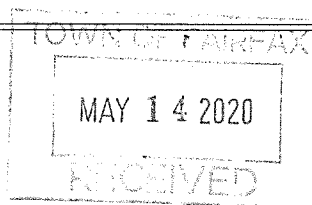


DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE & INVESTIGATIONS
1801 30th Street
SACRAMENTO, CA 95816
PHONE (916) 227-8631
FAX (916) 227-8357



*Making Conservation
a California Way of Life.*

April 23, 2020

Mr. Mark Lockaby
Public Works Manager
Town of Fairfax
142 Bolinas Road
Fairfax, CA 94930

Dear Mr. Lockaby:

In accordance with Title 23 of the Code of Federal Regulations (Federal Highway Act) and the National Bridge Inspection Standards (NBIS), Caltrans Structure Maintenance and Investigations performed an inspection of 1 bridge under your jurisdiction. The type of inspection is indicated on the bridge report transmittal sheet. The bridges have been rated to indicate their deficiencies, structural adequacy, safe load carrying capacity and overall general condition.

Enclosed are copies of the Bridge Inspection Reports for the structures noted on the attached transmittal sheet. These reports contain descriptions of physical changes to the structures since the last inspection, recommendations for work to be done, and additional information not recorded in the previous Bridge Reports.

Your attention is directed to the requirements of Title 23, Part 650 of the Code of Federal Regulations, where newly completed structures or any modification of existing structures shall be entered in the inventory within 90 days. Please notify this office of any newly constructed bridge or culvert within your jurisdiction, more than 20 feet measured along the center of the roadway and carrying public vehicular traffic or over a public roadway, in order that it may be entered in the inventory of bridge structures in compliance with Federal requirements.

Should you have any questions regarding the enclosed Bridge Inspection Report, please contact Andrew Corker @ (916) 227-9483.

Sincerely,

EROL C. KASLAN
Office Chief
Structure Maintenance & Investigations -
(Investigations-North)

Enclosures

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Bridge Report Transmittal Sheet**Batch** **57052****Town of Fairfax**

Bridge #	Bridge Name	Location	Inspection		Outstanding	
			Date	Type	Work	Cost
27C0008	SAN ANSELMO CREEK	0.1 MI SE OF CASCADE DR	10/22/2019	Other	Y	\$

1 Bridge(s) in this Transmittal

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WEB SITES:

The National Bridge Inspection Standards (NBIS) Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, Element Level Inspection, Structure Maintenance and Investigations Manuals, Local Assistance Program Guidelines and other related information are posted on Division of Maintenance, Structure Maintenance and Investigations; Division of Local Assistance, Local Highway Bridge Program (HBP) and FHWA websites.

The websites can be accessed at:

1. "Caltrans Structure Maintenance and Investigations" <http://www.dot.ca.gov/hq/structur/strmaint/>
2. "Caltrans Division of Local Assistance"
<http://www.dot.ca.gov/hq/LocalPrograms/hbrr99/hbrr99a.htm>
3. "FHWA" <http://www.fhwa.dot.gov/BRIDGE/mtguide.pdf>

Inspection Type Definitions**Routine Inspection:**

Routine Inspections consist of both the initial Inventory Inspection (the first inspection of the bridge that places it in the bridge inventory or when there has been a change in the configuration of the structure) and subsequent regularly scheduled inspections. The initial inspection provides all the Structural Inventory & Appraisal (SI&A) data required by federal and state regulations, determines the baseline structural conditions, lists any existing problems, and establishes the load capacity of the structure. Subsequent inspections consist of observations, measurements needed to determine the physical and functional condition of the bridge, to identify any changes from the previously recorded conditions, and verification of its load capacity. These inspections are generally conducted from the deck, ground and/or water level, and from permanent work platforms and walkways, if present. Inspection of underwater portions of the substructure is limited to observations during low-flow periods and/or probing for signs of undermining. Special equipment should be utilized in circumstances where its use provides the only practical access to areas of the structure.

