BR23-191

U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
National Flood Insurance Program

OMB Control No. 1660-0008
Expiration Date: 06/30/2026

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 1-11

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A – PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

A1. Building Owner's Name: **OCHOA FAMILY TRUST, CHRISTOPHER & TAMBER**

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: **32284 COUNTY ROAD 10**

City: **ZAMORA** State: **CA** ZIP Code: **95698**

A3. Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number: **ASSESSOR'S PARCEL NUMBER: 053-200-011-000**

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): **NON-RESIDENTIAL**

A5. Latitude/Longitude: Lat. **38°50'19.2"** Long. **-121°54'32.1"** Horizontal Datum: ☐ NAD 1927 ■ NAD 1983 ☐ WGS 84

A6. Attach at least two and when possible four clear photographs (one for each side) of the building (see Form pages 7 and 8).

A7. Building Diagram Number: **1B**

A8. For a building with a crawlspace or enclosure(s):

a) Square footage of crawlspace or enclosure(s): **N/A** sq. ft.

b) Is there at least one permanent flood opening on two different sides of each enclosed area? ☐ Yes ☐ No ■ N/A

c) Enter number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade:
Non-engineered flood openings: **N/A** Engineered flood openings: **N/A**

d) Total net open area of non-engineered flood openings in A8.c: **N/A** sq. in.

e) Total rated area of engineered flood openings in A8.c (attach documentation – see Instructions): **N/A** sq. ft.

f) Sum of A8.d and A8.e rated area (if applicable – see Instructions): **N/A** sq. ft.

A9. For a building with an attached garage:

a) Square footage of attached garage: **N/A** sq. ft.

b) Is there at least one permanent flood opening on two different sides of the attached garage? ☐ Yes ☐ No ■ N/A

c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade:
Non-engineered flood openings: **N/A** Engineered flood openings: **N/A**

d) Total net open area of non-engineered flood openings in A9.c: **N/A** sq. in.

e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): **N/A** sq. ft.

f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): **N/A** sq. ft.

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1.a. NFIP Community Name: **YOLO CO. UNINCORPORATED** B1.b. NFIP Community Identification Number: **060423**

B2. County Name: **YOLO** B3. State: **CA** B4. Map/Panel No.: **06113C 0275** B5. Suffix: **G**

B6. FIRM Index Date: **05/16/2012** B7. FIRM Panel Effective/Revised Date: **06/18/2010**

B8. Flood Zone(s): **A** B9. Base Flood Elevation(s) (BFE) (Zone AO, use Base Flood Depth): **37.6' (SEE FLOOD STUDY)**

B10. Indicate the source of the BFE data or Base Flood Depth entered in Item B9:
☐ FIS ☐ FIRM ☐ Community Determined ■ Other: **SEE ATTACHED FLOOD STUDY**

B11. Indicate elevation datum used for BFE in Item B9: ☐ NGVD 1929 ■ NAVD 1988 ☐ Other/Source:

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ■ No
Designation Date: ☐ CBRS ☐ OPA

B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)? ☐ Yes ■ No

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: **32284 COUNTY ROAD 10**

City: **ZAMORA** State: **CA** ZIP Code: **95698**

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ■ Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, AO, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, A99. Complete Items C2.a–h below according to the Building Diagram specified in Item A7. In Puerto Rico only, enter meters.
Benchmark Utilized: **N.G.S. P 1075** Vertical Datum: **N.A.V.D. 88**

Indicate elevation datum used for the elevations in items a) through h) below.
☐ NGVD 1929 ■ NAVD 1988 ☐ Other:

Datum used for building elevations must be the same as that used for the BFE. Conversion factor used? ☐ Yes ■ No
If Yes, describe the source of the conversion factor in the Section D Comments area.

		Check the measurement used:
a) Top of bottom floor (including basement, crawlspace, or enclosure floor):	**39.9**	■ feet ☐ meters
b) Top of the next higher floor (see Instructions):	**N/A**	☐ feet ☐ meters
c) Bottom of the lowest horizontal structural member (see Instructions):	**N/A**	☐ feet ☐ meters
d) Attached garage (top of slab):	**N/A**	☐ feet ☐ meters
e) Lowest elevation of Machinery and Equipment (M&E) servicing the building (describe type of M&E and location in Section D Comments area):	**40.7**	■ feet ☐ meters
f) Lowest Adjacent Grade (LAG) next to building: ☐ Natural ■ Finished	**39.3**	■ feet ☐ meters
g) Highest Adjacent Grade (HAG) next to building: ☐ Natural ■ Finished	**39.8**	■ feet ☐ meters
h) Finished LAG at lowest elevation of attached deck or stairs, including structural support:	**N/A**	☐ feet ☐ meters

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by state law to certify elevation information. *I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*

Were latitude and longitude in Section A provided by a licensed land surveyor? ■ Yes ☐ No

☐ Check here if attachments and describe in the Comments area.

Certifier's Name: **MATTHEW K. SOUZA** License Number: **L.S. 9215**

Title: **PRINCIPAL SURVEYOR**

Company Name: **LAUGENOUR AND MEIKLE**

Address: **608 COURT STREET**

City: **WOODLAND** State: **CA** ZIP Code: **95695**

Signature: Date: **04/11/2024**

Telephone: **(530)662-1755** Ext.: **220** Email: **matt@lmce.net**

Place Seal Here

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including source of conversion factor in C2; type of equipment and location per C2.e; and description of any attachments):

C2.E) LOWEST ELEVATION OF MACHINERY IS BOTTOM ELECTRICAL PANEL.

