

**INDEX OF SHEETS**

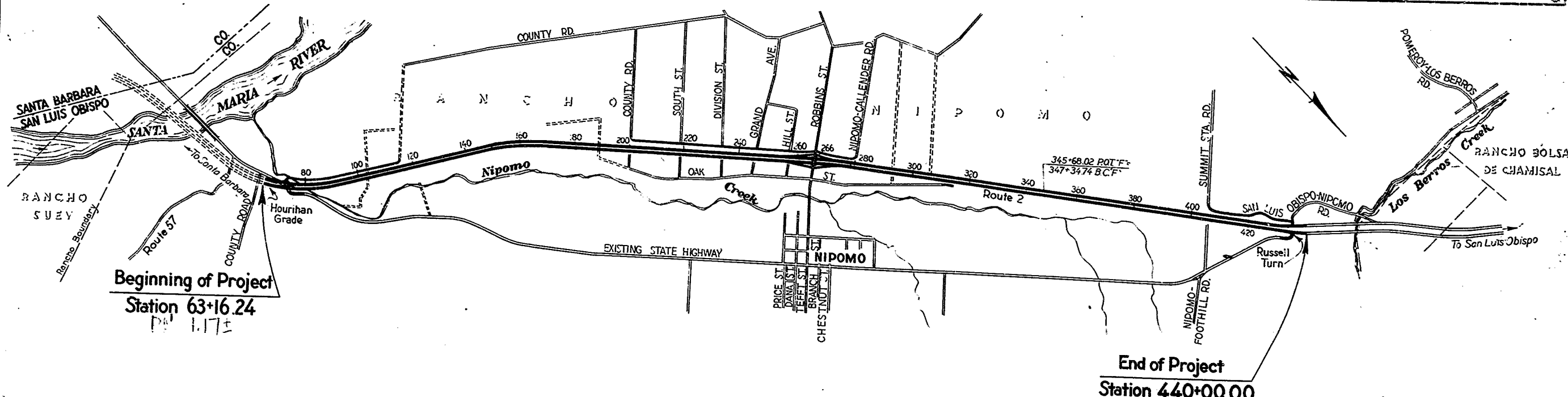
Sheet No.	Title Sheet
2-3	Typical Cross Sections
4	Paving Details
5-19	Plan and Profile
20-23	Construction Details
24	Miscellaneous Structures
25-27	Miscellaneous Profiles
28-30	Quantity Summary
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1-13	Robbins Street Overcrossing

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS  
**PLAN AND PROFILE OF  
 STATE HIGHWAY**

In San Luis Obispo County, between Hourihan Grade and Russell Turn

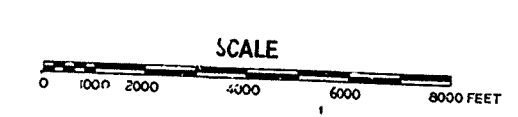
Scales { Plan: 1 in. = 100 Ft.  
 Profile: Hor. 1 in. = 100 Ft. Vert. 1 in. = 10 Ft.

(being the detail plans of a portion of the route for the  
 State highway adopted by the California Highway Commission  
 April 20, 1955 and declared a  
**FREEWAY**  
 by resolution of the California Highway Commission  
 April 20, 1955)



**CONVENTIONAL SIGNS**

County Line	Bank or Retaining Wall
City or Town Limits	Levee
Township Line	Culverts
Section Line	Drop Inlet
Grant Line	Trolley Pole
Fence	Power Pole
Guard Rail	Power Tower
Unfenced Property	Telegraph or Telephone Pole
Right of Way Line	Marsh
Base or Survey Line	
Traveled Way	
Railway Tracks	



Length of Project = 37,517.04 feet = 7.106 miles

**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000 512

*J. J. Funk*  
 Acting Chief Engineer  
*John Young*  
 Chief Engineer  
 February 27, 1956  
*Frank B. Dunbar*  
 Director of Highways

57-5VC3

FED. DIST. NO.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	PROJECT	TOTAL ANNOTS
	CALIF.				

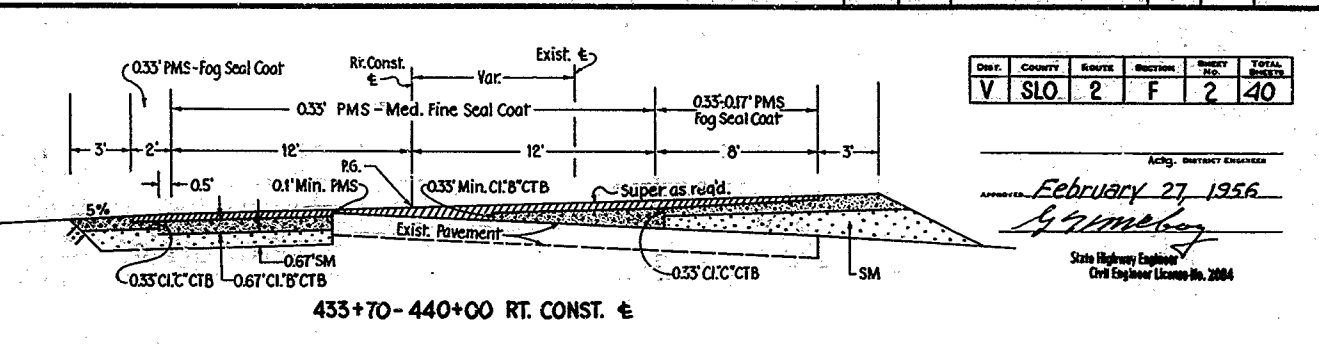
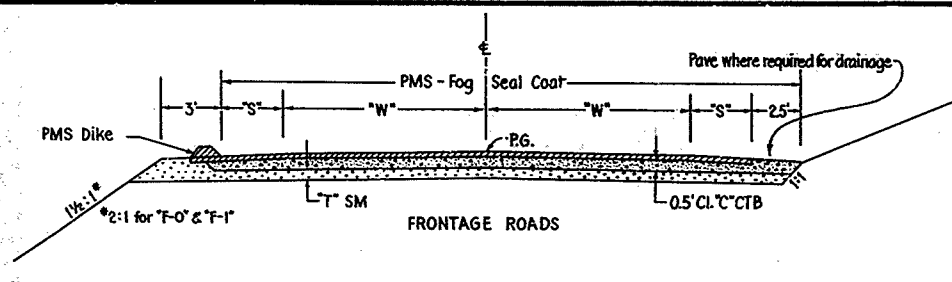
  

DATE	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
V	SLO	2	F	2	40

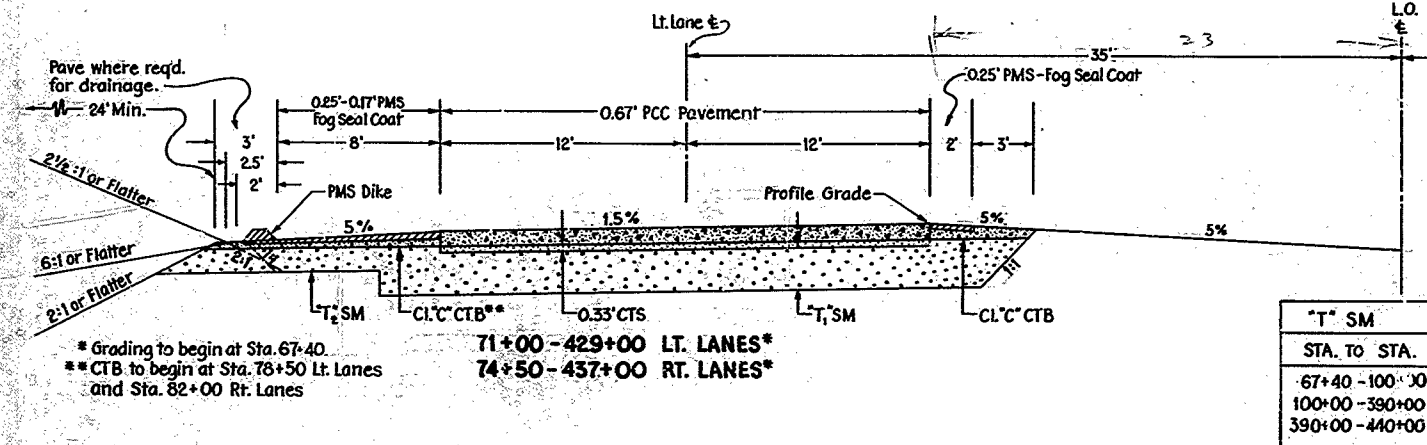
DESIGN CLASSIFICATION : 1760-77-M-60  
10 YEAR E.W.L.E : 10.9 MILLION

FRONTAGE ROAD	W	S	T	CROWN	LANE	GRADE	SLOPE
Robbins St	12'	8'	0	2-Way	0.25'	0.25'-0.17'	2%:1
F-1	10'	3'	0.5'	2-Way	0.21'	0.21'	2%:1
F-2	10'	3'	0	1-Way	"	"	2%:1
F-3	10'	3'	0	1-Way	"	"	2%:1
F-4	10'	3'	0	1-Way	"	"	2%:1
F-5	10'	3'	0.33'	1-Way	"	"	1%:1
F-6	10'	3'	0.33'	1-Way	"	"	1%:1
F-0	10'	3'	0	1-Way	"	"	2%:1

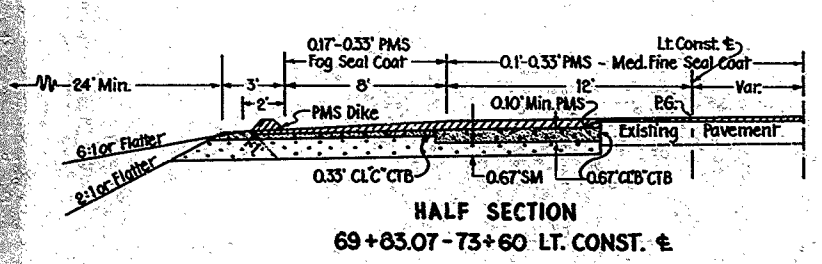
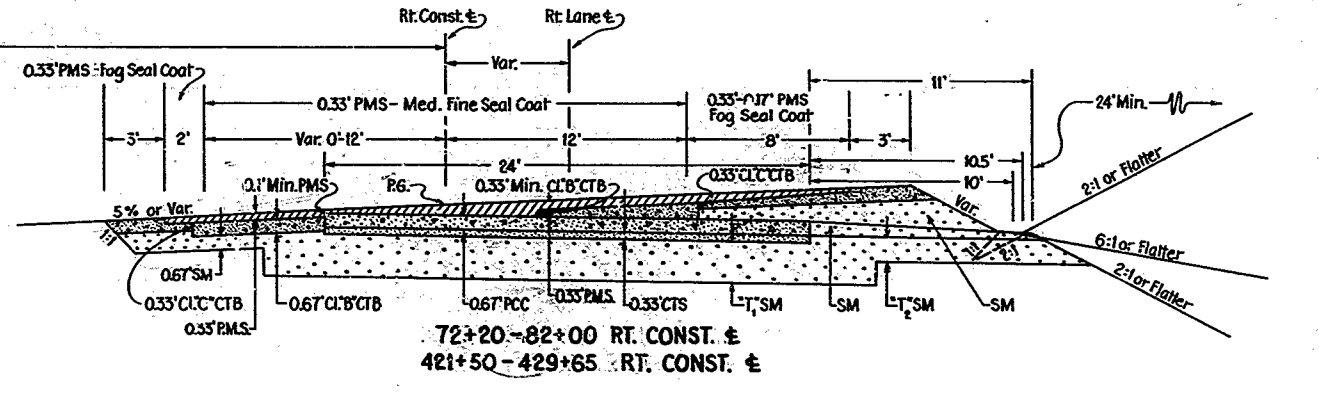
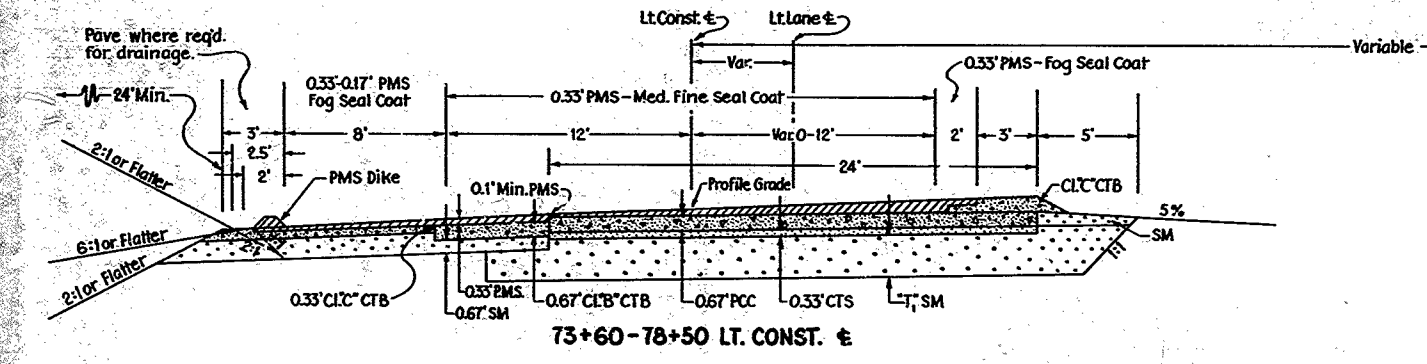
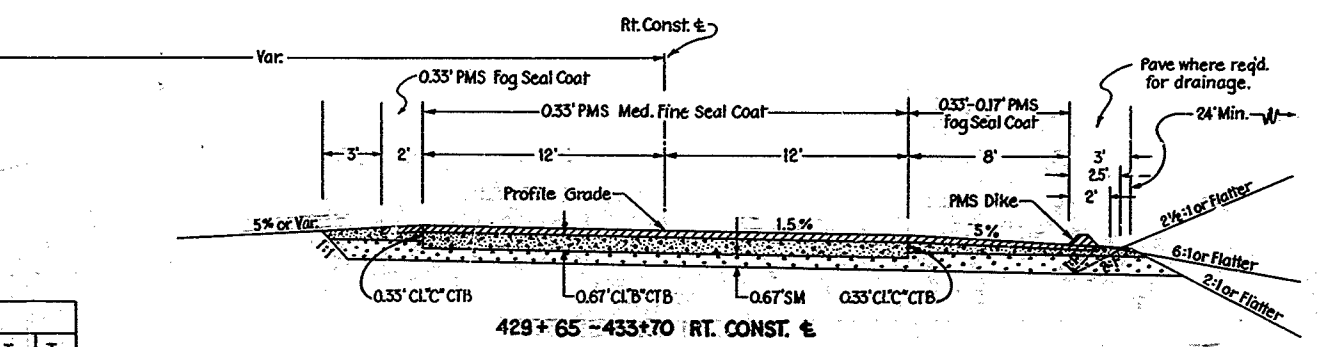
T+0 69+70.5 TO 100  
T+0 100 TO 119



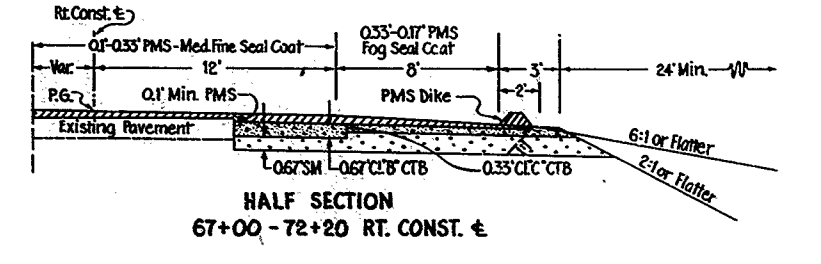
February 27 1956  
G. J. ...  
State Highway Engineer  
Civil Engineer License No. 2884



T+ SM	STA. TO	STA.	T <sub>1</sub>	T <sub>2</sub>
	67+40	100+00	2'	1.17'
	100+00	390+00	0	0
	390+00	440+00	0.85'	1.17'



STA.	STA.	SLOPE
67+40	100+00	2:1
100+00	390+00	2%:1
390+00	440+00	2:1



Legend  
P.M.S. = Plant-Mixed Surfacing  
P.C.C. = Portland Cement Concrete Pavement  
C.T.B. = Cement Treated Base  
C.T.S. = Cement Treated Subgrade  
S.M. = Selected Material

**AS BUILT PLANS**  
Contract No. 57-5VC3  
Date Completed  
Document No. 50000 512

(V-SLO-2-F)  
HOURIHAN GRADE TO RUSSELL TURN  
**TYPICAL CROSS-SECTIONS**  
SCALE: 1"=5'

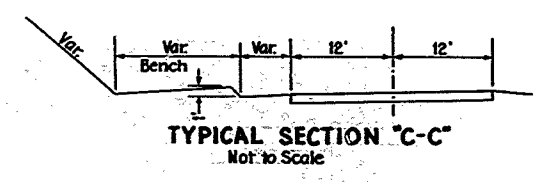
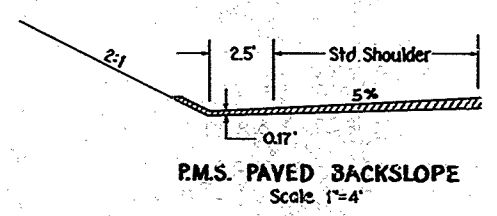
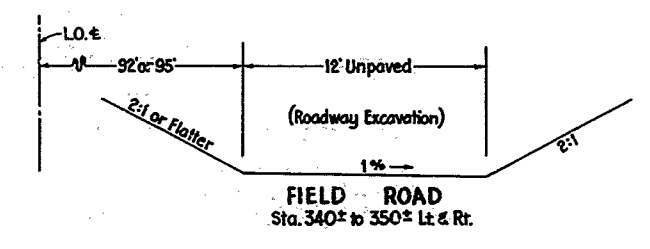
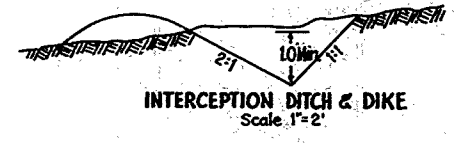
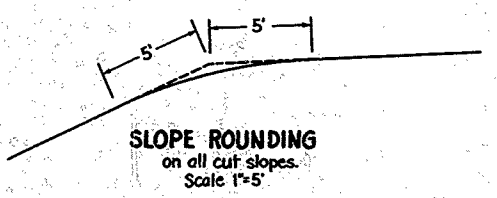
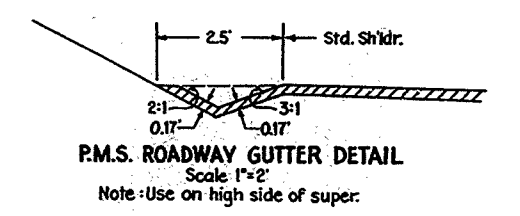
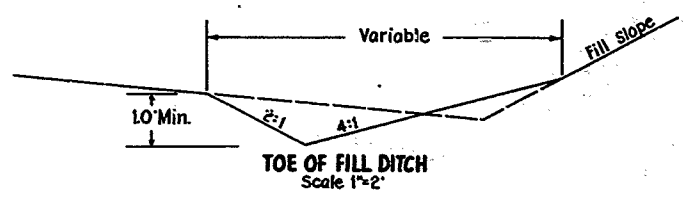
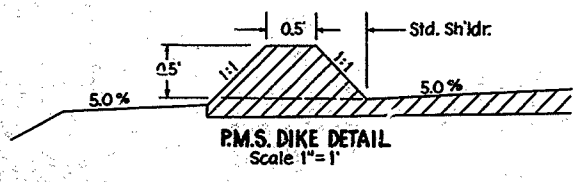
57-5VC3  
G. J. ...  
State Highway Engineer  
Civil Engineer License No. 2884

FPA DIST. NO.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	CALIF.				

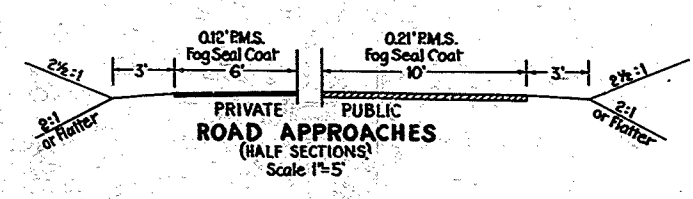
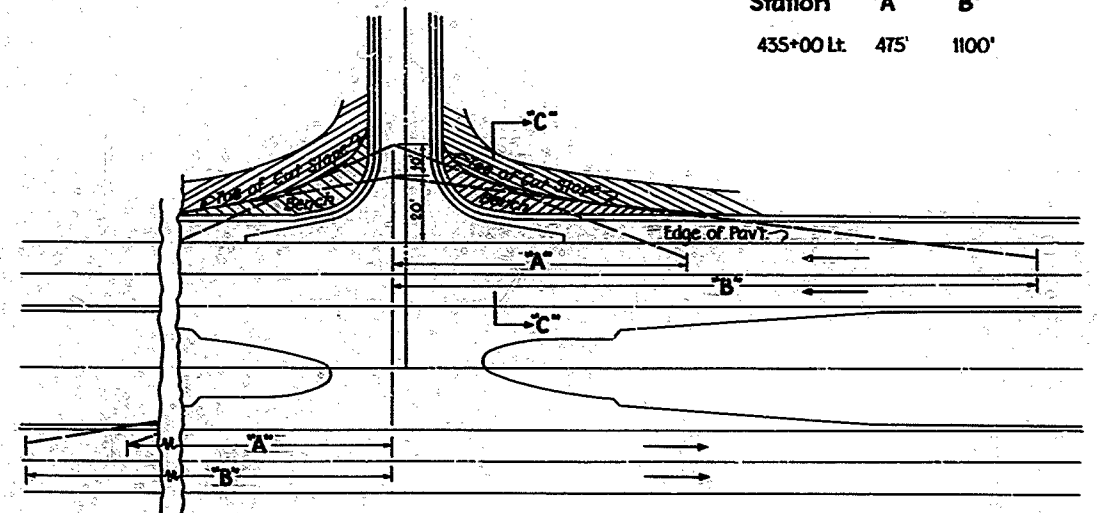
Dist.	County	Sheet	Section	Sheet	Sheet
V	SLO	2	F	3	40

DATE: February 27, 1956  
 State Highway Engineer  
 Civil Engineer License No. 5004

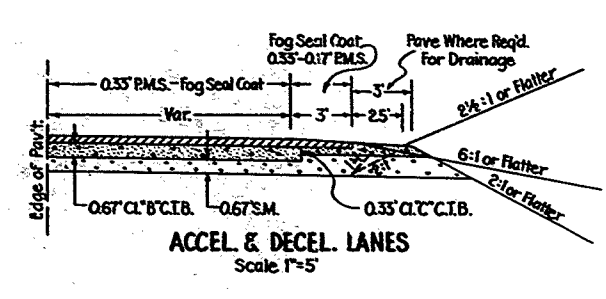
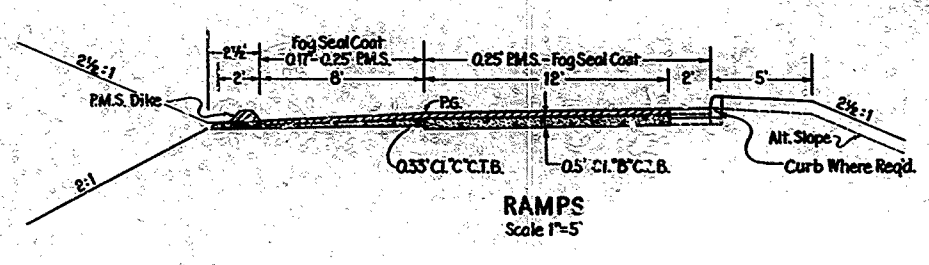
DESIGN CLASSIFICATION: 1760-T7-M-60  
 10 YEAR E.W.L. : 10.9 MILLION



Station "A" "B"  
 435+00 Lt. 475' 1100'



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed  
 Document No. 5000512



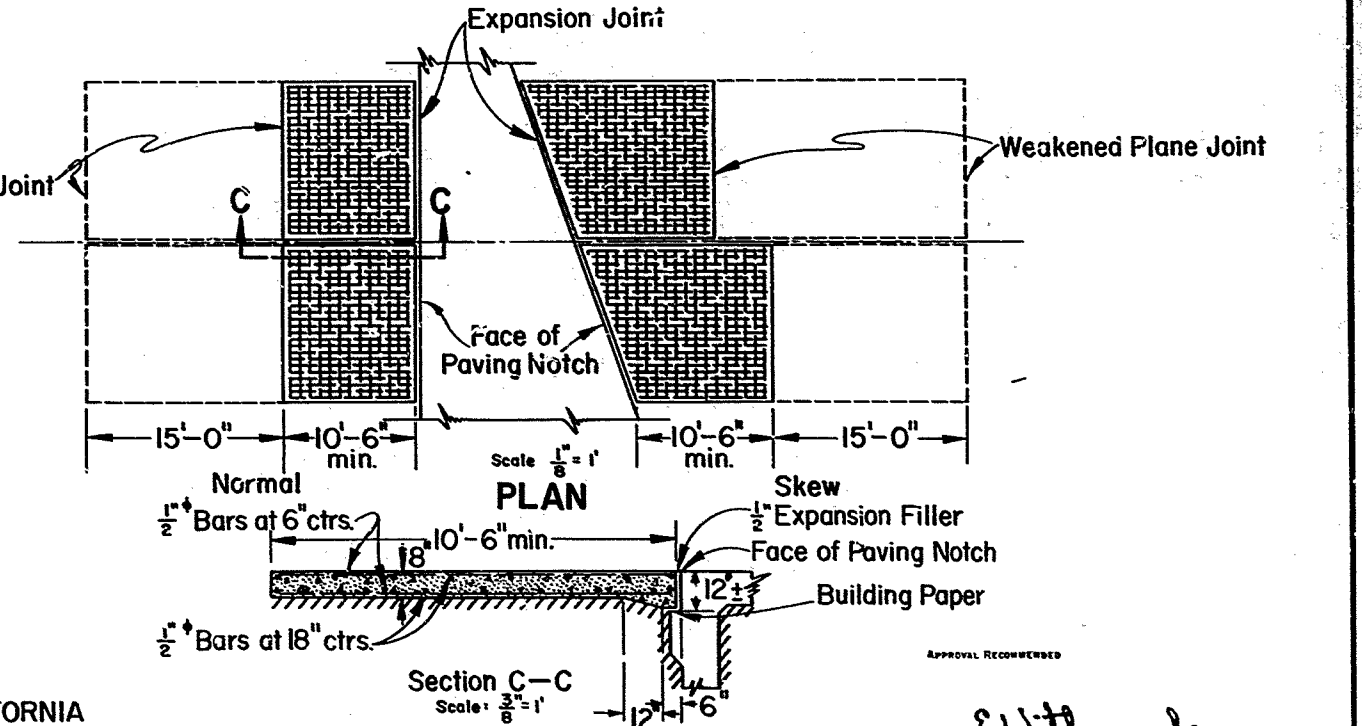
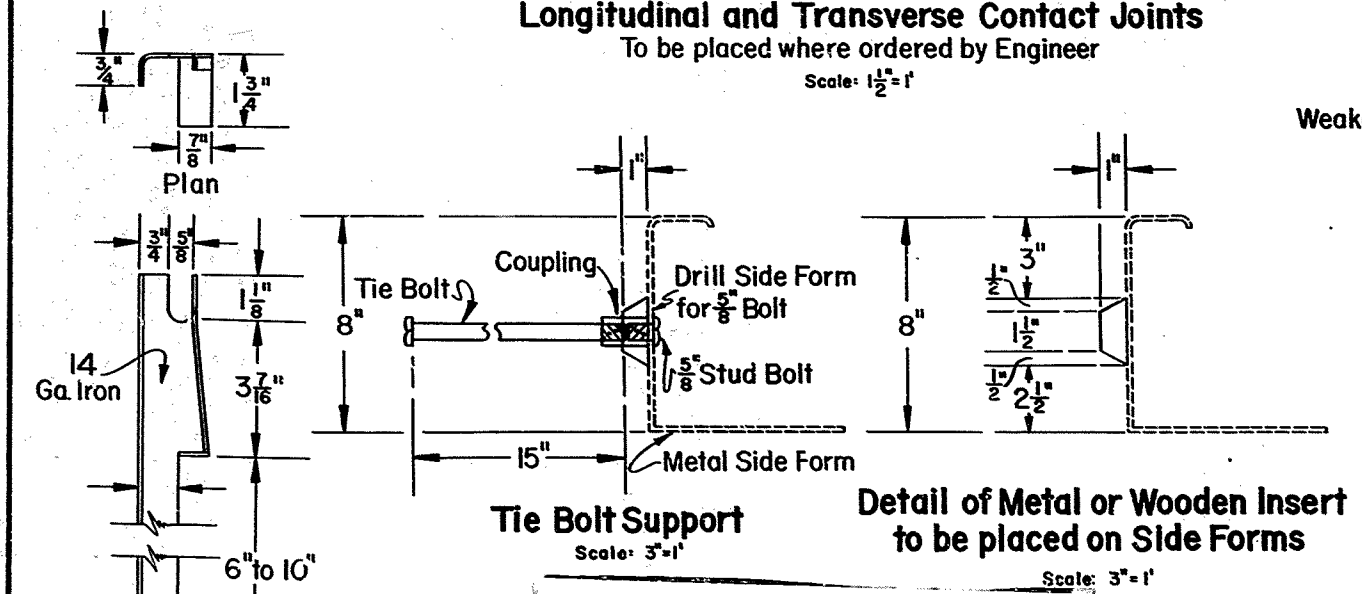
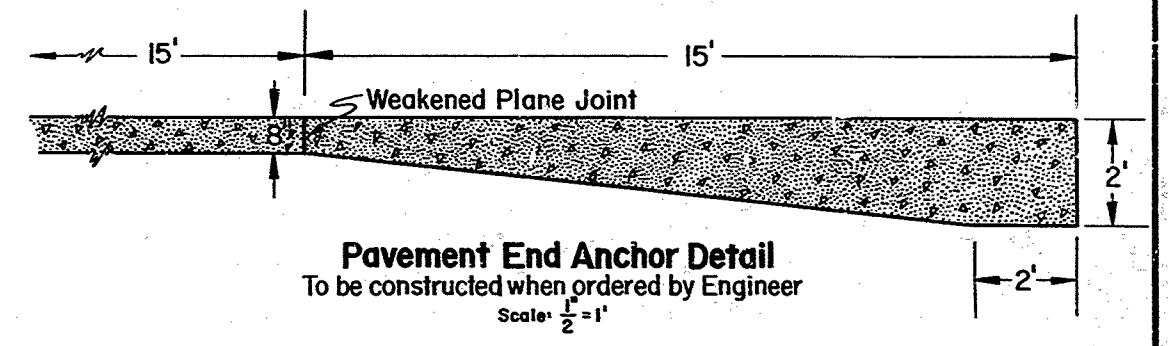
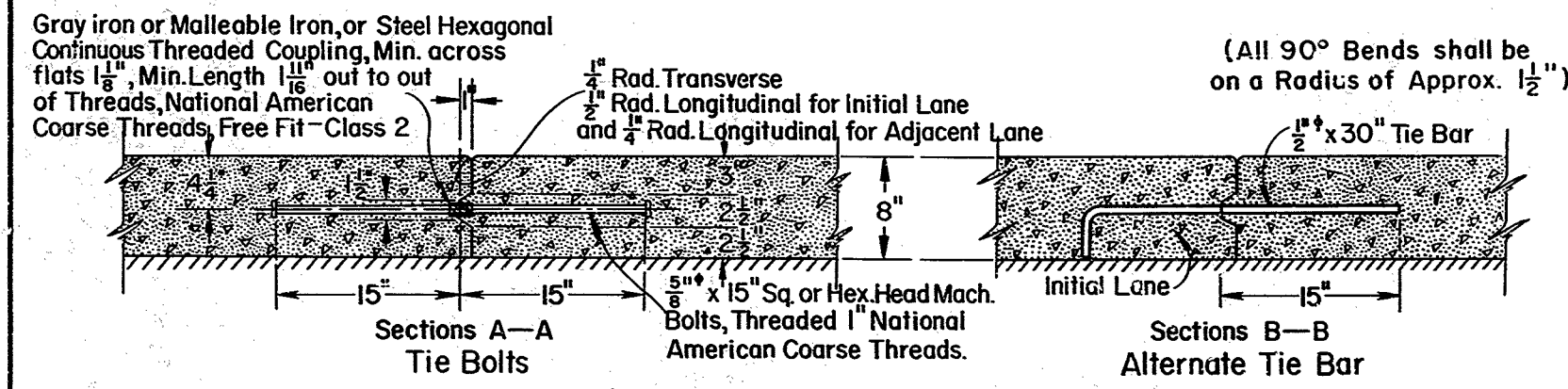
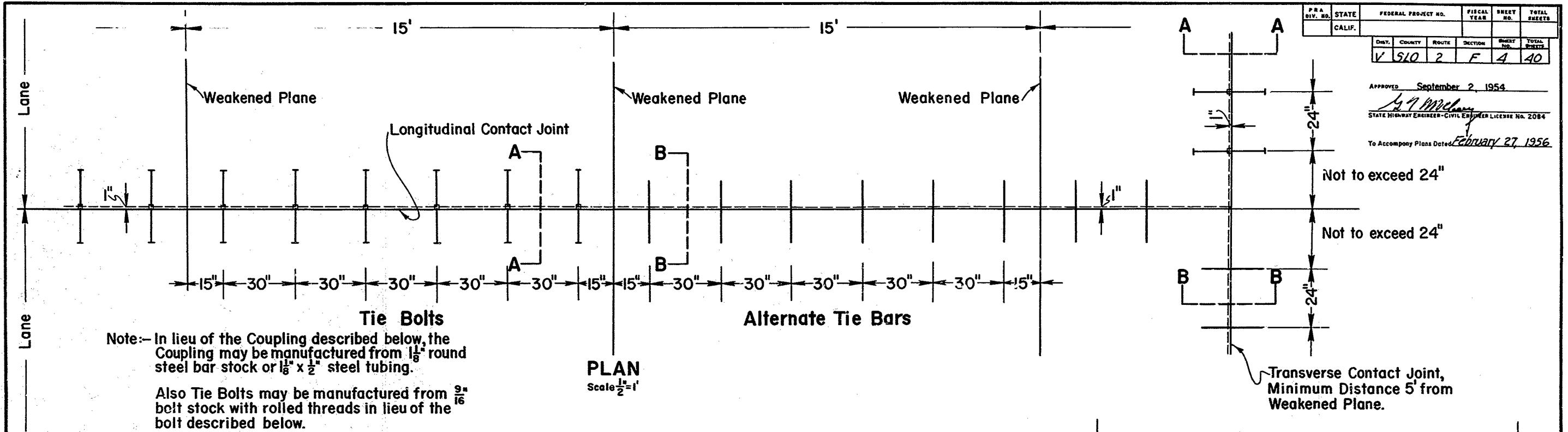
(V-SLO-2-F)  
 HOURIHAN GRADE TO RUSSELL TURN  
**TYPICAL CROSS-SECTIONS**

