
Bridge Inspection Records Information System

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State of California
Department of Transportation

**Division of Maintenance
Structures Maintenance & Investigations**



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0450
Facility Carried: IRVINE BLVD
Location : 0.5 MI W OF SAND CYN AVE
City :
Inspection Date : 24-JUL-01
Inspection Type
Routine ☒ Group A ☐ Underwater ☐ Special ☐ Other ☐

Bridge Inspection Report

Name : CENTRAL IRVINE CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1985
Year Widened : N/A
Length (m) : 11.9
Skew (degrees): 0
No. of Joints : 0
No. of Hinges : 0

Description of Structure : Single span CIP/RC deck slab with RC open end diaphragm abutments, all supported upon concrete piles.

Span Configuration : (W) 1 @ 11.0 m (E) c/c

LOAD CAPACITY AND RATINGS

Design Live Load : MS - 18 + MOD OR HS - 20 + MOD
Inventory Rating : 32.6 metric tons
Operating Rating : 53.5 metric tons
Permit Rating : PPPPP
Posting Load : Type 3 N/A english tons Type 3S2 N/A english tons Type 3-3 N/A english tons
Calculation Method : LOAD FACTOR
Calculation Method : LOAD FACTOR

DESCRIPTION ON STRUCTURE

Bridge width : (S) 0.2 m br, 9.9 m, 6.1 m cu med, 9.9 m, 0.2 m br (N)

Total Width : 26.2 m Net Width : 19.80 m

Rail Description : Type 117 (Metal) Railing

Min. Vertical Clearance : Unimpaired

No. of Lanes : 4

Rail Code : 1110

DESCRIPTION UNDER STRUCTURE

Channel Description : Natural earth trapezoidal with rock slopes at the site.

REVISIONS

(Rail Ratings): (New): 1110, (Old): 1111. The termini of the barrier approach guard railings are not to current standards.

CONDITION OF STRUCTURE

The structure is in good condition

ELEMENT LEVEL INSPECTION RATINGS

F#	Elem	Element Description	Env	Total Units Quantity	Qty in each Condition State				
					St. 1	St. 2	St. 3	St. 4	St. 5
01 38		Concrete Slab - Bare	2	210 sq.m.	210	0	0	0	0
01 215		Reinforced Conc Abutment	2	52 m.	52	0	0	0	0
01 227		Reinforced Conc Submerged Pile	2	22 ea.	22	0	0	0	0
01 256		Slope Protection	2	2 ea.	2	0	0	0	0
01 338		Metal Railing (W8X31 Posts)	2	40 m.	40	0	0	0	0

WORK RECOMMENDATIONS - NONE

Bridge No.: 55C0450

Location: 0.5 MI W OF SAND CYN AVE

Inspection Date: 24-JUL-01

Inspected By : M. Ogata

M. Ogata
Registered Civil Engineer



CC : TMRut
Orange County

Bridge No.: 55C0450

Location: 0.5 MI W OF SAND CYN AVE

Inspection Date: 24-JUL-01

STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME - CALIFORNIA 069
 (8) STRUCTURE NUMBER 55C0450
 (5) INVENTORY ROUTE(ON/UNDER) - ON 140 CM023N
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 00000
 (6) FEATURE INTERSECTED - CENTRAL IRVINE CHANNEL
 (7) FACILITY CARRIED - IRVINE BLVD
 (9) LOCATION - 0.5 MI W OF SAND CYN AVE
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK - NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 33 DEG 42 MIN 10 SEC
 (17) LONGITUDE 117 DEG 44 MIN 38 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN: MATERIAL - CONCRETE
 TYPE - SLAB CODE 1 01
 (44) STRUCTURE TYPE APPR: MATERIAL -
 TYPE - CODE
 (45) NUMBER OF SPANS IN MAIN UNIT 1
 (46) NUMBER OF APPROACH SPANS 0
 (107) DECK STRUCTURE TYPE CIP CONCRETE CODE 1
 (108) WEARING SURFACE / PROTECTIVE SYSTEM:
 A) TYPE OF WEARING SURFACE - CONCRETE CODE 1
 B) TYPE OF MEMBRANE - NONE CODE 0
 C) TYPE OF DECK PROTECTION - NONE CODE 0

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

(27) YEAR BUILT 1985
 (106) YEAR RECONSTRUCTED 0000
 (42) TYPE OF SERVICE: ON - HIGHWAY-PEDESTRIAN 5
 UNDER - WATERWAY 5
 (28) LANES: ON STRUCTURE 04 UNDER STRUCTURE
 (29) AVERAGE DAILY TRAFFIC 18000
 (30) YEAR OF ADT 1999 (109) TRUCK ADT 3%
 (19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 11 M
 (49) STRUCTURE LENGTH 11.9 M
 (50) CURB OR SIDEWALK: LEFT 0 M RIGHT 0 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 19.8 M
 (52) DECK WIDTH OUT TO OUT 26.2 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 19.8 M
 (33) BRIDGE MEDIAN - CLOSED (NO BARRIER) 2
 (34) SKEW 0 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 19.8 M
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
 (54) MIN VERT UNDERCLEAR REF - NOT H/RR 0 M
 (55) MIN LAT UNDERCLEAR RT REF - NOT H/RR 0 M
 (56) MIN LAT UNDERCLEAR LT 0 M

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

(38) NAVIGATION CONTROL - NOT APPLICABLE CODE N
 (111) PIER PROTECTION - NOT REQUIRED CODE 1
 (39) NAVIGATION VERTICAL CLEARANCE 0 M
 (116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR 0 M
 (40) NAVIGATION HORIZONTAL CLEARANCE 0

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

SUFFICIENCY RATING = 98.3

STATUS =

HEALTH INDEX = 100

***** CLASSIFICATION *****

(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) FEDERAL LANDS HIGHWAY - NOT APPLICABLE 0
 (110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
 (20) TOLL - ON FREE ROAD 3
 (21) MAINTAIN - COUNTY HIGHWAY AGENCY 2
 (22) OWNER - COUNTY HIGHWAY AGENCY 2
 (37) HISTORICAL SIGNIFICANCE - NOT ELIGIBLE 5

***** CONDITION *****

(58) DECK 7
 (59) SUPERSTRUCTURE 7
 (60) SUBSTRUCTURE 7
 (61) CHANNEL & CHANNEL PROTECTION 8
 (62) CULVERTS N

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

(31) DESIGN LOAD - MS - 18 + MOD OR HS - 20 + MOD 6
 (63) OPERATING RATING METHOD - LOAD FACTOR 1
 (64) OPERATING RATING - 53.5
 (65) INVENTORY RATING METHOD - LOAD FACTOR 1
 (66) INVENTORY RATING - 32.6
 (70) BRIDGE POSTING - Equal to or above legal loads 5
 (41) STRUCTURE OPEN, POSTED OR CLOSED - A
 DESCRIPTION - OPEN, NO RESTRICTION

***** APPRAISAL *****

(67) STRUCTURAL EVALUATION 7
 (68) DECK GEOMETRY 7
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 9
 (72) APPROACH ROADWAY ALIGNMENT 8
 (36) TRAFFIC SAFETY FEATURES 1110
 (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 36000
 (115) YEAR OF FUTURE ADT 2019

***** INSPECTIONS *****

(90) INSPECTION DATE 07/01 (91) FREQUENCY 24 MO
 (92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
 A) FRACTURE CRIT DETAIL - NO -1 MO A)
 B) UNDERWATER INSP - NO -1 MO B)
 C) OTHER SPECIAL INSP - NO -1 MO C)

INFORMATION ONLY - NOT FOR UPDATE

SCOUR CRITICAL	NO
CATEGORY A	NO
FRACTURE CRITICAL	NO
ELIGIBLE FOR RAIL UPGRADE	NO
UNDERWATER INSPECTION	NO

DISTRICT	12
COUNTY	ORA
ROUTE	
POSTMILE	
NAME	

08/02/95

BY:

Bridge Number 55C-450

TYPE OF INVESTIGATION/REPORT

BIENNIAL X DAMAGE
CATEGORY A OTHER
UNDERWATER OFFICE

Location 12 - Ora - FAU M023-CR
Dist.-Co.-Rte.-City

Date of Investigation July 19, 1995

Name CENTRAL IRVINE CHANNEL (Irvine Boulevard, 0.5 mile west of Sand Canyon Avenue)

CONDITION RATINGS:

Condition ratings of all bridge elements are shown on the PONTIS DATA FORM (Attachment A).

Channel & Channel Protection

8

SCOUR CRITICAL:

A scour rating of A3 is appropriate.

CONDITION OF STRUCTURE:

Bottom of creek is littered with rocks and debris that hinders waterflow.

Southeast corner of the metal railing has broken off due to traffic impact.

There is light longitudinal cracking in deck.

Condition of structure is good.

WORK RECOMMENDED:

Repair metal railing.

ENCROACHMENT:

One 0.30 m diameter steel pipe suspended in soffit approximately 2.5 meters from north edge of deck.

By M. Hadi Behrooj
G. P. Balinghasay



GPB:ms
cc: CDHarris
Orange County
WLindsey

Bridge No. 55C-450

Name CENTRAL IRVINE CHANNEL (Irvine Boulevard, 0.5 mile west of Sand Canyon Avenue) Location 12-Ora-FAU M023-CR Dist.-Co.-Rte.-City

SUMMARY OF ENCROACHMENTS

Permit No. and Permittee	Date	Description & Location on Bridge
	Prior to 7-19-95	One 0.30 m diameter steel pipe suspended in soffit approximately 2.5 meters from north edge of deck.

HBD M 30

SUPPLEMENTARY BRIDGE REPORT
DS-M19 (REV. 8/92)

Bridge Number 55C-450

Location 12 - Ora - FAU M023-CR
Dist.-Co.-Rte.-City

Date of Investigation April 15, 1993

TYPE OF INVESTIGATION/REPORT

BIENNIAL	<u>X</u>	DAMAGE	___
CATEGORY A	___	OTHER	___
UNDERWATER	___	OFFICE	___

Name CENTRAL IRVINE CHANNEL (Irvine Boulevard, 0.5 mile west of Sand Canyon Avenue)

CONDITION RATINGS:

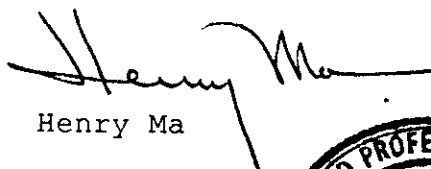
Condition ratings of all bridge elements are shown on the PONTIS DATA FORM (Attachment A).

Channel & Channel Protection

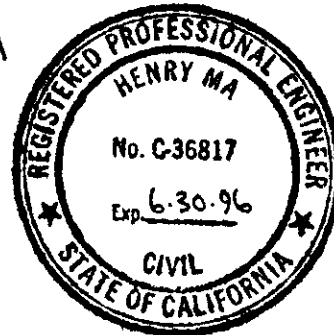
8

CONDITION OF STRUCTURE:

Condition of the structure is good.


Henry Ma

HM:cd
cc: INagai (2)
County of Orange



INFORMATION ONLY - NOT FOR UPDATE

BRIDGE NUMBER	FRAME	INSPECTION DATE
55C0450	01	041593
1	9	11
8		16

SCOUR CRITICAL	NO
CATEGORY A	NO
FRACTURE CRITICAL	NO
ELIGIBLE FOR RAIL UPGRADE	NO
UNDERWATER INSPECTION	NO

DISTRICT	12
COUNTY	ORA
ROUTE	***
POSTMILE	*****
NAME	

[illegible]

H. MA

BY :

BRIDGE REPORT

DS-MSB (REV. 1/91)

14W13

Bridge No. 55C - 450

Location 12 - Ora - FAU M023-CR
Dist Co Rte City

REVISED ORIGINAL REPORT

Date of Investigation April 19, 1991

Name CENTRAL IRVINE CHANNEL (Irvine Boulevard, 0.5 mile west
of Sand Canyon Avenue)

Lat. 33° - 42.1'W Long. 117° - 44.6'W

Custodian County of Orange Owner County of Orange

STRUCTURAL DATA AND HISTORY

Year Built 1985 By County of Orange Contract No. Unknown

Designed by: UMA/RGB Engineering, Inc. Plans Avail. @DOS

Description: Single span CIP RC slab supported by open end RC diaphragm
abutments on concrete piles.

Spans (W) 36' (E)

Length 39' NBIS Bridge Length Yes Skew None

Number Of Intermediate Joints: @Hinges None @Bents None

Maximum Column/Pier Height: (Less than 20') X (20'-29') (30' & Over)

Design Live Load HS20-44 & Alt & Permit Design Method Load Factor

DESCRIPTION - ON STRUCTURE

Bridge Width (S) 0.3'br. 32.5', 20', 32.5', 0.3'br (N)

Total Width 86' Net Width 65' Lanes 4 Tracks None

Median Raised island Rail Type 117 1111

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 65'

Deck Type 1 Wearing Surface/Prot. Sys. 100 Concrete/none

Alignment Tangent

DESCRIPTION - UNDER STRUCTURE

Roadway Section None

Clearances: Road: Vert. Horiz. Lt. ; Rt.

Lanes Tracks

Facilities Crossed Central Irvine Channel (F25)

April 19, 1991

DESCRIPTION - HYDRAULICS

Channel Unimproved earth ditchNavigable: Yes ☐ No ☒ Clearances: Vert. _____ Horiz. _____Pier/Abutment Protection (For Navigation) ☐

TRAFFIC INFORMATION	DECK	YEAR	UNDER	YEAR
Average Daily Traffic & Year :	22,000	1989	N	
Average Daily Traffic (Future) :	24,000 Est	2010	N	
Average Daily Trucks (% OF ADT) :	3% Est		N	
Bypass Detour Length	1 mile		N	
Shell Route:	No		No	
Functional Classification :	14		N	
LOAD RATINGS:	Inventory HS 20	Operating HS 33		
	Permit PPPPP	Computation Method Min By Design		

CONDITION RATINGS:

Deck	8	Superstructure	8	Substructure	8
Channel & Channel Protection	8	Culvert	N	Widenable	Yes

APPRAISAL RATINGS:

Waterway Adequacy	9	Approach Roadway Alignment	8
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Date of Revisions _____

CONDITION OF STRUCTURE:

There is light longitudinal cracking in the concrete bridge deck. Also there are a few minor deck surface concrete spalls at west paving notch of the westbound lanes.

Southeast end of the tubular steel bridge rail is broken from traffic damage.

Condition of the structure is good.

ENCROACHMENT:

12" welded steel pipe suspended under soffit about 8' from north fascia.

Henry Ma
Henry Ma



HM:ms

cc: INagai (2)
County of Orange

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DS-M19 (REV. 1/89)

Bridge No. 55C-450
Location 12-Ora - FAU M023 - CR
Dist. Co. Rte. City
Date of Investigation 4-12-89

Name CENTRAL IRVINE CHANNEL (Irvine Boulevard, 0.5 mile West of Sand Canyon Avenue)

CONDITION RATING:

Deck 7 Superstructure 8 Substr.&Pipes 8
Channel & Channel Protection 8 Culvert N Widenable? Yes

TYPE OF INVESTIGATION/REPORT

BIENNIAL X DAMAGE
CATEGORY A OTHER
UNDERWATER OFFICE

CONDITION OF STRUCTURE:

There is light to moderate longitudinal cracking in the concrete bridge deck.

Condition of the structure is good.

REVISION:

Location: 12-Ora-FAU M023-CR
Condition Rating: Deck - 7

WORK RECOMMENDED:

None.

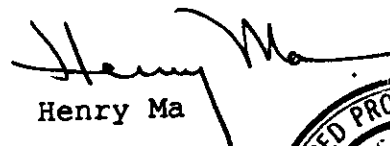
RECOMMENDED POSTING:

None.

SUBSTRUCTURE CODING UPDATE:

Single span structure.

2 RC open end diaphragm abutments on concrete piles.


Henry Ma

HM:ms

cc: INagai (2)
County of Orange (2)



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-OS M13 (REV. 1/74)

Bridge No. 55C-450
Location 7-Oran-FAU M023-CR
Dist - Co - Rte - PM - City
Date of Investigation April 27, 1987

Name CENTRAL IRVINE CHANNEL (Irvine Blvd., 0.5 mile W. of Sand Canyon Ave.)
CONDITION RATING: APPRAISAL RATING:

Deck 8 Superstructure 8 Substr. & Pipes 8 Overall 8
Channel & Channel Protection 8 Retaining Walls N

Widenable? Yes ☒ No ☐ Conditional ☐

Action Required By County Yes ☐ No ☒

PRIORITY

A - Immediate Action
B - Early Scheduling
C - Routine Maint.
O - For Record Only

REVISION:

Condition Rating: Deck - 8
Superstructure - 8
Appraisal Rating: Substructure & Pipes - 8
Overall - 8

WORK DONE:

Tubular rail element at southeast terminal has been repaired.

CONDITION OF STRUCTURE:

Overall condition of the structure is good.

RECOMMENDED POSTING:

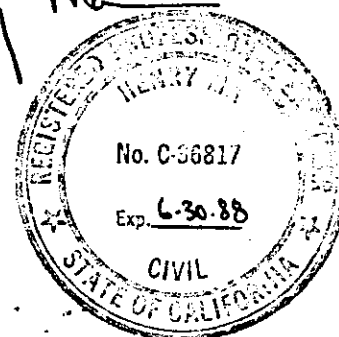
None

WORK RECOMMENDED:

None

HM:pht
cc: INagai (2)
Orange County (2)

Henry Ma



Bridge No. 55C-450

Other No. _____

P.U.C. No. _____

SEE REVISED
ORIGINAL DEPO

Location 7-Ora-FAU M023-CR
Dist - Co - Rte - PM - City

Date of Investigation January 15, 1986

Name CENTRAL IRVINE CHANNEL (Irvine Blvd. 0.5 mile west of Sand Canyon Ave

Lat. 33°-42.1'N Long. 117°-44.6'W

STRUCTURAL DATA AND HISTORY

Year Built 1985 By Orange County Contract No. Unknown

Date of Revisions _____

Designed by: B.D. ☐ UMA/RGB Engineering, Inc. Plans Avail. @ B.D.

Description: single span RC slab on RC diaphragm abutments on concrete piles.