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:	FOR INSURANCE COMPANY USE
32284 COUNTY ROAD 10	
City: ZAMORA State: CA ZIP Code: 95698	Policy Number:
	Company NAIC Number:

SECTION E – BUILDING MEASUREMENT INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO, ZONE AR/AO, AND ZONE A (WITHOUT BFE)

For Zones AO, AR/AO, and A (without BFE), complete Items E1–E5. For Items E1–E4, use natural grade, if available. If the Certificate is intended to support a Letter of Map Change request, complete Sections A, B, and C. Check the measurement used. In Puerto Rico only, enter meters.

Building measurements are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☐ Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

E1. Provide measurements (C.2.a in applicable Building Diagram) for the following and check the appropriate boxes to show whether the measurement is above or below the natural HAG and the LAG.

a) Top of bottom floor (including basement, crawlspace, or enclosure) is: _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

b) Top of bottom floor (including basement, crawlspace, or enclosure) is: _____ ☐ feet ☐ meters ☐ above or ☐ below the LAG.

E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (C2.b in applicable Building Diagram) of the building is: _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E3. Attached garage (top of slab) is: _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is: _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ■ No ☐ Unknown The local official must certify this information in Section G.

SECTION F – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without BFE) or Zone AO must sign here. *The statements in Sections A, B, and E are correct to the best of my knowledge*

☐ Check here if attachments and describe in the Comments area.

Property Owner or Owner's Authorized Representative Name: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Signature: _____ Date: _____

Telephone: _____ Ext.: _____ Email: _____

Comments:

N/A

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:	FOR INSURANCE COMPANY USE
32284 COUNTY ROAD 10	Policy Number:
City: ZAMORA State: CA ZIP Code: 95698	Company NAIC Number:

SECTION G – COMMUNITY INFORMATION (RECOMMENDED FOR COMMUNITY OFFICIAL COMPLETION)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Section A, B, C, E, G, or H of this Elevation Certificate. Complete the applicable item(s) and sign below when:

G1. ☐ The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by state law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2.a. ☐ A local official completed Section E for a building located in Zone A (without a BFE), Zone AO, or Zone AR/AO, or when item E5 is completed for a building located in Zone AO.

G2.b. ☐ A local official completed Section H for insurance purposes.

G3. ☐ In the Comments area of Section G, the local official describes specific corrections to the information in Sections A, B, E and H.

G4. ☐ The following information (Items G5–G11) is provided for community floodplain management purposes.

G5. Permit Number: BR23-191 G6. Date Permit Issued: 9/1/2023

G7. Date Certificate of Compliance/Occupancy Issued: _____

G8. This permit has been issued for: ☑ New Construction ☐ Substantial Improvement

G9.a. Elevation of as-built lowest floor (including basement) of the building: 39.9 ☑ feet ☐ meters Datum: NAVD88

G9.b. Elevation of bottom of as-built lowest horizontal structural member: n/a ☐ feet ☐ meters Datum: _____

G10.a. BFE (or depth in Zone AO) of flooding at the building site: 37.6 ☑ feet ☐ meters Datum: NAVD88

G10.b. Community's minimum elevation (or depth in Zone AO) requirement for the lowest floor or lowest horizontal structural member: 38.6 ☑ feet ☐ meters Datum: NAVD88

G11. Variance issued? ☐ Yes ☑ No If yes, attach documentation and describe in the Comments area.

The local official who provides information in Section G must sign here. *I have completed the information in Section G and certify that it is correct to the best of my knowledge. If applicable, I have also provided specific corrections in the Comments area of this section.*

Local Official's Name: Scott Doolittle Title: Flood ADMIN.

NFIP Community Name: County of Yolo

Telephone: 530-666-8037 Ext.: _____ Email: Scott.Doolittle@yolocounty.org

Address: 292 W. Beamer st

City: Woodland State: CA ZIP Code: 95695

Signature: Scott Doolittle Date: 4-16-24

Comments (including type of equipment and location, per C2.e; description of any attachments; and corrections to specific information in Sections A, B, D, E, or H):

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: **32284 COUNTY ROAD 10**

City: **ZAMORA** State: **CA** ZIP Code: **95698**

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

SECTION H – BUILDING'S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES (SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)

The property owner, owner's authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building's first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). ***Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.***

H1. Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):

a) **For Building Diagrams 1A, 1B, 3, and 5–9.** Top of bottom floor (include above-grade floors only for buildings with subgrade crawlspaces or enclosure floors) is: _____ ☐ feet ☐ meters ☐ above the LAG

b) **For Building Diagrams 2A, 2B, 4, and 6–9.** Top of next higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is: _____ ☐ feet ☐ meters ☐ above the LAG

H2. Is **all** Machinery and Equipment servicing the building (as listed in Item H2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H instructions) for the appropriate Building Diagram?

☐ Yes ■ No

SECTION I – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and H must sign here. *The statements in Sections A, B, and H are correct to the best of my knowledge.* **Note:** If the local floodplain management official completed Section H, they should indicate in Item G2.b and sign Section G.

☐ Check here if attachments are provided (including required photos) and describe each attachment in the Comments area.

Property Owner or Owner's Authorized Representative Name: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Signature: _____ Date: _____

Telephone: _____ Ext.: _____ Email: _____

Comments:

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:
32284 COUNTY ROAD 10

City: **ZAMORA** State: **CA** ZIP Code: **95698**

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

Instructions: Insert below at least two and when possible four photographs showing each side of the building (for example, may only be able to take front and back pictures of townhouses/rowhouses). Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." Photographs must show the foundation. When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.

