LOS ANGELES INTERNATIONAL AIRPORT-PALMDALE REGIONAL AIRPORT SPECIALIZED RAIL TRANSIT SYSTEM DEMONSTRATION PROJECT

TASK 2:

REVIEW FREEWAY CORRIDORS

Prepared for:

LOS ANGELES COUNTY TRANSPORTATION COMMISSION
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Los Angeles, California 90017

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December 9, 1991

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INTRODUCTION

The following is a technical memorandum which presents Task 2 - Review of freeway corridors for the Los Angeles International Airport to Palmdale Specialized Rail Transit System (LAX-Palmdale). The LAX-Palmdale Rail Project is proposed to follow the alignment of Interstate 405 (I-405, San Diego Freeway), Interstate 5 (I-5, Golden State Freeway), and State Route 14 (SR-14, Antelope Valley Freeway), and is generally proposed as an aerial transitway within the freeway median. The alignment to be assumed for preparing the proposal is an aerial configuration in the medians of I-405 and I-5, and both aerial and at-grade in the median of SR-14. The total length of the project is approximately 71 miles with 14 stations and two maintenance yards. Figure 1 shows the alignment and approximate location of the stations.

The project may be constructed in two segments with Segment I extending from LAX to Sylmar and Segment II from Sylmar to Palmdale Regional Airport.

Organization of this Document

This section discusses existing conditions encountered along the route, with emphasis on the median conditions, crossing structures and areas available for construction detours. The route study area is divided into segments between proposed stations. The report describes the existing conditions within the segment between each station, including individual sections on each of the following:

General description of the segment: This section presents the basic environmental setting of the project within this area, including freeway conditions, traffic levels, and "highlight" constraints to construction.

Description of the freeway within the segment: This section, together with accompanying figures and tables, provides a detailed description of median width, number of lanes and shoulder width. Where variable conditions are encountered, that fact is stated.

Freeway signs: Major post-mounted signs located in the median present construction problems and may need to be relocated. Overhead bridge-mounted signs extending from the median to the shoulder also present problems and may need to be relocated. Within the discussion are tables which describe sign type (post or span-mounted) and location.

Crossing structures: Over- and under-crossings represent significant engineering and construction obstacles. This section describes, in text and tables, the crossings encountered, their width and height, and, for long-span structures (200 feet and greater)

includes structural plans obtained from Caltrans. The actual width of crossing structures was measured from abutment to abutment and also at right angles to the I-405 ("normal" to freeway). In addition, deck elevation above or below the freeway was measured.

Construction detour options: This section refers back to existing freeway conditions and discusses possibilities and obstacles which may be encountered in designing construction detours.

Photographs of selected locations: Photographs are included which present both "typical" and special conditions which are encountered within each segment.

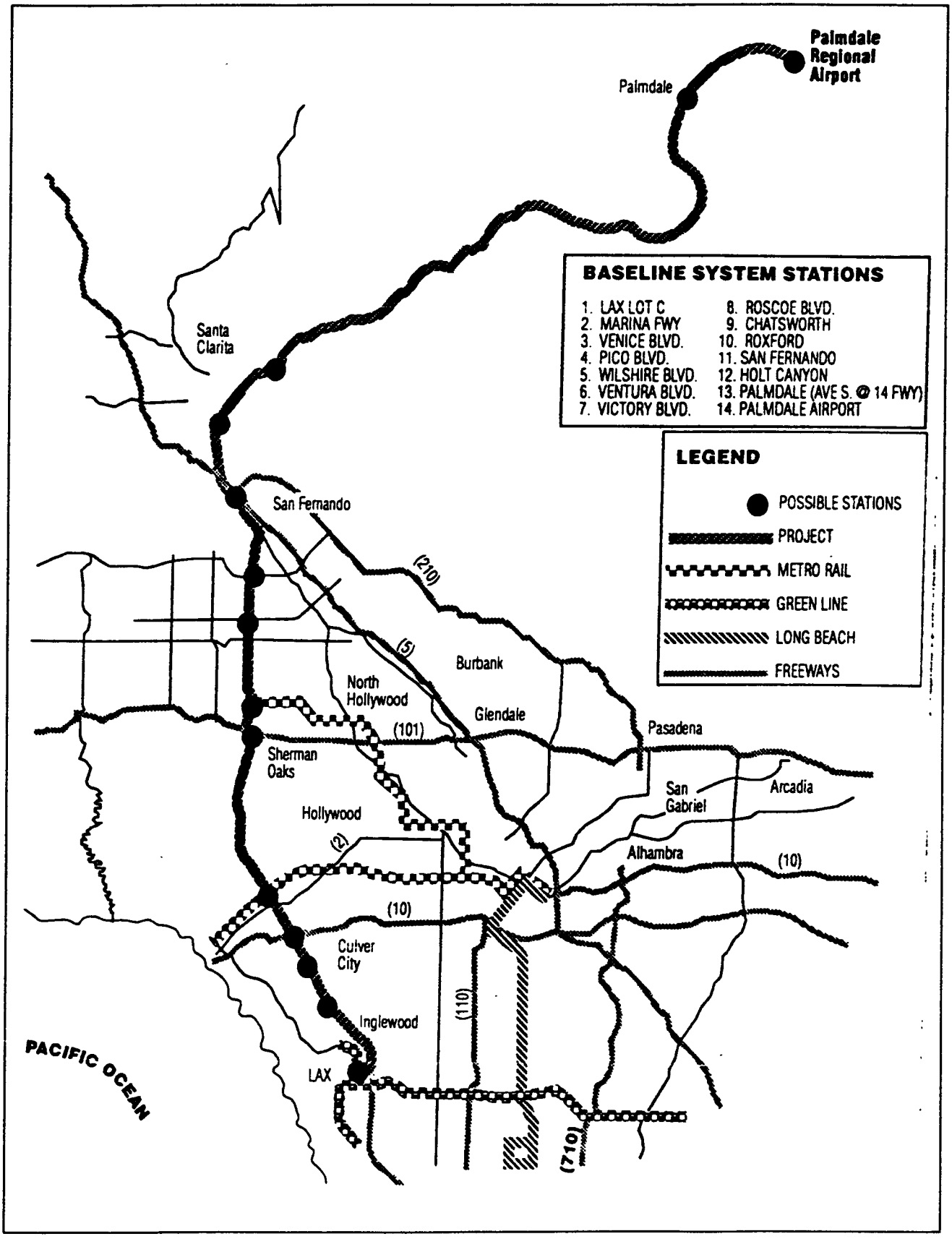
Methodology

Existing conditions along the route were obtained from two general sources: field investigation and "as built" drawings. Field investigations included driving and walking surveys of the route for the purposes of obtaining photographic documentation of conditions and verifying questionable data obtained from existing records. Field investigations were conducted over a period of several weeks during the period between October 15 and November 25, 1991.

"As built" drawings were obtained from Caltrans (120 S. Spring Street, Los Angeles). In all cases, the most up to date available drawings were utilized. In some cases, "up to date" means c. 1965 construction drawings. Where older drawings are used as the data source, that fact is noted in the following discussion.

While every effort was made to obtain complete and accurate information, each agency providing data disclaimed responsibility for completeness and accuracy of information. Accordingly, the completeness and accuracy of the information provided herein is based on the most up to date information available; however, the user assumes responsibility for verifying field conditions before construction.

The user's attention is directed to LACTC "Street and Highway Construction Requirements" included in the RFP (Request for Proposals, Contract ST-007 and St-008, Volume III, Addendum No. 1, Exhibit B, four pages) and summarized as appropriate in the discussion of each segment. In particular, the user is reminded that strict lane closure restrictions will affect construction activity on this project.



LAX-Palmdale

LAX to MARINA FREEWAY
(Station 1 to Station 2)

Segment Description

The route alignment begins northwest of the intersection of 96th Street and Jenny Avenue in the LAX Lot C parking area. The aerial station is slightly north of and approximately adjacent to the Southern California Rapid Transit District (SCRTD) City Bus Station. There is sufficient space adjacent to the LAX Station for contractor's work, storage and fabrication of guideway elements.

From the LAX Station, the aerial alignment proceeds east, crossing Jenny Avenue and continuing east in the middle of 96th Street. At the intersection of 96th Street and Bedford Avenue, the primary land uses are multi-family residential on the northeast and northwest corners, and commercial and multi-family residential on the southeast and southwest corners.

The alignment turns north onto the Santa Fe Railroad right-of-way at the intersection of 96th Street and Bellanca Avenue. The primary land uses adjacent to the railroad are industrial, with commercial uses at major intersections.

In addition to industrial uses, there is a Los Angeles DWP electrical substation approximately 30 feet from
the right-of-way located at the northwest corner of Florence and Isis Avenues. Some of the power required by the project may be supplied by the DWP substation. The alignment follows the Santa Fe right-of-way to I-405 (San Diego Freeway). The alignment along I-405 begins at Florence Avenue. The alignment continues aerial in the median of I-405 to Station 200+00 (the Centinela Boulevard undercrossing), where it crosses over the southbound lanes to the Marina Freeway Station located between the Interstate right-of-way and the Centinela Creek channel.

Within this segment, traffic is medium to very heavy with extended periods of "peak hour" trips.

Freeway Description

The width of median and shoulders vary along the segment. Table 1.1 lists pertinent freeway corridor information, such as the number of lanes, and median and shoulder widths from station 110+00 to station 201+60.

Freeway Signs

There are seven major median mounted signs located along this segment. These include one single-pole sign near Florence and six span-mounted signs. The locations of each are indicated in Table 1.2. There are no major signs located on the left shoulder which would interfere with

the route.

Crossing Structures

There are four overpass structures and one underpass structure crossing I-405 between Stations 1 and 2. The location, Caltrans bridge number, width, and height of each are presented in Table 1.3.

Construction Detour Options

As shown in Figures 1.1 and 1.2, the existing median within this segment consists of either a six-foot strip with concrete barrier or a 22-foot strip with concrete barrier. One possible scheme for obtaining additional median width is also presented in each of those figures. In each case, this involves restriping to narrow the existing 12-foot lanes and a reduction in the width of the existing shoulder. It is anticipated that no additional off-freeway detour would be needed within this segment. Within this segment, no daytime lane closures are allowed. Night closures (no hours given) of up to two lanes in each direction are allowed, but the freeway may not be closed entirely.

Table 1.1
Freeway Characteristics
LAX to Marina Freeway (Station 1 to Station 2)

Station	Southbound		Median Width	Northbound	
	No. of Lanes	Shoulder		No. of Lanes	Shoulder
110+00-114+30	4	13	22	4	13
114+30-137+50	5	9	6	5	9
137+50-201+60	4	13	22	4	13

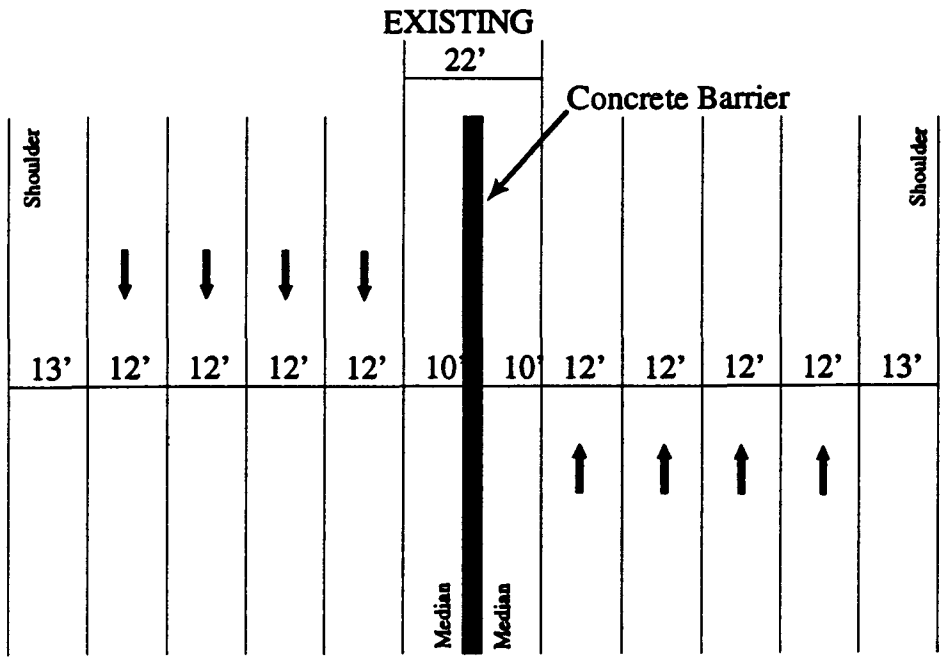
Table 1.2
Major Freeway Signs
LAX to Marina Freeway (Station 1 to Station 2)

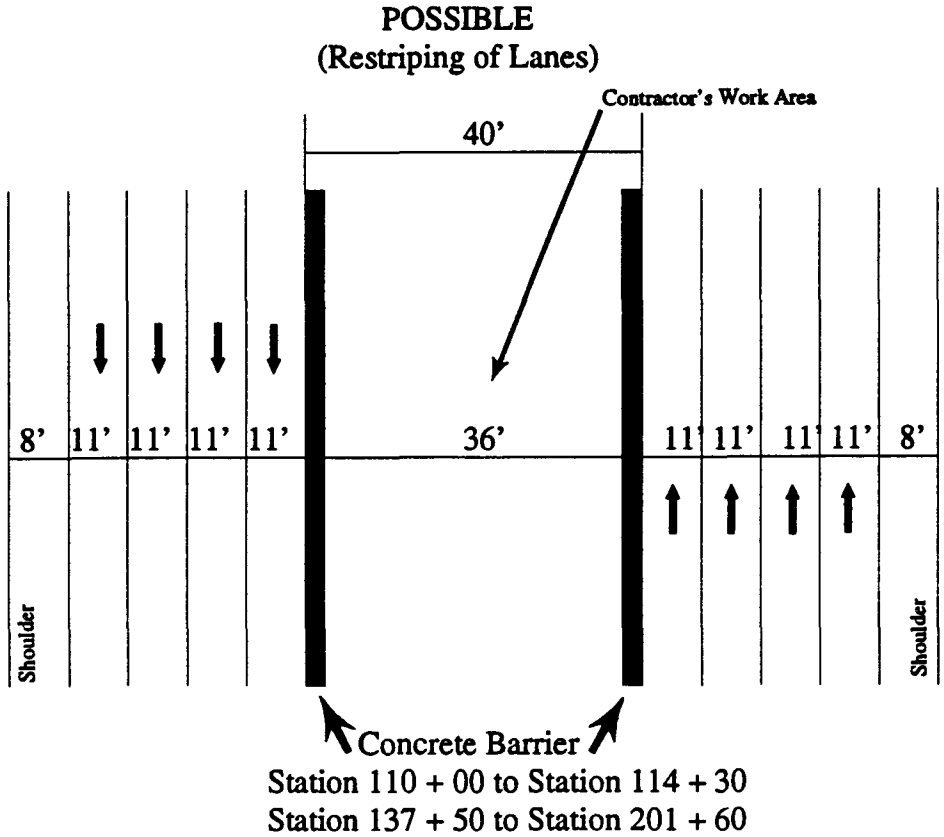
Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
108+00(I-405 & Florence)		1			
119+50					1
130+50					1
131+50				1	
149+50	1				
153+50				1	
158+00					1
182+00					1

Table 1.3
Crossing Structures
LAX to Marina Freeway (Station 1 to Station 2)

Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-1248	Florence	100+00	O	60		+17
53-1249	La Cienega Blvd. NB	110+00	O	30		+22
53-1250	La Cienega Blvd. SB	114+00	O	40		+22
53-1251	La Tijera	144+75	O	100		+17
53-1253	Centinela Ave	201+60	U	240	533	-28

FIGURE 1.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
LAX TO MARINA FREEWAY STATION 1 TO STATON 2)



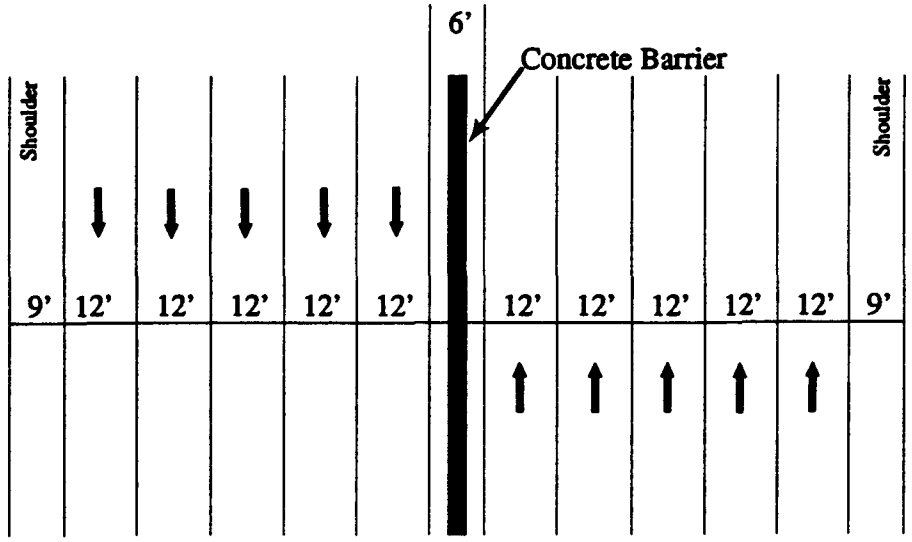


Station 110 + 00 to Station 114 + 30
Station 137 + 50 to Station 201 + 60

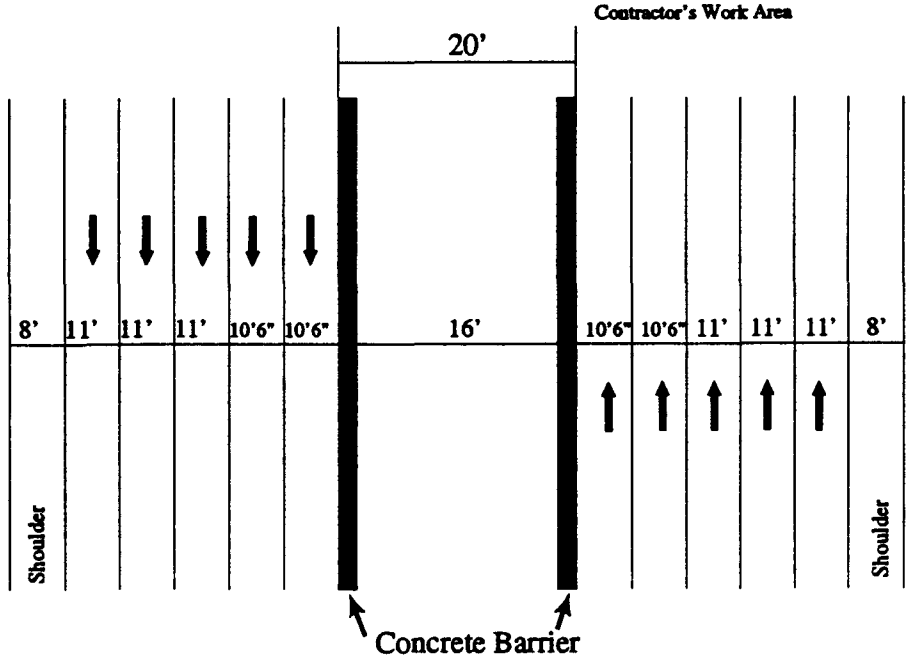
Drawing not to scale

FIGURE 1.2
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
LAX TO MARINA FREEWAY (STATION 1 TO 2)

EXISTING



POSSIBLE
(RESTRIPING OF LANES)



Station 114 + 30 to Station 137 + 50

Drawing not to scale

FIGURE 1.3
LAX TO MARINA FREEWAY (STATION 1 TO 2)
96TH STREET & JENNY AVENUE - LOOKING WEST

FIGURE 1.4
LAX TO MARINA FREEWAY (STATION 1 TO 2)
96TH STREET & BEDFORD AVENUE - LOOKING WEST

FIGURE 1.5
LAX TO MARINA FREEWAY (STATION 1 TO 2)
FLORENCE AVENUE & ISIS AVENUE - DWP SUBSTATION

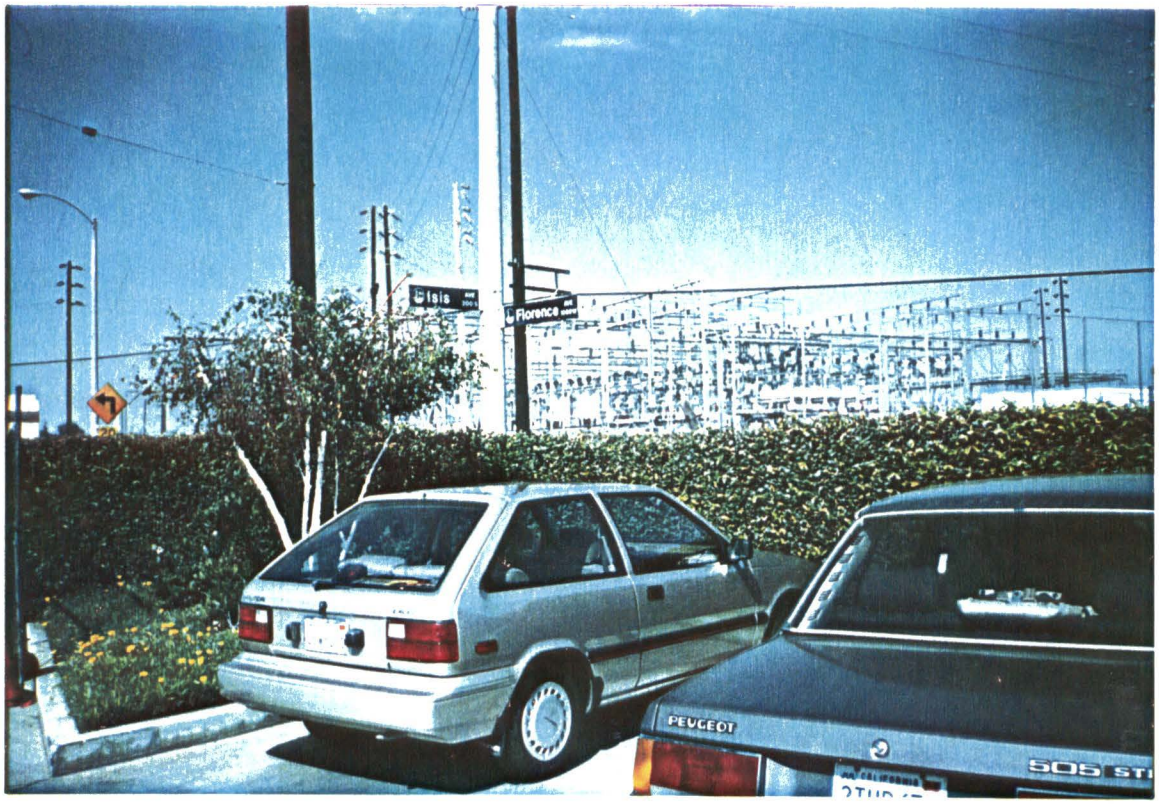


FIGURE 1.6
LAX TO MARINA FREEWAY (STATION 1 TO 2)
LOOKING NORTH AT FLORENCE AVENUE OVERPASS

FLORENCE AVENUE & 405 FREEWAY - LOOKING NORTH FROM FLORENCE AVE. OVERPASS

FIGURE 1.7
LAX TO MARINA FREEWAY (STATION 1 TO 2)

405 FREEWAY & LA CIENIGA, LA TIJERA OVERPASS - LOOKING NORTH

405 FREEWAY NORTH OF LA TIJERA - LOOKING NORTH

MARINA FREEWAY to VENICE
(Station 2 to Station 3)

Segment Description

The segment between Stations 2 and 3 begins at the Marina Freeway Station adjacent to the I-405 and just south of the Route 90 Freeway. It ends at the Venice Boulevard Station. The proposed aerial alignment is expected to be located primarily in the median of the freeway. From the Marina Freeway Station, the transitway remains aerial and crosses the I-405/Route 90 interchange to the west of the I-405 alignment. It then descends and crosses the southbound lanes, returning to the I-405 median.

Within this segment, traffic is medium to very heavy with extended periods of "peak hour" trips.

Freeway Description

The width of median and shoulders vary within the segment. The predominant configurations (shown in Figures 2.1 and 2.2) are a six-foot median with concrete barrier and nine-foot shoulders and a 20-foot median with 13-foot shoulders. Table 2.1 lists pertinent freeway corridor information, such as the number of lanes, and median and shoulder widths from station 201+60 to station 339+00.

Freeway Signs

There are 14 major median mounted signs located along this segment. These include six single-pole signs and eight span-mounted signs. The locations of each are indicated in Table 2.2. There are no major signs located on the left shoulder which would interfere with the route.

Crossing Structures

There are four overpass structures and 13 underpass structures crossing I-405 between Stations 2 and 3. The location, Caltrans bridge number, width, and height of each are presented in Table 2.3.

Particular attention should be given to the Centinela Avenue, Sepulveda Boulevard and Ballona Creek bridges (see Figures 2.3, 2.4 and 2.5). The width of these bridges could present aerial column construction problems that may interfere with the existing freeway. The exhibits are Caltrans structural design plans for these crossing structures.

Construction Detour Options

As shown in Figures 2.1 and 2.2, the existing median within this segment consists of a six-foot strip with concrete barrier or a 22-foot strip with concrete barrier. One possible scheme for obtaining additional median width is also presented in each of those figures. In each case, this involves restriping to narrow the existing 12-foot lanes and a reduction in the width of the existing shoulder. It is anticipated that no additional off-freeway detour would be needed within this segment. Within this segment, no daytime lane closures are allowed. Night closures (no hours given) of up to two lanes in each direction are allowed, but the freeway may not be closed entirely.

Table 2.1
Freeway Characteristics
Marina Freeway to Venice (Station 2 to Station 3)

Station	Southbound		Median Width	Northbound	
	No. of Lanes	Shoulder		No. of Lanes	Shoulder
201+60-255+00	4	13	22	4	13
255+00-339+00	5	9	6	5	9

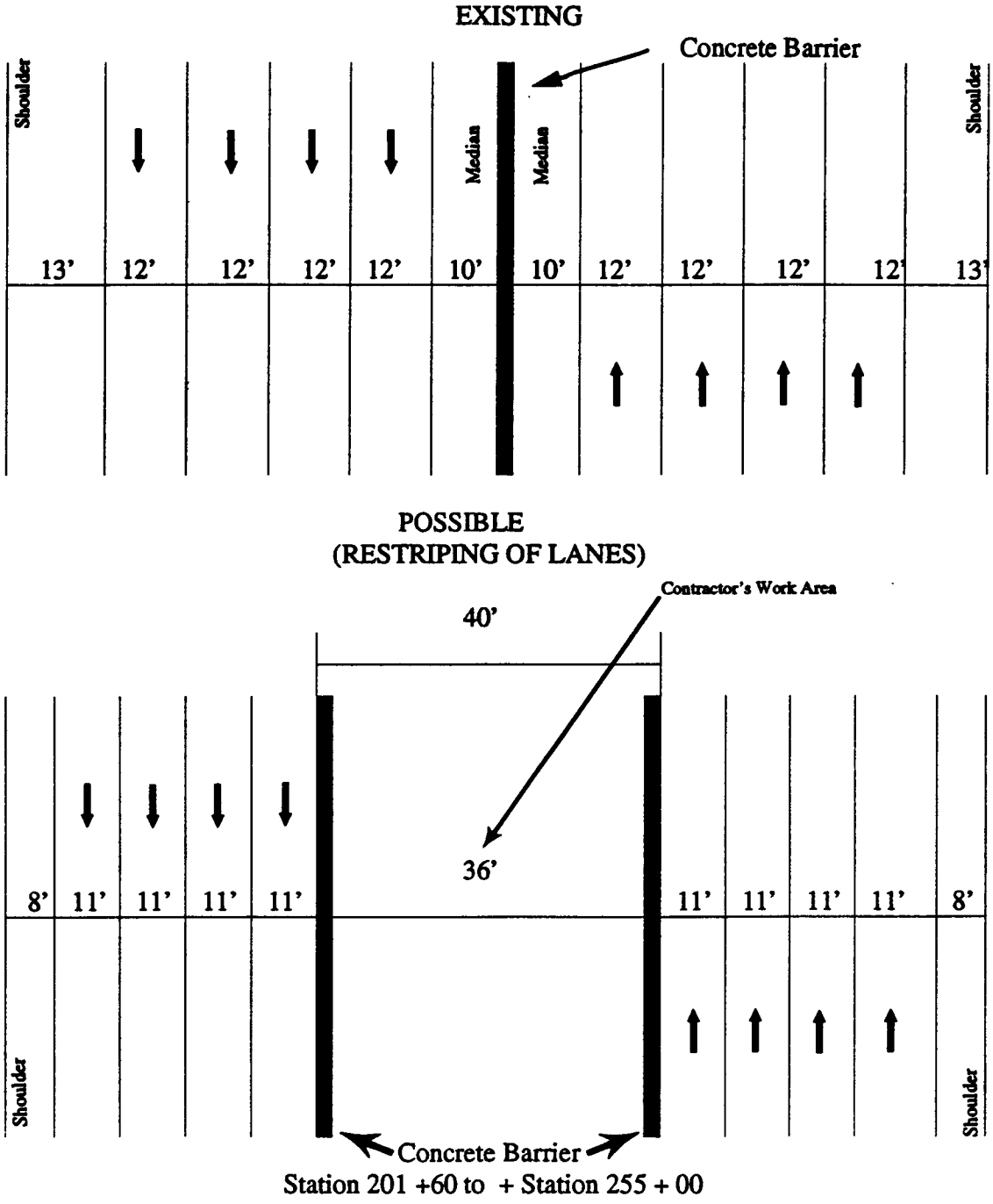
Table 2.2
Major Freeway Signs
Marina Freeway to Venice (Station 2 to Station 3)

Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
207+10		1			
216+50					1
221+70		1			
230+00					1
231+10		1			
238+40				1	
254+00				1	
278+60					1
289+50		1			
290+00		1			
320+00				1	
330+40		1			
332+90					1
337+00				1	

Table 2.3
Crossing Structures
Marina Freeway to Venice (Station 2 to Station 3)

Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-1253	Centinela Ave.	201+60	U	240	533	-28
53-1254	Sepulveda Blvd.	210+00	U	180	247	-17
53-1252	Centinela Creek Channel	216+50	U	130		-25
53-1253	Connector EB	232+35	O	30		+20
53-1851	90 Freeway	234+30	O	110		+17
53-1255	Jefferson	234+30	U	165		-17
53-1253	Connector NB	235+20	O	30		+39
53-1253	Connector WB	236+60	O	30		+20
53-1401	Slauson	241+50	U	100	140	-17
53-1402	Port	252+60	U	60		-17
53-1347	McDonald	258+10	U	60	65	-17
53-1256	Ballona Creek Channel	264+00	U	240	250	-17
53-1258	Braddock Drive	288+00	U	60	70	-17
53-1403	Sawtelle Blvd.	295+00	U	90	145	-17
53-1259	Culver Blvd.	302+00	U	170	180	-17
53-1260	Washington Blvd.	314+60	U	110	120	-17
53-1261	Washington Place	323+50	U	110		-17

FIGURE 2.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
MARINA FREEWAY TO VENICE (STATION 2 TO 3)

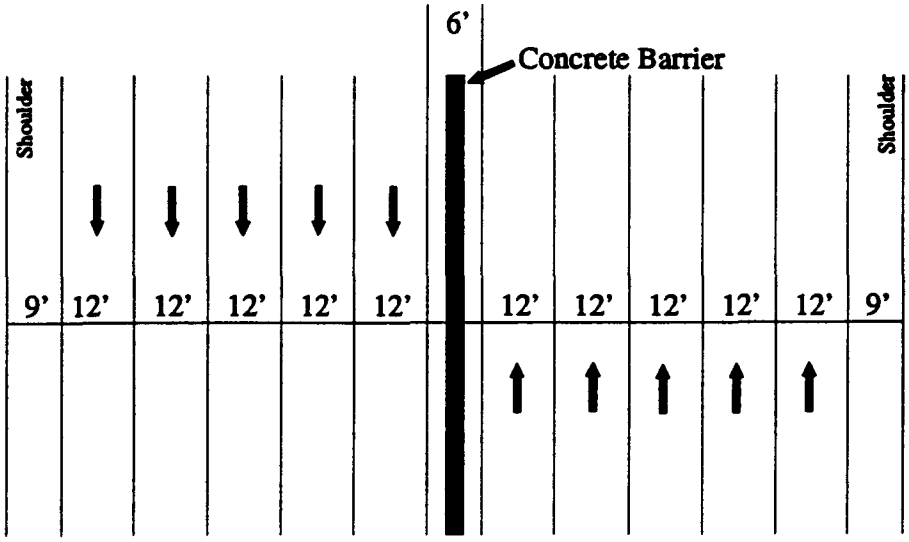


Station 201 +60 to + Station 255 + 00

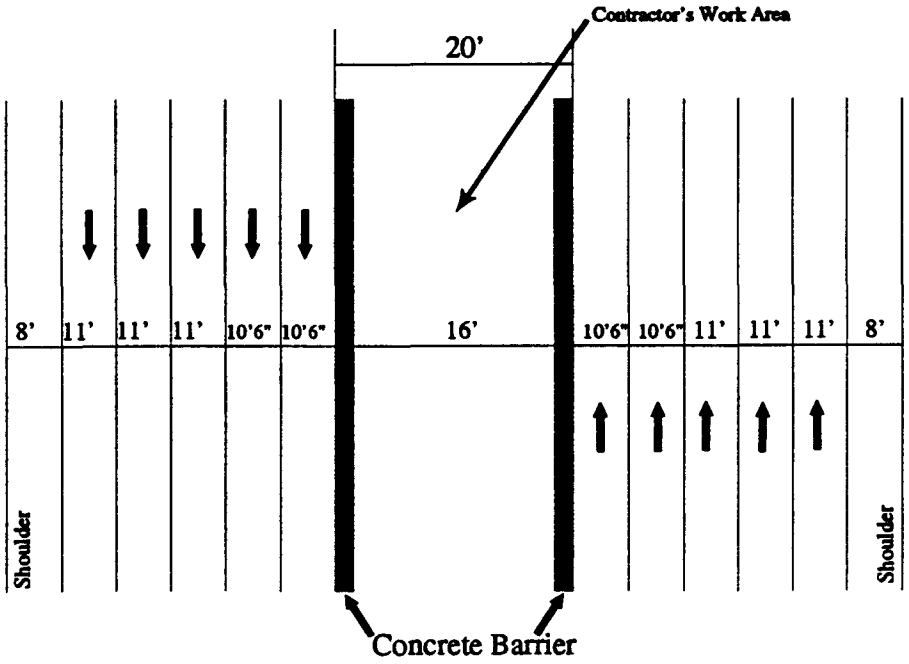
Drawing not to scale

FIGURE 2.2
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
MARINA FREEWAY TO VENICE (STATION 2 TO 3)

EXISTING



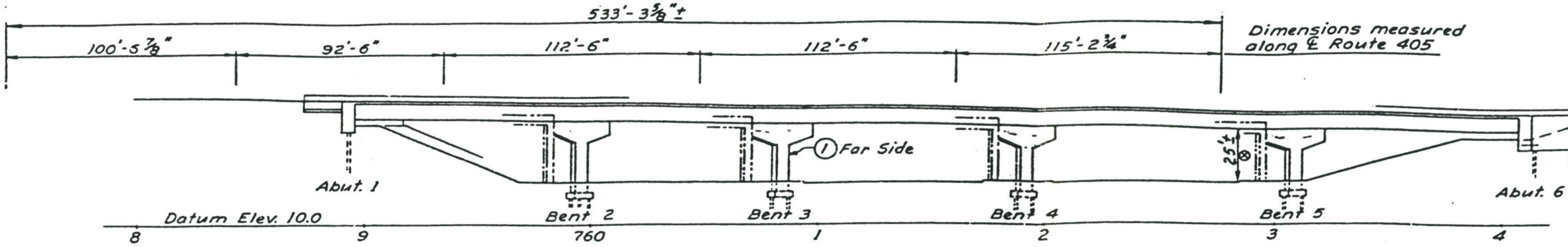
POSSIBLE
(RESTRIPING OF LANES)



Station 255 + 00 to Station 339 + 00

Drawing not to scale

R.C. Cassano 9013
July 15, 1985



ELEVATION A-A
Scale: 1" = 30'-0"

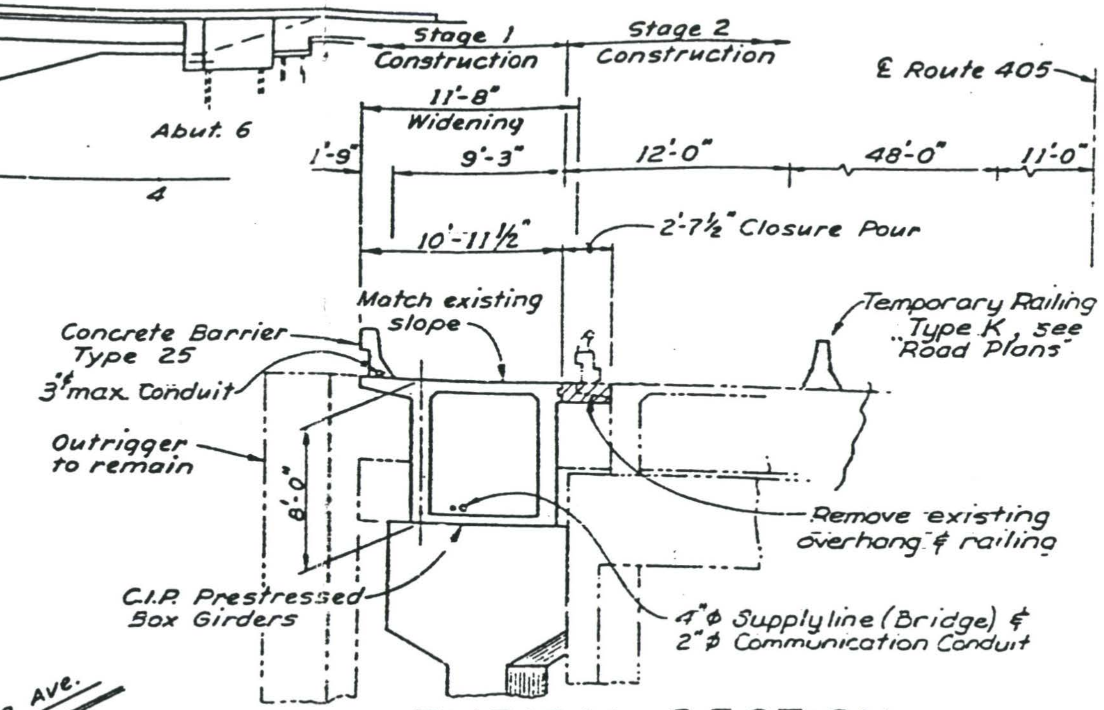
16" CIDH Concrete Pile	Design Load	Specified Tip Elev.
Abut 1 & 6, Bents 2 thru 5	70 Tons	-5.0
Abut. 1 & 6 Retaining Walls	45 Tons	0.0

APPROXIMATE QUANTITIES

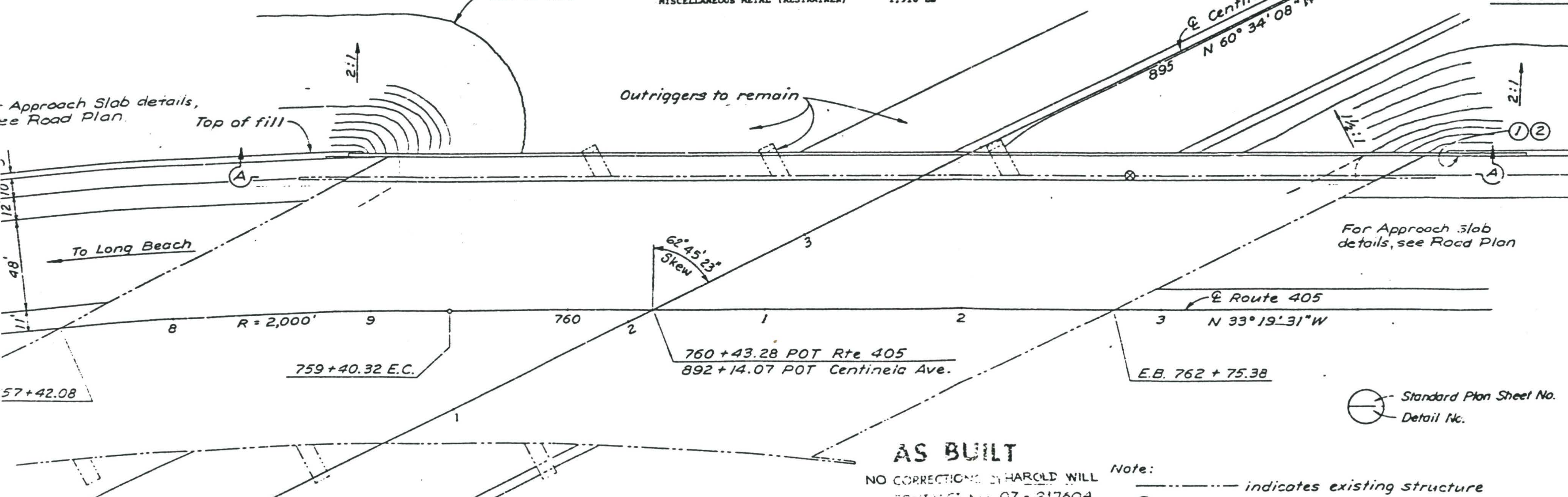
TEMPORARY RAILING (TYPE K)	1,080 LF
BRIDGE REMOVAL (PORTION), LOCATION A	LUMP SUM
4" SUPPLY LINE (BRIDGE)	521 LF
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	2,375 LF
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP SUM
DRILL AND GROUT DOWEL	36 LF
CORE CONCRETE (1")	169 LF
CORE CONCRETE (2")	13 LF
CORE CONCRETE (18")	2 LF
WATERSTOP	102 LF
JOINT SEAL (TYPE B-MR 1")	223 LF
CONCRETE BARRIER (TYPE 25)	606 LF

FINAL PAY QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	295 CY
STRUCTURE BACKFILL (BRIDGE)	168 CY
STRUCTURAL CONCRETE, BRIDGE FOOTING	74 CY
STRUCTURAL CONCRETE, BRIDGE	865 CY
BAR REINFORCING STEEL (BRIDGE)	187,000 LB
MISCELLANEOUS METAL (BRIDGE)	2,730 LB
MISCELLANEOUS METAL (RESTRAINER)	1,910 LB



TYPICAL SECTION
Scale: 3/16" = 1'-0"



Route 405
R = 2,000'
Δ = 27° 14' 37"
L = 950.981'
T = 484.657'

PLAN
Scale: 1" = 30'-0"

AS BUILT
NO CORRECTIONS BY HAROLD WILL
CONTRACT NO. 07 - 217604
DATE 6 - 25 - 87
E. NGUYEN 10-87

Note:
— - — indicates existing structure
(1) Point No. of Bridge
(2) Point Name of Structure
⊗ Indicates point of min. vertical clearance
For General Notes see sheet "Grid of Deck Elevation".

