ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT
ALA-880 CAPM (04-2K700)

Resolution SHOPP-P-1920-09B
(will be completed by CTC)

1. FUNDING PROGRAM

- ☐ Active Transportation Program
- ☐ Local Partnership Program (Competitive)
- ☐ Solutions for Congested Corridors Program
- ☒ State Highway Operation and Protection Program
- ☐ Trade Corridor Enhancement Program

2. PARTIES AND DATE

2.1 This Project Baseline Agreement (Agreement) for the *ALA-880 CAPM (04-2K700)*, effective on, June 24, 2020 (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, *Caltrans*, and the Implementing Agency, *Caltrans*, sometimes collectively referred to as the "Parties".

3. RECITAL

3.2 Whereas at its March 22, 2018 meeting the Commission approved the State Highway Operation and Protection Program, and included in this program of projects the *ALA-880 CAPM (04-2K700)*, the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as Exhibit A and the Project Report attached hereto as Exhibit B, as the baseline for project monitoring by the Commission.

3.3 The undersigned Project Applicant certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

4. GENERAL PROVISIONS

The Project Applicant, Implementing Agency, and Caltrans agree to abide by the following provisions:

4.1 To meet the requirements of the Road Repair and Accountability Act of 2017 (Senate Bill [SB] 1, Chapter 5, Statutes of 2017) which provides the first significant, stable, and on-going increase in state transportation funding in more than two decades.

4.2 To adhere, as applicable, to the provisions of the Commission:

- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Active Transportation Program", dated
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Local Partnership Program", dated
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated
- ☒ Resolution G-18-13, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated March 22, 2018
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated

4.3 All signatories agree to adhere to the Commission's State Highway Operation and Protection Program, Guidelines. Any conflict between the programs will be resolved at the discretion of the Commission.

4.4 All signatories agree to adhere to the Commission's SB 1 Accountability and Transparency Guidelines and policies, and program and project amendment processes.

4.5 Caltrans agrees to secure funds for any additional costs of the project.

4.6 Caltrans agrees to report on a quarterly basis; after July 2019, reports will be on a semi-annual basis on the progress made toward the implementation of the project, including scope, cost, schedule, outcomes, and anticipated benefits.

4.7 Caltrans agrees to prepare program progress reports on a quarterly basis; after July 2019, reports will be on a semi-annual basis and include information appropriate to assess the current state of the overall program and the current status of each project identified in the program report.

4.8 Caltrans agrees to submit a timely Completion Report and Final Delivery Report as specified in the Commission's SB 1 Accountability and Transparency Guidelines.

4.9 All signatories agree to maintain and make available to the Commission and/or its designated representative, all work related documents, including without limitation engineering, financial and other data, and methodologies and assumptions used in the determination of project benefits during the course of the project, and retain those records for four years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.

4.10 The Transportation Inspector General of the Independent Office of Audits and Investigations has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Project Applicant, the Implementing Agency, and any consultant or sub-consultants at any time during the course of the project and for four years from the date of the final closeout of the project, therefore all project records shall be maintained and made available at the time of request. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

5. SPECIFIC PROVISIONS AND CONDITIONS

5.1 Project Schedule and Cost
See Project Programming Request Form, attached as Exhibit A.

5.2 Project Scope
See Project Report or equivalent, attached as Exhibit B. At a minimum, the attachment shall include the cover page, evidence of approval, executive summary, and a link to or electronic copy of the full document.

5.3 Other Project Specific Provisions and Conditions

Attachments:

Exhibit A: Project Programming Request Form
Exhibit B: Project Report

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

ALA-880 CAPM (04-2K700)

Resolution SHOPP-P-1920-09B

May 4, 2020

Date

Tony Tavares
District Director

California Department of Transportation

6.9.20

Date

Toks Omishakin

Director

California Department of Transportation

Date

Mitchell Weiss

Executive Director

California Transportation Commission

Baseline agreement information was extracted from Caltrans' project data systems. Project description, funding and performance measures are from CTIPS. Project delivery milestones are from PRSM. All information is current and accurate.

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

BASELINE AGREEMENT

Date:	05/22/20 11:26:12 AM

District	EA	Project ID	PPNO	Project Manager
04	2K700	0417000010	1454G	PUTH, KENNETH P

County	Route	Begin Postmile	End Postmile	Implementing Agency	
ALA	880	R 0.0	11.8	PA&ED	Caltrans
				PS&E	Caltrans
				Right of Way	Caltrans
				Construction	Caltrans

Project Nickname

CAPM ALA-880-0.0/12.0

Location/Description

In Fremont, from Santa Clara County line to north of Fremont Boulevard Overcrossing. Cold plane pavement, overlay with Rubberized Hot Mix Asphalt (RHMA-G) and Open Graded Friction Course (OGFC), upgrade Americans with Disabilities Act (ADA) curb ramps, upgrade metal beam guardrail, and replace loop detectors.

Legislative Districts

Assembly:	20, 25	Senate:	10	Congressional:	15, 17

PERFORMANCE MEASURES

	Primary Asset	Good	Fair	Poor	New	Total	Units
Existing Condition	Pavement	49.3	40.9			90.2	Lane-miles
Programmed Condition	Pavement	90.2				90.2	Lane-miles

Project Milestone	Actual	Planned
Project Approval and Environmental Document Milestone	03/02/20	
Right of Way Certification Milestone		11/01/21
Ready to List for Advertisement Milestone		03/01/22
Begin Construction Milestone (Approve Contract)		03/01/23

FUNDING (Allocated amounts are shaded)

Component	Fiscal Year	SHOPP					Total
PA&ED	18/19	3,000					3,000
PS&E	19/20	5,000					5,000
RW Support	19/20	620					620
Const Support	21/22	5,400					5,400
RW Capital	21/22	185					185
Const Capital	21/22	57,166					57,166
Total		71,371					71,371

04 - Ala - 880 – PM R0.0/11.8
EA 04-2K7000 – Project Number 0417000010 – PPNO 1454G
SHOPP 20.XX.201.121 – Roadway Preservation
March 2020

Project Report

For Project Approval

On Route 880 in Alameda County

Between Santa Clara County Line

And 0.4 mile north of Fremont Boulevard Overcrossing

I have reviewed the right-of-way information contained in this report and the right-of-way data sheet attached hereto, and find the data to be complete, current and accurate:

for Mark L. Weaver, Deputy District Director,
Right of Way and Land Surveys

APPROVAL RECOMMENDED:

Kenneth Puth, Project Manager

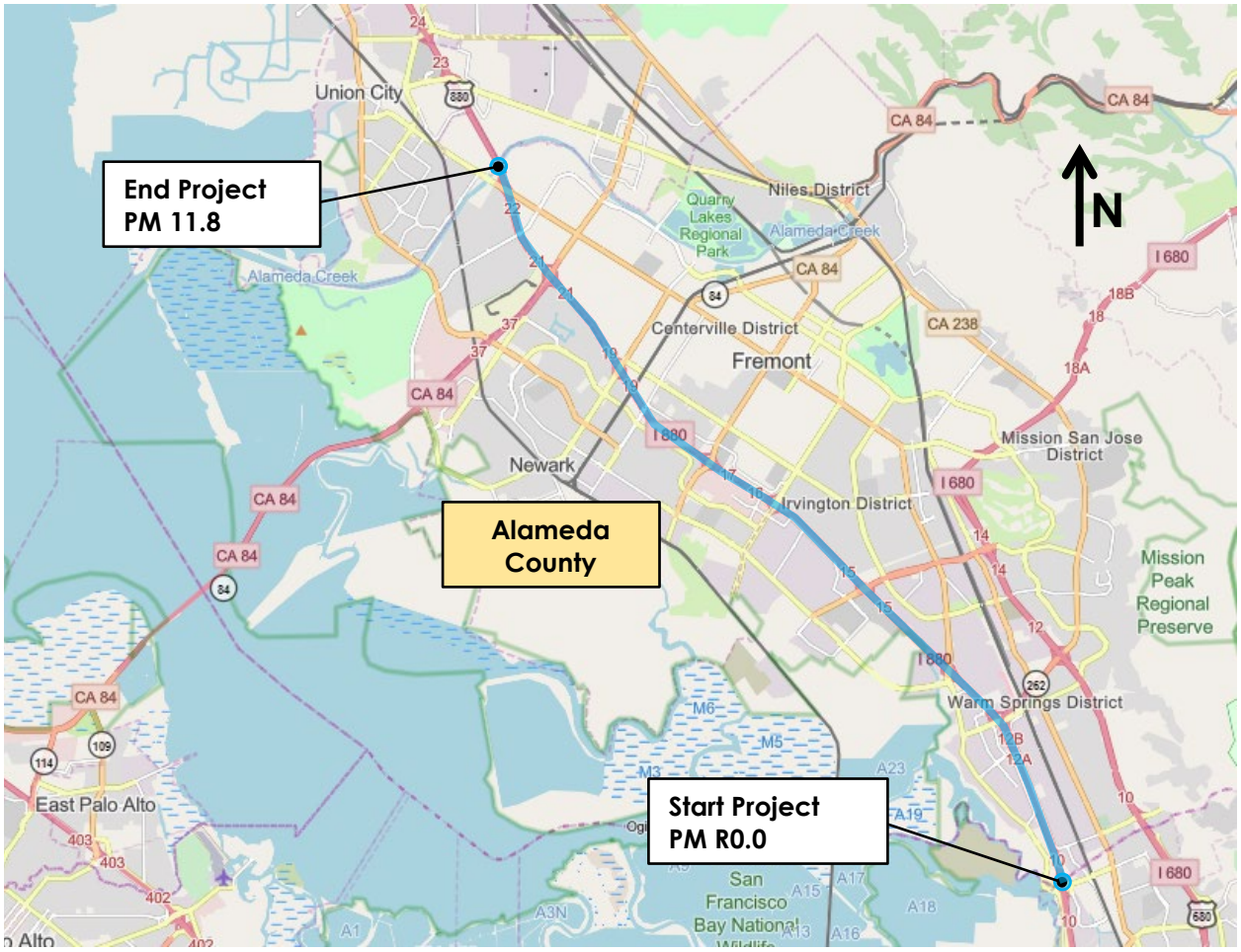
John Uozumi, Office Chief,
Design Services - Toll Bridge Design

PROJECT APPROVED:

Helena (Lenka) Culik-Caro,
Deputy District Director, Design

March 2, 2020
Date

Vicinity Map



In Alameda County from Santa Clara County line to 0.40 mile north of Fremont Boulevard Overcrossing

This Project Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

2/27/2020

REGISTERED CIVIL ENGINEER *DATE*

Table of Contents

1. INTRODUCTION

Project Description

This project is a Capital Preventive Maintenance (CAPM) project to preserve 11.8 miles of pavement along Interstate 880 (I-880) in Alameda County from the Santa Clara County line just north of the Dixon Landing Road Overcrossing to 0.4 mile north of the Fremont Boulevard Overcrossing (see Attachment A for the project location map). The project will resurface the existing Asphalt Concrete (AC) pavement along the mainline and ramps, repair localized failed AC pavement, resurface the maintenance pullouts and existing gore areas, and add tapered edges and shoulder backing. The existing guardrail will be upgraded to current standards. Vegetation control will be installed along the length of the guardrail. The project will also upgrade nonstandard Americans with Disabilities Act (ADA) curb ramps by installing detectable warning surfaces and enhancing uncontrolled crossing locations by installing rectangular rapid flashing beacons (RRFBs). Incidental work for the project will include replacement of loop detectors and signs to update the pavement delineation.

See Attachment B for typical cross sections and layouts for the project. The following table lists the key features of the project.

Project Limits	04 - Ala - 880 – PM R0.0/11.8	
Number of Alternatives	Two (one Build Alternative and the No-Build Alternative)	
	Current Cost Estimate:	**Escalated Cost Estimate:**
Capital Outlay Support	$14,020,000	$14,020,000
Capital Outlay Construction	$49,866,000	$57,166,000
Capital Outlay Right-of-Way	$185,000	$185,000
Funding Source	SHOPP Program Code 20.XX.201.121 – Roadway Preservation	
Funding Year	2021/22	
Type of Facility	Eight-lane freeway	
Number of Structures	0	
SHOPP Project Output	90.2 lane miles	
Environmental Determination or Document	Categorical Exception (CEQA) Categorical Exclusion (NEPA)	
Legal Description	In Alameda County from Santa Clara County line to 0.40 mile north of Fremont Boulevard Overcrossing	
Project Development Category	Category 5	

Notes:
Ala = Alameda County
CEQA = California Environmental Quality Act
NEPA = National Environmental Policy Act
PM = post mile(s)
SHOPP = State Highway Operation and Protection Program

2. RECOMMENDATION

It is recommended that this Project Report be approved and that the project be authorized to proceed to the Plans, Specifications and Estimate (PS&E) phase.

3. BACKGROUND

Project History

As part of the District Pavement Program, a Capital Preventive Maintenance (CAPM) project was programmed to make cost-effective repairs to the Alameda County (Ala)-880 corridor. This minor pavement rehabilitation project will extend the pavement service life 5 to 10 years and improve pavement smoothness. The Project Initiation Report (PIR), approved on June 30, 2017, provided conceptual approval to allow the project to be programed in the 2018 SHOPP.

Community Interaction

The project does not address specific community concerns. The project will not result in adverse impacts on population growth, municipal or community services, utility services, community character, or existing and proposed land uses. No community meetings were held; however, project outreach will occur during the PS&E phase to keep stakeholders informed.

Existing Facility

I-880 is primarily an eight-lane divided freeway with four lanes in each direction. At several locations, auxiliary lanes connect corridor interchanges. Table 3-1 lists geometric information about the roadway within the project limits. The median widths vary from 20 to 22 feet, and the outside shoulders are typically 10 feet wide.

Table 3-1: Roadway Geometric Information

Facility Location (Post Mile Limits)	Minimum Curve Radius (ft)	Through Traffic Lanes			Pavement Shoulder Width		Median Width
		No. of Lanes	Lane Width (ft)	Type (Flexible, Rigid, or Composite)	Left (ft)	Right (ft)	Width (ft)
Ala-880 (PM R0.0/11.8	3,900	8 & var.	12.0	Flexible	10 & var.	10 & var.	20–22

Notes:
Ala = Alameda County
PM = post mile(s)
var. = various

The terrain in the vicinity of the project limits is primarily flat (slopes of 0% to 3%), and the posted speed limit is 65 miles per hour. The existing roadway consists of flexible pavement with an Open Graded Asphalt Concrete (OGAC) wearing surface.

4. PURPOSE AND NEED

Purpose:

The purpose of this project is to preserve and extend the life of the existing pavement and improve ride quality.

Need:

The existing pavement within the project limits is exhibiting distress, which is resulting in poor ride quality. If the pavement is not repaired, it will continue to deteriorate and could lead to the need for a major roadway rehabilitation.

4A. Problem, Deficiencies, Justification

The California Department of Transportation (Caltrans) District Maintenance Engineer has identified that there is a high potential for raveling of the open-graded wearing course within the project limits in the Ala-880 corridor (from post mile [PM] R0.0 to PM 11.8). This wearing course is deficient. It was placed in 2002, and it is well beyond its expected life. The companion CAPM project in construction, Expenditure Authorization (EA) 04-4H5804, which is rehabilitating the adjacent Ala-880 segment to the north (from PM 11.8 to PM 27.5), is being conducted in an area that has experienced major raveling of its open-graded wearing course, starting in 2016.

4B. Regional and System Planning

Corridor Overview

I-880 is a south-north route that is approximately 42 miles long. It runs through Santa Clara and Alameda Counties. The corridor begins at the I-880 / Interstate 280 interchange in the city of San Jose and terminates in the city of Oakland at Grand Avenue. The route provides direct connections to several major freeways, including Interstate 80, Interstate 238, Interstate 280, Interstate 580, Interstate 680, Interstate 980, State Route (SR) 17, and U.S. Highway 101 (US 101). The corridor also intersects SR 61, SR 82, SR 84, SR 92, SR 237, and SR 262. I-880 connects the San Francisco–Oakland Bay Bridge with Silicon Valley, serving the Port of Oakland, Oakland International Airport, San Jose's Mineta International Airport, and about ten East Bay and South Bay cities along the way. Continuing as SR 17, the freeway connects the Bay Area to Santa Cruz.

The portion of I-880 that is within the project limits is primarily an eight-lane freeway with Express Lanes, which are scheduled to open in 2020. The Express Lanes will not charge for carpools (two or more persons per vehicle), vanpools, buses, motorcycles,

and other eligible vehicles. The Express Lanes will also be available to solo motorists who choose to pay a toll that varies with traffic.

The I-880 corridor is well served by the San Francisco Bay Area Rapid Transit District (BART) system, Alameda–Contra Costa (AC) Transit, Altamont Corridor Express (ACE), and Amtrak's Capitol Corridor line. Bicycle and pedestrian access is available via the nearby arterial network.

Federal and State Planning

I-880 is designated as both a part of the Dwight D. Eisenhower National System of Interstate and Defense Highways on the National Highway System and an Interstate on the California Road System. I-880 is not designated as a Primary Highway Freight System Route on the National Highway Freight Network. The portion of I-880 that is within the project limits is a Surface Transportation Assistance Act National Network route and part of the Tier 2 State Freight Network on the 2014 California Freight Mobility Plan, which represents highways with lower truck volumes than Tier 1 but that provide connectivity to and between key freight gateways and regions. I-880 is not eligible to be part of the State Scenic Highway System.

I-880 is not identified as one of the 93 statutory Interregional Road System routes or as part of the 2015 Interregional Transportation Strategic Plan.

Although the Corridor System Management Plan developed for I-880 does not identify a 25-year concept for the route, the main strategy to improve future congestion is to implement and enhance advanced/adaptive ramp metering throughout the corridor.

State Planning

Government Code Section 14526.5 requires Caltrans to prepare a State Highway Operation and Protection Program (SHOPP) biennially to identify the expenditures and projects that are necessary to preserve and maintain the highway system. The SHOPP includes those projects for which construction is to begin within four fiscal years. The subject project was included in the 2018 SHOPP, which the California Transportation Commission (CTC) approved on March 22, 2018.

Regional Planning

The Metropolitan Transportation Commission (MTC) functions as both the State of California (State)-designated Regional Transportation Planning Agency and the federal-designated Metropolitan Planning Organization. As such, the MTC is responsible for preparing both the Transportation Improvement Program (TIP) and the Regional Transportation Plan (RTP) for the San Francisco Bay Area.

The TIP is a list of surface transportation projects, programs, and investment priorities in the nine counties that constitute the San Francisco Bay Area. All projects included in the TIP are consistent with "Plan Bay Area." Plan Bay Area is a

comprehensive regional plan that coordinates both land use and transportation investments through 2040. The plan is a federal requirement for all metropolitan areas, and it also serves as both the state-mandated RTP and the Sustainable Community Strategy (SCS).

The project is a grouped project under the SHOPP Roadway Preservation program, TIP identification no. VAR170006, that was included in the 2019 TIP. The 2019 TIP was approved by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) on December 17, 2018.

Local Planning

The Alameda County Transportation Commission (ACTC) is the designated Congestion Management Agency for Alameda County. ACTC plans, funds, and delivers transportation programs and projects that expand access and improve mobility to foster a vibrant and livable Alameda County. The 2016 Alameda Countywide Transportation Plan is the long-range policy document that guides future transportation investments, programs, policies, and advocacy for Alameda County through 2040. The plan addresses all parts of Alameda County's complex transportation system, including investments in capital, operating, and maintenance activities for all transportation modes. Currently, there are no ACTC projects proposed within the project limits.

4C. Traffic

Current and Forecasted Traffic

The Caltrans District 4 Transportation Modeling & Forecasting Branch has provided the current and forecasted traffic volumes for the project locations. The volumes are summarized in Table 4-1.

Table 4-1: Current and Forecasted Traffic for Ala-880

Indicator	PM R0.0/11.8	
Count year ADT (2019)	221,900	
Construction year ADT (2024)	232,500	
Design year ADT (2044)	274,700	
DHV (2044)	19,270	
D	57.79%	
% Trucks	4.4%	
	Median Lanes	Two Right Lanes
20-year T.I.	11.50	13.50
20-year ESAL	8,025,000	32,100,000
40-year T.I.	12.50	15.00
40-year ESAL	17,389,000	69,551,000

Notes:
ADT = Average Daily Traffic
Ala = Alameda County
D = directional distribution (% of traffic moving in the peak travel direction)
DHV = Design Hourly Volume
ESAL = Equivalent Single Axle Load
PM = post mile(s)
T.I. = Traffic Index

Collision Analysis

An investigation into the accident history within the project limits was conducted for the most-recent available 3-year study period (January 1, 2016, to December 31, 2018). There were a total of 2,815 collisions within the project limits during the study period, of which 6 collisions resulted in fatalities, 827 resulted in injuries, and 1,982 resulted in property damage only. Table 4-2 compares the actual accident rates within the project limits with the average accident rates for similar facilities statewide. Table 4-3 lists the types of collisions within the project limits. Table 4-4 lists the roadway conditions within the project limits at the time of collision.

Table 4-2: Comparison of Actual Accident Rates within the Project Limits with Average Accident Rates for Similar Facilities Statewide (January 1, 2016, to December 31, 2018)

Location	No. of Accidents			Actual Accident Rates (acc/mvm)			Average Accident Rates Statewide (Accident/MVM)		
	F	F + I	Total	F	F + I	Total	F	F + I	Total
04-ALA-880 PM R0.000/11.800	6	833	2,815	0.002	0.310	1.040	0.004	0.310	0.980

Notes:
acc/mvm = accident(s) per million vehicle-miles
Ala = Alameda County
F = fatal accident(s)
I = injury accident(s)
PM = post mile(s)

Table 4-3: Types of Collisions within Project Limits (January 1, 2016, to December 31, 2018)

Type of Collision	04-Ala-880 PM R0.000 to PM 11.800	
	No. of Collisions	%
Head on	6	0.2
Sideswipe	612	21.7
Rear end	1,777	63.1
Broadside	37	1.3
Hit object	321	11.4
Overturn	50	1.8
Auto-pedestrian	3	0.1
Other	9	0.3
Not stated	0	0.0

Notes:
Ala = Alameda County
PM = post mile(s)

Table 4-4: Roadway Conditions at Time of Collision (January 1, 2016, to December 31, 2018)

Roadway Conditions	04-Ala-880 PM R0.000 to PM 11.800	
	No. of Collisions	%
Holes, ruts	5	0.2
Loose material	3	0.1
Obstruction on road	9	0.3
Construction-repair-zone	81	2.9
Reduced road width	1	0.0
Flooded	1	0.0
Other	2	0.1
No unusual condition	2,713	96.4
Total	2,815	100.0

Notes:
Ala = Alameda County PM = post mile(s)

Within the project limits, 2,550 collisions (90.6%) occurred in dry pavement conditions, and 264 collisions (9.4%) occurred in wet pavement conditions.

5. ALTERNATIVES

Two alternatives were evaluated for this report: the Build Alternative and the No-Build Alternative.

5A. Viable Alternatives

The only viable alternative for the project is the Build Alternative, which proposes to resurface the existing AC pavement along the I-880 mainline and ramps, repair localized failed AC pavement, resurface the maintenance pullouts and existing gore areas, and add tapered edges and shoulder backing.

Proposed Engineering Features

The existing guardrail will be upgraded to current standards. Vegetation control will be installed along the length of the guardrail. The project will also upgrade nonstandard ADA curb ramps by installing detectable warning surfaces and enhance uncontrolled crossing locations by installing RRFBs. Incidental work will include pavement delineation and replacement of loop detectors, roadside sign panels, dikes and rumble strips, off-ramp high friction surface treatment (HFST), highway planting, and concrete median barrier architectural treatments. Attachments A through C provide additional information about the proposed engineering features to be constructed.

Nonstandard Design Features

Per Design Information Bulletin (DIB) 81-02, “Minor Pavement Rehabilitation Capital Preventive Maintenance (CAPM) Guidelines,” a Design Standard Decision

Document (DSDD) is not required for existing nonstandard geometric features unless the project degrades those features or creates new deviations. The pavement preservation work for the project will result in delineation being placed back into its current configuration and will not degrade the existing nonstandard features. Likewise, the upgrading of curb ramps and metal beam guardrails (MBGRs) will be performed without creating new geometric deviations. As such, the project is consistent with DIB-82 and documentation of the existing nonstandard features in a DSDD is not necessary. The existing nonstandard features are documented in the Fact Sheets for EA 04-23322 (approved 9/15/99, 9/22/99, & 3/20/07), EA 04-2J070 (approved 4/8/15 & 5/25/16), EA 04-3G920 (approved 5/12/15, 8/5/15, 5/26/16, 4/6/17, & 5/12/17), EA 04-15148 (approved 3/20/13 & 7/17/19), EA 04-15300 (approved 6/20/11), EA 04-23311 (approved 12/1/92), and EA 04-2J810 (approved 6/28/18).

Pavement Strategies

Minor pavement rehabilitation strategies are nonengineered pavement structure designs that are typically applied to moderately extensive existing structural distress. The project has two different mainline pavement strategies, as outlined in Table 5-1, based on the condition and age of the pavement. For the details of the two pavement strategies, see Attachments D and E. A deflection study is not required for CAPM projects.

Table 5-1: Pavement Strategies

Pavement Strategy	Recommendation	
	PM R0.0 to PM 5±	**PM 5± to PM 11.8**
Mainline & shoulder	Remove existing 0.10 ft of OGAC + 0.15 ft of AC Replace with 0.15 ft of RHMA-G + 0.10 ft of RHMA-O	Remove existing 0.10 ft of OGAC Replace with 0.10 ft of RHMA-O
Ramps	Remove existing 0.20 ft of AC Replace with 0.20 ft of RHMA-G	
All pavement	Dig out localized distress to 0.50 ft; backfill with HMA-A	

Notes:
AC = asphalt concrete
HMA-A = Hot Mix Asphalt Type A
OGAC = Open Graded Asphalt Concrete
PM = post mile(s)
RHMA-G = Rubberized Hot Mix Asphalt–Gap Graded
RHMA-O = Rubberized Hot Mix Asphalt–Open Graded

Midwest Guardrail System

This project will replace existing MBGRs to meet current standards by installing Midwest Guardrail System (MGS) within the project limits. The upgrade will also install MGS end treatments, transition railings, and crash cushions to current (2016) Manual for Assessing Safety Hardware (MASH) standards. In addition, vegetation control will be installed along the length of the MGSs. Due to a wetland conflict at

PM R0.4, MGS Location 104, a concrete barrier used as a guardrail is necessary to bring an existing MBGR to current standards. See Attachment B for details.

Pedestrian Facilities

The project will upgrade existing curb ramp locations to meet current accessibility standards by correcting ramp grade deficiencies, installing detectable warning surfaces, and updating accessible pedestrian signal (APS) systems. The project will also enhance existing uncontrolled crossing locations by installing crosswalk pavement markings and RRFBs. See Attachment B for locations and details of the 52 curb ramp locations within the project.

System Coordination

I-880 in Alameda County has numerous ongoing and upcoming construction projects. To coordinate with these projects, Program Advisor Robert Camargo has modified and approved the scope of work for this CAPM project. The changes are detailed below. Caltrans Headquarters Design Coordinator, Robert Effinger, also reviewed and concurred with the proposed updated scope of work on February 4, 2020.

Four projects, EA 04-3G9204, EA 04-151484, EA 04-1J3704, and EA 04-2J8104, are currently updating I-880 mainline and ramp pavement. The CAPM scope was adjusted to remove this overlapping work.

The Bay Area Infrastructure Financing Authority (BAIFA) Express Lane project (EA 04-3G9204) is repaving the Ala-880 northbound pavement adjacent to the Nimitz Weigh Station, between PM 3.5 and PM 4.3, for the Express Lane entry and/or exit weave zone. This pavement area and associated MGS work was removed from the CAPM project scope.

The Traffic Operations System (TOS) and Ramp Metering project (EA 04-151484) is widening and repaving ramps for metering, including MGS and ADA curb ramp work, at the Auto Mall Parkway, Stevenson Boulevard, and Mowry Avenue Interchanges as follows:

- Ala-880 PM 4.7, westbound Auto Mall Parkway to northbound I-880
- Ala-880 PM 6.2, eastbound Stevenson Boulevard to southbound I-880
- Ala-880 PM 6.2, eastbound Stevenson Boulevard to northbound I-880
- Ala-880 PM 6.2, westbound Stevenson Boulevard to southbound I-880
- Ala-880 PM 7.2, eastbound Mowry Avenue to southbound I-880
- Ala-880 PM 7.2, westbound Mowry Avenue to northbound I-880

The on-ramp pavement areas in the above list and the associated MGSs and curb ramp work were removed from the CAPM project scope of work.

The ongoing high friction surface treatment project (04-1J3704) is increasing pavement friction on the southbound I-880 off-ramp to Auto Mall Parkway at PM 4.9 and updating ADA curb ramps. This HFST pavement work was added to the CAPM project scope of work to replace the HFST being removed as part of the off-ramp rehabilitation.

The Roadside Safety Improvements project (04-2J8104) is installing approximately 180 feet of total MGS at three locations on northbound Ala-880 at PM 5.6, PM 5.8, and PM 11.0. This MGS work was removed from the CAPM project scope.

Weigh-in-Motion Facilities

The Program Advisor recommended that Weigh-in-Motion (WIM) facilities that were not included in the original scoping document for the project be included in the project due to the poor condition of the mainline WIM pavement. The WIM facilities consist of an advanced site and a compliance site in each direction of the Ala-880 mainline roadway adjacent to the existing Nimitz Weigh Stations as follows:

- Northbound Ala-880 Advanced WIM Site at PM 3.1
- Southbound Ala-880 Compliance WIM Site at PM 4.1
- Southbound Ala-880 Advanced WIM Site at PM 4.9

As part of the CAPM project scope, the capital cost to upgrade these WIM facilities is approximately $1.8 million.

The BAIFA Express Lane project is repaving the Northbound Ala-880 Compliance WIM Site at PM 3.9; therefore, this facility is not part of the CAPM scope of work.

5B. Rejected Alternatives

The No-Build Alternative proposes that no improvements be implemented at this time. The No-Build Alternative would fail to meet the project purpose and need, so it was rejected.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

The project will not involve the excavation and disposal of roadside soils that could potentially contain regulated levels of lead; therefore, soil testing will not be necessary. No other studies related to the hazardous materials or hazardous waste will be warranted.

6B. Value Analysis

A Value Analysis (VA) study was completed on January 23, 2020. The recommended strategy from the VA study involves a reduction from the recommended pavement rehabilitation strategy that was approved in the 2017 PIR. This CAPM project will implement the revised pavement strategy.

The revised strategy will save approximately $27 million in roadway costs and about 165 working-days during construction, create fewer delays for motorists, and have fewer impacts on residents and businesses. Table 6-1 summarizes the details of the pavement strategy recommended in the VA study. The recommended VA strategy is described in the Value Analysis Study Summary Report, which is provided as Attachment F.

Table 6-1: Recommended CAPM Pavement Strategy

Pavement Strategy	Recommendation
PIR (2017)	From PM 0.0 to PM 12.0, place 0.10 ft of RHMA-O on top of 0.20 ft of RHMA-G.
CAPM (2020)	From PM 0.0 to PM 5.0, place 0.10 ft of RHMA-O on top of 0.15 ft of RHMA-G; from PM 5.0 to PM 12.0, place only 0.1 ft of RHMA-O.

Notes:
CAPM = Capital Preventive Maintenance
PIR = Project Initiation Report
PM = post mile(s)
RHMA-G = Rubberized Hot Mix Asphalt–Gap Graded
RHMA-O = Rubberized Hot Mix Asphalt–Open Graded

To incorporate the pavement strategy recommended in the VA study, the Engineering Services–Materials A Branch has updated its pavement recommendations for the project. The materials recommendations for this CAPM project are provided as Attachment D.

6C. Resource Conservation

It is not anticipated that the project will generate recyclable or salvageable materials in significant enough quantities that they would be economically or logistically advantageous to recycle or salvage.

6D. Right-of-Way

All proposed work will be performed within the existing State right-of-way except for some of the locations where curb ramps are being upgraded to comply with ADA standards. At these locations, the construction will be done with Permits to Enter and Construct (PTE&C). The project will not require right-of-way acquisition, but it is anticipated that the project will require utility relocations. It is not anticipated that the project will require railroad involvement.

Existing utilities will be verified during the PS&E phase. Utility owners within the project limits include Pacific Gas and Electric Company (PG&E), AT&T Inc., and

the East Bay Municipal Utilities District (EBMUD). A Right of Way Data Sheet has been prepared for the Build Alternative; it is provided as Attachment G.

6E. Environmental Compliance

The project is Categorically Exempt (CE) under Class 1 of the State California Environmental Quality Act (CEQA) Guidelines and Categorically Excluded (CE) under the National Environmental Policy Act (NEPA). This CE/CE was approved 12/5/19. See Attachment H for additional information about environmental compliance for the project.

Wetlands and Floodplains

Locations 103 and 104 for the installation of MGS are approximately 2 feet from wetlands. These locations are being designed with cooperation from Traffic Safety to meet current standards while not impacting the wetlands. In addition, from PM R0.45 to the Dixon Landing off-ramp southbound Ala-880 is approximately 10 feet from wetlands. To minimize potential impacts to the wetlands, construction activities will be limited to the smallest footprint possible to complete the proposed work. Construction will follow approved Best Management Practices (BMPs) to minimize any potential to impact wetlands downstream of the work area. The BMPs include, but are not limited to, erosion control, sediment control, spill prevention, and equipment refueling measures.

A qualified biologist will delineate the construction areas and the Environmentally Sensitive Areas (ESAs) for incorporation into the project plans and specifications. Under the contract for the project construction, before construction may begin, reinforced silt fencing must be installed to clearly delineate any protected areas and to confine workers and equipment to the designated construction areas.

6F. Air Quality Conformity

The project is exempt from the requirement to determine air quality conformity per Title 40 Code of Federal Regulations (CFR) Section 93.126 (Pavement resurfacing and/or rehabilitation). Therefore, an air quality study is not required, and no analysis of Mobile Source Air Toxics (MSAT) is necessary.

6G. Title VI Considerations

The project does not propose any changes to the existing conditions that would affect low-mobility or minority groups. Also, the project will not impact surrounding communities and will not affect existing public access.

6H. Noise Abatement Decision Report

The project will not add a new traffic lane or substantially alter alignments. Therefore, it is not a Type I project under 23 CFR 772. An evaluation of noise abatement is not necessary, and a noise study is not required.

6I. Life-Cycle Cost Analysis

According to the Life Cycle Cost Analysis Procedures Manual, a formal Life-Cycle Cost Analysis is not required for minor pavement rehabilitation (e.g., CAPM) projects.

6J. Reversible Lanes

Reversible lanes will not be used for the project.

7. OTHER CONSIDERATIONS AS APPROPRIATE

Public Hearing Process

A public hearing is not required for the project.

Permits

No permits are anticipated to be needed for the project other than the PTE&C required for the ADA curb ramp work.

Cooperative Agreements

It is anticipated that the project will require a cooperative agreement with BAIFA to reimburse all costs associated with local improvements for repaving the lane #1 Express Lanes. These costs for design support, right-of-way capital, right-of-way support, construction capital, and construction support, will be determined during the PS&E phase.

Other Agreements

The existing maintenance agreements for I-880 within the project limits are not anticipated to change as a result of the project.

Transportation Management Plan

A Transportation Management Plan (TMP) will be required for the project. It is anticipated that project locations will require either temporary ramp closures or shoulder closures during construction. Due to the high traffic volumes, it is also anticipated that lane requirement charts will restrict all temporary closures to off-peak hours.

The TMP will need to include public information and press releases to notify and inform motorists, local businesses, community groups, local entities, emergency services providers, and local officials of the upcoming closures or detours. The TMP will also discuss use of such elements as portable changeable message signs, ground-mounted signs, and a Construction Zone Enhanced Enforcement Program (COZEEP) to minimize delays and alleviate inconvenience to the traveling public. Preliminary

TMP elements and costs for the project have been outlined in the TMP Data Sheet, which is provided as Attachment I. A more detailed TMP will be prepared during the PS&E phase.

Stage Construction

It is not anticipated that the project will use stage construction. All work can be completed using standard traffic control measures during off-peak hours.

Accommodation of Oversize Loads

The project does not involve any capacity improvements and will not place any new height limitations on loads moving in to or out of the project area.

Graffiti Control

Project locations are within Alameda County, which is a graffiti-prone area. Therefore, anti-graffiti measures such as resistant coatings for electrical cabinets will be considered. Measures to discourage graffiti will be explored during the PS&E phase.

Asset Management

This CAPM project covers 11.8 miles (or 90.2 lane-miles) of pavement preservation along Interstate 880 in Alameda County. The 49.3 Good and 40.9 Fair lane-miles in the programming document is the pavement condition in the delivery year based on the 2016 Automated Pavement Condition Survey (APCS). The recommend treatment for this project is a combination of 0.10 ft Open Graded Friction Course (OGFC) and 0.25 ft CAPM strategy (OGFC + RHMA-G). The OGFC treatment is considered a preservation strategy and is commonly applied to good and fair pavements to keep them in their condition for a longer period of time. From this perspective, the work on good lane-miles is a good Asset Management practice in this project. It should be added that preservation strategies are typically done in Highway Maintenance (HM) projects, but the size of this project was more appropriate for the SHOPP. It should be also noted that the APCS surveys the surface distresses. Although the pavement surface looks good in much of the length of this project, the last pavement resurfacing within the project limits goes back to 2002. The pavement is at the point of raveling if it is not preserved. Both the 0.10 ft and 0.25 ft pavement strategies for this project satisfy the total lanes-miles of resurfacing; therefore, the SHOPP Performance Measure remains 90.2 lane-miles. See Attachment J for details.

Stormwater Compliance

The project site is within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (Region 2). Neither a Section 401 certification nor a Section 404 permit will be required for the scoped work for the project.

The project will disturb more than 1 acre of soil; therefore, it must comply with the Construction General Permit; Order 2009-0009-DWQ, last amended by Order 2012-0006-DWQ; and the Caltrans National Pollutant Discharge Elimination System (NPDES) Permit (NPDES No. CAS000003). To address the temporary water quality impacts of the project, the construction activities will follow Standard Specification Section 13-2, Water Pollution Control Program. This Standard Specification addresses the development of a Water Pollution Control Program and its implantation during construction.

BMPs will need to be implemented to address the temporary water quality impacts resulting from construction activities. The BMPs to be implemented will include such measures as soil stabilization, sediment control, wind erosion control, tracking control, non-storm-water management, waste management, and materials pollution control. The appropriate BMPs and their quantities will be determined during the PS&E phase.

A Stormwater Data Report (SWDR) has been prepared to summarize the proposed measures for the project. The cover sheet for the approved Stormwater Data Report (Long Form) is provided as Attachment K.

Complete Streets

The project will implement ADA curb ramp upgrades and crosswalk safety enhancements. The installation of RRFBs, APS systems, regulatory and warning signs, and high-visibility crosswalk markings will enhance pedestrian visibility in crosswalks. In addition, using single-lane pavement delineation at on-ramp crosswalks will reduce pedestrian exposure while still allowing vehicles multiple lane access after passing the pedestrian crossing.

Bicycles are not allowed on I-880. However, some overcrossings along I-880 within the project limits either have bicycle lanes or are designated as bicycle routes. The impacts of project construction on these bicycle lanes and routes will require coordination with local traffic agencies. At ramps where the pavement rehabilitation limits will engage local street intersections, bicycle and pedestrian pavement delineation and signage will be provided to increase visibility and safety.

Highway Planting

Highway planting and irrigation are present within the project limits. The project staging areas and the contractor's operations will be in the areas that are free of planting and irrigation equipment. If staging must occur in planted areas, the existing planting and irrigation will be protected.

Architectural Treatment

Architectural treatment of the median barriers at the Dixon Landing Interchange (PM R0.0), the Stevenson Boulevard Interchange (PM 6.2), and Alvarado Boulevard Interchange (PM 11.4) has been added to the project scope of work. This stretch of

Ala-880 is heavily traveled and would benefit from barrier treatments that contribute to the overall aesthetic experience of the corridor. These added architectural treatments will be a continuation of the existing treatment at other interchanges along the corridor and will enhance the visual quality along Ala-880. The added cost of the concrete median barrier treatment is $550,000.

Construction-Related Greenhouse Gas Emissions

Construction-related greenhouse gas (GHG) emissions include the emissions resulting from material processing by on-site construction equipment, workers commuting to and from the project site, and traffic delays due to the construction.

Executive Order B-30-15 requires State agencies to consider climate change in their planning and investment decisions. To address Executive Order B-30-15, Caltrans has issued GHG emissions calculations guidance. Following the guidance, Caltrans prepared a Construction GHG Emission Analysis Report for the project using the FHWA's Infrastructure Carbon Estimator (ICE) tool. Per the ICE tool, the project will generate the following construction and maintenance GHG emissions:

- 1,346 metric tons of carbon dioxide equivalent (CO_2e) unmitigated GHG emissions
- 573 metric tons of CO_2e mitigated GHG emissions, a 43% reduction in GHG emissions due to alternative construction and maintenance techniques

Because construction activities are short term, the GHG emissions resulting from construction activities will not result in long-term adverse effects. Also, implementation of the Caltrans Standard Specifications will help to reduce GHG emissions from construction activities.

8. FUNDING, PROGRAMMING AND ESTIMATE

Funding

It has been determined that this project is eligible for federal-aid funding.

Programming

The project is programmed for the 2021/22 fiscal year in the 2018 SHOPP. The following tables summarize the current estimate for the project.

Current Programming

Fund Source	Fiscal Year Estimate							
20.XX.201.121	Prior	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Component	In thousands of dollars ($1,000)							
PA&ED support [1]	595	2,405	—	—	—	—	—	3,000
PS&E support	—	1,111	3,333	556	—	—	—	5,000
Right-of-way support	—	138	413	69	—	—	—	620
Construction support	—	—	—	193	2,314	2,314	579	5,400
Right-of-way [2]	—	—	—	50	—	—	—	50
Construction [3]	—	—	—	57,166	—	—	—	57,166
Total [4]	595	3,654	3,747	58,033	2,314	2,314	579	71,236

1. The total expended PA&ED support cost is $2,250K.
2. The right-of-way capital cost has been escalated.
3. The construction capital cost is escalated at a rate of 3.2% per year.
4. Some totals may not add exactly because of rounding.

Notes:
— = not applicable
PA&ED = Project Approval and Environmental Document
PS&E = Plans, Specifications, and Estimate

Proposed Programming

Fund Source	Fiscal Year Estimate							
20.XX.201.121	Prior	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Component	In thousands of dollars ($1,000)							
PA&ED support [1]	595	2,405	—	—	—	—	—	3,000
PS&E support	—	1,111	3,333	556	—	—	—	5,000
Right-of-way support	—	138	413	69	—	—	—	620
Construction support	—	—	—	193	2,314	2,314	579	5,400
Right-of-way [2]	—	—	—	185	—	—	—	185
Construction [3]	—	—	—	57,166	—	—	—	57,166
Total [4]	595	3,645	3,747	58,168	2,314	2,314	579	71,371

1. The total expended PA&ED support cost is $2,250K.
2. The right-of-way capital cost has been escalated.
3. The construction capital cost is escalated at a rate of 3.2% per year.
4. Some totals may not add exactly because of rounding.

Notes:
— = not applicable
PA&ED = Project Approval and Environmental Document
PS&E = Plans, Specifications, and Estimate

Proposed Programming Data

The right-of-way capital cost increased from $50K to $185K to account for the potential increase in the number of utility verifications and relocations required as

opposed to the number estimated during the PID phase. Reference Attachment G for details of the estimated right-of-way costs.

Capital support costs and the construction capital cost are unchanged.

A Project Change Request (PCR) is in the process of being approved for changes in the right-of-way capital. It is anticipated that the PCR will be approved by CTC in May 2020.

Support Cost Ratio

The total support cost for the project is $14,020K and the capital cost, including the right-of-way capital cost, is $57,351K. Therefore, the support cost ratio is 24.4%.

Estimate

The current capital outlay cost for the Build Alternative is $57.351 million, which includes $37.563 million for roadway items, and $0.185 million for right-of-way and utility items. Reference Attachment C for additional information.

9. DELIVERY SCHEDULE

The following table lists the project milestones, their dates, and their current designation (actual or target).

