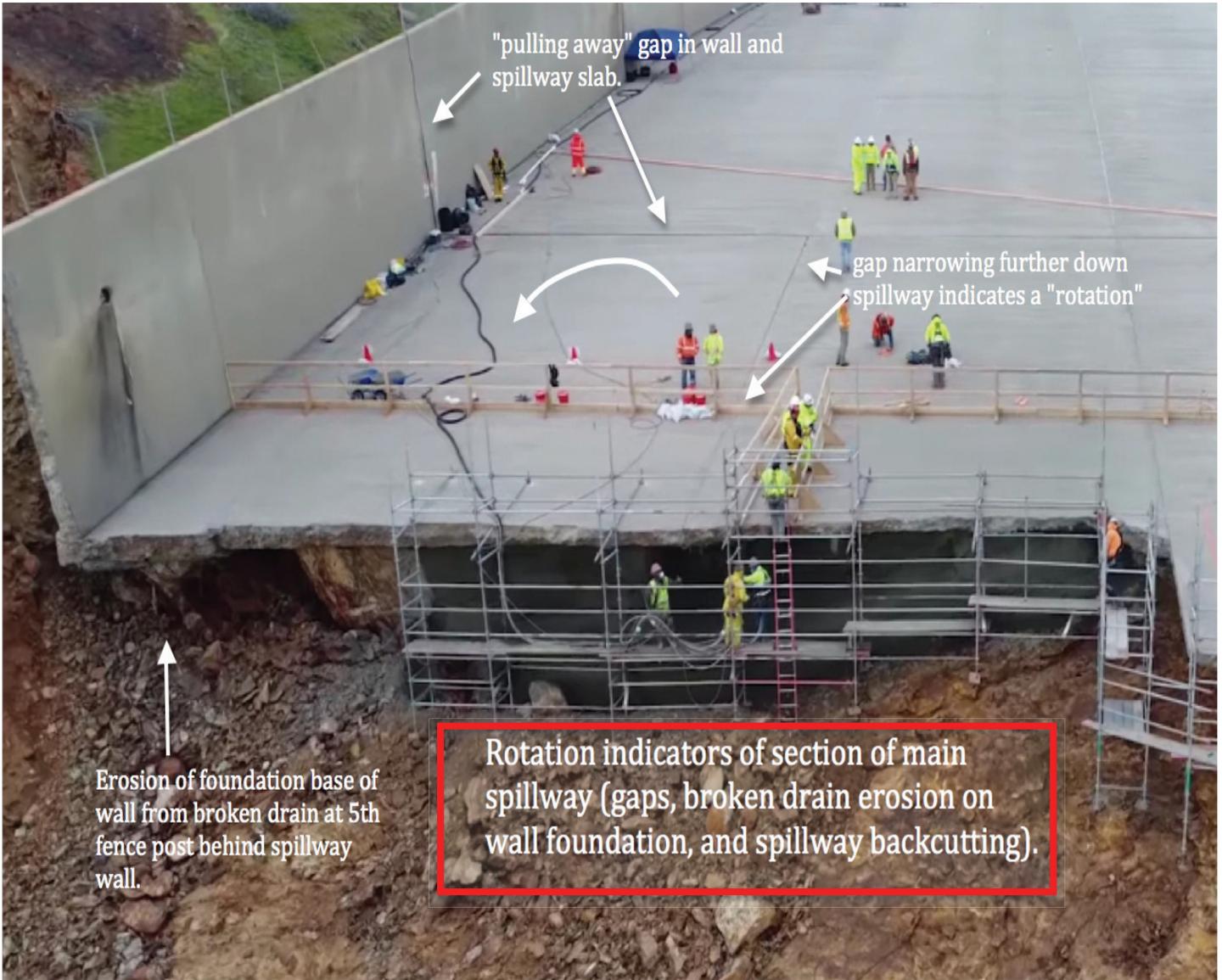


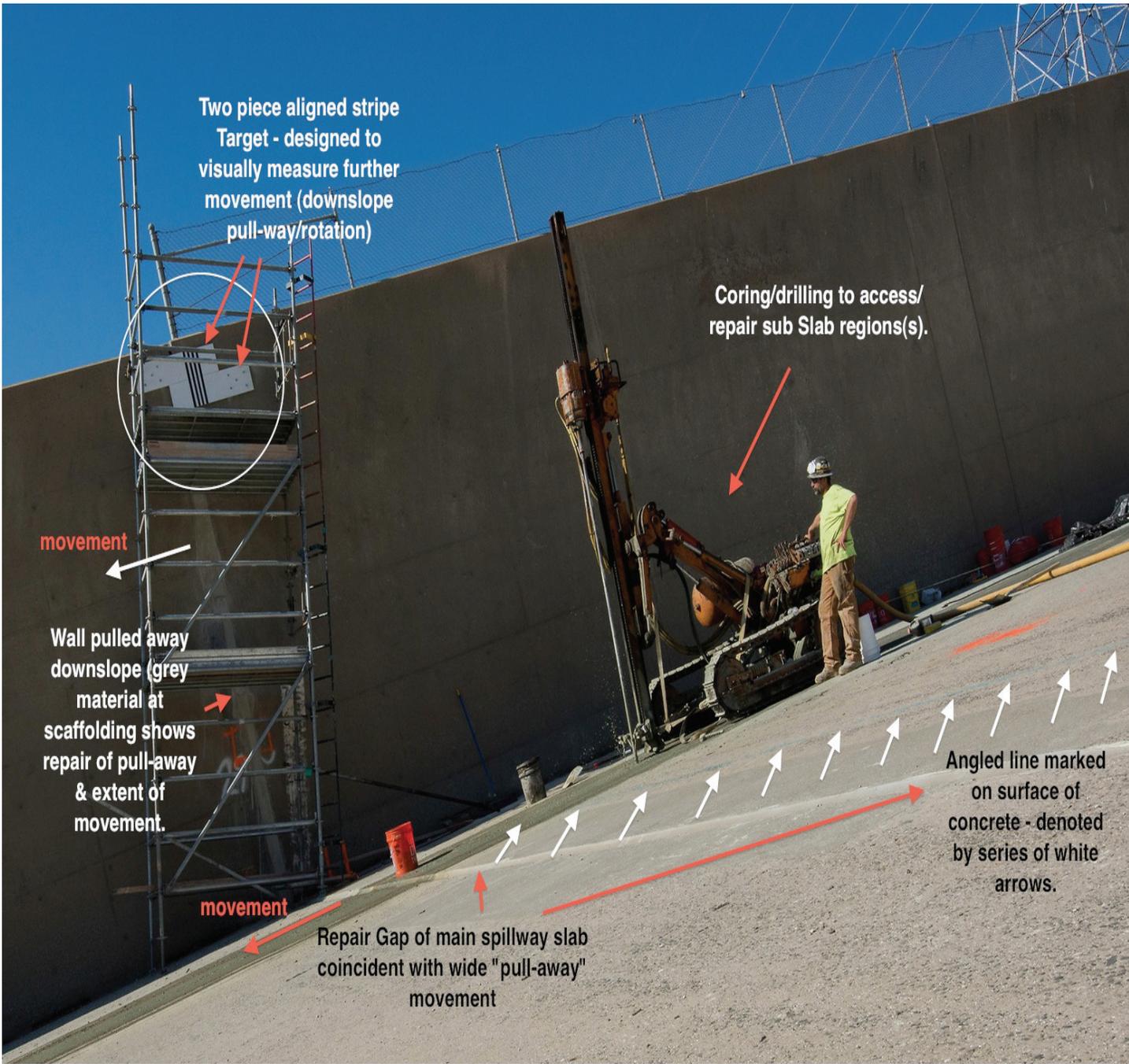
Source (23)



Erosion of foundation base of wall from broken drain at 5th fence post behind spillway wall.