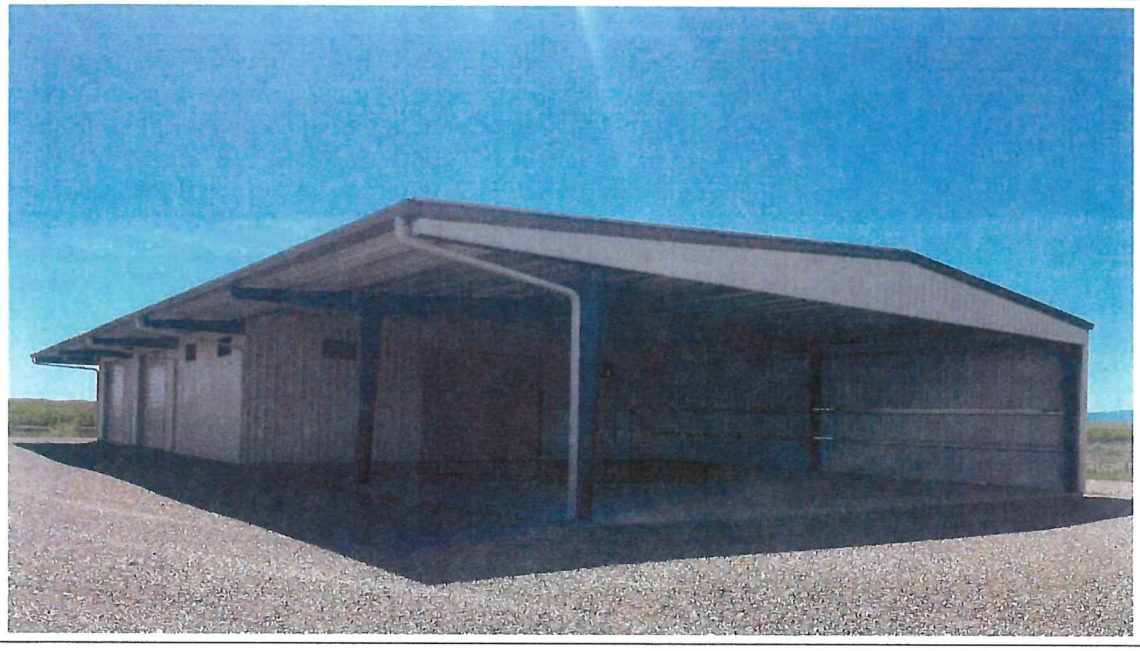


Photo One Caption: **FRONT VIEW (TAKEN 04/10/2024)**

Clear Photo One

Photo Two Caption: **REAR VIEW (TAKEN 04/10/2024)**

Clear Photo Two

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

BUILDING PHOTOGRAPHS

Continuation Page

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:
32284 COUNTY ROAD 10

City: **ZAMORA** State: **CA** ZIP Code: **95698**

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

Insert the third and fourth photographs below. Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.