Spans 1 @ 36' c/c

Length 39' Skew None Design LL HS20-44 & Alt. & permit design loads

Ratings: Inventory HS20/LF Min Operating HS33/LF Min Permit PPPPP/LF
By Design By Design By Design

DESCRIPTION - ON STRUCTURE (Shell Rte.: Yes ☐ No ☒)

Bridge Width (S) 0.3'tube rail, 32.6', 20.3'(m), 32.6', 0.3 tube rail(N)

Total Width 86' Lanes 4 Tracks None

Median Raised curbed island Rail Type 117 (Tubular steel)(1111)

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 88'

Wearing Surface None Deck Prot. Sys. None

Alignment Tangent

DESCRIPTION - UNDER STRUCTURE (Shell Rte.: Yes ☐ No ☒)

Roadway Section None

Clearances: Vert. _____ Horiz.: _____ Lt. _____ Rt. _____

Lanes _____ Tracks _____ Pumpplant: None ☒ See Br. No. _____

Facilities Crossed Central Irvine Channel

cc:

DESCRIPTION - HYDRAULICS

Channel Unimproved trapazoidal earth, rock slope protection under structure

Navigable: Yes ☐ No ☒ Clearances: Vert. _____ Horiz. _____

MAINTENANCE

Custodian Orange County Owner Orange County

**ORIGINAL
CONDITION RATING**

Deck	<u>9</u>
Superstructure	<u>9</u>
Substructure & Pipes	<u>9</u>
Channel & Channel Protection	<u>8</u>
Retaining Walls	<u>N</u>
Approach Rdwy. Alignment	<u>8</u>
Estimated Remaining Life	<u>50</u>

**ORIGINAL
APPRAISAL**

Overall	<u>9</u>
Deck Geometry	<u>7</u>
Underclearances	Vert. <u>N</u>
	Horiz. <u>N</u>
Safe Load Capacity	<u>9</u>
Waterway Adequacy	<u>8</u>
Approach Rdwy. Alignment	<u>9</u>

Widenable? Yes ☒ No ☐ Conditional ☐

Average Daily Traffic & Year 12,000 (1985)

Bypass Detour Length 3 miles

Seismic Retrofit: Not required.

Action Required: Yes ☒ No ☐

Posting Required: None ☒ Load ☐

Speed ☐

ENCROACHMENT: 12" steel pipe (gas) through abutments 8' from north facia.

LOAD CAPACITY: The load rating shown are the minimum load ratings the structure is designed to carry.

CONDITION OF STRUCTURE: The structure is new and in good condition.

The tubular rail element at the southeast terminal is bent and has a shear fracture.

WORK RECOMMENDED: Straighten rail, weld fracture and paint damaged galvanizing with two coats of zinc rich paint at southeast terminal.

HM:pdh
cc: INagai (2)
Orange County (2)

Henry Ma
Henry Ma
C-36817

GENERAL NOTES

SPECIFICATIONS

DESIGN

AASHTO STD. SPECS. RATED 1971 WITH SUBSEQUENT REVISIONS AND CALIFORNIA DEPT. OF TRANSPORTATION BRIDGE PLANNING & DESIGN MANUAL.

CONSTRUCTION

STANDARD SPECIFICATIONS, CALIFORNIA DEPT. OF TRANSPORTATION DATED JANUARY 1981 AND SPECIAL REVISIONS.

LIVE LOADING

U.S. 20-44 AND ALTERNATIVE & CALTRANS PERMIT LOAD.

PILE LOADING

45 TON TYPE CLASS 45

REINFORCEMENTS

EMBEDMENT IS CLEAR TO OUTSIDE OF BAR AND IS 2' TO MAIN REINFORCEMENT EXCEPT AS SHOWN. BACKING FOR HOOKS IS FOUR DIAMETERS EXCEPT AS NOTED. WHERE REINFORCEMENT BARS ARE SPLICED, BARS #8 AND SMALLER LAP 45 DIAMETERS OF SMALLER BAR JOINED, BARS #10 & 11 LAP 60 DIAMETERS OF SMALLER BAR JOINED.

CONCRETE

CLASS "A" (5641b) TYPE I (M5) OR TYPE II MOD. PORTLAND CEMENT. DECK SLAB CLASS "D" 658 (7 BAGS)

UNIT STRESSES

FILE CAP & ABUT.: $f'_c = 3250$ PSI @ 28 DAYS
 $f_y = 60,000$ PSI.
 PILES: $f'_c = 6,000$ PSI
 $f_y = 219,000$ PSI STRANDS
 $f_y = 60,000$ PSI BARS

ESTIMATED BRIDGE QUANTITIES

STRUCTURE EXCAVATION	115 C.Y.
STRUCTURE BACKFILL	35 C.Y.
(F) STRUCTURE CONCRETE	568 C.Y.
(F) REINFORCING STEEL	36,023 LBS.
FURNISH CONC. PILES	1100 LF.
(F) DRIVE CONC. PILES	22 EA.
(F) BRIDGE RAILING TYPE IIT	110 LF.
(S) SLOPE PROTECTION ROCK CL. 1/4 TON	641 TONS
METHOD "B" PLACEMENT	
TEMPORARY RAILING TYPE K	80 LF.
METAL BEAM GUARD RAILING	130 LF.

SETTLEMENT PIN ELEVATIONS		
LEFT SIDE (DECK PIN)	LOCATIONS	RIGHT SIDE (DECK PIN)
	EL. ABUTMENT #1	
	EL. SPAN #1	
	EL. ABUTMENT #2	
DESCRIPTION OF DATUM:		

NOTE:
FOR USE OF PROJECT ENGINEER UPON COMPLETION OF CONSTRUCTION.

STAGE	TYPE OF STORM	DISCHARGE cfs
ONE	STORM OF RECORD	526
	Q ₅₀	450
	BASE FLOOD Q ₁₀₀	500
	OVERTOPPING FLOOD	613
TWO	Q ₅₀	* 450
	BASE FLOOD Q ₁₀₀	* 500

* DRAINAGE AREA WAS REDUCED DUE TO CHANNEL DIVERSION UPSTREAM

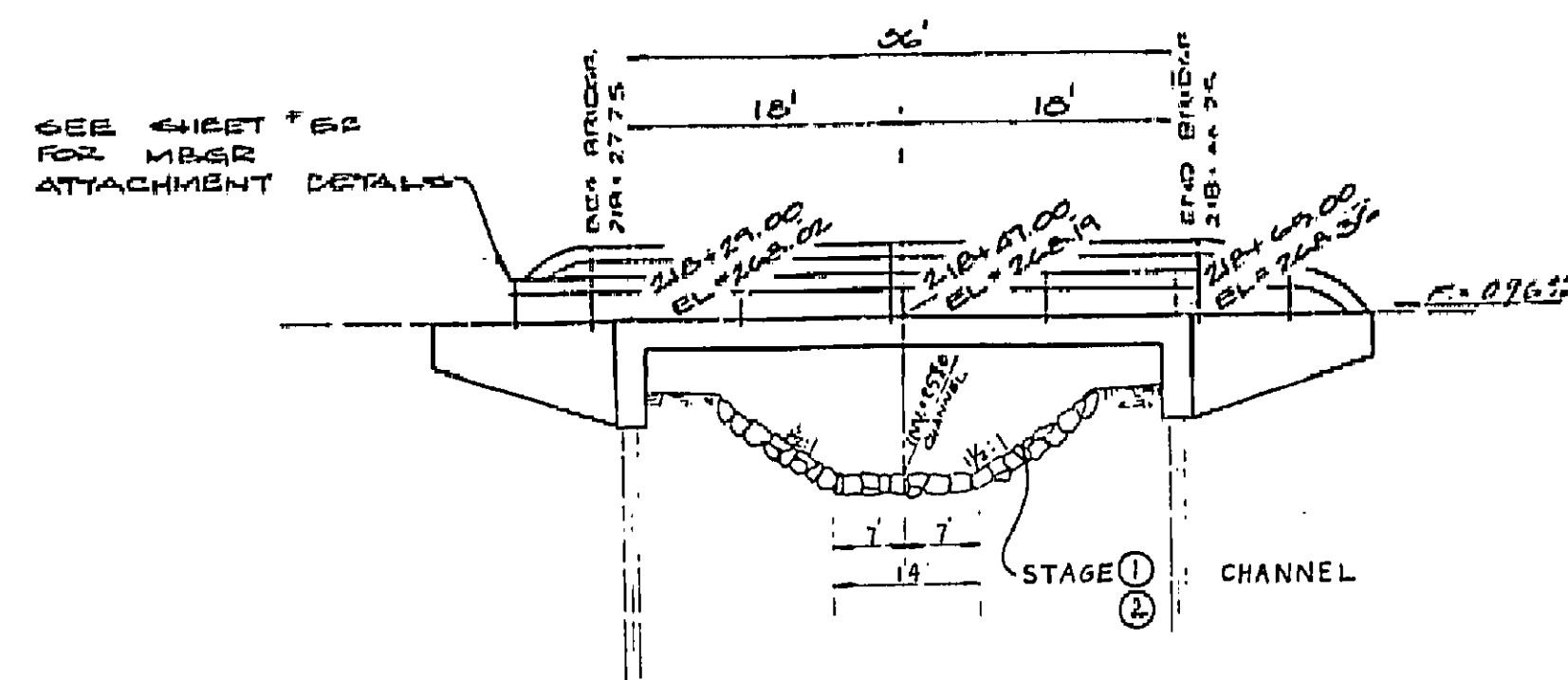
1/2 0 2
3 inches on original drawing

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY
IRVINE BLVD BRIDGE OVER
CENTRAL IRVINE CHANNEL
55C - 450
GENERAL PLAN

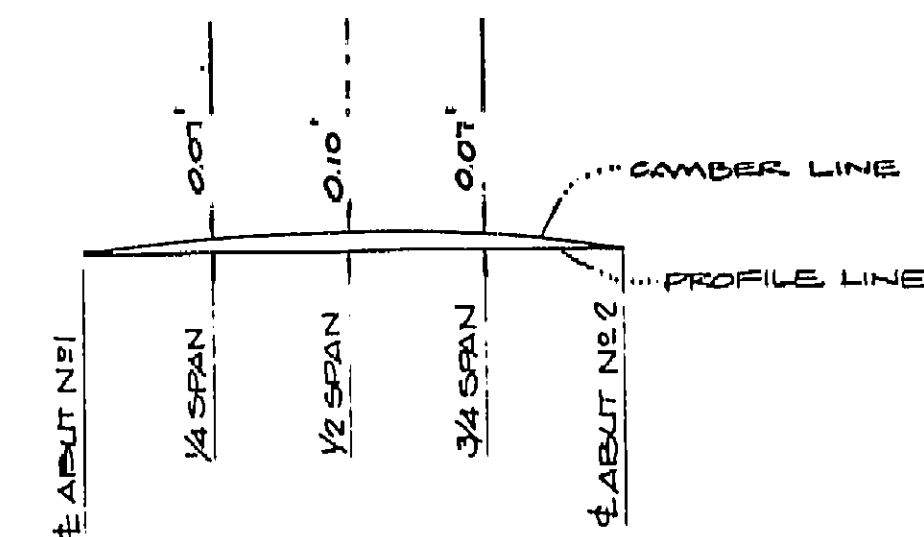
CHECKED BY:
DESIGNED: *[Signature]* DATE: 6-1-81
SCALE: 1"=40'

DATE: 6-1-81
SUPERVISOR OF: *[Signature]*
SCALE: 1"=40' SHEET: 46
DESIGNED: *[Signature]* DATE: 6-1-81
SCALE: 1"=40' SHEET: 46

DR 3 (13966)

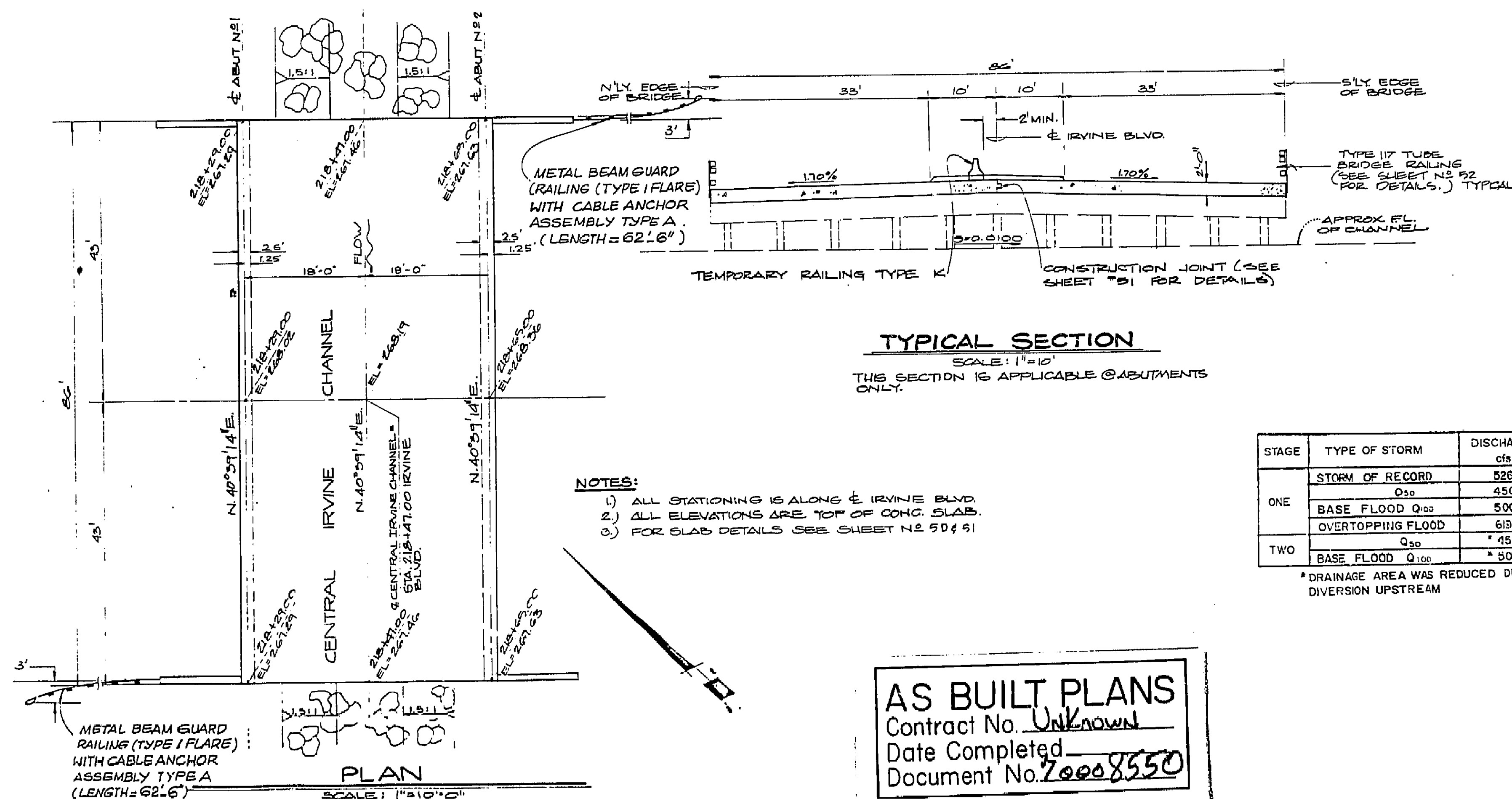


ELEVATION
SCALE: 1"=10'-0"



CAMBER DIAGRAM
NO SCALE

NOTE:
CAMBER DIAGRAM DOES NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT. THE TOTAL DEFLECTION WILL BE REACHED ABOUT FOUR YEARS AFTER FALSEWORK REMOVAL FOR VALUES AT TIME OF FALSEWORK REMOVAL. DIVIDE THOSE SHOWN BY FOUR. THE AMOUNT OF CAMBER FOR CONSTRUCTION WILL BE DETERMINED BY THE ENGINEER.



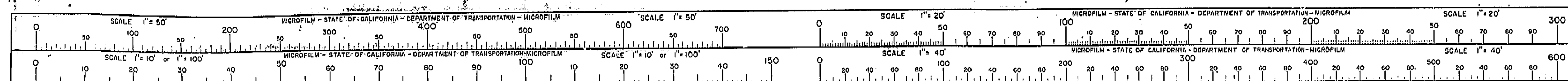
TYPICAL SECTION
SCALE: 1"=10'

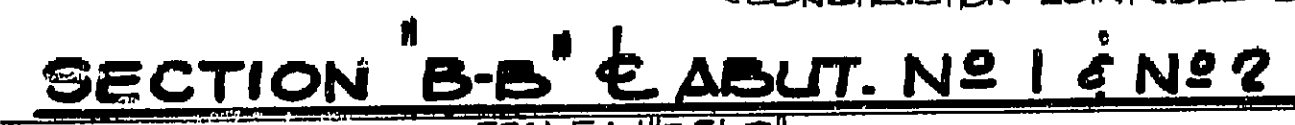
THIS SECTION IS APPLICABLE @ ABUTMENTS ONLY.

- NOTES:
- 1) ALL STATIONING IS ALONG E. IRVINE BLVD.
 - 2) ALL ELEVATIONS ARE TOP OF CONC. SLAB.
 - 3) FOR SLAB DETAILS SEE SHEET NO. 50 & 51

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed 7-20-86
Document No. 70008550

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
12-8-86 *[Signature]* SUPERVISOR OF MICROFILM SERVICES





ALL HIGH HAZARD UTILITIES ARE
TO BE LOCATED AND EXPOSED
PRIOR TO START OF PILE DRIVING
OR PREDRILLING.