Fracture Critical, Special Feature & Underwater Inspections:

Fracture Critical, Special Feature, and Underwater Inspections are up close, hands-on inspections of one or more members above or below the water level to identify any deficiencies not readily detectable using Routine Inspection procedures. These inspections generally require special equipment such as under-bridge inspection equipment, manlifts, boats, traffic control, and railroad flagging. Personnel with special skills such as divers or structural steel inspectors trained in non-destructive testing techniques may be required.

Other Inspections:

Other Inspections are conducted on damaged structures, structures that have developed specific problems, or structures suspected of developing problems. The scope of these investigations should be sufficient to determine the need for emergency load restrictions or closure of the structure, monitor a changing condition, and to assess the level of effort necessary to effect a repair.



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 27C0008
Facility Carried: MEADOW WAY
Location : 0.1 MI SE OF CASCADE DR
City : FAIRFAX
Inspection Date : 10/22/2019

Bridge Inspection Report

Inspection Type

Routine ☐ FC ☐ Underwater ☐ Special ☐ Other ☒

STRUCTURE NAME: SAN ANSELMO CREEK

CONSTRUCTION INFORMATION

Year Built : 1950 Skew (degrees): 0
Year Modified: N/A No. of Joints : 0
Length (m) : 21.3 No. of Hinges : 0

Structure Description: Six-span simply supported structure with timber girders (12) in Spans 1 through 4, and (4) steel girders in Spans 5 - 6, supported by timber columns (3) with timber bent caps and RC seat abutments without monolithic wingwalls. Founded on timber piles. Spans 1 and 6 are short cantilevered end spans; Spans 2 through 5 are simply supported.

Span Configuration : 1 @ 3.5 ft, 1 @ 11 ft, 2 @ 14 ft, 1 @ 23 ft, 1 @ 2 ft

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=0.41 =>13.3 metric tons Calculation Method: ALLOWABLE STRESS
Operating Rating: RF=0.57 =>18.5 metric tons Calculation Method: ALLOWABLE STRESS
Permit Rating : XXXXX
Posting Load : Type 3: 18 U.S. Tons Type 3S2: 28 U.S. Tons Type 3-3: 35 U.S. Tons

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.68 ft br, 10.1 ft, 0.5 ft wg, 2.5 ft sw, 0.62 ft br
Total Width: 4.3 m Net Width: 3.0 m No. of Lanes: 1 Speed: 5 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 1.0 inches
Rail Code: 0000

DESCRIPTION UNDER STRUCTURE

Channel Description: Deep trapezoidal channel with steep slopes moderately vegetated with brush and trees. The channel bottom material consists of gravel and cobbles 1 inch to 6 inches (nominal). The slope between Pier 4 and Abutment 5 is protected with a concrete retention wall. The structure is on a leftward bend of the waterway.

NOTICE

The bridge inspection condition assessment used for this inspection is based on the American Association of State Highway and Transportation Officials (AASHTO) Bridge Element Inspection Manual 2013 as defined in Moving Ahead for Progress in the 21st Century (MAP-21) federal law. The new element inspection methodology may result in changes to related condition and appraisal ratings on the bridge without significant physical changes at the bridge.

The element condition information contained in this report represents the current condition of the bridge based on the most recent routine and special inspections. Some of the notes presented below may be from an inspection that occurred prior to the date noted in this report. Refer to the Scope and Access section of this inspection report for a description of which portions of the bridge were inspected on this date.

INSPECTION COMMENTARY

SCOPE AND ACCESS

An in-depth field investigation of the timber deck soffit and timber girder elements was performed on 10/11/2019 and 10/22/2019. Access to areas were via rope access

INSPECTION COMMENTARY

techniques. Performing the inspection were Area Bridge Maintenance Engineers Mark Efe, Rachel Donovan, Roman Granados, and Edward Thometz. Use of an awl secured to a telescoping pole was utilized to investigate the integrity of the timber elements. See Photos 1 and 2.

NOTE: The conditions and descriptions of the elements not inspected, have been carried over from the previous inspection.