Project Milestones		Milestone Date	Milestone Designation
PROGRAM PROJECT	M015	March 21, 2018	Actual
BEGIN ENVIRONMENTAL	M020	January 25, 2019	Actual
PA&ED	M200	March 2, 2020	Actual
PS&E TO DOE	M377	August 2, 2021	Target
PROJECT PS&E	M380	November 1, 2021	Target
RIGHT OF WAY CERTIFICATION	M410	November 1, 2021	Target
READY TO LIST	M460	March 1, 2022	Target
FUND ALLOCATION	M470	August 17, 2022	Target
AWARD	M495	February 1, 2023	Target
APPROVE CONTRACT	M500	March 1, 2023	Target
CONTRACT ACCEPTANCE	M600	December 31, 2024	Target
END PROJECT EXPENDITURES	M800	December 31, 2026	Target
FINAL PROJECT CLOSEOUT	M900	December 31, 2027	Target

Notes:
DOE = District Office Engineer
PA&ED = Project Approval and Environmental Document
PS&E = Plans, Specifications, and Estimate

10. RISKS

A Risk Register has been prepared for the project. The highest risks identified are encountering unanticipated buried man-made objects and encountering unknown underground utilities during construction. Either of these risks could impact the schedule and increase project costs. Reference Attachment L for additional information.

11. EXTERNAL AGENCY COORDINATION

Federal Highway Administration

This project is considered a Delegated Project in accordance with the current Joint Stewardship and Oversight Agreement between FHWA and Caltrans that was executed on May 28, 2015.

Project personnel will have to coordinate with the Traffic Managers from the Cities of Fremont, Newark, and Milpitas to develop the lane closure charts and the motorist information plans for the project.

Other Agencies

The project also requires the following coordination:

US Army Corps of Engineers

Clean Water Act Section 404
California Department of Fish and Wildlife

California Fish and Game Code Section1602

Regional Water Quality Control Board

Clean Water Act Section 401

12. PROJECT REVIEWS

District Program Advisor:	*Robert Camargo*	Date 01-31-2020
Headquarters SHOPP Program Advisor:	*Thomas Schriber*	Date 01-31-2020
District Maintenance:	*Leah Budu*	Date 02-01-2020
Headquarters Project Delivery Coordinator:	*Robert Effinger*	Date 02-04-2020
Project Manager:	*Kenneth Puth*	Date 01-31-2020
FHWA:	*Lanh Phan*	Date 02-05-2020
District Safety Review:	*Bahman Zarechian*	Date 01-31-2020
Constructability Review:	*Robert Kobal*	Date 01-31-2020
Environmental Analysis:	*Brian Gassner*	Date 01-31-2020

13. PROJECT PERSONNEL

Kenneth Puth	Project Manager	(510) 286 - 6123
Robert Camargo	Program Advisor	(510) 286 - 4450
Mo Pazooki	District Division Chief	(510) 286 - 5085
John Uozumi	Design Office Chief	(510) 622 - 5974
Bob Zandipour	Senior Design Engineer	(510) 286 - 5709
Christopher Elbo	Project Engineer	(510) 286 - 5504
Bardan Gurung	Design Engineer	(510) 622 - 8752
Kristina Mai	Design Engineer	(510) 286 - 6343
Greg Carroll	Design Engineer	(510) 286 - 5729
Brian Gassner	Senior Environmental	(510) 286 - 6025
Mohammad Zabolzadeh	Senior Materials	(510) 286 - 4831
Hanna Khoury	Senior Utilities	(510) 622 - 5456
Bahman Zarechian	Senior Traffic Safety	(510) 286 - 4422
Norman Gonsalves	Senior Water Quality	(510) 286 - 5930
Mark Morancy	Senior Hydraulics	(510) 622 - 5768
Mahmood Noii	Senior Electrical	(510) 286 - 4794
Lydia Mac	Senior Landscape Architecture	(510) 286 - 5934
Binh Dang	VA Coordinator	(510) 286 - 5873

14. ATTACHMENTS

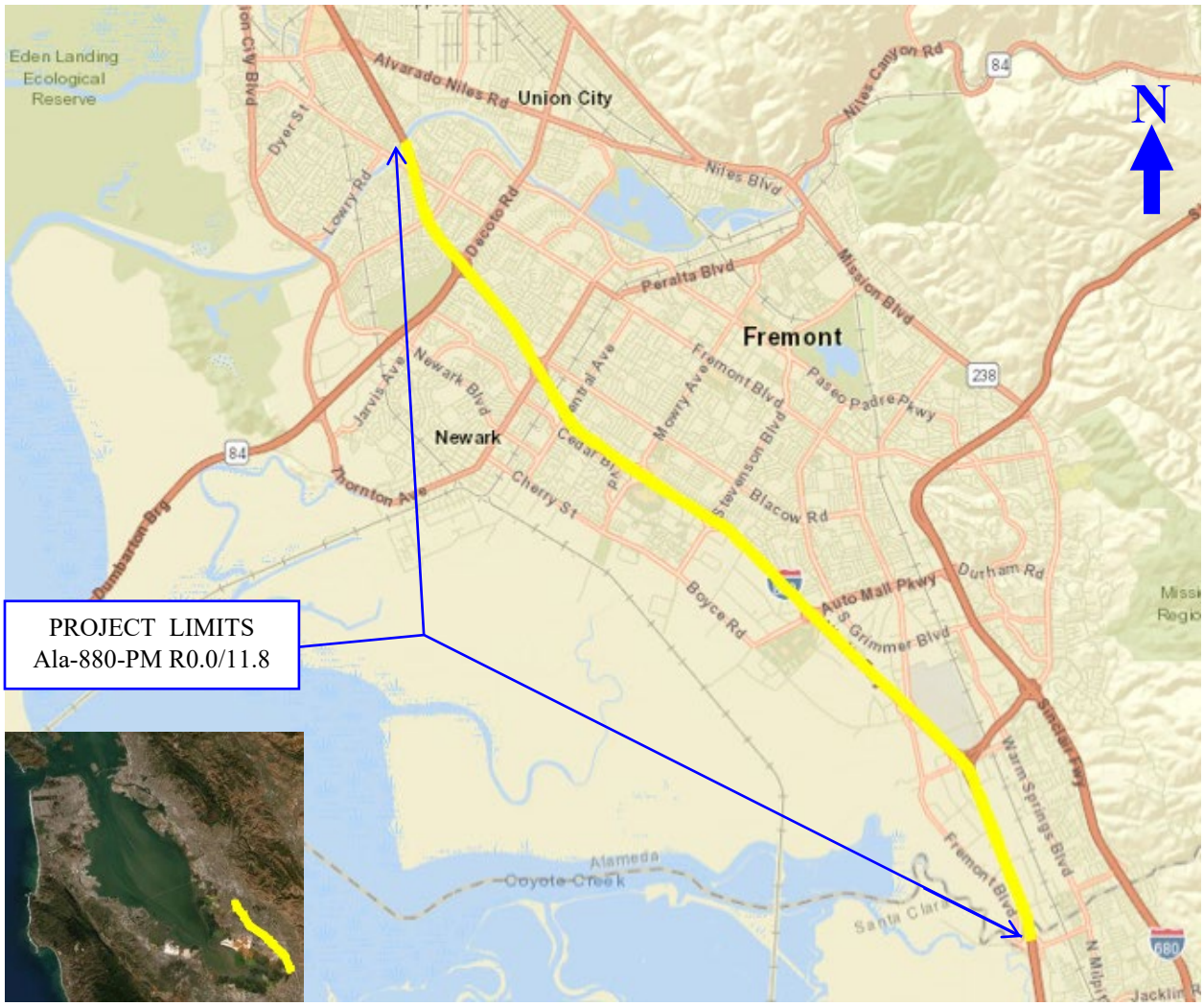
A. Project Location Map (1 page)
B. Typical Cross Sections and Layouts (58 pages)
C. Cost Estimate (9 pages)
D. Materials Recommendations (6 pages)
E. Pavement Strategy Checklist (4 pages)
F. Value Analysis Study Summary Report (5 pages)
G. Right of Way Data Sheet (8 pages)
H. Environmental Document (10 pages)
I. Transportation Management Plan Data Sheet (2 pages)
J. SHOPP Performance Measures (1 page)
K. Stormwater Data Report (Long Form) Cover Sheet (1 page)
L. Risk Register (2 pages)

ATTACHMENT A

Project Location Map

LOCATION MAP

EA: 2K7000



ATTACHMENT B

Typical Cross Sections & Layouts

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	ALA	880	R0.0/11.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

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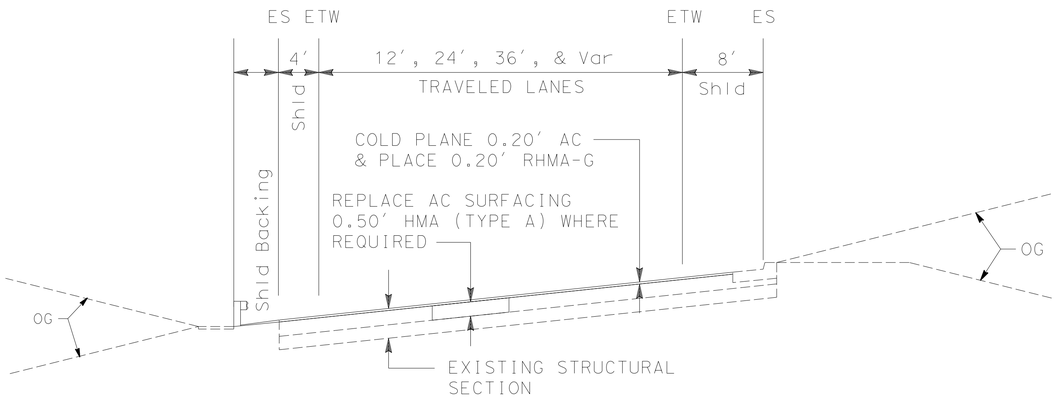
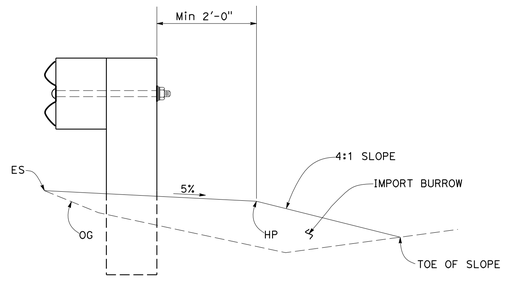
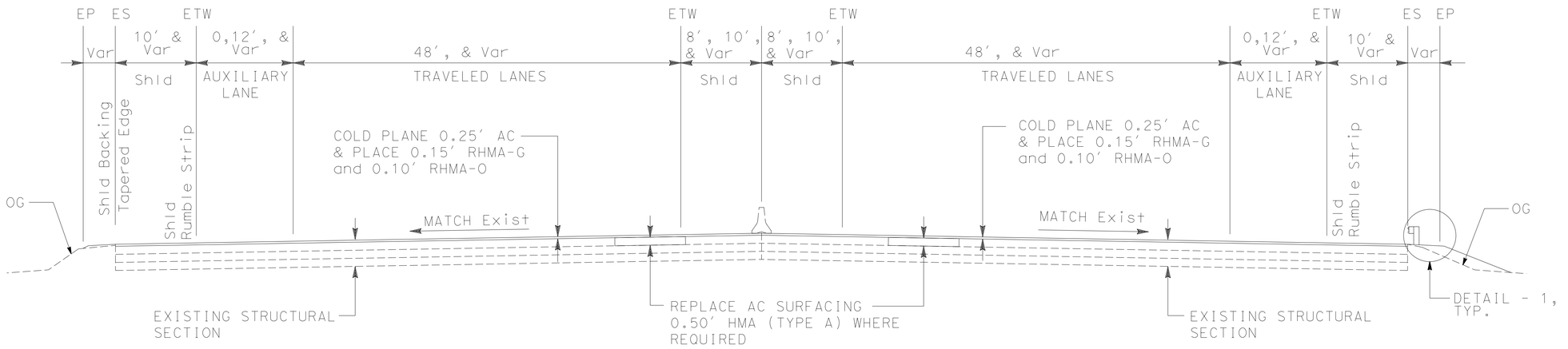


ALA 880
ON/OFF-RAMPS



DETAIL - 1

(VEGETATION CONTROL NOT SHOWN FOR CLARITY)



SOUTHBOUND

ROUTE 880
"M" 1158+00 TO 1407+80

NORTHBOUND

NOTE:

1) ACTUAL LOCATIONS OF DETAIL-1 WILL BE SHOWN IN CONSTRUCTION DETAILS SHEETS.

TYPICAL CROSS SECTIONS
NO SCALE

X-1

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION: DATE PLOTTED => 17-JAN-2020 | 00-00-00 | TIME PLOTTED => 11:35

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Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	ALA	880	R0.0/11.8		

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PLANS APPROVAL DATE

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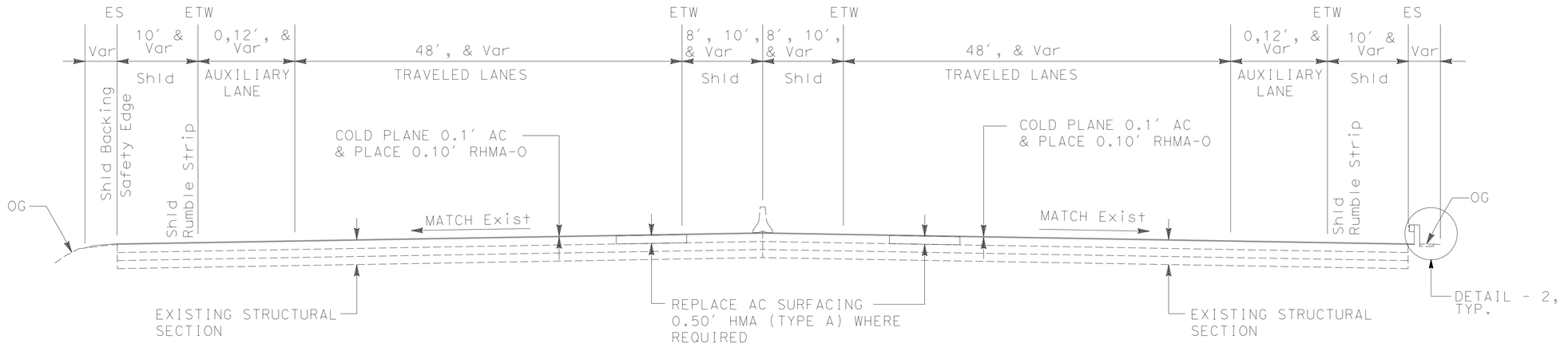
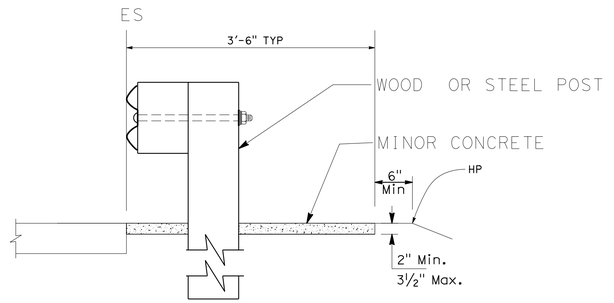


SOUTHBOUND

NORTHBOUND

ROUTE 880

"M" 1407+80 TO 1768+40



DETAIL - 2

NOTE:

1) ACTUAL LOCATIONS OF DETAIL-2 WILL BE SHOWN IN CONSTRUCTION DETAILS SHEETS.

2) FOR TYPICAL CROSS SECTION AT RAMPS, SEE SHEET X-1.

TYPICAL CROSS SECTIONS

NO SCALE

X-2

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 17-JAN-2020 | TIME PLOTTED => 11:40

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. COORDINATE VALUES SHOWN ARE CCS 83 ZONE 3.
3. EXISTING PCC SLABS MAY NOT MATCH LANE LINES. FOR PRECAST JOINTED CONCRETE PAVEMENT DETAILS, SEE CONSTRUCTION DETAILS.

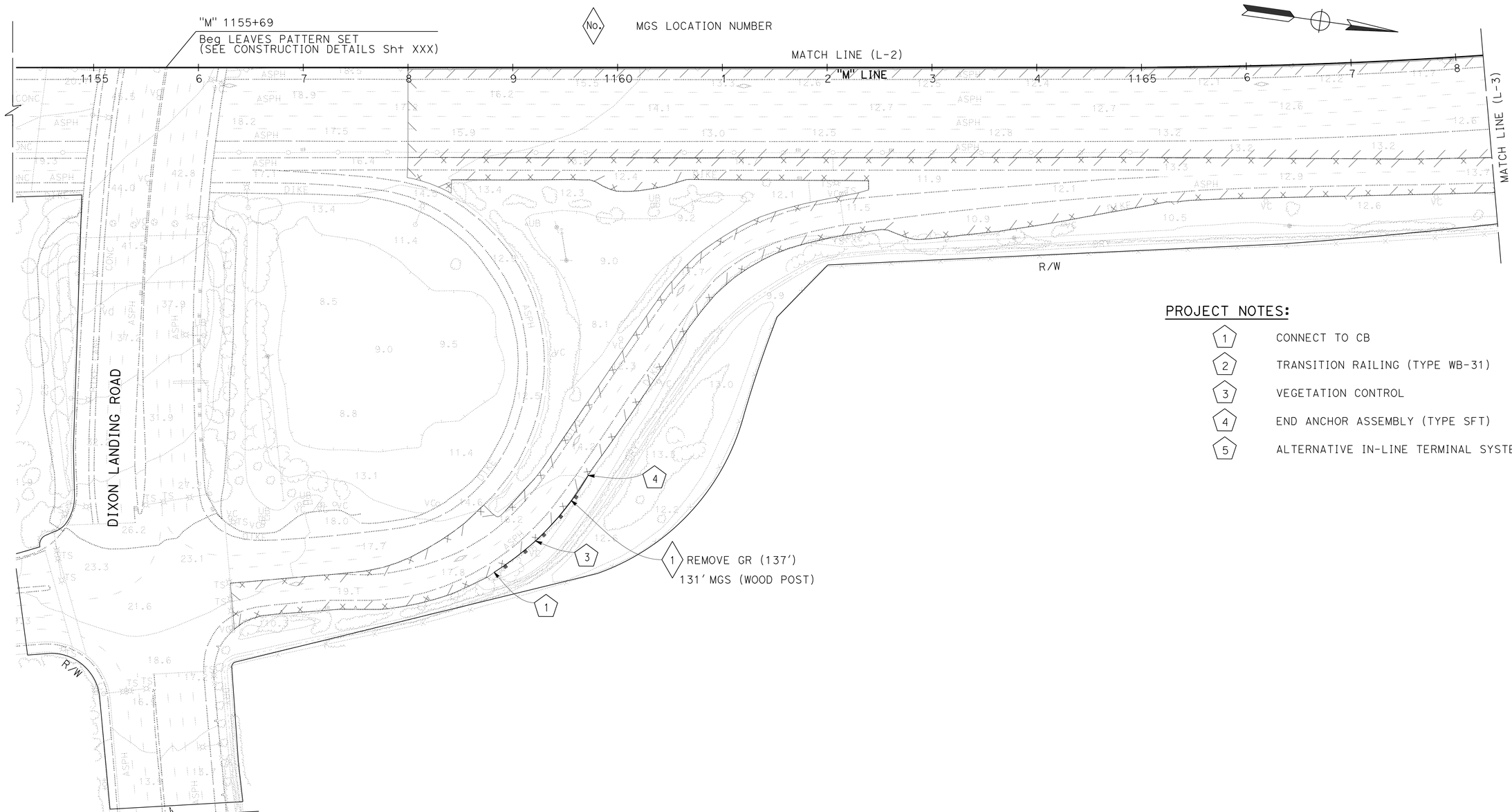
LEGEND:

0.25′ COLD PLANE AC PAVEMENT AND REPLACE WITH 0.15′ RHMA-G & 0.1′ RHMA-O(AUXILIARY LANE, SHOULDER, GORE AREA WITHIN PM R0.0 -5.0)

0.1′ COLD PLANE AC PAVEMENT AND REPLACE WITH 0.1′ RHMA-O (AUXILIARY LANE, SHOULDER, GORE AREA WITHIN PM 5.0 -11.8)

0.2′ COLD PLANE AC PAVEMENT AND OVERLAY

No. MGS LOCATION NUMBER



PROJECT NOTES:

1. CONNECT TO CB
2. TRANSITION RAILING (TYPE WB-31)
3. VEGETATION CONTROL
4. END ANCHOR ASSEMBLY (TYPE SFT)
5. ALTERNATIVE IN-LINE TERMINAL SYSTEM

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50′

L-1

REVISED BY | DATE REVISED

KRISTINA MAI | CHRIS ELBO

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION | DATE PLOTTED => 17-JAN-2020 | TIME PLOTTED => 15:04 | 06-07-19

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Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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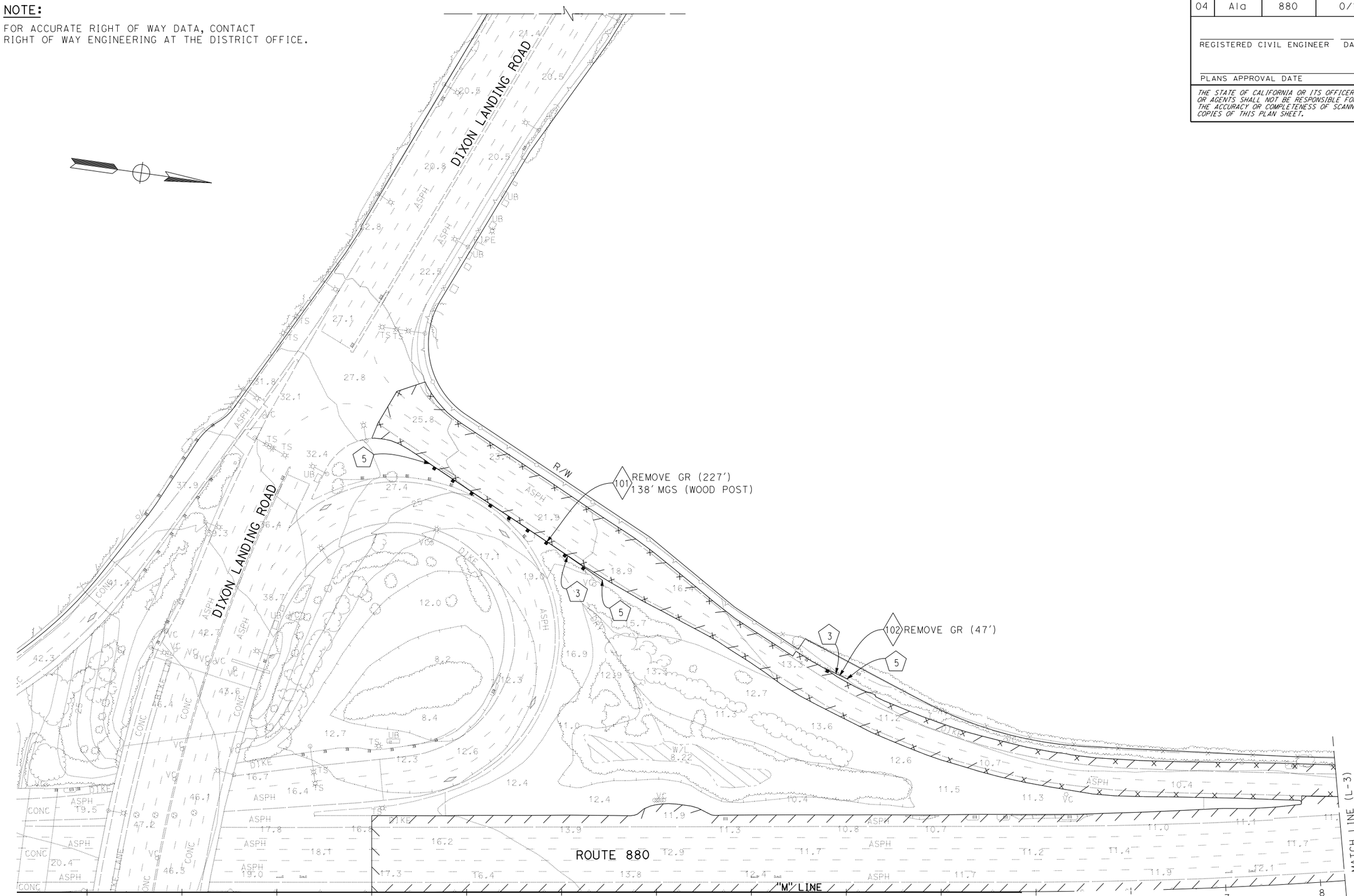
NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50'

L-2

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-07-19 TIME PLOTTED => 14:19

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UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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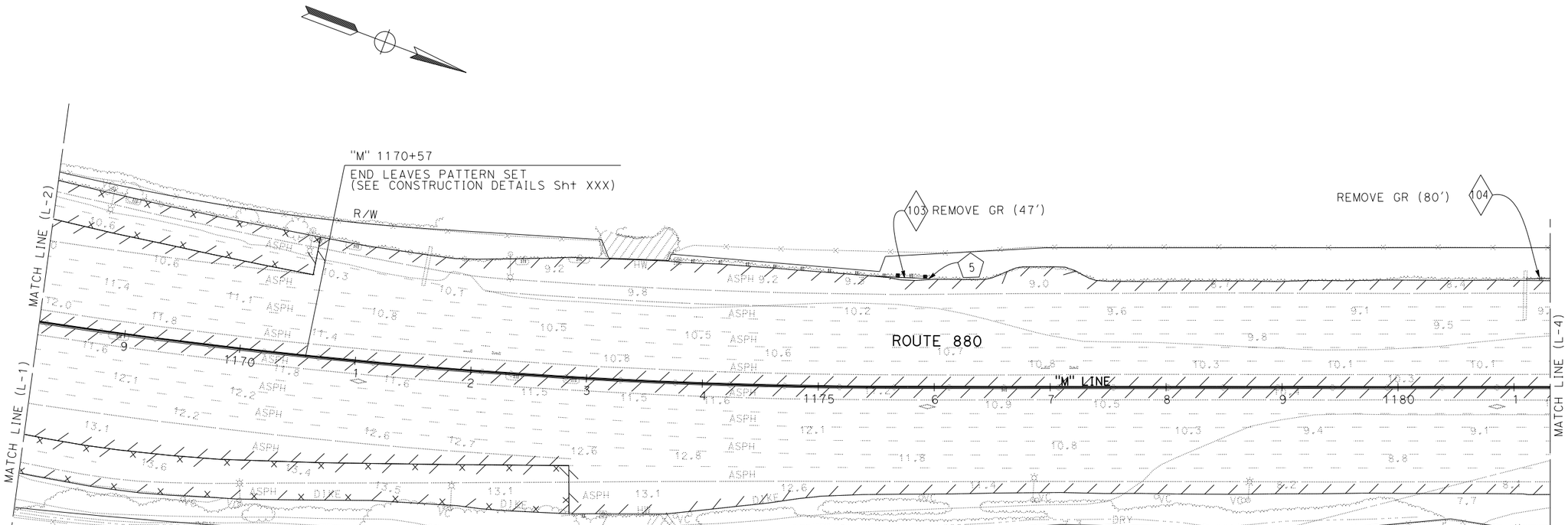
NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-3

LAST REVISION 06-07-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

REVISED BY	DATE REVISED
KRISTINA MAI	CHRIS ELBO
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	
BOB ZANDIPOUR	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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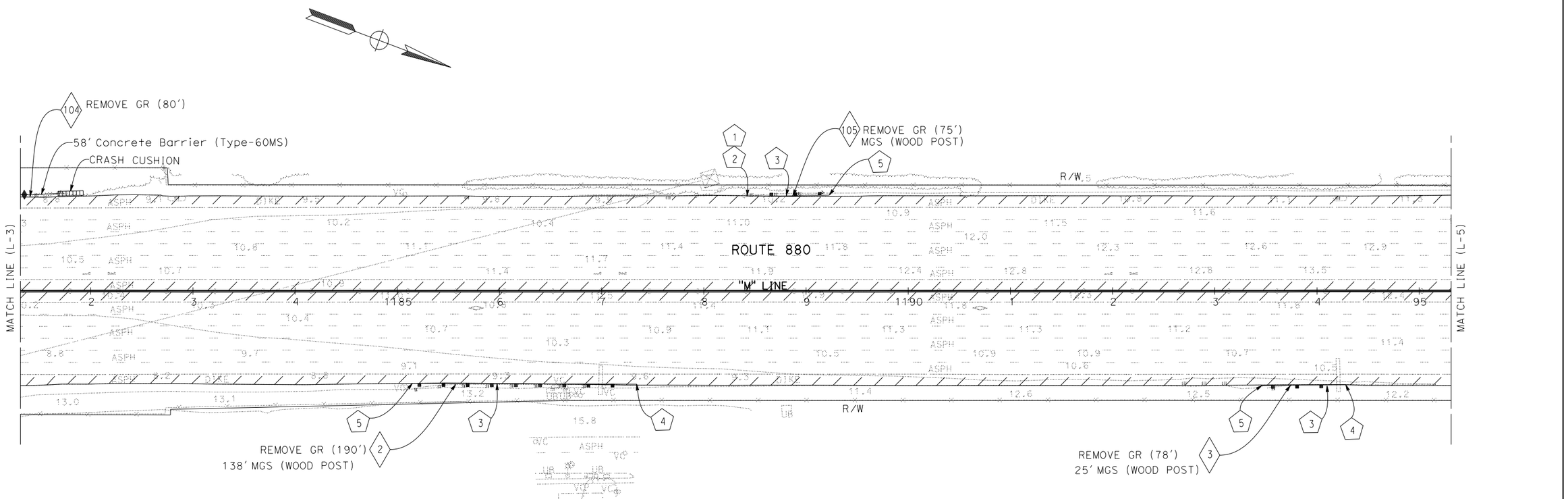
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-4

REVISED BY | DATE REVISED
KRISTINA MAI | CHRIS ELBO
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 06-07-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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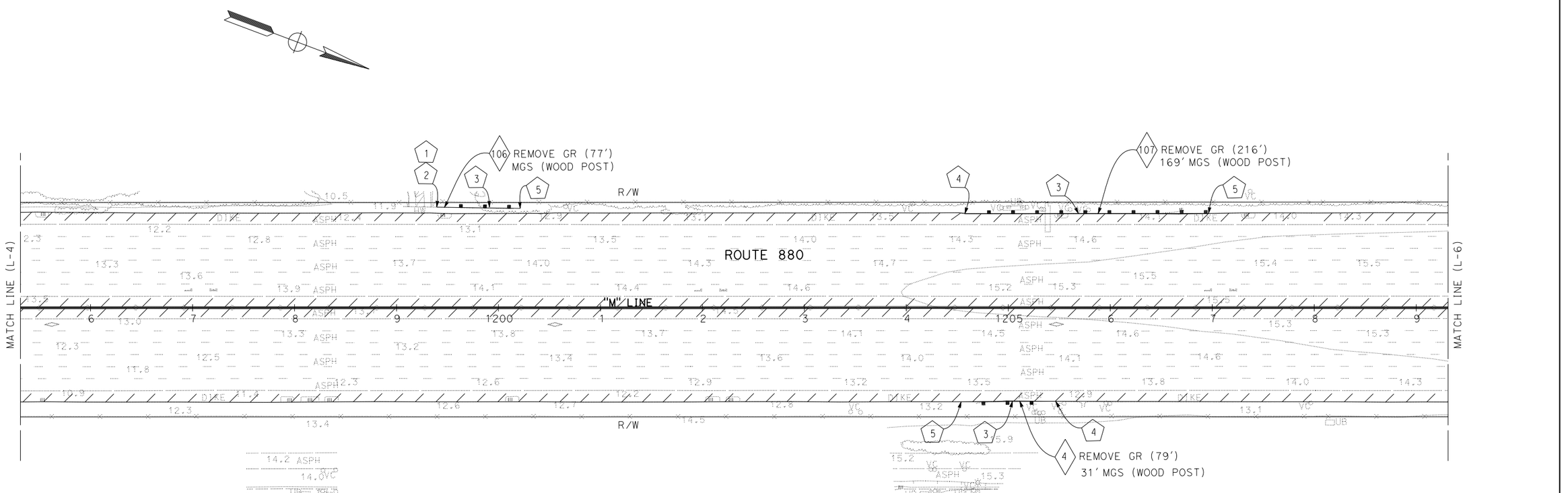
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-5

LAST REVISION 06-07-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

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FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO

REVISED BY | DATE REVISED

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea005.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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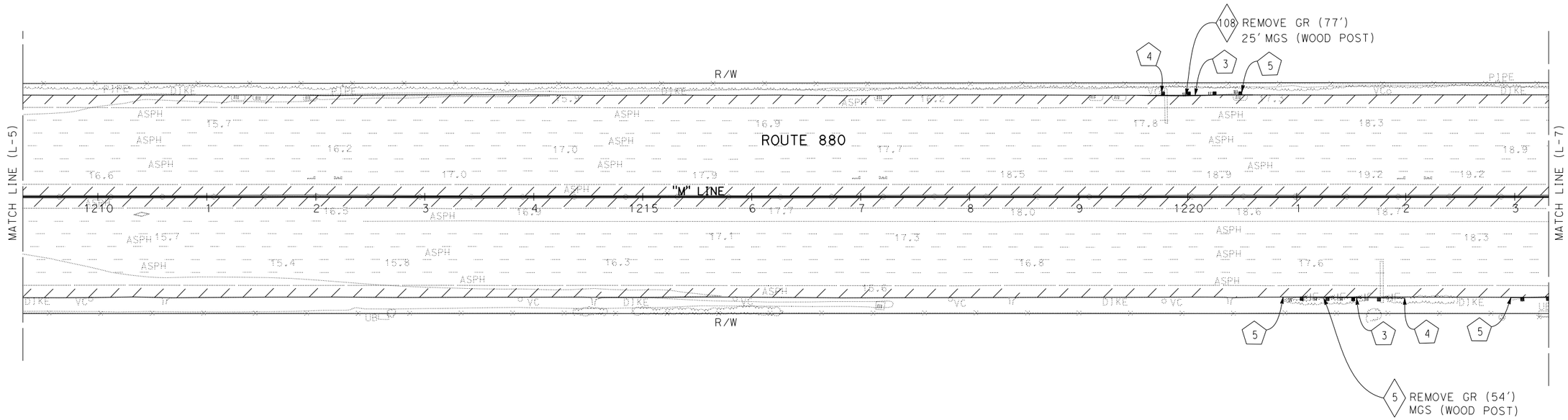
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-6

REVISED BY | DATE REVISED
KRISTINA MAI | CHRIS ELBO
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
BOB ZANDIPOUR

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Caltrans

LAST REVISION 06-07-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea006.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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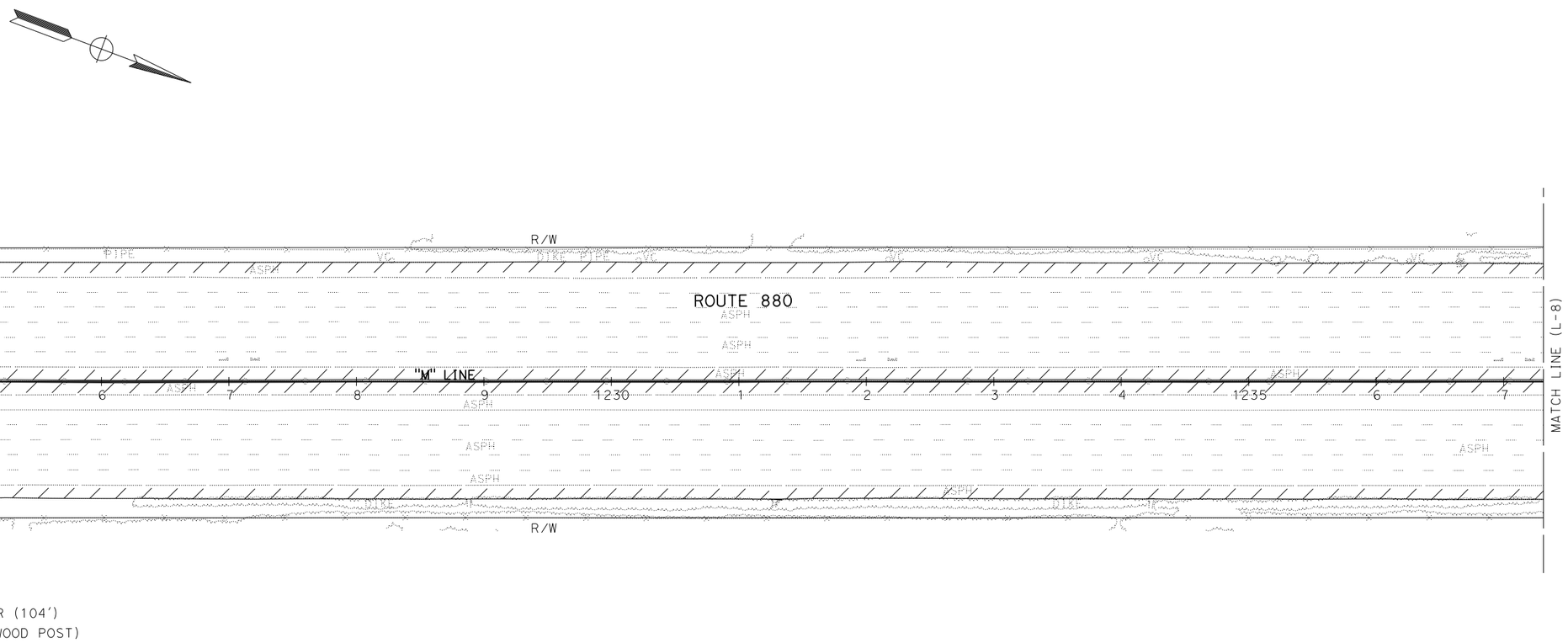
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-7

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO
FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR
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Caltrans

REVISED BY | DATE REVISED

LAST REVISION 06-07-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010
USERNAME => s146044
DGN FILE => ea007.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0728
PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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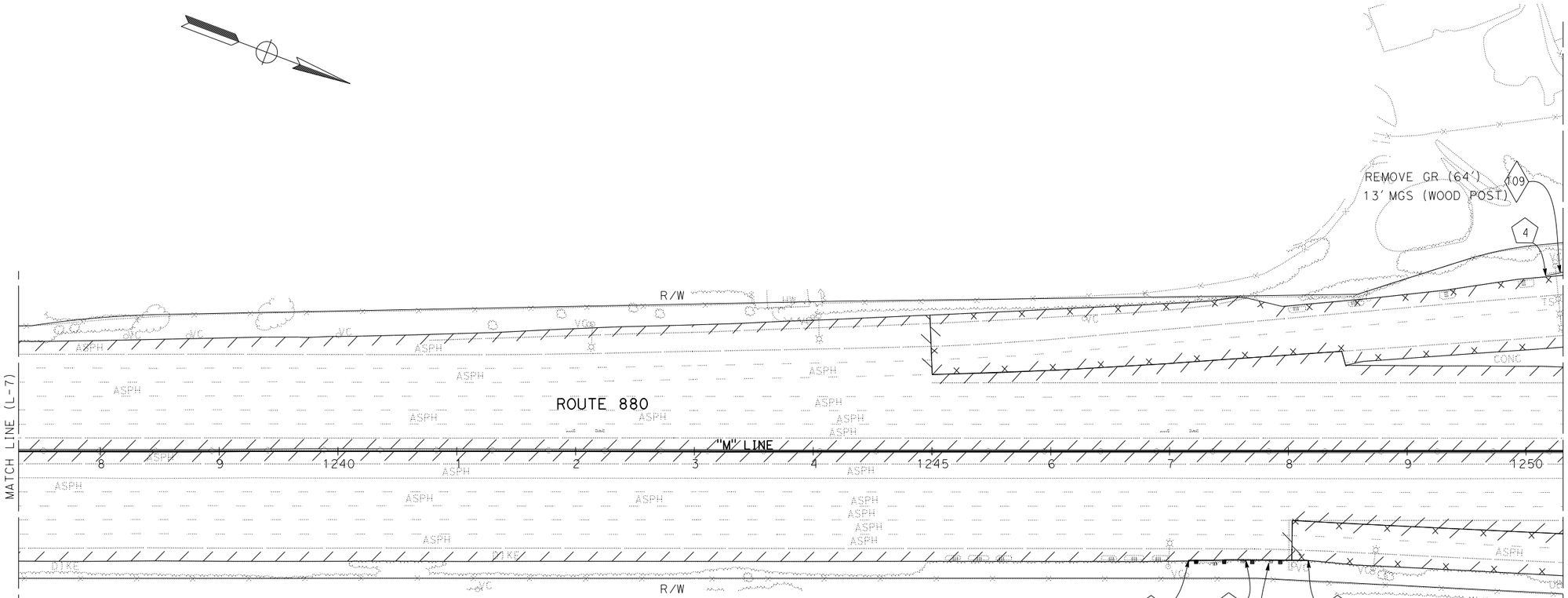

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR
CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-07-19 TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea008.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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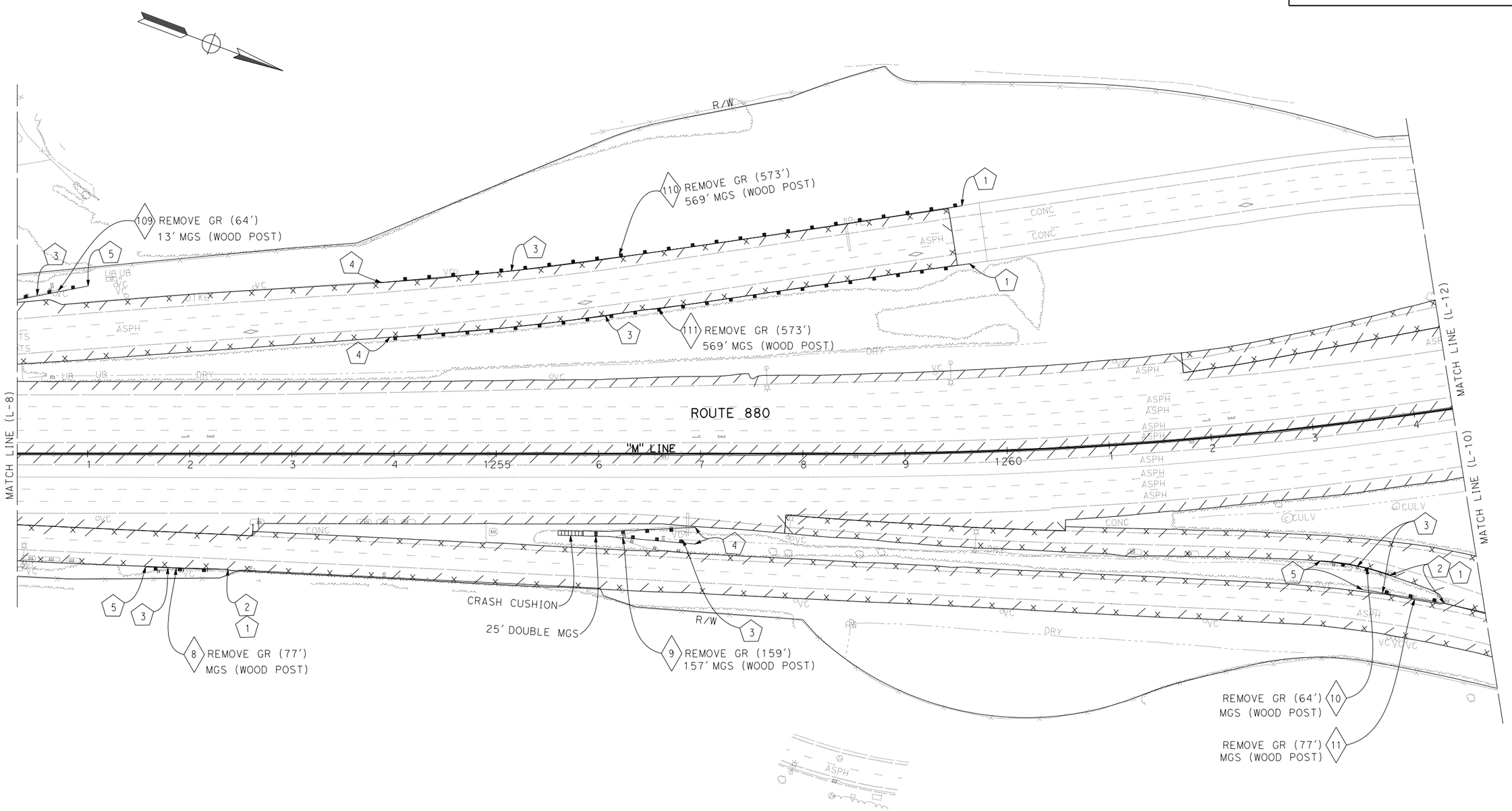