	* OUT-OFF ELEV	* MAX TIP ELEV.	* MIN TIP LENGTH	* AVG WIG BENT PILE TIP ELEV	* AVG STROKE HEIGHT	* AVG DIONS PER FOOT	* AVG PAVING WAVE LENGTH
ADJUSTMENT NO 1							
ADJUSTMENT NO 2							

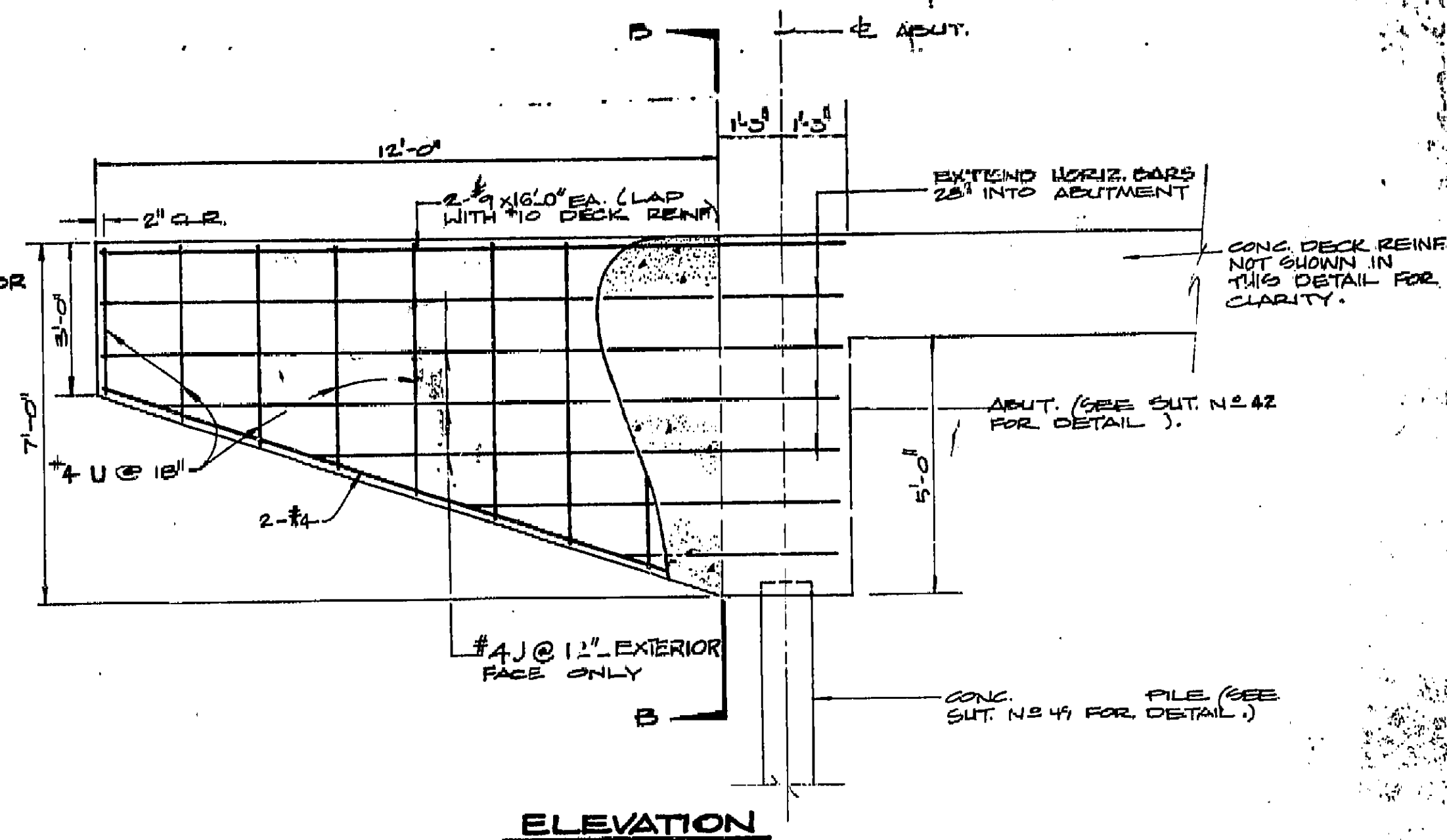
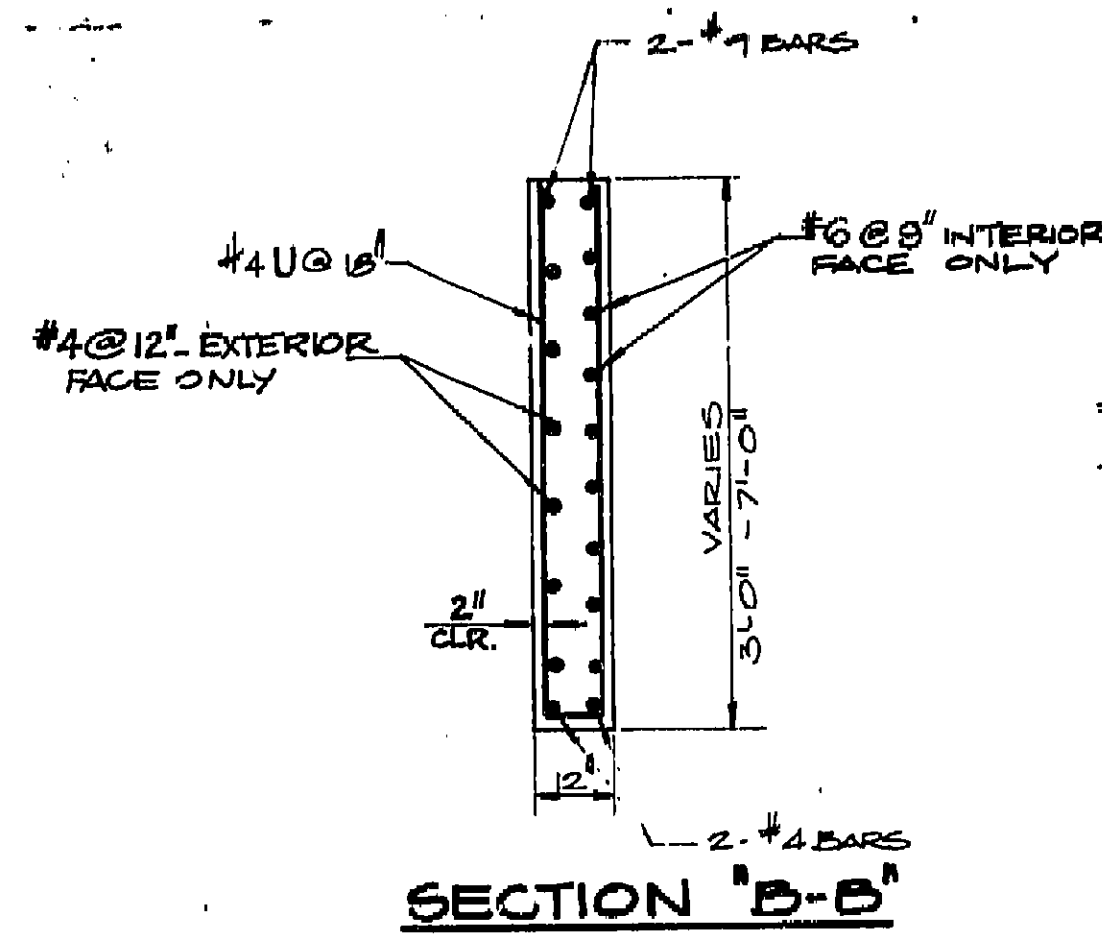
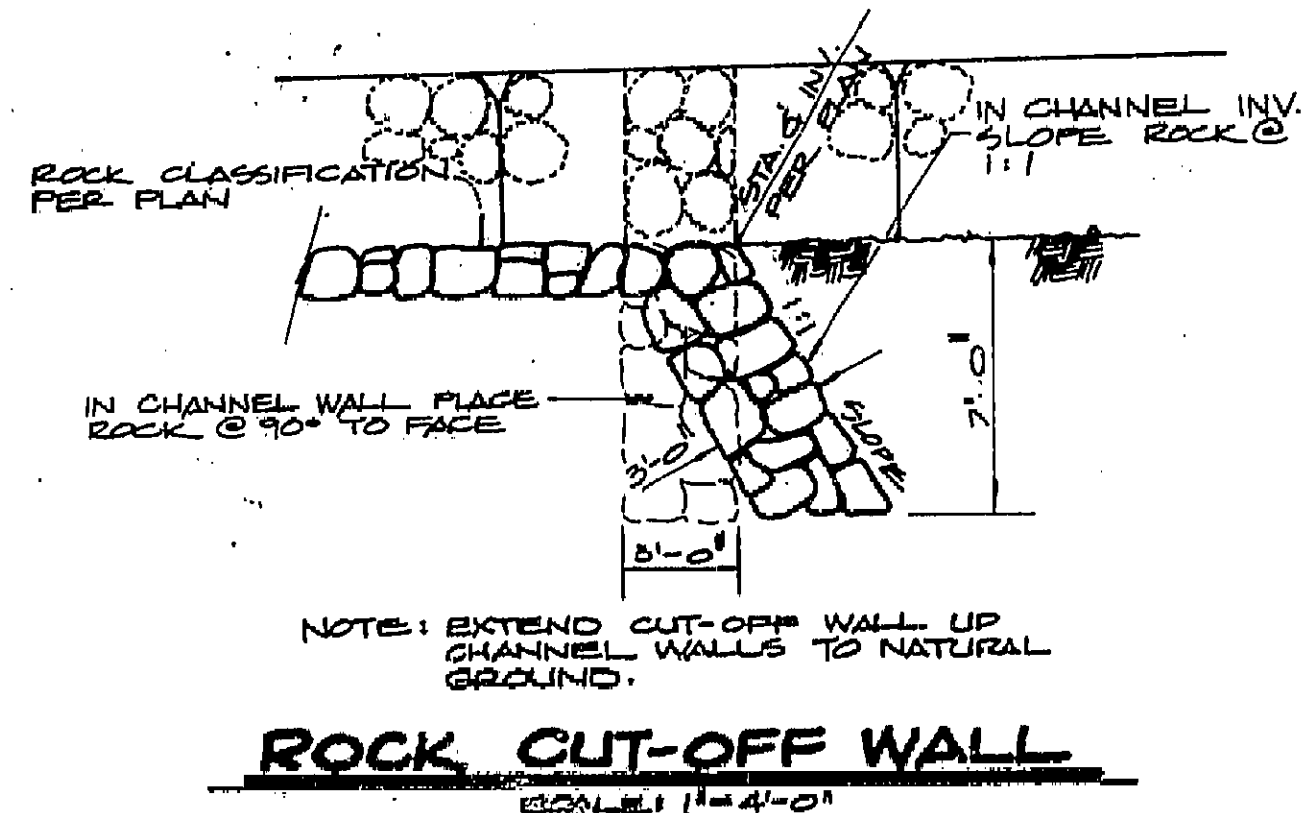
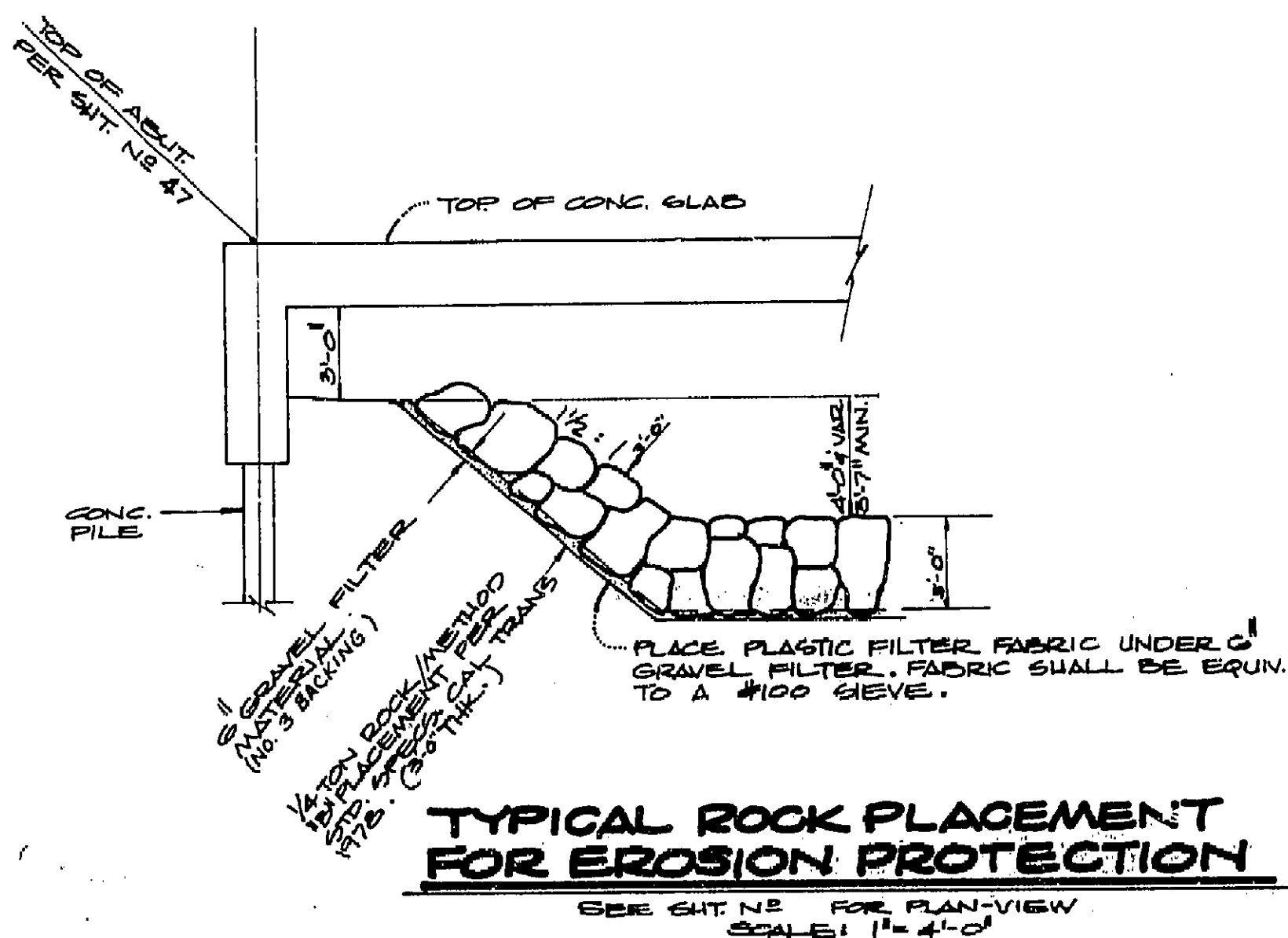
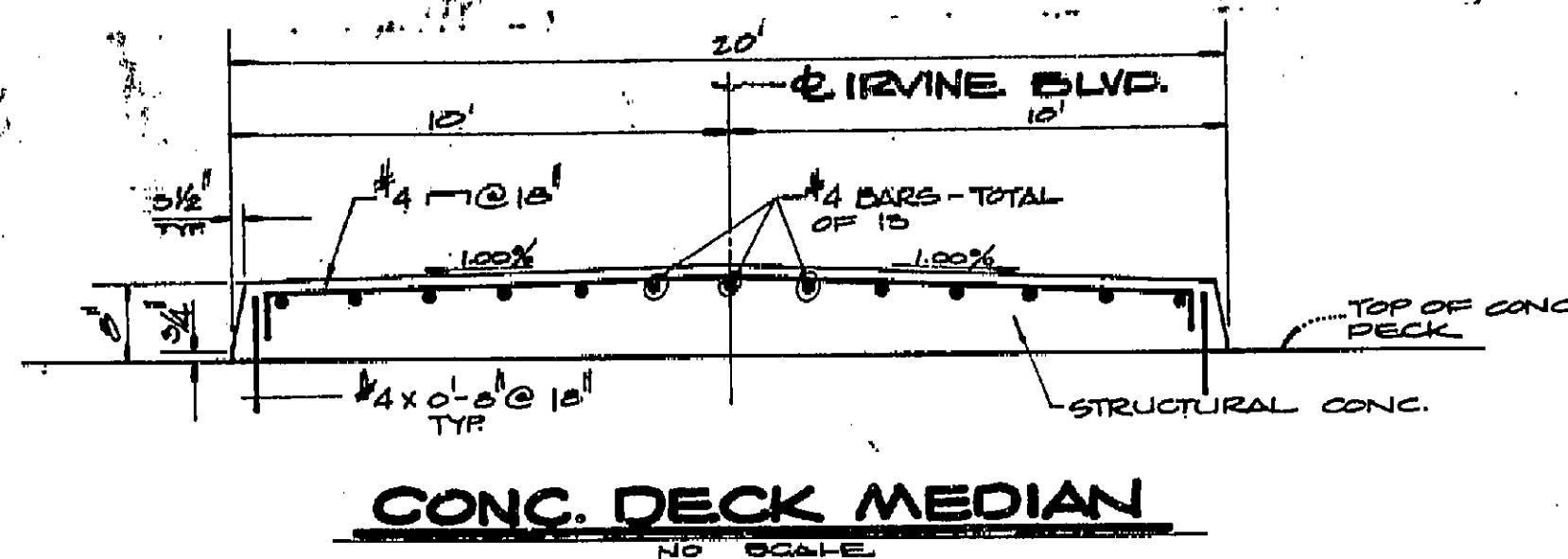
AS BUILT PLANS
Contract No. Unknown
Date Completed _____
Document No. 70008550

		ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
		IRVINE RIVER BRIDGE OVER CENTRAL IRVINE CHANNEL	
		58C-450	
		ABUTMENT & FOUNDATION PLAN	
MANY DATE		PREPARED UNDER <u>Contract 58C-450</u>	
DESCRIPTION		SUPERVISION OF <u>CONSTRUCTION</u>	
REVISONS		DATE <u>5-22-67</u> BY <u>RF-A</u> DATE <u>4-7</u>	
DESIGNED	BY	SCALE	DATE
DRAWN	BY	AS SHOWN	DATE
	FOR		

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

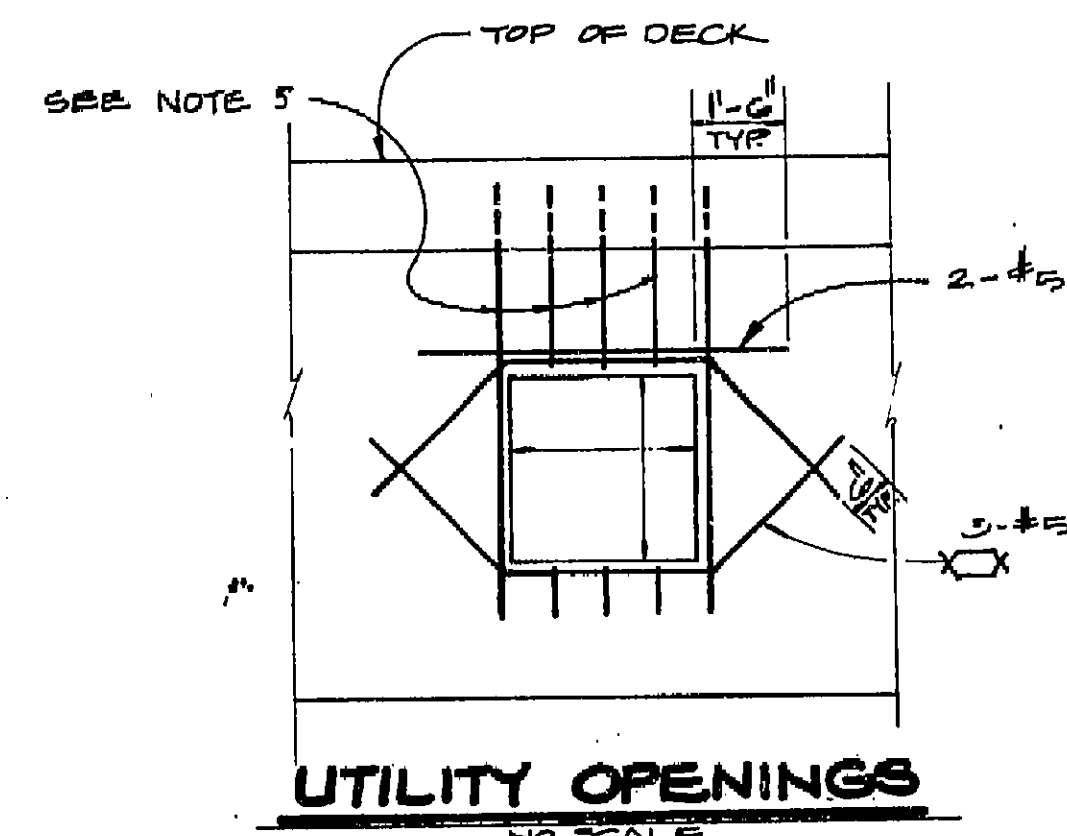
DATE 5-8-86 SIGNATURE [Signature] TITLE Supervisor of Microfilm Services





TYPICAL WINGWALL DETAIL
SCALE: 1/2" = 1'-0"

NOTE:
1. BARRIER RAILING TYPE 117 NOT SHOWN IN THIS DETAIL. SEE SUT. NO. 51.
2. FOR CORNER DETAIL SEE SUT. NO. 51.



