RTIP ID# *(required)* LA0G872

TCWG Consideration Date January 2015

Project Description *(clearly describe project)*

Caltrans proposes to improve traffic operations on the southbound (SB) Interstate 110 (I-110) between the Interstate 405 (I-405)/I-110 interchange and Hamilton Ave/Torrance Blvd off-ramp. Proposed improvements include:

- Adding an auxiliary lane on the SB I-110 between the I-110/I-405 interchange and the SB off-ramp to Hamilton Ave. /Torrance Blvd.
- Extending the SB I-110 #4 lane; this currently drops to 3 lanes north of the northbound (NB) I-405 connector.
- Installing a traffic signal at the intersection of Hamilton Ave/Torrance Blvd and the SB I-110 on and off ramps.

See additional sheets (Layouts) for detailed project scope of work.

Type of Project *(use Table 1 on instruction sheet)*
Reconfigure existing interchange and Change to existing State Highway

County	**Narrative Location/Route & Postmiles** I-110/I-405, I-110 Postmile 8.0/9.0; I-405 Postmile 12.2/13.2 **Caltrans Projects – EA#** 29370
LA	

Lead Agency: Caltrans

Contact Person	**Phone#**	**Email**	**Fax#**
Andrew Yoon	213-897-6117	Andrew_yoon@dot.ca.gov	213-897-1634

Hot Spot Pollutant of Concern *(check one or both)* **PM2.5 x** **PM10 x**

Federal Action for which Project-Level PM Conformity is Needed *(check appropriate box)*

X **Categorical Exclusion (NEPA)**	**EA or Draft EIS**	**FONSI or Final EIS**	**PS&E or Construction**	**Other**

Scheduled Date of Federal Action:

NEPA Assignment – Project Type *(check appropriate box)*

Exempt	**Section 326 – Categorical Exemption**	X **Section 327 – Non-Categorical Exemption**

Current Programming Dates *(as appropriate)*

	PE/Environmental	**ENG**	**ROW**	**CON**
Start	January 2014	September 2015	September 2015	October 2018
End	July 2015	June 2017	May 2017	July 2020

Project Purpose and Need (Summary): *(attach additional sheets as necessary)*

The purpose of this project is to alleviate congestion at the I-405/I-110 interchange. There is insufficient capacity on the existing I-405/SB I-110 interchange. The level of service is expected to deteriorate further as the traffic demand continues to grow. The main contributors to such deterioration of LOS is the insufficient capacity of the existing connectors to handle the increasing demand and the critical weaving downstream of the NB 405/I-110 and the SB 405/I-110 connectors at the termini with SB I-110. Due to multiple weaving and merging maneuvers, considerable confusion takes place resulting in traffic backups on SB 110 upstream of the connectors to NB and SB I-405. Vehicle discharge is further hindered due to vehicles weaving to exit from SB I-110 to the Hamilton Ave/Torrance Blvd off-ramp and backup along this off-ramp due to inefficient discharge to local arterials. Another contributing factor is the reduction of the SB I-110 mainline cross-section from four to three lanes through the I-405/I-110 interchange until the terminus of the I-405/I-110 connector where the SB 110 mainline picks an additional lane.

Improvements are necessary to increase capacity and to mitigate the critical weaving and merging movements on SB I-110 at the freeway connector entrances from I-405 and to allow for a more efficient discharge of traffic load at the I-405/I-110 interchange and at the Hamilton Ave/Torrance Blvd off-ramp.

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*

Existing land uses within the project area includes mostly commercial, office buildings, and manufacturing. Residential uses are located approximately 1,300 feet from the project area.