Photo Three

Photo Three Caption: **LEFT VIEW (TAKEN 04/10/2024)**

Clear Photo Three

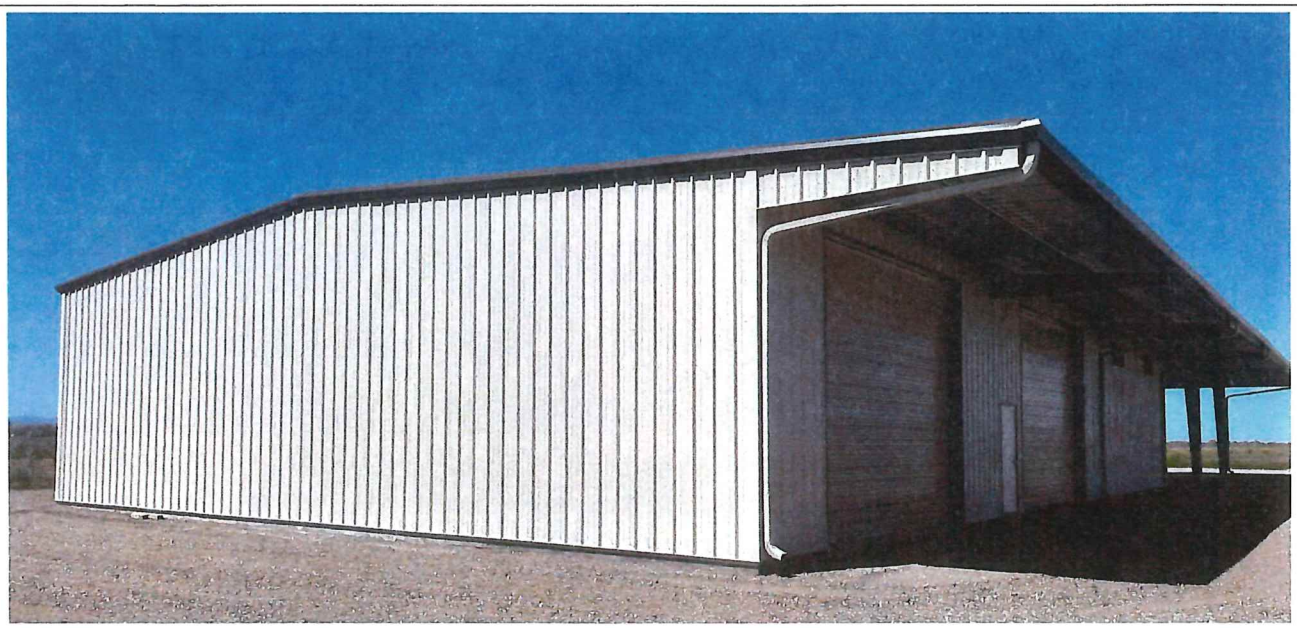


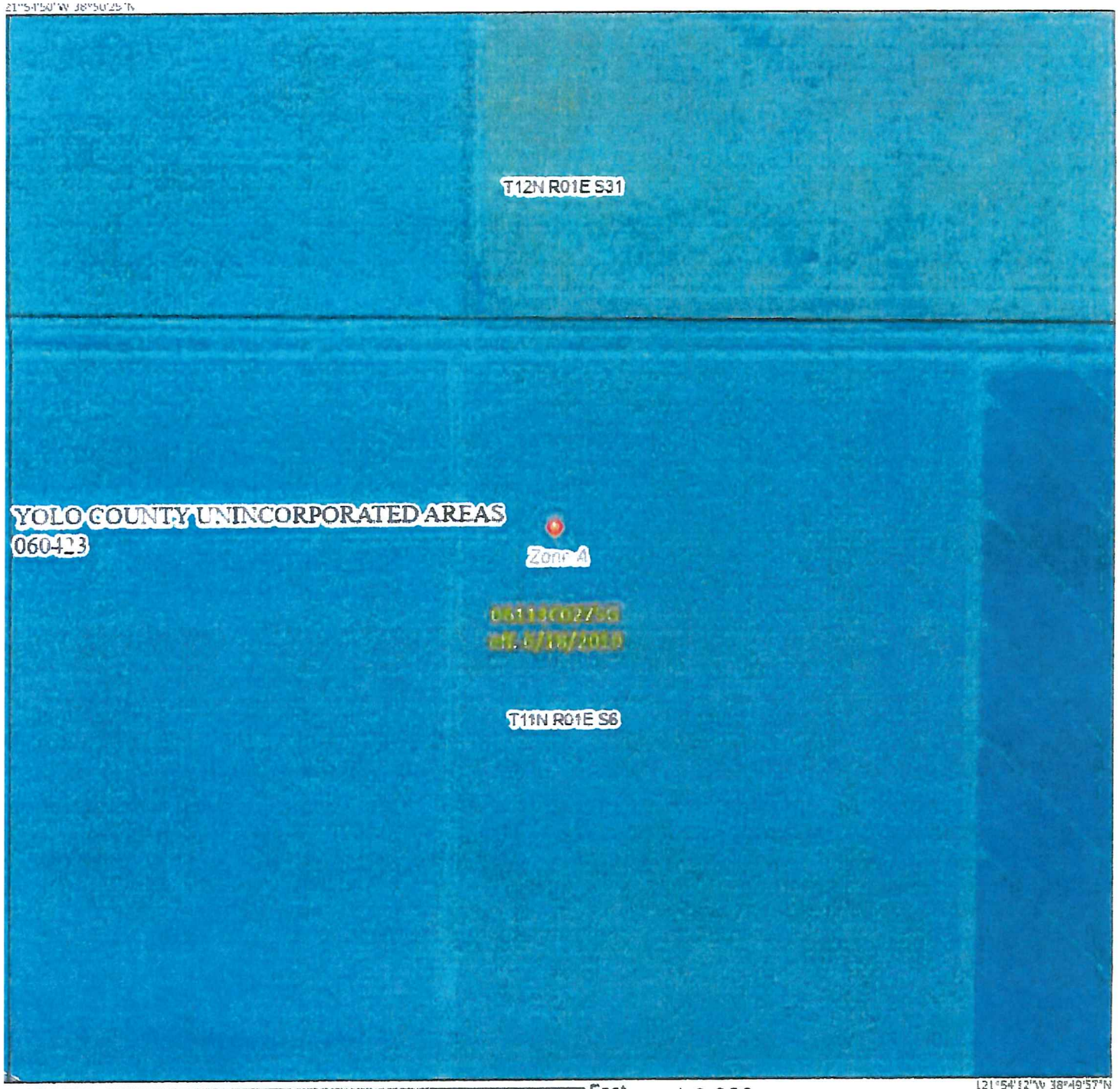
Photo Four

Photo Four Caption: **RIGHT VIEW (TAKEN 04/10/2024)**

Clear Photo Four

National Flood Hazard Layer FIRMette

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Flood Risk due to Levee. See Notes.
- Area with Flood Risk due to Levee

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard
- Effective LOMRs
- Area of Undetermined Flood Hazard

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/6/2021 at 6:57 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

LAUGENOUR AND MEIKLE
CIVIL ENGINEERING · LAND SURVEYING · PLANNING

TO: Attn: LOMA Manager
FEMA LOMC Clearing House
3601 Eisenhower Avenue, Suite 500
Alexandria, VA 22304-6426

FROM: Brian Delemos, P.E., CA C66421
Laugenour and Meikle

DATE: August 3, 2023

SUBJECT: Determination of Base Flood Elevations for Chris and Tami Ochoa, County Road 10, Yolo County, CA (APN: 053-200-011-000)

INTRODUCTION:

This memorandum documents the hydrologic and hydraulic methods used to determine the base flood (100-year, or 1% annual chance) elevations (BFEs) for the Chris and Tami Ochoa property (Property) located at County Road 10, north of Woodland, Yolo County, California (assessor's parcel numbers 053-200-011-000). The Property, planted in rice fields until recently, is west of the Colusa Basin Drain, and, as shown on **Exhibit 1, Hydraulic Map**, and **Exhibit 2, Property Location in the FEMA Flood Zone A**. The Property (approximately located at Latitude 38.838551° North, Longitude 121.908708° West), lies in an area designated by the Federal Emergency Management Agency (FEMA) as a Zone A special flood hazard area (Flood Insurance Rate Map, FIRM, Panel 06113C 0275G, June 18, 2010). A duck club building is proposed for construction on the Property, and the building pad was recently raised by fill above the BFEs.

The source of flooding is the Colusa Basin Drain, to the east of the Property. The Colusa Basin Drain is leveed on its eastern bank, but not on its western bank.

BFE's for the Property were developed in accordance with FEMA guidelines for Zone A areas[a]. The following topics are discussed in the following sections:

- Hydrology
- Hydraulic Model Approach
- Results

[a] Managing Floodplain Development in Approximate Zone A Areas, A Guide for Obtaining and Developing Base (100-Year) Flood Elevations. FEMA. April 1995.