SAFE LOAD CAPACITY

A Load Rating Summary Sheet dated 07/02/2013 is on file for this structure. While this report does not include a check of that analysis, it does verify that the structural conditions observed during this inspection are consistent with those assumed in that analysis. The current rating is based on VIRTIS 6.3.1 calculations dated 6/21/2012.

Load capacity calculations dated 6/21/2012 indicate the safe load-carrying capacity of this structure to be:

18 TONS PER VEHICLE
28 TONS PER SEMI-TRAILER COMBINATION
35 TONS PER TRUCK AND FULL TRAILER

The capacity is controlled by the Span 3 and 4 interior timber girders in bending. This was calculated using an allowable bending stress of 1600 psi (Operating) and no overlay. No permit loads are allowed.

The deck is in poor condition, and a request for the Load Ratings Branch to review the safe load capacity was made under Work Request number 8656.

OPERATIONAL SIGNS

There are load posting signs at both approaches that indicate the following posting:

WEIGHT LIMIT
18 TONS PER VEHICLE
28 TONS PER SEMI-TRAILER COMBINATION
35 TONS PER TRUCK AND FULL TRAILER
BRIDGE 5 MPH

EXISTING POSTING

This structure is posted by written Order Establishing Load Limits, issued by the California Director of Transportation, dated February 15, 2017, for the following load limits:

18 TONS PER VEHICLE
28 TONS PER SEMI-TRAILER COMBINATION
35 TONS PER TRUCK AND FULL TRAILER

RECOMMENDED POSTING

Retain the existing posting.

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Element Description	Env	Total Qty	Units	Qty in each State	St. 1	St. 2	St. 3	St. 4
31		Deck-Timber	2	92	sq.m	53	30	9	0	
1140		Decay/Section Loss (Timber)	2	9		0	0	9	0	
1150		Check/Shake (Timber)	2	30		0	30	0	0	
513		Deck Wearing Surface-Timber	2	30	sq.m	0	30	0	0	
1140		Decay/Section Loss (Timber)	2	30		0	30	0	0	

(31)

10/22/2019: In-Depth Inspection: The timber deck soffit has no significant decay.

Previous routine inspection:

Some areas of the timber decking that have sustained section loss have been patched with putty. Refer to Photo 1 from the 09/07/2018 bridge inspection report.

(31-1140)

The ends and edges of the timber decking exhibit section loss. Areas ranging from 20 feet in length and 1 to 1.5 feet in width are affected. Approximately 10% of the deck is affected. Refer to Photos 2-4 from the 09/07/2018 bridge inspection report.

(31-1150)

The timber deck planks typically exhibit minor checking consistent with their ages over approximately 30% of the total deck area. Based upon a comparison with Photo 3 from the 09/22/2010 routine inspection, this condition has not changed.

(31-513-1140)

The timber running planks typically exhibit 0.25 to 0.5 inches of section loss from tire abrasion on the top surface. Additionally, approximately 30% of the planks exhibit longitudinal checking up to 0.5 inches wide. Based upon field comparison with the archived report photographs, no significant changes are noted over the previous inspection interval.

107		Girder/Beam-Steel	2	29	m	0	29	0	0	
1000		Corrosion	2	29		0	29	0	0	

(107-1000)

All steel girders exhibit widespread surface corrosion with no measurable section loss. Based on a comparison with Photo 4 from the 09/22/2010 routine inspection report, no significant changes are noted.

111		Girder/Beam-Timber	2	190	m	190	0	0	0	
-----	--	--------------------	---	-----	---	-----	---	---	---	--

(111)

10/22/2019: In-Depth Inspection: The timber girders have no significant decay.

Previous routine inspection:

There were no significant defects noted.

206		Column-Timber	2	12	each	11	0	1	0	
1170		Split/Delamination (Timber)	2	1		0	0	1	0	

(206-1170)

There are splits in the timber column at Column 3 of Pier 3. The splits are about 2 feet long by 2 inches deep around the perimeter. Although steel banding has been installed as a repair, this measure is temporary in nature and does not improve the condition state of the element.

215		Abutment-RC	2	9	m	9	0	0	0	
-----	--	-------------	---	---	---	---	---	---	---	--

(215)

There were no significant defects noted. This element pertains to the RC backwall of Abutment 5.