AM LOS for Existing, Opening (2020), and Horizon (2040) Years						
Segment No.	Description	Existing	Opening Year (2020)		Horizon Year (2040)	
			No-Build	Build	No-Build	Build
1	I-110 from SR-91 connector to start of 3 lane segment	E	F	C	F	C
2	I-110 from start of 3 lane segment to NB I-405 on ramp connector	F	F	C	F	C
3	I-110 from NB I-405 on ramp connector to I-110 SB I-405 on ramp connector	F	F	C	F	C
4	I-110 from SB I-405 on ramp connector to Hamilton/Torrance Blvd off-ramp	D	D	C	D	C
5	Hamilton/Torrance Blvd off-ramp	C	C	D	C	D
6	Hamilton/Torrance Blvd off-ramp to Torrance Blvd. on-ramp	C	C	D	C	D
Note: LOS for ramps cover the ramp influence area (acceleration/deceleration)						

PM LOS for Existing, Opening (2020), and Horizon (2040) Years						
Segment No.	Description	Existing	Opening Year (2020)		Horizon Year (2040)	
			No-Build	Build	No-Build	Build
1	I-110 from SR-91 connector to start of 3 lane segment	C	F	C	F	C
2	I-110 from start of 3 lane segment to NB I-405 on ramp connector	D	F	C	F	C
3	I-110 from NB I-405 on ramp connector to I-110 SB I-405 on ramp connector	F	F	D	F	D
4	I-110 from SB I-405 on ramp connector to Hamilton/Torrance Blvd off-ramp	D	D	D	D	D
5	Hamilton/Torrance Blvd off-ramp	C	C	D	C	D
6	Hamilton/Torrance Blvd off-ramp to Torrance Blvd. on-ramp	C	C	D	C	E
Note: LOS for ramps cover the ramp influence area (acceleration/deceleration)						

I-110 SB on/off ramps at Torrance Blvd/Hamilton Ave						
Intersection LOS						
Scenario	Existing Year (2014)		Opening Year (2020)		Horizon Year (2040)	
	AM	PM	AM	PM	AM	PM
No Build	F	F	F	F	F	F
Build			A	A	A	A

I-110 SB on/off ramps at Torrance Blvd/Hamilton Ave						
Intersection Delay (sec)						
Scenario	Existing Year (2014)		Opening Year (2020)		Horizon Year (2040)	
	AM	PM	AM	PM	AM	PM
No Build	93.98	96.4	101.68	103.96	109.51	114.98
Build			5	9.2	5	9.5

Opening Year (2020) No Build and Build Alternative Average Daily Traffic (ADT) and Truck Volume					
DIRECTION	LINK DESCRIPTION	NO BUILD		BUILD	
		TOTAL	TRUCKS	TOTAL	TRUCKS
NB I-405 to SB I-110	NB I-405 to SB I-110 Loop	4,049	498	4,049	498
SB I-110 to I-405	I-110 SB ramp from SR-91 to NB & SB 405 ramp split	43,747	4,413	43,747	4,413
	From NB & SB 405 ramp split to NB I-405 connector	7,853	1,911	7,853	1,911
	From NB & SB ramp split to SB I-405 connector	35,894	2,502	35,894	2,502
SB I-405 to I-110	From NB & SB I-405 ramp split to SB I-110 connector	20,490	1,781	22,237	1,781
SB I-110 Mainline	SB I-110 from SR-91 to ramp from NB I-405	93,231	8,407	95,302	8,407
	SB I-110 from NB I-405 ramp to ramp from SB I-405	93,231	8,407	95,302	8,407
	SB I-110 from SB I-405 ramp to Hamilton/Torrance Bl off-ramp	113,721	10,188	114,753	10,188

Horizon Year (2035) No Build and Build Alternative Average Daily Traffic (ADT) and Truck Volume					
DIRECTION	LINK DESCRIPTION	NO BUILD		BUILD	
		TOTAL	TRUCKS	TOTAL	TRUCKS
NB I-405 to SB I-110	NB I-405 to SB I-110 Loop	4,500	580	4,500	580
SB I-110 to I-405	I-110 SB ramp from SR-91 to NB & SB 405 ramp split	42,524	4,729	42,524	4,729
	From NB & SB 405 ramp split to NB I-405 connector	6,578	1,911	6,578	1,911
	From NB & SB ramp split to SB I-405 connector	35,946	2,819	35,946	2,819
SB I-405 to I-110	From NB & SB I-405 ramp split to SB I-110 connector	20,925	2,202	24,856	2,202
SB I-110 Mainline	SB I-110 from SR-91 to ramp from NB I-405	95,125	11,433	99,783	11,433
	SB I-110 from NB I-405 ramp to ramp from SB I-405	95,125	11,433	99,783	11,433
	SB I-110 from SB I-405 ramp to Hamilton/Torrance Bl off-ramp	116,050	13,635	118,372	13,635

