

Katherine Douglas

Appellant Presentation

4



From: Lia Graham
Sent: Monday, February 23, 2026 3:01 PM
To: Carlos Araya; sbcob
Cc: marti.hayduk@verizon.net
Subject: FW: Appellant Presentation Materials
Attachments: Presentation (Concerns & Questions) - 20260223.v5 [shared].pdf

Good afternoon Carlos,

All materials should be sent to SBCOB@countyofsb.org to ensure that they are handled properly and distributed to the correct parties. I have cc'd them on this email, however, in the future please be sure to send it to the correct party.

Thank you and we will see you tomorrow.

Lia

From: Carlos Araya <claraya@gmail.com>
Sent: Monday, February 23, 2026 2:28 PM
To: Lia Graham <ligraham@countyofsb.org>
Cc: marti.hayduk@verizon.net
Subject: Appellant Presentation Materials

Caution: This email originated from a source outside of the County of Santa Barbara. Do not click links or open attachments unless you verify the sender and know the content is safe.

Dear Lia,

Thank you for your patience; I ran into some issues in reducing the file size but here is a document prepared for Adobe PDF versions 9 and later.

Looking forward to chatting tomorrow.

-CA

Carlos L. Araya, Ph.D.

e: claraya@gmail.com | m: 724.252.7292 | t: [@claraya](tel:@claraya) | l: [in/claraya](https://www.linkedin.com/in/claraya)

On Thu, Feb 19, 2026 at 11:45 AM, Lia Graham <ligraham@countyofsb.org> wrote:

Good morning,

Please see the attached Agenda for the February 24, 2026 Santa Barbara County Board of Supervisors meeting. The Appeal of the Promise Land LLC – As-Built Wall is scheduled as Departmental Item No. 4 (see page 20 of the attached Agenda) and is estimated to begin at approximately [1:30 PM]. A summary of the time allocated for this item is also attached to this email.

Lastly, as a friendly reminder, any documents longer than one page - including applicant and appellant presentations - must be submitted to the Clerk of the Board by 12:00 PM on the Friday prior to the Board hearing. Per Board Resolution No. 91-333, the Board shall not consider or accept an untimely submission as part of the record, unless a motion to do so is passed by a four-fifths vote.

Please submit all documents, including presentations, to the Clerk of the Board at: sbcob@countyofsb.org.

If you have any questions or need further assistance, feel free to reach out.

Thank you,



Lia Marie Graham

Deputy Clerk of the Board/Assessment Appeals Clerk

County Executive Office – Clerk of the Board of Supervisors

105 E. Anapamu Street, Ste. 407, Santa Barbara, CA 93101

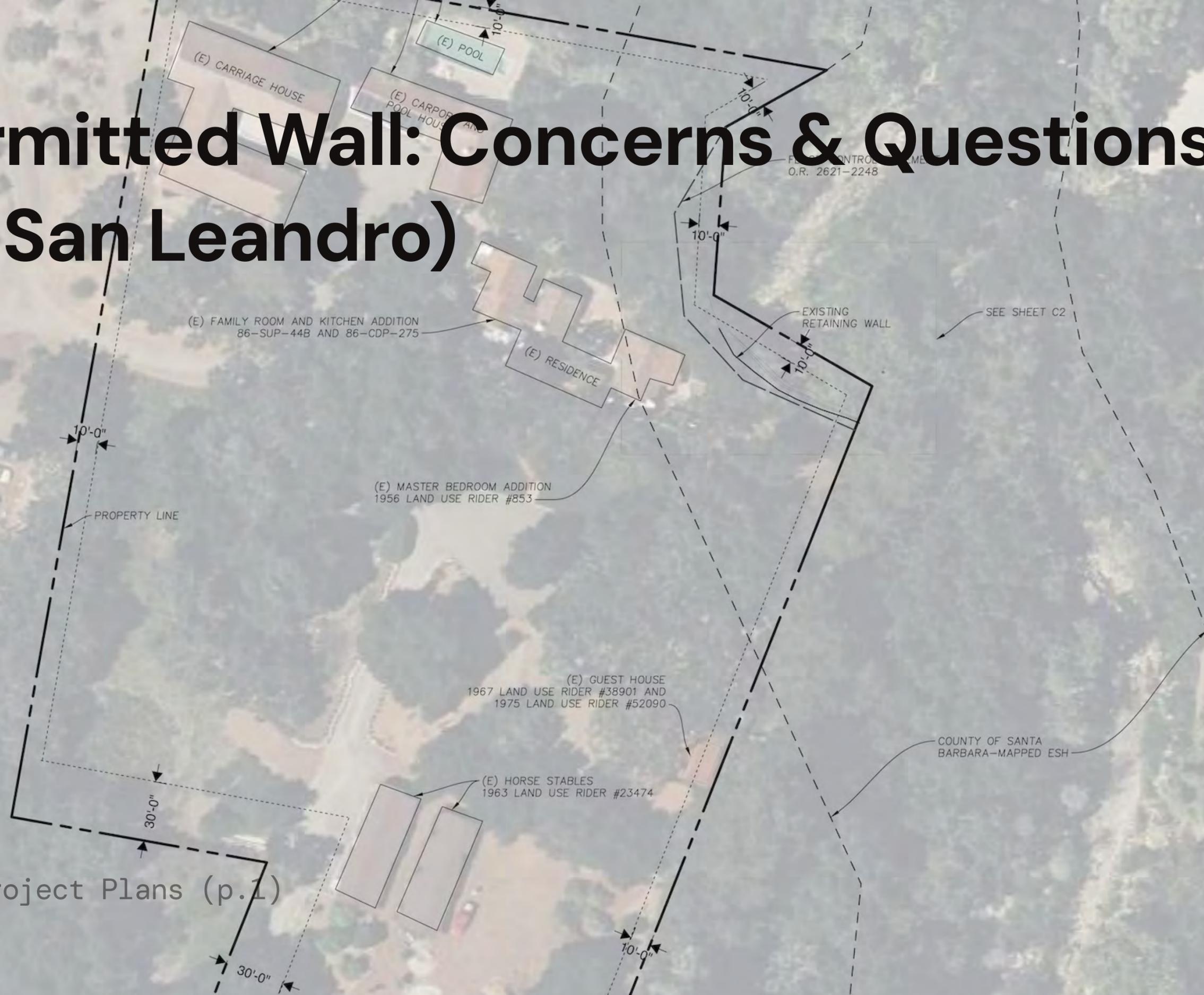
Phone: 805-568-2247 | Email: Ligraham@countyofsb.org

