

American River Watershed Project

Post Authorization Change Report

American River Watershed Project

Folsom Dam Modification and Folsom Dam Raise Projects

Plates

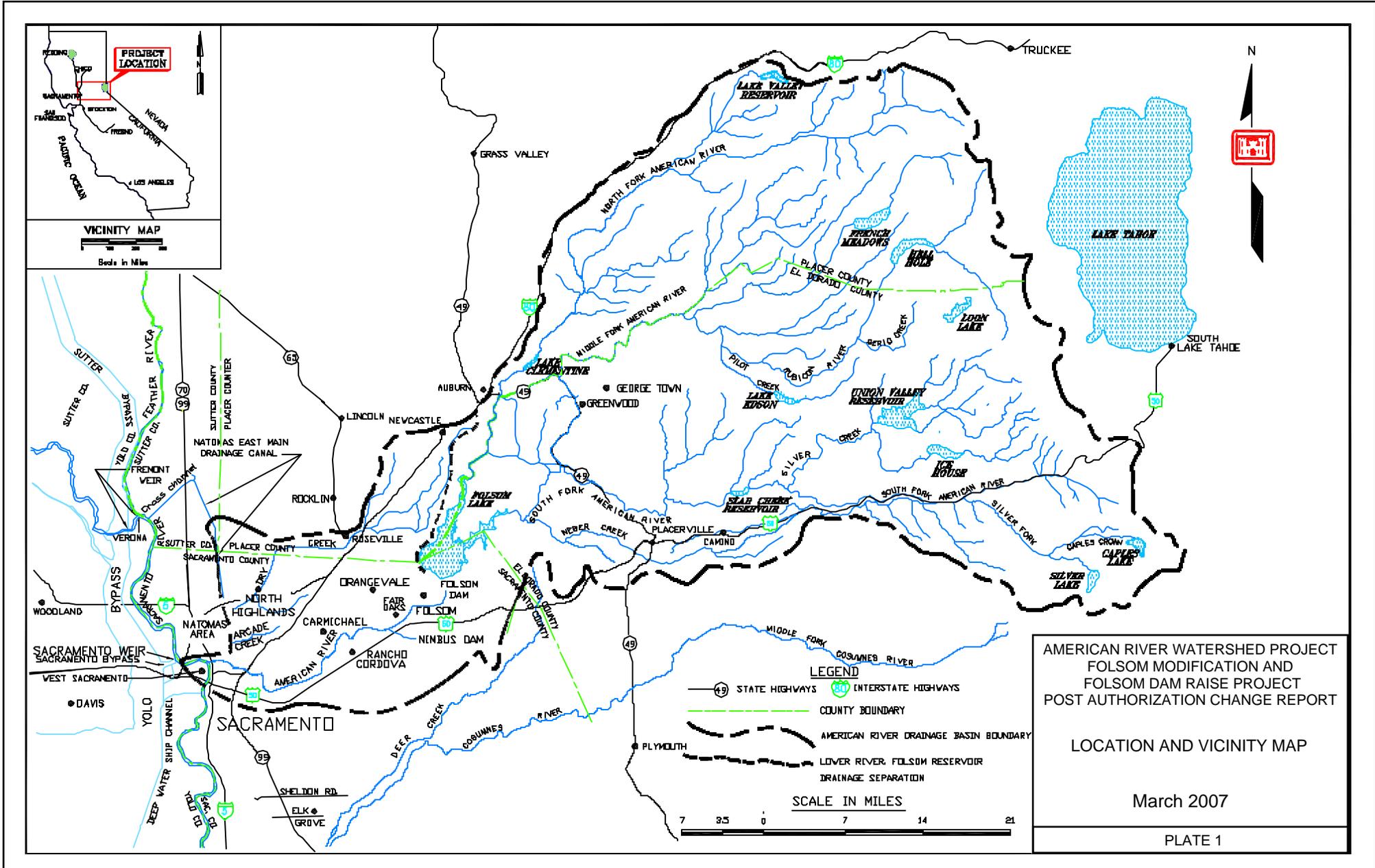
**Note – Plates are from various associated documents.
Titles and labels might not be consistent to this PAC
or EDRs.**