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-9

REVISED BY	DATE REVISED
KRISTINA MAI	
CALCULATED-DESIGNED BY	CHRIS ELBO
CHECKED BY	
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-07-19 TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea009.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

NOTE:

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RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

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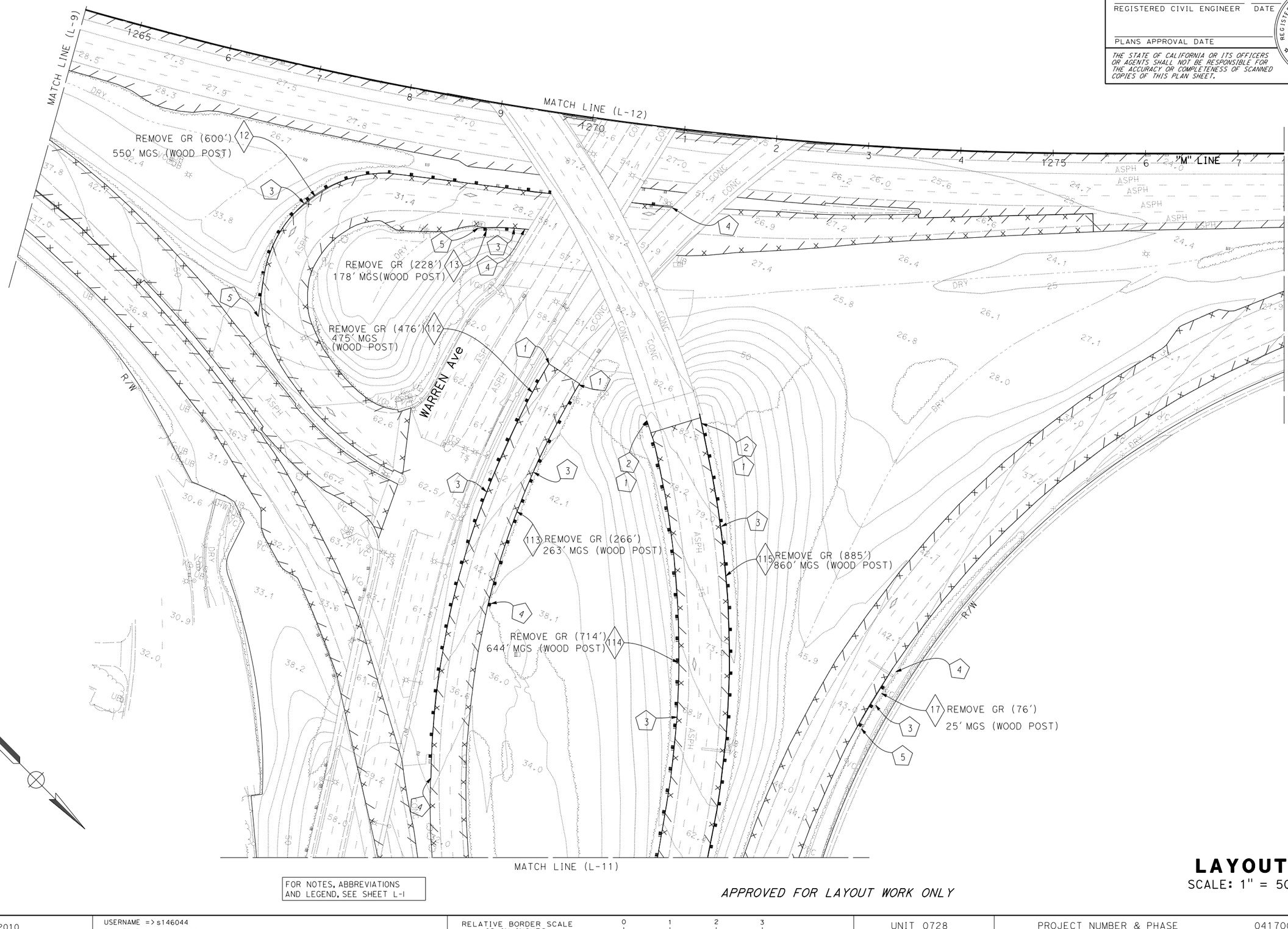

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50'

L-10

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 06-07-19

DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea010.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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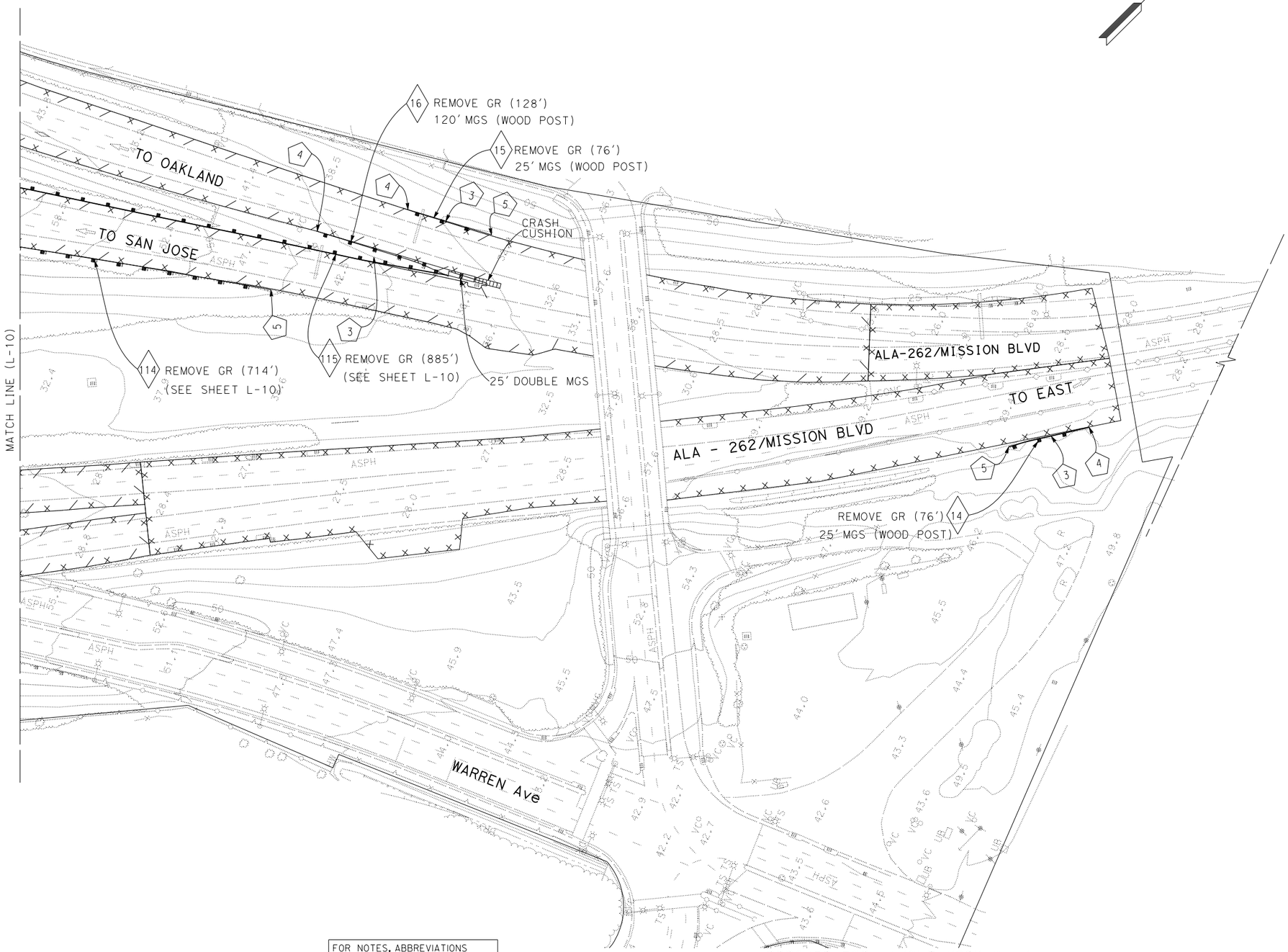

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-I

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-11

CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
BARDAN GURUNG	CHRIS ELBO		

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 17-JAN-2020 | TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea011.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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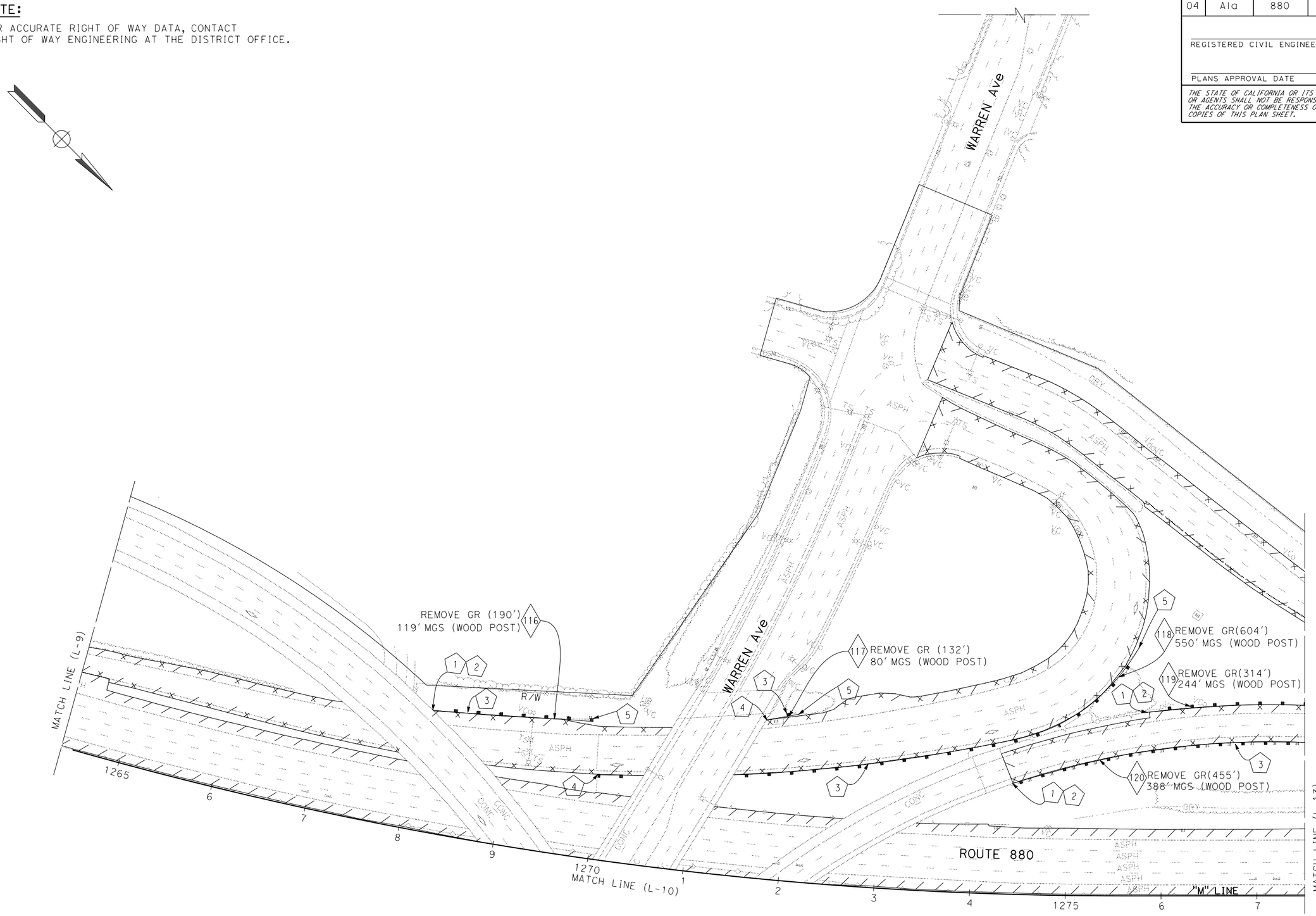

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50'

L-12

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: KRISTINA MAI

CHECKED BY: CHRIS ELBO

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 06-07-19

DATE PLOTTED => 17-JAN-2020

TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea012.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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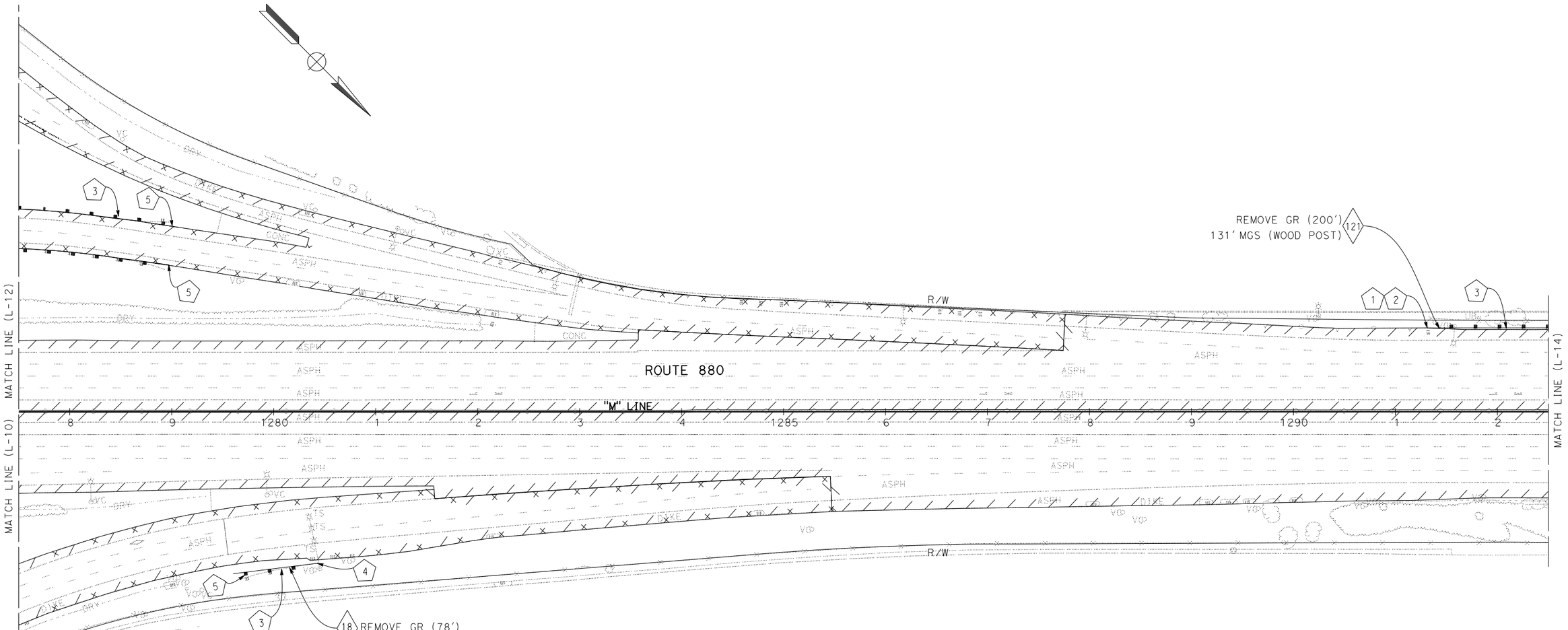

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-13

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-07-19 TIME PLOTTED => 14:19

REVISED BY | DATE REVISED
KRISTINA MAI | CHRIS ELBO
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
BOB ZANDIPOUR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 DGN FILE => ea013.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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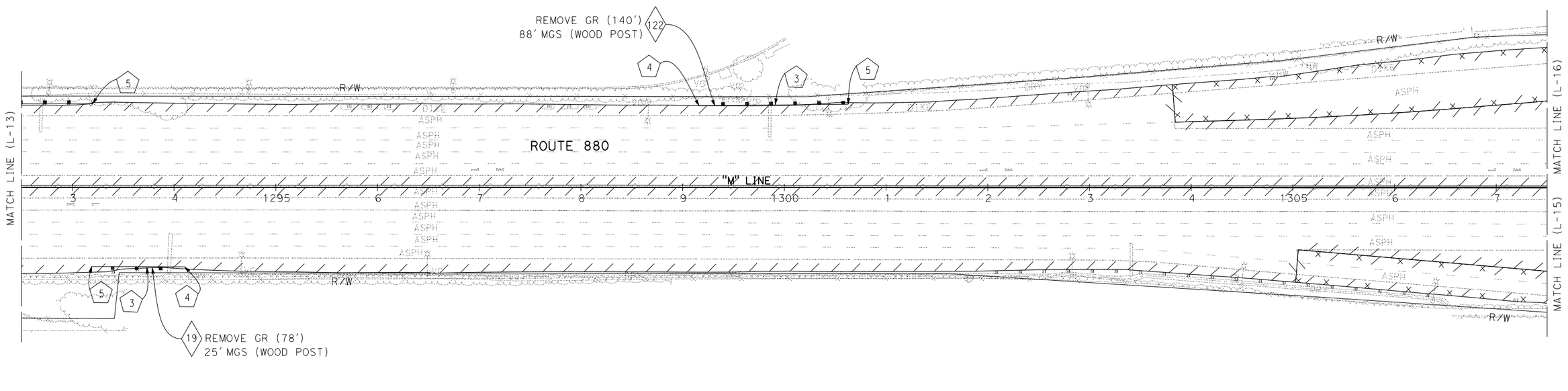

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-14

LAST REVISION 06-07-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

REVISED BY | DATE REVISED
KRISTINA MAI | CHRIS ELBO
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
BOB ZANDIPOUR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea014.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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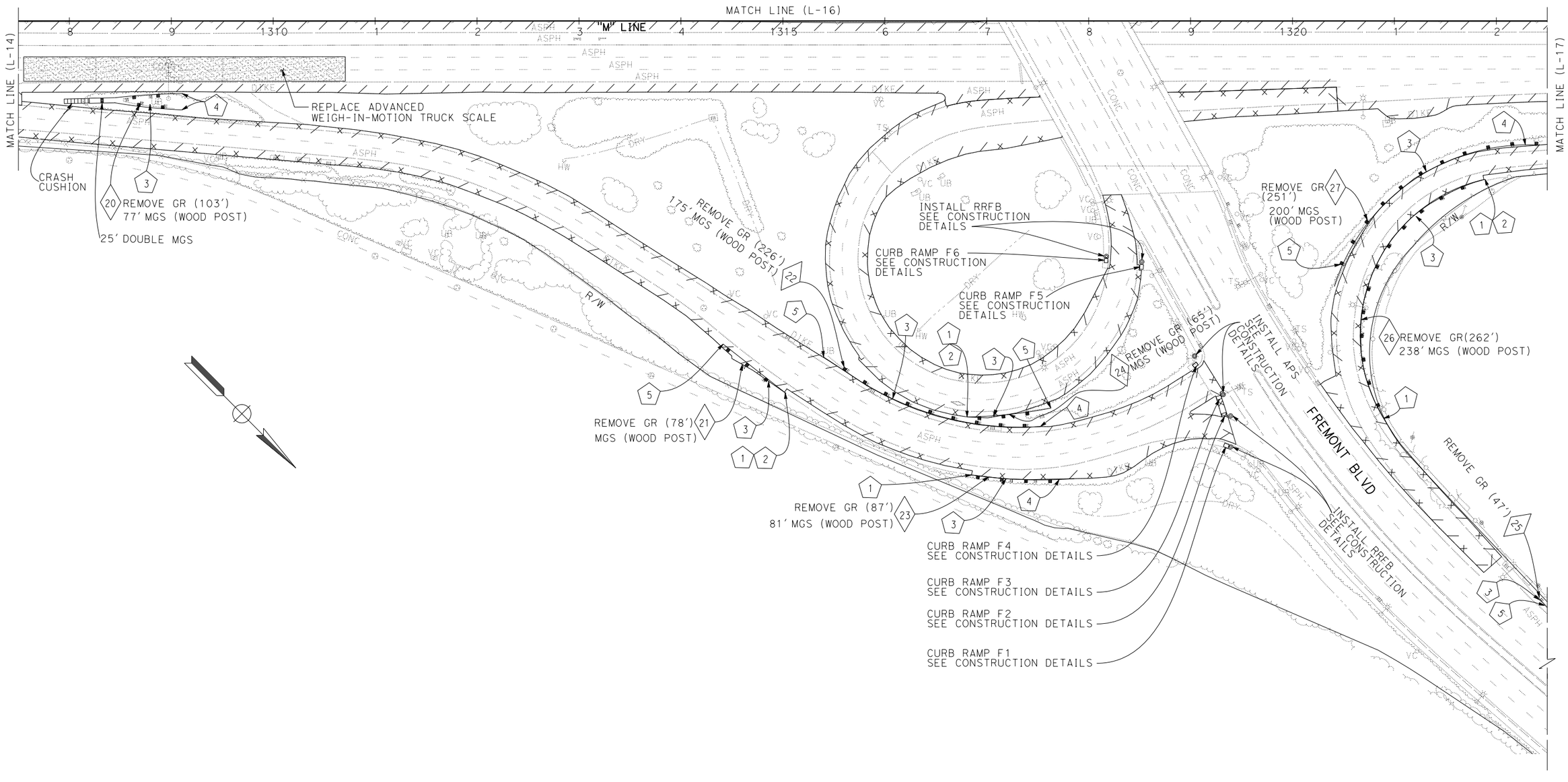

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-15

REVISED BY	DATE REVISED
KRISTINA MAI	CHRIS ELBO

CALCULATED-DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR
BOB ZANDIPOUR

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Caltrans

LAST REVISION | DATE PLOTTED => 17-JAN-2020
06-07-19 | TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea015.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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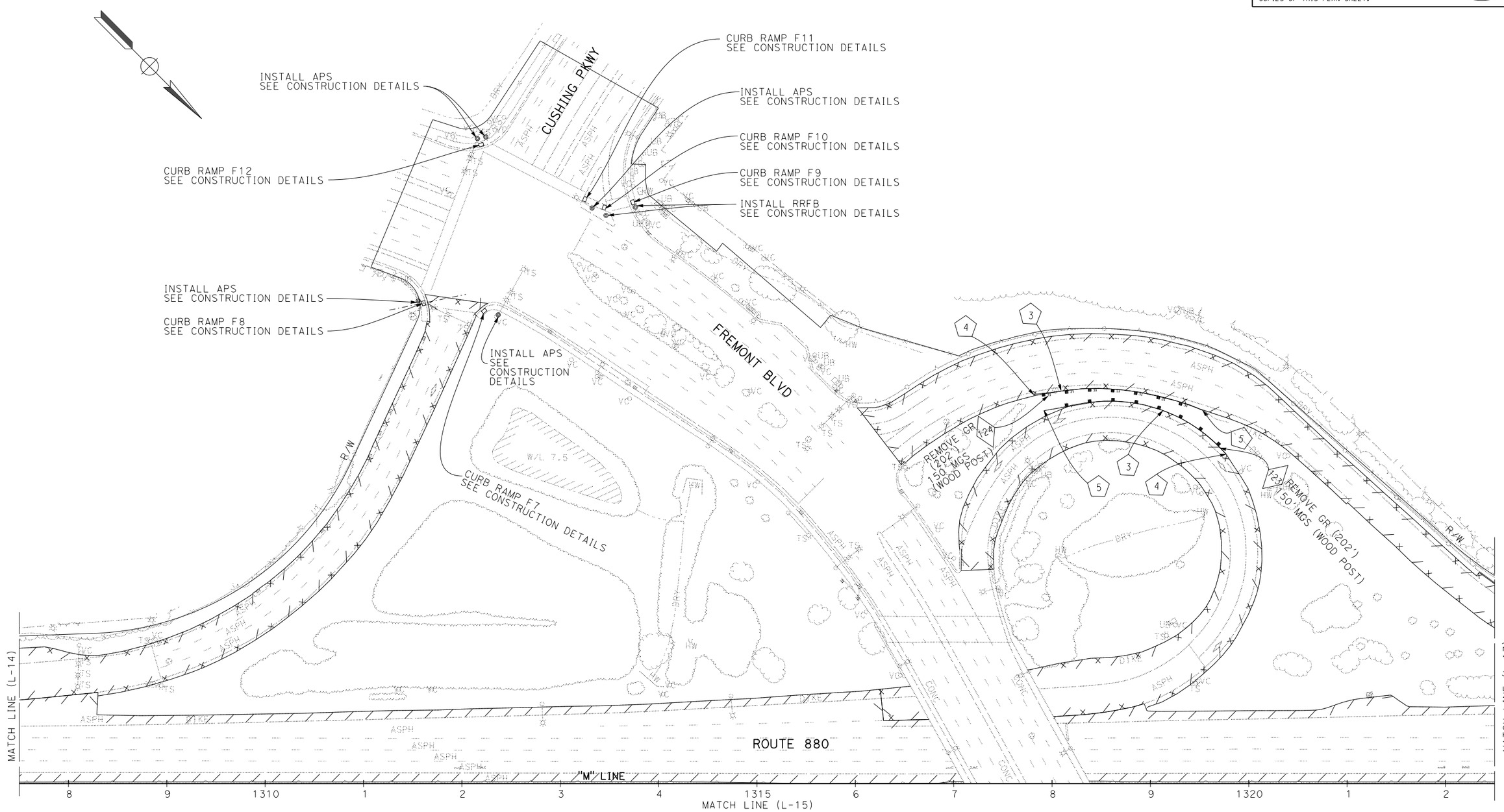

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50'

L-16

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION

DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

06-07-19

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea016.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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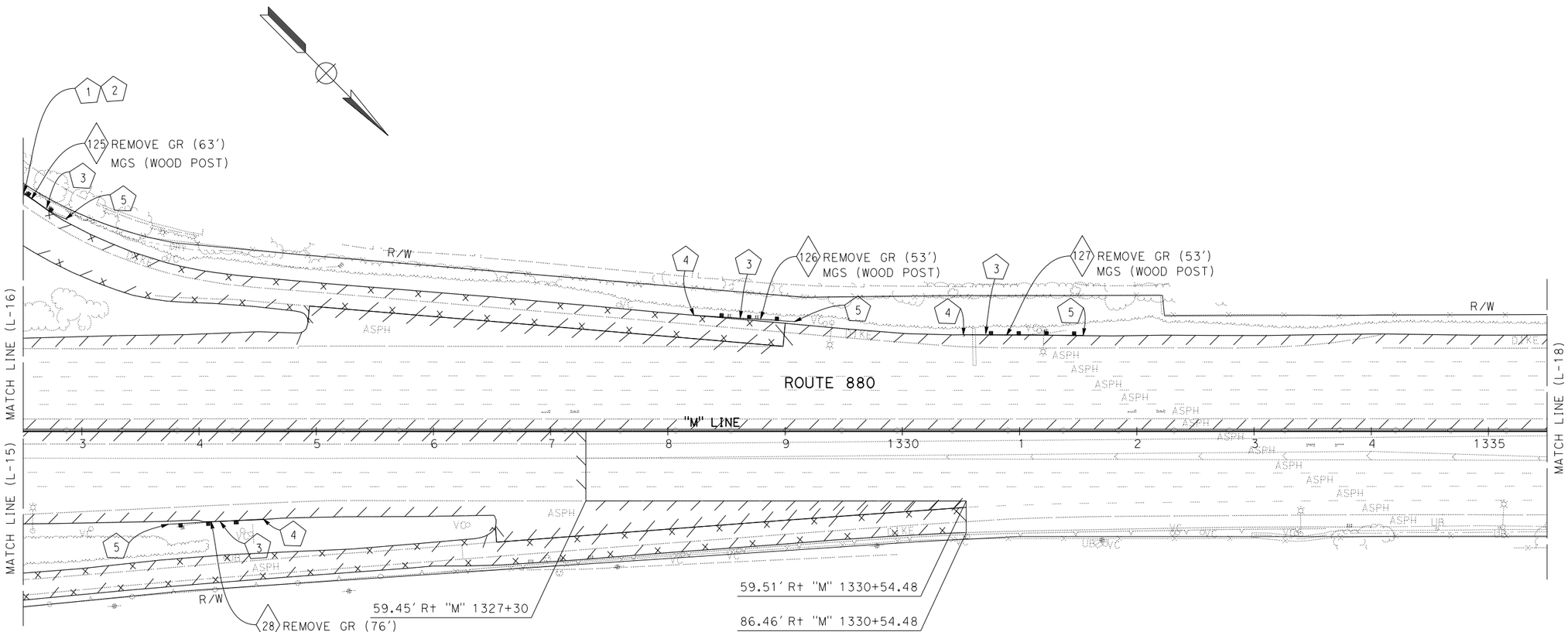

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-17

REVISED BY	DATE REVISED
KRISTINA MAI	
CALCULATED-DESIGNED BY	CHECKED BY
CHRIS ELBO	
FUNCTIONAL SUPERVISOR	
BOB ZANDIPOUR	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010
USERNAME => s146044
DGN FILE => ea017.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0728
PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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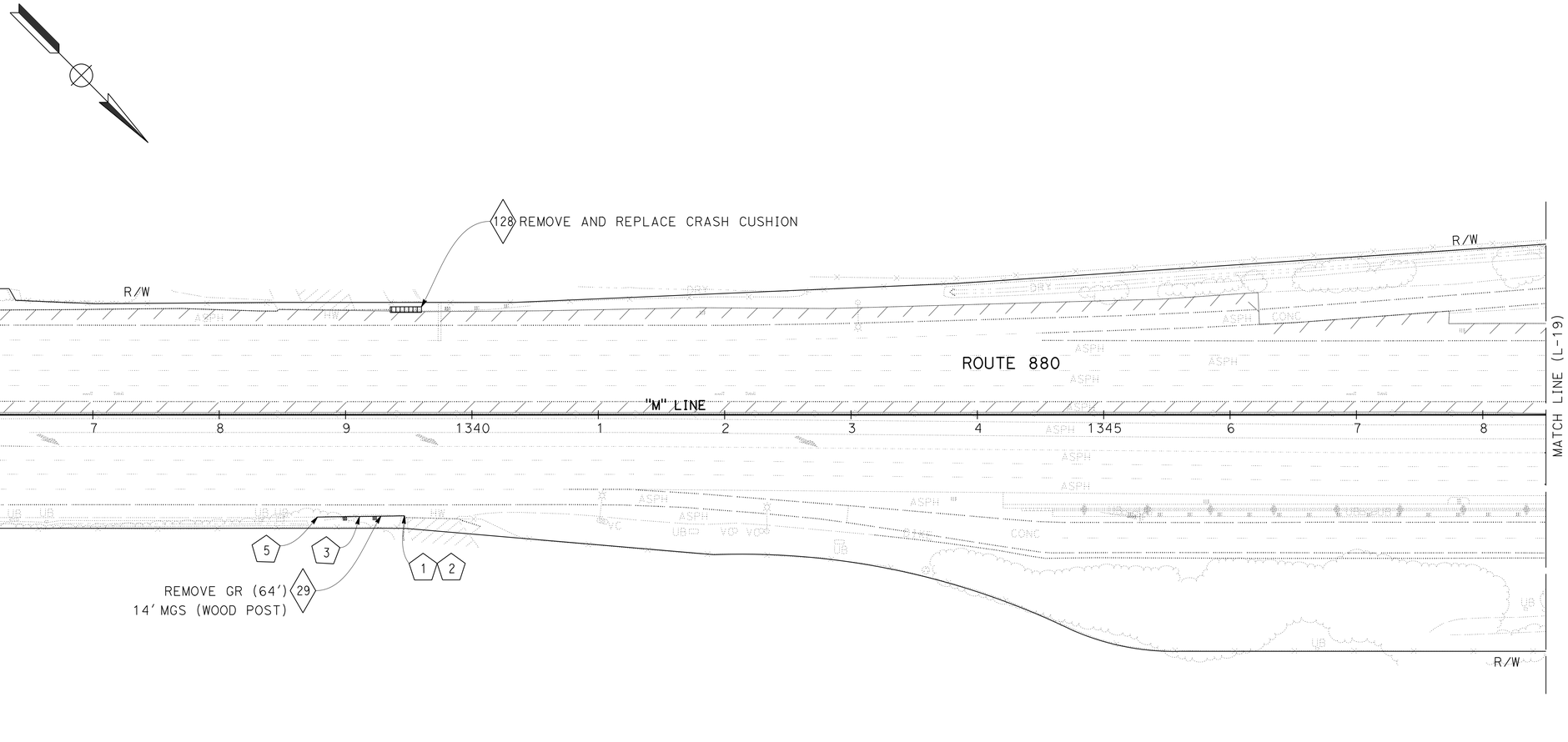

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-18

LAST REVISION DATE PLOTTED => 26-FEB-2020
06-10-19 TIME PLOTTED => 13:49

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO

REVISED BY | DATE REVISED

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea018.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

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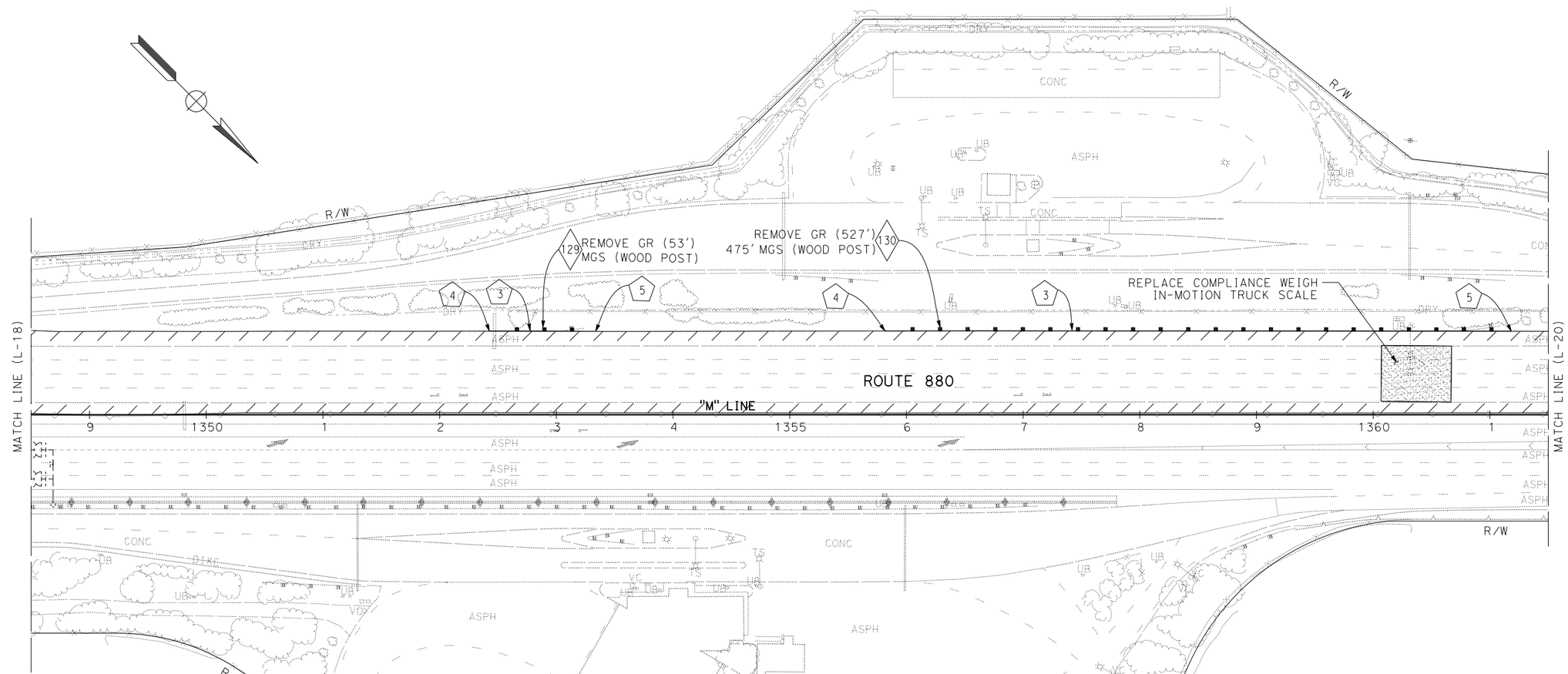

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50'

L-19

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

CALCULATED-DESIGNED BY: KRISTINA MAI

CHECKED BY: CHRIS ELBO

REVISED BY

DATE REVISED

LAST REVISION 06-10-19

DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea019.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

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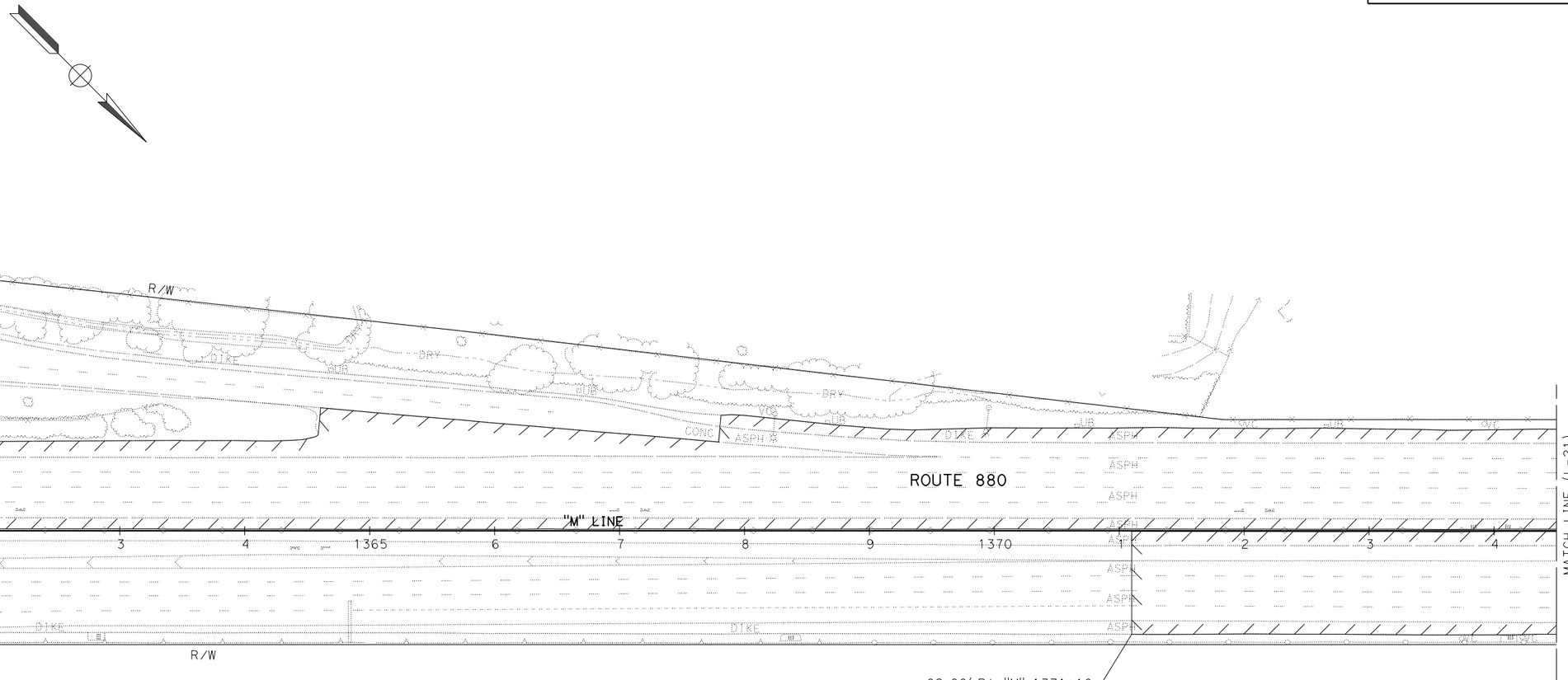
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

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LAYOUT
SCALE: 1" = 50'

L-20

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	Caltrans
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR
CALCULATED-DESIGNED BY	KRISTINA MAI
CHECKED BY	CHRIS ELBO
REVISED BY	
DATE REVISED	

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea020.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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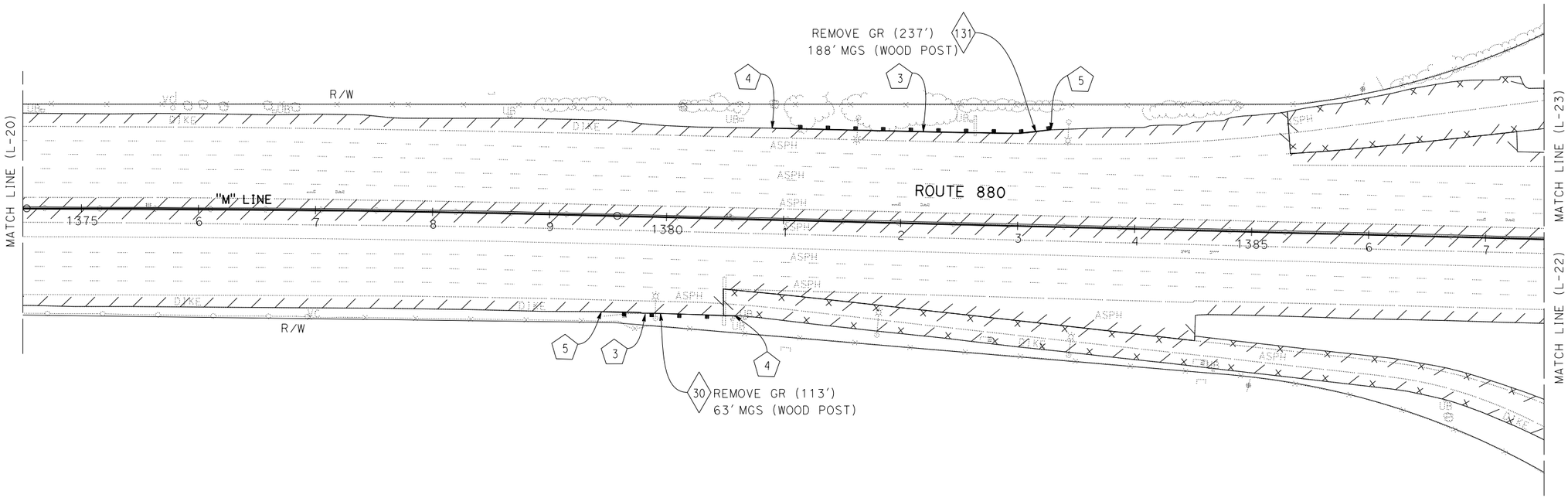
NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

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LAYOUT
SCALE: 1" = 50'

L-21

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO
FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:19

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea021.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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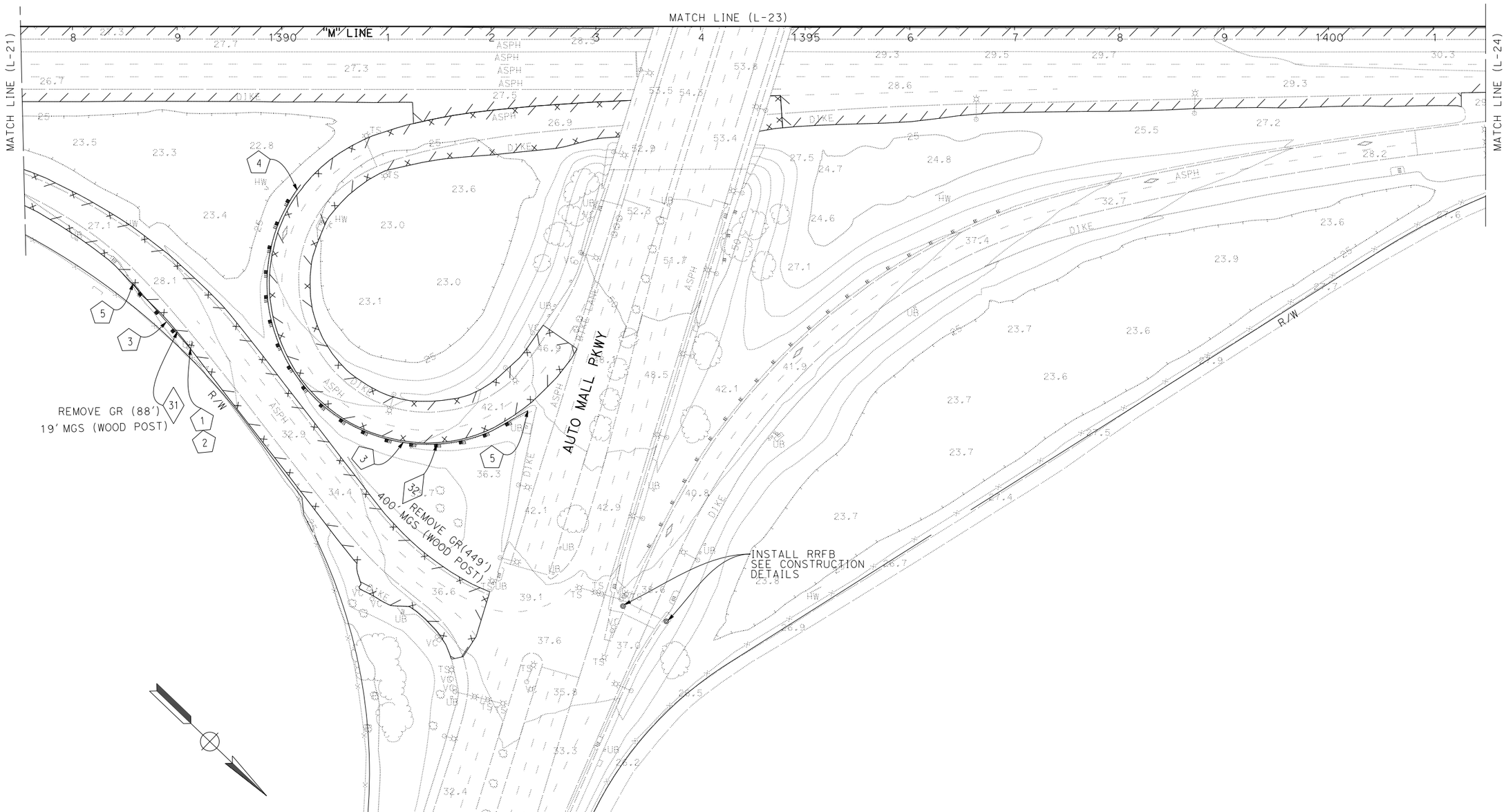
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50'

L-22

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea022.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

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.