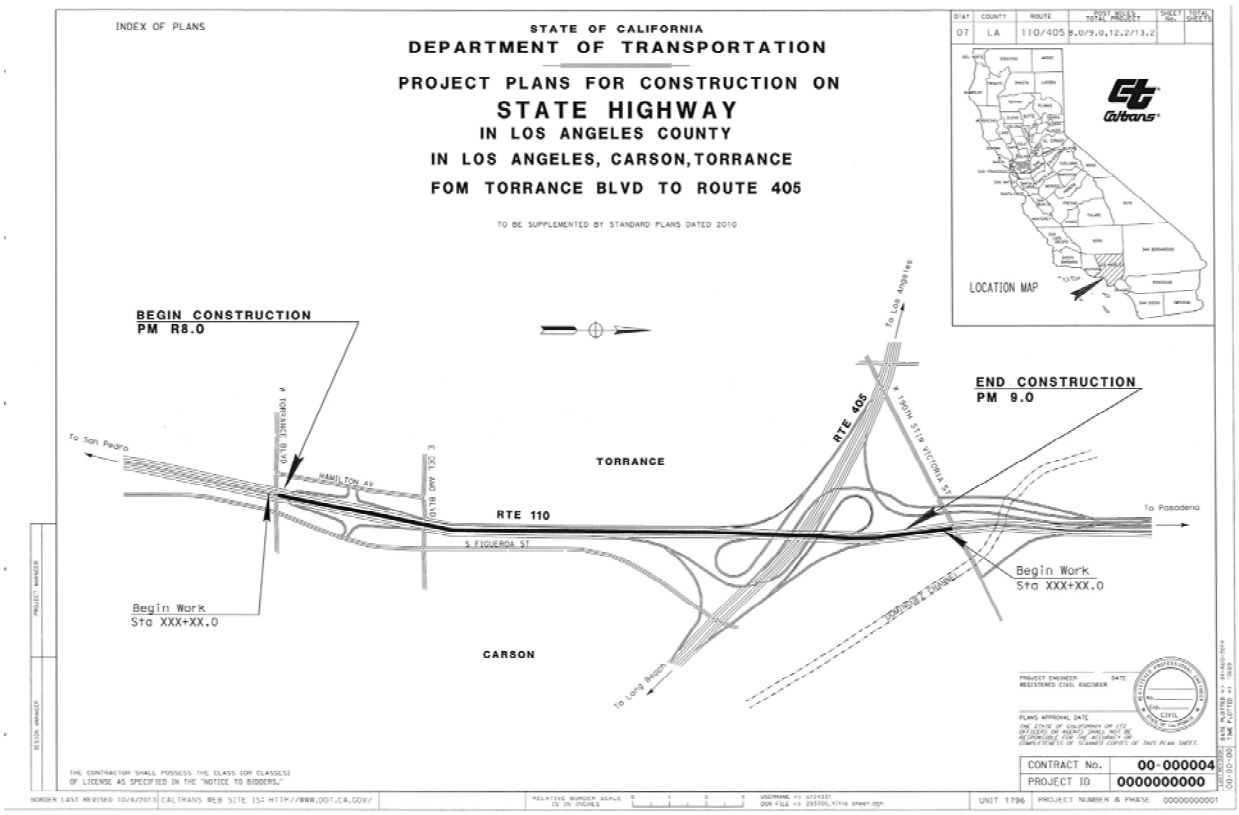
Describe potential traffic redistribution effects of congestion relief *(impact on other facilities)*