57-5VC3  
 State Highway Engineer  
 License No. 5071

3

P.A. DIST. NO.	STATE CALIF.	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
V 510	2	F 4	40		

APPROVED: September 2, 1954  
*E. W. Witherspoon*  
 STATE HIGHWAY ENGINEER - CIVIL ENGINEER LICENSE NO. 2084  
 To Accompany Plans Dated February 27, 1956



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000 512

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS  
**PAVING DETAILS**

**Detail of Pavement Reinforcement at Structure Approaches**

57-5VC3  
 Revised November 3, 1955  
 Tie Bar Bends  
 Sept 2, 1954 A-35





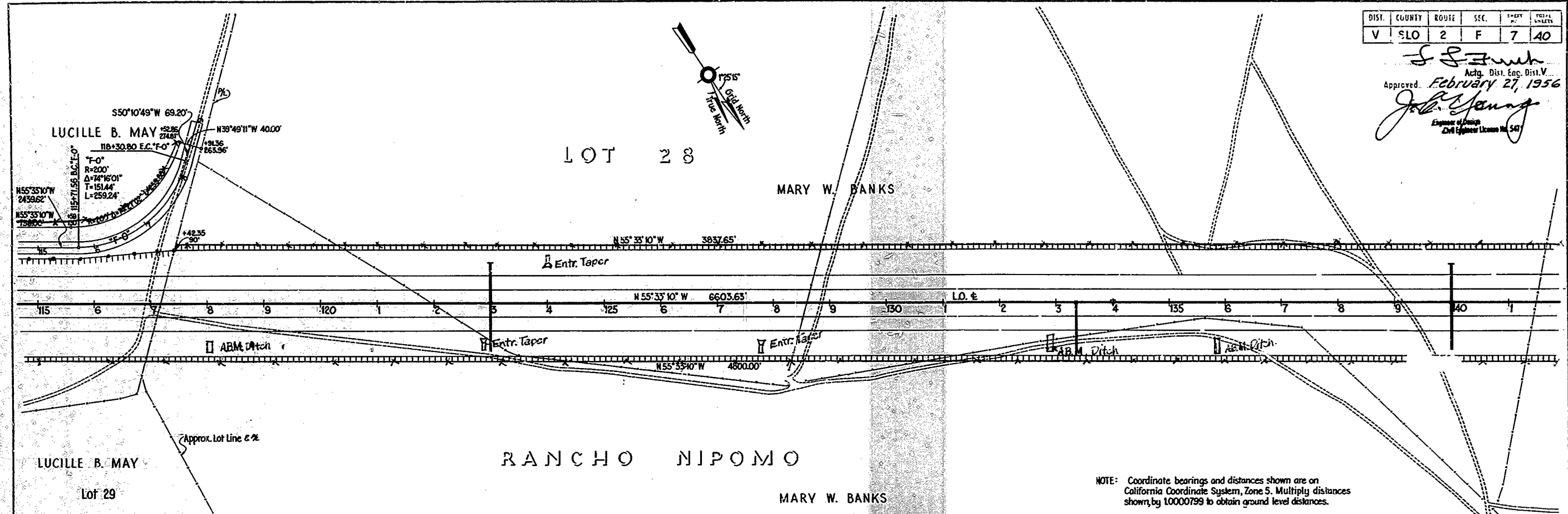




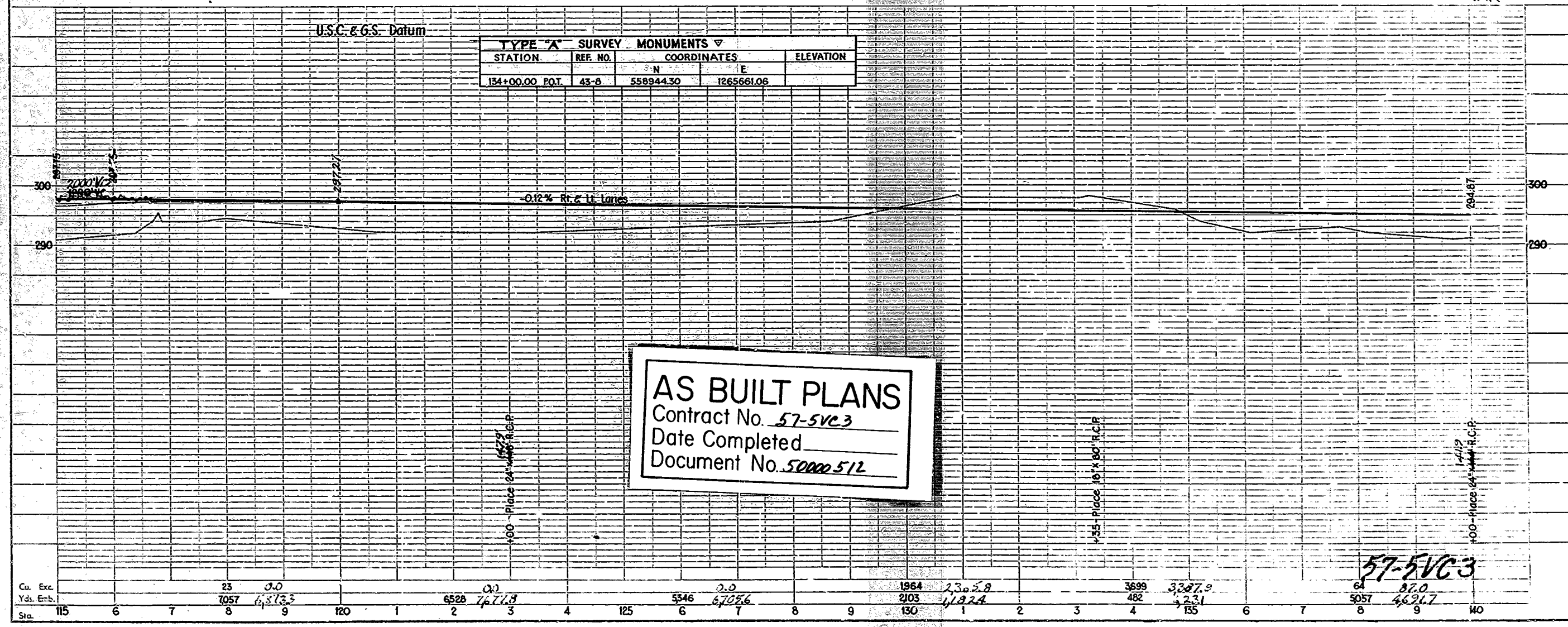
DIST. COUNTY ROUTE SEC. 7 CALIF.

V 1 SLO 2 F 7 40

*J. S. Smith*  
 Actg. Dist. Eng. Dist. V.  
 Approved February 27, 1956  
*John Young*  
 Engineer of Design  
 Civil License No. 547



NOTE: Coordinate bearings and distances shown are on California Coordinate System, Zone 5. Multiply distances shown by 10000799 to obtain ground level distances.



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed  
 Document No. 50000 512

Sta.	115	6	7	8	9	120	1	2	3	4	125	6	7	8	9	130	1	2	3	4	135	6	7	8	9	140
Cu. Exc.				23	0.0											1964	2302.8				3699	3327.9				
Yds. Emb.				7057	6373.3			6528	7411.3			5546	6705.6			2103	4192.4				482	4231				

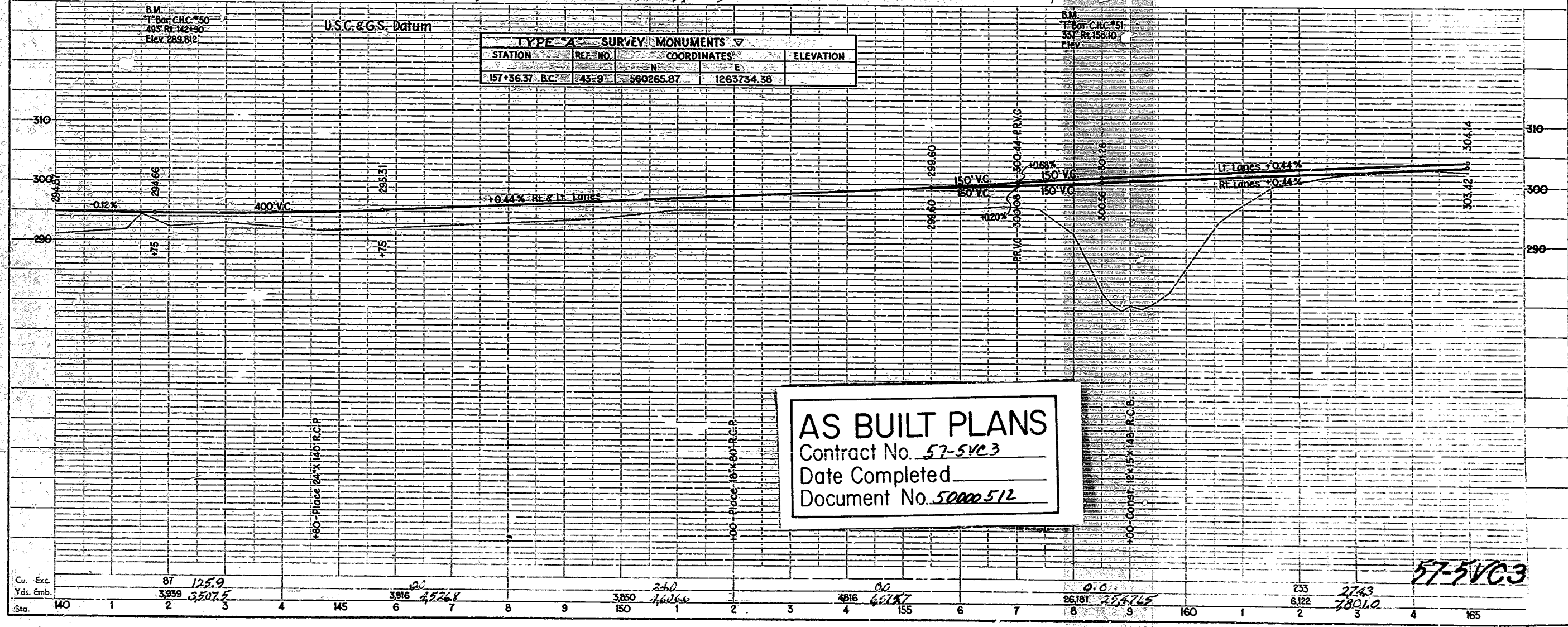
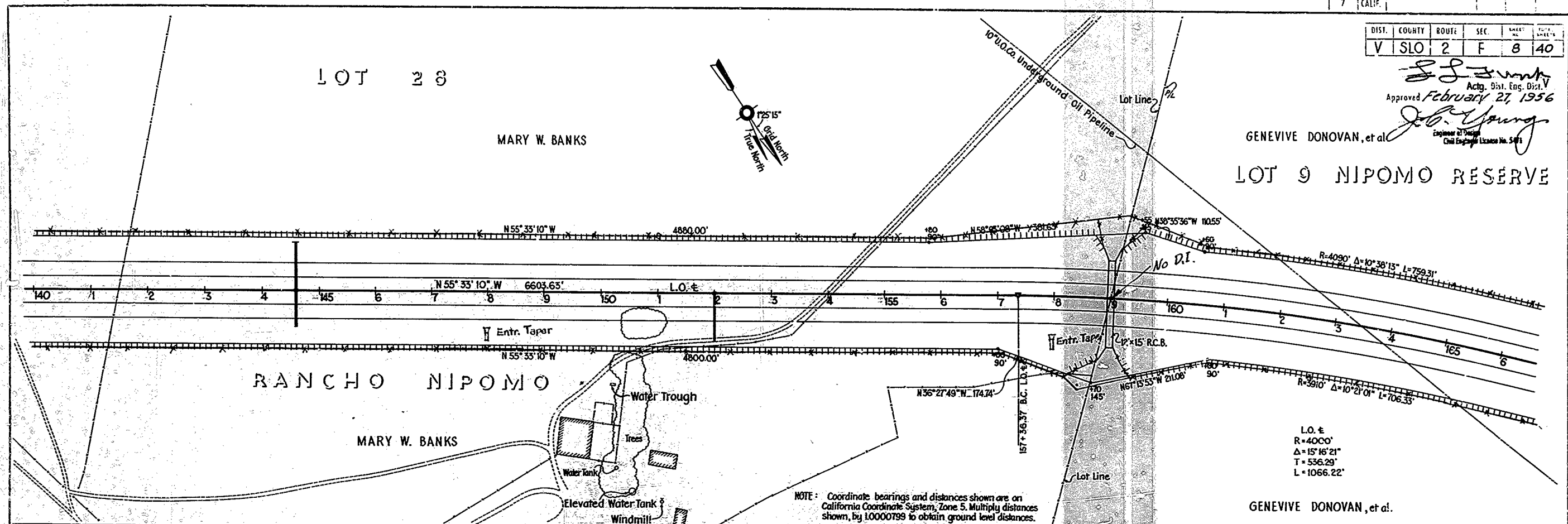
57-5VC3



DIST.	COUNTY	ROUTE	SEC.	SECT.	AREA
V	SLO	2	F	8	140

*S. J. Young*  
 Acty. Dist. Eng. Dist. V  
 Approved February 27, 1956  
*J. O. Young*  
 Civil Engineer License No. 548

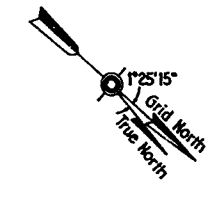
GENEVE DONOVAN, et al.  
 LOT 9 NIPOMO RESERVE



DIST	COUNTY	ROUTE	SEC.	NEED	REVISION
V	SLO	2	F	9	40

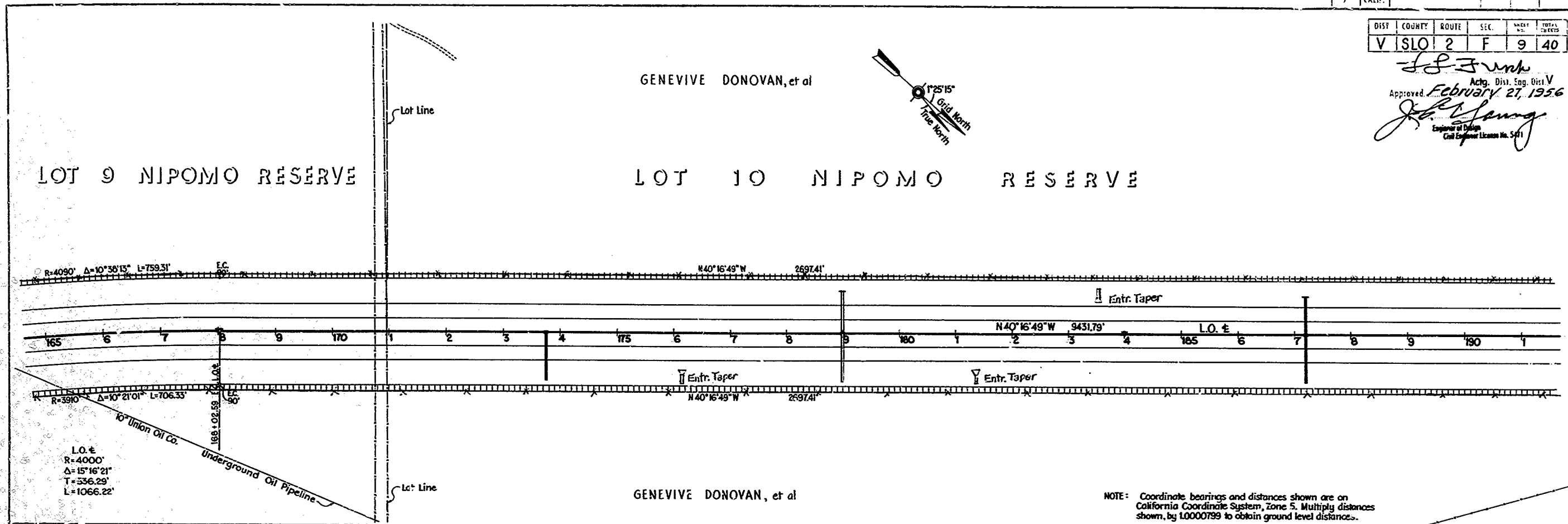
*J.S. Smith*  
 Actg. Dist. Eng. Dist. V  
 Approved February 27, 1956  
*J.P. Young*  
 Licensed Professional Engineer  
 Civil Engineer License No. 5071

GENEVIVE DONOVAN, et al



LOT 9 NIPOMO RESERVE

LOT 10 NIPOMO RESERVE



L.O. &  
 R=4000'  
 Δ=15°16'21"  
 T=336.89'  
 L=1066.22'

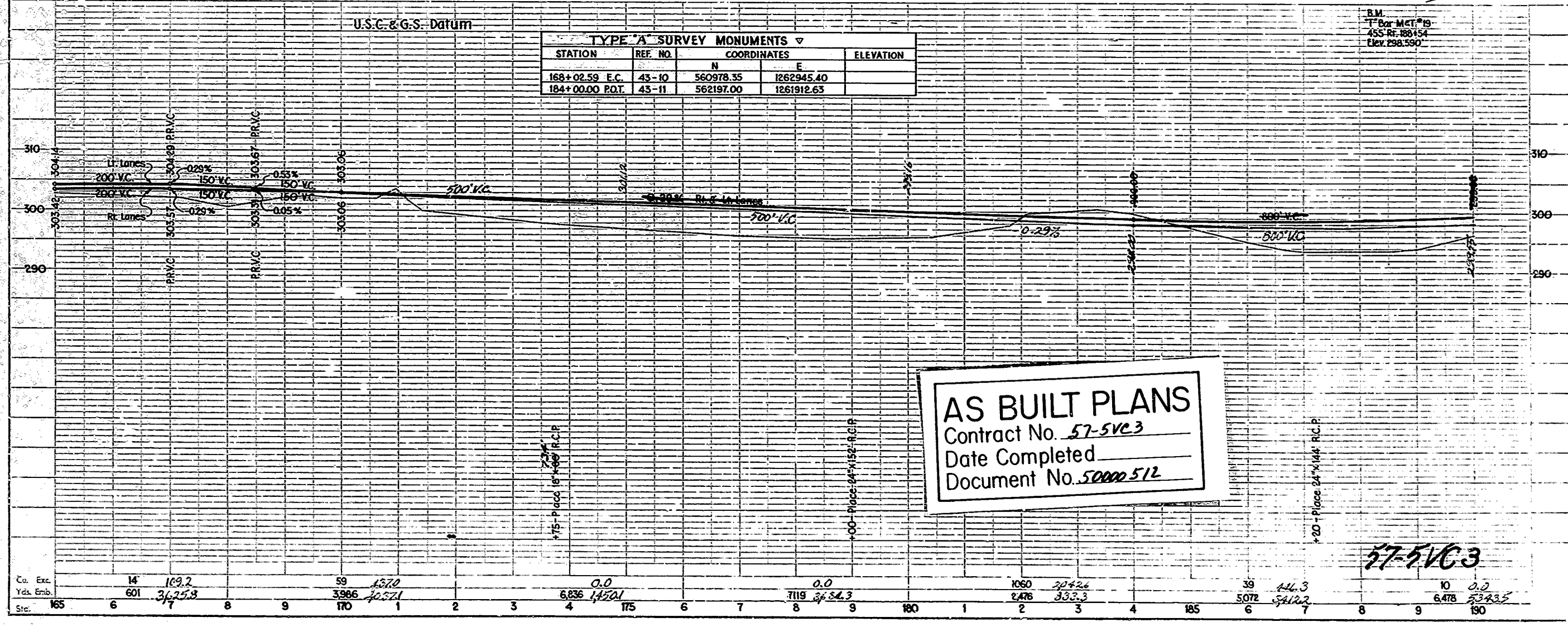
GENEVIVE DONOVAN, et al

NOTE: Coordinate bearings and distances shown are on California Coordinate System, Zone 5. Multiple distances shown, by 10000799 to obtain ground level distances.

U.S.C. & G.S. Datum

TYPE 'A' SURVEY MONUMENTS				
STATION	REF. NO.	COORDINATES		ELEVATION
		N	E	
168+02.59 E.C.	43-10	560978.35	1262945.40	
184+00.00 P.O.T.	43-11	562197.00	1261912.63	

D.M.  
 T-Bar M.C.T.#19  
 455-RF-188154  
 Elev 258.590'

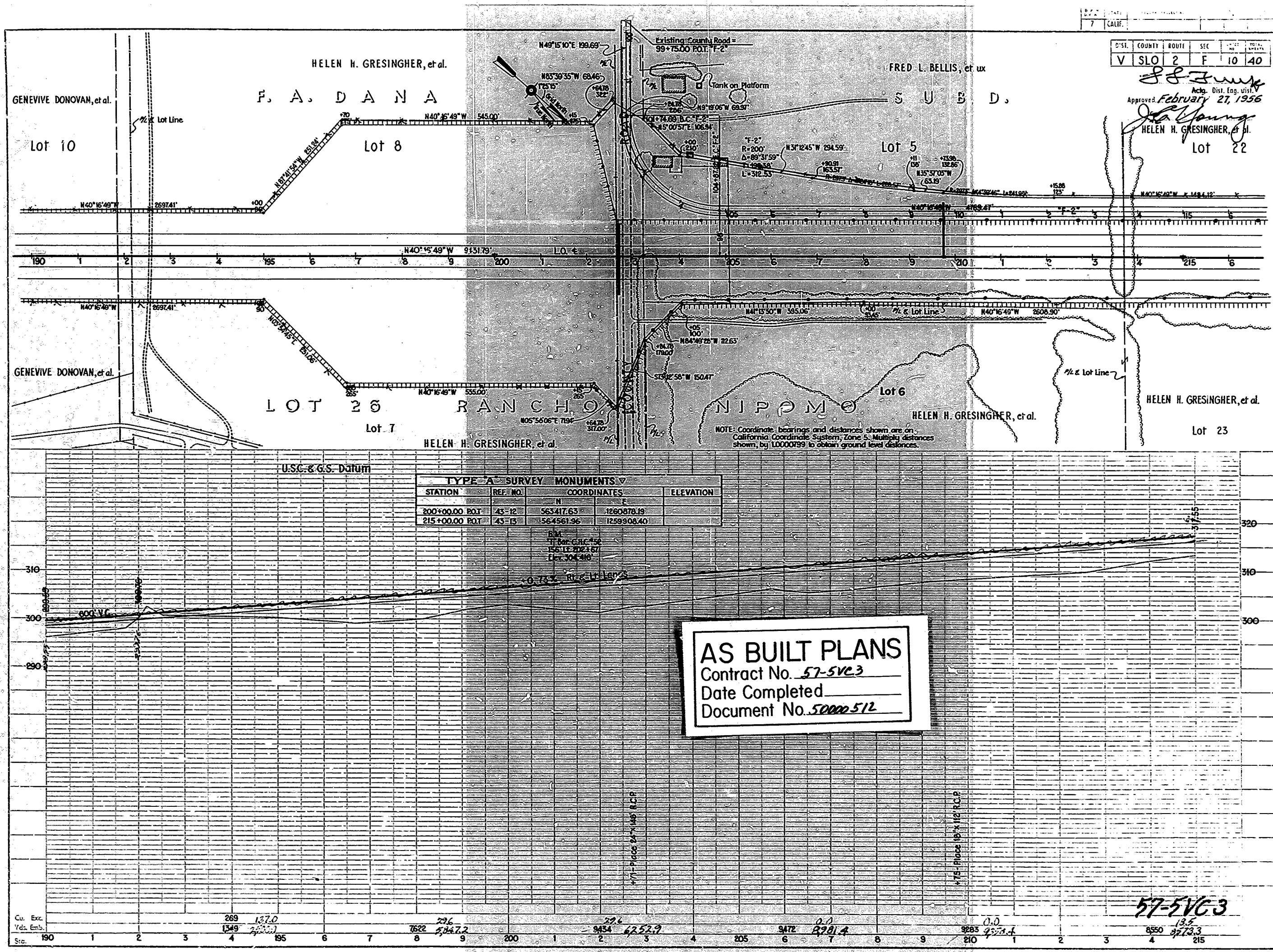


**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000 512

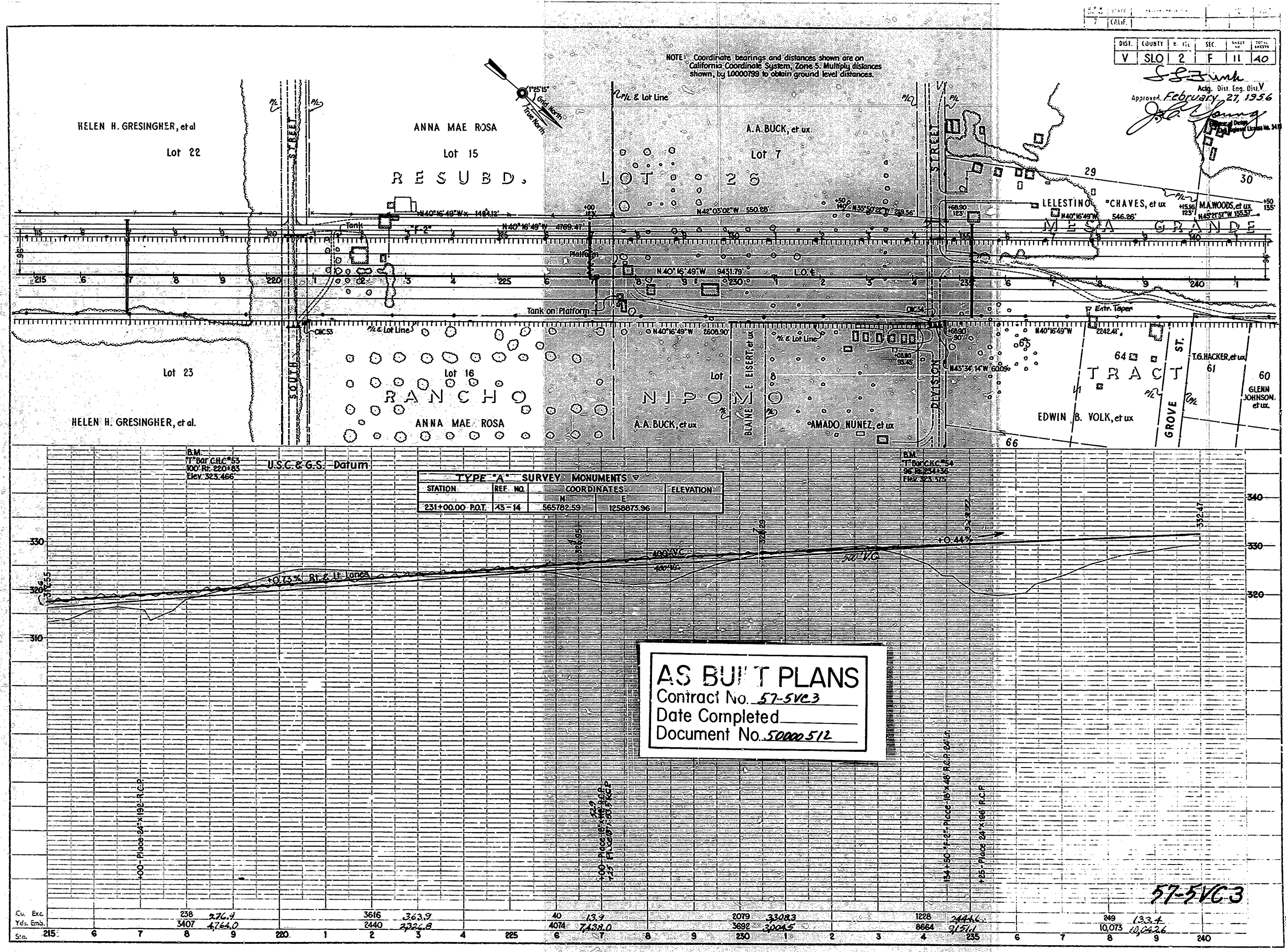
57-5VC3

Sta.	165	6	7	8	9	110	1	2	3	4	175	6	7	8	9	180	1	2	3	4	185	6	7	8	9	190
Co. Ent.			14			59				0.0				0.0		1060				39					10	
Yds. Emb.	601		169.2			3966				6.636				7119		2478				5072					6.478	
			3425.3			40371				14501				2434.3		333.3				5412.2					5323.5	









DIST. COUNTY T. R. SEC. NEAS. SEAS. 1/4  
 V SLO 2 F 11 40

Approved February 27, 1936  
*[Signature]*  
 Adm. Dist. Eng. Div. V

NOTE: Coordinate bearings and distances shown are on California Coordinate System, Zone 5. Multiple distances shown, by 10000789 to obtain ground level distances.

