PEER REVIEW

February 8, 2021

Casey Clement, Development Manager
Thompson Development, Inc.
5400 Hanna Ranch Road
Novato, CA 94945

Subject: **Peer Review of LSA's Biological Site Assessment for *187 Sacramento Avenue (APN 177-17209, 10, 18, and 20) Property, Marin County, California (BSA)***

Dear Ms. Clement:

Per your request, FirstCarbon Solutions, Inc. (FCS) reviewed LSA's *Biological Site Assessment for 187 Sacramento Avenue (APN 177-172 09, 10, 18, and 20) Property, Marin County, California* (LSA BSA) as it relates to the items discussed in Section I. 5.B of the Marin County Planning Commission Resolution No. PC20-006.

Based on a site survey conducted by a qualified Biologist and certified wetland delineator on January 29, 2021; additional analysis of background information including aerial imagery; review of the *Arborist Report for 187 Sacramento Avenue* prepared by Arborscience, LLC; and review of the updated Topographic Map provided by BKF (Attachment A), FCS evaluated relevant parameters presented in the LSA BSA as they relate to protected trees, the location and extent of stream and drainage features, the location of TOB, the extent of riparian and non-riparian woodland habitat, and subsequently the Stream Conservation Area as referred to in the Marin Countywide Plan[1] (CWP) and the Land Owner Resource Guide for Properties Near Streams[2] (Stream Guide), where applicable.

BKF's topographic survey and map (Attachment A) was updated in January 2021 to include additional survey data including location of top of bank (TOB) and exact location of trunks and canopy driplines of non-riparian trees.

LSA provides a spatial analysis of the Stream Course, Riparian Canopy, Stream Conservation Area, the off-site trunk location and canopy dripline of an Oregon Oak through its *Figure 1 Stream Conservation Area and Protected Tree* (LSA Figure 1). It is FCS professional opinion that LSA Figure 1 may not adequately represent the relevant information needed to determine protected trees and stream resources; specifically, it appears to be inadequate related to the following elements:

[1] Marin County Community Development Agency. 2007, updated 2015. Marin Countywide Plan.
[2] County of Marin. 2016. Landowner Resource Guide for Properties Near Streams.

Completeness of Stream Resources

In addition to the stream shown on LSA Figure 1, two additional ephemeral stream channels are converging on the project site along its northern boundary, as shown on the BKF Topographic Map Exhibit 1 (Attachment A), FCS Exhibit 1, Biological Constraints Analysis Map (Attachment B), and Photo 1 (Attachment C) Because of presence of riparian vegetation for more than 100 feet along this stream (within and upstream from the project site), CWA Policy BIO 4.1 Restricted Land Use in Stream Conservation Areas (i.e., implementation of an SCA) would be applicable.

Additionally, FCS evaluated a vegetated swale on the northern portion of the property. This swale runs east to west for approximately 140 feet, terminating at the main blue-line stream, as shown on FCS Exhibit 1, and Photos 2 and 3. At the time of the survey, the swale did not show evidence of substantial concentrated flow, e.g., no ordinary high-water mark or other parameters typically indicative of a stream (including ephemeral headwater streams) were present.[3] This lack of concentrated flow appears relevant because an atmospheric river system passed over the area that added approximately 2.5 inches of rain within the 3 days prior to the survey, which would have resulted in flow indicators if the feature functioned as an ephemeral headwater stream.

Vegetation in the swale consisted of a mix of native and non-native herbaceous species with a composition similar to the vegetation type of surrounding areas, and generally associated with upland conditions (i.e., not indicative of wetland or stream conditions), including non-native grasses such as ripgut brome (*Bromus diandrus*), wild oat (*Avena sp.*), Italian ryegrass (*Festuca perennis*), purple false brome (*Brachypodium distachyon*), and rattlesnake grass (*Briza maxima*). Forbs observed included soap plant (*Chlorogalum pomeridianum*), hairy cat's ear (*Hypochaeris radicata*), bristly ox-tongue (*Helminthotheca echioides*), fennel (*Foeniculum vulgare*), and Italian thistle (*Carduus pycnocephalus*). No hydric soil indicators (e.g., distinct redoximorphic features) were present in a soil sample taken from the bottom of the swale, where anoxic (i.e., waterlogged) conditions would be expected, if present.

