations are also intended to comply with the ~~board's~~Board's obligations to the U. S. Army Corps of Engineers (Corps) pursuant to numerous assurance agreements, Corps Operation and Maintenance Manuals, ~~and~~ 33 C.F.R. ~~section~~Section 208.10, and 33 U.S.C. Section 408.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8710, 8532 and 8533, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment of subsection (4) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

Article 2. Definitions and Delegations

§ 4. Definitions

(a) Adopted Plan of Flood Control. "Adopted Plan of Flood Control" means a flood control or reclamation strategy for a specific area that has been adopted by the ~~board~~Board or the Legislature and includes but is not limited to the following:
(1) In the case of project flood channels without levees, it means the natural stream channel and overbank area at design flood levels;
(2) In the case of project channels with levees, it means the area between and including the project levees, and includes:
(A) Additional area outside of the project levees where encroachments could affect the integrity, functioning, or maintenance of the project works (generally ~~ten [10]~~twenty (20) feet landward of the levee toe~~);~~, seepage berm toe, stability berm toe, or relief well discharge/collection system).
(B) Any flowage areas that are part of the federal or state flood control project; and
(C) Areas where there are flowage easements; and
(3) In the case of designated floodways, it means the area between the encroachment lines. For the purposes of this section, boundary lines and encroachment lines are interchangeable terms.
(4) Where levees are involved, the "Adopted Plan of Flood Control" extends at least ~~ten (10)~~ twenty (20) feet landward from the levee toe, seepage berm toe, stability berm toe, or relief well discharge/collection system except where an operation and maintenance manual furnished pursuant to 33 C.F.R. 208.10 or the real property rights acquired by the ~~board~~Board specifically provide otherwise.

~~(b) Berm. "Berm" means the strip of ground between the waterward levee toe and the top of the bank of the low water channel.~~

~~(c) Board.~~(b) Approved Soils Testing Laboratory. "Approved Soils Testing Laboratory" means a testing laboratory meeting the criteria detailed in ASTM D3740 Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction and ASTM E329 Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.

(c) Board. "Board" means The Central Valley Flood Protection Board of ~~the~~The Natural Resources Agency of the State of California as provided in Water Code ~~section~~Section 8521.

(d) CEQA. "CEQA" means the California Environmental Quality Act, beginning at Public Resources Code ~~section~~Section 21000.

(e) Chief Engineer. "Chief ~~engineer~~Engineer" means the person appointed by the ~~board~~Board pursuant to Water Code ~~section~~Section 8581 for that purpose.

(f) Conforming Existing Encroachment. "Conforming ~~existing encroachment~~Existing Encroachment" means an existing facility or use that is consistent with these regulations.

(g) Crest Elevation. "Crest ~~elevation~~Elevation" means the elevation of the top of ~~a~~the levee~~, dike, or dam~~.

(h) Department. "Department" means the Department of Water Resources of The Natural Resources Agency of the State of California as provided in Water Code ~~section~~Section 120.

(i) Designated Floodway. "Designated ~~floodway~~Floodway" means either:

(1) ~~the~~The channel of the stream and ~~that~~the portion of the adjoining floodplain reasonably required to provide ~~for~~ the passage of a design flood, as indicated by floodway encroachment lines on an adopted map; or

(2) ~~the~~The floodway between existing levees as adopted by the ~~board~~Board or the Legislature.

(j) Design Flood. "Design ~~flood~~Flood" means the flood against which protection is provided or may eventually be provided by means of flood protection or control works, or ~~that~~the flood which the ~~board~~Board otherwise determines to be compatible with future developments.

(k) Design Flood Plane. "Design ~~flood plane~~Flood Plane" means the water surface elevation at design flow as determined by the U. S. Army Corps of Engineers, the Board, or Federal Emergency Management Agency~~,~~; or other higher elevations based upon best available information, as determined by the ~~board.~~Board.

(l) Dwelling. "Dwelling" means an improvement of real property used, intended to be used, or suitable to be used for residential purposes, and public assembly, including, but not limited to~~,~~ living, sleeping, cooking, ~~or~~ eating, and working.

(m) Encroachment. "Encroachment" means any obstruction or physical intrusion by construction of works or devices, planting or removal of vegetation, or by whatever means for any purpose, into any of the following:

(1) ~~any~~Any flood control project works;

(2) ~~the~~The waterway area of the project;

(3) ~~the~~The area covered by an adopted plan of flood control; or

(4) ~~any~~Any area outside the above limits, if the encroachment could affect any of the above.

(n) Floodway. "Floodway" means the channel of a river or other watercourse and the adjacent land areas that convey flood waters.

(o) Floodway Encroachment Lines. “Floodway encroachment lines” means the exterior limits of any designated floodway.

(p) ~~General Manager. “General Manager~~Executive Officer. “Executive Officer” means the person appointed by the ~~board~~Board pursuant to Water Code ~~section~~Section 8581 for that purpose.

(q) ~~Impervious~~Embankment Material. “~~Impervious material~~Embankment Material” means soil ~~which has twenty (20~~with one hundred (100) percent ~~or more of its particles~~ passing the two inch (2”) sieve and at least thirty (30) percent passing the No. 200 sieve~~, a plasticity index of~~ with Plasticity Index between eight (8) ~~or more, and a liquid limit~~and forty (40), Liquid Limit of forty five (45) or less, saturated unit weight of at least one hundred and twelve (112) pounds per cubic foot (pcf), organic content of ~~less than fifty percent (50%).~~two (2) percent or less, and without other unsatisfactory materials.

(r) Levee Section. “Levee ~~section~~Section” means the physical levee structure from the landward toe to the waterward toe.

(s) Levee Toe. “Levee ~~toe~~Toe” means the point of intersection of the levee slope with natural ground.

(t) Low–Flow Channel. “Low–~~flow channel~~Flow Channel” means the flowage within a natural channel below top of bank.

(u) Maintenance Activities. “Maintenance ~~activities~~Activities” means any work required to retain or maintain the intended functions of flood control facilities and of the existing encroachments. Maintenance activities include but are not limited to mowing, tree and brush trimming and removal, revetment restoration, rodent control, spraying, painting, coating, patching, burning, and similar works; but ~~does~~do not include any significant excavation or any excavation during flood season. Maintenance activities of public ~~agencies~~Agencies to maintain the designated level of function of flood control facilities within their jurisdiction are authorized and defined by Water Code ~~sections~~Sections 8361, 8370, and 12642.

~~(v) Mobile Home. “Mobile home~~(v) Minor and Major Streams. “Minor Streams” are streams which generally have a design or natural channel capacity of less than 8,000 cubic feet per second (cfs). Streams and rivers with design or natural channel capacities equal to or greater than 8,000 cfs are generally classified as major streams.

(w) Mobile Home. “Mobile Home” means a structure transportable in one or more sections and includes any manufactured home, but does not include a recreational vehicle.

(~~w~~x) Nonconforming Existing Encroachment. “Nonconforming ~~existing encroachment~~Existing Encroachment” means an existing facility or use that is inconsistent with these regulations.

(~~x) Nonproject~~ y) Non-project Works. “~~Nonproject~~Non-project works” means the entirety or any component of a flood control project within the ~~board's~~Board's jurisdiction that is neither project works nor designated floodways.

(~~y~~z) Obstruction. “Obstruction” means any natural or artificial structure or matter which:

(1) may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by the water; or

(2) ~~that is~~are placed where the flow of water could carry it downstream to the damage or detriment of either life or property.

(~~z~~aa) Parties. “Parties” means permit applicants, the ~~board, protestants~~Board, Protestants, and interested public agencies.

(~~aa~~bb) Permit. “Permit” means the approval issued by the ~~board~~Board that approves a plan of work, with or without conditions~~,~~ that ~~results~~result in an encroachment.

(~~bb~~cc) Permitted Uses. "Permitted ~~uses~~Uses" means flood control project works or other structures, improvements, and land uses in the floodway that alone or cumulatively, in the judgment of the ~~board~~Board, will not unduly impede the free flow of water in a stream or jeopardize public safety.

(~~cc~~dd) Project Works. "Project ~~works~~Works" means the entirety or any component of a flood control project within the area of the ~~board's~~Board's jurisdiction that has been approved or adopted by the ~~board~~Board or the Legislature, including state or federally constructed levees, bank protection, weirs, pumping plants, channels, bypasses, and any other related flood control works, or rights–of–way.

(~~dd~~ee) Projected Levee Section. "Projected ~~levee section"~~Levee Section" for new levees means the projection of the levee slope below natural ground ~~at two (2) feet horizontal to one (1) foot vertical (2:1)~~with 3h:1v landside slope and ~~three (3) feet horizontal to one (1) foot vertical (3:1)~~3h:1v waterside slope (or flatter if a special design is implemented to include flatter slopes). "Projected Levee Section" for existing levees means the projection of the levee slope below natural ground with 2h:1v landside slope and 3h:1v waterside slope. For existing levees, the projected slopes are minimums and shall be flatter if the removal of the natural ground material will result in a slope not meeting stability criteria.

(~~ee~~ff) Recreational Vehicle. "Recreational ~~vehicle~~Vehicle" means any travel trailer, camp car, motor home, tent trailer, or other similar vehicle, with or without power, which is designed or used for human habitation and which may be moved upon a public highway, but does not include a mobile home.

(~~ff~~gg) Respondent. "Respondent" means the person named in an enforcement proceeding notice served and filed pursuant to Sections 20, 21, and 22 of this title.

(~~gg~~hh) Revetment. "Revetment" means a layer or layers of material, such as stone or concrete, to prevent soil erosion.

(~~hh~~ii) River Mile. "River ~~mile~~Mile" means the mile along the river channel indicated on a quadrangle map published by the ~~United States~~U. S. Geological Survey or as otherwise indicated on a map adopted by the ~~board~~Board.

~~(ii~~(jj) Stability Berm. "Stability Berm" means the earthen feature constructed at the landside levee toe to either enhance landside slope stability or help control levee through seepage. A stability berm can be either drained or undrained and is usually between 10 to 20 feet in width.

(kk) Seepage Berm. "Seepage Berm" means the earthen feature constructed at the landside of the levee toe and beyond which primarily serves to control underseepage. A seepage berm can be either drained or undrained and extend up to several hundred feet in width.

(ll) Significant Damage. "Significant Damage" means damage or destruction by any cause, to the cumulative extent of more than fifty (50) percent of the property's market value or physical usefulness.

(mm) Stream. "Stream" means natural or regulated water flowing in any natural or artificial channel. Streams may be perennial, flowing continuously; intermittent or seasonal, flowing only at certain times of the year; or ephemeral, flowing only in direct response to precipitation.

(~~jj~~nn) Top of Bank. "Top of ~~bank~~Bank" means the point of intersection of the berm with the bank.

(~~kk~~oo) Toe of Bank. "Toe of ~~bank~~Bank" means the point of intersection of the bank with the bottom of the channel of a waterway.

(pp) Urban Area. "Urban Area" means a developed area in which there are 10,000 residents or more (Government Code § 65007(i)).

(qq) Urbanizing Area. "Urbanizing Area' means a developed area or an area outside a developed area that is planned or anticipated to have 10,000 residents or more within the next 10 years (Government Code § 65007 (j)).
(rr) Waterside Berm. "Waterside Berm" means the strip of ground between the waterward levee toe and the top of the bank of the low water channel.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8361, 8370, 8521, 8581, 8608, 8630 and 8710, Water Code.

HISTORY
1. Amendment of article 2 heading, new article 2 (sections 4 through 5) and renumbering and amendment of old section 46 to new section 4 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment of subsections (a)(1), (a)(3)–(4) and (c) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

Note: § 5 and 5.1 are not the part of this update, and therefore, not included here.

Article 3. Application Procedures

§ 6. Need for a Permit

(a) Every proposal or plan of work, including the placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment or works of any kind, and including the planting, excavation, or removal of vegetation, and any repair or maintenance that involves cutting into the levee, wholly or in part within any area for which there is an adopted plan of flood control, must be approved by the ~~board~~Board prior to commencement of work.
(b) Permits may be required by the ~~board~~Board for existing structures that predate permitting or where it is necessary to establish the conditions normally imposed by permitting. The circumstances include those where responsibility for the encroachment has not been clearly established or ownership and use have been revised.
(c) Every proposal or plan of work described in subdivision (a), but located outside an area over which there is an adopted plan of flood control, must be submitted to the ~~board~~Board for approval prior to commencement of work if it is foreseeable that the plan of work could be injurious to or interfere with the successful execution, functioning, or operation of any facilities of an adopted plan of flood control or of a plan under study. If in the judgment of the Executive Officer, the plan of work is determined to be injurious to or interfere with an adopted plan of flood control or of a plan under study, the plan of work would be subject to requirements of this division.
(d) Permits are not required for maintenance activities as defined in article 2, ~~section~~Section 4 of this title.
(e) The Executive Officer may waive the requirement for a permit for minor alterations within an adopted plan of flood control that would not be injurious to the adopted plan of flood control.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY
1. New article 3 (sections 6 through 19) and section, with renumbering and amendment of old section 95 to new section 6(c) filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment of subsections (c) and (e) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

Note: § 7 is not the part of this update, and therefore, not included here.

§ 8. Applications

(a) All applications for approval must be on forms provided by the ~~board~~Board. The ~~board~~Board provides a standard application for most projects. When available, a special joint permit application may be used by an applicant. Applications to the ~~board~~Board must be typewritten or in legible handwriting in ink and signed by or on behalf of the applicant. Applicants must furnish copies of other material as may be needed by the ~~board~~Board and its staff to adequately determine the exact nature of the proposed work and its effect upon any project facilities or adopted plan of flood control. Applications and all associated material must be filed in quadruplicate (4 copies) with the office of the ~~board~~Board. A copy of the standard application form is found in Appendix A. Applicants ~~should~~shall contact the ~~board~~Board if their project is covered under a joint permit application form previously approved by the ~~board~~Board.

(b) Information furnished to the ~~board~~Board must include:

(1) A description of the proposed work, together with a statement of the dates the planned construction will be initiated and completed.

(2) A completed copy of the Environmental Assessment Questionnaire that accompanies the application form from the ~~board~~Board (See Appendix A) and a copy of any draft and final environmental review document prepared for the project, such as an initial study, environmental assessment, negative declaration, notice of exemption, or environmental impact report. For any reasonably foreseeable significant environmental impacts, mitigation for such impacts shall be proposed.

(3) Complete plans and specifications showing the proposed work, including a location map showing the site of the work with relation to topographic features~~;~~, a plan view of the area~~;~~, and adequate cross sections through the area of the proposed work. The plans must be drawn to scale and refer to ~~National Geodetic~~North American Vertical Datum (~~NGVD~~NAVD88), or other known datum. The plans must also indicate any project features such as levees and/or channels, roads, or other structures, and must show river mile or levee mile references. The dimensions of any proposed or existing fills, excavations, and construction must be given.

(4) Additional information, such as geotechnical ~~exploration, soil~~- explorations, testing, engineering analysis (seepage, stability, erosion, and settlement), hydraulic or sediment transport studies, biological surveys, environmental surveys, and other analyses may be required at any time prior to ~~board~~Board action on the application.

(5) The names and addresses of all landowners of the property on which the project is located and all landowners adjacent to the property on which the project is located.

(c) The Board may waive minor variations in an application.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 2090, Fish and Game Code; Sections 21080.3, 21104.2 and 21160, Public Resources Code; and Sections 8611, 8710 and 8730.3, Water Code.

HISTORY
1. Renumbering and amendment of old section 16 to new section 8 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment of subsections (a) and (b)(5) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

Note: § 9 and § 10 are not the part of this update, and therefore, not included here.

§ 11. Variances

(a) An application for an encroachment permit for a use that is not consistent with the ~~board's~~Board's standards as outlined in this division requires a variance approved by the ~~board~~Board.

(b) When approval of an encroachment requires a variance, the applicant must clearly state in the application why compliance with the ~~board's~~Board's standards is infeasible or not appropriate.

(c) The ~~General Manager~~Executive Officer may grant temporary variances to allow work during the flood season (See Table 8.1).

(d) Where the ~~General Manager~~Executive Officer finds in a particular situation that there is no legitimate reason for the application of one of the ~~board's~~Board's standards, the ~~General Manager~~Executive Officer may waive any such standard for that situation.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8710, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.

Note: § 12 through § 14 not the part of this update, and therefore, not included here.

§ 15. Bases for Denial of Permit Applications

The ~~board~~Board may deny a permit for any of the following reasons:

(a) If the proposed work could:

(1) Jeopardize directly or indirectly the physical integrity of levees or other works;

(2) Obstruct, divert, redirect, or significantly raise the water surface level ~~of~~from design floods or flows, or the lesser flows for which the protection is provided;

(3) Cause significant adverse changes in water velocity or flow regimen;
(4) Impair the inspection of floodways or project works;
(5) Interfere with the maintenance of floodways or project works;
(6) Interfere with the ability to engage in ~~floodfighting~~flood fighting, patrolling, or other flood emergency activities;
(7) Increase the damaging effects of flood flows; or
(8) Be injurious to, or interfere with, the successful execution, functioning, or operation of any adopted ~~plan~~Plan of ~~flood control~~Flood Control.
(9) Adversely affect the State Plan of Flood Control, as defined in the Water Code.

(b) When the ~~board~~Board is the lead agency under CEQA, and the proposed encroachment could result in potential and unmitigated significant environmental effects, including cumulative environmental effects.

(c) When the ~~board~~Board is a responsible agency under CEQA, and the CEQA document is inadequate.

(d) If the applicant fails to supply information deemed necessary by the ~~board~~Board for application purposes, including the names of all adjacent landowners.

(e) If the proposed work does not meet ~~board~~Board standards contained in ~~article~~Article 8.

(f) If there has been a failure by the applicant (or persons associated with the applicant through an agreement or agency relationship) to substantially comply with permit conditions on prior related permits or if there has been work performed without a permit and that work is not the subject of the pending permit application where the applicant has not supplied reasonable and convincing assurances that compliance with the ~~board's~~Board's regulations will be achieved.

(g) If the U. S. Army Corps of Engineers has recommended denial of the proposed work or has not provided the letter of determination as required under 33 C.F.R. Section 208.10(a) for permit a applications affecting an adopted plan of flood control for which the Board has provided assurance to the federal government.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 65943, Government Code; Sections 21002 and 21081, Public Resources Code; Sections 8608, 8610.5, 8710 and 8723, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment of section heading, new subsection (a)(9) and amendment of NOTE filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 16. Permit Conditions

(a) Any ~~board~~Board permit may include and be subject to such reasonable conditions as deemed appropriate by the ~~board~~Board, and may include mitigation for effects of the approved activity on the environment.

(b) The permit may require inspection by the ~~board~~Board, its officers, or staff before, during, and after construction, and at regular intervals thereafter.

The ~~board~~Board may charge and collect a reasonable fee from an applicant to recover inspection costs, including staff or consultant time and expenses.

(c) The permit may require a reporting and monitoring program for any mitigation required by the ~~board~~Board to avoid significant effects on the environment.

(d) The permit may require the filing with the ~~board~~Board of reports and data, including a description of all work done under the approved application. The ~~board~~Board may also request in writing at any time any reports or data, even if not expressly stated in a condition to the decision.

(e) The permit shall require that all of the work must be in accordance with the submitted drawings and specifications and accomplished in a professional manner.

(f) The permit may require the owner of an encroachment, or the owner of real property upon which the encroachment is located, to execute and cause to be recorded a document which imposes a covenant, restriction, servitude, or combination thereof, which runs with the land and binds all owners, heirs, successors, lessees, agents, and assigns, and would be enforceable by the ~~board~~Board or its successor. This requirement may be imposed where there are particular concerns about permit compliance, such as where there may have been previous permit violations by the applicant or where record notice to successors–in–interest to the applicant or landowner is deemed appropriate.

(g) The permit may require the applicant to provide notice of the continuing flood threat to occupants and potential occupants of property subject to flood risk.

(h) The permit may require additional conditions requested by the U. S. Army Corps of Engineers and the local maintaining agency.

(i) The permit shall require exercise of reasonable care to operate and maintain any work authorized by the permit to prevent injury or damage to any works necessary to any adopted plan of flood control, or interference with the successful execution, functioning, or operation of any present adopted plan of flood control or future plan. The permittee shall maintain the permitted encroachment and the project works within the utilized area in the manner required by the authorized representative of the department or any other agency responsible for flood control maintenance.

(j) The permit may require the permittee to be responsible for all personal liability and property damage which may arise out of permittee's actions or failure to perform the obligations of the permit. The permittee shall agree to save and hold the ~~state~~State free and harmless from, and to defend and indemnify the ~~state~~State against, any and all claims and liability, including but not limited to, personal injury or property damage arising or claimed to arise, directly or indirectly, from the uses of land pursuant to the permit. The permittee shall agree to release the ~~state~~State from responsibility or liability for any damages that may be caused to the encroachment by operation of the flood control project or from the releases of water from storage reservoirs. The permittee shall also agree to be precluded from receiving state disaster assistance for flood damage to the permitted works, except as provided by a flood insurance policy.

(k) The permit may require that if the work covered by the permit is not commenced within one year after the issuance of the permit, the ~~board~~Board may revoke the permit or change any condition in the permit as may be consistent with current flood control standards and policies of the ~~board~~Board.

(l) The permit may provide that commencement of work under a permit constitutes an acceptance of the conditions of the permit.

(m) If any of the work does not conform to the conditions of the permit, the permittee, upon the order of the ~~General Manager~~Executive Officer or Chief Engineer, shall, in the manner

prescribed, be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work.

