STATE OF CALIFORNIA - CALIFORNIA STATE TRANSPORTATION AGENCY

DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE & INVESTIGATIONS
100 South Main Street, 3rd Floor
LOS ANGELES, CA 90012
PHONE (213) 897-2004
FAX (213) 897-2033

GAVIN NEWSOM, Governor

Making Conservation a California Way of Life.

July 24, 2019

Mr. Marwan Youssef
Director Of Public Works/City Engineer
City of Westminster
8200 Westminster Blvd
Westminster, CA 92683

Dear Mr. Youssef:

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 6 bridges 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 Reports, please contact Bing Wu @ (213) 897-0874.

Sincerely,

CHING CHAO
Office Chief
Structure Maintenance & Investigations - (Investigations-South)

Enclosures

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Bridge Report Transmittal Sheet

Batch 51287

City of Westminster

Bridge #	Bridge Name	Location	Inspection Date	Inspection Type	Outstanding Work	Cost
55C0093	EAST GARDEN GROVE-WINTRSBURG CHANNEL	AT MCFADDEN AVENUE	04/06/2019	Routine	N	$
55C0135	WESTMINSTER CHANNEL	0.1 MI S ROUTE 1-405	04/06/2019	Routine	Y	$
55C0424	EAST GARDEN GROVE-WINTRSBURG CHANNEL	0.25 MI N EDINGER AVE	04/06/2019	Routine	Y	$
55C0426	EAST GARDEN GROVE-WINTRSBURG CHANNEL	0.10 MI N MCFADDEN AVE	04/06/2019	Routine	Y	$
55C0427	EAST GARDEN GROVE-WINTERSBURG CHANNEL	AT EDINGER AVE	04/06/2019	Routine	N	$
55C0457	WESTMINSTER CHANNEL	100' N BOLSA AVE	04/06/2019	Routine	Y	$

6 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 : 55C0426
Facility Carried: WARD STREET
Location : 0.10 MI N MCFADDEN AVE
City : WESTMINSTER
Inspection Date : 04/06/2019

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: EAST GARDEN GROVE-WINTRSBURG CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1961
Year Modified: N/A
Length (m) : 7.9
Skew (degrees): 0
No. of Joints : 0
No. of Hinges : 0

Structure Description: Double (12.00 feet W x 9.50 feet H x 82.00 feet L) RC box culvert (grade top) beneath about 1.00 foot of earth fill.

Span Configuration : (S) 2 @ 12.00 feet (N).

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=0.75 =>24.3 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Operating Rating: RF=1.25 =>40.5 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Permit Rating : PPPPP
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 0.8 feet cu, 8.00 feet sw, 63.7 feet, 8.00 feet sw, 0.80 feet cu (E).
Total Width: 23.0 m Net Width: 19.4 m No. of Lanes: 3 Speed: 35 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 3.0 inches
Rail Code: NNNN

DESCRIPTION UNDER STRUCTURE

Channel Description: Earth trapezoidal with rock slopes.

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
A complete routine inspection was performed by walking on and around the channel to inspect all visible elements of the structure. Culvert deck was inspected by walking on sidewalks. Soffit and all substructure were inspected by walking underneath the culvert boxes with rain boots due to water at 4.0 inches deep inside both of barrels with algea at the time of inspection.

There is no need for a special equipment to inspect this structure except rain boots if it is in raining season/

REVISIONS

INSPECTION COMMENTARY

NBI item 36 (Traffic Safety Features) was revised from 0000 to NNNN.

DECK AND ROADWAY
The westerly sidewalk has few cracks and one diagonal crack at south end; there two transverse cracks; and a longitudinal crack, all these cracks up to 0.10 inches wide.

There are random diagonal and transvese cracks up to 0.08 inches wide along the westerly sidewalk.

There are two locations of settlements at both ends of easterly sidewalk.

There is an area (4.0 feet L X 3.0 feet W of an AC pothole) at the middle of the culvert sidewalk that was repaired with AC but it failed again.

Asphalt overlay have cracks up to 0.06 inches wide with potholes scattering throughout the culvert surface.

Box wall #2 (southerly face) has a spall at (16.0 inches L X 24.0 inches w X 2.5 inches D) with exposed rusted rebars about 24.0 inches from the invert at the east end (see the attached photos no. 2 and 3).

The culvert soffit has several areas at (10.0 inches diameter with efflorescence) those have water leaking through both of barrels #1 and #2.