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SHEET NO.	TITLE
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8	TYPICAL SECTION
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12	LOG OF TEST BORINGS

STANDARD PLANS DATED JULY 1984

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B0-5	BRIDGE DETAILS
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B3-8	RETAINING WALL DETAILS NO. 1
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B7-1	BOX GIRDER DETAILS
B7-6	DECK DRAINS TYPES D-1 AND D-[illegible]
B7-10	UTILITY OPENING-BOX GIRDER
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B11-30	TEMPORARY RAILINGS (TYPE K)
B11-53	CONCRETE BARRIER TYPE 25
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B2-3	16" CAST-IN-DRILLED HOLE CONCRETE PILE

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Figure 2-3

12171	DESIGN	K. H. Lee 10-80	CHECKED E.S.L.	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	
13523	DETAILS	K. Kawanishi 5-80	E.S.L.	LAYOUT	K. Kawanishi	E.S.L.
	QUANTITIES	H. M.	G. B.	SPECIFICATIONS		

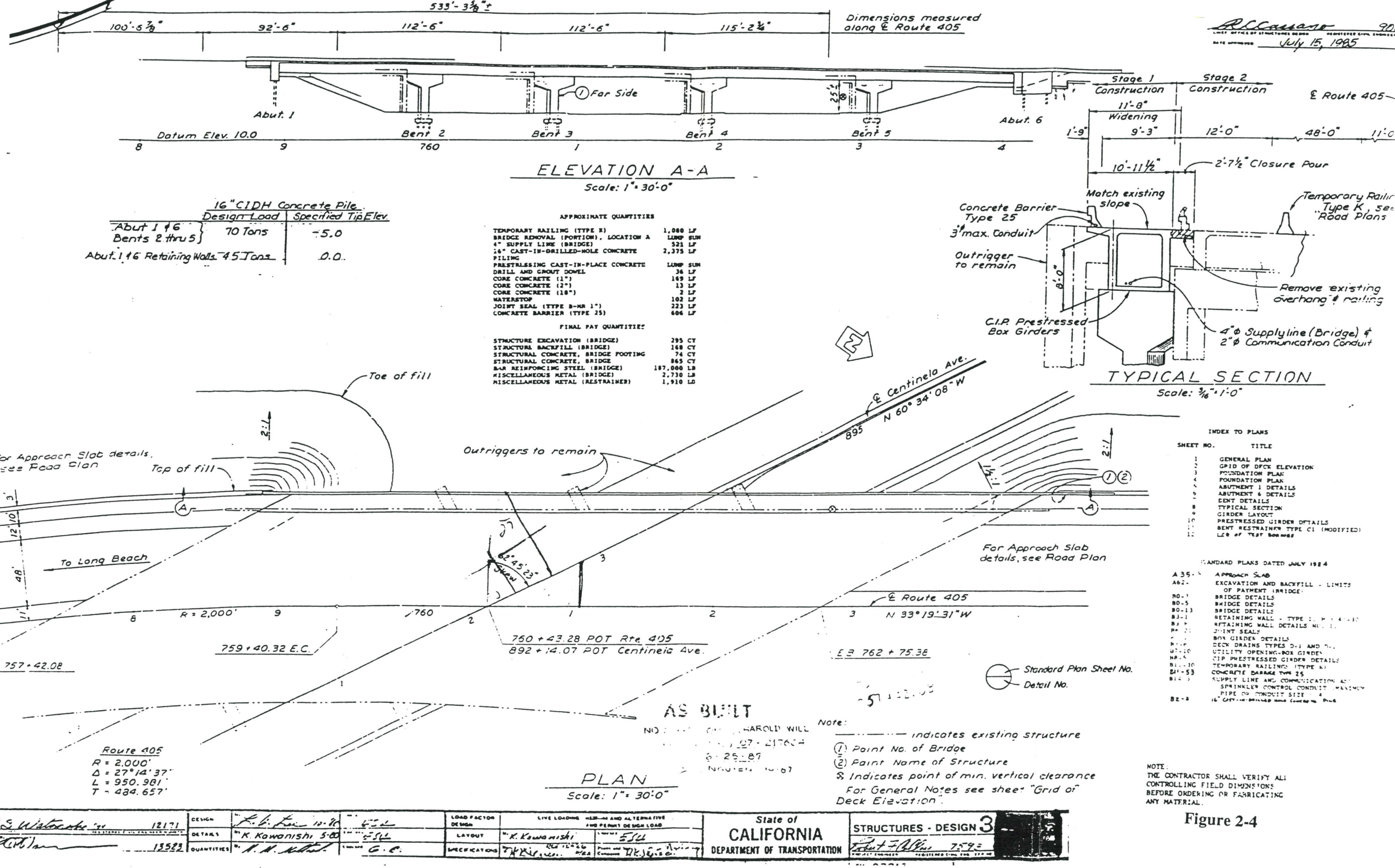
State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN 3

BRIDGE NO. 53-1253
POST MILE 25.33

CENTINELA AVENUE UC (WIDEN)
GENERAL PLAN

CU 07213


533'-3 3/8" ±
100'-6 7/8"
92'-6"
112'-6"
112'-6"
115'-2 1/4"
Dimensions measured along ℄ Route 405
July 15, 1985
① Far Side
Abut. 1
Bent 2
Bent 3
Bent 4
Bent 5
Abut. 6
Datum Elev. 10.0
ELEVATION A-A
Scale: 1" = 30'-0"
16" CIDH Concrete Pile
Design Load | Specified Tip Elev.
Abut 1 & 6, Bents 2 thru 5 | 70 Tons | -5.0
Abut. 1 & 6 Retaining Walls | 45 Tons | 0.0
APPROXIMATE QUANTITIES
TEMPORARY RAILING (TYPE K) 1,080 LF
BRIDGE REMOVAL (PORTION), LOCATION A LUMP SUM
4" SUPPLY LINE (BRIDGE) 521 LF
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STRUCTURAL CONCRETE, BRIDGE 865 CY
BAR REINFORCING STEEL (BRIDGE) 187,000 LB
MISCELLANEOUS METAL (BRIDGE) 2,730 LB
MISCELLANEOUS METAL (RESTRAINER) 1,910 LB
Stage 1 Construction
Stage 2 Construction
℄ Route 405
11'-8" Widening
1'-9"
9'-3"
12'-0"
48'-0"
10'-11 1/2"
2'-7 1/2" Closure Pour
Match existing slope
Temporary Railing Type K, see Road Plans
Concrete Barrier Type 25
3" max. Conduit
Outrigger to remain
8'-0"
Remove existing overhang & railing
C.I.P. Prestressed Box Girders
4"ϕ Supply line (Bridge) & 2"ϕ Communication Conduit
TYPICAL SECTION
Scale: 3/16" = 1'-0"
Toe of fill
℄ Centinela Ave.
N 60° 34' 08" W
Outriggers to remain
For Approach Slab details, see Road Plan
Top of fill
To Long Beach
R = 2,000'
62°45'23" Skew
760 + 43.28 POT Rte 405
892 + 14.07 POT Centinela Ave.
759 + 40.32 E.C.
757 + 42.08
℄ Route 405
N 33° 19' 31" W
EB 762 + 75.38
For Approach Slab details, see Road Plan
Standard Plan Sheet No.
Detail No.
Route 405
R = 2,000'
Δ = 27° 14' 37"
L = 950.981'
T = 484.657'
AS BUILT
PLAN
Scale: 1" = 30'-0"
Note:
indicates existing structure
① Point No. of Bridge
② Point Name of Structure
⊗ Indicates point of min. vertical clearance
For General Notes see sheet "Grid of Deck Elevation".
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STANDARD PLANS DATED JULY 1984
A35- APPROACH SLAB
A62- EXCAVATION AND BACKFILL - LIMITS OF PAYMENT (BRIDGE)
B0-5 BRIDGE DETAILS
B0-13 BRIDGE DETAILS
B3-1 RETAINING WALL - TYPE 1
RETAINING WALL DETAILS
JOINT SEALS
BOX GIRDER DETAILS
DECK DRAINS TYPES
UTILITY OPENING-BOX GIRDER
CIP PRESTRESSED GIRDER DETAILS
TEMPORARY RAILINGS (TYPE K)
CONCRETE BARRIER TYPE 25
SUPPLY LINE AND COMMUNICATION AND SPRINKLER CONTROL CONDUIT
B2-3 16" CAST-IN-DRILLED HOLE CONCRETE PILE
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
DESIGN
DETAILS K. Kawanishi
QUANTITIES
LOAD FACTOR DESIGN
LAYOUT K. Kawanishi
SPECIFICATIONS
State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION
STRUCTURES - DESIGN 3

Figure 2-4

07	LA	405	25.5/31.9	47	5

:1428

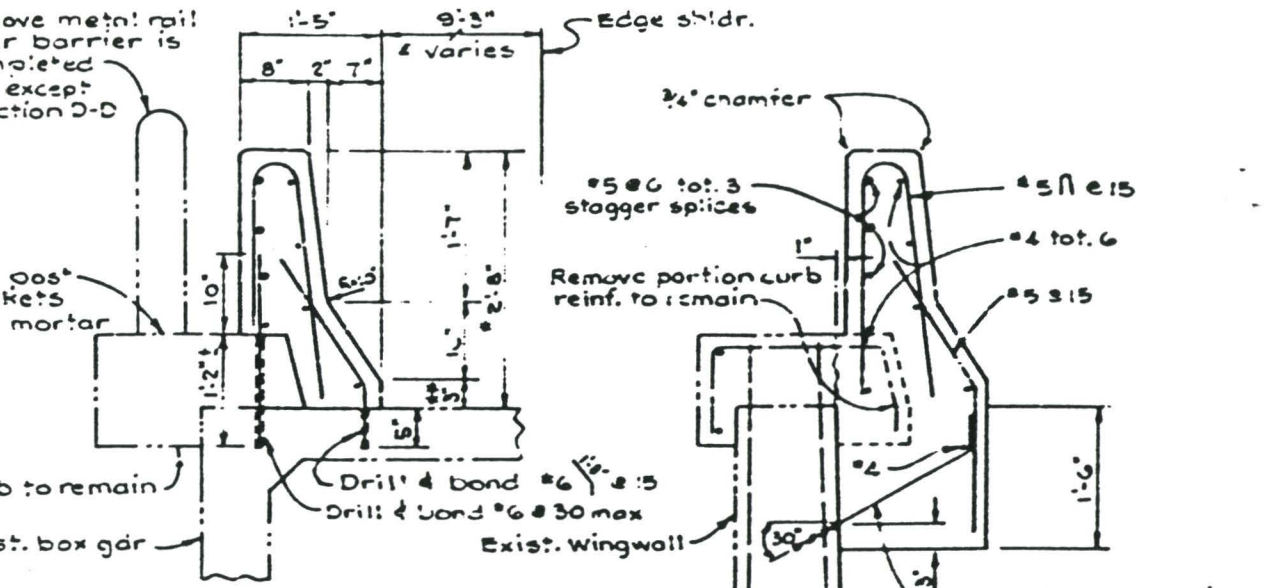
January 15, 1986

INDEX TO PLANS

STANDARD PLANS dated July 1984

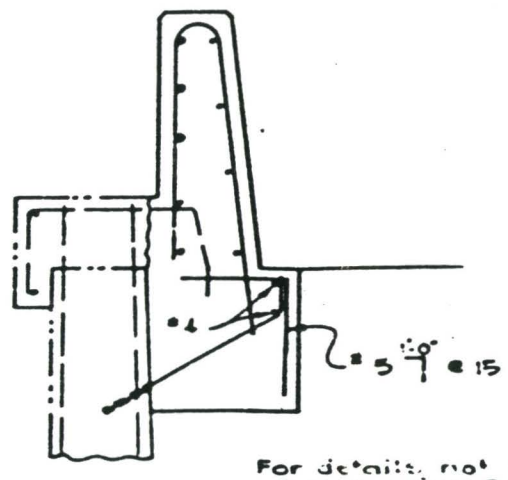
BG-21 Joint Seals
A77-C, A77-D, A79-A, A79-B, A79-C, A79-D (MBGR Details)
ES-7A, ES-7B, ES-7C, ES-7D, ES-7E (Electrical Details)

Standard Plan Sheet No.
Detail No.



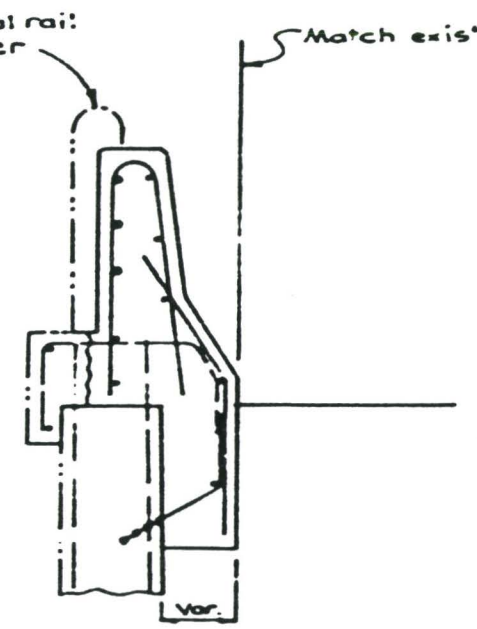
SECTION A-A
1"=1'-0"

SECTION B-B
1"=1'-0"



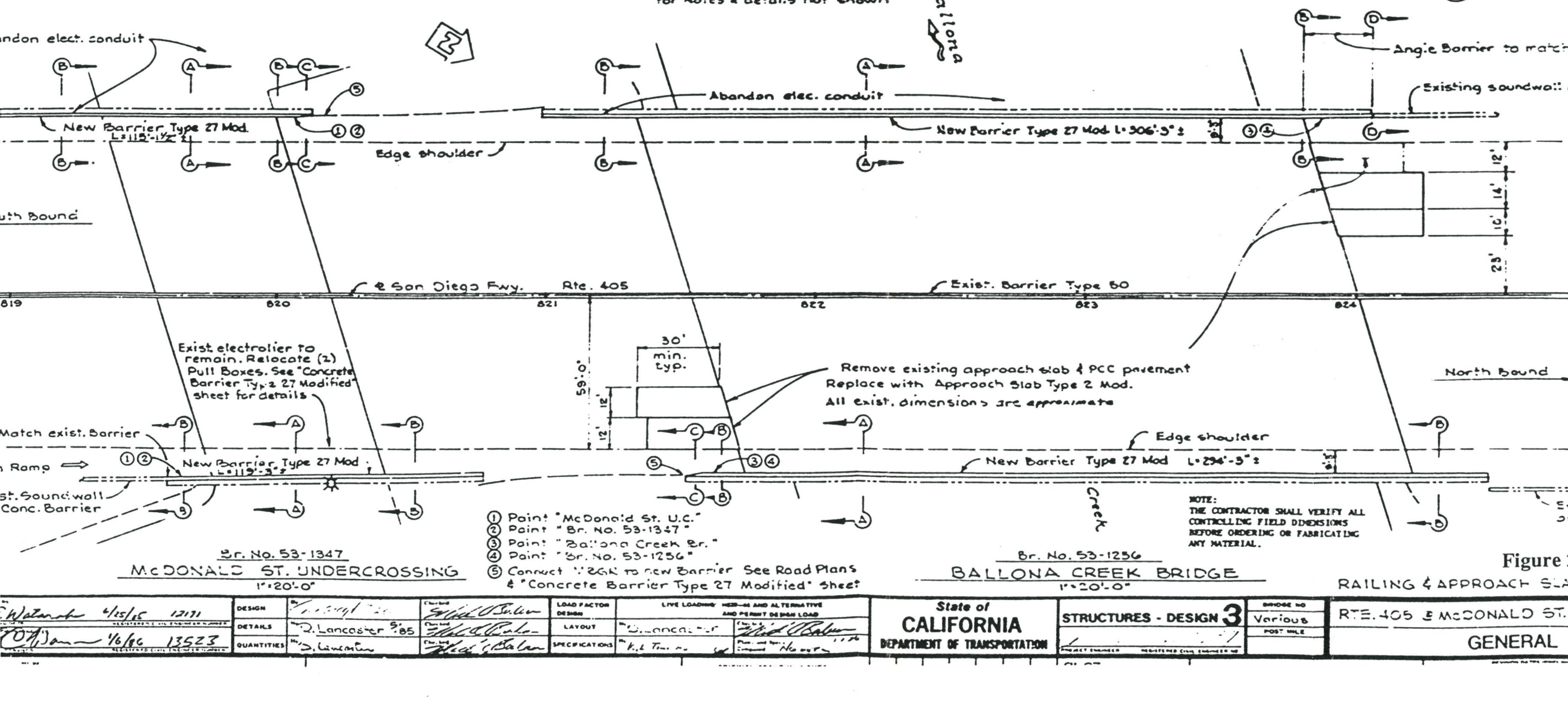
SECTION C-C
1"=1'-0"
6:0 Transition area
See "Concrete Barrier Type 27 Mod."
for Notes & details not shown

For details not shown
See Section B-B



SECTION D-D
1"=1'-0"

Ballona



① Paint "McDonald St. U.C."
② Paint "Br. No. 53-1347"
③ Paint "Ballona Creek Br."
④ Paint "Br. No. 53-1256"
⑤ Connect MBGR to new Barrier See Road Plans & "Concrete Barrier Type 27 Modified" Sheet

Br. No. 53-1347
McDONALD ST. UNDERCROSSING
1"=20'-0"

Br. No. 53-1256
BALLONA CREEK BRIDGE
1"=20'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Figure 2-5
RAILING & APPROACH SLAB REHABILITATION

C. Watanabe 4/15/85 12171	DESIGN	D. Lancaster 5/85	Chief Bridge Engr.	LOAD FACTOR DESIGN	LIVE LOADING HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	Chief Bridge Engr.	State of CALIFORNIA DEPARTMENT OF TRANSPORTATION	STRUCTURES - DESIGN 3	BRIDGE NO. Various
O. Williams 1/6/86 13523	DETAILS	D. Lancaster	Chief Bridge Engr.	LAYOUT	D. Lancaster	Plans and Specs. Engr.			POST MILE
REGISTERED CIVIL ENGINEER NUMBER	QUANTITIES	D. Lancaster	Chief Bridge Engr.	SPECIFICATIONS	K.L. Timm	Chief Bridge Engr.		PROJECT ENGINEER REGISTERED CIVIL ENGINEER NO.	RTE. 405 & McDONALD ST. & BALLONA CREEK
									GENERAL PLAN 1

FIGURE 2.6
MARINA FREEWAY TO VENICE (STATION 2 TO 3)
405 FREEWAY & CENTINELA AVE. - LOOKING EAST

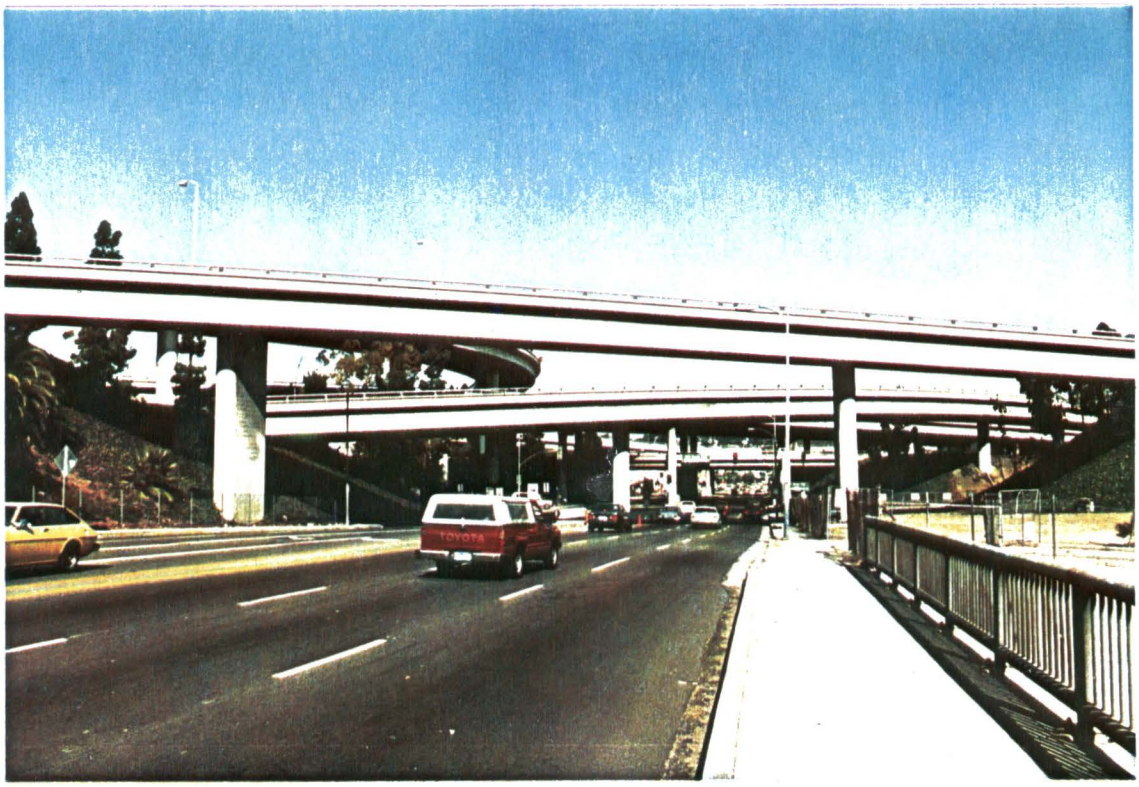
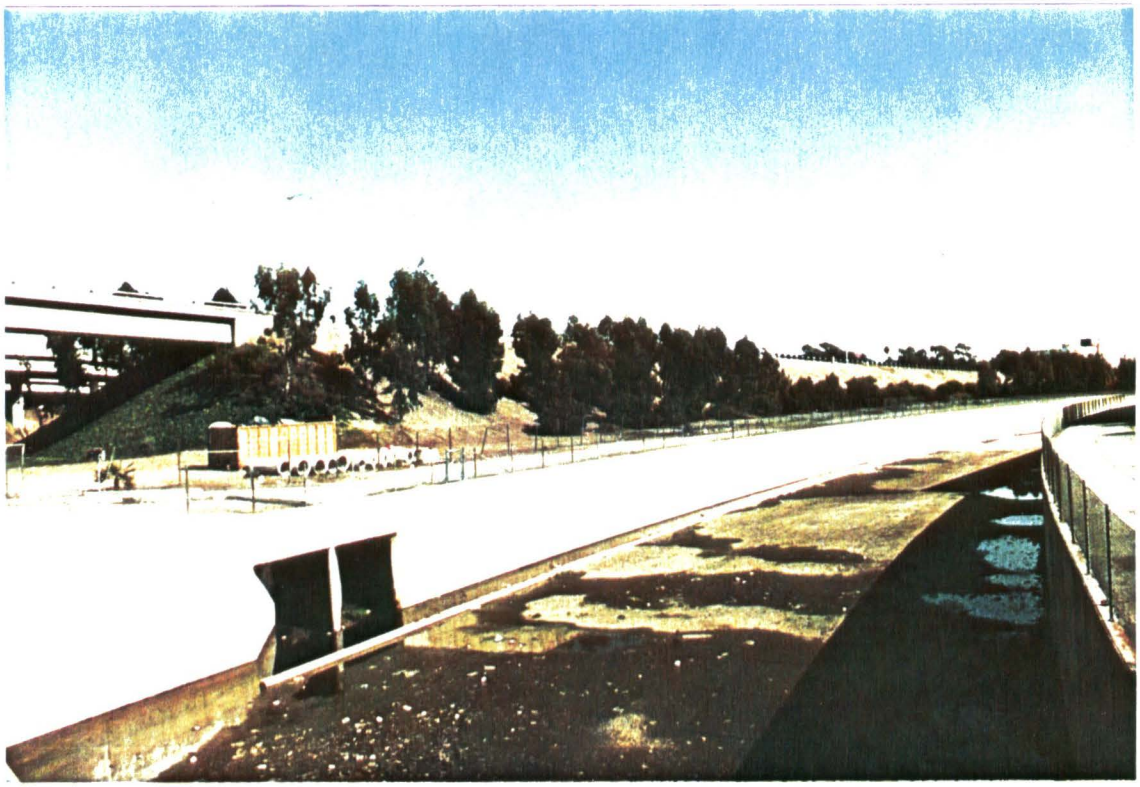


FIGURE 2.7
MARINA FREEWAY TO VENICE (STATION 2 TO 3)

405 FREEWAY & BALLONA CREEK - LOOKING EAST



405 FREEWAY & BALLONA CREEK - LOOKING WEST

FIGURE 2.8
MARINA FREEWAY TO VENICE (STATION 2 TO 3)

405 FREEWAY & CULVER BLVD. - LOOKING NORTH TOWARD CULVER BLVD.

405 FREEWAY & CULVER BLVD. - LOOKING SOUTH TOWARD CULVER BLVD.

VENICE to PICO
(Station 3 to Station 4)

Segment Description

The I-405 segment between Station 2 and Station 3 begins at the Venice Boulevard Station and ends at the Pico Boulevard Station. The proposed aerial alignment would be located primarily in the median of the freeway within this segment but passes to the west side of the I-405/I-10 interchange and then crosses to the east side of the northbound connector to access the Pico Station.

Within this segment, traffic is medium to very heavy with extended periods of "peak hour" trips.

Freeway Description

This segment includes the I-405/I-10 interchange, one of the busiest freeway interchanges in the world. The width of median and shoulders vary along the segment as shown in Figures 3.1 and 3.2. Table 3.1 lists additional pertinent freeway corridor information, such as the number of lanes, and median and shoulder widths from station 339+00 to station 443+00.

Freeway Signs

There are 7 major median mounted signs located along this segment. These include 3 single-pole signs and 4 span-mounted signs. The locations of each are indicated in Table 3.2. There are no major signs located on the either shoulder which would interfere with the route.

Crossing Structures

There are three overpass structures and four underpass structures crossing I-405 between Stations 3 and 4. The location, Caltrans bridge number, width, and height of each are presented in Table 3.3. The northerly most of these structures, at the Exposition/Pico Boulevard crossing, is a long span structure, however the route passes to the east of this bridge and no related construction problems are anticipated.

Construction Detour Options

As shown in Figures 3.1 and 3.2, the existing median within this segment consists of a six-foot strip with concrete barrier or a 22-foot strip with concrete barrier. One possible scheme for obtaining additional median width is also presented in each of those figures. In each case, this involves restriping to narrow

the existing 12-foot lanes and a reduction in the width of the existing shoulder. It is anticipated that no additional off-freeway detour would be needed within this segment.

Several different sets of closure regulations govern work in this segment. South of I-10, no daytime lane closures are allowed. Night closures (no hours given) of up to two lanes in each direction are allowed, but the freeway may not be closed entirely.

From the I-10 north, major construction is permitted only during the late night to early morning hours. Complete freeway closures have been permitted from 11:00 p.m. to 5:00 a.m. provided that detour routes were available. No closure data is given in the RFP for the I-10 freeway itself.

Table 3.1
Freeway Characteristics
Venice to Pico (Station 3 to Station 4)

Station	Southbound		Median Width	Northbound	
	No. of Lanes	Shoulder		No. of Lanes	Shoulder
339+00-397+00	5	9	6	5	9
397+00-438+00	4	13	22	4	13
438+00-443+00	5	8	22	5	8

Table 3.2
Major Freeway Signs
Venice to Pico (Station 3 to Station 4)

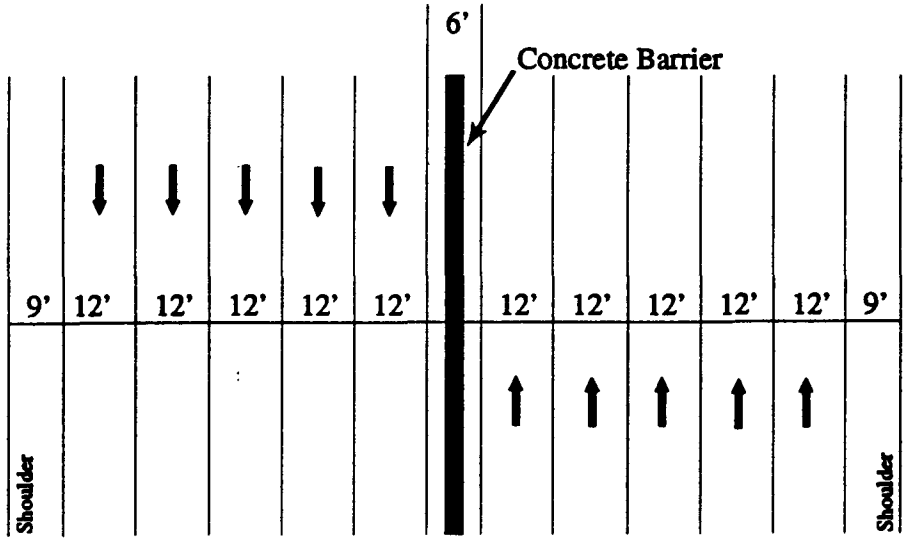
Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
358+50		1			
367+70					1
368+20		1			
398+50					1
402+50					1
403+60		1			
438+50				1	

Table 3.3
Crossing Structures
Venice to Pico (Station 3 to Station 4)

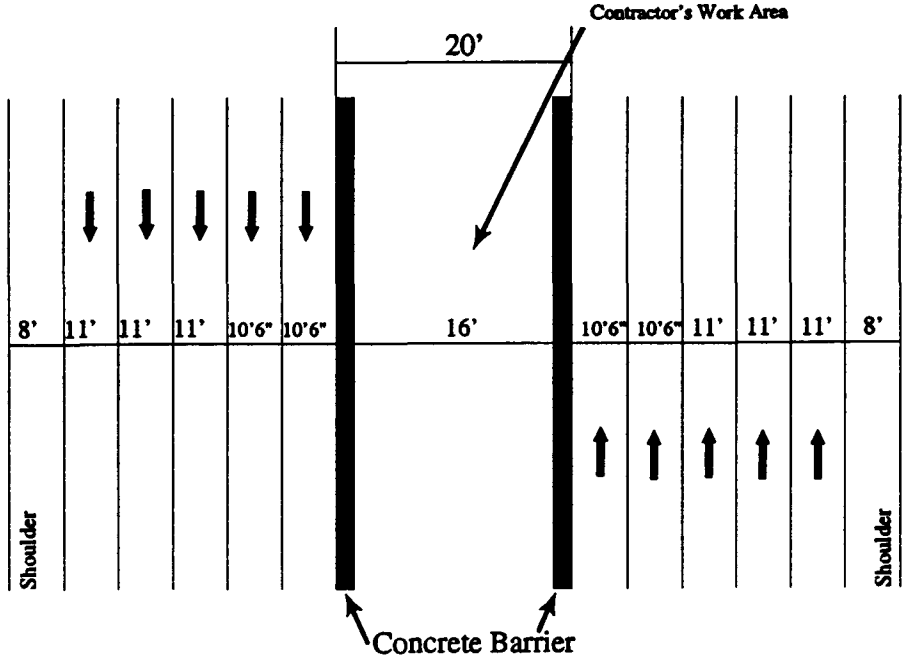
Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elev. Above/ Below Fwy (ft)
				Actual	Normal	
53-701	Venice Blvd.	341+10	U	170		-18
53-242	Palms Blvd.	370+70	O	80		+18
53-1267	Channel	375+50	U	80		-25
53-1637	National Blvd.	405+00	U	90		-17
53-1628	SE Connector	414+50	O	26		+35
53-1628	Santa Monica Fwy (I-10)	425+50	O	100		+20
53-504	Exposition/Pico Blvds. (route off freeway)	440+70-445+70	U	550		-30

FIGURE 3.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
VENICE TO PICO (STATION 3 TO 4)

EXISTING



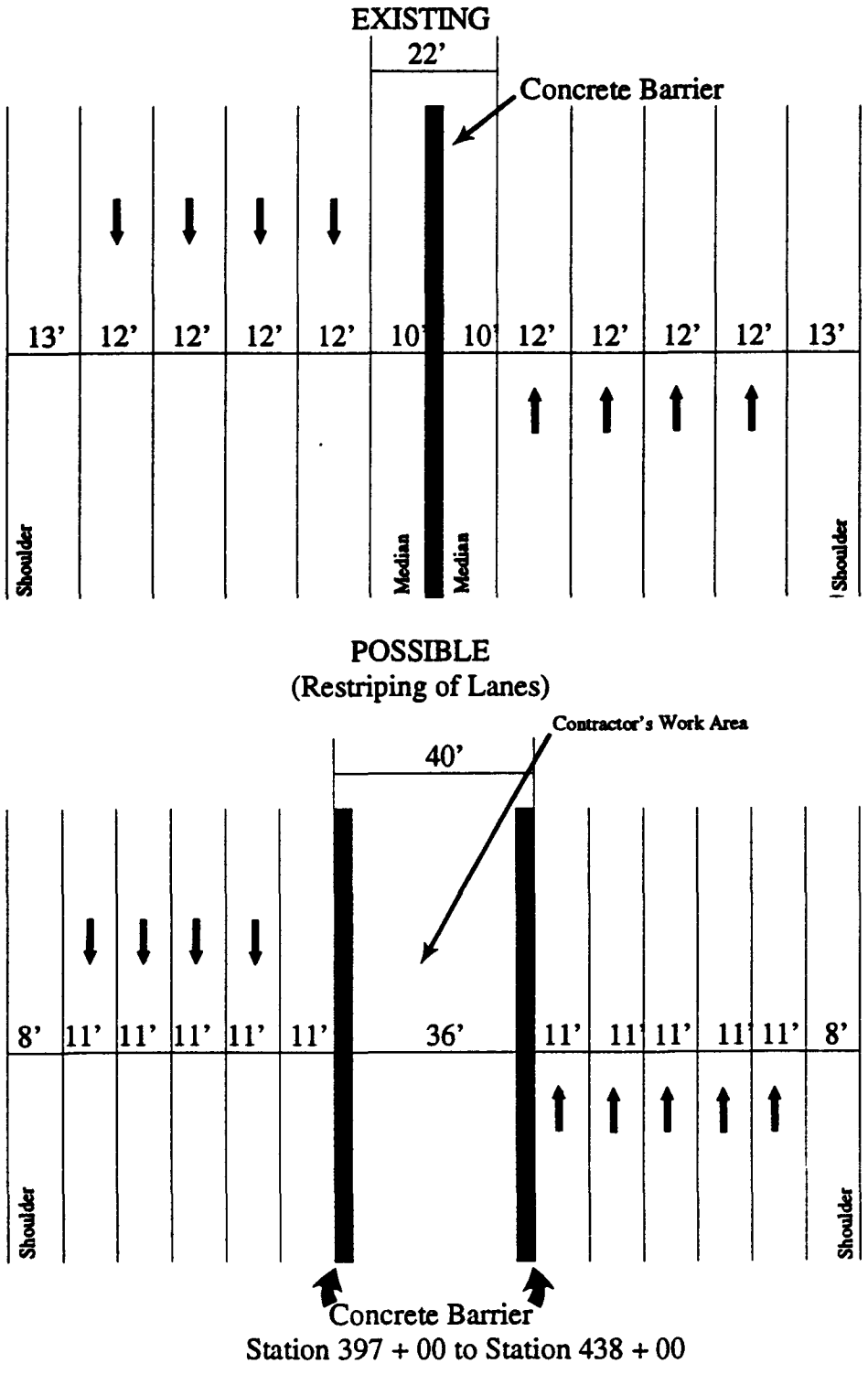
POSSIBLE
(RESTRIPING OF LANES)



Station 339 + 00 to Station 397 + 00

Drawing not to scale

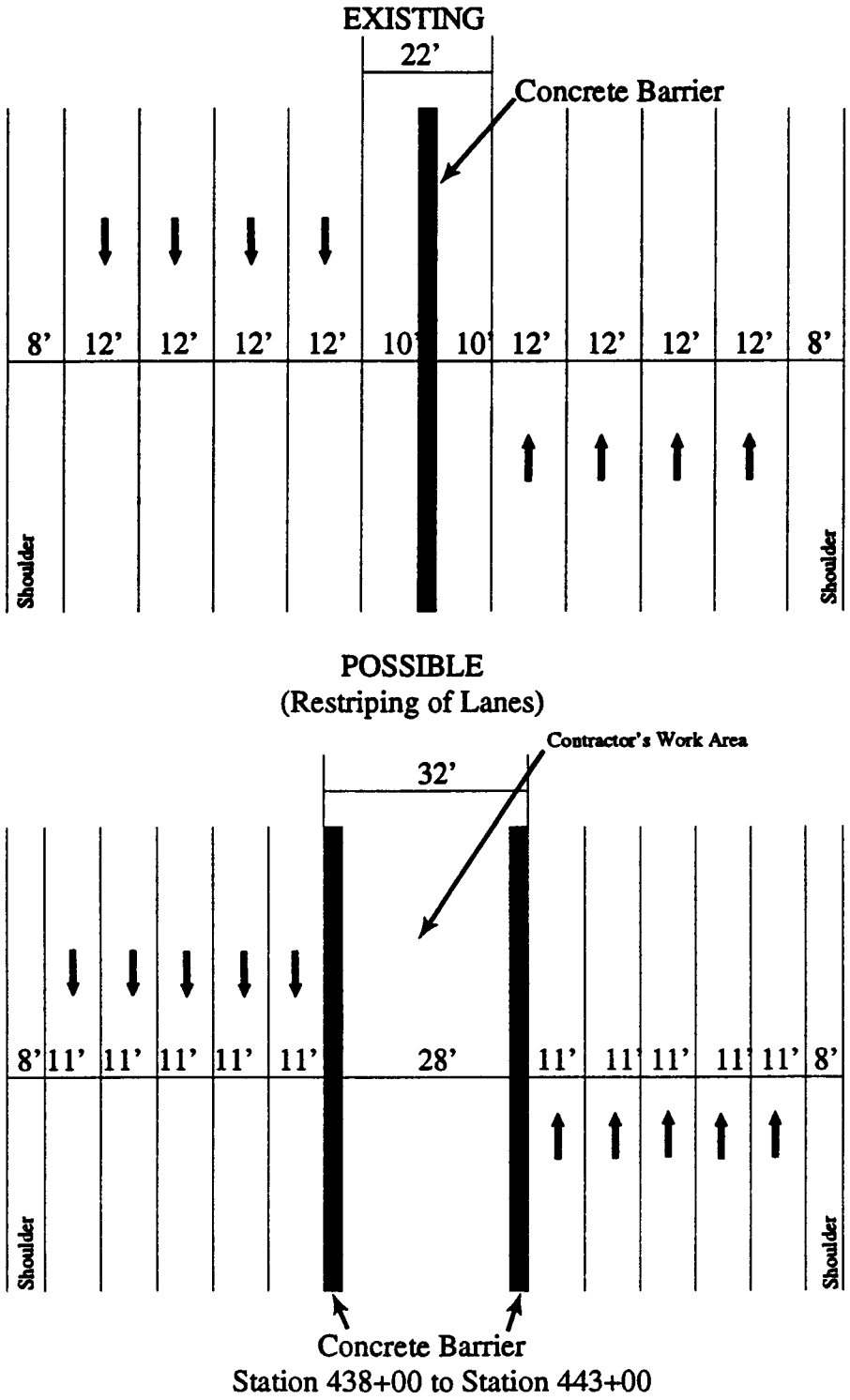
FIGURE 3.2
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
VENICE TO PICO (STATION 3 TO STATON 4)



Station 397 + 00 to Station 438 + 00

Drawing not to scale

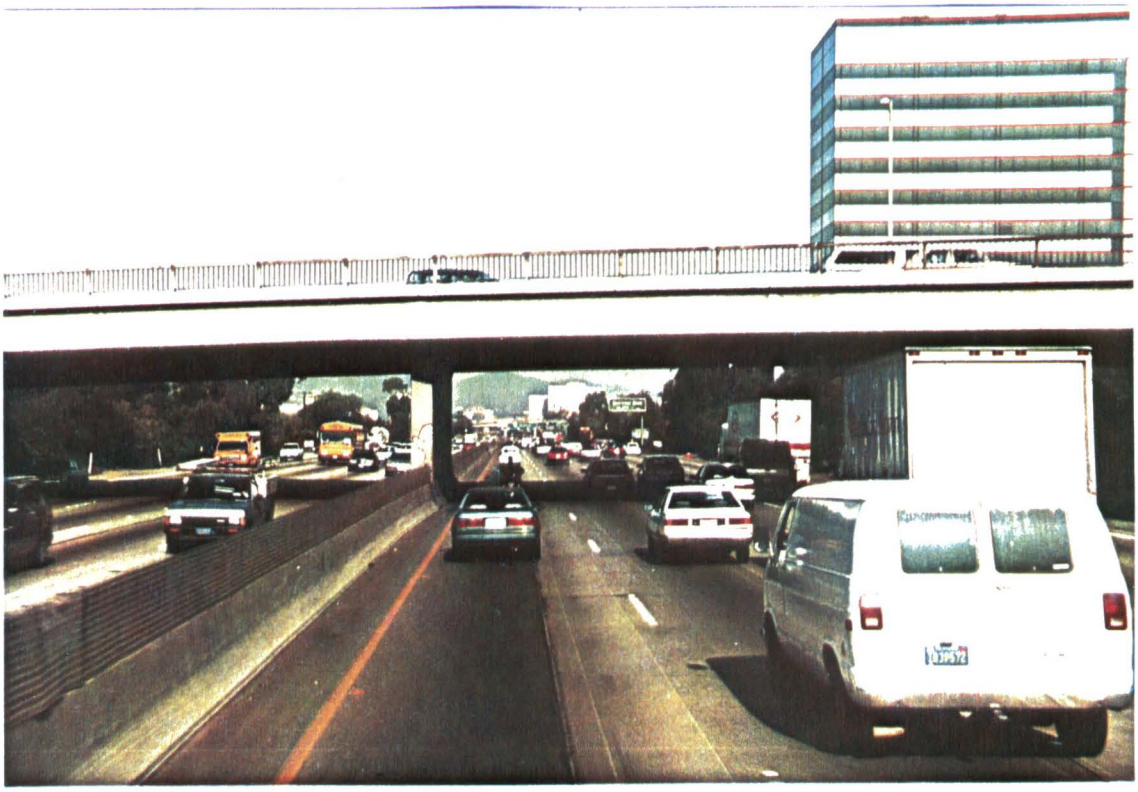
FIGURE 3.3
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
VENICE TO PICO (STATION 3 TO STATON 4)



Drawing not to scale

FIGURE 3.4
VENICE TO PICO (STATION 3 TO 4)

405 FREEWAY & PALMS BLVD. - LOOKING NORTH AT THE PALMS BLVD. OVERPASS



405 FREEWAY & PALMS BOULEVARD - LOOKING SOUTH FROM THE PALMS BLVD. OVERPASS

FIGURE 3.5
VENICE TO PICO (STATION 3 TO 4)

405 FREEWAY & 10 FREEWAY/NATIONAL BLVD. - LOOKING SOUTH

405 FREEWAY & 10 FREEWAY/NATIONAL BLVD. - LOOKING NORTH

FIGURE 3.6
VENICE TO PICO (STATION 3 TO 4)

10 FREEWAY/NATIONAL BLVD. & 405 FREEWAY - LOOKING WEST

FIGURE 3.7
VENICE TO PICO (STATION 3 TO 4)

405 FREEWAY & 10 FREEWAY/NATIONAL BLVD. - LOOKING NORTH

405 FREEWAY & 10 FREEWAY - LOOKING SOUTH FROM SOUTHBOUND CONNECTOR RAMP

PICO to WILSHIRE
(Station 4 to Station 5)

Segment Description

The segment between Stations 4 and 5 begins at the Pico Boulevard Station and ends at the Wilshire Boulevard Station. The proposed aerial alignment would transition from the east side of the freeway right-of-way (at the Pico Station) to the median and be located in the freeway median for the remainder of the segment.