(n) The permit may require the permittee, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted work if the removal, alteration, relocation, or reconstruction is necessary under or in conjunction with any present or future flood control plan or if damaged by any cause.

(o) The permit may require the permittee to mitigate for the hydraulic impacts of the permitted works by reducing or eliminating the additional flood risk to third parties created by the permitted works.

~~(p~~(p) The permit shall require the permittee to repair or restore damages to the flood control facility caused by or that results from the construction, operation, and maintenance of the encroachment.

(q) The permit may require the permittee to provide access to the area of the encroachment for inspection, flood fighting, and for operation and maintenance of the flood control facilities.

(r) Liability insurance may be required to be provided naming the State and the local maintaining agency performing flood control maintenance as additional insureds.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 21002, 21081 and 21081.6, Public Resources Code; Sections 8608 and 8710, Water Code; Title 33, Code of Federal Regulations, Section 208.10.

HISTORY

1. Repealer of article 3 heading, renumbering and amendment of old section 16 to new section 8, and new section 16, including renumbering of old section 22 to new section 16(d) filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 69, No. 25.

§ 17. Emergencies

(a) Any existing levee, conforming existing encroachment, or permitted encroachment may be protected or strengthened in case of emergency during flood season, as specified in section 112, where there is imminent danger of injury to persons, loss of life, or destruction of property.

(b) Any person conducting emergency work shall immediately notify the local maintaining agency and the ~~board~~Board through the ~~General Manager~~Executive Officer or Chief Engineer.

(c) For the purpose of this section, the term "emergency" includes any lawfully declared emergency, or any circumstance determined to be an emergency by the ~~General Manager~~Executive Officer or Chief Engineer.

(d) In an emergency, the ~~General Manager~~Executive Officer may issue a temporary permit. A completed application with proper plans, cross sections, completed environmental assessment questionnaire, and any other necessary information required by ~~section~~Section 8 of this article must be submitted to the ~~board~~ Board within thirty (30) days following the date of the commencement of emergency work.

(e) All emergency work is subject to subsequent approval of the ~~board~~Board, and the ~~board~~Board may require its removal or alteration if not approved.

(f) The ~~board~~Board or the ~~General Manager~~Executive Officer may impose reasonable conditions, pursuant to ~~section~~Section 16, on its approval of any emergency work.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8715, 8716, 8717 and 8718, Water Code.

HISTORY
1. Renumbering and amendment of old section 17 to new section 19 and new section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 69, No. 25.

§ 18. Revisions in Plans

(a) Any plan of work approved by the ~~board~~Board may be changed or altered only with the consent of the ~~board~~Board prior to the time of commencement or during progress of the work. A request for an amendment to a plan of work must be in the same form as an original application or in a form acceptable to the Chief Engineer.
(b) Minor, insubstantial changes may be made in plans without the submission of a written request for an amendment; however, the permittee shall first notify the Chief Engineer of any change before commencing work on any changed work. A minor, insubstantial change must be one that is essentially consistent with the application or permit, consistent with ~~board~~Board standards, and does not pose a threat to the adopted plan of flood control. The ~~board~~Board reserves the right to require the applicant to file a written request for an amendment.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8721, Water Code.

HISTORY
1. Renumbering and amendment of old section 18 to new section 7(a) and new section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 69, No. 25.

§ 19. District Lands

No encroachment may be constructed or maintained upon lands owned in fee by the Sacramento and San Joaquin Drainage District, except when expressly permitted by a proper and revocable license, lease, easement, or agreement executed between the owner of the encroachment and the district, and upon payment to the district of its expenses and adequate rental or compensation therefor. This requirement is in addition to the need for a permit as required in ~~section~~Section 6 of this article.

NOTE: Authority cited: Section 8608, Water Code. Reference: Sections 8504, 8598, 8708 and 8709, Water Code.

HISTORY
1. Renumbering of old section 17 to new section 19 and new section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.

Note: § 20 through § 23 are not the part of this update, and therefore, not included here.

Article 5. Designated Floodways

§ 101. Responsibility of the Board

The ~~board~~Board, after appropriate studies have been made, shall delineate on an aerial mosaic or map, the proposed designated floodway and the floodway encroachment lines. The ~~board~~Board shall further determine allowable uses in the designated floodway pursuant to Section 107.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY
1. New article 5 (sections 101 through 107), renumbering of old section 55 to new section 101, removal of articles 6 through 11 and removal of chapter 1.1, articles 1 through 3. Renumbering of old section 46 to new section 4, old section 56 to new section 102, old section 65 to new section 103, old section 67 to new section 104, old section 68 to new section 105, old section 69 to new section 106, old sections 75 and 76 to new section 107, old sections 85 and 86 to new section 108, old section 95 to new section 6(c), old section 150 to new section 109, and old section 152 to new section 110, filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 102. Considerations in Designating Floodways

In proposing and revising designated floodways, the ~~board~~Board must consider all of the following:

(a) Existing and projected federal, ~~state~~State, and local flood control improvements and regulations affecting the flood plain;
(b) The degree of danger from flooding to life, property, public health and welfare; and
(c) The rate and type of development taking place upon the flood plain.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY
1. Renumbering and amendment of old section 56 to new section 102 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 103. Notices and Hearings

The ~~board~~Board shall notify local interested parties, thirty (30) days prior to any hearing or hearings on designated floodways and floodway encroachment lines, by notice published at least twice in a newspaper of general circulation in the affected area. Hearings must be held in areas convenient to the majority of interested parties. The ~~board~~Board shall hold one hearing prior to initiation of the study and at least one hearing after the study has been completed but prior to adoption.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY
1. Renumbering and amendment of old section 65 to new section 103 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 104. Recording

After a designated floodway and the floodway encroachment lines are adopted by the ~~board~~Board, an aerial mosaic or map showing the designated floodway and the floodway encroachment lines shall be transmitted to the appropriate county or counties for recording.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY
1. Renumbering and amendment of old section 67 to new section 104 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 105. Availability of Maps

The ~~board~~Board shall furnish a copy of the map or maps showing the limits of the designated floodway to the county engineer, the county planning department, and other interested parties.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY
1. Renumbering and amendment of old section 68 to new section 105 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 72, No. 14.

§ 106. Floodway Modifications

If, after the adoption of the designated floodway and floodway encroachment lines, the ~~board~~Board determines that conditions have changed sufficiently to necessitate altering the lines, the ~~board~~Board may, ~~at any regularly noticed meeting~~after the notice and hearing requirements in section 103, make modifications to the designated floodway as it deems to be appropriate.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY
1. Renumbering and amendment of old section 69 to new section 106 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 72, No. 14.

§ 107. Permitted Uses in Designated Floodways

The following uses may be permitted in the designated floodway so long as alone or cumulatively, in the judgment of the ~~board~~Board, they will not unduly impede the free flow of water in the floodway or jeopardize public safety:

(a) Open space uses not requiring a closed building, such as agricultural croplands, orchards, livestock feeding and grazing, or public and private recreation areas.

(b) Fences, fills, walls, or other appurtenances which do not create an obstruction or debris catching obstacle to the passage of floodwaters.

(c) Storage yards for equipment and material, if the equipment and material can be either securely anchored or removed upon notice.

(d) Railroads, streets, bridges, and public utility wires and pipelines for transmission and local distribution.

(e) Commercial excavation of materials from pits, strips, or pools provided that no stockpiling of materials, products, or overburden creates an obstruction to the passage of flood flows.

(f) Improvements in stream channel alignment, cross–section, and capacity.

(g) Structures that are designed to have a minimum effect upon the flow of water and are firmly anchored to prevent the structure from flotation, provided that normally no structures for human habitation will be permitted.

(h) Recreational vehicles and related service facilities that are either floodproofed or are removed during the flood season of the particular stream involved.

(i) Other uses which are not appreciably damaged by floodwaters.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8609 and 8710, Water Code.

HISTORY

1. Renumbering and amendment of old sections 75 and 76 to new section 107 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 72, No. 14 and Register 73, No. 34.

Article 6. Existing Encroachments ~~Within~~within an Adopted Plan of Flood Control

§ 108. Existing Encroachments

(a) Upon adoption of a plan of flood control or adoption of new or revised Article 8 standards, an existing facility or use shall be allowed to continue as provided below:

(1) A permit or order shall be automatically issued for all conforming existing facilities and uses. The facility or use may not be changed, extended, or expanded without a new application to and approval by the board. If the facility is abandoned, it shall be removed at the expense of the owner and not replaced.

(2) Nonconforming existing encroachments that do not have a major detrimental impact on an adopted plan of flood control or on project facilities shall be allowed to continue under a permit or order until abandoned or until they are destroyed or damaged, by any cause, to the cumulative extent of more than fifty (50) percent of their market value or their physical usefulness during any 10–year period. The facility or use may not be changed, extended, or

expanded without a new application to and approval of the board. If the facility is abandoned, it shall be removed at the expense of the owner and not replaced.

(3) Nonconforming existing encroachments that have a major detrimental impact ~~shall~~on an adopted plan of flood control or on project facilities and which were in existence at the time of adoption of the plan of flood control or new or revised Article 8 standards may, at the discretion of the board, be removed~~, abandoned,~~ or suitably modified at no cost to the owner~~, if they have been in existence prior to the adoption or authorization of a project by the United States or prior to the adoption or authorization of a plan of flood control by the state~~.

(4) Nonconforming existing facilities or uses that have a major detrimental impact on the adopted plan of flood control and which were not in existence at the time of adoption of the plan of flood control or new or revised Article 8 standards shall be removed, abandoned, or suitably modified as directed by the board, all at the expense of the owner, and within a period of time specified by the board.

(b) The board shall make the final determination as to whether the facility or use has or has not a major~~-~~ detrimental impact within the adopted plan of flood control or on project facilities, and shall advise the owner of the facility or use of any action required.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8609 and 8710, Water Code.

HISTORY
1. New article 6 (section 108) and renumbering and amendment of old sections 85 and 86 to new section 108 and new section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 69, No. 25. For prior history, see Register 72, No. 14.

Article 7. Review Rights

§ 109. Right of Review of Delegated Authority

Any person or public agency having an interest in a decision made by the Director of the ~~department~~Department or the Executive Officer of the ~~board~~Board pursuant to any delegation by the ~~board~~Board, including those delegations in Section 5 and any other delegation of authority has the right to review by the ~~board~~Board in accordance with the requirements of section 12. Adversely affected persons have the right to present arguments to the ~~board~~Board in person or by a designated representative at a regularly scheduled ~~board~~Board meeting.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8609 and 8710, Water Code.

HISTORY
1. New article 7 (sections 109 through 110) and renumbering and amendment of old section 150 to new section 109 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 78, No. 3.
2. Amendment filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 110. Review Procedures

A person or public agency adversely affected by a decision described in section 109 is entitled to ~~board~~Board review at a regularly scheduled meeting of the ~~board~~Board after receipt of a written request directed to the ~~General Manager~~Executive Officer of the ~~board~~Board stating the facts and circumstances upon which the request is based, provided the request complies with the requirements of section 12. If a petition for reconsideration is not submitted within the time limits specified in section 23, the decision of the ~~board~~Board is final.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8609 and 8710, Water Code.

HISTORY
1. Renumbering and amendment of old section 152 to new section 110 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

Article 8. Standards

§ 111. Introduction to Standards

These standards govern the design and construction of encroachments which affect the flood control works and floodways and are used by the ~~board~~Board for the regulation of encroachments. The standards apply to any work within the limits of, or which can affect, any authorized flood control project or any adopted plan of flood control. These standards also provide the public with information needed to prepare and submit encroachment applications to the ~~board~~Board. Where any provision in this division requires the application of judgment, such as where "practical," "feasible," or "reasonable," the burden of proof on such issues as impracticality, unfeasibility, or unreasonableness lies with the applicant or permittee.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY
1. New article 8 (sections 111 through 137) and section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 112. Streams Regulated and Nonpermissible Work Periods

(a) The ~~board~~Board requires applications to be filed for all proposed encroachments within the floodways under its jurisdiction (identified in Table 8.1) and on levees adjacent thereto, on any stream which may affect those floodways.
(b) Banks, levees, and channels of floodways along any stream, its tributaries, or distributaries may not be excavated, cut, filled, obstructed, or left to remain excavated during the flood season.
(1) The flood seasons for the various floodways are shown in Table 8.1.

(2) The ~~board~~Board, at the prior written request of the applicant, may allow work to be done during flood season within the floodway, provided that, in the judgment of the ~~board~~Board, forecasts for weather and river conditions are favorable.

(c) The following definitions apply to this section:

(1) Bank. "Bank" means the sloping ground bordering a river, stream, lake, or sea, or forming the edge of ~~a cut or hollow~~an excavation.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section and table 8.1 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment of table 8.1 filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

Table 8.1—Regulated Streams and Nonpermissible Work Periods

[1] Flood season November 1 through July 15

[2] Flood season November 1 through April 15

Stream Title	*County-Limits*	*Flood Season*
Alta Main Canal	Fresno	1
American River	Sacramento - to Nimbus Dam	2
Antelope Creek	Placer - to settlement ponds	2
Antelope Creek	Tehama	2
Angel Slough	Butte	2
Arcade Creek	Sacramento - to Roseville Road	2
Ash Creek	Modoc	2
Ash Slough	Madera	2
Atherton Cove	San Joaquin - northeast bank only	2
Auburn Ravine	Sutter and Placer	2
Banta Carbona Intake Canal	San Joaquin	2
Beacon Creek	Sacramento - Morrison Creek to Franklin Boulevard	2
Battle Creek	Tehama	2
Bear Creek	Merced	2
Bear Creek	San Joaquin up to Jack Tone Road	2
Bear Creek	Shasta, reach within designated floodway of the Sacramento River	2
Bear River	Sutter Placer & Yuba	2
Berenda Slough	Madera - A venue 21-1/2 to Ash Slough	2
Best Slough	Yuba	2
Big Chico Creek	Butte	2
Black Rascal Creek	Merced	2
Butte Basin	Butte, Glenn, and Colusa	2
Butte Creek	Butte and Glenn - to Skyway Bridge	2
Butte Creek Diversion Canal	Sutter	2
Butte Slough	Sutter	2
Byrd Slough	Fresno	1
Cache Creek	Yolo, Yolo Bypass to 1/2 mile west of I-5	2
Cache Slough	Solano	2
Calaveras River	San Joaquin - to New Hogan Dam	2
Cameron Slough	Fresno within the Kings River designated floodway	1
Canal Creek	Merced	2
Cherokee Creek	Butte	2
Chowchilla Canal Bvnass	Merced, Madera and Mariposa	1
Chowchilla River	Merced Madera and Mariposa to Buchanan Dam	2
Chum Creek	Shasta - within Sacramento River floodway	2
Cirbv Creek	Placer	2
Clarks Fork	Kings	1
Clear Creek	Shasta - Sacramento River to Whiskeytown Dam	2
Clover Creek	Shasta - to 1.1 miles upstream from Millville Plains Road	2
Clover Creek	Lake	2
Cole Slough	Fresno	1
Colusa Bypass	Colusa	2
Colusa Basin Drain and Canal	Glenn, Colusa, and Yolo	2
Colusa Trough	Colusa	2
Coon Creek	Placer and Sutter	2
Cosumnes River	Sacramento	2
Cottonwood Creek	Shasta and Tehama - divides counties - to Dutch Gulch Dam	2
Cottonwood Creek South Fork	Tehama	2

Stream Title	*County-Limits*	*Flood Season*
Cottonwood Creek	Tulare - St. Johns River to Grapevine Creek	2
Cow Creek	Shasta - to 0.6 miles upstream of Millville Plains Road	2
Cresent Bypass	Kings and Fresno - North Fork Kings River	1
Cross Creek	Kings and Tulare - Nevada Avenue to St. Johns River	1
Davis Drain	Yolo	2
Dead Horse Slough	Butte	2
Deer Creek	Sacramento	2
Deer Creek	Tehama	2
Dog Creek	Fresno	2
Dry Creek	Butte	2
Dry Creek	Fresno	2
Dry Creek	Sacramento and Placer - to Antelope Creek	2
Dry Creek	Shasta, reaches within designated floodways of Clear and Cottonwood Creeks	2
Dry Creek	Stanislaus - Tuolimne River to AT &SF RR	2
Dry Creek	Sutter	2
Dry Creek	Tehama	2
Dry Creek	Tulare	2
Dry Creek	Yuba	2
Duck Creek	San Joaquin	2
Duck Creek, South Branch	San Joaquin	2
Duck Slough	Merced	2
Duck Slough	Yolo	2
Dutch John Cut Slough	Kings	1
Dye Creek	Tehama	2
East Sand Slough	Tehama - within Sacramento R. floodway	2
Eastside Bypass	Merced and Madera	1
Edendale Creek	Merced	2
El Capitan Canal	Merced	2
Elder Creek	Tehama - to Ralston Road Bridge	2
Elder Creek	Sacramento County	2
Elk Bayou	Tulare	1
Elk Slough	Yolo	2
Fahrens Creek	Merced	2
Feather River	Butte and Yuba	2
Feather River, North Fork	Plumas	2
Five Mile Slough	Fresno	1
Florin Creek	Sacramento County	2
Fourteenmile Slough	San Joaquin	2
French Camp Slough	San Joaquin	2
Fresno River	Madera to Hidden Dam	2
Fresno River, South Fork	Madera	2
Fresno Slouch	Kinas and Fresno	1
Georgiana Slough	Sacramento	2
Globe Slough	Fresno	1
Gold Run Creek	Butte	2
Haas Slough	Solano	2
Hastings Cut	Solano	2
Honcut Creek	Butte and Yuba - to 112 mile west of S.P .R.R.	2
Hughes Creek	Kings	2
Hutchinson Creek	Yuba	2

Stream Title	*County-Limits*	*Flood Season*
Ida Island	Sacramento	2
Inside Creek	Tulare	1
James Bypass	Kings and Fresno	1
Jack Slough	Yuba	2
Kaweah River	Tulare	1
Kaweah River North Fork	Tulare	1
Kaweah River Middle Fork	Tulare	1
Kaweah River South Fork	Tulare	1
Kern River, South Fork	Kern, Isabella Dam to Tulare County Line	1
Kern River	Kern and Kings	1
Kern River Bypass Channel	Kern and Kings	1
Kings River	Kings, Tulare and Fresno - to Pine Flat Reservoir	1
Kings River, North Fork	Tulare	1
Kings River, South Fork	Tulare	1
Knights Landing Ridge Cut	Yolo	2
Laird Slough	Stanislaus	1
Laguna Creek	Sacramento-Morrison Creek to Franklin Boulevard	2
Laurel Creek	Solano	2
Ledgewood Creek	Solano	2
Linda Creek	Sacramento and Placer	2
Lindo Channel	Butte	2
Lindsey Slough	Solano	2
Little Chico Creek	Butte	2
Little Chico Diversion Canal	Butte	2
Little Cow Creek	Shasta	2
Littlejohns Creek	San Joaquin	2
Lone Tree Creek	San Joaquin	2
Lower San Joaquin River Flood Control Proiect	Fresno, Madera, and Merced	1
Magpie Creek	Sacramento - UP to Raley Boulevard	2
Main Drain Canal	Kern	1
Mariposa Bypass	Merced	1
Mariposa Creek	Merced	2
Markham Creek	Sutter	2
Mayberry Slough	Sacramento	2
McClure Creek	Tehama	2
McCoy Creek	Solano	2
Merced River	Merced	1
Middle Creek	Lake	2
Miles Creek	Merced	2
Mill Creek	Tehama Sacramento River to Hizhwav 99	2
Miners Ravine	Placer - to Interstate 80 Highwav	2
Miner Slouch	Solano	2
Mokelumne River	Sacramento San Joaquin - to Camanche Reservoir	2
Moody Slough	Solano	1
Mormon Slough	San Joaquin	2
Morrison Creek	Sacramento	2
Mosher Slough/Creek	San Joaquin - to Eight mile Road	2
Moulton Bypass and Weir	Colusa	2
Mud Creek	Butte	2

Stream Title	*County-Limits*	*Flood Season*
Mud Slough Creek	Butte	2
Murphy Slough	Butte	2
Natomas Cross Canal	Sutter	2
Natomas East Main Drainage Canal	Sutter and Sacramento	2
Oak Run Creek	Shasta - to 0.6 miles upstream from Millville Plains Road	2
Old River	San Joaquin to Paradise Cut	1
Outside Creek	Tulare	1
Owens Creek	Merced	2
Paddy Creek and South Paddy Creek	San Joaquin to Tully Road	2
Paradise Cut	San Joaquin	1
Paynes Creek	Tehama	2
Pixley Slough	San Joaquin - Eight mile Road to Rear Creek	2
Pleasant Grove Creek Canal	Sutter and Placer - to Union Pacific R.R.	2
Porter Slough	Tulare - Road 192 to Tule River	1
Putah Creek	Yolo Solano - to Monticello Dam	2
Putah Creek South Fork	Solano	2
Red Bank Creek	Tehama, only the reach that confluences with the Sacramento River desiznated floodwav	2
Reeds Creek	Yuba	2
Sacramento Bypass	Yolo	2
Sacramento Deep Water Ship Channel	Solano and Yolo	2
Sacramento River	Keswick Dam - to west end Sherman Island	2
Salt Creek	Shasta	2
Sand Creek	Tulare and n Fresno	2
Sandy Gulch	Butte	2
San Joaquin River	Friant Dam to West End of Sherman Island	1
Scotts Creek	Lake	2
Secret Ravine	Placer	2
Shag Slough	Solano and Yolo	2
Sheep Hollow Creek	Butte	2
Smith Canal	San Joaquin - north levee only	2
Sevenmile Slough	Sacramento	2
Simmerly Slough	Yuba	2
Stanislaus River	San Joaquin, Stanislaus, Calaveras, Tuolumne to Goodwin Dam	1
State Main Drain	Sutter	2
Steamboat Slough	Sacramento and Yellow	2
Stockton Diverting Canal	San Joaquin	2
Stony Creek	Tehama and Glenn	2
Sutter Bypass	Sutter	2
Sutter Slouch	Solano , Sacramento & Yolo	2
Sycamore Creek	Butte	2
Sycamore Slough	Yolo	2
Svcamore Slouch	Colusa	2
Thomes Creek	Tehama - within the Sacramento River floodway	2
Threemile Slough	Sacramento	2
Tisdale Bypass	Sutter	2
Tom Paine Slough	San Joaquin - Old River to W.P.R.R.	2
Tule River	Tulare Road 192 to Success Dam	1
Tule River, North Fork	Tulare - confluence at Hickman Creek	1

Stream Title	*County-Limits*	*Flood Season*
Tule River. Middle Fork	Tulare - confluence at Long Canyon	1
Tule River South Fork	Tulare - confluence at Long Branch	1
Tuolumne River	Stanislaus and San Joaquin - to La Grange Dam	1
Ulatis Creek	Solano - to Cache Slouch	2
Unionhouse Creek	Sacramento	2
Wadsworth Canal	Sutter	2
Wadsworth Intercepting Canal, East	Sutter -to Township Road south hank only	2
Wadsworth Intercepting Canal, West	Sutter - south bank only	2
Walker Slough	San Joaquin	2
Walthall Slough	San Joaquin	2
Western Pacific Interceptor Channel	Yuba	2
West Side Canal	Kern	1
Willow Creek	Glenn and Colusa	2
Willow Slough and Bypass	Yolo - to SPRR	2
Wright Cut	Solano - to confluence Cache and Shag Slouch	2
Yankee Slouch	Sutter and Placer	2
Yokohl Creek	Tulare	2
Yolo Bypass	Solano and Yolo	2
Yuba River	Yuba - to Daguerre Point Dam/Highway 70	2

§ 113. Dwelling and Structures ~~Within~~within an Adopted Plan of Flood Control

(a) The following definitions apply to this section:

(1) Existing Dwelling~~—~~. "Existing Dwelling" means a building used for human habitation constructed within a floodway prior to the adoption of the floodway as an authorized flood control project, as a plan of flood control, or as a designated floodway~~,~~ or as otherwise permitted by the ~~board.~~Board , or prior to approval of the 2012 amendments to these regulations,.