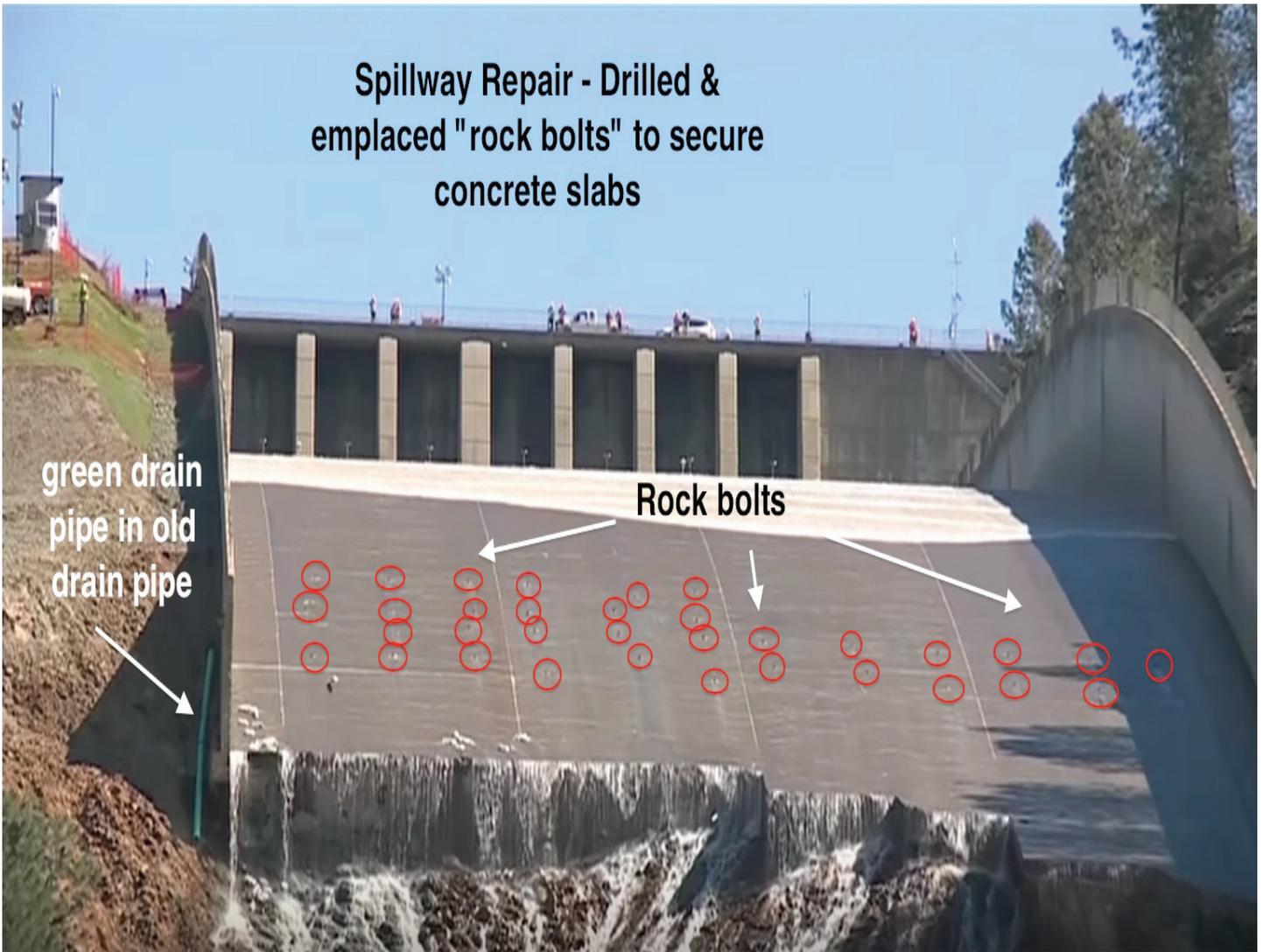
Rotation indicators of section of main spillway (gaps, broken drain erosion on wall foundation, and spillway backcutting).