Within this segment, traffic is medium to very heavy with extended periods of "peak hour" trips.

Freeway Description

The width of median and shoulders vary along the segment. Table 4.1 lists pertinent freeway corridor information, such as the number of lanes, and median and shoulder widths from station 443+00 to station 548+00.

Freeway Signs

There are 11 major median mounted signs located along this segment. These include four single-pole signs and seven span-mounted signs. The sign located on the right shoulder at station 469+50 is north of the transition back to the median, thus should not present any construction conflict. The locations of each are indicated in Table 4.2.

Crossing Structures

There are no overpass structures and four underpass structures crossing I-405 between Stations 4 and 5. The location, Caltrans bridge number, width, and height of each are presented in Table 4.3.

Construction Detour Options

As shown in Figures 4.1 and 4.2, the existing median within this segment consists of a six-foot strip with concrete barrier or a 22-foot strip with concrete barrier. One possible scheme for obtaining additional median width is also presented in each of those figures. In each case, this involves restriping to narrow the existing 12-foot lanes and a reduction in the width of the existing shoulder. It is anticipated that no additional off-freeway detour would be needed within this segment.

In this segment, major construction is permitted only during the late night to early morning hours. Complete freeway closures have been permitted from 11:00 p.m. to 5:00 a.m. provided that detour routes were available.

Table 4.1
Freeway Characteristics
Pico to Wilshire Station 4 to Station 5)

Station	Southbound		Median Width	Northbound	
	No. of Lanes	Shoulder		No. of Lanes	Shoulder
443+00-460+00	5	8	22	5	8
460+00-548+00	5	9	6	5	9

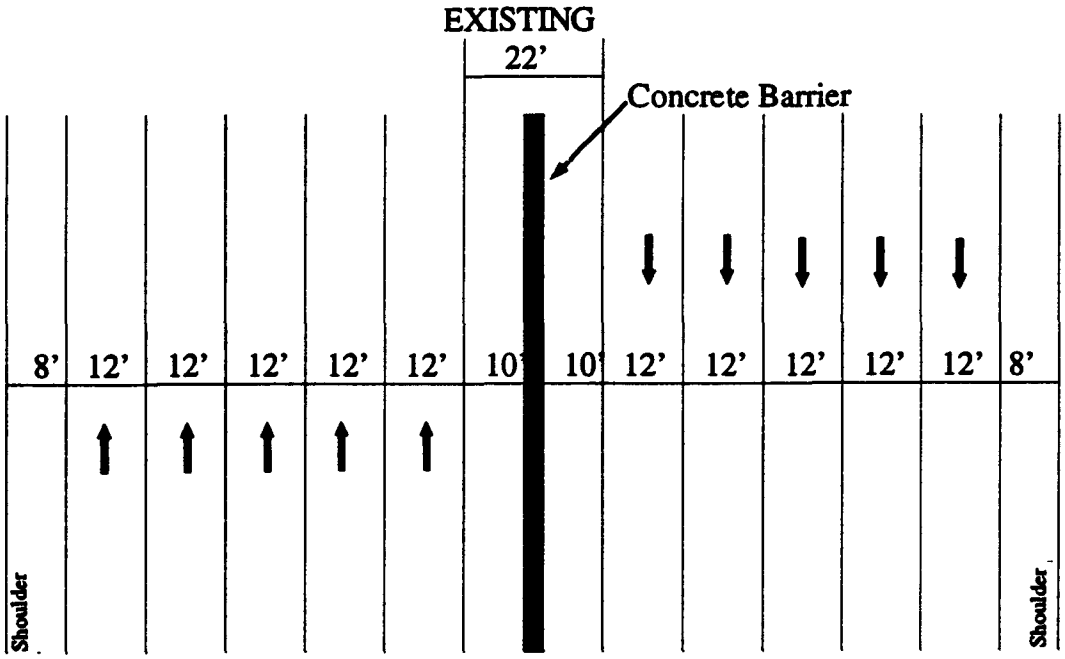
Table 4.2
Major Freeway Signs
Pico to Wilshire Station 4 to Station 5)

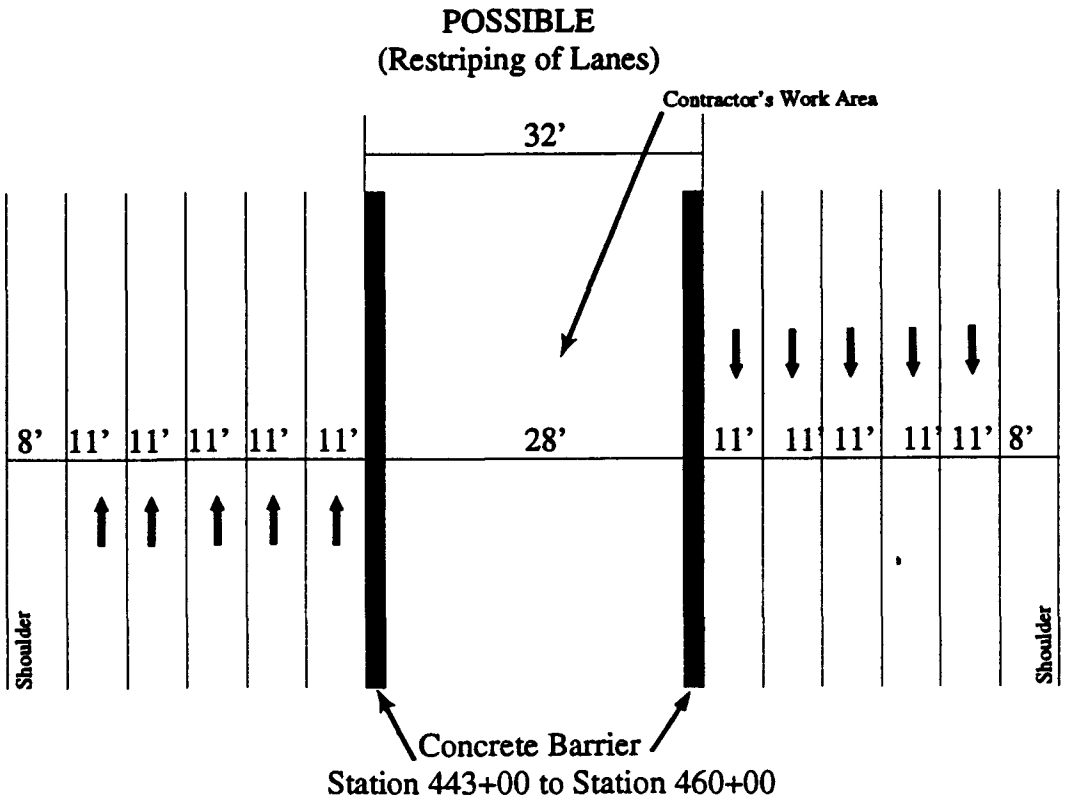
Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
447+50				1	
454+20		1			
457+00					1
469+50			1		
472+75				1	
483+50					1
493+80		1			
494+05		1			
498+55					1
503+05			1		
511+05		1			
516+20					1
526+00				1	

Table 4.3
Crossing Structures
Pico to Wilshire Station 4 to Station 5)

Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elev. Above/ Below Fwy (ft)
				Actual	Normal	
53-504	Exposition-Pico Blvd.	440+70-445+70	U	550		+30
53-706	Olympic Blvd.	458+20	U	118		-17
53-708	Santa Monica Blvd.	494+00	U	110		-15
53-1097	Ohio Blvd.	504+50	U	60		-15

FIGURE 4.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
PICO TO WILSHIRE (STATION 4 TO STATON 5)

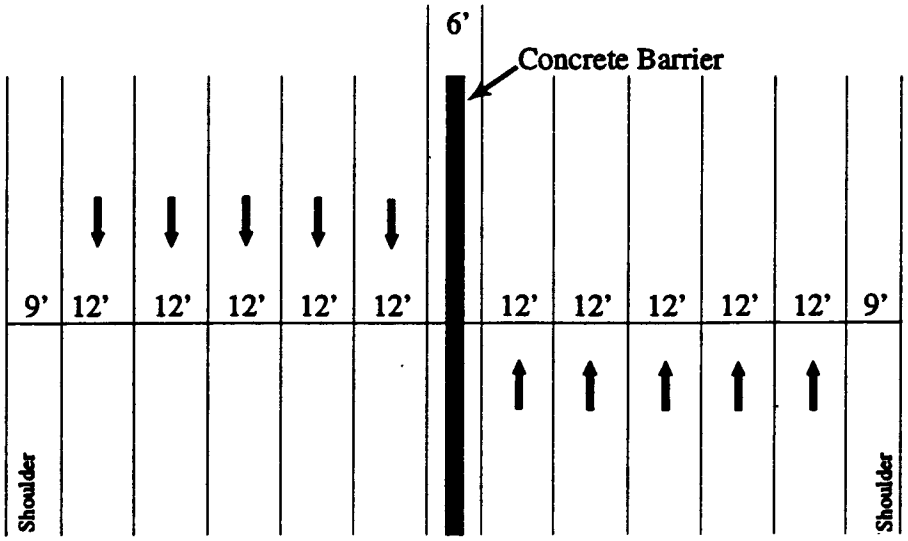




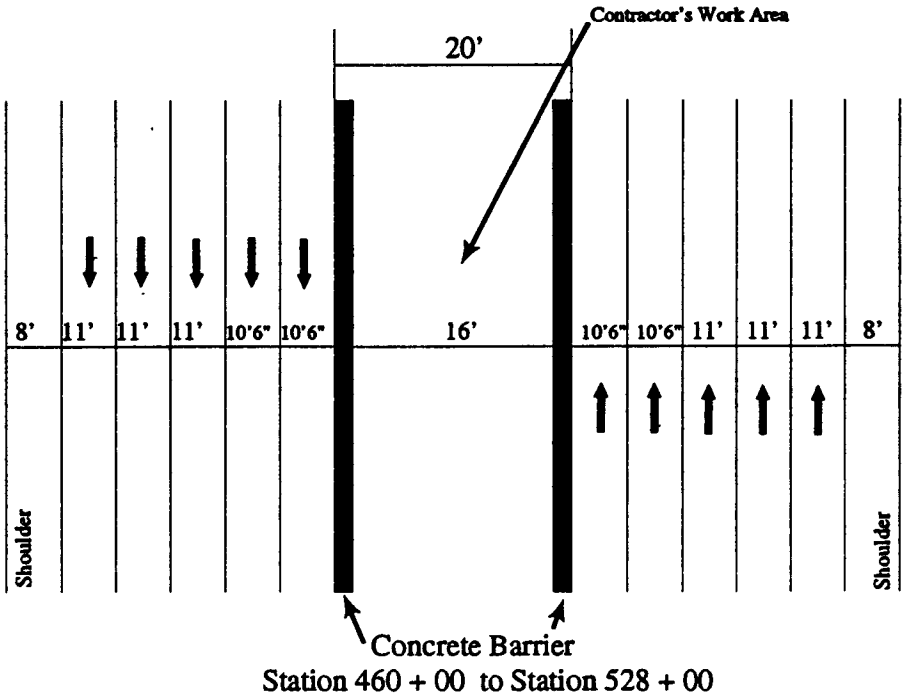
Drawing not to scale

FIGURE 4.2
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
VENICE TO PICO (STATION 3 TO 4)

EXISTING



POSSIBLE
(RESTRIPING OF LANES)

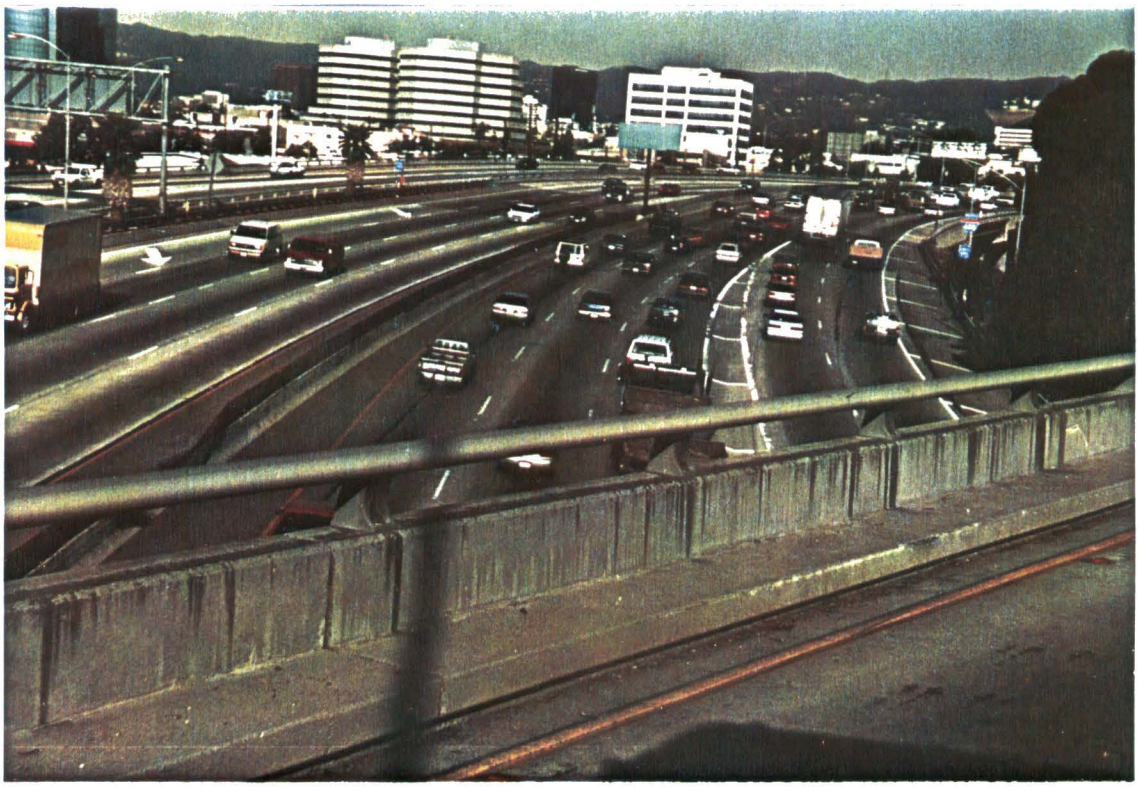


Station 460 + 00 to Station 528 + 00

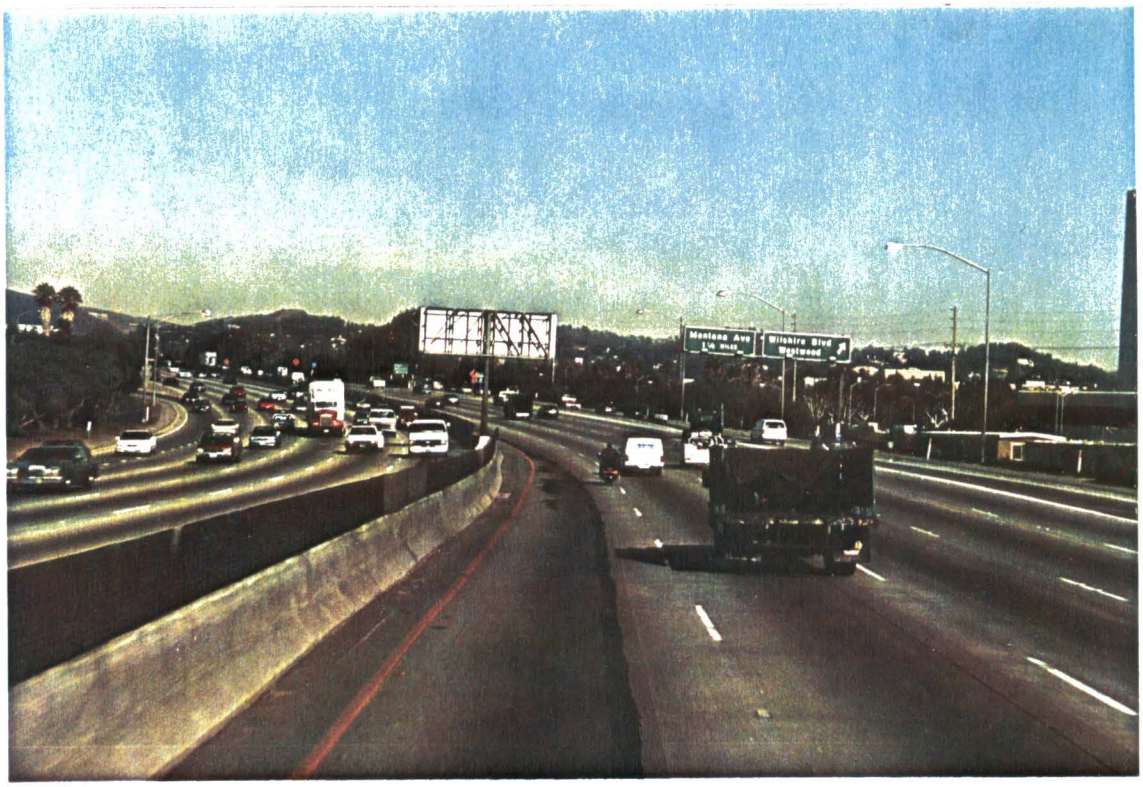
Drawing not to scale

FIGURE 4.3
PICO TO WILSHIRE (STATION 4 TO 5)

405 FREEWAY & 10 FREEWAY - LOOKING NORTH FROM NORTHBOUND CONNECTOR RAMP



405 FREEWAY & WILSHIRE BLVD. - LOOKING NORTH



WILSHIRE to VENTURA
(Station 5 to Station 6)

Segment Description

The I-405 segment between Stations 5 and 6 begins at the Wilshire Boulevard Station and ends at the Ventura Boulevard Station. This segment traverses the Santa Monica Mountains and thus is ascending or descending through most of its length. The proposed aerial alignment is expected to be located primarily within the median of the freeway but crosses to the east of the right-of-way to access the Ventura Boulevard Station.

In the area from the I-405/US-101 interchange north to Victory Boulevard, only partial construction drawings were available. For this reason, the user is cautioned again that utility data may be incomplete.

Within this segment, traffic is medium to heavy with extended periods of "peak hour" trips.

Freeway Description

The width of median and shoulders vary along the segment. Table 5.1 lists pertinent freeway corridor information, such as the number of lanes, and median and shoulder widths from station 528+00 to station 946+00. The existing median/lane/shoulder configurations are depicted in Figures 5.1 through 5.4. The minimum attainable median width occurs between stations 528+00 and 585+00, where a 16-foot clear space would be available by restriping.

Freeway Signs

There are 16 major median mounted signs located along this segment. These include six single-pole signs and ten span-mounted signs. The sign located on the right shoulder at station 944+00 will also be an obstacle to construction. The locations of each are indicated in Table 5.2.

Crossing Structures

There are five overpass structures and nine underpass structures crossing I-405 between Stations 5 and 6. The location, Caltrans bridge number, width, and height of each are presented in Table 5.3.

Construction Detour Options

As shown in Figures 5.1 through 5.4, the existing median within this segment consists of a 6-foot, 14-foot, or 22-foot strip with a concrete barrier. Shoulder widths within this segment are generally ten feet except where the 22-foot median occurs, where shoulders are reduced to 8-feet. One possible scheme for obtaining additional median width is also presented in each of those figures. In each case, this involves restriping to narrow the existing 12-foot lanes and a reduction in the width of the existing shoulder. Because of the topography of this segment, there are very limited options for creating additional width. It may be possible to intermittently reduce the shoulders to minimum widths.

In this segment, major construction is permitted only during the late night to early morning hours. Complete freeway closures have been permitted from 11:00 p.m. to 5:00 a.m. provided that detour routes were available.

Table 5.1
Freeway Characteristics
Wilshire to Ventura (Station 5 to Station 6)

Station	Southbound		Median Width	Northbound	
	No of Lanes	Shoulder		No of Lanes	Shoulder
528+00-585+00	5	10	6	5	10
585+00-802+00	4	10	14	5	10
802+00-934+00	5	10	14	5	10
934+00-946+00	4	8	22	4	8

Table 5.2
Major Freeway Signs
Wilshire to Ventura (Station 4 to Station 5)

Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
539+50	1				
554+75			1		
545+00	1				
559+00				1	
574+00					1
578+00		1			
595+00					1
607+50	1				
650+50			1		
650+75	1				
687+00	1				
687+50					1
710+00				1	
741+00		1			
742+00		1			
799+50					1
810+50	1				
826+50		1			
853+75					1
854+00	1				

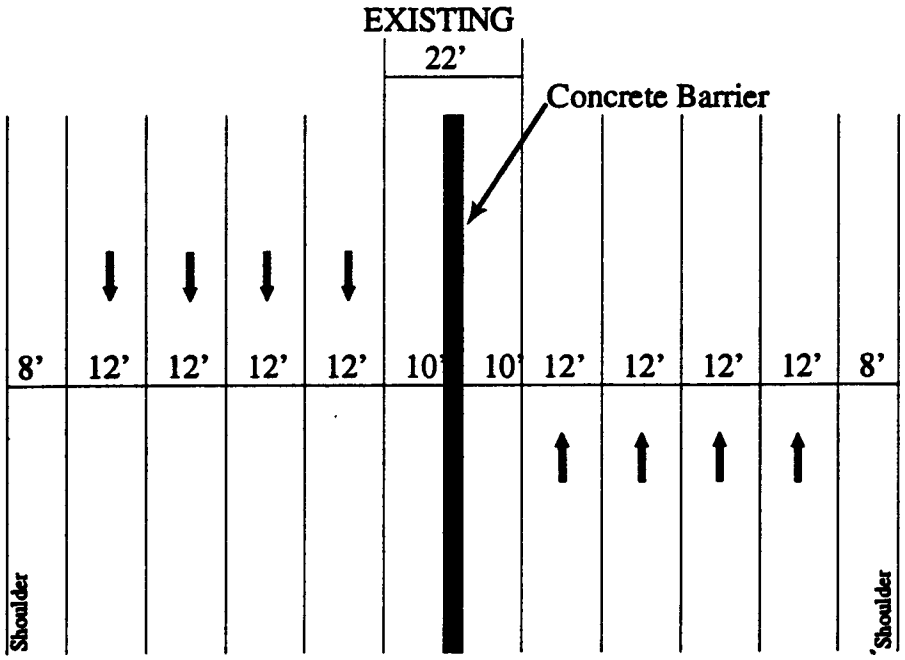
Table 5.2, cont.
Major Freeway Signs
Wilshire to Ventura (Station 4 to Station 5)

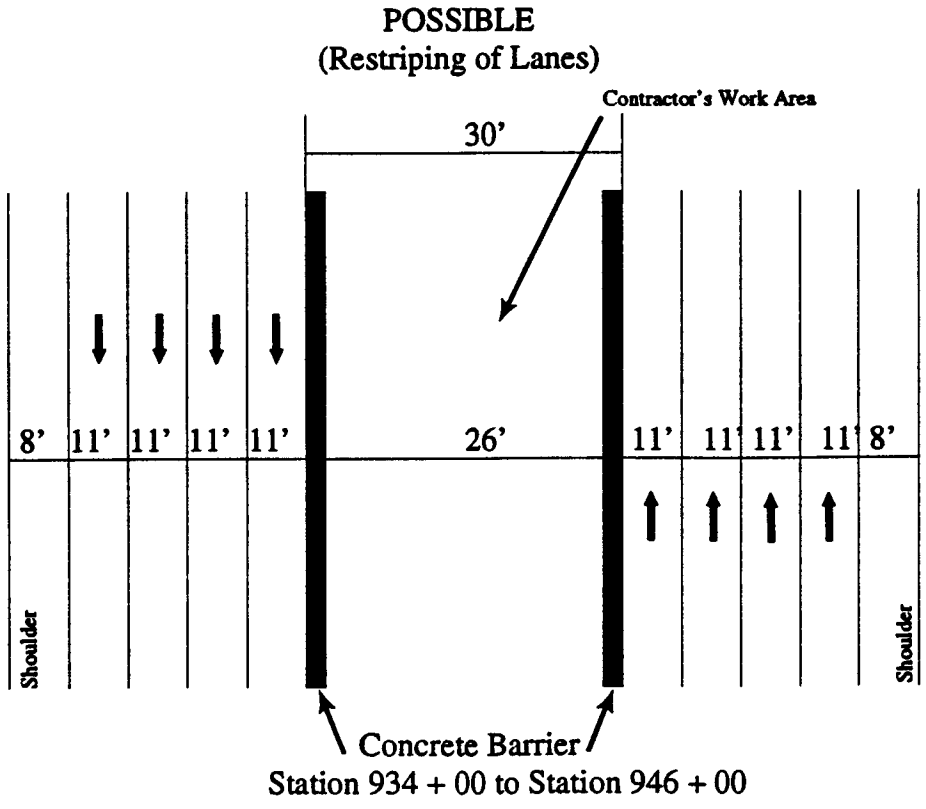
Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
898+00	1				
904+75					1
907+50	1				
916+00	1				
929+50					1
929+75		1			
930+25		1			
930+50				1	
944+00			1		

Table 5.3
Crossing Structures
Wilshire to Ventura (Station 4 to Station 5)

Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-710	Wilshire Blvd.	530+50	U	140		-17
53-711	Constitution Ave.	548+50	U	45		-17
53-712	Montana Ave.	581+00	U	65		-17
53-713	Sunset Blvd.	606+00	O	100		+17
53-714	Church Lane	617+25	U	65	70	-17
57-738	Getty Center Drive	671+00	U	65		-18
53-695	Sepulveda Blvd.	701+00	U	180	240	-30
53-1464	Bel Air Crest	756+00	U	60		-17
53-1490	Rimerton Rd.	803+80	O	70		+18
53-739	Mulholland Dr.	818+80	O	70	90	+40
53-740	Sepulveda Blvd.	902-80	U	100	160	-17
53-741	Ventura Blvd.	924+25	U	110	120	-17
53-1146	Ventura Freeway (R/L)	944+25 and 950+00	O	120	150	+18

FIGURE 5.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
WILSHIRE TO VENTURA (STATION 5 TO STATON 6)

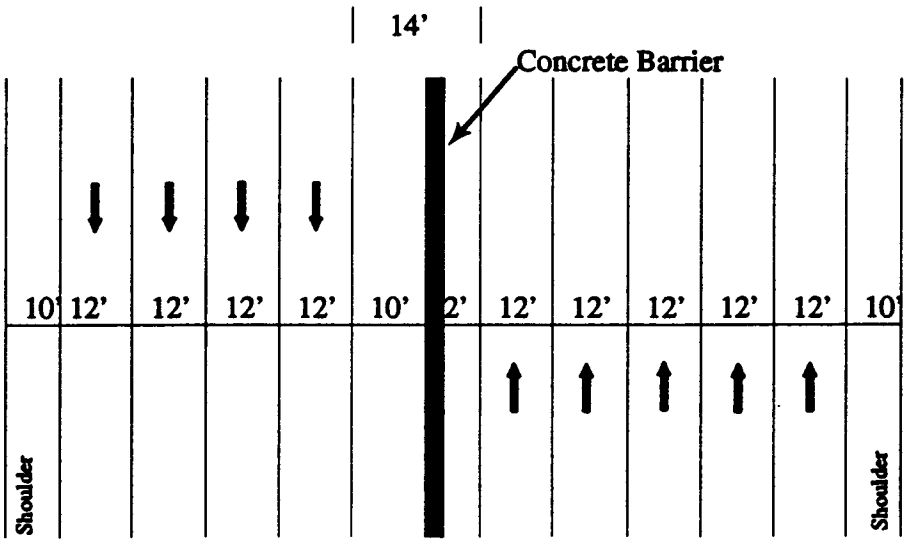




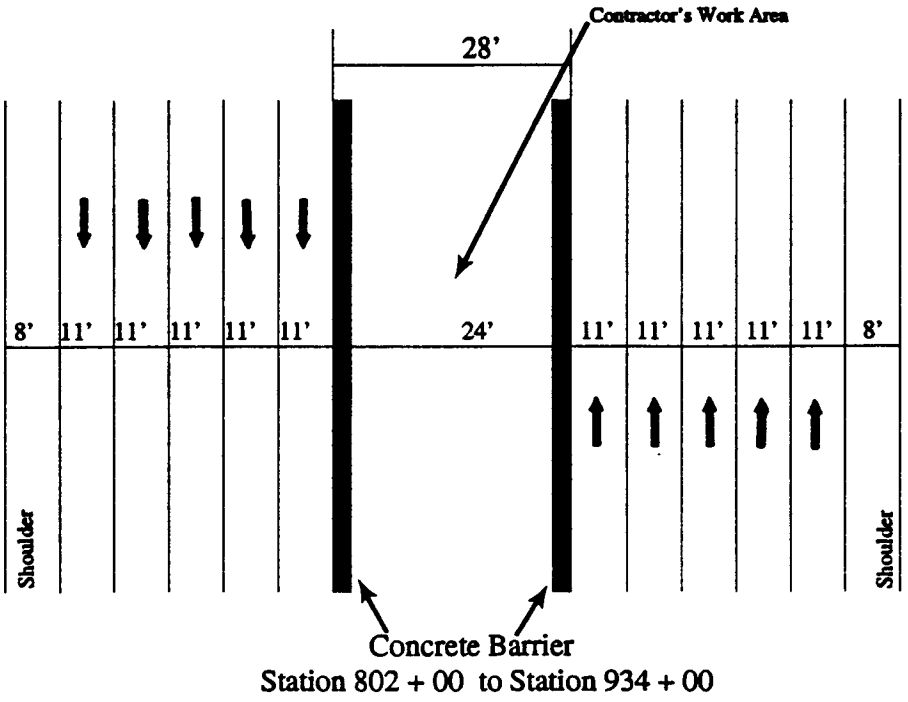
Drawing not to scale

FIGURE 5.2
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
WILSHIRE TO VENTURA (STATION 5 TO 6)

EXISTING



POSSIBLE
(RESTRIPING OF LANES)

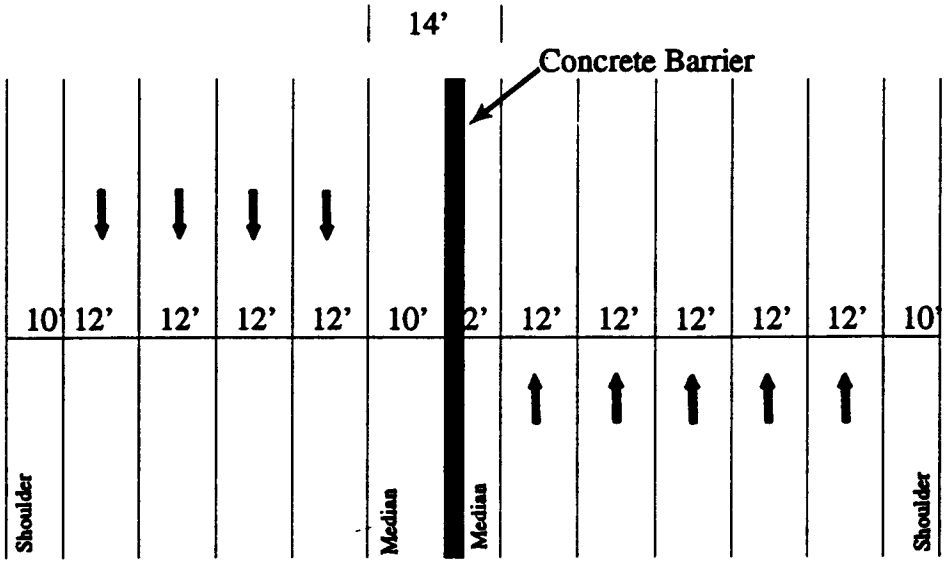


Station 802 + 00 to Station 934 + 00

Drawing not to scale

FIGURE 5.3
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
WILSHIRE TO VENTURA (STATION 5 TO 6)

EXISTING

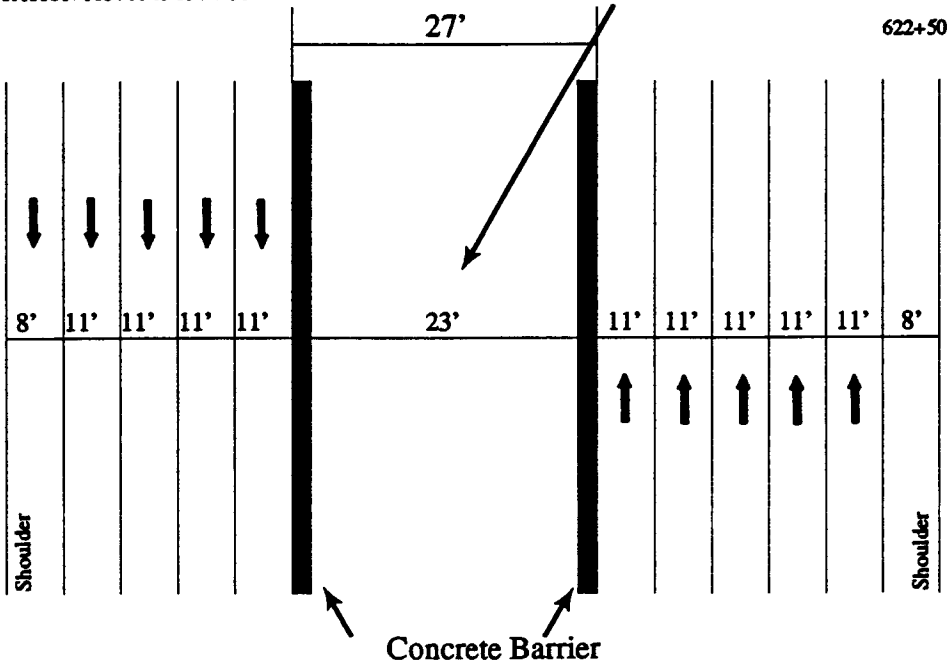


POSSIBLE
(RESTRIPING OF LANES)

Sound Wall
STATION 585+00 to 634 + 50

Contractor's Work Area

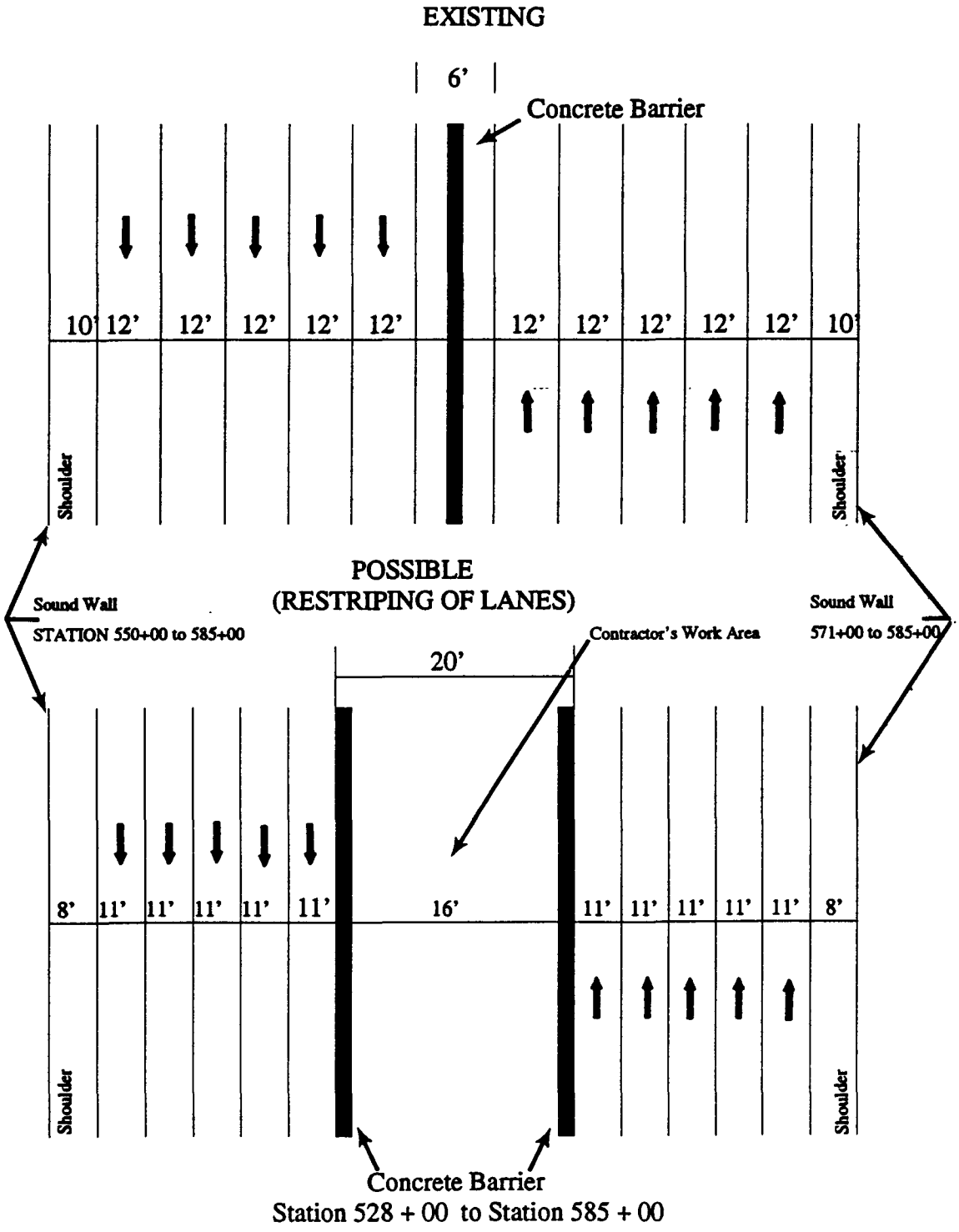
Sound Wall
604+00 to 617 + 50
622+50 to 656 + 00



Concrete Barrier
Station 585 + 00 to Station 802 + 00

Drawing not to scale

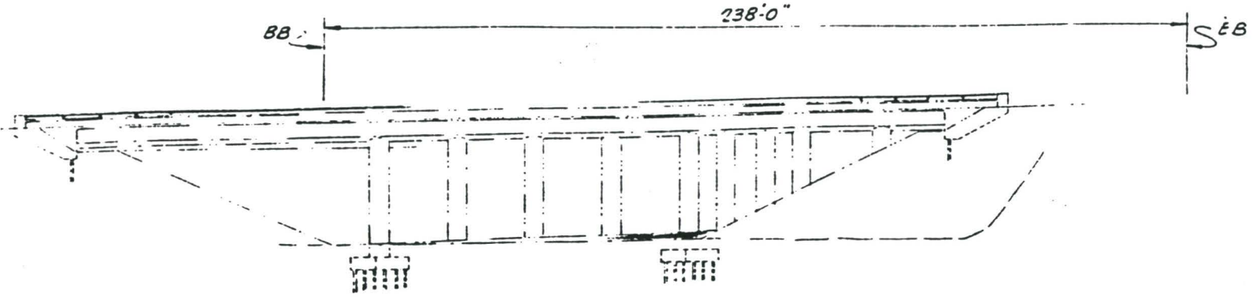
FIGURE 5.4
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
WILSHIRE TO VENTURA (STATION 5 TO 6)



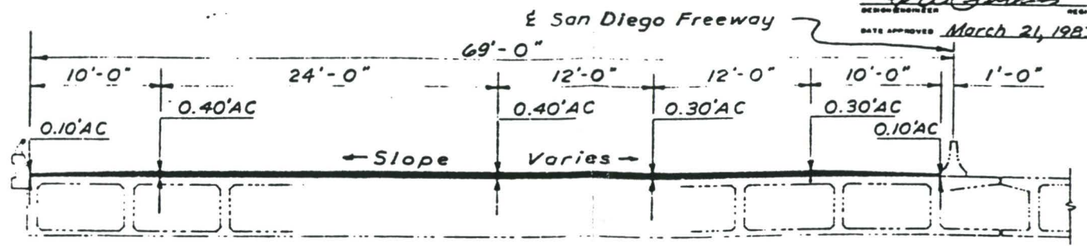
Drawing not to scale

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	405	31.5/35.2	34	34

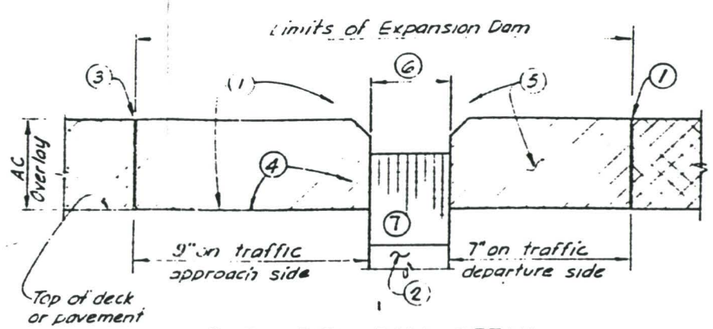
G. L. Durkee 13102
DESIGN ENGINEER — REGISTERED CIVIL ENGINEER NUMBER
DATE APPROVED March 24, 1983



ELEVATION
1" = 20'

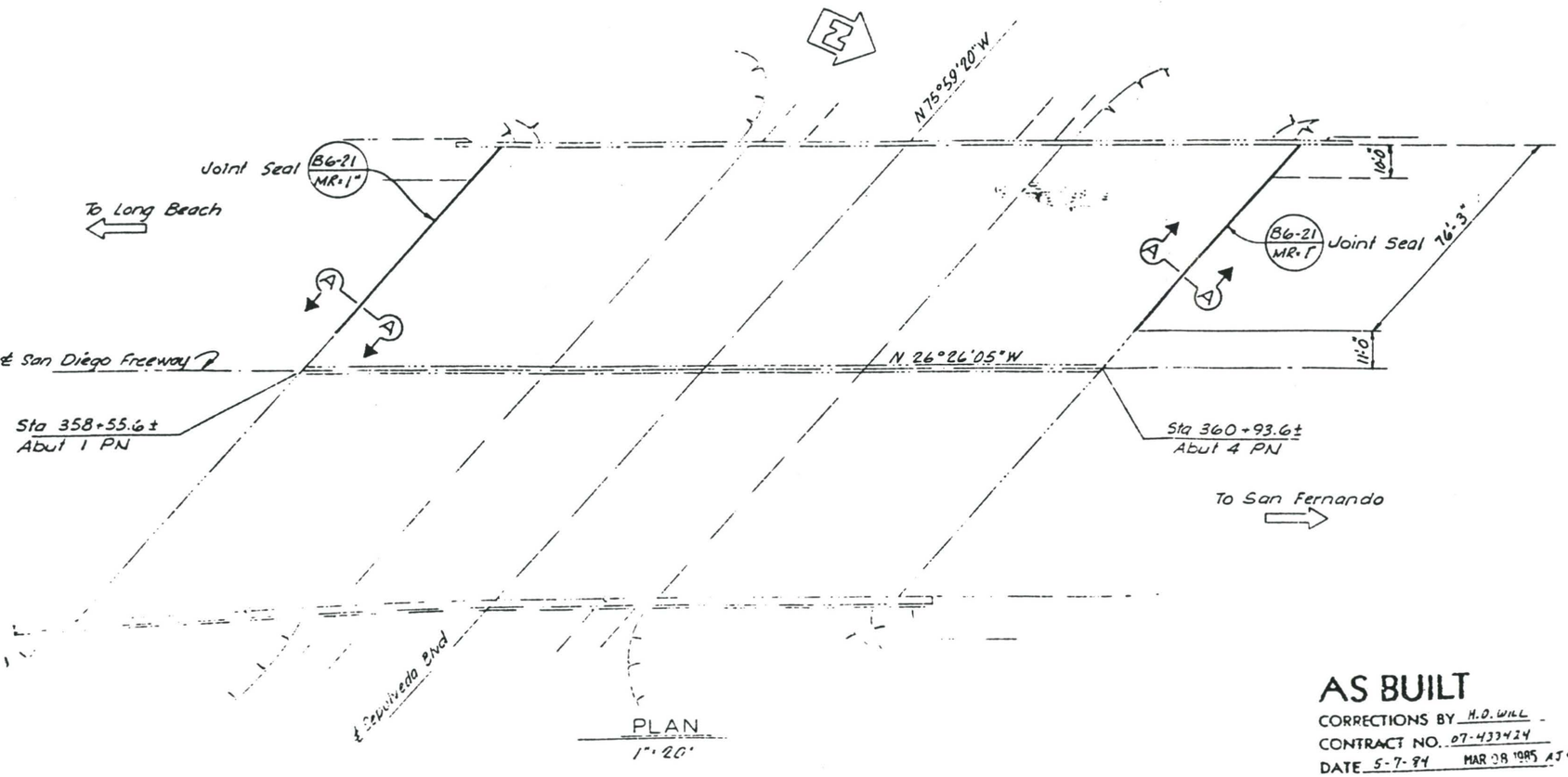


PART TYPICAL SECTION
No Scale

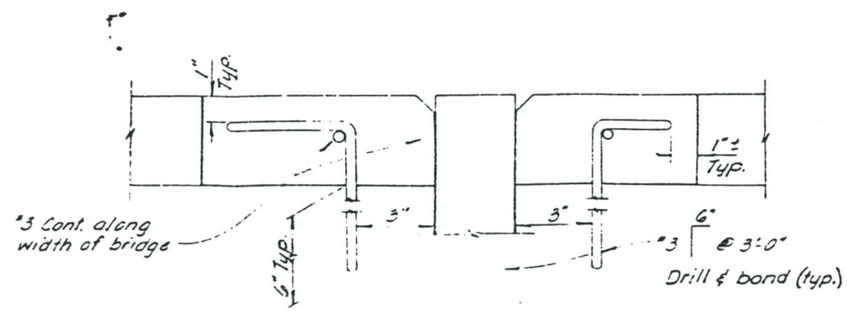


EXPANSION DAM DETAIL
SECTION A-A
1" = 3"

Notes,
1. Bond breaker (temporary).
2. Protect joints if cleaned before overlay is placed.
3. Sawcut A.C. Overlay and remove between limits shown.
4. Abrasive blast clean prior to placing expansion dam. (Typical both sides)
5. Place expansion dam to finish grade. (Typical both sides)
6. Formed joint in expansion dam to match exist. joint in deck.
7. Install joint seal.