US Army Corps
of Engineers

Sacramento District
South Pacific Region

March 2007





0 0.2 0.4 0.6 0.8 1
 APPROXIMATE SCALE IN MILES

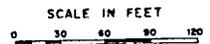
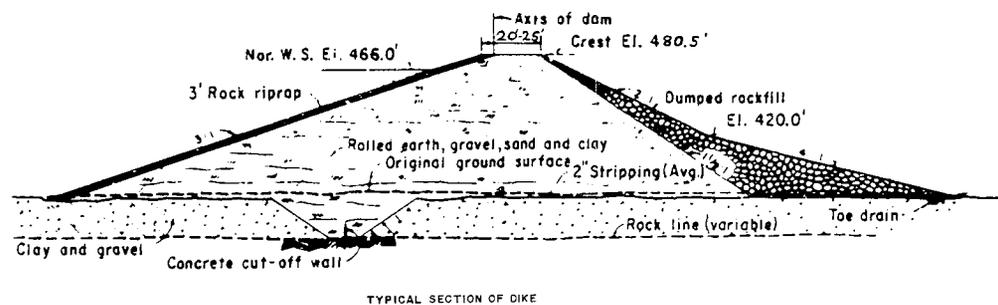
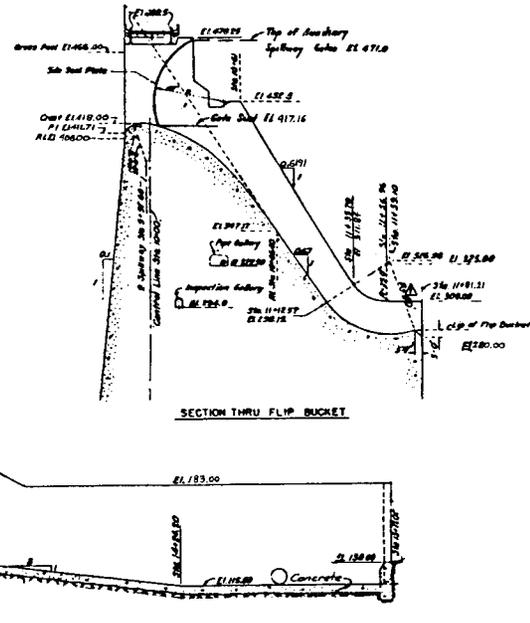
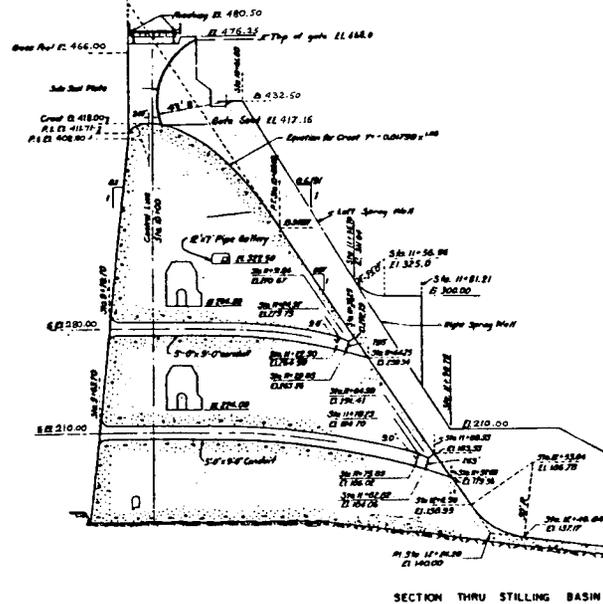
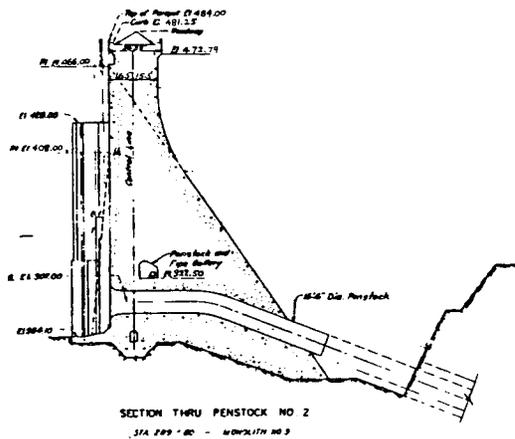
AMERICAN RIVER WATERSHED PROJECT
 FOLSOM MODIFICATION AND
 FOLSOM DAM RAISE PROJECT
 POST AUTHORIZATION CHANGE REPORT

PROJECT FEATURES MAP

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PLATE 2

SOURCE: FOLSOM DAM RAISE AND AUXILIARY SPILLWAY ALTERNATIVE, PROJECT ALTERNATIVE SOLUTIONS STUDY II (PASS II) FINAL REPORT, 2006, US ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT, ET AL.