Website: www.countyofsb.org

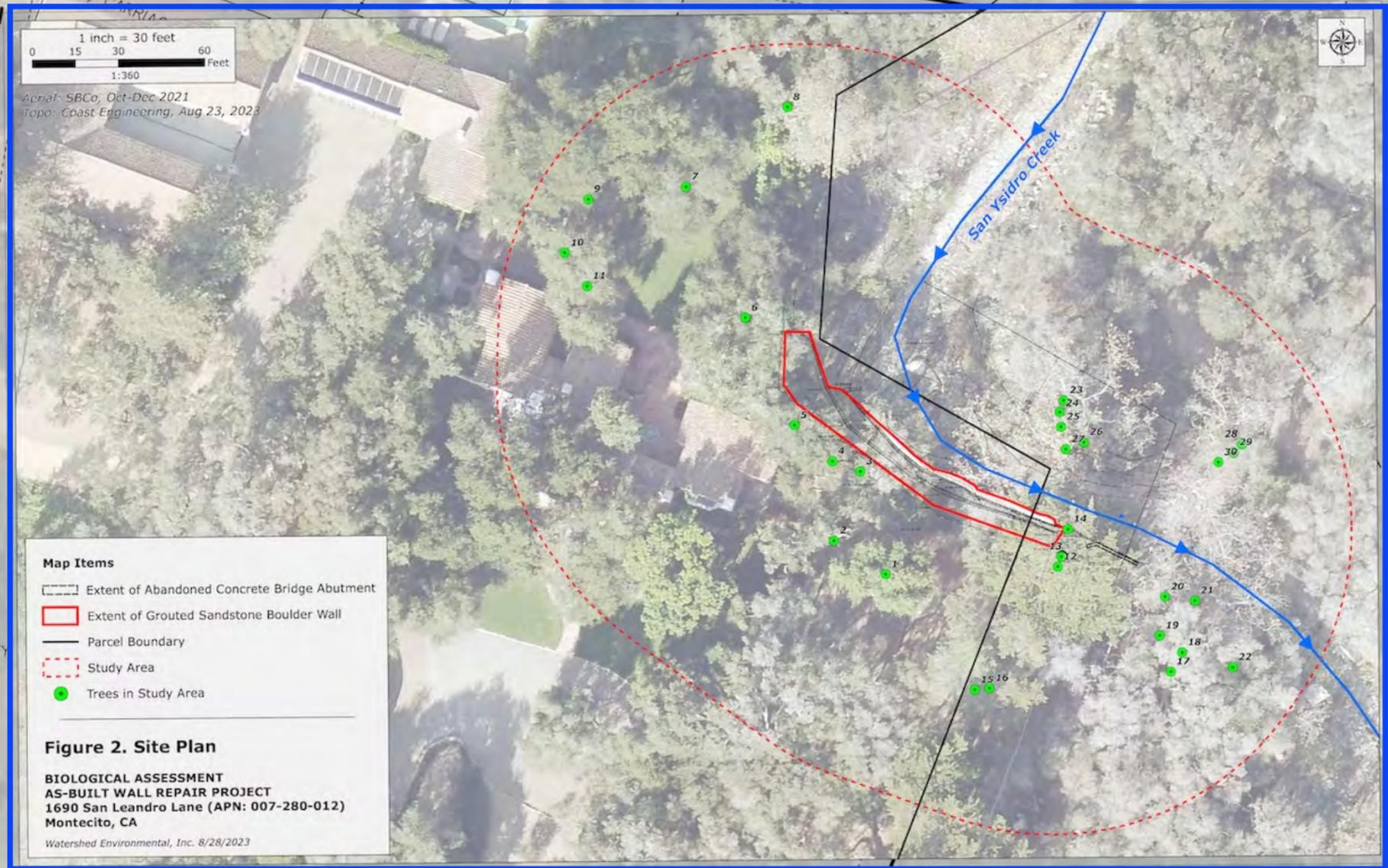
Sign up for news and announcements from the County at www.countyofsb.org.

STATEMENT OF CONFIDENTIALITY: Notice: This information is private and confidential and privileged and intended solely for the person or persons addressed herein. Any review, distribution, reliance on, or other use of this information by persons or entities other than the intended recipient is prohibited. If you have received this communication in error, immediately notify the sender and destroy/delete any copies of this transmission. Thank you for your compliance. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the County of Santa Barbara. Finally, the recipient should check this email and any attachments for the presence of viruses. The County of Santa Barbara accepts no liability for any damage caused by any virus transmitted by this email.

Unpermitted Wall: Concerns & Questions (1690 San Leandro)



Attachment L, Project Plans (p.1)
(2023.11.30)



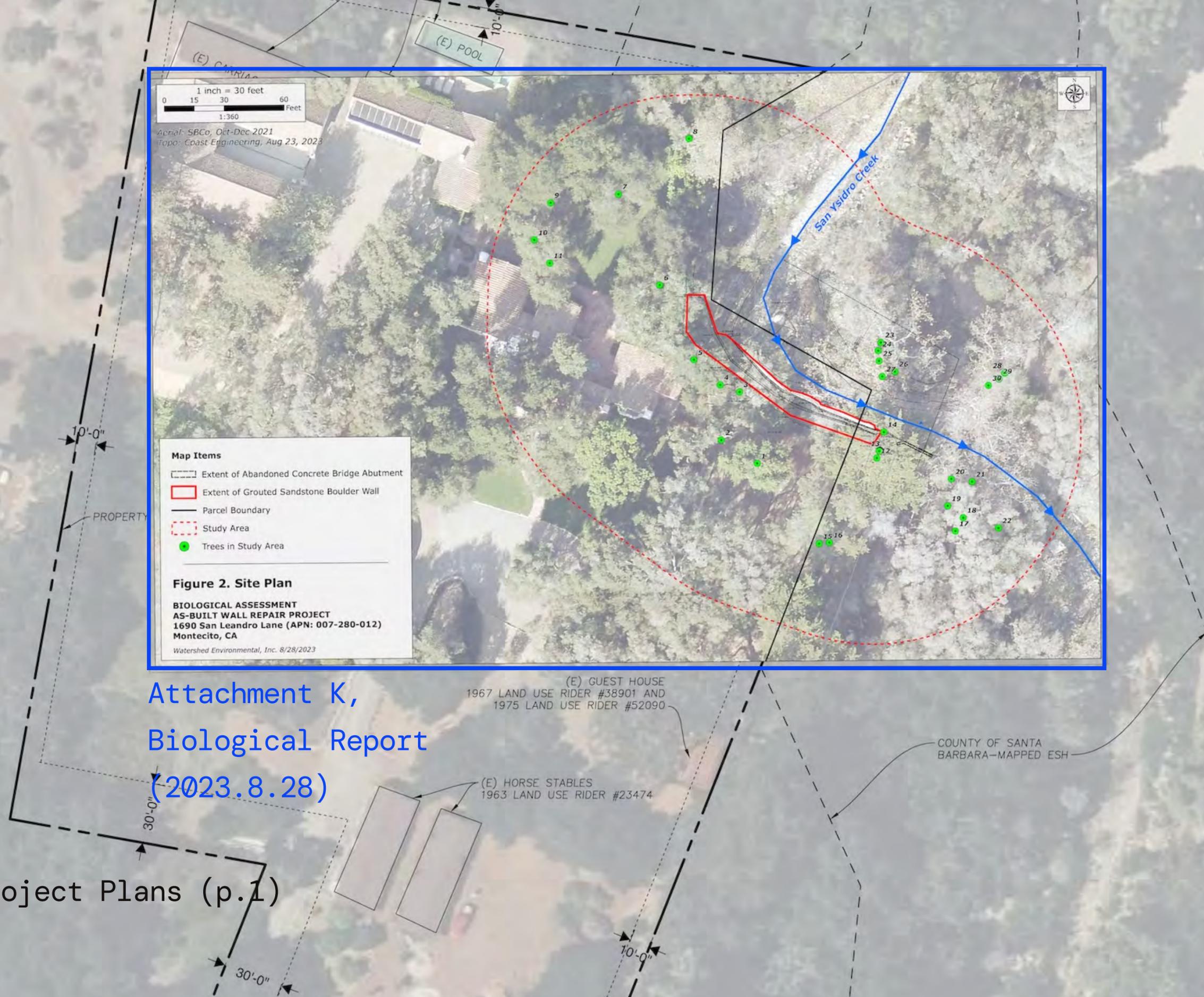
Attachment K,
 Biological Report
 (2023.8.28)

Attachment L, Project Plans (p.1)
 (2023.11.30)