PLAN
1" = 20'



EXPANSION DAM REINFORCEMENT DETAIL
1" = 3"

AS BUILT
CORRECTIONS BY H.O. WILL
CONTRACT NO. 07-433424
DATE 5-7-84 MAR 28 1985 AJC
NO CORRECTIONS THIS SHEET

Figure 5-5

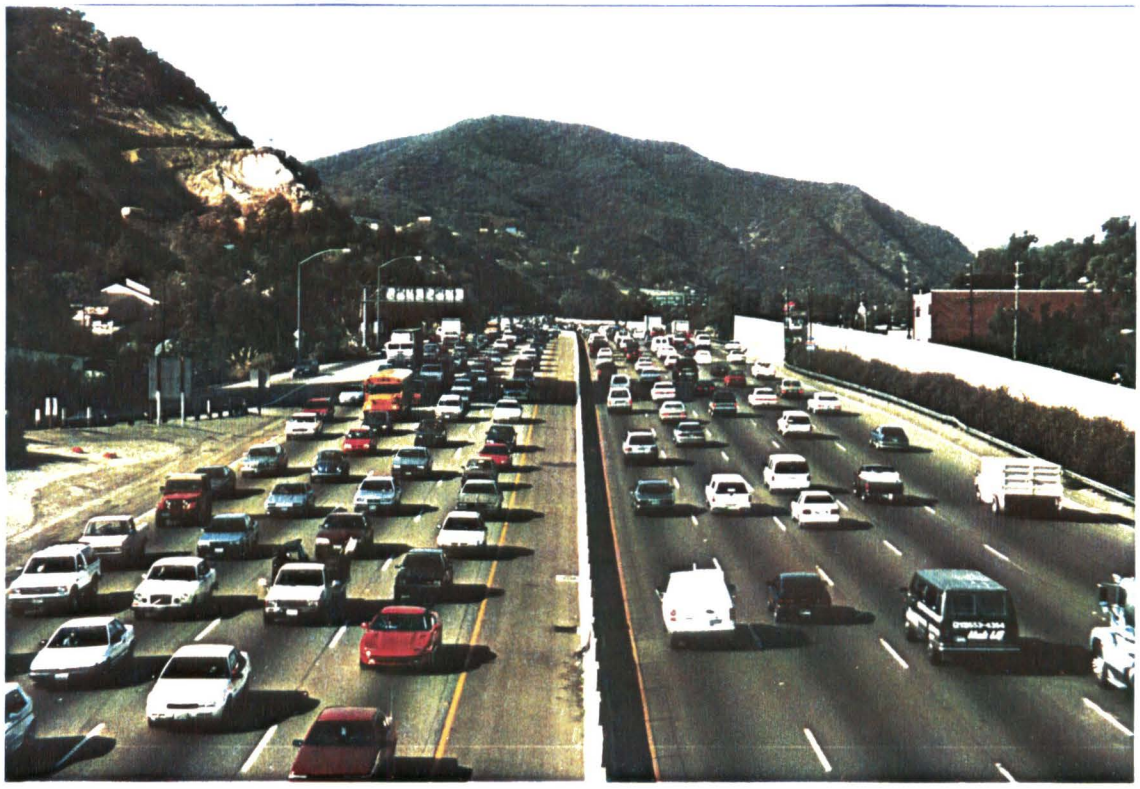
DESIGN	Gurlow 8-81	Ken 9-81	State of CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	W J Ziegler 8/81	Ken 9-81	STRUCTURES - DESIGN 11
QUANTITY	H Low 8/81	H Nagano 11-81	PROJECT ENGINEER 31866 REGISTERED CIVIL ENGINEER NO

BRIDGE NO. 53-695
POST MILE 34.6

SEPULVEDA BLVD UNDERCROSSING
JOINT SEAL DETAILS

FIGURE 5.6
WILSHIRE TO VENTURA (STATION 5 TO 6)

405 FREEWAY & SUNSET BLVD. - LOOKING NORTH FROM SUNSET OVERPASS



405 FREEWAY & SUNSET BLVD. - LOOKING SOUTH FROM SUNSET OVERPASS

FIGURE 5.7
WILSHIRE TO VENTURA (STATION 5 TO 6)
SEPULVEDA BLVD. & 405 FREEWAY - LOOKING WEST

FIGURE 5.8
WILSHIRE TO VENTURA (STATION 5 TO 6)

405 FWY & MULHOLLAND DR. - LOOKING NORTH FROM MULHOLLAND OVERPASS

405 FWY & MULHOLLAND DR. - LOOKING SOUTH FROM MULHOLLAND OVERPASS

VENTURA to VICTORY
(Station 6 to Station 7)

Segment Description

The route segment between Stations 6 and 7 begins at the Ventura Boulevard Station and ends at the Victory Boulevard Station. With the exception of the transition from the off-median Ventura Boulevard Station, the proposed aerial alignment would be located in the median of the I-405 freeway. This segment traverses the southern portion of the San Fernando Valley, an area built with a mix of low to high intensity residential and commercial uses. Within this area, the freeway is constructed entirely on an elevated embankment.

Within this segment, traffic is light to heavy. Traditional peak hour traffic patterns can be expected, with the p.m. peak beginning about 4:15 p.m. and extending past 7:00 p.m. An early morning sub-peak occurs beginning about 5:30 with a corresponding afternoon sub-peak period between about 2:45 and 3:30 p.m. primarily due to the influence of aerospace workers commuting to and from the Torrance/El Segundo area.

Freeway Description

The width of median and shoulders are constant (at 22-feet and eight feet respectively) within the segment. Table 6.1 lists pertinent freeway corridor information, such as the number of lanes, median and shoulder widths from station 946+00 to station 1025+00.

Freeway Signs

There are two major median mounted signs located along this segment. These include no single-pole signs and two span-mounted signs. The sign located on the right shoulder at station 958+00 will also be an obstacle to construction. The locations of each are indicated in Table 6.2.

Crossing Structures

There is one overpass structure (Burbank Avenue) and one underpass structure (L.A. River channel) crossing I-405 between Stations 946+00 and 1025+00. The location, Caltrans bridge number, width, and height of each are presented in Table 6.3.

Construction Detour Options

As shown in Figure 6.1, the existing median within this segment consists of a 22-foot strip with a concrete barrier. One possible scheme for obtaining additional median width is also presented in that Figure. This involves restriping to narrow the existing 12-foot lanes. A further increase can be obtained through a reduction in the width of the existing shoulder. It is anticipated that no additional off-freeway detour would be needed within this segment.

The lane closure policy for the I-405 in this segment is as follows:

Two-lane closures in each direction between 12:00 a.m. (midnight) and 5:00 a.m.;
One-lane closure in each direction between 7:00 p.m. and 12:00 a.m.;
No closures allowed between 5:00 a.m. and 7:00 p.m.; and
One- or two-lane closures in each direction allowed on weekends.

The lane closure policy for the US-101 in this segment is as follows:

Two-lane closures in each direction between 12:00 a.m. (midnight) and 5:00 a.m. (6:00 a.m. west of the I-405);
One-lane closure in each direction between 8:00 p.m. (7:00 p.m. west of the I-405) and 12:00 a.m.;
No closures allowed between 6:00 a.m. and 8:00 p.m. 5:00 a.m. and 7:00 p.m. west of the I-405); and
One- or two-lane closures in each direction allowed on weekends.

Table 6.1
Freeway Characteristics
Ventura to Victory (Station 6 to Station 7)

Station	Southbound		Median Width	Northbound	
	No of Lanes	Shoulder		No of Lanes	Shoulder
946+00-1025+00	4	8	22	4	8

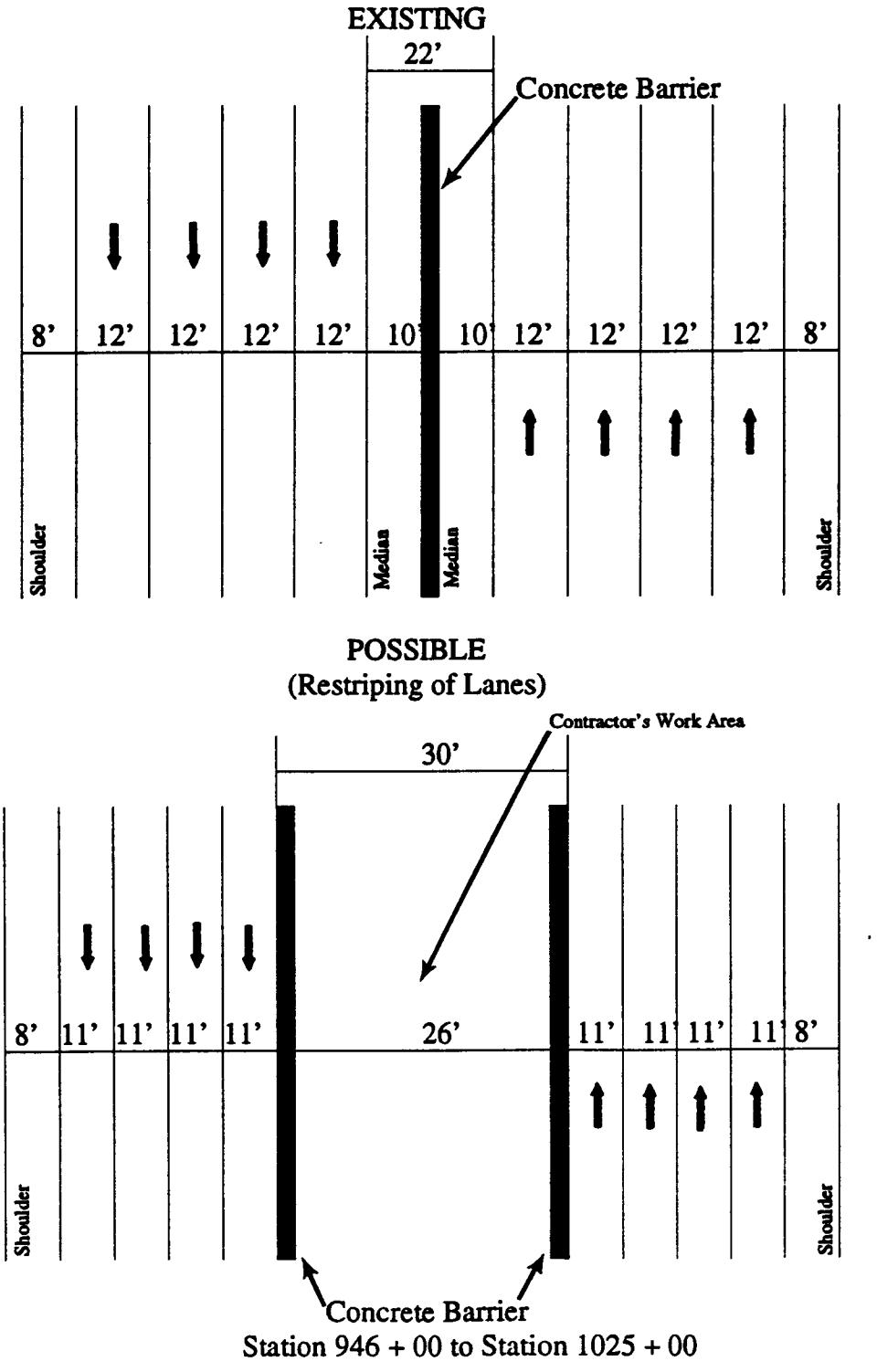
Table 6.2
Major Freeway Signs
Ventura to Victory (Station 6 to Station 7)

Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
958+00			1		
965+00				1	
9790++	1				
986+00			1		
999+75	1				
1017+50				1	
1018+00			1		

Table 6.3
Crossing Structures
Ventura to Victory (Station 6 to Station 7)

Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-1159	L.A. River Channel	956+25	u	70	90	-30
53-1291	Burbank	991+00	O	100		+17

FIGURE 6.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
WILSHIRE TO VENTURA (STATION 6 TO STATON 7)



Drawing not to scale

FIGURE 6.2
VENTURA TO VICTORY (STATION 6 TO 7)

405 FREEWAY & 101 FREEWAY - LOOKING NORTH

405 FREEWAY LOOKING SOUTH TOWARD 101 FREEWAY

FIGURE 6.3
VENTURA TO VICTORY (STATION 6 TO 7)
405 FREEWAY & BURBANK BLVD. - LOOKING NORTH

VICTORY to ROSCOE
(Station 7 to Station 8)

Segment Description

The route segment between Station 6 and Station 7 begins at the Victory Boulevard Station and ends at the Roscoe Boulevard Station. The proposed aerial alignment would be located entirely within the median of the freeway. This segment traverses the central portion of the San Fernando Valley, an area built with a mix of low to high intensity residential and commercial uses. Within this area, the freeway is constructed entirely on an elevated embankment.

Within this segment, traffic is light to heavy. Traditional peak hour traffic patterns can be expected, with the p.m. peak beginning about 4:15 p.m. and extending past 7:00 p.m. An early morning sub-peak occurs beginning about 5:30 with a corresponding afternoon sub-peak period between about 2:45 and 3:30 p.m. primarily due to the influence of aerospace workers commuting to and from the Torrance/El Segundo area.

Freeway Description

The width of median and shoulders do not vary within the segment. Table 7.1 lists pertinent freeway corridor information, such as the number of lanes and median and shoulder widths from station 1025+00 to station 1160+00.

Freeway Signs

There are four major median mounted signs located along this segment. These include no single-pole signs and four span-mounted signs. The locations of each are indicated in Table 7.2.

Crossing Structures

There are no overpass structures and four underpass structures crossing I-405 between Stations 7 and 8. The location, Caltrans bridge number, width, and height of each are presented in Table 7.3.

Construction Detour Options

As shown in Figure 7.1, the existing median within this segment consists of a 22-foot strip with a concrete barrier. One possible scheme for obtaining additional median width is also presented in each of that Figure. This involves restriping to narrow the existing 12-foot lanes, but no reduction in the width of the existing shoulder. Additional median width could be obtained by reducing the shoulder area. It is anticipated that no additional off-freeway detour would be needed within this segment.

The lane closure policy for this segment is as follows:

Two-lane closures in each direction between 12:00 a.m. (midnight) and 5:00 a.m.;
One-lane closure in each direction between 7:00 p.m. and 12:00 a.m.;
No closures allowed between 5:00 a.m. and 7:00 p.m.; and
One- or two-lane closures in each direction allowed on weekends.

Table 7.1
Freeway Characteristics
Victory to Roscoe (Station 7 to Station 8)

Station	Southbound		Median Width	Northbound	
	No of Lanes	Shoulder		No of Lanes	Shoulder
1025+00-1160+00	4	8	22	4	8

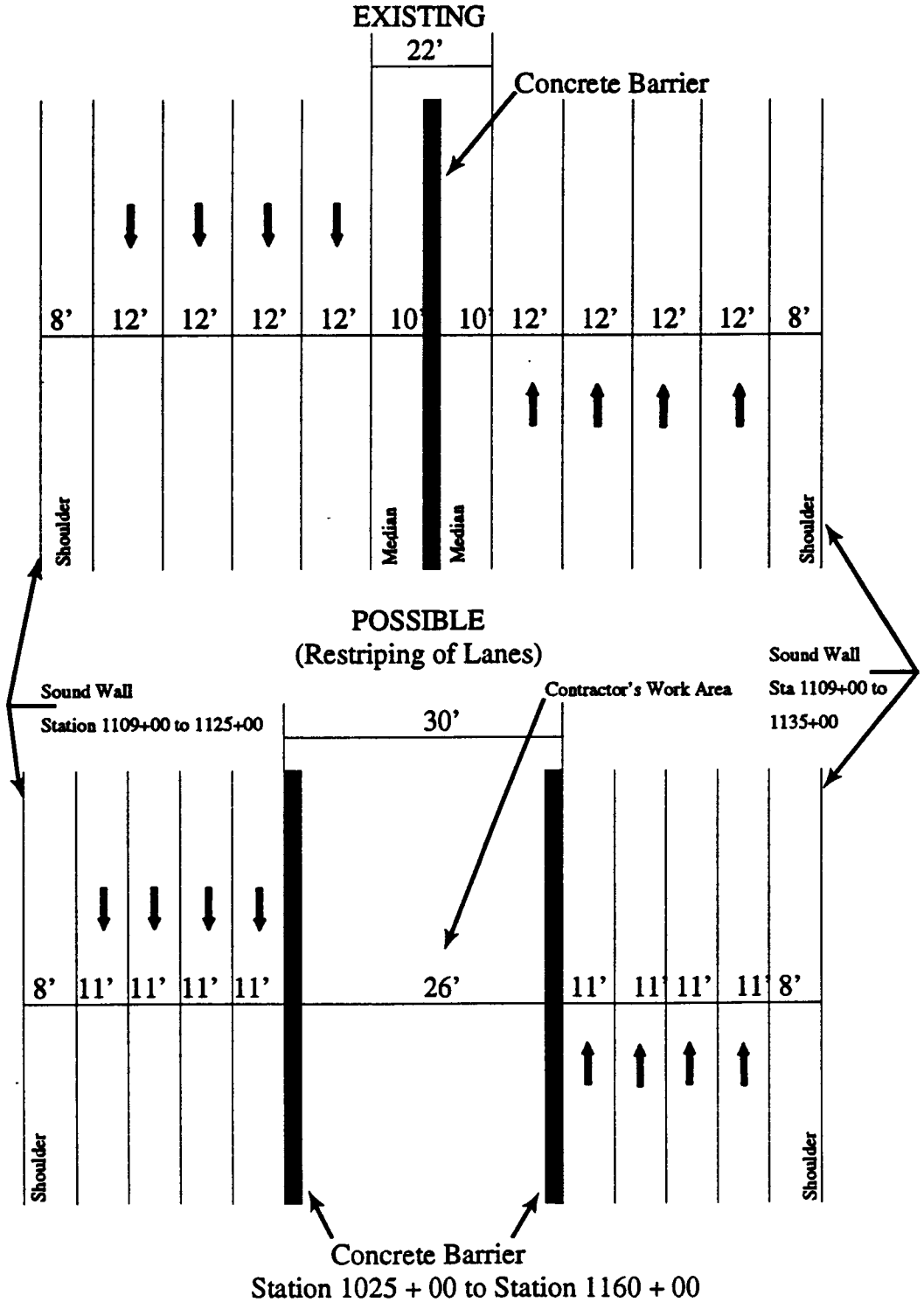
Table 7.2
Major Freeway Signs
Victory to Roscoe (Station 7 to Station 8)

Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
1044+50	1				
1049+75					1
1059+50				1	
1061+75			1		
1078+25	1				
1095+00			1		
1103+00					1
1111+025				1	
1133+00			1		
1133+50	1				

Table 7.3
Crossing Structures
Victory to Roscoe (Station 7 to Station 8)

Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-1449	Victory Blvd.	1048+00	U	150		-17
53-1408	Vanowen St.	1074+75	U	120		-17
53-1178	Sherman Way	1101+00	U	175		-17
53-1421	Saticoy	1128+00	U	140		-17

FIGURE 7.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
VICTORY TO ROSCOE (STATION 7 TO STATON 8)



Drawing not to scale

FIGURE 7.2
VICTORY TO ROSCOE (STATION 7 TO 8)

405 FWY & SHERMAN WAY BLVD. - LOOKING NORTH FROM SHERMAN WAY BLVD.

ROSCOE to CHATSWORTH
(Station 8 to Station 9)

Segment Description

The route segment between Stations 8 and 9 begins at the Roscoe Boulevard Station and ends at the Chatsworth Street Station. The proposed aerial alignment would be located in the median of the freeway except near the Chatsworth Street Station where it would cross to the west side of the right-of-way to access the Station.

This segment traverses the northern portion of the San Fernando Valley, an area built with a mix of low to medium intensity residential and commercial uses. Within this area, the freeway is constructed entirely on an elevated embankment.

Within this segment, traffic is light to heavy. Traditional peak hour traffic patterns can be expected, with the p.m. peak beginning about 4:15 p.m. and extending past 7:00 p.m. The sub-peak creating influence of the South Bay aerospace industry is felt here, but to a lesser extent.

Freeway Description

The width of median and shoulders do not vary within the segment. Table 8.1 lists pertinent freeway corridor information, such as the number of lanes, and median and shoulder widths from station 1160+00 to station 1334+50.

Freeway Signs

There are 11 major median mounted signs located along this segment. These include three single-pole signs and eight span-mounted signs. This sign located on the left shoulder at station 1313+75 may be an obstacle to construction. The locations of each are indicated in Table 8.2.

Crossing Structures

There are no overpass structures and eight underpass structures crossing I-405 between Stations 8 and 9. The location, Caltrans bridge number, width, and height of each are presented in Table 8.3.

Construction Detour Options

As shown in Figure 8.1, the existing median within this segment consists of a 22-foot strip with a concrete barrier. One possible scheme for obtaining additional median width is also presented in each of that Figure. This involves restriping to narrow the existing 12-foot lanes, but no reduction in the width of the existing shoulder. Additional median width could be obtained by reducing the shoulder area. It is anticipated that no additional off-freeway detour would be needed within this segment.

The lane closure policy for this segment is as follows:

Two-lane closures in each direction between 12:00 a.m. (midnight) and 5:00 a.m.;
One-lane closure in each direction between 7:00 p.m. and 12:00 a.m.;
No closures allowed between 5:00 a.m. and 7:00 p.m.; and
One- or two-lane closures in each direction allowed on weekends.

Table 8.1
Freeway Characteristics
Roscoe to Chatsworth (Station 8 to Station 9)

Station	Southbound		Median Width	Northbound	
	No of Lanes	Shoulder		No of Lanes	Shoulder
1160+00-1334+50	4	22	22	4	22

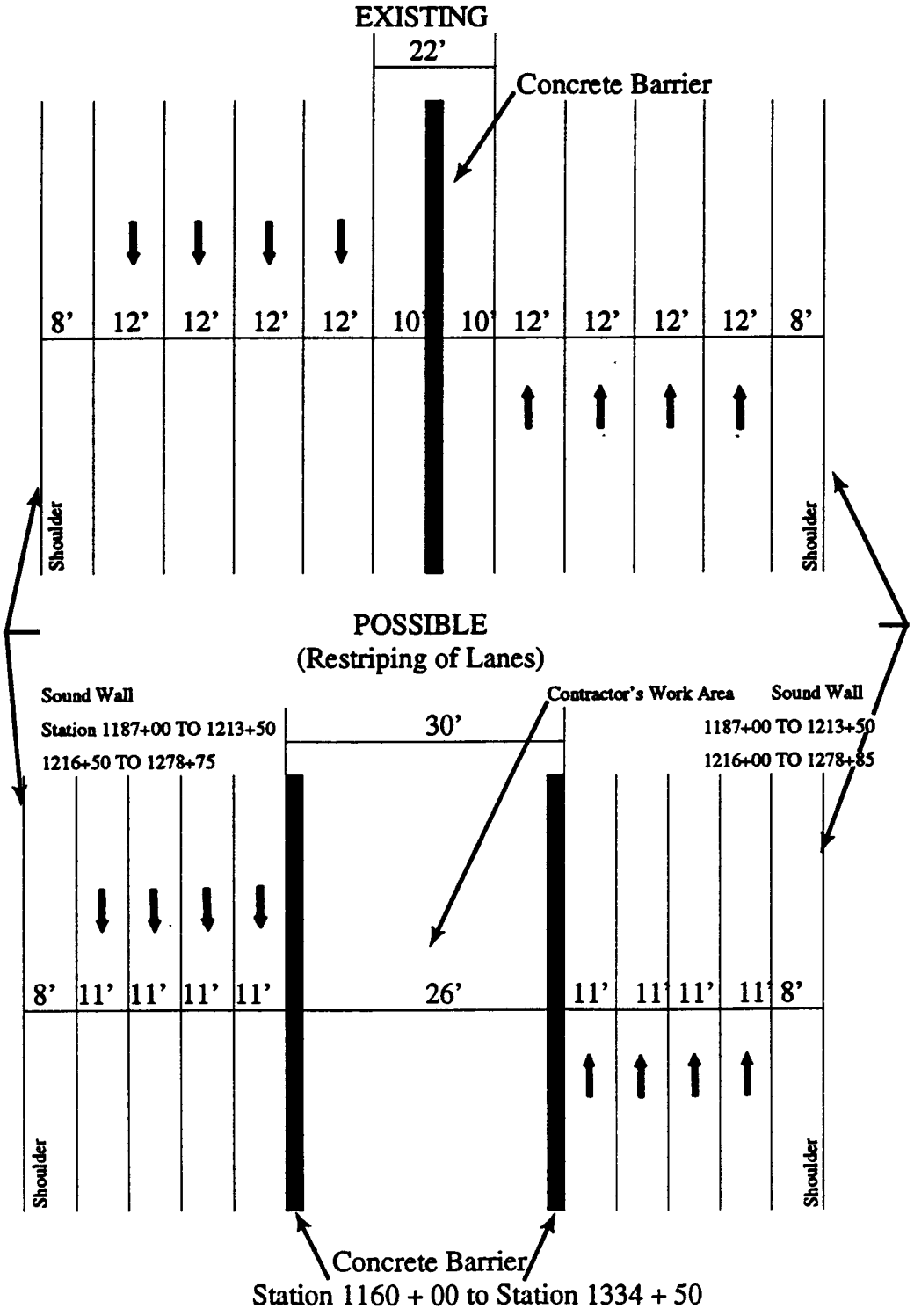
Table 8.2
Major Freeway Signs
Roscoe to Chatsworth (Station 8 to Station 9)

Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
1166+75					1
1185+00				1	
1201+50		1			
1202+75		1			
1219+00					1
1235+25				1	
1252+00					1
1266			1		
1278+75	1				
1294+00					1
1312+50					1
1313+75	1				
1327+50					1
1328+50		1			

Table 8.3
Crossing Structures
Roscoe to Chatsworth (Station 8 to Station 9)

Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-1409	Roscoe Blvd.	1175+00	U	100		-17
53-1339	Parthenia St.	1200+00	U	90		-17
53-1410	Nordoff St.	1226+50	U	75		-17
53-1496	Plummer St.	1252+50	U	100		-17
53-1498	Lassen St.	1276+50	U	100		-17
53-1500	Devonshire St.	1279+00	U	150		-17
53-1501	Simi Valley Fwy. (118)	1284+00	U	240		-17
53-1501	Chatsworth	1332+25	U	120		-17

FIGURE 8.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
ROSCOE TO CHATSWORTH (STATION 8 TO STATON 9)

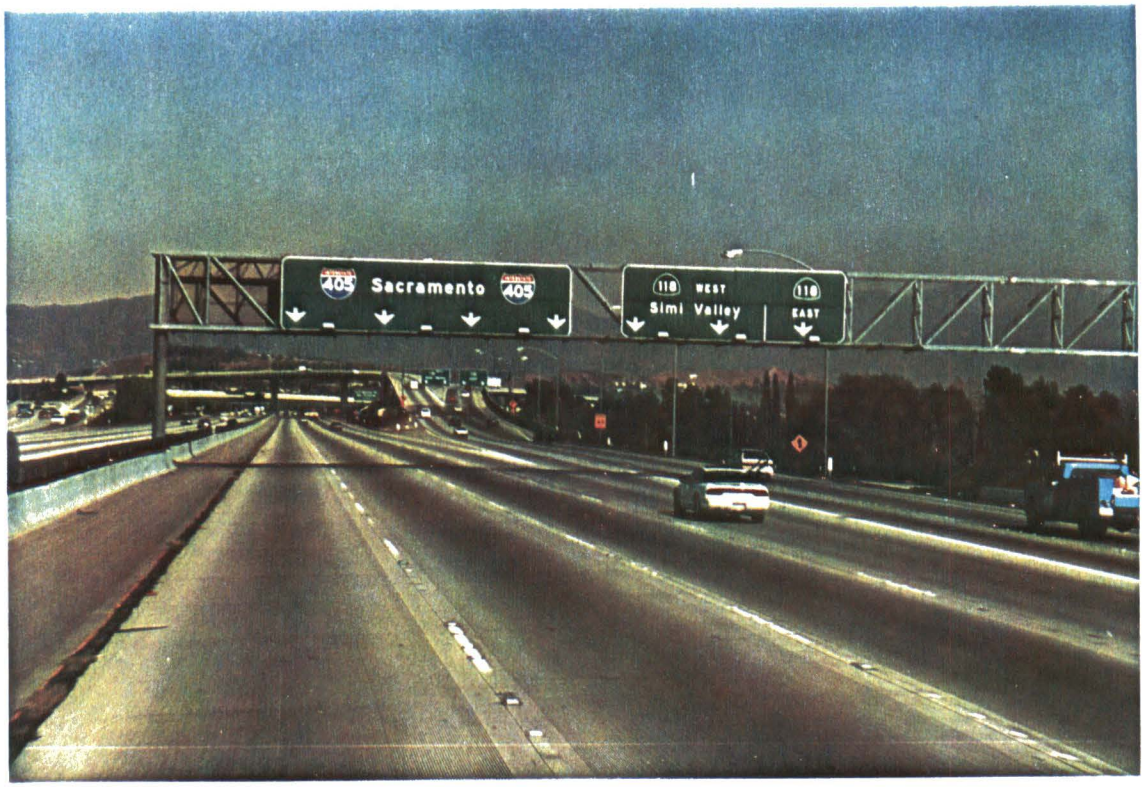


Drawing not to scale

FIGURE 8.2
ROSCOE TO CHATSWORTH (STATION 8 TO 9)

405 FREEWAY & ROSCOE BLVD. - LOOKING NORTH

405 FREEWAY & 118 FREEWAY - LOOKING NORTH TOWARD 118 FWY



CHATSWORTH to ROXFORD
(Station 9 to Station 10)

Segment Description

The route segment between Station 9 and 10 begins at the Chatsworth Street Station and ends at the Roxford Street Station on the I-5 (Golden State) Freeway. The proposed aerial alignment would leave the Chatsworth Station located west of the I-405 and south of the main travelway of the SR-118 (Simi Valley) Freeway, traverse the west side of that interchange, and return to the I-405 median. At approximately station 1410+00, the route recrosses to the west side of the right-of-way to bypass the I-405/I-5 Freeway interchange and access the Sylmar Maintenance Yard. Within the Yard area and approaches, the proposed route is at grade. North of the Sylmar Yard, the route remains west of the freeway and becomes aerial approaching the Roxford Station.

This segment traverses the northern portion of the San Fernando Valley and the Mission Hills, an area built primarily with low to medium intensity residential uses. Within this area, the freeway is constructed either on an elevated embankment or within the cut through the Mission Hills.

Within this segment, traffic is light to medium. Traditional peak hour traffic patterns can be expected, with the p.m. peak beginning about 4:15 p.m. and extending past 7:00 p.m. A diminished sub-peak creating influence from the South Bay aerospace industry is felt here.

Freeway Description

The width of median and shoulders do not vary within the segment, but the number of travel lanes reduces to three north of station 1450+00. Table 9.1 lists pertinent freeway corridor information, such as the number of lanes, and median and shoulder widths from station 1334+50 to station 1482+00.

Freeway Signs

There are four major median mounted signs located along this segment. These include two single-pole signs and two span-mounted signs. There are no major signs on the left shoulder which would interfere with the proposed transitway. The locations of each are indicated in Table 9.2.

Crossing Structures

There are two overpass structures and two underpass structures crossing I-405 between Stations 9 and 10. The interchange of the I-405 and SR-118 is a long span structure, however the route passes to the west

of this bridge and no related construction problems are anticipated. The location, Caltrans bridge number, width, and height of each are presented in Table 9.3.

Construction Detour Options

As shown in Figures 9.1 and 9.2, the existing median within this segment consists of a 22-foot strip with a concrete barrier. One possible scheme for obtaining additional median width is also presented in each of those figures. In each case, this involves restriping to narrow the existing 12-foot lanes and a reduction in the width of the existing shoulder. It is anticipated that no additional off-freeway detour would be needed within this segment.

The lane closure policy for both the I-405 in this segment is as follows:

Two-lane closures in each direction between 12:00 a.m. (midnight) and 5:00 a.m.;
One-lane closure in each direction between 7:00 p.m. and 12:00 a.m.;
No closures allowed between 5:00 a.m. and 7:00 p.m.; and
One- or two-lane closures in each direction allowed on weekends.

Table 9.1
Freeway Characteristics
Chatsworth to Roxford (Station 9 to Station 10)

Station	Southbound		Median Width	Northbound	
	No of Lanes	Shoulder		No of Lanes	Shoulder
1334+50-1450+00	3	13	22	3	13
1450+00-1482+00	4	13	22	4	13

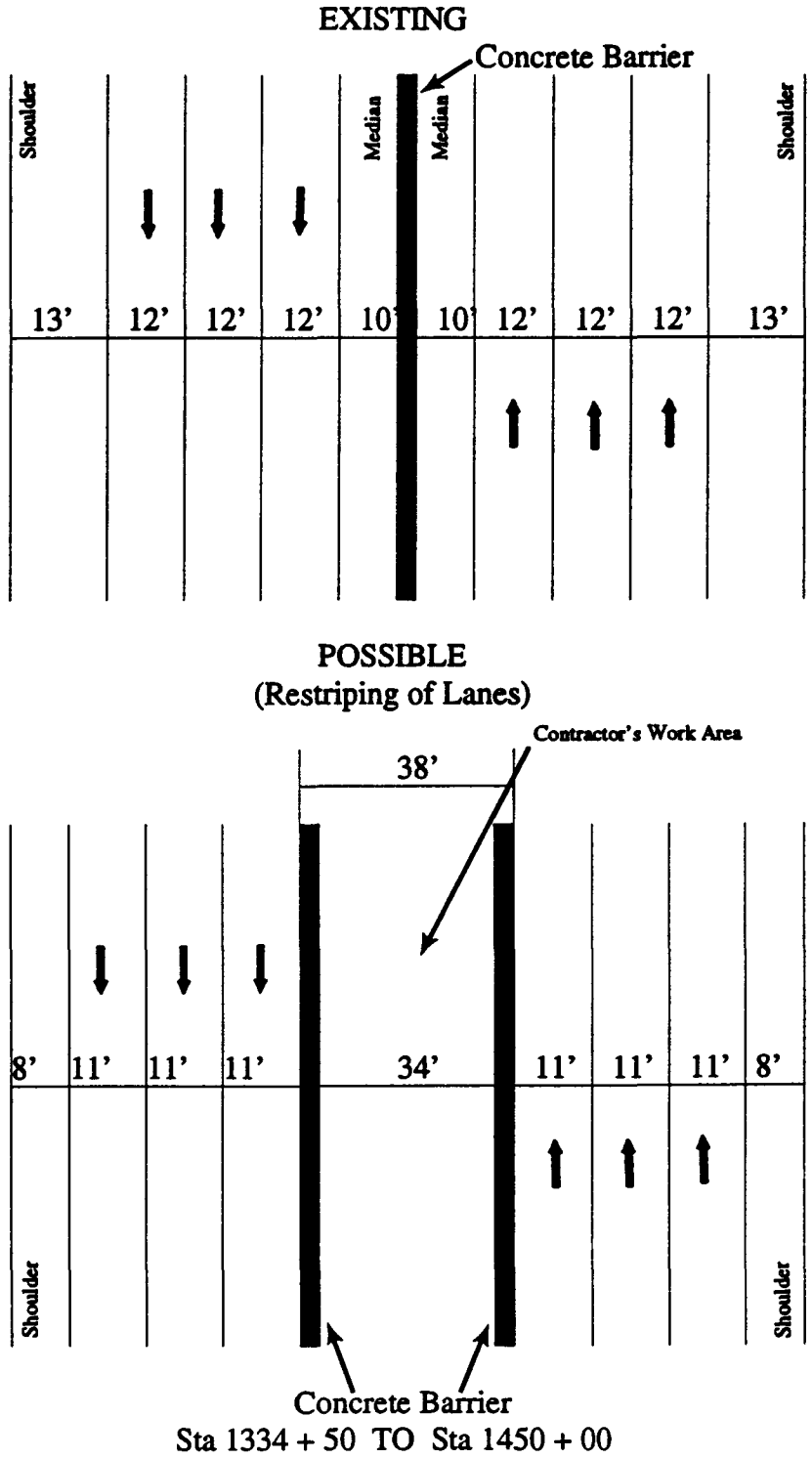
Table 9.2
Major Freeway Signs
Chatsworth to Roxford (Station 9 to Station 10)

Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
1340+00		1			
1344+00				1	
1354+00			1		
1358+00				1	
1365+00			1		
1379+00			1		
1384+50	1				
1394+50	1				
1419+50		1			

Table 9.3
Crossing Structures
Chatsworth to Roxford (Station 9 to Station 10)

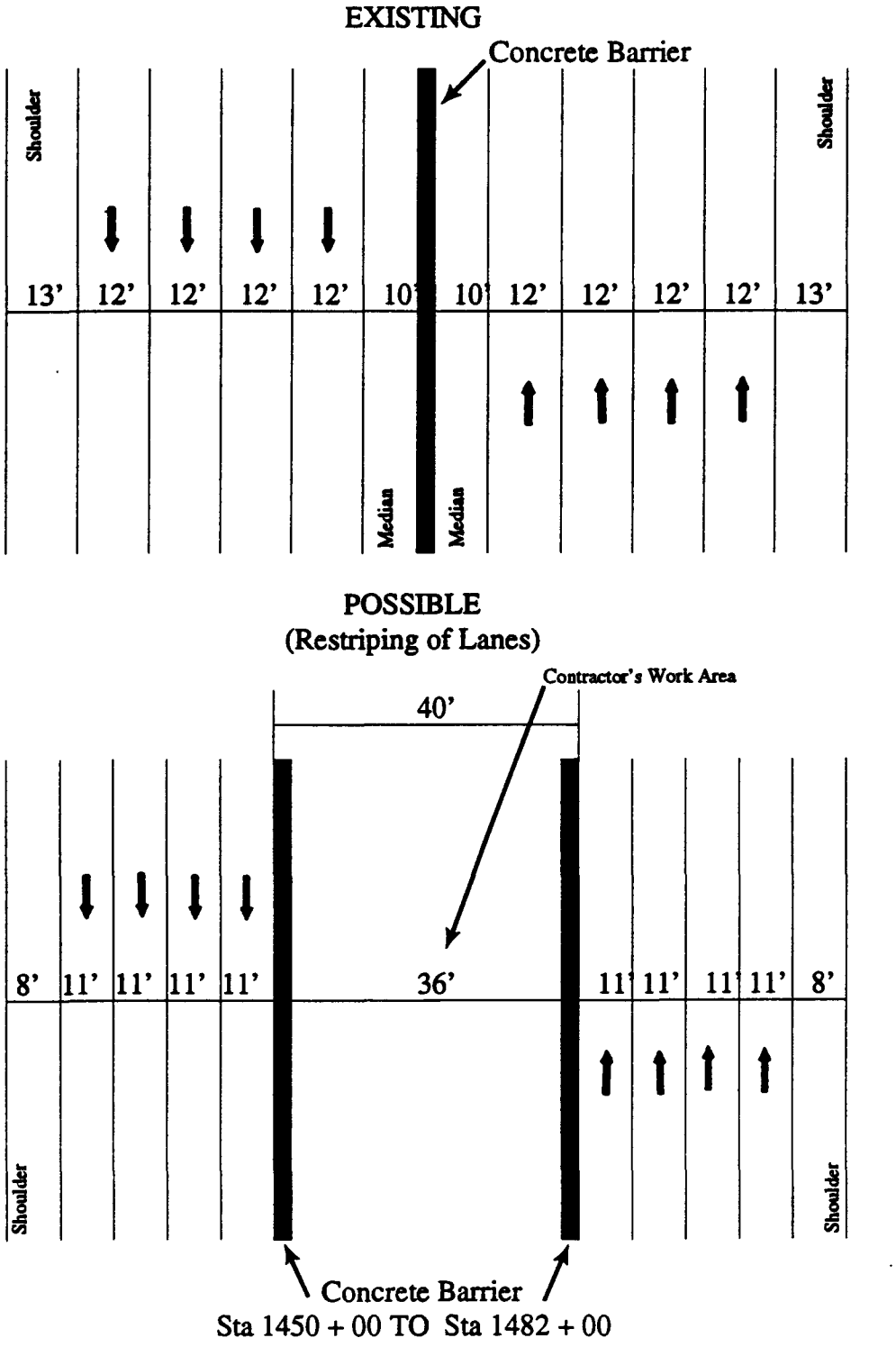
Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-1506	Mission Blvd.	1358+10	U	100		-17
53-1507	Rinaldi St.	1358+00	U	100	110	-17
53-1133	I-5 to I-405 Ramp	1430+50	O	40		+17
53-1989	I-5/210 Fwy Ramp	1430+50	O	40		+17

FIGURE 9.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
CHATSWORTH TO ROXFORD (STATION 9 TO 10)



Drawing not to scale

FIGURE 9.2
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
CHATSWORTH TO ROXFORD (STATION 9 TO 10)



Drawing not to scale

FIGURE 9.3
CHATSWORTH TO ROXFORD (STATION 9 TO 10)

5 FREEWAY & 405 FREEWAY - LOOKING SOUTH FROM SOUTHBOUND TRUCK RAMPS

ROXFORD to SAN FERNANDO
(Station 10 to Station 11)

Segment Description

The route segment between Station 10 and Station 11 begins at the Roxford Street Station and ends at the San Fernando Road Station on State Route 14 (SR-14, the Antelope Valley Freeway). This portion of the route leaves the urbanized San Fernando Valley and enters the western portion of the San Gabriel Mountains, a rugged area of complex geology (see Task 3 report). The western San Gabriel's are primarily unbuilt, but contain scattered residences, oil production, and some industrial uses along established roadways. The San Fernando Road Station is located on the eastern border of the city of Santa Clarita, a low to moderate density bedroom community.