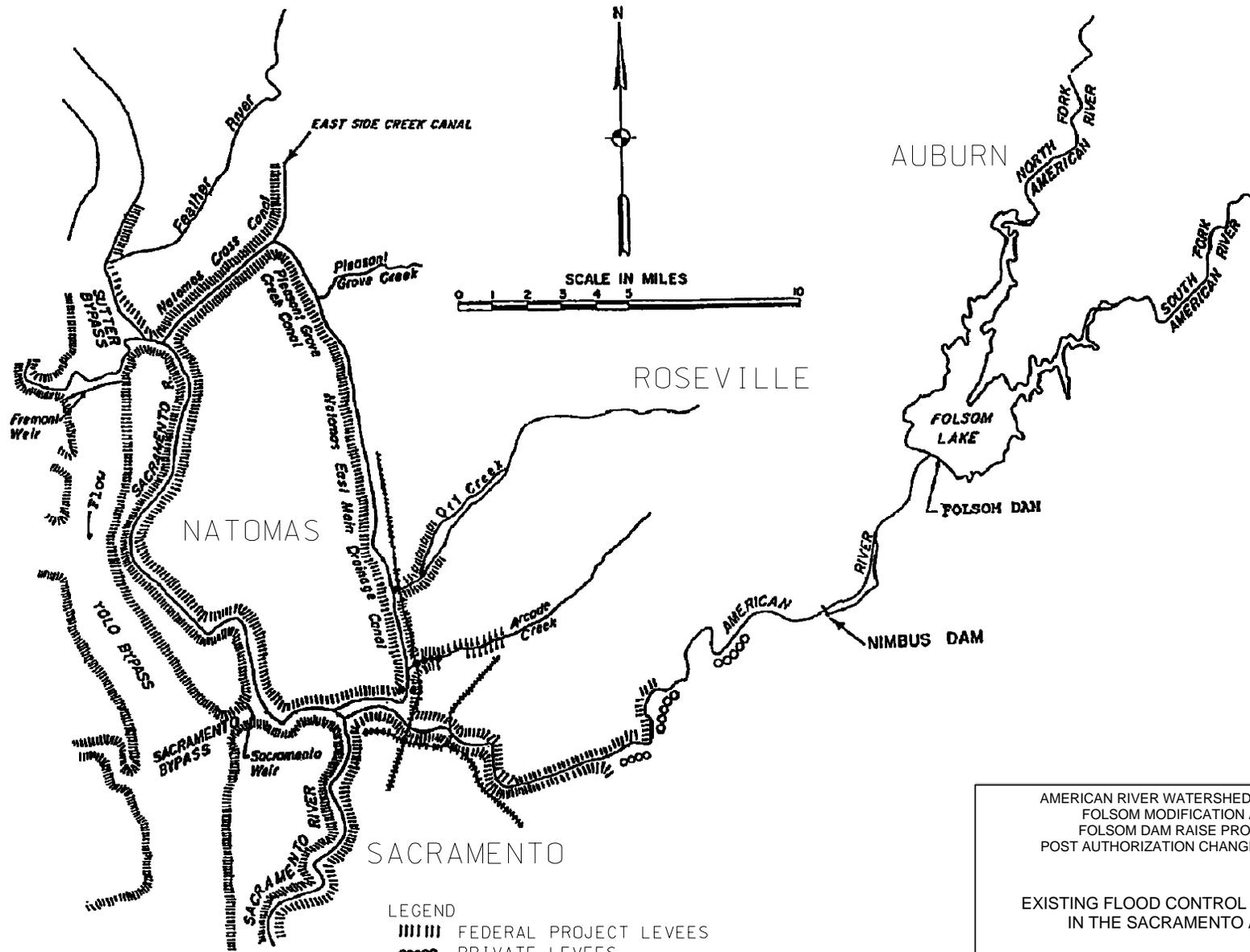


AMERICAN RIVER WATERSHED PROJECT
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 POST AUTHORIZATION CHANGE REPORT

FOLSOM DAM AND DIKE SECTIONS

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PLATE 3



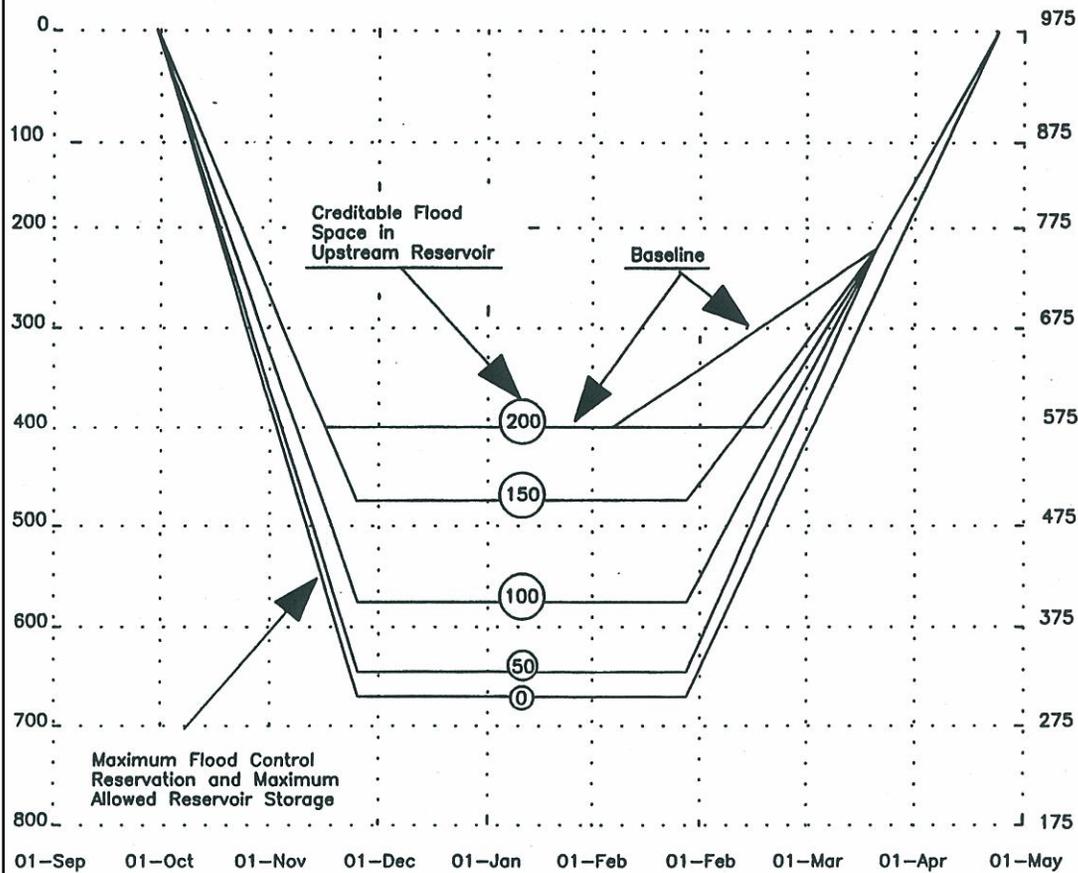
AMERICAN RIVER WATERSHED PROJECT
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EXISTING FLOOD CONTROL FEATURES
 IN THE SACRAMENTO AREA

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PLATE 5

FLOOD CONTROL DIAGRAM FOR FOLSOM DAM AND LAKE



SAMPLE COMPUTATION

RESERVOIR	STORAGE ON JAN 1 (TAF)	STORAGE AT SPILLWAY CREST (TAF)	SPACE AVAILABLE (TAF)	MAXIMUM CREDITIBLE SPACE (TAF)	CREDITIBLE FLOOD CONTROL TRANSFER SPACE (TAF)
French Meadows	75.7	110.7	35.0	45.0	35.0
Hell Hole	87.6	207.6	120.0	80.0	80.0
Union Valley	170.1	235.1	65.0	75.0	65.0
Total Creditable Flood Control Storage Space					180.0
Flood Control Reservation at Folsom Lake					420.0
Required Reservoir Storage at Folsom Lake (TAF)					555.0

USE OF DIAGRAM

1. Folsom Dam and Lake shall be operated for flood control in accordance with the Flood Control Reservation, reservoir releases must be in accordance with requirements of this diagram.
2. The parameters on the flood control diagram define the required Flood Control Reservation, on any given day, based on available space in the upstream reservoirs. Once the required Flood Control Reservation is computed, the Required Reservoir Storage for flood control can be determined. Water stored in excess of the Required Reservoir Storage must be evacuated. Computation of the parameter is discussed below:

FOLSOM DAM AND LAKE COMPUTATION OF REUIRED RESERVOIR STORAGE

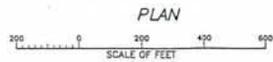
1. Compute space available below spillway crest, in acre-feet, for the following reservoirs: French Meadows, Hell Hole, and Union Valley.
2. The amount of creditable flood control transfer space in each reservoir is then computed by taking the smaller of the space available or the maximum creditable space for that reservoir.
 - a. The maximum creditable space by reservoir is as follows:
 French Meadows - 45,000 acre-feet
 Hell Hole - 80,000 acre-feet
 Union Valley - 75,000 acre-feet
3. Determine the Flood Control Reservation at Folsom Lake by Applying the creditable flood control transfer storage space (parameter on the diagram in 1,000 acre-feet).
 During a potential flood situation, water stored within the flood control reservation defined hereon, shall be released as rapidly as possible subject to the following schedule:
 - a. Required flood control release - Promptly release inflow up to 115,000 CFS while inflows are increasing, as discussed in the Folsom Dam Release Schedule. Control flows in the American River below the dam to not more than 115,000 cfs, except when larger releases are required by the accompanying EMERGENCY SPILLWAY RELEASE DIAGRAM (ESRD). Once the reservoir pool begins falling, maintain releases in excess of inflow until water stored in the Flood Control Reservation is evacuated.
 - b. Releases will not be increased more than 15,000 cfs or decreased more than 10,000 cfs during any 2 hour period.