(E) GUEST HOUSE
 1967 LAND USE RIDER #38901 AND
 1975 LAND USE RIDER #52090

(E) HORSE STABLES
 1963 LAND USE RIDER #23474

COUNTY OF SANTA
 BARBARA—MAPPED ESH



1 inch = 30 feet
0 15 30 60 Feet
1:360

Aerial: SBCo, Oct-Dec 2021
Topo: Coast Engineering, Aug 23, 2023

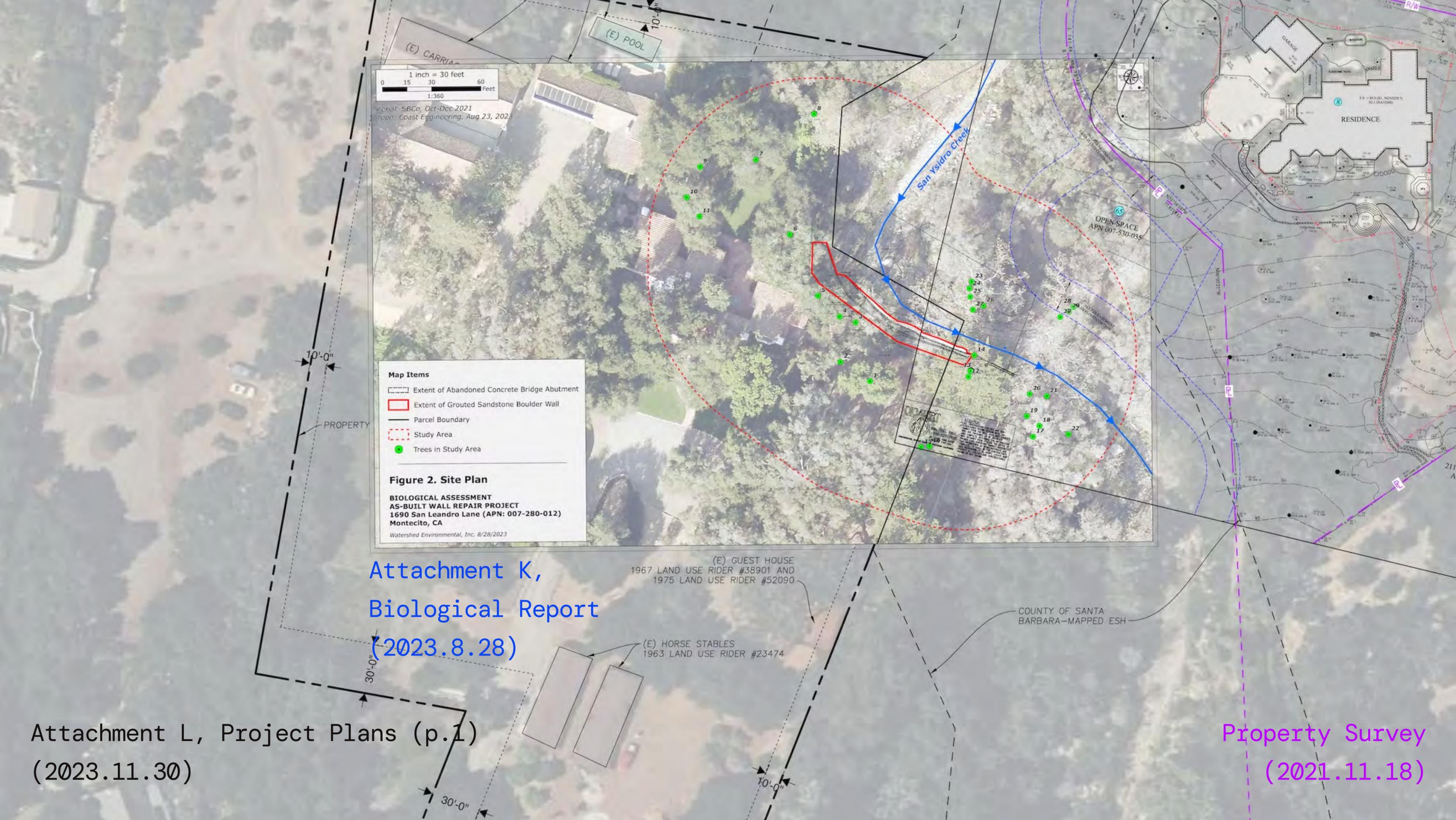
- Map Items**
- Extent of Abandoned Concrete Bridge Abutment
 - Extent of Grouted Sandstone Boulder Wall
 - Parcel Boundary
 - Study Area
 - Trees in Study Area

Figure 2. Site Plan
BIOLOGICAL ASSESSMENT
AS-BUILT WALL REPAIR PROJECT
1690 San Leandro Lane (APN: 007-280-012)
Montecito, CA
Watershed Environmental, Inc. 8/28/2023

Attachment K,
Biological Report
(2023.8.28)

Attachment L, Project Plans (p.1)
(2023.11.30)

Property Survey
(2021.11.18)

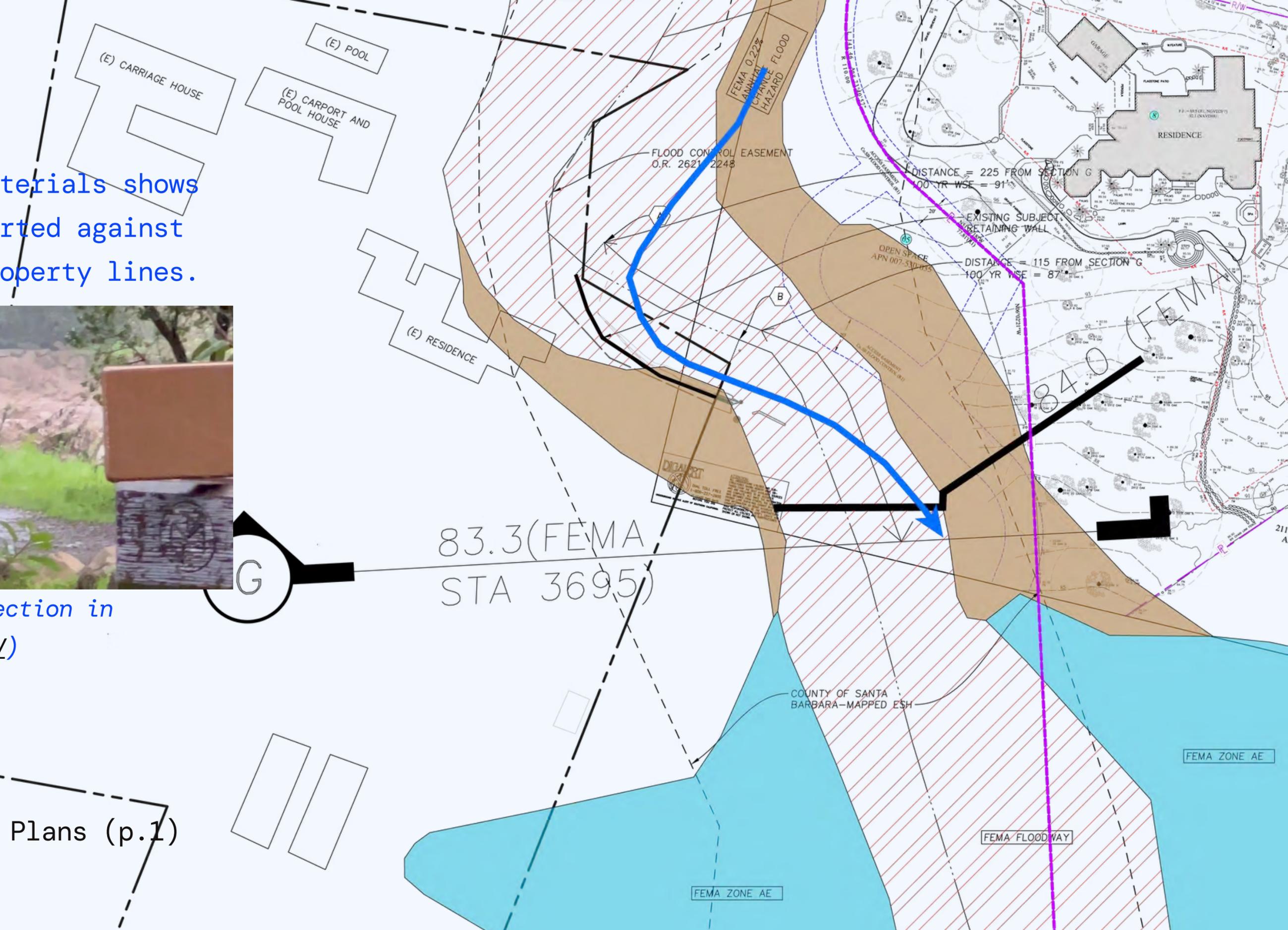


Applicant's own materials shows creak flow is diverted against East Bank, East property lines.