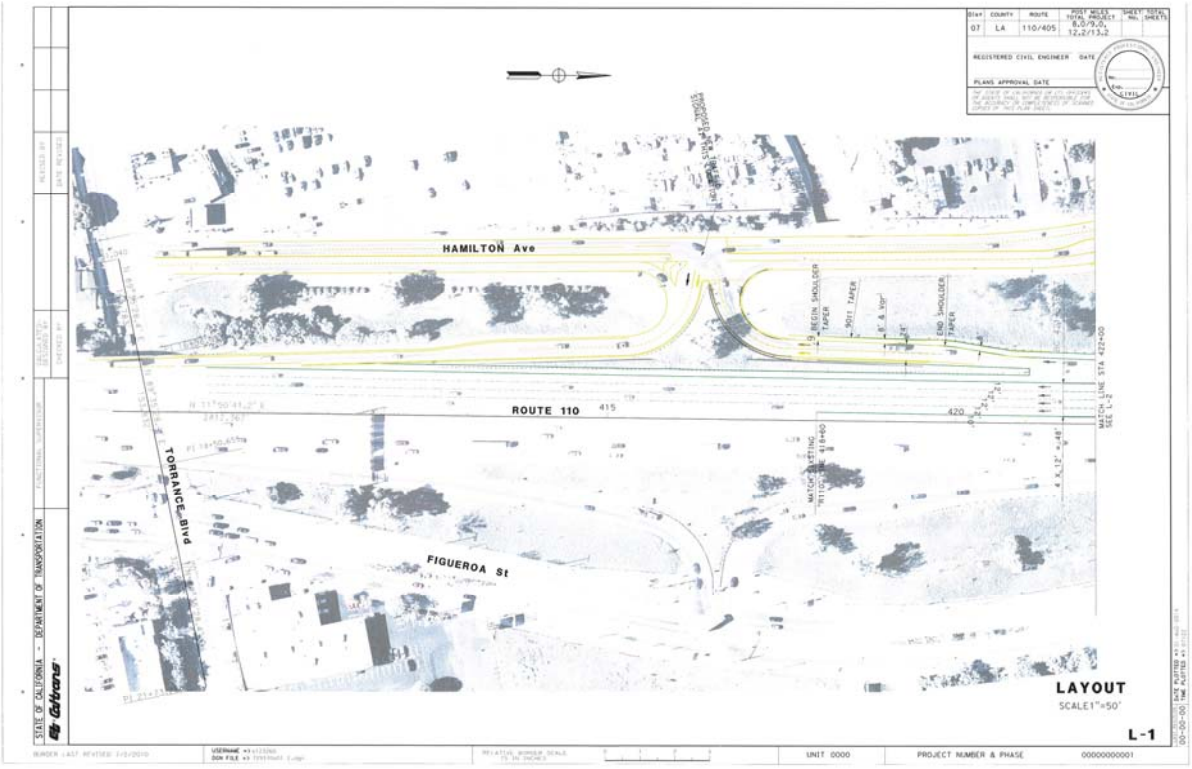
Implementation of this project is anticipated to reduce the queuing on the mainlines I-405 and I-110 in the vicinity of the I-405/I-110 interchange in addition to eliminating the backups onto the connectors. By widening the mainline SB I-110 from the lane drop and making it a uniform 4-lane cross –section, it would eliminate backups onto existing NB I-405/SB I-110 connector by allowing the connector traffic to discharge more efficiently to the SB I-110 and by eliminating the bottleneck and mitigating the weaving downstream. The auxiliary lane would effectively mitigate the weaving and merging of mainline and connector's traffic to Torrance Blvd/Hamilton off-ramp, add storage upstream of the off-ramp, eliminate the bottleneck, and would ultimately improve the operational capacity of the mainline for I-405 and I-110 in the vicinity of the interchange. Modifying the Torrance Blvd. off-ramp terminus and replacing the existing stop sign with a traffic signal would allow for a more efficient discharge of the ramp traffic to local arterials and therefore would eliminate the traffic backups to the SB I-110 mainline.