The following is the locations of culvert walls with cracks:
Culvert wall #1 (south) has three vertical cracks, up 0.04 inches wide; and a horizontal crack at the fillet area 20.0 feet long at each end, up to 0.02 inches wide.

Culvert wall #2 has nine vertical cracks, up 0.05 inches wide.

Culvert wall #3 (north) has four vertical cracks, up 0.04 inches wide; and two horizontal cracks 20.0 feet and 40.0 feet long at the east and the west ends respectively at the fillet area, up to 0.02 inches wide.

SAFE LOAD CAPACITY
A Load Rating Summary Sheet was archived on 10/18/2018 for this structure. The current rating has been assigned in accordance with SMI procedures for culverts. Based on the field conditions and load history, the culvert is adequate to carry legal loads.

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4
241			Culvert-RC	2	50	m	33	16	1	0
	1080		Delamination/Spall/Patched Area	2	1		0	0	1	0
	1120		Efflorescence/Rust Staining	2	1		0	1	0	0
	1130		Cracking (RC and Other)	2	15		0	15	0	0

(241)
It has spalls and cracks with efflorescence.

(241-1080)
Box wall #2 (southerly face) has a spall at (16.0 inches L X 24.0 inches w X 2.5 inches D) with exposed rusted rebars about 24.0 inches from the invert at the east end (see the attached photos no. 2 and 3).

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4

(241-1120)
The culvert soffit has several areas at (10.0 inches diameter with efflorescence) those have water leaking through both of barrels #1 and #2.

(241-1130)
The following is the locations of culvert walls with cracks:
Culvert wall #1 (south) has three vertical cracks, up 0.04 inches wide; and a horizontal crack at the fillet area 20.0 feet long at each end, up to 0.02 inches wide.

Culvert wall #2 has nine vertical cracks, up 0.05 inches wide.

Culvert wall #3 (north) has four vertical cracks, up 0.04 inches wide; and two horizontal cracks 20.0 feet and 40.0 feet long at the east and the west ends respectively at the fillet area, up to 0.02 inches wide.

WORK RECOMMENDATIONS

RecDate: 04/06/2019 Action : Deck-Resurface Work By: LOCAL AGENCY Status : PROPOSED	EstCost: StrTarget: 2 YEARS DistTarget: EA:		Repave the entire culvert deck surface with asphalt concrete.
RecDate: 04/20/2017 Action : Sub-Patch spalls Work By: LOCAL AGENCY Status : PROPOSED	EstCost: StrTarget: 2 YEARS DistTarget: EA:		Patch the spall (16.0 inches L X 24.0 inches W X 2.5 inches D) with exposed rusted rebars at culvert wall #2 (south face) about 24.0 inches from the invert at the east end (see the attached photos no. 2 and 3).

Team Leader : Edwin Mah

Report Author : Nelson N. Vo

Inspected By : NN.Vo/E.Mah

7/17/2019

Edwin Mah (Registered Civil Engineer) (Date)

STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER 55C0426
(5) INVENTORY ROUTE(ON/UNDER)- ON 150000000
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 84550
(6) FEATURE INTERSECTED- E GRDN GRVE WINTRBG CHAN
(7) FACILITY CARRIED- WARD STREET
(9) LOCATION- 0.10 MI N MCFADDEN AVE
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 33 DEG 44 MIN 20.69 SEC
(17) LONGITUDE 117 DEG 56 MIN 45.5 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
TYPE- CULVERT CODE 119
(44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
TYPE- OTHER/NA CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 2
(46) NUMBER OF APPROACH SPANS 0
(107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

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

(27) YEAR BUILT 1961
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 03 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 12500
(30) YEAR OF ADT 2019 (109) TRUCK ADT 1 %
(19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 3.7 M
(49) STRUCTURE LENGTH 7.9 M
(50) CURB OR SIDEWALK: LEFT 2.4 M RIGHT 1.3 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 19.4 M
(52) DECK WIDTH OUT TO OUT 23.0 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 19.4 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 19.4 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- NOT APPLICABLE CODE N
(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 = 91.2

PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- MINOR ARTERIAL URBAN 16
(100) DEFENSE HIGHWAY- NOT STRAHNET 0
(101) PARALLEL STRUCTURE- NONE EXISTS N
(102) DIRECTION OF TRAFFIC- 2 WAY 2
(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 N
(59) SUPERSTRUCTURE N
(60) SUBSTRUCTURE N
(61) CHANNEL & CHANNEL PROTECTION 8
(62) CULVERTS 6