(2) Existing Mobile Home~~—~~. "Existing Mobile Home" means a mobile home that was positioned within a floodway prior to the adoption of the floodway as an authorized flood control project, as a plan of flood control, or as a designated floodway, or as otherwise permitted by the ~~board.~~Board or prior to approval of the 2012 amendments to these regulations,.

(3) Existing Structure~~—~~. "Existing Structure" means a building used for any purpose other than for human habitation constructed within a floodway prior to the adoption of the floodway as an authorized flood control project, as a plan of flood control, or as a designated floodway, or as otherwise permitted by the ~~board.~~Board or prior to approval of the 2012 amendments to these regulations,.

(4) Human Habitation~~—~~. "Human Habitation" means an improvement of real property used, or intended to be used, for residential purposes and public assembly, including but not limited to living, sleeping, cooking, or eating, and working.

~~(5) Seasonal Occupancy — "Seasonal Occupancy" means to occupy or reside in a dwelling only during the nonflood season.~~

~~(6)~~ Residential Development~~—~~. "Residential Development" means ~~any~~ a real estate housing development~~ or subdivision where~~, such as a subdivision~~ map is required~~, for residential purposes.

(b) Dwellings and structures within an adopted plan of flood control must comply with the following requirements:

(1) New dwellings~~, with the exception of dwellings for seasonal occupancy (nonflood season),~~ are not permitted except as provided in subdivisions (d) and (e) of this section.

~~(2) New dwellings for seasonal occupancy and existing~~(2) Existing dwellings and structures constructed prior to adoption of the plan of flood control are permitted within the floodway under the following conditions:

(A) The existing dwelling or structure is not abandoned and is maintained in a condition suitable for the approved use;

(B) The existing dwelling or structure does not impede ~~floodflows~~flood flows;

(C) The existing dwelling or structure is properly anchored to prevent flotation during periods of high water;

~~(D) The finished floor level of new dwellings for seasonal occupancy must be a minimum of two (2) feet above the design flood plane or two (2) feet above the 100-year flood elevation, whichever is higher; and (E) New dwellings for seasonal occupancy may not be constructed on a levee section or within ten (10) feet of a levee toe.~~

(3) Any exterior remodeling, modifications, additions, or repairs to the dwelling, or structure, or property which modifies the footprint or consists of replacement of over fifty (50) percent of the structure must have prior approval by the ~~board~~Board and meet the following conditions:

(A) Any remodeling, modifications, additions, or repairs may not place the dwelling or structure closer to the low water channel of the floodway; and

(B) The finished floor of any remodeling, modification, addition, or repair to the dwelling or structure must be a minimum of ~~two (2~~three (3) feet above the design flood plane or ~~two (2~~a minimum of three (3) feet above the 100~~-~~-year flood elevation in non-urban areas or 200-year flood elevation in urban and urbanizing areas, whichever is higher.

(4) If a dwelling or structure is damaged, due to any cause, to a cumulative extent of more than fifty (50) percent of its market value within a ten year period, the dwelling or structure ~~may~~ shall not be reconstructed or replaced without the approval of the ~~board~~Board;

(5) If a damaged dwelling or structure is not repaired or replaced, the entire dwelling or structure, including all stored materials, equipment, and debris, must be completely removed within a reasonable period of time, as determined by the ~~board~~Board, and the area restored so that there is no interference with the adopted plan of flood control.

(6) Structures may be constructed within an adopted plan of flood control provided they conform to the following:

(A) Structures ~~may~~shall not be constructed on a levee section or within ~~ten (10~~a minimum twenty (20) feet ~~of~~from a landside levee toe~~;~~, seepage berm toe, stability berm toe, or relief well discharge/collection system or within fifteen (15) feet from a waterside levee toe;

(B) Structures must be securely anchored and floodproofed to at least ~~two (2~~minimum of three (3) feet above the design flood plane or a minimum of three (3) feet above the 100~~-~~-year flood elevation ~~or two (2) feet above the design flood plane~~in non-urban areas or 200-year flood elevation in urban and urbanizing areas, whichever is higher. The floodproofing must be consistent with the potential uses of the structure;

(C) Structures must be located and oriented to have minimal impact on floodflows~~; and~~. A hydraulic analysis considering the effect of all new proposed and existing structures may be required to demonstrate that there is no adverse hydraulic impact.

(D) The number of structures permitted is limited to the minimum reasonably necessary to accomplish an appropriate land use activity.

(c) Mobile homes within an adopted plan of flood control must comply with the following requirements:

(1) New mobile homes are not permitted unless the mobile homes are located within an existing mobile home park or as provided in subdivisions (d) and (e) of this section;

(2) Existing mobile homes, not located within a mobile home park, may remain and the requirements are the same as those for existing dwellings; and

(3) Owners of existing mobile homes which are not located within a mobile home park and which are not anchored in place must have an evacuation plan on record with the ~~board~~Board; and

(4) If flood damage occurs to the mobile home due to failure of the evacuation plan or its execution, the mobile home may not remain or be replaced within the adopted plan of flood control without the approval of the ~~board~~Board.

(d) Dwellings, structures, and mobile homes are permitted within shallow flooding areas designated as a "~~zone~~Zone B" as shown on some designated floodway maps adopted by the ~~board~~Board. The ~~board's zone~~Board's Zone B designation is not to be confused with the Federal Emergency Management Agency's B~~-~~-zone which relates to~~ a~~ different floodplain identification. In addition to the other standards in this section, the following conditions apply to dwellings, structures, and mobile homes within a designated zone B:

(1) ~~The dwelling, structure,~~ Dwellings, structures, or mobile ~~home is~~homes shall not ~~permitted~~be constructed on a levee section or within ~~ten (10~~a minimum fifteen (15) feet ~~of a~~from the waterside levee toe~~;~~.

(2) Dwellings, structures, and mobile homes are not permitted to within ~~fourteen (14~~a minimum of fifteen (15) feet ~~of the top~~landward from the furthest surface projection of 3h:1v slope tangent to any point on the riverbank profile (refer to attached Fig. 8.1a). This regulation shall be followed even if any revetment is to be considered. An erosion analysis shall be performed to evaluate integrity of ~~a~~the streambank~~ provided the streambank is revetted to board standards;~~. This requirement does not include any additional California Building Code requirements for siting buildings for occupancy.

~~(3) Dwellings, structures and mobile homes are not permitted within thirty (30) feet of an unrevetted streambank;~~

~~(4~~(3) The finished floor level of the dwellings and mobile homes must be a minimum of ~~two (2) feet above the design flood plane or two (2~~three (3) feet above the 100~~-~~-year flood elevation in non-urban areas, and a minimum of three (3) feet above the 200-year flood elevation~~, whichever is higher;~~ in urban and urbanizing areas.

(~~5~~4) Only the minimum floodway area necessary for the placement of the dwelling, structure, or mobile home shall be used. Generally not more than thirty (30) percent of the flood plain area may be used. Designated floodway maps, however, may be more restrictive;

(~~6~~5) Sufficient area of the floodway must remain clear of the dwelling, mobile home, or structure to preserve the historical orientation of the floodway and to prevent ~~an~~significant increase in streamflow stages and velocities.

(~~7~~6) If a dwelling, structure, or mobile home is damaged due to any cause, cumulatively to the extent of more than fifty (50) percent of its market value, the dwelling, structure, or

mobile home ~~may~~shall not be reconstructed or replaced without the approval of the ~~board~~Board.

(~~8~~7) Except for approved mining activities, excavating, or grading that would increase the depth of flooding within a ~~zone~~Zone B and which might interfere with the safe evacuation of the area during flooding is not permitted.

(~~9~~8) New residential developments may be subject to a higher standard than the 100~~-~~-year event for non-urban areas and 200-year even for urban and urbanizing areas, up to and including the Standard Project Flood, (e.g., floor elevations required to be above the Standard Project Flood) or an equivalent rare flood.

(e) New dwellings, structures, and mobile homes along an unleveed stream shall comply with the following requirements:

~~(1) Dwellings, structures, and mobile homes are permitted to within fourteen (14) feet of the top of the streambank provided the streambank is revetted.~~

~~(2) Dwellings, structures and mobile homes are not permitted within (30) feet of an unrevetted streambank.~~

(1) Dwellings, structures, and mobile homes are not permitted within a minimum of fifteen (15) feet landward from the furthest surface projection of 3h:1v slope tangent to any point on the riverbank profile (refer to attached Fig. 8.1a). Revetment may be added but the structures must be set back as above. An erosion analysis shall be performed to ensure integrity of the streambank. This requirement does not include any additional California Building Code requirements for siting buildings for occupancy.

(f) Upon abandonment of the permitted dwelling or structure, the property owner shall be responsible for removal of the dwelling or structure and all appurtenant structures, vehicles, equipment, stockpiles of materials, and debris within a reasonable time.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 114. Mobile Home Parks and Recreational Vehicle Parks

(a) The following definitions apply to this section:

(1) Existing Mobile Home Park~~—~~. "Existing Mobile Home Park" means any area within a floodway on which two (2) or more mobile homes have been maintained prior to the adoption of the area as an authorized flood control project, as a plan of flood control, or as a designated floodway.

(2) Recreational Vehicle Park~~—~~. "Recreational Vehicle Park" means any area within a floodway where two (2) or more recreational vehicles are maintained.

(b) Mobile home parks are subject to the following requirements:

(1) New mobile home parks are not permitted within an adopted plan of flood control except in floodway areas classified as ~~zone~~Zone B as described in subdivision (c), section 113, Dwellings and Structures Within an Adopted Plan of Flood Control.

(2) New mobile home parks are not permitted ~~on a levee section or within ten (10) feet of a~~within a minimum 20 feet from a landside levee toe, seepage berm toe, stability berm toe, or relief well discharge/collection system or within 15 feet from a waterside levee toe.

(3) Existing mobile home parks located within an adopted plan of flood control may remain if a permit from the ~~board~~Board has been obtained, a current implementable evacuation plan is on file with the ~~board~~Board, and the following criteria continue to be enforced:

(A) The locations of all structures, mobile homes, recreational vehicles, and appurtenances are shown on the evacuation plan.

(B) The location of the river staff gauge and the gauge height that will indicate an evacuation of a mobile home park are shown on the evacuation plan.

(C) The number of tow vehicles and the usual location of each tow vehicle to be used to evacuate a mobile home park are shown on the evacuation plan.

(D) The locations of emergency storage areas outside the floodway for the mobile homes, recreational vehicles, and portable and floatable structures are shown on the evacuation plan.

(E) The route to be used to evacuate mobile homes from a mobile home park to the emergency storage area is shown on the evacuation plan.

(F) After the initiation of an evacuation, all mobile homes not anchored in place and all recreational vehicles, and portable and floatable structures are removed from the floodway within the time period specified in the evacuation plan.

(G) Existing multiple~~–~~ wide mobile homes, unless specially designed for quick removal, are anchored in place with concrete deadmen.

(H) New multiple~~–~~ wide mobile homes, unless specially designed for quick removal, are not permitted.

(I) A copy of the evacuation plan is provided to all residents of the mobile home park.

(J) The park permittee or the manager has a duplicate of all keys necessary to move a mobile home and a signed statement allowing the removal of an absentee owner's mobile home during an emergency evacuation.

(K) The permittee of a mobile home park accepts sole responsibility for initiating an evacuation of the park.

(L) Mobile homes not anchored in place, all portable structures, and recreational vehicles have axles, wheels, and any required tow hitch installed, and are in a readily movable condition at all times.

(M) Any related structures, such as laundry rooms or storage buildings, are securely anchored to prevent flotation during high water and are not utilized for human habitation.

(N) If significant flood damage occurs to any of the mobile homes or other park structures due to failure of the evacuation plan or its execution, the park may not continue operating without approval of the ~~board~~Board.

(c) Recreational vehicle parks are subject to the following requirements:

(1) New and existing recreational vehicle parks are allowed within an adopted plan of flood control if a permit is obtained from the ~~board~~Board, a current implementable evacuation plan is on file with the ~~board~~Board, and the following requirements are enforced:

(A) The locations of all recreational vehicle pads and appurtenances are shown on the evacuation plan.

(B) All recreational vehicles have axles, wheels, and any required tow hitch installed, and are in readily movable condition at all times.
(C) At the initiation of an evacuation, all recreational vehicles are removed from the floodway within the time period specified in the evacuation plan.
(D) At the initiation of the evacuation, all floatable and portable structures are removed from the floodway within the time period specified in the evacuation plan.
(E) The locations of emergency storage areas outside the floodway for recreational vehicles, and portable and floatable structures are shown on the evacuation plan.
(F) The location of the river staff gauge and the gauge height that will initiate an evacuation are shown on the evacuation plan.
(G) Permittees or managers of recreational vehicle parks accept sole responsibility for initiating an evacuation.
(H) Any related structures, such as laundry rooms or storage buildings, are securely anchored and are not utilized for human habitation.
(I) If significant flood damage occurs to any of the recreational vehicles or other park structures due to the failure of the evacuation plan or its execution, the park may not continue operating without the approval of the ~~board~~Board.

(d) The following restrictions apply to recreational vehicles within an adopted plan of flood control that are not in a recreational vehicle park:

(1) The random use of recreational vehicles within an adopted plan of flood control does not require a permit from the ~~board~~Board. Recreational vehicles are not permitted overnight within the floodway during the flood season. However, recreational vehicles may be stored in those limited areas where dwellings are permitted.

(2) It remains the sole responsibility of the property owner to ensure that recreational vehicles do not remain within the floodway overnight during the flood season.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 115. Dredged, Spoil, and Waste Material

(a) Dredged, spoil, ~~or~~ waste materials, or non-hazardous materials, regardless of their composition, may not be deposited on the levee crown, levee slopes, adjacent seepage/stability berms, levee toe drains or relief wells, within 20 feet of the landside levee toe, or within the limits of a project floodway without specific prior approval of the ~~board~~Board.

(b) Suitable dredged, spoil, or waste material may be deposited on or against the landside levee slope ~~if the board determines that~~provided the applicant demonstrates levee safety is not impacted and the Board concurs it is not detrimental to the safety of the levee.

(c) Dredged materials must be drained of excess moisture before being used as fill material. The moisture content must be controlled to the required limits for proper compaction of the fill.

(d) Dredged, spoil, or waste materials ~~may~~shall not be deposited within the limits of the stream channel, project floodway, or within a bypass area ~~without a determination by the board as to the effect of the deposition regarding~~

~~(1) the flood-carrying capacity of the stream channel, floodway, or bypass; (2) recreational and environmental factors; and (3) fish and wildlife~~.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609, 8708, 8709 and 8710, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 116. Borrow and Excavation Activities—Land and Channel

(a) The removal of earthen material and related activities within the limits of an adopted plan of flood control are subject to the provisions of this division. The ~~board~~Board may limit borrow and excavation activities based on the ~~area's~~geotechnical characteristics, hydraulics, hydrology, sediment transport, and history of the borrow sites. ~~The board~~ Restrictions on excavation and borrows outside the levee right of way shall be applied. A critical area has been determined in Section 116 (b) (2) within which any borrow or excavation may negatively impact the levee integrity. Excavations and borrows within the critical area may lead to removing impervious blanket layers leading to increased underseepage through the levee foundation. The Board normally prohibits excavation and borrows within the critical area. However, the Board may waive specific requirements for borrow or excavation activities if the permittee provides detailed geotechnical and hydraulics studies which the ~~board~~Board considers sufficient to justify the waiver. Borrow and excavation activities may be allowed if:

(1) The borrow activity ~~will~~shall not change the underseepage requirements as per the most current version of ETL 1110-2-569.

(2) The borrow activity shall not cause an unplanned change of the stream's ~~location~~alignment;

(~~2~~3) The borrow activity shall not change the sediment transport downstream ~~will not change in~~from a ~~manner~~borrow area that produces or tends to produce increased flood or erosion ~~problems in~~concerns downstream of the borrow area; and

(~~3~~4) The activity is consistent with the overall flood control objectives for the area.

(b) General requirements for all borrow permits include the following, unless other specific provisions for a specific area or stream modify these requirements:

~~(1~~(1) A geotechnical investigation is required before initiating any borrow activity within a leveed floodway. The investigation must determine if the proposed borrow activity would affect levee safety due to underseepage, stability, and/or erosion conditions.

(2) The minimum required distance for locating a borrow area or excavation within the floodway is three hundred (300) feet measured from the waterside levee toe. The minimum required distance for locating a borrow area or excavation at the landside is three hundred (300) to five hundred (500) feet measured from the landside levee toe. A lesser distance may be allowed if seepage analyses is performed to demonstrate that the excavation configuration is stable and does not adversely impact the underseepage and stability characteristics of any adjacent levee.

(3) Material may not be removed within fifty (50) feet of the toe of any spur levee. A spur levee is a levee that protrudes into the floodway for the purpose of directing the flow of

floodwater. Additional analysis must be performed to verify stability and erosion conditions of the spur levee section for removal of material outside fifty (50) feet.

(4) The side slopes of the perimeter of a borrow area may not exceed 5h:1v.

(5) The bottom of a borrow area that is seasonally dry and located within four hundred (400) feet of a levee toe shall be graded uniformly to be sloping away from the levee toe.

(6) Any levee crown or access ramp used to transport borrow material must be maintained by the permittee in the same or better condition as existed at the start of the borrow operation.

(A) A surveyed longitudinal profile of the existing levee crown roadway and access ramps to be utilized for access to the borrow area must be submitted to the ~~board~~Board prior to any excavation.

(B) A surveyed longitudinal profile of the levee crown and access ramps utilized for access to the borrow area must be submitted yearly as well as upon abandonment of the borrow area.

(C) Upon order of the ~~board~~Board, the permittee shall restore a damaged levee and/or access ramp to the original profile.

(~~2~~7) Land and channel borrow material of any type may not be stored on a levee section or within ~~ten (10) feet~~a minimum of ~~either~~twenty (20) feet of landside levee toe, seepage berm toe, stability berm toe, or relief well discharge/collection system, within fifteen (15) feet from a waterside levee toe, or within the right of way at any time.

(~~3~~8) No land and channel borrow material may be stored in a manner that could destabilize a ~~riverbank, e.g., within thirty (30) feet of the top of bank~~waterside berm. The applicant shall demonstrate stability of the waterside berm and any adjacent levee is not impacted by the temporary placement of material at this location.

(~~4~~9) Periodic topographic surveys of the active borrow area and vicinity may be required.

(~~5~~10) All boundaries of an active borrow area must be delineated by steel posts or other permanent markers which are clearly visible.

(~~6~~11) Stockpiles of materials or the storage of equipment, unless securely anchored, downed trees or brush, and floatable material of any kind are not allowed within a floodway during the flood season as defined in Table 8.1.

~~(7) Excavation is not permitted within one hundred (100) feet of a levee toe or property line within the floodway.~~

~~(8) Material may not be removed within fifty (50) feet of the toe of any spur levee. A spur levee is a levee that protrudes into the floodway for the purpose of directing the flow of floodwater.~~

~~(9) Channel or~~(12) Channel or waterside berm excavations are not permitted within a leveed floodway where there is active erosion unless an engineering study demonstrates ~~that~~ the borrow removal will not exacerbate the erosion.