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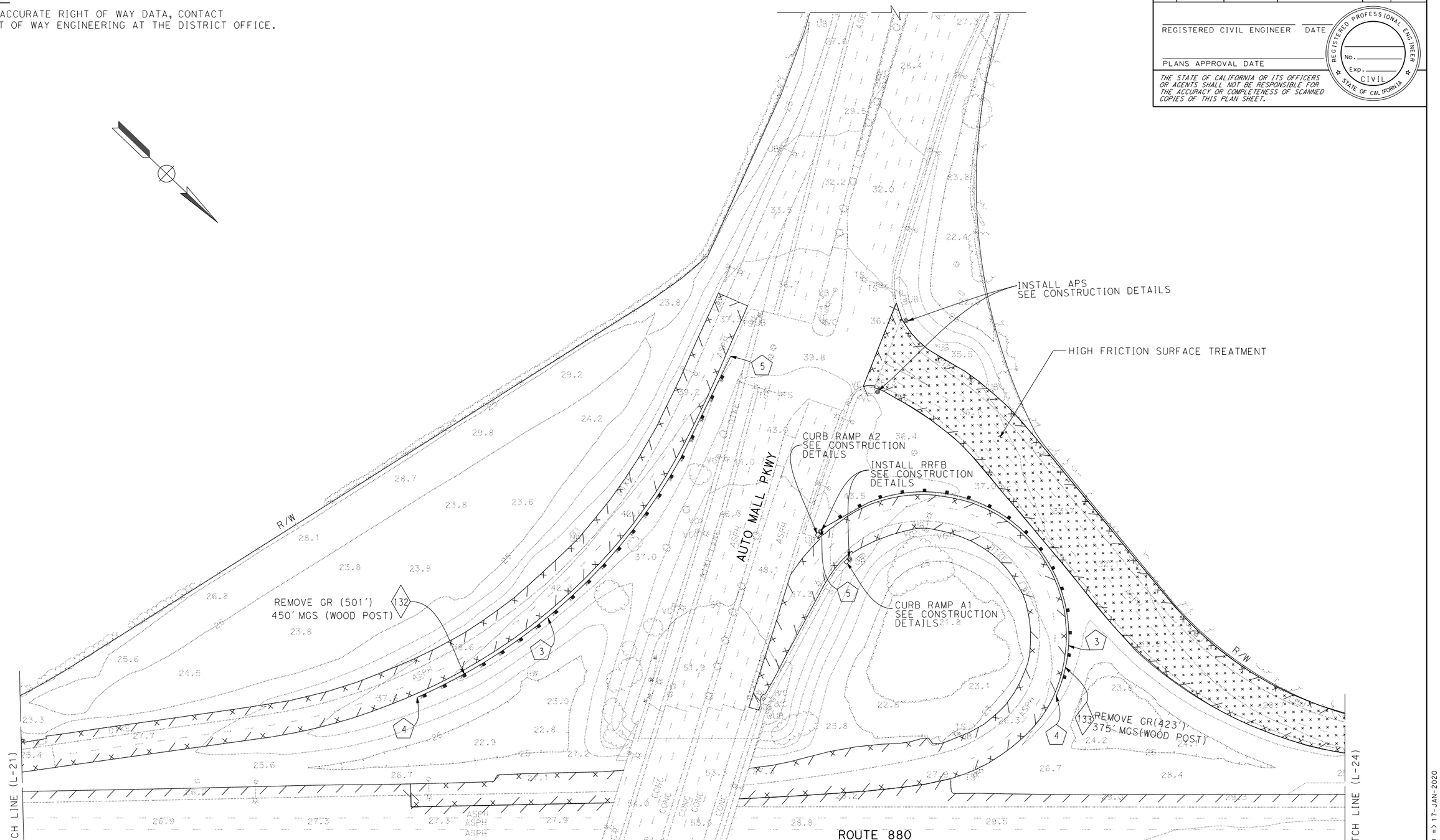

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50'

L-23

CALCULATED-DESIGNED BY	
CHECKED BY	
KRISTINA MAI	REVISED BY
CHRIS ELBO	DATE REVISED
FUNCTIONAL SUPERVISOR	
BOB ZANDIPOUR	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea023.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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NOTE:

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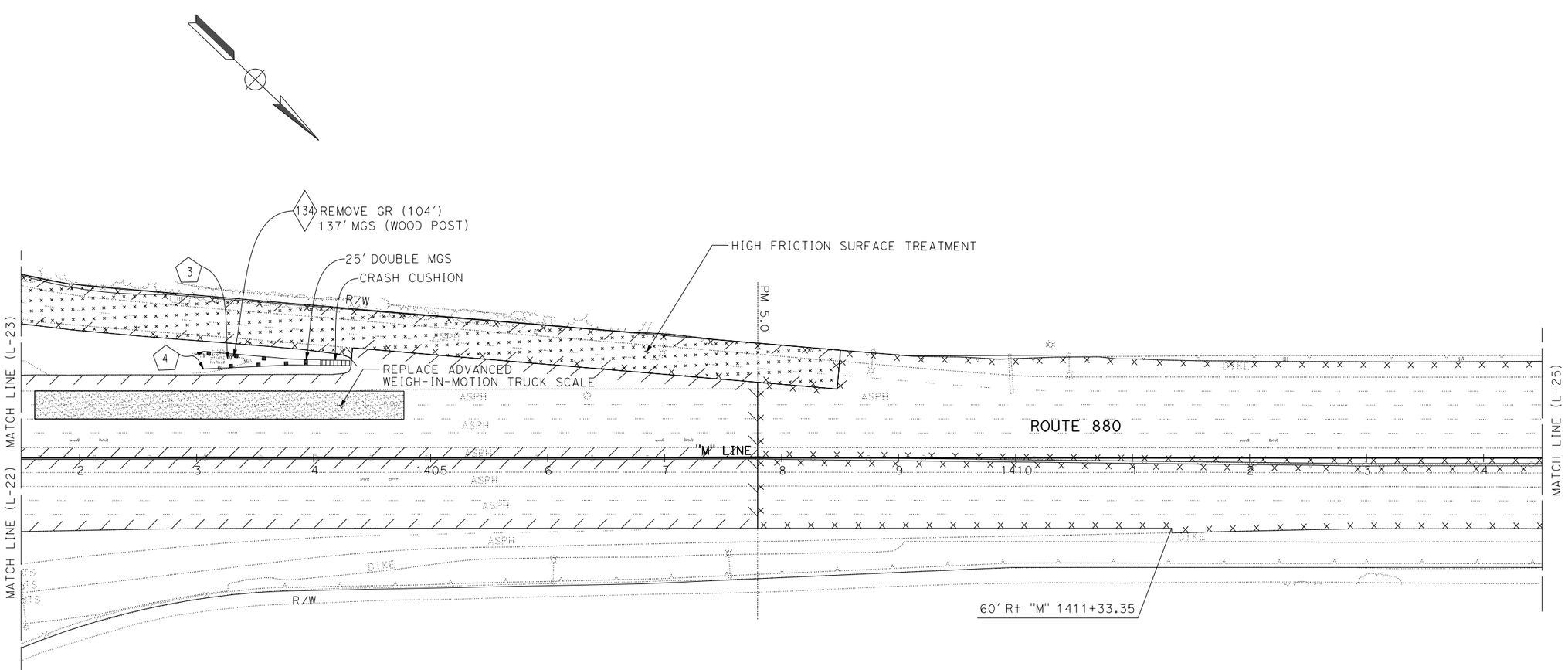
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS
AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-24

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:20

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO

REVISED BY | DATE REVISED

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea024.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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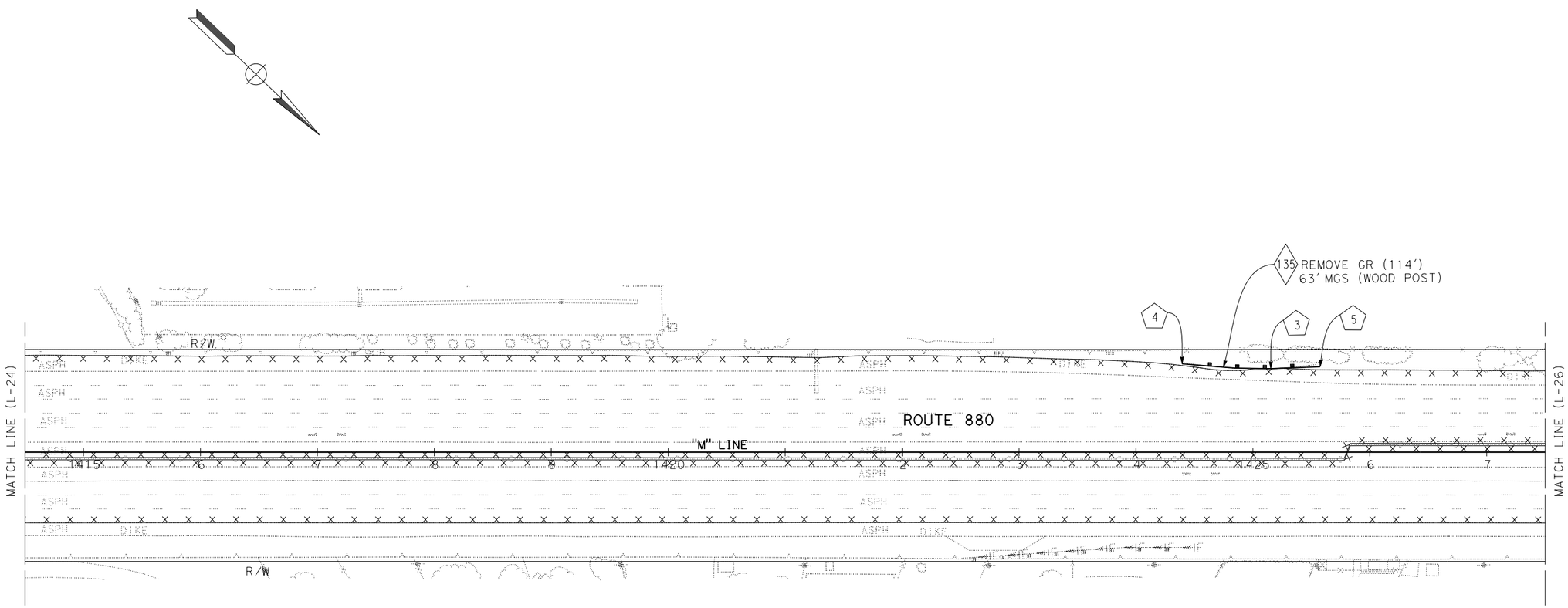
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-25

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO
FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea025.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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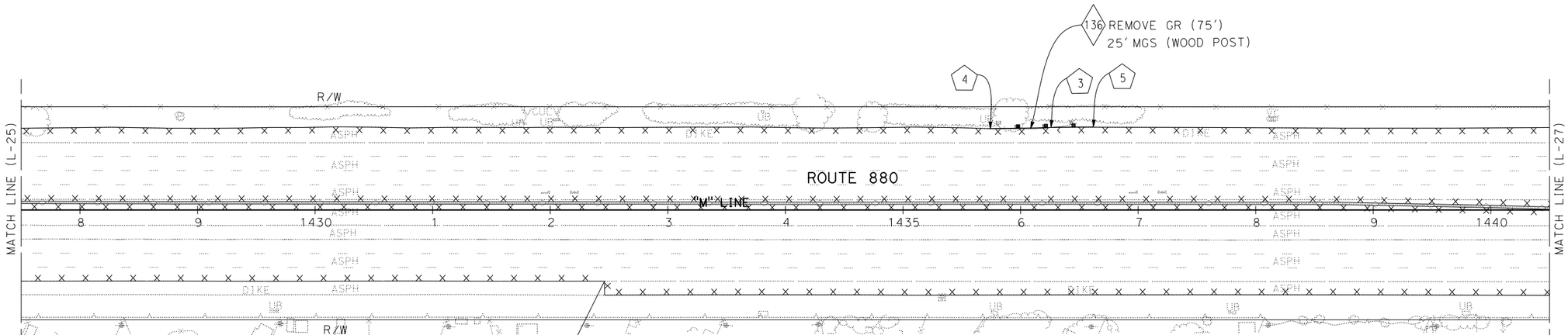

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-26

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea026.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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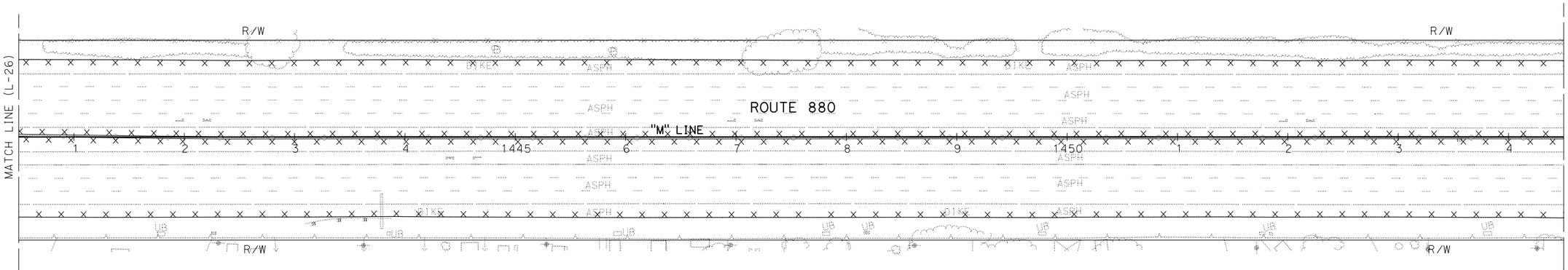
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-27

CALCULATED-DESIGNED BY	REVISED BY
KRISTINA MAI	DATE REVISED
CHECKED BY	
CHRIS ELBO	

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION | DATE PLOTTED => 17-JAN-2020
06-10-19 | TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea027.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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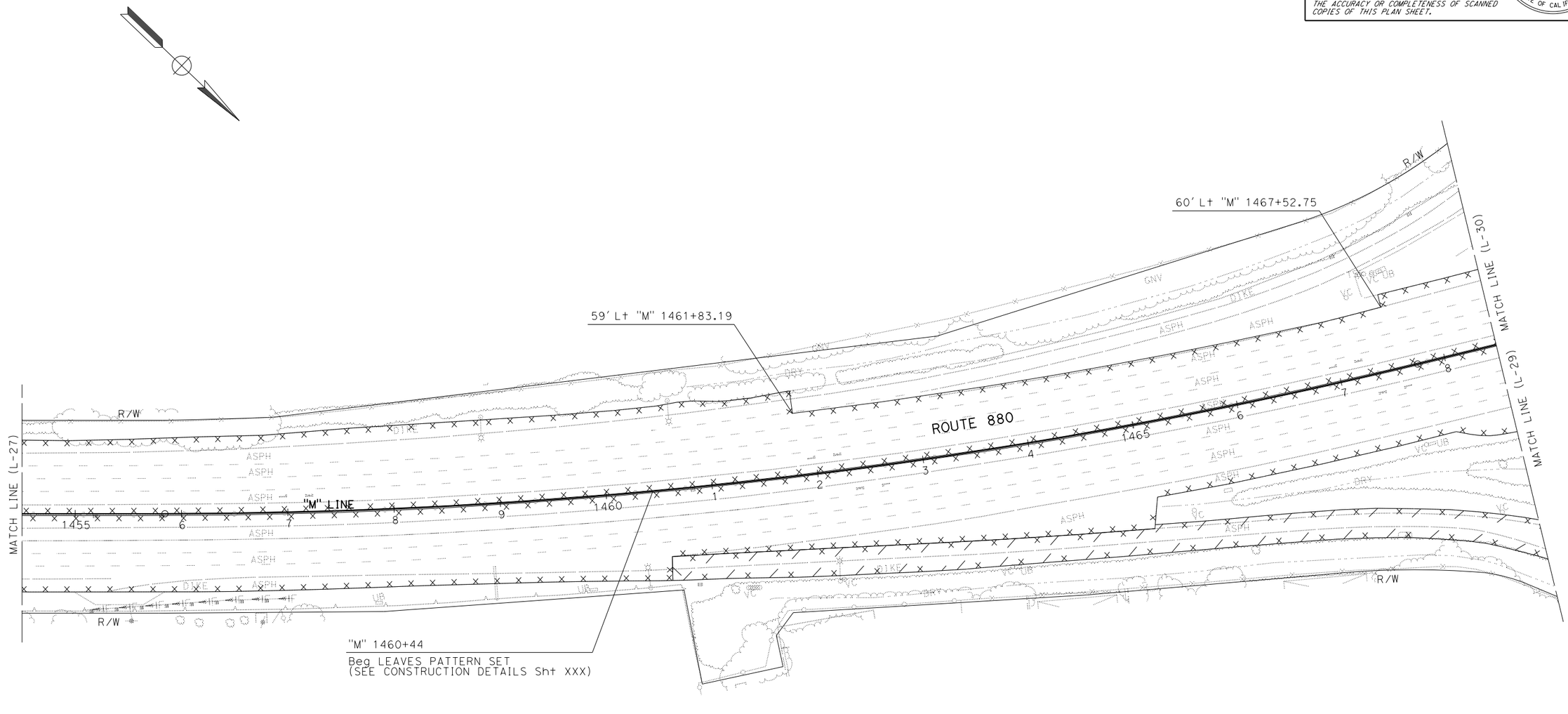

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-28

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:20

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

CALCULATED-DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR
BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea028.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

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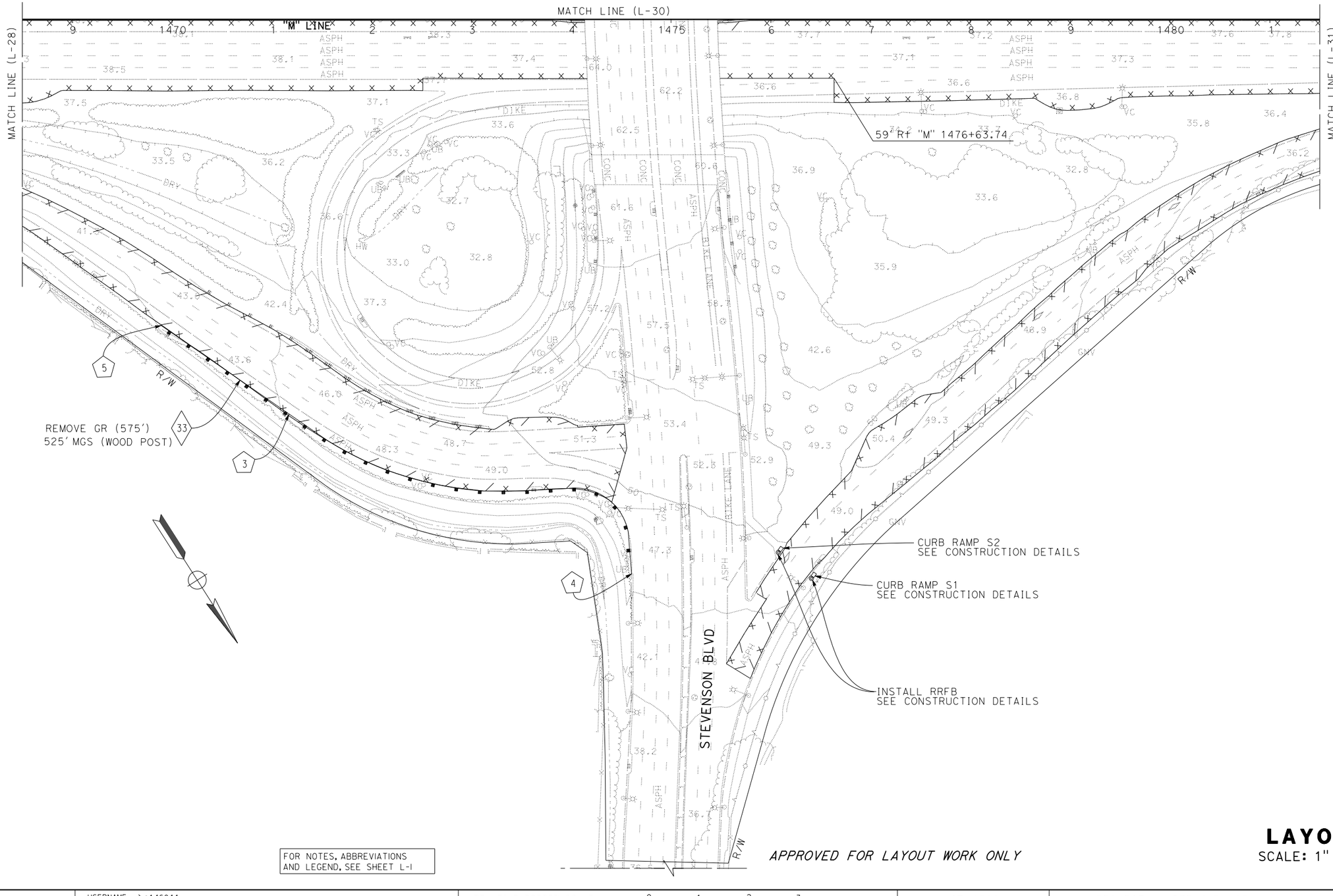

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-29

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

CALCULATED-DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR
BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION | DATE PLOTTED => 17-JAN-2020
06-10-19 | TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea029.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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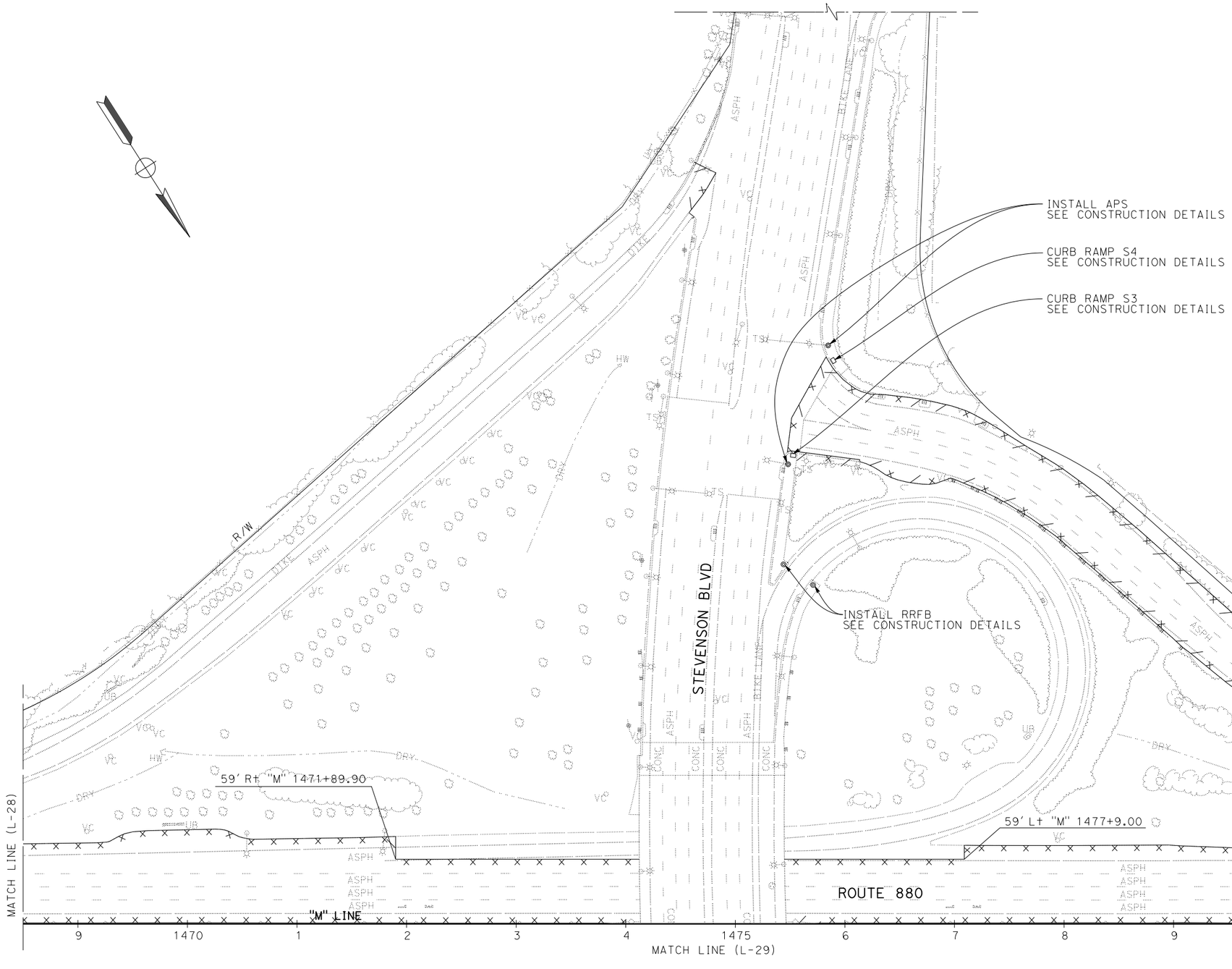

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-30

KRISTINA MAI	CALCULATED-DESIGNED BY
CHRIS ELBO	CHECKED BY
BOB ZANDIPOUR	FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	Caltrans

REVISED BY	DATE REVISED

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010
USERNAME => s146044
DGN FILE => ea030.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0728
PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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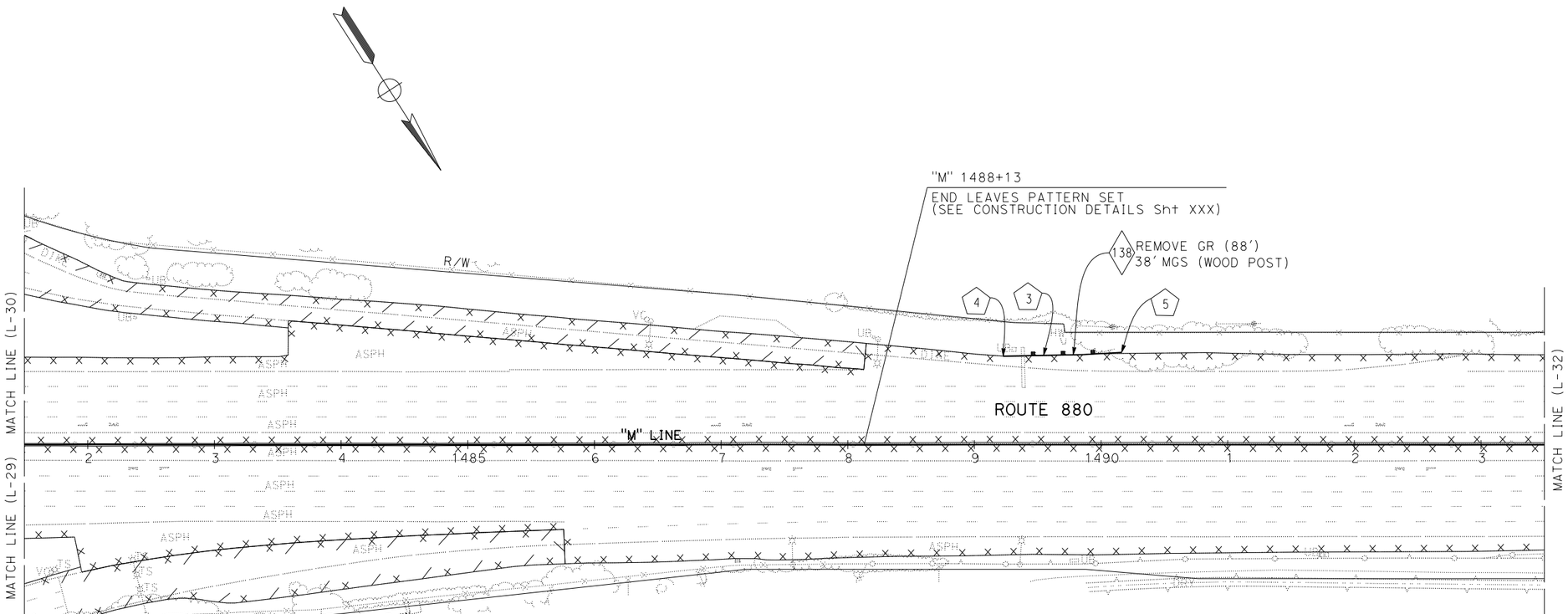
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-31

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO

REVISED BY
DATE REVISED

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea031.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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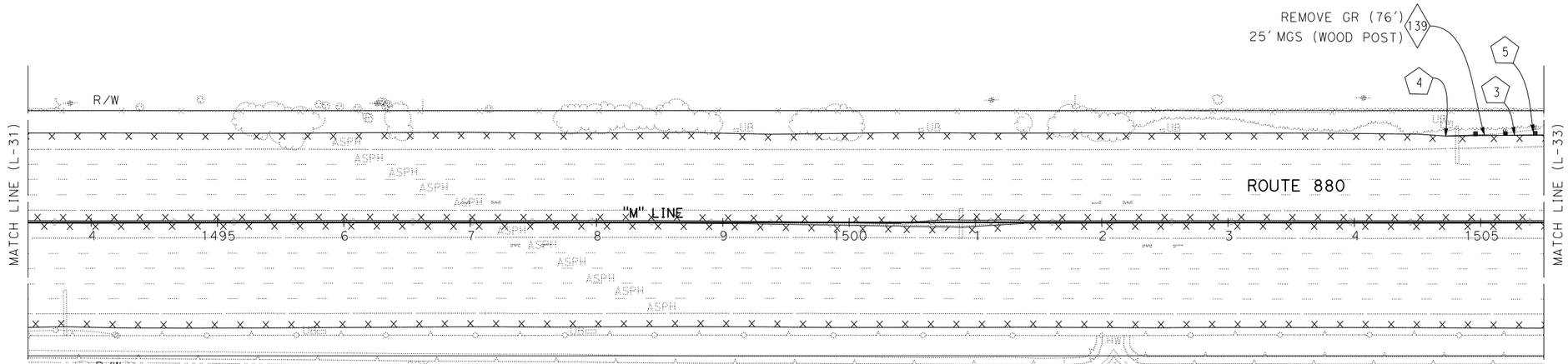

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-32

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:20

REVISED BY	DATE REVISED
KRISTINA MAI	CHRIS ELBO
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea032.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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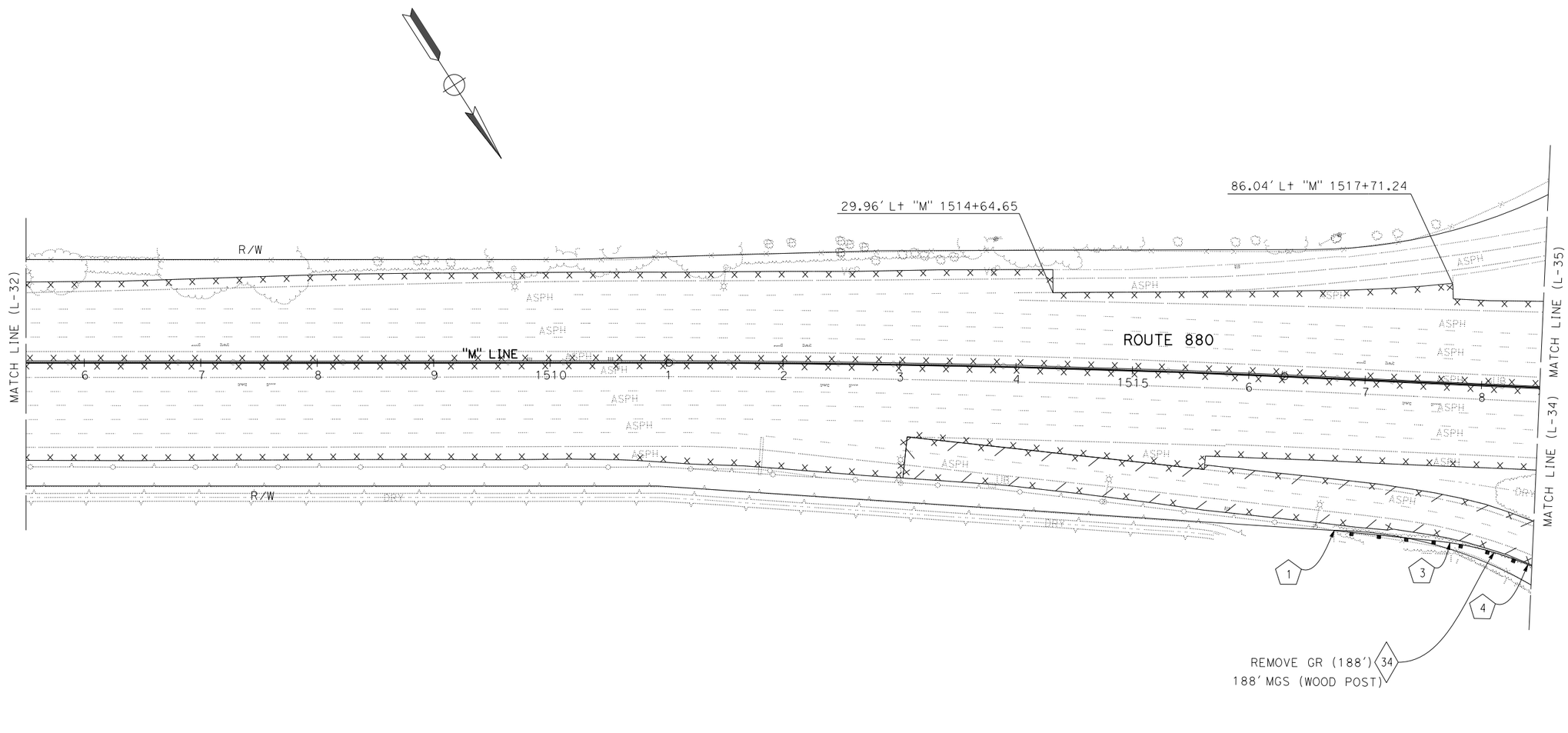

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-33

REVISED BY	DATE REVISED
KRISTINA MAI	CHRIS ELBO
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
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BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea033.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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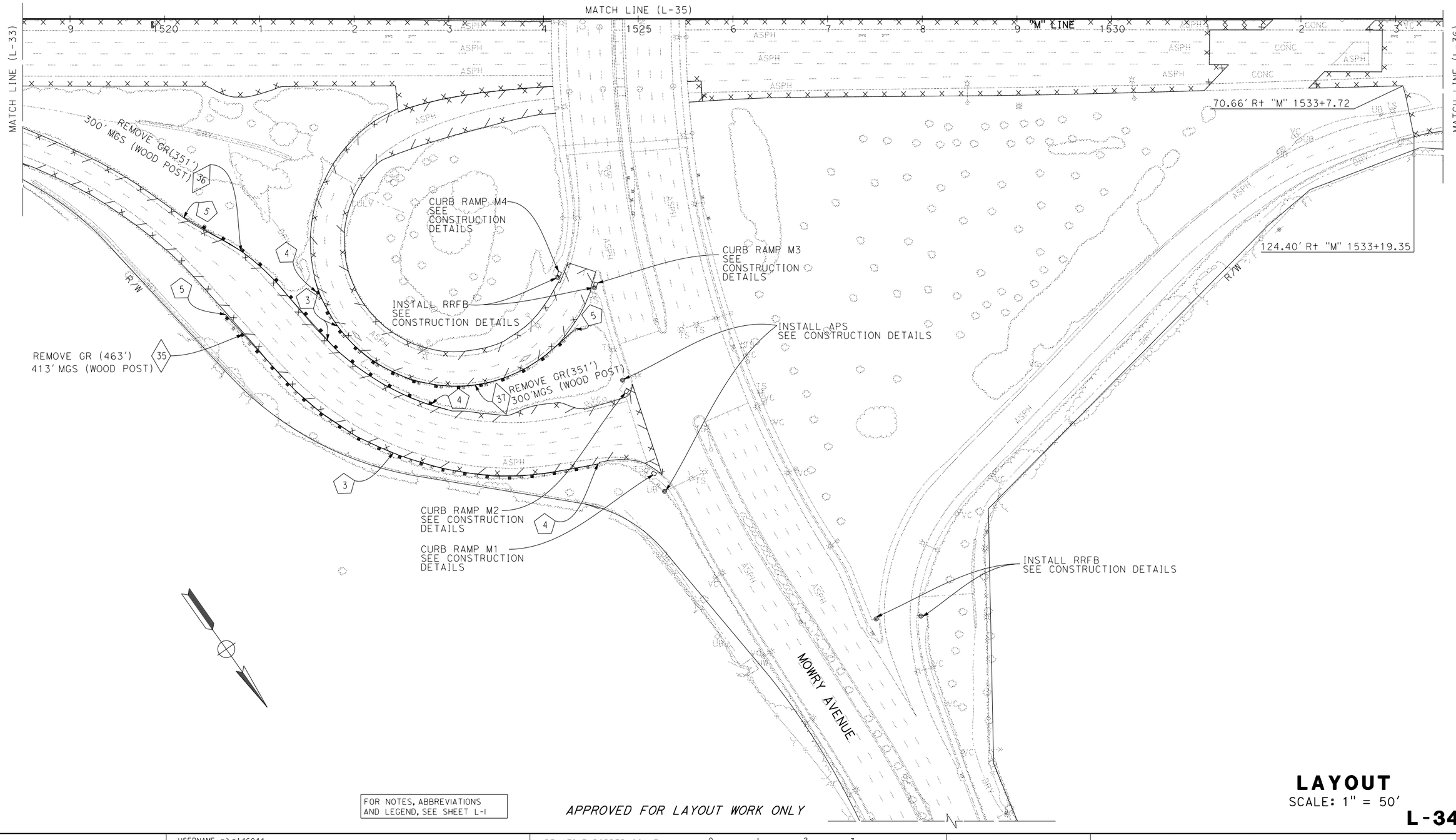
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-34

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

CALCULATED-DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR
BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea034.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

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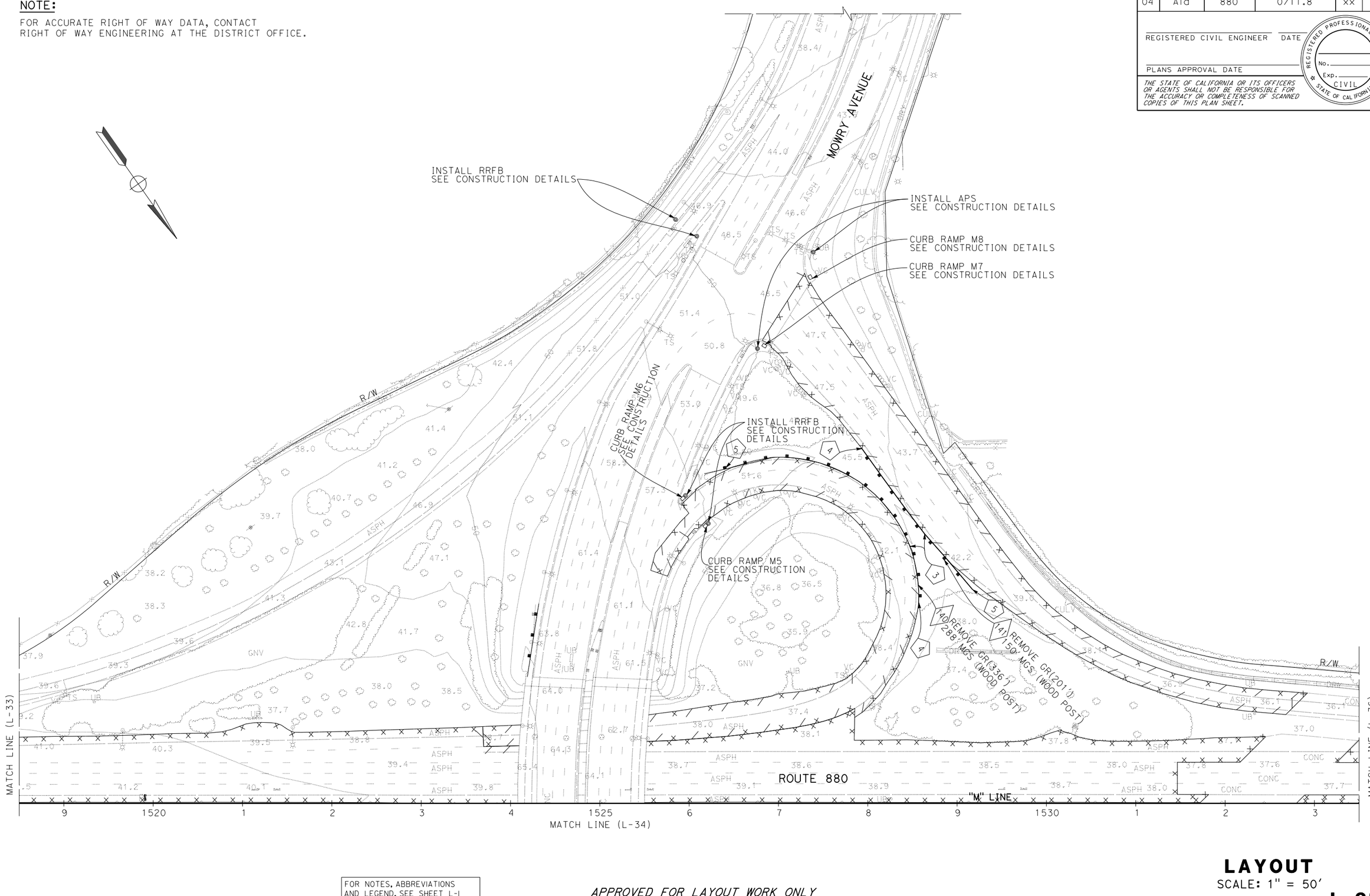

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-35

REVISED BY	KRISTINA MAI
DATE REVISED	CHRIS ELBO
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea035.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