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

(31) DESIGN LOAD- UNKNOWN 0
(63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
(64) OPERATING RATING- 40.5
(65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUD 0
(66) INVENTORY RATING- 24.3
(70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
(41) STRUCTURE OPEN, POSTED OR CLOSED- A
DESCRIPTION- OPEN, NO RESTRICTION

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

(67) STRUCTURAL EVALUATION 6
(68) DECK GEOMETRY 9
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 8
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES NNNN
(113) SCOUR CRITICAL BRIDGES 8

********** 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 8493
(115) YEAR OF FUTURE ADT 2037

********** INSPECTIONS **********

(90) INSPECTION DATE 04/19 (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)

55C0426 EAST GARDEN GROVE-WINTRSBURG CHANNEL 0.10 MI N MCFADDEN AVE 06/26/2011 [AAAF]
101 - PHOTO> Routine-Elevation View

Photo No. 1
Side View looking West.

55C0426 EAST GARDEN GROVE-WINTRSBURG CHANNEL 0.10 MI N MCFADDEN AVE
06/26/2011 [AAAF]
100 - PHOTO> Routine-Roadway View

Photo No. 1
Deck View looking North

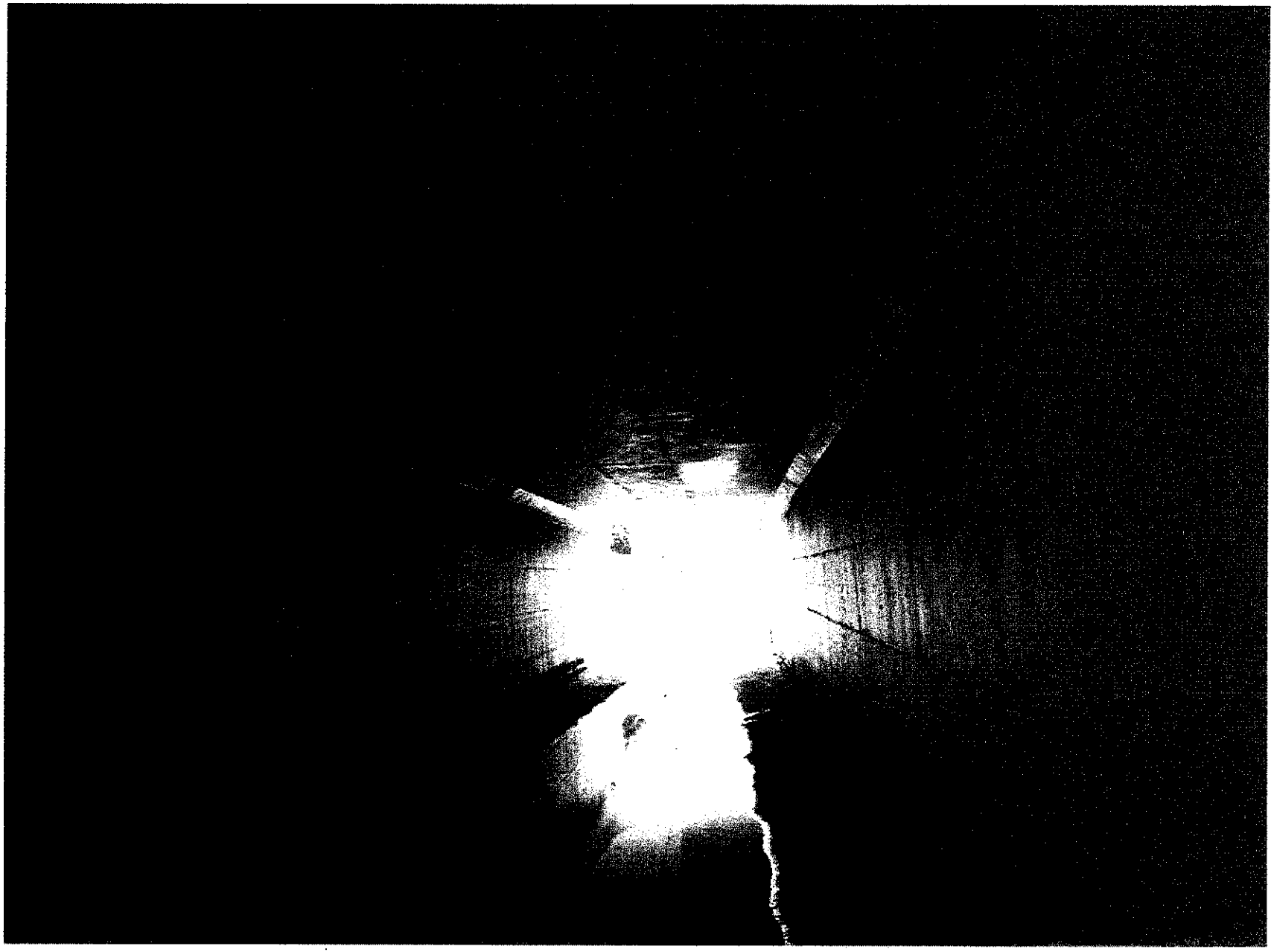

Photo No. 1
Underside (barrel 2) View looking East.

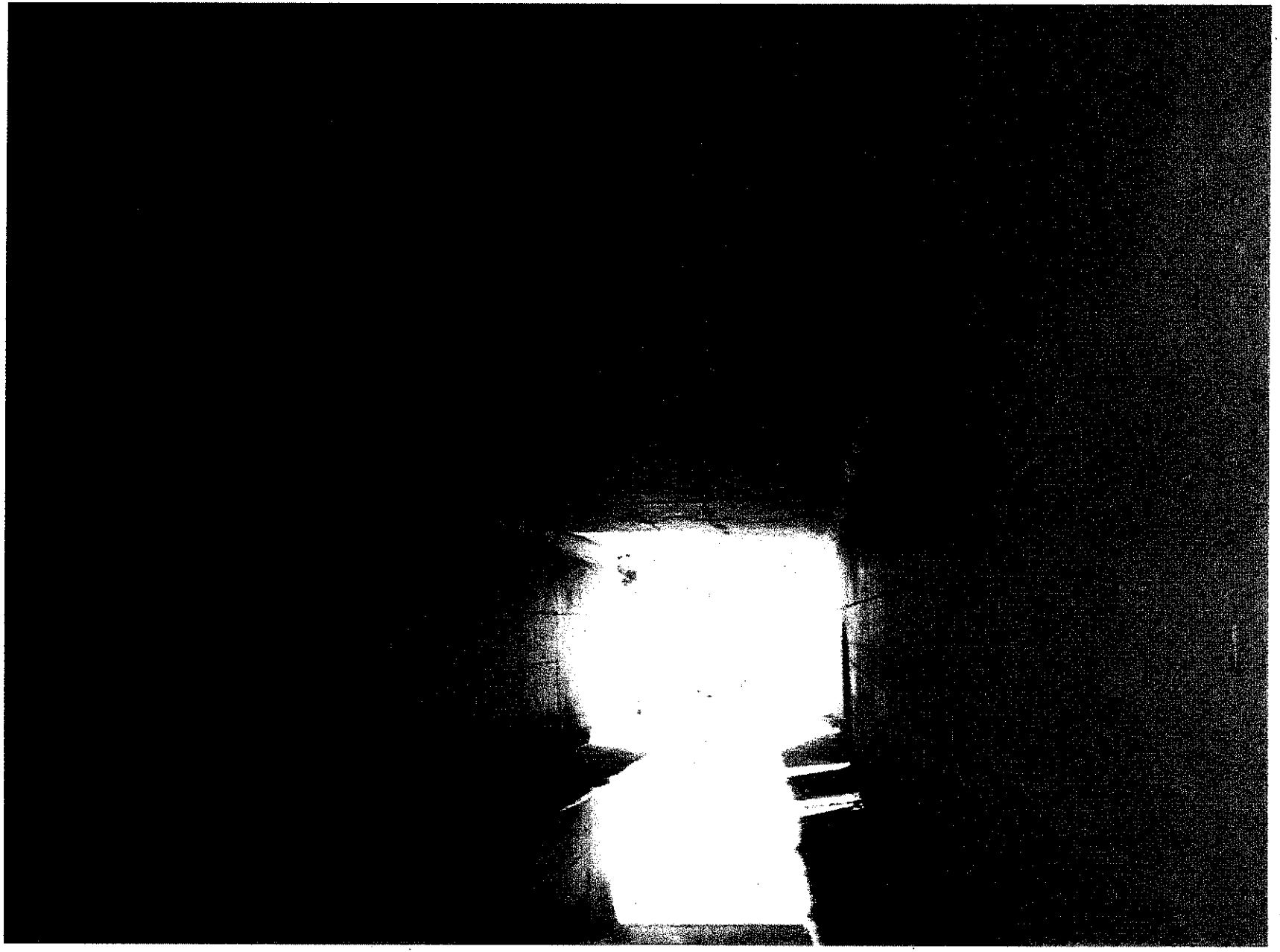

Photo No. 1
Underside (barrel 1) View looking East.