(~~10) The side slopes of the perimeter of a borrow area may not exceed three (3) feet horizontal to one (1) foot vertical.~~

(~~11~~13) The upstream and downstream ends of a borrow area connected to the low~~-~~-water channel shall be transitioned into the channel to prevent an abrupt change in streamflow velocity or cause an obstruction to the flow.

(~~12) The bottom of a borrow area that is seasonally dry and located within two hundred (200) feet of a levee toe shall be graded to be reasonably uniform with the gradient sloping towards the low-water channel.~~

(~~13~~14) When the borrow area is to be connected to the low~~-~~ water channel, excavation must start at the riverward edge of the borrow area and progress uniformly landward.

(~~14~~15) The bottom elevation of any waterside berm excavation may not be lower than the adjacent channel bottom without adequate setback from the channel. Five hundred (500) feet is generally considered an adequate setback.

(~~15~~16) Dredging of material from channel waterways generally must be confined to the area beyond one hundred (100) feet of the toe of the bank. The slope of the borrow perimeter nearest the toe of the bank may not exceed ~~five (5) feet horizontal to one (1) foot vertical. Localized exceptions may require bank protection~~5h:1v. Localized exceptions may require bank protection. A limited waiver of above rule may be applied to shipping channels, if the Board determines it is not detrimental to the safety of any adjacent levees. Additional seepage and stability analyses shall be performed to verify the integrity of the levee section near the borrow area.

(~~16~~17) Before any borrow operation, including suction dredging, is permitted within one (1) mile of a bridge, a study must be submitted to show ~~that~~ the borrow operation will not adversely affect any of the bridge footings, piers, or bents.

(~~17~~18) Before any borrow operation, including suction dredging, is permitted within one thousand (1,000) feet of any pipeline or cable crossing beneath the channel, or within one thousand (1,000) feet of a project control structure, e.g., a weir, a study must be submitted to show that the borrow operation will not adversely affect that facility. A study may be required for distances greater than one thousand (1,000) feet where deemed appropriate by the ~~board~~Board.

(~~18~~19) Any proposed borrow operation within one mile of a state highway bridge must be approved by the California Department of Transportation.

~~(19) A geotechnical investigation is required before initiating any borrow activity within a leveed floodway. The investigation must determine if the proposed borrow activity would increase seepage beneath levees, or expose soils susceptible to erosion.~~

(c) If periodic inspections reveal that a borrow operation will adversely affect the adopted plan of flood control, additional permit conditions may be imposed, or the permit may be revoked.

(d) Excavations made within a floodway that are not an approved borrow or dredging activity must be backfilled ~~in a manner consistent~~ with ~~local conditions. This requirement is generally satisfied by using~~ suitable material ~~and compacting to~~ in conformance with Section 120(c)(12). Analyses will be required to confirm seepage, stability, and erosion conditions have not been impacted for either the ~~density of the~~ flood channel or adjacent ~~undisturbed material. Compaction tests by a certified~~levee(s). Field density testing by an approved soils testing laboratory ~~may be required. These requirements may~~shall be ~~waived for minor excavations that would have no impact on the floodway~~required to confirm the minimum relative compaction of backfill.

These requirements may be waived for minor excavations that would have no impact on the floodway. All surface features that were disturbed shall be completely restored to the original condition. This restoration shall include but is not limited to, sodding, seeding, surfacing, slope protection, and bedding restoration.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 117. Supplemental Borrow Standards for the Yuba River

Additional borrow standards have been established for the removal of material from the floodway of the Yuba River. These additional standards supplement and, where in conflict with, supersede standards in ~~section~~Section 116, Borrow and Excavation Activities – Land and Channel.

(a) Material may not be removed within ~~three~~four hundred (~~300~~400) feet of the centerline of project and local levees of the Yuba River.

(b) Material may not be removed within ~~three~~four hundred (~~300~~400) feet of the perimeter of any bank or levee protection work.

(c) Between Daguerre Point Dam and Cenedella Bend (River Mile 4.1), material may not be removed within one thousand five hundred (1,500) feet of the top of the banks of the Yuba River.

(d) The elevation of the bottom of the borrow area nearest the bank of the river may be no lower than ten (10) feet above the normal low–water elevation of the Yuba River (see Graph 8.1).

(e) Existing borrow pits or depressions between the levee and ~~three~~four hundred (~~300~~400) feet landward of the levee centerline and adjacent to a proposed borrow area must be backfilled to within twenty (20) feet vertically of the levee crown by the permittee of the proposed borrow area. The backfill must be placed in the ratio of one (1) cubic yard placed in the low areas to ten (10) cubic yards removed from the floodway.

(f) Material may not be removed from the area between nine hundred (900) feet upstream of the Southern Pacific Railroad ~~bridge~~Bridge and the confluence of the Yuba and Feather Rivers.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY
1. New section and graphic 8.1 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 118. Supplemental Borrow Standards for the Lower San Joaquin River Flood Control Project

An additional borrow standard has been established for the removal of material from the floodways of the Lower San Joaquin River Flood Control Project. The additional standard supplements and, where in conflict with, supersedes standards in section 116, Borrow and Excavation Activities –- Land and Channel. The supplemental standard requires that all waterside berm excavations must connect to the channel, and the bottom of waterside berm excavations must be sloped to drain away from the levee.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

Note: § 119 is not a part of this update, and therefore, not included here.

§ 120. Levees

(a) Levees constructed, reconstructed, raised, enlarged, or modified within a floodway shall be designed and constructed in accordance with the most current version of U. S. Army Corps of Engineers design manual, ~~"~~Design and Construction of Levees~~"~~ (EM 1110–2–1913~~ dated March 31, 1978, which is incorporated by reference~~) and engineering technical letter, "Design Guidance for Levee Underseepage" (ETL 1110-2-569) and as supplemented with the following standards:

(1) Levee construction or reconstruction shall be designed by a California registered civil engineer.

(2) An engineering analysis that evaluates levee embankment and foundation stability shall be submitted to the ~~board~~Board with the permit application. The analyses shall include the seepage and stability analysis, and must verify that the waterside and landside levee ~~is~~slopes are adequately designed and will be constructed to remain stable under all loading conditions ~~for "Case~~applicable as per EM 1110-2-1913.

~~IV—Steady seepage from full flood stage" as defined in the Department of the Army manual, "Design and Construction of Levees" (EM 1110–2–1913), pp.6–6, 6–7.~~

(3) A detailed seepage and slope stability analysis, settlement analysis, ~~using procedures such as those described in the Department of the Army manual, "Settlement Analysis" (EM 1110–1–1904, dated September 30, 1990, which is incorporated by reference),~~erosion analysis, wind setup and wave runup analysis for the designed flood event must be submitted to the ~~board~~Board.

(4) A copy of all geotechnical studies and tests used in the design determination of the levee shall be provided to the ~~board~~Board when applying for a permit.

(5) The applicant shall provide the ~~board~~Board with a permanent easement granting the Sacramento and San Joaquin Drainage District all flood control rights upon, over, and across the property to be occupied by the proposed flood control works. The easement must include the area within the proposed floodway, the levee section, and the area at least ~~ten (10~~twenty (20) feet in width adjacent to the landward levee toe if the area is not presently encumbered by a ~~board~~Board easement. The ~~board~~Board may require an easement over a larger area and over any property when it is foreseeable that the proposed activities subject to a permit would be injurious to or interfere with the adopted plan of flood control.

(6) All drains and abandoned conduits shall be removed from the proposed construction site prior to start of construction. The voids left behind after removal of drains and abandoned conduits shall be backfilled with approved levee fill material and compacted to the standard as per Section 123(c)(12).

(7) Prior to construction or enlargement of ~~the~~an embankment or berm, all holes, depressions, and ditches in the foundation area shall be backfilled ~~and~~with Embankment Material compacted to meet the requirements in Section 120(a)(12). Field density ~~equal~~testing by an approved soils testing laboratory will be required to ~~that~~confirm the

minimum relative compaction of ~~the~~ backfill within or adjacent ~~undisturbed material.~~ to a levee and/or berm.

(8) Prior to construction or enlargement of either the embankment or seepage/stability berms, all surface vegetation shall be removed from the area to receive fill ~~to a~~. The depth of stripping is determined by local conditions and normally varies from six (6) to twelve (12) inches. Organic soil and roots one and one–half (1–1/2) inches in diameter or larger, shall be removed to a depth of at least three (3) feet from the area to receive fill ~~to a depth of three (3) feet~~.

(9) An inspection trench shall be excavated to a minimum depth of six (6) feet beneath levees being constructed or reconstructed to a height of six (6) feet or greater. If necessary to ensure a satisfactory foundation, the depth of the inspection trench may be required to exceed six (6) feet.

(A) ~~The minimum depth of an inspection trench excavated beneath levees~~If the levee to be constructed or reconstructed is less than six (6) feet in height, the depth of the inspection trench beneath the levee must be at least equal to the levee height ~~of the design water surface above natural ground adjacent to the levee~~.

(B) The inspection trench must have a minimum bottom width of twelve (12) feet, and the side slopes must be ~~one (1) foot horizontal to four (4) feet vertical~~0.25h:1v, or flatter if required for workers safety.

(C) The centerline of the inspection trench shall be located approximately under the outer edge of the shoulder of the waterside levee crown.

(10) When subsurface explorations ~~disclose~~indicate a shallow pervious substratum underlying a levee to be constructed or reconstructed, ~~a cutoff~~ where practical the inspection trench ~~must~~shall be ~~excavated~~deepened to penetrate at least two (2) feet into an ~~impervious~~underlying low permeability stratum~~, where practical.~~

~~(11) Cutoff~~. If this is not practical, other seepage control measures such as seepage berms, relief trenches ~~shall have a minimum bottom width of twelve (12) feet and the side slopes~~, relief wells, and/or cutoff walls shall be ~~one (1) foot horizontal to four (4) feet vertical, or flatter~~constructed.

~~(12) Impervious~~(11) Embankment material, with ~~twenty (20)~~one-hundred percent ~~or more of its~~(100) percent passing the two (2) inch sieve and at least thirty percent (30) percent passing the No. 200 sieve~~, and having a~~ with plasticity index ~~of~~between eight (8) ~~or more,~~ and ~~having a~~ forty (40) and liquid limit of forty five (45) or less ~~than (50),~~, must be used for construction of new levees and the reconstruction of existing levees. Saturated unit weight shall be at least 112 pcf. Lumps and/or clods shall be completely broken down during the moisture conditioning and compaction operations. The fill shall not contain more than two (2) percent organic matter or other unsatisfactory materials. Special construction details (e.g., ~~4:1~~4h:1v slopes) may be substituted where these soil properties are not readily attainable. Where the design of a new levee structure utilizes zones of various materials or soil types, the requirements of this subdivision do not apply.

~~(13) Fill material must be placed in four (4) to six (6) inch layers and compacted with a sheepsfoot roller, or equivalent, to a relative compaction of not less than ninety (90) percent per ASTM D1557–91, dated 1991, which is incorporated by reference and above optimum moisture content, or ninety–seven (97) percent per ASTM D698–91, dated 1991, which is incorporated by reference and at or above optimum moisture content.~~

~~(14) Fill material~~ (12) Embankment Materials used for either new embankment construction or placed as backfill within an existing levee embankment must be constructed in compacted horizontal lifts no greater than six (6) inches in thickness. The fill shall be compacted to either a minimum ninety seven (97) percent Standard Proctor dry density according to ASTM D698 or minimum ninety (90) percent Modified Proctor dry density according to ASTM D1557. Moisture control limits are to be within minus two (-2) percent to plus two (+2) percent of optimum and zero (0) percent to plus four (+4) percent of optimum for ASTM D698 and ASTM D1557, respectively. Compaction of materials placed outside the projected levee slopes (3h:1v both landside and waterside) shall be compacted to a minimum ninety (90) percent Standard Proctor dry density according to ASTM D698 or a minimum eighty eight (88) percent Modified Proctor dry density according to ASTM D1557 unless otherwise directed. Moisture control limits are to be with minus two (-2) percent to plus two (+2) percent of optimum and zero (0) percent to plus four (+4) percent of optimum for ASTM D698 and ASTM D1557, respectively. Fill materials placed outside the levee/berm limits as described in other paragraphs of this document can consist of either Embankment Materials or native excavated soils. Where zoning of the levee and/or berms permit the use of pervious material, it shall be placed in maximum six (6) inch thick layers in a manner that will prevent segregation. Compaction shall be performed to a minimum of seventy (70) percent relative density according to ASTM Test D2049. The moisture content shall be controlled to achieve the required minimum relative density.

(13) Fill material placed within two (2) feet of a structure must ~~be compacted by appropriate hand operated compaction equipment~~meet all requirements for Embankment Material but shall also possess low expansion potential characteristics to avoid damage to structures.

~~(15) Levee fill material must be free of stones or lumps exceeding three (3) inches in greatest dimension, and must be free of vegetative matter or other unsatisfactory material.~~

~~(16) Fill material~~ (14) Fill material may only be placed within the area indicated on the submitted plans.

(~~17) Fill~~15) Embankment Materials placed on levee slopes must be keyed into the existing levee section ~~whenever there is substantial fill~~in maximum six (6) inch vertical increments. The width of the fill placement shall be sufficient to avoid minimum width (sliver) fills, as determined by the ~~board~~Board.

~~(18) Each layer of fill material applied on a levee must be keyed into the levee section individually in four (4) to six (6) inch layers.~~

~~(19) Density tests by a certified soils~~(16) Fill placement on the existing levee slope shall be keyed and benched into the levee slope. The benches shall extend into the firm soil and shall have minimum width as required by the equipment, and minimum depth of two (2) feet, and shall extend the full length of the slope. Each fill layer placed on a levee slope shall be less than six (6) inches thick.

(17) Field density testing by an approved soils testing laboratory will be required to ~~verify~~confirm the minimum relative compaction of levee embankment fill and trench backfill. Embankment Material index properties and strength/permeability tests shall also be performed as necessary to verify material suitability.

(~~20~~18) Ditches, power poles, standpipes, distribution boxes, and other above~~-~~-ground structures located within ten (10) feet of the levee toe must be relocated to a minimum

distance of ~~ten (10~~ twenty (20) feet beyond the levee toes. The relocation of the ditches shall be determined based on underseepage analyses as per the most current version of ETL 1110-2-569.

(~~21~~19) Pipelines located alongside and within ten (10) feet of the levee toe must be relocated a minimum distance of ~~ten (10~~twenty (20) feet beyond the levee toe.

(~~22~~20) Construction work of any type may not be done on levees or within the floodway during the flood season (see Table 8.1) unless authorized by the Executive Officer.

(~~23~~21) The areas adjacent to the levee must drain away from the levee toes for a minimum distance of ~~ten (10~~fifteen (15) feet of the waterside levee toes or projected levee toes, and within twenty (20) feet of the landside levee toes or projected levee toes.

(~~24~~22) The finished slope of any project levee construction or reconstruction must be ~~three (3) feet horizontal to one (1) foot vertical~~3h:1v, or flatter, on ~~the~~both waterside and ~~two (2) feet horizontal to one (1) foot vertical, or flatter,~~ on the landside of the levee.

(~~25~~23) The finished slope of any bypass levee must be ~~four (4) feet horizontal to one (1) foot vertical~~4h:1v, or flatter~~,~~ on the waterside and ~~three (3) feet horizontal to one (1) foot vertical~~3h:1v, or flatter~~,~~ on the landside. The freeboard requirement of the bypass levee~~.~~ shall be at least 5 to 6 feet.

(~~26~~24) An existing levee section being reconstructed, realigned, or otherwise altered, and having encroachments that are located within the levee that are to be replaced or changed, must have detailed plans of the proposed encroachment changes approved by the ~~board~~Board prior to start of construction.

(~~27~~25) The ~~board~~Board may require the modification, as necessary, of existing pipelines within a levee section that is being raised to ~~accomodate~~accommodate a higher design ~~water surface elevation~~flood plane in order to prevent seepage along the pipeline and to prevent backflow through the pipeline during the design event.

(~~28) A~~26) Within 120 days upon completion of project, a set of "as constructed" drawings of any levee project shall be submitted to the ~~board~~Board, the department and the U. S. Army Corps of Engineers ~~upon completion of the project.~~.

(~~29~~27) Stone revetment may be required on levee slopes where turbulence, flow, or wave action may cause erosion.

(~~30~~28) Grasses or other approved ground covers may be required on levee slopes.

(~~31~~29) The minimum crown width of a levee is normally twelve (12) feet on minor streams and twenty (20) feet on major streams. The levee crown width for a levee on a specific stream is defined by the project document and/or operations manual in current use and must be consistent with minimum width requirements of existing levees on the specific stream.

(~~32~~30) A levee having a crown width of fifteen (15) feet or less must have vehicular turnouts at approximately two thousand–five hundred (2,500) foot intervals if there is no existing access ramp within that distance.

(~~33~~31) As used in this section, the term "approved risk~~–~~ based analysis" means an analysis which uses simulation modeling of river discharge versus probability of occurrence, river stage versus river discharge estimates, and river stage versus flood damage estimates and accounts for uncertainty in these functions to determine the performance of a proposed flood control feature.

(A) All levees constructed or reconstructed must have a minimum of three (3) feet of freeboard above the design flood plane, or a crown elevation no lower than designed using an approved risk–based analysis.

(B) Unless designed using an approved risk– based analysis, the design freeboard of a levee to be constructed or reconstructed must be appropriately increased when any of the following conditions exist:

(i) High velocity streamflow.

(ii) Excessive wave action.

(iii) Excessive hydrologic, hydraulic, or geotechnical uncertainty in the levee design parameters. and

(iv) climatic changes.

(C) Unless designed using an approved risk–based analysis, levees within one hundred (100) feet of a bridge, or other structure which may constrict floodflows, must have one (1) foot of additional freeboard.

(b) Unreinforced pavement is not permitted on levee slopes.

(c) Pavement for roadways and similar uses is permitted within ten (10) feet of the levee toe.

(d) Pavement within ten (10) feet of the landside levee toe must have appropriate features that intercept seepage and prevent particle migration.

(e) Levee seepage control facilities (e.g., toe drains and toe ditches) must meet the following requirements:

(1) The seepage control facilities must be designed by a California registered civil engineer.

(2) All studies and calculations relating to design and maintenance of the seepage control facility must be submitted to the boardBoard with the permit application.

(3) The appropriate rights–of–way for the seepage control facilities must be included in the levee easements.

(f) See Figure 8.01 for illustrated details, dimensions, and terminology for levees and floodways.

(g) If a proposed project which includes levee improvements would result in substantial residential development within an area that without the levee improvements would be subject to the Federal Emergency Management Agency sAgency's regulatory 100–year flood plain constraints, the boardBoard may require the permittee to mitigate for any increased average annual flood damage by increasing the level of protection provided by the levee improvement project, up to and includingat least the Standard Project Flood200-year flood event.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section and figure 8.01 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment of subsections (a)(5) and (a)(22) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 121. Erosion Control

(a) Quarry stone, cobblestone, or their equivalent may be used for erosion control along rivers and streams if the material meets the criteria below. Typical sections delineating methods of

placement and dimensions of revetment using rock and sacked concrete are shown in Figures 8.02 and 8.03.

(1) Bedding materials must be placed under the stone protection at locations where the underlying soils require such material for stabilization, considering such factors as tidal fluctuation, wave action, and streamflow velocity.

(2) Cobblestone protection must be placed on prepared slopes of ~~three (3) feet horizontal to one (1) foot vertical or flatter~~3h:1v or flatter. Quarry stone (durable stone with angular shape), cobblestone (durable stone with rounded shape), or their equivalent may be used for erosion protection along rivers and streams if the material meets the criteria below. A typical section delineating method of placement and dimensions of revetment are shown in Figure 8.02.

(3) Cobblestone protection, having acceptable cobblestone gradations, may be used where streamflow velocities ten (10) feet from the bank do not exceed eight (8) feet per second.

(4) Quarry stone ~~protection must~~shall not be placed on ~~prepared~~ slopes steeper than ~~three (3) feet horizontal~~2h:1v. Cobblestone shall not be placed on slopes steeper than 3h:1v. Exceptions can be made where design features such as buttresses or toe rock is placed to ~~one (1) foot vertical~~insure slope stability.

(5) Quarry stone protection, meeting required gradations and sizes, may be used at locations where streamflow velocities ten (10) feet from the bank do not exceed twelve (12) feet per second.

(6) Required gradations of cobblestone and quarry stone are as follows:

Cobblestone		Quarry stone	
Stone Size	*Percent Passing*	*Stone Size*	*Percent Passing*
15”	*100*	15”	*100*
10”	*55 to 95*	8”	*80 to 95*
8”	*35 to 65*	6”	*45 to 80*
6”	*10 to 35*	4”	*15 to 45*
3”	*1 to 5*	2”	*0 to 15*

(7) Graded cobblestone and quarry stone must be placed in a manner which avoids segregation.

(8) Where streamflow velocities ten (10) feet from the bank exceed twelve (12) feet per second, special cobble or quarry stone gradation is required. Flow retarding structures, such as retards, wing dams, and rock groins may be permitted at these high streamflow velocity sites.

(9) Alternative bank protection materials may be permitted by the ~~board~~Board. Possible alternatives include but are not limited to: sacked concrete~~;~~, broken concrete free of projecting reinforcing steel~~;~~, reinforced concrete~~; precast~~, and proprietary grout filled mattresses, proprietary cable fixed concrete ~~cribbing;~~, block units, biotechnical treatments, and stone~~--~~filled gabion baskets. If proposed to the Board, a complete design shall be furnished verifying the use of these alternatives along with the corresponding environmental impact.

(10) Broken concrete used for levee revetment may be no larger than sixteen (16) inches at its maximum dimension.