In conclusion, the swale is not considered a stream or a wetland. Therefore, and in combination with the fact that the swale does not support riparian vegetation for more than 100 feet, CWA Policy BIO 4.1 Restricted Land Use in Stream Conservation Areas (i.e., implementation of an SCA) would not be applicable to this swale.

Top of Bank

LSA Figure 1 does not include the location of top of bank (TOB), which would be required in order to determine the extent of the SCA. (Additionally, the TOB is typically used to aid the determination of riparian versus non-riparian woodland).

[3] R.W. Lichvar and S.M. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. U.S. Army Corps of Engineers.

BKF conducted additional surveying to determine the exact location of TOB, and issued an updated Topographic Map dated January 14, 2021 (Attachment A).

Stream Conservation Area

Per CWA Policy BIO 4.1, parcels between 2 and 0.5 acres in size shall provide a minimum 50-foot development setback on each side of the top of bank. LSA Figure 1 shows an area labeled "Stream Conservation Area", however it appears that the extent of the SCA as shown on LSA Figure 1 is not based on TOB. FCS spatial analysis results in a different extent of SCA when based on the TOB as provided by BKF, as shown on FCS Exhibit 1. For a discussion of why an SCA is not applicable to the non-wetland swale located on the property, please see section *Completeness of Stream Resources*, above.

Woody Riparian Vegetation

The Stream Guide defines riparian vegetation as "vegetation associated with a watercourse and relies on the higher level of water the watercourse provides." LSA Figure 1 appears to adequately show the extent of riparian woodland along the western stream; however, because the northern stream was not mapped, woody riparian vegetation would include additional trees on the northern property boundary, as shown on FCS Exhibit 1.

Protected Trees

Based on the *Arborist Report for 187 Sacramento Avenue* prepared by Arborscience, LLC, the trees shown on FCS Exhibit 1 as "Coast Live Oak" and "Buckeyes" would be protected by the Marin County Native Tree Ordinance. While not addressed in the Arborist Report, the tree shown as "Oak" on FCS Exhibit 1 (Photo 4) would also be protected because a substantial portion of it falls within the SCA, and it would also be afforded protection under the Marin County Native Tree Ordinance. Additionally, the canopy of an Oregon oak that is growing off site partially overhangs onto the Project site as shown on Exhibit 1 and Photo 5; accordingly, this tree would also qualify as a protected tree.

Recommendations

FCS recommends revising the spatial analysis and LSA Figure 1 and associated text in the LSA BSA to include the changes related to completeness of stream resources, top of bank, Stream Conservation Area, woody riparian vegetation, and protected trees as provided above and in the attached FCS Exhibit 1 (Attachment B). Alternatively, the Project team may use the information provided in this letter and Exhibit 1 to support the environmental review process. Please do not hesitate to reach out to FCS with questions or concerns.