Note: Videos of Deflection in Records (IMG_5276.MOV)

Attachment L, Project Plans (p.1)
(2023.11.30)





1/9/2023: Imbalanced bank damage begins immediately opposing wall.

* Third layer; not like-for-like. Removed 2025.

A photograph of a rocky stream flowing through a wooded area. In the foreground, a large, dark tree trunk stands on the left. The stream is filled with numerous smooth, light-colored rocks. The water is clear and blue. On the right bank, there is a significant erosion, showing a deep, vertical cut in the earth. A fallen log lies across the stream in the foreground. The background is filled with dense green trees and foliage. A black text box with white text is overlaid on the upper right portion of the image.

1/22/2023: Uneven undercutting
and damage extends downstream of
wall into the Ennisbrook Preserve.

1/22/2023: Displaced boulders and
damage into community trails and
East bank property lines.

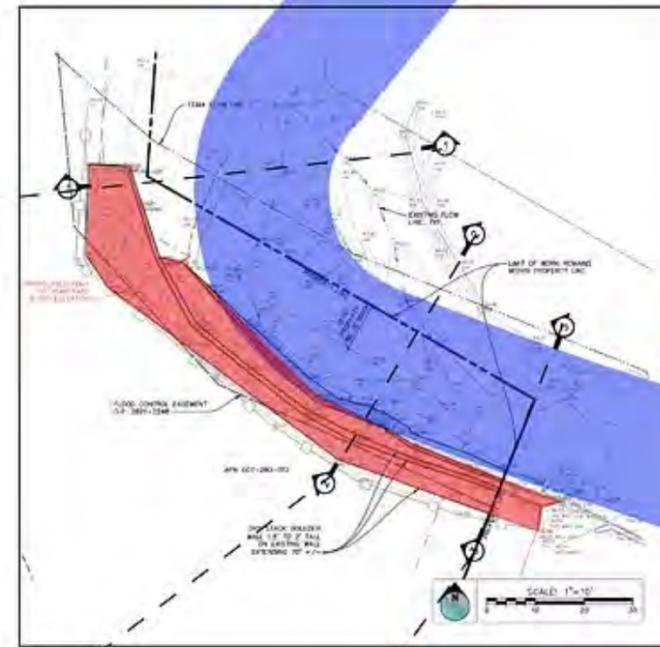




1/9/2023: Damages private property, kills protected species, such as native California coastal oaks.



Attachment L, Project Plans
(p.7-9)



Is Applicant's Analysis Limited to Three Cross-Sections of Wall?

- (1) The provided Plans (Attachment L) show only capacity analysis within the structure. (No FEMA floodway no-rise analysis evaluating impacts beyond structure).
- (3) Second half of wall is essentially vertical, maximizing energy reflection toward opposite bank, unlike standard sloped revetment design.

FEMA: No-Rise Certification & Checklist Guidance

FLOODWAY "NO-RISE / NO-IMPACT" CERTIFICATION

This document is to certify that I am duly qualified engineer licensed to practice in the State of _____ . It is to further certify that the attached technical data supports _____ (State)

the fact that proposed _____ (Name of Development) will not impact the base flood elevations, floodway elevations, and floodway widths on _____ (Name of Stream) at published cross sections in the Flood Insurance Study for, _____ (Name of community), dated _____ (Date) and will not impact the base flood elevations, floodway elevations, and floodway widths at the unpublished cross-sections in the area of the proposed development.

SEAL, SIGNATURE AND DATE

Name

Title

Address

FOR COMMUNITY USE ONLY:

Community Approval

Approved Disapproved

Community Official's Name _____ Community Official's Signature _____ Title _____

FEMA, MT
DTD.09/2004

1D Checklist

Comment #	Question or Direction	Definition	Pass/Fail	Comments
No Rise Specific Checks				
1	No-Rise Certification Included and sealed/stamped?			
2	Narrative Provided?	Does it include statements defining data sources and explanation of land use?		
3	Are all required models provided and documented?	Effective, DE, CE, Existing, Proposed?		
4	Annotated FWD, FEM and Profile provided when applicable?	If the effective model was 1D, does it make sense to switch to 2D?		
5	Certified survey and proposed design plans submitted?	Survey data with the certification of a PE or a Professional Surveyor and design plans certified by a PE.		
6	Topographic workmap proved? Is it signed and sealed by a PE? Do we have the digital format of the topographic workmap?	Digital data (dwg or ArcGIS shape files with contours, roadway alignments, proposed bridge, etc.)		
General Checks				
7	Does the computer program used for hydraulic and hydrologic modeling approved by FEMA?	The list of models approved by FEMA can be found at www.fema.gov/fem/mods.htm		
8	What version of model (HEC-RAS, etc.) was used for this submission?			
Hydrology Checks				
9	Does the flow used in the hydraulic model match with the Hydrology flow distribution table?	If new hydrology, only required if not using effective hydrology		
10	Are the 1-percent-annual chance flows identical for both multiple & floodway models?	If new hydrology analysis has been done. If no change to hydrology, compare FIS Qc with model Qc.		
11	Are discharges increasing as they move downstream?			
12	What is the starting boundary condition of the model & whether it's reasonable?	DS BC should WSEL should		
13	Does the steady flow file include both Floodway and Multiple Profiles if the effective does?			
Hydraulics - General				
14	Does the model run (both multiple and floodway analysis)?			
15	Does the model include DE, CE, Existing, Revised plans?			
16	Cross-sections should not intersect with each other and are spaced reasonably?	Review both need to be convenient		
17	Does any cross-section intersect the stream centerline more than once?			
18	Do any cross sections intersect the stream at an angle greater than 30 degrees? If so, is the skew angle correct?			
19	Make sure your bank stations are consistent your stream centerline in the geographic window from HEC-RAS, is the stream centerline within the floodplain?	Review both		
20	Is the water surface elevation higher than cross section end points?	review for a extended		
21	See Referencing, for any effective model which has been georeferenced, georeferenced all new cross sections which have been added to the models. Make sure curve length in the geographic data matches the cross-section length (i.e. value of 1.0).	Review both pairs		
22	Manning's "n" changes should be justifiable and stated in the project narrative.			
23	Does the project involve any sediment transport, coastal or alluvial fan issues?	For details		
24	Are reach lengths correct?			
25	Check profile to ensure channel bed is reasonable and no crossing profiles or hydraulic jumps.			
26	Are there any overflow or shallow flooding areas? If so, has any backup hydraulic analysis (as per Appendix E of Guide & Specs) for the shallow flooding area been provided?			
27	Is the hydraulic analysis provided for the shallow flooding area sufficient?			
28	Are there any lakes or ponds analyzed and mapped, which not included in the submitted model?			
29	Are all the model error messages (e.g., Check-RAS) resolved or justified?	HEC_RAS		
30	Do modeled flood depths, WSEL and velocity make sense?			
31	Are the proposed designs and existing survey incorporated correctly?			
32	Are there no changes between the existing and proposed conditions analysis aside from the proposed project alterations?	No other parameters should be changed aside from the project area adjustments		
33	Are there any major modeling issues/problems?			
34	There's no increase in WFE from existing conditions to proposed conditions?	If this is a y		
Hydraulics - Structures				
35	Are bridge/verts correctly modeled?	Structures & plan-units product at different modeling		
36	What method is used for bridge analysis?	Generally, is "Energy" for Low Froude check Press		