NOTES:
1. THE EXACT LOCATION, ELEVATION, SIZE & DIRECTION OF OPENING SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS AS DIRECTED BY THE ENGINEER.
2. ALL REINF. DETAIL TO BE PLACED IN ADDITION TO REINF. SHOWN ON PROJECT PLANS.
3. SEAL UTILITIES AT ABUTMENTS W/ CONG. OR MORTAR, AFTER TIGHTLY WRAPPING UTILITY W/ 2 LAYERS OF 15# BUILDING PAPER.
4. MAIN REINF. TO CLEAR OPENING.
5. REINF. TO BE SAME BAR SIZE & 2/3 THE SPACING OF ADJACENT REINF. SHOWN ON PROJECT PLANS.

AS BUILT PLANS
Contract No. Unknown
Date Completed 7/20/85
Document No. 70008550

1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY
IRVINE BLVD. BRIDGE OVER
CENTRAL IRVINE CHANNEL
SSC-450
MISC. DETAILS

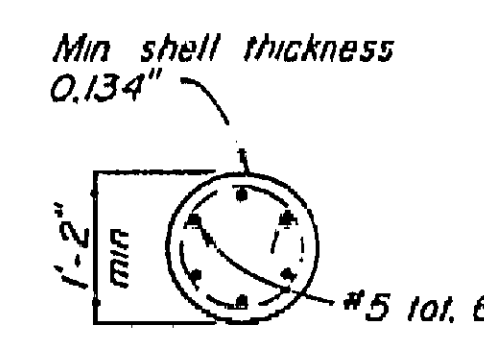
CHECKED BY:	DATE:	DESCRIPTION:	APPROVED BY:	DATE:	DESCRIPTION:
<i>[Signature]</i>	7/20/85	REVISIONS	<i>[Signature]</i>	7/20/85	REVISIONS

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12-8-86 *[Signature]* SUPERVISOR OF MICROFILM SERVICES

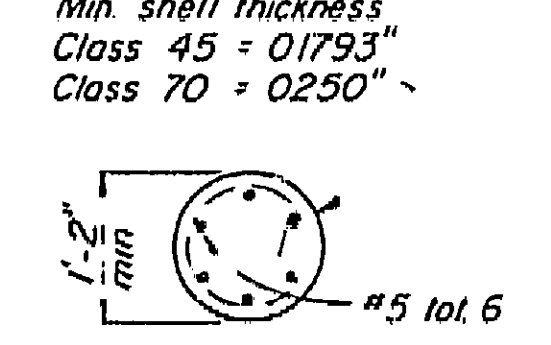


**CONC.
PILE DETAILS**

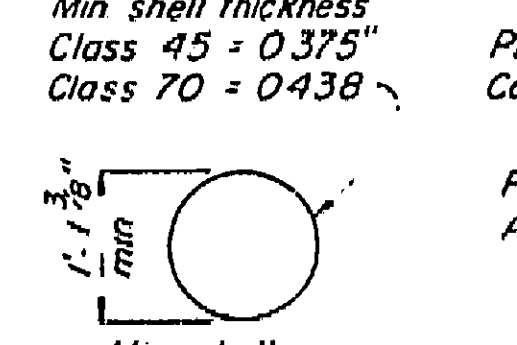
DATE	DESCRIPTION	DESIGNED BY	CHECKED BY	DATE	SHEET
12-8-86	REVISIONS	AS SHOWN	AS SHOWN	12-8-86	49



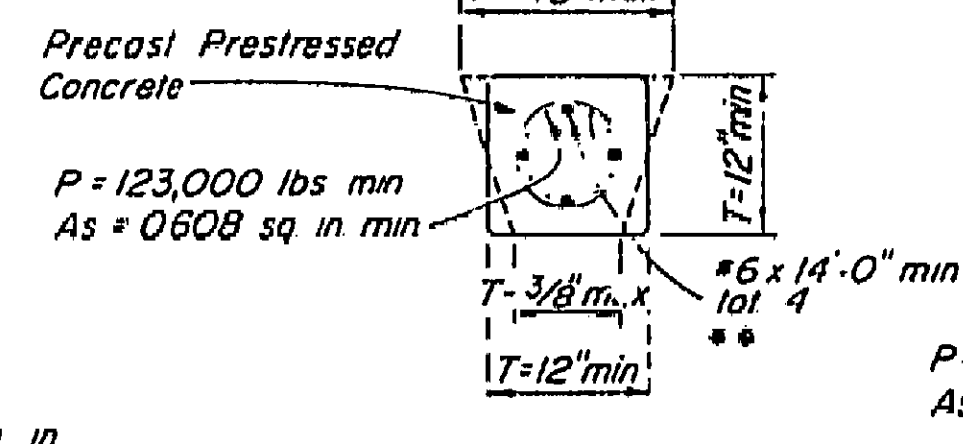
SECTION U-U
(Mandrel driven)



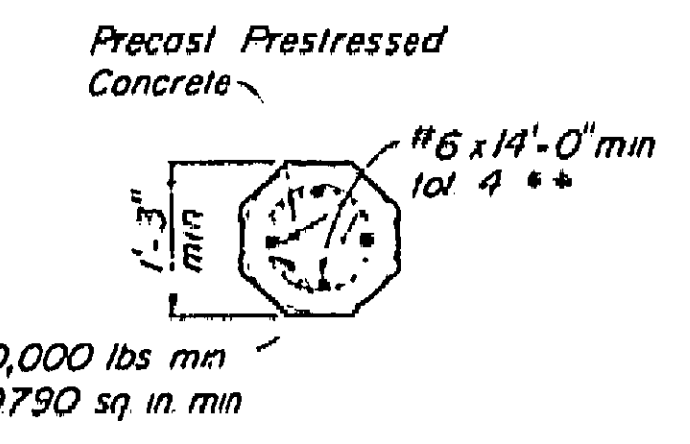
SECTION V-V



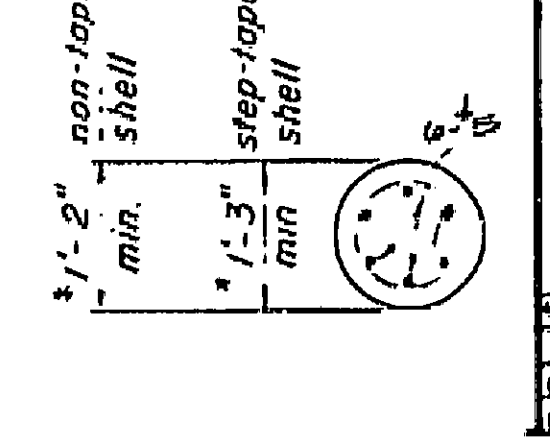
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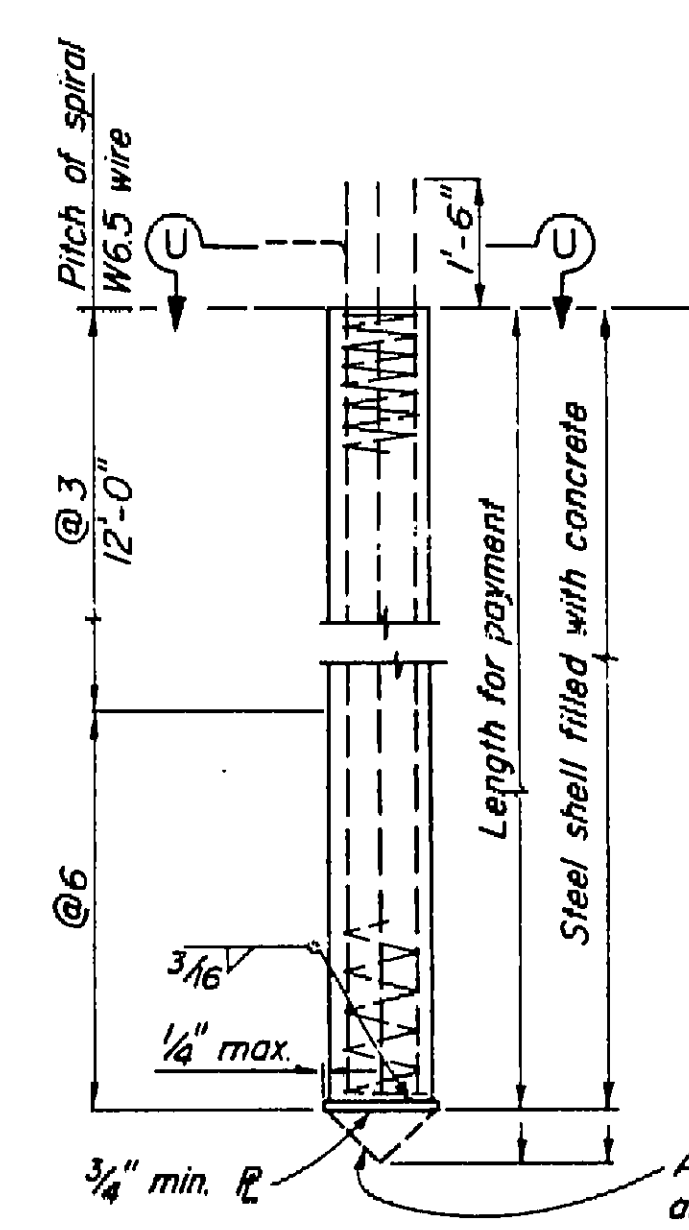
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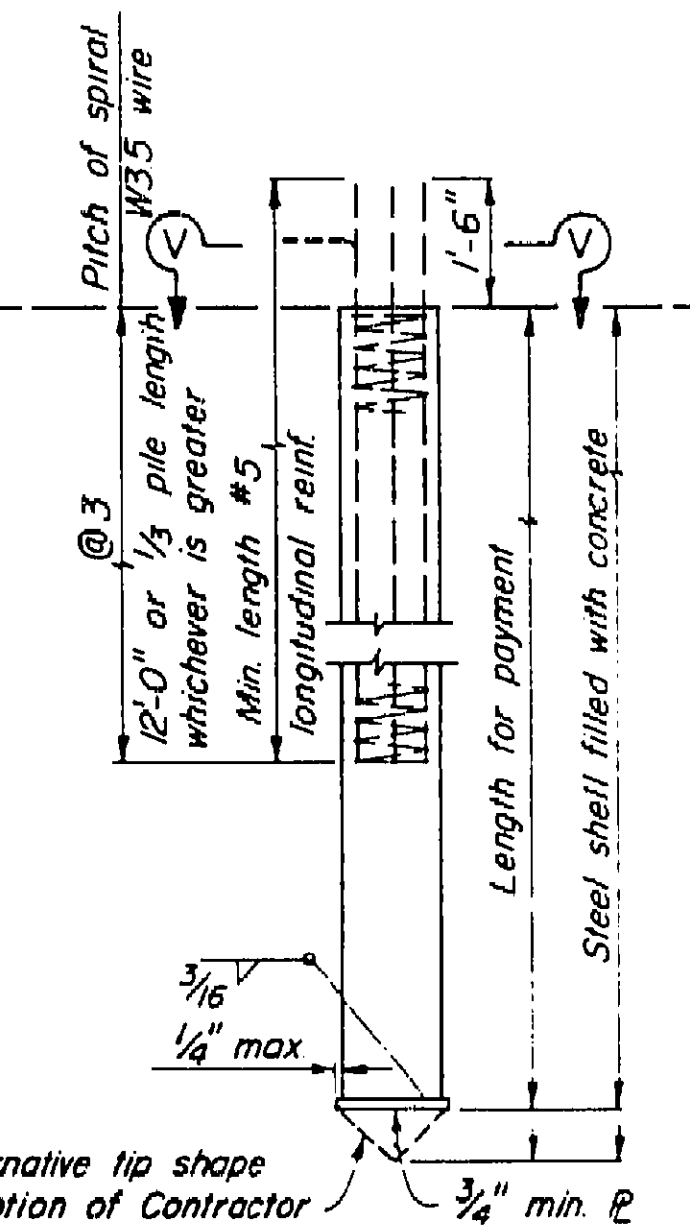
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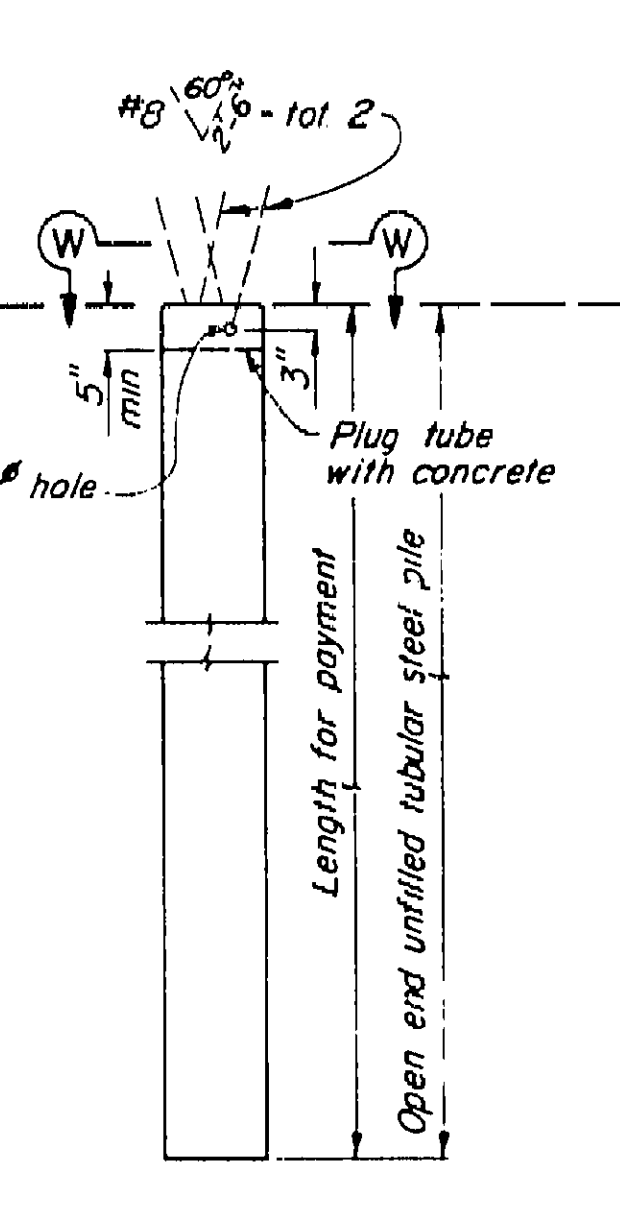
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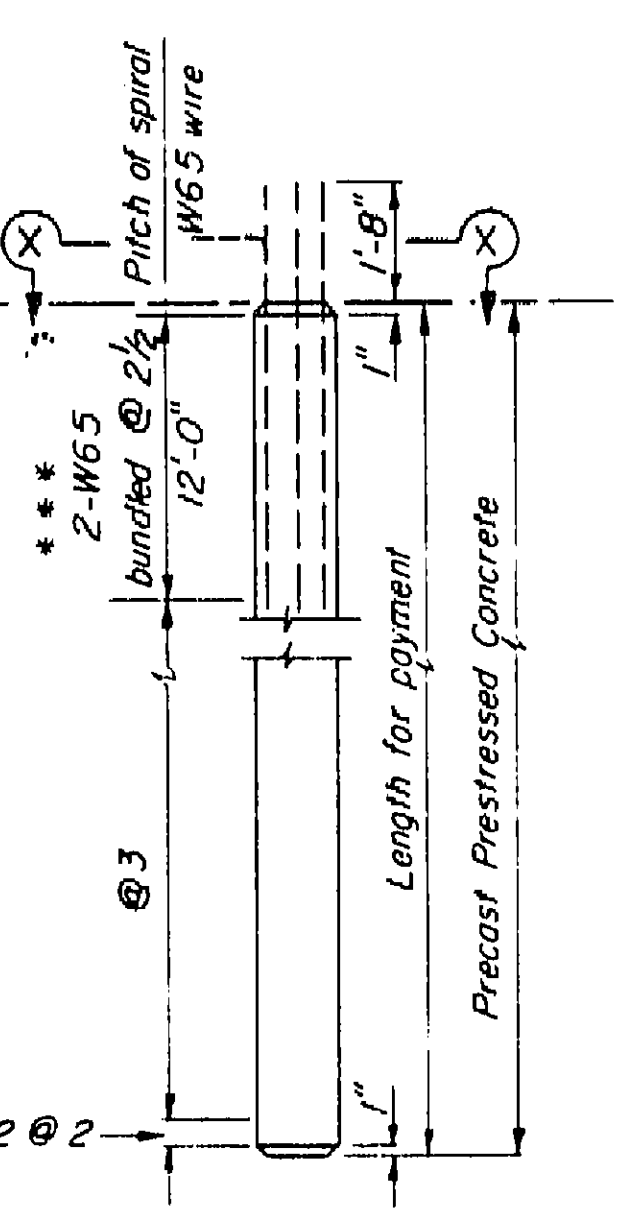
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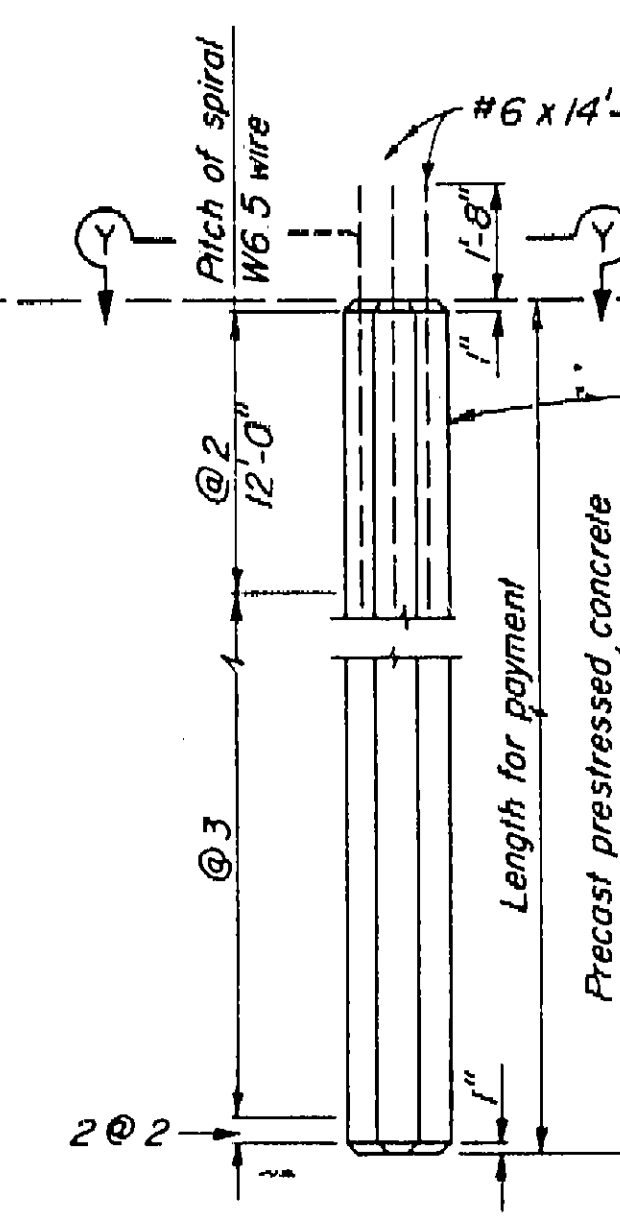
ALTERNATIVE "V"