Source (23)



Source (23)

Spillway Repair - Drilled & emplaced "rock bolts" to secure concrete slabs



Source (23)



No longitudinal reinforcement steel connecting spillway slabs to prevent separation

Source (19)



Source (19)

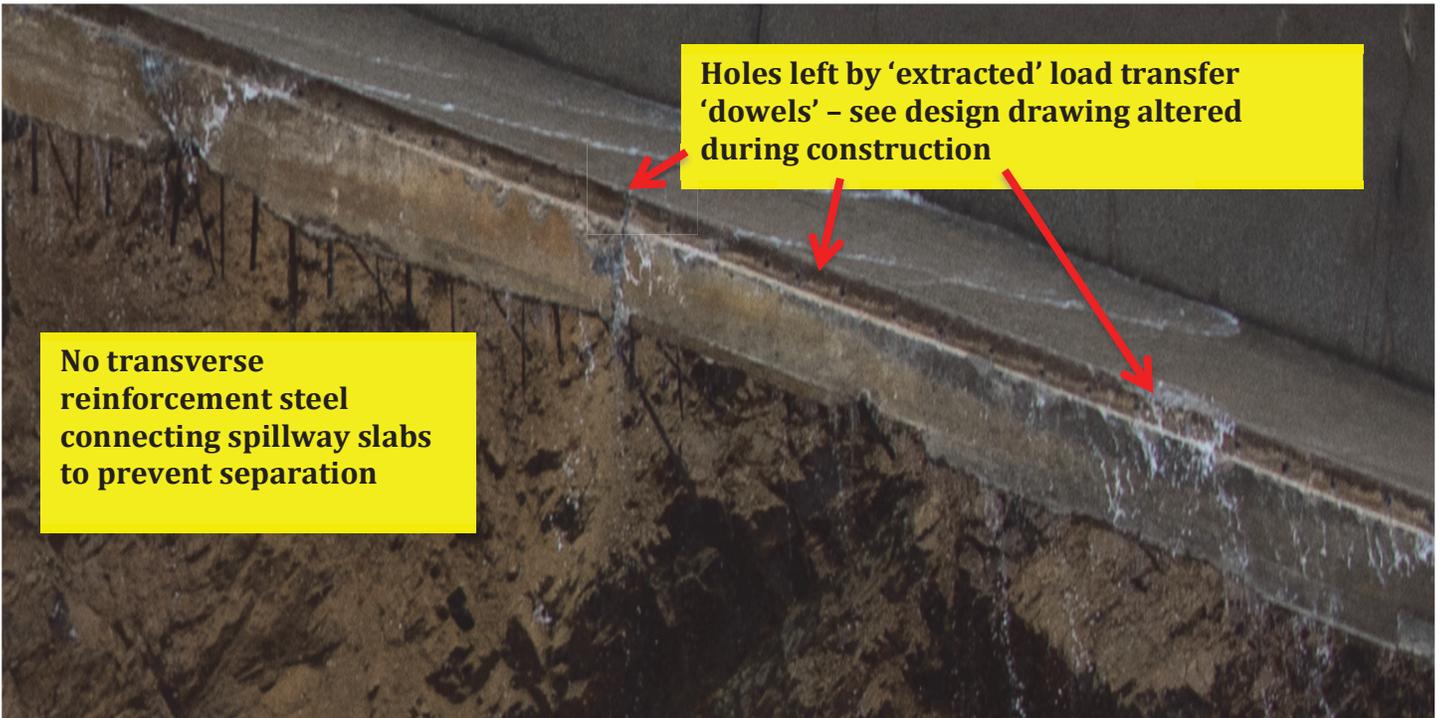


**No transverse
reinforcement steel
connecting spillway slabs
to prevent separation**

Source (19)



Source (19)



Source (19)



Sidewall drain connected to blue pipe discharging water

Source (19)

Pre-Failure Images

1967 - Spillway being constructed - walls being cast - chute subgrade placed



Source (22)



Source (22)

August 4, 1969



Source (22)

November 9, 2007



Source (22)



Source (22)

October 7, 2009 – Repairs being made to spillway base slabs



Source (22)



Source (22)

July 9 - 10, 2010



Source (22)



Source (22)



Source (22)

2012



Source (22)

2013



Repairs underway to chute contraction joint at future site of breach.

Source (22)



2013

Repairs underway on chute contraction joint at future site of breach.

Water seeping through joints from under chute slabs.