(11) Asphalt or other petroleum–-based products may not be used either as fill or as erosion control on a levee section or within a floodway.

(12) The minimum thickness of revetment is eighteen (18) inches perpendicular to the bank or levee slope below the usual water surface and twelve (12) inches above the usual surface.

(13) Revetment must be uniformly placed and properly transitioned into the bank, levee slope, or adjacent revetment.

(b) When revetment is proposed by an applicant but not required by the boardBoard, the standards relating to revetment bedding, gradation, size, shape, and thickness are recommended but not required.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section and figures 8.02 and 8.03 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 122. Irrigation and Drainage Ditches, Tile Drains, and Septic Systems

(a) Irrigation ditches, drainage ditches, detention/retention ponds, and similar facilities must satisfy the following criteria:

(1) All ditches must be located at least ten (10twenty (20) feet from the toe of the levee toe, seepage berm toe, stability berm toe, or relief well discharge/collection system.

(2) The bottom of any agriculturalunlined ditch must be located above thea projected 10h:1v slope projected from the toe of the levee slope. Accordingly, a deep ditch may needAppropriate seepage modeling shall be performed to be located farther thanverify the minimum ten (10) feet fromexcavation does not result in a configuration whereby the levee toe. (See Figure 8.01.)and/or berm do not meet allowable design criteria.

(b) Tile drains, septic systems, and similar facilities must satisfy the following criteria:

(1) All tileTile drains, septic tanks, or leach fieldssystems, and similar facilities must be designed to maintain levee safety for all seepage and stability conditions and must be located at least ten (10twenty (20) feet from the levee toe. Where other alternatives for location/features exist, these improvements shall be avoided within at least fifty (50) feet from the landside levee toe.

(2) The bottom of any tile drain, septic tank, or leach field must be located above the projected levee slopea projected 10h:1v slope projected from the toe of the levee slope. Appropriate seepage modeling shall be performed to verify the excavation does not result in a configuration whereby the levee and/or berm do not meet allowable design criteria.

(3) Positive closure valves may be required on a tile drain pipeline to prevent backflow.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 123. Pipelines, Conduits, and Utility Lines

~~(a) The following definitions apply to this section:~~
~~(1) Delta Lowlands. "Delta Lowlands" means those lands within the Sacramento-San Joaquin Delta that are approximately at the five-(5) foot contour and below as shown in Figure 8.04.~~
~~(2) Delta Uplands. "Delta Uplands" means those lands within the Sacramento-San Joaquin Delta that are above the five-(5) foot contour as shown in Figure 8.04.~~

~~(b~~(a) Pipelines, conduits, utility lines, and appurtenant structures must conform to the following general criteria:

(1) The invert of the pressurized pipelines shall be above the design flood plane with a positive closure structure at the waterside edge of the levee crown, accessible during the flood season. The location of the closure structure of the pressurized pipelines, particularly the gas lines must be clearly marked. The pressurized pipe backfill shall be either compacted fill, flowable fill, or controlled low strength materials (CLSM). The flowable fill, or CLSM shall have the requirements as per Section 123(c)(18).

(2) Gravity pipelines may be allowed to penetrate the levee, and shall be equipped with a sluice gate at the waterside edge of the crest and a flap gate at the waterside outlet.

(3) Drainage structures from pump stations may be allowed with the same criteria as gravity pipes. No antiseepage collars shall be allowed; however, eighteen (18) inch thick drainage layer shall be placed around the landside one third (1/3) of the length of the gravity pipes in accordance to the most current version of EM 1110-2-2902.

(4) Pipelines, conduits, utility lines, utility poles, and appurtenant structures ~~may~~shall not be installed within the levee section, within ~~ten (10~~twenty (20) feet of the landside levee toes and within fifteen (15) feet of the waterside levee toes, or within the floodway during the flood season unless authorized by the ~~General Manager~~Executive Officer based on reservoir levels, stream levels, and forecasted weather conditions on a case~~-~~by~~-~~case basis, pursuant to ~~section~~Section 11.

(~~2~~5) Appurtenant structures such as standpipes, utility poles, distribution boxes, guy wires, and anchors, but not including siphon breakers, are generally not permitted in or below the levee crown, on the levee slopes, ~~or~~ within ~~ten (10~~twenty (20) feet of the landside levee toes, and within fifteen (15) feet of the waterside levee toes. Appurtenant structures may be permitted where they will not interfere with levee maintenance or flood fight activities.

(~~3~~6) Appropriate, visible markers acceptable to the local maintaining agency ~~may~~shall be required to identify the location of buried pipelines, conduits, and utility lines. A siphon breaker or other visible appurtenance may be considered an acceptable marker for the attached buried line. Markers must be made of durable, long lasting, fire~~-~~resistant material, and must be maintained by the permittee until the pipeline, conduit or utility line is properly removed or abandoned.

(~~4~~7) Pipelines, conduits, and utility lines that pose a threat or danger to levee maintenance or ~~flood fight~~floodfight activities, such as high~~-~~voltage lines, gas lines, and high pressure fluid lines, must be distinctively labeled to identify the contents.

(~~5) Buried high-voltage~~8) Electrical lines of greater than twenty~~-~~ four (24) volts are required to be protected with ~~schedule 40 PVC conduit, or equivalent.~~concrete blocks, and be placed above the design flood plane.

~~(6~~ (9) Overhead electrical and communication lines must have a minimum vertical clearance above the levee crown and access ramps of twenty~~–~~ one (21) feet for lines carrying 750 volts or less, and twenty~~–~~ five (25) feet for lines carrying higher voltage.

(~~7~~10) Fluid~~–~~ or gas~~–~~ carrying pipelines installed parallel to a levee must be a minimum distance of ~~ten (10~~twenty (20) feet ~~from~~of the landside levee ~~toe~~toes and, ~~where practical, may not encroach into the projected~~fifteen (15) feet of the waterside levee ~~slope~~toes.

~~(8) Low-voltage electrical or communication lines of twenty-four (24) volts or less may be installed parallel to a levee and within ten (10) feet of the levee toe when it is demonstrated to be necessary and to not interfere with the integrity of levee, levee maintenance, inspection, or flood fight procedures.~~

~~(9~~(11) No other conduits parallel to the levee within twenty (20) feet of the landside levee toes and within fifteen (15) feet of the waterside levee toes are allowed.

(12) The board ~~may~~shall require the applicant to have any pipelines, conduits, utility lines and appurtenant structures designed by a California registered civil engineer.

~~(c~~(13) All permits for pipelines, conduits, and utility lines installed in the levee prism shall have an end-date. The permittee shall be required to re-apply or extend the permit after the end-date. The end-date shall be the service life of the pipe for which it is designed.

(14) All pipelines, conduits, and utility lines installed in the levee prism or within twenty (20) feet of the landside levee toes and within fifteen (15) feet of the waterside levee toes shall require annual pressure tests against a benchmark or baseline test, and shall require video inspections of the pipes for every 5 years.

(15) All pipes and structures related to the piping system shall be analyzed for uplift based on hydraulic gradients determined in accordance with EM 1110-2-1913. The uplift calculations shall be submitted to the Board for review prior to use.

(16) Use of plastic pipes are not allowed within a levee embankment or foundation unless approved by the Corps Headquarters as per EM 1110-2-1913.

(b) Pipelines, conduits, and utility lines installed within the floodway must conform to the following additional conditions:

(1) Pipelines, conduits, and utility lines installed ~~within~~below the ~~floodway~~channel must have a minimum cover as determined by the scour analysis. A minimum cover of ~~five (5~~three (3) feet ~~beneath the low-water channel, and a minimum of two (2) feet~~shall be required in the remaining area of the floodway. A greater depth of cover may be required in the remaining area of the floodway based upon the feasibility of achieving the required cover or local soil stability and channel hydraulics.

(2) Open~~–~~ trench backfill to cover pipes must be placed in a manner consistent with the floodway characteristics such as erosion, deposition, and streamflow velocities. This requirement is generally ensured by using suitable material and compacting to at least the density of ~~adjacent undisturbed material. Compaction tests~~eighty eight (88) percent as per ASTM D1557 with the above optimum moisture content. Field density testing by ~~a certified~~an approved soils testing laboratory ~~may~~will be required to confirm the minimum relative compaction of trench backfill.

(3) ~~In general, any standard~~Standard material ~~may~~given in Section 123(f) shall be used for pipelines or conduits to be installed within the floodway~~ ten (10~~, and within twenty (20) feet ~~or more from~~of the landside levee toe ~~or~~and within fifteen (15) feet of the waterside levee toe or projected levee ~~slope.~~toes.

(4) All debris that accumulates around utility poles and guy wires within the floodway must be completely removed following the flood season and immediately after major accumulations.

~~(5) Pipelines and conduits which are open to the waterway and which could cause flood damage from uncontrolled backflow during the design flood event shall have a readily accessible positive closure device. A flap gate is not a positive closure device.~~

~~(d~~(c) Pipelines, conduits, and utility lines installed through a levee must conform to the following additional conditions:

(1) The installation of ~~a fluid or gas carrying pipeline~~ pipelines parallel to the levee centerline in a levee section or within ~~ten (10~~ fifteen (15) feet of the ~~toe parallel to the centerline is~~ waterside levee toes or projected levee toes, and within twenty (20) feet of the landside levee toes or projected levee toes are not permitted.

(2) Pipelines, conduits, and utility lines must be installed through a levee as nearly at a right angle to the levee centerline as practical.

(3) Buried pipelines, conduits, and utility lines that do not surface near the levee toes must have location markers near both levee toes.

(4) Buried pipelines, conduits, and utility lines that cross the levee at right angles must have a location marker located on the levee slope adjacent to either shoulder.

(5) Buried pipelines, conduits, and utility lines that cross the levee at other than right angles must have location markers on the levee slopes adjacent to each shoulder.

~~(6) Pipelines carrying gas or fluids under pressure~~(6) Pressurized pipelines must be confirmed free of leaks during construction by pressure tests, X–ray, or equivalent methods, and must be tested anytime after construction upon request of the ~~board~~Board.

(7) ~~Pipelines carrying gas or fluids under pressure must have a readily accessible rapid closure device located within ten (10) feet of the landside levee toe.~~

~~(8) Pipelines and conduits open to the waterway must have a readily accessible positive closure device unless it can be demonstrated it is not necessary. A flap gate is not a positive closure device.~~

~~(9)~~ The ~~side slopes~~ slope of the trenches excavated for the installation of pipelines, conduit, or utility lines ~~may be no steeper than one (1) foot horizontal to one (1) foot vertical. The following are exceptions to this maximum slope requirement:~~ shall be determined by the most current version of California Occupational Safety and Health Administration (CAL-OSHA) "Excavation, Trenching and Shoring" standards.

~~(A) For shallow installations above the flood plane, e.g., twelve (12) inches, vertical side slopes may be allowed.~~

~~(B) For that portion of the trench above the design freeboard, vertical side slopes may be allowed.~~

~~(10~~(8) The bottom width of trenches excavated for the installation of a pipeline, conduit, or utility line must be two (2) feet wider than the diameter of the pipeline or conduit, or two (2) times the pipe diameter, whichever is greater.

(~~11~~9) The minimum cover for pipelines, conduits, and utility lines installed through the levee crown is twenty–four (24) inches. If it becomes necessary to raise a levee crown to provide minimum cover, the longitudinal slope of the crown must be a minimum of ~~ten (10) feet horizontal to one (1) foot vertical.~~10h:1v. Where twenty–four (24) inches of cover is not practical, a concrete or other engineered cover is required.

(~~12~~10) The minimum cover for pipelines, conduits, and utility lines installed within the levee slope is ~~twelve (12~~twenty four (24) inches. Where the installation will not interfere with levee maintenance or flood fight activities, it may not be necessary to bury the line within the levee slopes.

~~(13) When practical, pipelines, conduits, and utility lines installed within a levee section must be separated from parallel pipelines, conduits, and utility lines by a minimum of twelve (12) inches, or the diameter of the largest pipeline, conduit, or utility line, whichever is larger, to a maximum of thirty-six (36) inches.~~

~~(14) When practical, pipelines~~(11) Pipelines, conduits, and utility lines must have a minimum vertical spacing of six (6) inches when crossing other pipelines, conduits, or utility lines.

~~(15) A siphon breaker with a protective housing may be required and must be installed off the levee crown roadway where it will not interfere with levee maintenance.~~

~~(16~~(12) Pipelines, conduits, and utility lines installed parallel to each other within a levee section must be separated by a minimum horizontal spacing of twelve (12) inches, or the diameter of the largest pipeline, conduit, or utility line, whichever is larger.

(13) Pipes passing over or within the freeboard zone of a levee shall be limited to metal pipes, preferably ductile iron or coated steel, suitable for use with flexible couplings. Pipes over the levee shall require an air release and a siphon breaker at the waterside edge of the levee crest. If installation of a siphon breaker is not feasible, provisions shall be made for closure on the waterside of the levee accessible from the levee crest. If the pipe cannot act as a siphon, a permanent vent opening may be used.

(14) Electrical and communication lines installed through a levee or within ~~ten (10~~ fifteen (15) feet of ~~a levee toe~~the waterside levee toes or projected levee toes, and within twenty (20) feet of the landside levee toes or projected levee toes must be encased in ~~schedule 40 PVC~~a conduit or equivalent. Low–voltage lines (24 volts or less) and fiber optic cable may be allowed without conduit if properly labeled.

~~(17) A standard reinforced concrete U-wall for levee erosion protection is required at the outlet end of a pipeline or conduit discharging within ten (10) feet of a levee toe. See Figures 8.05 and 8.06 for U-Wall design criteria.~~

~~(18~~(15) Existing levee erosion protection must be restored by the permittee if it is damaged during the installation of a pipeline, conduit, or utility line.

(~~19~~16) The permittee must replant or reseed levee slopes to restore sod, grasses, or other nonwoody ground covers that are destroyed or damaged during the installation of a pipeline, conduit, or utility line.

(~~20~~17) Within the levee section or within ~~ten (10) feet of~~fifteen (15) feet of the waterside levee toes or projected levee toes, and within twenty (20) feet of the landside levee toes or projected levee toes, any excavation for the installation of a pipeline, conduit, or utility line must be backfilled in ~~four (4) to~~less than six~~–~~ (6) inch layers with approved material and compacted ~~to a relative compaction of not less than ninety (90) percent,~~as per ~~ASTM D1557–91, dated 1991, which is incorporated by reference and above optimum moisture content or ninety-seven (97) percent, per ASTM D698-91, dated 1991, which is incorporated by reference and at or above optimum moisture content. Compaction tests by a certified soils laboratory will be required to verify compaction of~~ Section 120(a)(12).

(18) The use of flowable backfill ~~within a levee.~~or CLSM to replace the pipe embedment materials may be an option. The flowable backfill material should be easily removed in

case the pipe needs to be replaced in the future. The flowable backfill material shall have a minimum unit weight between 90 and 110 pcf, maximum 28-day compressive strength of 500 pounds per square inch (psi), and a minimum 28-day compressive strength of 30 psi. If flowable backfill material is used within the levee section, it shall have a maximum hydraulic conductivity of 1.0×10^{-6} cm/sec.

(~~21) Boring a pipeline or conduit through a levee is permitted if the following additional conditions are met:~~

~~(A) The invert~~19) Design of the ~~pipeline or conduit must be located at least three (3) feet above the design flood plane.~~

~~(B) The pipeline or conduit~~pipe flowable backfill system shall be presented to the Board for review. Rationale must be ~~butt welded. Polyethylene pipes may be used as~~ provided ~~in subdivisions (f)(4)(A), (f)(4)(B), and (f)(4)(C) of this section.~~

~~(C) The pipeline or conduit must be installed by~~ for the design input values such as the ~~bentonite boring method or~~horizontal soil modulus equivalent~~. The bentonite boring method uses an auger followed by a pipe with multiple port openings through which a bentonite slurry is pumped to ensure sealing of any voids resulting from~~ of the ~~boring process~~flowable backfill to be used.

(~~e~~d) Pipelines, conduits, and utility lines may be installed by the open cut–method through a levee below the design flood plane, or within the levee foundation under the following conditions:

(1) One or more of the following conditions must apply:

~~(A) The pipeline, conduit, or utility line will be maintained by a public agency with a history of good maintenance based upon annual maintenance or inspection reports.~~

~~(B) The levee is designed to withstand a depth of less than six (6) feet of water measured with respect to the elevation of the landside levee toe.~~

~~(C) The levee is designed to withstand a depth of less than twelve (12) feet of water measured with respect to the elevation of the landside levee toe and provides flood protection for a rural area, or an area where the board anticipates little future urban development.~~

(2) Pipelines open to the waterway must be a minimum of thirty ~~(30~~six (36) inches in diameter, and must have a readily accessible positive closure device installed on the waterward side.

(3) Seepage along pipelines, conduits, and utility lines must be prevented by either of the following methods:

(A) The pipeline, conduit, or utility line is encased in reinforced concrete cast against firm undisturbed earth.

(B) The conduit has reinforced concrete battered walls at an inclination of one (1) ~~foot~~ horizontal to four (4) ~~feet~~ vertical or flatter.

(4) The work must commence and be completed prior to the flood season.

(5) Levees located within the Sacramento–San Joaquin Delta lowlands may only be cut below the design flood plane after appropriate engineering studies are performed and approved. "Delta Lowlands" means those lands within the Sacramento-San Joaquin Delta that are approximately at the five (5) foot elevation contour and below as shown in Figure 8.04.

(~~f~~e) Pipelines, conduits, and utility lines may be installed under a levee or stream channel by tunneling, jacking, or boring, if the following conditions are met:

(1) ~~The~~ Installation of pipeline, conduit, or utility line ~~is at least thirty (30) feet under~~through the levee embankment using tunneling, jacking, or boring is not permitted.

(2) ~~The~~ Installation of pipeline, conduit, or utility line ~~is verified to have the required cover. A greater depth of cover may be required based upon the feasibility of achieving the required cover or on local soil stability and channel hydraulics.~~through a flood control project foundation shall follow the following requirements:

~~(3) If the installation is to be more than~~ (A) The pipeline, conduit, or utility line shall be fifty (50) feet below the natural ground.

(B) Detail subsurface investigations shall be performed along the proposed tunneling, jacking, or boring site to determine the stratigraphy and the parameters including the limiting pressures, setback distances, and depth of cover.

(C) The levee ~~and the entire floodway~~movement during pipe installation shall be monitored and ~~streambed, the board may waive the requirement for a permit provided a letter of intent is filed with the board prior to commencement of the project.~~

~~(4)~~any associated settlement due to pipe installation shall be repaired at owner's expenses. The ~~portal~~monitoring and ~~outlet of a tunnel, jacking, or boring~~ remediation plans must be ~~a minimum distance of ten (10) feet beyond the projected levee slope without an~~ approved ~~stability~~by the Board.

(D) The risk of hydraulic fracturing due to high fluid pressures used for excavation during the jacking or boring process and the risk of borehole collapse due to high fluid pressures must be evaluated.

(a) Maximum allowable drilling fluid pressures are a function of pore pressure, the pressure required to counterbalance the effective normal stresses acting around the bore (depth), and the undrained shear strength of the soil. It is necessary for the pressure in the annular space of the bore to remain below the maximum allowable pressure throughout the drilling process to minimize the potential for initiating plastic yield and losing drilling mud to the surface. To establish the maximum allowable drilling fluid pressure, the internal friction angle, the shear modulus of the soil, the depth of the soil cover, and the initial pore pressure shall be used.

(b) Low drilling fluid pressure can severely hinder the drilling process and, in some cases, making the pipe installation impossible. The minimum required drilling fluid pressure shall be maintained above the groundwater pressure to prevent collapse of the borehole.

(c) The limiting pressures shall be estimated prior to construction and clearly stated in the contract documents or in the Contractor's submittals.

(E) During drilling process, the fluid pressure in the annular space shall be monitored. It is recommended that an external pressure measuring device shall be installed when drilling beneath the flood protection structures.

(F) If construction plans and specifications are not supported by geotechnical investigation at the project site, the drill rig shall not penetrate the substratum at least three hundred (300) feet from the levee center line on the landside and shall not exit the substratum or penetrate the top stratum any closer than three hundred (300) feet at the waterside of the levee center line.

(G) The minimum depth of cover for the pipeline, conduit, or utility line shall be established by comparing the maximum borehole pressures to the drilling pressures and the depth of scour as per Section 123(b)(1).

(H) Speed of drilling shall be controlled to maintain the planned line and grade. It is recommended advance rates be limited as a preventative measure against pressure buildup. It is also extremely important to adjust the flow rate of the drilling mud when changing the speed of the drilling operation. This will limit the possibility of over pressurizing the borehole due to the total volume of mud that is pumped per drill pipe section.

(I) The annular space between the boring and pipeline shall be grouted with cement or a cement-bentonite grout mixture. The grout mixture will expel the semi-fluid mixture of bentonite, soil, and water with a grout material that will provide a solid barrier against seepage flow along the annulus.

(J) Since the groundwater pressures tend to counterbalance drilling fluid pressures, the design depth of the pipeline, whenever feasible, shall remain below the water table when drilling within a lateral distance of twenty five (25) feet from the levee toe.

(K) Any permanent penetrations through the blanket layers can only be justified based on the underseepage analysis. Blanket layer is defined as a top stratum of clayey and/or silty soil extending from waterside to landside that has a low vertical permeability compared to the horizontal permeability of the deeper soils. Pipes located within the critical as defined in Section 116 (b) (2) area must have watertight joints.