HYDROLOGY:

The estimated base flood flow (1% annual chance flow, or 100-year recurrence interval flow) in the Colusa Basin Drain at the Property was obtained from the Colusa Basin Integrated Resource Management Program, Draft PEIS/R, Colusa Basin Drainage District and US Bureau of Reclamation, May 2000. The flow was obtained from Figure 4-1 and Table 6.1-1 in **Attachment A, Hydrology Reference Excerpts**. The base flood flow is estimated to be 27,408 cfs.

HYDRAULIC MODEL APPROACH:

An HEC-RAS (Version 5.06) model was developed to compute the 100-year water surface elevation, base flood elevation (BFE), at the project site. Key inputs included topography, base flood flow, roughness coefficients, and downstream boundary conditions.

Topography for the hydraulic model, as shown on **Exhibit 1, Hydraulic Map**, was provided by the Yolo County Public Works Department. The topographic data is detailed data collected by the California Department of Water Resources in 2012 for the purpose of floodplain mapping. The vertical datum of the topographic data is the North American Vertical Datum of 1988 (N.A.V.D.88).

Two cross sections were taken from the topographic data for use in the hydraulic model, which are shown on **Exhibit 1, Hydraulic Map**. One section was taken at the upstream end and one at the downstream of the part of the Property. The sections are generally perpendicular to the channel and overland flood flow paths. The cross section ground elevations are shown on **Exhibit 3A, HEC-RAS Model Section at Stream Station 0**, and **Exhibit 3B, HEC-RAS Model Section at Stream Station 270**, with the zero station of each cross section starting from the east side of the sections, and with the perspective looking from upstream to downstream.

The model was run in the steady state flow mode. The base flood flow of 27,408 cfs, as discussed above, was used.

Roughness coefficients were determined based on the HEC-RAS Hydraulic Reference Manual (February 2016, Table 3-1), along with review of aerial photography (see **Exhibit 2, Property Location in the FEMA Flood Zone A**). The coefficient was estimated as 0.040 for the channel (Lined or Built-Up Channels, Vegetal Lining), 0.035 for the right overbank area (Floodplains, Cultivated areas, Mature row crops), and not applicable for the left overbank area.

Downstream boundary conditions were assumed to be subcritical, normal depth with a friction slope similar in gradient to the land in the down gradient directional slope (to the east). The down gradient slope was estimated from the topographic data to be approximately 0.000024 feet/foot. Downstream backwater conditions would not be expected. The downstream water body to the east of the Colusa Basin Drain is the Yolo Bypass, which is approximately 16 miles downstream from the Property, and it would not be expected that backwater from downstream could affect water surface elevations in the vicinity of the Property.

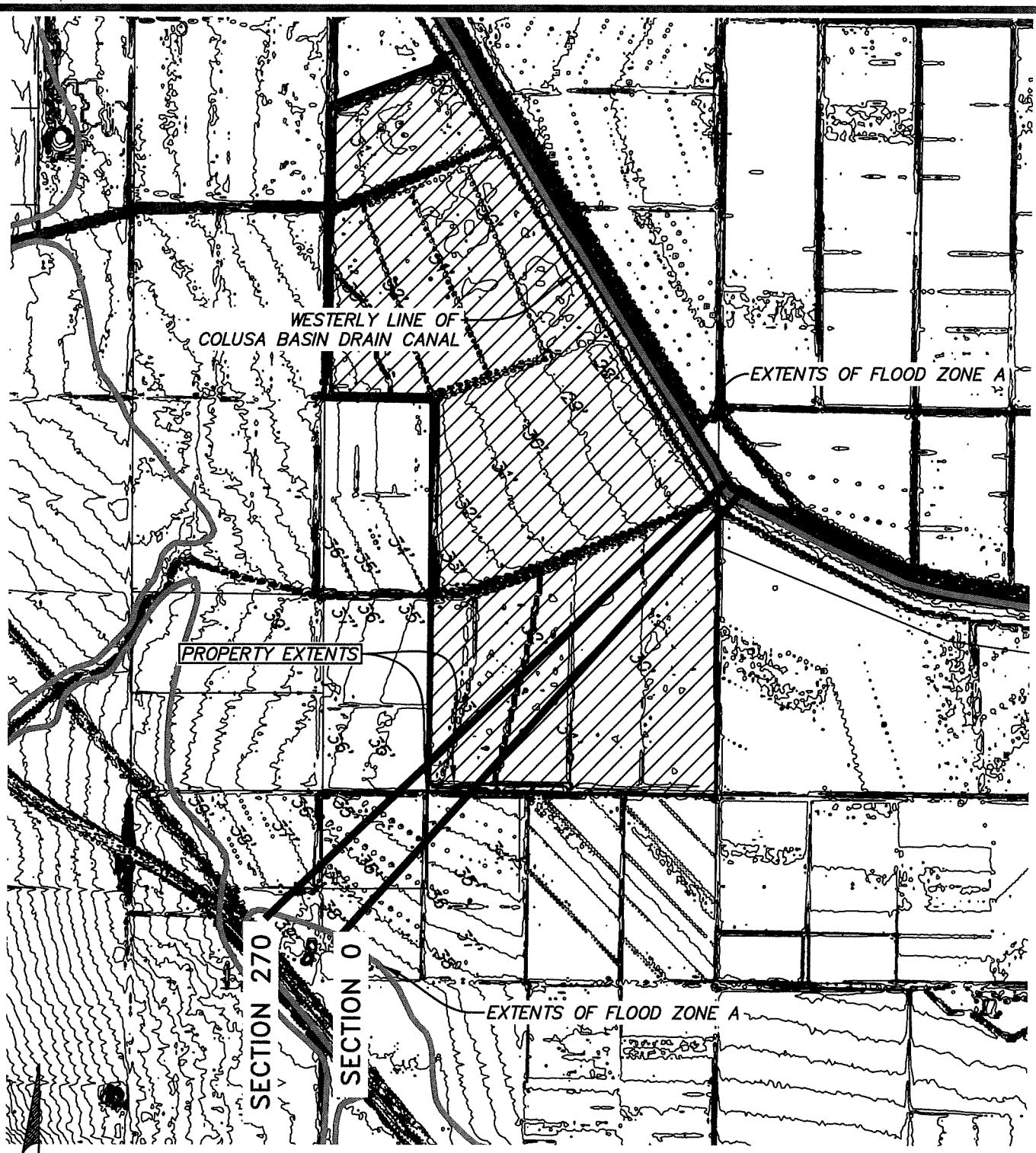
The Colusa Basin Drain eastern levee was modeled using FEMA's Natural Valley Procedure. The eastern levee was not failed in the HEC-RAS. Again, the western bank is unleveed.