TYPE "A" SURVEY MONUMENTS

STATION	REF. NO.	COORDINATES		ELEVATION
		N	E	
231+00.00 P.O.T.	43-14	565782.59	1258673.96	

AS BUILT PLANS  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000 512

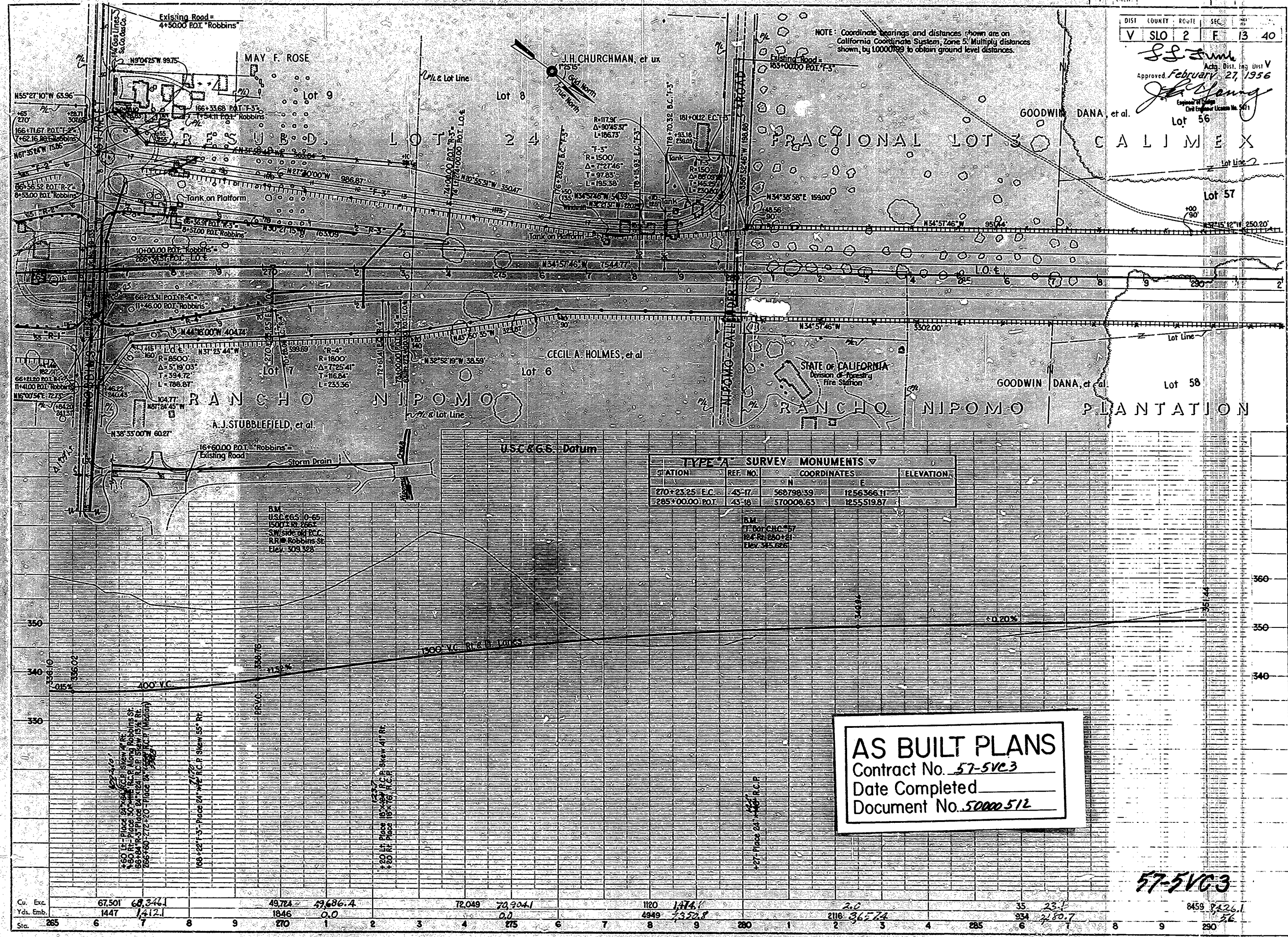
57-5VC3

Cu. Exc.	238	276.7	3616	363.9	40	13.9	2079	3308.3	1228	2444.6	249	133.4				
Yds. Emb.	3407	4764.0	2440	2224.8	4074	7439.0	2692	3004.5	8664	2151.1	10,073	10,026.6				
Sta.	215	6	7	8	9	220	1	2	3	4	235	6	7	8	9	240









DIS. COUNTY: ROUTE SEC. 27  
 V SLO 2 F 13 40

Approved February 27, 1956  
 J. H. Churchman  
 State Engineer License No. 501

TYPE A SURVEY MONUMENTS			
STATION	REF. NO.	COORDINATES	ELEVATION
270+23.25 E.C.	43-17	568798.39	1256366.11
285+00.00 P.O.T.	43-18	570008.63	1255519.87

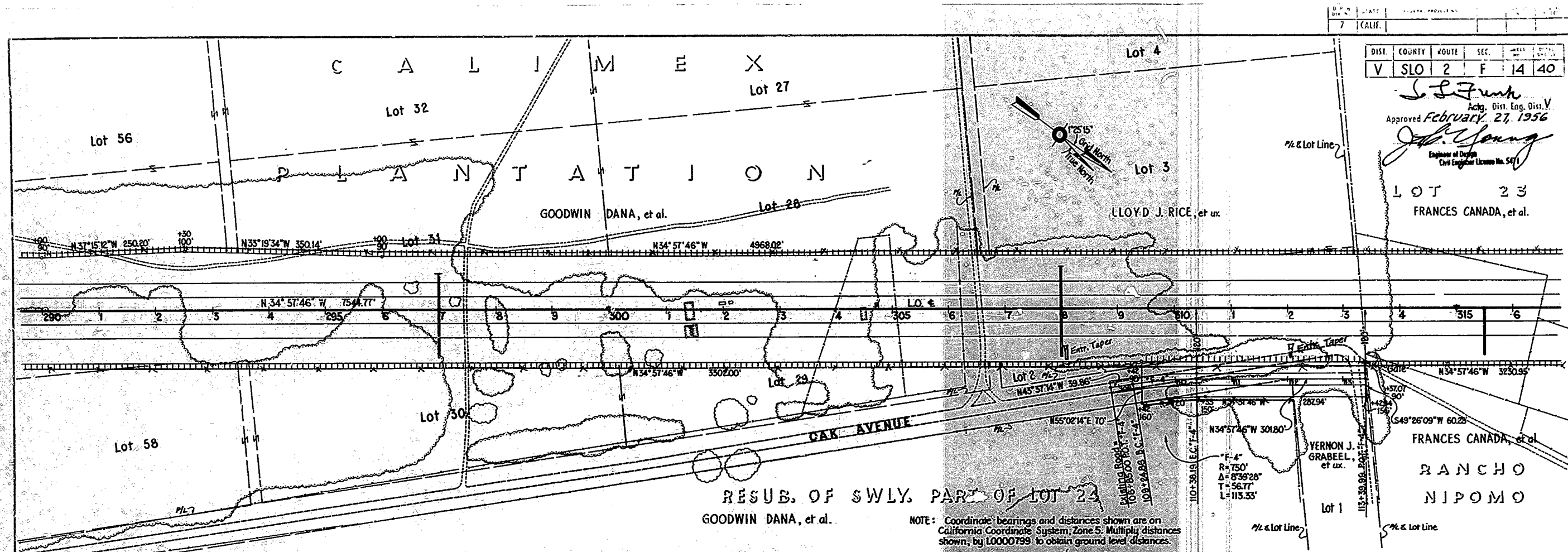
**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000512

57-5VC3

Cu. Exc.	67,501	68,344	49,724	49,686.4	72,049	72,204.1	1120	1,174.1	20	35	23.1	8459	8,326.1		
Yds. Emb.	1447	1,412.1	1846	0.0	0.0	0.0	4849	7,322.8	2118	362.64	324	7,80.7	26		
Sta.	265	6	7	8	9	270	1	2	3	4	285	6	8	9	290

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DIST. COUNTY ROUTE SEC. 1/4  
 V SLO 2 F 14 40  
 S. J. Frank  
 Approved February 27, 1956  
 J. H. Young  
 Engineer of Public  
 Civil Engineer License No. 5011

RESUB. OF SWLY. PART OF LOT 23  
 GOODWIN DANA, et al.

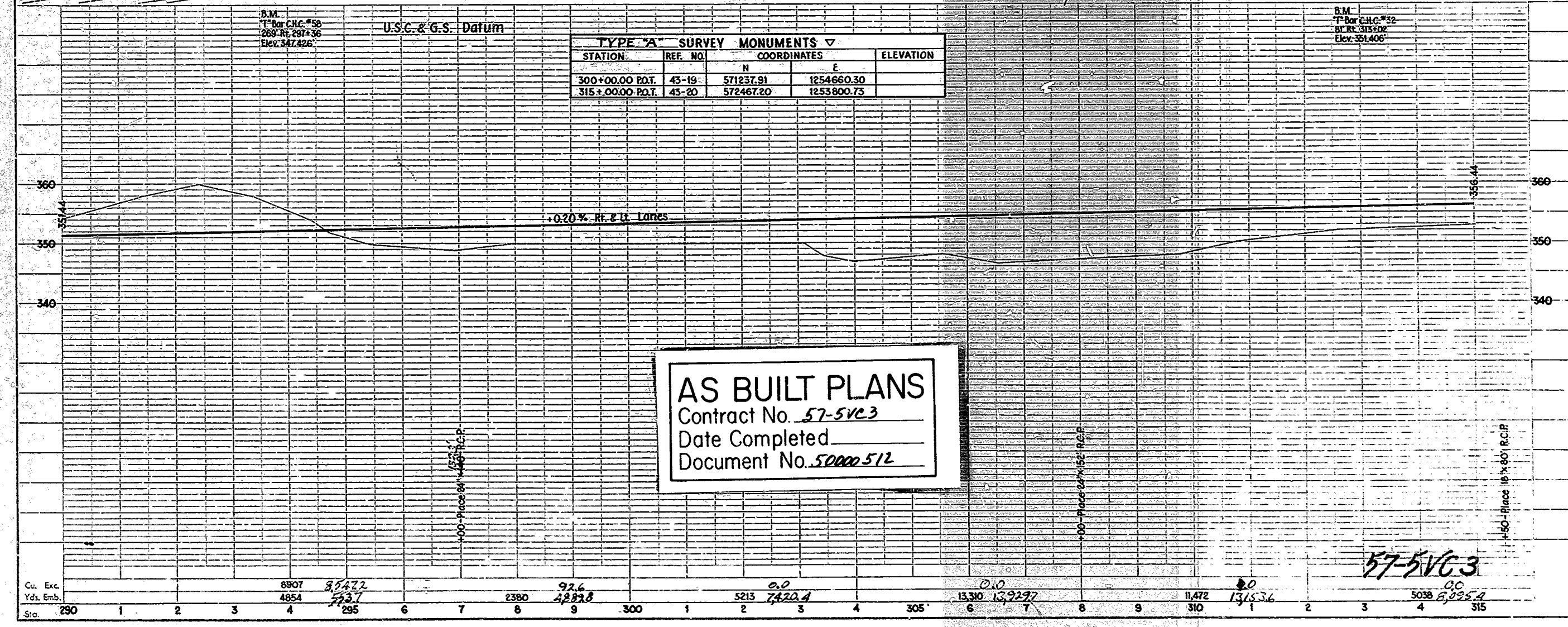
NOTE: Coordinate bearings and distances shown are on California Coordinate System, Zone 5. Multiply distances shown by 0.000799 to obtain ground level distances.

B.M.  
 T. Bar C.H.C. #50  
 268' Rt. 297+36  
 Elev. 347.426'

U.S.C. & G.S. Datum

TYPE "A" SURVEY MONUMENTS				
STATION	REF. NO.	COORDINATES		ELEVATION
		N	E	
300+00.00 P.O.T.	43-19	571237.91	1254660.30	
315+00.00 P.O.T.	43-20	572467.20	1253800.75	

B.M.  
 T. Bar C.H.C. #52  
 at Rt. 315+70  
 Elev. 351.406'



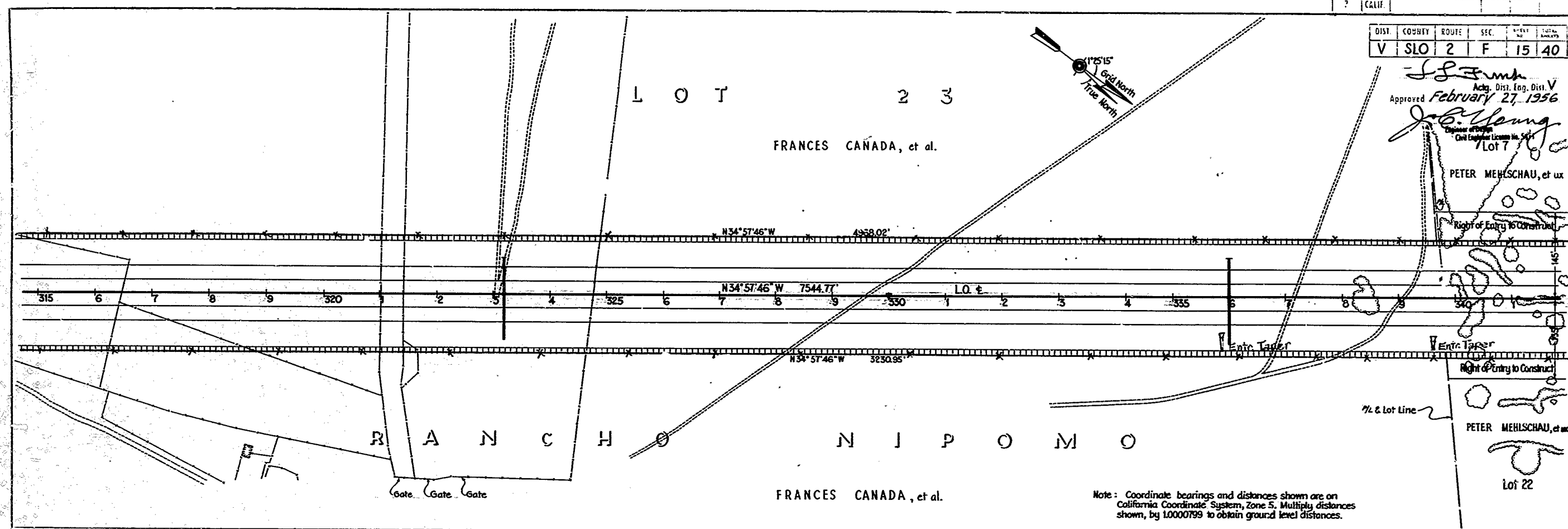
**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000512

Cu. Exc.	8907	85622	92.6	0.0	0.0	11,472	8.0	5038	0.0
Yds. Emb.	4854	5857	4897.8	7422.4	13,310	13,929.7	1315.36	5038	5,255.4
Sta.	290	3	6	9	300	1	4	305	315

57-5VC3

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DIST.	COUNTY	ROUTE	SEC.	1/4	AREA
V	SLO	2	F	15	140

Approved *J. S. Smith*  
 Feb. 27, 1956  
 Acty. Dist. Eng. Dist. V  
*John Young*  
 Civil Engineer License No. 547  
 LOT 23

PETER MEHSCHAU, et ux

Right of Entry to Construct

Entric Taper

Entric Taper

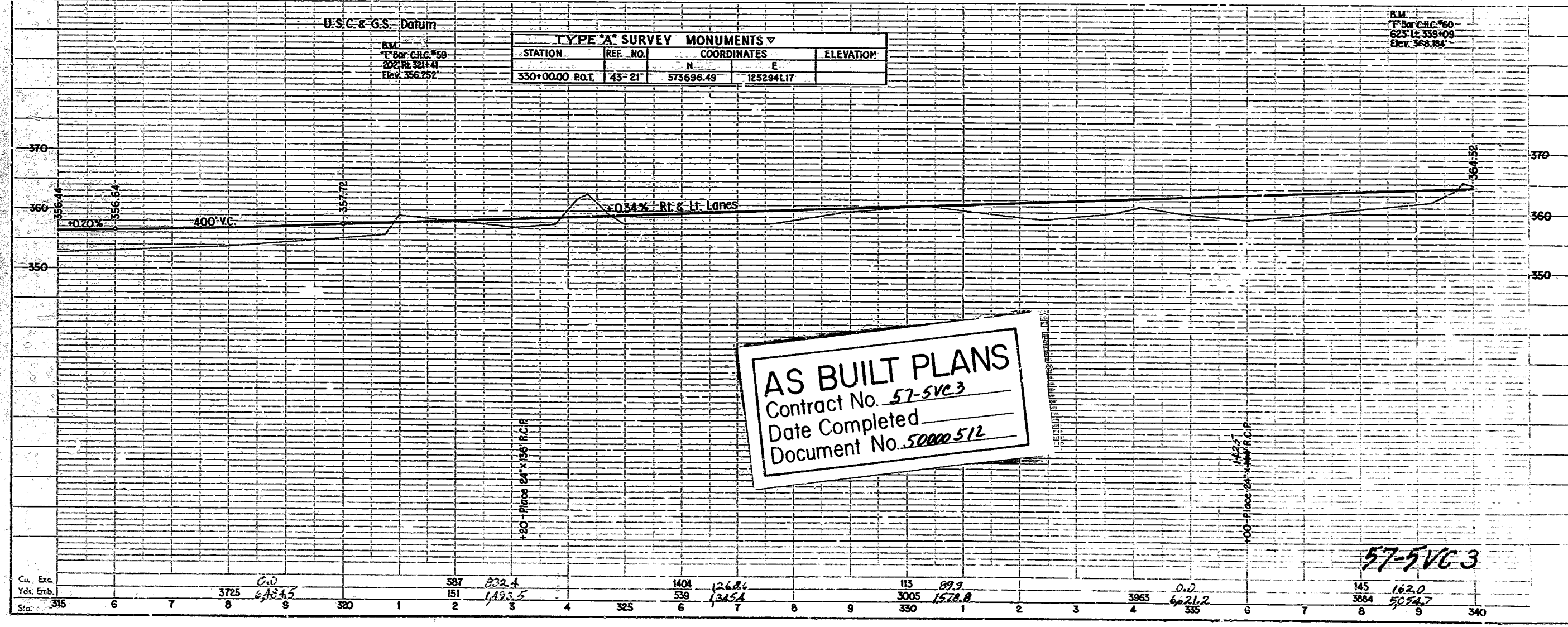
Right of Entry to Construct

1/2 & Lot Line

PETER MEHSCHAU, et ux

Lot 22

Note: Coordinate bearings and distances shown are on California Coordinate System, Zone 5. Multiply distances shown, by 1.0000799 to obtain ground level distances.



**AS BUILT PLANS**  
 Contract No. 57-5V63  
 Date Completed \_\_\_\_\_  
 Document No. 50000-512

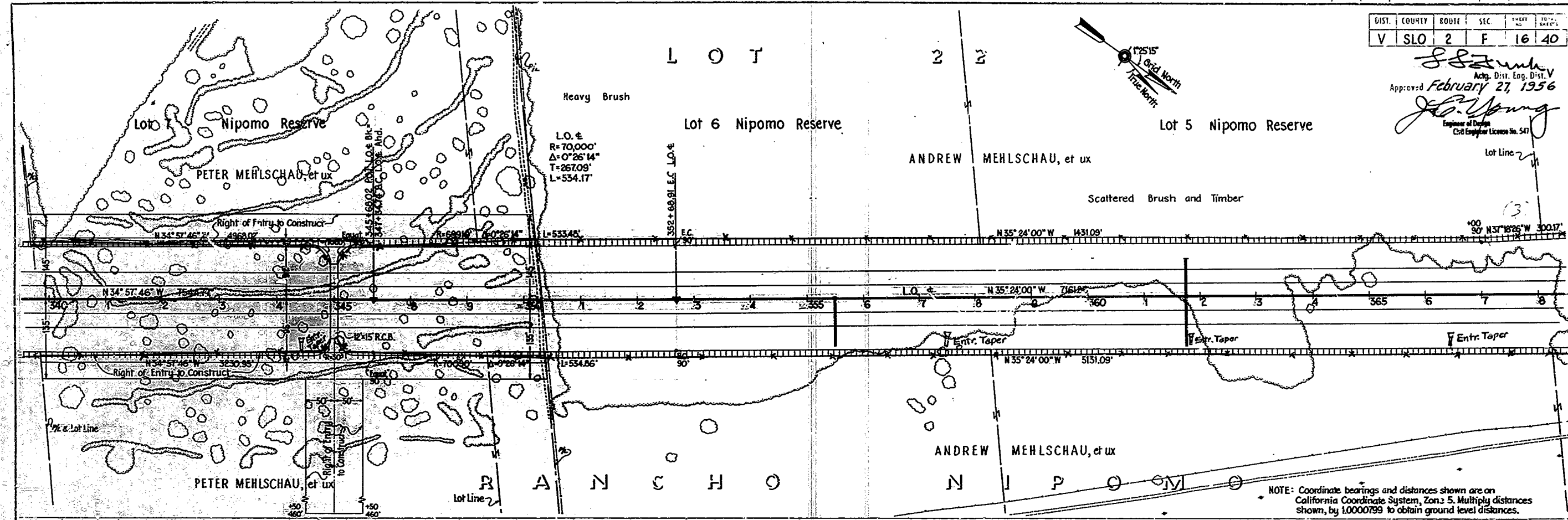
57-5V63

Sta.	315	6	7	8	9	320	1	2	3	4	325	6	7	8	9	330	1	2	3	4	335	6	7	8	9	340	
Cu. Yds. Emb.				3725	6454.5		587	151	1404	559	1404	559	1404	559	1404	559	1404	559	1404	559	1404	559	1404	559	1404	559	1404
				0.0	6.4545		832.4	1493.5	1268.1	1345.4	89.9	3005	1578.8	0.0	6.4545	162.0	3684	5054.7									

15

DIST.	COUNTY	ROUTE	SEC.	1/4
V	SLO	2	F	16 40

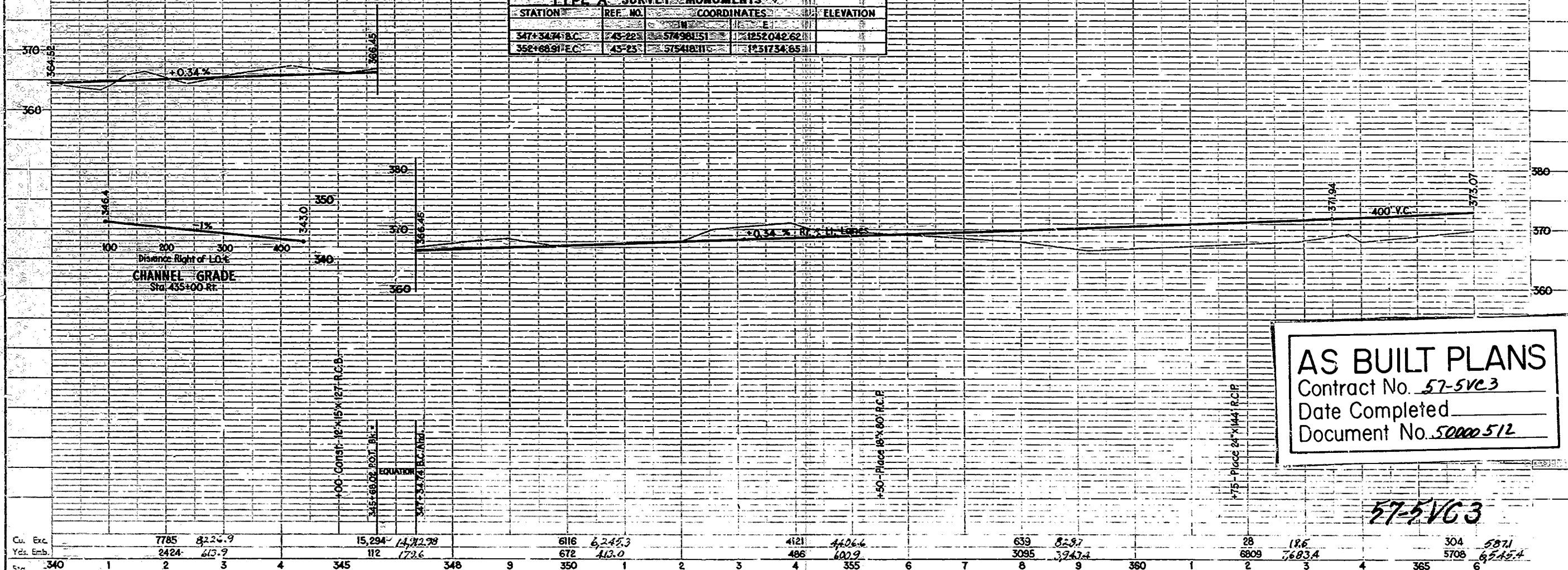
*J. S. Young*  
 Reg. Dist. Eng. Dist.  
 Approved February 27, 1956  
*J. S. Young*  
 Engineer of Design  
 Civil Engineer License No. 541



NOTE: Coordinate bearings and distances shown are on California Coordinate System, Zone 5. Multiply distances shown, by 1.0000799 to obtain ground level distances.

U.S.C. & G.S. Datum

STATION	REF. NO.	COORDINATES	ELEVATION
347+34.41 B.C.	45-223	574901.51	1252.042.62
352+66.91 E.C.	45-223	575418.11	1251.734.65



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000512

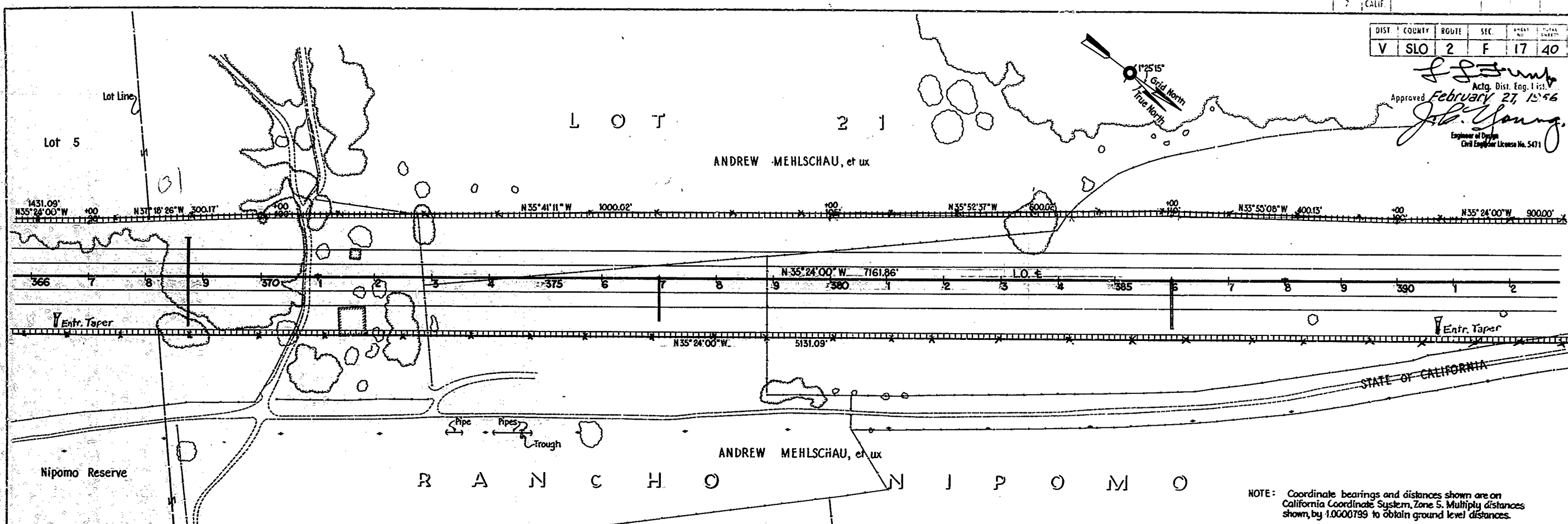
57-5VC3

Cu. Exc.	7785	8224.9	15,294	14,112.79	6116	6,245.3	4121	4,406.6	639	829.7	28	186	304
Yds. Emb.	2424	413.9	112	172.6	672	413.0	486	622.9	3095	3243.4	6809	7,683.4	5708
Sta.	340	1	2	3	4	5	6	7	8	9	360	1	2

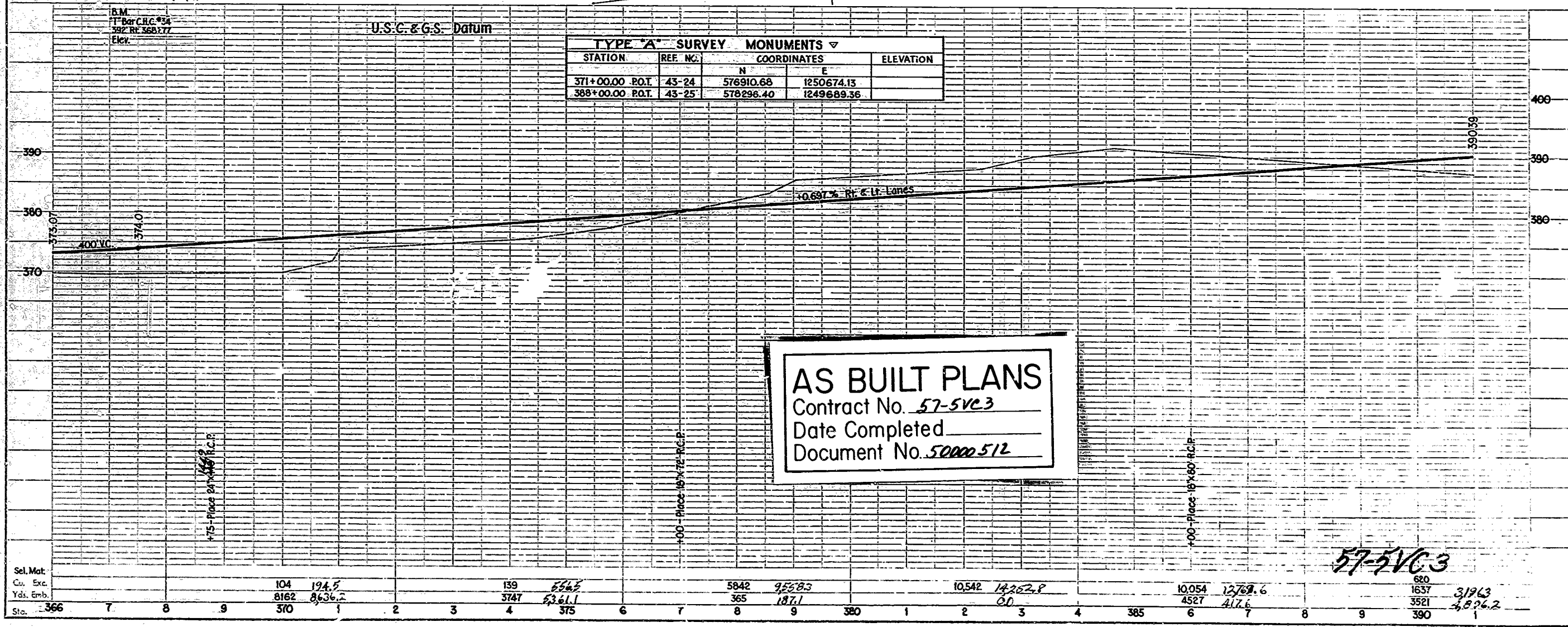
96

CALIF. DIST. COUNTY ROUTE SEC. 2 F 17 40

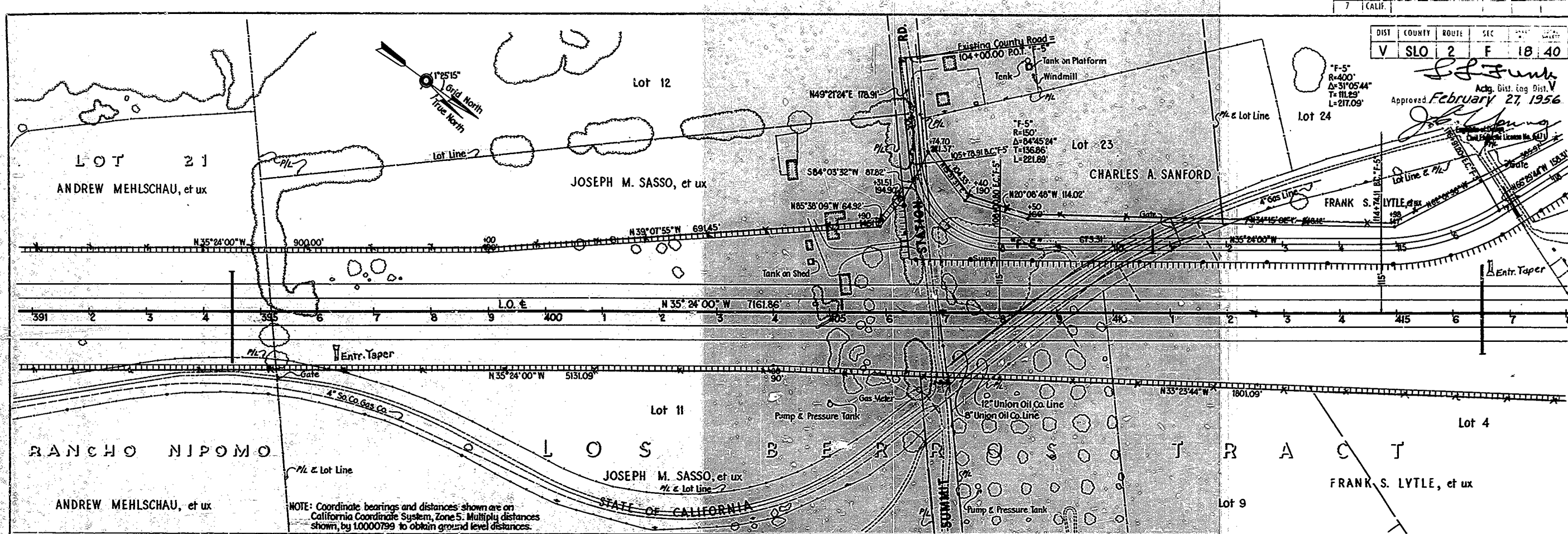
Approved February 27, 1956  
*J. Young*  
 Engineer of Surveys  
 Civil Engineer License No. 5471



NOTE: Coordinate bearings and distances shown are on California Coordinate System, Zone 5. Multiply distances shown by 1.0000793 to obtain ground level distances.





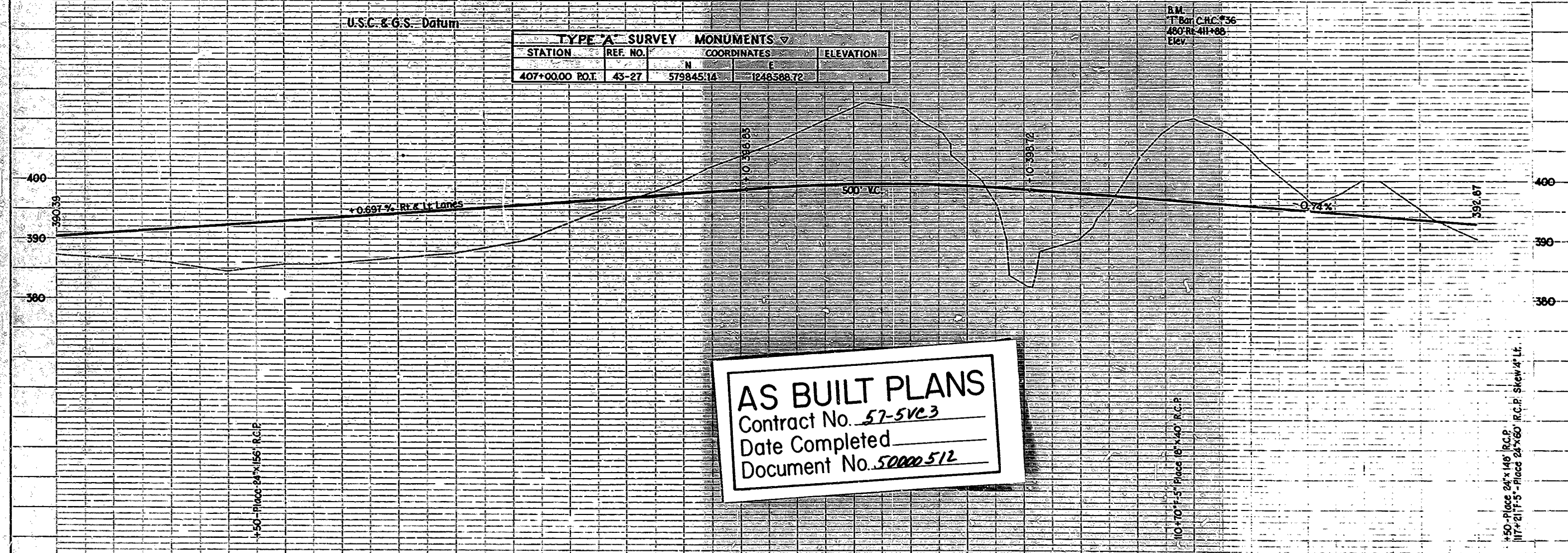


DIST COUNTY ROUTE SEC  
 V SLO 2 F 10 40  
 Approved February 27, 1956  
 S. J. Funk  
 Actg. Dist. Eng. Dist. V

NOTE: Coordinate bearings and distances shown are on California Coordinate System, Zone 5. Multiply distances shown, by 1.0000799 to obtain ground level distances.