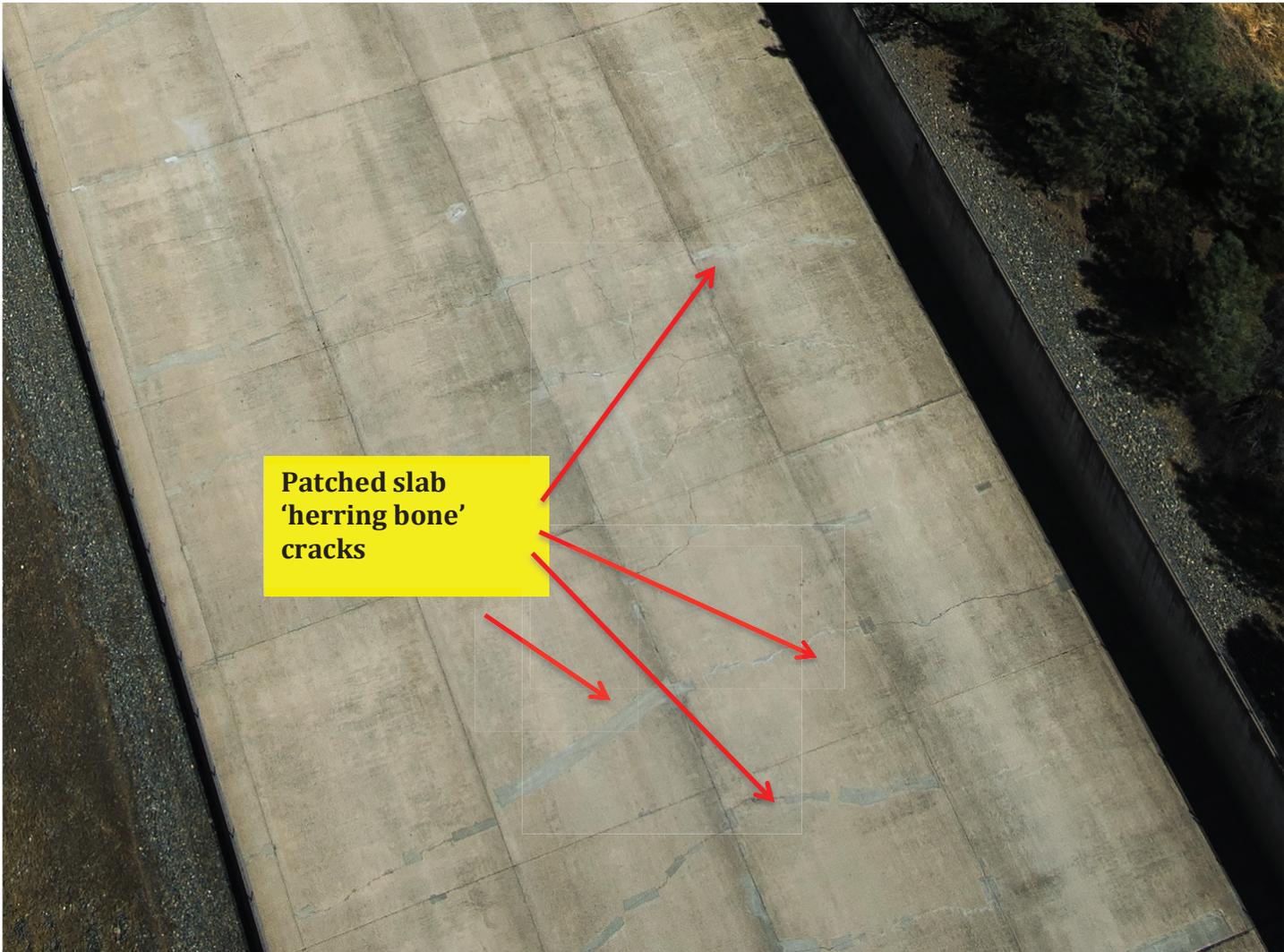
Large trees growing adjacent to spillway wall - roots able to penetrate drains

Source (22)

September 5, 2014



Source (22)



Source (22)

2014



Source (22)

April 14, 2015



Source (22)



Source (22)



Source (22)