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Element Description	Env	Total Qty	Units	Qty in each Condition State			
						St. 1	St. 2	St. 3	St. 4
228		Pile-Timber	2	1	ea.	1	0	0	0
(228) The pile element is included to indicate the presence of piles on this structure. The piles were not exposed for visual inspection. No indication of pile distress was noted in any substructure element.									
235		Pier Cap-Timber	2	27	m	5	18	4	0
1140		Decay/Section Loss (Timber)	2	4		0	0	4	0
1150		Check/Shake (Timber)	2	18		0	18	0	0
(235-1140) Bent Cap 5 exhibits a vertical split along its full length and has crushed approximately 1 inch vertically over Column 1. The interior of the cap exhibits decay (primarily along the vertical split) which affects approximately 50% of the cross section of the cap. An auxiliary timber bent has been constructed adjacent to Bent 5 with columns and bent cap longitudinally connected to the original bent. This auxiliary bent was constructed of built-up timber members and utilizes light-weight connection hardware typically used for wood frame building construction. This repair is considered a "temporary repair" and thus does not upgrade the condition state for the bent cap. Based upon a comparison to Photo 3 from the 09/28/2016 routine inspection report, this condition has not changed.									
(235-1150) Bent Caps 2, 3 and 4 each exhibit full-length checks Bent Cap 4 has a full-length horizontal check up to 0.25 inches wide and with up to 2 inches of penetration. Based upon a comparison with Photo 6 from the 09/22/2010 routine inspection report, no significant changes are noted since it was initially reported on 8/10/1999. There is a vertical split in Bent Cap 2, which extends from the left end to half length of the bent cap. Based on a comparison to Photo 7 from the 09/22/2010 report, this condition has not changed.									
256		Slope Protection	2	1	ea.	0	0	1	0
6000		Scour	2	1		0	0	1	0
(256-6000) The Abutment 5 concrete slope protection is undermined approximately 12 linear feet, up to 1.5 feet vertically with up to 3.5 feet of penetration. Based upon a comparison to Photo 6 from the 09/28/2016 routine inspection report, this condition has not changed.									
332		Railing-Timber	2	42	m	42	0	0	0
(332) There were no significant defects noted.									

WORK RECOMMENDATIONS

RecDate: 09/07/2018
 Action : Deck-Replace
 Work By: LOCAL AGENCY
 Status : PROPOSED

EstCost:
 StrTarget: 2 YEARS
 DistTarget:
 EA:

Replace the timber deck.

RecDate: 09/07/2018
 Action : Bridge-Misc
 Work By: LOCAL AGENCY
 Status : PROPOSED


EstCost:
 StrTarget: 1 YEAR
 DistTarget:
 EA:

Remove the BRIDGE 5 MPH signs at the approaches.

WORK RECOMMENDATIONS

RecDate: 07/16/2015	EstCost:	Replace timber bent cap at Pier 5 and
Action : Sub-Misc.	StrTarget: 6 MONTHS	Column 3 of Pier 3.
Work By: LOCAL AGENCY	DistTarget:	
Status : PROPOSED	EA:	

Team Leader : Edward Thometz
Report Author : Edward Thometz
Inspected By : E.Thometz/MJ.Efe



Edward Thometz (Registered Civil Engineer) 4/16/2020
(Date)



STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME- CALIFORNIA 069
 (8) STRUCTURE NUMBER 27C0008
 (5) INVENTORY ROUTE(ON/UNDER)- ON 150000000
 (2) HIGHWAY AGENCY DISTRICT 04
 (3) COUNTY CODE 041 (4) PLACE CODE 23168
 (6) FEATURE INTERSECTED- SAN ANSELMO CREEK
 (7) FACILITY CARRIED- MEADOW WAY
 (9) LOCATION- 0.1 MI SE OF CASCADE DR
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 37 DEG 58 MIN 33.58 SEC
 (17) LONGITUDE 122 DEG 36 MIN 00.49 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