Comments/Explanation/Details *(attach additional sheets as necessary)*

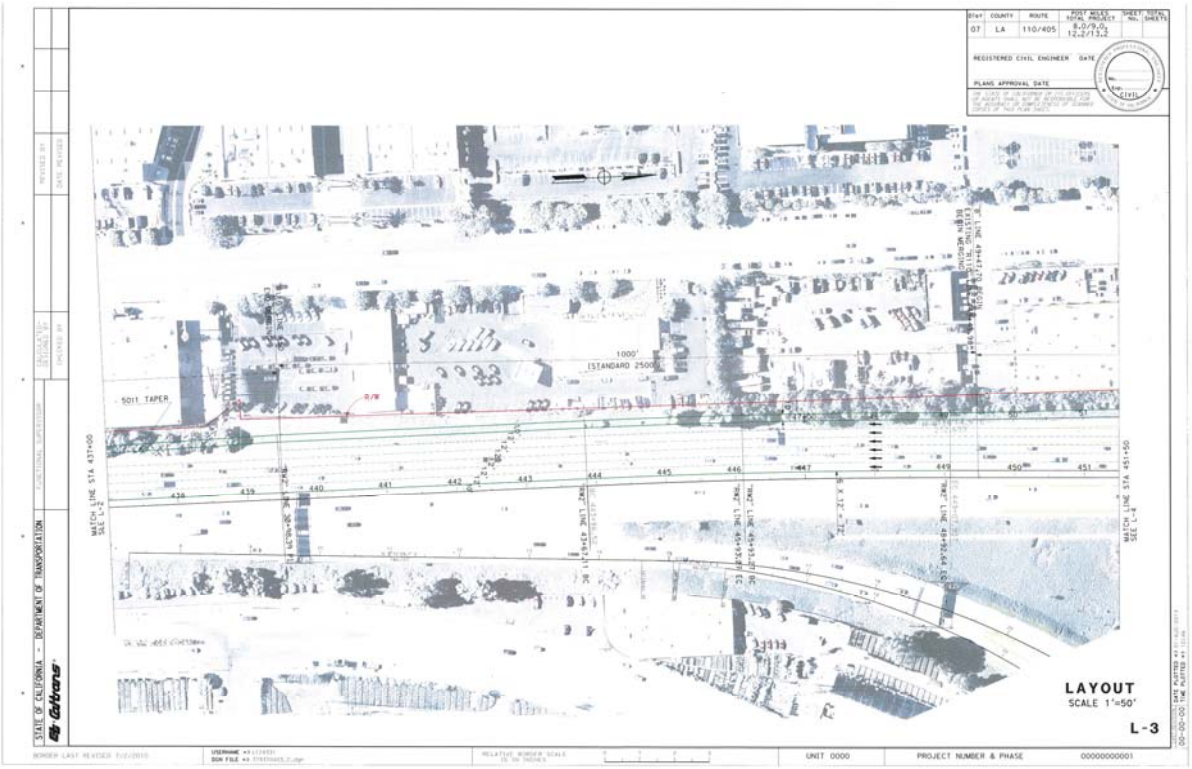
The project is anticipated to alleviate congestion and enhance the operational capacity of the I-405/I-110 interchange and the NB and SB I-405 connectors to SB I-110 thereby improving the LOS, less delay, and enhance safety. The proposed project is not expected to add significant truck traffic; as shown above, truck traffic for Build and No-Build remains the same for both the opening and horizon years; in addition the LOS and delay significantly improved. Increase in truck traffic along the mainline due to the proposed project improvements is less than the criteria listed in the 40 CFR 92.123(b)(1)(i) through (iv).