2D Checklist

Comment #	Question or Direction	Definition	Pass/Fail	Comments
No Rise Specific Checks				
1	No-Rise Certification Included and sealed/stamped?			
2	Narrative Provided?	Does it include statements defining data sources and explanation of land use?		
3	Are all required models provided and documented?	Effective, DE, CE, Existing, Proposed?		
4	Is use of 2D appropriate?	If the effective model was 1D, does it make sense to switch to 2D?		
5	Annotated FWD, FEM and Profile provided when applicable?	Survey data with the certification of a PE or a Professional Surveyor and design plans certified by a PE.		
6	Certified survey and proposed design plans submitted?	Survey data with the certification of a PE or a Professional Surveyor and design plans certified by a PE.		
7	Topographic workmap proved? Is it signed and sealed by a PE? Do we have the digital format of the topographic workmap?	Digital data (dwg or ArcGIS shape files with contours, roadway alignments, proposed bridge, etc.)		
General Checks				
8	Does the computer program used for hydraulic and hydrologic modeling approved by FEMA?	The list of models approved by FEMA can be found at www.fema.gov/fem/mods.htm		
9	What version of model (HEC-RAS, etc.) was used for this submission?			
Hydrology Checks				
10	Is this a rain on grid model? If it contains inflow from a separate model or from a 1D portion of the model, a separate review should be performed.	Only required if not using effective hydrology		
11	Correct rainfall depth used as input to the model?	If new hydrology analysis has been done. If no change to hydrology, compare FIS Qc with model Qc.		
12	Is the rainfall duration appropriate?			
13	Was the appropriate temporal distribution of rainfall used in the model?			
14	Was the loss rate estimate correct?			
15	Was controlled storage defined and modeled appropriately?			
16	Does the flow used to perform hydraulic model correspond with the effective flows?			
Hydraulics Checks				
17	Does the model run?			
18	Does the project involve any sediment transport, coastal or alluvial fan issues? For alluvial fans, coordination with the Regional office is required for floodways with XP-2D or FLO-2D.			
19	Are the modeled levees certified by NFP (65.10)? Are they modeled appropriately?			
20	Does the model use terrain data at least as current as the current effective study and meet FEMA topo standards?			
21	Is the grid development correct?			
22	Is the cell size appropriate?	Is the grid refined enough to capture changes at the proposed project area?		
23	Are breaklines and refinement regions added and enforced where necessary?	Urban areas should have smaller cell sizes. Check roads, levees, dams, bridges are represented accurately.		
24	Are the boundary conditions appropriate?	Refer to FEMA guidance to verify what is appropriate. Should have rain-on-grid and/or inflow & outflow.		
25	Are the outflow locations and conditions appropriate? Is water "piling up" at the mesh boundary without an outflow allowing the flow to leave the system?	Refer to FEMA guidance to verify what is appropriate		
26	Are there inflow locations in the model? What is the source of the inflows?			
27	Are the proposed designs and existing survey incorporated correctly?			
28	Are there no changes between the existing and proposed conditions analysis aside from the proposed project alterations? Are 2D connections and any openings modeled correctly? If they used terrain modifications, are they in accordance with project guidance and are reasonable?	No other parameters should be changed aside from the project area adjustments		
29	Are 2D connections and any openings supported with as-builts or survey data?	Does the width of the modification reasonably coincide with the opening of the structure (bridge/culvert)?		
30	Are the Manning's "n" values developed and documented appropriately? Were they adjusted for calibration (or limiting Froude number)?			
31	Are the Manning's "n" values developed and documented appropriately? Were they adjusted for calibration (or limiting Froude number)?	Refer to FEMA & FLO2D guidance to verify what is appropriate and accurate modeling for these features		
32	Are the initial conditions appropriate?	Refer to FEMA guidance to verify what is appropriate		
Hydraulics (FLO2D and XP 2D)				
33	FLO2D: ARF/WRF: XP-2D: Blocked areas: Are these modeled appropriately?	Verify use of ARF/WRF is in accordance with FEMA guidance		
34	FLO2D: NOFLO2D: Are these used correctly?			
35	FLO2D: Are any cells "turned off" or set artificially high for non-critical?			
36	FLO2D: If street features are used, are they modeled appropriately?	Refer to FEMA & FLO2D guidance to verify what is appropriate and accurate modeling for these features		
37	XP-2D: Is the 2D inflow capture at the 1D nodes modeled appropriately?	Refer to FEMA guidance to verify what is appropriate		
38	FLO2D: Was the limiting Froude Number Used?			
Model Calculations				
39	Is the mass balance reasonable?	Is the volume accounting error less than 2.3%? (see computation log file)		

Engineering: Design, Capacity, and Dynamics

Analysis Clarity

Capacity: Does the wall raise flood levels downstream? The record contains no full FEMA no-rise analysis using the effective HEC-RAS model across the full affected reach. The only analysis covers three cross-sections at the wall itself.

Velocity, Shearing: Where does the redirected water and energy go? We see no two-dimensional hydraulic analysis was performed. No one evaluated velocity, depth, or shear stress on the east bank – the bank showing active erosion.

Design: Was any engineering standard applied? The wall is 5 to 18 times steeper than the 1.5H:1V threshold in the County's own Flood Control Condition A.6.b. No structural calculations justify this departure. None appear in the record.

Regulatory: 404 Permits & Categorical Exemptions

USACE (Section 404): Seems To Be Missing. Flood Control Condition A.1 requires a USACE Section 404 permit. The only permit in the record (SPL-2023-00171) is for 2515 Cliff Drive on Mesa Creek. No 404 permit provided for this project.

CDFW: Missed Statutory Deadline, Not an Approval. The County cites CDFW's September 4, 2024 letter as evidence of agency review but letter states CDFW failed to meet its statutory deadline.

CEQA: Unusual Circumstances Were Not Evaluated. The Class 2 exemption requires "substantially the same purpose and capacity." A wall 5-18× steeper than applicable standards, in a FEMA floodway, within federally designated critical habitat, with documented erosion on the opposite bank, may trigger the unusual circumstances exception under Section 15300.2(c).

Counterfactuals (Attachment A, Findings)

"No recreation adjacent to property": The wall is directly adjacent to the Ennisbrook Preserve.

"...the as-built wall will not adversely impact recreational facilities and uses..": Available media demonstrates bank weakening on Ennisbrook trail immediately adjacent, downstream of wall.

"Complies with all applicable laws": Wall slope excess, no full FEMA no-rise analysis. Provided documentation for "No-Rise" certification does not meet FEMA standard guidance for no-rise/no-impact. The No-Rise checklist is available at FEMA.gov.

"Both CDFW and ACOE authorized the project": (1) CDFW statutory deadline lapsed without action. Missed deadline is a procedural default; not approval or finding of impact. (2) ACOE is not a formal determination – it is an informal email. Emails show ACOE recommended a formal Pre-Application process.

Safety: What We Are Asking

Regulatory

- (1) Validation that provided analysis meets FEMA standards. Clarity and documented proof that a USACE Section 404 permit specific to this project and site exists, or validated exemption.
- (2) Reassess the CEQA categorical exemption in light of evidence of significant impacts that were never evaluated.