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FOLSOM DAM AND RESERVOIR
EXISTING VARIABLE SPACE
FLOOD CONTROL DIAGRAM
400,000 - 670,000 acre feet

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PLATE 6



NOTES

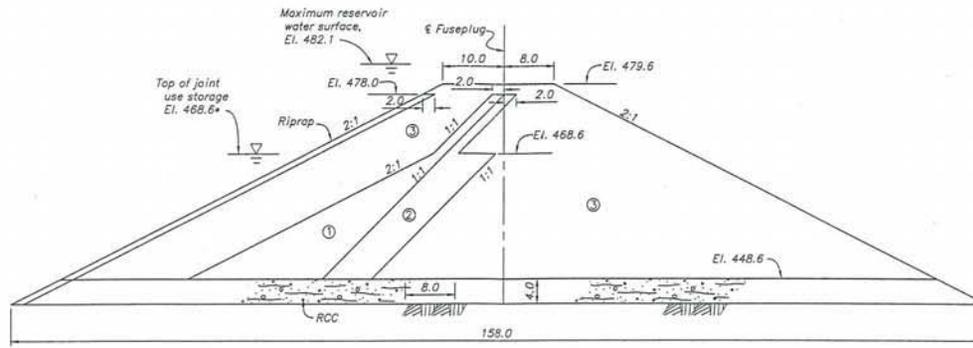
All units in feet unless otherwise noted.
 Access bridge required but not shown.
 Zone 1 denotes impervious core.
 Zone 2 denotes filter material.
 Zone 3 denotes minus 6-inch fill.
 Stepped construction of RCC may be required to dissipate energy. Air supply will be required at steps to ensure aeration of the water jet.
 The entire base slab of the horizontal crest section and sloping chute section are assumed to be constructed of RCC. All the sloped channel is assumed to be constructed of RCC.

AMERICAN RIVER WATERSHED PROJECT
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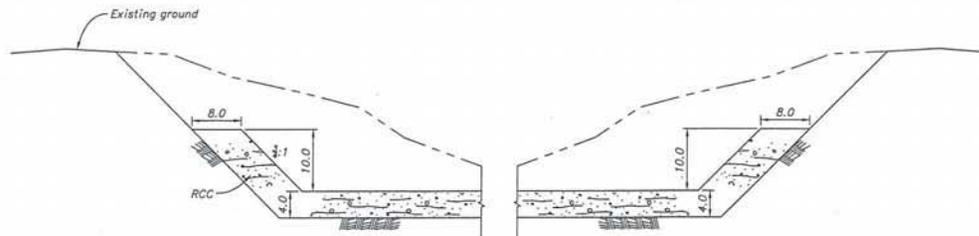
FOLSOM DAM FUSEPLUG AUXILIARY SPILLWAY
 EXISTING OUTLETS PLAN, PROFILE AND
 SECTIONS

MARCH 2007

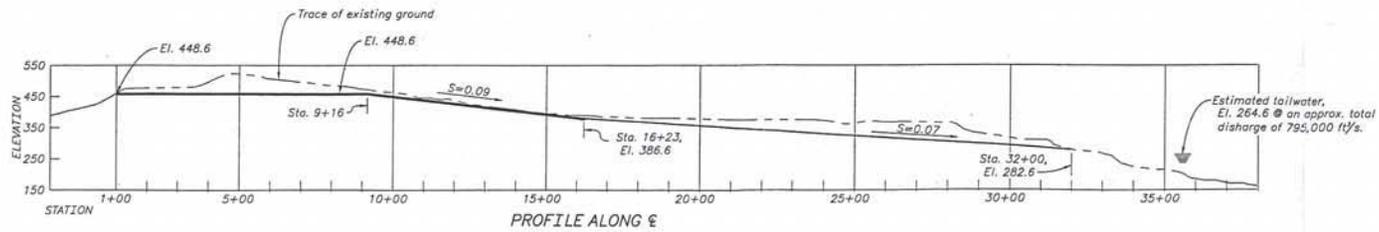
PLATE 7



SECTION A-A



SECTION B-B



NOTES

* Elevation from datum established in 2003. Elevation is 2.6 feet higher than that shown on original design drawings.