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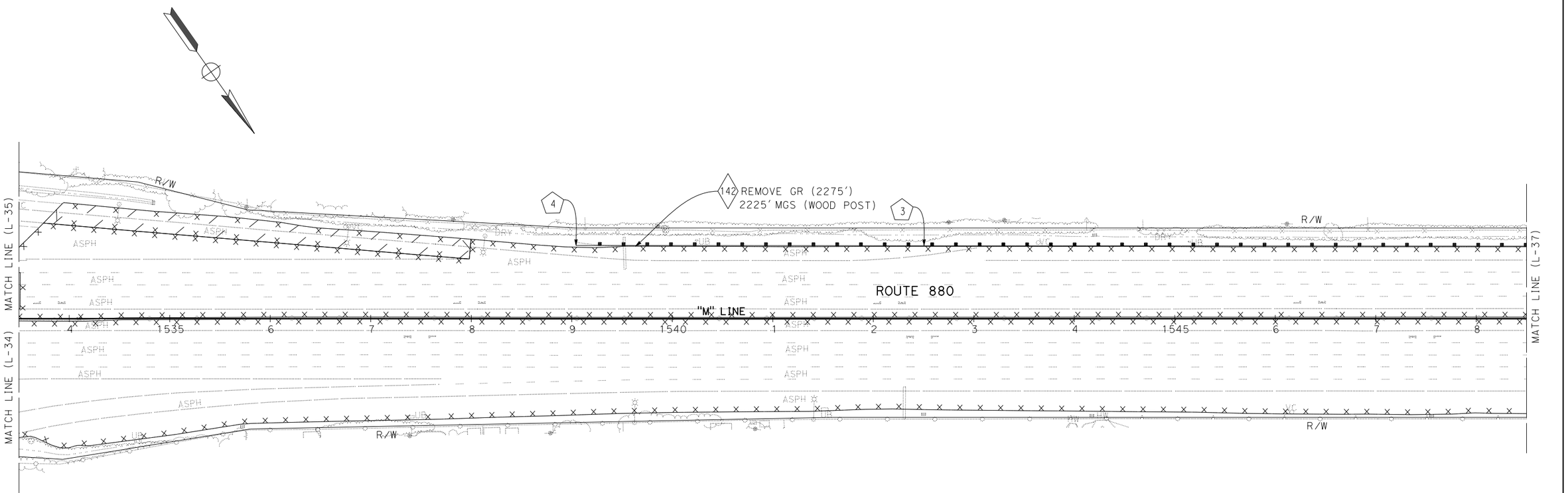

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-36

REVISED BY	KRISTINA MAI
DATE REVISED	CHRIS ELBO
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea036.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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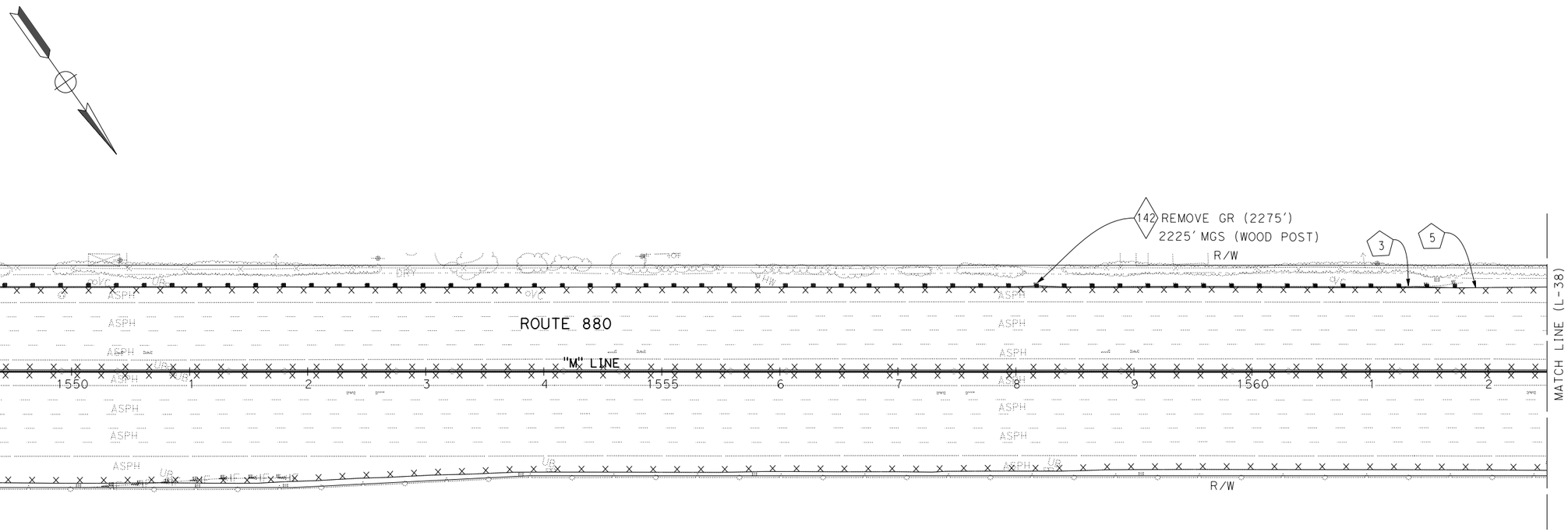

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-37

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO
FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010
USERNAME => s146044
DGN FILE => ea037.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0728
PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

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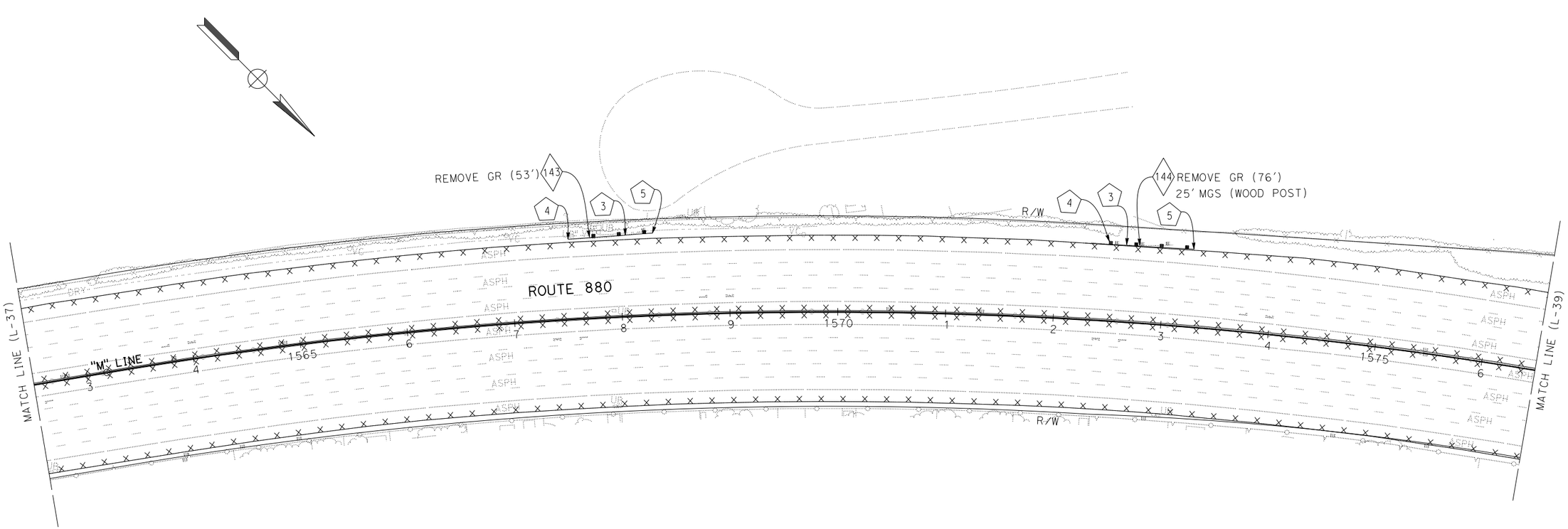

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-38

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

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Caltrans

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR
CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO
REVISED BY
DATE REVISED

BORDER LAST REVISED 7/2/2010
USERNAME => s146044
DGN FILE => ea038.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0728
PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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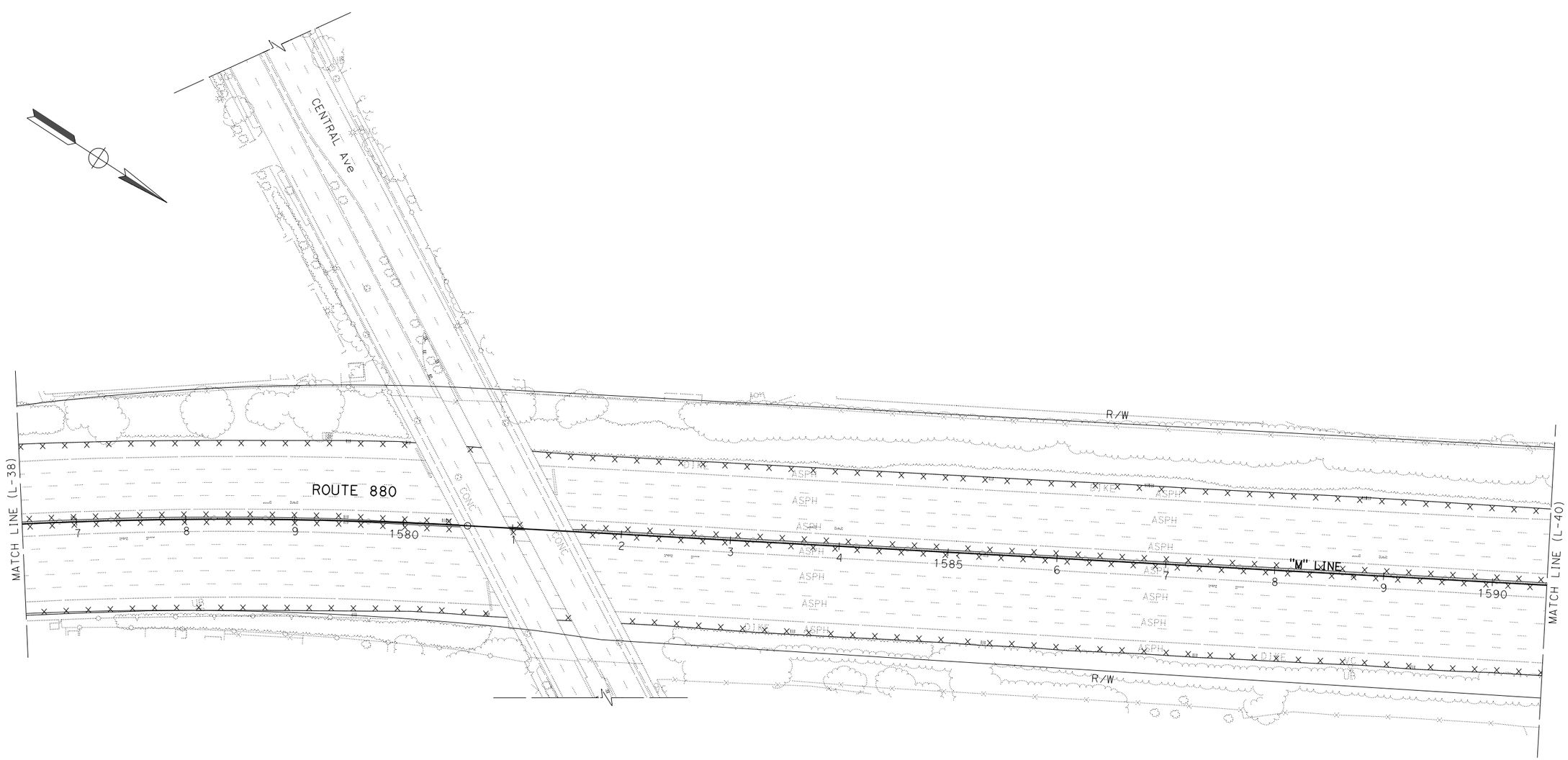

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50'

L-39

CALCULATED-DESIGNED BY	REVISED BY
CHECKED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea039.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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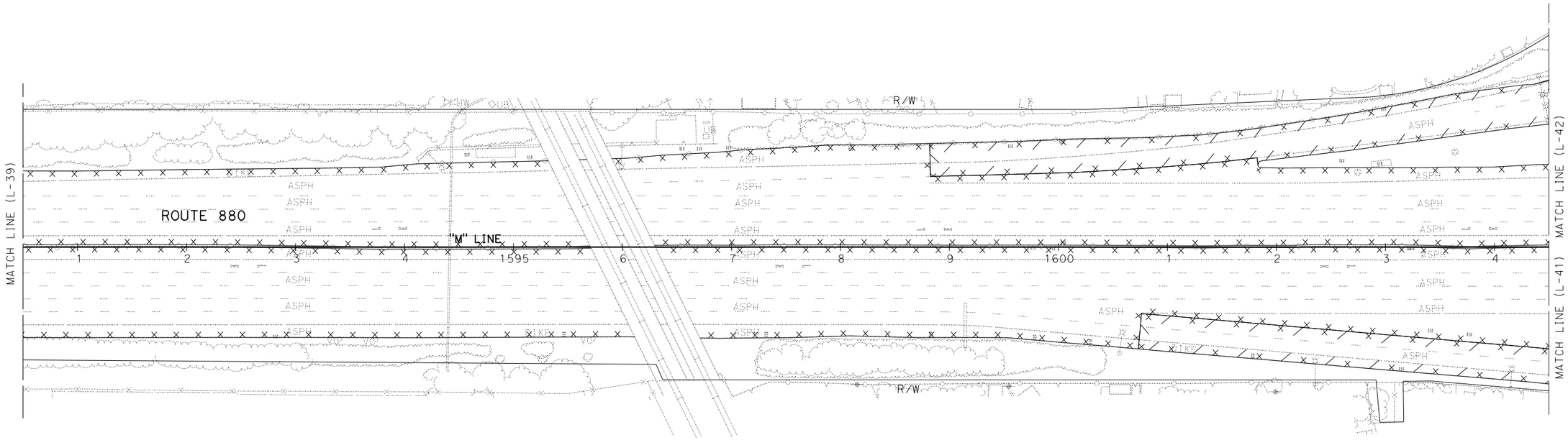

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

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LAYOUT
SCALE: 1" = 50'

L-40

REVISED BY	KRISTINA MAI
DATE REVISED	CHRIS ELBO
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea040.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

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Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

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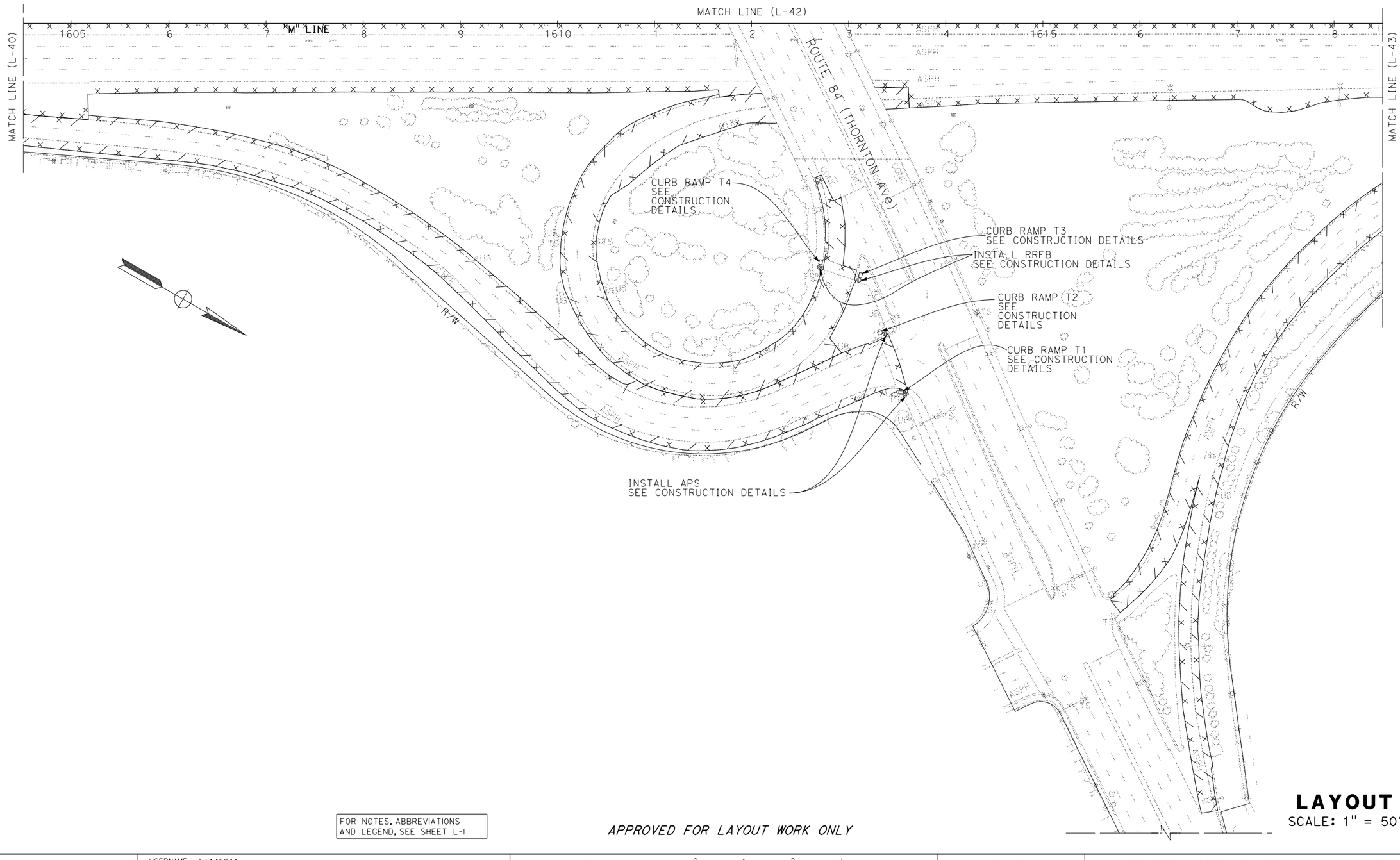

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50'

L-41

REVISED BY	DATE REVISED
KRISTINA MAI	
CALCULATED-DESIGNED BY	CHRIS ELBO
CHECKED BY	
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 06-10-19

DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea041.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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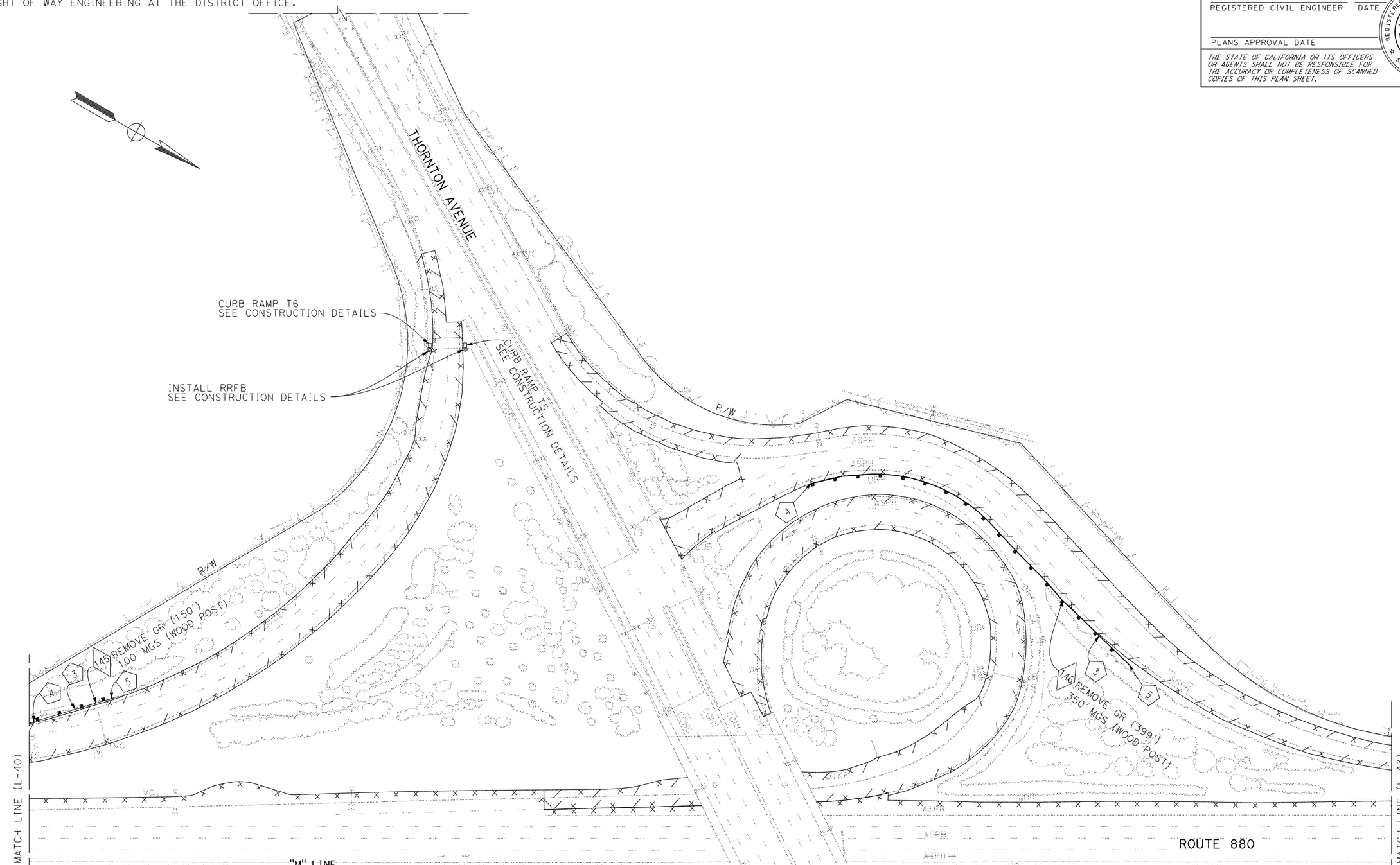

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT

SCALE: 1" = 50'

L-42

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FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

CALCULATED-DESIGNED BY: KRISTINA MAI

CHECKED BY: CHRIS ELBO

REVISED BY

DATE REVISED

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea042.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

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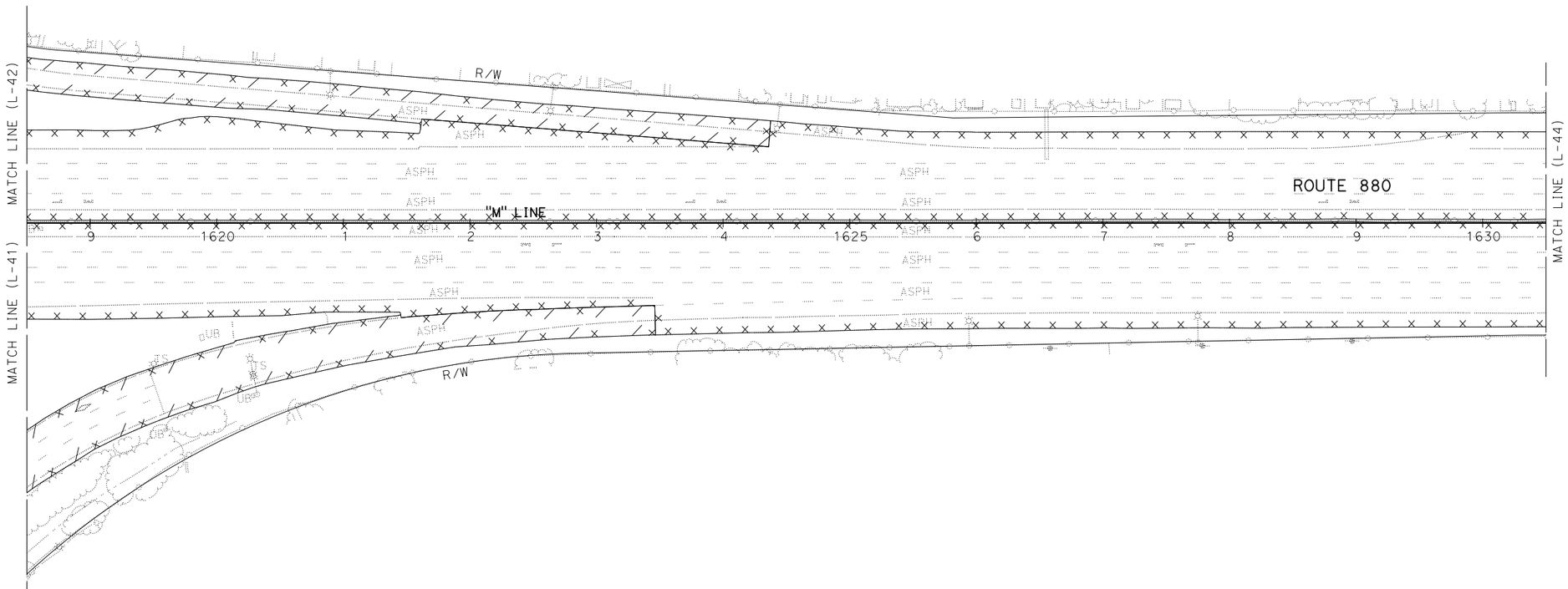

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-43

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO
FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea043.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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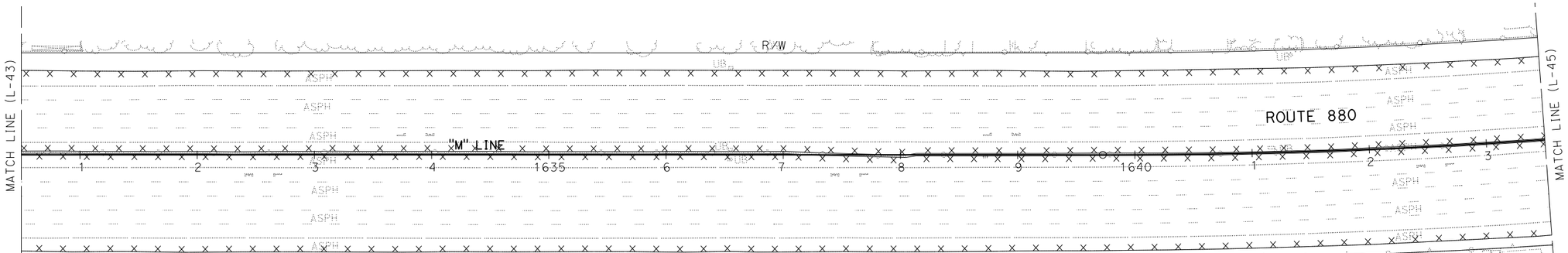

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-44

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

CALCULATED-DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR
BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010
USERNAME => s146044
DGN FILE => ea044.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0728
PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

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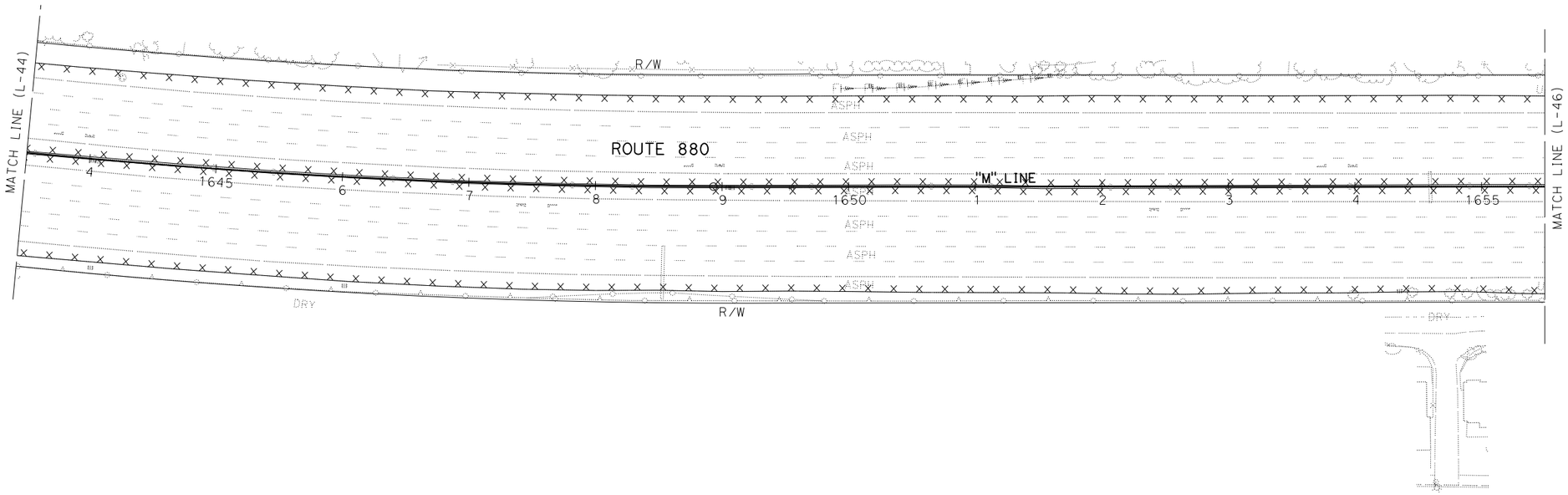

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-45

CALCULATED-DESIGNED BY	KRISTINA MAI	REVISED BY	
CHECKED BY	CHRIS ELBO	DATE REVISED	
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR		

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LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea045.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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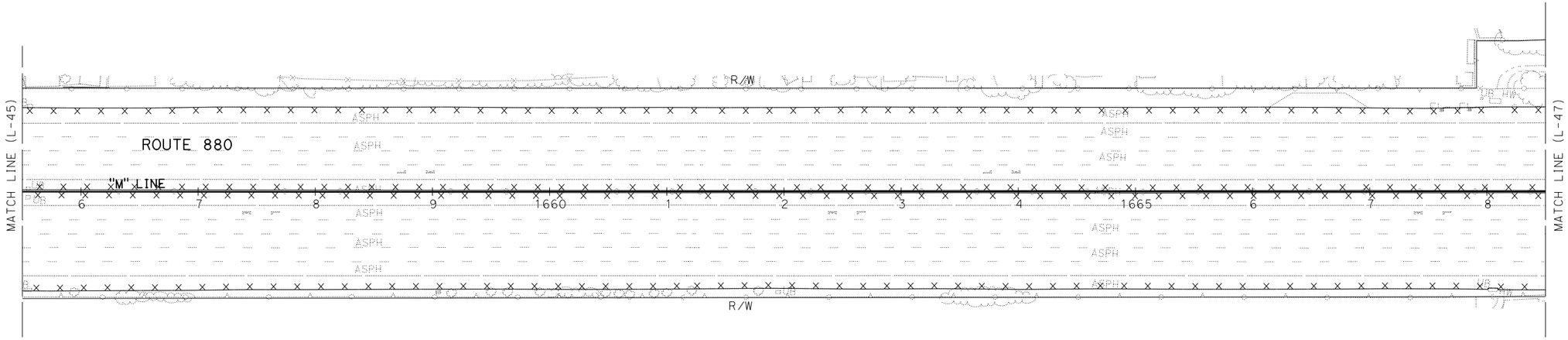

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-46

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

CALCULATED-DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR
BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

BORDER LAST REVISED 7/2/2010

USERNAME => s146044
DGN FILE => ea046.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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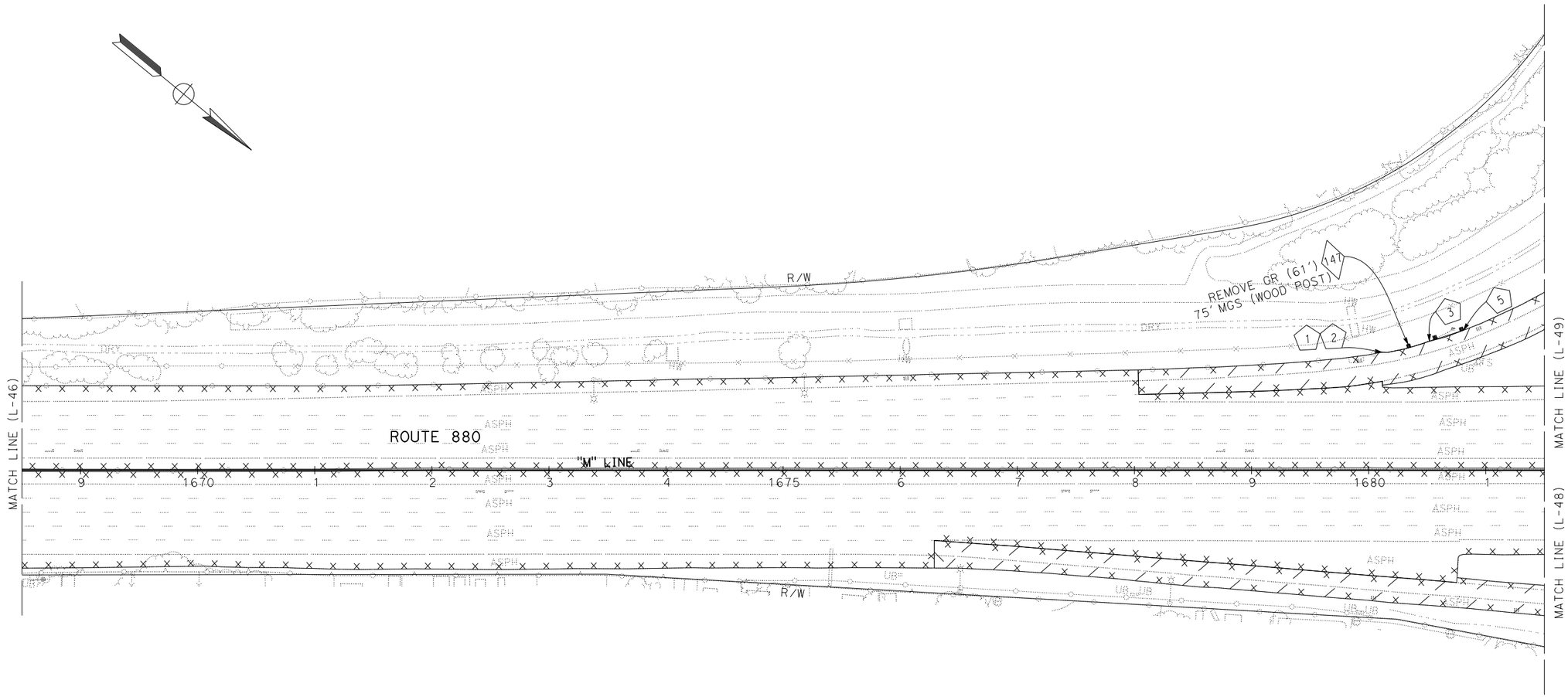

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-47

REVISED BY	KRISTINA MAI
DATE REVISED	CHRIS ELBO
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 06-10-19
DATE PLOTTED => 17-JAN-2020
TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea047.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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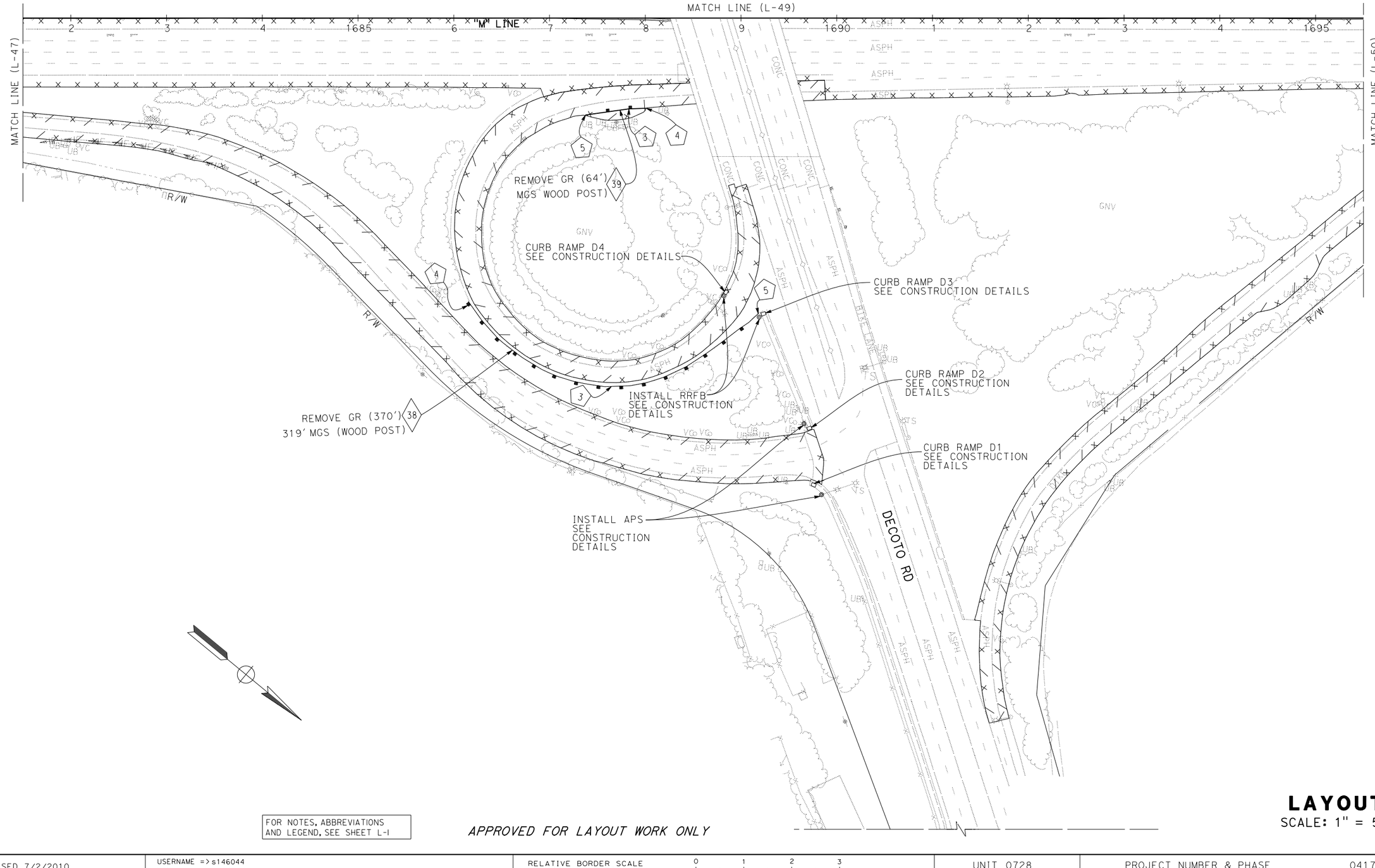

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-48

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	
BOB ZANDIPOUR	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea048.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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FOR ACCURATE RIGHT OF WAY DATA, CONTACT
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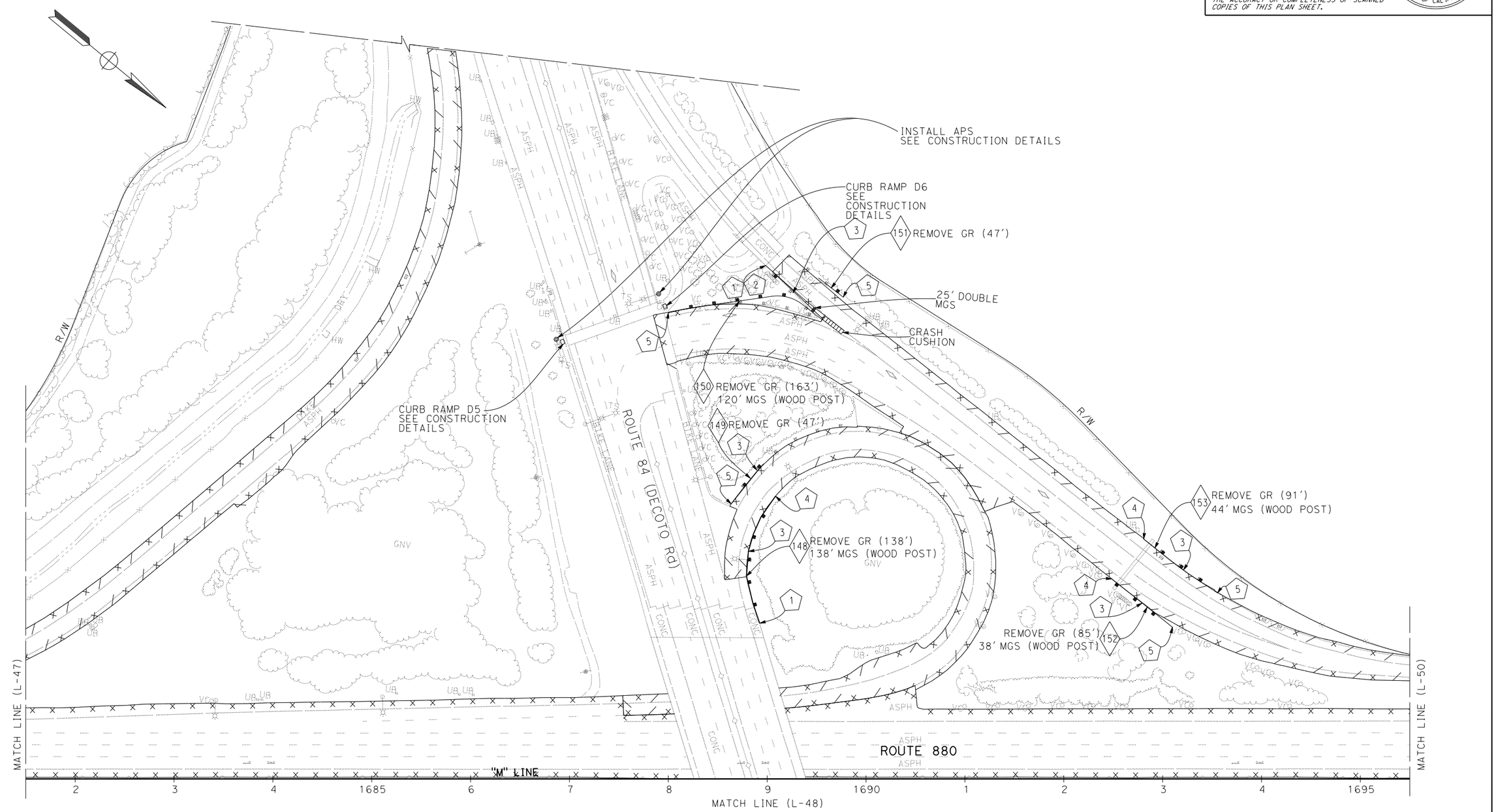

FOR NOTES, ABBREVIATIONS
AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-49

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO

REVISED BY | DATE REVISED

LAST REVISION DATE PLOTTED => 17-JAN-2020
06-10-19 TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea049.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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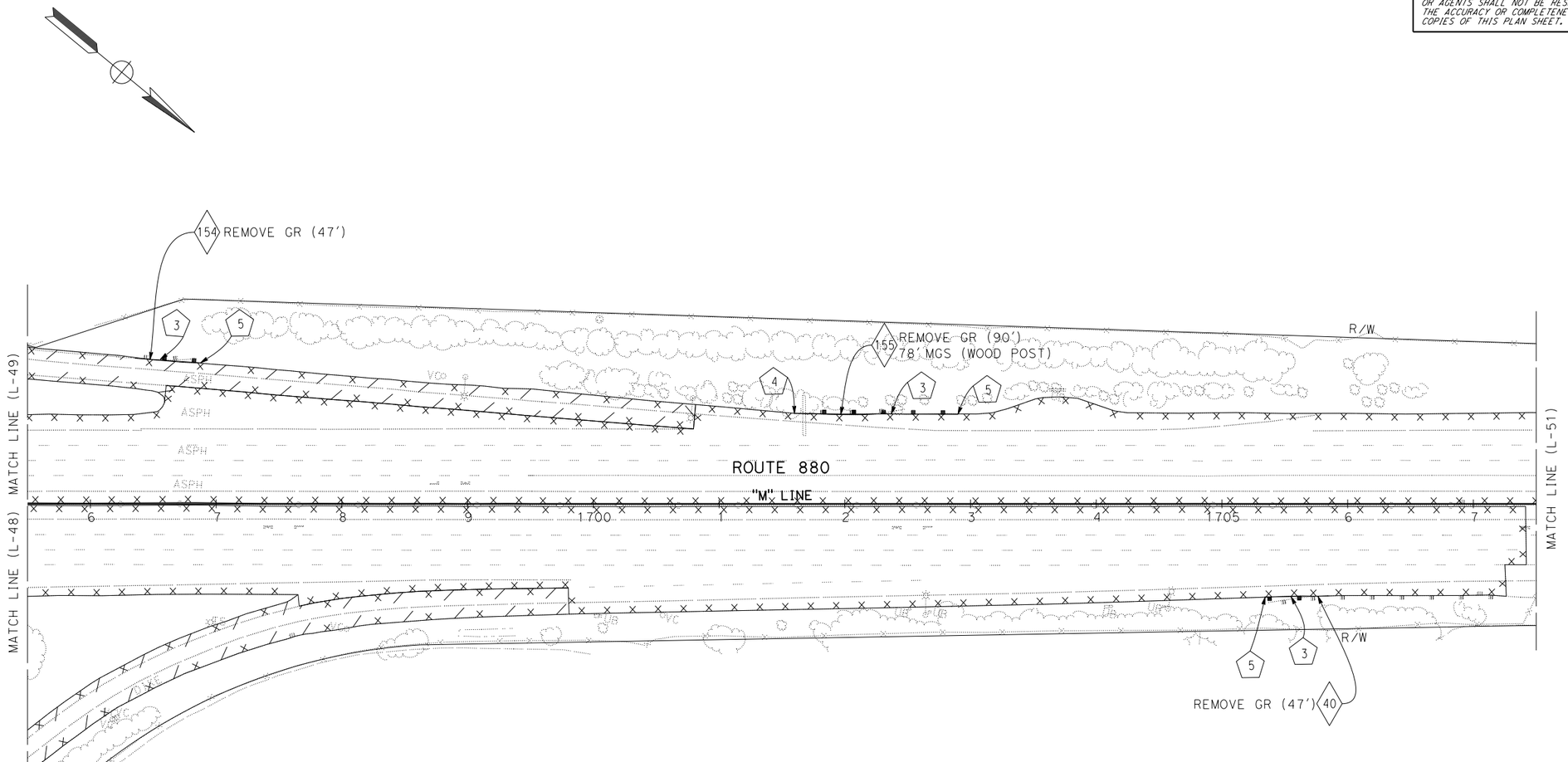