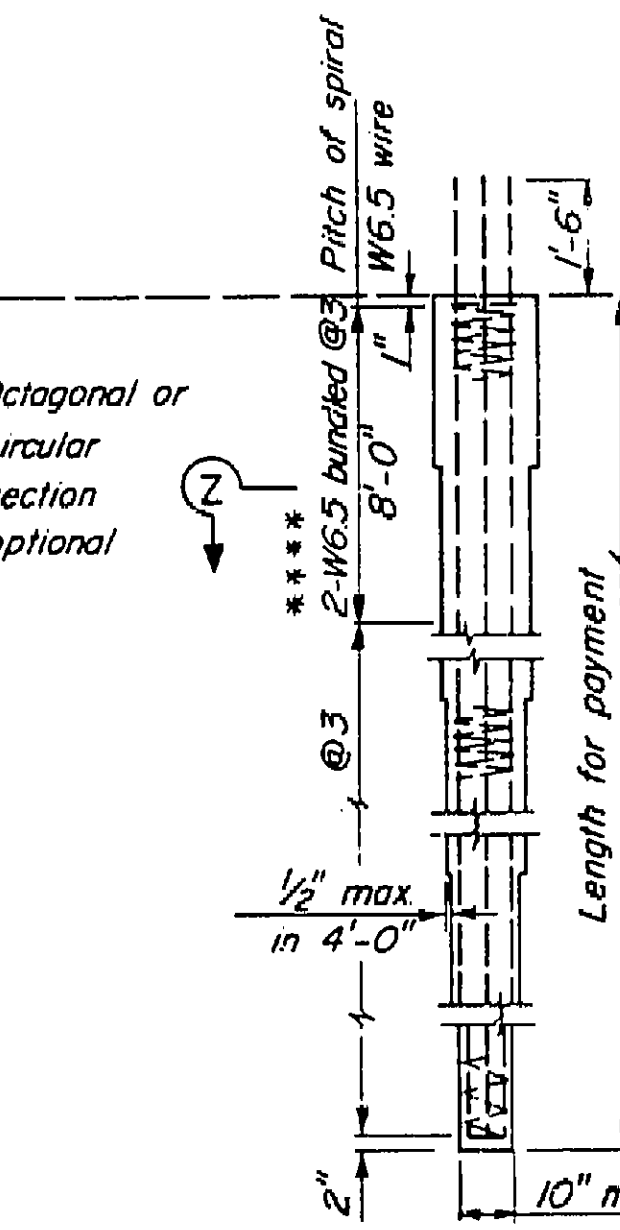
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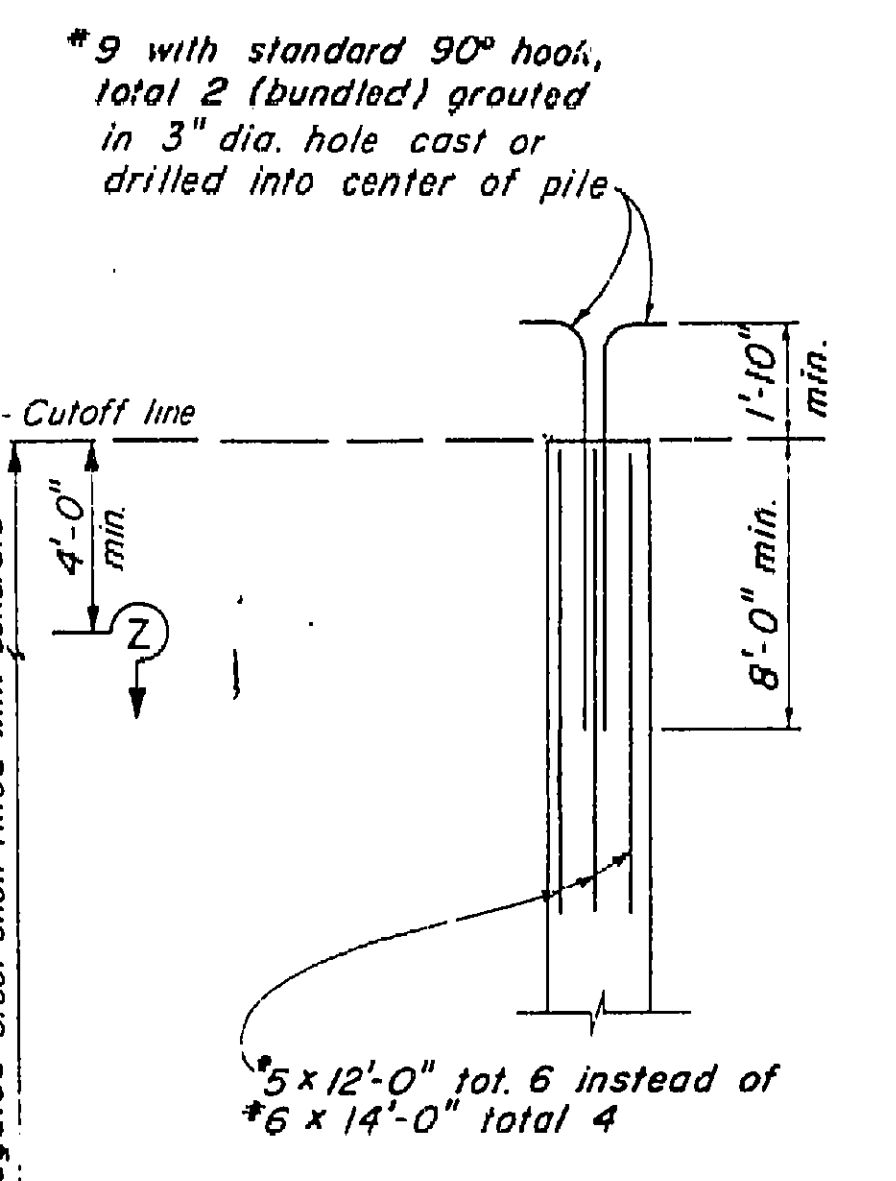
ALTERNATIVE "X"



ALTERNATIVE "Y"



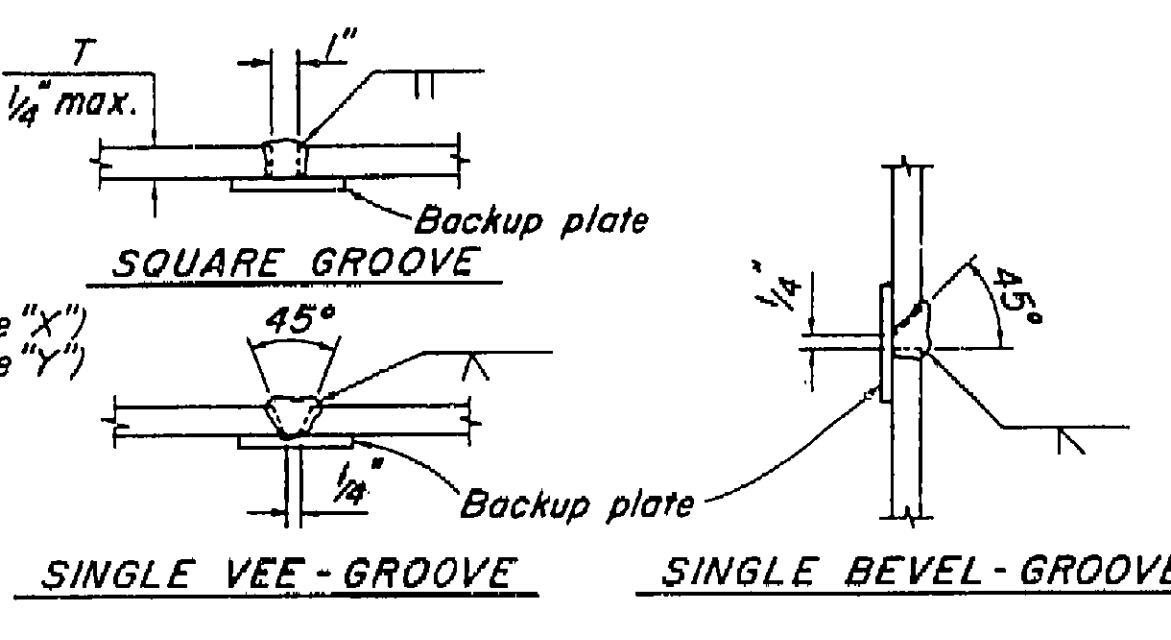
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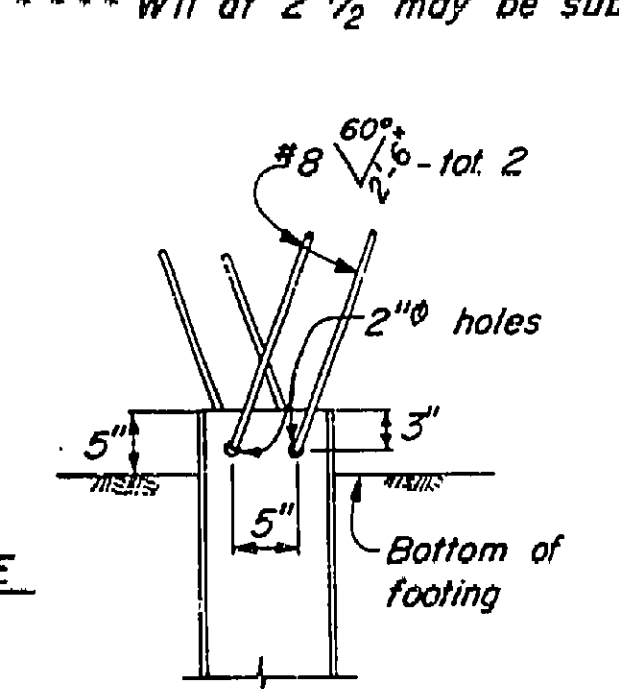
**ALTERNATIVE PILE
ANCHOR FOR
PRESTRESSED PILES**

Notes:
Details are the same for both Class 45 and Class 70 piles unless noted otherwise.
A 10" minimum diameter pipe extension (thickness = 0.1798" min. for Class 45 and 0.250" min. for Class 70) may be used at the tip of Alternative "Z" when taper is 30° or more in length.
Pile reinforcement extending into a footing shall be hooked as required to provide clearance to top of footing. Piles shall be extended only in accordance with details shown elsewhere in these plans.
Lapped splices in spiral pile reinforcement shall be lapped 80 wire diameters minimum. Spiral pile reinforcement at splices and at ends shall be terminated by a 135° hook with 6" tail hooked around a longitudinal bar or strand.
2" clearance to spiral reinforcement shall be maintained if section used is larger than the minimum section shown.

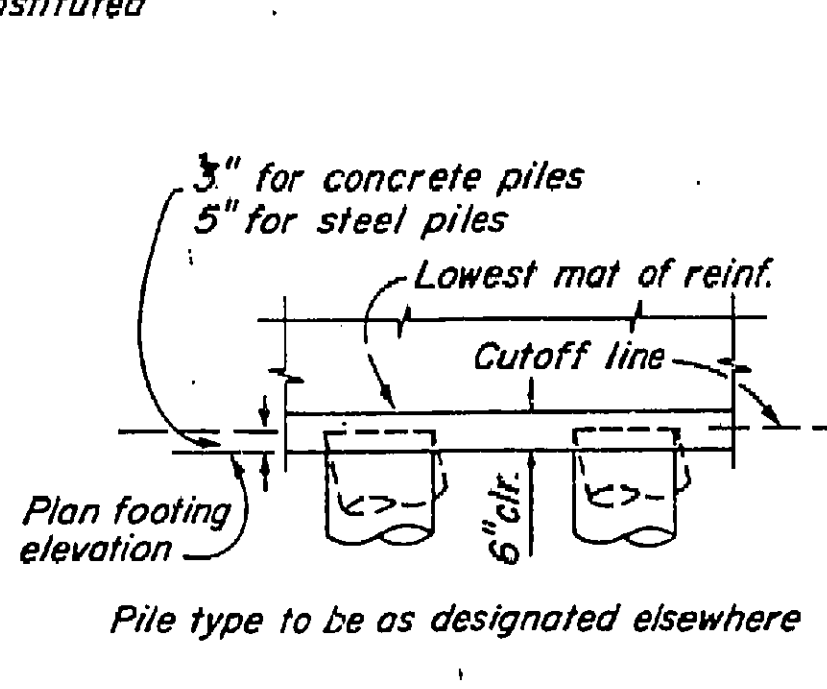
PRECAST PRESTRESSED PILES:
P = Prestressing Force @ anchorage
If section used is larger than the min. section shown, then "P" shall provide 860 psi min.
As = Minimum area of prestressing steel required.
Concrete Strength: f'c @ 28 days = 6,000 psi (Alternative "X")
5,000 psi (Alternative "Y")
f'ci @ transfer = 4,000 psi
DESIGN LOADING
Class 45 = 45 tons
Class 70 = 70 tons
NOTE: This sheet supersedes Sheet No. B2-1, page 86 and Sheet No. B2-5, page 88 of the Standard Plans dated January, 1981.
Supersedes Sheet RSP B2-5 dated April, 1982



