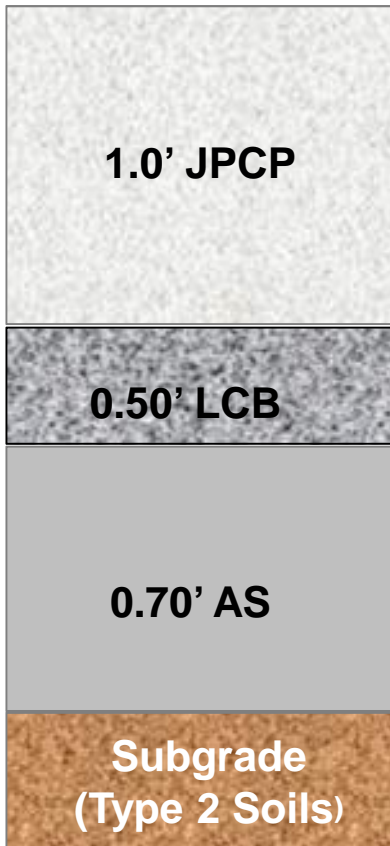
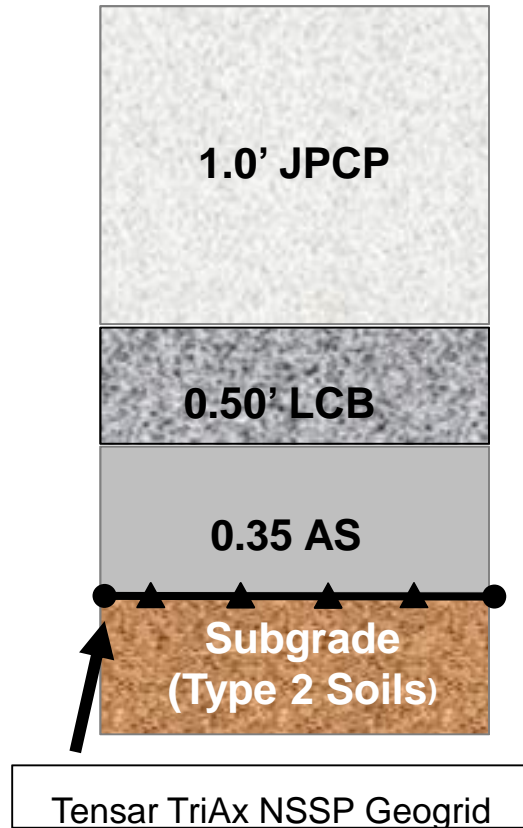




Non-Stabilized Section



TriAx Geogrid NSSP Enhanced Section



State Route 60, Mainline

PROJECT NAME

Contract No. 07-286904

Construction of State Highway From Rte. 605 Separation to 57/60 Separation

PRODUCT

TriAx® Geogrid Non-Standard Special Provision (NSSP)

QUANTITY

130,000 square yards

OWNER

Caltrans

CONTRACTOR

Flat Iron Construction

INSTALLATION DATE

2012

PROJECT DETAILS

Project challenges consisted of:

- Short Working Windows from 10PM TO 4AM
- Minimal working space



In accordance with FHWA Giroud Han analysis, 0.35 ft. AS placed on TriAx NSSP Geogrid Type 1 is equivalent in performance to 1.30 ft. AS without geogrid. This exceeds the performance of the typical 0.70 ft. AS requirement.