U.S.C. & G.S. Datum

TYPE "A" SURVEY MONUMENTS			
STATION	REF. NO.	COORDINATES	ELEVATION
407+00.00 P.O.T.	43-27	N 579845.14 E 1246308.72	



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed  
 Document No. 5000512

Sta.	391	2	3	4	6	7	8	9	400	1	2	3	4	405	6	7	8	9	410	1	2	3	4	415
Sol. Mat.				1240					1240					1632					1632					1632
Cu. Exc.				2	271.3				8345	10,560.0				17,024	20,252.3				16,349	16,412.5				11,986
Yds. Emb.				11,430	14,322.6				10,448	11,423.3				12,294	14,242.2				12,247	40,60.7				2249

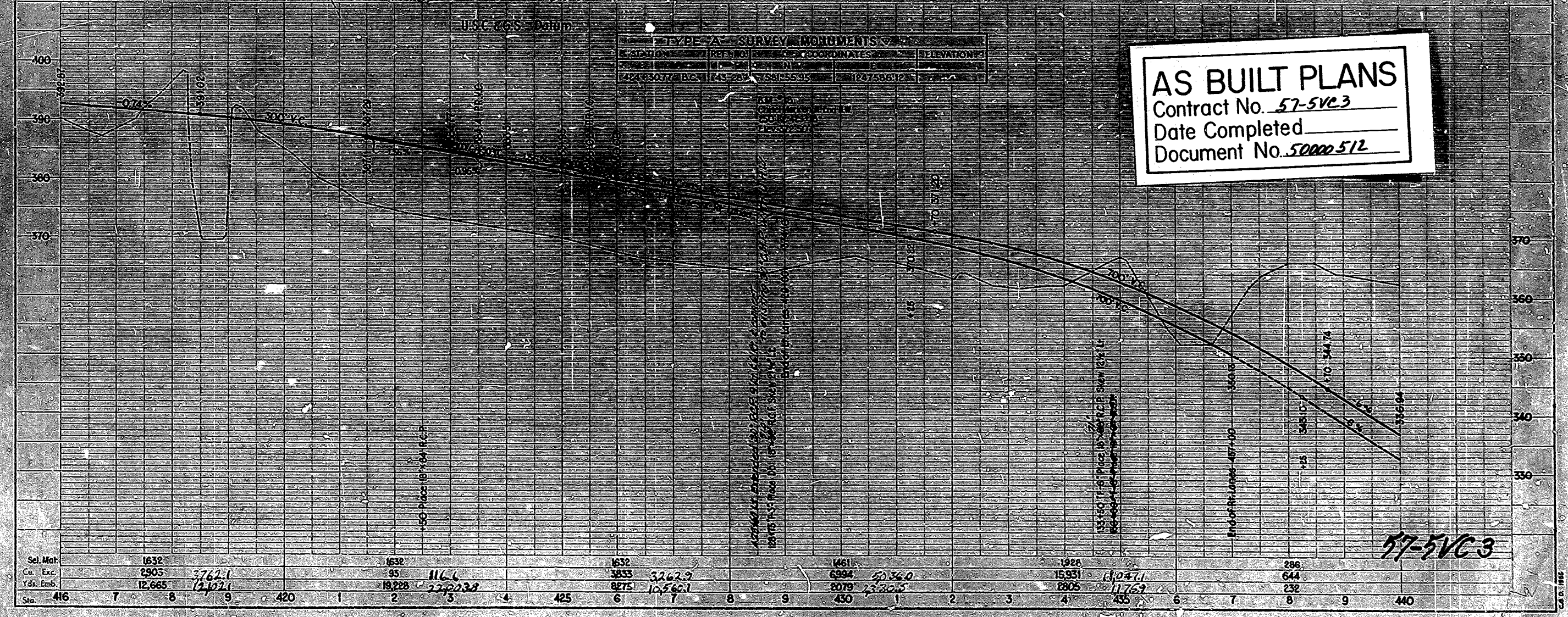
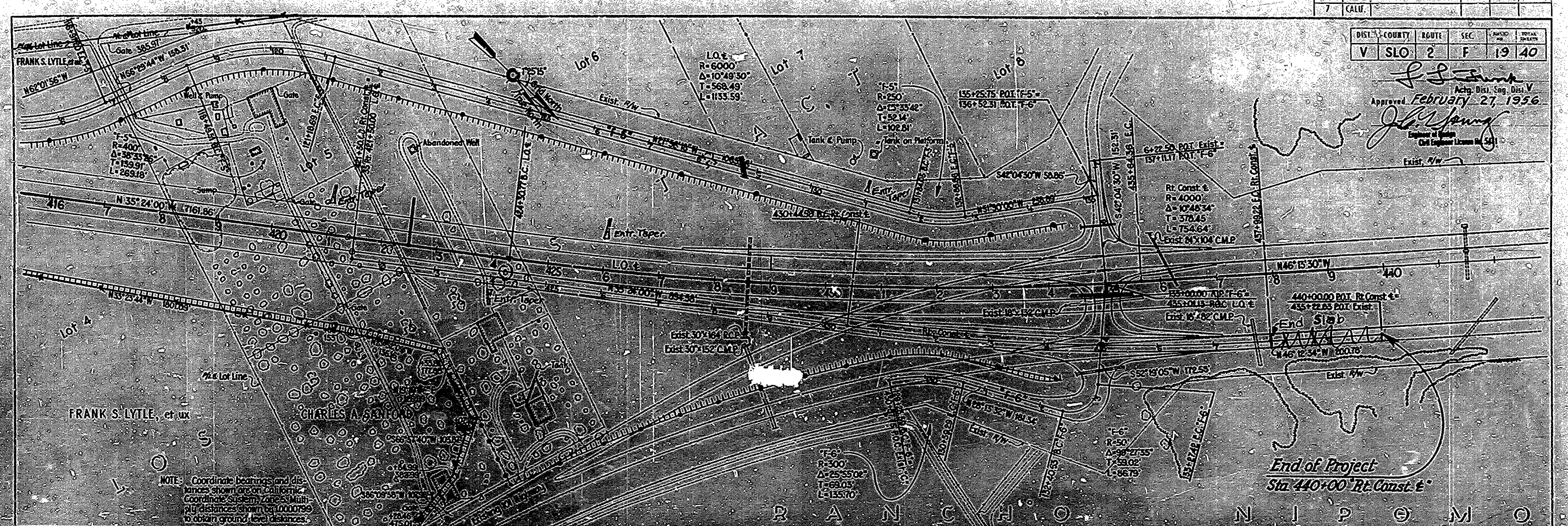
18

57-5VC3  
 11,337.8  
 16,64.8



DIST.	COUNTY	RANGE	SEC.	TAKEUP	DATE
V	SLO	2	F	19	40

Approved February 27, 1956  
 J. S. [Signature]  
 J. S. [Signature]



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 5000512

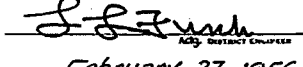
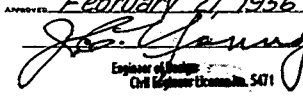
Sta.	416	7	8	9	420	1	2	3	4	425	5	6	7	8	9	430	1	2	3	4	435	5	6	7	8	9	440	
Vol. Mat.	1632				1632					1632						1461				1028								
Cu. Exc.	2905	5722.1			95	116.6				3833	3262.2					6394	5036.0			15331								
Yds. Emb.	12,665	12,102.1			18,228	22,033				9275	10,562.1					2079	23,225			2805								

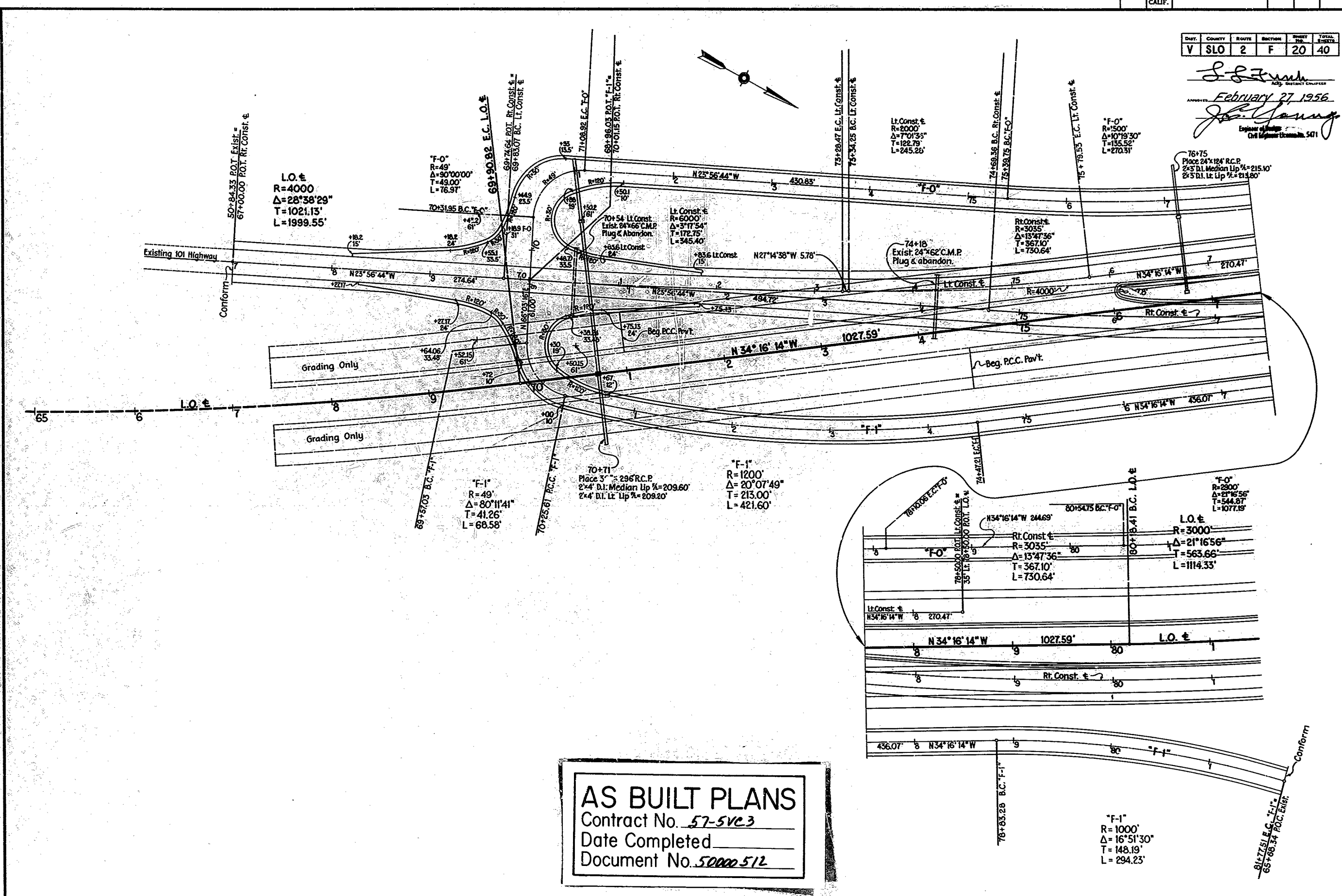
57-5VC3



DATE	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	CALIF.				

Dist.	County	Route	Section	Sheet	Project
V	SLO	2	F	20	40

  
 February 27, 1956  
  
 District Engineer  
 California State Highway 501



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000512

**CONSTRUCTION DETAILS**

SCALE 1" = 50'

57-5VC3

20

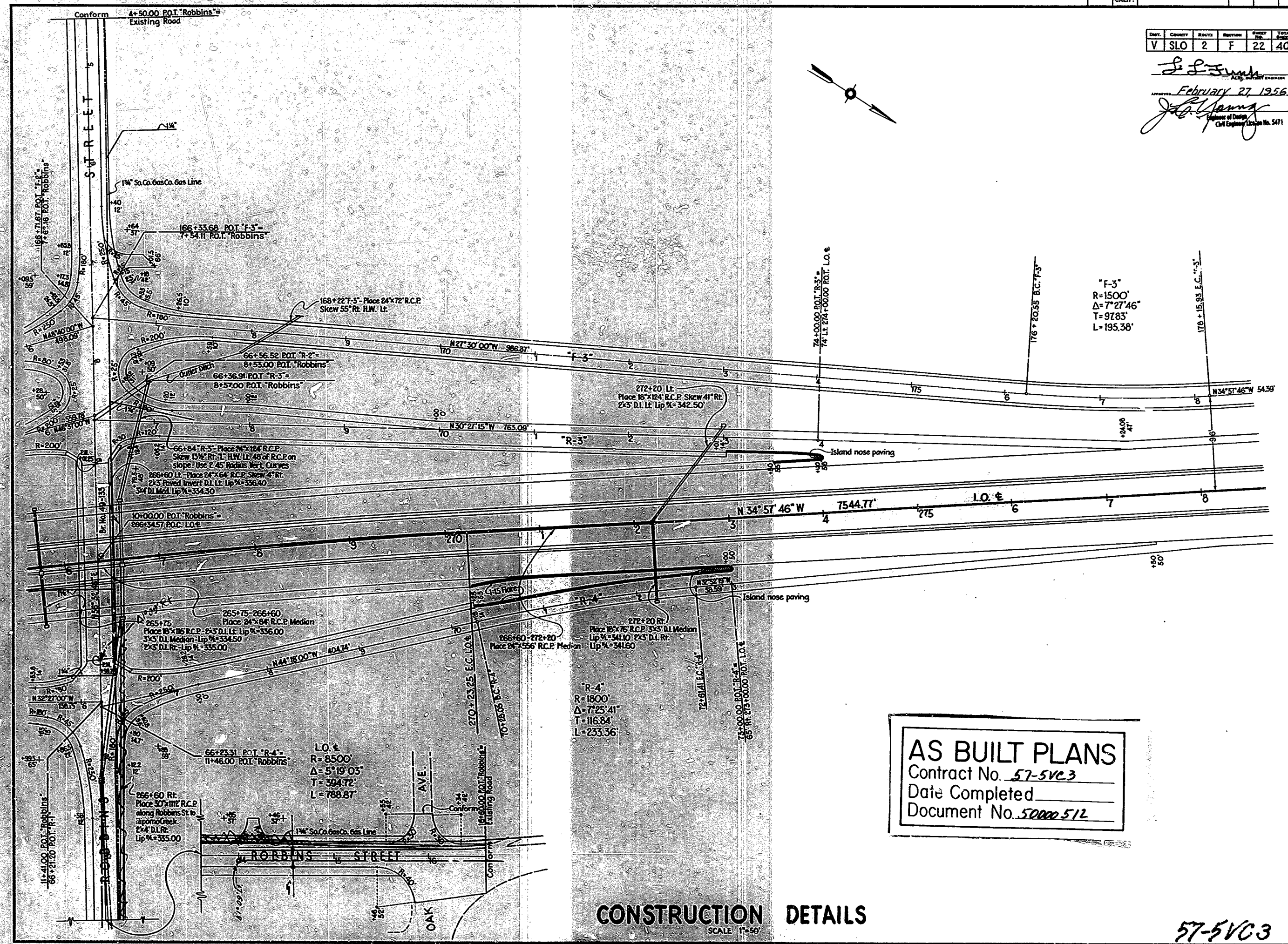




P.R. DIV. NO.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	CALIF.			22	40

Dist.	County	Route	Section	Sheet	Total Sheets
V	SLO	2	F	22	40

*J.P. Smith*  
 February 27, 1956  
*J.P. Smith*  
 Engineer of Design  
 Civil Engineers License No. 5471



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000 512

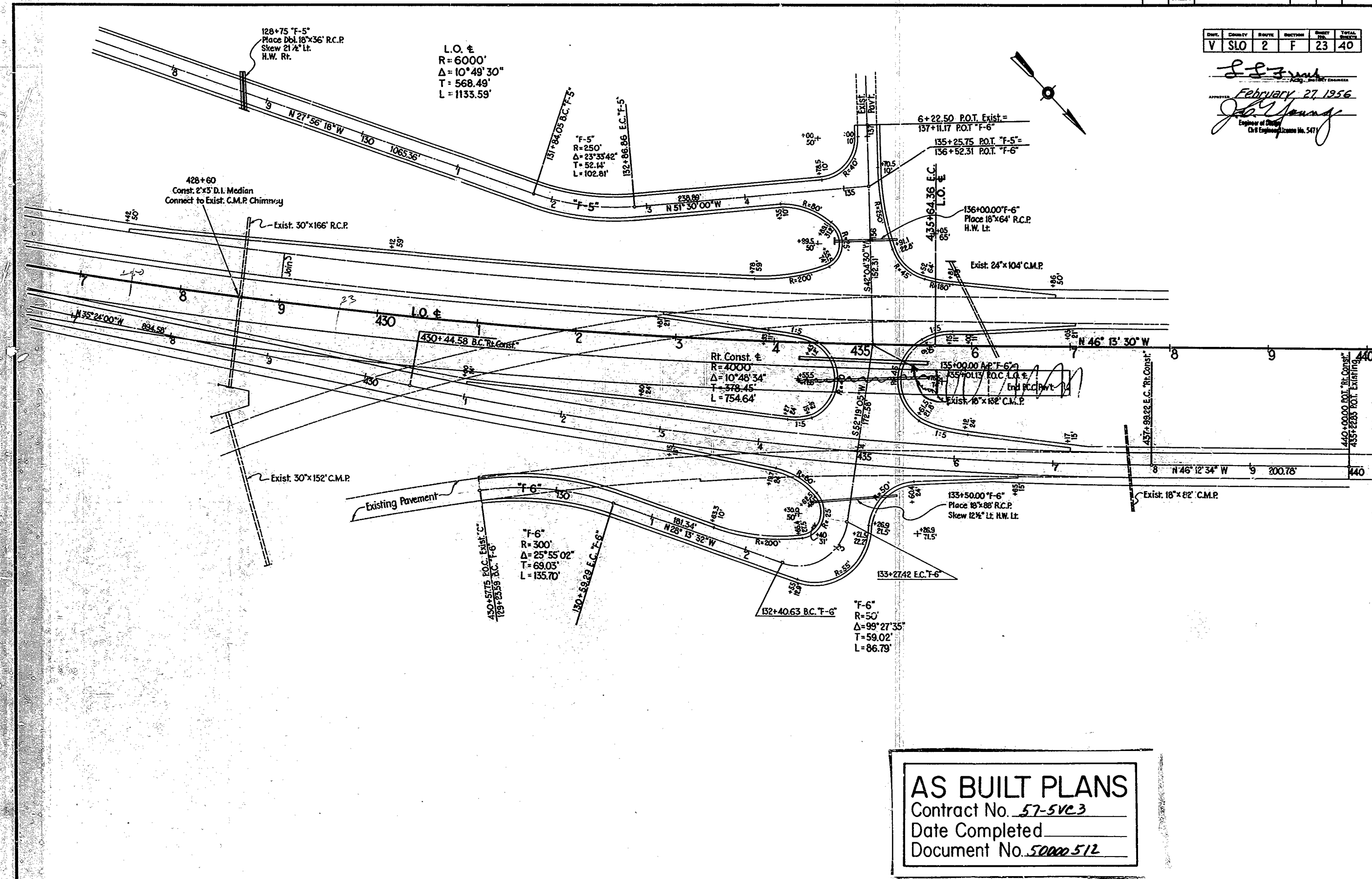
**CONSTRUCTION DETAILS**  
 SCALE 1"=50'

57-5VC3

22

DIST.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
V	SLO	2	F	23	40

*J. J. Young*  
 February 27, 1956  
 Engineer of Road  
 Div. of Engineering, State of Calif.



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000-512

**CONSTRUCTION DETAILS**  
 SCALE 1"=50'

57-5VC3

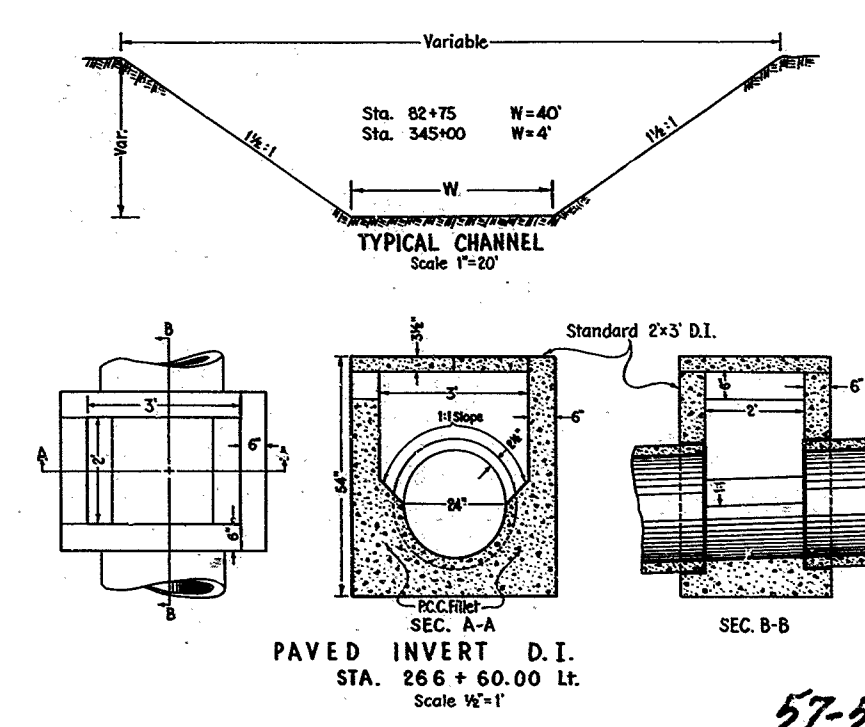
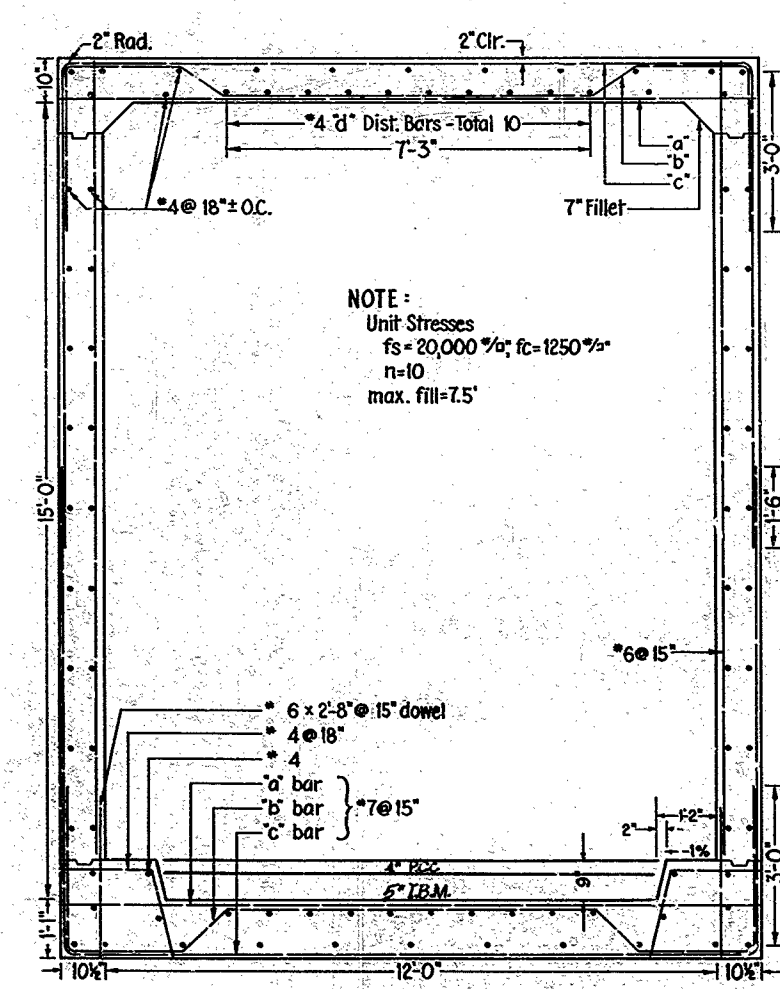
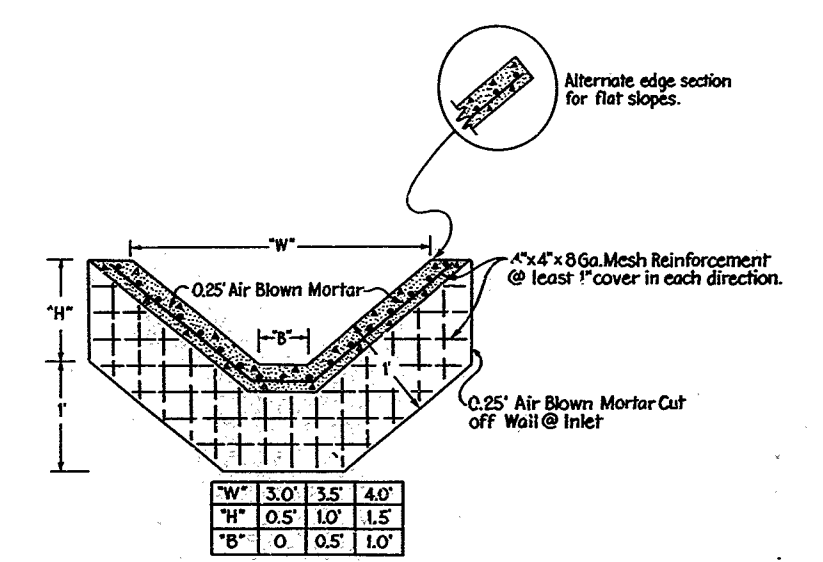
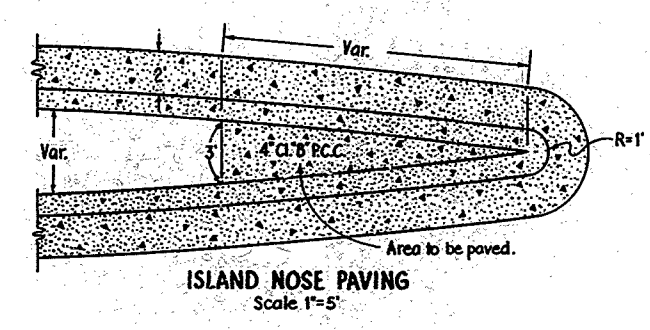
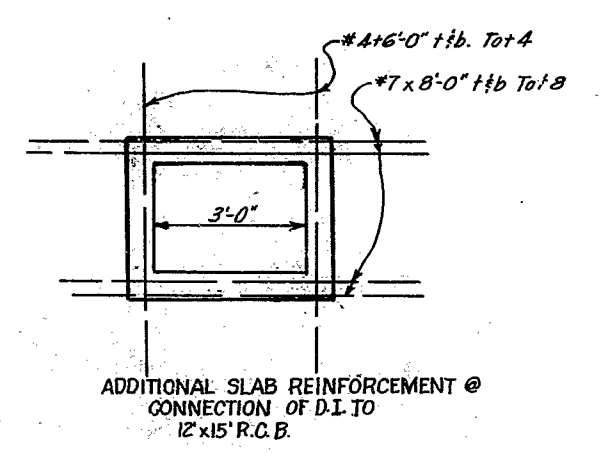
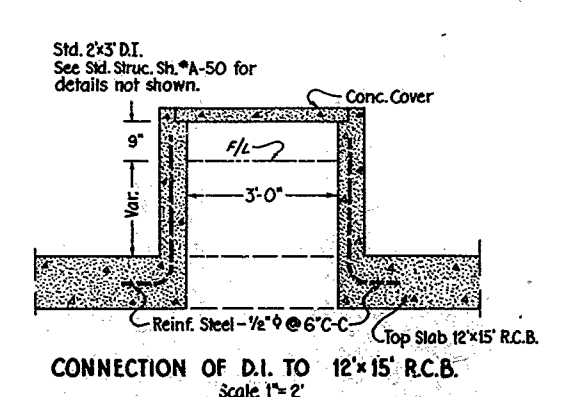
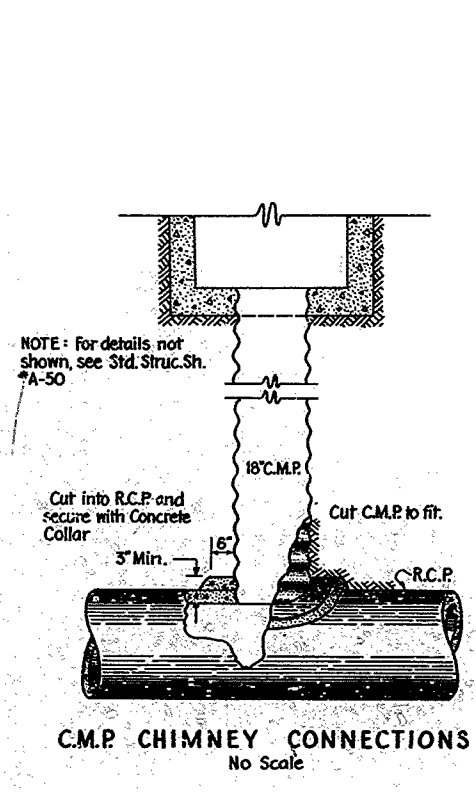
23



FED. DIV. No.	STATE	FEDERAL PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
	CALIF.				