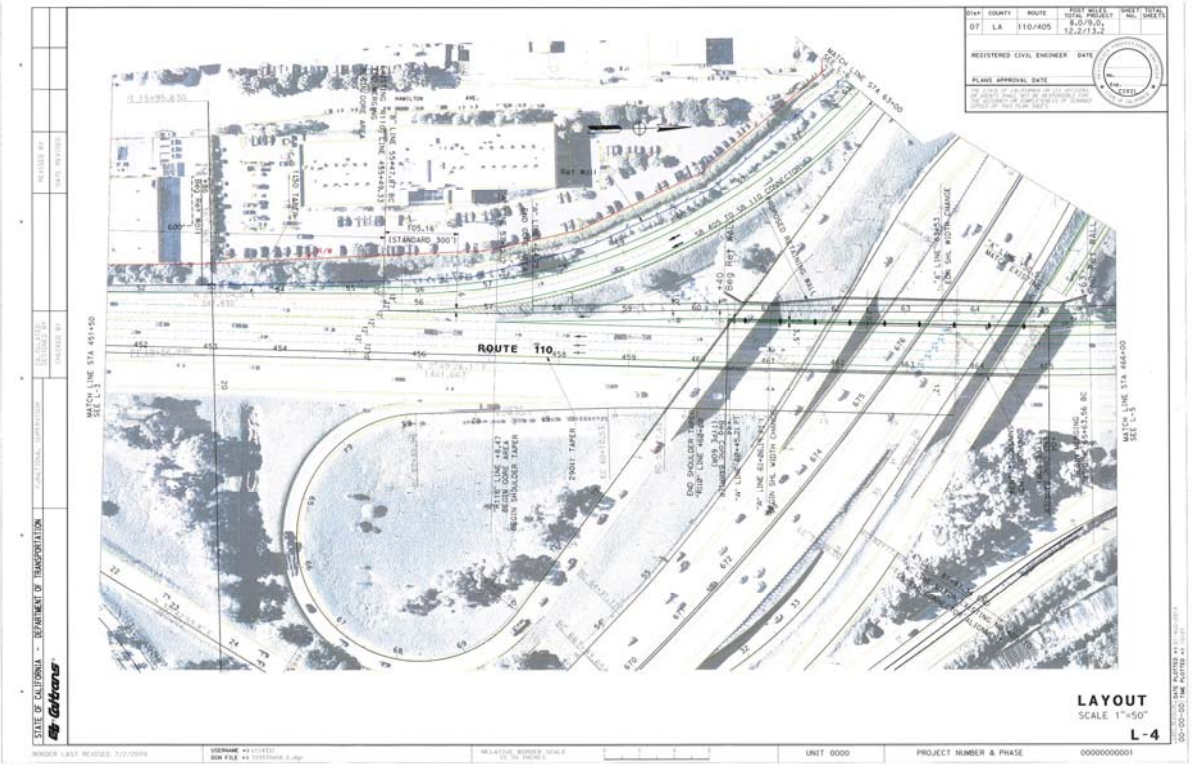
Therefore, the project should be considered as not of air quality concern for $PM_{2.5}$ and PM_{10}.