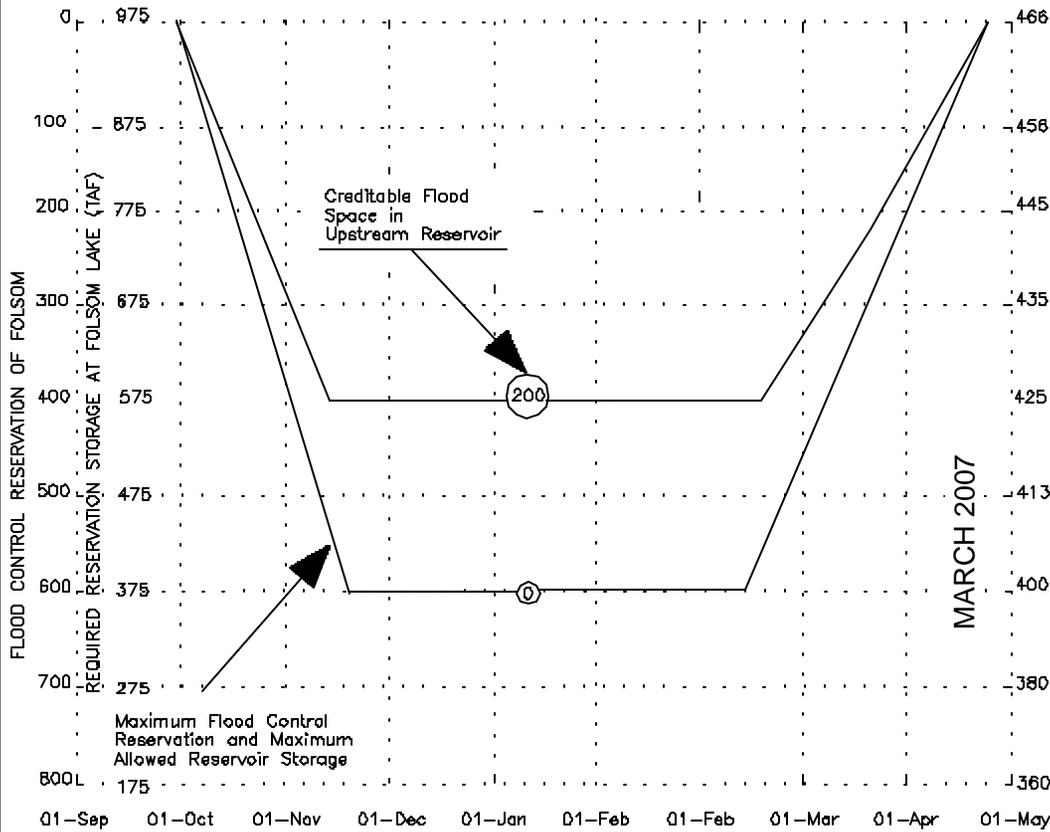
AMERICAN RIVER WATERSHED PROJECT
FOLSOM MODIFICATION AND
FOLSOM DAM RAISE PROJECT
POST AUTHORIZATION CHANGE REPORT

FOLSOM DAM FUSEPLUG AUXILIARY SPILLWAY -
EXISTING OUTLETS PLAN, PROFILE AND
SECTIONS

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PLATE 8

FLOOD CONTROL DIAGRAM FOR FOLSOM DAM AND LAKE



SAMPLE COMPUTATION

RESERVOIR	STORAGE ON JAN 1 (TAF)	STORAGE AT SPILLWAY CREST (TAF)	SPACE AVAILABLE (TAF)	MAXIMUM CREDITABLE SPACE (TAF)	CREDITABLE FLOOD CONTROL TRANSFER SPACE (TAF)
French Meadows	75.7	110.7	35.0	45.0	35.0
Hell Hole	87.5	207.5	120.0	80.0	80.0
Union Valley	170.1	235.1	65.0	75.0	65.0
Total Creditable Flood Control Storage Space					180.0
Flood Control Reservation at Folsom Lake					420.0
Required Reservoir Storage at Folsom Lake (TAF)					565.0

USE OF DIAGRAM

1. Folsom Dam and Lake shall be operated for flood control in accordance with the Flood Control Reservation; reservoir releases must be in accordance with requirements of this diagram.
2. The parameters on the flood control diagram define the required Flood Control Reservation, on any given day, based on available space in the upstream reservoirs. Once the required Flood Control Reservation is computed, the Required Reservoir Storage for flood control can be determined. Water stored in excess of the Required Reservoir Storage must be evacuated. Computation of the parameter is discussed below:

FOLSOM DAM AND LAKE COMPUTATION OF REQUIRED RESERVOIR STORAGE

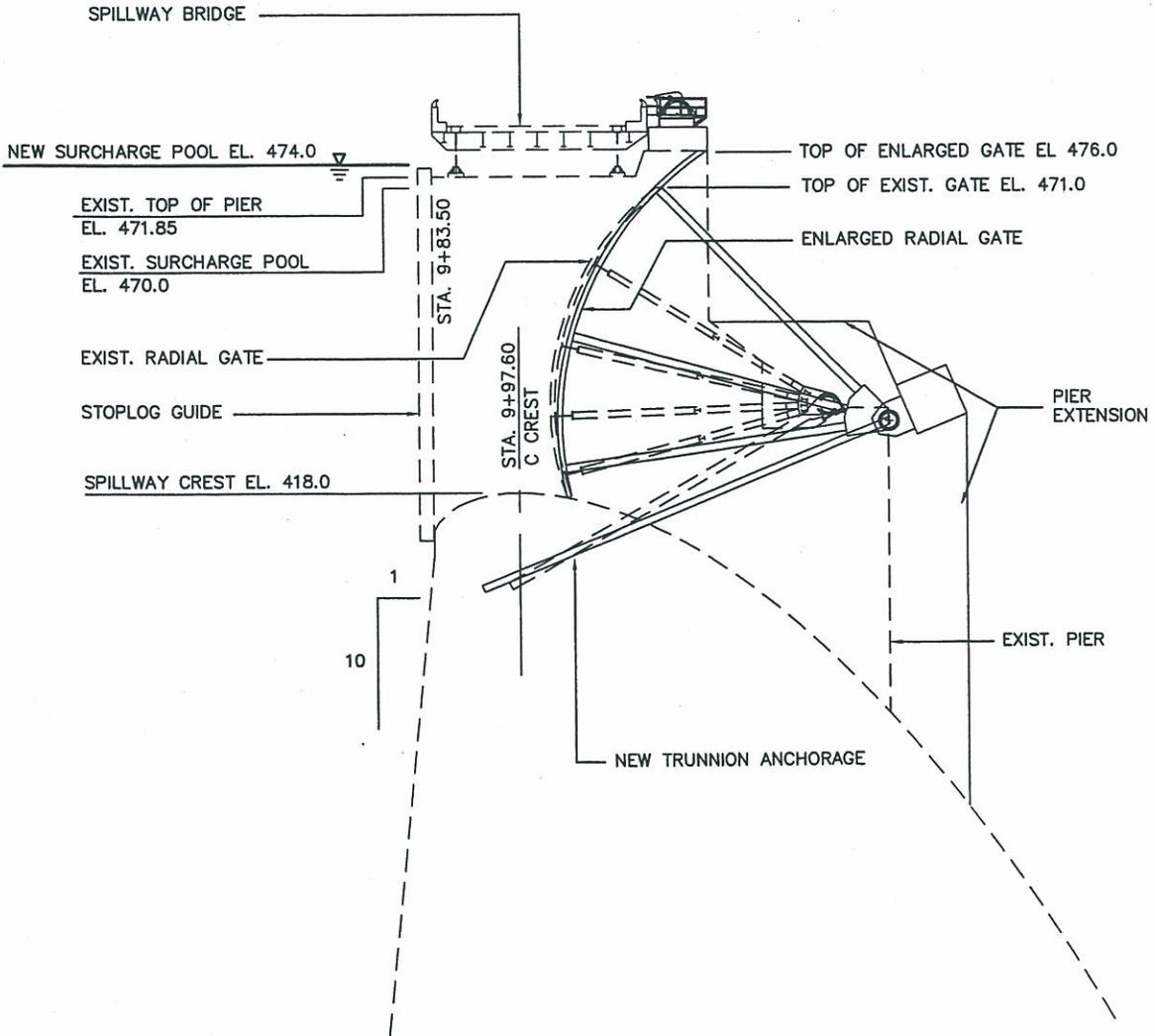
1. Compute space available below spillway crest, in acre-feet, for the following reservoirs: French Meadows, Hell Hole, and Union Valley.
2. The amount of creditable flood control transfer space in each reservoir is then computed by taking the smaller of the space available or the maximum creditable space for that reservoir.
 - a. The maximum creditable space by reservoir is as follows:
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3. Determine the Flood Control Reservation at Folsom Lake by applying the creditable flood control transfer storage space (parameter on the diagram in 1,000 acre-feet).
 During a potential flood situation, water stored within the flood control reservation defined herein shall be released as rapidly as possible subject to the following schedule:
 - a. Required flood control release - Promptly release inflow up to 115,000 cfs while inflows are increasing, as discussed in the Folsom Dam Release Schedule. Control flows in the American River below the dam to not more than 115,000 cfs, except when larger releases are required by the accompanying EMERGENCY SPILLWAY RELEASE DIAGRAM (ESRD). Once the reservoir pool begins falling, maintain releases in excess of inflow until water stored in the Flood Control Reservation is evacuated.
 - b. Releases will not be increased more than 15,000 cfs or decreased more than 10,000 cfs during any 2-hour period.