PILE WELDING DETAIL - BUTT JOINTS



STEEL PILE ANCHOR



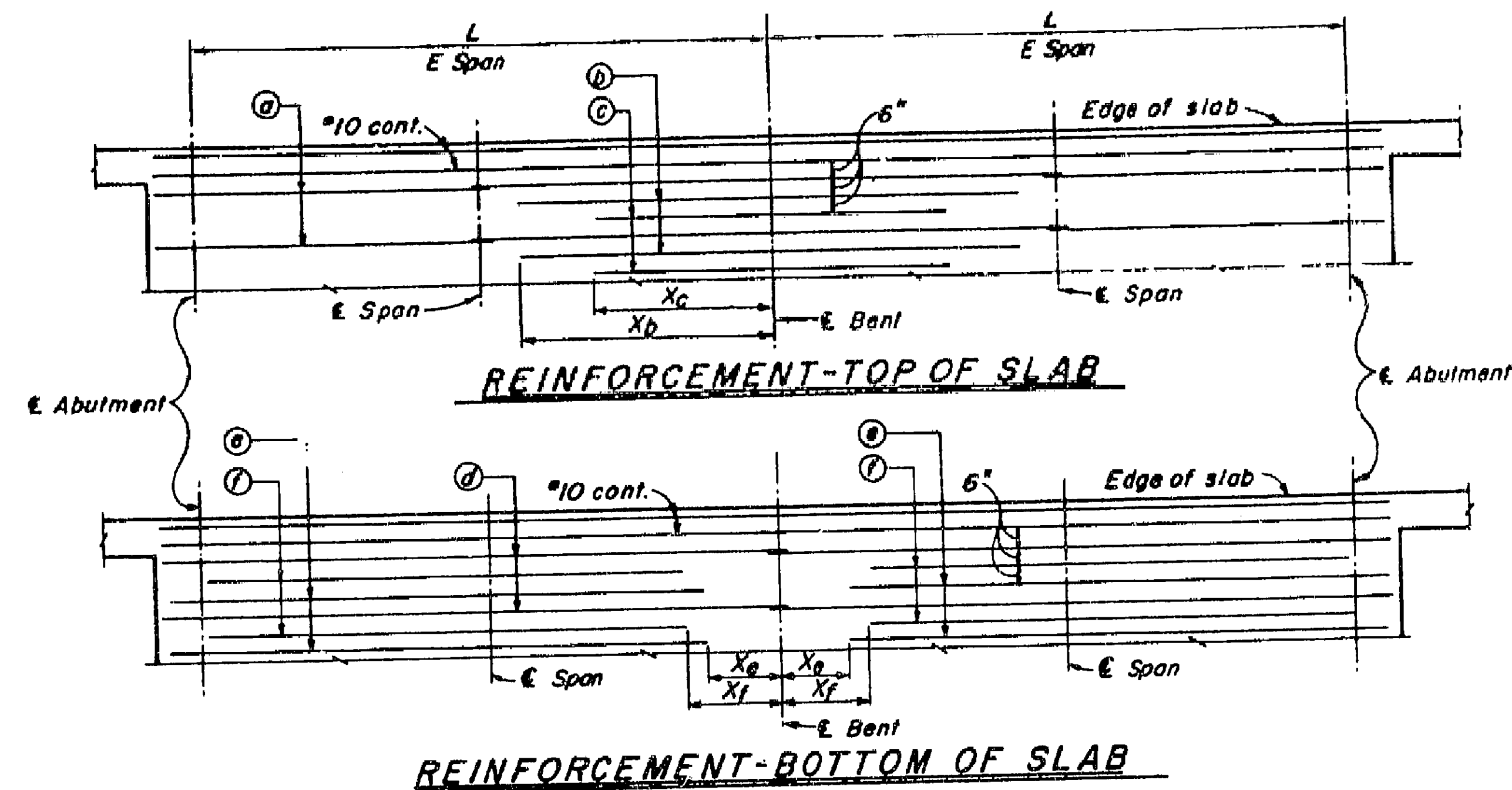
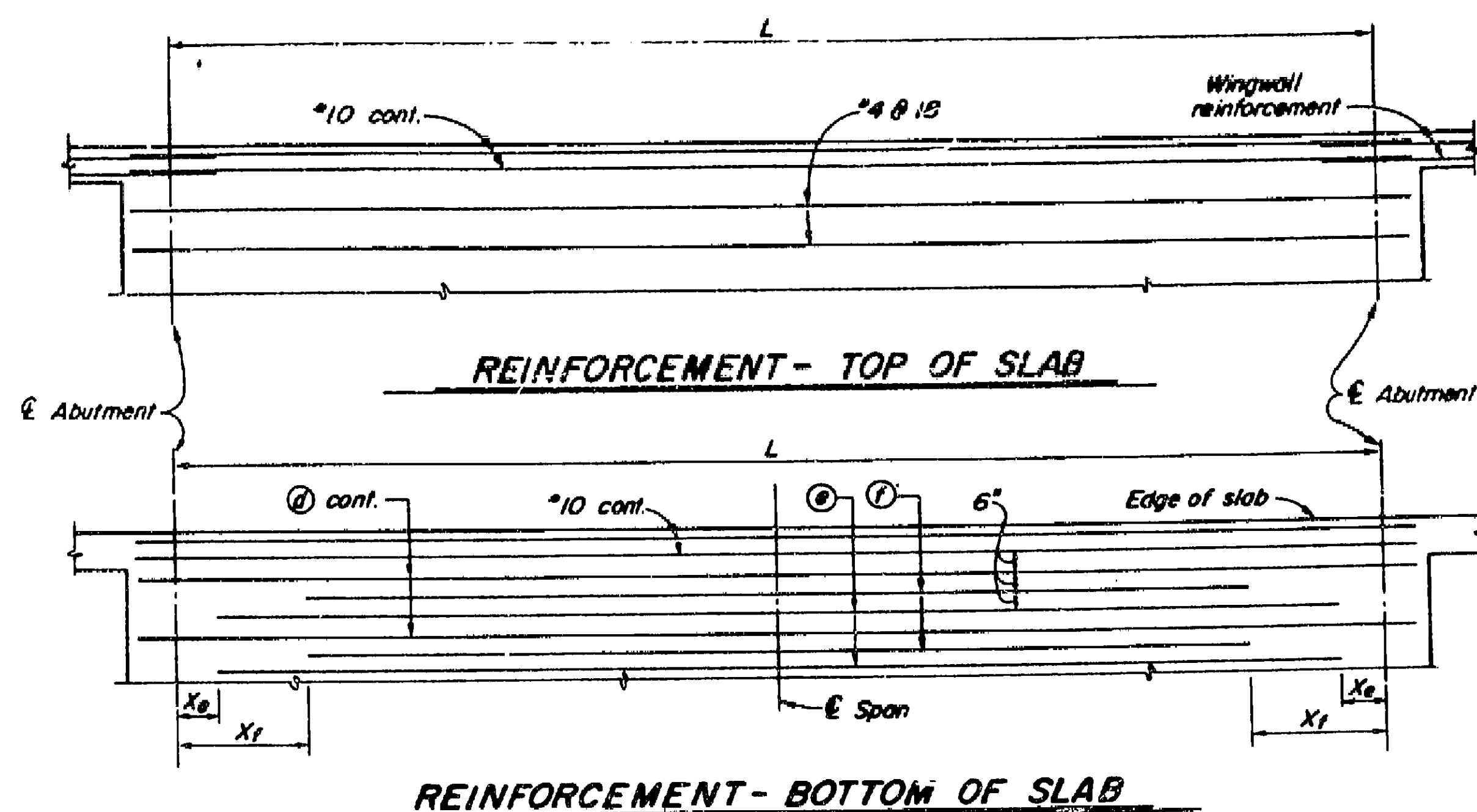
PILE EMBEDMENT

STRUCTURES-DESIGN	BRIDGE NO.	PILE DETAILS - CLASS 45 & CLASS 70
PROJECT ENGINEER	POST MILE	

AS BUILT PLANS
Contract No. UNKNOWN
Date Completed 7/20/88
Document No. 70008550

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12-8-86 David B. Bluff SUPERVISOR OF MICROFILM SERVICES





L = Length of Span		36'
REINF.	Top of Slab	
	① Size	#10
	② Length	31'-0"
	③ Size	#10
Bottom of Slab	④ Size	#10
	⑤ Length	2'-6"
	⑥ Size	#10
	⑦ Length	22'-0"
T = Thickness of slab		7'-0"
Approx. Quantities per ft. of width		24"
Conc. ft. ³		74.3
Steel lbs.		340
Deflection at Midspan Δ		.10'

⑧ Add 1/2" for "Marine Environment" & adjust concrete quantity.

SLAB DETAILS - SINGLE SPAN

CENTRAL IRVINE CHANNEL BRIDGE, L=36'

L = Length of Span		34'	40'
REINFORCEMENT	Top of Slab		
	① Size	#11	#10
	② Length	77'-0"	89'-0"
	③ Size	#9	#11
Bottom of Slab	④ Size	#11	#11
	⑤ Length	77'-0"	89'-0"
	⑥ Size	#9	#11
	⑦ Length	21'-0"	25'-0"
T = Thickness of slab		10'-0"	11'-0"
Approx. Quantities per ft. of width		16'-0"	19'-0"
Conc. ft. ³		12'-6"	14'-6"
Steel lbs.		18"	20"
Deflection at Midspan Δ		52.5	68.3
		430	525
		.06'	.09'

⑧ Add 1/2" for "Marine Environment" & adjust concrete quantity.

SLAB DETAILS - 2 SPANS

PETER'S CYN. BRIDGE, L=40'
RATTLESNAKE CYN. BRIDGE, L=34'

* Length includes allowance for one splice.

1 1/2 0 1 2
3 inches on original drawing

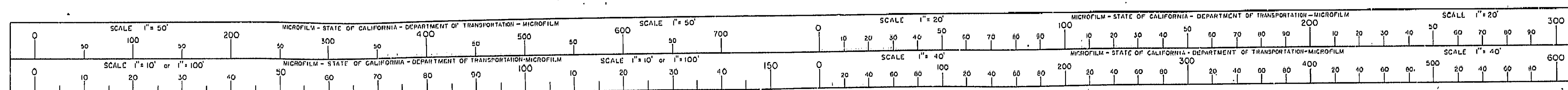
AS BUILT PLANS
Contract No. UNKNOWN
Date Completed
Document No. 70008550

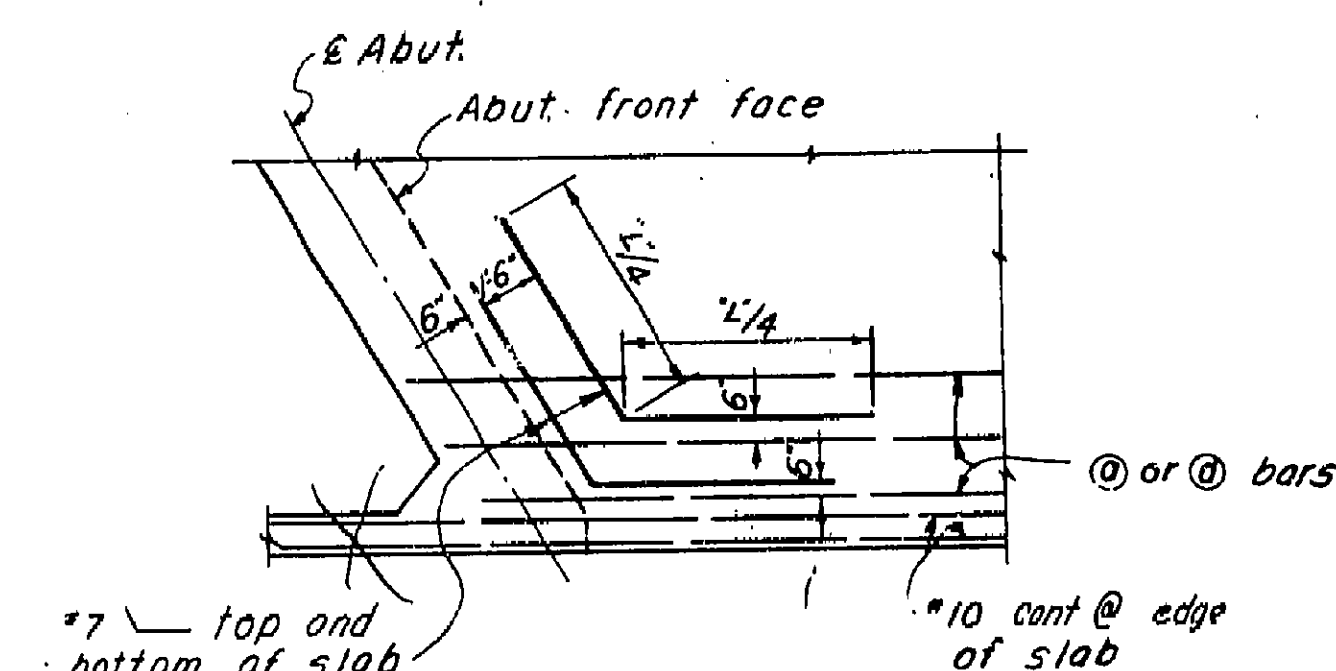
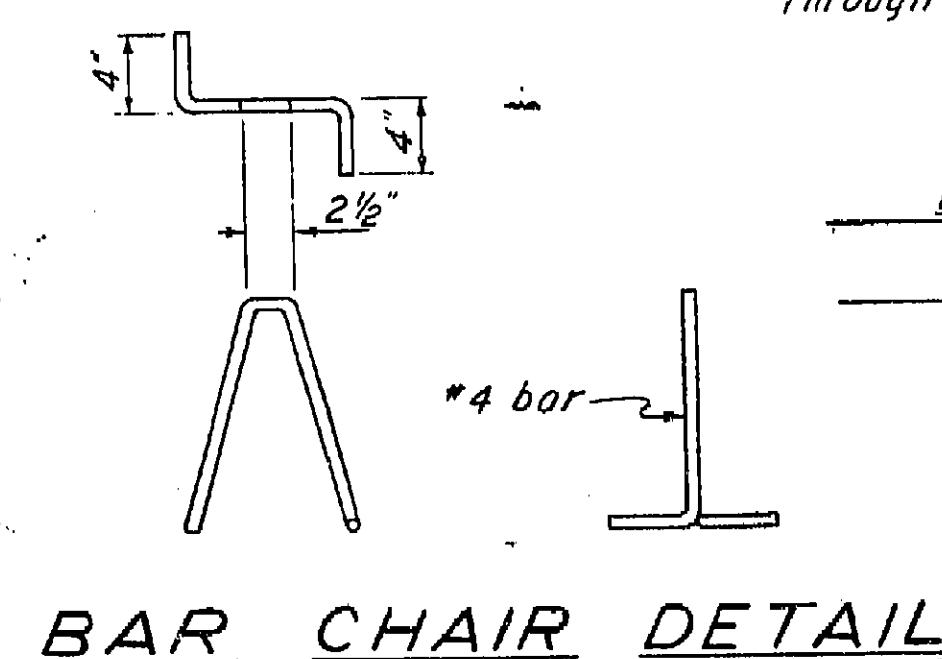
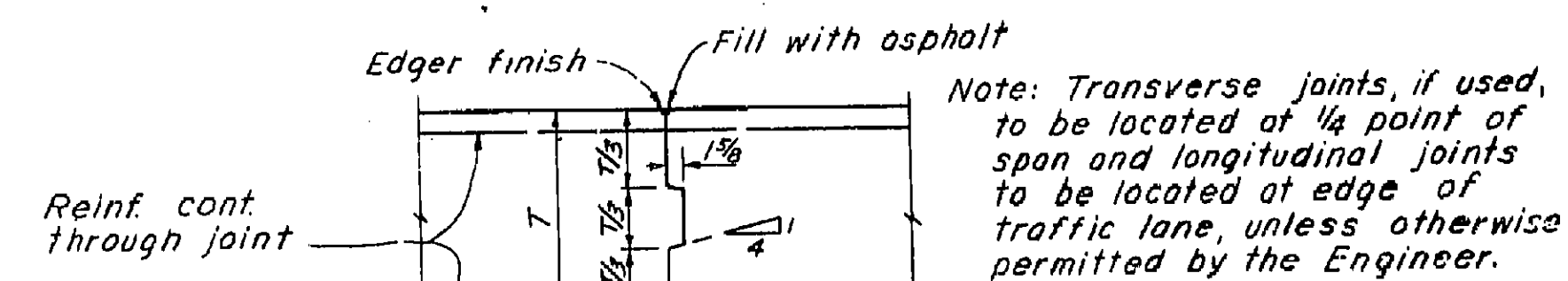
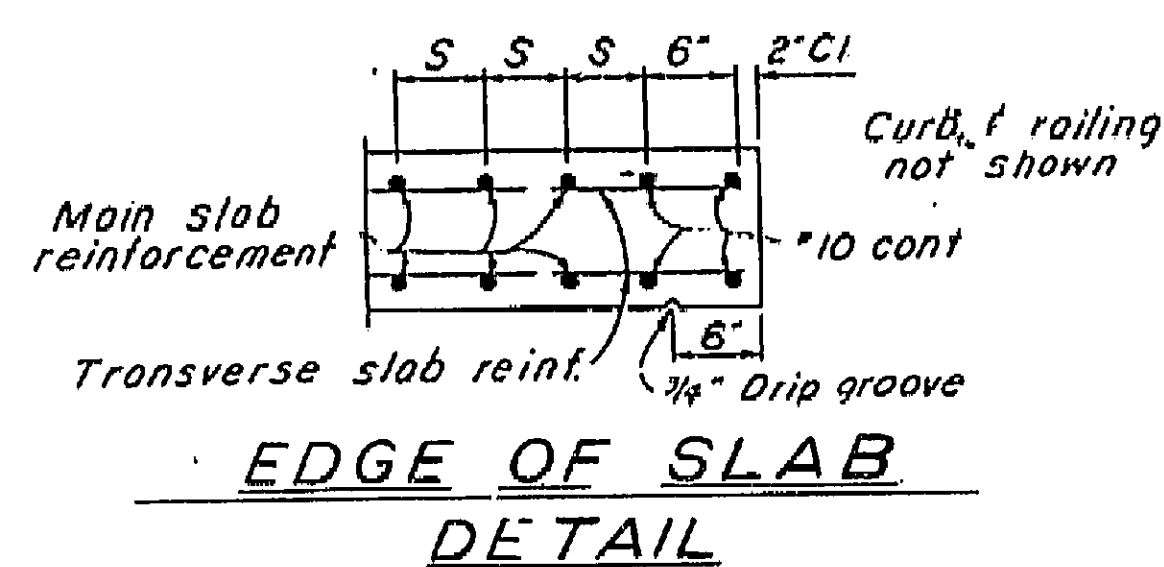
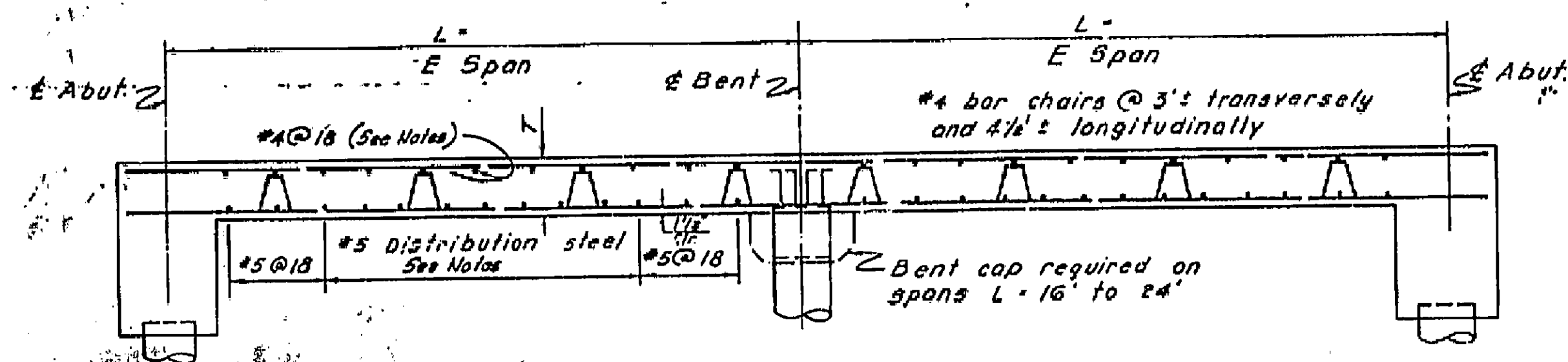
CHECKED BY:
RCE 23831

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
IRVINE BLVD. BRIDGES OVER PETER'S CYN. WASH RATTLESNAKE CYN. WASH CENTRAL IRVINE CHANNEL	
SLAB DETAILS	
DATE	DESCRIPTION
DESIGNED	REVISIONS
CHECKED	SCALE
DATE	DATE
DWG NO	SHEET
50	50

DR. 3. (13946)

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.