~~(5~~(L) Any evidence of impending danger to the flood protection system shall be immediately reported to the Board. If unplanned deviations from the planned installation occur during drilling operation, the drilling operation shall immediately cease, and all equipment shall be removed, and the entire progress of drilling shall be grouted.

(M) Evidence of any drilling fluid returning to the surface or any surface fracturing shall require complete excavation and removal of the affected foundation blanket and flood protection levee system. Levee and blanket replacement shall meet U.S. Army Corps of Engineers design criteria.

(N) Installation may occur during the flood season and when the water surface elevation in the floodway is expected to be above the elevation of the landside levee toe if adequate containment cells are constructed at the portal and outlet.

(~~6~~O) The installation of a pipeline, conduit, or utility line under levees in the Sacramento–San Joaquin Delta lowlands requires adequate containment cells at the portal and outlet when the installation is less than fifty (50) feet below the streambed and levee toes.

~~(7) Pipelines carrying gas or fluids under pressure below a levee must have provision for rapid closure.~~

~~(8~~(P) Closure devices shall be required for all pipes that penetrate the embankment or foundation of the levee. Closure devices (valves) are required for liquefied petroleum pipelines by U.S. Department of Transportation regulation, Part 195, Section 260(e), at water crossings longer than one hundred (100) feet.

(Q) Pipelines and conduits open to the waterway and below a levee must have a positive closure device which is accessible at all times~~ unless it is demonstrated to be unnecessary.~~. A flap gate ~~is~~shall not be considered as a positive closure device. Seepage cutoff collars shall not be allowed because the backfill around the collar cannot be properly compacted.

(~~g) The following pipe~~f) Pipe materials ~~are~~to be allowed within a levee section when designed to resist all anticipated loading conditions and properly installed are:

~~(1~~(1) Corrugated metal pipes (CMP) shall not be allowed within the levee embankment or foundation of urban levees.

(2) Corrugated metal pipes (CMP) that are a minimum of thirty six (36) inches in diameter with at least one (1) inch bituminous coating inside and outside of the pipe can be used on agricultural levees where levee embankments are no more than twelve (12) feet above the pipe invert.

(3) Galvanized iron pipe is allowed if all joints are threaded. Galvanized iron pipe joints must be corrosion protected with PVC tape or polyethylene tape wrapped to a thickness of thirty (30) mils or equivalent.

~~(2) Schedule 80 polyvinyl chloride (PVC) pipe is allowed if it is entirely buried, all joints are threaded and the components were continually protected from ultraviolet radiation damage or were newly manufactured.~~

~~(3) Polyvinyl chloride (PVC) plastic pipe schedule 40, or better, may be used as a conduit for power or communication cables.~~

~~(4) High-density polyethylene pipe may be used for pipeline or conduit installations provided the following conditions are met:~~

~~(A) High-density polyethylene pipeline or conduit joints must be heat or electrofusion welded (ASTM Standard F1055-93, dated 1993 or D3261-93, dated 1993 which is incorporated by reference).~~

~~(B) High-density polyethylene pipelines and conduits must be designed to resist all anticipated loading conditions, and the design calculations must be submitted to the board.~~

~~(C) High-density polyethylene pipelines and conduits must be ultraviolet radiation protected.~~

~~(5) Cast-in-~~(4) Cast-in-place reinforced concrete pipes and box culverts may be used above and below the design flood plane in urban areas if the concrete wall thickness is at least six (6) inches~~-thick~~. Board requires rubber gaskets at the cast-in-place reinforced concrete pipe joints.

(~~6~~5) Precast reinforced concrete pipes and box culverts and concrete cylinder pipes may be used above and below the design flood plane in non-urban areas if the following conditions are met:

(~~A~~a) Precast reinforced concrete pipe meets the most current version of ASTM ~~Specification~~ C76~~-90, dated 1990 which is incorporated by reference~~.

(~~B~~b) Precast reinforced concrete pipe joints and precast box culvert joints are encased in reinforced concrete cast~~-~~-in~~-~~-place against firm undisturbed earth.

(~~C~~c) The cylinders of concrete cylinder pipes are welded and corrosion protected internally and externally.

(~~D~~d) When installed below the design flood plane, precast reinforced concrete pipe and concrete cylinder pipe must be encased below the springline in concrete cast against undisturbed earth.

(~~7~~6) Steel pipe may be used for all types of pipeline or conduit installations through a levee above the design flood plane if the pipe meets the following requirements:

(~~A~~a) The steel pipe is resilient and not materially reduced in quality due to weathering, prior use or other deteriorating conditions.

(~~B~~b) The steel pipe joints are butt–welded or threaded.

(~~C~~c) The steel pipe installations are corrosion–proofed externally with a coating of material such as coal–tar enamel, asphalt–dipped wrap, mortar, PVC tape, or polyethylene tape wrapped to a minimum thickness of thirty (30) mils, high solids epoxy, or equivalent.

(~~D~~d) Unless a continuous internal lining of cement, mortar, or equivalent is provided, as appropriate for the fluid to be conveyed, new steel pipe installations may convey only non– corrosive material, and water is considered corrosive.

(~~E~~e) Steel pipe installations must be designed to resist all anticipated loading conditions, and the design calculations must be submitted to the board. Steel pipe meeting the following criteria may be used without submittal of design calculations to the board:

(i) Twelve~~–~~ (12) inches in diameter or less ten~~–~~ (10) gauge steel pipe.

(ii) Greater than twelve~~–~~ (12) inches and a maximum of thirty~~–~~ (30) inches in diameter seven~~–~~ (7) gauge steel pipe.

(iii) Greater than thirty~~–~~ (30) inches and a maximum of forty~~–~~ eight (48) inches in diameter three~~–~~ (3) ~~gauge~~Gauge steel pipe.

(~~h~~g) The following materials are not allowed for pipelines or conduits used to carry natural gas or fluids:

(1) Aluminum pipe within a levee section or within ~~ten (10) feet of~~fifteen (15) feet of the waterside levee toes or projected levee toes, and within twenty (20) feet of the landside levee toes or projected levee toes.

(2) Cast iron pipe within a levee section or within ~~ten (10~~fifteen (15) feet of the waterside levee toes or projected levee toes, and within twenty (20) feet of the landside levee toes or projected levee toes.

(3) Pipe with flanges, flexible couplings, or other mechanical couplings within a levee section or within ~~ten (10) feet of~~ fifteen (15) feet of the waterside levee toes or projected levee toes, and within twenty (20) feet of the landside levee toes or projected levee toes.

(4) Prestressed concrete pipe within a levee section or within ~~ten (10~~fifteen (15) feet of the waterside levee toes or projected levee toes, and within twenty (20) feet of the landside levee toes or projected toes.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8710 and 8712, Water Code.

HISTORY

1. New section and figures 8.04~~, 8.05 and 8.06~~ filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 124. Abandoned Pipelines and Conduits

~~(a) Abandoned~~(a) Removal of the pipelines, conduits, and appurtenances

(1) In general, abandoned pipelines, conduits, and all appurtenances (such as pumps, standpipes, or positive closure structures) that are located within a levee section, within the projected levee section, or within ~~ten (10~~ fifteen (15) feet of the waterside levee ~~toes~~toe and within twenty (20) feet of the landside levee toe shall be completely removed~~, when practical~~, and disposed of outside the floodway.

~~(1) When the invert of an abandoned pipeline or conduit within a levee is above the design flood plane elevation, the pipeline or conduit must be removed.~~

(2) ~~An abandoned pipeline or conduit located within one (1) foot of the surface of the levee slope shall be removed.~~

~~(3) When the invert of an abandoned pipeline or conduit within a levee is six (6) feet or less below the design flood plane elevation, the board may require the removal of the pipeline or conduit.~~

~~(4)~~ The side ~~slopes~~slope of an excavation to remove an abandoned pipeline or conduit from within a levee ~~must be one (1) foot horizontal to one (1) foot vertical or flatter.~~section shall be determined as per Section 123(c)(7). A slope stability analysis may be required.

(~~5~~3) After ~~any~~removal of pipeline, conduit, or appurtenance ~~is removed~~structure from a levee section or projected levee section, approved ~~backfill~~back fill shall be keyed into the levee section ~~with each lift~~ and compacted ~~in four (4) to six (6) inch layers with a relative compaction of not less than ninety (90) percent, per ASTM D1557-91, dated 1991, which is incorporated~~as per Section 120(a)(12).

(4) Field density testing by ~~reference and above optimum moisture content.~~

~~(6) Compaction tests by a certified~~an approved soils testing laboratory will be required to ~~verify~~confirm the minimum relative compaction of ~~backfill within a~~ levee ~~or within the projected levee section~~embankment fill.

~~(b) Abandonment of pipelines and conduits within a floodway must be in a manner consistent with the following:~~

~~(1) After~~ (5) After removal of any pipeline, conduit or appurtenance ~~is removed~~structure from ~~a~~the floodway, open~~–~~ trench backfill must be placed in a manner consistent with the local conditions. If the local condition is not determined, backfill shall be compacted to a density of ninety (90) percent as per ASTM D698. Erosive stream reaches will require methods that compact the ~~backfill~~back fill to at least the density of ~~that of adjacent~~eighty eight (88) percent as per ASTM D1557 with above optimum moisture content. Compaction testing by an approved soils~~. Compaction tests by a certified soils~~ testing laboratory ~~may~~shall be required to verify the compaction within the floodway.

(~~2~~6) Abandoned pipelines or conduits within the waterside berm and within thirty (30) feet of the top of the streambank must not be filled with concrete but ~~may~~must be removed if exposed by bank erosion.

(~~c) If~~7) Details of removal of the piping system, including plans and profiles showing the limits and elevations of pipes to be removed relative to the levee embankment or floodwall, excavation and backfill details (such as backfill material and compaction), and existing soil stratum at the pipe abandonment location shall be provided to the Board for review.

(b) Abandonment/Grouting of the pipelines, conduits, and appurtenances

(1) In general, pipelines penetrating the levee foundation may be abandoned in place by completely filling the pipe with cementious grout or flowable fill (CLSM).

(2) In exceptional circumstances, if it is determined by the board that it is impractical or detrimental to the levee to remove an abandoned pipeline or conduit from a levee section, the pipeline or conduit must be completely filled with ~~concrete.~~cementious grout or flowable fill (CLSM). However, this will require prior approval from both the Board and Corps.

~~(1) Concrete to be used to fill an abandoned pipeline or conduit must be a three- (3) sack cement mix, or equivalent, with aggregate having a maximum size of three-eighths (3/8) inch, and a water content sufficient to produce a six- (6) to eight- (8) inch slump.~~
~~(2) A detailed plan for filling an abandoned pipeline or conduit with concrete may be required to be submitted for approval by the board prior to start of work.~~

~~(3~~(3) The grout of flowable fill mix shall be approved by the Board prior to use.

(4) The grout shall be fluid enough, and pumped in the "upslope" direction, in order that the pipe will be completely filled leaving no voids.

(5) Points of access shall be made into the pipe at sufficient intervals to accomplish the grouting.

(6) A pipeline or conduit to be filled with ~~concrete~~grout must have a minimum depth of cover of three (3) feet below the waterward levee slope. If the depth of cover is less than three (3) feet, Board shall require permittee to remove the pipe.

(~~4~~7) See Figure 8.~~07~~05 for illustrated details on ~~sealing~~grouting abandoned pipelines and conduits.

~~(d) Concrete pipes may be plugged with concrete at each end as an alternative to complete filling. The length of each plug shall be a minimum of two (2) feet or twice the diameter of the pipe, whichever is greater.~~

(8) Details of abandonment of the piping system, including plans and profiles showing the limits and elevations of pipes to be grouted relative to the levee embankment, existing soil stratum at the pipe abandonment location, and grout mix shall be provided to the Board for review.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY
1. New section and figure 8.07 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 125. Retaining Walls

(a) Retaining walls are not allowed in the landside or waterside levee slopes unless approved by the Board. The approved retaining walls within an adopted plan of flood control must comply with the following requirements:

(1) ~~Retaining~~All retaining walls ~~greater than three (3) feet in~~, regardless of their height ~~must~~, shall be designed by a ~~licensed~~California registered civil engineer.

~~(2~~(2) The design of the proposed retaining wall cutting into the levee slope shall include levee slope stability and a seepage analyses to determine the impact of the retaining wall on the stability factors of safety and seepage gradients.

(3) Retaining walls may be of reinforced concrete, concrete gravity section, or of equivalent material and durability.

(~~3~~4) Retaining walls in the landside levee slope must have appropriate features that intercept seepage and prevent particle migration.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8606, 8609 and 8710, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 126. Fences and Gates

(a) Fences perpendicular on the levee slopes or crossing the levee crown are not allowed.
(b) Fences within ~~a~~the floodway, ~~on a levee,~~ or near a levee must conform to the following requirements:

(1) Fences, walls, and similar structures are permitted within floodways if they do not obstruct floodflows or cause the accumulation of debris that would obstruct floodflows.

(~~A~~2) Fences firmly anchored and constructed parallel to the streamflow are normally permitted.

~~(B) Fences not parallel to the streamflow shall be designed and constructed to not adversely affect stages and velocities.~~

~~(~~2(3) All fences parallel to a levee must be located a minimum distance of ~~ten (10~~fifteen (15) feet off the waterside levee toe and twenty (20) feet off the ~~levee~~landside toe.

~~(3) Fences crossing a levee, where permitted, must be installed at a right angle across the levee.~~
~~(4) Fences crossing a levee crown must have an opening a minimum of fourteen (14) feet in width or a suitable gate installed on the levee crown.~~

~~(5~~(4) After January 1, 1998, new fences that are designed to give way during high water events shall not be allowed on the water side of a levee. Fences proposed to be constructed after January 1, 1998 on the ~~water side~~waterside of a levee that are partially or wholly under water during high water events, and that are located within state maintenance areas within city limits under the jurisdiction of the ~~board~~Board, shall be constructed so as to be removable by the permittee in segments during times of high water events as the water level rises up the levee. The permittee shall remove fence segments at its own expense during high water events so that no part of any fence on the water side levee slope is submerged.

(~~6~~5) Where the distance between fences would be ~~so~~as close as to interfere unreasonably with levee inspection, maintenance, and ~~flood fight~~floodfight activities, the ~~board~~Board may deny approval for additional fences.

(~~7~~6) If, in the opinion of the ~~board~~Board, a fence becomes unnecessary due to changes in location of public access points or construction of other fences, the permittee must remove the fence at the request of the ~~board~~Board.

(~~b~~c) Gates crossing the levee crown are allowed by the Board. Gates within a floodway or on a levee must conform to the following requirements:

(1) The gate width on a levee crown must match or exceed the width of the levee crown with a minimum gate width of fourteen (14) feet. A gate width exceeding twenty (20) feet is normally not required. A gate width of twelve (12) feet may be allowed on levees within urban areas if the levee maintenance equipment and any agricultural equipment which must use the gates is less than twelve feet in width.

(2) Cable or chain gates are not permitted across a levee crown or across a levee access ramp.

(3) Gates shall be hinged, and constructed to provide for ease of operation, maximum longevity, and public safety.

(4) Gates may be opened by authorized personnel representing the Board, U. S. Army Corps of Engineers, or Department of Water Resources ~~and maintenance personnel and~~. Gates must remain open when required for levee inspections, maintenance, construction, ~~high water~~highwater patrol, and ~~flood fight~~floodfight activities.

(5) Where the distance between gates would be so close as to unreasonably interfere with levee inspection and maintenance, the ~~board~~Board may deny approval for additional gates.

(6) If, in the opinion of the ~~board~~Board, a gate becomes unnecessary due to changes in location of public access points or construction of other gates, the permittee must remove the gate at the request of the ~~board~~Board.

(7) Keys shall be provided to local the maintaining agency and the Department of Water Resources for all locks on gates providing access to the floodway, levee ramp, levee toe, and along the levee crown.

(~~c~~d) If the ~~board~~Board approves an activity or encroachment that directly or indirectly may result in future unauthorized encroachments (e.g., approving levee modifications associated with a new residential development adjacent to the levee), the ~~board~~Board may require the permittee to construct a fence parallel to the levee at a distance of ~~ten (10~~a minimum twenty (20) feet from the landside levee toe. If a fence is required, it must conform to ~~board~~Board standards.

(~~d~~e) No fence, wall or other barrier may interfere with or preclude legal public access.

NOTE: Authority cited: Sections 8571 and 8709.3, Water Code. Reference: Sections 8608, 8609, 8709.3 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. New subsection (a)(5), subsection renumbering, and amendment of NOTE filed 2–13–98 as an emergency; operative 2–13–98 (Register 98, No. 7). A Certificate of Compliance must be transmitted to OAL by 6–15–98 or emergency language will be repealed by operation of law on the following day.
3. New subsection (a)(5), subsection renumbering, and amendment of NOTE refilled 6–11–98 as an emergency; operative 6–11–98 (Register 98, No. 24). A Certificate of Compliance must be transmitted to OAL by 10–9–98 or emergency language will be repealed by operation of law on the following day.
4. Certificate of Compliance as to 6–11–98 order transmitted to OAL 10–2–98 and filed 11–16–98 (Register 98, No. 47).

§ 127. Boating Facilities

(a) The standards for construction of wharves, piers, docks, boat houses, ramps, and similar boating facilities, are as follows:

(1) Boat ramps may not be cut into the levee section, but may be cut into a berm or placed on a fill. Additional analysis may be performed to verify seepage, slope stability, and erosion of the levee section have not been impacted.

(2) Boating facilities must be properly anchored to prevent breakaway during floodflows. Acceptable anchoring methods are as follows:

(A) Driven piling must meet the following criteria:

(i) Timber piles must be a minimum of twelve (12) inches in diameter and must be pressure treated.

(ii) The elevation of the top of each pile must be a minimum of two (2) feet above the design flood plane.

(B) Concrete deadmen must meet the following criteria:

(i) The concrete deadman must be of sufficient size to restrain the boating facility and be a minimum of one (1) cubic yard of concrete.

(ii) The concrete deadman must be attached to the floating facility with a steel cable, or equivalent, of sufficient size to restrain the facility.

(3) All appurtenant facilities, including utilities and walkways, installed on or through a levee section to provide service to wharves, piers, or docks, must conform to the appropriate section of the standards.

(b) After each period of high water, all debris caught by a boating facility must be cleared and disposed of outside the limits of the floodway and levee section.

(c) In the event that levee or bank erosion injurious to the adopted plan of flood control occurs at or adjacent to a boating facility, the permittee of the boating facility is responsible for the repair of the eroded area, and for the placement of adequate revetment to prevent further erosion.

(d) Any existing levee revetment or bank revetment damaged during the construction or operation of a boating facility must be restored to its original condition by the permittee of the boating facility.

(e) The levee crown may not be used for parking boat trailers or motor vehicles except where there is adequate crown roadway width to provide twenty (20) feet of unobstructed clearance for two-~~-~~way vehicular traffic.

(f) Boating materials, equipment or accessories may not be stored on levee slopes.

(g) Floatable boating materials, equipment, or accessories must be securely anchored when stored in the floodway during the flood season.

(h) Boating materials, equipment, or accessories may be stored on the levee crown if storage does not prevent adequate inspection and maintenance of the levee, does not obstruct ~~flood fight~~floodfight procedures, and the following additional requirements are met:

(1) There is adequate levee crown roadway width to provide a minimum of twenty (20) feet of unobstructed clearance for two-~~-~~way vehicular traffic.

(2) Where a public road or highway is on the levee crown, the design width of the roadway, including the roadway shoulders, must remain clear.

(3) Boating materials, equipment, or accessories may not be stored within fourteen (14) feet of the landward levee shoulder.

(4) Boating materials, equipment or accessories may be stored to within fourteen (14) feet of the waterward levee shoulder provided the waterward levee slope is revetted to the standards in ~~section~~Section 121.

(5) Boating materials, equipment, or accessories may not be stored within thirty (30) feet of the waterward levee shoulder of a levee having an unrevetted waterward slope.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 128. Bridges

(a) The standards for construction or modification of bridges within an adopted plan of flood control are as follows:

(1) ~~Any excavation~~Embankment materials placed as backfill within the levee section or near bridge supports within the floodway must be ~~backfilled in four (4) inch to six (6) inch layers with approved material. The levee section must be~~ placed and compacted ~~to a relative compaction of not less than ninety (90) percent per ASTM D1557-91, dated 1991, which is incorporated by reference and above optimum moisture content. Compaction within the floodway must be to the density of the adjacent undisturbed material.~~in conformance with Section 120.

~~(2) Compaction tests by a certified soils laboratory may be required to verify compaction.~~

~~(3~~(2) Bridge piers and bents within the floodway must be constructed parallel to the direction of streamflow.

(~~4~~3) Bridge piers and bents placed within a floodway to support a widened portion of an existing bridge must be constructed in line with existing bents and piers.

(~~5~~4) Erosion control may be required on the channel banks or levee slopes upstream and downstream of a proposed bridge.

(~~6~~5) Drainage from a bridge or highway ~~may~~shall not be discharged onto a levee section or streambank.

(~~7~~6) Plans showing all construction facilities (such as temporary staging, coffer dams, and falsework) which will remain in a floodway during flood season, must be submitted to the ~~board~~Board for approval prior to installation of these facilities.

(~~8~~7) All construction facilities (such as temporary staging, coffer dams, and falsework) must be designed to prevent bank erosion during normal flows and to maintain maximum channel capacity during the flood season. Hydraulic and hydrology analyses considering the effect of the facilities may be required to demonstrate there is no adverse hydraulic impact.

(~~9~~8) Stockpiled material, temporary buildings, construction equipment, and detours that obstruct streamflows must be removed from floodways prior to the flood season.