RESULTS:

Exhibits 3A and **3B** show the estimated BFEs at model Sections 0 and 270, which are approximately 37.6 and 37.6 feet (NAVD 88), respectively. It is recommended that the BFE of 37.6 feet (NAVD 88) be used as the BFE for the proposed building on the Property.

The HEC-RAS model files have been included in this package for review. If you have any questions, please feel free to call me at (530) 662-1755, or e-mail me at bdelemos@lmce.net .

Attachments



0 1000 2000 4000

LM

SCALE: 1"=2000'

EXHIBIT 1 – HYDRAULIC MAP

FOR

CHRIS AND TAMI OCHOA

BEING A PORTION OF SECTIONS 30&31,
TOWNSHIP 12 NORTH, RANGE 1 EAST,
MOUNT DIABLO BASE AND MERIDIAN,
UNINCORPORATED AREA OF
YOLO COUNTY, CALIFORNIA

SHEET 1 OF 1 *AUGUST 3, 2023*

#2935-14

X: \Land Projects\2935-14\dwg\2935-14_EXH FLOODPLAIN.dwg

EXHIBIT 2 - PROPERTY LOCATION IN THE FEMA FLOOD ZONE A.

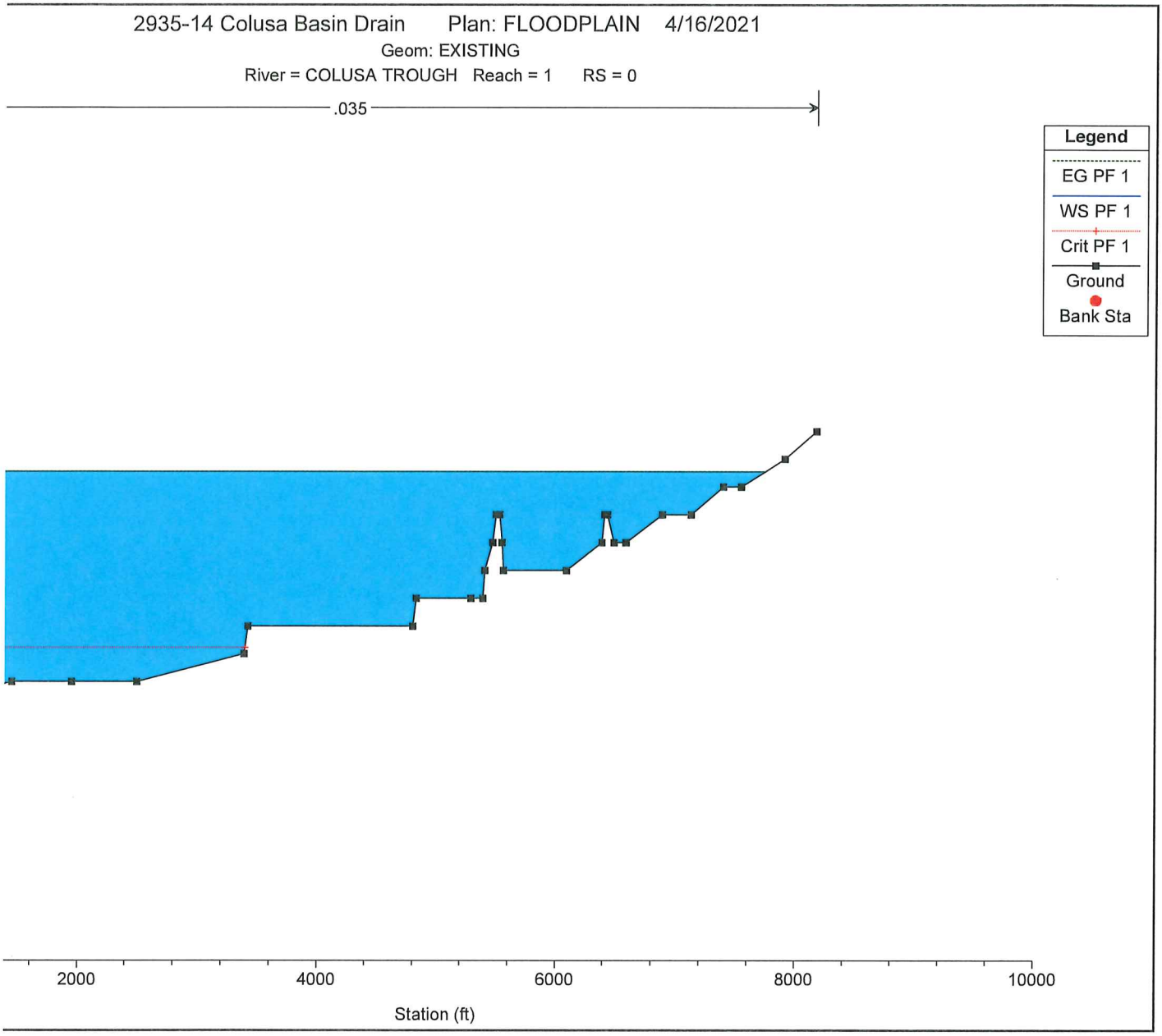


EXHIBIT 3A - HEC-RAS MODEL SECTION AT STREAM STATION 0.