The proposed aerial alignment would be leave the Roxford Station on the west side of the I-405, remain west past the I-405/I-210 interchange, then traverse to the median of the main travelway where it would remain until crossing east to bypass the I-5/SR-14 interchange. From approximately station 1610+00 to station 1670+00, the aerial route ascends a 4.0% to 6.0% grade, remaining east of the SR-14 main travelway and regaining the median at approximately station 1670+00. The route remains aerial to the San Fernando Station.

Within this segment, traffic volume is moderate to heavy, with the heaviest use occurring on the I-5 Freeway portion. Traditional peak hour traffic patterns can be expected, with the p.m. peak beginning about 4:15 p.m. and extending past 7:00 p.m. While the "aerospace sub-peak" influence is felt here because of heavy commuting from the Antelope Valley area, overall light traffic levels at these otherwise off-peak times generally mean that traffic is free flowing in these sub-peak periods.

Freeway Description

Within this segment, the route utilizes three different freeways and bypasses three major freeway interchanges. Thus, construction conditions are highly varied and complex. However, the width of the *median and shoulders* does not vary within the segment. Throughout this segment, a 22-foot median with a concrete barrier is present. At some locations, it may be desirable to reduce the median width to a minimum to obtain additional construction area along one or both shoulders. Table 10.1 lists pertinent freeway corridor information, such as the number of lanes, and median and shoulder widths from station 1428+00 to station 1715+00.

Freeway Signs

There are ten major median mounted signs located along this segment. These include one single-pole sign (at station 1502+90, where the route is west of the right-of-way) and nine span-mounted signs. The single major sign located on the shoulder within this segment occurs at station 1709+50, where the route will be in the median. The locations of each are indicated in Table 10.2.

Crossing Structures

There is one overpass structure and seven underpass structures crossing the freeways between Stations 10 and 11. Particular attention should be given to the Sierra Highway bridge (see Figure 10.3). The width of this bridge could present aerial column construction problems that may interfere with the existing freeway. Exhibit 10.3 is Caltrans structural design plans for the Sierra Highway undercrossing structure. The location, Caltrans bridge number, width, and height of each are presented in Table 10.3.

Construction Detour Options

As shown in Figures 10.1 and 10.2, the existing median within this segment consists of a 22-foot strip with a concrete barrier. One possible scheme for obtaining additional median width is also presented in each of those figures. In each case, this involves restriping to narrow the existing 12-foot lanes and a reduction in the width of the existing shoulder. As discussed above, it would also be possible to decrease the median dimension to obtain additional construction area on one or both freeway shoulders.

The lane closure policy for both the I-405 and I-5 in this segment is as follows:

Two-lane closures in each direction between 12:00 a.m. (midnight) and 5:00 a.m.;
One-lane closure in each direction between 7:00 p.m. and 12:00 a.m.;
No closures allowed between 5:00 a.m. and 7:00 p.m.; and
One- or two-lane closures in each direction allowed on weekends.

The lane closure policy for the SR-14 states that "night work is preferred; one lane closure may be allowed in each direction during peak hours."

Table 10.1
Freeway Characteristics
Roxford to San Fernando (Station 10 to Station 11)

Station	Southbound		Median Width	Northbound	
	No of Lanes	Shoulder		No of Lanes	Shoulder
1482+00 - 1620+00	4	13	22	4	13
1620+00 - 1650+00	3	13	22	3	13
1650+00 - 1715+00	5	13	22	5	13

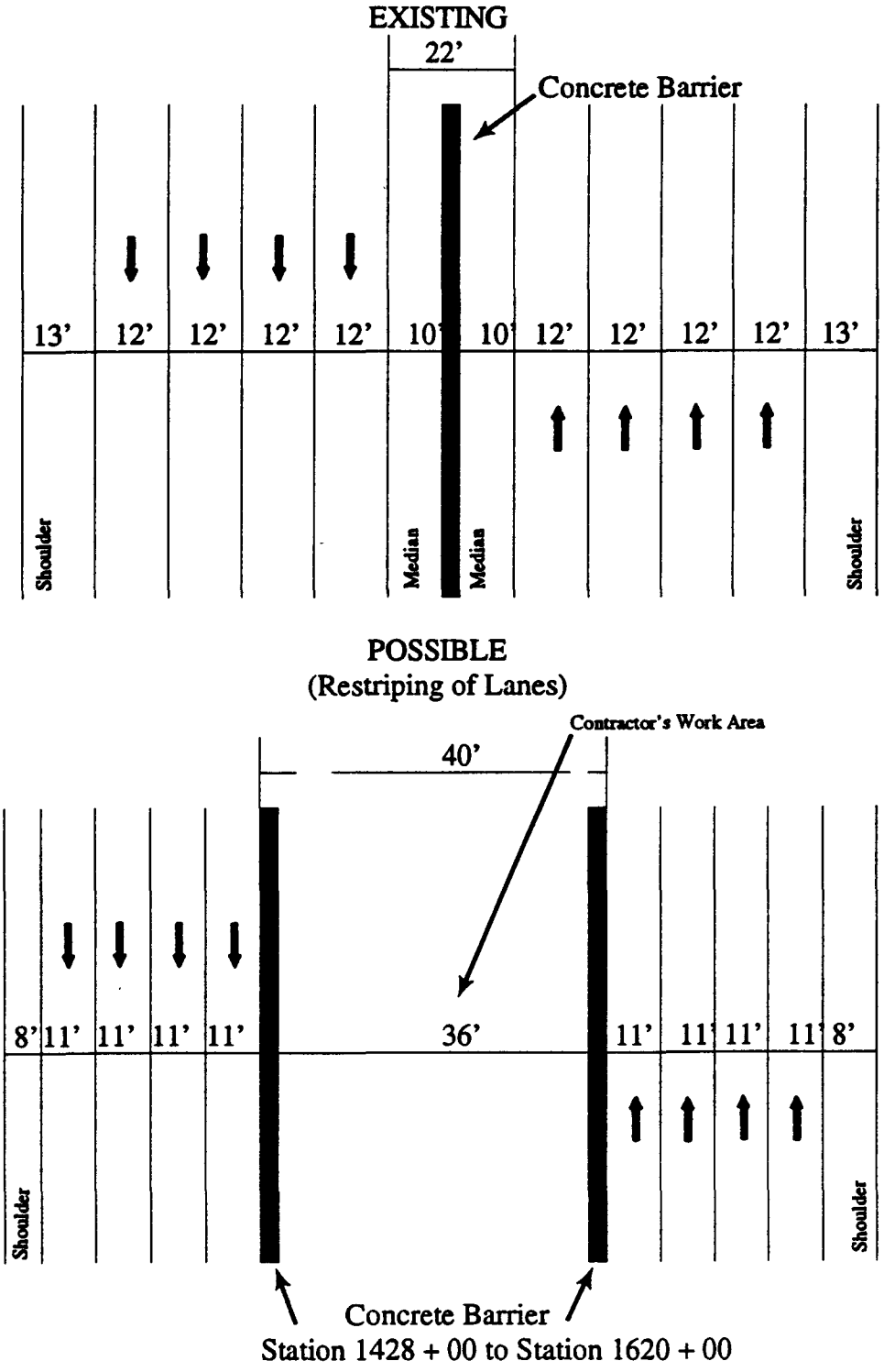
Table 10.2
Major Freeway Signs
Roxford to San Fernando (Station 10 to Station 11)

Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
1483+90					1
1492+90				1	
1502+90		1			
1529+40					1
1575+00				1	
1590+00					1
1611+00				1	
1616+00					1
1647+00				1	
1702+50					1
1709+50			1		

Table 10.3
Crossing Structures
Roxford to San Fernando (Station 10 to Station 11)

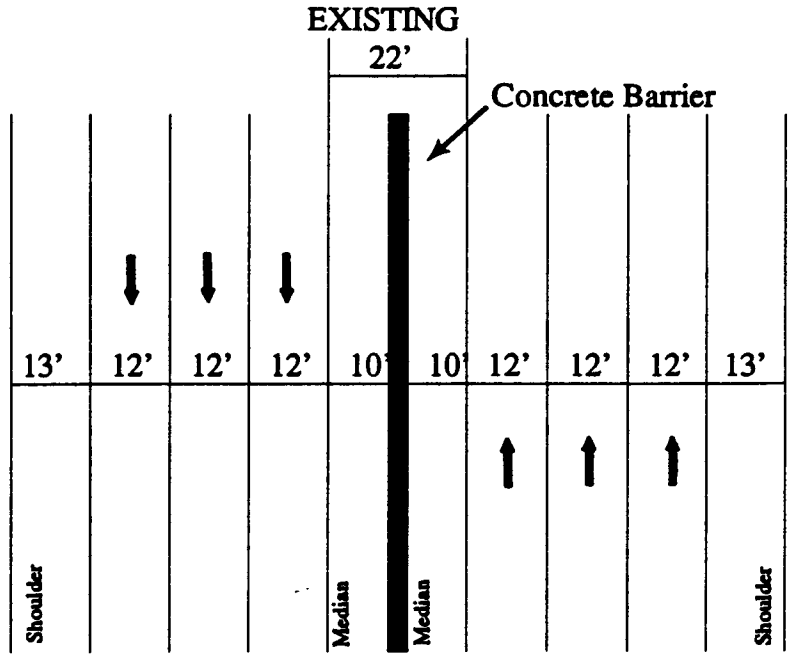
Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-1115	Roxford St.	1485+50	U	100		-17
53-1986	Balboa Blvd.	1566+50	O	50		+25
53-1936-	Ramp P	1633+00	U	40		-50
53-848	Sierra Hwy.	1643+50	U	200		
53-2096	Los Pinetos Rd.	1691+00	U	60		
53-1936-	Ramp D	1630+00	U	40		-50
53-1936-G	Ramp B	1638+00	U	40		-45
53-1936-G	Ramp N	1638+10	U	40		-35

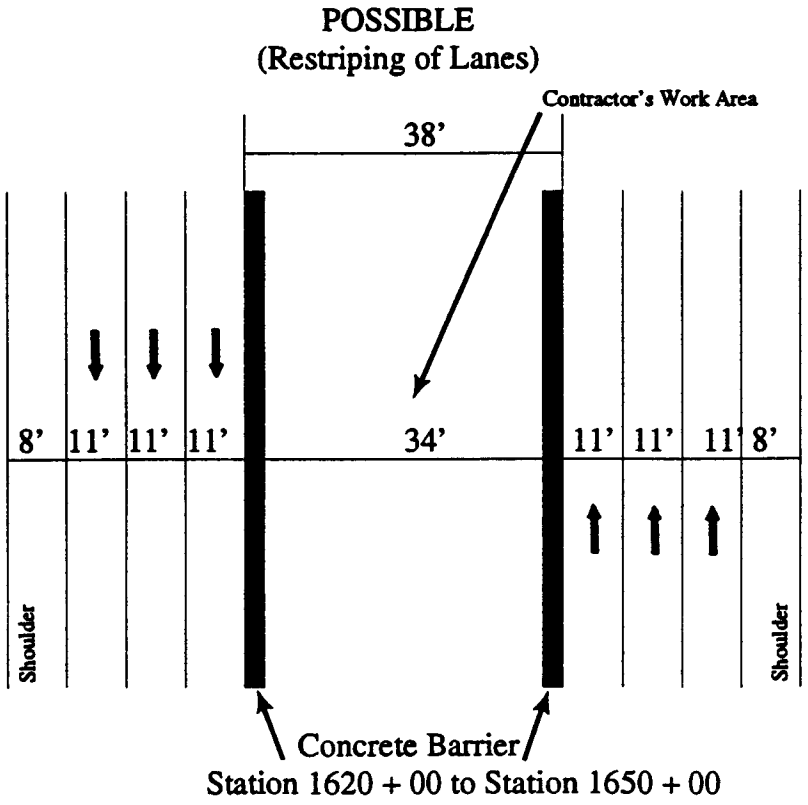
FIGURE 10.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
ROXFORD TO SAN FERNANDO (STATION 10 TO 11)



Drawing not to scale

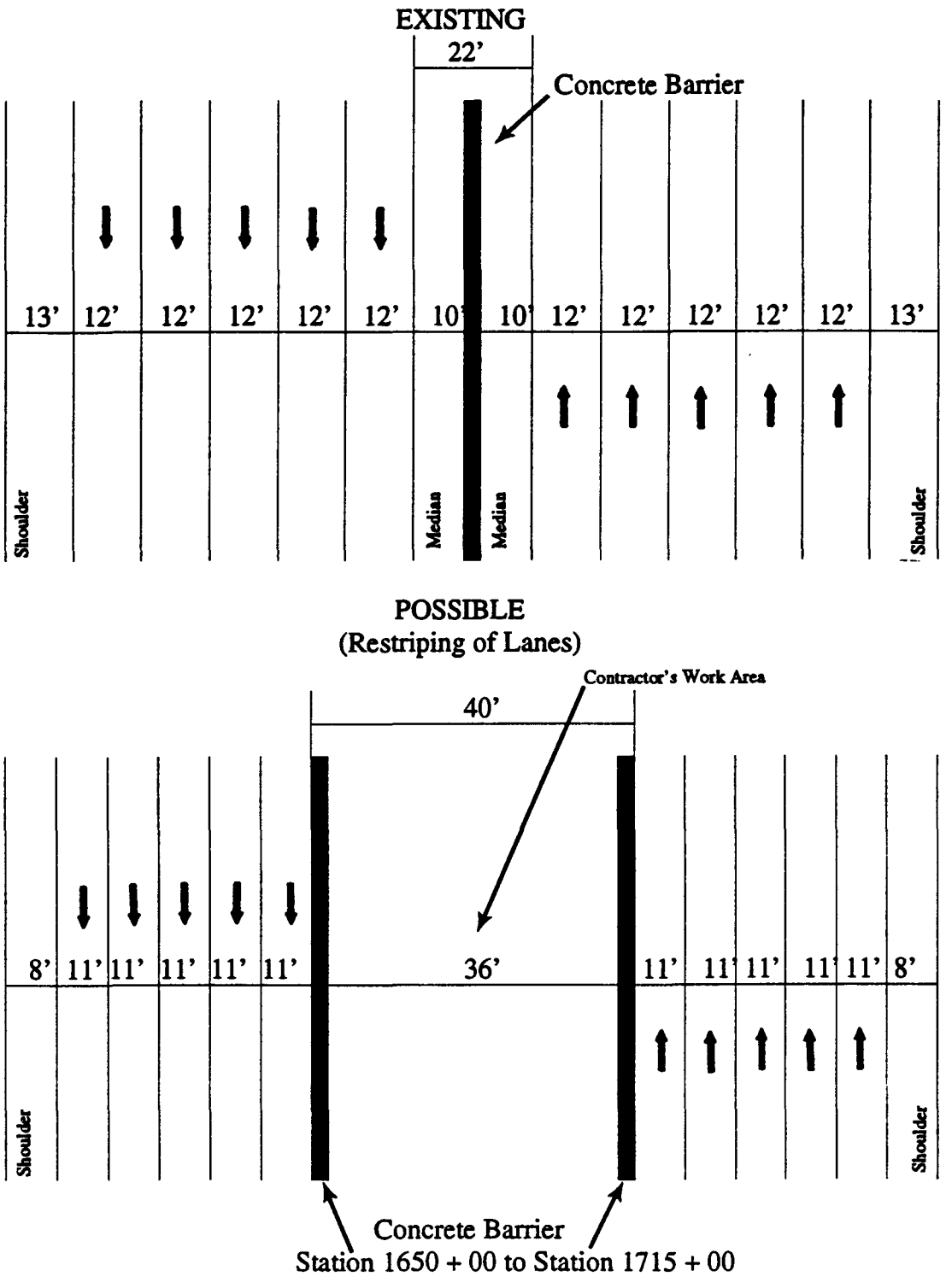
FIGURE 10.2
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
ROXFORD TO SAN FERNANDO (STATION 10 TO 11)





Drawing not to scale

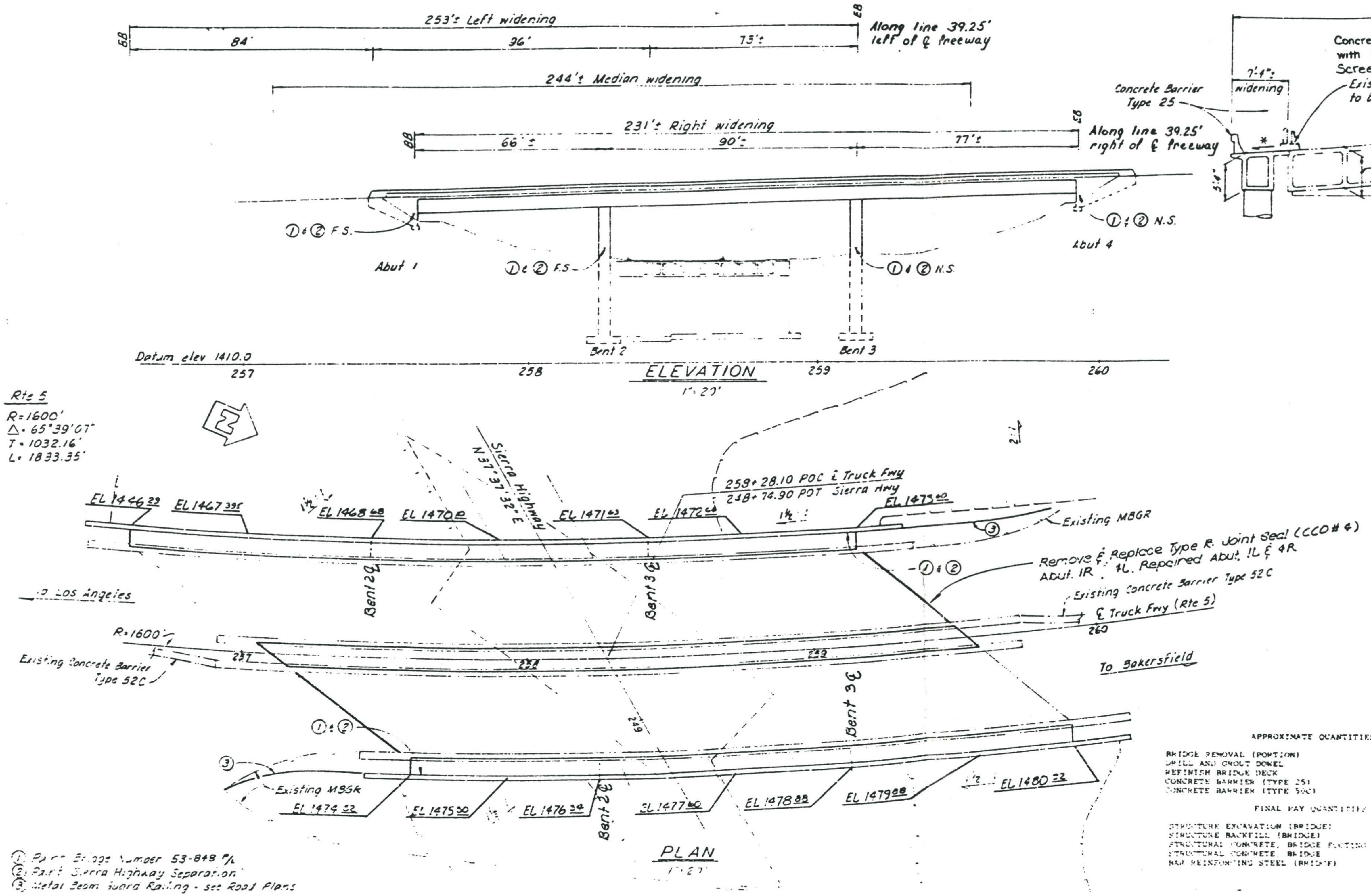
FIGURE 10.3
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
ROXFORD TO SAN FERNANDO (STATION 10 TO 11)

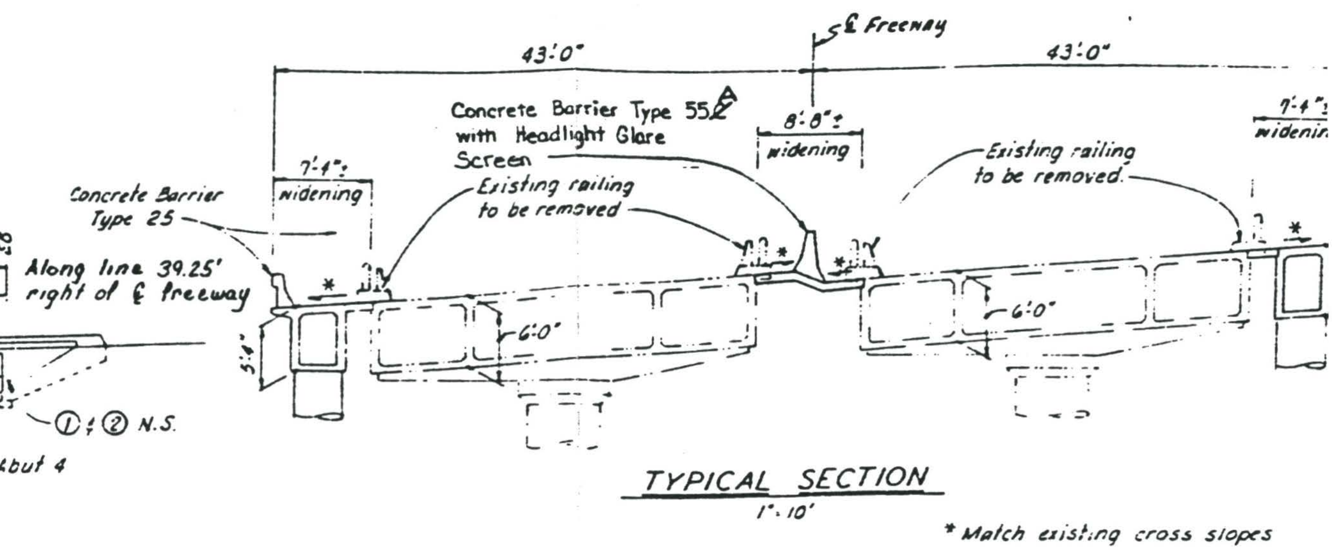


Drawing not to scale

07	LA	5S	C45.5

R.C. Cassano — Chief, Office of Structures Design
Date approved October 17, 1983





INDEX TO PLANS

STANDARD PLANS DATED JANUARY 1981

A62-C	Excavation and backfill (bridge)
B0-1	Bridge details
B0-5	Bridge details
B7-1	Box girder details
B0-3	Bridge details
A75-A	Concrete Barrier (type 50)

Standard Plan Sheet No.
Detail No.

APPROXIMATE QUANTITIES

BRIDGE REMOVAL (PORTION)	LUMP SUM
DRILL AND GROUT DOWEL	433 LF
REFINISH BRIDGE DECK	1,860 SQFT
CONCRETE BARRIER (TYPE 25)	551 LF
CONCRETE BARRIER (TYPE 50C)	244 LF

FINAL PAY QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	[illegible] CY
STRUCTURE BACKFILL (BRIDGE)	950 CY
STRUCTURAL CONCRETE, BRIDGE FOOTING	175 CY
STRUCTURAL CONCRETE, BRIDGE	425 CY
BAR REINFORCING STEEL (BRIDGE)	153,000 LB

NOTE
THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Sierra Hwy Bridge No. 53-848 S

AS BUILT
CORRECTIONS BY
CONTRACT NO.
DATE

Figure 10-4

DESIGN	Stancik	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
DETAILS	A. Sanjo 5-83	LAYOUT	Stancik
QUANTITIES	B. Newton 8/83	SPECIFICATIONS	

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

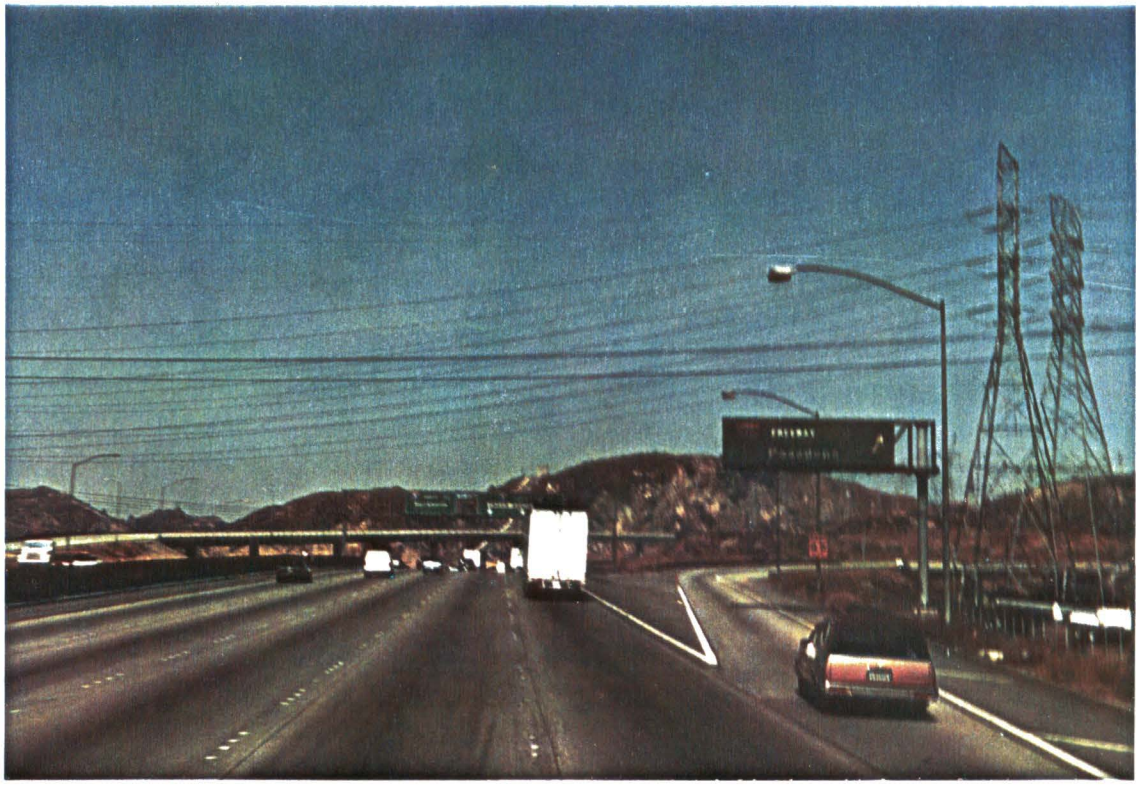
STRUCTURES - DESIGN 2
A.C. Stancik 19919

BRIDGE NO 53-848 R/L
POST MILE 45.49

SIERRA HIGHWAY SEPARATION (WIDENING)
GENERAL PLAN

FIGURE 10.5
ROXFORD TO SAN FERNANDO (STATION 10 TO 11)

5 FREEWAY & 210 FREEWAY - LOOKING NORTH



5 FREEWAY & 210 FREEWAY - LOOKING SOUTH

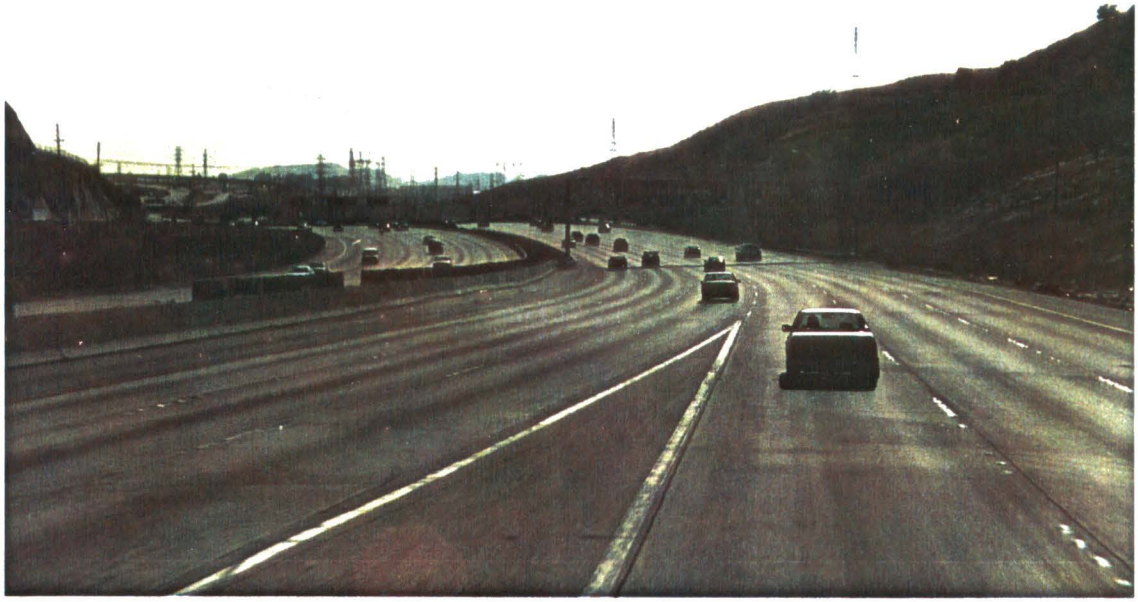
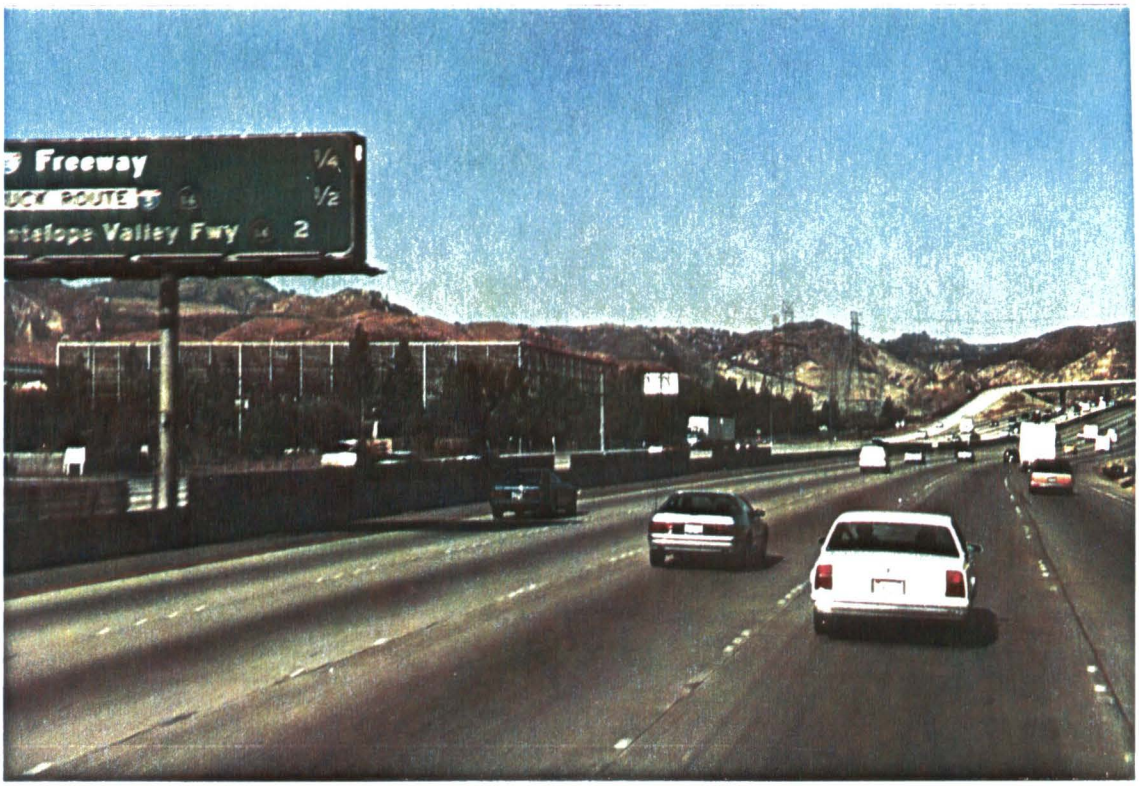


FIGURE 10.6
ROXFORD TO SAN FERNANDO (STATION 10 TO 11)

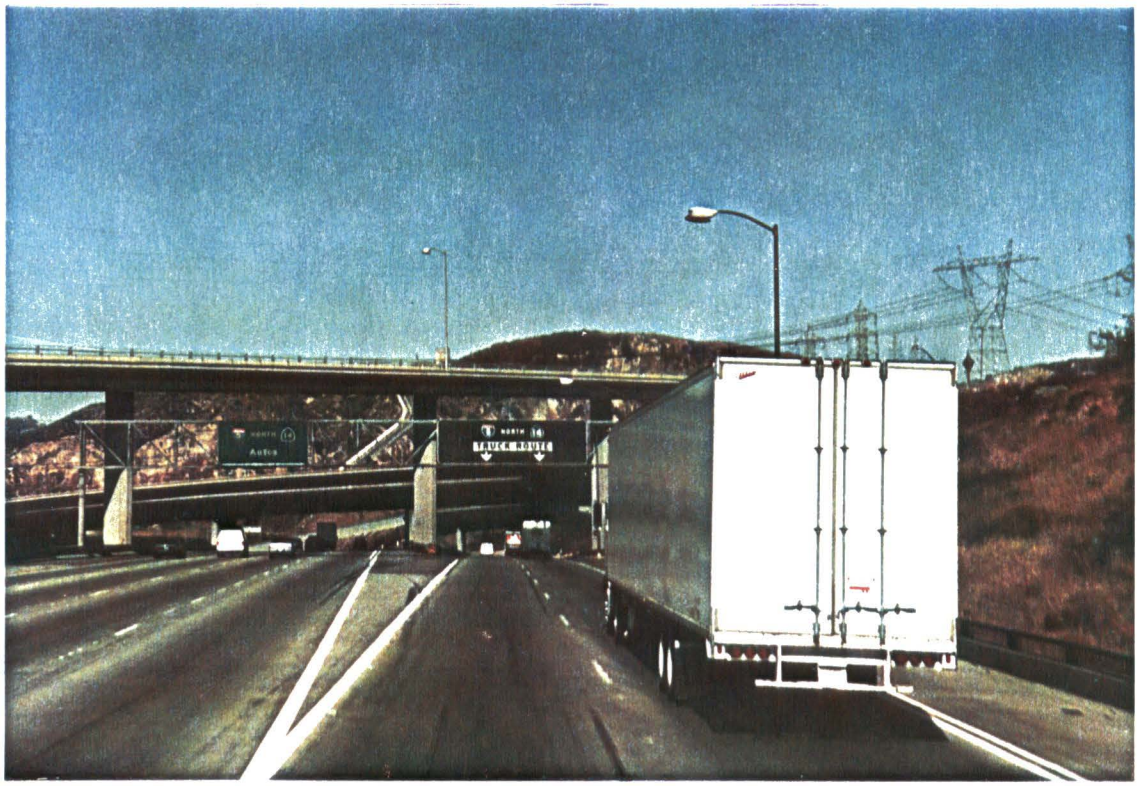
5 FREEWAY & 210 FREEWAY - LOOKING NORTH TOWARD 210 FREEWAY



5 FREEWAY & BALBOA BRIDGE - LOOKING NORTHWEST

FIGURE 10.7
ROXFORD TO SAN FERNANDO (STATION 10 TO 11)

5 FREEWAY & 14 FREEWAY - LOOKING NORTHWEST



5 FREEWAY & 14 FREEWAY INTERCHANGE - LOOKING NORTHWEST

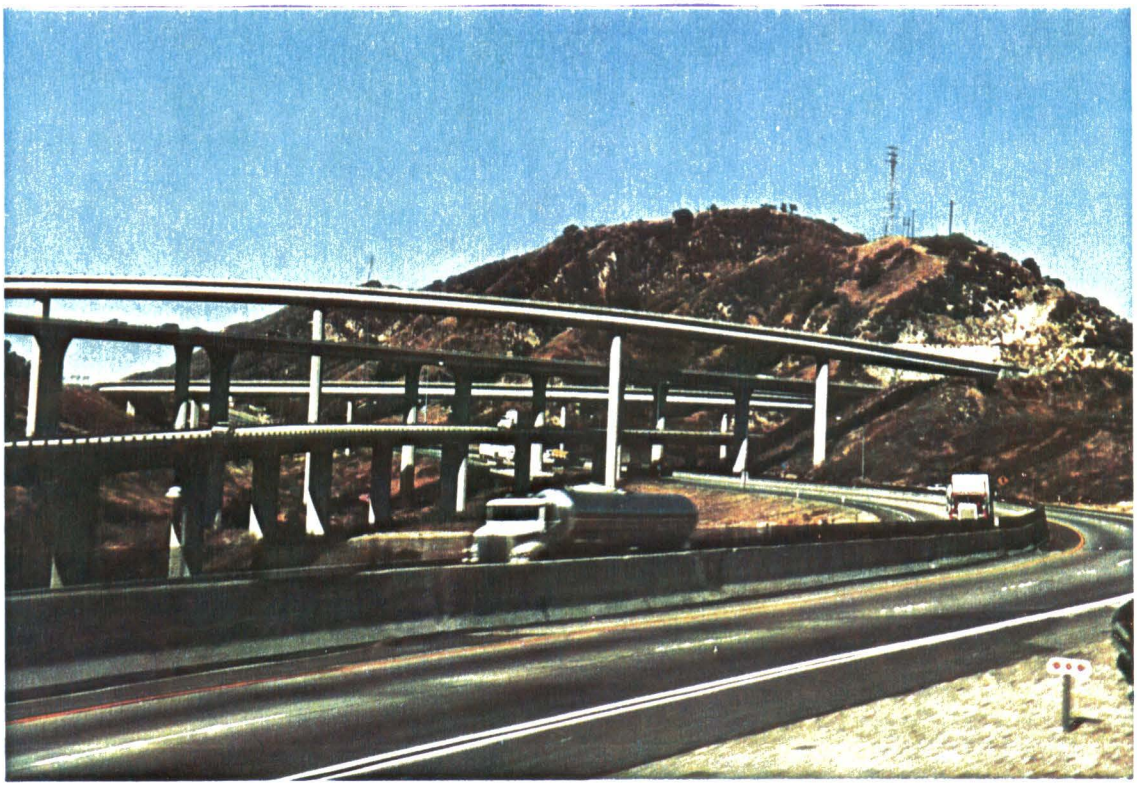
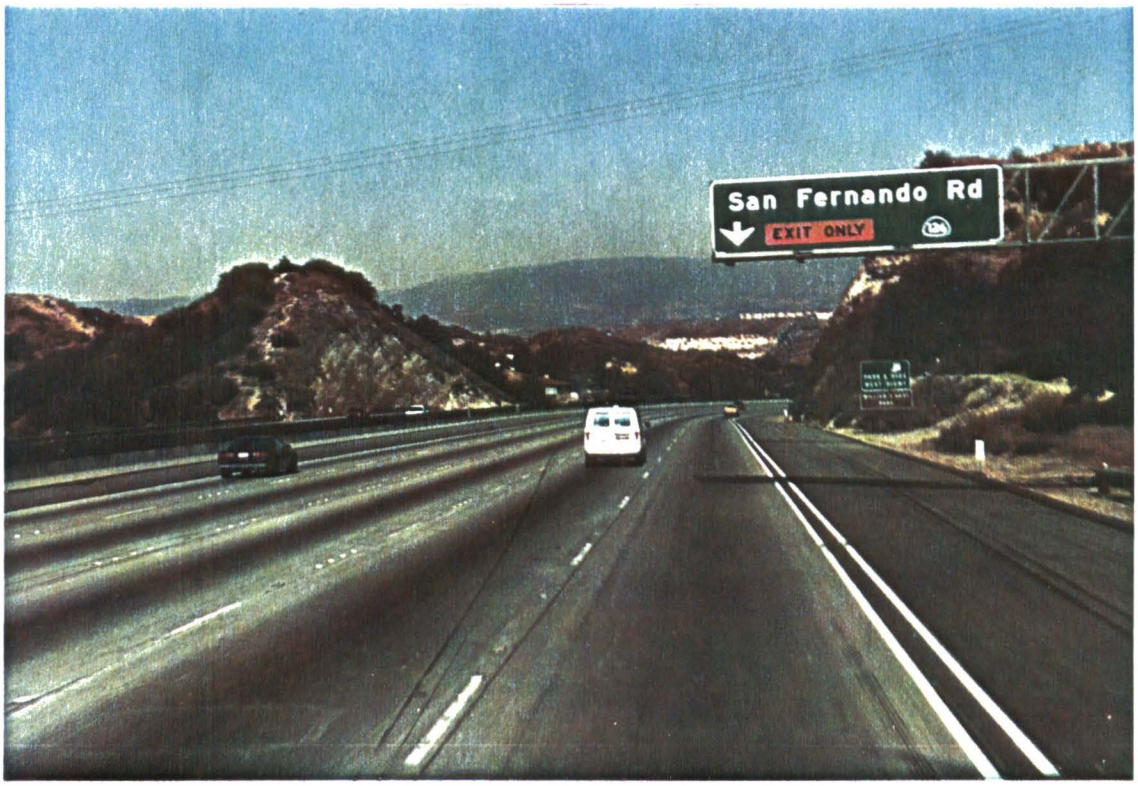


FIGURE 10.8
ROXFORD TO SAN FERNANDO (STATION 10 TO 11)

5 FWY & 14 FWY INTERCHANGE - LOOKING SOUTH ON 14 FWY

5 FWY & 14 FWY INTERCHANGE - LOOKING SOUTH ON 5 FWY

FIGURE 10.9
ROXFORD TO SAN FERNANDO (STATION 10 TO 11)
14 FREEWAY & SAN FERNANDO ROAD - LOOKING NORTH



SAN FERNANDO to HOLT
(Station 11 to Station 12)

Segment Description

The route segment between Stations 11 and 12 begins at the San Fernando Road Station and ends at the Holt Canyon Road Station. The proposed alignment would descend from the aerial San Fernando Station and be located at grade in the median of the freeway. While the right-of-way and median are wide compared to the more southerly portions of the route, the fact that this segment traverses hilly terrain and there are few paralleling roadways indicates that few off-freeway detour options are available.