~~(10)~~(9) Clearance requirement for the bottom member (soffit) of a bridge shall comply with the following requirements:

(A) The bottom members (soffit) of a proposed bridge must be at least three (3) feet above the design flood plane. The required clearance may be reduced to two (2) feet on minor streams at sites where significant amounts of stream debris are unlikely.

(B) When an existing bridge being widened does not meet the clearance requirement above the design flood plane, the bottom structural members of the added section may be no lower than the bottom structural members of the existing bridge, except as may be caused by the extension of existing sloped structural members.

(C) When the clearance requirement above design flood plane would result in bridge approach ramp fill in the floodway, the clearance requirement may be reduced to the extent that reasonably balances clearance and fill that would obstruct flow, so as to maintain maximum channel capacity.

~~(11)~~(10) Vehicular access beneath the bridge for inspection and maintenance shall comply with the following requirements:

(A) Vehicular access from the roadway to the levee crown may be required at each end of a bridge.

(B) Vehicular access from the levee crown to the floodway and/or the landside levee toe beneath the bridge may be required. Ramps may slope upstream as necessary to provide the access required by this subdivision.

(~~12~~11) Approved gates must be installed at right angles across the levee crown at all points of access to the levee from each end of a bridge.

(~~13~~12) Any bridge abandoned or being dismantled must be completely removed, and must be disposed of outside the limits of the levee section and floodway. Seepage and slope stability analyses shall be performed to ensure the removal of the bridge will not be detrimental to the safety of the adjoining levee or streambank.

(~~14~~13) Pilings, piers, bents, and abutments of bridges being dismantled must be removed to at least one (1) foot below the natural ground line and at least three (3) feet below the bottom of the low water channel.

(~~15~~14) Any bridge that is damaged to the extent that it may impair the channel or floodway capacity must be repaired or removed prior to the next flood season.

(~~16~~15) Replacement railroad bridges must have the soffit members no lower than those of the replaced bridge, but are not required to have a specified amount of clearance above the design flood plane.

(~~17~~16) Bridge replacements and new bridges shall be built at an elevation so that there is no depression in the crown of the levee.

(b) The standards for maintenance of bridges within an adopted plan of flood control are as follows:

(1) The area in and around a bridge site must be kept clear to maintain the design flow capacity.

(2) Trees, brush, sediment, and other debris must be kept cleared from the bridge site and be disposed of outside the limits of the floodway prior to the flood season.

(3) Any accumulation of debris during high flows must be immediately removed from a bridge site and disposed of outside the floodway.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 129. Water, Oil, and Gas Wells

(a) Water wells and any appurtenant structures must be located a minimum distance of ~~ten~~ ~~(10~~twenty (20) feet from ~~a~~the landside levee toe or projected levee toe.

(b) Oil wells, gas wells, and any appurtenant structures must be located a minimum distance of thirty– five (35) feet from a levee toetoes or projected levee toes.

(c) Access roads, foundation pads, and stockpiled excavated material within a floodway are normally limited to an elevation of three (3) feet above the natural ground. However, if it is determined by the boardBoard that such facilities constructed to the normal elevation would have an adverse effect on the flood--carrying capacity of the floodway, the allowable elevation shall be lower.

(d) Structures and fencing at well sites within the floodway are not permitted without approved hydraulic studies demonstrating that the proposed structure or fence would not impair the floodway.

(e) Permits for water wells require that a survey monument and a permanent bench mark must be installed at the waterside levee toe, as near to the well site as practical, to serve as a vertical control to monitor subsidence.

(f) Any unused wells near floodways shall be abandoned by the owner. Well abandoning procedure shall be approved by the Board prior to abandonment, and comply with the following requirements.

(1) A licensed Well Driller and Pump Installer shall abandon the wells.

(2) Any available construction details and documents related to the current well conditions shall be submitted to the Board for review.

(3) After completion of abandoning, a well abandonment report must be submitted to the Board.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 130. Patrol Roads and Access Ramps

(a) The following definitions apply to this sectionSection:

(1) Access Ramps – "Access Ramps" mean those ramps that provide access to the levee crown from adjacent property and roads.

(2) Patrol Roads – "Patrol Roads" means those roads that provide vehicular access along levee crowns and flood channels for inspection, maintenance, and flood fightingfloodfighting.

(b) Patrol roads must meet the following criteria:

(1) Patrol roads must be surfaced with a minimum of four (4six (6) inches of compacted, class Class 2 aggregate base (Caltrans Spec. 26--1.02A, July 1992) which is incorporated by reference,), or equivalent.

(2) Patrol road The appropriate thickness of Class 2 aggregate base will vary depending on the subgrade soil type and drainage condition. The surfacing material must be compacted to a relative compaction of not less than ninety (90) percent per ASTM D1557-91, dated 1991, which is incorporated by reference with moisture content sufficient to obtain the required compactionshall be sufficient to support multiple loadings from single tandem rear

axle trucks (18 kip maximum axle load) without significant rutting during periods of seasonal precipitation.

(2) The top twelve (12) inches of subgrade supporting the aggregate base shall be compacted to either a minimum one hundred (100) percent Standard Proctor dry density according to ASTM D698 or minimum ninety five (95) percent Modified Proctor dry density according to ASTM D1557. Moisture control limits are to be within minus two (-2) percent to plus two (+2) percent of optimum and zero (0) percent to plus four (+4) percent of optimum for ASTM D 698 and ASTM D1557, respectively. The aggregate base shall be compacted to the same relative compaction standard as the support subgrade.

(3) ~~Compaction tests~~Field density testing by ~~a certified~~an approved soils testing laboratory ~~may~~shall be required to ~~verify~~confirm the minimum relative compaction.

(4) Paved patrol roads must meet the design requirements for paved bicycle trails, ~~section~~Section 132.

(5) Levee crown surfacing must meet the following additional requirements:

(A) Where the crown width is less than sixteen (16) feet, the minimum surfacing width must be ten (10) feet with a smoothly tapered transition to the edge of the levee shoulder.

(B) Where the crown width is sixteen (16) feet or more, the minimum surfacing width must be twelve (12) feet with a two (2) foot– wide taper at each edge of the surfacing.

(C) The crown roadway must be sloped a minimum of two– (2) percent.

(6) Any patrol road which has been excavated or damaged must be restored to its original condition.

(c) Access ramps are of two common types, head–on or side approach, and must meet the following criteria:

(1) Access ramps must be constructed of approved imported material.

(2) The surfacing for all access ramps must be the same as for patrol roads. Subdivisions (b)(1), (b)(2) and (b)(3) of this ~~section~~Section also apply to access ramps.

(3) Any excavation made in a levee section to key the ramp to the levee must be backfilled in ~~four (4) to~~maximum six– (6) inch layers with approved material and compacted to a relative compaction ~~of not less than ninety (90) percent~~as per ~~ASTM D1557-91, dated 1991, and above optimum moisture content.~~Section 120(a)(12).

(4) ~~Compaction tests~~Field density testing by ~~a certified~~an approved soils testing laboratory ~~may~~shall be required to ~~verify~~confirm the minimum relative compaction of levee embankment subgrades and/or access ramps.

(5) All access ramps must be constructed in such a manner so as to direct all surface drainage away from the levee section.

(6) Approved gates must be installed across access ramps at locations where vehicular access by the public is possible.

(7) Side approach ramps must be used on the waterside levee slope.

(8) Side approach ramps on the waterward slope of the levee must slope downstream.

(9) Typical plans for each type of approach ramp with restrictions and requirements are shown on Figures 8.~~08~~06 and 8.~~09~~07.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY
1. New section and figures 8.08 and 8.09 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 131. Vegetation.

(a) The following definitions apply to this ~~section~~Section:

(1) ~~Oversize levee. "Oversize levee" means a levee which encompasses the minimum oversized levee cross section which has a width of thirty (30) feet at design freeboard elevation and standard levee slopes. (See Figure 8.10.)~~

~~(2)~~ Standard ~~size levee~~Levee Slopes. "Standard ~~size levee" means a levee which does not meet the requirements for an oversize levee.~~

~~(3) Standard levee slopes. "Standard levee slopes~~Levee Slopes" means the landside levee slope is ~~two (2) horizontal feet to one (1) vertical foot~~3h:1v (for new levees) or 2h:1v or flatter (for existing remediated levees with good performance history) and the waterside ~~levee~~ slope is ~~three (3) horizontal feet to one (1) vertical foot.~~3h:1v.

~~(b) Suitable vegetation, if properly maintained, is permitted within an adopted plan of flood control.~~

~~(c~~(2) Vegetation Management Plan. "Vegetation Management Plan" means the plan and schedule of maintenance activities for the control of standard or suitable vegetation to prevent affecting levee stability, channel capacity or flowage of rivers, streams, channels, bypasses and designated floodways, including maintenance, inspection and floodfight.

(A) Vegetation management plan requirements include the annual operations and maintenance budget, responsible party and contact information, vegetation control measures, annual work schedule or more frequent as required, and an annual inspection showing no impact to channel capacity or flowage.

(B) A vegetation management plan shall be submitted for all vegetation prior to approval by the Board.

(3) Annual Operations and Maintenance Budget. "Annual Operations and Maintenance Budget" means estimated revenue and expenses based on vegetation maintenance for the project location during a given period (usually the life of the project).

(4) Responsible Party. "Responsible Party" means permittee, reclamation districts, levee districts, protection districts, drainage districts, municipalities, other public agencies to maintain and operate the works of the project within the boundaries or jurisdiction of such agencies, excepting only those works enumerated in by Water Code sections 8361, 8370 and 12642 and those for which provision for maintenance and operation is made by Federal law.

(5) Vegetation Deemed Acceptable. "Vegetation Deemed Acceptable" means vegetation deemed acceptable by the Board so long as alone or cumulatively, the vegetation will not unduly impede the free flow of water in the floodway or jeopardize public safety.

(b) Vegetation shall be approved in accordance with the Title 33 Code of Federal Regulations C.F.R. Section 208.10, 33 U.S.C. Section 408, U. S. Army Corps of Engineers (Corps) Operation and Maintenance Manuals, Corps Technical Letters ETL 1110-2-571, Engineering Manuals EM 1110-2-301; and Engineering Regulations ER 500-1-1 as deemed acceptable by the Corps. Vegetation not subject to Corps requirements must be deemed acceptable by the Board.

(c) All vegetation shall include a Vegetation Management Plan.

(d) Vegetation must not interfere with the integrity of the adopted plan of flood control, or interfere with maintenance, inspection, and ~~flood fight~~floodfight procedures.

~~(d) With the exception of naturally occurring vegetation which the owner of the underlying land has no responsibility to maintain, any~~(e) Any vegetation which interferes with the successful execution, functioning, maintenance or operation of the adopted plan of flood control, must be removed by the owner. If the owner does not remove such vegetation upon request, the board reserves the right to have the vegetation removed at the owner's expense.

~~(e) Tables 8.3 through 8.6 indicate common types of vegetation considered suitable and unsuitable for planting on levees. Other types of vegetation, not listed in Tables 8.3 through 8.6, may be approved if determined to be similar to listed suitable species or not detrimental to the integrity, operation, or maintenance of the adopted plan of flood control.~~

~~(f) Vegetation and vegetation maintenance standards for levees are as follows:~~

~~(1~~(f) Vegetation maintenance standards for levees are as follows:

(1) New levees and recently cleared levee slope areas will be maintained to not allow new woody vegetation to establish on the slopes and within twenty (20) feet landward from the levee toe within fifteen (15) feet of the waterside levee toe. If deemed acceptable, vegetation may be allowed on portions of the waterside slope and riverbank or berm for a newly graded or constructed levee if a waterside planting berm is constructed as an over-built section with respect to minimum geometries, and be of sufficient size and configuration to serve to mitigate potential negative impacts to levee safety with respect to seepage, stability, and erosion criteria should either windfall or root decay occur.

(A)The Board shall determine that vegetation will not unduly impede the free flow of water in the floodway or successful execution, functioning, maintenance or operation of the adopted plan of flood control.

(2) Prior to removing existing trees from levees, as deemed necessary by the Board, an annual engineering inspection and evaluation to identify trees and vegetation that pose a clear and unacceptable threat to the integrity of the levee shall be conducted. Any tree removal and related environmental mitigation shall be the responsibility of the maintaining agency or the Department.

(A) Based on the engineering inspection and scientific evaluation of the trees and other woody vegetation that pose an unclear threat may remain providing the maintaining agency annually submits an approved analysis of the potential hazard that would justify the vegetation to remain. The Board may require removal at anytime if an acceptable annual inspection and evaluation of the trees and woody vegetation is not submitted and approved.

(B) The annual inspection shall include monitoring of trees by an engineer, and an environmental scientist or arborist during high winds after significant rainfall.

(3) Vegetation is not permitted on the levee crown roadway. Only properly maintained grasses ~~or suitable ground covers~~ are permitted on other portions of the levee crown.

(~~2~~4) Vegetation growing on levee slopes but infringing onto the levee crown must be trimmed or sprayed to prevent interference with ~~flood fight~~floodfight, maintenance, or inspection activities.

(~~3~~5) Tree branches extending above the levee crown or above the area within ~~ten (10~~twenty (20) feet of the landside levee toe and within fifteen (15) feet of the waterside levee toe,

must be pruned to maintain a minimum of twelve (12) feet vertical clearance above the levee crown and above the area within ten (10) feet of the levee toe.

(~~4~~6) Tree branches above levee slopes must be pruned and maintained so that the distance from the levee slope to the lowest branches, measured normal to the levee slope, is a minimum of ~~five (5~~eight (8) feet.

(~~5~~7) Trees are not permitted on the crown or slopes of a standard size levee or within ~~ten (10~~fifteen (15) feet of the toe of a standard or oversize levee. Planted trees must be set back a sufficient distance from the levee toe to conform ~~with~~to the requirements of subdivision (f~~)(3~~) of this ~~section~~Section throughout the life of the tree.

~~(6) Trees are permitted on oversize levee slopes according to the following additional criteria:~~

~~(A) Trees considered suitable and unsuitable for oversize levees are listed in Tables 8.3 and 8.4 respectively.~~

~~(B) Trees which will exceed fifty (50) feet in height when mature are not permitted.~~

~~(C) Trees are permitted on the waterside levee slope of oversize levees up to a point five (5) vertical feet below the design flood plane.~~

~~(D) Trees that, in the judgment of the board, threaten to disturb revetment on levee slopes or interfere with maintenance must be removed.~~

~~(E) Fruit and nut trees are not allowed.~~

~~(7~~(8) Trees, vines, bushes, shrubs, or any other form of woody or herbaceous vegetation that grow in a dense form and prevent visual inspection of the levee slope and toe, produce fruit or nuts that attract burrowing rodents, or are thorny and could interfere with ~~flood fight~~floodfight efforts, are not permitted on the levee or within ~~ten (10~~twenty (20) feet of the landside levee toe and within fifteen (15) feet of the waterside levee toe, seepage berm toe, stability berm toe, or relief well discharge/collection system.

(~~8) Sod,~~ 9) Plantings of grass sod and grasses~~, perennial flowers, and other nonwoody ground covers~~ are permitted on levee slopes and within ~~ten (10~~twenty (20) feet of the landside levee toe and within fifteen (15) feet of the waterside levee toe if the height of the vegetation does not exceed twelve (12) inches.~~ Ground covers considered suitable and unsuitable on levee slopes and within ten (10) feet of the levee toe are listed in Tables 8.5 and 8.6, respectively.~~ In areas where vehicular access is maintained along the levee toe, ground covers are generally not permitted~~. For ground covers with specific maintenance requirements (see Table 8.5):~~.:

(A) The permittee is responsible for maintaining the ground cover at a height less than one (1) foot;

(B) The maintaining agency reserves the right to mow the groundcover without prior notification if the height exceeds one (1) foot;

(C) Any irrigation system for the ground cover must be designed to not interfere with mowing;

~~(D) Ground covers that are required by this subdivision to be mowed are generally allowed only on the upper twenty (20) feet of levee slope.~~

~~(9~~ (10) Thick~~--~~stemmed, ~~extremely dense~~thorned, or woody ground covers are not permitted on levee slopes or within ~~ten (10~~twenty (20) feet of the landside levee toe~~.~~

~~(10) Flower gardens where the height of the vegetation does not exceed twelve (12) inches~~ and ~~which are compatible with flood fight procedures, maintenance, and inspection programs are permitted~~ within ~~ten (10~~fifteen (15) feet of the waterside levee toe.

(g) ~~Vegetation~~ Suitable vegetation and vegetation maintenance standards for floodways and bypasses not subject to Section 131(b) are as follows:

(1) Vegetation is permitted within revetment on ~~streambanks~~stream banks unless, in the judgment of the ~~board~~Board, it becomes a threat to the integrity of the revetment.

(2) Invasive or difficult–to–control vegetation, whether naturally occurring or planted, that impedes or misdirects floodflows is not permitted to remain on a berm or within the floodway or bypass.

(3) The ~~board~~Board may require clearing and/or pruning of trees and shrubs planted within floodways in order to minimize obstruction of floodflows.

(4) Trees and brush that have been cut down must be burned or removed from the floodway prior to the flood season.

(h) ~~Orchards~~Tree plantings are not permitted within bypasses but may be planted within other floodways in accordance with the following criteria:

(1) ~~If an orchard is abandoned, all trees~~ Trees or brush cut prior to planting must be removed and burned or disposed of outside the floodway or levees prior to flood season.

(2) ~~Trees or brush cut prior to planting an orchard must be removed and burned or disposed of outside the floodway prior to flood season.~~

~~(3) Orchard~~Tree cuttings and any debris that may accumulate in the ~~orchard~~floodway during the flood season must be removed from the floodway, or must be disposed of in such a manner as to leave no floatable debris within the floodway. Cuttings and other debris must regularly be burned or removed and disposed of outside the floodway throughout pruning activities so as to leave no floatable debris within the floodway.

(~~4~~3) Dead trees, stumps, prunings, or other ~~agricultural~~ debris may not be placed on the levee section or within ~~ten (10~~twenty (20) feet of the landside levee toe~~.~~ and within fifteen (15) feet of the waterside levee toe.

(~~5~~4) Tree rows must be parallel to the direction of the overbank flow and may not direct the flow toward the levee.

(~~6~~5) The spacing between rows must be a minimum of sixteen (16) feet perpendicular to the overbank flow of the stream. The row spacing must be increased if, in the judgment of the ~~board~~Board, additional space is necessary for the passage of floodflows. The minimum spacing within the row shall be 8 feet or greater.

~~(i) Vegetable gardens are not permitted on the~~ (6) The levee ~~slope. Vegetable gardens may be permitted within ten (10) feet of the levee toe where they will not interfere with maintenance and inspection and meet the following conditions:~~

~~(1) No large bushy plants such as corn, tomatoes, grapes and peas are within ten (10) feet of the levee toe;~~

~~(2) There is not a maintenance access road along the levee toe;~~

~~(3) The adjacent levee slope is not sprayed with herbicide by the maintaining agency; and~~

~~(4) The levee is not experiencing~~shall not experience burrowing ~~rodent~~ activity resulting from rodents or any animal. If there is burrowing ~~rodent~~ activity in the immediate vicinity, the ~~vegetable garden~~ permittee shall control the rodents or animals to the satisfaction of the Board or remove the ~~garden~~vegetation.

(~~j~~i) Irrigation of vegetation on levee slopes must conform to the following criteria:

(1) ~~Permanently installed~~Temporary irrigation systems ~~are permitted on both slopes of oversize levees and on the landside slope of standard size levees.~~

~~(2) Surface low pressure drip irrigation systems may be used on either the landside or waterside levee slope.~~

~~(3) Any~~must be removed after three (3) years. Applied water ~~applied~~ to vegetation on the levee slope ~~by any means~~ must be controlled to prevent erosion of the levee slope~~.~~ and levee instability.

(~~4~~2) Ditches for irrigation or drainage may not be dug in the levee section, or within ~~ten (10~~twenty (20) feet of the landside levee toe and within fifteen (15) feet of the waterside levee toe , or within the projected levee section ~~for irrigation or drainage~~.

(~~5~~3) Watering basins around trees must be limited to a maximum depth of twelve (12) inches.

~~(6) Permanently installed irrigation pipes may be buried but may be no deeper than eight (8) inches into the levee slope.~~

~~(7) A readily accessible shutoff or control valve is required in the supply line of all irrigation systems. The valve must be located a minimum of ten (10) feet landward of the levee toe and must be clearly identified for levee maintenance or flood fight personnel.~~

~~(8) Pipes supplying water to permanently installed sprinkler heads must be of approved material such as galvanized iron, schedule 40 polyvinyl chloride (PVC), class L copper, or equivalent. Aluminum pipe is not permitted.~~

~~(k) The board~~(j) The Board may permit, with appropriate conditions, existing nonconforming vegetation after considering a number of factors, including but not limited to:

(1) Age of vegetation;
(2) Type of vegetation;
(3) Location of vegetation;
(4) Size of vegetation;
(5) Physical condition of vegetation;
(6) Whether the vegetation was planted or is naturally occurring;
(7) Condition of the adopted plan of flood control;
(8) Environmental value of the vegetation; ~~and~~
(9) Ability to inspect and maintain the levee around the vegetation~~.~~;

(~~l~~k) Trees removed from the levee and from within ~~ten (10~~twenty (20) feet of the landside levee toe and within fifteen (15) feet of the waterside levee toe shall have all roots larger than one~~–~~ and one~~–~~ half (1~~–1/2)~~½) inches in diameter removed for a distance of at least three (3) feet from the tree trunk at ground level ~~and the hole filled with impervious soil compacted in four (4) to six (6) inch lifts. Compaction within the levee section shall be a relative compaction of not less than ninety percent (90%), per ASTM D1557-91, dated 1991, which is incorporated by reference. Outside of the levee section, the soil shall be compacted to at least the density of adjacent undisturbed material.~~. The remaining excavation shall be backfilled with suitable material in accordance with Section 120 (a)(12).