March 2016



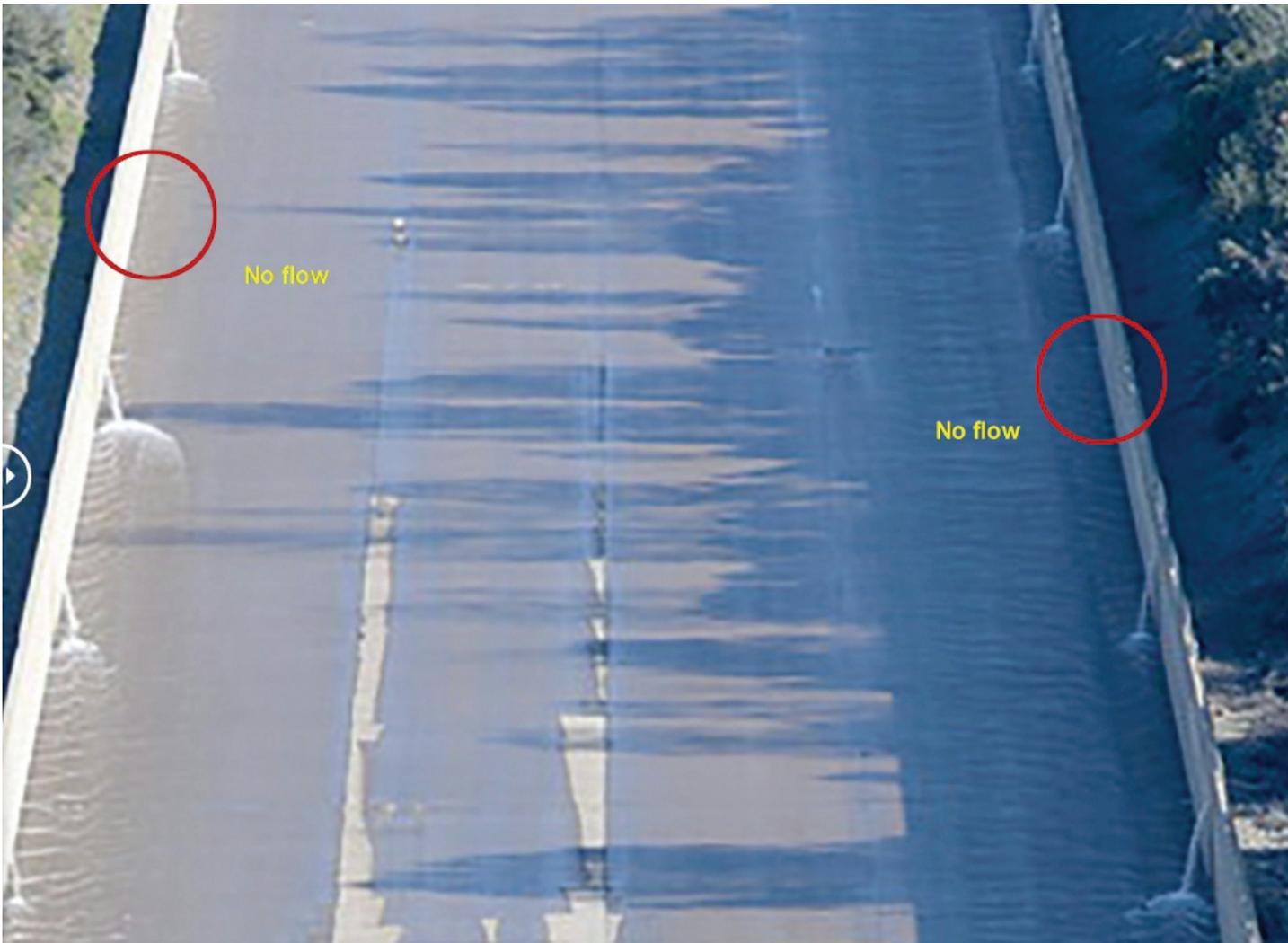
© Chico Enterprise-Record
ChicoER.com

January 27, 2017



Wall drains not flowing - plugged

Large trees growing adjacent to spillway wall - roots able to penetrate drains



Source (22)



Source (22)

**Previous inspection report photographs
(all from cited DWR inspection reports)**

5/6/08 Inspection Report



11. The spillway at the flood control outlet remains in satisfactory condition.

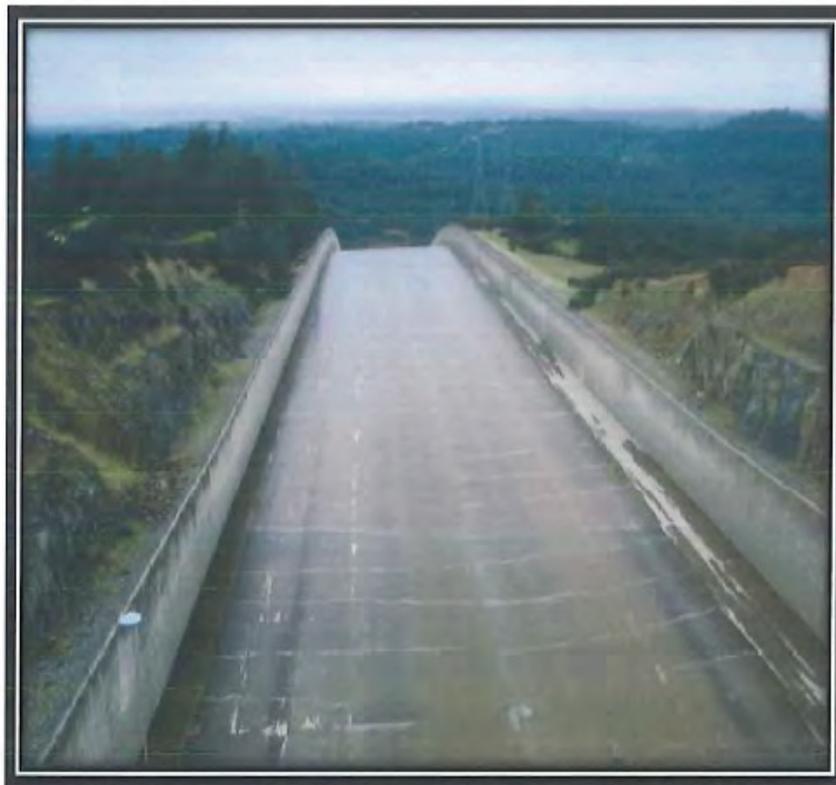
12/14/09 Inspection Report



20. This view shows the flood control outlet chute as seen from the upper deck. The walls and chute appeared to be stable and in satisfactory condition. Minor repairs along the chute floor will be completed this year.



21. The lower flood control outlet chute is shown. Not the markings for the upcoming chute repairs.
6/25/10 Inspection Report



12. The concrete along the spillway chute has been repaired. The repaired herringbone crack pattern is said to reflect the underlying drain system.