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

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LAYOUT
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L-50

LAST REVISION 06-10-19
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TIME PLOTTED => 14:20

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR
CALCULATED-DESIGNED BY: KRISTINA MAI
CHECKED BY: CHRIS ELBO
REVISED BY
DATE REVISED

BORDER LAST REVISED 7/2/2010
USERNAME => s146044
DGN FILE => ea050.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0728
PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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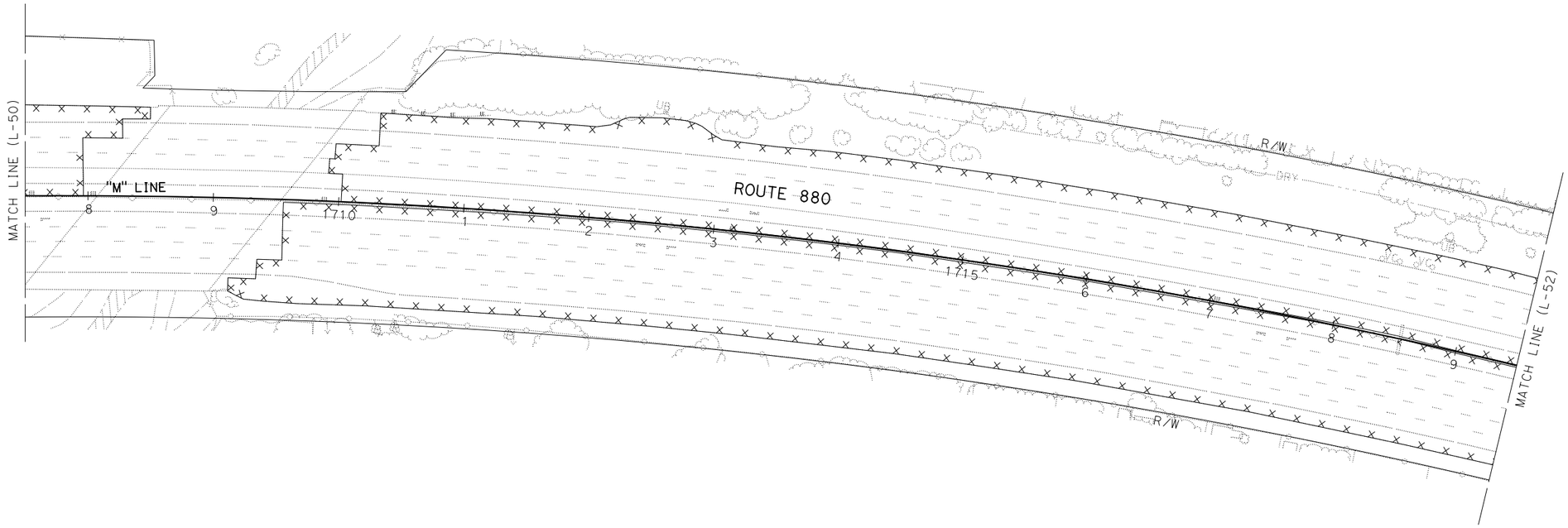

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

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LAYOUT
SCALE: 1" = 50'

L-51

CALCULATED-DESIGNED BY	KRISTINA MAI	REVISED BY	
CHECKED BY	CHRIS ELBO	DATE REVISED	
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR		

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Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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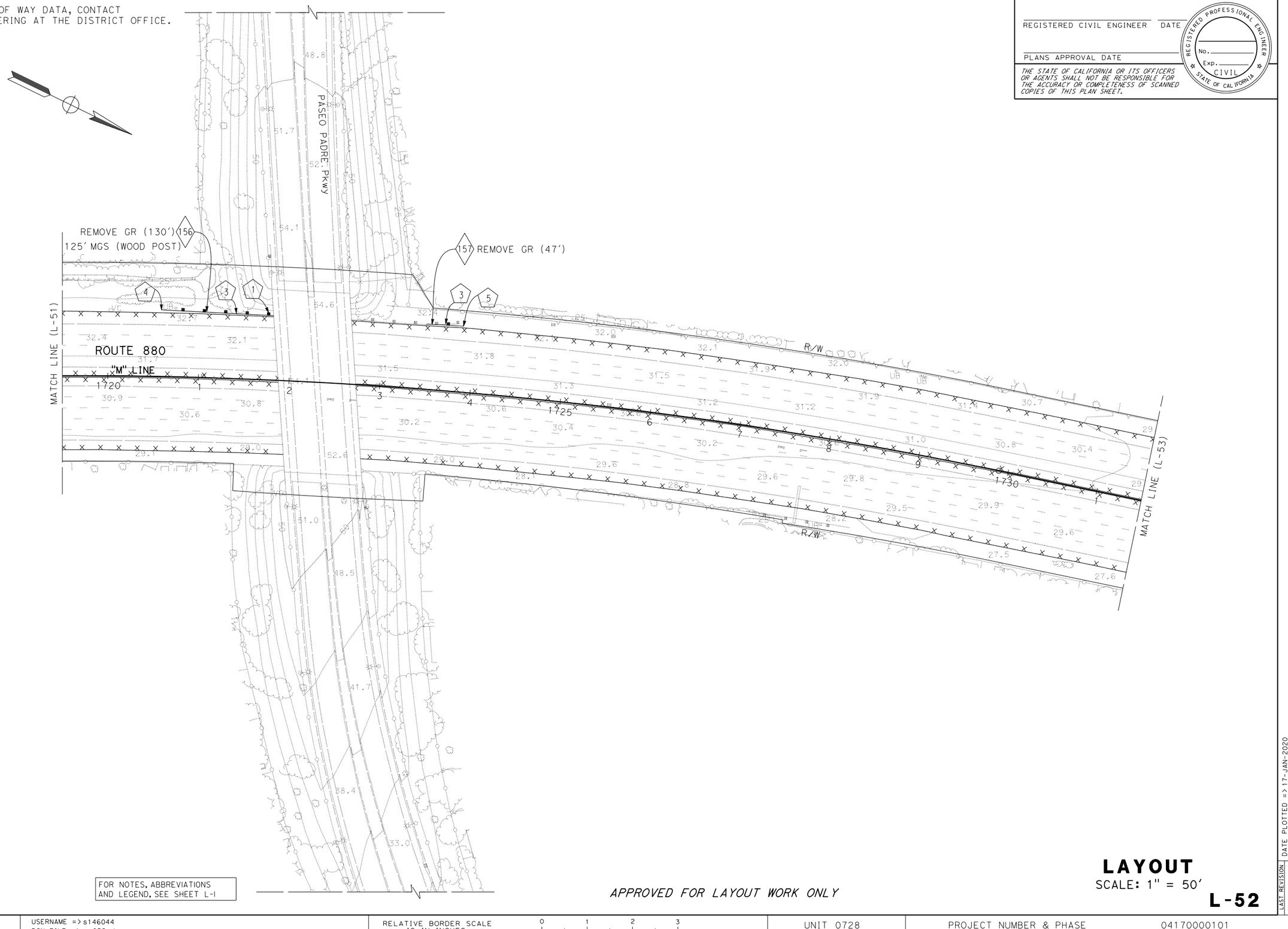

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

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LAYOUT

SCALE: 1" = 50'

L-52

REVISED BY	DATE REVISED
KRISTINA MAI	
CHRIS ELBO	

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR: BOB ZANDIPOUR

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Caltrans

LAST REVISION 06-10-19

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TIME PLOTTED => 14:20

BORDER LAST REVISED 7/2/2010

USERNAME => s146044

DGN FILE => ea052.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0728

PROJECT NUMBER & PHASE 04170000101

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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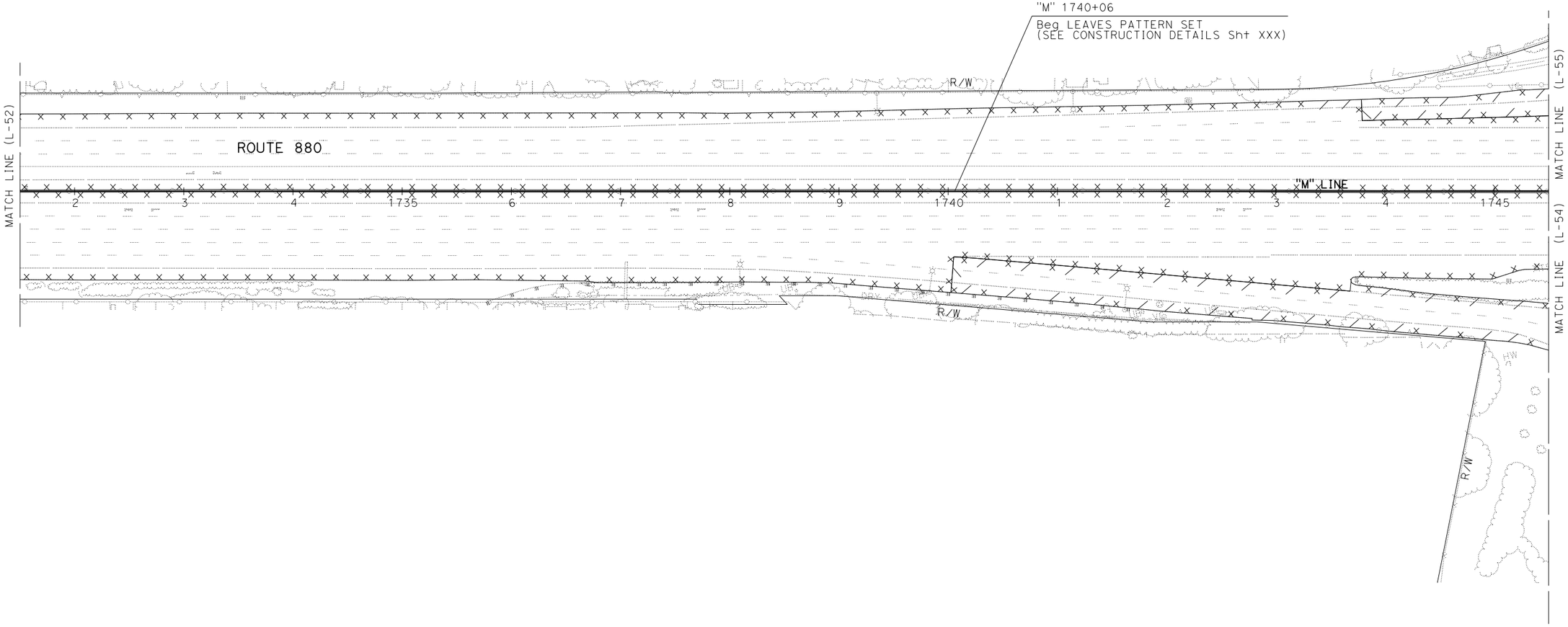

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-53

CALCULATED-DESIGNED BY	KRISTINA MAI
CHECKED BY	CHRIS ELBO
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR
DRAWN BY	
REVISED BY	
DATE REVISED	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

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Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	0/11.8	xx	xx

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PLANS APPROVAL DATE

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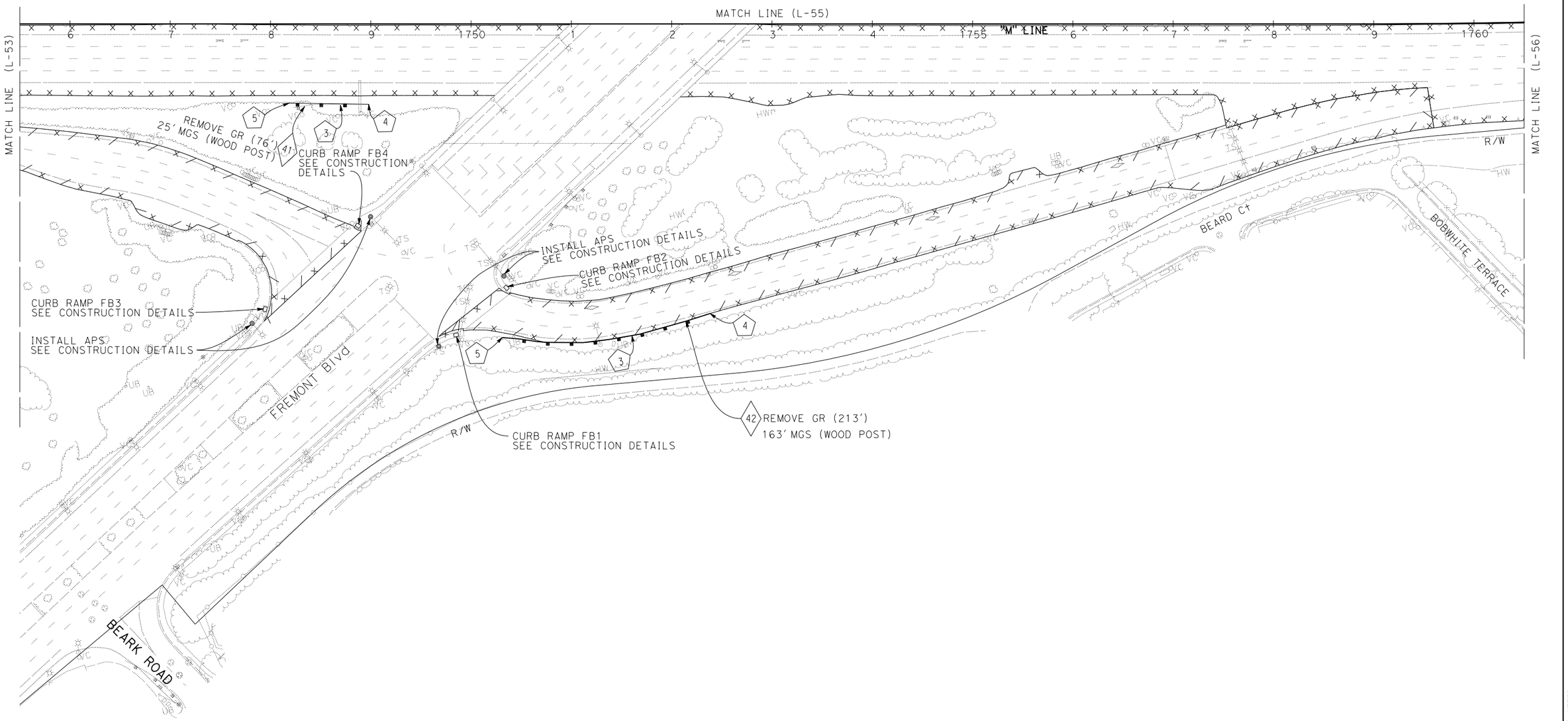

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

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LAYOUT
SCALE: 1" = 50'

L-54

REVISED BY	DATE REVISED
KRISTINA MAI	CHRIS ELBO
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR

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Caltrans

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04	Ala	880	0/11.8	xx	xx

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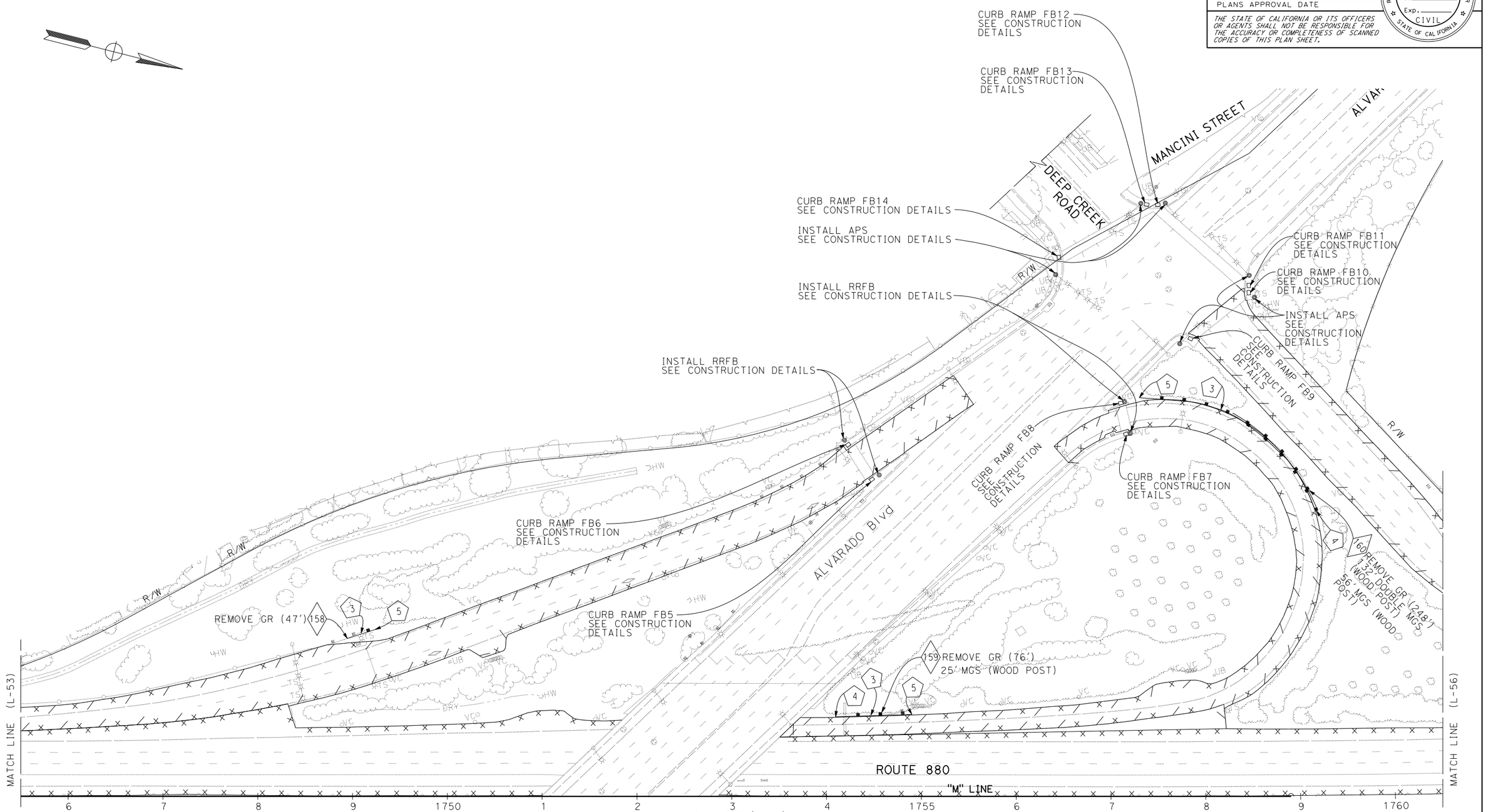

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

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LAYOUT

SCALE: 1" = 50'

L-55

CALCULATED-DESIGNED BY	KRISTINA MAI	REVISED BY	
CHECKED BY	CHRIS ELBO	DATE REVISED	
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR		
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION			

LAST REVISION 06-10-19 DATE PLOTTED => 17-JAN-2020 TIME PLOTTED => 14:21

BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 DGN FILE => ea055.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

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04	Ala	880	0/11.8	xx	xx

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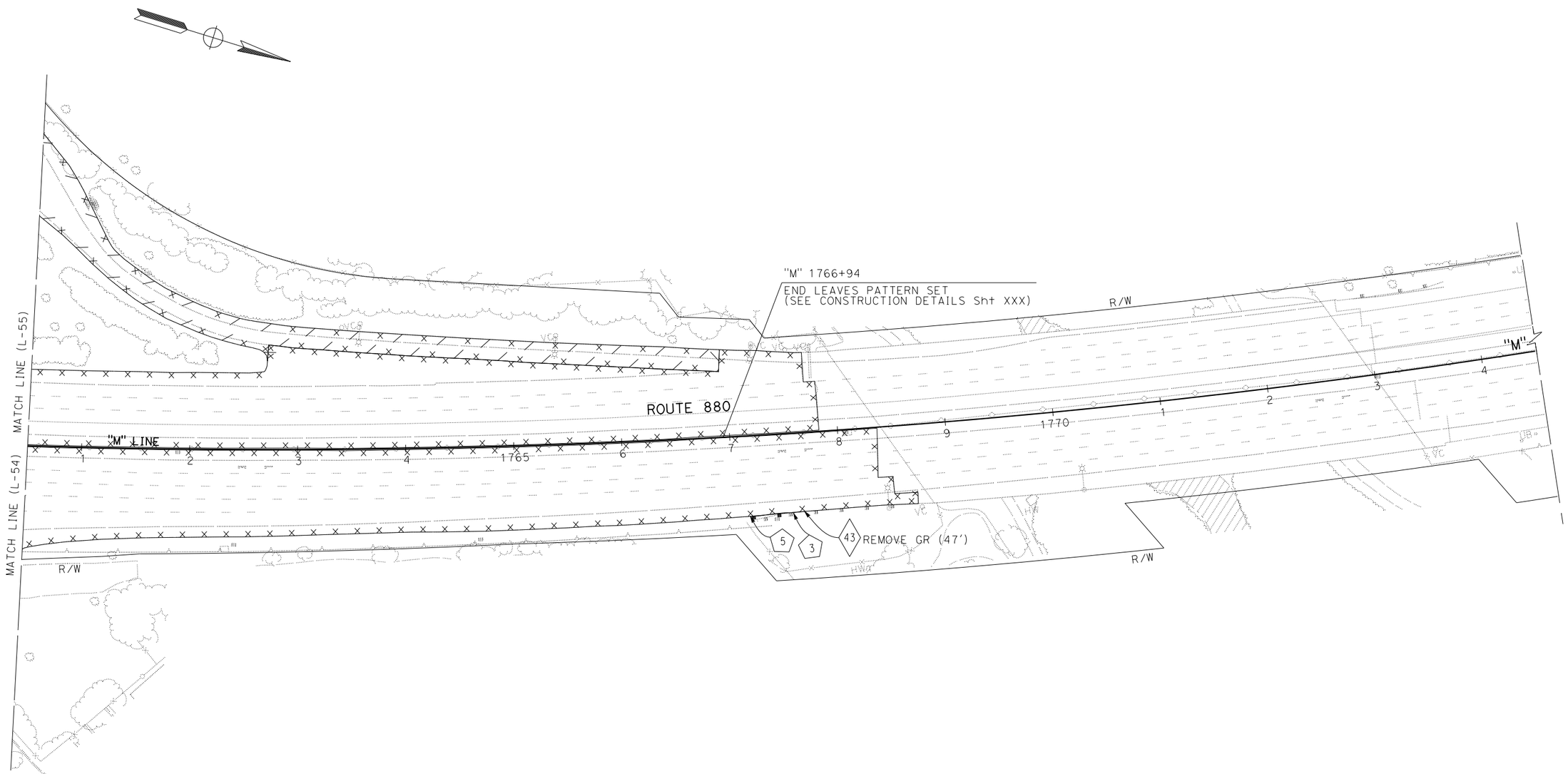

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR LAYOUT WORK ONLY

LAYOUT
SCALE: 1" = 50'

L-56

REVISED BY	DATE REVISED
KRISTINA MAI	CHRIS ELBO
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	BOB ZANDIPOUR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

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BORDER LAST REVISED 7/2/2010 | USERNAME => s146044 | DGN FILE => ea056.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0728 | PROJECT NUMBER & PHASE 04170000101

ATTACHMENT C

Cost Estimate

Project Phase - 0_Cost Estimate

Project ID: 04-1700-0010 (2K700K)

Type of Estimate : **PR - Initial Estimate at Kick-Off**
Program Code : **SHOPP 201.121**
Project Limits : **Ala 880-PM R0.0/11.8**
Description: **CAPM- Pavement Preservation**
Scope : **Overlay, replace MBGR, upgrade ADA curb ramps, replace loop detectors, RRFB**
Alternative : **Build**

	Current Cost	Escalated Cost
ROADWAY ITEMS	$ 49,866,000	$ 57,166,000
STRUCTURE ITEMS	$ -	$ -
SUBTOTAL CONSTRUCTION COST	$ 49,866,000	$ 57,166,000
RIGHT OF WAY	$ 185,000	$ 185,000
TOTAL CAPITAL OUTLAY COST	$ 50,051,000	$ 57,351,000
PA&ED SUPPORT	$ 3,000,000	$ 3,000,000
PS&E SUPPORT	$ 5,000,000	$ 5,000,000
RIGHT OF WAY SUPPORT	$ 620,000	$ 620,000
CONSTRUCTION SUPPORT	$ 5,400,000	$ 5,400,000
TOTAL CAPITAL OUTLAY SUPPORT COST (PROGRAMMED COST)	$ 14,020,000	$ 14,020,000
TOTAL PROJECT COST	$ 64,100,000	$ 71,400,000

Date of Estimate (Month/Year)	24-Feb-2020
Estimated Date of Construction Start (Month/Year)	1-Mar-2023

Number of Working Days	340	Working Days
Number of Plant Establishment Days	0	Days
Programmed Construction Capital Amount	$	57,166,000

Estimated Project Schedule	
PID Approval	30-Jun-2017
PA/ED Approval	2-Mar-2020
PS&E	1-Nov-2021
RTL	1-Mar-2022
Begin Construction	1-Mar-2023
Middle Construction	31-Jan-2024
End Construction	31-Dec-2024

I. ROADWAY ITEMS SUMMARY

	Section	Cost
1	Earthwork	$ 185,000
2	Structural Section	$ 21,989,538
3	Drainage	$ 175,000
4	Specialty Items	$ 2,081,982
5	Environmental	$ 2,232,000
6	Traffic Items	$ 6,815,000
7	Detours	$ -
8	Minor Items	$ 669,571
9	Roadway Mobilization	$ 3,414,809
10	Supplemental Work	$ 851,700
11	State Furnished	$ 1,532,000
12	TRO	$ 3,414,900
13	Contingencies	$ 6,504,226
	Programmed Construction Capital Amount	$ 49,865,726
	USE	**$ 49,866,000**

Estimate Prepared By :	Bardan Gurung	2/24/2020	510-622-8752
	Name and Title	Date	Phone
Estimate Reviewed By :	Christopher Elbo	2/24/2020	510-286-5504
	Name and Title	Date	Phone

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
160101	Clearing & Grubbing	LS	1	x	100,000	=	$	100,000
170101	Develop Water Supply	LS		x		=	$	-
190101	Roadway Excavation	CY		x		=	$	-
190103	Roadway Excavation (Type Y) ADL	CY		x		=	$	-
190105	Roadway Excavation (Type Z-2) ADL	CY		x		=	$	-
190185	Shoulder Backing	TON	1,000	x	35	=	$	35,000
192037	Structure Excavation (Retaining Wall)	CY		x		=	$	-
193013	Structure Backfill (Retaining Wall)	CY		x		=	$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		=	$	-
194001	Ditch Excavation	CY		x		=	$	-
198007	Imported Material (Shoulder Backing)	TON		x		=	$	-
027798	Imported Borrow (Lightweight Aggregate)	LS	1	x	50,000	=	$	50,000
XXXXXX	Cellular Concrete	CY		x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 185,000

SECTION 2: STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
398100	Remove Asphalt Concrete Dike	LF	93,456	x	0.75	=	$	70,092
150860	Remove Base and Surfacing	CY		x		=	$	-
398200	Cold Plane Asphalt Concrete Pavement	SQYD	1,267,500	x	4.15	=	$	5,260,125
731850	Remove Concrete (Curb, Gutter, and Sidewal	CY	143	x	230	=	$	32,796
250401	Class 4 Aggregate Subbase	CY		x		=	$	-
260303	Class 3 Aggregate Base	CY		x		=	$	-
290201	Asphalt Treated Permeable Base	CY		x		=	$	-
365001	Sand Cover	TON		x		=	$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		=	$	-
3750XX	Screenings (Type XX)	TON		x		=	$	-
377501	Slurry Seal	TON		x		=	$	-
390095	Replace Asphalt Concrete Surfacing	CY	8,450	x	315	=	$	2,661,750
390132	Hot Mix Asphalt (Type A)	TON		x		=		
390134	Hot Mix Asphalt (Open Graded)	TON		x		=		
390136	Minor Hot Mix Asphalt	TON		x		=	$	-
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	60,630	x	118	=	$	7,154,340
390402	Rubberized Hot Mix Asphalt (OGFC)	TON	52,000	x	118	=	$	6,136,000
xxxxxx	High Friction Surface Treatment (HFST)	SQYD	4,180	x	35	=	$	146,300
846051	12" Rumble Strip (Asphalt Concrete Pavemer	STA	1,121	x	45	=	$	50,466
394073	Place Hot Mix Asphalt Dike (Type A)	LF	42,379	x	1.35	=	$	57,212
394090	Place Hot Mix Asphalt (Misc. Area)	SQYD		x		=	$	-
397005	Tack Coat	TON	592	x	450	=	$	266,198
401000	Concrete Pavement	CY		x		=	$	-
401108	Replace Concrete Pavement (Rapid Strength	CY		x		=	$	-
404092	Seal Pavement Joint	LF		x		=	$	-
404094	Seal Longitudinal Isolation Joint	LF		x		=	$	-
413112A	Repair Spalled Joints (Polyester Grout)	SQYD		x		=	$	-
413115	Seal Existing Concrete Pavement Joint	LF		x		=	$	-
420102	Groove Existing Concrete Pavement	SQYD		x		=	$	-
420201	Grind Existing Concrete Pavement	SQYD		x		=	$	-
731627	Minor Concrete (Curb, Sidewalk and Curb Ra	CY	143	x	910	=	$	129,759
XXXXXX	Anchor Block (Minor Concrete)	LF		x			$	-
731504	Minor Concrete (Curb & Gutter)	CY		x		=	$	-
730070	Detectable Warning Surface	SQFT	700	x	35	=	$	24,500

TOTAL STRUCTURAL SECTION ITEMS $ 21,989,538

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
150206	Abandon Culvert	LF		x		=	$	-
150805	Remove Culvert	LF		x		=	$	-
150820	Modify Inlet	EA		x		=	$	-
152430	Adjust Inlet	LF		x		=	$	-
155003	Cap Inlet	EA		x		=	$	-
193114	Sand Backfill	CY		x		=	$	-
68XXXX	Edge Drain	LF		x		=	$	-
69XXXX	XXX" Pipe Downdrain	LF		x		=	$	-
70XXXX	XXX" Pipe Inlet	LF		x		=	$	-
70XXXX	XXX" Pipe Riser	LF		x		=	$	-
703233	Grated Line Drain	LF		x		=	$	-
72XXXX	Rock Slope Protection (Type and Method)	CY		x		=	$	-
721420	Concrete (Ditch Lining)	CY		x		=	$	-
721430	Concrete (Channel Lining)	CY		x		=	$	-
729010	Rock Slope Protection Fabric	SQYD		x		=	$	-
750001	Miscellaneous Iron and Steel	LB		x		=	$	-
XXXXXX	Additional Drainage	LS		x		=	$	-
XXXXXX	Drainage Work	LS	1	x	175,000	=	$	175,000
						TOTAL DRAINAGE ITEMS		**$ 175,000**

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
070012	Progress Schedule (Critical Path Method)	LS	1	x	2,000	=	$	2,000
150608	Remove Chain Link Fence	LF		x		=	$	-
839752	Remove Guard Railing	LF	21,190	x	5	=	$	105,948
150668	Remove Terminal Systems	EA		x		=	$	-
xxxxxx	Crash Cushion (SMART)	EA	7	x	40,000	=	$	280,000
190110	Lead Compliance Plan	LS	1	x	3,000	=	$	3,000
839782	Remove Crash Cushion	EA	5	x	1,700	=	$	8,500
510060	Structural Concrete (Retaining Wall)	CY		x		=	$	-
510133	Class 2 Concrete (Retaining Wall)	CY		x		=	$	-
510502	Minor Concrete (Minor Structure)	CY		x		=	$	-
5110XX	Architectural Treatment *(Insert Type)*	SQFT		x		=	$	-
141120	Treated Wood Wast	LB	293,188	x	0.14	=	$	41,046
5136XX	Reinforced Concrete Crib Wall *(Insert Type)*	SQFT		x		=	$	-
518002	Sound Wall (Masonry Block)	SQFT		x		=	$	-
520103	Bar Reinf. Steel (Retaining Wall)	LB		x		=	$	-
729011	Rock Slope Protection Fabric (Class 8)	SQYD		x		=	$	-
800320	Chain Link Fence (Type CL- 4)	LF		x		=	$	-
800360	Chain Link Fence (Type CL- 6)	LF		x		=	$	-
832007	Midwest Guardrail System	LF	16,421	x	27	=	$	443,354
832070	Vegetation Control (Minor Concrete)	SQYD	9,632	x	75	=	$	722,425
839310	Double Thrie Beam Barrier	LF		x		=	$	-
839543	Transition Railing *(Type WB-31)*	EA	21	x	4,200	=	$	88,200
8395XX	Terminal System (Type CAT)	EA		x		=	$	-
839584	Alternative In-line Terminal System	EA	88	x	3,400	=	$	299,200
839581	End Anchor Assembly (*Type SFT*)	EA	73	x	800	=	$	58,400
839561	Rail Tensioning Assembly	EA		x		=	$	-
839645	Install Cocncrete Barrier Type 60MG	LF		x		=	$	-
839649	Install Cocncrete Barrier Type 60MS	LF	58	x	255	=	$	14,790
839745	Concrete Barrier Transition	LF	36	x	420	=	$	15,120
xxxxxx	Concrete Barrier (Type 60C Modified)	LF		x		=	$	-
						TOTAL SPECIALTY ITEMS		**$ 2,081,982**

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost	
	Biological Mitigation	LS		x		=	$	-	
071325	Temporary Fence (Type ESA) (Cultural)	LS		x		=	$	-	
XXXXXX	Environmental Commitment Cost	LS	1	x	125,000	=	$	125,000	
								Subtotal Environmental	$ 125,000

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost	
xxxxxx	Highway Replacement Planting	LS	1	x	74,000	=	$	74,000	
xxxxxx	Repair Existing Irrigation	LS	1	x	74,000	=	$	74,000	
xxxxxx	Erosion Control Measure	LS	1	x	305,000	=	$	305,000	
xxxxxx	Architectural Treatment (concrete barrier)	LS	1	x	480,000	=	$	480,000	
203026	Move In/ Move Out (Erosion Control)	EA		x		=	$	-	
204099	Plant Establishment Work	LS		x		=	$	-	
208304	Water Meter	EA		x		=	$	-	
209801	Maintenance Vehicle Pullout	EA		x		=	$	-	
								Subtotal Landscape and Irrigation	$ 933,000

5C - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost	
074016	Construction Site Management	LS		x		=	$	-	
074017	Prepare WPCP	LS		x		=	$	-	
074019	Prepare SWPPP	LS		x		=	$	-	
074023	Temporary Erosion Control	SQYD		x		=	$	-	
074027	Temporary Erosion Control Blanket	SQYD		x		=	$	-	
074028	Temporary Fiber Roll	LF		x		=	$	-	
074032	Temporary Concrete Washout Facility	EA		x		=	$	-	
074035	Temporary Check Dam	LF		x		=	$	-	
074037	Move In/ Move Out (Temporary Erosion Con	EA		x		=	$	-	
074038	Temp. Drainage Inlet Protection	EA		x		=	$	-	
074041	Street Sweeping	LS		x		=	$	-	
074042	Temporary Concrete Washout (Portable)	LS		x		=	$	-	
074XXX	Water Quality	LS	1	x	1,174,000	=	$	1,174,000	

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595	Water Pollution Control Maintenance Sharing	LS	1	x	19,000	=	$	19,000	
066596	Additional Water Pollution Control**	LS	1	x	6,000	=	$	6,000	
066597	Storm Water Sampling and Analysis***	LS	1	x	6,000	=	$	6,000	
								Subtotal NPDES (Without Supplemental Work)	$ 1,174,000

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

TOTAL ENVIRONMENTAL $ 2,232,000

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
150760	Remove Sign Structure	EA		x		=	$	-
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
5602XX	Furnish Sign Structure	LB		x		=	$	-
5602XX	Install Sign Structure	LB		x		=	$	-
56XXXX	XXX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
77XXXX	City Lighting	LS				=	$	-
860090	Maintain Exist TMS During Construction	LS	1	x	20,000	=	$	20,000
860201	Signal and Lighting	LS	1	x	580,000	=	$	580,000
86055X	Lighting & Sign Illumination	LS	1	x	245,000	=	$	245,000
8607XX	Interconnection Facilities	LS		x		=	$	-
87XXXX	Traffic Monitoring Stations	LS	1	x	1,500,000	=	$	1,500,000
860XXX	Rectangular Rapid Flashing Beacon	LS	1	x	850,000	=	$	850,000
8611XX	Ramp Metering System (Advance Warning)	LS	1	x	100,000	=	$	100,000
86XXXX	Fiber Optic Conduit System	LS	1	x	350,000	=	$	350,000
XXXXXX	Electronic Toll System	LS	1	x	250,000	=	$	250,000
XXXXXX	Deep Loop Detectors	LS	1	x	345,000	=	$	345,000
XXXXXX	Weigh In Motion	LS	1	x	850,000	=	$	850,000
						Subtotal Traffic Electrical		$ 5,090,000

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
120090	Construction Area Signs	LS	1	x	180,000	=	$	180,000
150701	Remove Yellow Painted Traffic Stripe	LF		x		=	$	-
150710	Remove Traffic Stripe	LF		x		=	$	-
150713	Remove Pavement Marking	SQFT		x		=	$	-
150742	Remove Roadside Sign	EA		x		=	$	-
152320	Reset Roadside Sign	EA		x		=	$	-
152390	Relocate Roadside Sign	EA		x		=	$	-
566012	Roadside Sign (Two Post)	EA		x		=	$	-
560XXX	Furnish Sign Panels	SQFT		x		=	$	-
560XXX	Install Sign Panels	LS	1	x	300,000	=	$	300,000
82010X	Delineator (Class X)	EA		x		=	$	-
84XXXX	Permanent Pavement Delineation	LS	1	x	435,000	=	$	435,000
						Subtotal Traffic Signing and Striping		$ 915,000

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	700,000	=	$	700,000
120120	Type III Barricade	EA		x		=	$	-
120143	Temporary Pavement Delineation	LF		x		=	$	-
xxxxx	Ground Mounted Sign	LS	1	x	10,000	=	$	10,000
128650	Portable Changeable Message Signs	LS	1	x	100,000	=	$	100,000
129000	Temporary Railing (Type K)	LF		x		=	$	-
129100	Temp. Crash Cushion Module	EA		x		=	$	-
129099A	Traffic Plastic Drum	EA		x		=	$	-
839603A	Temporary Crash Cushion (ADIEM)	EA		x		=	$	-
						Subtotal Stage Construction and Traffic Handling		$ 810,000

TOTAL TRAFFIC ITEMS	**$ 6,815,000**

SECTION 7: DETOURS

Include constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)		Cost
0713XX	Temporary Fence (Type X)	LF		x		= $	-
07XXXX	Temporary Drainage	LS		x		= $	-
198050	Embankment	CY		x		= $	-
250401	Class 4 Aggregate Subbase	CY		x		= $	-
260201	Class 2 Aggregate Base	CY		x		= $	-
390132	Hot Mix Asphalt (Type A)	TON		x		= $	-
XXXXXX	Some Item	LS		x		= $	-

TOTAL DETOURS **$ -**

SUBTOTAL SECTIONS 1-7 $ 33,478,520

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items

ADA Items 0.0% $ -

8B - Bike Path Items

Bike Path Items 0.0% $ -

8C - Other Minor Items

Other Minor Items 0.0% $ -

Total of Section 1-7 $ 33,478,520 x 2.0% = $ 669,571

TOTAL MINOR ITEMS $ 669,571

SECTIONS 9: MOBILIZATION

Item code							
999990	Total Section 1-8	$	34,148,091	x	10%	= $	3,414,809

TOTAL MOBILIZATION $ 3,414,809

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)		Cost
066015	Federal Trainee Program	LS	1	x	7,000.00	= $	7,000
066063	Traffic Management Plan - Public Info	LS		x		= $	-
066090	Maintain Traffic	LS	1	x	300,000.00	= $	300,000
066094	Value Analysis	LS	1	x	10,000.00	= $	10,000
066204	Remove Rock & Debris	LS		x		= $	-
066222	Locate Existing Cross-Over	LS		x		= $	-
066670	Payment Adjustments For Price Index Fluctu	LS	1	x	403,700.00	= $	403,700
066700	Partnering	LS	1	x	50,000.00	= $	50,000
066866	Operation of Existing Traffic Management S	LS	1	x	10,000.00	= $	10,000
066920	Dispute Review Board	LS	1	x	15,000.00	= $	15,000
066920	Bird Protection	LS	1	x	25,000.00	= $	25,000

*Cost of **NPDES** Supplemental Work specified in Section 5C* = $ 31,000

Total Section 1-8 $ 34,148,091 0% = $ -

TOTAL SUPPLEMENTAL WORK $ 851,700

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Traffic Management Plan - Public Informat	LS	1	x	50,000	=	$50,000
066105	Resident Engineers Office	LS	1	x	431,000	=	$431,000
066803	Padlocks	LS		x		=	$0
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066901	Water Expenses	LS		x		=	$0
066062	COZEEP Contract	LS	1	x	975,000	=	$975,000
06684X	Ramp Meter Controller Assembly	LS		x		=	$0
06684X	TMS Controller Assembly	LS		x		=	$0
06684X	Traffic Signal Controller Assembly	LS		x		=	$0
066911	Utility Connection Fee	LS	1	x	70,000	=	$70,000
066916	Annual Construction General Permit Fee	LS	1	x	6,000	=	$6,000
	Total Section 1-8	$	34,148,091		0%	= $	-

TOTAL STATE FURNISHED **$1,532,000**

SECTION 12: TIME-RELATED OVERHEAD (TRO)

Total of Roadway Items 1 - 8 cost per CCD-7.6.2 $34,148,091 (used to calculate TRO, per CCD-7.6.2)

Total Roadway (Section 1-11) cost & Structure's Total cost $ 39,946,600.39 (used to check if project total cost is greater than $5 million excluding contingency)

Estimated Time-Releated Overhead (TRO) = 10%

Item code		Unit	Quantity		Unit Price ($)		Cost
070018	Time-Related Overhead	WD	340	X	$10,044	=	$3,414,900

Programmed Construction Capital Amount

TOTAL TRO **$3,414,900**

SECTION 13: CONTINGENCY

(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-12	$	43,361,500	x	15%	= $6,504,226

TOTAL CONTINGENCY **$6,504,226**

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	
	A2)	SB-1210	$	0
		Environmental Mitigation		0
		Grantor's Appraisal Cost		
B)	Utility Relocation		$	0
C)	C1)	Utility Relocation (State Share)	$	185,000
	C2)	Potholing (Design Phase)	$	0
D)	Railroad Acquisition		$	0
E)	Clearance / Demolition		$	0
F)	Relocation Assistance (RAP and/or Last Resort Housing Costs)		$	0
G)	Title and Escrow		$	
H)	Environmental Review		$	0
I)	Condemnation Settlements (Items G & H applied to items A + B)	0%	$	0
J)	Design Appreciation Factor	0%	$	0
K)	Utility Relocation (Construction Cost)		$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$185,000**

M)	**TOTAL R/W ESTIMATE: Escalated**	**$185,000**

N)	**Right of Way Support**	**$**	**620,000**

Support Cost Estimate Prepared By	Project Coordinator[1]	Phone
Utility Estimate Prepared By	Dan Asprogerakas Utiliy Coordinator[2]	(510) 286-5343 Phone
R/W Acquistion Estimate Prepared By	Right of Way Estimator[3]	Phone

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

ATTACHMENT D

Materials Recommendations

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: BOB ZANDIPOUR
Branch Chief
Toll Bridge Design

Attention: Christopher Elbo

Date: September 19, 2019

File: 04-ALA-880 PM R0.0/12.0
04-0417000010
EA 04-2K7001
CAPM Project

From: LEONARDO DELEON
Materials Design Engineer
Engineering Services - Materials A

Concurred by: MOHAMMAD ZABOLZADEH, P.E.
District Materials Engineer
District Branch Chief - Materials A

Subject: Updated Materials Recommendations for PS&E

This is in response to your request for an updated Materials recommendations based on our recent site visit and Value Analysis (VA) study. The CAPM project location is in Route 880 from Santa Clara County line (PM R0.0) – north of Dixon Landing Road Overcrossing to 0.5 mile north of Fremont Blvd Overcrossing (PM 12.0) in the City of Fremont, Alameda County. The project scope includes resurfacing with HMA the Mainline and ramps, ADA curb ramp upgrade, MBGR upgrade, and loop detector replacement

I. Existing Mainline Pavement Sections

Route 880 within the project limits are mainly 4 lanes on each NB & SB direction of Asphalt Concrete (AC) surfacing. Some locations in both directions have 5th lane for auxiliary lanes. As built plans contract # 04-OC7014 dated 06/25/2003 from PM 2.3-15.3 show that the existing pavement section varies from 0.60' AC(A), 0.25' ATPB, 0.70' CTB, 0.80' AS (4) on the outside lanes, while the inside lanes shows 0.25-0.32' AC (A) over 1.0' CTB/PCC. Contract 04-0C7014 constructed digouts on the mainline to 0.50' HMA and an overlay of 0.10' OGAC over 0.15' RAC (G) from ES to ES, and placed various widths of shoulder backing.