Engineering

- (3) Full FEMA no-rise and a two-dimensional hydraulic analysis evaluating the wall's effects on velocity, depth, and shear stress across the full channel width, including east bank.
- (4) Require a determination of wall slope compliance with Condition A.6.b, with either structural justification or a remediation plan.

Mitigation

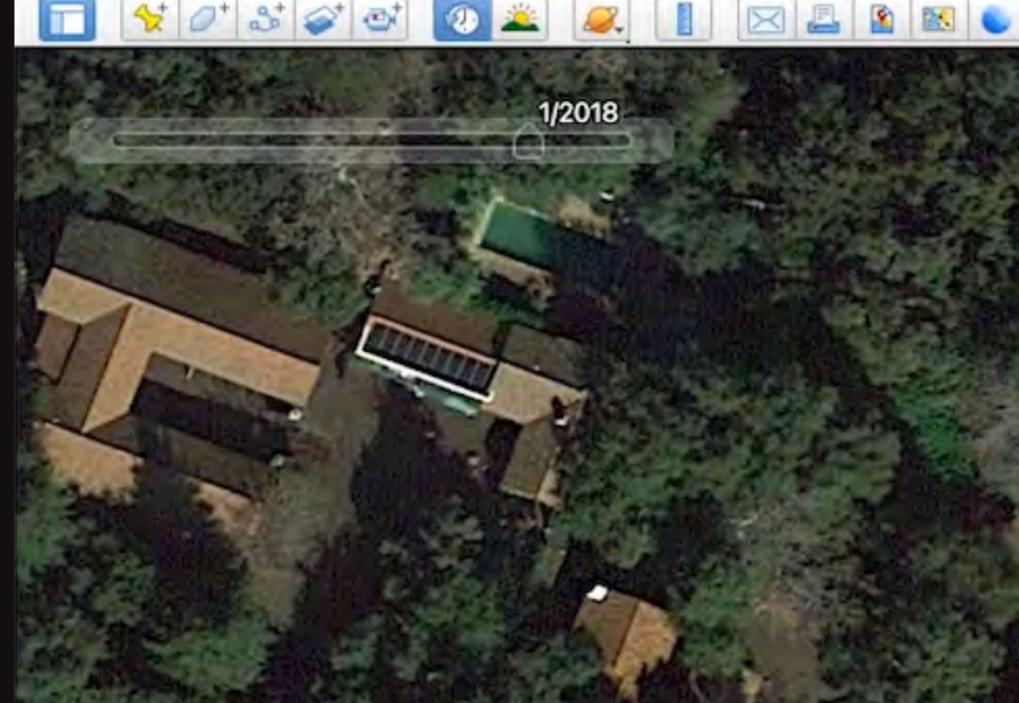
- (5) Mitigation for demonstrated adverse impacts to the east bank: bank stabilization, energy dissipation, or modification of the wall geometry.

Appendix

Following 2018 mudslides, 1690 property owners add a third layer to wall...



Source: Historical memo provided by property representatives to Ennisbrook board. (Materials dated March 5th, 2024.)



Satellite imagery shows creek further Eastward erosion after addition of wall top-layer...



Source: Historical memo provided by property representatives to Ennisbrook board. (Materials dated March 5th, 2024.)



Important Questions on Dynamics and Surrounding Region Are Unanswered

Hydraulics: How much does velocity/shear/depth increase along the opposite bank?

(Flood Control / FEMA no-rise)

Stability: Will the opposite bank fail given this shear stress?

(USACE 404 / geotechnical review)

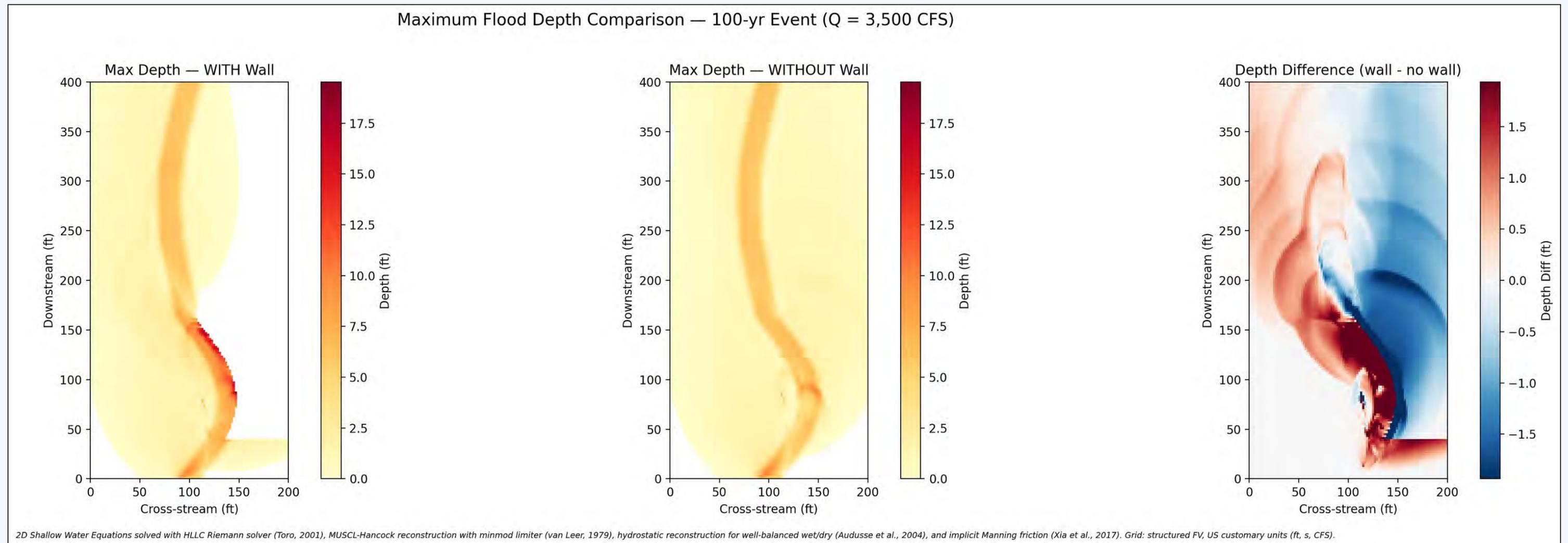
Morphodynamic: How does the channel reshape over years in response?

(CEQA environmental review)

Evolution: Where and how do the effects propagate across the whole reach/catchment?

(Coastal Act / CCC long-term resource protection)