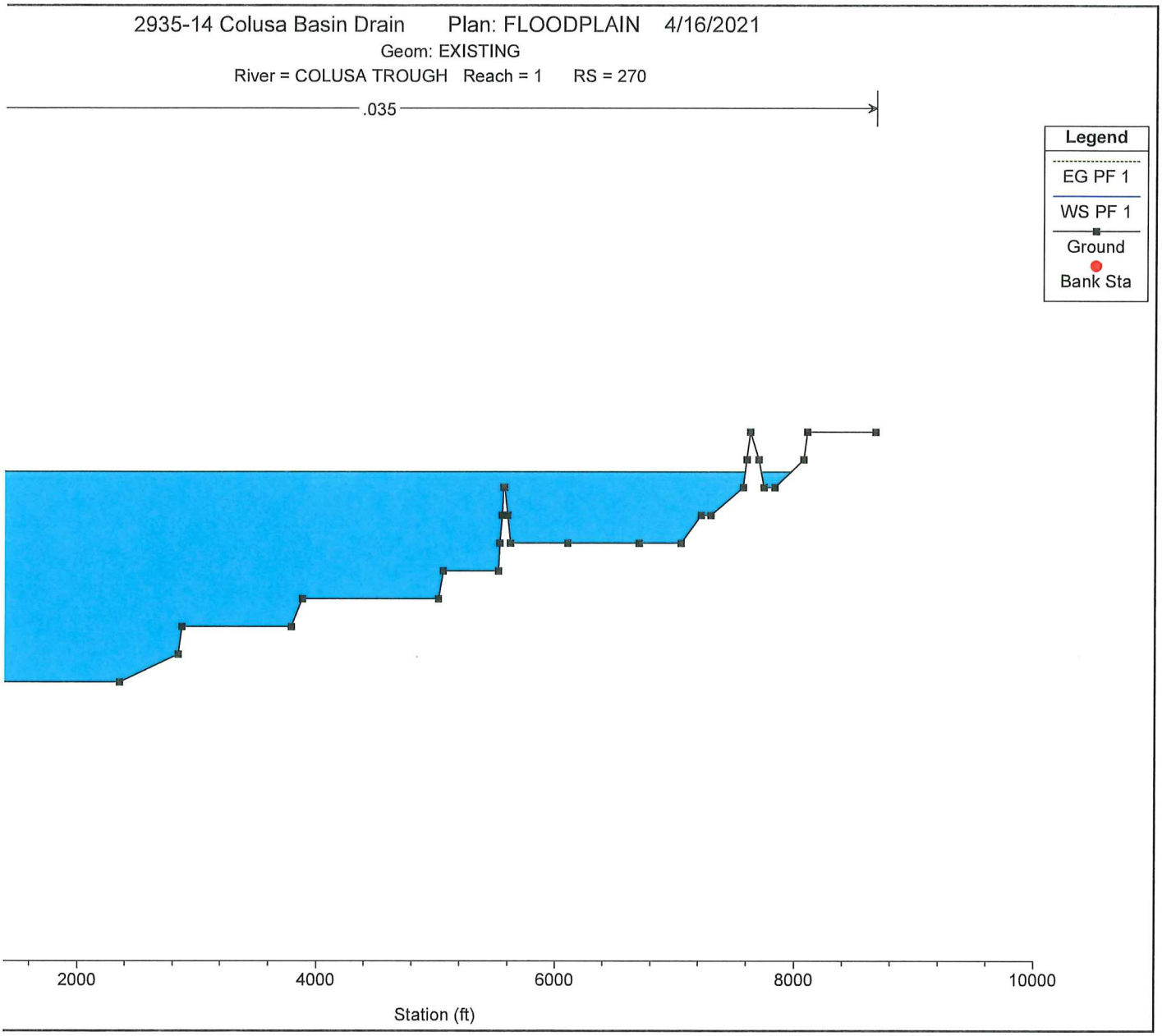


EXHIBIT 3B - HEC-RAS MODEL SECTION AT STREAM STATION 270.