DIST.	COUNTY	ROUTE	SECTION	POST MILE	TOTAL MILES
V	SLO	2	F	24	40

*J.S. Funn*  
 February 27, 1956  
*J.P. Young*  
 License 27500  
 Civil Engineer License No. 517



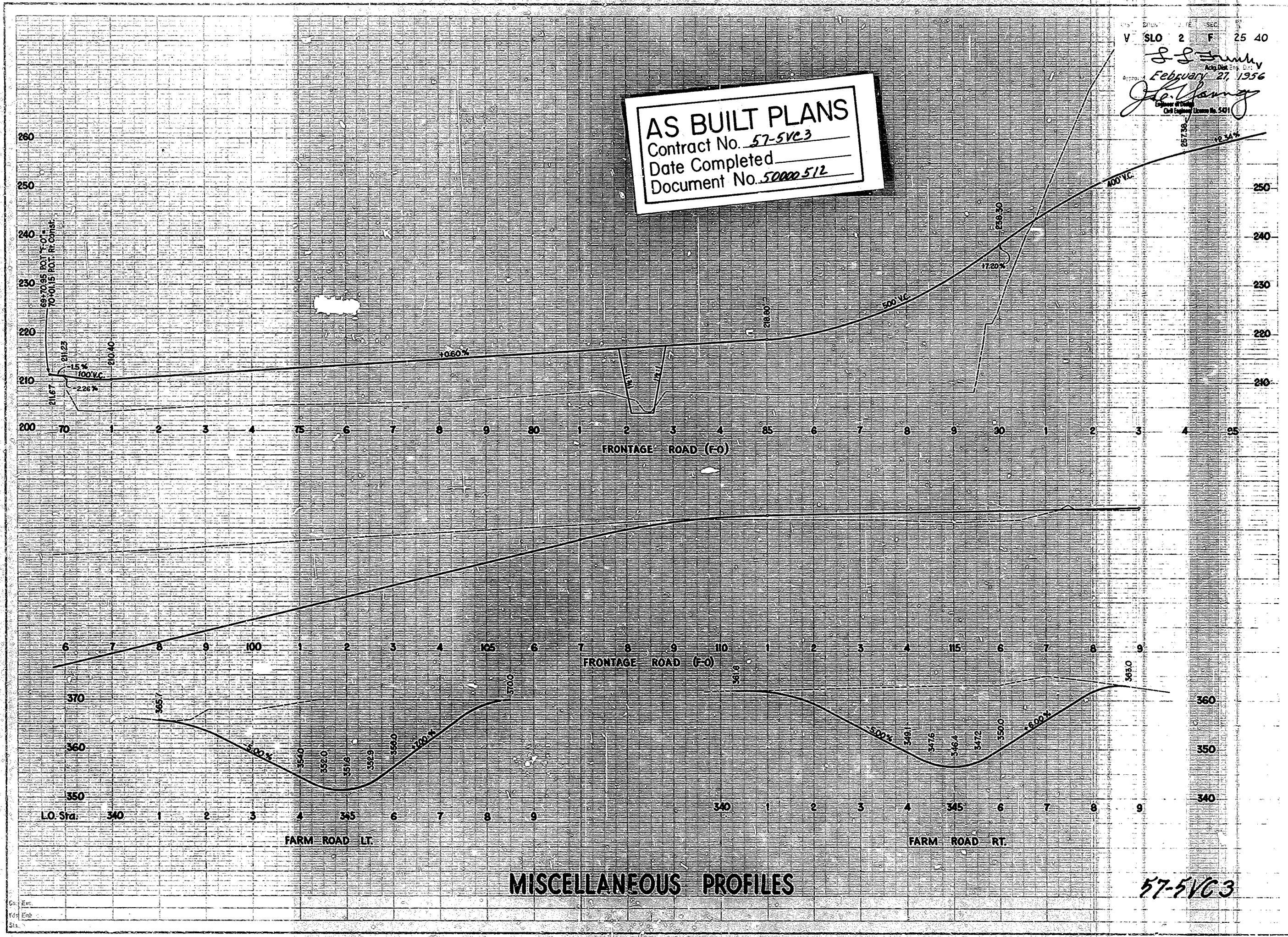
**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000 512

**MISCELLANEOUS DETAILS**

57-5VC3

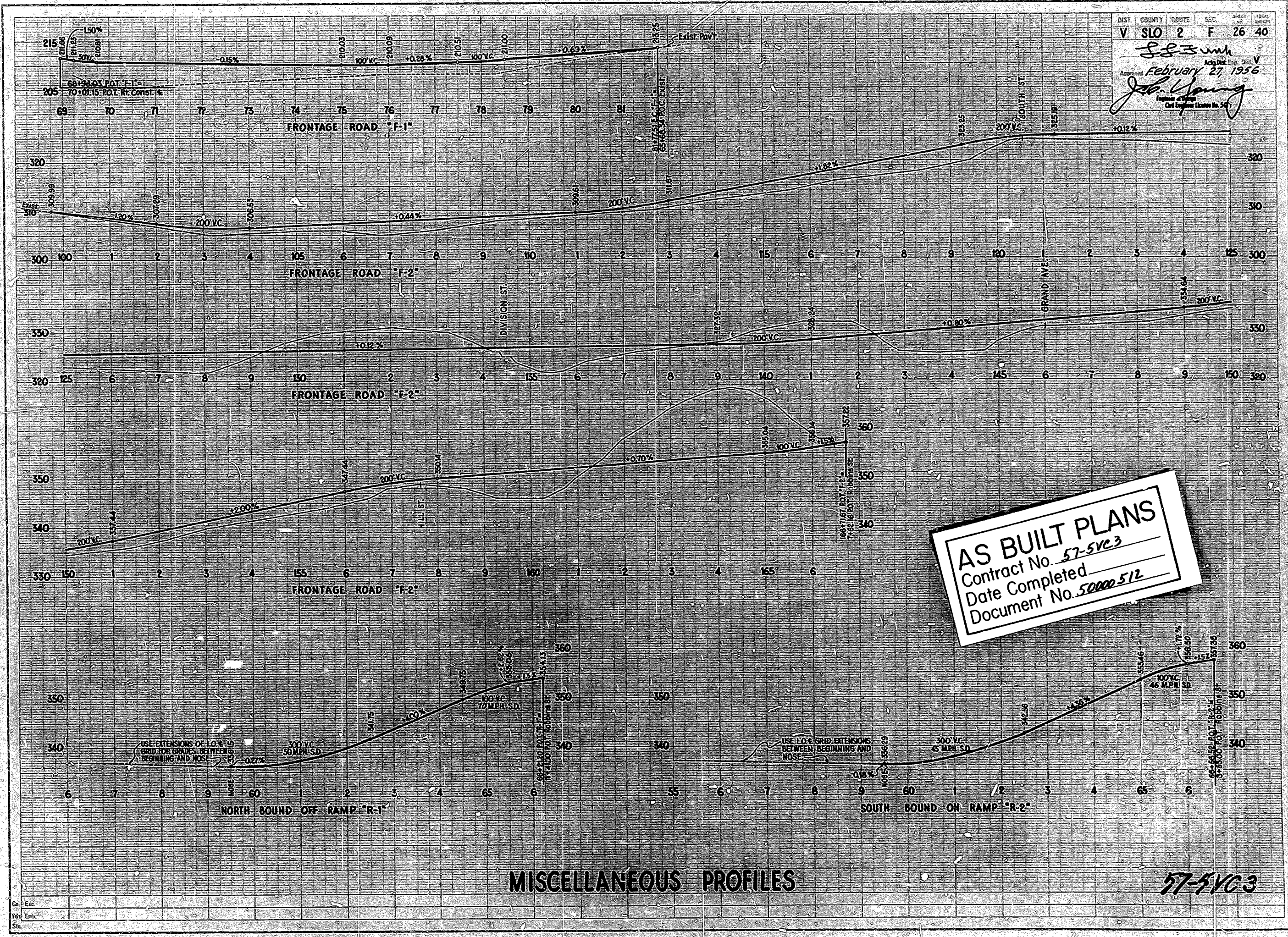
24







DIST. COUNTY ROUTE SEC. SHEET TOTAL SHEETS  
 V SLO 2 F 26 40  
 S.S. 3 mch  
 Approved February 27, 1956  
 J. G. Young  
 Professional Engineer License No. 547



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000512

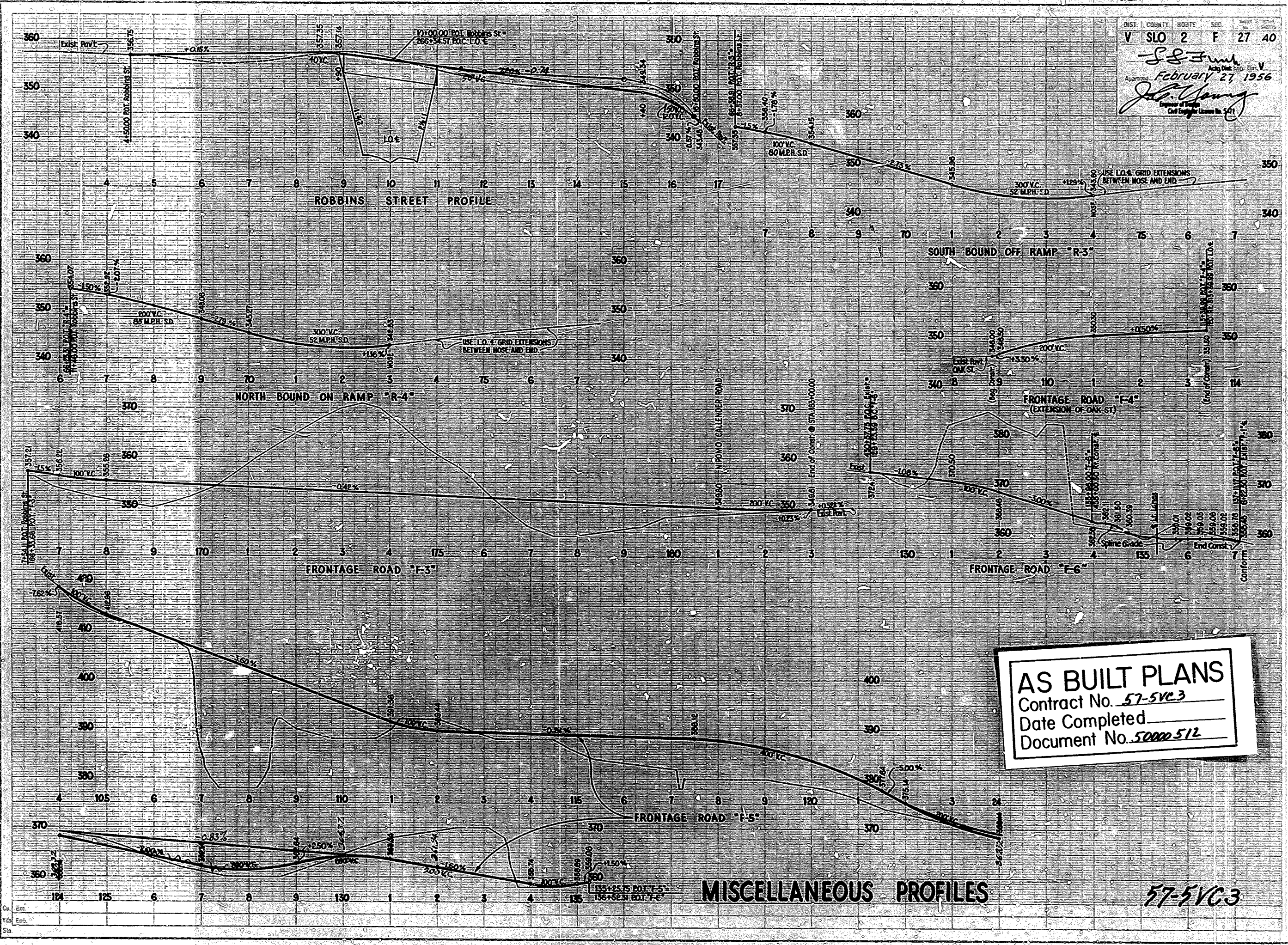
MISCELLANEOUS PROFILES

57-5VC3

26



STATE OF CALIF.  
 DIST. COUNTY ROUTE SEC. SHEET NO. 27 40  
 V SLO 2 F  
 S.S. Frank  
 February 27, 1956  
 J. Young  
 Engineer  
 Civil Engineer License No. 541



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000 512

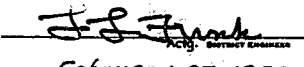
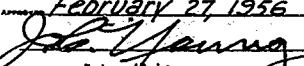
27

57-5VC3



DRAINAGE STRUCTURES

STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CALIF.			28	40

  
 FEBRUARY 27 1956  
  
 Engineer of Public  
 Civil License No. 5471

Station	Location and Description	C.M.P.				Class A Portland Cement Concrete	Structure Excavation	Structure Backfill	Ditch & Channel Excavation	Bar Reinforcing Steel	Miscellaneous Steel	Galvert Markers
		18" C.M.P. 16 Gauge	18" R.C.P.	24" R.C.P.	30" R.C.P.							
		Lineal Feet				Cubic Yards			Pounds		Each	
70+54	Exist 24" 66' C.M.P. Plug & Abandon.					050						
70+71	Place 30" 296' R.C.P. 2'x3' DI Median & Lt.				296	291	153	118		393	54	5
74+18	Exist 24" 62' C.M.P. Plug & Abandon.					050						
76+75	Place 24" 124' R.C.P. 2'x3' DI Median & Lt.			124		338	69	43		382	67	4
90+25	Place 24" 124' R.C.P. 2'x3' DI Median & Lt.			124		281	67	42		322	58	4
110+00	Place 18" 148' R.C.P. 2'x3' DI Median H.W. Lt.		148			160	54	37		123	11	3
123+00	Place 24" 148' R.C.P. 2'x3' DI Median H.W. Lt.		148			212	77	49	1	166	25	5
133+35	Place 18" 80' R.C.P. 2'x3' DI Median		80			089	29	20		96	11	2
140+00	Place 24" 144' R.C.P. 2'x3' DI Median H.W. Lt.		144			190	72	46	2	142	20	3
144+60	Place 24" 140' R.C.P. 2'x3' DI Median H.W. Lt.		140			188	70	45	3	142	20	3
152+00	Place 18" 80' R.C.P. 2'x3' DI Median		80			089	29	20		96	11	2
159+00	Const. 12" 15' 148' R.C.B. Type A Flared Wing H.W. & E.W. 2'x3' DI Median					1189	186	563		6089	25	1-2*
173+75	Place 18" 80' R.C.P. 2'x3' DI Median		80			089	29	20		96	11	2
179+00	Place 24" 152' R.C.P. 2'x3' DI Median H.W. Lt.		152			234	78	50		190	29	3
187+20	Place 24" 144' R.C.P. 2'x3' DI Median H.W. Lt.		144			210	78	47		166	25	2-1*
202+71	Place 24" 148' R.C.P. 2'x3' DI Median H.W. Lt.		148			234	77	49		190	29	2-1*
209+75	Place 18" 112' R.C.P. 2'x3' DI Median & Lt.		112			177	45	29	4	197	22	4
217+00	Place 24" 192' R.C.P. 2'x3' DI Median & Lt. H.W. Lt.		192			326	100	64		303	54	4-1*
227+00	Place 18" 112' R.C.P. 2'x3' DI Median & Lt.		112			184	44	30		203	22	4
134+50 24' Lt.	Place 18" 48' R.C.P. H.W.		48			072	19	14	6	22		
235+25	Place 24" 196' R.C.P. 2'x3' DI Median 18" 4' C.M.P. Chimney 2'x3' DI Lt. H.W. Lt.	4	196			253	102	78		267	40	4-1*
244+00	Place 24" 196' R.C.P. 2'x3' DI Median 18" 4' C.M.P. Chimney 2'x3' DI Lt. H.W. Lt.	4	196			537	106	68		315	22	4-1*
146+13 23' Lt.	Place 18" 48' R.C.P. H.W.		48			072	21	15	3	22		
259+50	Place 18" 160' R.C.P. 3'x3' DI Median 2'x3' DI Lt & Rt.		160			304	73	52		363	51	5
259+50-265+75	Place 24" 624' R.C.P. (Median)		624			416	310					
159+51	Place 18" 48' R.C.P. Skew 5' Lt. H.W. Lt.		48			072	19	14		22		
265+75	Place 18" 116' R.C.P. 3'x3' DI Median 2'x3' DI Lt & Rt.		116			362	53	35		440	136	3
265+75-266+60	Place 24" 84' R.C.P. (Median)		84			64	51					
266+60 Lt.	Place 24" 64' R.C.P. Skew 4' Rt. 3'x4' DI Median 2'x3' Paved Invert DI. Lt.		64			303	44	27		351	49	3
266+60 Rt.	Place 30" 112' R.C.P. Along Robbins St. To (Pomona Creek) 2'x4' DI. Rt.		112			180	317	2830		233	34	2
266+60-272+20	Place 24" 556' R.C.P. (Median)		556			267	174					
66+84	Place 24" 124' R.C.P. Skew 13 1/2' Lt. H.W. Lt. (48' of R.C.P. on Slope Use 2 1/2' Radius Vert. Curves)		124			203	111	86		60		2
168+22	Place 24" 72' R.C.P. Skew 55' Rt. H.W. Lt.		72			098	40	35		29		2
272+20 Lt.	Place 18" 124' R.C.P. Skew 14' Rt. 2'x3' DI. Lt.		124			091	53	39		101	11	1-1*
272+20 Rt.	Place 18" 76' R.C.P. 3'x3' DI Median 2'x3' DI. Rt.		76			192	37	26		235	22	3
280+27	Place 24" 140' R.C.P. 2'x3' DI Median H.W. Lt.		140			190	73	48	26	142	11	1-2*
297+00	Place 24" 140' R.C.P. 2'x3' DI Median H.W. Lt.		140			190	70	44	1	142	11	1-2*
308+00	Place 24" 152' R.C.P. 2'x3' DI Median H.W. Lt.		152			248	81	51		226	34	1-2*
315+50	Place 18" 80' R.C.P. 2'x3' DI Median		80			089	29	20		96	11	2
323+20	Place 24" 136' R.C.P. 2'x3' DI Median H.W. Lt.		136			190	70	45	6	142	11	3
336+00	Place 24" 144' R.C.P. 2'x3' DI Median H.W. Lt.		144			201	72	46		154	25	2-1*
345+00	Const. 12" 15' 148' R.C.B. Type A Flared Wing H.W. Lt. & E.W. (NE Side Rt., Type B Flared Wing E.W. (NW Side Lt. 2'x3' DI Median)					3363	1860	427		5080	11	1-2*
355+50	Place 18" 80' R.C.P. 2'x3' DI Median		80			089	29	20		96	11	1-1*
364+75	Place 24" 144' R.C.P. 2'x3' DI Median H.W. Lt.		144			212	75	47	1	166	25	2-1*

**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000 512

**QUANTITY SUMMARY**  
 57-5V03

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**DRAINAGE STRUCTURES**

FED. DIST. NO.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	CALIF.				

Dist.	County	Route	Station	Sheet	Total
V	SLO	2	F	29	140

*J. S. Smith*  
 February 27, 1956  
*J. S. Smith*  
 Licensed Professional Engineer  
 Civil Engineer License No. 547

Station	Type	Location and Description	C.M.P. Reinforced Concrete Pipe				Class A Portland Cement Concrete Structure Excavation	Structure Backfill	Ditch & Channel Excavation	Bar Reinforcing Steel	Miscellaneous Steel	Culvert Markers	
			18" C.M.P. 16 Gauge	18" R.C.P.	24" R.C.P.	30" R.C.P.							
			Lineal Feet				Cubic Yards			Pounds	Each		
368+75	L.O.	Place 24" x 148' R.C.P. 2' x 3' DI. Median H.W. Lt.		148			2.01	74	47	154	25	1-1"	
377+00	L.O.	Place 18" x 72' R.C.P. 2' x 3' DI. Median		72			0.89	28	19	96	11	1-1"	
386+00	L.O.	Place 18" x 80' R.C.P. 2' x 3' DI. Median		80			0.89	29	20	96	11	1-1"	
394+50	L.O.	Place 24" x 156' R.C.P. 2' x 3' DI. Median H.W. Lt.		156			2.23	78	50	178	29	2-1"	
110+70	F-5	Place 18" x 40' R.C.P. H.W. Lt.	40				0.72	15	10	22		2	
416+50	L.O.	Place 24" x 148' R.C.P. 2' x 3' DI. Median H.W. Rt.		148			2.23	77	49	178	29	1-2"	
117+21	F-5	Place 24" x 60' R.C.P. Skew 4' Lt. H.W. Rt.		60			0.98	32	21	29		2	
422+50	L.O.	Place 18" x 84' R.C.P. 2' x 3' DI. Median		84			0.89	30	21	96	11	1-1"	
128+75	F-5	Place D.O. 18" x 36' R.C.P. Skew 2 1/2' Lt. H.W. Rt.		36			0.91	25	17	34		2	
428+60	L.O.	Const. 2' x 3' DI. Median Connect to EXIST. C.M.P. Chimney		72			0.95	4	2	101	11	2-1"	
133+50	F-6	Place 18" x 88' R.C.P. Skew 12 1/2' Lt. H.W. Lt.		88			0.72	32	23	6	22	2	
136+00	F-6	Place 18" x 64' R.C.P. H.W. Lt.		64			0.72	24	17	7	22	2	
			8	1892	4600	1408	84048	12328	6770	89	118600	1136	137

\* Require Reflector Units  
Use Type "C" Reflectors  
See Guide Post Detail

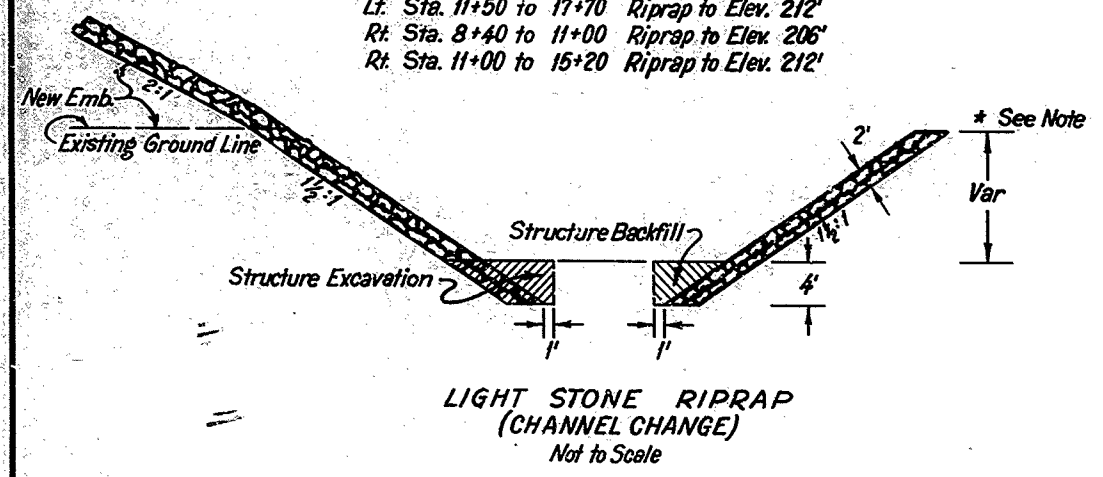
Guide Posts			
Type			
A	B	C	D
56	12	114	57

Horizontal Reflector Units			
W60R	W63R	W61R(R)	W61R(Y)
6	4	3	11

Survey Monument Markers  
# 23

LIGHT STONE RIPRAP					
Sta. to Sta.	Location	Stone	Str. Exc.	Backfill	
8+40	17+70	Lt.	143 CY	830 CY	587 CY
8+40	15+20	Rt.	96 CY	600 CY	415 CY
		Totals	240 CY	1430 CY	980 CY

\* Note  
Lt. Sta. 8+40 to 11+50 Riprap to Elev. 203'  
Lt. Sta. 11+50 to 17+70 Riprap to Elev. 212'  
Rt. Sta. 8+40 to 11+00 Riprap to Elev. 206'  
Rt. Sta. 11+00 to 15+20 Riprap to Elev. 212'



**AS BUILT PLANS**  
Contract No. 57-5VC3  
Date Completed \_\_\_\_\_  
Document No. 50000-512

57-5VC3  
**QUANTITY SUMMARY**

29



*J. P. Ford*  
*John Young*  
 February 27, 1956  
 Civil Engineer License No. 5471

A.B.M. DITCH CHANNEL & SPILLWAY D.D. LINING										
STATION	LIN. FT.		TOP WIDTH	D.C. C.Y.	A.B.M. S.Y.	MESH S.Y.	STR. E.C.C. C.Y.	STR. B.F. C.Y.	DESCRIPTION	
	LT.	RT.								
83+40-106+00	2160		3	120	806	806	0.5	0.5	Med. Ditch	
90+75 "F-0"	20		3	1	8	8	0.5	0.5	Sl. Ditch	
91+25	30		3	2	12	12	0.5	0.5	"	
112+00	30		3	2	12	12	0.5	0.5	"	
125+00	30		3	2	12	12	0.5	0.5	"	
132+50	30		3	2	12	12	0.5	0.5	"	
135+25	30		3	2	12	12	0.5	0.5	"	
141+00	30		3	2	12	12	0.5	0.5	"	
153+50	30		3	2	12	12	0.5	0.5	"	
169+60	30		3	2	12	12	0.5	0.5	"	
181+50	30		3	2	12	12	0.5	0.5	"	
182+40	30		3	2	12	12	0.5	0.5	"	
184+60	30		3	2	12	12	0.5	0.5	"	
186+00	30		3	2	12	12	0.5	0.5	"	
193+50	30		3	2	12	12	0.5	0.5	"	
218+50	30		3	2	12	12	0.5	0.5	"	
233+20	30		3	2	12	12	0.5	0.5	"	
241+00	30		3	2	12	12	0.5	0.5	"	
250+00	30		3	2	12	12	0.5	0.5	"	
255+00	30		3	2	12	12	0.5	0.5	"	
259+50	26		3	16	16	16	0.5	0.5	Spillway D.D.	
ROBBINS STR. DRAIN	30		3	18	18	18	0.5	0.5	"	
287+30	30		3	2	12	12	0.5	0.5	Sl. Ditch	
287+50	30		3	2	12	12	0.5	0.5	"	
302+60	30		3	2	12	12	0.5	0.5	"	
306+10	30		3	2	12	12	0.5	0.5	"	
323+50	30		3	2	12	12	0.5	0.5	"	
333+50	30		3	2	12	12	0.5	0.5	"	
339+40	30		3	2	12	12	0.5	0.5	"	
343+50	30		3	2	12	12	0.5	0.5	"	
349+00	30		3	2	12	12	0.5	0.5	"	
357+50	30		3	2	12	12	0.5	0.5	"	
365+15	30		3	2	12	12	0.5	0.5	"	
370+50	30		3	2	12	12	0.5	0.5	"	
374+60	30		3	2	12	12	0.5	0.5	"	
386+00	30		3	2	12	12	0.5	0.5	"	
400+20	30		3	2	12	12	0.5	0.5	"	
401+70	30		3	2	12	12	0.5	0.5	"	
407+00	30		3	2	12	12	0.5	0.5	"	
409+00	30		3	2	12	12	0.5	0.5	"	
410+15	45		3	17	17	17	0.5	0.5	"	
416+25	30		3	2	12	12	0.5	0.5	"	
419+70 "F-5"	15		3	6	6	6	0.5	0.5	"	
419+75	30		3	2	12	12	0.5	0.5	"	
428+80	30		3	2	12	12	0.5	0.5	"	
430+00	20		3	1	8	8	0.5	0.5	"	
TOTALS	215		1347	1347	23	23				

DITCHES & CHANNELS			
STATION TO STATION	LOCATION	C.Y.	
79 ±	88 ±	5411	
345 ±	RT.	2464	
TOTAL		7875	

DITCH & CHANNEL EXCAVATION SUMMARY	
ITEM	C.Y.
ABM DITCH, CHANNEL & SPILLWAY D.D. LINING	215
TOE OF FILL & INTERCEPTION DITCHES	2274
DITCHES & CHANNELS	7875
DRAINAGE STRUCTURES	89
TOTAL	10453

NEW PROPERTY FENCE - TYPE "A"				
STATION TO STATION	LOCATION	LENGTH	DESCRIPTION	
	LT.	RT.		
63+16	75+07	1400	RT. OF "F-1"	
66+00	69+10	375	BETWEEN L.O. & EXISTING	
68+82	117+53	4926	LT. OF "F-0"	
77+01	80+21	322	RT. OF "F-1"	
82+50	83+00	24	BETWEEN DENIAL & BR.	
83+40	202+65	12150	RT. OF L.O.	
117+42	202+65	863	LT. OF L.O.	
203+23	220+32	1752	LT. OF "F-2"	
220+88	227+50	662	LT. OF "F-2"	
257+80	262+10	430	LT. OF "F-2"	
266+88	273+32	685	LT. OF "F-3"	
280+45	423+24	14082	RT. OF L.O.	
280+49	406+82	12410	LT. OF L.O.	
309+42	314+05	265	RT. OF "F-4"	
406+75	418+43	1277	LT. OF "F-5"	
420+00	422+25	220	RT. OF "F-5"	
423+28	424+07	212	RT. OF L.O.	
TOTAL		59,922		

NEW PROPERTY FENCE - TYPE "B"				
STATION TO STATION	LOCATION	LENGTH	DESCRIPTION	
	LT.	RT.		
70+60	84+40	1550	BETWEEN L.O. & "F-1"	
70+70	117+42	4672	BETWEEN L.O. & "F-0"	
202+15	265+75	6525	BETWEEN L.O. & "F-2"	
202+65	265+84	6470	RT. OF L.O.	
266+46	280+45	1435	RT. OF L.O.	
267+40	280+49	1330	BETWEEN L.O. & "F-3"	
406+32	424+38	2995	BETWEEN L.O. & "F-5"	
424+71	434+38	1062	BETWEEN L.O. & "F-6"	
TOTAL		26,039		

14' PROPERTY FENCE GATES		
STATION	NO. & LOCATION	
	LT.	RT.
64+00 ±		1
89+40 ±		1
106+10 ±		1
159+00 ±		2
266+70 ±		1
267+20 ±		1
313+45 ±		1
TOTAL		10

CLB P.C.C. CURBS				
STATION	TYPE	LENGTH L.F.	P.C.C. C.Y.	DESCRIPTION
59+50 "R-1"	B-2	157	9.45	NOSE
59+50 "R-2"	C-2	326	21.1	NOSE
73+00 "R-4"	C-2	557	36.32	NOSE
74+00 "R-3"	B-2	158	9.35	NOSE
ADDITIONAL ISLAND NOSE PAVING			4.38	
TOTAL			76.61	

METAL PLATE GUARD RAIL			
STATION	LOCATION	LENGTH	DESCRIPTION
	LT.	RT.	
22+00 Median	22+25	25	NIP-CAL. RD.
203+00	215	12	COUNTY RD.
220+60	225	5	COUNTY RD.
234+40	235	1	DIVISION ST.
245+70	245	0	GRAND AVE.
246+00	246	0	GRAND AVE.
257+30	257	0	HILL ST.
257+60	257	0	HILL ST.
261 TO 266	261	501.02	R-1
262 TO 266	262	501.02	R-2
266 TO 272	266	501.02	R-3
266 TO 270	266	38.92	R-4
280+10	280	0	NIP-CAL. RD.
406+60	406	0	SUMMIT RD.
406+75	406	33.75	SUMMIT RD.
425+00	425	0	F-6
425+40 Median	425	40	Nip-CAL. Rd.
TOTAL		2495	

P.V.T. REIN - STRUCT. APPROACHES		
STATION	NO. REIN.	LBS. REIN. STEEL
82+75 "F-5"	8	534

RAISED TRAFFIC BARS		
STATION TO STATION	L.F.	DESCRIPTION
74 ± TO 76 ± "RT. CONST."	280	TRANS. S. END
435+00 "RT. CONST."	65	INT. INTERSECT.
TOTAL	295	

ROADWAY EXCAVATION SUMMARY	
ITEM	C.Y.
FROM LAYOUTS	743,005
FROM COMPACTING ORG. GROUND	24,713
TOTAL	767,718

OVERHAUL SUMMARY	
ITEM	STA. YD. O.H.
FROM MASS DIAGRAM	18,641,770
TOTAL	18,641,770

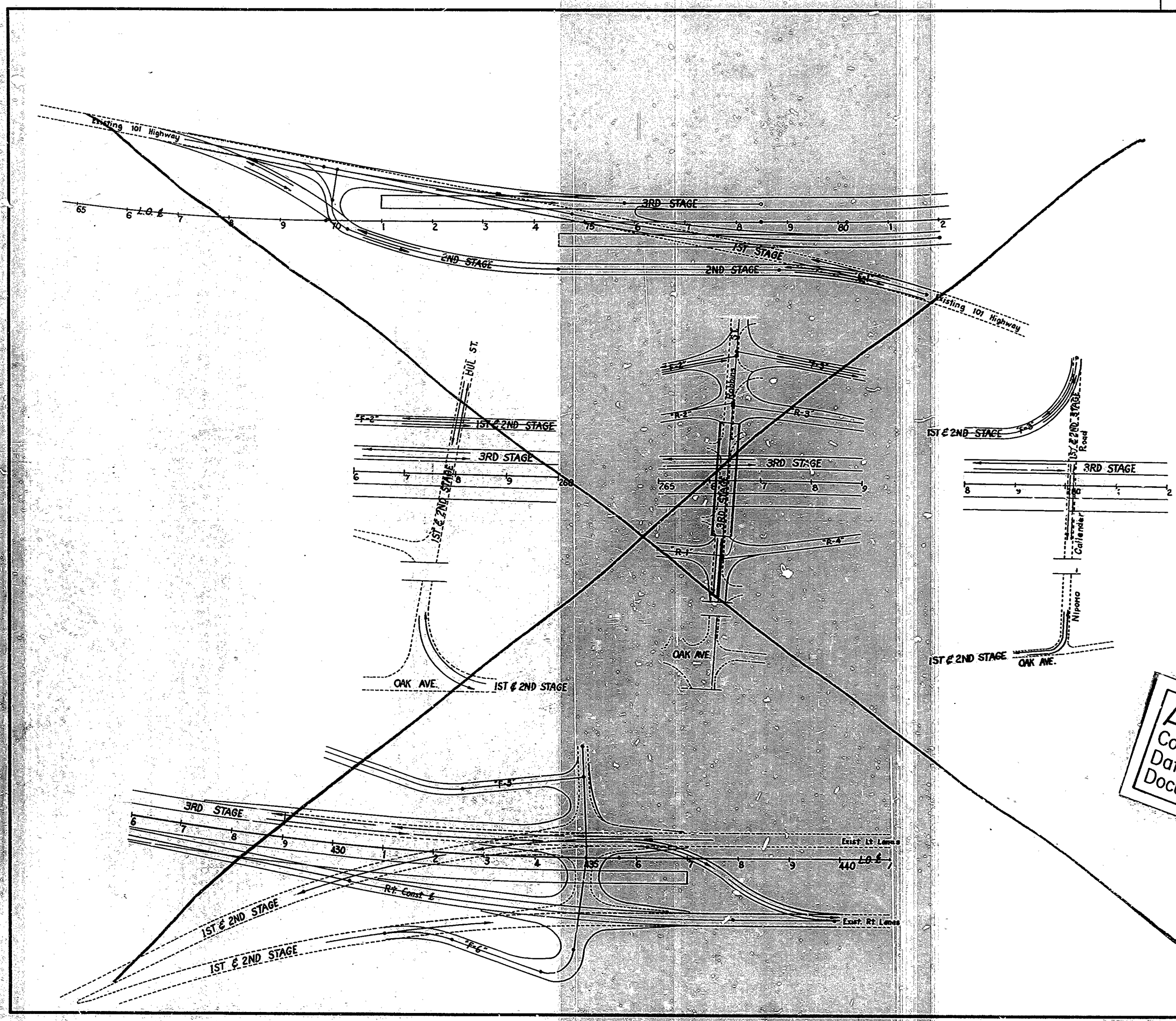
**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000-5712

57-5VC3  
**QUANTITY SUMMARY**



STATE	FEDERAL PROJECT NO.	FISCAL YEAR	MARKET	TOTAL
CALIF.				AVAIL.
DIST.	COUNTY	ROUTE	SECTION	POST MILE
V	SLO	2	F	31.40

*L. L. Young*  
 February 27, 1956  
*John Young*  
 Engineer in Charge  
 Civil Engineer License No. 5471



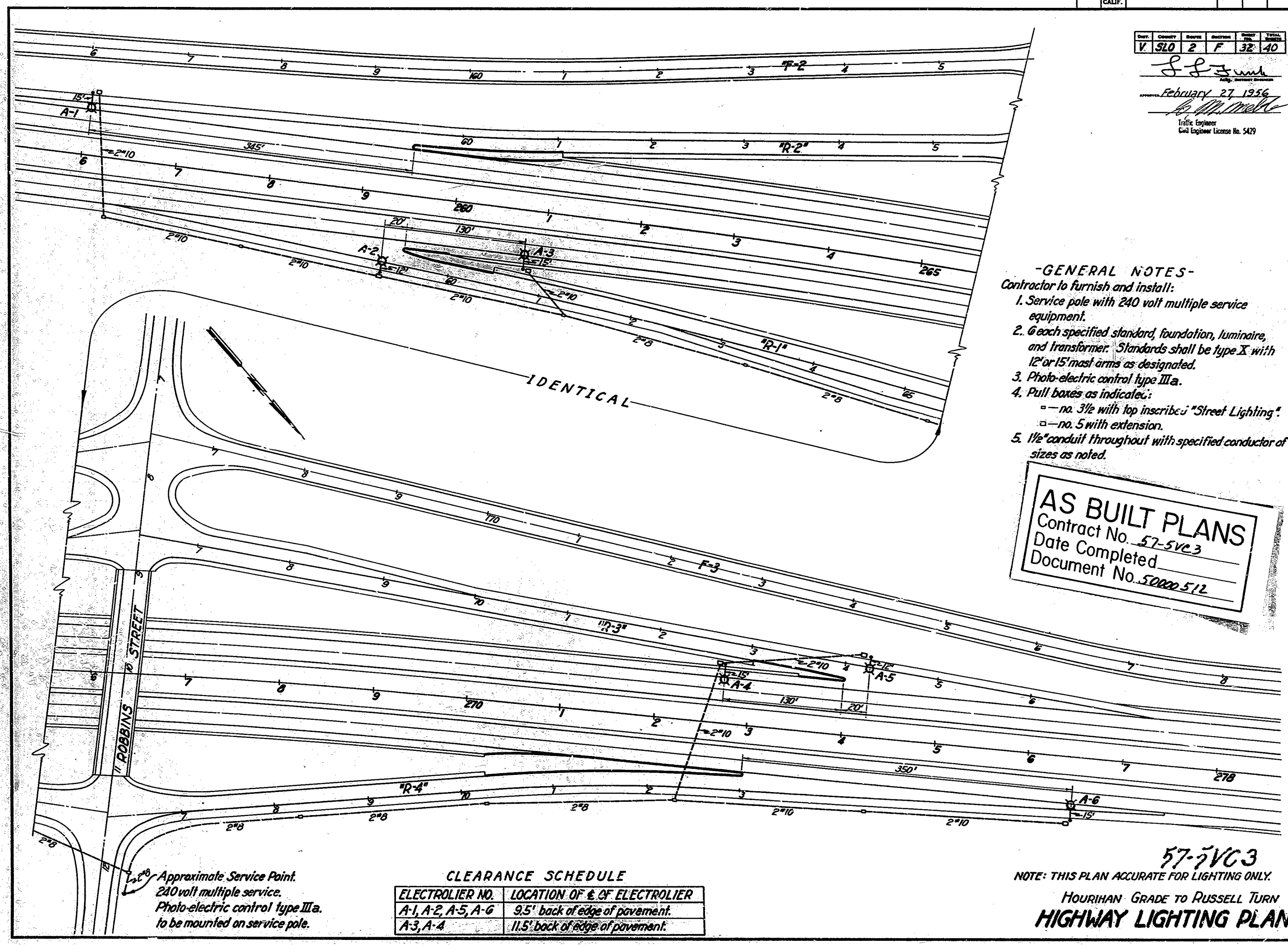
31

**DETOURS**  
 Scale: 1"=100'  
 57-5VC3

SHA	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
07	CALIF.				