AMERICAN RIVER WATERSHED PROJECT
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FOLSOM DAM AND RESERVOIR
VARIABLE SPACE FLOOD CONTROL DIAGRAM
400,000 - 600,000 acre-feet

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PLATE 9



NOTE: DASHED LINES REPRESENT EXISTING FEATURES

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 FOLSOM MODIFICATION AND
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SURCHARGE STORAGE MODIFICATIONS
 EMERGENCY SPILLWAY TANTIER GATES

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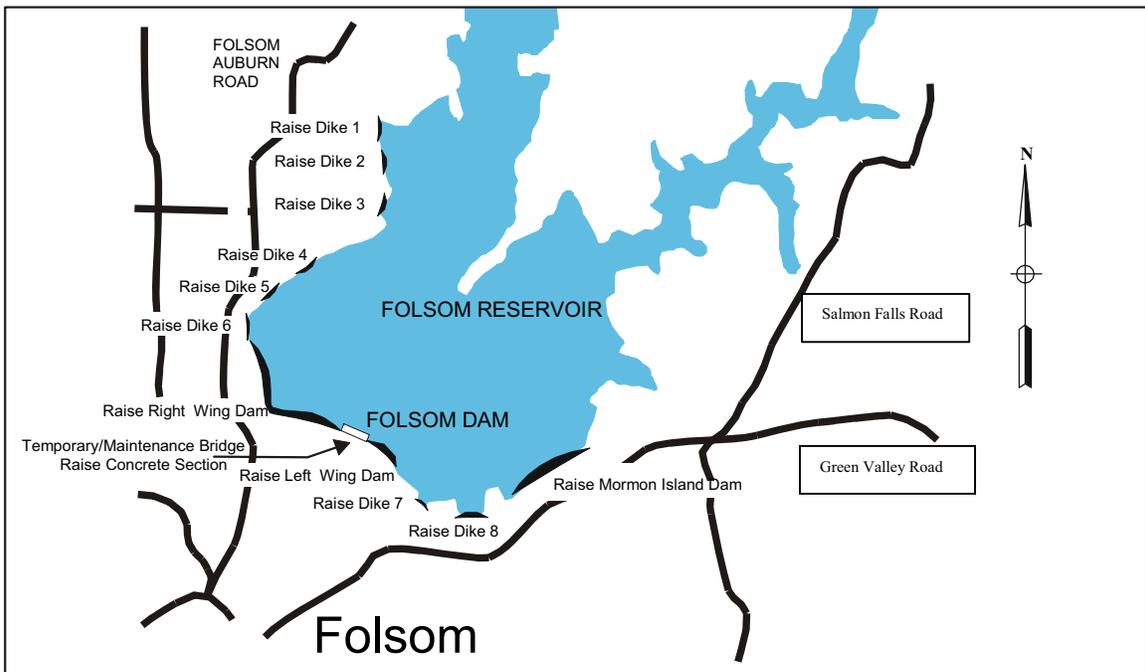
PLATE 10



Raise Dam Crest, Road and Bridge

Replace 5 Main and 3 Auxiliary Spillway Gates

Major Structural Modifications to Folsom Dam in the Folsom Enlargement Plan.