Photo No. 1
A spall at box wall 2 southerly face 20" X 24" X 2" at east end.

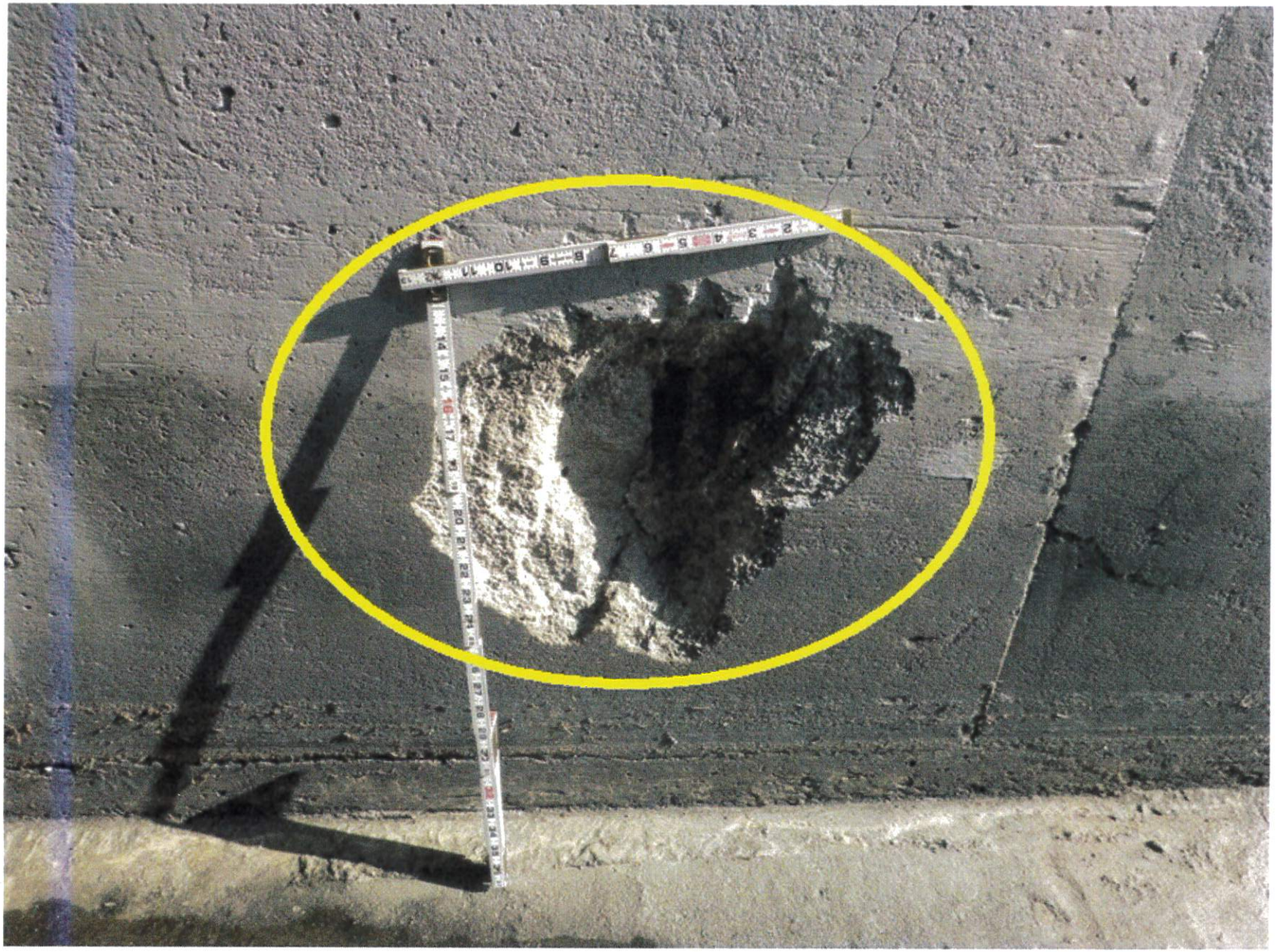

Photo No. 3
Spall at the east end of culvert wall 2.