Dist.	County	Hours	Amount	Sheet	Total
V	520	2	F	32	40

*S. J. Smith*  
 February 27 1956  
*R. M. Mott*  
 Traffic Engineer  
 Civil Engineer License No. 5429



- GENERAL NOTES-**  
 Contractor to furnish and install:
1. Service pole with 240 volt multiple service equipment.
  2. 6 each specified standard, foundation, luminaire, and transformer. Standards shall be type X with 12' or 15' mast arms as designated.
  3. Photo-electric control type IIIa.
  4. Pull boxes as indicated:
    - no. 3 1/2 with top inscribed "Street Lighting"
    - no. 5 with extension.
  5. 1 1/2" conduit throughout with specified conductor of sizes as noted.

**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed  
 Document No. 50002-512

**CLEARANCE SCHEDULE**

ELECTROLIER NO.	LOCATION OF $\phi$ OF ELECTROLIER
A-1, A-2, A-5, A-6	9.5' back of edge of pavement.
A-3, A-4	11.5' back of edge of pavement.

Approximate Service Point.  
 240 volt multiple service.  
 Photo-electric control type IIIa.  
 to be mounted on service pole.

57-5VC3  
 NOTE: THIS PLAN ACCURATE FOR LIGHTING ONLY.  
 HOURIHAN GRADE TO RUSSELL TURN  
**HIGHWAY LIGHTING PLAN**

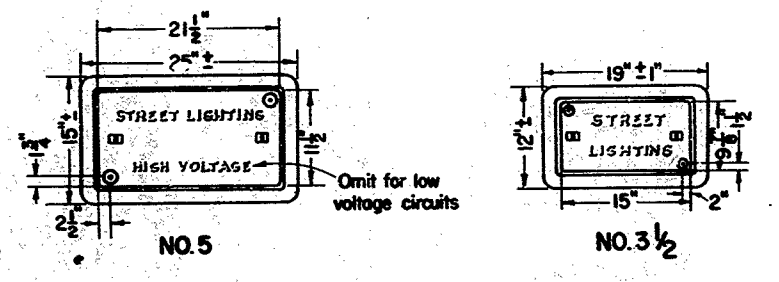
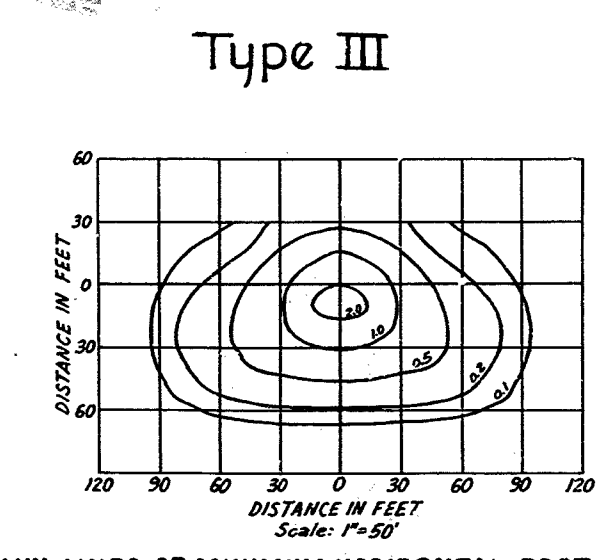
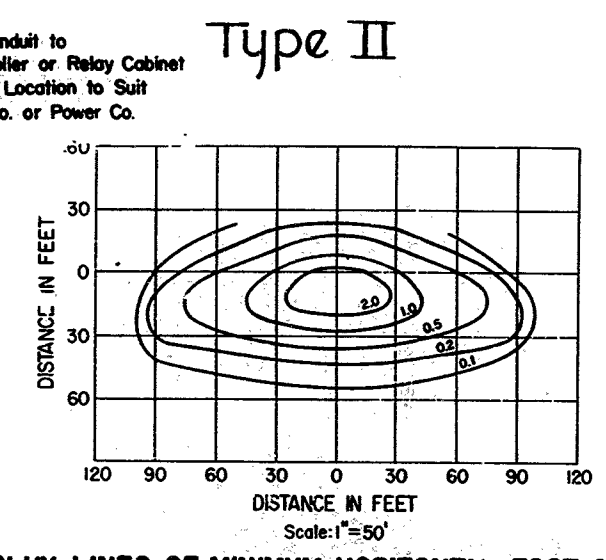
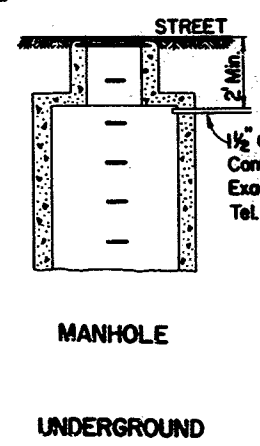
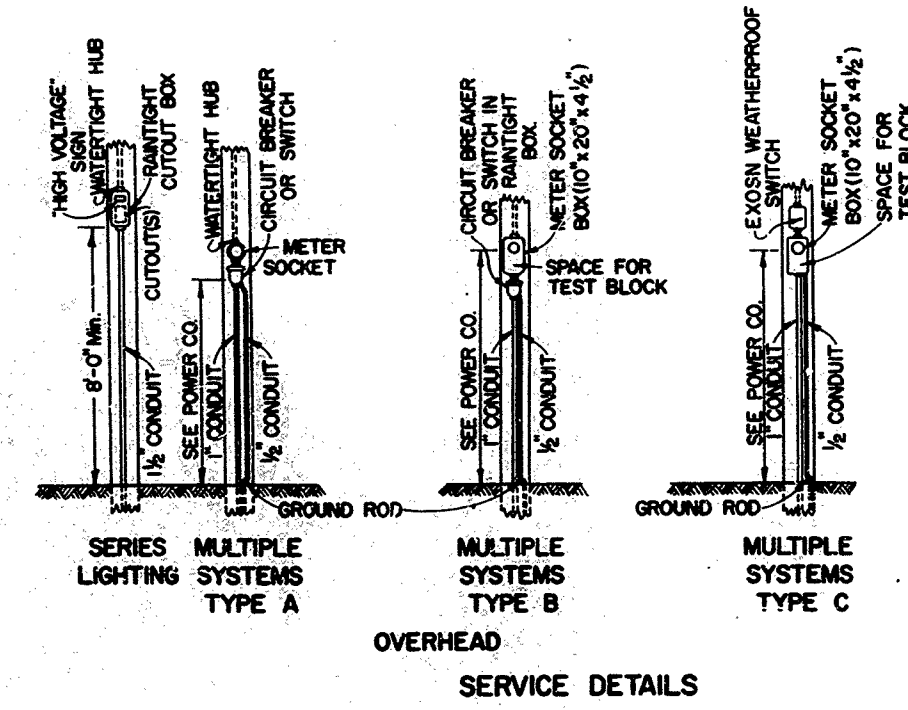
32

REV. 10-55



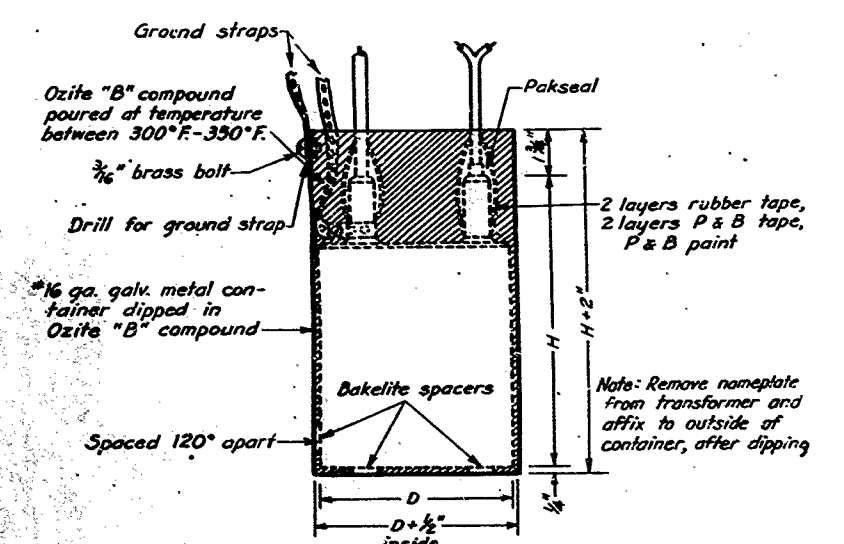
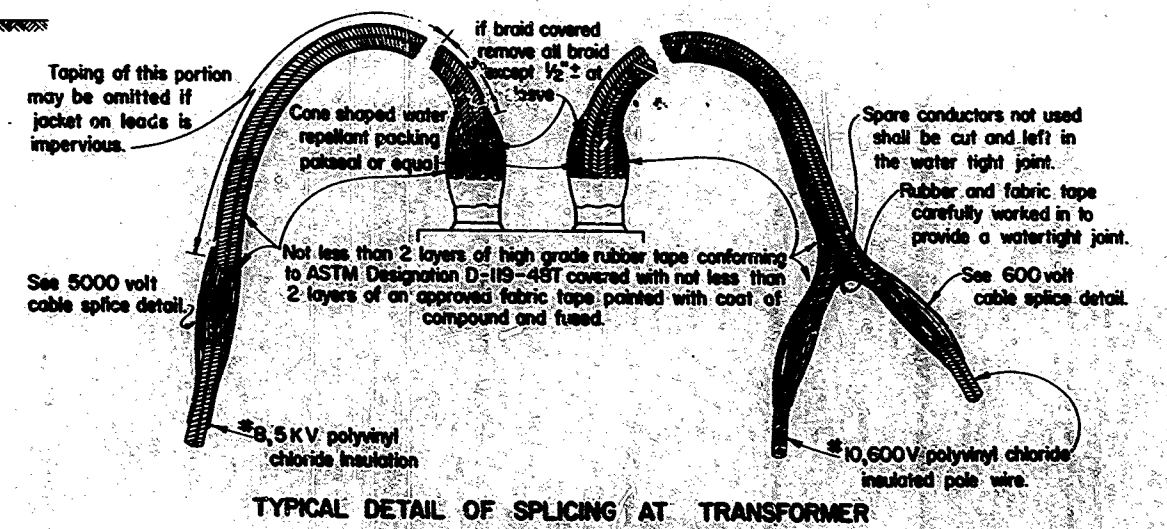
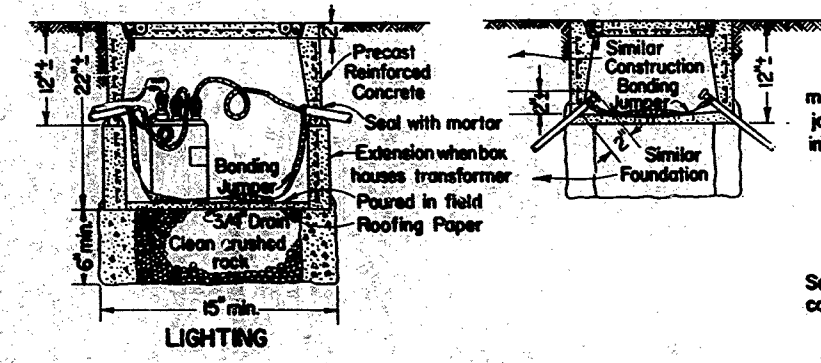
DIST. COUNTY ROUTE SECTION P.M. S.M.  
 V. 910 2 F 33 40  
 NOV 1 1955  
 APPROVED: *[Signature]*  
 TRAFFIC ENGINEER, CIVIL ENGINE LICENSE NO. 5425  
 TO ACCOMPANY PLANS DATED February 27, 1956

**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 5000512



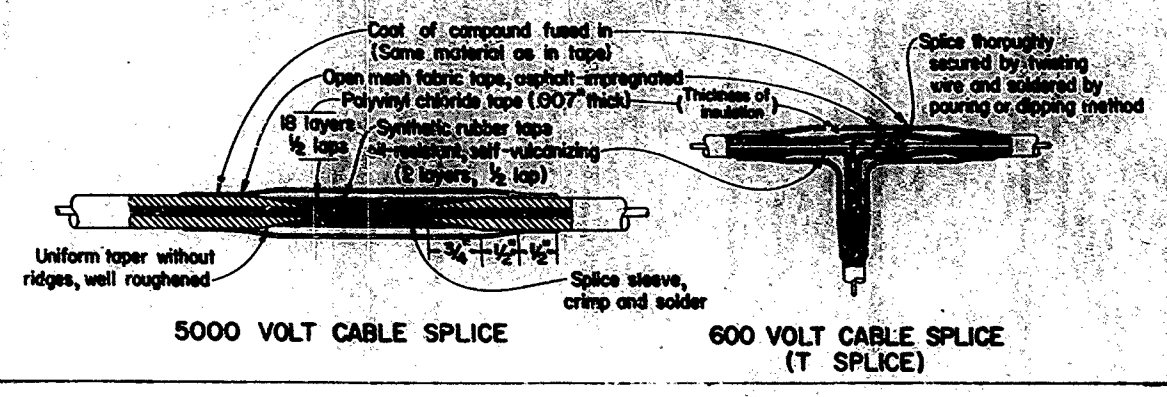
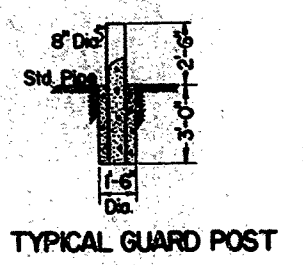
**SHIELDED HIGHWAY LIGHTING LUMINAIRE TYPE II**  
 30' MOUNTING HEIGHT, 20,000 LUMEN  
 MERCURY VAPOR LAMP

**SHIELDED HIGHWAY LIGHTING LUMINAIRE TYPE III**  
 30' MOUNTING HEIGHT, 20,000 LUMEN  
 MERCURY VAPOR LAMP



**SYMBOLS**

PROPOSED	EXISTING	DESCRIPTION
—○—	—○—	Signal conduit
—□—	—□—	Lighting conduit
—○—	—○—	Pull box
—○—	—○—	Electrolier, most arm type
—○—	—○—	Electrolier upright type
—○—	—○—	Power pole
—○—	—○—	Telephone pole
—○—	—○—	Fire hydrant
—○—	—○—	Flashing beacon
—○—	—○—	Overhead conductors



**STANDARD DETAILS**  
 STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS  
 57-5VC3  
 HIGHWAY LIGHTING  
 INSTALLATIONS

33

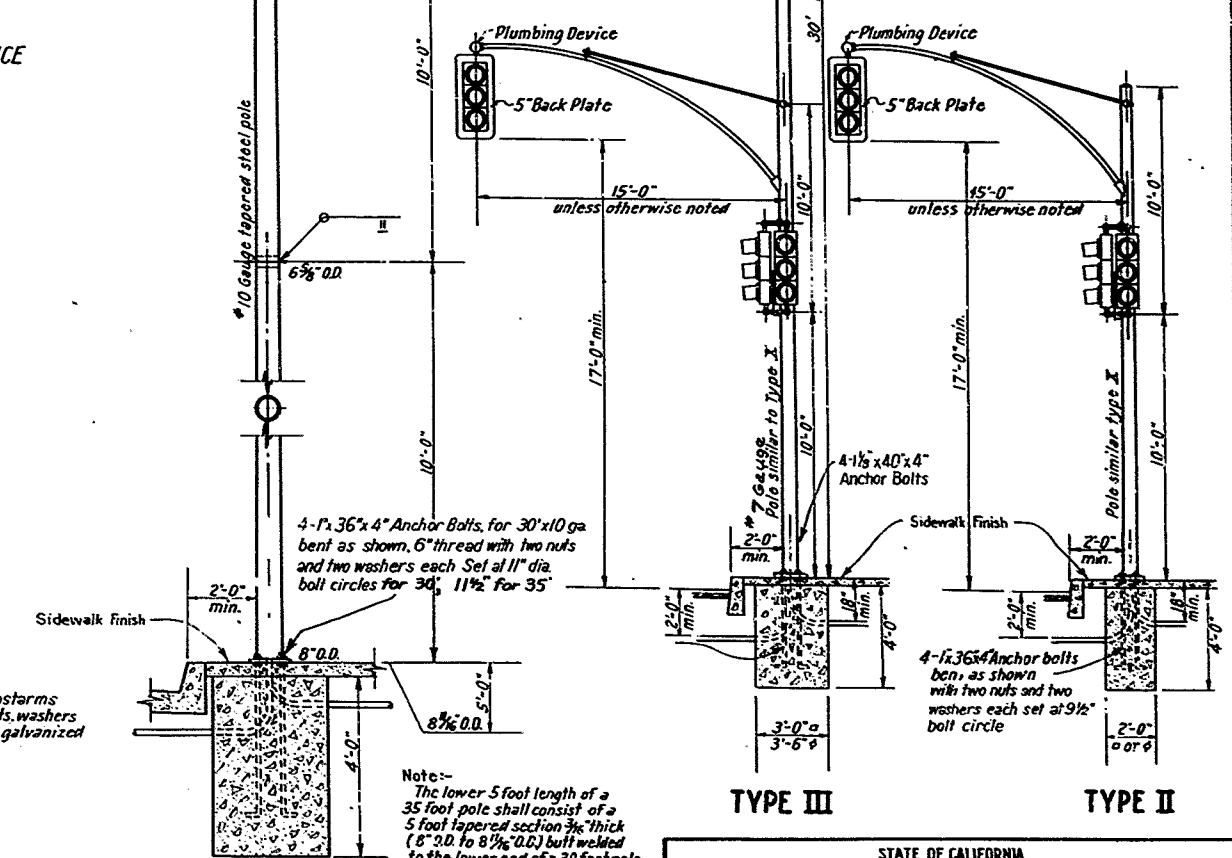
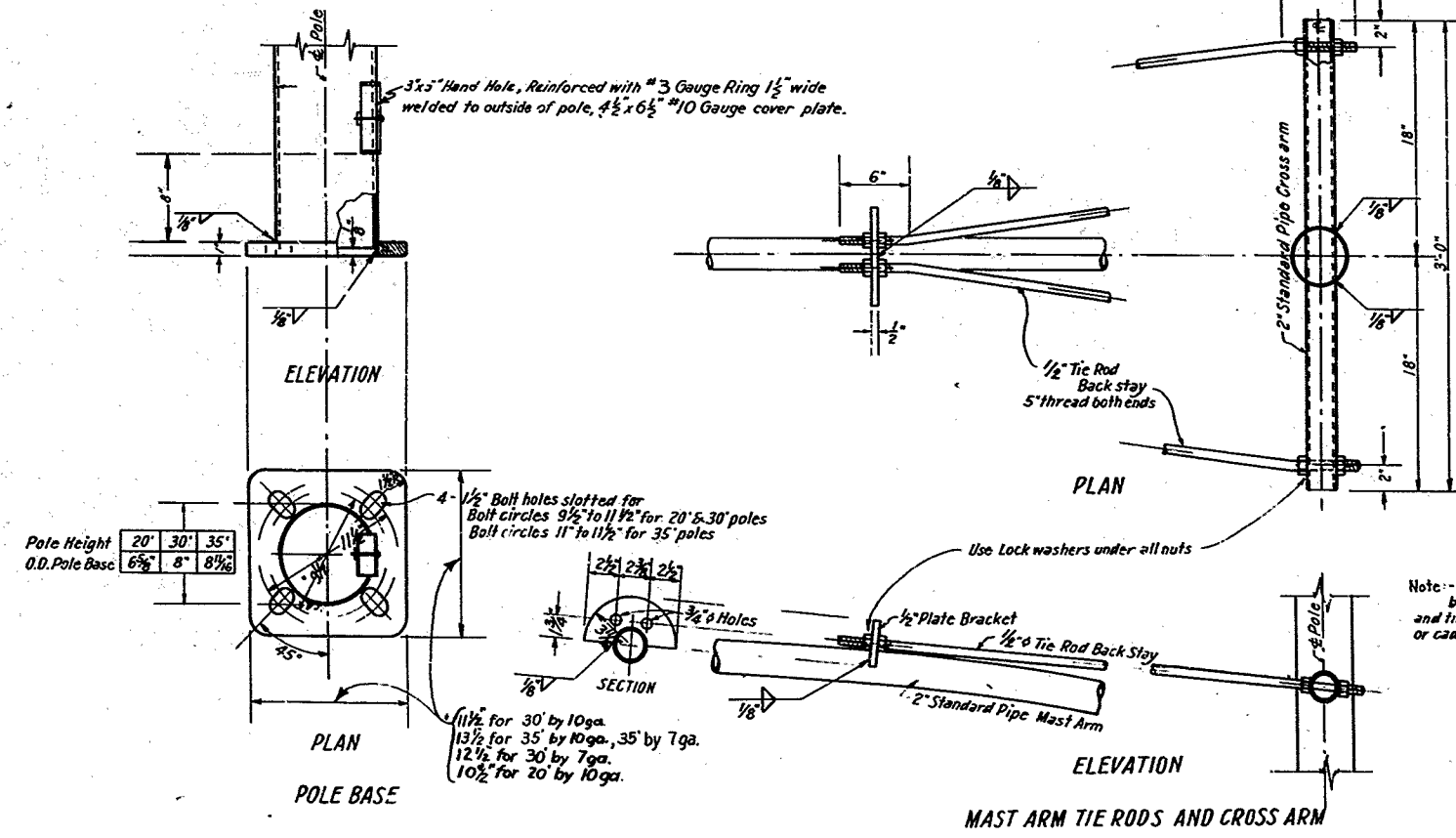
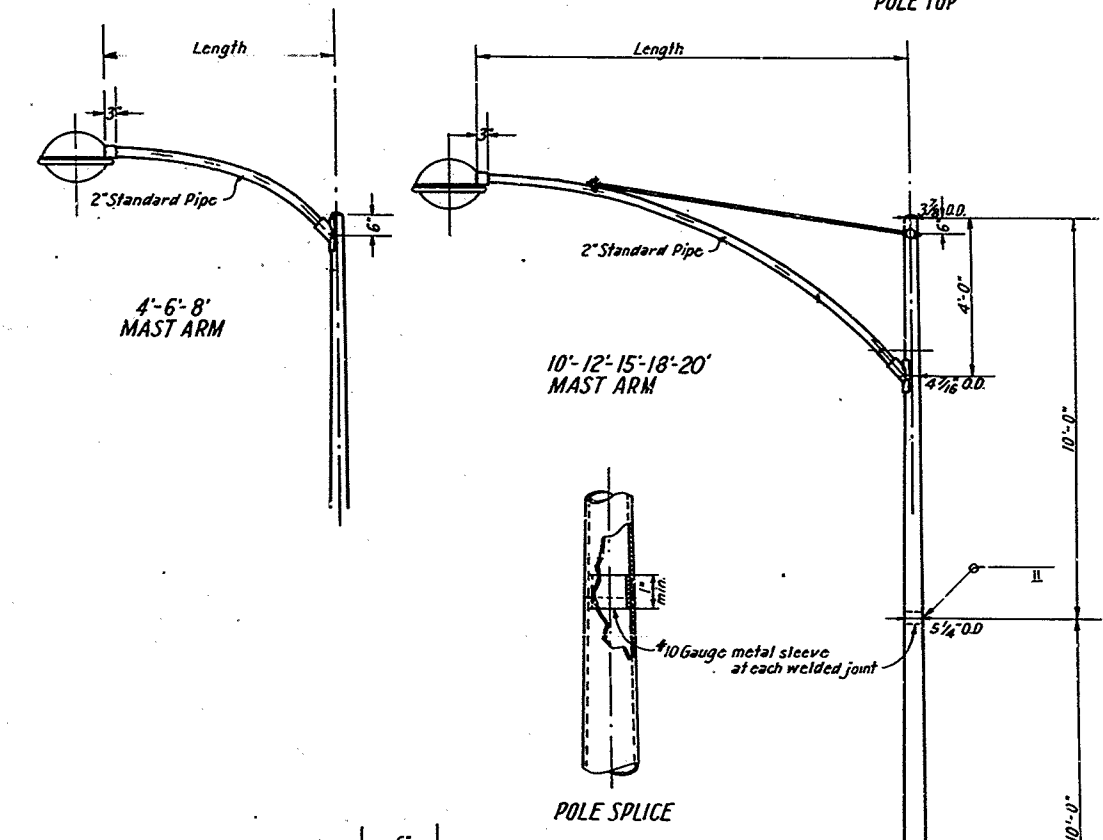
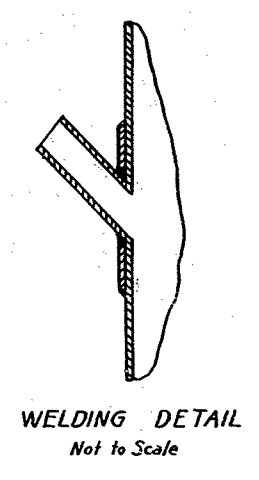
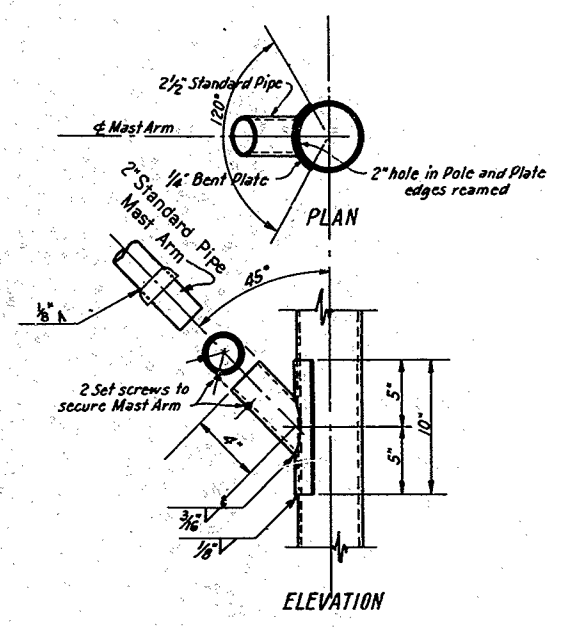


- NOTES**
- 1 - Mast arms shall be so constructed that luminaire end of arm shall be not more than 2 1/2 feet above nor 6 inches below top of pole.
  - 2 - End of mast arm shall not be below the horizontal with luminaire attached.
  - 3 - The last 3" of each mast arm shall be straight

DIST.	COUNTY	ROUTE	SECTION	POST MILE	TOTAL SHEETS
V 510	2	F	34	40	

Approved November 15, 1954  
*E. J. [Signature]*  
 Traffic Engineer  
 Civil Engineer License #15429  
 To accompany plans dated FEBRUARY 27, 1956

**AS BUILT PLANS**  
 Contract No. 57-5V6-3  
 Date Completed  
 Document No. 52000-512



Note - All shafts, mastarms, bolts, screws, nuts, washers and tie rods shall be galvanized or cadmium plated.

Note - The lower 5 foot length of a 35 foot pole shall consist of a 5 foot tapered section 3/8 inch thick (5" O.D. to 8 1/2" O.D.) butt welded to the lower end of a 30 foot pole. A 20 foot pole shall consist of the upper 20 feet of the 30 foot pole design. 1/8 x 40 x 4 anchor bolts for 35 poles & for all 7 ga shafts. Each anchor bolt shall have two 3/4 x 12 1/2 washers.

STATE OF CALIFORNIA DEPARTMENT OF PUBLIC WORKS DIVISION OF HIGHWAYS			
<b>STANDARDS</b>			
<b>CALIFORNIA TYPE</b>			
<b>20 ft., 30 ft., 35 ft. Pole Heights</b>			
Not to Scale	Revised 4-1-55	FILE	DRAWING 12

34



To A Company Plans Dated February 27, 1952  
 V S10 2 F 35 40  
 Approved October 10, 1952  
 State Engineer

**GENERAL NOTES**

**DESIGN NOTES**

**SPECIFICATIONS:** A.A.S.H.O. dated 1953 with subsequent modifications and Bridge Department Supplement dated 1953.  
**LOADS:** Live Load = one H20-S16-44 truck with 30% impact for all cover depths. Neglect live load when on single spans cover is more than 8' and exceeds span or on multiple spans cover exceeds distance between faces of exterior walls. Culverts at grade treated as bridge, with wheel load on invert slab distributed over 7.0' transversely and breadth of culvert longitudinally. Live load distributed thru fill as follows:- Transverse spread = 1.2 + 1.6F; longitudinal spread = 1.5 + 1.5F. Earth load of 120 lbs. per cu. ft. and an equivalent fluid pressure of 36 lbs. per cu. ft. (both reduced 30% for balanced design) and modified for bedding and backfill conditions.  
**UNIT STRESSES:**  $f_s = 20,000$  psi;  $f_c = 1,000$  psi;  $n = 10$ ;  $u = 300$  psi;  $v = 50$  psi. Reinforcement to be round deformed bars. Embedment is 1 1/2 Dia. clear, min 1", except as noted. Hooks shall conform to Manual of Standard Practice, A.C.I. Backing for hooks is 4 diameters. Bar splices to be 20 diameters, unless noted. Deformations shall conform to A.S.T.M. A-305-49. Distribution "d" bars; Cover "O" to span length, top slab =  $\frac{L}{8}$ , max. 50%. Cover "O" to span length, bottom slab =  $\frac{L}{8}$ , min. 25%. Cover exceeding span length, top and bottom slabs = 25%.