II. 2015 and 2016 Pavement Condition Report

Attached is the 2016 Pavement Condition Report. The 2015 Pavement Condition Report which was provided in our memorandum dated February 27, 2017. The 2015 Report compared to the 2016 Report have minor difference. The 2016 Report shows that the overall IRI (International Roughness Index) within the project limits is 77, which is considered as good condition.

III. Pavement Recommendations

Based on our recent site visit, the results of the VA study and to maintain the existing profile, we recommend the following.

Mainline and Shoulder

- **PM 0 – 12.0**

  Inspect the existing AC surfacing to identify local distress – rutting greater than 0.05', alligator B and C cracking, and potholes. Digout these localized distresses to 0.50' depth or to the max thickness of the existing AC, whichever is less, then backfill with HMA-A.

- **PM 0.0 – 5.0± -**

  Remove the existing 0.10' OGAC and 0.15' AC, then replace with 0.15' RHMA-G and 0.10' RHMA-O. Please note that this pavement recommendation is the same as our revised recommendation memo dated August 30, 2018.

- **PM 5.0± - 12.0**

  Remove the existing 0.1' OGAC and replace with 0.1' RHMA-O.

Please Note:

- The above recommendation consistent with Alternative 3 of the VA study recommendations, except that the thickness of the proposed RHMA-G is reduced to 0.15' from 0.2' to be consistent with the above-mentioned revised recommendation memo dated August 30, 2018.

- PM 5.0 should not be a fixed PM and may be adjusted in the field by Design and Materials team members.

Ramps

Per your submitted list, below are the ramps that are included in this project.

1. Dixon Landing Rd
2. SR 262
3. Warren Ave
4. Fremont Blvd
5. Cushing Pkwy
6. Auto mall Pkwy
7. Stevenson Blvd
8. Mowry Ave
9. Thornton Ave
10. Decoto Rd (SR 84)
11. Alvarado Blvd

For these ramps, our recommendation is to remove 0.20' depth of existing AC then replace with 0.20' of RHMA-G. Prior to the 0.20' remove and replace of existing AC surfacing, identify local distress – rutting greater than 0.05', alligator B and C cracking, and potholes. Digout these localized distress to 0.50' depth or to the max thickness of the existing AC, whichever is less, then backfill with HMA-A.

Rumble Strips, Shoulder Backing, and Crack Treatment

The rumble strips and the shoulder backing needs to be re-established within the project limits. Crack treatment should be used to seal cracks wider than 0.02' (1/4") as a preparation for overlays and/or remove and replace AC surfacing.

If you have any questions, please call Leonardo Deleon at (510) 622-5444.

c: Daily File, Route File, M. Zabolzadeh
L. Deleon/ld/ALA880PM0.0/12.0CAPM update

PaveM Scenario Used: #2671
APCS Data Year: 2016
Using: Prior-Treatment Distresses

Caltrans Pavement Program
Pavement Condition Detailed Report (PaveM)

District: 4; County: Alameda (ALA); Route: 880
From PM: R0.000 To PM: 12.000

Year: 2016 (Current)
R-Length: 11.725, L-Length: 11.725
R-Lane Miles: 45.491, L-Lane Miles: 45.111 (Unknown lane miles: 0.000)

Pavement Segment	Lane	Type	Concrete			Asphalt			IRI in/mi	MAP-21 Condition	Traditional Condition	Road Class	Estimated Lane Miles
			1st%	3rd%	Fault%	Alligator A%	Alligator B%	Rut (in)					
Post Mile: R0.000 to R1.430	L1	Flexible				2.10	1.80	0.16	90	Good	Green	1	1.425
Length: 1.430	L2	Flexible				2.40	0.90	0.21	87	Fair	Green	1	1.425
Estimated Lane Mileage: 4.275	L3	Flexible				1.80	0.50	0.21	85	Fair	Green	1	1.425
Post Mile: R0.000 to 2.264	R1	Flexible				0.80	1.30	0.21	84	Fair	Green	1	1.984
Length: 1.989	R2	Flexible				0.30	0.10	0.20	86	Good	Green	1	1.984
Estimated Lane Mileage: 5.952	R3	Flexible				0.90	0.40	0.19	96	Fair	Green	1	1.984
Post Mile: R1.430 to R1.671	L1	Flexible				0.40	0.90	0.16	82	Good	Green	1	0.241
Length: 0.241	L2	Flexible				2.50	0.00	0.21	72	Fair	Green	1	0.241
Estimated Lane Mileage: 0.964	L3	Flexible				0.20	0.00	0.19	90	Good	Green	1	0.241
	L4	Flexible				0.80	0.00	0.20	98	Fair	Green	1	0.241
Post Mile: R1.671 to 2.264	L1	Flexible				0.20	1.00	0.18	84	Good	Green	1	0.318
Length: 0.318	L2	Flexible				0.20	0.10	0.18	87	Good	Green	1	0.318
Estimated Lane Mileage: 0.954	L3	Flexible				0.40	0.00	0.17	96	Fair	Green	1	0.318
Post Mile: 2.264 to 2.520	R1	Flexible				0.40	0.40	0.16	129	Fair	Green	1	0.256
Length: 0.256	R2	Flexible				1.00	0.10	0.16	127	Fair	Green	1	0.256
Estimated Lane Mileage: 0.768	R3	Flexible				0.40	0.10	0.20	103	Fair	Green	1	0.256
Post Mile: 2.264 to 2.567	L1	Flexible				0.60	0.60	0.17	96	Fair	Green	1	0.303
Length: 0.303	L2	Flexible				0.30	0.00	0.19	101	Fair	Green	1	0.303
Estimated Lane Mileage: 0.909	L3	Flexible				0.30	0.00	0.18	85	Good	Green	1	0.303
Post Mile: 2.520 to 2.567	R1	Flexible				0.30	0.80	0.17	74	Good	Green	1	0.047
Length: 0.047	R2	Flexible				0.60	0.00	0.13	132	Fair	Green	1	0.047
Estimated Lane Mileage: 0.235	R3	Flexible				0.00	0.00	0.19	116	Fair	Green	1	0.047
	R4	Flexible				0.50	0.00	0.16	115	Fair	Green	1	0.047
	R5	Flexible				9.00	0.20	0.16	148	Fair	Yellow	1	0.047
Post Mile: 2.567 to 2.701	R1	Flexible				0.50	4.00	0.17	86	Good	Green	1	0.134
Length: 0.134	R2	Flexible				0.20	0.00	0.15	106	Fair	Green	1	0.134
Estimated Lane Mileage: 0.402	R3	Flexible				0.00	0.00	0.20	99	Fair	Green	1	0.134
Post Mile: 2.567 to 2.843	L1	Flexible				0.20	1.70	0.19	100	Fair	Green	1	0.272
Length: 0.276	L2	Flexible				0.60	0.00	0.17	85	Good	Green	1	0.272
Estimated Lane Mileage: 1.088	L3	Flexible				0.30	0.00	0.17	82	Good	Green	1	0.272
	L4	Flexible				0.10	0.20	0.18	100	Fair	Green	1	0.272
Post Mile: 2.701 to 2.749	R1	Flexible				0.80	1.50	0.18	127	Fair	Green	1	0.048
Length: 0.048	R2	Flexible				0.00	0.00	0.17	114	Fair	Green	1	0.048
Estimated Lane Mileage: 0.192	R3	Flexible				0.30	0.00	0.20	108	Fair	Green	1	0.048
	R4	Flexible				6.90	0.00	0.18	113	Fair	Yellow	1	0.048
Post Mile: 2.749 to 2.995	R1	Flexible				0.70	1.10	0.18	114	Fair	Green	1	0.242
Length: 0.246	R2	Flexible				0.90	0.70	0.17	90	Good	Green	1	0.242
Estimated Lane Mileage: 1.210	R3	Flexible				1.70	0.60	0.16	90	Good	Green	1	0.242
	R4	Flexible				3.90	0.50	0.18	91	Good	Green	1	0.242
	R5	Flexible				11.60	1.10	0.15	139	Fair	Yellow	1	0.242
Post Mile: 2.843 to 3.465	L1	Flexible				1.40	1.00	0.13	70	Good	Green	1	0.622
Length: 0.622	L2	Flexible				1.80	0.10	0.14	71	Good	Green	1	0.622
Estimated Lane Mileage: 2.488	L3	Flexible				0.50	0.10	0.13	76	Good	Green	1	0.622
	L4	Flexible				1.00	0.10	0.14	100	Fair	Green	1	0.622
Post Mile: 2.995 to 3.465	R1	Flexible				2.10	5.00	0.15	105	Fair	Yellow	1	0.470
Length: 0.470	R2	Flexible				2.90	2.60	0.15	100	Fair	Yellow	1	0.470
Estimated Lane Mileage: 1.410	R3	Flexible				1.70	0.10	0.12	95	Fair	Green	1	0.470
Post Mile: 3.465 to 3.520	L1	Flexible				0.10	1.10	0.11	61	Good	Green	1	0.055
Length: 0.055	L2	Flexible				0.70	0.40	0.11	64	Good	Green	1	0.055
Estimated Lane Mileage: 0.220	L3	Flexible				0.00	0.00	0.16	58	Good	Green	1	0.055

Estimated Lane Mileage: 0.220	L4	Flexible				0.70	0.00	0.15	91	Good	Green	1	0.055
Post Mile: 3.465 to 3.681 Length: 0.216 Estimated Lane Mileage: 0.832	R1	Flexible				0.30	0.00	0.11	50	Good	Green	1	0.208
	R2	Flexible				0.30	0.10	0.13	68	Good	Green	1	0.208
	R3	Flexible				0.10	0.00	0.11	86	Good	Green	1	0.208
	R4	Flexible				2.60	3.20	0.15	69	Good	Yellow	1	0.208
Post Mile: 3.520 to 3.770 Length: 0.250 Estimated Lane Mileage: 1.210	L1	Flexible				0.30	1.50	0.09	54	Good	Green	1	0.242
	L2	Flexible				0.70	0.30	0.12	54	Good	Green	1	0.242
	L3	Flexible				0.00	0.00	0.15	60	Good	Green	1	0.242
	L4	Flexible				0.30	0.50	0.14	71	Good	Green	1	0.242
	L5	Flexible				9.00	3.60	0.11	111	Fair	Yellow	1	0.242
Post Mile: 3.681 to 3.770 Length: 0.089 Estimated Lane Mileage: 0.445	R1	Flexible				1.20	1.20	0.12	64	Good	Green	1	0.089
	R2	Flexible				0.80	0.30	0.13	63	Good	Green	1	0.089
	R3	Flexible				0.00	0.70	0.10	79	Good	Green	1	0.089
	R4	Flexible				2.20	0.00	0.13	76	Good	Green	1	0.089
	R5	Flexible				8.40	5.00	0.09	133	Fair	Yellow	1	0.089
Post Mile: 3.770 to 4.101 Length: 0.331 Estimated Lane Mileage: 1.324	R1	Flexible				1.10	1.80	0.13	80	Good	Green	1	0.331
	R2	Flexible				1.60	0.80	0.13	71	Good	Green	1	0.331
	R3	Flexible				0.70	1.50	0.11	94	Good	Green	1	0.331
	R4	Flexible				5.50	0.30	0.14	88	Good	Yellow	1	0.331
Post Mile: 3.770 to 4.518 Length: 0.748 Estimated Lane Mileage: 2.992	L1	Flexible				0.80	0.70	0.10	85	Good	Green	1	0.748
	L2	Flexible				0.70	0.40	0.12	67	Good	Green	1	0.748
	L3	Flexible				0.30	0.10	0.14	69	Good	Green	1	0.748
	L4	Flexible				2.00	1.80	0.13	97	Fair	Green	1	0.748
Post Mile: 4.101 to 4.518 Length: 0.417 Estimated Lane Mileage: 2.085	R1	Flexible				0.60	1.00	0.12	58	Good	Green	1	0.417
	R2	Flexible				0.70	0.20	0.12	61	Good	Green	1	0.417
	R3	Flexible				1.10	0.30	0.10	69	Good	Green	1	0.417
	R4	Flexible				7.00	0.20	0.15	58	Good	Yellow	1	0.417
	R5	Flexible				2.30	0.80	0.10	97	Fair	Green	1	0.417
Post Mile: 4.518 to 5.012 Length: 0.494 Estimated Lane Mileage: 1.976	L1	Flexible				0.90	1.20	0.10	88	Good	Green	1	0.494
	L2	Flexible				1.10	0.30	0.13	90	Good	Green	1	0.494
	L3	Flexible				1.30	0.70	0.14	93	Good	Green	1	0.494
	L4	Flexible				1.30	0.30	0.13	115	Fair	Green	1	0.494
Post Mile: 4.518 to 6.443 Length: 1.925 Estimated Lane Mileage: 7.700	R1	Flexible				0.90	0.70	0.13	67	Good	Green	1	1.925
	R2	Flexible				1.20	0.50	0.12	63	Good	Green	1	1.925
	R3	Flexible				0.90	0.50	0.14	64	Good	Green	1	1.925
	R4	Flexible				4.10	0.70	0.15	70	Good	Green	1	1.925
Post Mile: 5.012 to 5.315 Length: 0.303 Estimated Lane Mileage: 1.515	L1	Flexible				0.30	0.70	0.13	74	Good	Green	1	0.303
	L2	Flexible				0.00	0.00	0.14	65	Good	Green	1	0.303
	L3	Flexible				1.40	0.00	0.14	66	Good	Green	1	0.303
	L4	Flexible				1.60	0.00	0.13	84	Good	Green	1	0.303
	L5	Flexible				2.00	0.00	0.09	99	Fair	Green	1	0.303
Post Mile: 5.315 to 6.443 Length: 1.128 Estimated Lane Mileage: 4.512	L1	Flexible				1.10	1.30	0.12	59	Good	Green	1	1.128
	L2	Flexible				0.40	0.40	0.11	64	Good	Green	1	1.128
	L3	Flexible				1.00	0.30	0.18	63	Good	Green	1	1.128
	L4	Flexible				2.00	0.10	0.14	72	Good	Green	1	1.128
Post Mile: 6.443 to 6.981 Length: 0.538 Estimated Lane Mileage: 4.842	L1	Flexible				1.00	0.90	0.11	64	Good	Green	1	0.538
	L2	Flexible				1.10	0.40	0.09	65	Good	Green	1	0.538
	L3	Flexible				0.40	0.00	0.16	57	Good	Green	1	0.538
	L4	Flexible				3.10	0.10	0.14	70	Good	Green	1	0.538
	R1	Flexible				0.90	0.30	0.15	53	Good	Green	1	0.538
	R2	Flexible				1.30	0.60	0.10	57	Good	Green	1	0.538
	R3	Flexible				0.70	0.10	0.15	64	Good	Green	1	0.538
	R4	Flexible				0.60	0.30	0.17	79	Good	Green	1	0.538
	R5	Flexible				1.90	0.40	0.13	111	Fair	Green	1	0.538
Post Mile: 6.981 to 7.079 Length: 0.098 Estimated Lane Mileage: 0.294	R1	Flexible				0.50	0.20	0.15	47	Good	Green	1	0.098
	R2	Flexible				0.50	0.00	0.10	48	Good	Green	1	0.098
	R3	Flexible				0.90	0.00	0.15	60	Good	Green	1	0.098
Post Mile: 6.981 to 8.200 Length: 1.219 Estimated Lane Mileage: 4.792	L1	Flexible				0.70	0.40	0.12	78	Good	Green	1	1.198
	L2	Flexible				0.40	0.10	0.10	69	Good	Green	1	1.198
	L3	Flexible				0.70	0.20	0.14	79	Good	Green	1	1.198
	L4	Flexible				1.80	1.40	0.13	81	Good	Green	1	1.198
Post Mile: 7.079 to 7.606 Length: 0.527 Estimated Lane Mileage: 2.024	R1	Flexible				0.90	0.30	0.17	73	Good	Green	1	0.506
	R2	Flexible				3.00	0.50	0.12	91	Good	Green	1	0.506
	R3	Flexible				4.70	2.90	0.21	115	Fair	Yellow	1	0.506
	R4	Flexible				6.00	9.40	0.17	115	Fair	Yellow	1	0.506
Post Mile: 7.606 to 8.041	R1	Flexible				1.50	0.50	0.17	58	Good	Green	1	0.435
	R2	Flexible				0.70	0.40	0.14	79	Good	Green	1	0.435

Length: 0.435 Estimated Lane Mileage: 2.175	R3	Flexible				1.00	0.60	0.15	67	Good	Green	1	0.435
	R4	Flexible				0.40	1.00	0.18	64	Good	Green	1	0.435
	R5	Flexible				4.60	0.70	0.12	88	Good	Yellow	1	0.435
Post Mile: 8.041 to 8.540 Length: 0.499 Estimated Lane Mileage: 2.495	R1	Flexible				0.70	1.10	0.17	61	Good	Green	1	0.499
	R2	Flexible				0.20	0.30	0.12	66	Good	Green	1	0.499
	R3	Flexible				1.30	0.00	0.15	63	Good	Green	1	0.499
	R4	Flexible				1.30	0.80	0.18	71	Good	Green	1	0.499
	R5	Flexible				2.10	0.50	0.13	121	Fair	Green	1	0.499
Post Mile: 8.200 to 8.336 Length: 0.136 Estimated Lane Mileage: 0.408	L1	Flexible				1.10	0.70	0.09	92	Good	Green	1	0.136
	L2	Flexible				1.50	1.00	0.11	64	Good	Green	1	0.136
	L3	Flexible				0.10	0.00	0.12	74	Good	Green	1	0.136
Post Mile: 8.336 to 8.842 Length: 0.506 Estimated Lane Mileage: 2.024	L1	Flexible				1.90	0.80	0.07	60	Good	Green	1	0.506
	L2	Flexible				0.90	0.80	0.10	58	Good	Green	1	0.506
	L3	Flexible				1.60	0.10	0.11	63	Good	Green	1	0.506
	L4	Flexible				2.20	0.00	0.12	74	Good	Green	1	0.506
Post Mile: 8.540 to 8.842 Length: 0.302 Estimated Lane Mileage: 1.208	R1	Flexible				0.50	0.90	0.18	62	Good	Green	1	0.302
	R2	Flexible				0.40	0.00	0.09	57	Good	Green	1	0.302
	R3	Flexible				0.50	0.00	0.16	73	Good	Green	1	0.302
	R4	Flexible				0.60	1.10	0.16	84	Good	Green	1	0.302
Post Mile: 8.842 to 9.766 Length: 0.924 Estimated Lane Mileage: 7.392	L1	Flexible				0.60	0.70	0.07	73	Good	Green	1	0.924
	L2	Flexible				1.90	0.30	0.11	64	Good	Green	1	0.924
	L3	Flexible				0.60	0.10	0.11	61	Good	Green	1	0.924
	L4	Flexible				1.00	0.20	0.13	68	Good	Green	1	0.924
	R1	Flexible				0.70	1.70	0.10	66	Good	Green	1	0.924
	R2	Flexible				0.50	0.40	0.11	61	Good	Green	1	0.924
	R3	Flexible				0.50	0.40	0.18	67	Good	Green	1	0.924
	R4	Flexible				1.40	0.10	0.16	69	Good	Green	1	0.924
Post Mile: 9.766 to 10.066 Length: 0.300 Estimated Lane Mileage: 1.500	R1	Flexible				0.60	1.00	0.10	81	Good	Green	1	0.300
	R2	Flexible				0.70	0.50	0.14	70	Good	Green	1	0.300
	R3	Flexible				0.30	0.10	0.17	64	Good	Green	1	0.300
	R4	Flexible				0.40	0.10	0.17	69	Good	Green	1	0.300
	R5	Flexible				1.10	0.10	0.17	100	Fair	Green	1	0.300
Post Mile: 9.766 to 11.532 Length: 1.766 Estimated Lane Mileage: 7.064	L1	Flexible				1.50	0.80	0.11	76	Good	Green	1	1.766
	L2	Flexible				1.20	0.20	0.12	66	Good	Green	1	1.766
	L3	Flexible				1.30	0.10	0.13	69	Good	Green	1	1.766
	L4	Flexible				1.30	0.70	0.13	73	Good	Green	1	1.766
Post Mile: 10.066 to 10.687 Length: 0.621 Estimated Lane Mileage: 2.372	R1	Flexible				0.50	0.10	0.09	78	Good	Green	1	0.593
	R2	Flexible				0.40	0.10	0.16	72	Good	Green	1	0.593
	R3	Flexible				0.90	0.80	0.20	79	Fair	Green	1	0.593
	R4	Flexible				0.70	0.30	0.13	85	Good	Green	1	0.593
Post Mile: 10.687 to 11.265 Length: 0.578 Estimated Lane Mileage: 2.890	R1	Flexible				1.00	0.80	0.10	55	Good	Green	1	0.578
	R2	Flexible				0.60	0.30	0.11	58	Good	Green	1	0.578
	R3	Flexible				2.70	1.60	0.16	68	Good	Green	1	0.578
	R4	Flexible				1.50	0.20	0.15	64	Good	Green	1	0.578
	R5	Flexible				2.10	1.30	0.10	101	Fair	Green	1	0.578
Post Mile: 11.265 to 11.532 Length: 0.267 Estimated Lane Mileage: 1.068	R1	Flexible				0.80	1.30	0.11	69	Good	Green	1	0.267
	R2	Flexible				1.20	0.00	0.11	64	Good	Green	1	0.267
	R3	Flexible				0.20	0.00	0.16	82	Good	Green	1	0.267
	R4	Flexible				2.20	0.10	0.11	64	Good	Green	1	0.267
Post Mile: 11.532 to 11.900 Length: 0.368 Estimated Lane Mileage: 2.596	L1	Flexible				8.00	2.50	0.13	118	Fair	Yellow	1	0.368
	L2	Flexible				1.70	1.30	0.17	79	Good	Green	1	0.368
	L3	Flexible				2.80	0.50	0.14	106	Fair	Green	1	0.368
	L4	Flexible				2.30	0.00	0.15	115	Fair	Green	1	0.368
	R1	Flexible				1.40	1.40	0.10	101	Fair	Green	1	0.281
	R2	Flexible				4.20	1.00	0.13	88	Good	Yellow	1	0.281
	R3	Flexible				0.10	0.10	0.15	123	Fair	Green	1	0.281
	R4	Flexible				3.20	1.80	0.13	85	Good	Green	1	0.281
Post Mile: 11.900 to 12.000 Length: 0.100 Estimated Lane Mileage: 0.800	L1	Flexible				2.50	0.80	0.12	69	Good	Green	1	0.100
	L2	Flexible				2.10	0.20	0.16	54	Good	Green	1	0.100
	L3	Flexible				0.80	0.00	0.16	78	Good	Green	1	0.100
	L4	Flexible				2.60	0.60	0.12	83	Good	Green	1	0.100
	R1	Flexible				1.10	1.00	0.10	73	Good	Green	1	0.100
	R2	Flexible				2.70	0.40	0.13	65	Good	Green	1	0.100
	R3	Flexible				0.00	0.10	0.22	55	Fair	Green	1	0.100
	R4	Flexible				3.10	0.10	0.12	62	Good	Green	1	0.100
						1.38	0.66	0.14	77				91.602
			Lane Weighted Average										Total

ATTACHMENT E

Pavement Strategy Checklist

(Rev. 3/04/10)

PAVEMENT STRATEGY CHECKLIST

Date: 2/25/2020 .

Project description and project elements:
This project is a Capital Preventive Maintenance (CAPM) project to preserve 11.8 miles of pavement along Interstate 880 (I-880) in Alameda County from the Santa Clara County line just north of the Dixon Landing Road Overcrossing to 0.4 mile north of the Fremont Boulevard Overcrossing (see Attachment A for the project location map). The project will resurface the existing Asphalt Concrete (AC) pavement along the mainline and ramps, repair localized failed AC pavement, resurface the maintenance pullouts and existing gore areas, and add tapered edges and shoulder backing.

EA: 04-2K7000 Project Manager: Kenneth Puth KP

Co/Rte: Ala-880 Office: Design Services

Project Engineer: Christopher Elbo Initial CRE Program: SHOPP CAPM Roadway Preservation

Design Senior: Bob Zandipour Initial BZ PM Limits: R0.0/11.8

Materials Engineer (8th floor) : Signature _____

This project is at the following phase (please check one):

☐ PID (PSSR, etc.) ☒ PR ☐ PS&E ☐ OTHER

Describe existing structural section (e.g., shoulder, traveled way). Show limits if different sections are within the project:

The existing roadway consists of flexible pavement with an Open Graded Asphalt Concrete (OGAC) wearing surface.

What pavement types/structural sections does Materials propose for each segment (shoulders and traveled way)?

Pavement Strategy	Recommendation	
	PM R0.0 to PM 5±	**PM 5± to PM 11.8**
Mainline & shoulder	Remove existing 0.10 ft of OGAC + 0.15 ft of AC Replace with 0.15 ft of RHMA-G + 0.10 ft of RHMA-O	Remove existing 0.10 ft of OGAC Replace with 0.10 ft of RHMA-O
Ramps	Remove existing 0.20 ft of AC Replace with 0.20 ft of RHMA-G	
All pavement	Dig out localized distress to 0.50 ft; backfill with HMA-A	

Pavement is involved in:

☒ Entire project OR ☐ Part of the project

Assumptions (Is future widening in Regional Transportation Plan? Yes or no?)

NO.

Please provide information for all of the following items that apply to this project.

	Yes	No	Question
1.	☐	☒	Are you implementing an innovative strategy (e.g., cold foam Hot-Mix Asphalt (HMA)), pre-cast concrete pavement, continuously reinforced pavement, etc)? If so, which are you implementing and why? If not, why not? Being a minor pavement rehabilitation (CAPM) project, an innovative strategy has not been considered for this project.
2.	☒	☐	Has Rapid Rehab strategy been considered (e.g., weekend closures and lane replacements)? Explain: Temporary ramp and shoulder closures are anticipated during construction. Further details of rapid rehab will be examined during PS&E phase.
3.	☒	☐	Are you using Rubberized Hot-Mix Asphalt (RHMA) in this project? If not, justify:
4.	☐	☒	Was Life Cycle Analysis performed? According to Life Cycle Cost Analysis (LCCA) Procedures Manual, LCCA is not required for CAPM projects. Provide Life Cycle Analysis and results.
5.	☐	☒	Does existing pavement have a settlement problem? Explain:
6.	☒	☐	a) Is this project (or part of project) maintaining the grade profile? b) If not, explain how the profile change affects the pavement strategy choice (cut v. fill):
7.	☒	☐	Will there be a new barrier? Existing nonstandard metal beam guardrails will be replaced with Midwest Guardrail System.
8.	☐	☒	Is the proposed structural section on cut or fill or both? Provide limits of both, if applicable.
9.	☐	☒	Are highly expansive basement soils present?

	Yes	No	Question
10.	☒	☐	Are as-builts (including structural section information regarding edge drains, under drains, lime treatment, permeable blanket, etc.) available?
	☐	☐	If no, did you check map files and online?
			If yes, existing structural section was based on (check one): ☒ as-built ☐ actual boring
11.	☐	☒	Do the project limits have problems with groundwater (e.g., high water table, flow requirements, etc.)? If yes, explain:
12.	☐	☒	Has the availability of pavement materials (i.e., long haul distances from plants) been considered?
			If yes, how does material availability affect pavement type selection?
13.	☒	☐	Will the existing pavement be rehabilitated?
	☒	☐	What are the age and condition of the existing adjacent lanes? Explain: Existing Open Graded Asphalt Concrete (OGAC) wearing surface is more than 10 years old.
14.	☒	☐	What is the type of pavement/structural section (corridor pavement type/structural section continuity) on upstream/downstream roadway? Explain if several: The existing roadway consists of flexible pavement with an OGAC wearing surface
15.	☒	☐	Is TMP data (lane closure charts) available and was it considered? Lane closure charts are available: closures to be developed in PS&E phase.
	☒	☐	Will there be nighttime paving? If so, provide lane closure hours: To be developed in PS&E phase.
16.	☒	☐	Was field Maintenance input considered?
17.	☒	☐	Were climate conditions (extreme temperature, rainfall, etc.) considered?
			If so, which ones do you anticipate affecting the pavement job? Colder wet winter weather.
18.			Which stage construction requirements (matching adjacent sections, temporary paving, etc.) were considered? This CAPM didn't require major stage construction.
19.	☒	☐	Is this a large-scale project? Explain all quantity take-off:
20.	☒	☐	Is there Open-Graded Hot-Mix Asphalt (OGHMA) on the existing pavement?

<table>
<tr><th></th><th>Yes</th><th>No</th><th>Question</th></tr>
<tr><td>21.</td><td>☒</td><td>☐</td><td>Was environmental impact considered?
Explain:</td></tr>
<tr><td>22.</td><td></td><td></td><td>What is the proposed pavement design life?
5-10 years.</td></tr>
<tr><td>23.</td><td></td><td></td><td>What is the final lane line configuration?
Same as existing.</td></tr>
<tr><td>24.</td><td>☐</td><td>☒</td><td>Are there vertical clearance issues?
If yes, explain:</td></tr>
<tr><td>25.</td><td></td><td></td><td>What is the traffic index?
<table>
<tr><th>Year</th><th>Median Lanes</th><th>Two Right Lanes</th></tr>
<tr><td>20</td><td>11.50</td><td>13.50</td></tr>
<tr><td>40</td><td>12.50</td><td>15.00</td></tr>
</table></td></tr>
<tr><td>26.</td><td>☒</td><td>☐</td><td>Are there existing retrofit edge drains?</td></tr>
<tr><td>27.</td><td>☐</td><td>☒</td><td>Will shoulders be used as detours?</td></tr>
<tr><td>28.</td><td>☐
☐</td><td>☒
☒</td><td>Is there settlement at bridge approaches?

Are bridge approach slabs being replaced? Does such replacement include shoulders?

Consulted with structures maintenance representative on N/A .</td></tr>
<tr><td>29.</td><td>☒</td><td>☐</td><td>Is there a minimum standard (2% or 1.5%) cross-slope?
If not standard, provide date of design exception approval:_____</td></tr>
<tr><td>30.</td><td></td><td></td><td>Provide the pavement condition report.
See “Materials Recommendations” as Attachment D.</td></tr>
<tr><td>31</td><td>☐</td><td>☒</td><td>Other factors?
Explain:</td></tr>
</table>

ATTACHMENT F

Value Analysis Study Summary Report

VA Study Summary Report – Preliminary Findings

PN 04-174000010
(ALA PM 0.0- 11.8)

D-4 I-880 Pavement Preservation - PM 0.0 - PM 11.8

A Value Analysis (VA) study, sponsored by Caltrans District 4 and facilitated by Value Management Strategies, Inc., was conducted for D-4 I-880 Pavement Preservation - PM 0.0 - PM 11.8 in Oakland, CA. The VA study was conducted in during June 17-20, 2019 in Caltrans District 4 offices. This *VA Study Summary Report – Preliminary Findings* provides an overview of the project, key findings, and the alternatives developed by the VA team.

Note to reviewer: This is a summary of the VA study results. Please contact the DVAC if you would like a copy of the entire Preliminary VA Study Report with the detailed VA alternatives.

PROJECT SUMMARY

This is a Capital Preventive Maintenance (CAPM) project with a coverage of about 12 miles of pavement preservation along Interstate 880 (I-880) in Alameda County starting from the Santa Clara county line just north of the Dixon Landing Road Overcrossing to 0.4 miles north of the Fremont Boulevard Overcrossing. This project will resurface the existing asphalt concrete (AC) pavement, repair localized failed AC pavement along the mainline and all on- and off-ramps, resurface the maintenance pullouts and existing gore areas, and add safety edges. Existing guard railings will be upgraded to current standards. Vegetation control will be installed along the length of the guard rail. This project will also upgrade nonstandard Americans with Disabilities Act (ADA) curb ramps by providing a detectable warning surface and enhance uncontrolled crossing locations by installing rectangular rapid flashing beacons (RRFB). Incidental work will include loop detector replacement, pavement delineation, and adjustment of inlets to grade.

Total project costs for all elements of the project are currently estimated at $77,509,000.

PROJECT PURPOSE AND NEED

Need: The existing pavement within the project limits is exhibiting distress resulting in poor ride quality. If the pavement is not repaired in time, it will continue to deteriorate, leading to a major highway rehabilitation.

Purpose: To preserve and extend the life of the existing pavement and improve ride quality.

VA STUDY TIMING

The VA study was conducted during the PA&ED phase of project development which is to be completed in March 2020.

VA STUDY OBJECTIVES

The objective of the VA study was to identify and develop value improving alternatives to the original design concept that will reduce cost and construction time while maintaining or improving project performance.

KEY PROJECT ISSUES

The items listed below are the key drivers, constraints, or issues being addressed by the project and considered during this VA study to identify possible improvements.

Construction Impacts:

- Traffic management will be required during construction.
- Many projects are currently under construction at the same time that will be done when this project starts construction.
- There is a potential for noise and dust complaints from nearby residents and businesses.

Environmental:

- A California Tiger Salamander habitat is in a single location which could be impacted by guardrail installation; there is a wildlife refuge near the roadway, but it is out of scope of the project.

Miscellaneous:

- The original PID may be underestimated and may not have financing flexibility.
- Electrical: Fiber optics cabinets will need to be protected during construction, and more traffic monitoring station equipment may be required.
- The roadway must be brought up to code to meet water quality requirements; the current estimate of $1.2 million may be too low.

EVALUATION OF BASELINE CONCEPT

Performance Attributes
Maintainability
Ride Quality
Mainline Operations
Construction Impacts

During the course of the VA study, a number of analytical tools and techniques were applied to develop a better understanding of the baseline concept. A major component of this analysis was Value Metrics which seeks to assess the elements of cost, performance, time, and risk as they relate to project value. These elements required a deeper level of analysis, the results of which are detailed in the *Project Analysis* section of this report. The key performance attributes identified for the project are listed in the table, "Performance Attributes."

Below is a summary of the major observations and conclusions identified during the evaluation of the baseline design concept which led the VA team to develop the alternatives and recommendations presented in this report.

The original design concept will provide a rehabilitated roadway that will last for approximately 10 years. This will provide improved mainline operations and reduced incidents. Ride quality will also be improved because existing pavement imperfections will be removed or mitigated.

VA ALTERNATIVES

The VA team developed three alternatives for improvement of the project. The following are the alternatives identified, along with their associated potential initial cost savings, potential change in schedule, performance change, and a brief discussion of each. Please note that because the cost data depicted below represent *savings*, a number in parentheses represents a cost *increase*.

Alternative No. and Description	Initial Cost Savings	Change in Schedule	Change in Performance
1.0 From PM 0.0 to PM 5.0, place the base case pavement structural section and from PM 5.0 to PM 12.0, place 0.1 ft. RHMA-O on top of 0.15 ft. RHMA-G.	**$5,392,600**	**Saves 15 days**	**-5 %**

The main benefit of this VA alternative is to provide pavement, TRO, COZEEP and traffic management savings. The performance would be significantly reduced because a thinner pavement structural section in the 60% of the project would result in degrading mainline operations and safety, reduced future ride quality and increased maintenance in the future.

2.0 Eliminate the construction work from PM 9.0 - 12.0.	**$15,776,600**	**Saves 125 days**	**-20 %**

The main benefit of this VA alternative is to reduce construction costs and construction time. This is because three miles of the project would be eliminated.

3.0 From PM 0.0 to PM 5.0, place the base case pavement structural section, and from PM 5.0 to PM 12.0, place only 0.1 ft. of RHMA-O.	**$19,777,000**	**Saves 150 days**	**-10 %**

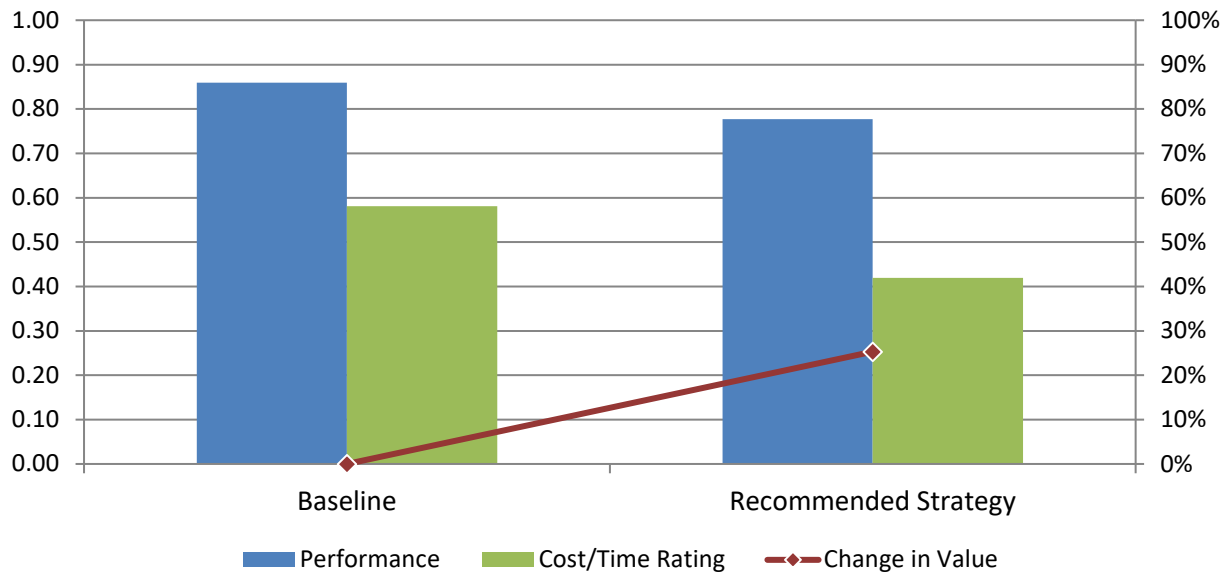
The main benefit of this VA Alternative is to reduce construction costs and construction time by placing less pavement in seven miles of the project.

VA STUDY RESULTS

A summary of the VA strategies (combinations of VA alternatives) is provided in the following chart and table. This chart illustrates the relative trade-offs between performance (shown by the blue columns) versus cost and schedule (shown by the green columns). The red value line indicates the net % change in total value relative to the baseline concept. Please refer to the *Project Analysis* section of this report for additional details on this analysis.

The implementation of Value Alternative 3.0 will provide significant cost as well as construction time savings. However, because of the reduced pavement structural section, future main line operations, maintenance, and ride quality will be degraded.

Comparison of Value - Baseline Concept and VA Strategies



Summary of VA Strategies

Strategy Description	Initial Cost Savings	Change in Schedule	Change in Performance	Value Change
Recommended Strategy 3.0	$19,777,000	Saves 150 days	-10 %	+25 %

VA TEAM

VA Study Team

Name	Organization	Title
Rodelio Baluyot	Caltrans District 4	Construction
Chris Elbo	Caltrans District 4	Design
Nick Horng	Caltrans District 4	Design
Paul Leung	Caltrans District 4	Traffic Safety
Kyain Lin	Caltrans District 4	Highway Operations
Angel Lopez	Caltrans District 4	Design
William McMahan	Caltrans District 4	Maintenance
Mahmood Noii	Caltrans District 4	Electrical
Luis Tacuri	Caltrans District 4	Materials
Mohammad Zabdzadeh	Caltrans District 4	Materials
Bob Zandipour	Caltrans District 4	Design
Fred Kolano	VMS	Value Study Team Leader
Antonia Nicols	VMS	Assistant Study Team Leader

Key Project Contacts

Name	Organization	Title
Hamid Fathollahi	Caltrans District 4	Project Manager
John Hozumi	Caltrans District 4	Design
Binh Dang	Caltrans District 4	District VA Coordinator

ATTACHMENT G

Right of Way Data Sheet

TO: Toll Bridge Design

Date January 21, 2020
Dist 04 Co ALA
Rte 880 PM R0.0/11.8
EA 2K700 (04-1700-0010)
ADA Curb Ramps

Attention: BOB ZANDIPOUR
District Branch Chief
Toll Bridge Design

From: MONA POON
Right of Way Resource Manager

D.S. #7174

Subject: Current Estimated Right of Way Costs

We have completed an estimate of the right of way costs for the above referenced project based on maps we received from you on September 24, 2019 and the following assumptions and limiting conditions.

[ ] 1. The mapping did not provide sufficient detail to determine the limits of the right of way required.

[ ] 2. The transportation facilities have not been sufficiently designed so our estimator could determine the damages to any of the remainder parcels affected by the project.

[ ] 3. Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the early design requirements.

[ ] 4. This estimate does not include $_____right of way costs previously incurred on the project, which may affect the total project right of way costs for programming purposes.

[ ] 5. We have determined there are no right of way functional involvements in the proposed project at this time, as designed.

Right of Way Lead Time will require a minimum of 12 months after we begin receiving final right of way requirements (PYPSCAN node No. 224), necessary environmental clearance has been obtained, and freeway agreements have been approved. From the date of receipt of final right of way requirements (PYPSCAN node No. 265), we will require a minimum of 9 months prior to the date of certification of the project. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be filed. Either of these actions may reflect adversely on the District's other programs or our public image generally.

Right of Way Resource Manager

Attachments:

[ ] Right of Way Data Sheet – Page One (always required)
[ ] Right of Way Data Sheet – All Pages (required when interest in real property is being acquired)
[ ] Utility Information Sheet
[ ] Railroad Information Sheet

RIGHT OF WAY DATA SHEET

TO: Toll Bridge Design

Date 1/13/2020 D.S. # 7174

Dist. 04 Co. Ala Rte 880 PM 0.0/11.8

EA 2K7000(0417000010)

ATTN: Bob Zandipour

Project Description: Pavement & ADA Curb Ramp Project

SUBJECT: Right of Way Data - Alternate No.