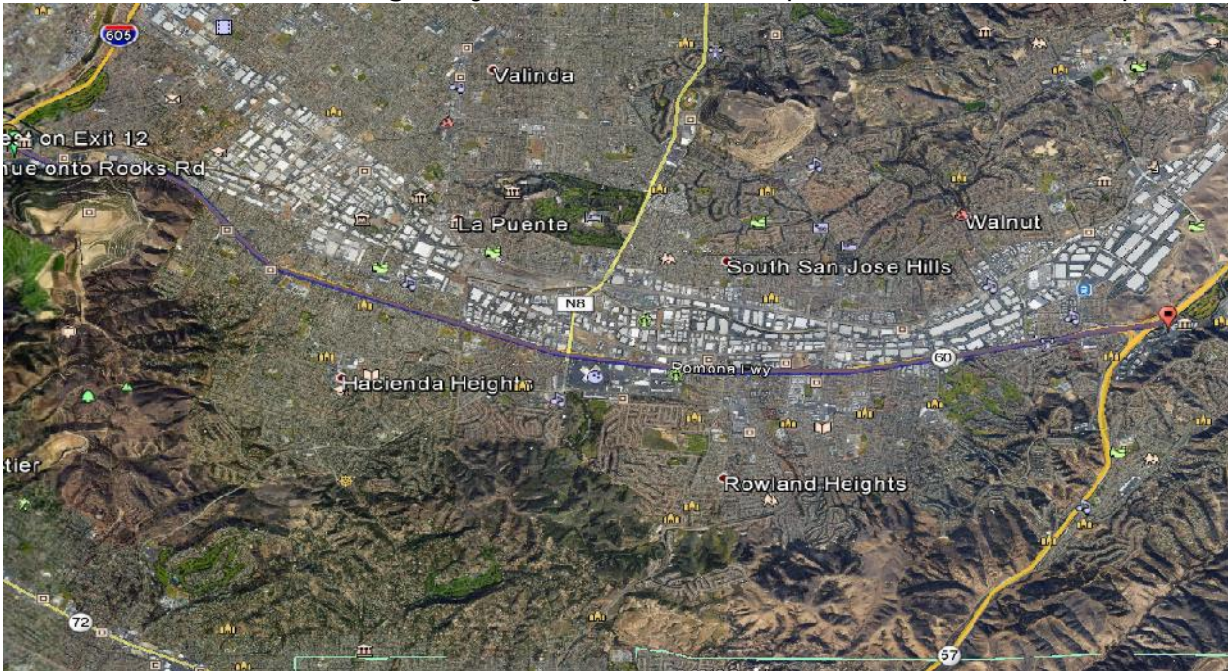
Additionally, the TriAx enhanced design created a sustainable project meeting several of the goals in the Caltrans sustainability policy DP-33 such as Planet, Prosperity, and Innovation. Below is the Construction, Operation, and Maintenance Estimated Enhancement Summary:

Description	Units	Savings
Aggregate Base Import	Tons	120,000
Excavation Export	Cubic Yards	65,000
Truck Loads	Number	11,500
Water	Gallons	2,000,000
Fuel	Gallons	92,000
Carbon Output Emissions	Tonnes of CO ₂	250



Description

Reconstruction of State Highway From Rte. 605 Separation to 57/60 Separation



RESEARCH

A control section (0.70 ft. AS without geogrid) was constructed as part of the construction of the pavement section. Tensar contracted with Applied Research Associates in 2016 to perform a pavement condition survey. The survey indicated that the TriAx NSSP Geogrid sections are performing as well or better than the control section with good Pavement Condition Index (PCI) ratings and International Roughness Index (IRI) values 50% better than the control section.



Tensar International Corporation
2500 Northwinds Parkway
Suite 500
Alpharetta, GA 30009
TensarCorp.com
800-TENSAR-1