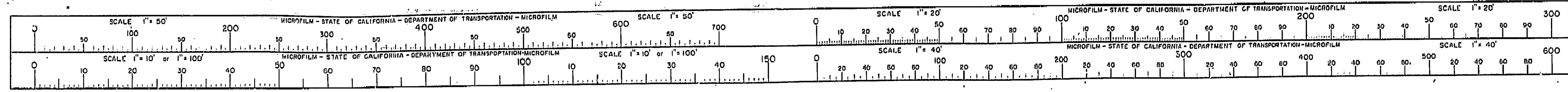
AS BUILT PLANS
 Contract No. Unknown
 Date Completed 7-2-83
 Document No. 70008550

1/2 0 2
 3 inches on original drawing

		ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
		IRVINE BLVD BRIDGES OVER PETERS CANYON WASH RATTLENAKE CREEK CENTRAL IRVINE CHANNEL	
		SLAB DETAILS	
CHECKED BY <i>[Signature]</i> RCE 2/83	DATE 7-2-83	PREPARED UNDER SUPERVISION OF DATE 7-2-83	SHEET 51
DESIGNED DRAWN	DATE CHECKED	SCALE AS SHOWN	DWG. NO.

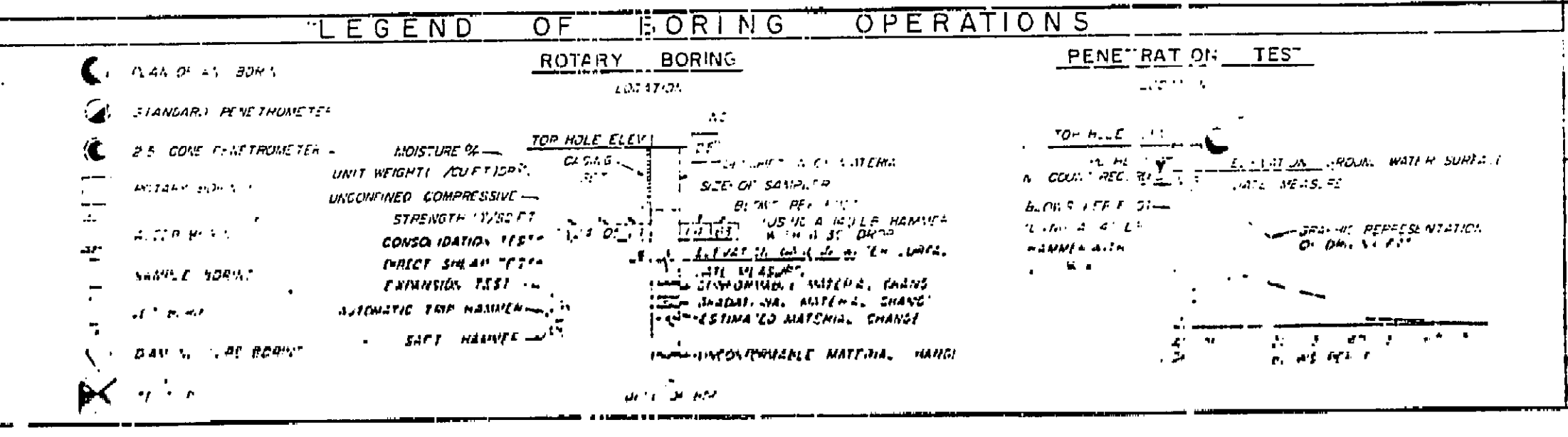
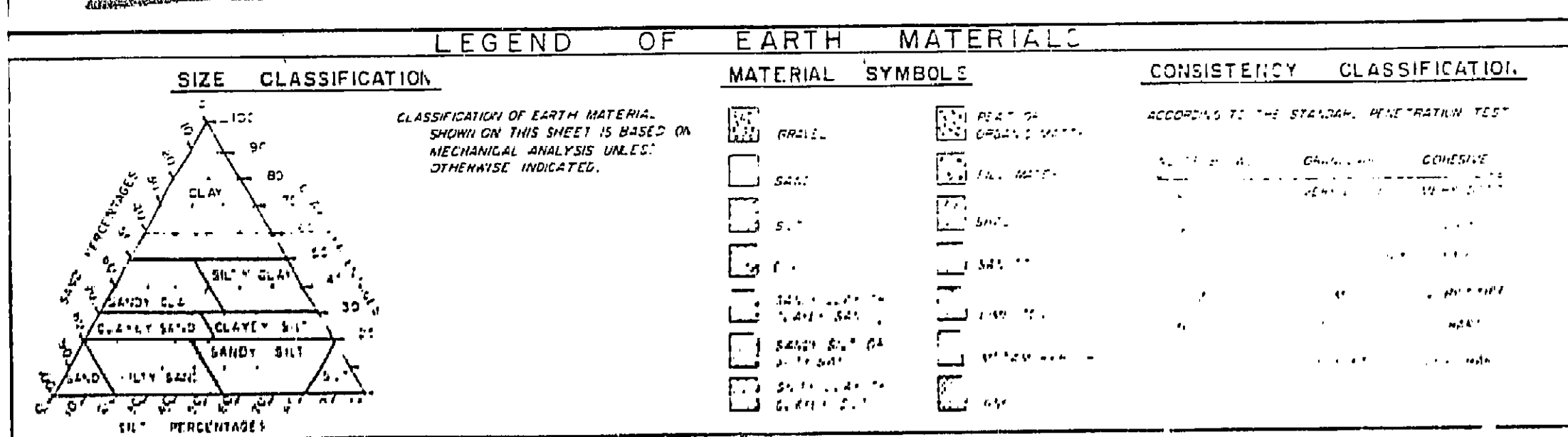
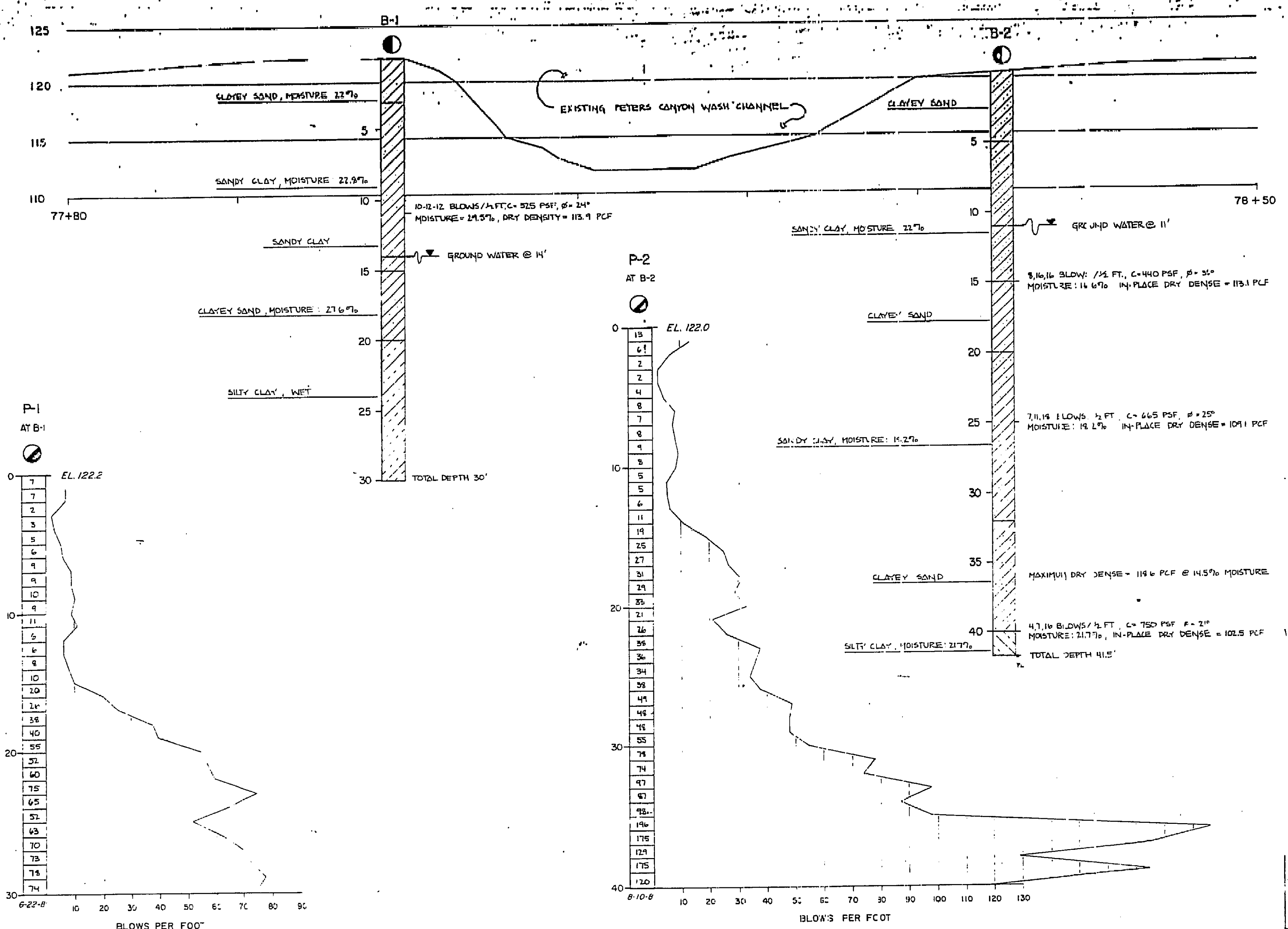
DR. 3 (1394)

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 UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO
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 12-8-86
 SUPERVISOR OF
 MICROFILM SERVICES



AS BUILT PLANS
Contract No. Unknown
Date Completed Unknown
Document No. 70008550

Poor Copy



COUNTY OF ORANGE

ENVIRONMENTAL MANAGEMENT AGENCY

LOG, BORING / PENETROMETER

PETERS CANYON WASH

BRIDGE PROPOSAL

SHEET 53

SCALE AS SHOWN 1" = 20' 1" = 40' 1" = 80'

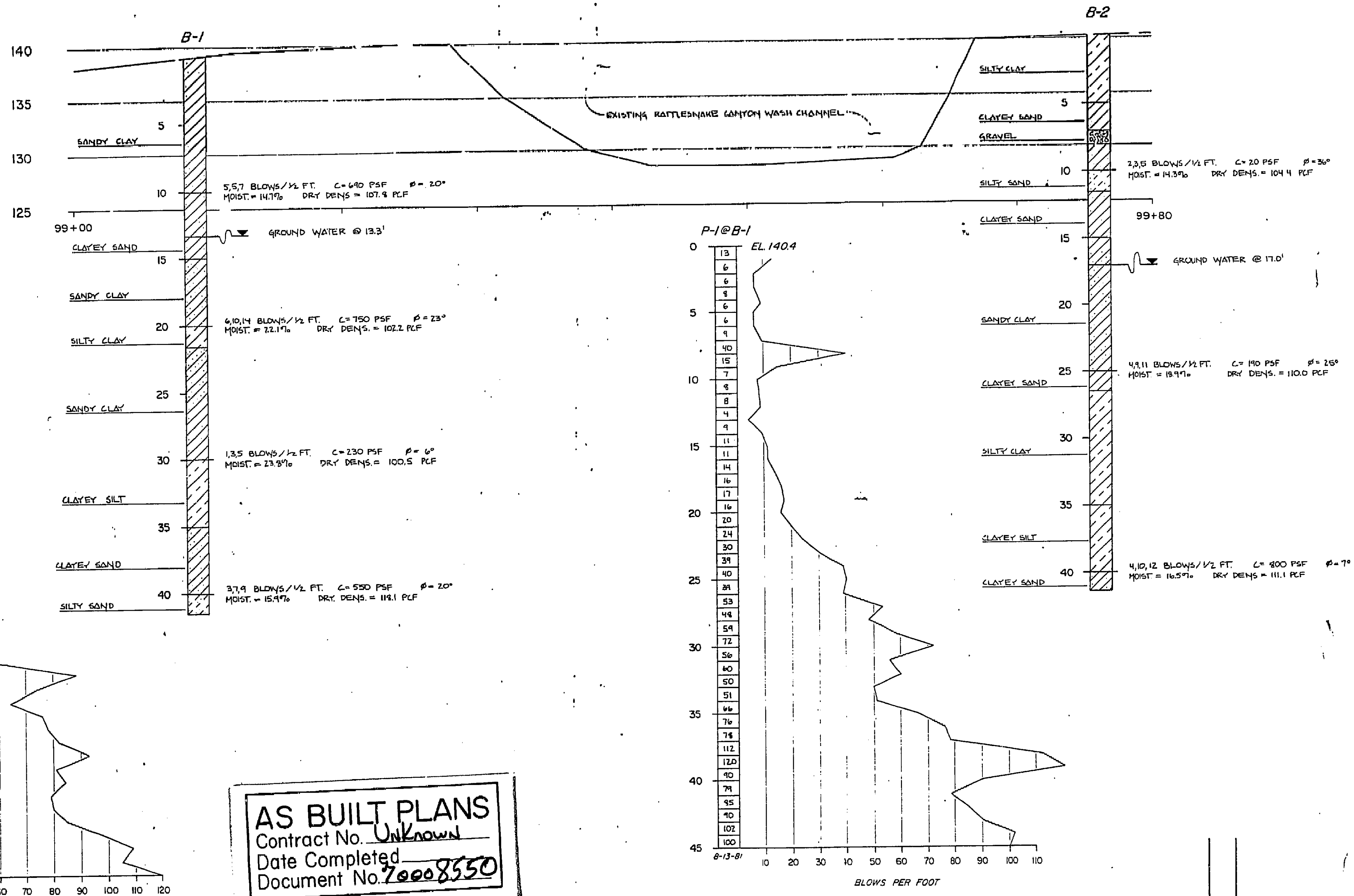
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DR 2 (13x)

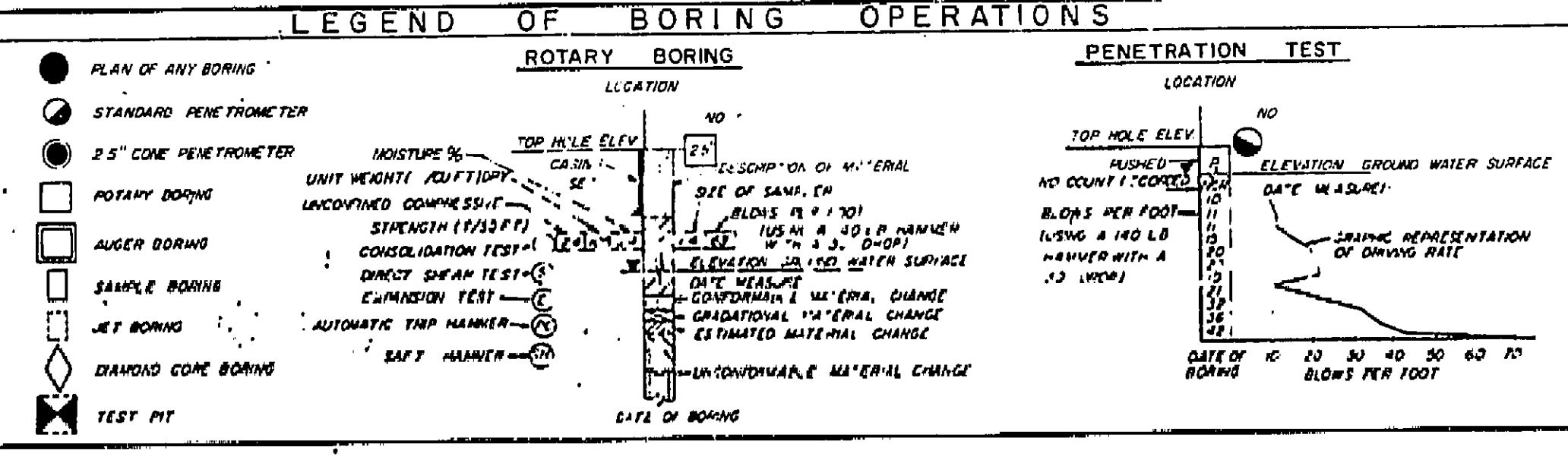
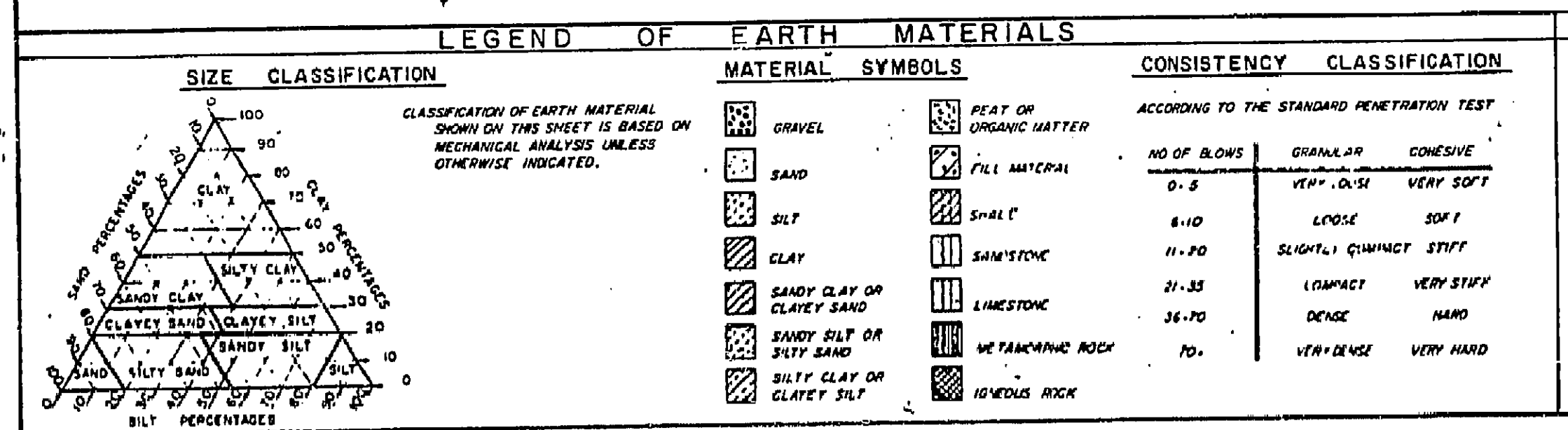
I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 12-8-86 SIGNATURE [Signature] TITLE SUPERVISOR OF MICROFILM SERVICES