***** STRUCTURE TYPE AND MATERIAL *****

(43) STRUCTURE TYPE MAIN:MATERIAL- STEEL
 TYPE- STRINGER/MULTI-BEAM OR GDR CODE 302
 (44) STRUCTURE TYPE APPR:MATERIAL- WOOD OR TIMBER
 TYPE- STRINGER/MULTI-BEAM OR GDR CODE 702
 (45) NUMBER OF SPANS IN MAIN UNIT 2
 (46) NUMBER OF APPROACH SPANS 4
 (107) DECK STRUCTURE TYPE- TIMBER CODE 8
 (108) WEARING SURFACE / PROTECTIVE SYSTEM:
 A) TYPE OF WEARING SURFACE- TIMBER CODE 7
 B) TYPE OF MEMBRANE- NONE CODE 0
 C) TYPE OF DECK PROTECTION- NONE CODE 0

***** AGE AND SERVICE *****

(27) YEAR BUILT 1950
 (106) YEAR RECONSTRUCTED 0000
 (42) TYPE OF SERVICE: ON- HIGHWAY 1
 UNDER- WATERWAY 5
 (28) LANES:ON STRUCTURE 01 UNDER STRUCTURE 00
 (29) AVERAGE DAILY TRAFFIC 55
 (30) YEAR OF ADT 1981 (109) TRUCK ADT 0 %
 (19) BYPASS, DETOUR LENGTH 199 KM

***** GEOMETRIC DATA *****

(48) LENGTH OF MAXIMUM SPAN 7.0 M
 (49) STRUCTURE LENGTH 21.3 M
 (50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.8 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 3.0 M
 (52) DECK WIDTH OUT TO OUT 4.3 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 5.5 M
 (33) BRIDGE MEDIAN- NO MEDIAN 0
 (34) SKEW 0 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 3.0 M
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
 (54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M
 (55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M
 (56) MIN LAT UNDERCLEAR LT 0.0 M

***** NAVIGATION DATA *****

(38) NAVIGATION CONTROL- NO CONTROL CODE 0
 (111) PIER PROTECTION- CODE
 (39) NAVIGATION VERTICAL CLEARANCE 0.0 M
 (116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
 (40) NAVIGATION HORIZONTAL CLEARANCE 0.0 M

***** SUFFICIENCY RATING *****

SUFFICIENCY RATING = 33.7

PAINT CONDITION INDEX = N/A

***** CLASSIFICATION ***** CODE

(112) NBIS BRIDGE LENGTH- YES Y
 (104) HIGHWAY SYSTEM- NOT ON NHS 0
 (26) FUNCTIONAL CLASS- LOCAL URBAN 19
 (100) DEFENSE HIGHWAY- NOT STRAHNET 0
 (101) PARALLEL STRUCTURE- NONE EXISTS N
 (102) DIRECTION OF TRAFFIC- 1 LANE, 2 WAY 3
 (103) TEMPORARY STRUCTURE-
 (105) FED.LANDS HWY- NOT APPLICABLE 0
 (110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
 (20) TOLL- ON FREE ROAD 3
 (21) MAINTAIN- CITY OR MUNICIPAL HIGHWAY AGENCY 04
 (22) OWNER- CITY OR MUNICIPAL HIGHWAY AGENCY 04
 (37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

***** CONDITION ***** CODE

(58) DECK 4
 (59) SUPERSTRUCTURE 7
 (60) SUBSTRUCTURE 5
 (61) CHANNEL & CHANNEL PROTECTION 4
 (62) CULVERTS N

***** LOAD RATING AND POSTING ***** CODE

(31) DESIGN LOAD- UNKNOWN 0
 (63) OPERATING RATING METHOD- ALLOWABLE STRESS 2
 (64) OPERATING RATING- 18.5
 (65) INVENTORY RATING METHOD- ALLOWABLE STRESS 2
 (66) INVENTORY RATING- 13.3
 (70) BRIDGE POSTING- 30.0 - 39.9% BELOW 1
 (41) STRUCTURE OPEN, POSTED OR CLOSED- P
 DESCRIPTION- POSTED FOR LOAD