SHEET No.	DESCRIPTION
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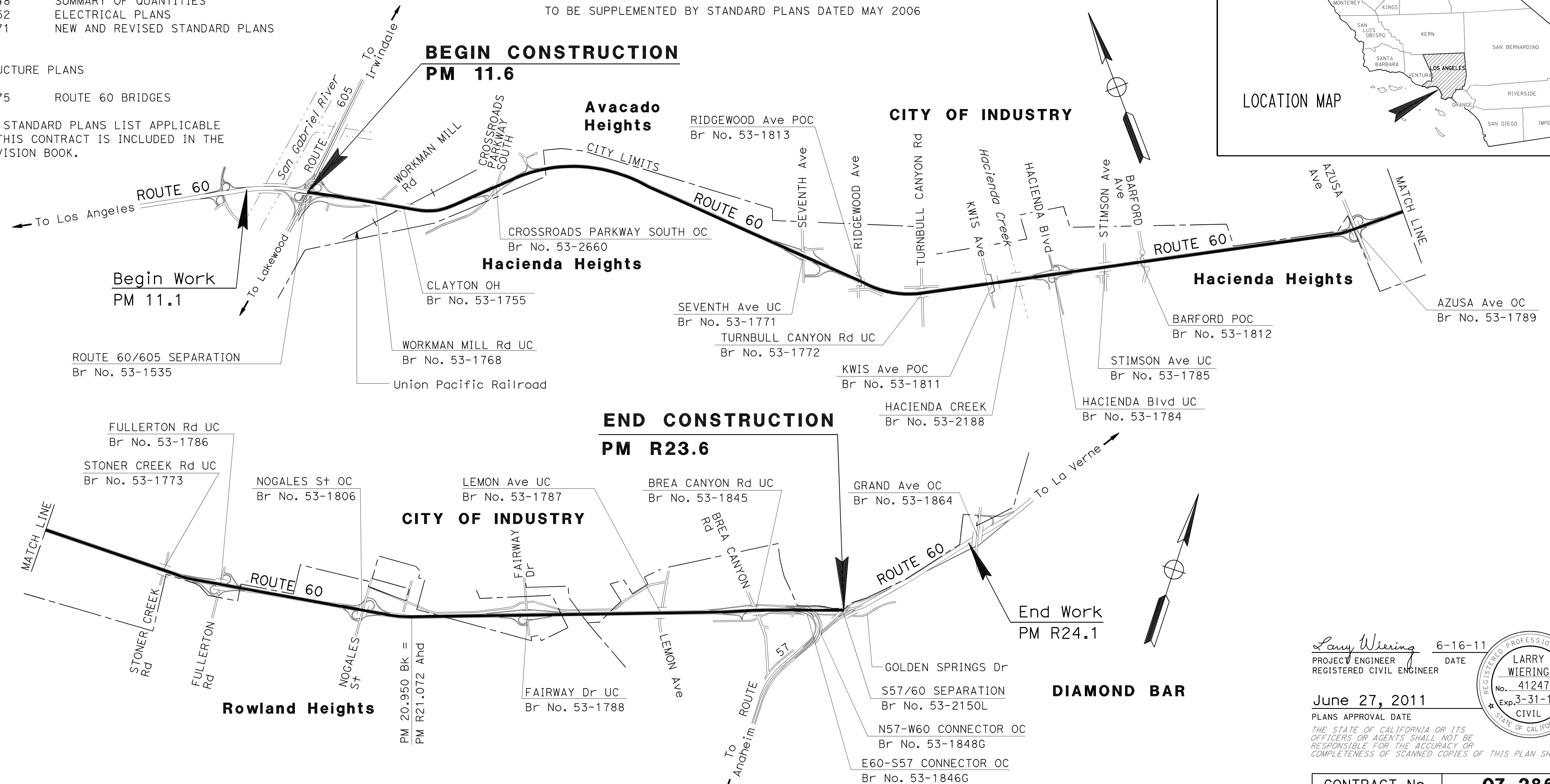
1	TITLE AND LOCATION MAP
2-11	TYPICAL CROSS SECTIONS
12-15	CONSTRUCTION DETAILS
16	DRAINAGE PLAN
17-18	DRAINAGE DETAILS
19	DRAINAGE QUANTITIES
20-21	CONSTRUCTION AREA SIGNS
22-23	TRAFFIC HANDLING PLANS
24-32	TRAFFIC HANDLING DETAILS
33	TRAFFIC HANDLING QUANTITIES
34-36	DETOUR PLANS
37-38	MOTORIST INFORMATION PLANS
39	PAVEMENT DELINEATION DETAILS
40-42	PAVEMENT DELINEATION QUANTITIES
43	SIGN PLAN
44-48	SUMMARY OF QUANTITIES
49-52	ELECTRICAL PLANS
53-71	NEW AND REVISED STANDARD PLANS

72-75 ROUTE 60 BRIDGES

THE STANDARD PLANS LIST APPLICABLE
TO THIS CONTRACT IS INCLUDED IN THE
PROVISION BOOK.

**PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN LOS ANGELES COUNTY
IN CITY OF INDUSTRY AND DIAMOND BAR
FROM ROUTE 60/605 SEPARATION
TO S57/60 SEPARATION**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



NO SCALE

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES)
OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

BORDER LAST REVISED 7/2/2010 | CALTRANS WEB SITE IS: [HTTP://WWW.DOT.CA.GOV/](http://www.dot.ca.gov/)

Page 49 of 322

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USERNAME => s122436
DGN FILE => 0700020897ab001.dgn

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UNIT 1963	PROJECT NUMBER & PHASE	07000208971
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	11.6/R23.6	1	75

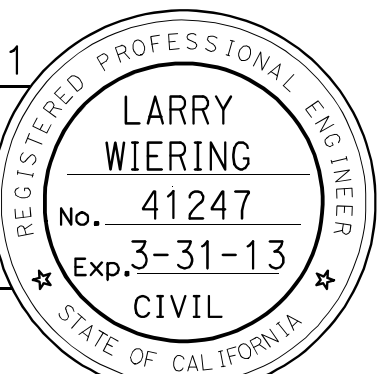


DESIGN ENGINEER	PROJECT MANAGER
HECTOR OBESO	JIWANJIT PALAHA

Larry Weering 6-16-11
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

June 27, 2011
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



4	LAST REVISION	DATE PLOTTED => 02-AUG-2011
	06-27-11	TIME PLOTTED => 11:05

NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. FOR RIGHT-OF-WAY AND ACCESS DATA, CONTACT RIGHT-OF-WAY ENGINEERING AT THE DISTRICT OFFICE.
4. EXISTING DRAINAGE INLETS HAVE NOT BEEN PLOTTED ON THESE PLANS.
5. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
6. SEE SUMMARY OF QUANTITIES SHEETS FOR LOCATIONS AND QUANTITIES OF REPLACE CONCRETE PAVEMENT (RSC). EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
7. OMIT GRINDING ON AC PAVEMENT, BRIDGE DECKS, AND APPROACH AND DEPARTURE SLABS.

ABBREVIATION:

RHMA-G	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)
JPCP (RSC)	JOINTED PLAIN CONCRETE PAVEMENT (RAPID STRENGTH CONCRETE)
ISR (RSC)	INDIVIDUAL SLAB REPLACEMENT (RAPID STRENGTH CONCRETE)
LCBRS	LEAN CONCRETE BASE RAPID SETTING
MSL	MECHANICALLY STABILIZED LAYER

DESIGN DESIGNATION

ADT (2011)	340,000	D	55.00%
ADT (2031)	408,000	T	10.06%
DHV	30,600	V	65 mph
ESAL	452,477,875	TI ₂₀	17.0

Dist

COUNTY

ROUTE

POST MILES
TOTAL PROJECT

SHEET
No.

TOTAL
SHEETS

07

LA

60

11.6/R23.6

2

75

Larry Wiering

06-9-11

REGISTERED CIVIL ENGINEER

DATE

06-27-11

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

LARRY WIERING

No. C41247

Exp. 3-31-13

CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

EXISTING STRUCTURAL SECTIONS

[A] 0.75' PCC 0.35' CLASS A CTB 0.35' CLASS 2 AB 0.60' CLASS 4 AS	[F] 0.75' PCC 0.50' CLASS A CTB 0.25' CLASS A AGGR (RMCTB) 0.50' CLASS 4 AS	[J] 0.15' AC TYPE B 0.50' CLASS 2 AB Var CLASS 4 AS
[B] 0.70' PCC 0.35' CLASS A CTB 0.35' CLASS 2 AB 0.65' CLASS 4 AS	[G] 0.70' PCC 0.35' CLASS A CTB 0.35' CLASS A AGGR (RMCTB) 0.65' CLASS 4 AS	[K] 1.00' PCC 0.50' LCB 0.70' CLASS 3 AB
[C] 0.35' AC TYPE B 0.70' CLASS 2 AB 1.00' CLASS 4 AS	[H] 0.85' PCC 0.50' CLASS A CTB 0.25' CLASS 2 AB 0.40' CLASS 4 AS	[L] 1.30' (TYPE B) 0.35' CLASS 3 AB
[D] 0.35' AC TYPE B 0.50' CLASS 2 AB 1.20' & VAR CLASS 4 AS	[I] 0.35' AC (TYPE B) 0.70' CLASS 2 AB 0.95' CLASS 4 AS	[M] 1.50' AC (TYPE B) 0.35' CLASS 3 AB
		[P] 0.35' AC TYPE B 0.70' CLASS 2 AB 0.95' CLASS 4 AS