Oroville Dam, No. 1-48

2/8/11 Inspection Report



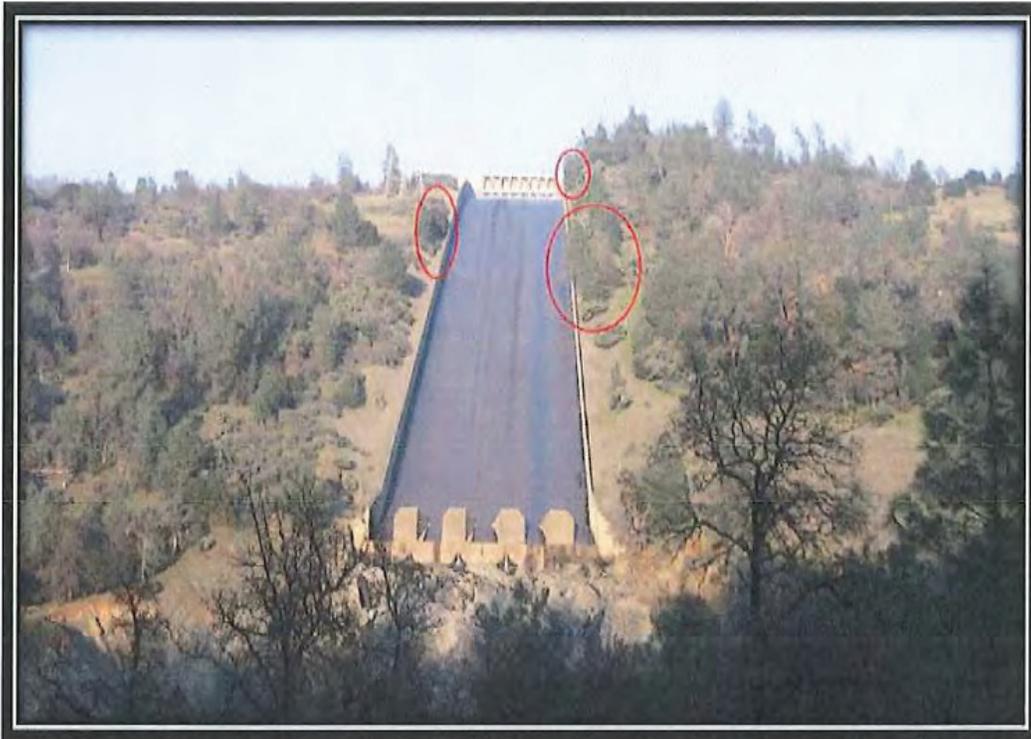
9. The gates seals were leaking enough to keep the chute floor wet. The repaired lateral cracks in the chute floor are visible as light streaks. The brush at the arrow should be removed to prevent root invasion of the wall drain. No signs of instability were noted along the chute walls or floor. The drain holes at the end of the chute were flowing.

2/16/11 Inspection Report



11. The flood control outlet flow pattern was normal. The walls were well aligned and stable appearing. The drains at the vertical curve along the chute were flowing as expected. The brush growing in the backfill gravel adjacent to the left wall should be removed as previously requested. See arrow at left.

2/5/13 Inspection Report



14. The flood control outlet gate seal leakage and drain flow are visible. The trees and brush shown within the ovals should be removed by November 1, 2013. Oroville Dam, No. 1-48

9/8/14 inspection report

12. The FCO channel appeared to be in satisfactory condition. The walls were well aligned and the patches along the chute floor remain intact.



13. This view is looking upstream along the FCO channel from the dentates. Dark, vertical stains along the walls indicate the location of the drain outfalls.

2/3/15 inspection report



9. This view looking upstream along the FCO discharge chute shows one tree (arrow) that needs to be removed following a significant effort to remove brush along the outside of the wall.

12. The FCO channel appeared to be in satisfactory condition. The walls were well aligned and the patches along the chute floor remain intact.