Within this segment, traffic is light to moderate. Peak hours occur earlier here due to early start times for many Antelope Valley workers. However, the p.m. peak "hour" period generally extends from 4:00 p.m. to after 7:00 p.m.

Freeway Description

The width of median and both shoulders is constant (at 60 feet and 13 feet, respectively) within the segment. Table 11.1 lists pertinent freeway corridor information, such as the number of lanes, median and shoulder widths, and its changes from station 1715+00 to station 1744+00.

Freeway Signs

There is only one major median mounted signs located along this segment. These is a span-mounted sign located at station 1872+00 (see Table 11.2).

Crossing Structures

There are two overpass structures and five underpass structures crossing SR-14 between Stations 11 and 12. Particular attention should be given to the Via Princessa bridge (see Figure 11.3). The width of this bridge could present aerial column construction problems that may interfere with the existing freeway. Exhibit 11.3 is Caltrans structural design plans for the Via Princessa undercrossing structure. The location, Caltrans bridge number, width, and height of each are presented in Table 11.3.

Construction Detour Options

As shown in Figure 11.1, the existing median within this segment consists of a 22-foot median with a concrete barrier. One possible scheme for obtaining additional median width is also presented in each of

that Figure. This involves restriping to narrow the existing 12-foot lanes and a reduction in the width of the existing shoulder. It is anticipated that no additional off-freeway detour would be needed within this segment.

The lane closure policy for the SR-14 states that "night work is preferred; one lane closure may be allowed in each direction during peak hours."

Table 11.1
Freeway Characteristics
San Fernando to Holt (Station 11 to Station 12)

Station	Southbound		Median Width	Northbound	
	No of Lanes	Shoulder		No of Lanes	Shoulder
1715+00 - 1744+00	4	13	22	4	13

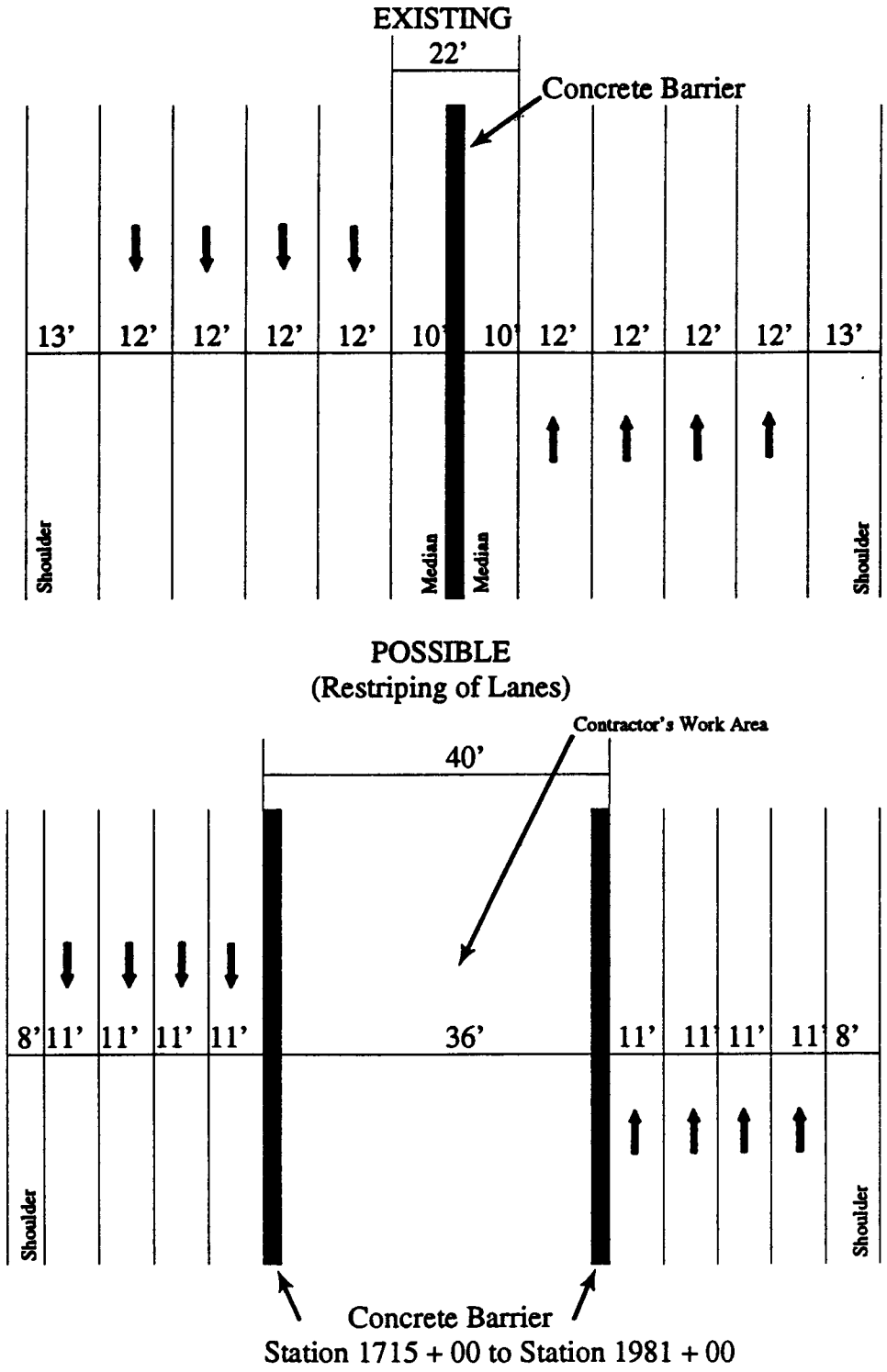
Table 11.2
Major Freeway Signs
San Fernando to Holt (Station 11 to Station 12)

Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
1716+50	1				
1740+50			1		
1751+50	1				
1796+00			1		
1847+50			1		
1872+00					1

Table 11.3
Crossing Structures
San Fernando to Holt (Station 11 to Station 12)

Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-2070	San Fernando Road	1745+00	U	190	200	- 17
53-2146	L. A. Aqueduct	1770+00	U	150	170	- 17
53-2076	Placerita Canyon Rd.	1798+00	U	180		- 17
53-2066	Golden Valley Rd.	1881+00	O	100	105	- 17
53-2171	Cedar Valley Wy.	1927+00	O	70		- 17
53-2166	Via Princessa	1942+00	U	220	240	- 17
53-2167	Holt Canyon Rd.	1973+00	U	110		- 17

FIGURE 11.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
SAN FERNANDO TO HOLT (STATION 11 TO 12)



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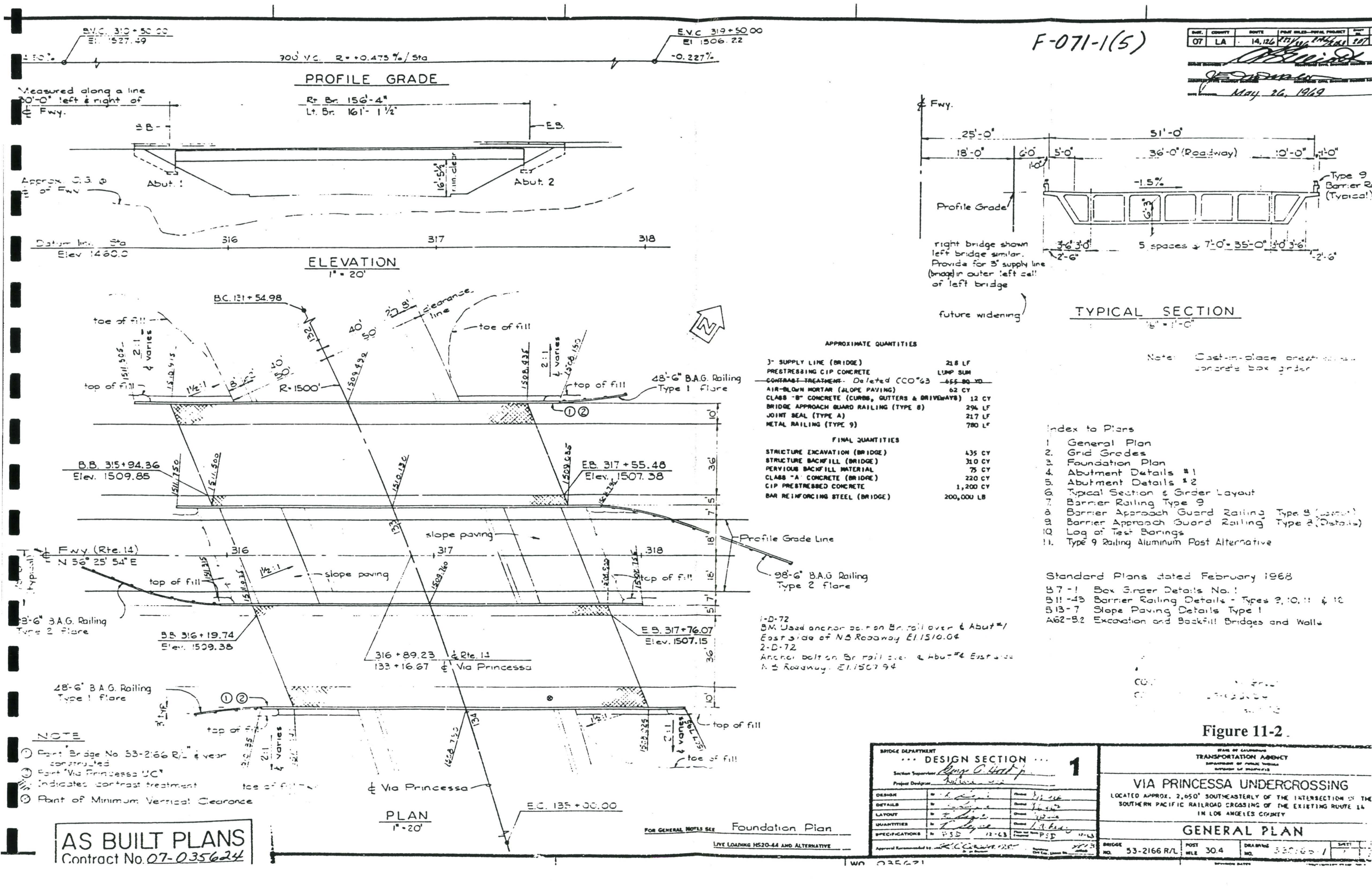


F-071-1(5)
07 LA 14,126
May 26, 1969
B.V.C. 310+50.00
El. 1527.49
E.V.C. 319+50.00
El. 1506.22
300' V.C. R = +0.475 %/Sta
-0.227%
PROFILE GRADE
Measured along a line 30'-0" left & right of ℄ Fwy.
Rt. Br. 156'-4"
Lt. Br. 161'-1½"
B.B.
E.B.
Abut. 1
Abut. 2
16'-5½" min. clear
Datum line Sta Elev. 1460.0
316
317
318
ELEVATION
1" = 20'
℄ Fwy.
25'-0"
51'-0"
18'-0"
6'-0"
5'-0"
36'-0" (Roadway)
10'-0"
1'-0"
-1.5%
Type 9 Barrier Railing (Typical)
Profile Grade
6'-3"
right bridge shown left bridge similar. Provide for 3" supply line (bridge) in outer left cell of left bridge
5 spaces @ 7'-0" = 35'-0"
future widening
TYPICAL SECTION
1/8" = 1'-0"
Note: Cast-in-place prestressed concrete box girder
APPROXIMATE QUANTITIES
3" SUPPLY LINE (BRIDGE) 218 LF
PRESTRESSING CIP CONCRETE LUMP SUM
CONTRAST TREATMENT Deleted CCO #3
AIR-BLOWN MORTAR (SLOPE PAVING) 62 CY
CLASS "B" CONCRETE (CURBS, GUTTERS & DRIVEWAYS) 12 CY
BRIDGE APPROACH GUARD RAILING (TYPE 8) 294 LF
JOINT SEAL (TYPE A) 217 LF
METAL RAILING (TYPE 9) 780 LF
FINAL QUANTITIES
STRUCTURE EXCAVATION (BRIDGE) 435 CY
STRUCTURE BACKFILL (BRIDGE) 310 CY
PERVIOUS BACKFILL MATERIAL 75 CY
CLASS "A" CONCRETE (BRIDGE) 220 CY
CIP PRESTRESSED CONCRETE 1,200 CY
BAR REINFORCING STEEL (BRIDGE) 200,000 LB
Index to Plans
1. General Plan
2. Grid Grades
3. Foundation Plan
4. Abutment Details #1
5. Abutment Details #2
6. Typical Section & Girder Layout
7. Barrier Railing Type 9
8. Barrier Approach Guard Railing Type 8 (Layout)
9. Barrier Approach Guard Railing Type 8 (Details)
10. Log of Test Borings
11. Type 9 Railing Aluminum Post Alternative
Standard Plans dated February 1968
B7-1 Box Girder Details No. 1
B11-43 Barrier Railing Details - Types 9, 10, 11 & 12
B13-7 Slope Paving Details Type 1
A62-B2 Excavation and Backfill Bridges and Walls
B.C. 131+54.98
R = 1500'
clearance line
toe of fill
top of fill
2:1 & varies
1½:1
48'-6" B.A.G. Railing Type 1 Flare
98'-6" B.A.G. Railing Type 2 Flare
B.B. 315+94.36
Elev. 1509.85
E.B. 317+55.48
Elev. 1507.38
B.B. 316+19.74
Elev. 1509.38
E.B. 317+76.07
Elev. 1507.15
℄ Fwy. (Rte. 14)
N 56° 25' 54" E
slope paving
Profile Grade Line
316+89.23 ℄ Rte. 14
133+16.67 ℄ Via Princessa
℄ Via Princessa
E.C. 135+00.00
1-D-72
BM Used anchor bolt on Br. rail over & Abut #1 East side of NB Roadway El. 1510.04
2-D-72
Anchor bolt on Br. rail over & Abut #4 East side NB Roadway El. 1507.94
NOTE
① Paint Bridge No. 53-2166 R/L & year constructed
② Paint "Via Princessa UC"
Indicates contrast treatment
Point of Minimum Vertical Clearance
PLAN
1" = 20'
For general notes see Foundation Plan
Live loading HS20-44 and alternative
AS BUILT PLANS
Contract No. 07-035624
BRIDGE DEPARTMENT
DESIGN SECTION
1
STATE OF CALIFORNIA
TRANSPORTATION AGENCY
VIA PRINCESSA UNDERCROSSING
LOCATED APPROX. 2,050' SOUTHEASTERLY OF THE INTERSECTION OF THE SOUTHERN PACIFIC RAILROAD CROSSING OF THE EXISTING ROUTE 14 IN LOS ANGELES COUNTY
GENERAL PLAN
BRIDGE NO. 53-2166 R/L
POST MILE 30.4

Figure 11-2.

FIGURE 11.3
SAN FERNANDO TO HOLT (STATION 11 TO 12)

14 FREEWAY & SAN FERNANDO ROAD - LOOKING SOUTH

14 FREEWAY & SAN FERNANDO ROAD - LOOKING NORTH

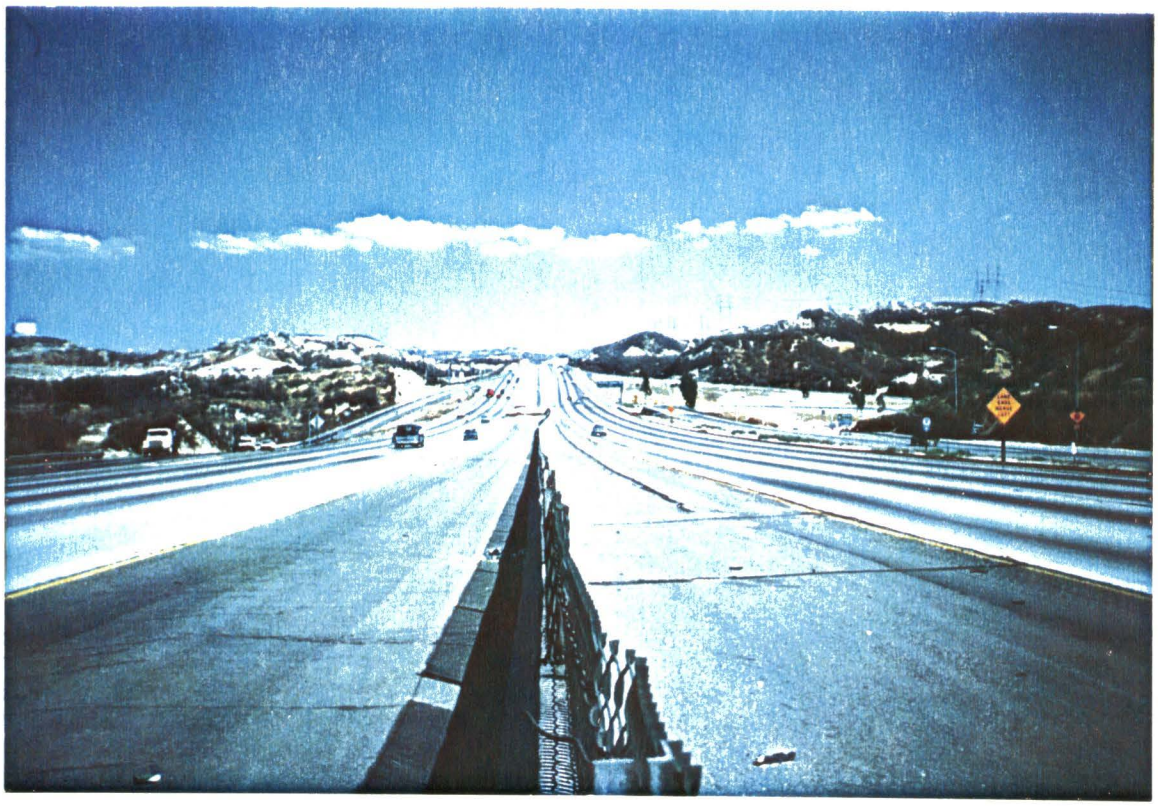
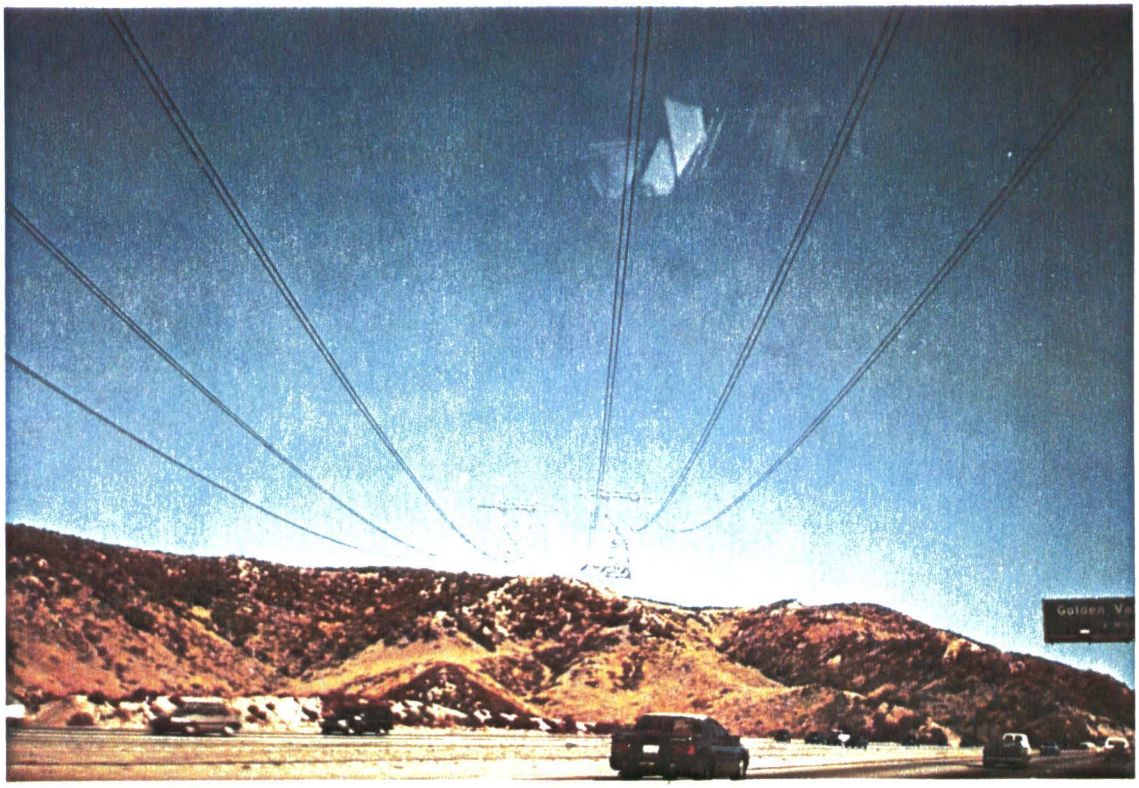


FIGURE 11.4
SAN FERNANDO TO HOLT (STATION 11 TO 12)

14 FREEWAY & PLACERITA CYN. RD. - LOOKING NORTHWEST



14 FREEWAY & GOLDEN VALLEY OVERPASS - LOOKING NORTH

HOLT to AVENUE "S"
(Station 12 to Station 13)

Segment Description

The 26.5 route segment between Stations 12 and Station 13 begins at the Holt Canyon Road Station and ends at the Avenue "S" Station. The proposed at grade alignment would be located in the median of the freeway. This portion of the route traverses the rugged terrain of the Soledad Basin, generally following the route of the prehistoric Soledad River canyon. Near Vincent (station 3200+00) the route leaves the hilly terrain of the Transverse Ranges and enters the Antelope Valley.

Within this segment, traffic is light to moderate. Peak hours occur earlier here due to early start times for many Antelope Valley workers. There is frequently significant southbound congestion as early as 5:00 a.m. The p.m. peak "hour" period generally extends from 4:00 p.m. to after 7:00 p.m.

Freeway Description

The width of the median varies considerably within this segment. The minimum median width is 22 feet, but it ranges up to 70 feet. In some areas, the median is unexcavated rock of the Vasquez formation (see Task 3 report) which may require considerable effort to remove. Through virtually the entire length of this segment, the route traverses either cut or fill areas.
Table 12.1 lists pertinent freeway corridor information, such as the number of lanes, and median and shoulder widths from station 1744+00 to station 3382+00. This information is also depicted graphically in Figures 12.1 through 12.13.

Freeway Signs

There is only one major median mounted sign located within this segment. This is a span-mounted sign located at station 2018+50. The location of this and other (off-route) signs within the segment are indicated in Table 12.2.

Crossing Structures

There are seven overpass structures and 12 underpass structures crossing SR-14 between Stations 12 and 13. Particular attention should be given to the California Aqueduct bridge (see Figure 12.3). The width of this bridge could present aerial column construction problems that may interfere with the existing freeway. Exhibit 12.3 is Caltrans structural design plans for the Aqueduct undercrossing structure. The

location, Caltrans bridge number, width, and height of each are presented in Table 12.3.

Construction Detour Options

As shown in Figures 12.1 through 12.13, the existing median within this segment consists of a 22-foot to 70-foot side strip, generally without a concrete barrier. As noted above, there are several areas of unexcavated rock within the median. One possible scheme for obtaining additional median width is also presented in each of those figures. While the topography of the area would make off-freeway detours difficult, it is anticipated that no off-freeway detours would be needed within this segment.

The lane closure policy for the SR-14 states that "night work is preferred; one lane closure may be allowed in each direction during peak hours."

Table 12.1
Freeway Characteristics
Holt to Avenue S (Station 12 to Station 13)

Station	Southbound		Median Width	Northbound	
	No of Lanes	Shoulder		No of Lanes	Shoulder
1744+00 - 1881+00	3	13	60	3	13
1881+00 - 1927+00	4	11	60	4	11
1927+00 - 2030+00	3	13	60	3	13
2030+00 - 2076+00	3	11	46	3	11
2076+00 - 2198+00	2	23	46	2	23
2198+00 - 2380+00	2	23	34	3	23
2380+00 - 2416+50	3	23	22	3	23
2416+50 - 2504+00	2	23	34	3	23
2504+00 - 2576+00	3	23	22	3	23
2576+00 - 2597+00	2	23	34	3	23
2597+00 - 2897+50	2	13	60	2	13
2897+50 - 3050+00	2	13	70	2	13
3050+00 - 3382+00	2	13	22	2	13

Table 12.2
Major Freeway Signs
Holt to Avenue S (Station 12 to Station 13)

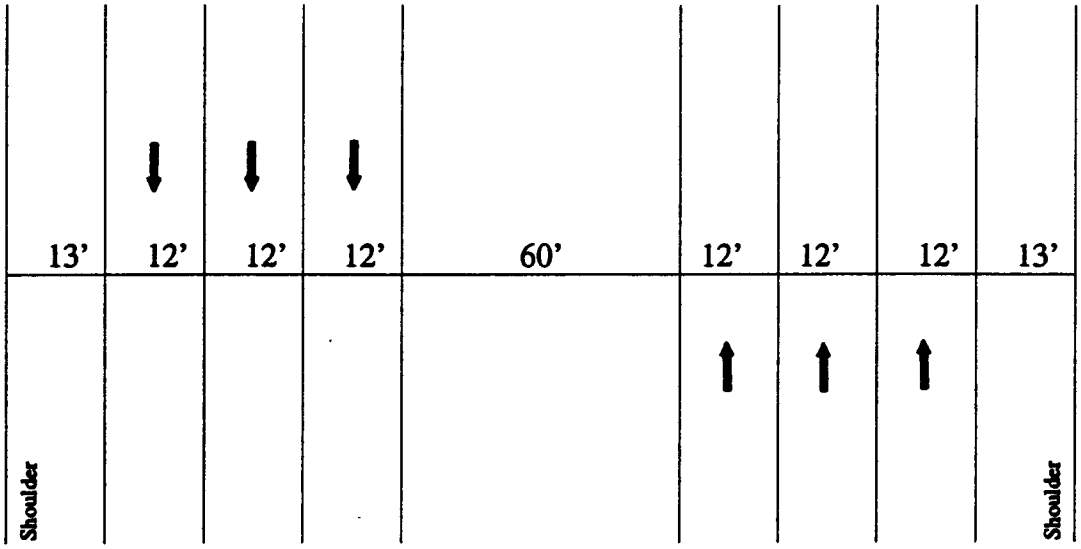
Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	NB Shoulder	Southbound	Northbound
2006+50	1				
2008+50			1		
2018+50				1	
2062+50			1		
2093+50	1				
2141+25			1		
2187+50	1				
2392+75			1		
2573+50			1		
2613+50	1				
2770+00			1		
2792+90	1				
2856+50			1		
2894+50	1				
2895+00			1		
3000+25	1				
3066+30	1				
3067+30			1		
3178+00			1		
3201+00	1				
3363+00			1		

Table 12.3
Crossing Structures
Holt to Avenue S (Station 12 to Station 13)

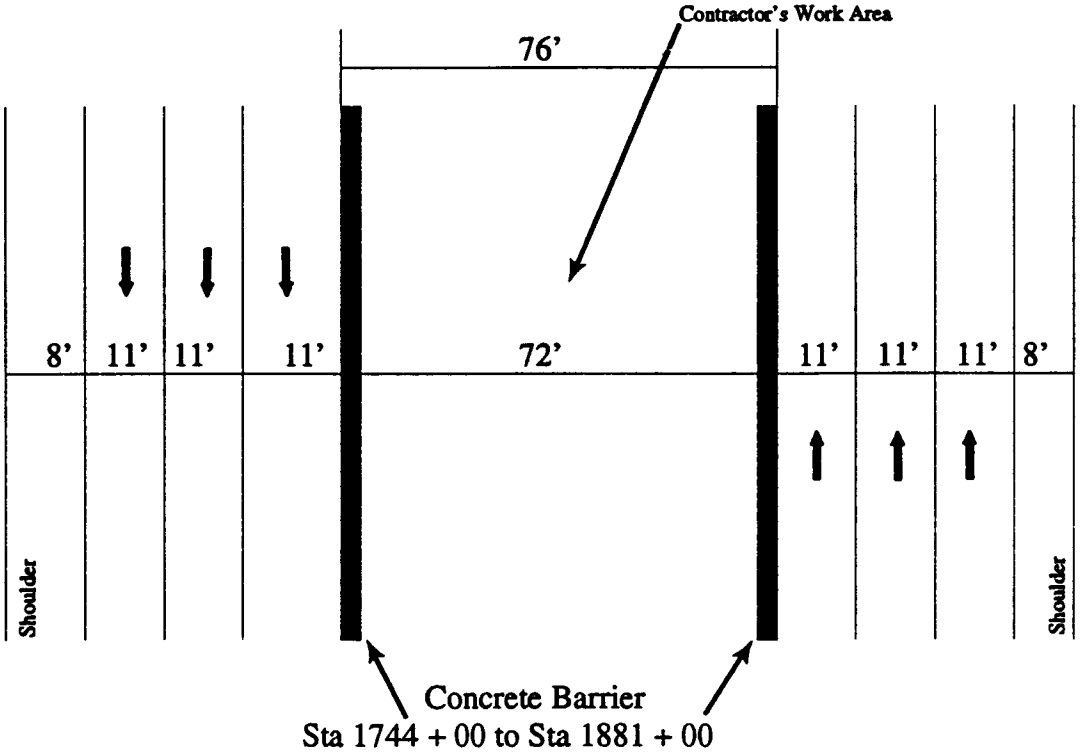
Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-2027	Santa Clara River	2002+50	U		800	- 20
53-1621	Lost Canyon Rd.	2029+00	U	100		- 17
53-1543	Sand Canyon Rd.	2067+00	O	60	70	+ 17
53-1539	Oak Springs Rd.	2103+50	U	70		- 17
53-1547	Tick Canyon Rd.	2178+75	U	140	150	- 17
53-1549	Soledad Canyon Rd.	2198+00	O	180	190	+ 20
53-1540	Spring Canyon Rd.	2241+00	U	120		- 17
53-1541	Aqua Dulce Canyon Rd.	2416+00	U	130	140	- 17
53-1544	Escondidio Canyon Rd.	2597+50	O	60	701	+ 17
53-1545	Conn Rd.	2726+50	U	100		- 17
53-1546	Ward Rd.	2780+00	O	60	70	+ 17
53-147	Red Rover Mine Rd.	2811+50	U	110	120	- 17
53-868	Crown Valley Rd.	2877+50	U	150	155	- 17
53-871	Santiago Rd.	2991+00	U	120	125	- 17
53-979	Sierra Highway	3064+30	O	50	60	+ 20
53-980	Mountain Springs Rd.	3141+40	O	40		+ 17
53-1833	California Aqueduct	3328+00	U	220	250	- 17
53-1794	Barrel Springs Rd.	3339+00	O	40		+ 17
53-1417	Avenue "S"	3382+00	U	160		+ 17

FIGURE 12.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)

EXISTING

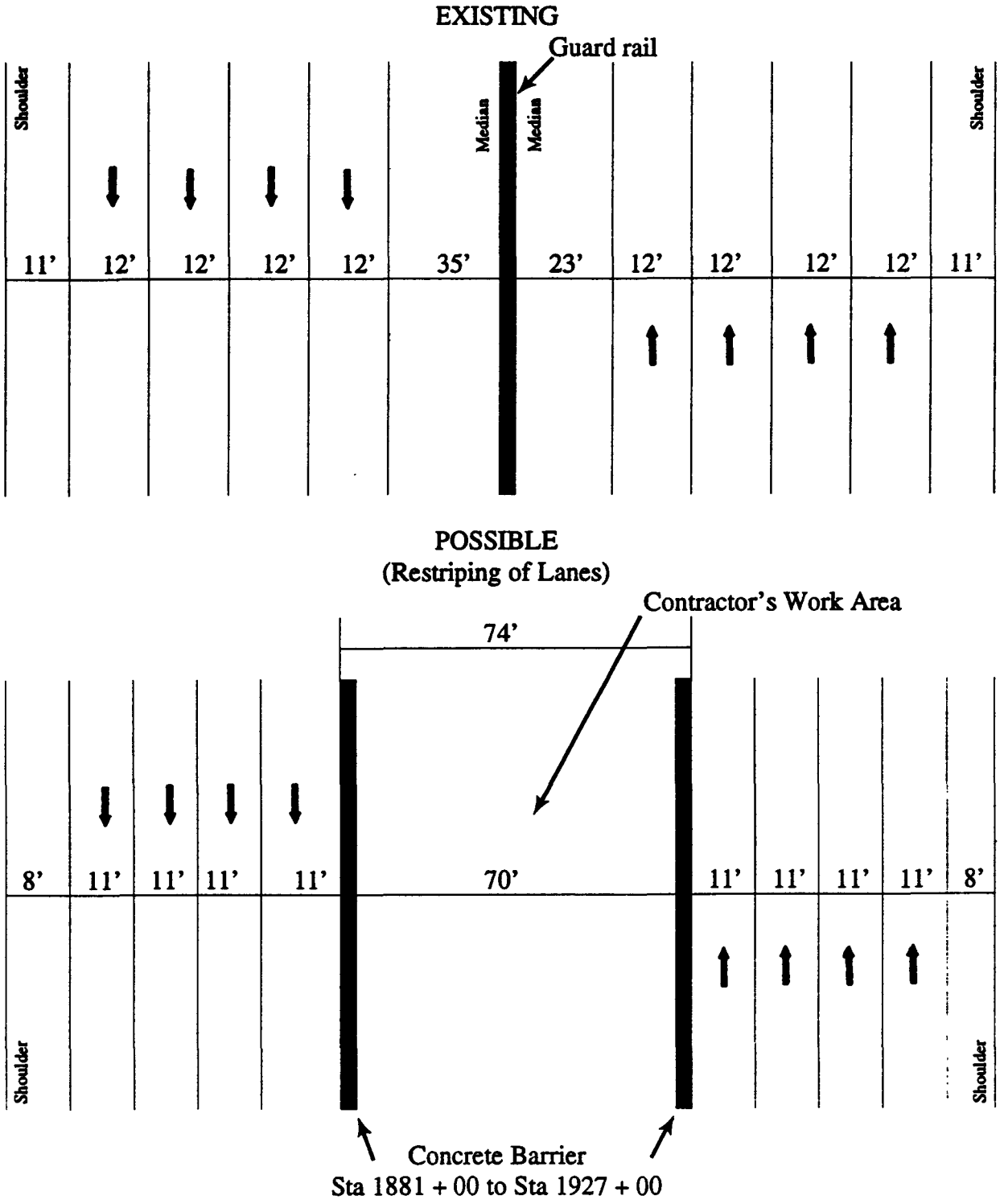


POSSIBLE
(Restriping of Lanes)



Drawing not to scale

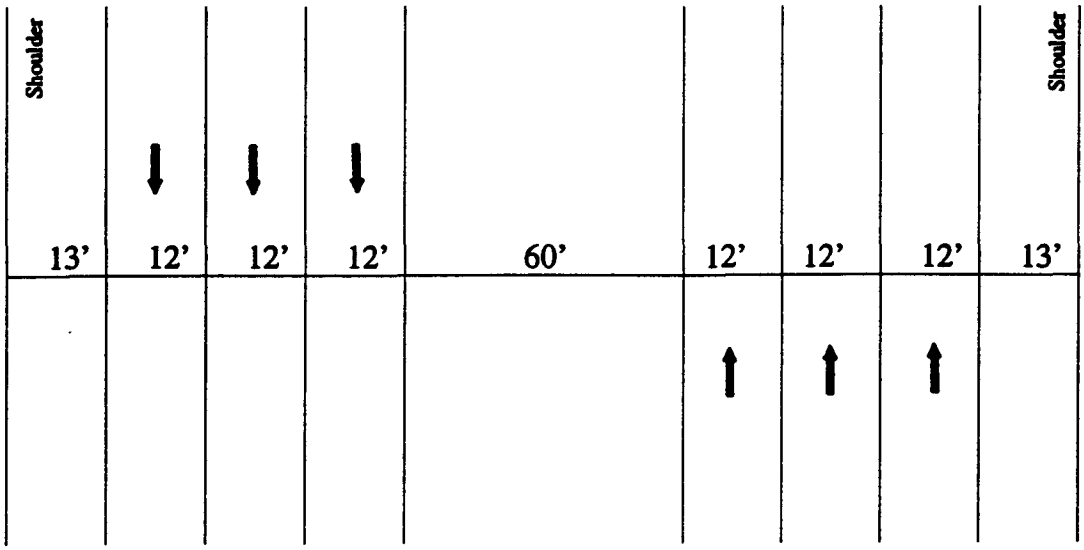
FIGURE 12.2
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)



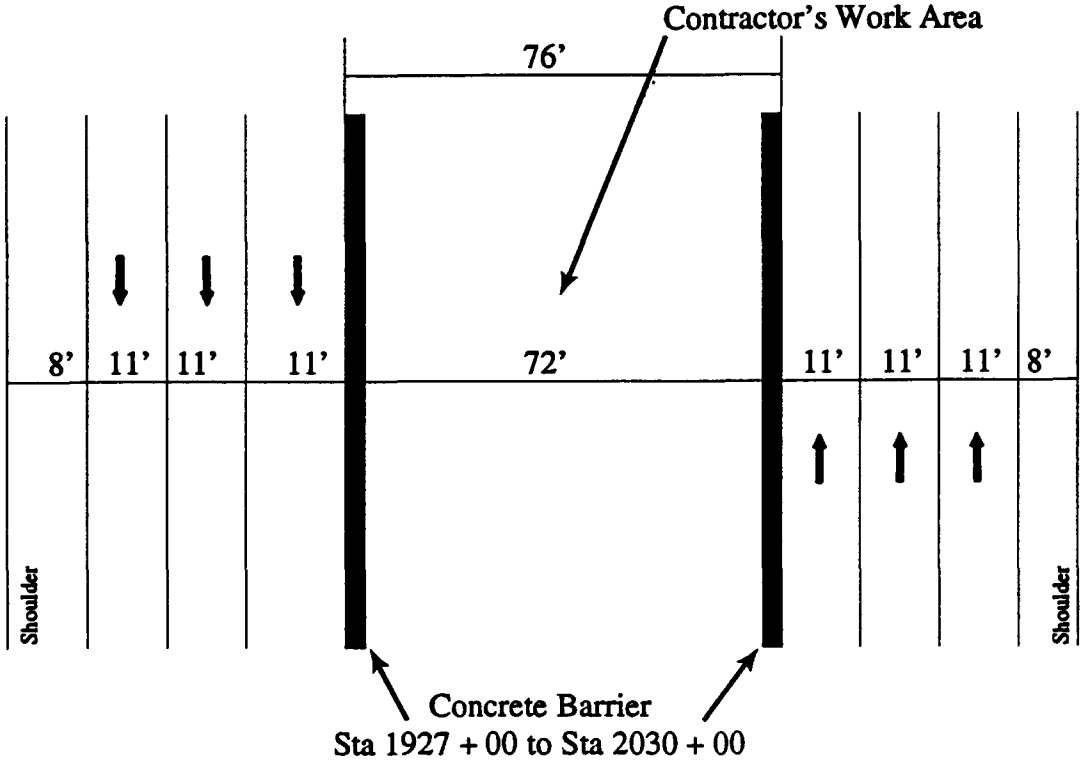
Drawing not to scale

FIGURE 12.3
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)

EXISTING



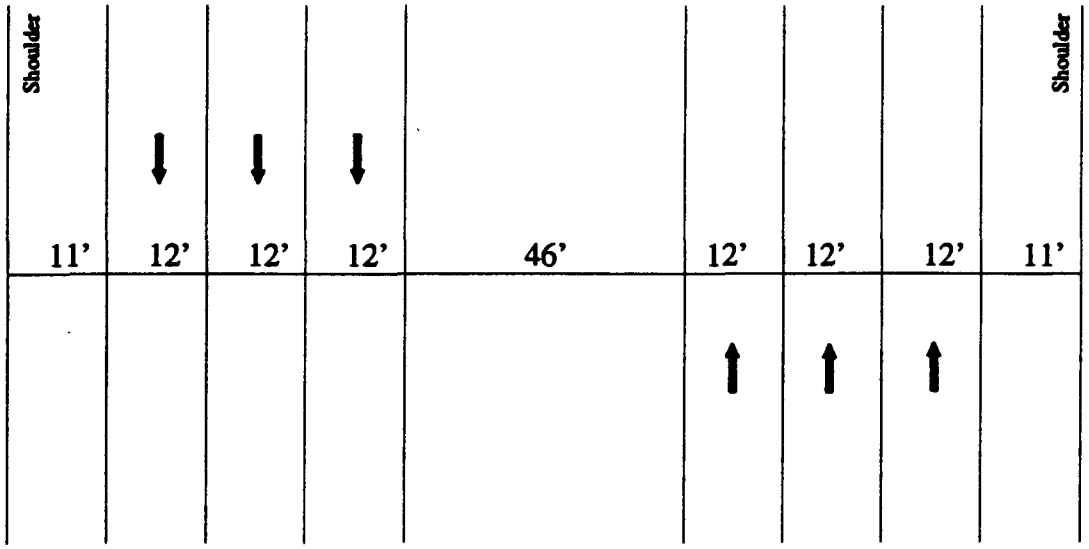
POSSIBLE
(Restriping of Lanes)