REPLACEMENT STRUCTURAL SECTIONS

- 1

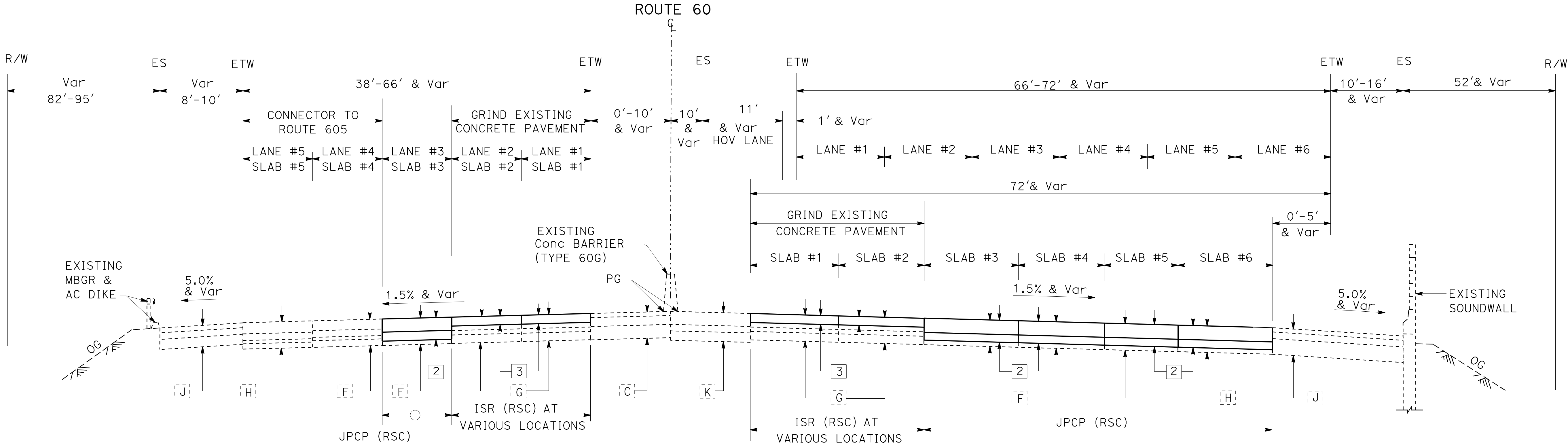
1.00' JPCP (RSC)
BOND BREAKER
0.50' LCBRS
0.35' CLASS 3 AB ADDITIVE QUANTITY
MSL (GEOGRID) ADDITIVE QUANTITY
- 2