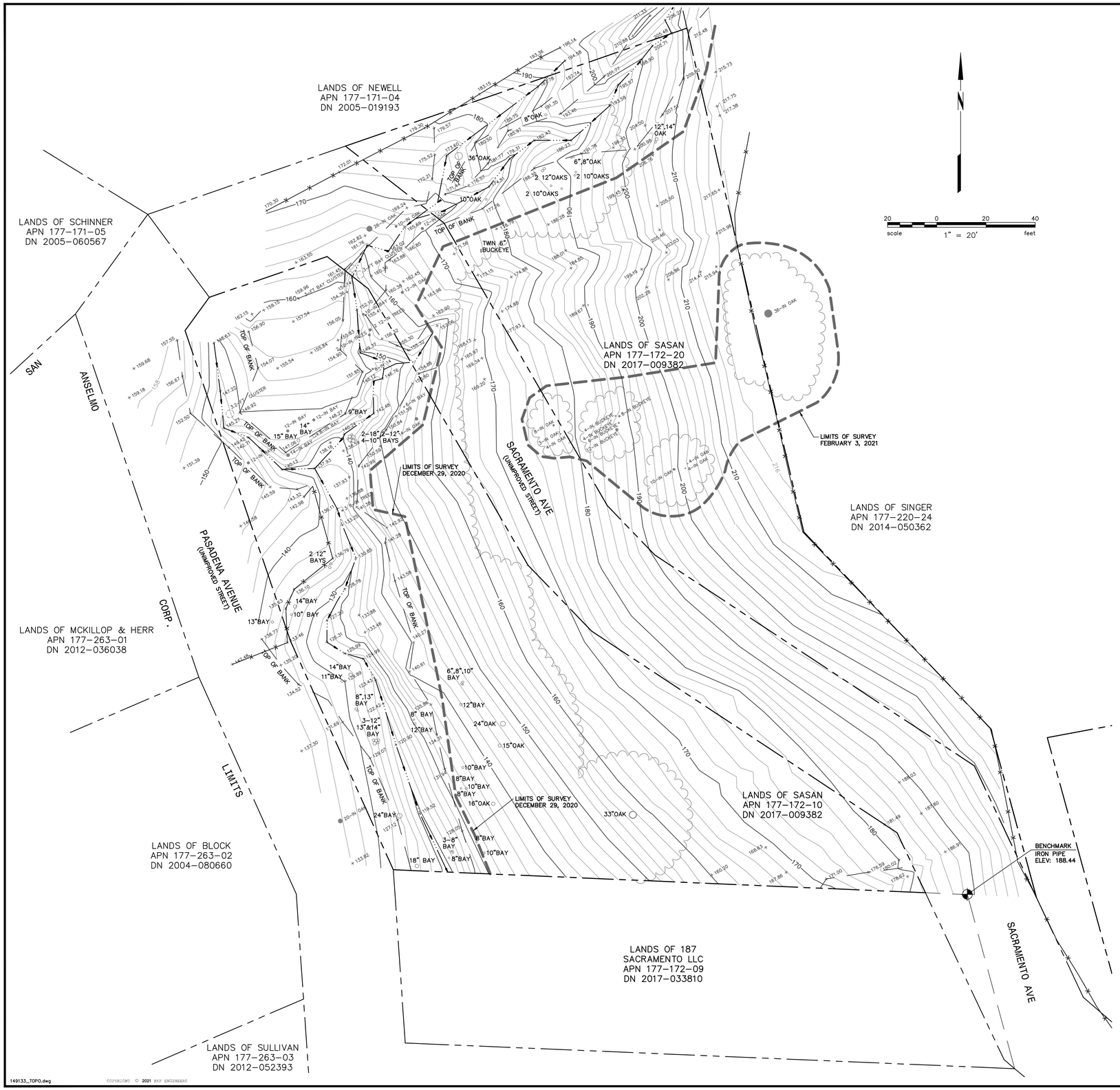
Sincerely,

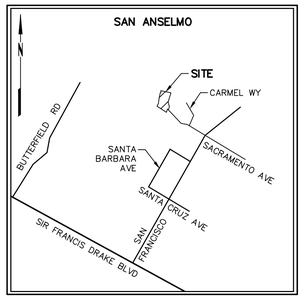
Bernhard Warzecha, Senior Biologist
FirstCarbon Solutions

1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597

Attachment A: BKF Topographic Map
Attachment B: Biological Constraints Analysis Map
Attachment C: Site Photographs

Attachment A:
BKF Topographic Map





VICINITY MAP
NOT TO SCALE

SYMBOLS & LEGEND

EXISTING

- BENCHMARK
- TREE & APPROXIMATE DRIPLINE
- BOUNDARY LINE
- EXISTING EASEMENT
- FLOW LINE
- FENCE

TOPOGRAPHIC NOTES

UNAUTHORIZED CHANGES & USES: THE PROFESSIONAL PREPARING THIS MAP WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THIS MAP. CHANGES TO THIS MAP MUST BE REQUESTED IN WRITING AND MUST BE APPROVED BY THE PROFESSIONAL.

TREE DIAMETERS ARE MEASURED AT CHEST HEIGHT (48"). DRIPLINE DIAMETERS AND TREE SPECIES ARE APPROXIMATE ONLY AND SHOULD BE VERIFIED BY A CERTIFIED ARBORIST.