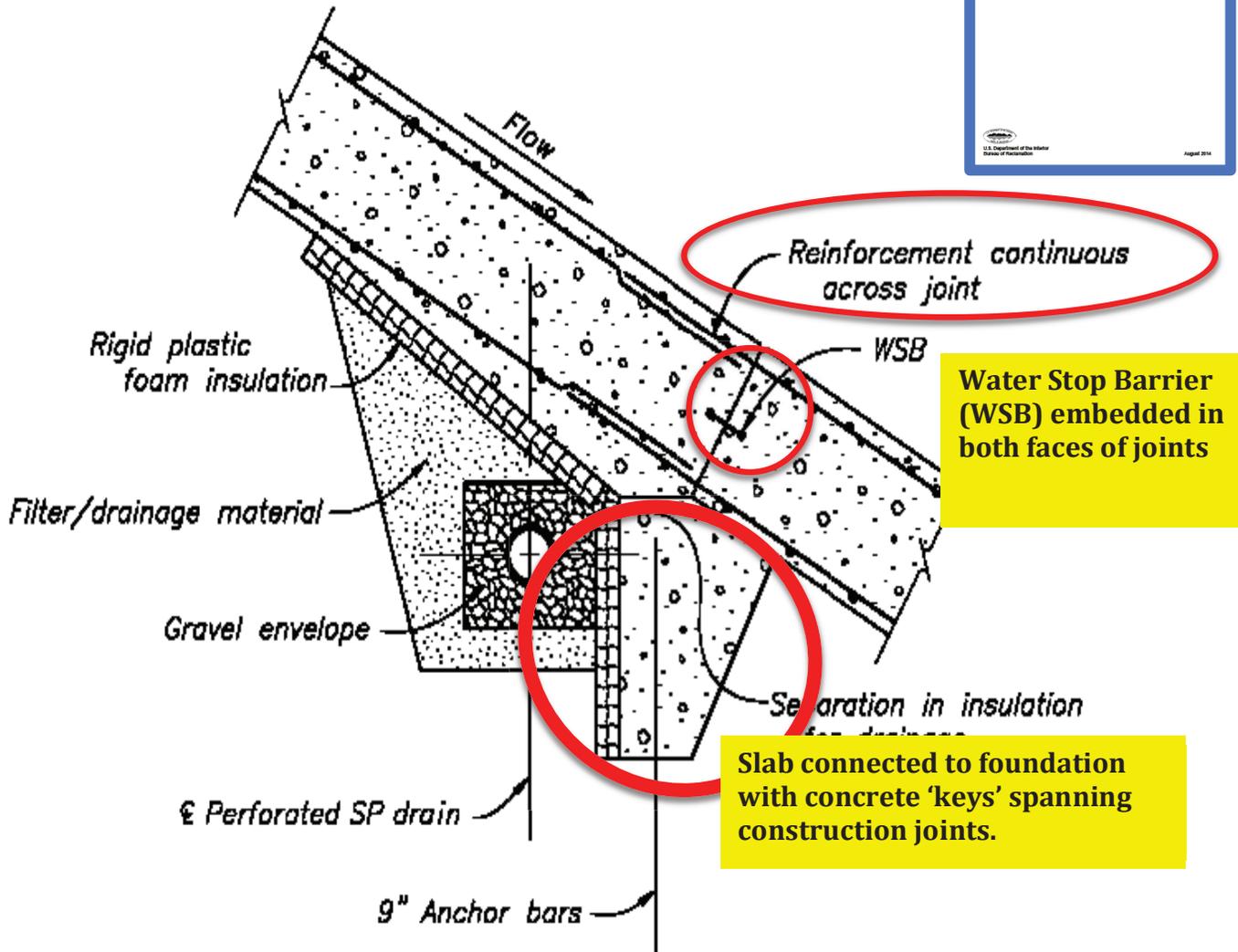
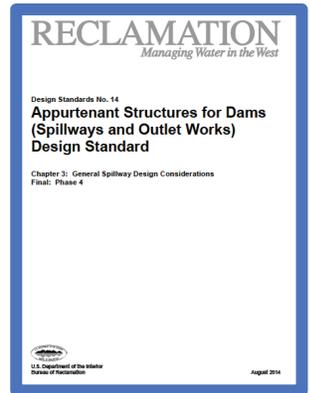


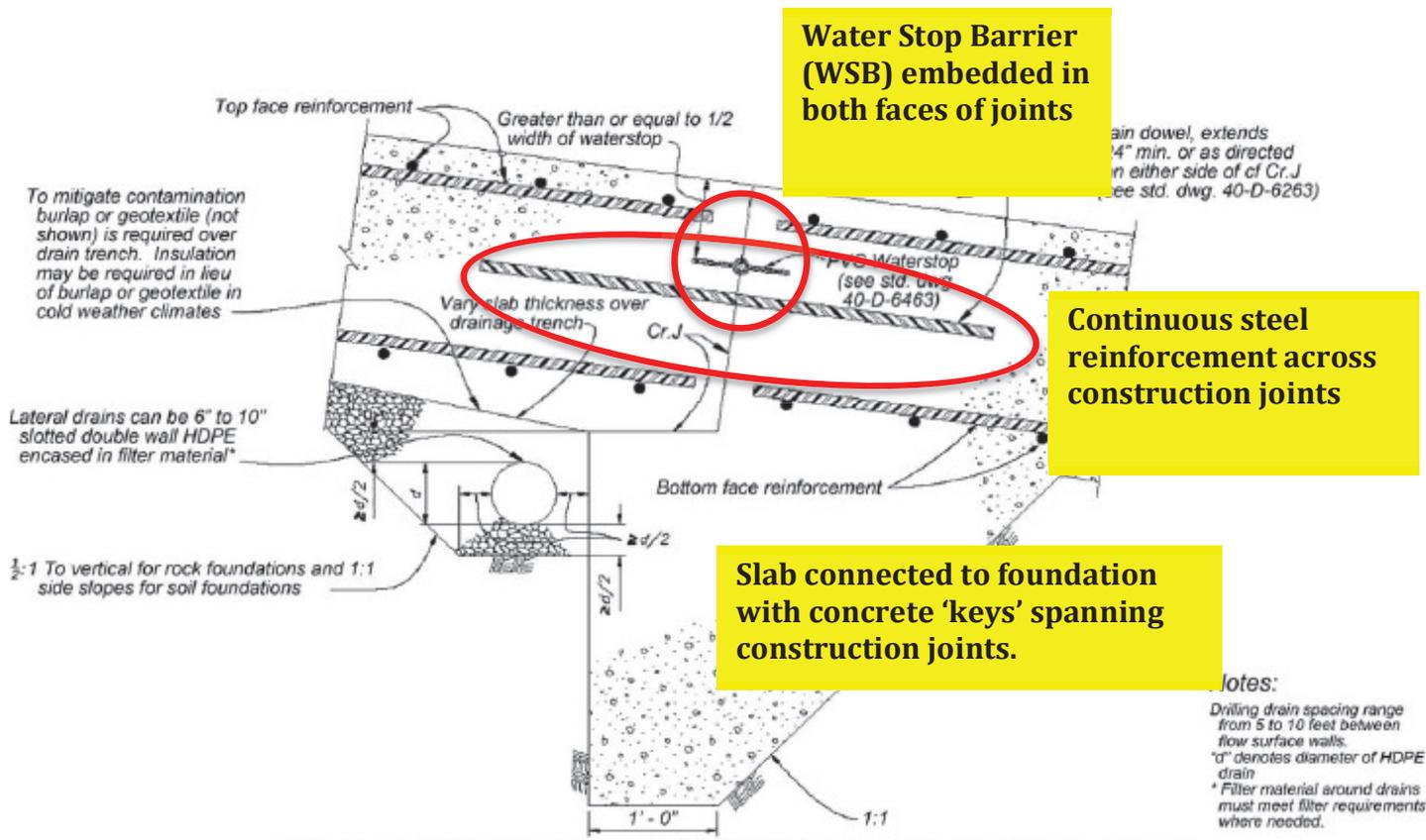
13. This view is looking upstream along the FCO channel from the dentates. Dark, vertical stains along the walls indicate the location of the drain outfalls.