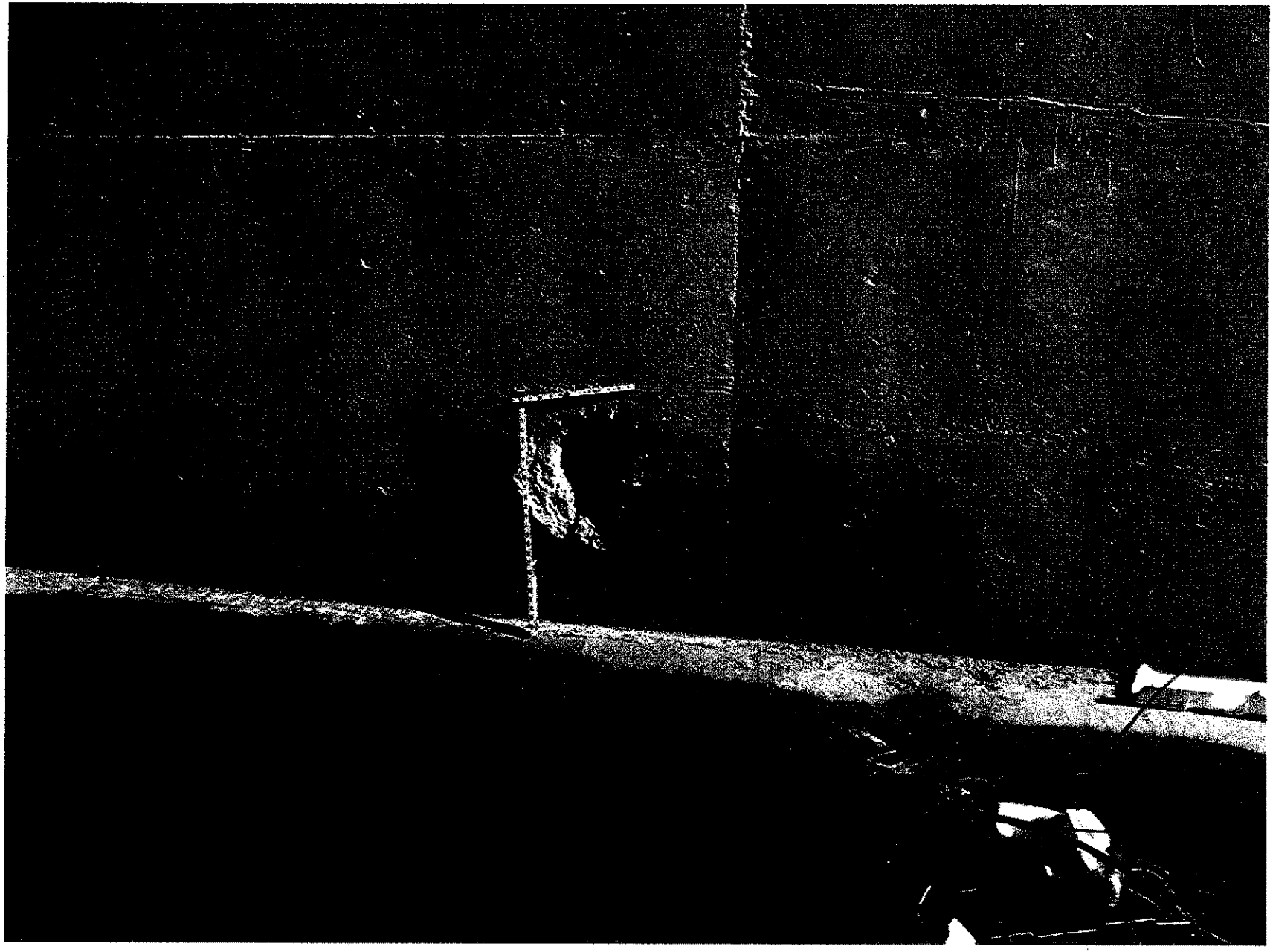

Photo No. 2
Spall at the east end of culvert wall 2.