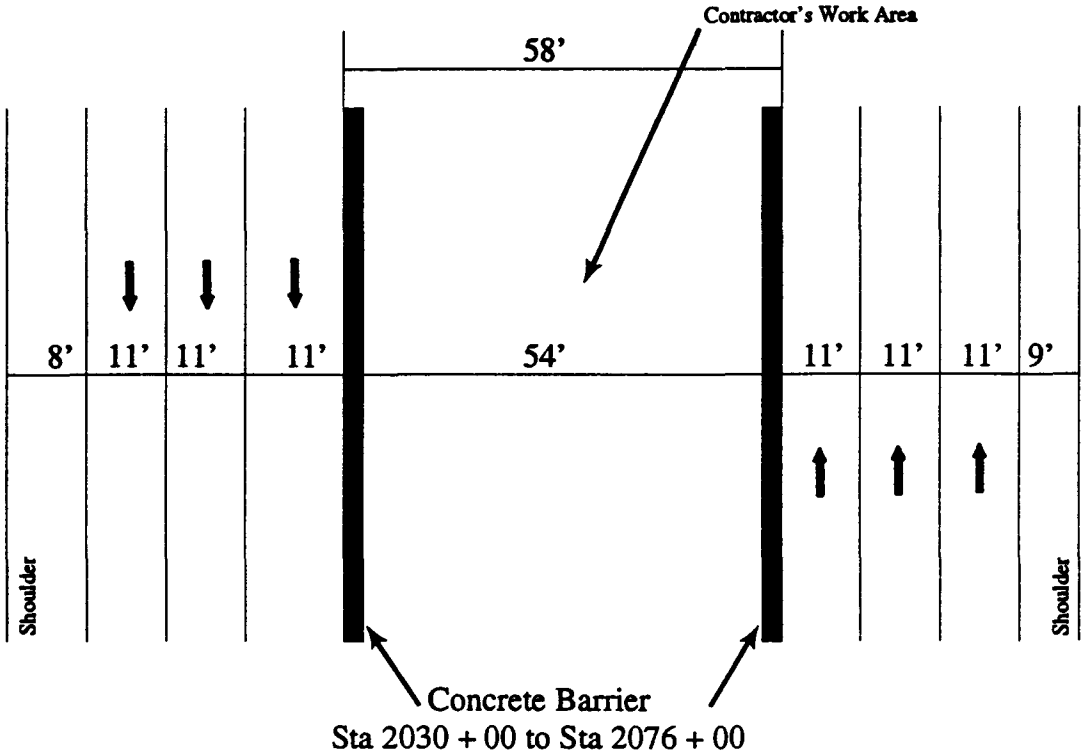
Drawing not to scale

FIGURE 12.4
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)

EXISTING



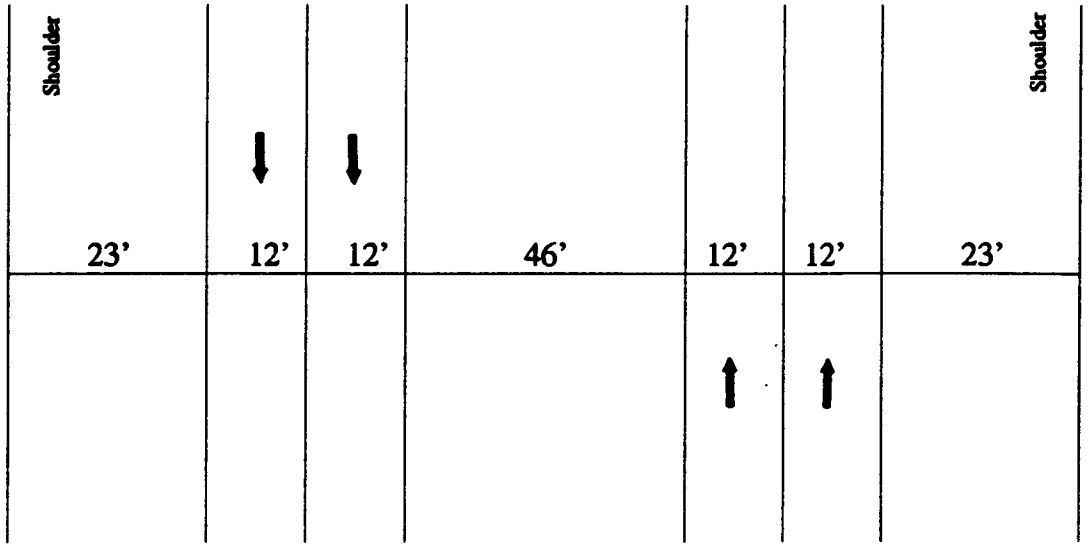
POSSIBLE
(Restriping of Lanes)



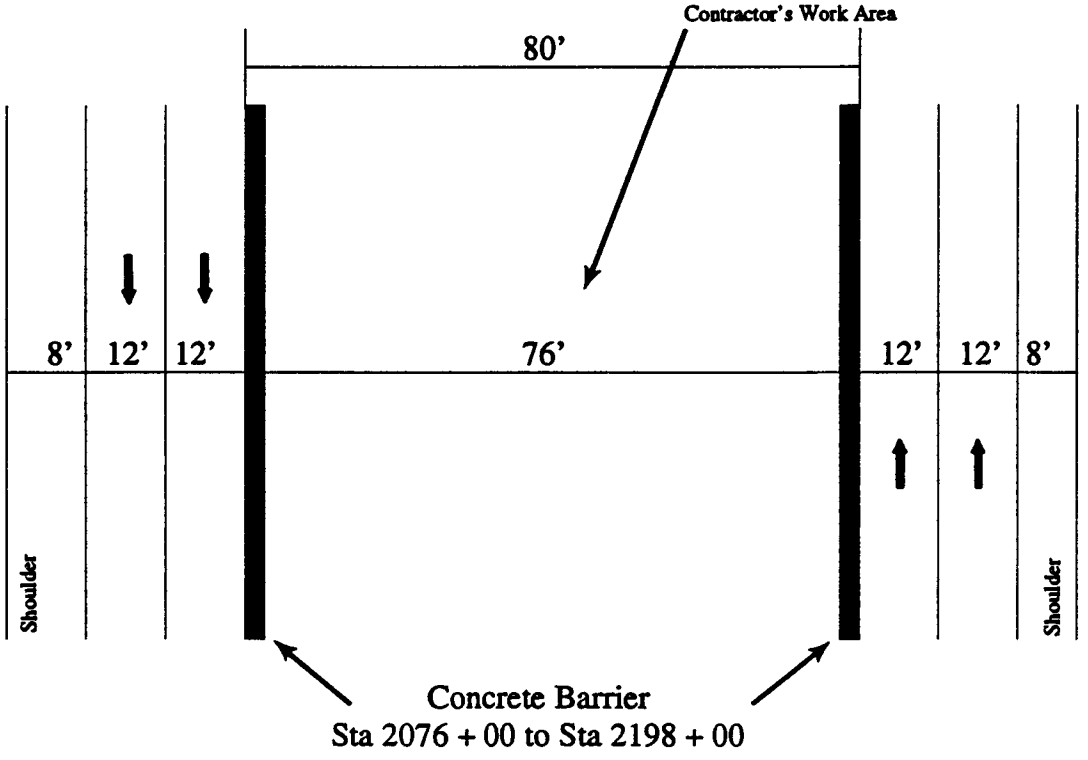
Drawing not to scale

FIGURE 12.5
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)

EXISTING

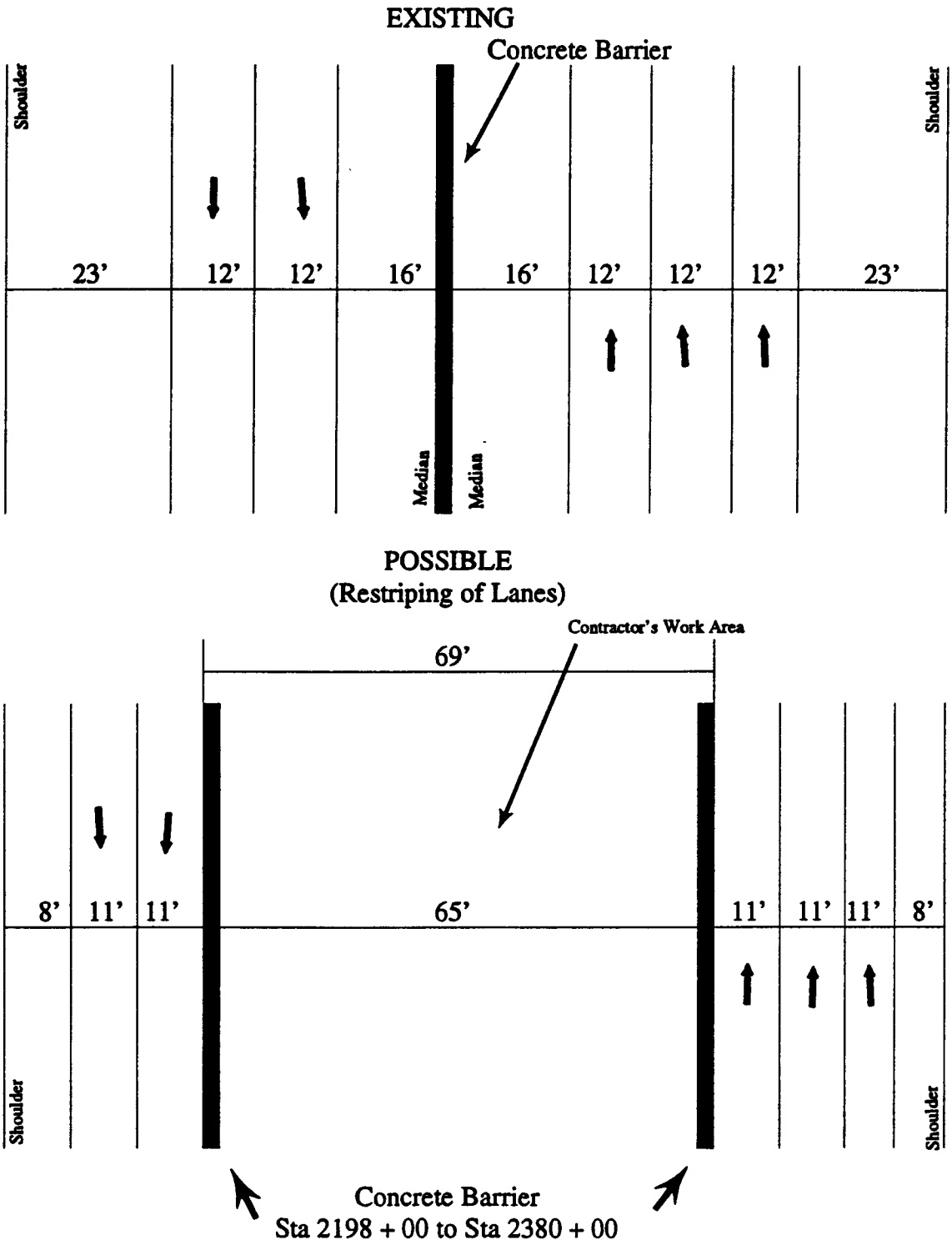


POSSIBLE
(Restriping of Lanes)



Drawing not to scale

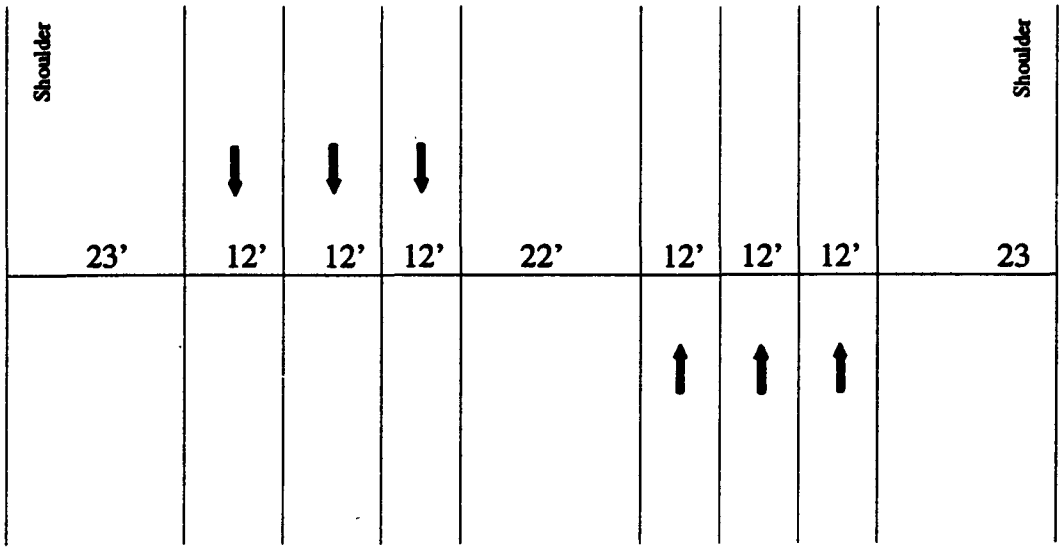
FIGURE 12.6
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)



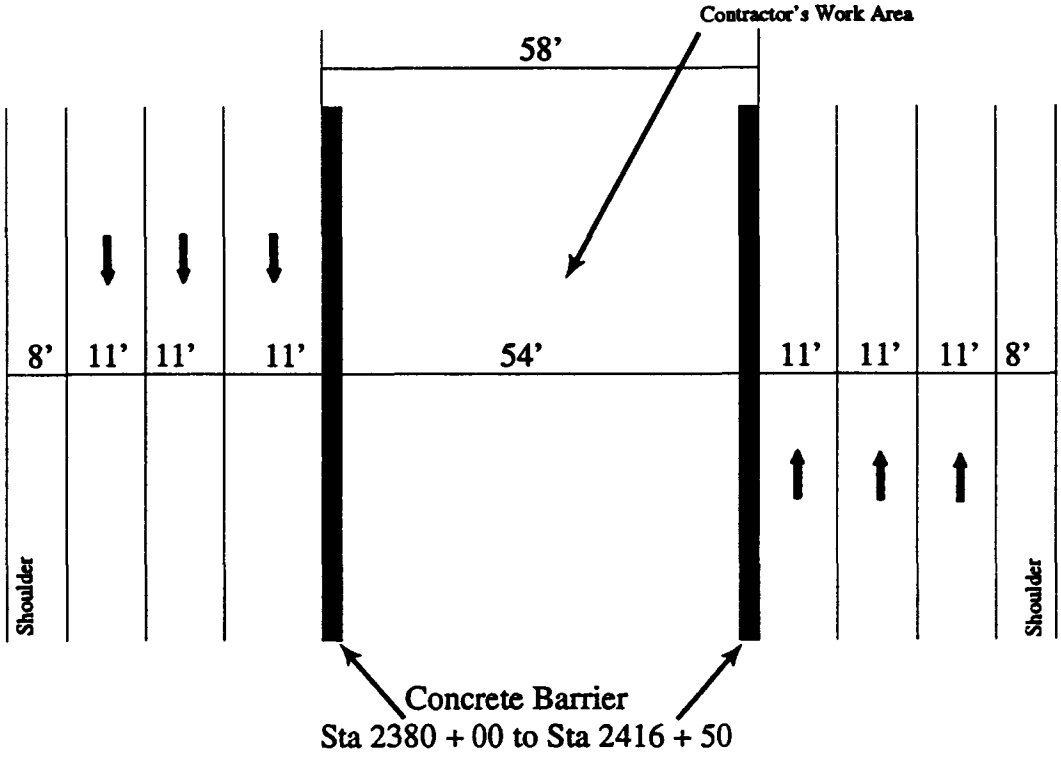
Drawing not to scale

FIGURE 12.7
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)

EXISTING

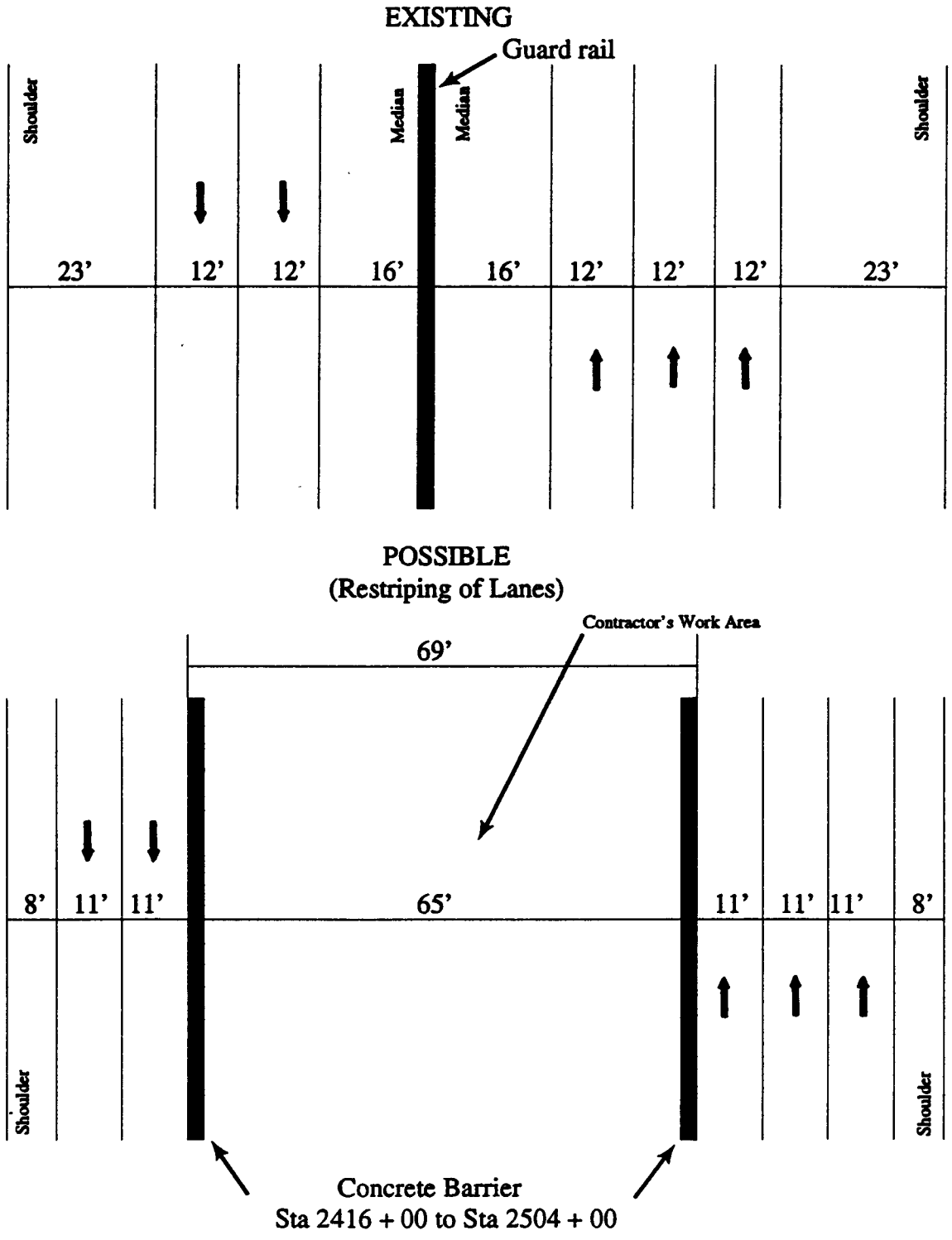


POSSIBLE
(Restriping of Lanes)



Drawing not to scale

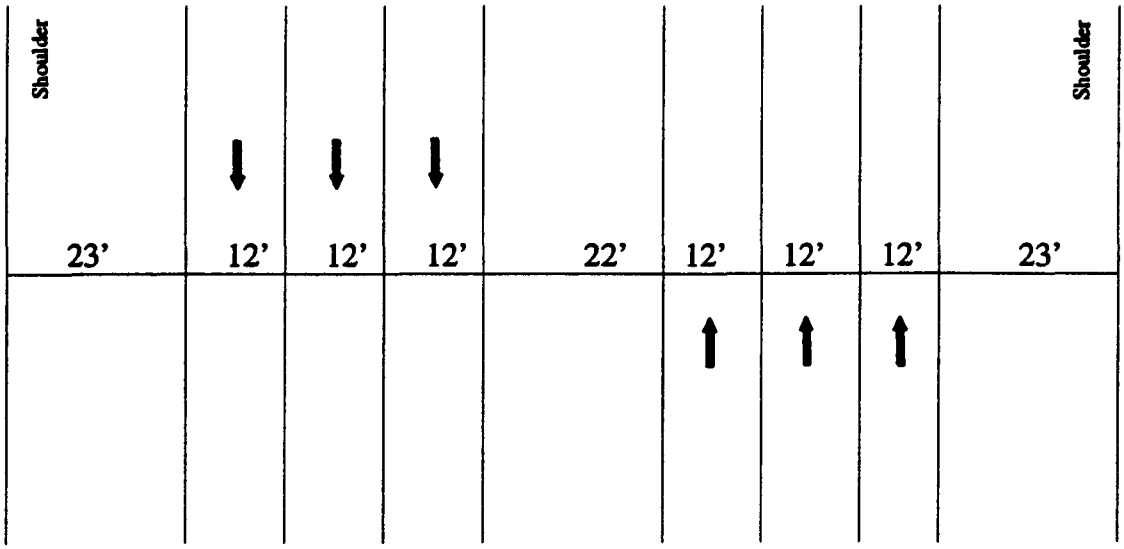
FIGURE 12.8
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)



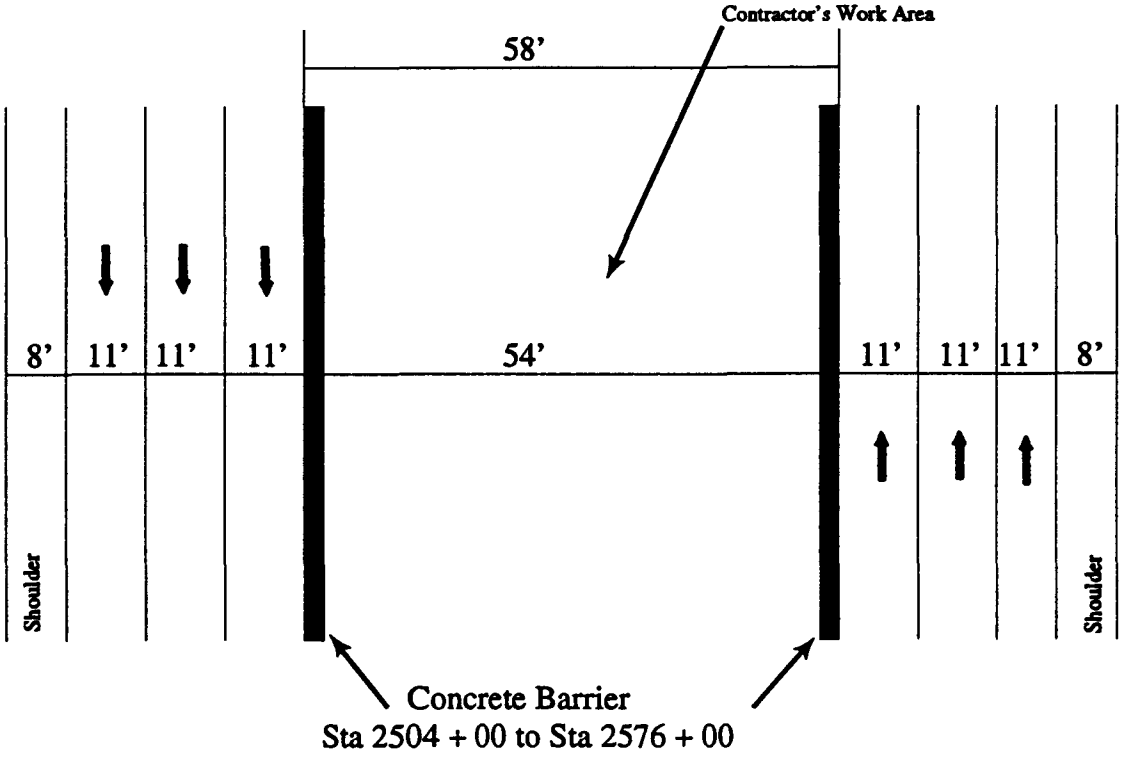
Drawing not to scale

FIGURE 12.9
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)

EXISTING

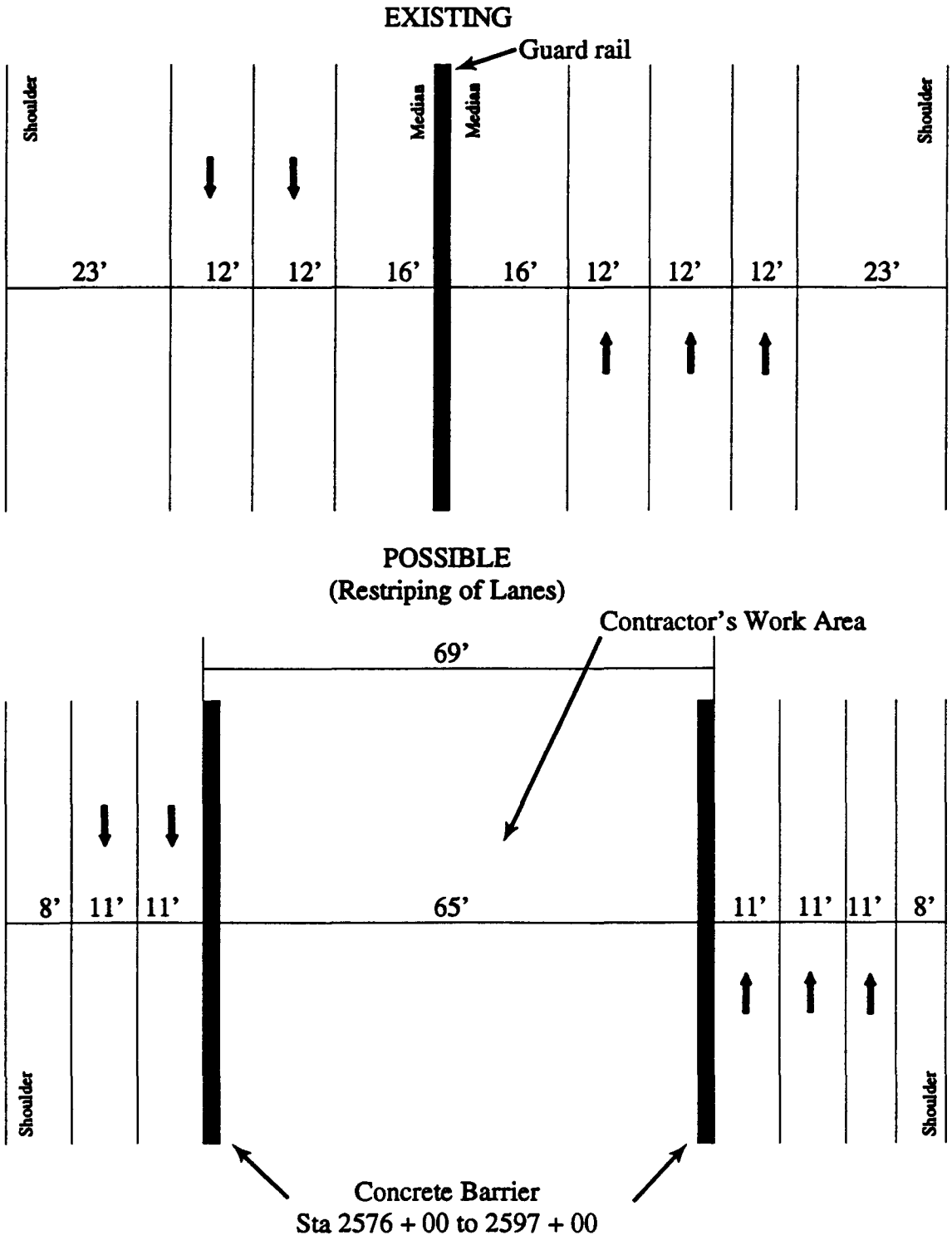


POSSIBLE
(Restriping of Lanes)



Drawing not to scale

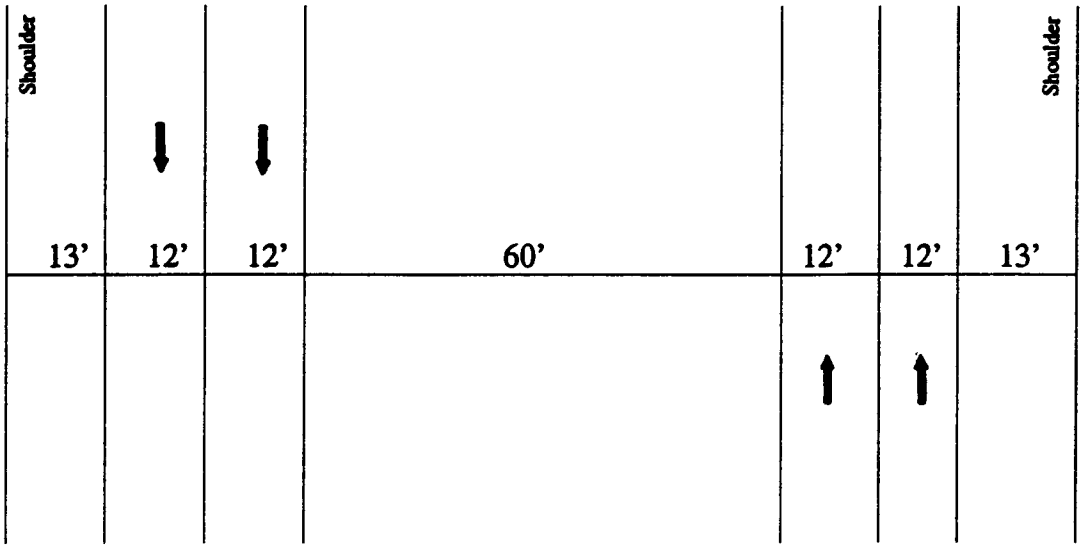
FIGURE 12.10
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)



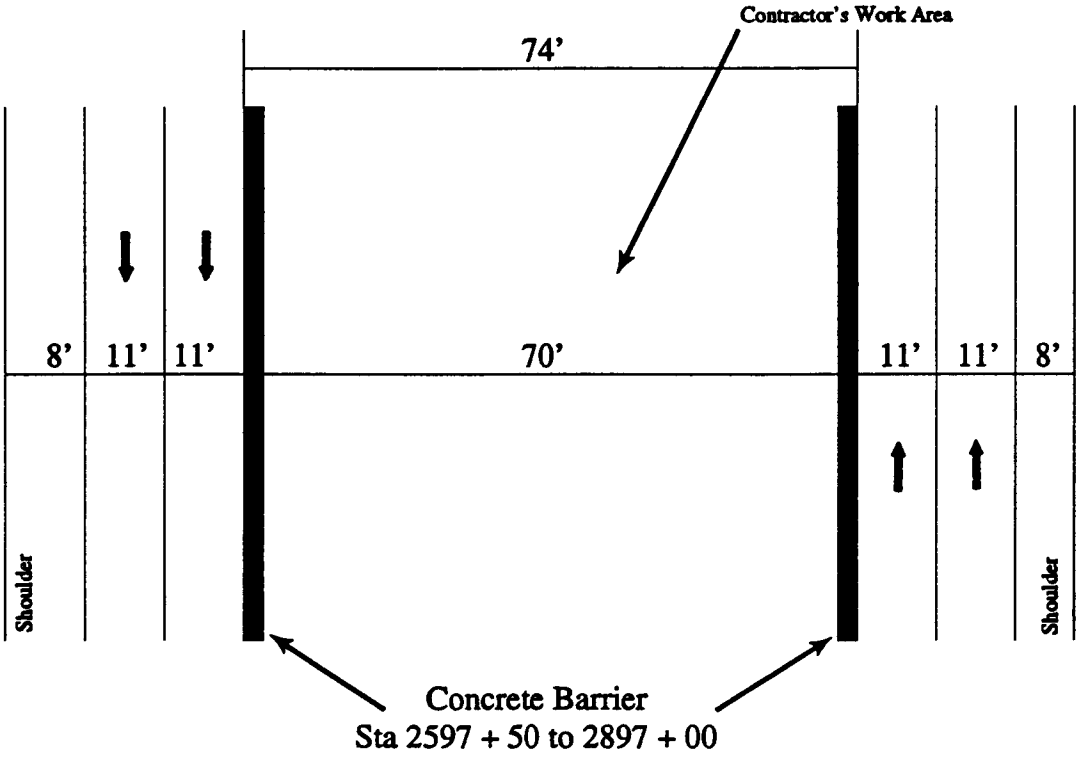
Drawing not to scale

FIGURE 12.11
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)

EXISTING



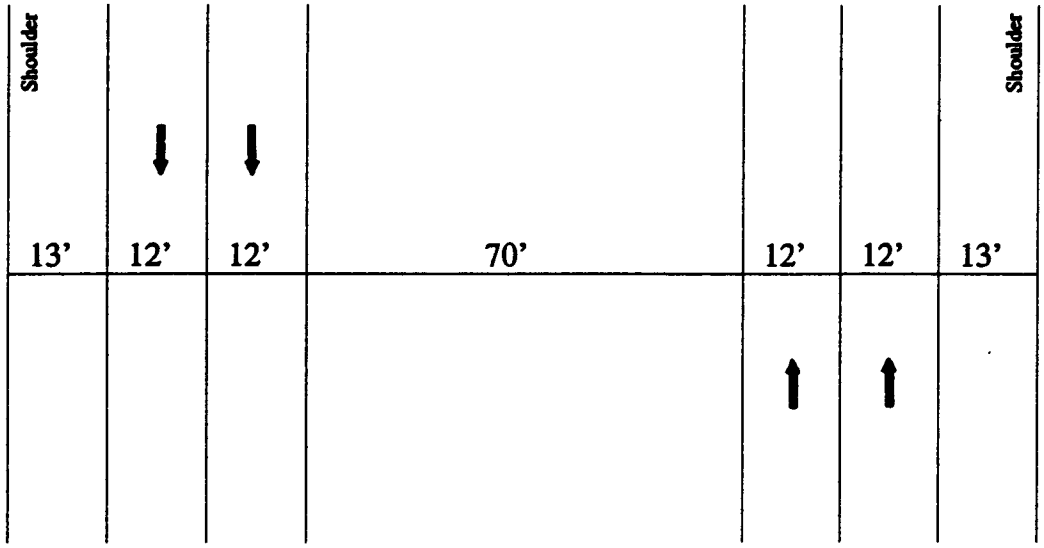
POSSIBLE
(Restriping of Lanes)



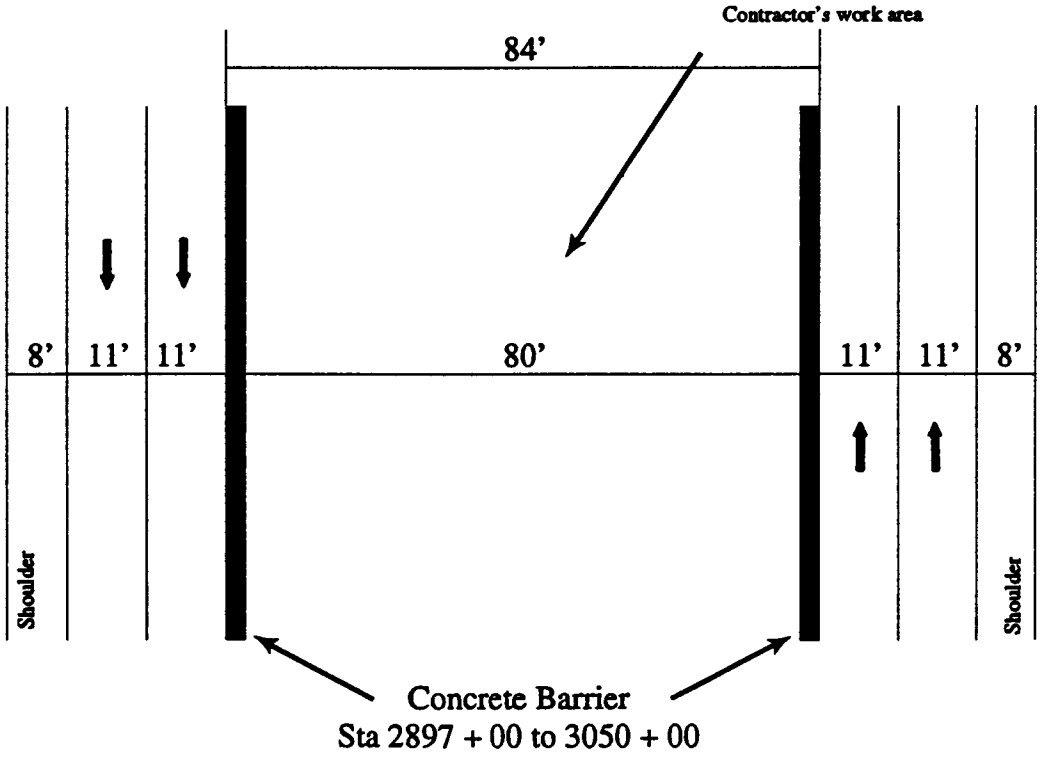
Drawing not to scale

FIGURE 12.12
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)

EXISTING



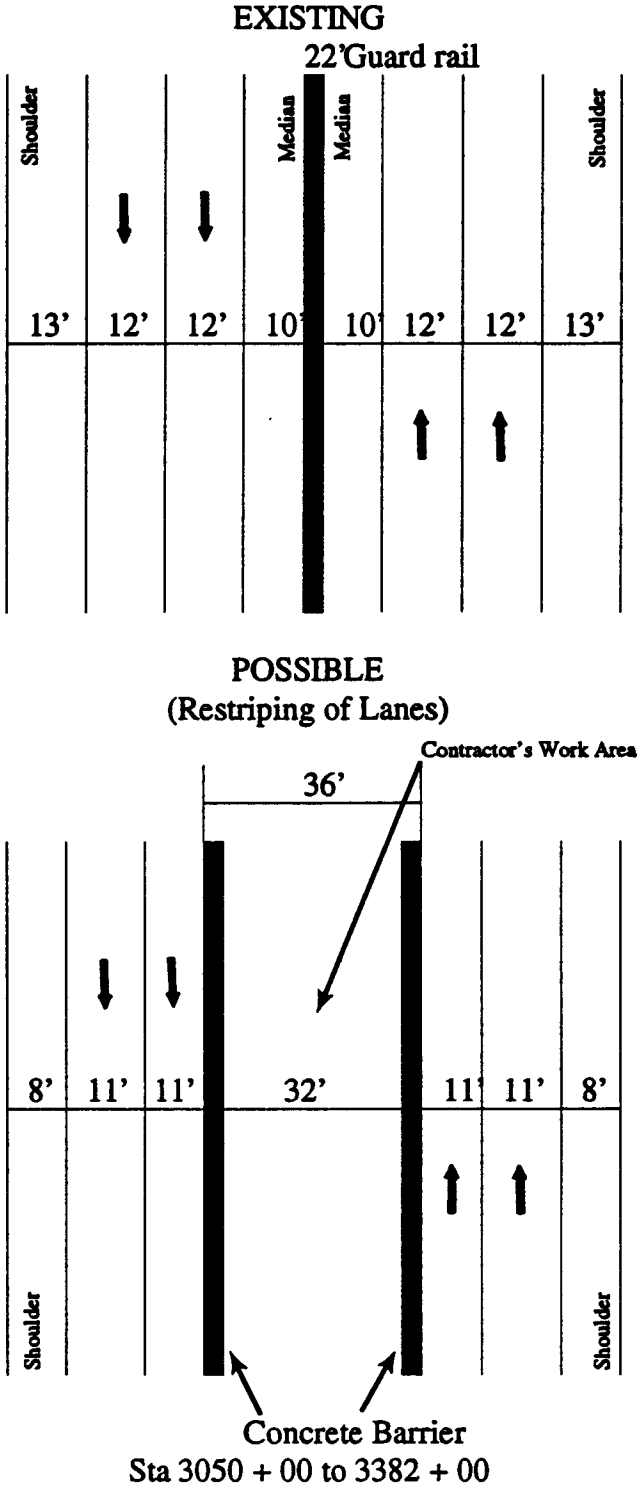
POSSIBLE
(Restriping of Lanes)



Concrete Barrier
Sta 2897 + 00 to 3050 + 00

Drawing not to scale

FIGURE 12.13
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
HOLT TO AVENUE "S" (STATION 12 TO 13)