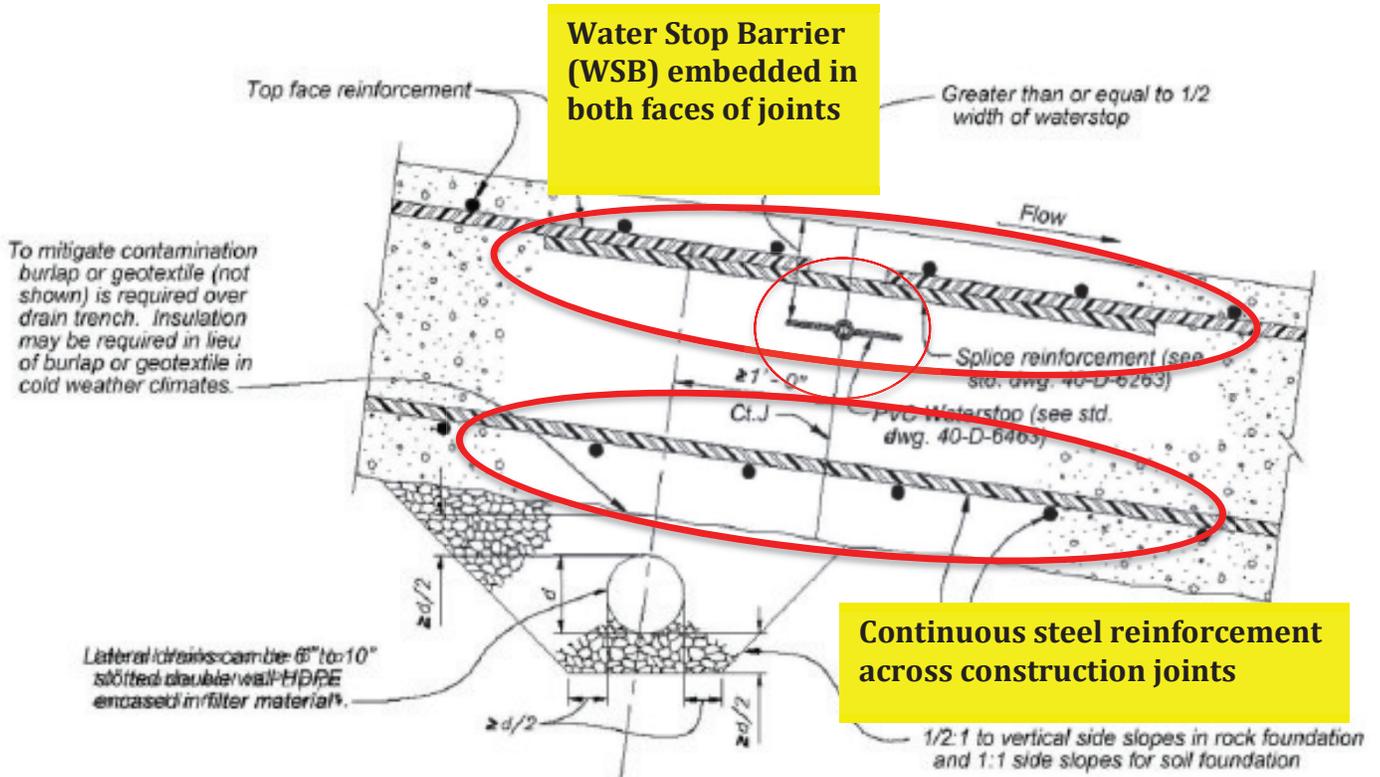
9. This view looking upstream along the FCO discharge chute shows one tree (arrow) that needs to be removed following a significant effort to remove brush along the outside of the wall.

2014 Bureau of Reclamation spillway design cross sections (Source 24)





CASE 2B: ROCK OR SOIL FOUNDATION WITH FOUNDATION KEY – STEEP SLOPE – APPLICABLE FEATURE IS CONVEYANCE FEATURE (CHUTES)



CASE 1B: ROCK OR SOIL FOUNDATION WITHOUT FOUNDATION KEY – FLAT TO GRADUAL SLOPES – APPLICABLE FEATURE IS TERMINAL STRUCTURE (STILLING BASIN)