ADMINISTRATIVE DRAFT

COLUSA BASIN INTEGRATED RESOURCE MANAGEMENT PROGRAM: FORMULATION OF PROGRAM ALTERNATIVES

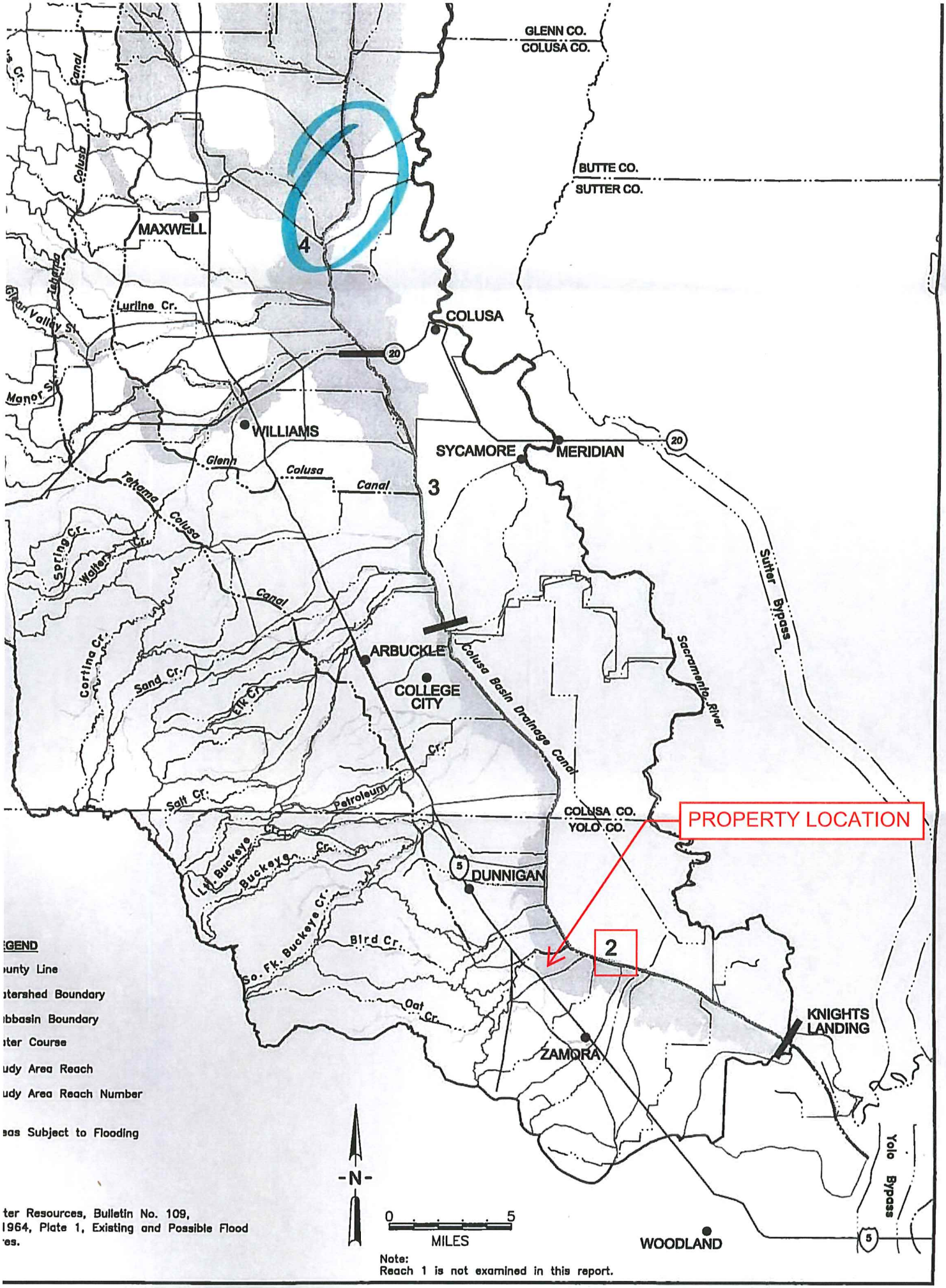
D R A F T

PREPARED FOR

COLUSA BASIN DRAINAGE DISTRICT
AND
U.S. BUREAU OF RECLAMATION

PREPARED BY

Navigant CONSULTING, INC.


GLENN CO.
COLUSA CO.
BUTTE CO.
SUTTER CO.
MAXWELL
COLUSA
WILLIAMS
SYCAMORE
MERIDIAN
ARBUCKLE
COLLEGE CITY
DUNNIGAN
ZAMORA
KNIGHTS LANDING
WOODLAND
PROPERTY LOCATION
COLUSA CO.
YOLO CO.
Colusa Canal
Glenn Colusa Canal
Tehama Colusa Canal
Colusa Basin Drainage Canal
Sacramento River
Sutter Bypass
Yolo Bypass
Lurline Cr.
Manor Cr.
Spring Cr.
Walker Cr.
Cortina Cr.
Sand Cr.
Elk Cr.
Salt Cr.
Petroleum Cr.
Lt. Buckeye Cr.
Buckeye Cr.
So. Fk. Buckeye Cr.
Bird Cr.
Oat Cr.
4
3
2
20
5
-N-
0 5
MILES
GEND
unty Line
tershed Boundary
bbasin Boundary
ter Course
udy Area Reach
udy Area Reach Number
eas Subject to Flooding
ter Resources, Bulletin No. 109,
1964, Plate 1, Existing and Possible Flood
es.
Note:
Reach 1 is not examined in this report.

ATTACMENT A - HYDROLOGY REFERENCE ECXERPTS

PROPERTY LOCATION

for Existing Conditions and Alternative Program Conditions
low (cfs) by Storm Recurrence Intervals

Difference	100-Year Existing	100-Year Potential	100-Year % Difference	500-Year Existing	500-Year Potential	500-Year % Difference
-35	32,728	21,872	-33	38,330	24,738	-35
-48	27,970	15,468	-45	35,330	19,816	-44
-21	35,761	27,855	-22	56,926	44,320	-22
-13	32,908	27,656	-16	51,550	41,687	-19
-12	27,408	23,324	-15	40,345	33,436	-17
-35	32,728	21,872	-33	38,330	24,738	-35
-48	27,970	15,468	-45	35,330	19,816	-44
-16	35,761	30,029	-16	56,926	48,010	-16
-14	32,908	27,303	-17	51,550	42,862	-17
-13	27,408	23,215	-15	40,345	34,223	-15
-35	32,728	21,872	-33	38,330	24,738	-35
-48	27,970	15,468	-45	35,330	19,816	-44
-6	35,761	33,957	-5	56,926	54,371	-4
-7	32,908	29,712	-10	51,550	47,114	-9
-10	27,408	24,182	-12	40,345	36,113	-10

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