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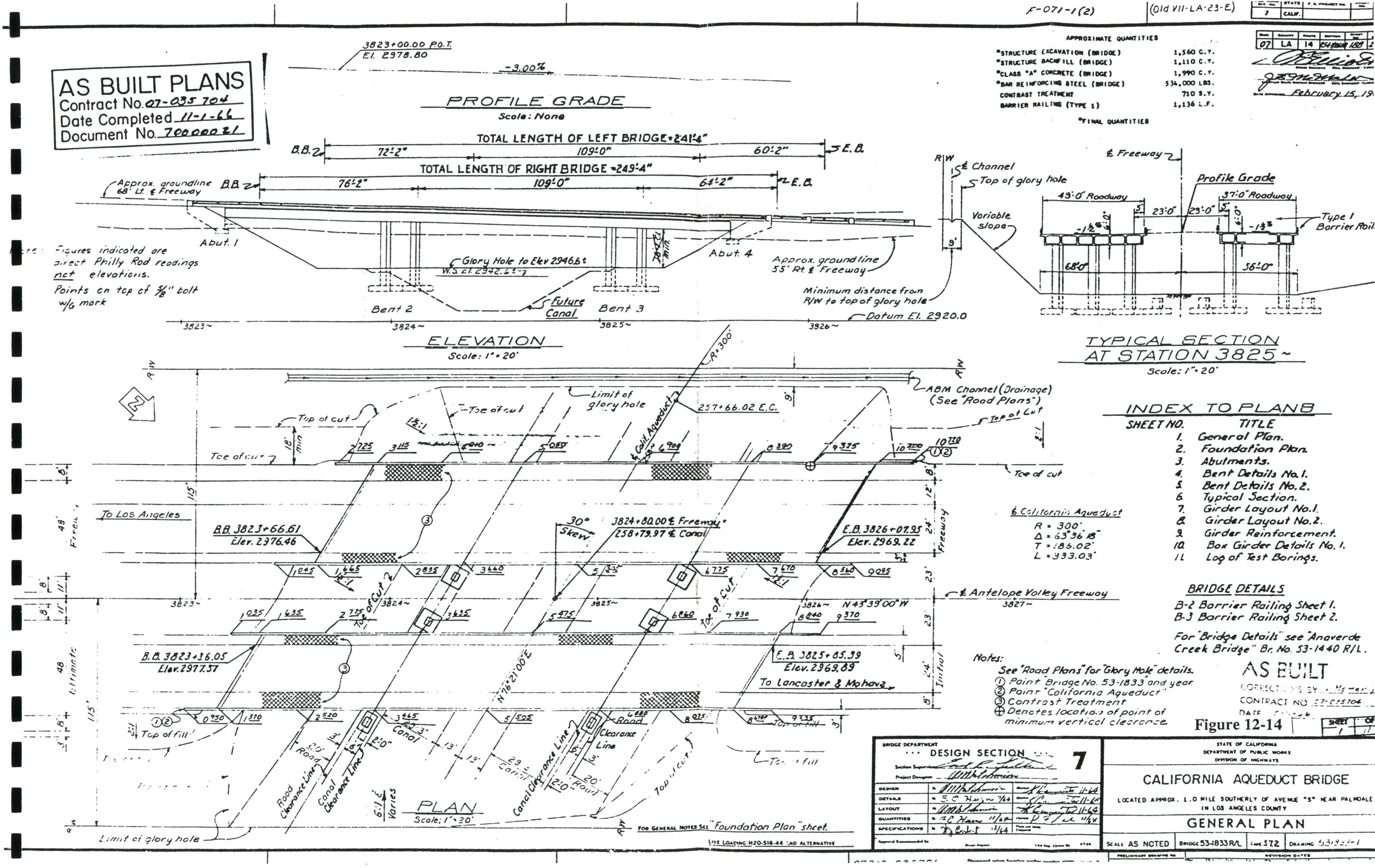


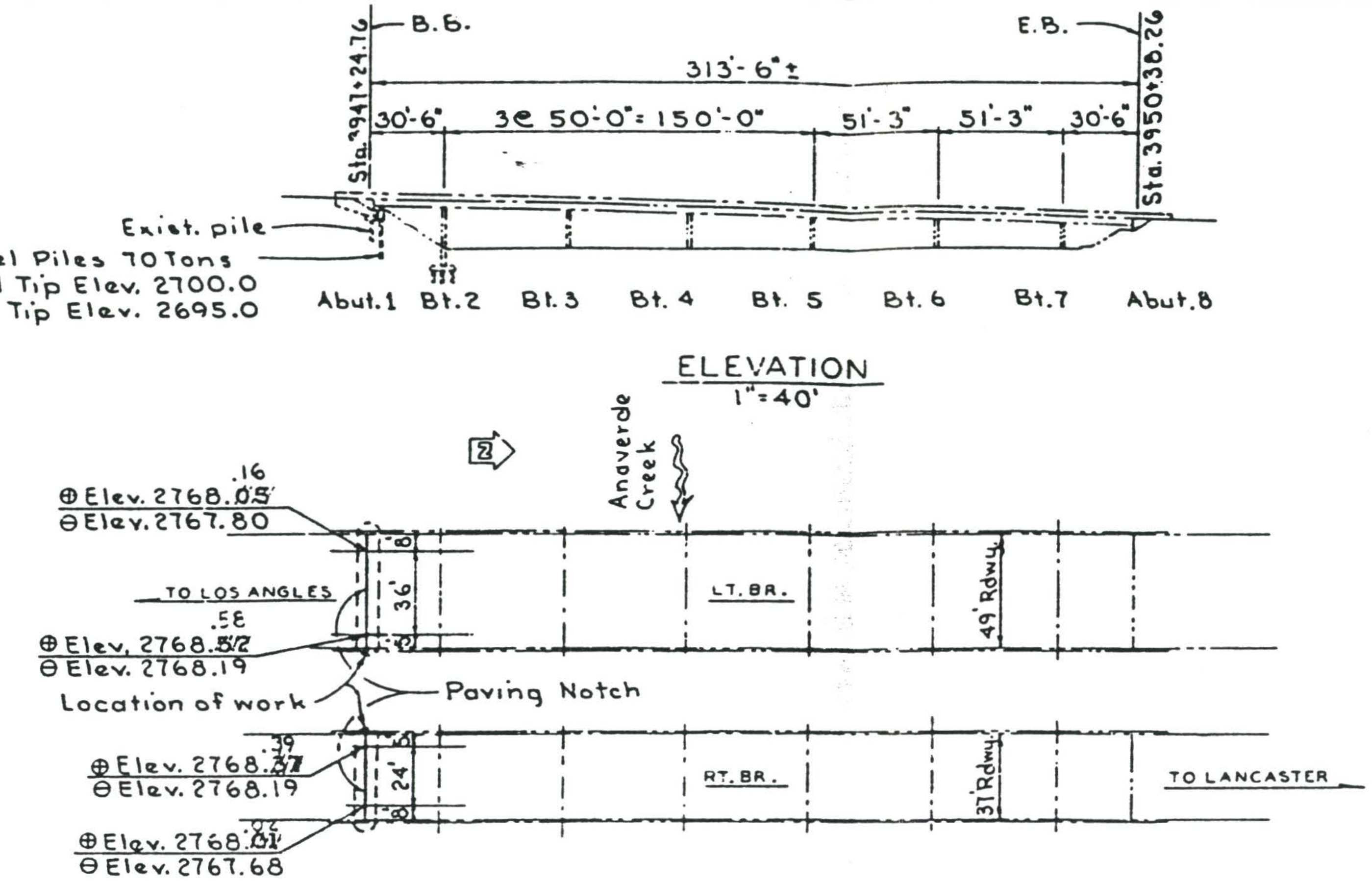
F-071-1(2)
(Old VII-LA-23-E)
AS BUILT PLANS
Contract No. 07-035704
Date Completed 11-1-66
Document No. 70000021
3823+00.00 P.O.T.
El. 2978.80
-3.00%
PROFILE GRADE
Scale: None
APPROXIMATE QUANTITIES
*STRUCTURE EXCAVATION (BRIDGE) 1,560 C.Y.
*STRUCTURE BACKFILL (BRIDGE) 1,110 C.Y.
*CLASS "A" CONCRETE (BRIDGE) 1,990 C.Y.
*BAR REINFORCING STEEL (BRIDGE) 534,000 LBS.
CONTRAST TREATMENT 710 S.Y.
BARRIER RAILING (TYPE 1) 1,136 L.F.
*FINAL QUANTITIES
February 15, 19
TOTAL LENGTH OF LEFT BRIDGE = 241'-4"
B.B. 72'-2" 109'-0" 60'-2" E.B.
TOTAL LENGTH OF RIGHT BRIDGE = 249'-4"
B.B. 76'-2" 109'-0" 64'-2" E.B.
Approx. groundline 68' Lt. ℄ Freeway
Abut. 1
Abut. 4
Figures indicated are direct Philly Rod readings not elevations.
Points on top of 5/8" bolt w/G mark
Glory Hole to Elev 2946.6±
W.S. El. 2942.6±
Approx. groundline 55' Rt. ℄ Freeway
Minimum distance from R/W to top of glory hole
Bent 2
Future Canal
Bent 3
Datum El. 2920.0
ELEVATION
Scale: 1" = 20'
R/W
℄ Channel
Top of glory hole
Variable slope
℄ Freeway
Profile Grade
49'-0" Roadway
37'-0" Roadway
23'-0" 23'-0"
Type 1 Barrier Rail
68'-0"
56'-0"
TYPICAL SECTION AT STATION 3825~
Scale: 1" = 20'
R = 300'
Limit of glory hole
Toe of cut
Top of cut
ABM Channel (Drainage) (See "Road Plans")
257+66.02 E.C.
℄ Calif. Aqueduct
To Los Angeles
B.B. 3823+66.61
Elev. 2976.46
30° Skew
3824+80.00 ℄ Freeway
258+79.97 ℄ Canal
E.B. 3826+07.95
Elev. 2969.22
℄ Antelope Valley Freeway
N 43°39'00" W
B.B. 3823+36.05
Elev. 2977.57
N 76°21'00" E
E.B. 3825+85.39
Elev. 2969.69
To Lancaster & Mohave
Road Clearance Line
Canal Clearance Line
Top of fill
Toe of fill
PLAN
Scale: 1" = 20'
For General Notes See "Foundation Plan" sheet.
Live Loading H20-S16-44 and Alternative
℄ California Aqueduct
R = 300'
Δ = 63°36'18"
T = 186.02'
L = 333.03'
INDEX TO PLANS
SHEET NO. TITLE
1. General Plan.
2. Foundation Plan.
3. Abutments.
4. Bent Details No. 1.
5. Bent Details No. 2.
6. Typical Section.
7. Girder Layout No. 1.
8. Girder Layout No. 2.
9. Girder Reinforcement.
10. Box Girder Details No. 1.
11. Log of Test Borings.
BRIDGE DETAILS
B-2 Barrier Railing Sheet 1.
B-3 Barrier Railing Sheet 2.
For Bridge Details see "Anaverde Creek Bridge" Br. No. 53-1440 R/L.
Notes:
See "Road Plans" for Glory Hole details.
① Paint Bridge No. 53-1833 and year.
② Paint "California Aqueduct"
③ Contrast Treatment
⊕ Denotes location of point of minimum vertical clearance.
AS BUILT
CONTRACT NO. 07-035704
BRIDGE DEPARTMENT
DESIGN SECTION 7
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
CALIFORNIA AQUEDUCT BRIDGE
LOCATED APPROX. 1.0 MILE SOUTHERLY OF AVENUE "S" NEAR PALMDALE IN LOS ANGELES COUNTY
GENERAL PLAN
SCALE AS NOTED
BRIDGE 53-1833 R/L

Figure 12-14

07	LA	14	R24.8/R60.1	111

November 4, 1985

INDEX TO PLANS



Notes:

Total Jacking Force required to raise structure is Approx. 500 k at abut. 1 Lt. & 400 k at abut. 1 Rt.
Lifting jacks are to be positioned in jacking holes, 4 jacks at abut. 1 Rt. & 5 jacks at abut. 1 Lt.
Superstructure to be raised to final deck elevations shown on Plan

Each jack requires bearing Rs 1¼×11×0'-11" top & bottom.
Grout bearing Rs for full bearing against concrete.
Unloading of jacks shall not be started until the concrete in abut. caps & pedestals has attained a strength of 3250 psi.
Deck Closure to be completed before lifting jacks are removed.

⊖ Indicates exist. deck elevation
⊕ " final " "

AS-BUILT PLANS

AS BUILT
CORRECTIONS BY REN REHWALD
CONTRACT NO. 07-006734
DATE 10-30-86

GENERAL NOTES
LOAD FACTOR DESIGN

Design: Bridge Design Specifications (1977 AASHTO with interims and Caltrans Supplements.)
Live Loading: HS20-44 and alternative and permit design load.
Reinforced Concrete: f_y = 60,000 psi
f'_c = 3,250 psi
n = 9
Transverse deck slabs (Working Stress Design)
f_s = 20,000 psi
f_c = 1,200 psi
n = 10

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

APPROXIMATE QUANTITIES

ACCESS OPENING, DECK	12 EA
RAISE BRIDGE	LUMP SUM
FURNISH STEEL PILING (HP 10 X 57)	730 LF
DRIVE STEEL PILE (HP 10 X 57)	12 EA
CLOSE ACCESS, DECK	12 EA

FINAL PAY QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	106 CY
STRUCTURE BACKFILL (BRIDGE)	62 CY
STRUCTURAL CONCRETE, BRIDGE	36 CY
BAR REINFORCING STEEL (BRIDGE)	4,000 LB

to be supplemented by Standard Plans dated July, 1984

Figure 12-15

Contract No. 07-006734

DESIGN	By J S Quincy 2/85	Checked R. Trask 2/85	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
DETAILS	By M. Camacho 2/85	Checked R. Trask 2/86	LAYOUT	By M. Camacho 2/85
QUANTITIES	By M. Camacho 3/85	Checked K. Takagi 3/85	SPECIFICATIONS	By N.A. Ferreira

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - MAINT.
35583

BRIDGE NO. 53-1440 R/L
POST MILE R59.11

ANAVERDE CREEK - ABUT. 1 REPAIRS
GENERAL PLAN

FIGURE 12.16
HOLT TO AVENUE "S" (STATION 12 TO 13)

14 FREEWAY & SANTA CLARA RIVER - LOOKING WEST

14 FREEWAY & SANTA CLARA RIVER - LOOKING SOUTH

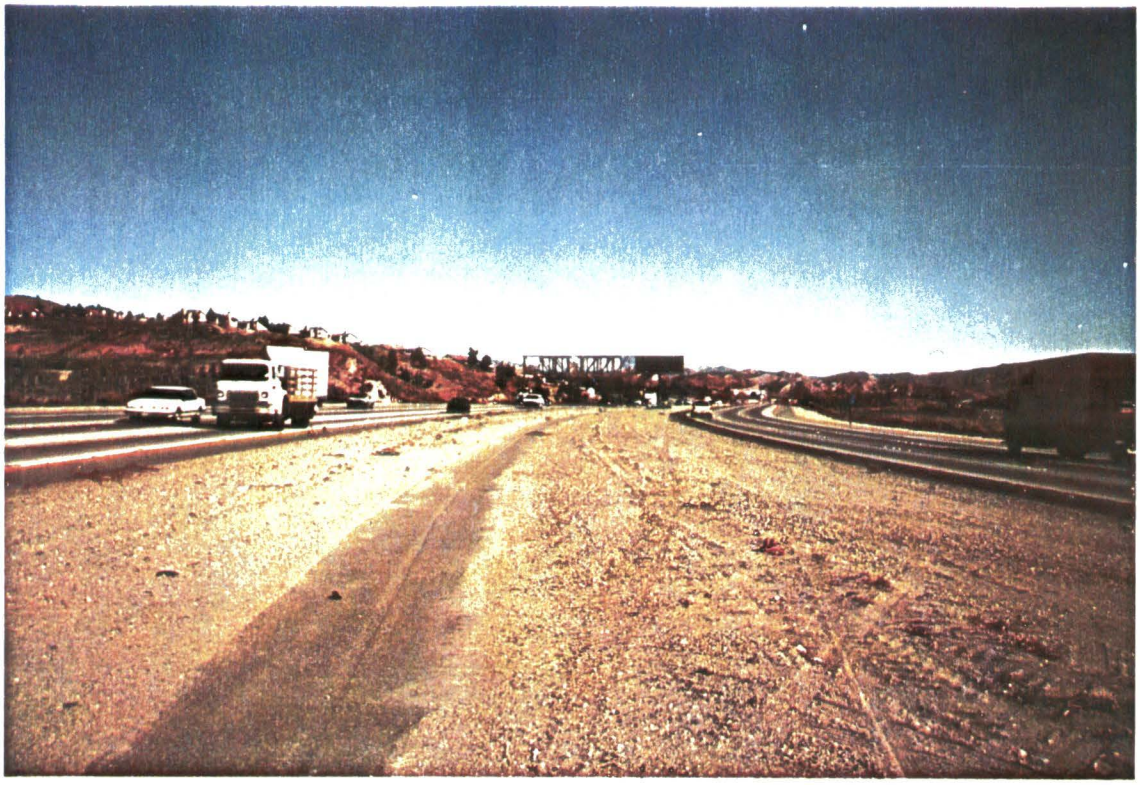


FIGURE 12.17
HOLT TO AVENUE "S" (STATION 12 TO 13)

14 FREEWAY & SPRING CANYON ROAD - LOOKING SOUTH

14 FREEWAY & SPRING CANYON ROAD - LOOKING NORTH

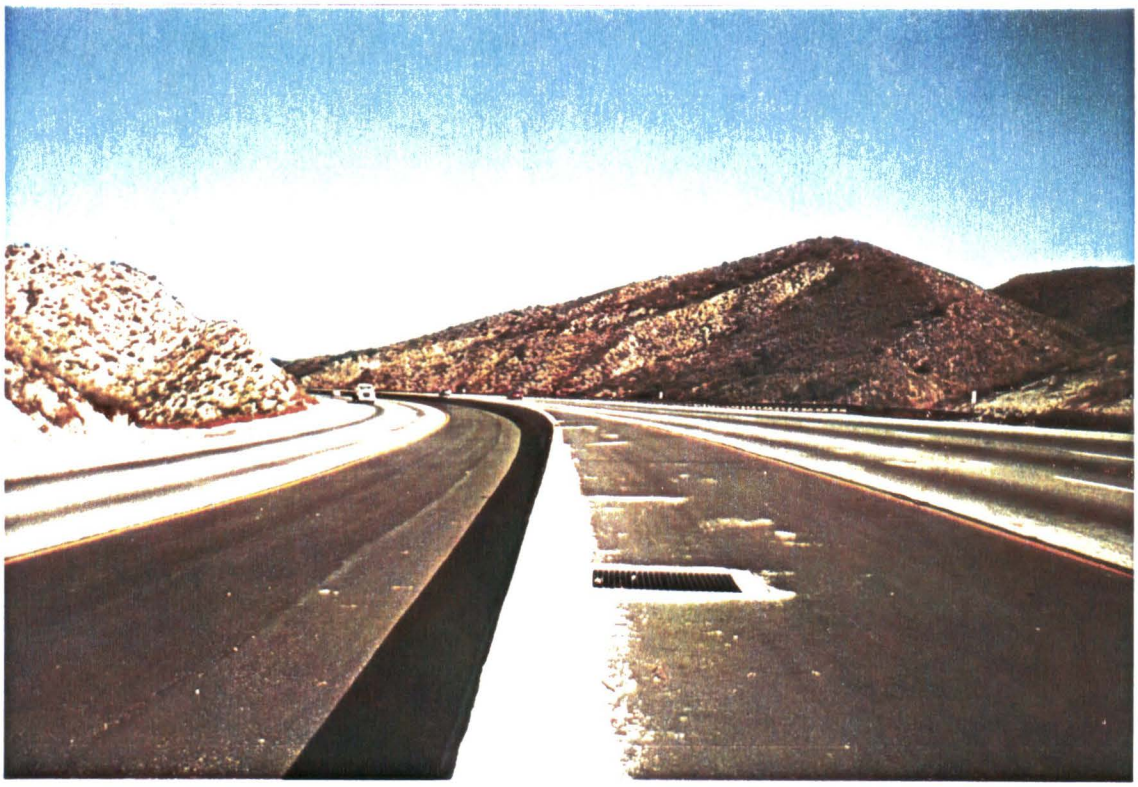


FIGURE 12.18
HOLT TO AVENUE "S" (STATION 12 TO 13)

14 FREEWAY & WARD ROAD - LOOKING NORTH

14 FREEWAY & WARD ROAD - LOOKING SOUTH

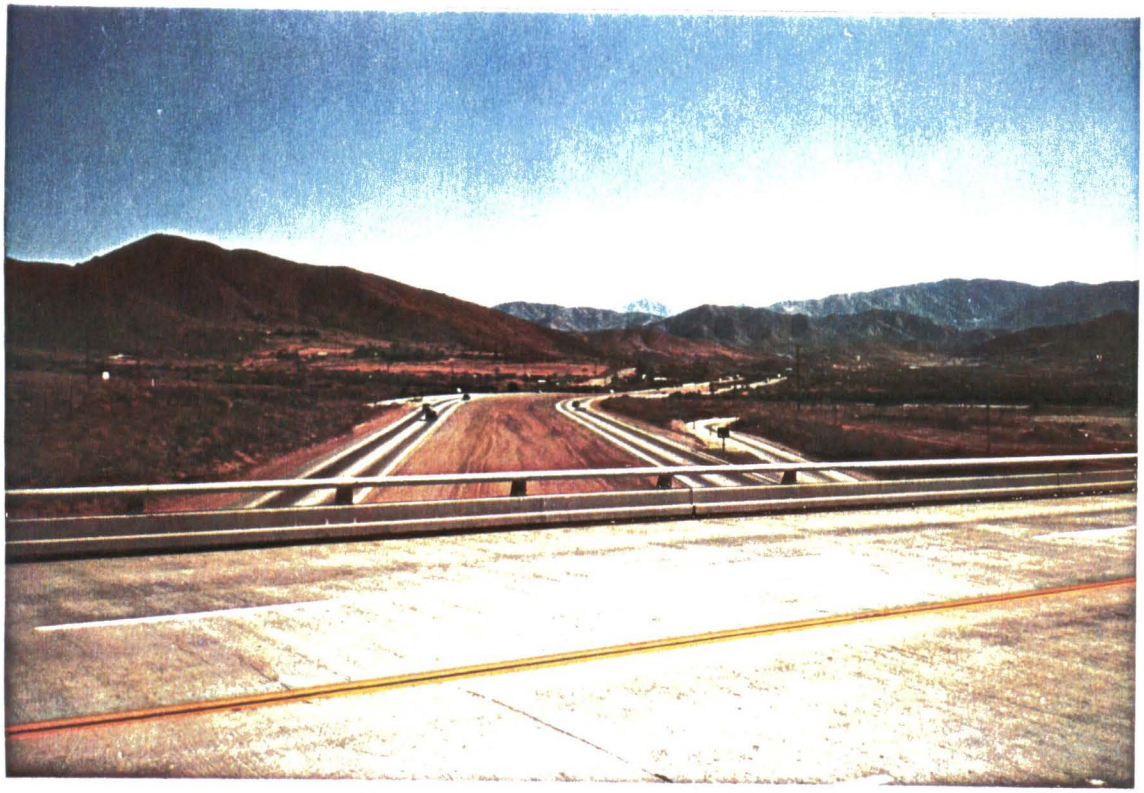
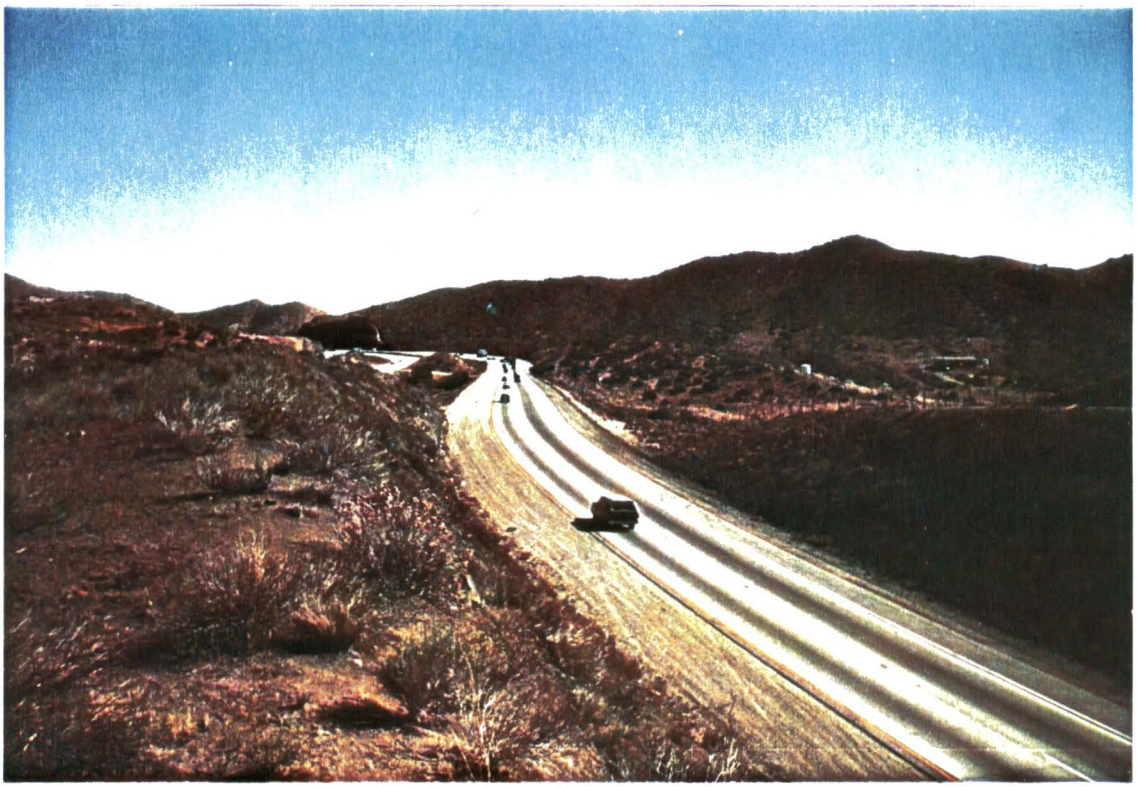


FIGURE 12.19
HOLT TO AVENUE "S" (STATION 12 TO 13)

14 FREEWAY & CROWN VALLEY ROAD - LOOKING WEST



14 FREEWAY & CROWN VALLEY ROAD - LOOKING NORTH AT 14 FREEWAY OVERCROSSING

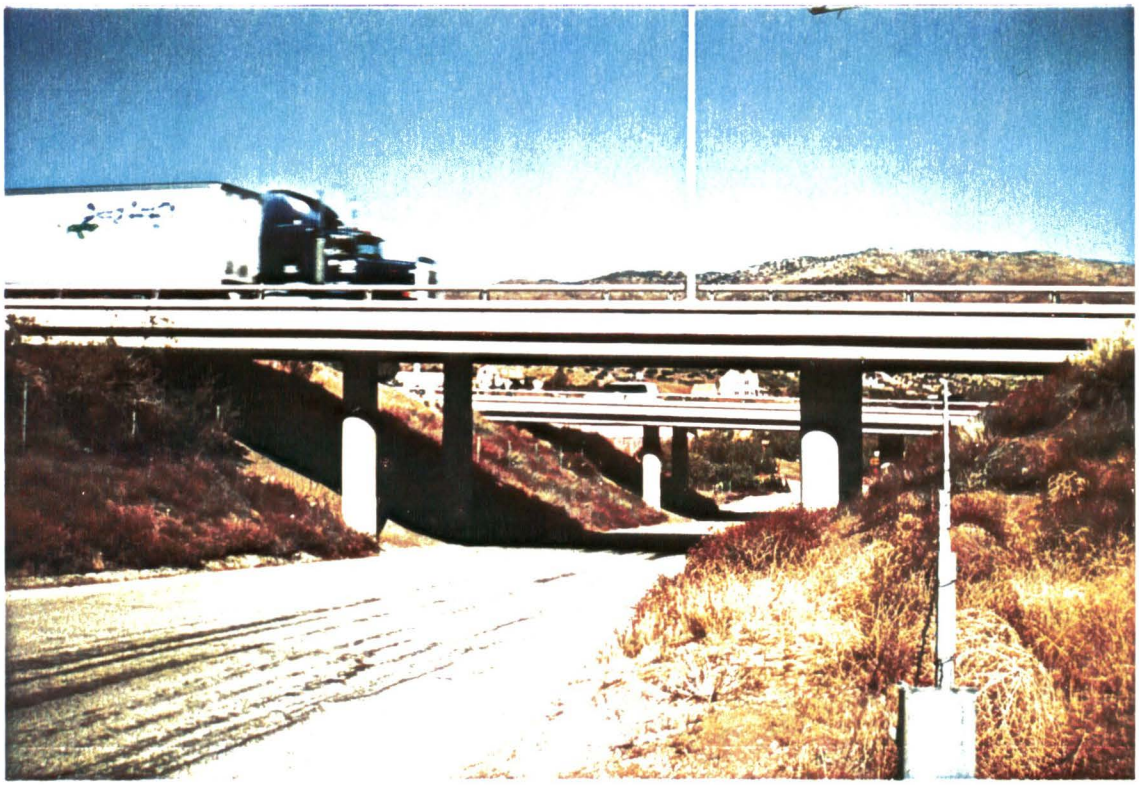


FIGURE 12.20
HOLT TO AVENUE "S" (STATION 12 TO 13)
14 FREEWAY & CALIFORNIA AQUEDUCT - LOOKING NORTH

AVENUE "S" to PALMDALE AIRPORT
(Station 13 to Station 14)

Segment Description

The route segment between Stations 13 and 14 begins at the Avenue "S" Station and ends at the Palmdale Airport Station. Just north of the Avenue "S" Station, the route crosses the trace of the San Andreas Fault. The proposed alignment would be at grade in the median of the freeway until approximately Avenue "Q" (station 3490±) where it would go aerial and begin the eastward turn toward the Avenue P-8 alignment.

After leaving the SR-14 right-of-way, the route continues in an aerial configuration easterly along the proposed Avenue P-8 alignment, turns north at 15th Street East, turns east to access the Palmdale Airport Station, turns south at 20th Street East, turns east on the Avenue P-8 alignment and descends to grade, terminating at the Palmdale Yard area. It should be noted that the Avenue P-8 alignment is proposed as one possible location for development of the proposed SR-138 "Metropolitan Bypass" which would run east from SR-14 to I-15.

Within this segment, traffic is light. Stop-and-go congestion conditions are extremely rare.

Route Description

The width of median is constant at 22 feet within the segment. There is no concrete barrier in this area. Median width varies somewhat, depending on the number of travel lanes which have been developed. Table 13.1 lists pertinent freeway corridor information, such as the number of lanes, and median and shoulder widths from station 3382+00 to station 3510+00.

Freeway Signs

There are no major median mounted signs located within this segment.

Crossing Structures

There are no overpass structures, but four underpass structures crossing SR-14 between Stations 13 and 14. Particular attention should be given to the Rayburn Road bridge (see Figure 13.3). The width of this bridge could present aerial column construction problems that may interfere with the existing freeway. Exhibit 13.3 is Caltrans structural design plans for the rayburn Road undercrossing structure. The location, Caltrans bridge number, width, and height of each are presented in Table 13.3.

Construction Detour Options

As shown in Figures 13.1 and 13.2, the existing median within this segment consists of a 22-foot strip without a concrete barrier. One possible scheme for obtaining additional median width is also presented in each of those figures. In each case, this involves restriping to narrow the existing 12-foot lanes and a reduction in the width of the existing shoulder. It is anticipated that no additional off-freeway detour would be needed within this segment.

The lane closure policy for the SR-14 states that "night work is preferred; one lane closure may be allowed in each direction during peak hours."

Table 13.1
Freeway Characteristics
Avenue S to Palmdale Airport (Station 13 to Station 14)

Station	Southbound		Median Width	Northbound	
	No of Lanes	Shoulder		No of Lanes	Shoulder
3382+00 - 3452+00	2	13	22	2	13
3452+00 - 3480+00	3	11	22	3	11
3480+00 - 3510+00	2	13	22	2	13

Table 13.2
Major Freeway Signs
Avenue S to Palmdale Airport (Station 13 to Station 14)

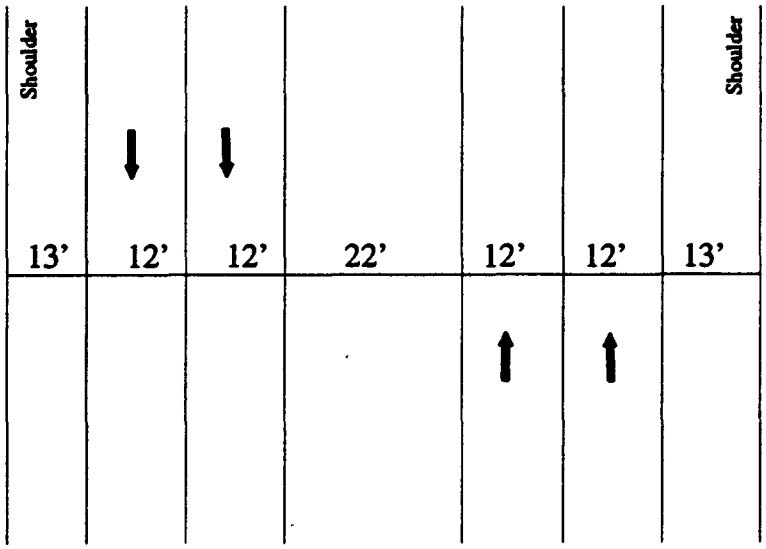
Station	Highway Signs				
	Post Mounted			Overhead Span Mounted	
	S.B. Shoulder	Median	N.B. Shoulder	Southbound	Northbound
3380+00			1		
3405+00	1				
3451+50			1		

Table 13.3
Crossing Structures
Avenue S to Palmdale Airport (Station 13 to Station 14)

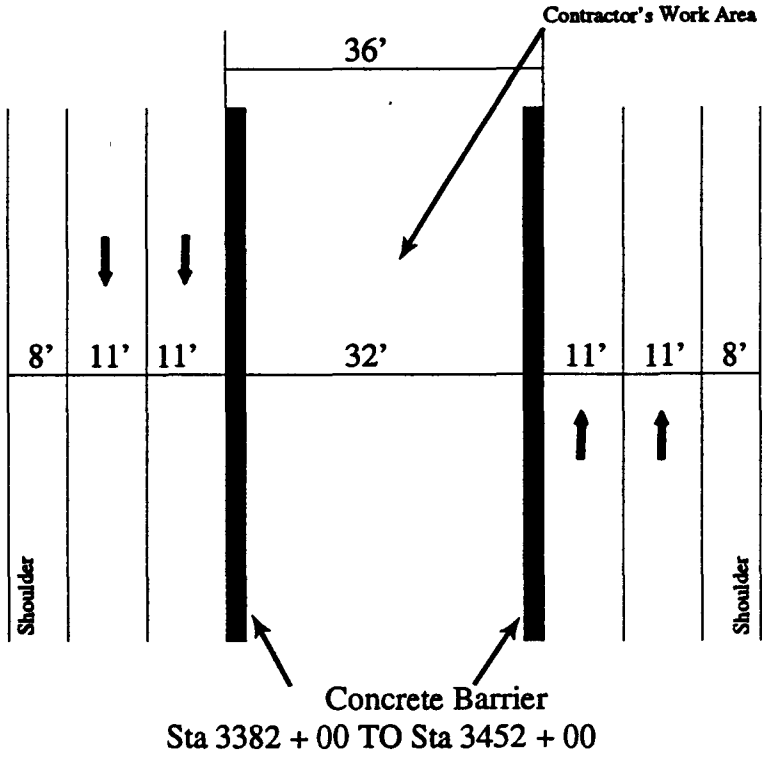
Caltrans Structure Number	Street Name	Survey Station	Over or Under Crossing	Width (ft)		Elevation Above/ Below Fwy (ft)
				Actual	Normal	
53-1440	Rayburn Rd.	3443+00	U	200		- 24
53-1419	Palmdale Blvd.	3466+50	U	150	160	- 23
53-1738	Avenue "Q"	3488+00	U	60		- 17
53-2178	Avenue P-8	3515+00	U	60		- 17

FIGURE 13.1
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
AVENUE "S" TO PALMDALE (STATION 13 TO 14)

EXISTING



Possible
(Restriping of Lanes)

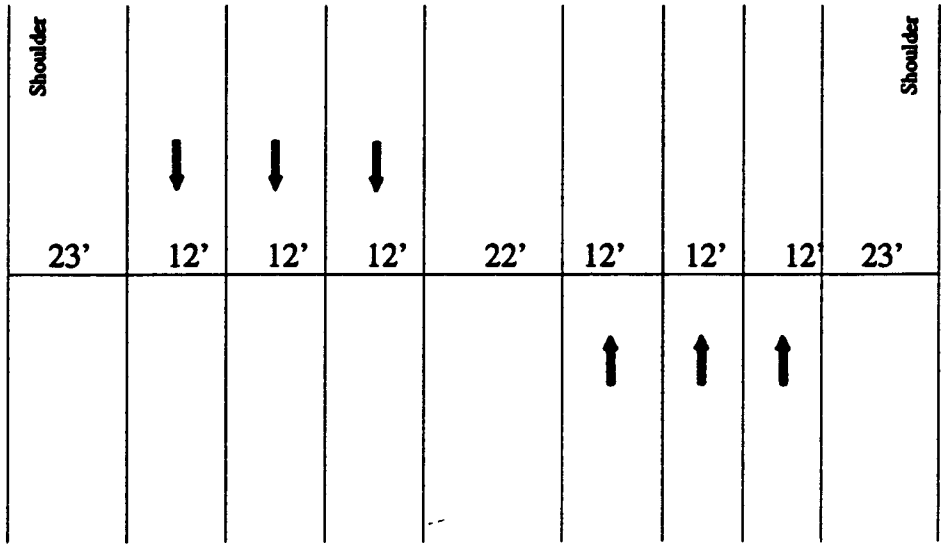


Concrete Barrier
Sta 3382 + 00 TO Sta 3452 + 00

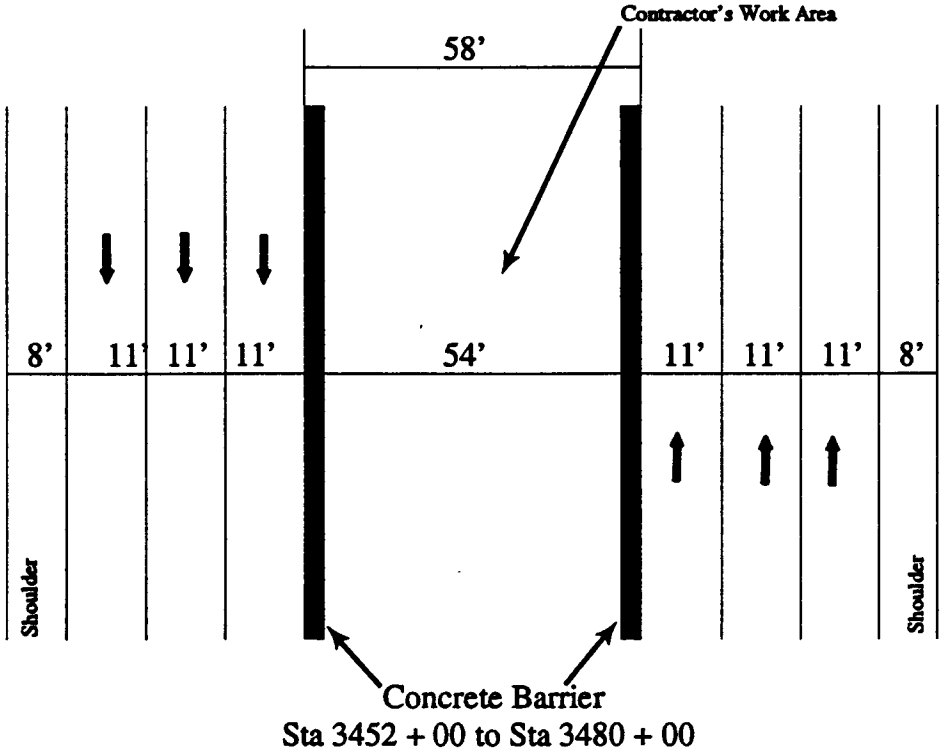
Drawing not to scale

FIGURE 13.2
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
AVENUE "S" TO PALMDALE (STATION 13 TO 14)

EXISTING



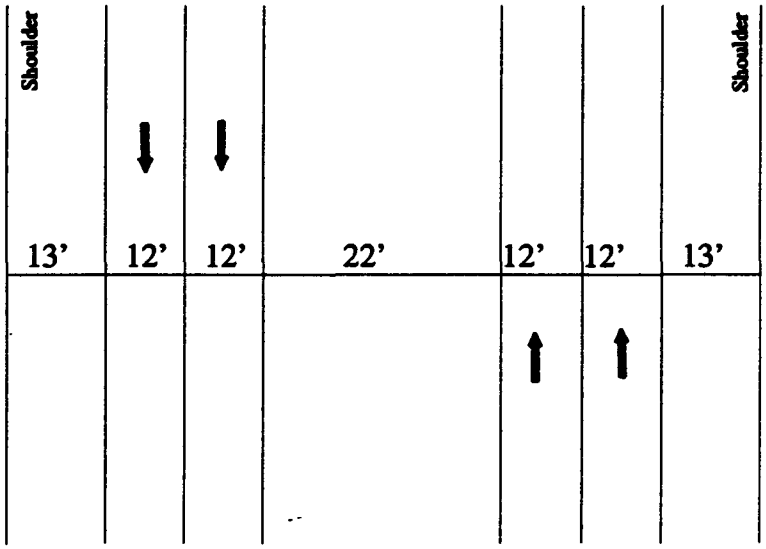
Possible
(Restriping of Lanes)



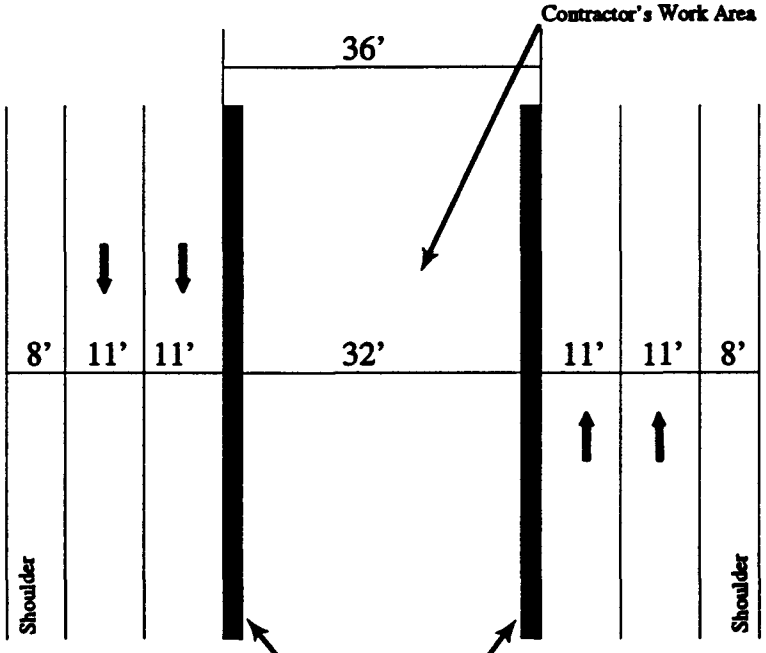
Drawing not to scale

FIGURE 13.3
LAX-PALMDALE SPECIALIZED RAIL TRANSIT SYSTEM
CONSTRUCTION DETOUR OPTIONS
AVENUE "S" TO PALMDALE (STATION 13 TO 14)

EXISTING



Possible
(Restriping of Lanes)



Concrete Barrier
Sta 3480 + 00 to Sta 3510 + 00

Drawing not to scale

FIGURE 13.4
AVENUE "S" TO PALMDALE AIRPORT STATION (STATION 13 TO 14)

14 FREEWAY & AVENUE "S" - NORTHERN VIEW

14 FREEWAY & PALMDALE BLVD. - LOOKING NORTH

FIGURE 13.5
AVENUE "S" TO PALMDALE AIRPORT STATION (STATION 13 TO 14)
14 FREEWAY & AVENUE P-8 - LOOKING SOUTH