1.10' JPCP (RSC)
BOND BREAKER
0.50' LCBRS
0.35' CLASS 3 AB ADDITIVE QUANTITY
MSL (GEOGRID) ADDITIVE QUANTITY
- 3

0.70' ISR (RSC)
BOND BREAKER
LCBRS ADDITIVE QUANTITY
- 4

0.75' ISR (RSC)
BOND BREAKER
LCBRS ADDITIVE QUANTITY
- 5

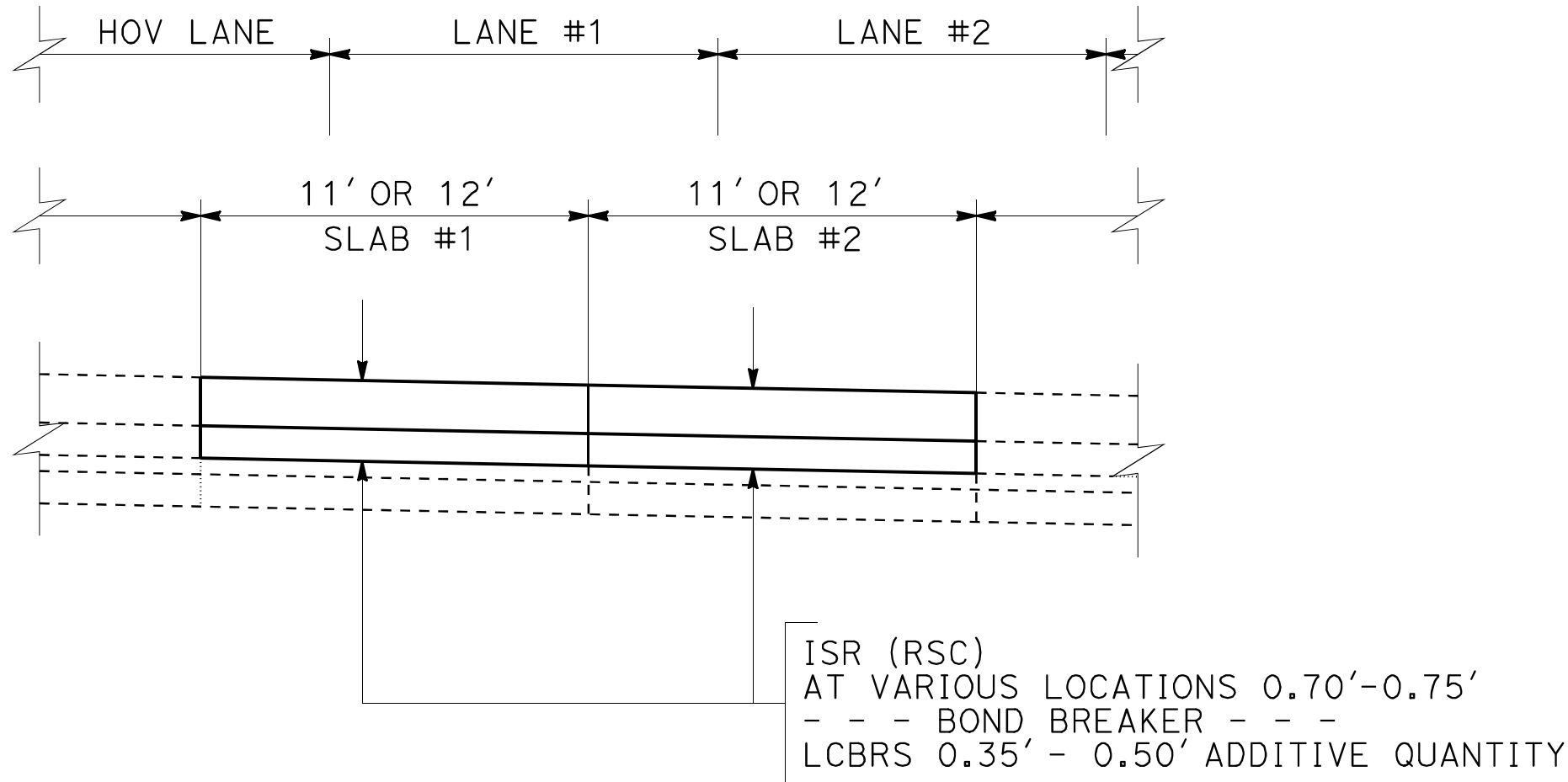
1.10' JPCP (RSC)
BOND BREAKER
0.50' LCBRS
0.50' CLASS 3 AB
MSL (GEOGRID)
GEOTEXTILE FABRIC