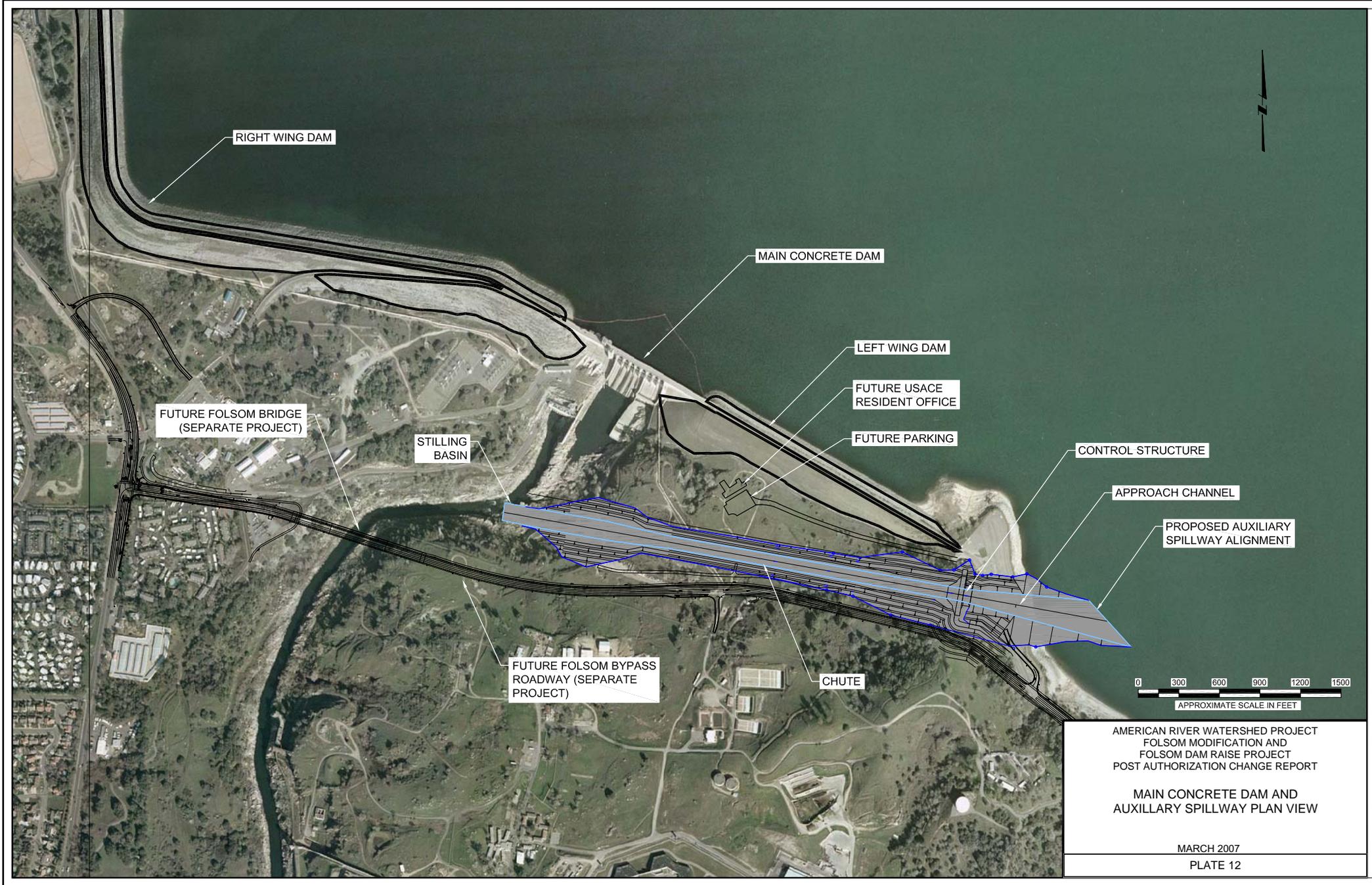
Plan View of Folsom Dam and Reservoir Showing Locations of Dike and Dam Raising.

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 FOLSOM MODIFICATION AND
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 POST AUTHORIZATION CHANGE REPORT

FOLSOM ENLARGEMENT PLAN

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PLATE 11



RIGHT WING DAM

MAIN CONCRETE DAM

LEFT WING DAM

FUTURE USACE
RESIDENT OFFICE

FUTURE PARKING

CONTROL STRUCTURE

APPROACH CHANNEL

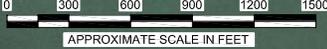
PROPOSED AUXILIARY
SPILLWAY ALIGNMENT

FUTURE FOLSOM BRIDGE
(SEPARATE PROJECT)

STILLING
BASIN

FUTURE FOLSOM BYPASS
ROADWAY (SEPARATE
PROJECT)