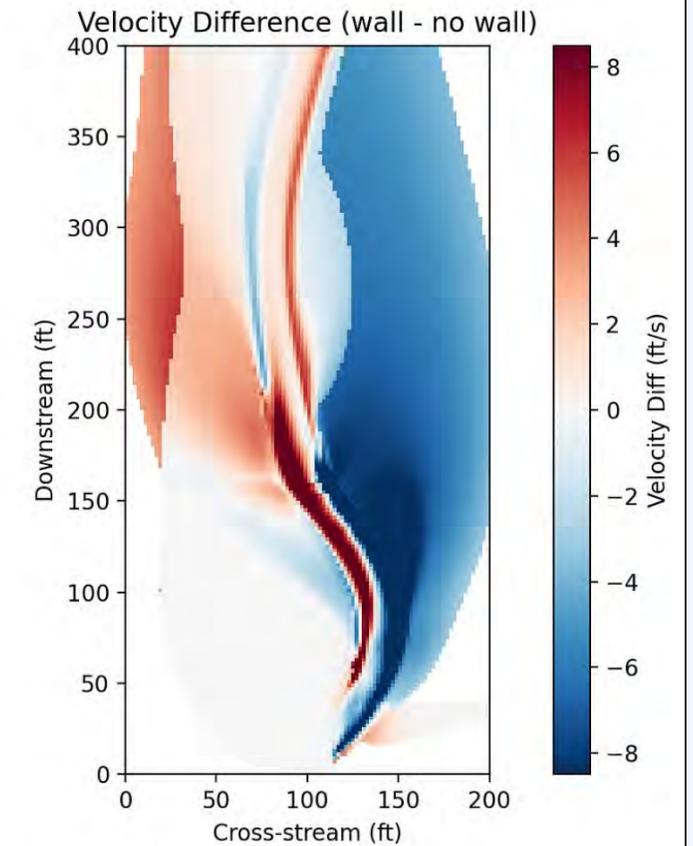
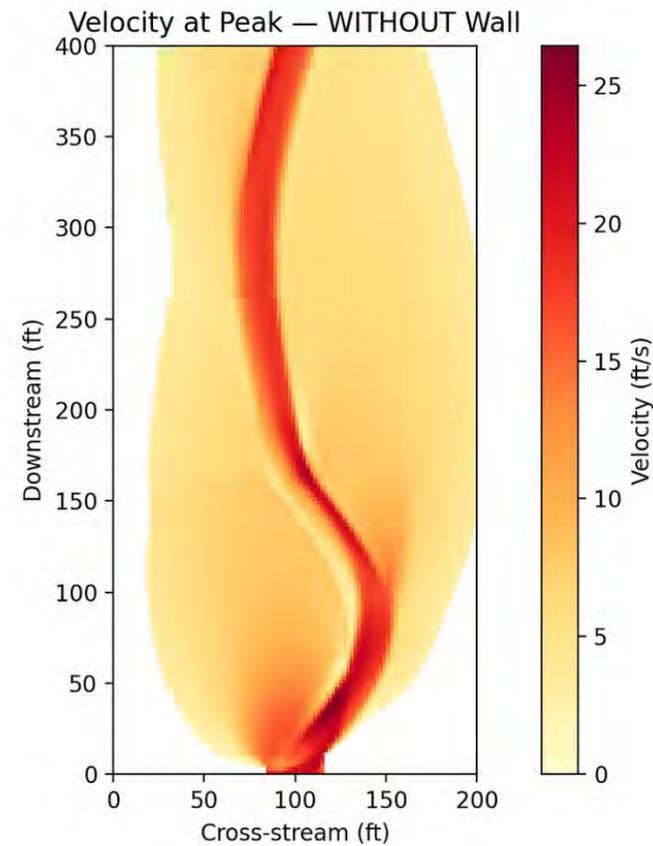
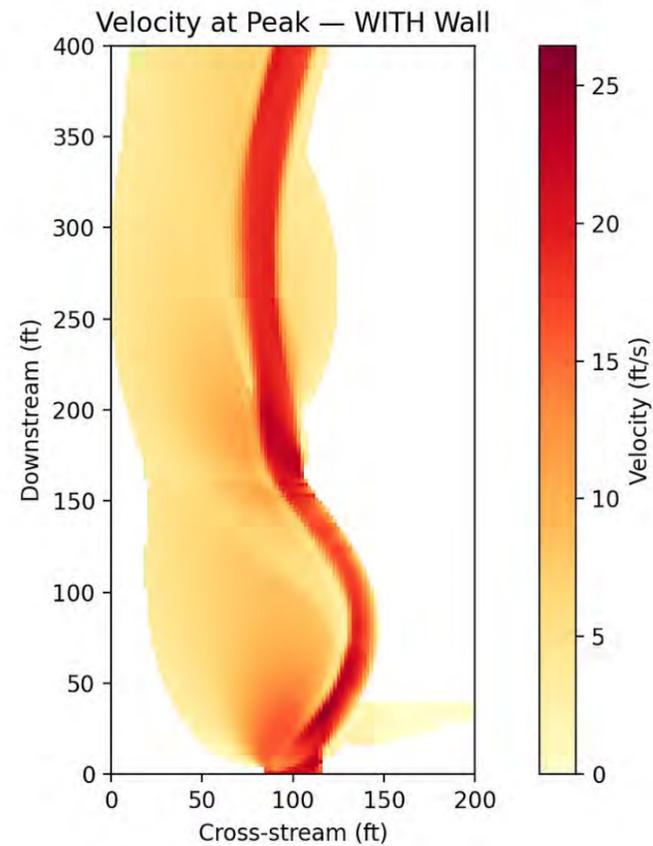
Wall Stops Water; Where Does That Water Go?



*These are example questions and analysis, and are in no way final. Preliminary scoping analysis using idealized geometry. Intended to motivate further investigation, not as an engineering prediction

How Does Deflection Change Water Velocity?

Flow Velocity at Peak Flood — 100-yr Event ($Q = 3,500$ CFS)
(wall: $t=180$ s, no wall: $t=180$ s, $h > 0.5$ ft)



2D Shallow Water Equations solved with HLLC Riemann solver (Toro, 2001), MUSCL-Hancock reconstruction with minmod limiter (van Leer, 1979), hydrostatic reconstruction for well-balanced wet/dry (Audusse et al., 2004), and implicit Manning friction (Xia et al., 2017). Grid: structured FV, US customary units (ft, s, CFS).

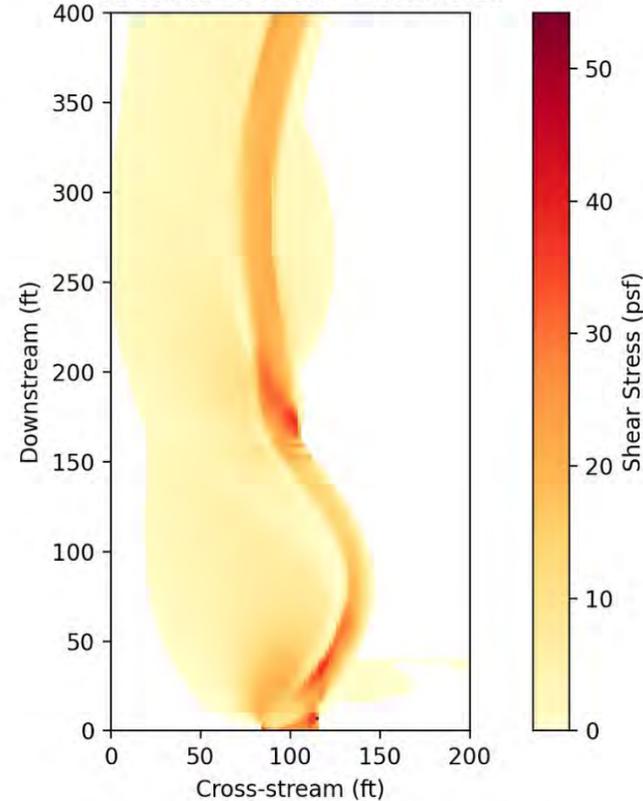
*These are example questions and analysis, and are in no way final. Preliminary scoping analysis using idealized geometry. Intended to motivate further investigation, not as an engineering prediction

How Does Deflection Affect Shearing?