BOUNDARY INFORMATION SHOWN HEREON BASED ON BOOK 2014 OF MAPS, PAGE 84, MARIN COUNTY RECORDS.

BASIS OF BEARING: BOOK 2014 OF MAPS, PAGE 84, MARIN COUNTY RECORDS.

BENCHMARK: TEMPORARY BENCHMARK, IRON PIPE, LOCATION SHOWN HEREON. ELEVATION = 188.44' (DATUM: ASSUMED)

FIELD SURVEY DATES: MAY 5, 2016 & DECEMBER 29, 2020

NOTES

OCTOBER 17, 2019 UPDATE: VESTING LAND OWNER REFERENCE AND SACRAMENTO AVENUE REVISED BASED ON A PRELIMINARY TITLE REPORT BY OLD REPUBLIC TITLE COMPANY, 1400A GRANT AVENUE NOVATO, CALIFORNIA, ORDER NUMBER: 0436023851, DATED AUGUST 5, 2019. NO OTHER ADJUSTMENTS HAVE BEEN MADE.

DECEMBER 29, 2020 UPDATE: ADDITIONAL SURVEY OF FLOWLINE AND TOP OF BANK.

FEBRUARY 3, 2021 UPDATE: TREE SURVEY.

PROFESSIONAL LAND SURVEYOR JONATHAN P. SHATTUCK PLS 8940 STATE OF CALIFORNIA

2/4/2021
JONATHAN P SHATTUCK PLS 8940

BKF
ENGINEERS / SURVEYORS / PLANNERS
4670 WILLOW RD, STE 250, PLEASANTON, CA 94588
(415) 930-7960 FAX: (415) 930-7979
www.bkf.com

SACRAMENTO AVENUE
APN 177-172-09, 10, 18 & 20
SACRAMENTO AVENUE SAN ANSELMO, MARIN COUNTY

TOPOGRAPHIC MAP

No.	Revisions
1	SURVEY OF CREEK - JANUARY 2021
2	SURVEY OF TREES - FEBRUARY 2021

Date: MAY 2016
Scale: AS SHOWN
Design: N/A
Drawn: DAC
Approved: JAK
Job No: 20149133