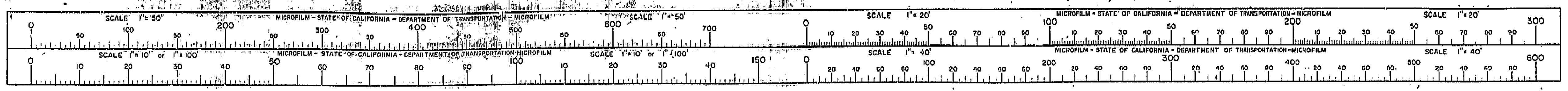
AS BUILT PLANS
Contract No. Unknown
Date Completed 7-20-86
Document No. 70008550

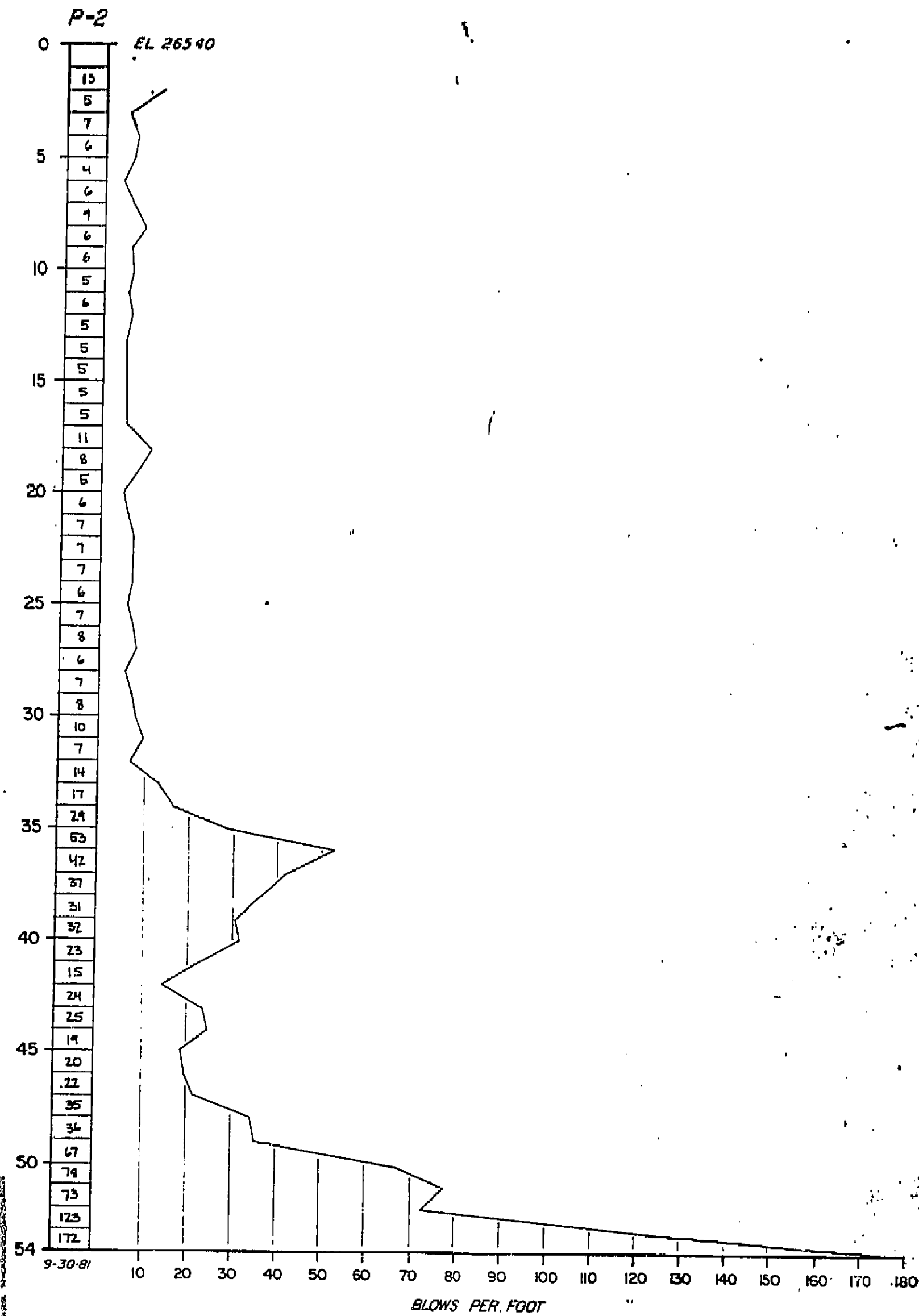
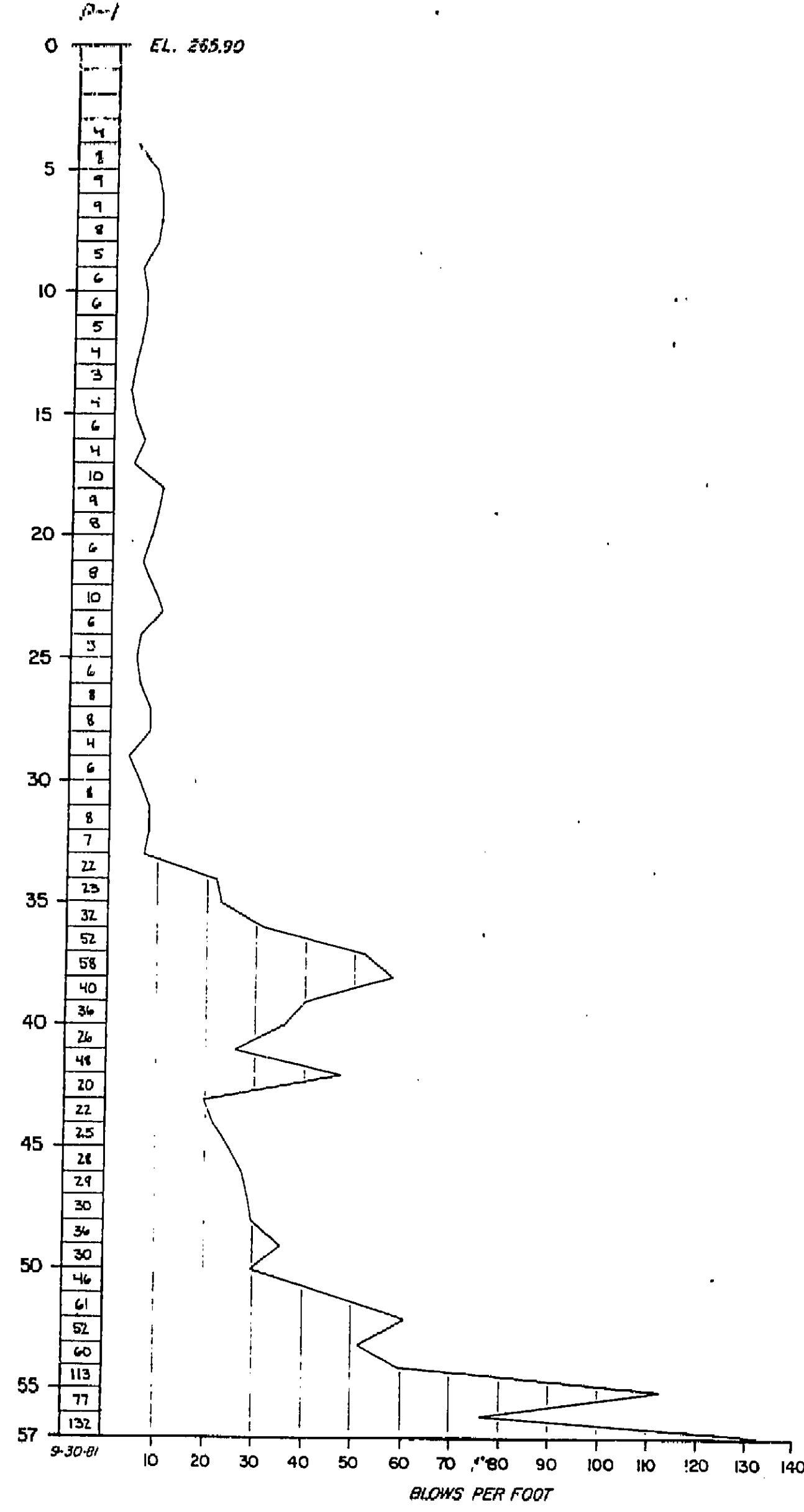
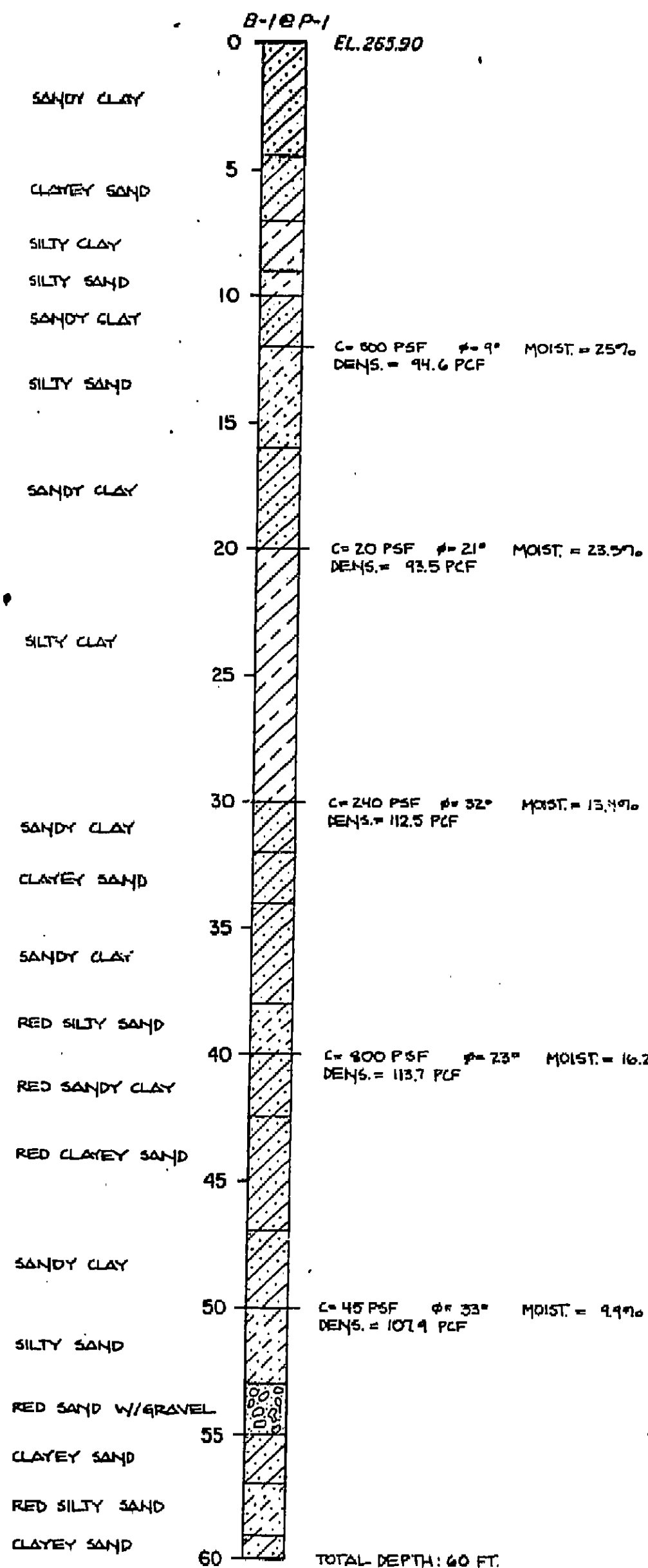


COUNTY OF ORANGE
ENVIRONMENTAL MANAGEMENT AGENCY
LOG, BORING/ PENETROMETER
RATTLESNAKE CYN. WASH
BRIDGE PROPOSAL
SHEET 54
SCALE AS SHOWN
DATE 9-8
DRAWING G.E. ANDERSON

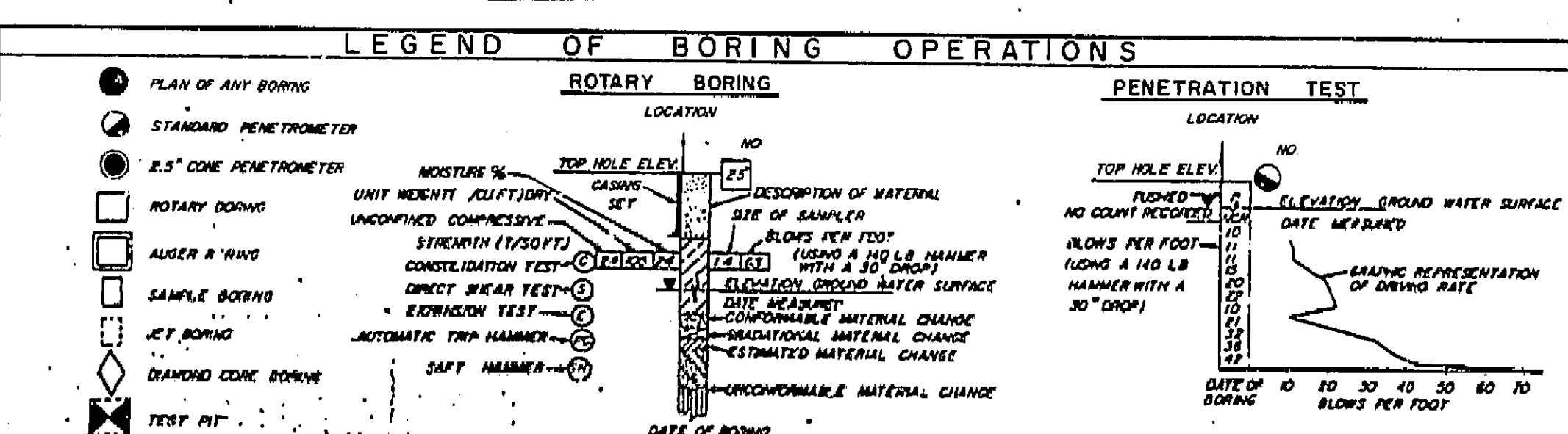
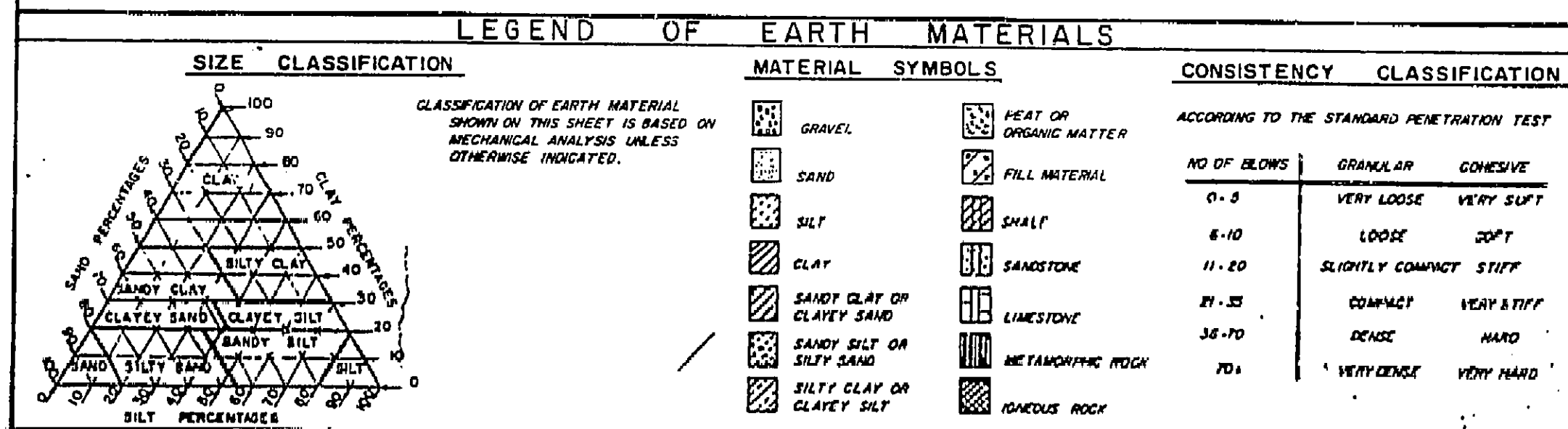
DP 3 (1374)

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12-8-86
SUPERVISOR OF MICROFILM SERVICES





AS BUILT PLANS
 Contract No. Unknown
 Date Completed 7-8-86
 Document No. 70008550



DATE _____ REVISION _____ DRAWN BY _____ CHECKED BY _____

COUNTY OF ORANGE

ENVIRONMENTAL MANAGEMENT AGENCY

LOG, BORING/ PENETROMETER

CENTRAL IRVINE CH.

BRIDGE PROPOSAL

SCALE AS SHOWN DATE 12-81 DRAWING 02-ANDERSON

DR 3 (1326)

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

12-8-86 Donald Blackford SUPERVISOR OF MICROFILM SERVICES