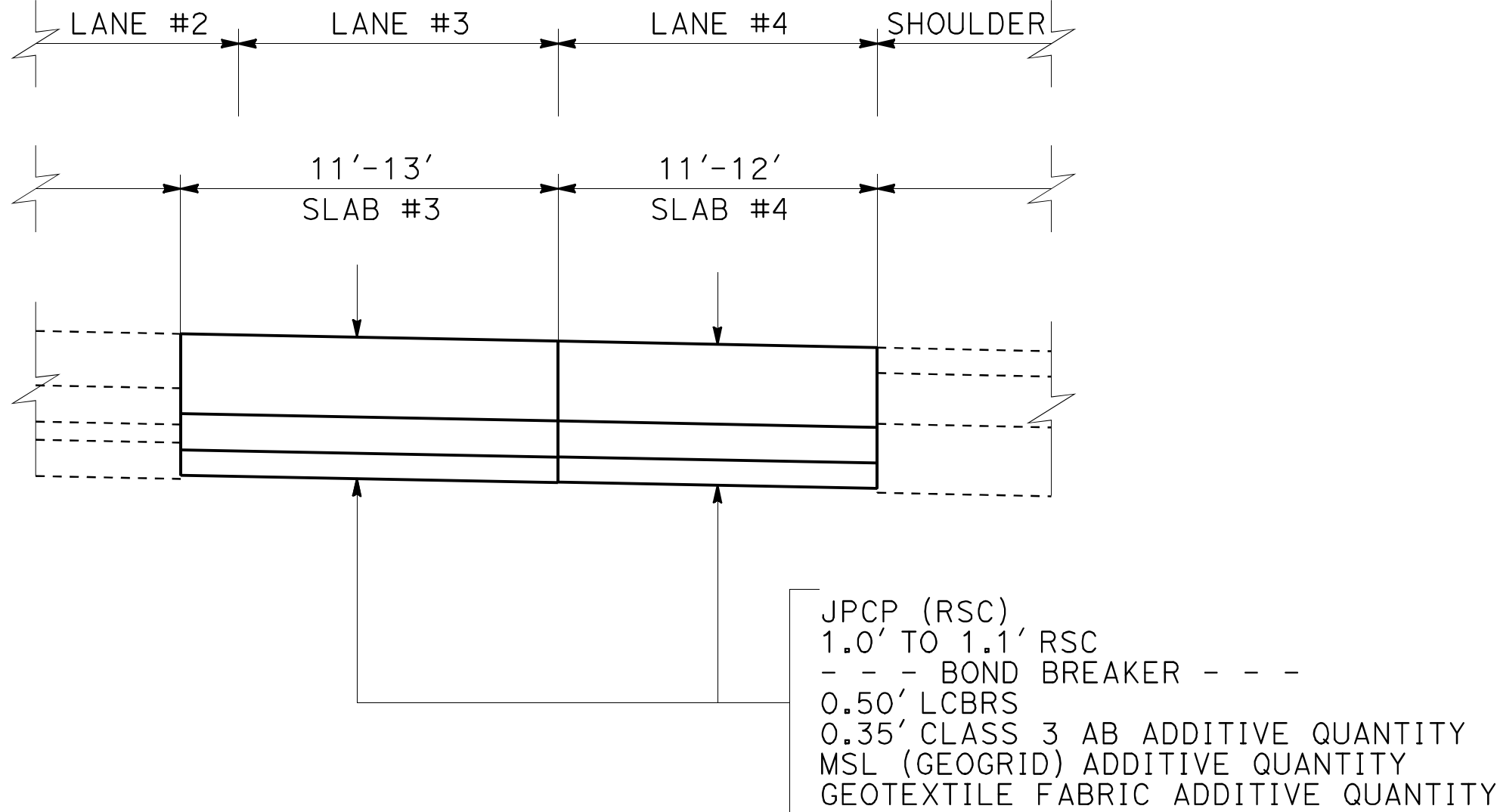
PM 11.6 TO PM 12.0

TYPICAL CROSS SECTIONS
NO SCALE

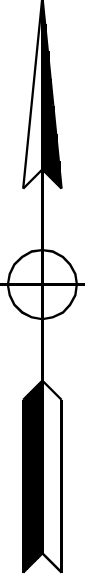
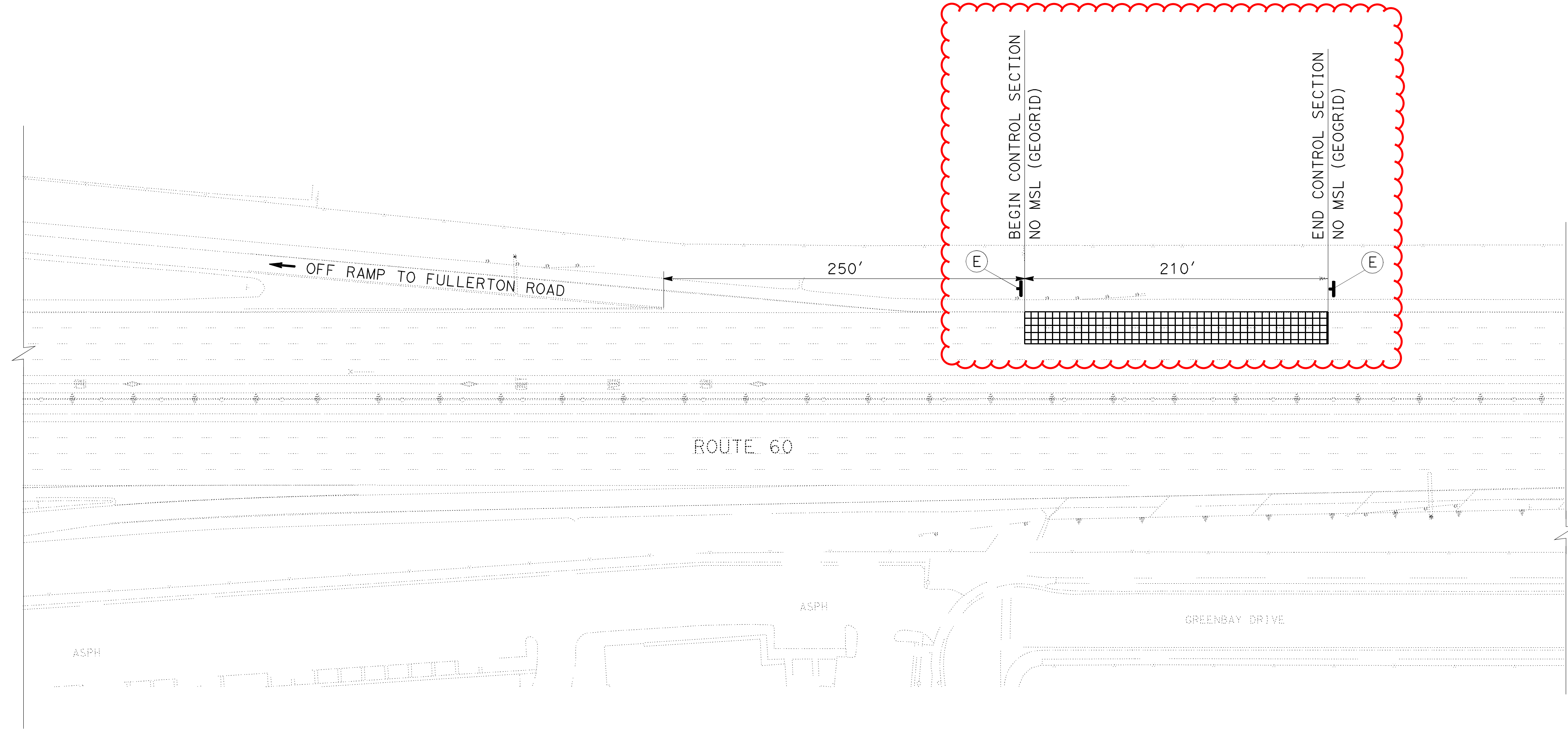
X-1



TYPICAL DETAIL FOR ISR (RSC)
WITH DAMAGED BASE



TYPICAL DETAIL FOR JPCP (RSC)
WITH DAMAGED BASE



CONSTRUCTION DETAILS
NO SCALE

C-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	11.6/R23.6	13	75

Larry Wiering

REGISTERED CIVIL ENGINEER

06-27-11

PLANS APPROVAL DATE

06-9-11

DATE

LARRY WIERING

No. C41247

Exp. 3-31-13

CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS

OR AGENTS SHALL NOT BE RESPONSIBLE FOR

THE ACCURACY OR COMPLETENESS OF SCANNED

COPIES OF THIS PLAN SHEET.

- NOTES:
1. EXACT LIMITS OF CONTROL SECTION WILL BE DETERMINED BY THE ENGINEER.
 2. SEE TYPICAL CROSS SECTIONS SHEET X-8 FOR STRUCTURAL SECTION.
 3. SEE SIGN PLAN SHEET S-1 FOR HIGHWAY CONTROL SECTION MARKER (SIGN NO. (E)).

LEGEND:

CONTROL SECTION
NO MSL (GEOGRID)

MSL MECHANICALLY STABILIZED LAYER