***** APPRAISAL ***** CODE

(67) STRUCTURAL EVALUATION 4
 (68) DECK GEOMETRY 2
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 5
 (72) APPROACH ROADWAY ALIGNMENT 4
 (36) TRAFFIC SAFETY FEATURES 0000
 (113) SCOUR CRITICAL BRIDGES U

***** PROPOSED IMPROVEMENTS *****

(75) TYPE OF WORK- CODE
 (76) LENGTH OF STRUCTURE IMPROVEMENT M
 (94) BRIDGE IMPROVEMENT COST
 (95) ROADWAY IMPROVEMENT COST
 (96) TOTAL PROJECT COST
 (97) YEAR OF IMPROVEMENT COST ESTIMATE
 (114) FUTURE ADT 109
 (115) YEAR OF FUTURE ADT 2040

***** INSPECTIONS *****

(90) INSPECTION DATE 09/18 (91) FREQUENCY 24 MO
 (92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
 A) FRACTURE CRIT DETAIL- NO MO A)
 B) UNDERWATER INSP- NO MO B)
 C) OTHER SPECIAL INSP- NO MO C)

SAN ANSELMO CREEK

0.1 MI SE OF CASCADE DR

10/22/2019 [AAAP]

27C0008

105 - PHOTO> Deck-Misc



Photo No. 1

Tubular webbing wrapped over deck planks for aid climbing.

133 - PHOTO> Unclassified

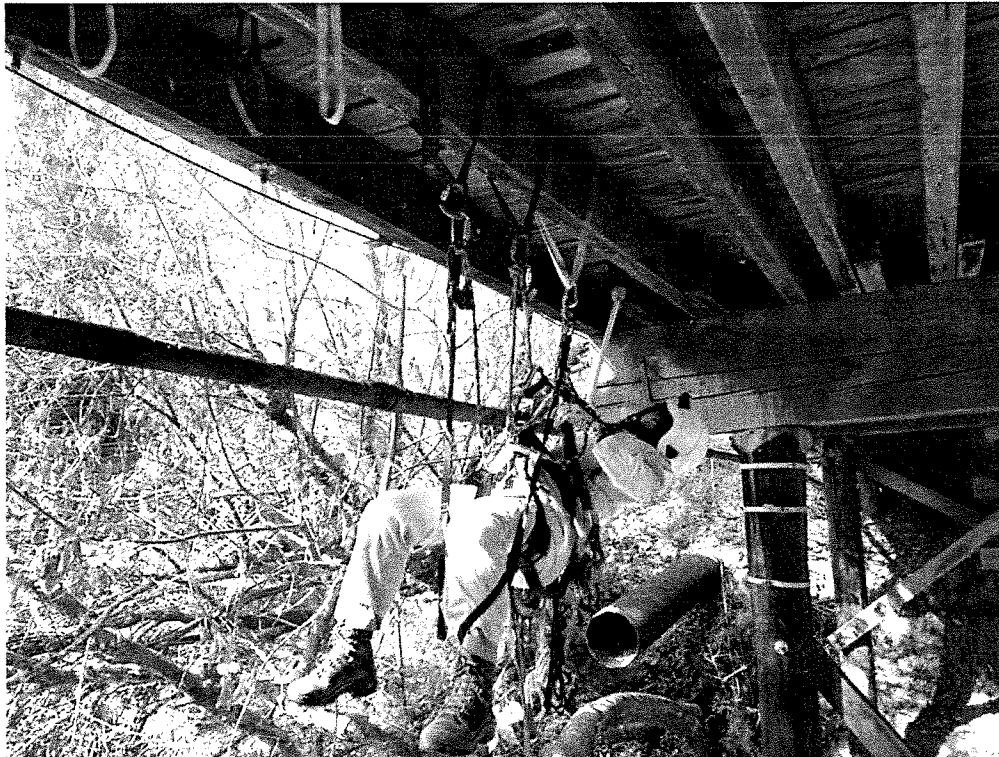


Photo No. 2

Climber using horizontal aid technique and awl on telescoping pole to assess timber.