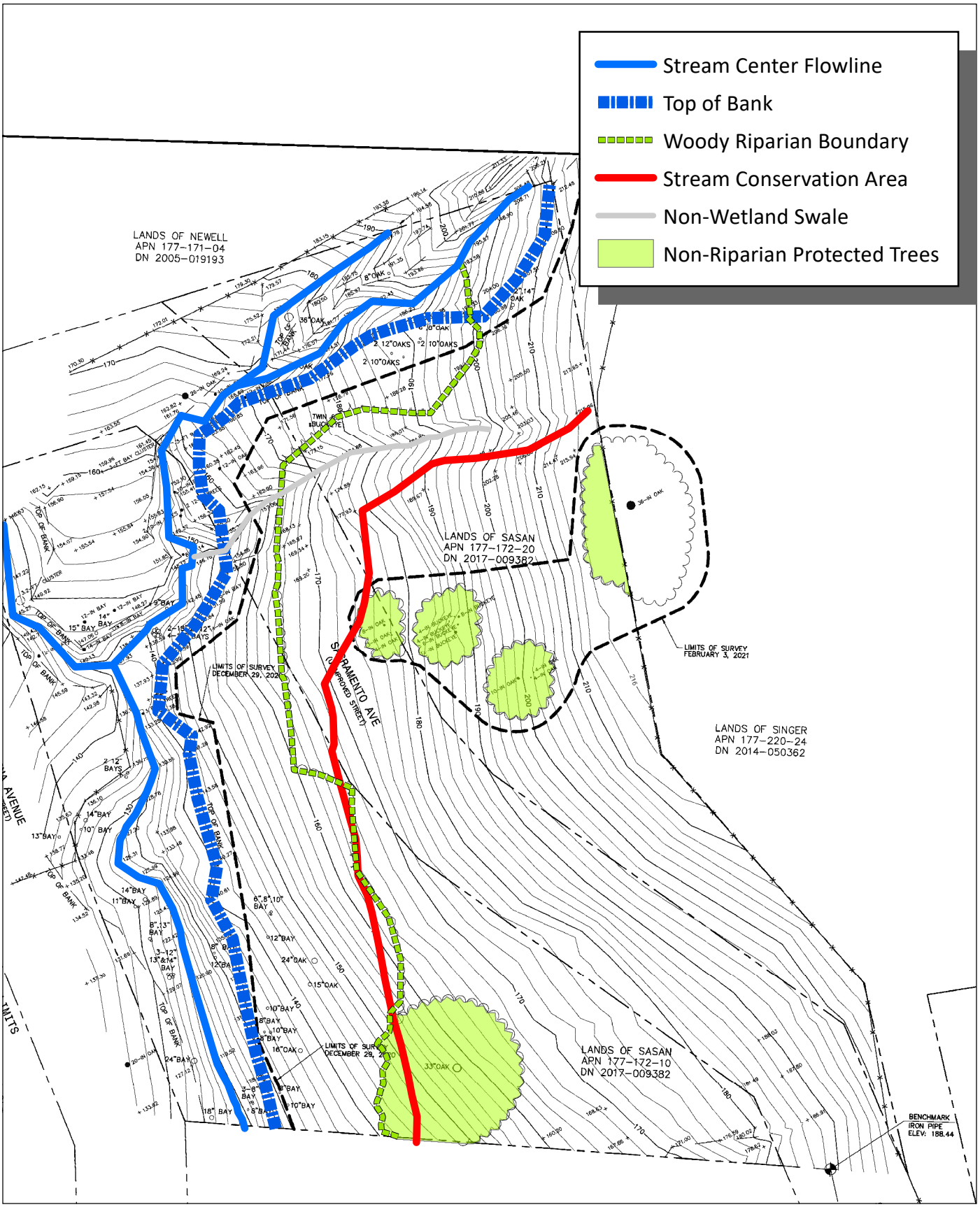
Drawing Number:

1 OF 1

Plot Feb 04, 2021 at 10:30am

149133_TOPO.dwg

Attachment B:
Biological Constraints Analysis Map



Source: BKF | Polsky Architects

FIRSTCARBON SOLUTIONS™

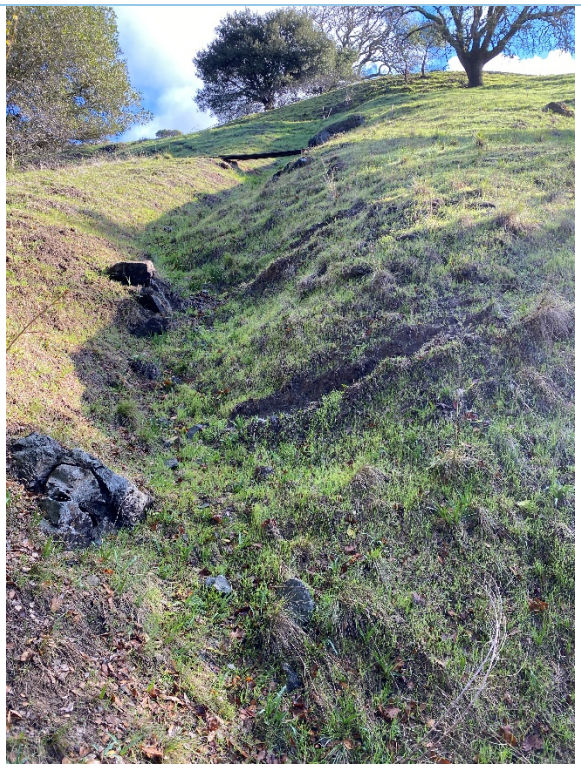
0 12.5 25 50 Feet

Exhibit 1
Biological Constraints
February 16, 2021

Attachment C:
Site Photographs

Photograph 1: Converging ephemeral stream channels on the northern boundary of the Project site, looking north

Photograph 2: Non-wetland swale looking west (downslope).



Photograph 3: Non-wetland swale looking east (upslope).

Photograph 4: Non-riparian oak partially overlapping with the SCA.

Photograph 5: Oregon oak located off site, looking north.