CHUTE

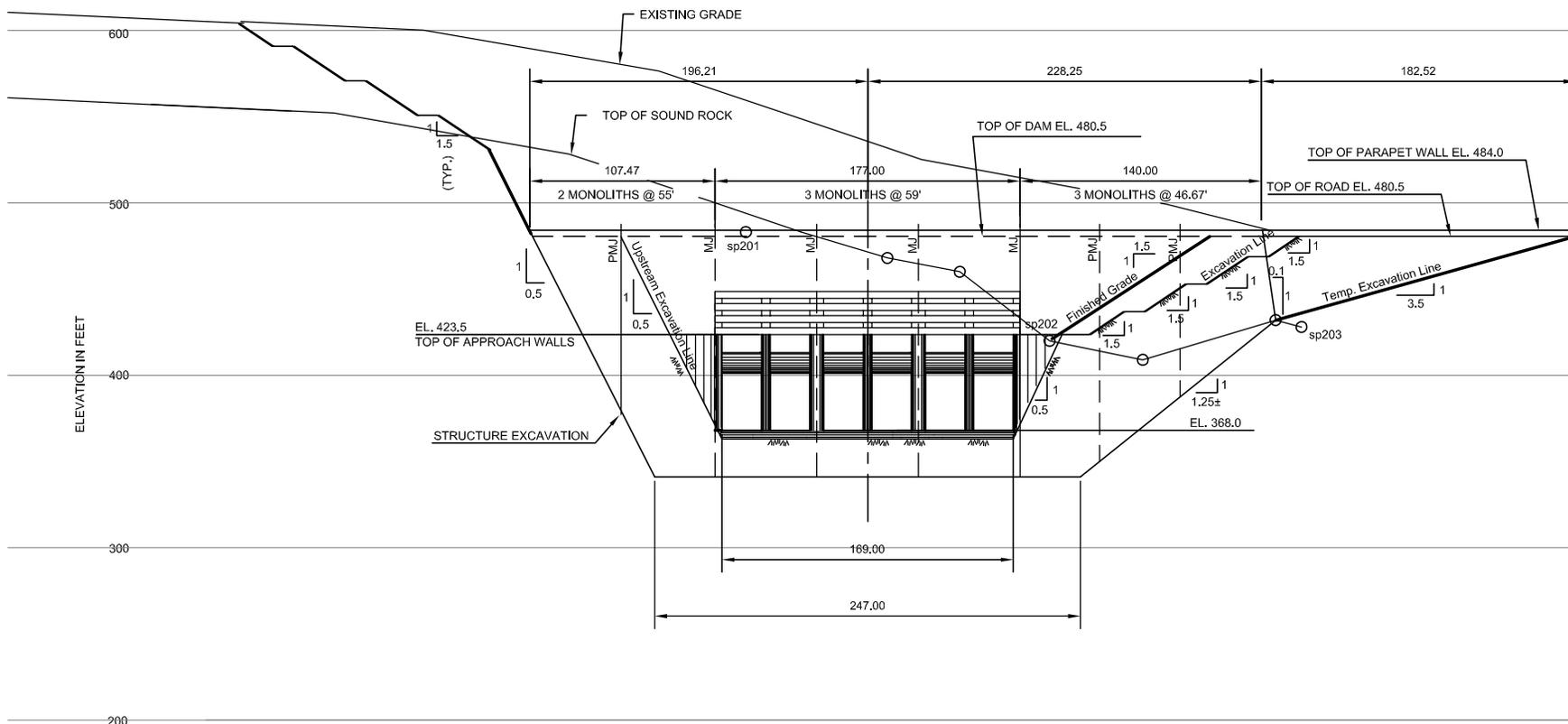


AMERICAN RIVER WATERSHED PROJECT
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MAIN CONCRETE DAM AND
AUXILIARY SPILLWAY PLAN VIEW

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PLATE 12

SOURCE: FOLSOM DAM RAISE AND AUXILIARY SPILLWAY ALTERNATIVE, PROJECT ALTERNATIVE SOLUTIONS STUDY II (PASS II) FINAL REPORT, 2006, US ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT, ET AL.



UPSTREAM STRUCTURE ELEVATION

SCALE: 1" = 50'

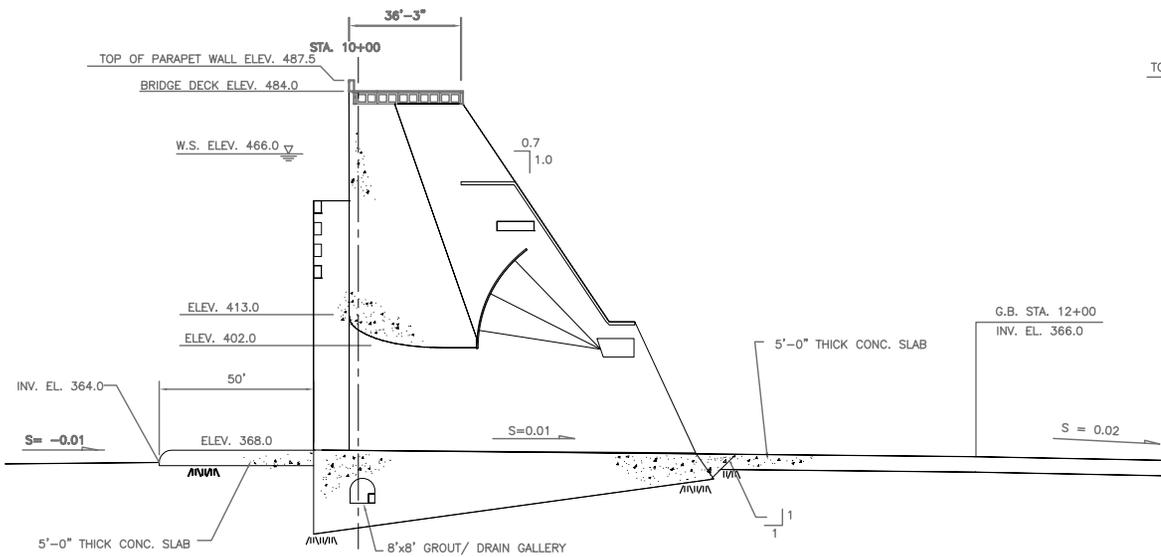
**PRELIMINARY
SUBJECT TO REVISION**

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 FOLSOM MODIFICATION AND
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AUXILLARY SPILLWAY CONTROL STRUCTURE
 UPSTREAM ELEVATION

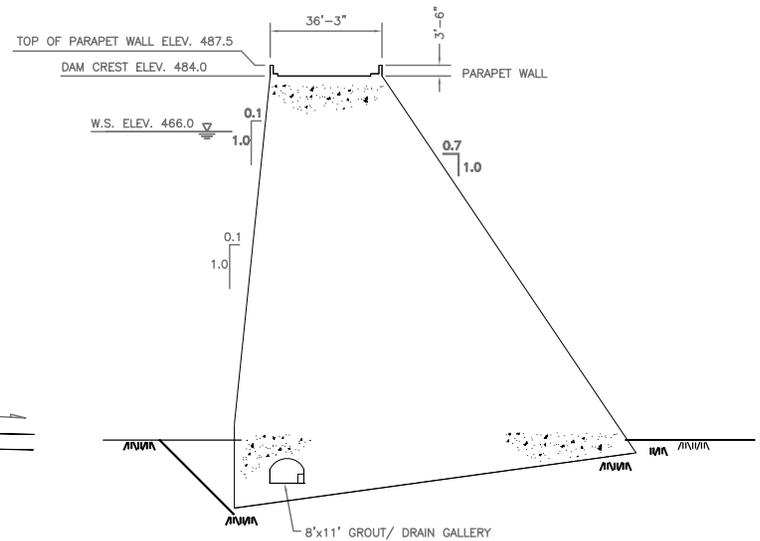
MARCH 2007

PLATE 13



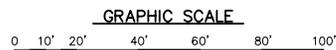
TYPICAL SECTION THRU OUTLET

SCALE: 1" = 20'



NON OVERFLOW SECTION

SCALE: 1" = 20'



PRELIMINARY
SUBJECT TO REVISION

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AUXILLARY SPILLWAY CONTROL STRUCTURE
SECTIONS

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PLATE 14

SOURCE: FOLSOM DAM RAISE AND AUXILIARY SPILLWAY ALTERNATIVE, PROJECT ALTERNATIVE SOLUTIONS STUDY II (PASS II) FINAL REPORT, 2006, US ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT, ET AL.