**CONSTRUCTION NOTES**

**SPECIFICATIONS:** Standard Specifications, Division of Highways, and Special Provisions accompanying plans.  
**MAXIMUM COVER:** Strength Classification should be reviewed in the field after foundation is exposed. If excavation discloses foundation materials different than presumed for design, the design should be reviewed to determine the necessity of (1) Stronger culvert section; (2) Improvement of bedding, and/or (3) Method "B" backfill, (see Standard Specifications), except vertical faces of trench shall not be more than 1' outside dimensions of the structure.  
**EXPANSION JOINTS:** None in invert slab. Under cover less than span length, place 1/2" exp. jt. material in top slab and side walls in dividing strip or outside shoulder. Under cover more than span length, place expansion joints in top slab and side walls only at 30' ± ctrs., and additional joints, as directed by the Engineer, at locations of change of foundation material.  
**CONSTRUCTION LOADS:** Construction loads heavier than legal loads not permitted until concrete has reached a strength of 3000 psi and structure strutted and cushioned as directed by Engineer.

**LOCATION NOTES**

**HYDRAULICS:** If slope of natural channel exceeds "neutral slope" of culvert entrance capacity for 10-yr. flood ( $Q_{10}$ ) will usually determine size. Otherwise compute total head =  $(\frac{L}{100}) \cdot (1.05 + \frac{L}{100})$ , where "L" is head factor, "L" is length of culvert and  $Q_{10}$  the 100-yr. flood, and compare with allowable head. Tabulated elements are for full nominal section.  
**MAXIMUM COVER:** Allowable depends on bedding and backfill. Use: CASE II - For construction in trench on hard foundation. CASE III - For construction in trench on yielding foundation; also if Method "B" backfill is used. CASE IV - For construction on hard foundation. CASE V - For construction on yielding foundation also on hard foundation if Method "B" backfill is used.  
 For further information on Cases see "California Culvert Practice"

**LOCATION NOTES CONT'D**

**DESIGNATION:** Show on plans as Span x Height-Strength Classification-Case x Length: thus 4 x 4-A-III x 60, followed by alternatives.  
**ALTERNATIVES:** Invert will be sloped unless "Trapezoidal Invert", "Flat Invert" or "V-Invert" is included in designation. Ends of culvert will be rounded unless "Square Ends" are designated. Parapet on culverts with over 2' cover will be 1'-0" unless \_\_\_\_\_ ft. parapet is designated. Such designations may be different for inlet and outlet ends.  
**QUANTITIES:** Quantities are for estimating only. They are for the alternate flat invert slab and do not include splices in longitudinal bars nor concrete and reinforcing for special coverage. Lengths of "b" and "b" bars are same. Vary bending of "b" bars to suit bottom slab.  
**SPECIAL COVERAGE:** Where culverts are constructed adjacent to salt water, thickness of concrete shall be increased to provide 2" coverage between steel and exposed surfaces. Where scour is anticipated, thickness of bottom slab shall be increased to provide 2" minimum coverage between steel and exposed surface.

**USE OF STANDARD PLAN**

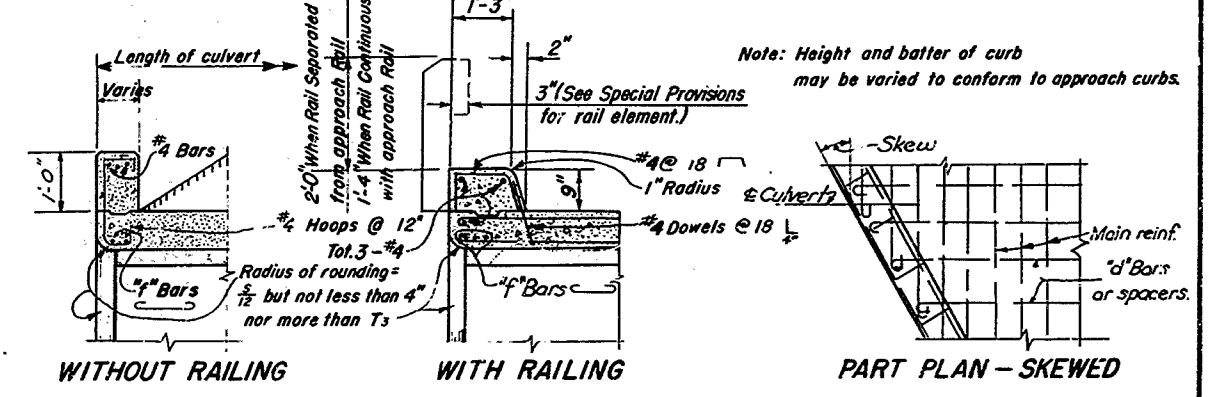
**STRENGTH CLASSIFICATION**, symbolized by the letters "A,B,C," etc., at the top of the data table is merely a convenient designation for a particular structural section for a culvert of any given opening. It is dictated by two factors, (1) the method of bedding and backfill, and, (2) the cover or depth of fill over the top slab. For convenience, bedding and backfill conditions are grouped into "Cases" II, III, IV, V, VI, VII, VIII, which are illustrated by sketches and described in the "Location Notes." With little or no information on soil conditions, assume Case II or VIII.

**EXAMPLES**

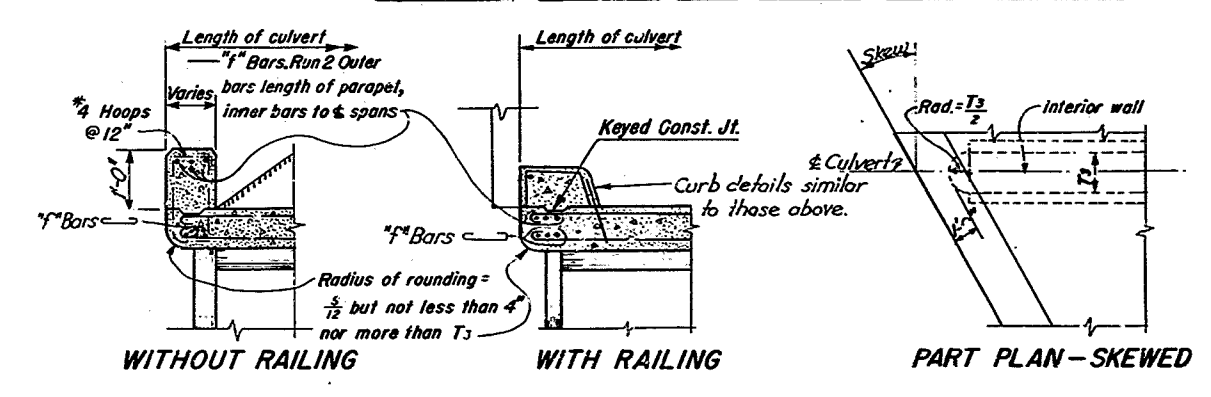
**AS DESIGNER:** It has been determined by hydraulic study, or other reasons, a std. 10' x 8' culvert 60' long is required, to be constructed in the open (no trench) on a yielding foundation and under 13' cover.  
 Procedure:-From the sketches of Cases and Location Notes it is found bedding and backfill conditions conform to Case VIII. Enter the table at the 3rd line from the bottom (Case II or VIII) and select the 2nd column under the 8' row where cover depths to 14' are allowed. Move to the top of this column, where the required "Strength Classification" indicated by the letter "B" will be found. Final designation: Std. 10' x 8'-B-VIII x 60'.  
**AS RESIDENT ENGINEER:** It is discovered in making the excavation for the above culvert, that the foundation is hard, instead of yielding as expected, and that compacted backfill will be used. From information on the standard plans it is ascertained this situation to be Case VI, which for a 13' cover requires Strength Classification "C". Accordingly, Change Order should be initiated calling for a Std. 10' x 8'-C-VI x 60'.

**SKEWED PARAPETS**

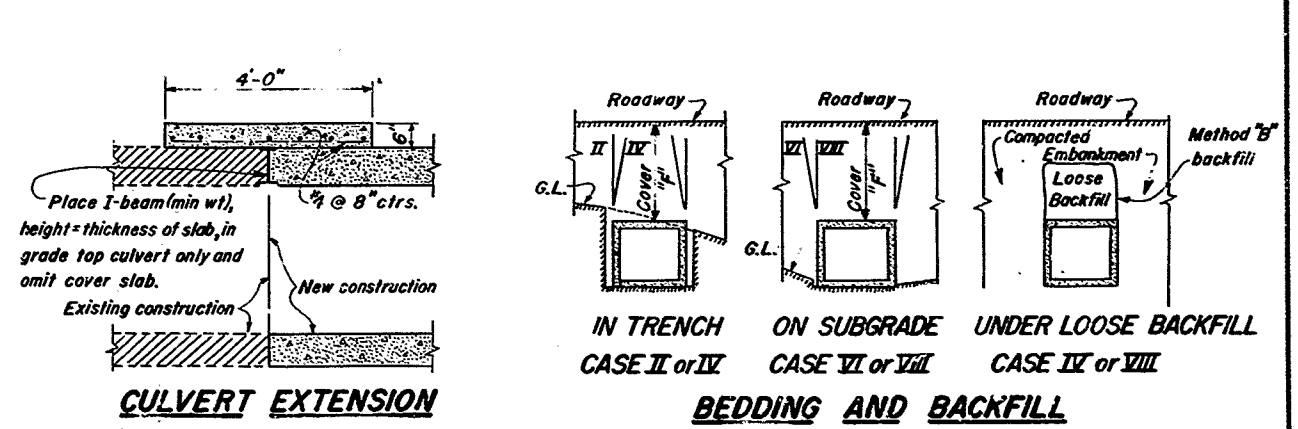
Skew Angle	Span	3	4	5	6	8	10	12
0°-15°	HOOPS	4	4	4	4	4	4	4
16°-30°	HOOPS	4	4	4	4	4	4	4
31°-45°	HOOPS	4	4	4	4	4	4	4
0°-45°	HOOPS	3	3	3	3	3	3	3
	HOOPS	3	3	3	3	3	3	3



**PARAPET DETAILS FOR SINGLE SPAN CULVERTS**



**PARAPET DETAILS FOR MULTIPLE SPAN CULVERTS**



**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000 512

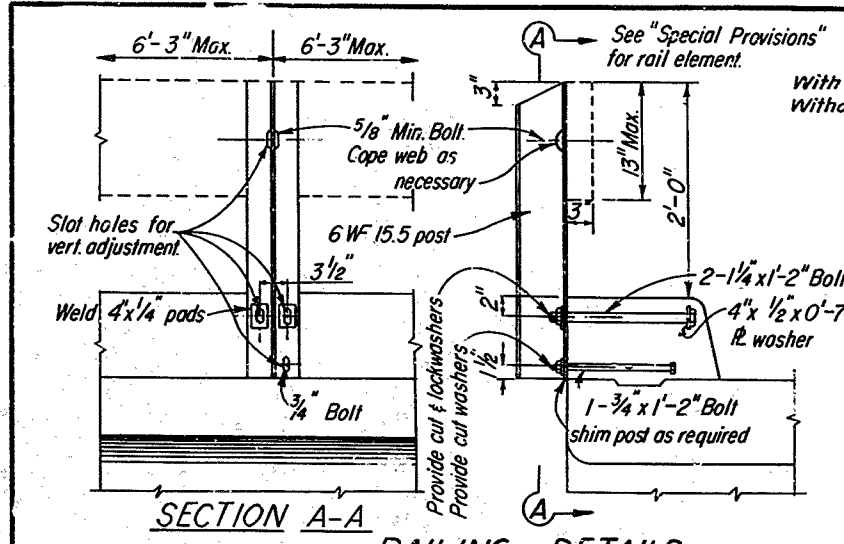
STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS

**STANDARD BOX CULVERTS**  
**MISCELLANEOUS DETAILS**

SCALE: BRIDGE NO.: FILE: XS-1-24 DRAWING: XS-1-29

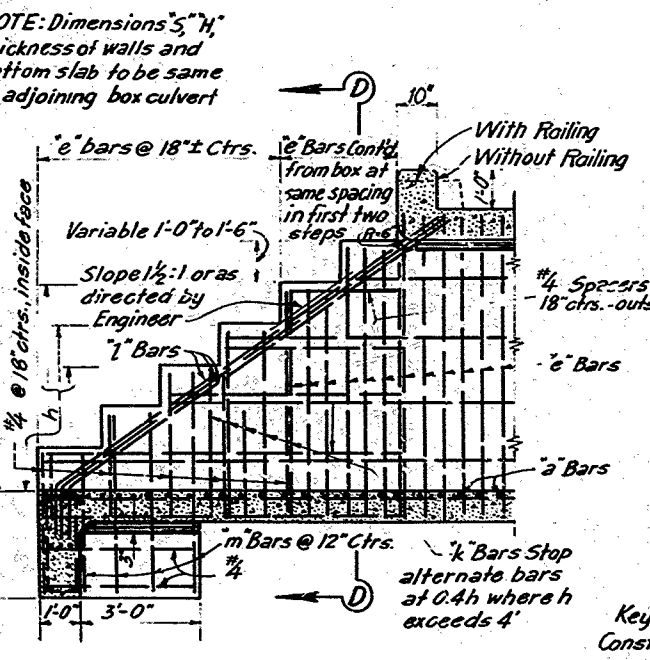
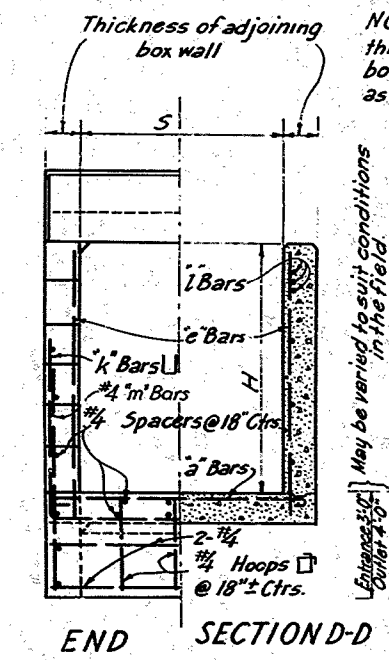
W. W. M. M. M.  
 REGISTERED PROFESSIONAL ENGINEER  
 October 10, 1952  
 STATE OF CALIFORNIA  
 CIVIL ENGINEER - LICENSE

**AS BUILT PLANS**  
 Contract No. 57-5V6-3  
 Date Completed  
 Document No. 52000-5712



**TABLE OF REINFORCING STEEL TYPE 'E' WALLS**  
 Scale: 1"=1'-0"

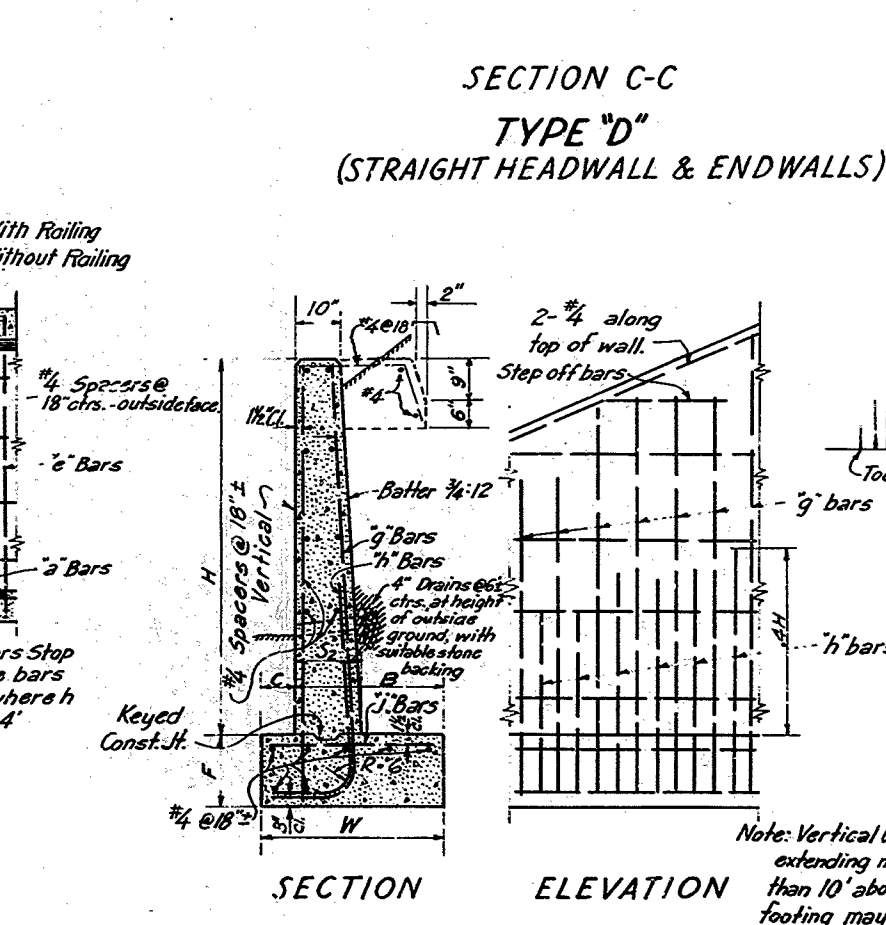
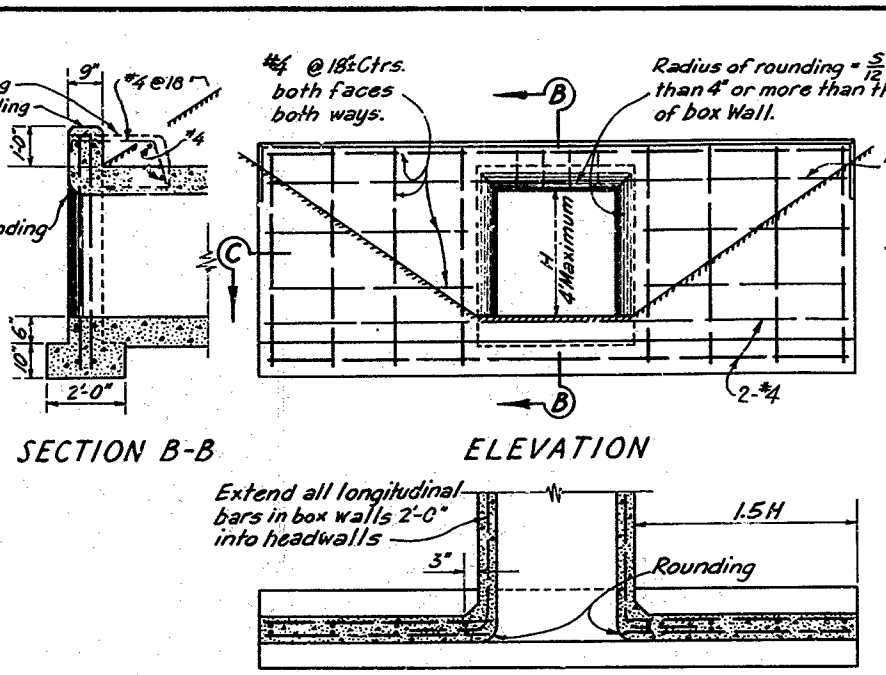
WALL THICKNESS	3	4	5	6	7	8	10	12
Bar No.	#4	#4	#5	#5	#5	#5	#5	#5
Bar Spacing	12	8	10	9	8	7	6	5
Bar No.	#5	#5	#6	#6	#7	#7	#7	#7
Bar Number	2	2	3	3	3	3	3	3



**NOTES**  
 May be used where future extension of culvert is necessary if used on spans 7 to 12; it must be removed when culvert is extended.

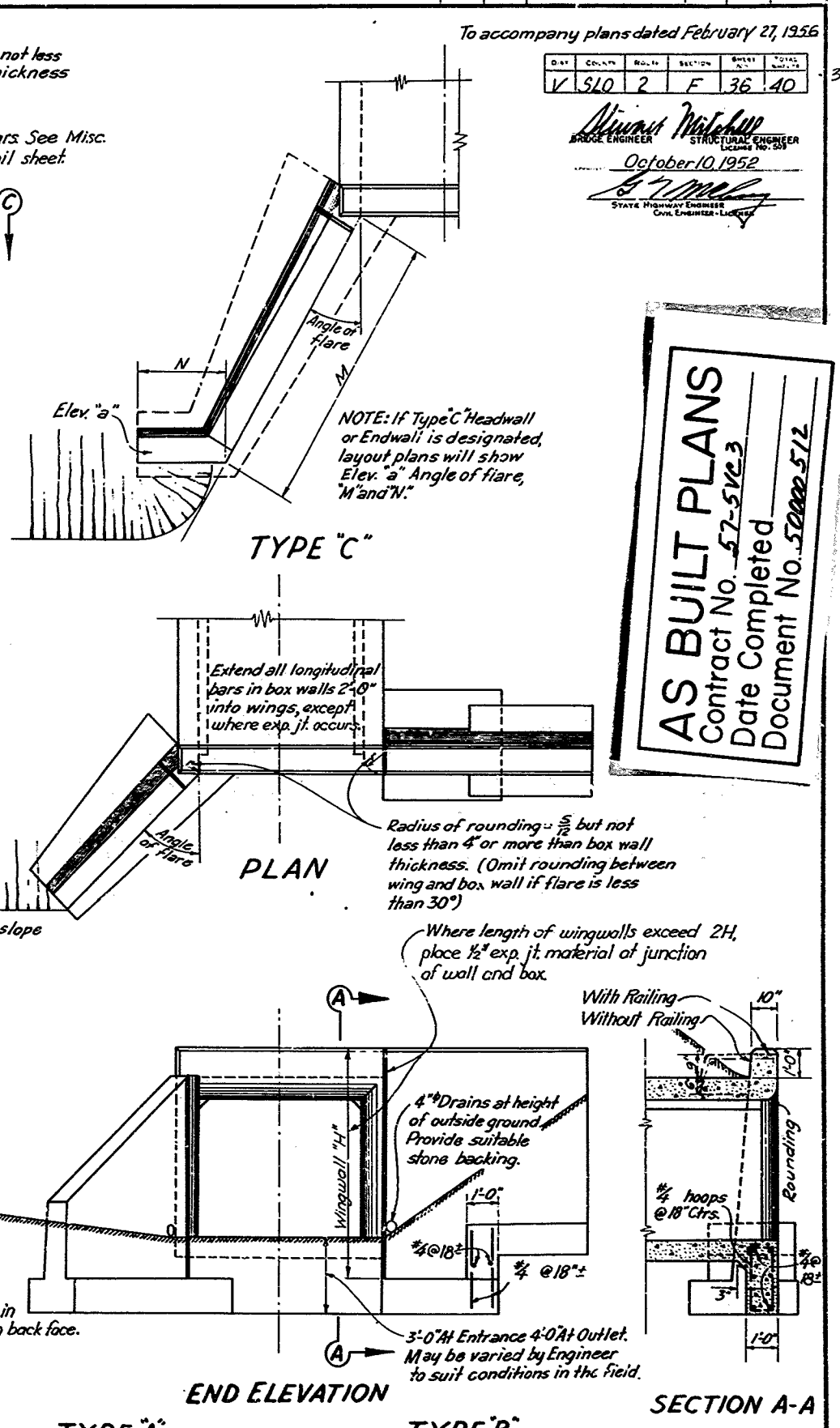
**DESIGN NOTES:**  
 Earth load of 100\*/cu.ft. and an equivalent fluid pressure of 30\*/cu.ft.  
 Wingwalls designed for 2' surcharge.  
 Unit stresses:  $f_s=20,000$  psi;  $f_c=1000$  psi;  $n=10$ .  
 Maximum soil pressure = 1 1/2 tons per sq.ft.  
 All reinforcing steel round deformed bars, conforming to A-305-'9.  
 Hooks shall conform to Manual of Std. Practice, A.C.I. Backing for hooked bars 4 diameters. Embedment is 1 1/2 dia. clear, min. 1", unless noted.

**CONSTRUCTION NOTES:**  
 Standard Specifications and the Special Provisions accompanying plans.  
 Elevations, length, and angle of flare of walls may be varied by the Engineer to suit conditions encountered in the field.



**REINFORCED CONCRETE WING HEADWALLS & ENDWALLS**

H	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'
W	3'-3"	3'-9"	4'-3"	4'-9"	5'-3"	5'-9"	6'-3"	6'-9"	7'-3"	7'-9"	8'-3"	8'-9"	9'-3"
C	9"	11"	13"	15"	17"	19"	21"	23"	25"	27"	29"	31"	33"
B	2'-6"	2'-10"	3'-2"	3'-6"	3'-10"	4'-2"	4'-6"	4'-10"	5'-2"	5'-6"	5'-10"	6'-2"	6'-6"
F	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"
S <sub>2</sub>	1-1	1-1 1/2	1-2	1-3/4	1-4	1-4 1/2	1-5	1-5 1/2	1-6	1-6 1/2	1-7	1-7 1/2	1-8
g Bars	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12
h Bars	-	-	-	-	-	-	-	-	-	-	-	-	-
j Bars	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12	4#12
Conc. cu ft.	.28	.35	.41	.48	.55	.62	.70	.75	.85	.98	1.07	1.15	1.25
Steel lbs/cu ft.	18	19	22	25	30	36	42	49	57	70	84	99	112



**TYPE 'A'** (FLARED OR STRAIGHT WING HEADWALLS & ENDWALLS)  
**TYPE 'B'** (FLARED OR STRAIGHT WING HEADWALLS & ENDWALLS)

Note: Bar numbers denote nominal diameters of round bars in eighths of an inch (Bar #6=3/4").

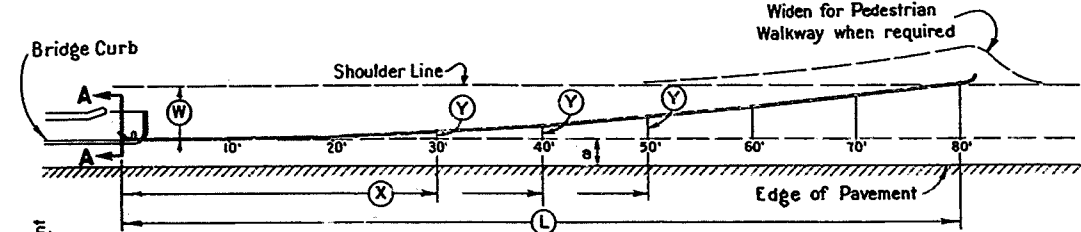
**STANDARD REINFORCED CONCRETE CULVERT HEADWALLS & ENDWALLS**

SCALE	BRIDGE NO.	FILE NO.	DR
57-5V6-3			



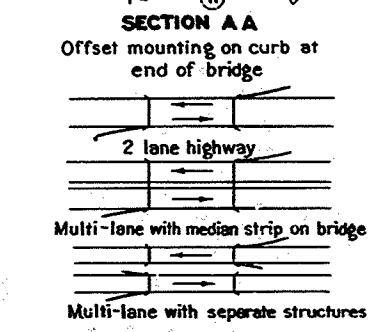


Approval Recommended by *[Signature]*  
Assistant State Highway Engineer  
Applied September 7, 1950  
*[Signature]*  
State Highway Engineer, License No. 5084  
To accompany plans dated February 27, 1956

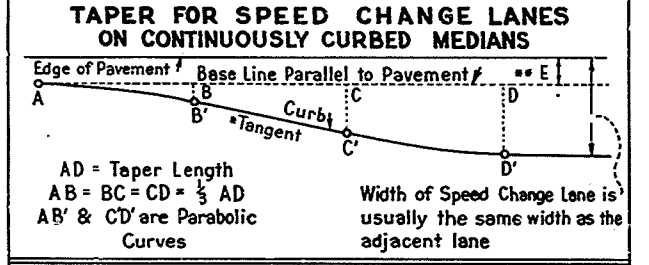
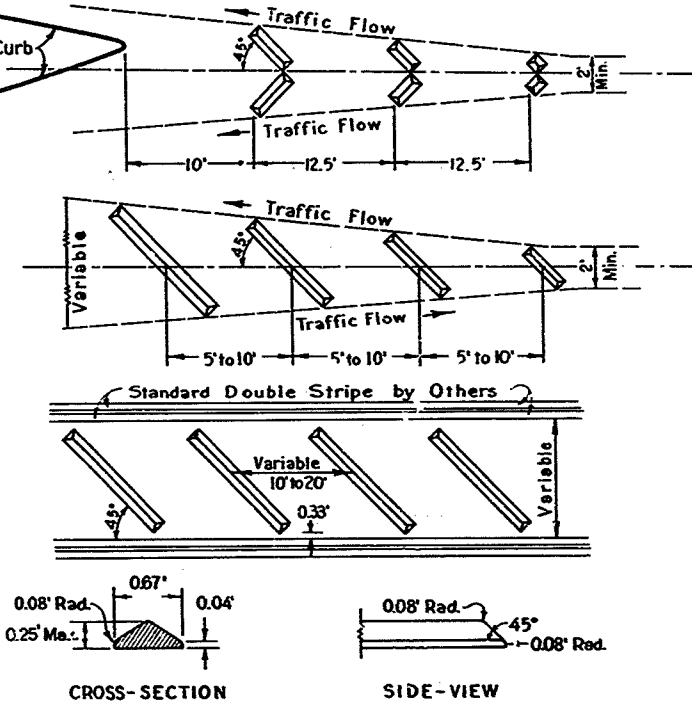
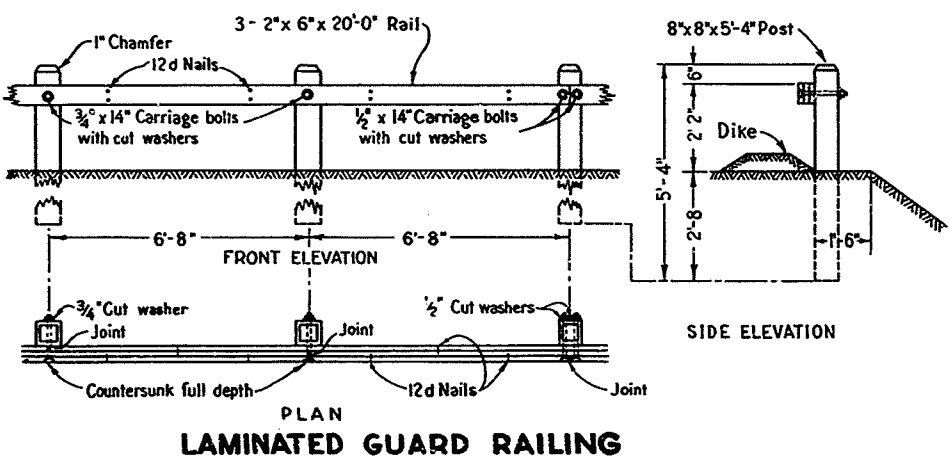


W = Offset from bridge curb to edge of shoulder  
L = Length of guard rail  
X = Distance from beginning of guard rail at bridge  
Y = Offset at each post

X	Y					
	W=3'	W=4'	W=5'	W=6'	W=7'	W=8'
10	0.12	0.11	0.08	0.07	0.06	0.76
20	0.48	0.44	0.31	0.30	0.23	0.22
30	1.08	1.00	0.70	0.67	0.52	0.50
40	1.92	1.78	1.25	1.19	0.93	0.89
50	3.00	2.78	1.95	1.85	1.45	1.39
60		4.00	2.81	2.67	2.08	2.00
70			3.83	3.63	2.83	2.72
80			5.00	4.74	3.70	3.56
90				6.00	4.69	4.50
100					5.79	5.56
110					7.00	6.72
120						8.00



TYPICAL INSTALLATION OF METAL GUARD RAILING AT BRIDGES

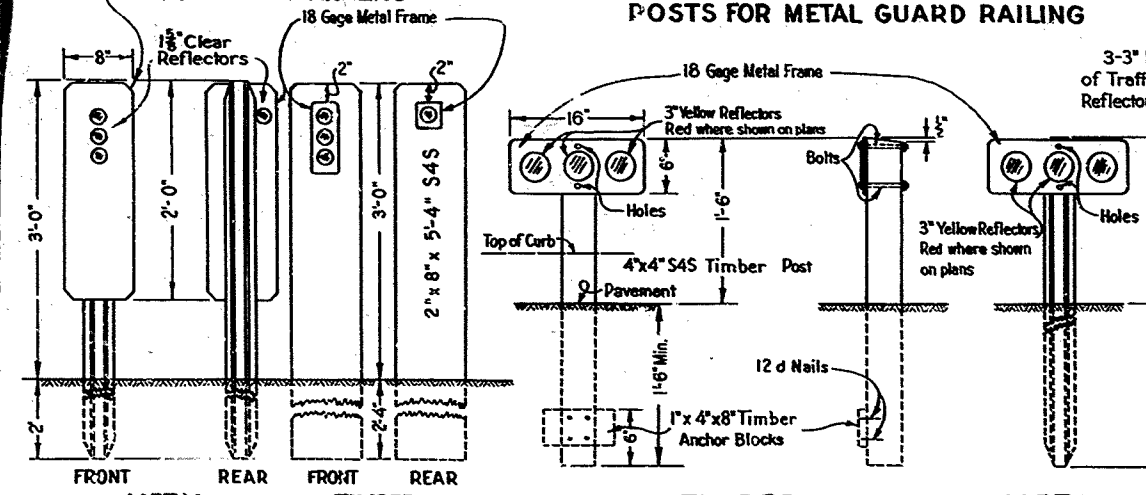
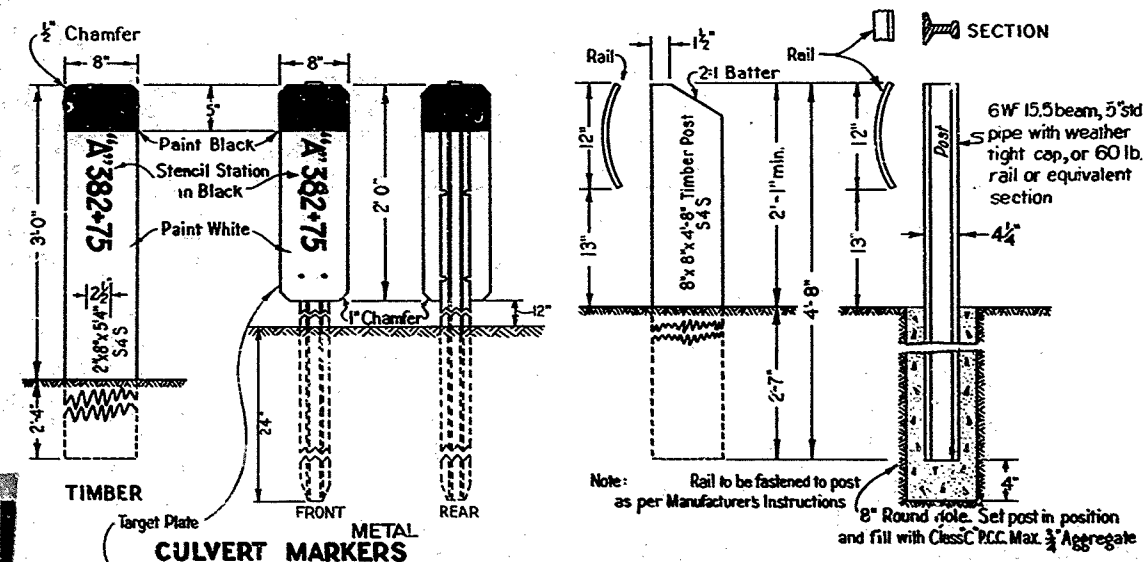


AD = Taper Length  
AB = BC = CD = 1/3 AD  
AB' & CD' are Parabolic Curves  
Width of Speed Change Lane is usually the same width as the adjacent lane

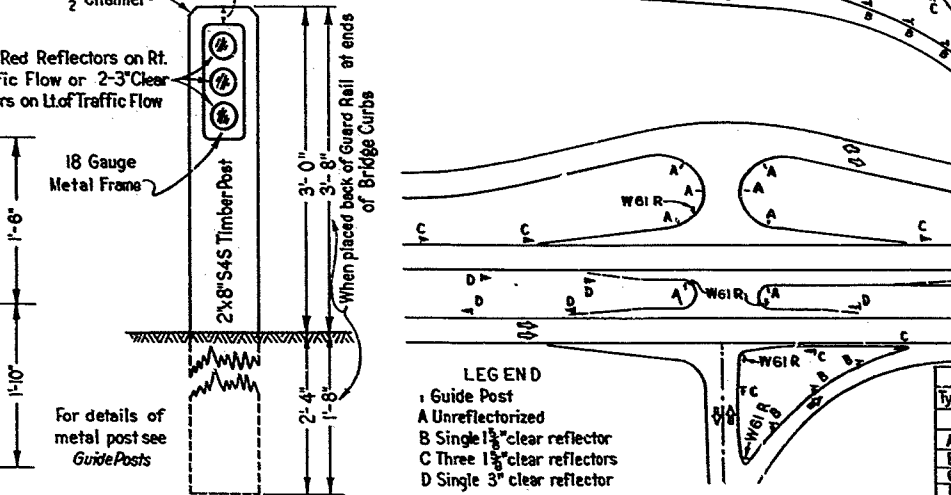
The following table gives offsets from a BASE LINE parallel to the EDGE OF PAVEMENT at intervals measured from point 'A'. Add 'E' for measurements from edge of pavement.