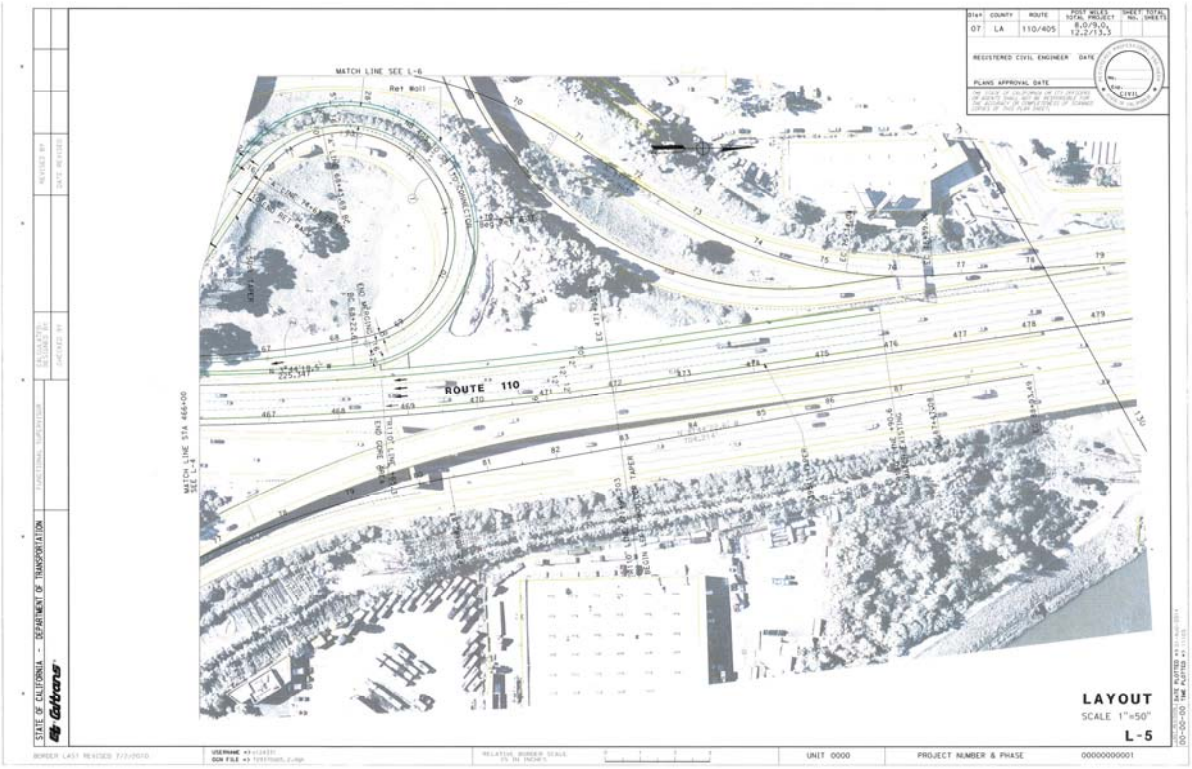

INDEX OF PLANS
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN LOS ANGELES COUNTY
IN LOS ANGELES, CARSON, TORRANCE
FOM TORRANCE BLVD TO ROUTE 405
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010
Dist COUNTY ROUTE POST MILES TOTAL PROJECT SHEET No. TOTAL SHEETS
07 LA 110/405 8.0/9.0,12.2/13.2
LOCATION MAP
BEGIN CONSTRUCTION
PM R8.0
END CONSTRUCTION
PM 9.0
To San Pedro
TORRANCE BLVD
HAMILTON AV
CRENSHAW BLVD
TORRANCE
RTE 110
S FIGUEROA ST
RTE 405
140th STR VICTORIA ST
To Los Angeles
To Pasadena
Begin Work
Sta XXX+XX.0
Begin Work
Sta XXX+XX.0
CARSON
To Long Beach
THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."
CONTRACT No. 00-000004
PROJECT ID 0000000000
UNIT 1796
PROJECT NUMBER & PHASE 0000000000


HAMILTON Ave
ROUTE 110
TORRANCE Blvd
FIGUEROA St
LAYOUT
SCALE1"=50'
L-1
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
UNIT 0000
PROJECT NUMBER & PHASE
00000000001

HAMILTON Ave
DEL AMO BLVD
ROUTE 110
FIGUEROA St
LAYOUT
SCALE 1"=50'
L-2
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
UNIT 0000
PROJECT NUMBER & PHASE
00000000001


07 LA 110/405
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
5011 TAPER
1000'
(STANDARD 2500')
MATCH LINE STA 437+00
SEE L-2
MATCH LINE STA 451+50
SEE L-4
LAYOUT
SCALE 1"=50'
L-3
UNIT 0000
PROJECT NUMBER & PHASE
00000000001


07 LA 110/405
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MATCH LINE STA 63+00
MATCH LINE STA 451+50
SEE L-3
MATCH LINE STA 466+00
SEE L-5
ROUTE 110
(STANDARD 300')
29001 TAPER
LAYOUT
SCALE 1"=50'
L-4
UNIT 0000
PROJECT NUMBER & PHASE
00000000001


DIST
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET NO.
TOTAL SHEETS
07
LA
110/405
8.0/9.0, 12.2/13.3
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
MATCH LINE SEE L-6
ROUTE 110
MATCH LINE STA 466+00 SEE L-4
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
LAYOUT
SCALE 1"=50'
L-5
UNIT 0000
PROJECT NUMBER & PHASE
00000000001

DIST
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET NO.
TOTAL SHEETS
07
LA
110/405
8.0/9.0, 12.2/13.3
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
MATCH LINE SEE L-7
ROUTE 405
MATCH LINE SEE L-5
MATCH LINE STA 63+00 SEE L-4
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
LAYOUT
SCALE 1"=50'
L-6
UNIT 0000
PROJECT NUMBER & PHASE
00000000001

ROUTE 405
AVE VERMONT
LAYOUT
SCALE 1"=50'
L-7
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
UNIT 0000
PROJECT NUMBER & PHASE
00000000001