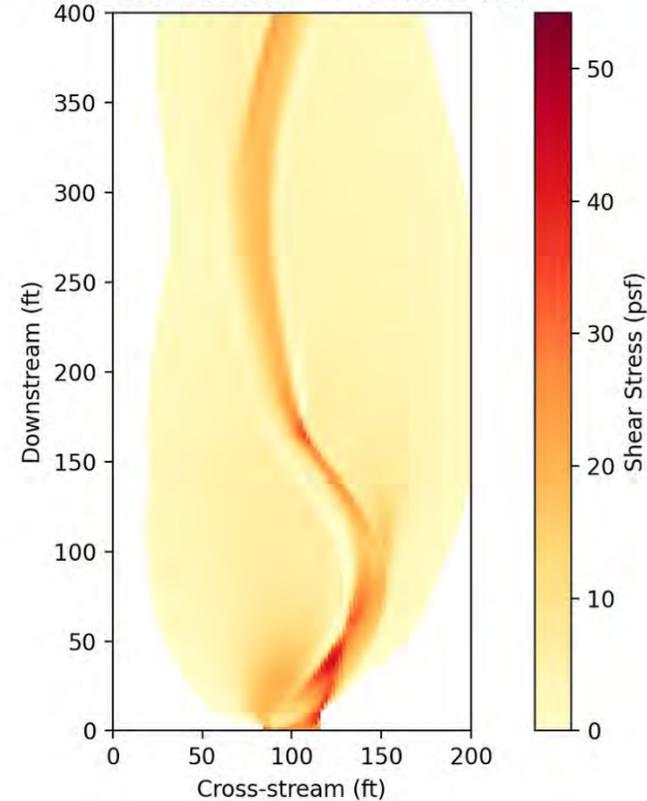
Bed Shear Stress at Peak Flood — Erosion Potential

$$\tau_b = \gamma n^2 V^2 / h^{1/3} \quad (\text{Manning } n = 0.04)$$

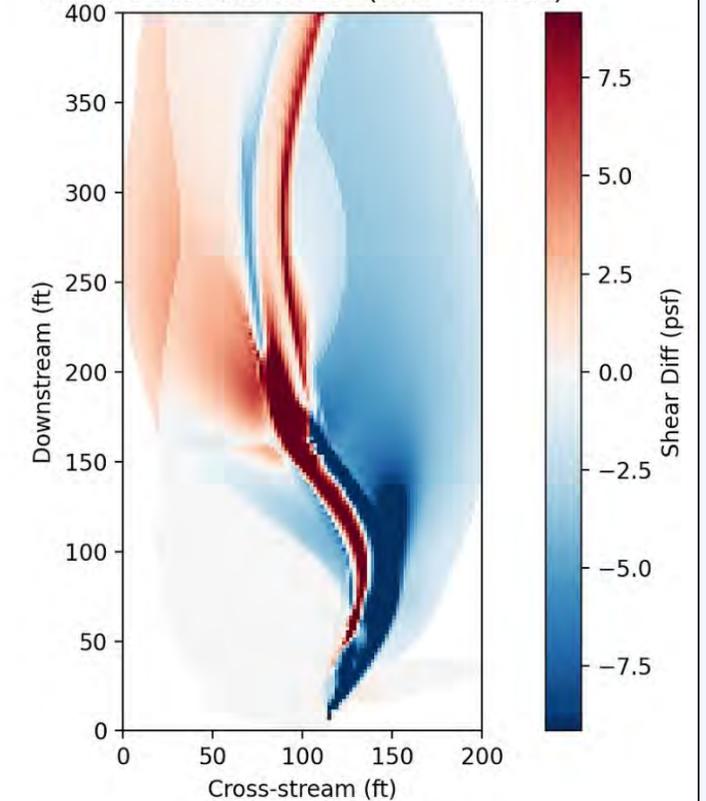
Bed Shear at Peak — WITH Wall



Bed Shear at Peak — WITHOUT Wall



Shear Stress Difference (wall - no wall)



2D Shallow Water Equations solved with HLLC Riemann solver (Toro, 2001), MUSCL-Hancock reconstruction with minmod limiter (van Leer, 1979), hydrostatic reconstruction for well-balanced wet/dry (Audusse et al., 2004), and implicit Manning friction (Xia et al., 2017). Grid: structured FV, US customary units (ft, s, CFS).

*These are example questions and analysis, and are in no way final. Preliminary scoping analysis using idealized geometry. Intended to motivate further investigation, not as an engineering prediction

The wall geometry at Cross-Section #3: The wall has two distinct segments visible in the cross-section. The **lower segment** rises roughly 4.8 feet vertically with only about 1.5 feet of horizontal run – a slope of approximately 0.31H:1V (about 73° from horizontal). The **upper segment** is essentially vertical: roughly 6 feet of rise with less than a foot of horizontal offset – approximately 0.08H:1V (about 85° from horizontal). Overall, the wall rises approximately 10.8 feet with only about 2 feet of total horizontal run, giving an overall slope of roughly 0.18H:1V (about 80° from horizontal).

The 1.5H:1V threshold and where it comes from: The Flood Control letter in Attachment B, condition A.6.b, states explicitly: *"The slope of the wall with a 1.5 (horizontal) to 1 (vertical) ratio. If the slope is steeper than 1.5 to 1, then structural calculations may be required."* That 1.5H:1V ratio (33.7° from horizontal) isn't arbitrary – it appears consistently across multiple authoritative design standards:

The **USACE Engineer Manual EM 1110-2-1601** (Hydraulic Design of Flood Control Channels) specifies 1.5H:1V as the **maximum side slope** for its standard riprap/revetment design method, derived from laboratory data. The USACE "steep slopes method" requires slopes of **2.5H:1V or flatter** with filter fabric.

The **Caltrans Highway Design Manual Chapter 870** and the associated California Bank and Shore Rock Slope Protection Design guidance specify a maximum outside slope face angle of **33.69° from horizontal – which is exactly 1.0V:1.5H**. For rounded rock (like boulders), stable revetments require slopes no steeper than **1V:2.5H or 1V:3H**. For non-cohesive soils, the maximum suggested side slope is **1V:3H**.

How the wall compares: The wall at Cross-Section #3 is approximately **5 to 18 times steeper** than the 1.5H:1V threshold, depending on which segment you measure. Even the most generous reading of the overall wall (0.18H:1V) is more than 8 times steeper than permitted. To put it another way: where the standard requires at least 1.5 feet of horizontal run for every foot of vertical rise, this wall provides roughly 0.18 feet – less than 2.5 inches of run per foot of rise.

What this means legally and practically: The Flood Control condition A.6.b anticipated this possibility – it said that if the slope exceeds 1.5:1, "structural calculations may be required." The key word is "may," which gave the County some discretion. But the gap between the standard and the actual condition is so extreme that it goes beyond the zone where structural calculations could cure the problem. At these angles:

The wall acts as a **near-vertical reflective surface** rather than a sloped energy-dissipating revetment. Properly designed rock slope protection at 1.5:1 or flatter absorbs and dissipates hydraulic energy through its porosity and slope geometry. A near-vertical grouted boulder wall does the opposite – it reflects hydraulic energy back into the channel and toward the opposite bank. This is precisely the mechanism your 2D model demonstrates.

The wall also doesn't meet the **basic stability principles** for rock slope protection. Caltrans specifies that the outside layer of rocks must interlock and be stable in flowing water, and the underlying bank must be stable during construction. A grouted boulder wall at 80° relies entirely on the cement grout for structural integrity rather than on the interlocking weight and geometry of the stones – which is how properly designed RSP works. No recognized engineering standard I found – USACE, Caltrans, FEMA, or California practice – contemplates a rock/boulder revetment in a floodway channel at slopes this steep. A near-vertical structure in a creek would typically be classified and engineered as a **retaining wall** (requiring structural engineering, foundation design, and drainage provisions), not as rock slope protection. Yet there's no evidence in the permit record that the wall was designed or evaluated as either.

Sources:

- USACE EM 1110-2-1601 – Hydraulic Design of Flood Control Channels
- Caltrans Highway Design Manual Chapter 870 – Bank Protection
- California Bank and Shore Rock Slope Protection Design (Racin 2000)
- Caltrans RSP Design Implementation Guidance
- FEMA Floodway Analysis and Mapping Guidance