Offset from BASE LINE	LENGTH OF TAPER, FEET					
	90	120	150	180	240	270
DD=9'	0	0	0	0	0	0
DD=10'	0.14	0.16	0.19	7.5	10	12.5
DD=12'	0.56	0.62	0.75	15	20	25
	1.27	1.41	1.69	22.5	30	37.5
	2.25	2.50	3.00	30	40	50
	4.50	5.00	6.00	45	60	75
	6.75	7.50	9.00	60	80	100
	7.73	8.59	10.31	67.5	90	112.5
	8.44	9.38	11.25	75	100	125
	8.86	9.84	11.81	82.5	110	137.5
	9.0	10.0	12.0	90	120	150

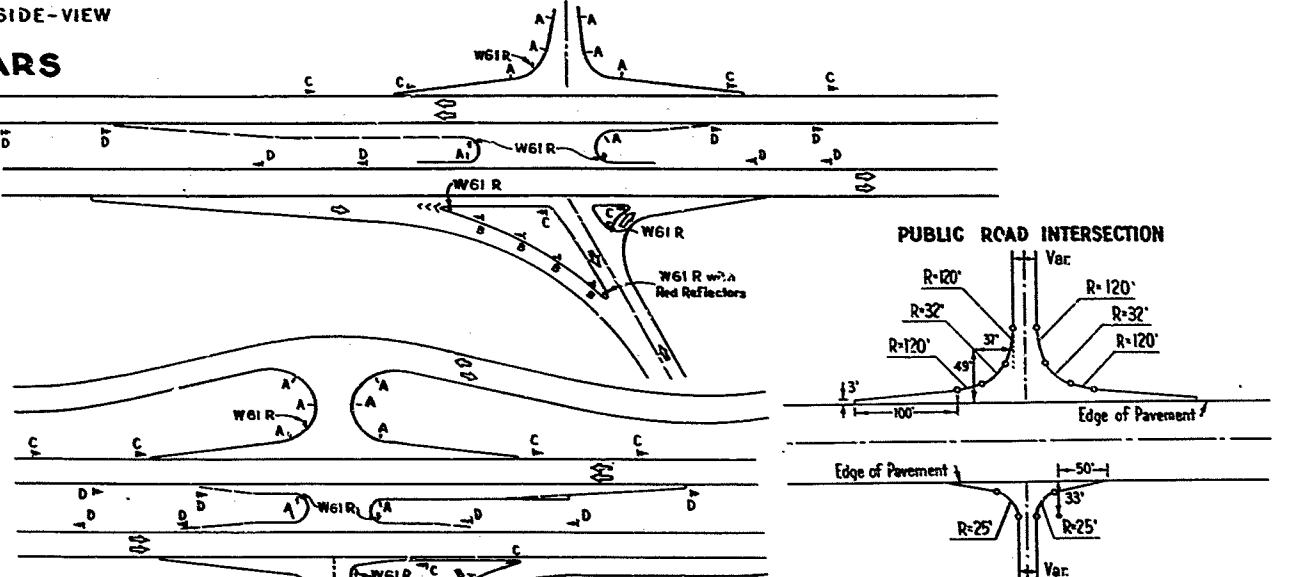
Where Edge of Pavement is a curve, neither base line nor taper between B' & C' will be a tangent. Use proportional offsets from B' to C'.  
The adopted offset 'E' is usually 2' along outside edge of pavement but may vary in some cases.



GUIDE POSTS  
Type E shown. For Types A, B, C, D See table at right.



CLEARANCE MARKER



LEGEND

- Guide Post
- UnreflectORIZED
- Single 1 1/2" clear reflector
- Three 1 1/2" clear reflectors
- Single 3" clear reflector

Type	Color	Front	Back
A	Clear	1-1 1/2"	None
B	Clear	3-1 1/2"	None
C	Clear	1-3"	None
D	Clear	3-1 1/2"	1-1 1/2"
E	Clear	3-1 1/2"	1-1 1/2"

STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS

AS BUILT PLANS  
Contract No. 57-5123  
Date Completed  
Document No. 50000 512

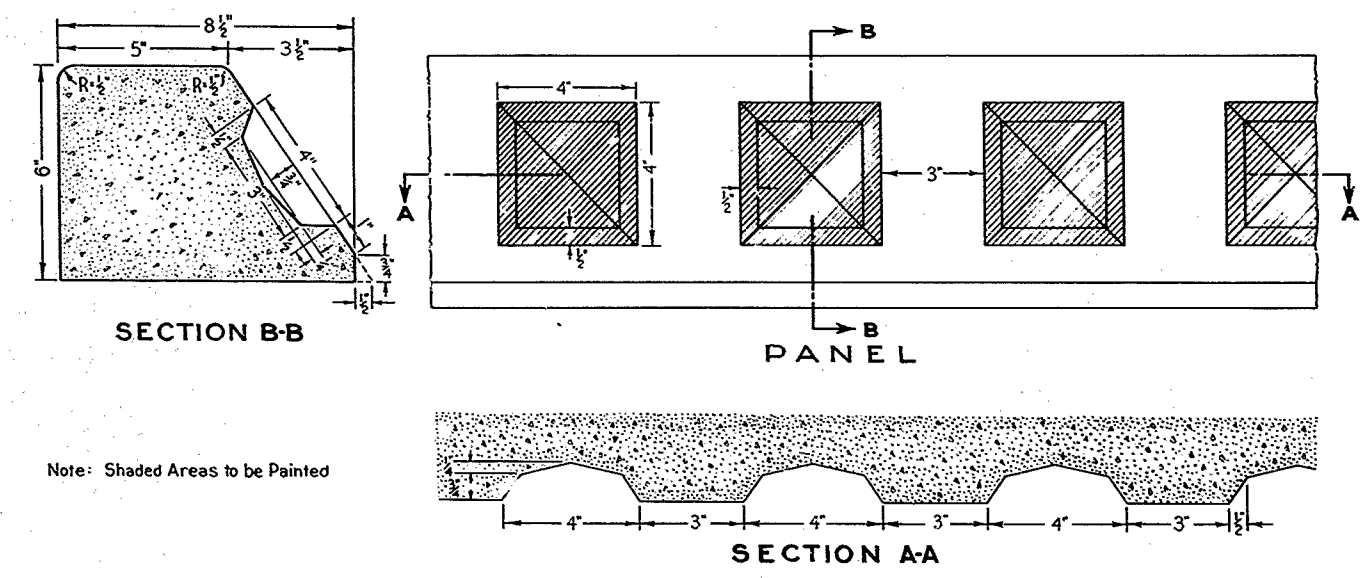
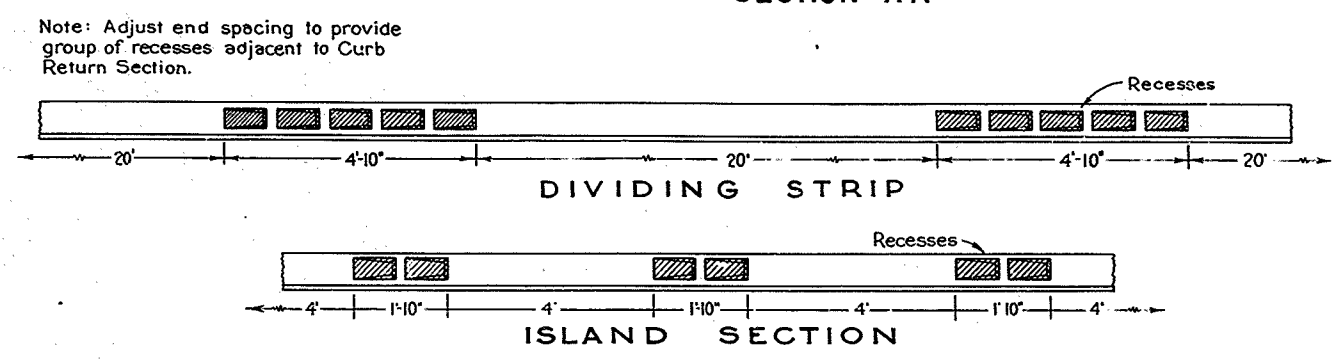
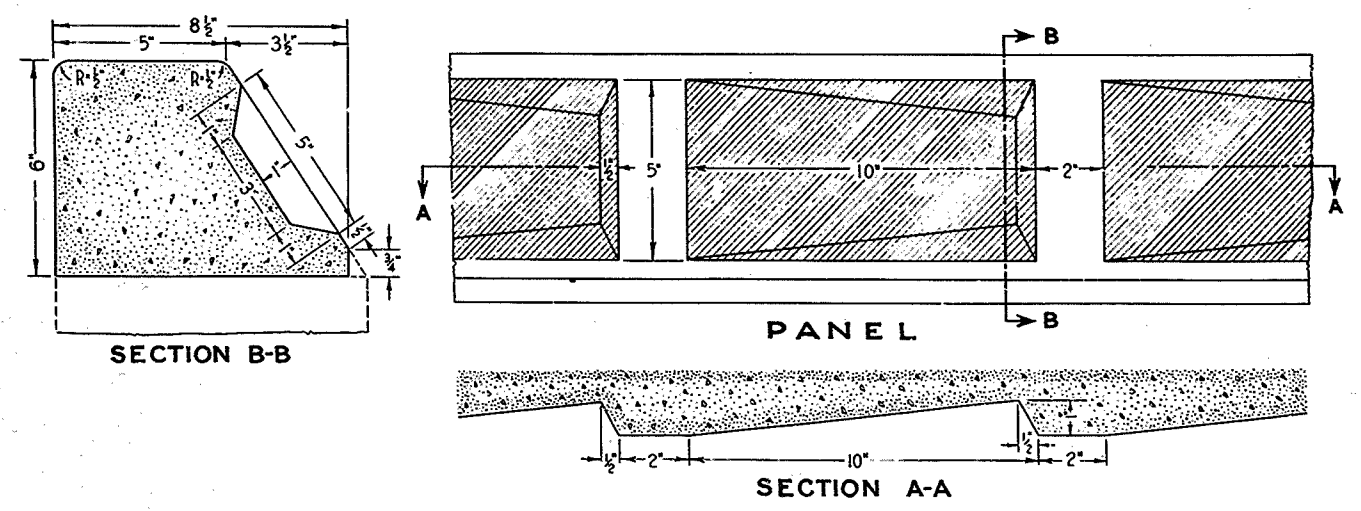
38



FED. AID	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	CALIF.				

Dist.	County	Route	Station	Sheet No.	Total Sheets
V	510	2	F	39	40

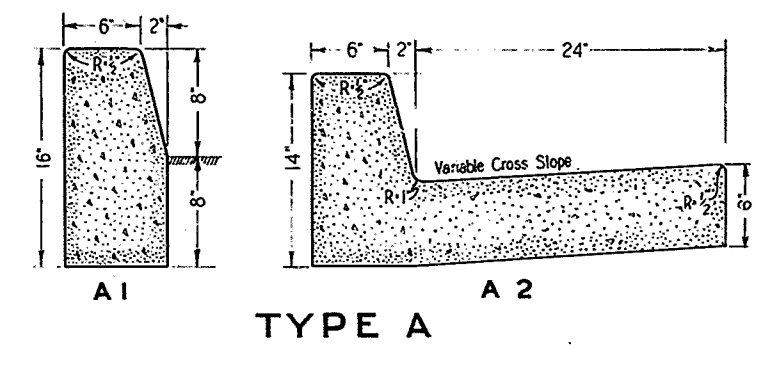
Approval Recommended  
*J. M. ...*  
 Assistant State Highway Engineer  
 October 27, 1950  
*G. ...*  
 State Highway Engineer  
 Civil Engineer License No. 2004  
 To Accompany Plans Dated February 27, 1956



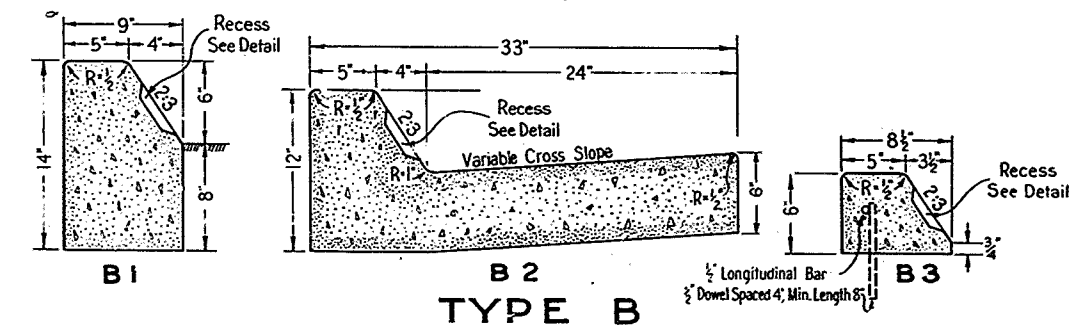
Note: Shaded Areas to be Painted

CURB RETURN SECTION

**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed \_\_\_\_\_  
 Document No. 50000 512

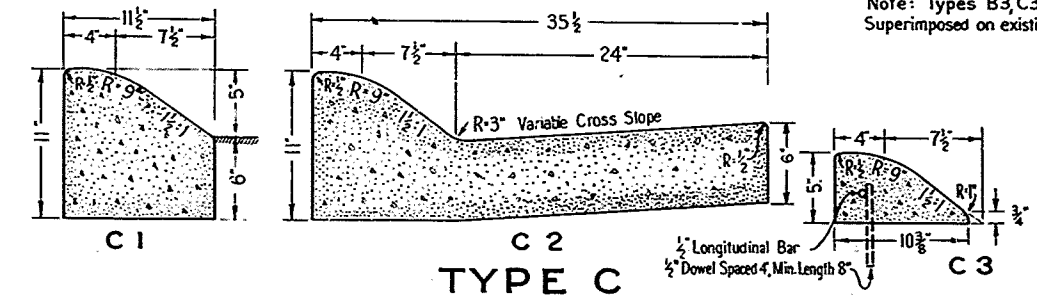


TYPE A



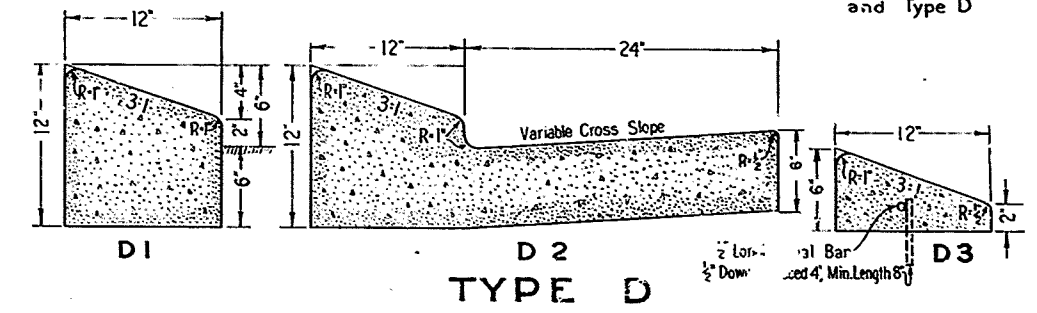
TYPE B

Note: Types B3, C3, D3 Superimposed on existing pavement

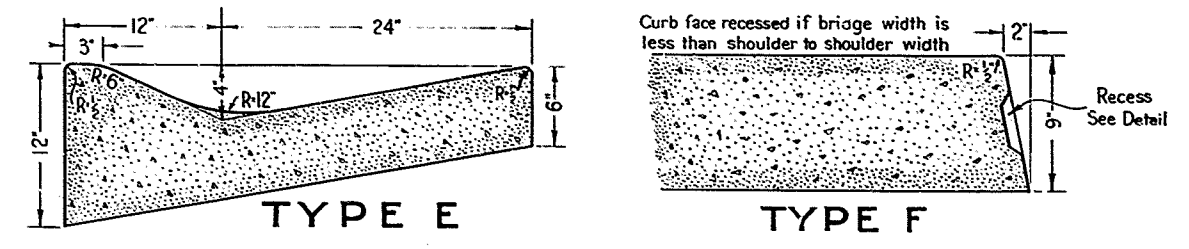


TYPE C

Note: Curb faces to be scored transversely with steel brushes on Type C and Type D



TYPE D



TYPE E

TYPE F

CURB QUANTITIES			
Type	C.Y. Per Lin. Ft.	Type	C.Y. Per Lin. Ft.
A1	0.03084	C2	0.06457
A2	0.06379	C3	0.00965
B1	0.02930	D1	0.03073
B2	0.06171	D2	0.06782
B3	0.01074	D3	0.01223
C1	0.02752	E	0.06661

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS  
**STANDARD CURB SECTIONS**  
 Revised 4-10-51 Rev. Oct. 1953 Gutter Slopes  
 57-5VC3

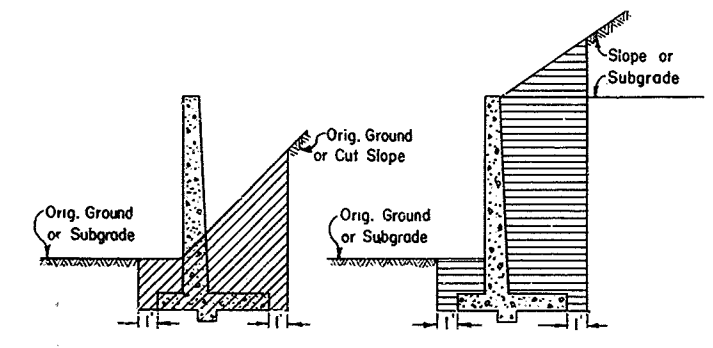
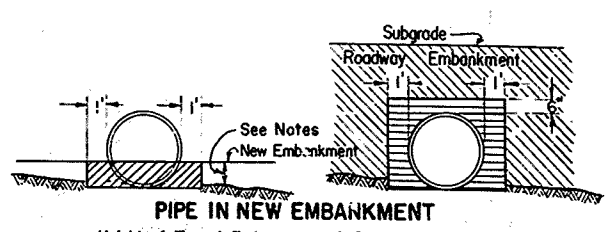
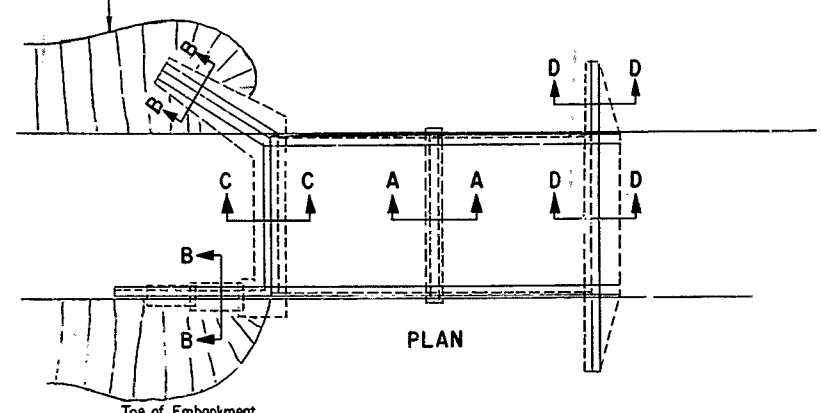
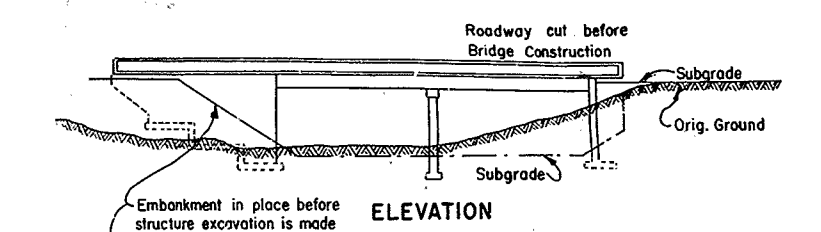
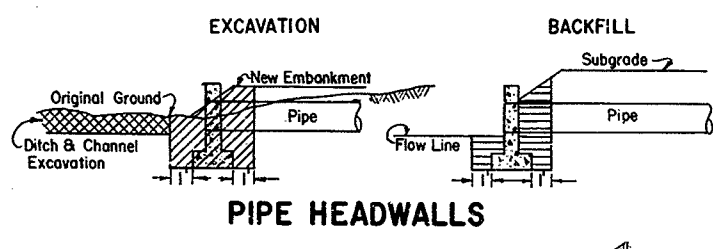
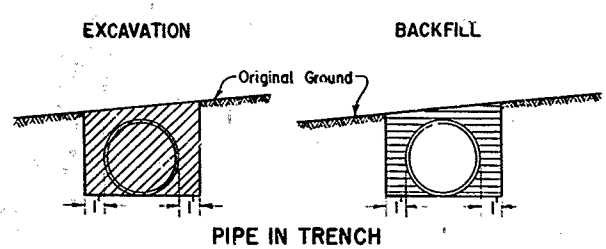
39

N 7

DIST.	COUNTY	R.D. NO.	SECTION	SHEET NO.	TOTAL SHEETS
1	510	2	F	40	40

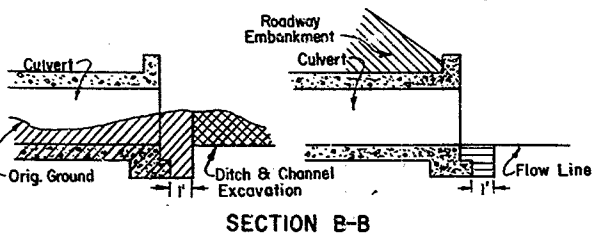
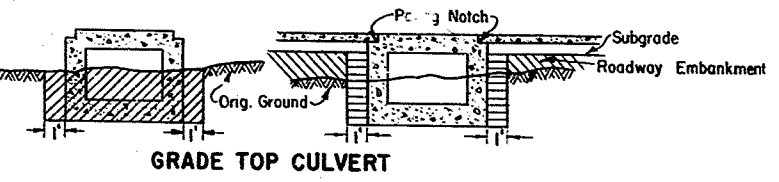
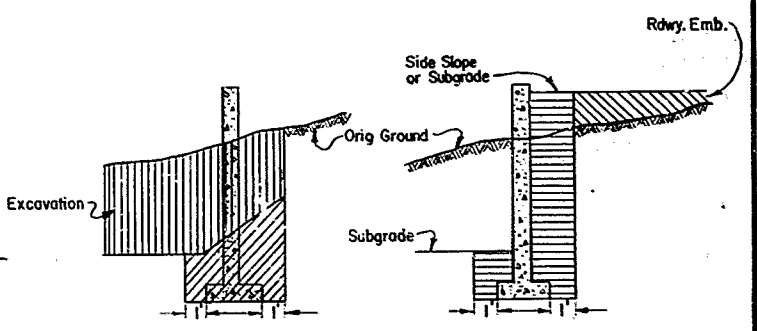
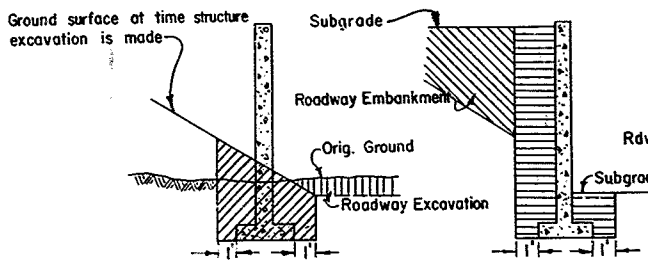
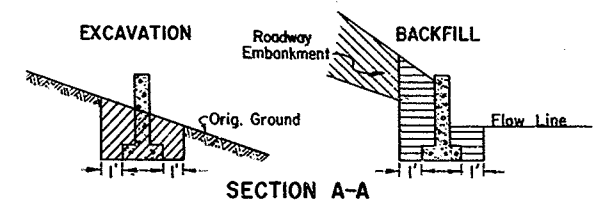
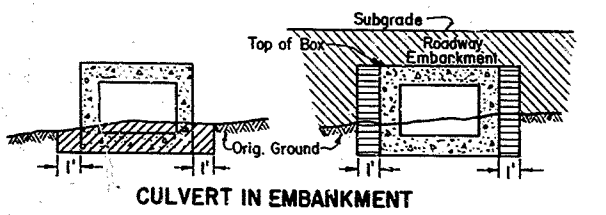
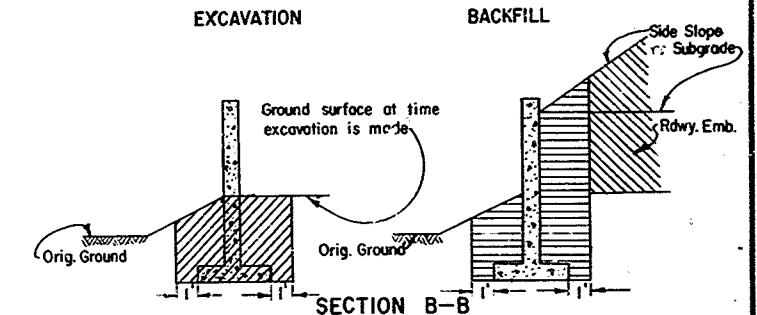
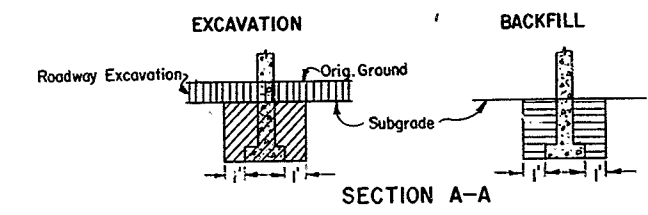
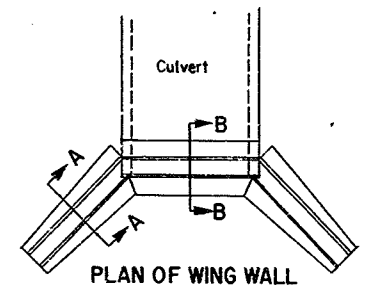
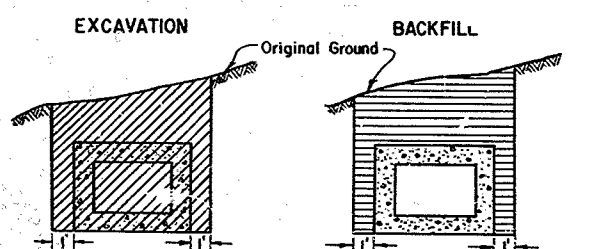
Approval Recommended  
*[Signature]*  
 Assistant State Highway Engineer - Bridges  
*[Signature]*  
 Assistant State Highway Engineer - Operations  
 Approved August 17 1953  
*[Signature]*  
 State Engineer License 2084  
 Plans Dated February

**AS BUILT PLANS**  
 Contract No. 57-5VC3  
 Date Completed  
 Document No. 5000512

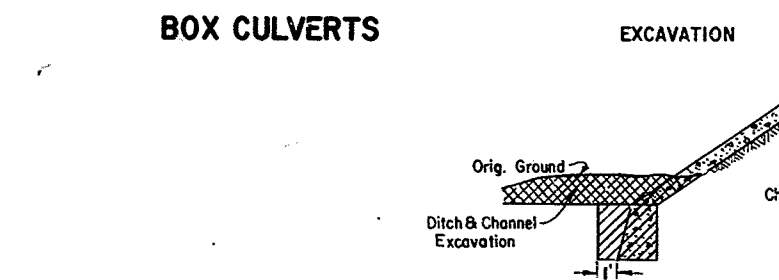


Height of Top of Embankment Before Excavating For Pipe Shall Be As Follows:  
 For pipe 24" or less dia: 6" above top of pipe  
 For C.M.P. over 24" to 90" dia: 30" above bottom of pipe  
 For C.M.P. over 90" dia: 1/3 point of dia. above bottom of pipe  
 For R.C.P. over 24" dia: 30" above bottom of pipe  
 For field assembled plate culvert: 1/3 point of dia. above bottom of pipe  
 Structure Backfill 6" Above Top of Pipe

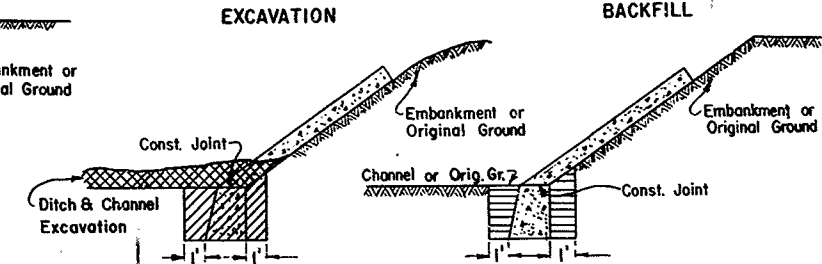
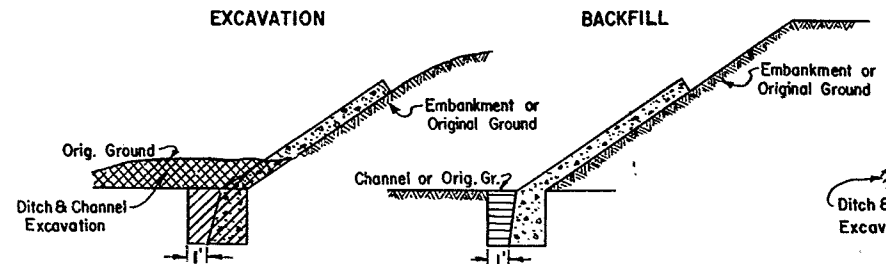
**PIPES, RODS & DEADMEN**  
 Except Underdrains & Downdrains



**BRIDGE ABUTMENTS & ADJOINING WING WALLS**



**WING WALLS**



**LEGEND**

[Hatched pattern]	Structure Excavation
[Horizontal lines]	Structure Backfill
[Cross-hatched pattern]	Ditch & Channel Excavation
[Vertical lines]	Roadway Embankment
[Diagonal lines]	Roadway Excavation

Note: Subgrade shall be lowest subgrade as defined in the Standard Specifications

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS

**STRUCTURE EXCAVATION AND STRUCTURE BACKFILL**

SCALE: Revised: 5-19-55 Key on Retaining Walls  
 BRIDGE: Revised: 10-1-54 Title  
 FILE: Revised: 2-19-54 Copping  
 DRAWING: A 62