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY
1. New section, figure 8.10 and tables 8.2 through 8.5 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

~~Table 8.2~~

~~Partial List of Trees *Suitable* for Oversize Levees~~

Alder, white	*Alnus rhombifolia*
Box Elder	*Acer negundo*
California pepper tree (male only)	*Schinus molle*
Carob tree (male only)	*Ceratonia siliqua*
China–berry	*Melia azedarach*
Chinese pistache	*Pistacia chinensis*
Coast beefwood	*Casuarina stricta*
Common catalpa	*Catalpa bignonioides*
Crape myrtle	*Lagerstroemia indica*
Dogwood, giant	*Cornus controversa*
Dogwood, Western	*Cornus nuttallii*
Fremont cottonwood (male only)	*Populus fremontii*
Goldenrain tree	*Koelreuteria paniculata*
Hackberry, Chinese	*Celtis sinenis*
Hackberry, common	*Celtis occidentalis*
Hackberry, European	*Celtis australis*
Maidenhair tree (male only)	*Gingko biloba*
Mayten tree	*Maytenus boaria*
Montezuma cypress	*Taxodium mucrontum*
Oak	*Quercus spp.**
Pagoda tree	*Sophora japonica*
Redbud, western	*Cercis occidentalis*
Redbud, eastern	*Cercis canadensis*
Sawleaf zelkova	*Zelkova serrata*
Silk tree	*Albizia julibrissin*
Strawberry tree	*Arbutus unedo or Arbutus "marina"*
Tallow tree	*Sapium sebiferum*
Tupelo	*Nyssa sylvatica*

*spp. = species

~~Table 8.3~~
~~Partial List of Trees *Unsuitable* on Levees~~

Acacia, Bailey	*Acacia baileyana*
Acacia, kangaroo thorn	*Acacia armata*
Almond	*Prunus dulcis*
Apple, crabapple	*Malus spp.**
Apricot	*Prunus armeniaca*
Ash, Arizona	*Fraxinus velutina*
Ash, flowering	*Fraxinus ornus*
Ash, Modesto	*Fraxinum velutina "Modesto"*
Blue gum	*Eucalyptus globulus*
Cedar**	*Cedrus spp.**
Cherry	*Prunus ayium*
Chinese jujube	*Zizyphus jujube*
Chinese wingnut	*Pterocarya stenoptera*
Citrus	*Citrus spp.**
Coast redwood	*Sequoia sempervirens*
Colorado spruce	*Picea pungens*
Cypress**	*Cupressus spp.**
Date palm	*Phoenix spp.**
Elm	*Ulmus spp.**
Fan palm	*Washingtonia spp.**
Fig	*Ficus carica*
Fir**	*Abies spp.**
Giant sequoia	*Sequoiadendron giganteum*
Grape	*Vitis spp.**
Hawthorn	*Crataegus spp.**
Incense cedar**	*Calocedrus decurrens*
Locust	*Robinia spp.**
Loquat	*Eriobotrya spp.**
Olive	*Olea europaea*
Osage orange	*Maclura pomifera*
Peach and nectarine	*Prunus perica*
Pecan	*Carya illinoinensis*
Persimmon	*Diospyros spp.**
Pine**	*Pinus spp.**
Plum and prune	*Prunus domestica, salicina*
Pomegranate	*Punica granatum*
Quince	*Cydonia oblonga*
Russian olive	*Elaegnus augustifolia*
Salt Cedar	*Tamarisk gallica*
Tree of heaven	*Ailanthus altissima*
Walnut	*Juglans spp.**

*spp. = species

**Conifers whose normal mature height is 50 feet or less may be considered desirable under maintenance conditions that (1) protect the tree from drought, and (2) will assure proper pruning of the lower branches.

~~Table 8.4~~

~~Partial List of Ground Covers *Suitable* on Levees~~

Aaron's Beard***	*Hypericum calycinum*
Alyssum	*Alyssum spp.**
Basket–of–gold	*Aurinia saxatile*
Bermuda Grass	*Cynodon dactylon "tifgreen"*
	Cynodon dactylon "coastal"
	Cynodon dactylon "Tufcote"
Blue–eyed grass	*Sisyrinchium bellum*
California Poppy	*Eschscholzia californica*
Cape weed	*Arctotheca calendula*
Creeping wild rye***	*Elymus triticoides*
English Ivy, miniature***	*Hedera helix, hahni*
Garden lippia	*Phyla nodiflora*
	Lippia nodiflora
Gazania, trailing***	*Gazania spp.**
~~Green carpet~~	~~*Herniaria glabra*~~
Lupine, dwarf	*Lupinus bicolor*
Mexican evening primrose***	*Oenothera berlandieri*
Palestine orchardgrass	*Dactylis glomerotoa*
	"Palestine"
Salt grass	*Distichlis spicata*
Spring Cinquefoil	*Potentilla tabernaemontanii*
Stonecrop	*Sedum spp.**
Trailing African daisy	*Osteospermum fruticosum*
Verbena	*Verbena peruviana*
Yellow–eyed grass	*Sisyrinchium californicum*

*spp. = species

**These species have specific requirements for being cut back or otherwise maintained on a regular basis depending on the species.

~~Table 8.5~~
~~Partial List of Ground Covers and Miscellaneous~~
~~Species *Unsuitable* on Levees~~

Bamboo	*Bambusa spp.**
Blackberry/Raspberry	*Rubus spp.**
Broom	*Cytisus spp.**
Cactus	*Cactaceae spp.**
Century Plant	*Agave americana*
False Bamboo, Common Reed	*Phragmites communis*
Freeway Iceplant	*Carpobrotus spp.**
Grape	*Vitus spp.**
Honeysuckle	*Lonicera spp.**
Horsetail	*Equisetum hyemale*
Ice Plant, Rosea	*Drosanthemum floribundum*
Ice Plant, trailing	*Lampranthus,spectabulis*
Ivy, Algerian	*Hedera canariensis*
Ivy, Persian	*Hedera colchica*
Ivy, English except miniature or dwarf varieties	*Hederal helix*
Pampas grass	*Cortaderia selloana*
Periwinkle	*Vinca spp.**
Perla Grass	*Phalaris tuberosa* *var. hirtiglumis*
Rose	*Rosa spp.**

*spp. = species

§ 132. Bicycle Trails

(a) It is the ~~board's~~Board's policy to permit the construction of paved and unpaved bicycle trails by public agencies on levees and within floodways under the ~~board's~~Board's jurisdiction, provided that the flood control purpose of the floodway facilities remains primary. Bicycle trails must meet the following general conditions:

(1) Where feasible, the bicycle trail must be located off of the levee.

(2) Repair or replacement of the bicycle trail that is damaged during an emergency ~~flood fight~~floodfight procedure, routine maintenance, or any required improvement activity within an adopted plan of flood control must be made by, and at the sole expense of, the permittee or in accordance with an agreement for maintenance between the permittee and a public agency.

(3) The ~~board~~Board and the local flood control maintaining agency retain the right to temporarily close the bicycle trail for improvement, maintenance, or during emergency ~~flood fight~~floodfight activities.

(4) Bicycle trails within an adopted plan of flood control must be maintained to a level safe for bicycle traffic and acceptable to the local flood control maintaining agency and the Department of Water Resources.

(b) Bicycle trails on a levee section are permitted under the following conditions:

(1) The permittee shall defend, hold harmless, and indemnify the State of California and the local maintaining agency, and each of their ~~boards~~Boards, elected officials, officers, employees, and agents against all damages and claims of liability of whatever nature which arise from the use of the levee as a bicycle trail.

(2) The permittee must submit proposed use restrictions for the bicycle trail, and a plan for enforcement of the restrictions satisfactory to the ~~board~~Board, prior to commencing construction. The restrictions, at a minimum, must restrict public access to the trail and to designated adjacent areas only, and must prohibit equestrian and motorized vehicle traffic, except as may be necessary for maintenance, restriction enforcement, and providing for public safety.

(3) The permittee must agree to bear the cost of any repairs to a flood control project facility that ~~are~~is made necessary by the presence or use of the bicycle trail.

(4) Paved bicycle trails constructed on the levee crown must have a minimum pavement width of twelve (12) feet and a minimum shoulder width of one (1) foot on each side of the pavement. The outer edges of the finished pavement may be no higher than the adjacent shoulders and the cross–section must be shaped and trimmed to produce a smooth transition from pavement to shoulder.

(5) Paved bicycle trails on the levee crown must be designed and paved to withstand a maximum load of 68,000 pounds from two consecutive sets of tandem axles. Soil tests may be required to determine design of the trail.

(6) The structural section of paved bicycle trails must consist of a minimum of six (6) inches of compacted aggregate base beneath two (2) inches of asphalt concrete pavement, or equivalent, on a ~~well compacted levee crown~~subgrade compacted in accordance with Section 120(a)(12). Field density testing by an approved soils testing laboratory will be required to confirm the minimum relative compaction of the subgrade.

(7) The aggregate base shall extend beyond the pavement to allow drainage.

(8) The bicycle trail and all bicycle access ramps must be sloped to drain away from the levee crown.

(9) Bicycle access ramps on levee slopes must conform to the criteria set forth in the standards for access ramps in ~~section~~Section 130.

(10) The bicycle trail may not be cut into the levee section but may be placed on fill along the levee slope provided it will not interfere with maintenance.

(11) The permittee must maintain the bicycle trail or provide evidence of agreement with a public agency for that agency to provide maintenance.

(12) The permittee may be required to prevent unauthorized vehicular access to bicycle trails by physical barriers, which must be removable to allow access for maintenance, inspection, and emergency vehicles. Vehicular access barriers will be secured by locks. Keys shall be provided to the Department of Water Resources and the local flood control maintaining agency.

(13) The permittee shall install permanent safety signs at all bicycle access points and at periodic intervals along the trail containing such language as:

Levee Maintenance Road

Watch for Patrolling Vehicles.

(14) The permittee shall install permanent signs at all bicycle access points to control unauthorized use of bicycle trails.

(c) Bicycle trails within a leveed floodway are permitted under the following conditions:

(1) The permittee must submit proposed use restrictions for the bicycle trail and a plan for enforcement of such restrictions satisfactory to the ~~board~~Board, prior to commencing construction. The restrictions, at a minimum, must restrict public access to the trail and to designated adjacent areas only, and shall prohibit equestrian and motorized vehicle traffic, except as may be necessary for maintenance, restriction enforcement, and providing for public safety.

(2) The permittee must agree to bear the cost of any repairs to a flood control project facility that ~~are~~is made necessary by the presence or use of the bicycle trail.

(3) Bicycle trails must be constructed at natural ground level wherever possible, and all fills greater than three (3) feet in height must be supported by appropriate engineering studies.

(4) The permittee must maintain the bicycle trail or provide evidence of an agreement with a public agency for that agency to provide maintenance.

(5) The permittee is required to prevent unauthorized vehicular access to bicycle trails by physical barriers, which must be removable to allow access for maintenance, inspection, and emergency vehicles. Vehicular access barriers will be secured by locks. Keys shall be provided to the Department of Water Resources and the local flood control maintaining agency.

(6) The permittee must install permanent signs at all bicycle access points to control unauthorized use of bicycle trails.

(d) Paved bicycle trails within ten (10) feet of the landside levee toe must have appropriate features that intercept seepage and prevent particle migration.

(e) The permittee must address and incorporate into the trail design where necessary concerns for privacy issues.

NOTE: Authority: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

Note: § 133 is not the part of this update, and therefore, not included here.

§ 134. Supplemental Standards for the Yuba River—Daguerre Point Dam to Confluence with the Feather River

These standards are for dwellings and structures within the Yuba River floodway between Daguerre Point Dam and the confluence with the Feather River. These standards supplement and, where in conflict with, supersede the standards in ~~sections~~Sections 111 through 137.

(a) The following definition applies to this ~~section~~Section:

(1) Permanent Dwelling~~—~~. "Permanent Dwelling" means a dwelling that may be occupied throughout the year.

(b) The lower Yuba River flood channel is divided into Areas A, B, and C, as delineated on Figure 8.~~11~~08. Area A is the flow area required to carry one hundred fifty thousand (150,000) cubic feet per second (cfs). Area A and ~~Area~~ B combined is the flow area required to carry two hundred thirty~~–~~ five thousand (235,000) cfs. Area C is the remainder of the floodway within the flood control project levees. A map identifying the exact locations of Areas A, B, and C,

entitled “1995 Designated Floodway, Yuba River” is incorporated by reference into this regulation. The full-size map is available for inspection at the office of the boardBoard in Sacramento.

(c) Encroachments in Area A must conform to the general standards of this title, except that new dwellings for seasonal occupancy (as defined in sectionSection 113) and structures are not permitted.

(d) Encroachments in Area B must conform to the general standards of this title except that dwellings, structures, and mobile homes may be permitted in substantial areas of shallow flooding (water depth one (1) foot or less in a two hundred (200) year flood) if they satisfy the requirements of subdivision (e) of this sectionSection and the requirements of sectionSection 113(d).

(e) Area C is considered a “zone B” as provided in sectionSection 113. Encroachments in Area C must conform to the general standards of this division, and in addition, meet the following requirements:

(1) The design flood plane for construction of permanent dwellings must correspond to the two hundred thirty five thousand (235,000) cfs flow line or 100 yeartwo hundred (200) flood elevation, whichever is higher.

(2) New permanent dwellings are not permitted in Area C unless a safe evacuation route, satisfactory to the boardBoard, is available for the dwelling’s residents.

(3) Roads that would be used to evacuate residents must be constructed to at least the one hundred fifty thousand (150,000) cfs flow line elevation, 100-year flood elevation, or at natural ground elevation, whichever is highest and may not unreasonably obstruct floodflows.

(4) The boardBoard may require the owner of a dwelling, pursuant to sectionSection 16, to execute an agreement in which the owner agrees to evacuate all residents and guests upon order of an authorized government official when flooding is forecasted for the area.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609, and 8710, Water Code.

HISTORY

1. New section and figure 8.11 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

Note: § 135 is not the part of this update, and therefore, not included here.

§ 136. Supplemental Standards for Yolo Bypass and Sutter Bypass

It is the board’sBoard’s policy to permit agricultural land use and the development of suitable wetlands within the Yolo Bypass and Sutter Bypass. The supplemental standards protect the flood control functions of the Yolo and Sutter Bypasses, safeguard existing agricultural land use, and control the development of proposed wetlands.

(a) Final detailed plans for all construction, grading and planting must be submitted to and approved by the boardBoard prior to the start of work.

(b) A detailed operation and maintenance plan must be submitted to and approved by the boardBoard prior to the start of work.

(c) A profile of the existing levee crown roadway and access ramps that will be utilized for access to and from the construction area must be submitted to the ~~board~~Board prior to the start of work.

(d) Any damage to the levee crown roadway or access ramps attributable to the construction or maintenance of croplands or wetlands must be promptly repaired by the permittee.

(e) The planting of vegetation or the impoundment of water is not permitted within one thousand (1,000) feet of the Fremont Weir structure.

(f) The planting of vegetation or the impoundment of water shall not be permitted in any area ~~where there could be an~~unless a hydraulic analysis demonstrates no adverse hydraulic impact.

(g) Irrigated and nonirrigated pastures and croplands are allowed without permit from the ~~board~~Board when consistent with the ~~board's~~Board's flowage easements.

~~(h) The planting of vegetation is generally permitted for the development of native marsh, riparian vegetation, and wetlands.~~

~~(i~~(h) Rooted vegetation and aquatic beds of floating (nonrooted) or submerged vegetation are generally permitted to be established in ponded water.

(~~j~~i) The depth of ponded water must be controlled to prevent the growth of unauthorized vegetation that could adversely affect the operation of the flood control project.

(~~k~~j) No permanent berms or dikes are permitted above natural ground elevation without a detailed hydraulic analysis except where otherwise expressly provided for in reservations contained in easement deeds to the Sacramento and San Joaquin Drainage District.

(~~l~~*k*) Required maintenance may include removal, clearing, thinning, and pruning of all vegetation directly or indirectly resulting from the permitted project.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 137. Miscellaneous Encroachments

The following standards are to be used as a guide in making application to the ~~board~~Board for miscellaneous encroachments. Not all possible miscellaneous encroachments, the number being unlimited, are listed. Those listed are typically the type proposed by residents within an adopted plan of flood control, and those necessary because of governmental requirements.

(a) Tanks used for storage of water or other liquids are not permitted within a levee section or within ~~ten (10~~ fifteen (15) feet of the waterside levee ~~toe. If placed within the floodway,~~toes or ~~if placed in the~~ projected levee ~~section~~toes and within twenty ~~five (25~~ (20) feet of the landside levee ~~toe~~toes or projected levee toes. . If tanks are placed within the floodway which may have an adverse effect on the flood-carrying capacity of the floodway, a permit ~~is~~will be required.

(b) Landside water retention basins must be located outside of the projected levee section and a minimum distance of twenty ~~–~~ five (25) feet from the projected levee toe plus any additional distance ~~that may be determined to~~to control seepage will be required. A seepage analysis must be performed and submitted to ~~control seepage~~the Board for review prior to construction.

(c) Steps for access on levee slopes must conform to the following criteria:

(1) Steps must be constructed of material resistant to deterioration. Acceptable materials include, but are not limited to, concrete, masonry, stone, pressure treated lumber, iron, and steel.

(2) Steps constructed on the waterward levee slope must be properly anchored to prevent movement during high water.

(3) Excavation in the levee slope made for the construction of steps may not exceed twelve (12) inches in depth.

(4) Steps must be constructed flush with the levee slope.

(5) Handrails are not permitted on steps if they interfere with levee maintenance unless they are required by law.

(6) Handrails, where permitted on waterward levee slopes, shall be designed to give way when subjected to debris loading.

(7) The permittee is responsible for the maintenance of steps and handrails.

(8) Revetment on a levee slope or streambank that is destroyed or disturbed during the construction of steps must be restored to its original condition by the permittee.

(d) Horizontal (elevated) access ways, with or without handrails, are permitted above the landside and waterward slopes of the levee if they do not interfere with levee maintenance and conform to the following criteria:

(1) Horizontal access ways may not exceed four (4) feet in width unless the levee slope immediately beneath the access way is revetted to ~~board~~Board standards.

(2) The bottom of the stringers of horizontal access ways above the waterward levee slope must be a minimum of three (3) feet above the design flood plane ~~elevation~~.

(3) Handrails on access ways may not extend onto the levee crown.

(4) On a levee where the crown is less than fourteen (14) feet in width, handrails must be a minimum of seven (7) feet from the centerline of the levee.

(5) Access way supports, or piers, must be constructed so as to minimize the possibility of trapping and accumulating floating debris.

(6) Revetment on a levee slope or streambank that is destroyed or disturbed during the construction of a walkway must be restored to its original condition by the permittee.

(7) Maintenance of an access way and the adjacent levee slope is the responsibility of the permittee, and any erosion of the levee slope must be promptly repaired.

(e) Mailboxes, when required by the U.S. Postal Service, are permitted on a levee section and must be placed at the extreme outer edge of the levee crown. If the levee crown is less than fourteen (14) feet in width, the mailbox must be a minimum of seven (7) feet from the centerline of the levee.

(f) Traffic control signs, directional or informational signs, and signs providing for public safety are permitted on a levee slope or on the edge of a levee crown.

(g) Bus shelters are permitted on a levee section where sufficient area is available for safe operation of vehicles, and the bus shelter is at least seven (7) feet from the centerline of the levee.

(h) Livestock grazing on levee slopes shall not be allowed during the flood season as defined in Table 8.1 of Section 112 and shall be controlled to prevent overgrazing and the development of livestock trails.

(i) The storage of materials or equipment, unless securely anchored, downed trees or brush, and floatable material of any kind are not allowed within a floodway during the flood season as defined in Table 8.1.

(j) Structures and the storage of material or equipment are not permitted on levee slopes.
(k) Structures, materials, and equipment may be placed on the levee crown if they do not prevent inspection and maintenance of the levee, obstruct floodfight procedures, and the following additional requirements are met:

(1) There is adequate levee crown width to provide a minimum of twenty (20) feet of unobstructed clearance for two-~~-~~way vehicular traffic.

(2) Where a public road or highway is on the levee crown, the design width of the roadway including the roadway shoulders must remain clear.

(3) Materials or equipment may not be stored within fourteen (14) feet of the landward levee shoulder.

(4) Materials or equipment may be stored to within fourteen (14) feet of the waterward levee shoulder provided the waterward levee slope is revetted to ~~board~~Board standards.

(5) Materials or equipment may not be stored within thirty (30) feet of the waterward levee shoulder of an unrevetted levee.

(*l*) Seismic surveys near a levee or within a floodway must meet the following criteria:

(1) Horizontal shear energy sources may not be used on any levee section or within fifty (50) feet of the levee toe. In areas having soils especially susceptible to damage, a more stringent control may be required.

(2) Energy charges for surveys must be a minimum distance of two hundred (200) feet from the levee toe.

(3) Energy charges for surveys must not exceed one (1) pound of charge per one hundred (100) feet of distance from the levee toe.

(4) Electrical cables used in seismic surveys may not interfere with periodic inspections and maintenance of flood control facilities or with ~~flood fight~~floodfight procedures.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY
1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

Note: § 138 is not the part of this update, and therefore, not included here.

Note: Article 9 is not the part of this update, and therefore, not included here.

Article 10. Appendices

Note: Appendices will be provided in a separate file at a later date.
All Figures will be updated as per text at a later date.