1. Right of Way Cost Estimate:

		Current Value (Future Use)	Escalation Rate	Escalated Value
A.	Acquisition, including Excess Lands, Damages, and Goodwill	$0.00	%	$0.00
	Environmental Mitigation			$0.00
	Grantor's Appraisal Cost			$0.00
B.	Utility Relocation (State Share)	$185,000.00	%	$185,000.00
C.	Railroad (from page 6)			$0.00
D.	Relocation Assistance	$0.00	%	$0.00
E.	Clearance Demolition	$0.00	%	$0.00
F.	Title and Escrow Fees	$0.00	%	$0.00
G.	TOTAL ESCALATED VALUE			$185,000.00
H.	Construction Contract Work	$0.00		
I.	Railroad Phase 4 Costs	$0.00		

2. Anticipated Date of Right of Way Certification

3. Parcel Data:

	Type	Dual/Appr
X		
A	2	
B		
C		
D		
E	XXXX	
F	XXXX	

Total 2

U4-1	
-2	
-3	
-4	
U5-7	
-8	
-9	

RR Involvements	
None	
C&M Agrmt	
R/W Agrmt	
Design	
Const.	
Lic/RE/Clauses	X

Misc R/W Work	
RAP Displ	0
Clear Demo	0
Const. Permits	0
Condemnation	0

Areas: Right of Way ____ No. Excess Parcels ____ Excess ____

Enter PMCS Screens ____ By ____

4. Are there any major items of construction contract work?
Yes ☐ No ☑ (If yes, explain)

5. Provide a general description of the right of way and excess lands required(zoning, use, major improvements critical or sensitive parcels, etc.).
No right of way required. ☐
There are two PTE&C's required for this project.

6. Is there an effect on assessed valuation? (If yes explain)
Yes ☐ Not Significant ☐ No ☑

7. Are utility facilities or rights of way affected? Yes ☑ No ☐
If yes, attach Utility Information Sheet Exhibit 01-01-05)

8. Are railroad facilities or rights of way affected? Yes ☑ No ☐
If yes, attach Railroad Information Sheet Exhibit 01-01-06)

9. Were any previously unidentified sites with hazardous waste and/or material found?
Yes ☐ None evident ☑
(If yes, attach memorandum per Procedural Handbook Volume 1, Section 101.011)

10. Are RAP displacements required? Yes ☐ No ☑
(If yes, provide the following information)

No. of personal property relocations _____

No. of single family _____ No. of business/non profit _____

No. of multi-family _____ No. of farms _____

Based on Draft / Final Relocation Impact Statement / Study dated _____, it is anticipated that sufficient replacement housing will / will not be available without Last Resort Housing.

11. Are material borrow and / or disposal sites required? Yes ☐ No ☑
(If yes, expalin)

12. Are there potential relinquishments / abandonments? Yes ☐ No ☑
(If yes, expalin)

13. Are there any existing and/or potential Airspace sites? Yes ☐ No ☑
(If yes, expalin)

14. Are there Environmental Mitigation costs? Yes ☐ No ☑
(If yes, explain)

15. Indicate the anticipated Right of Way schedule and lead time requirements. (Discuss if District proposes less that PMCS lead time and / or if significant pressures for project advancement are anticipated.)

PYPSCAN lead time (from Regular R/W to project certification) 12 months.

16. Is it anticipated that all Right of Way work be performed by CALTRANS staff?
Yes ☑ No ☐ (If no, discuss)

Assumptions and Limiting Conditions

- This data sheet was completed without a hazardous waste/materials report.
- Information on this data sheet was based on maps provided by Bob Zandipour on 9/24/2019

Evaluation Prepared By: Lynn White

Right of Way: Name _____ Date 1-13-20

Railroad: Name _____ Date 1-15-2020

Utilities: Name _____ Date 1-13-20

Recommended for Approval:

_____
Right of Way Capital Cost Coordinator

I have personally reviewed this Right of Way Data Sheet and all supporting information. It is my opinion that the probable Highest and Best Use, estimated values, escalation rates, and assumptions are reasonable and proper subject to the limiting conditions set fourth, and find this Data Sheet complete and current.

_____
Chief, R/W Appraisal Services

1/21/2020
Date

cc: Program Manager
Project Manger

UTILITY INFORMATION SHEET

1. Utility owners located within project limits:
TIDA, Sewer

2. Facilities potentially impacted by project (if known, include Owners(s) & facility type(s)):
Per PE Christopher Elbo, approximately 50 ADA locations, Extent of relocations unknown.

3. Anticipated Workload:

X	Utility Verification required	200 locations x 450 = $90,000
X	Positive Identification	
X	Utility Relocation	$95,000 (@ 50 locations)
	Other (Specify)	

4. Additional information concerning anticipated utility involvements (include limiting conditions and a narative addressing likelihood that conflicts will occur);

_____ Involves possible relocation of electric transmission facilities
(If X'd, Data sheet should be forwarded to environmental)

5. PMCS input information

U4-1		Owner Expense Involvements
U4-2		State Expense Involvements *(Conventional, No Fed Aid)*
U4-3		State Expense Involvements *(Freeway, No Fed Aid)*
U4-4		State Expense Involvements *(Conventional or Freeway, Fed Aid)*
U5-7	2	Verifications - without involvements
U5-8		Verifications - 50% involvements
U5-9		Verifications resulting in involvements

NOTE: The sum of U-4's must equal the sum of ½ of the U5-8's and all of the U5-9's.

ESTIMATED STATE SHARE OF COSTS $ $185,000.00

Prepared by: Dan Asprogerakas

Right of Way Utility Coordinator

1-13-20
Date

RAILROAD INFORMATION SHEET

1. Describe railroad facilities or right of way affected.
   UPRR

2. When branch lines or spurs are affected, would acquisition and/or payment of damages to businesses and/or industries served by the railroad facility be more cost effective than construction of a facility to perpetuate the rail services? (See Procedural Handbook Volume 4a, Chapter 440 for further detail.)
   Yes ☑ No ☐ (If yes, explain)

3. Discuss types of agreements and rights required from the railroads. Are grade crossings requiring service contracts, or grade separations requiring construction and maintenance agreements involved?
   A Short Clause may be required.

4. Remarks (Nonoperating railroad right of way involved?)

5. PMCS Input Information

RR Involvements			Estimated Cost	
None				
C&M Agreement			Phase 4*	$
R/W Agreement			Phase 9	$
	Design			
	Const.		*not part of page 1 total	
Lic/RE/Clauses		X		

TOTAL ESTIMATED COST $ 0.00

Prepared by: Alden Chalk

Right of Way Railroad Coordinator

1/15/2020
Date

Right of Way Workplan

Date: 1/21/20

Please note that this estimate only contains the hours needed by RW Agents. You must also obtain an estimate from RW Engineering for a complete support cost total for the Office of Right of Way.

Project ID No:	0417000010
Project Manager:	K.Puth
Programmed RW Support:	$620,000
PA&ED Date or Transmittal:	3/2/20
RWC Date:	11/1/21
Prepared by:	D.Mars

100.05	Start Date:
Phase K	End Date:

(Data Sheet & PID)		Hours Needed
0850	Acq/P&M O.C.	
0856	Proj. Coord.	

150	Start Date:
Phase K	End Date:

(Data Sheet & PID)		Hours Needed
0850	Acq/P&M O.C.	1
0851	Appraisals O.C.	1
0856	Proj. Coord.	12
0859	Capital Mgmt.	12
0860	Appraisals	40
0867	Railroad	1
0869	Utilities	10

160	Start Date:
Phase 0	End Date:

(Util. Verifications, RR study, PR, &/or Updated Datasheet)		Hours Needed
0850	Acq./P&M O.C.	1
0851	Appraisals O.C.	1
0856	Proj. Coord.	20
0859	Capital Mgmt.	12
0860	Appraisals	20
0865	Acquisitions	
0867	Railroad	5
0869	Utilities	40
0876	Rap	
0882	Clerical	

165	Start Date:
Phase 0	End Date:

(Permits)		Hours Needed
0850	Acq./P&M O.C.	
0856	Proj. Coord.	
0865	Acquisitions	
0882	Clerical	

185	Start Date:
Phase 1	End Date:

(Updated datasheet, If needed)		Hours Needed
0850	Acq/P&M O.C.	
0851	Appraisals O.C.	
0856	Proj. Coord.	
0859	Capital Mgmt.	
0860	Appraisals	
0867	Railroad	
0869	Utilities	

255	Start Date:
Phase 1	End Date:

(Certification - PSE)		Hours Needed
0856	Proj. Coord.	20
0860	Appraisals	
0865	Acquisitions	
0867	Railroad	5
0869	Utilities	5
0876	RAP	

100.25	Start Date: 3/2/2020
Phase 2	End Date: 11/1/2021

(Project Mgmt)		Hours Needed
0850	Acq /P&M O.C.	8
0856	Proj. Coord.	80
0859	Capital Mgmt	8

195	Start Date: 11/2/2021
Phase 2	End Date:

(Prop Mgmt & Excess Land)		Hours Needed
0851	Appraisals O.C.	
0856	Proj. Coord.	
0860	Appraisals	
0872	Prop Mgmt	
0875	Excess Lands	
0874	Airspace	
0882	Clerical	

200	Start Date: 3/2/2020
Phase 2	End Date: 11/1/2021

(Utilities)		Hours Needed
0852	Utilites O.C.	20
0856	Proj. Coord.	
0859	Capital Mgmt	
0869	Utilities	400
0882	Clerical	10

225	Start Date: 3/2/2020
Phase 2	End Date: 11/1/2021

(Pre-Cert Work)		Hours Needed
0850	Acq /P&M O.C.	5
0851	Appraisals O.C.	1
0856	Proj. Coord.	20
0859	Capital Mgmt	20
0860	Appraisals	40
0865	Acquisitions	80
0867	Railroad	40
0868	Acq. Spec. (R.A.)	
0873	Demolition	
0876	RAP	
0882	Clerical	0

245	Start Date: 11/2/2021
Phase 2	End Date: 11/2/2022

(Post-Cert Work)		Hours Needed
0850	Acq /P&M O.C.	
0851	Apprasisals O.C.	
0859	Capital Mgmt	40
0860	Appraisals	
0865	Acquisitions	20
0867	Railroad	
0868	Acq. Spec. (R.A.)	
0873	Demolition	
0876	RAP	
0882	Clerical	

Total hours required (RW Agents Only): **998**

Total RW COS (RW Agents Only): **$134,730**

Phase 2 only COS (RW Agents Only): **$106,920**

Approved By:

Grant Semple
District Branch Chief
RW Project Coordination

ATTACHMENT H

Environmental Document

CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM

04/ALA/880/0.0-11.8	0.0-11.8	2K700/0417000010	N/A
Dist.-Co.-Rte. (or Local Agency)	P.M./P.M.	E.A/Project No.	Federal-Aid Project No. (Local Project)/Project No.

PROJECT DESCRIPTION: (Briefly describe project including need, purpose, location, limits, right-of-way requirements, and activities involved in this box. *Use Continuation Sheet, if necessary.)*

This is a Capital Preventive Maintenance project along (I-880) in Alameda County starting from postmile 0.0 to postmile 11.8, starting from the Santa Clara county line to 0.4 miles north of the Fremont Boulevard Overcrossing.

See continuation page.

CALTRANS CEQA DETERMINATION (Check one)

☐ **Not Applicable – Caltrans is not the CEQA Lead Agency**

☐ **Not Applicable – Caltrans has prepared an Initial Study or Environmental Impact Report under CEQA**

Based on an examination of this proposal, supporting information, and the above statements, the project is:

☐ **Exempt by Statute.** (PRC 21080[b]; 14 CCR 15260 et seq.)

☒ **Categorically Exempt. Class 1.** (PRC 21084; 14 CCR 15300 et seq.)
Based on an examination of this proposal and supporting information, the following statements are true and exceptions do not apply:

- If this project falls within exempt class 3, 4, 5, 6 or 11, it does not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law.
- There will not be a significant cumulative effect by this project and successive projects of the same type in the same place, over time.
- There is not a reasonable possibility that the project will have a significant effect on the environment due to unusual circumstances.
- This project does not damage a scenic resource within an officially designated state scenic highway.
- This project is not located on a site included on any list compiled pursuant to Govt. Code § 65962.5 ("Cortese List").
- This project does not cause a substantial adverse change in the significance of a historical resource.

☐ **Common Sense Exemption.** [This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (14 CCR 15061[b][3].)

Brian Gassner
Print Name: Senior Environmental Planner or Environmental Branch Chief

Signature 11/22/2019 Date

Hamid Fathollahi
Print Name: Project Manager

Signature 12/5/19 Date

NEPA COMPLIANCE

In accordance with 23 CFR 771.117, and based on an examination of this proposal and supporting information, the State has determined that this project:

- does not individually or cumulatively have a significant impact on the environment as defined by NEPA, and is excluded from the requirements to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS), and
- has considered unusual circumstances pursuant to 23 CFR 771.117(b).

CALTRANS NEPA DETERMINATION (Check one)

☒ **23 USC 326:** The State has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the project is categorically excluded from the requirements to prepare an EA or EIS under the National Environmental Policy Act. The State has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to Chapter 3 of Title 23, United States Code, Section 326 and a Memorandum of Understanding dated May 31, 2016, executed between the FHWA and the State. The State has determined that the project is a Categorical Exclusion under:

- ☒ **23 CFR 771.117(c): activity (c)(_26_)**
- ☐ **23 CFR 771.117(d): activity (d)(___)**
- ☐ **Activity ___ listed in Appendix A of the MOU between FHWA and the State**

☐ **23 USC 327:** Based on an examination of this proposal and supporting information, the State has determined that the project is a Categorical Exclusion under 23 USC 327. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Brian Gassner
Print Name: Senior Environmental Planner or Environmental Branch Chief

Signature 11/22/2019 Date

Hamid Fathollahi
Print Name: Project Manager/DLA Engineer

Signature 12/5/19 Date

Date of Categorical Exclusion Checklist completion: 10/2/19

Date of ECR or equivalent :

Briefly list environmental commitments on continuation sheet. Reference additional information, as appropriate (e.g., CE checklist, additional studies and design conditions).

CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM
Continuation Sheet

04/ALA/880/0.0-11.8	0.0-11.8	2K700/0417000010	N/A
Dist.-Co.-Rte. (or Local Agency)	P.M./P.M.	E.A/Project No.	Federal-Aid Project No. (Local Project)/Project No.

Continued from page 1:

The purpose of this project is to preserve and extend the life of the existing pavement and improve ride quality. The project is needed because the pavement within the project limits is exhibiting distress resulting in poor ride quality. If the pavement is not repaired, it will continue to deteriorate leading to major roadway rehabilitation. This project proposes to resurface existing asphalt concrete pavement, repair localized failed AC pavement along the mainline and all on-ramps, off-ramps, resurface the maintenance pullouts, existing gore areas, and add safety edges. It will also upgrade existing guard railing up to current standards. Vegetation control will be installed along the guard rail. The project will also upgrade nonstandard Americans with Disabilities Act curb ramps by installing detectable warning surface and enhance uncontrolled crossing locations by installing rectangular rapid flashing beacons.

This project contains several standardized project measures which are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. Please refer to the Environmental Commitments Record (ECR) for information about environmental commitments required for this project.

Categorical Exclusion Checklist

Dist/Co/Rte/PM:	04/ALA/880/ 0.0-11.8	Fed. Aid No. (Local Project):	N/A	EA/Project No.:	2K700/0417000010

SECTION A: TYPE OF CE: Use the information in this section to determine the applicable CE and corresponding activity for this project.

1. Project is a CE under CE Assignment 23 USC 326. ☒ Yes ☐ No

If "yes", check applicable activity in one of the three tables below (activity must be listed in 23 CFR 771.117 (c) or (d) list or included in activities listed in Appendix A of the CE Assignment MOU to be eligible for 23 USC 326).

	Activity Listed in 23 CFR 771.117(c)
1 ☐	Activities that do not involve or lead directly to construction, such as planning and research activities; grants for training; engineering to define the elements of a proposed action or alternatives so that social, economic, and environmental effects can be assessed; and Federal-aid system revisions that establish classes of highways on the Federal-aid highway system.
2 ☐	Approval of utility installations along or across a transportation facility.
3 ☐	Construction of bicycle and pedestrian lanes, paths, and facilities.
4 ☐	Activities included in the State's *highway safety plan* under 23 U.S.C 402.
5 ☐	Transfer of Federal lands pursuant to 23 U.S.C. 107(d) and/or 23 U.S.C. 317 when the land transfer is in support of an action that is not otherwise subject to FHWA review under NEPA.
6 ☐	The installation of noise barriers or alterations to existing publicly owned buildings to provide for noise reduction.
7 ☐	Landscaping.
8 ☐	Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur.
9[1]	The following actions for transportation facilities damaged by an incident resulting in an emergency declared by the Governor of the State and concurred in by the Secretary, or a disaster or emergency declared by the President pursuant to the Robert T. Stafford Act (42 U.S.C 5121):[2]
☐	(i) Emergency repairs under 23 U.S.C 125;
☐	(ii) The repair, reconstruction, restoration, retrofitting, or replacement of any road, highway, bridge, tunnel, or transit facility (such as a ferry dock or bus transfer station), including ancillary transportation facilities (such as pedestrian/bicycle paths and bike lanes), that is in operation or under construction when damaged and the action: (A) Occurs within the existing right-of-way and in a manner that substantially conforms to the preexisting design, function, and location as the original (which may include upgrades to meet existing codes and standards as well as upgrades warranted to address conditions that have changed since the original construction); and (B) Is commenced within a 2-year period beginning on the date of the declaration.
10 ☐	Acquisition of scenic easements.
11 ☐	Determination of payback under 23 U.S.C 156 for property previously acquired with Federal-aid participation.
12 ☐	Improvements to existing rest areas and truck weigh stations.
13 ☐	Ridesharing activities.
14 ☐	Bus and rail car rehabilitation.
15 ☐	Alterations to facilities or vehicles in order to make them accessible for elderly and handicapped persons.
16 ☐	Program administration, technical assistance activities, and operating assistance to transit authorities to continue existing service or increase service to meet routine changes in demand.
17 ☐	The purchase of vehicles by the applicant where the use of these vehicles can be accommodated by existing facilities or by new facilities that themselves are within a CE.
18 ☐	Track and railbed maintenance and improvements when carried out within the existing right-of-way.
19 ☐	Purchase and installation of operating or maintenance equipment to be located within the transit facility and with no significant impacts off the site.

[1] On the CE form, distinguish between c9i or c9ii

[2] Include copy of the emergency declaration in the file

Categorical Exclusion Checklist

Dist/Co/Rte/PM:	04/ALA/880/ 0.0-11.8	Fed. Aid No. (Local Project):	N/A	EA/Project No.:	2K700/0417000010

20 ☐	Promulgation of rules, regulations, and directives.
21 ☐	Deployment of electronics, photonics, communications, or information processing used singly or in combination, or as components of a fully integrated system, to improve the efficiency or safety of a surface transportation system or to enhance security or passenger convenience. Examples include, but are not limited to, traffic control and detector devices, lane management systems, electronic payment equipment, automatic vehicle locaters, automated passenger counters, computer-aided dispatching systems, radio communications systems, dynamic message signs, and security equipment including surveillance and detection cameras on roadways and in transit facilities and on buses.
22[3] ☐	Projects, as defined in 23 U.S.C. 101, that would take place entirely within the existing operational right-of-way. Existing operational right-of-way means all real property interests acquired for the construction, operation, or mitigation of a project. This area includes the features associated with the physical footprint of the project including but not limited to the roadway, bridges, interchanges, culverts, drainage, clear zone, traffic control signage, landscaping, and any rest areas with direct access to a controlled access highway. This also includes fixed guideways, mitigation areas, areas maintained or used for safety and security of a transportation facility, parking facilities with direct access to an existing transportation facility, transportation power substations, transportation venting structures, and transportation maintenance facilities. Note: As a clarifying example, if title 23 (or certain title 49) funds were authorized for the acquisition of the real property, then that property was acquired for an eligible purpose, which was construction, operation, or mitigation, and thus is part of the operational right-of-way. Real property interests acquired with title 23 funds, or otherwise conveyed for title 23 purposes, are eligible for this categorical exclusion as long as the interests are devoted exclusively to the purposes of that facility and the facility is preserved free of all other public or private alternative uses, unless such non-highway alternative uses are permitted by Federal law (including regulations) or the FHWA (23 CFR 710.403(b)).
23[4] ☐ ☐	Federally-funded projects: Enter project cost $ and Federal funds $ (i) That receive less than $5,500,515.05 of Federal funds; or (ii) With a total estimated cost of not more than $33,003,090.30 and Federal funds comprising less than 15 percent of the total estimated project cost.
24 ☐	Localized geotechnical and other investigation to provide information for preliminary design and for environmental analysis and permitting purposes, such as drilling test bores for soil sampling; archeological investigations for archeology resources assessment or similar survey; and wetland surveys.
25 ☐	Environmental restoration and pollution abatement actions to minimize or mitigate the impacts of any existing transportation facility (including retrofitting and construction of stormwater treatment systems to meet Federal and State requirements under sections 401 and 402 of the Federal Water Pollution Control Act (33 U.S.C. 1341; 1342) carried out to address water pollution or environmental degradation.
26 ☒	Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes), if the action meets the constraints in paragraph (e) of this section [771.117(e)]. **Note: In order to use this CE, certain constraints must be met.** Complete Section A, Item 2 below.
27 ☐	Highway safety or traffic operations improvement projects, including the installation of ramp metering control devices and lighting, if the project meets the constraints in paragraph (e) of this section [771.117(e)]. **Note: In order to use this CE, certain constraints must be met.** Complete Section A, Item 2 below.
28 ☐	Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in paragraph (e) of this section [771.117(e)]. **Note: In order to use this CE, certain constraints must be met.** Complete Section A, Item 2 below.
29 ☐	Purchase, construction, replacement, or rehabilitation of ferry vessels (including improvements to ferry vessel safety, navigation, and security systems) that would not require a change in the function of the ferry terminals and can be accommodated by existing facilities or by new facilities that themselves are within a CE.
30 ☐	Rehabilitation or reconstruction of existing ferry facilities that occupy substantially the same geographic footprint, do not result in a change in their functional use, and do not result in a substantial increase in the existing facility's capacity. Example actions include work on pedestrian and vehicle transfer structures and associated utilities, buildings, and terminals.

Activity Listed in Examples in 23 CFR 771.117(d)	
1	*Reserved.*
2	*Reserved.*
3	*Reserved.*
4 ☐	Transportation corridor fringe parking facilities.
5 ☐	Construction of new truck weigh stations or rest areas.

[3] On the CE form, identify in the project description that all work is within operation right-of-way.

[4] On the CE form, distinguish between c23i or c23ii.

Categorical Exclusion Checklist

Co/Rte/PM:	04/ALA/880/ 0.0-11.8	Fed. Aid No. (Local Project):	N/A	EA/Project No.:	2K700/0417000010

6 ☐	Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
7 ☐	Approvals for changes in access control.
8 ☐	Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
9 ☐	Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required, and there is not a substantial increase in the number of users.
10 ☐	Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
11 ☐	Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning, and where there is no significant noise impact on the surrounding community.
12 ☐	Acquisition of land for hardship or protective purposes. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed. (i) Hardship acquisition is early acquisition of property by the applicant at the property owner's request to alleviate particular hardship to the owner, in contrast to others, because of an inability to sell his property. This is justified when the property owner can document on the basis of health, safety or financial reasons that remaining in the property poses an undue hardship compared to others. (ii) Protective acquisition is done to prevent imminent development of a parcel that may be needed for a proposed transportation corridor or site. Documentation must clearly demonstrate that development of the land would preclude future transportation use and that such development is imminent. Advance acquisition is not permitted for the sole purpose of reducing the cost of property for a proposed project.
13 ☐	Actions described in paragraphs (c)(26), (c)(27), and (c)(28) of this section that do not meet the constraints in paragraph (e) of this section.
Activity Listed in Appendix A of the CE Assignment MOU for State Assumption of Responsibilities for Categorical Exclusions	
1 ☐	Construction, modification, or repair of storm water treatment devices (e.g., detention basins, bioswales, media filters, infiltration basins), protection measures such as slope stabilization and other erosion control measures throughout California.
2 ☐	Replacement, modification, or repair of culverts or other drainage facilities.
3 ☐	Projects undertaken to assure the creation, maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife (e.g., revegetation of disturbed areas with native plant species; stream or river bank revegetation; construction of new, or maintenances of existing fish passage conveyances or structures; restoration or creation of wetlands).
4 ☐	Routine repair of facilities due to storm damage, including permanent repair, to return the facility to operational condition that meets current standards of design and public health and safety without expanding capacity (e.g., slide repairs, construction or repair of retaining walls).
5 ☐	Routine seismic retrofit of facilities to meet current seismic standards and public health and safety standards without expansion of capacity.
6 ☐	Air space leases that are subject to Subpart D, Part 710, title 23, Code of Federal Regulations.
7 ☐	Drilling of test bores/soil sampling to provide information for preliminary design and for environmental analyses and permitting purposes.

Categorical Exclusion Checklist

Dist/Co/Rte/PM:	04/ALA/880/ 0.0-11.8	Fed. Aid No. (Local Project):	N/A	EA/Project No.:	2K700/0417000010

2. This section must be completed in order to use a CE under 23 CFR 771.117(c)(26), (c)(27), or (c)(28).

☒ The action **DOES NOT** include any of the following constraints found in 23 CFR 771.117(e):

A.
- An acquisition of more than a minor amount of right-of-way or that would result in any residential or nonresidential displacements

B.
- A bridge permit from the U.S. Coast Guard; OR
- An action that does not meet the terms and conditions of a U.S. Army Corps of Engineers nationwide or general permit under section 404 of the Clean Water Act (i.e., does the project require a Standard 404 permit [Individual Permit or Letter of Permission]?) AND/OR
- A permit required under Section 10 of the Rivers and Harbors Act of 1899

C.
- A finding of "adverse effect" to historic properties under the National Historic Preservation Act; OR
- The use of a resource protected under 23 U.S.C. 138 or 49 U.S.C. 303 (section 4(f)) except for actions resulting in *de minimis* impacts; OR
- A finding of "may affect, likely to adversely affect" threatened or endangered species or critical habitat under the Endangered Species Act

D.
- Construction of temporary access or the closure of existing road, bridge, or ramps that would result in major traffic disruptions

E.
- Changes in access control

F.
- A floodplain encroachment other than functionally dependent uses (e.g., bridges, wetlands) or actions that facilitate open space use (e.g., recreational trails, bicycle and pedestrian paths); OR
- Construction activities in, across, or adjacent to a river component designated or proposed for inclusion in the National System of Wild and Scenic Rivers

If the action includes any of the constraints listed above, it **MAY NOT** be processed under 23 CFR 771.117(c)(26), (c)(27), or (c)(28), however, the project may qualify for a CE under 23 CFR 771.117(d)(13).

3. Project is a CE for a highway project under NEPA Assignment 23 USC 327. ☐ Yes ☒ No

(Use only if project does not qualify under CE Assignment 23 USC 326 [activities not included in three previous lists above].)

4. Independent Utility and Logical Termini

☒ The project complies with NEPA requirements related to connected actions and segmentation (i.e. the project must have independent utility, connect logical termini when applicable, be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made and not restrict further consideration of alternatives for other reasonably foreseeable transportation improvements). (FHWA Final Rule, "Background," *Federal Register* Vol. 79, No. 8, January 13, 2014.)

5. Categorical Exclusions Defined (23 CFR 771.117[a]).

FHWA regulation 23 CFR 771.117(a) defines categorical exclusions as actions which:

- do not induce significant impacts to planned growth or land use for the area;
- do not require the relocation of significant numbers of people;
- do not have a significant impact on any natural, cultural, recreational, historic or other resources;
- do not involve significant air, noise, or water quality impacts;
- do not have significant impacts on travel patterns; or
- do not otherwise, either individually or cumulatively, have any significant environmental impacts.

☒ Checking this box certifies that project meets the above definition for a Categorical Exclusion.

6. Exceptions to Categorical Exclusions/Unusual Circumstances (23 CFR 771.117[b]).

FHWA regulation 23 CFR 771.117(b) provides that any action which normally would be classified as a CE but could involve *unusual circumstances* requires the Department to conduct appropriate environmental studies to determine if the CE classification is proper. Unusual circumstances include actions that involve:

- Significant environmental impacts;
- Substantial controversy on environmental grounds;
- Significant impact on properties protected by section 4(f) of the DOT Act or section 106 of the National Historic Preservation Act; or
- Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the action.

All of the above unusual circumstances have been considered in conjunction with this project. (Please select one.)

☒ Checking this box certifies that **none of the above conditions apply** and that the project qualifies for a Categorical Exclusion.

☐ Checking this box certifies that unusual circumstances **are involved.** However, the appropriate studies/analysis have been completed, and it has been determined that the CE classification is still appropriate.

Categorical Exclusion Checklist

SECTION B: Compliance with FHWA NEPA policy to complete all other applicable environmental requirements[5] prior to making the NEPA determination:

During the environmental review process for which this CE was prepared, all applicable environmental requirements were evaluated. Outcomes for the following requirements are identified below and fully documented in the project file. [NOTE: EVERY SECTION BELOW MUST BE COMPLETED, DO NOT SKIP ANY SECTIONS.]

FSTIP

☒ The project description on the Categorical Exemption/Categorical Exclusion Form matches the project description in the FSTIP and RTP, and the appropriate page of the FSTIP is in the project file.

Air Quality

☒ Air Quality Conformity Findings Checklist has been completed and project meets all applicable AQ requirements.
☐ For 23 USC 326 projects which require an air quality conformity determination (this will apply to certain projects under 23 CFR 771.117(c)(22), (c)(23), (c)(26), (c)(27), and (c)(28)), list the date of the Caltrans conformity determination: _____
☐ For 23 USC 327 projects, list date of FHWA concurrence on conformity determination: _____

Cultural Resources

☒ Section 106 compliance is complete. ☒ Screened Undertaking
Select appropriate finding: ☒ No Historic Properties Affected ☐ No Adverse Effect with Standard Conditions
☐ No Adverse Effect without Standard Conditions ☐ Adverse Effect/MOA ☐ Phasing/Project PA

Noise

23 CFR 772
☐ Is this a Type 1 project? ☐ Yes ☒ No (skip this section.)
☐ Future noise levels with project either approach or exceed NAC or result in a substantial increase.
If yes, ☐ Abatement is reasonable and feasible ☐ Abatement is not reasonable or feasible

Waters, Wetlands

- **Section 404 of the Clean Water Act**
  Impacts to Waters of the U.S.: ☐ Yes ☒ No; If yes, approval anticipated:
  ☐ Nationwide Permit ☐ Individual Permit ☐ Regional General Permit ☐ Letter of Permission
- **Section 401 of the Clean Water Act**
  ☐ Exemption ☐ Certification ☒ Not Applicable
- **Wetland Protection (Executive Order #11990)**
  ☒ No Wetland Impact
  ☐ Permanent Wetland Impact; Only Practicable Alternative Finding is included in a separate document in the project file

Biology

- **USFWS,** Species List Date: 8/8/19 (must be < 180 days old)
  ☒ No Effect Section 7 (Federal Endangered Species Act)
  Consultation with USFWS Findings (Effect determination):
  ☐ Not Likely to Adversely Affect with USFWS Concurrence. Date: _____
  ☐ Likely to Adversely Affect with Biological Opinion Date: _____
- **NOAA Fisheries,** Species List Date: 7/16/19 (must be < 180 days old) ☐ N/A: Project outside of NOAA jurisdiction
  ☒ No Effect Section 7 (Federal Endangered Species Act)
  Consultation with NOAA Fisheries Findings (Effect determination):
  ☐ Not Likely to Adversely Affect with NOAA Fisheries Concurrence. Date: _____
  ☐ Likely to Adversely Affect with Biological Opinion Date: _____
- **Essential Fish Habitat (Magnuson-Stevens Act)** Findings (Effect determination):
  ☒ Magnuson-Stevens Fishery Conservation and Management Act does not apply
  ☐ No Adverse Effect ☐ Adverse Effect and consultation with NOAA Fisheries

[5] Please consult the SER for a complete list of applicable laws, statutes, regulations, and executive orders that must be considered before completing the CE.

Categorical Exclusion Checklist

Floodplains

Floodplains (Executive Order #11988)

☐ No Floodplains ☒ No Significant Encroachment ☐ Significant Encroachment

Section 4(f) Transportation Act (23 CFR 774)

Section 4(f) regulation was considered as a part of the review for this project and a determination was made:

☒ Section 4(f) does not apply

(Project file includes documentation that property is not a Section 4(f) property, that project does not use a Section 4(f) property, or that the project meets the criteria for the temporary occupancy exception.)

☐ Section 4(f) applies

☐ *De Minimis*

☐ Programmatic: Type _____ (List one of the five appropriate categories as defined in 23 CFR 774.3)

☐ Individual: ☐ Legal Sufficiency Review complete ☐ HQ Coordinator Review Complete

Section 6(f) – Properties Acquired with Land and Water Conservation Fund grants

Was the above property purchased with grant funds from the Land and Water Conservation Fund?

☒ No, Section 6(f) does not apply. No additional documentation required.

☐ Yes ☐ Documentation of approval from National Park Service Director (through California State Parks) has been received for the conversion/and replacement of 6(f) property.

Coastal Zone

Coastal Zone Management Act of 1972

☒ Not in Coastal Zone ☐ Qualifies for Exemptions ☐ Qualifies for Waiver ☐ Coastal Permit Required

☐ Consistent with Federal State and Local Coastal Plans ☐ Federal Consistency

Coast Guard – Bridge Over Navigable Waters of the U.S.

☒ Not applicable

☐ 23 USC 144(c) USCG Bridge Permit Exception

☐ 33 CFR 115.70 Advance Approval

☐ USCG Bridge Permit

Relocation and Right of Way

- **Relocations**

☒ No Relocations

☐ Project involves _____ (#) relocations and will follow the provisions of the Uniform Relocation Act.

- **Right of Way Acquisitions/Easements**

☒ No right of way acquisitions or easements

☐ Project involves _____ (#) acquisitions and _____ (#) easements.

Hazardous Waste and Materials

- Are hazardous materials or contamination exceeding regulatory thresholds (as set by U.S. EPA, Cal EPA, County Environmental Health, etc.) present? ☐ Yes ☒ No
- If yes, is the nature and extent of the hazardous materials or contamination fully known? ☐ Yes ☐ No

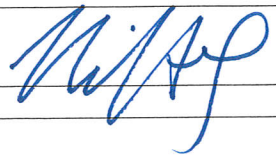
If no, briefly discuss the plan for securing information:

SECTION C: Certification

Based on the information obtained during environmental review process and included in this checklist, the project is determined to be a Categorical Exclusion pursuant to the National Environmental Policy Act and is in compliance with all other applicable environmental laws, regulations, and Executive Orders.

Prepared by (print name): Nina Hofmarcher

Title: Environmental Planner

Signature:  Date: 11/22/19

Transportation Air Quality Conformity Findings Checklist

Project Name:	Alameda County I-880 Capital Preventive Maintenance Project
Dist-Co-Rte-PM:	04- ALA- 880 - 0.0/11.8 **EA:** 04-2K700
Federal-Aid No.:	
Document Type:	☒ **23 USC 326 CE** ☐ **23 USC 327 CE** ☐ **EA** ☐ **EIS**

Step 1. Is the project located in a nonattainment or maintenance area for ozone, nitrogen dioxide, carbon monoxide (CO), PM2.5, or PM10 per EPA's Green Book listing of non-attainment areas?

☐ If no, go to Step 17. **Transportation conformity does not apply to the project.**

☐ If yes, go to Step 2.

Step 2. Is the project exempt from conformity per 40 CFR 93.126 or 40 CFR 93.128?

☒ If yes, go to Step 17. **The project is exempt from all project-level conformity requirements (40 CFR 93.126 or 128)** (check one box below and identify the project type, if applicable).

☒ 40 CFR 93.126[1] Project type from Table 2: Safety: Pavement resurfacing and/or rehabilitation

☐ 40 CFR 93.128

☐ If no, **go** to Step 3.

Step 3. Is the project exempt from regional conformity per 40 CFR 93.127?

☐ If yes, go to Step 8. **The project is exempt from regional conformity requirements (40 CFR 93.127)** (identify the project type). Project type: _____

☐ If no, go to Step 4.

Step 4. Is the project located in a region with a currently conforming RTP and TIP?

☐ If yes, **the project is included in a currently conforming RTP and TIP per 40 CFR 93.115. The project's design and scope have not changed significantly from what was assumed in RTP conformity analysis (40 CFR 93.115[b])** Go to Step 8.

☐ If no and the project is located in an isolated rural area, go to Step 5.

☐ If no and the project is not located in an isolated rural area, STOP and do not proceed until a conforming RTP and TIP are adopted.

Step 5. For isolated rural areas, is the project regionally significant per 40 CFR 93.101, based on review by Interagency Consultation?

☐ If yes, go to Step 6.

☐ If no, go to Step 8. **The project, located in an isolated rural area, is not regionally significant and does not require a regional emissions analysis (40 CFR 93.101 and 93.109[l]).**

Step 6. Is the project included in another regional conformity analysis that meets the isolated rural area analysis requirements per 40 CFR 93.109, including Interagency Consultation and public involvement?

☐ If yes, go to Step 8. **The project, located in an isolated rural area, has met its regional analysis requirements through inclusion in a previously-approved regional conformity analysis that meets current requirements (40 CFR 93.109[l]).**

☐ If no, go to Step 7.

Step 7. The project, located in an isolated rural area, requires a separate regional emissions analysis.

☐ **Regional emissions analysis for regionally significant project, located in an isolated rural area, is complete. Regional conformity analysis was conducted that includes the project and reasonably foreseeable regionally significant projects for at least 20 years. Interagency Consultation and public participation were conducted. Based on the analysis, the interim or emission budget conformity tests applicable to the area are met (40 CFR 93.109[l] and 95.105).**[2] Go to Step 8.

Step 8. Is the project located in a CO nonattainment or maintenance area? (South Coast Air Basin only)

☐ If no, go to Step 9. **CO conformity analysis is not required.**

☐ If yes, **hot-spot analysis requirements for CO per the** CO Protocol (or per EPA's modeling guidance, CAL3QHCR can be used with EMFAC emission factors[3]) **have been met. Project will not cause or contribute to a new localized CO violation (40 CFR 93.116 and 93.123)**[4]. Go to Step 9.

---

[1] Please refer to Clarifications on Exempt Project Determinations (http://www.dot.ca.gov/ser/downloads/guidance/aq-clarifications-exempt-project-determinations.pdf) to verify exempt project type from Table 2. Road diets, auxiliary lanes less than one-mile, and ramp metering may be exempt under "projects that correct, improve, or eliminate a hazardous location or feature."

[2] The analysis must support this conclusion before going to the next step.

[3] Use of the CO Protocol is strongly recommended due to its use of screening methods to minimize the need for modeling. When modeling is needed, the Protocol simplifies the modeling approach. Use of CAL3QHCR must follow U.S. EPA's latest CO hot spot guidance, using EMFAC instead of MOVES; see: http://www.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm#co-hotspot.

[4] As of October 1, 2007, there are no CO nonattainment areas in California. Therefore, the requirements to not worsen existing violations and to reduce/eliminate existing violations do not apply.

Step 9. Is the project located in a PM10 and/or a PM2.5 nonattainment or maintenance area?

☐ If no, go to Step 13. **PM2.5/PM10 conformity analysis is not required.**

☐ If yes, go to Step 10.

Step 10. Is the project considered to be a Project of Air Quality Concern (POAQC), as described in EPA's Transportation Conformity Guidance for PM 10 and PM 2.5?

☐ If no, **the project is not a project of concern for PM10 and/or PM2.5 hot-spot analysis based on 40 CFR 93.116 and 93.123 and EPA's Hot-Spot Analysis Guidance. Interagency Consultation concurred with this determination on** _____. Go to Step 12.

☐ If yes, go to Step 11.

Step 11. The project is a POAQC.

☐ **The project is a project of concern for PM10 and/or PM2.5 hot-spot analysis based on 40 CFR 93.116 and 93.123, and EPA's Hot-Spot Guidance. Interagency Consultation concurred with this determination on** _____. **Detailed PM hot-spot analysis, consistent with 40 CFR 93.116 and 93.123 and EPA's Hot-Spot Guidance, shows that the project would not cause or contribute to, or worsen, any new localized violation of PM10 and/or PM2.5 standards.** Go to Step 12.

Step 12. Does the approved PM SIP include any PM10 and/or PM2.5 control measures that apply to the project, and has a written commitment been made as part of the air quality analysis to implement the identified SIP control measures? [Control measures can be found in the applicable Federal Register notice at: https://www.epa.gov/state-and-local-transportation/conformity-adequacy-review-region-9#ca.]

☐ If yes, **a written commitment is made to implement the identified SIP control measures for PM10 and/or PM2.5 through construction or operation of this project (40 CFR 93.117).** Go to Step 14.

☐ If no, go to Step 13.

Step 13a. Have project-level mitigation or control measures for CO, PM10, and/or PM2.5, included as part of the project's design concept and scope, been identified as a condition of the RTP or TIP conformity determination? AND/OR

Step 13b. Are project-level mitigation or control measures for CO, PM10, and/or PM2.5 included in the project's NEPA document? AND

Step 13c (applies only if Step 13a and/or 13b are answered "yes"). Has a written commitment been made as part of the air quality analysis to implement the identified measures?

☐ If yes to 13a and/or 13b and 13c, **a written commitment is made to implement the identified mitigation or control measures for CO, PM10, and/or PM2.5 through construction or operation of this project. These mitigation or control measures are identified in the project's NEPA document and/or as conditions of the RTP or TIP conformity determination[1] (40 CFR 93.125(a)).** Go to Step 14.

☐ If no, go to Step 14.

Step 14. Does the project qualify for a Categorical Exclusion pursuant to 23 USC 326?

☐ If yes, go to step 15.

☐ If no, go to Step 16.

Step 15. Is any analysis required by steps 1-13 of this form?[5]

☐ If yes, then Caltrans prepares the appropriate analysis and documentation for the project file and makes the conformity determination through its signature on the CE form. No FHWA involvement is required. See the AQCA Annotated Outline. Go to Step 17.

☐ If no, then Caltrans makes the conformity determination through its signature on the CE form. No FHWA involvement is required. Go to Step 17.

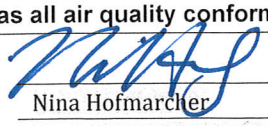
Step 16. Does the project require preparation of a Categorical Exclusion, EA, or EIS pursuant to 23 USC 327?

☐ If yes, then Caltrans submits a conformity determination request to FHWA for FHWA's conformity determination letter. **An AQCA is needed.** See the AQCA Annotated Outline.

Date of FHWA air quality conformity determination: _____

Go to Step 17.

Step 17. STOP as all air quality conformity requirements have been met.

Signature: 

Printed Name: Nina Hofmarcher **Date:** 11/22/19

Title: Environmental Planner

[5] Please note that not all projects that qualify for a categorical exclusion will be exempt from air quality conformity requirements. Many types of projects that may qualify for a CE (such as the addition of auxiliary lanes less than one-mile, weaving lanes less than one-mile, turning lanes less than one-mile, climbing lanes less than one-mile, parking, road diets, ramp metering, and even many bridge projects) MAY require some level of project level conformity analysis and may even require interagency consultation. Additionally, please note that for ALL projects the project file must include evidence that one of the three following situations apply: 1) Conformity does not apply to the project area; or 2) The project is exempt from all conformity analysis requirements; or 3) The project is subject to project-level conformity analysis (and possibly regional conformity analysis) and meets the criteria for a conformity determination. The project file must include all supporting documentation and this checklist.

ATTACHMENT I

Transportation Management Plan Data Sheet

TRANSPORTATION MANAGEMENT PLAN DATA SHEET
(Preliminary TMP Elements and Costs)

Co/Rte/PM 04-ALA-880-PM R0.0/11.8 EA 2K700 Project Engineer Christopher Elbo

ID 0417000010

Project Limit 04-ALA-880-PM R0.0/11.8

Project Description Cold plane pavement, Overlay with Rubberized Hot Mix Asphalt (RHMA-G)

1) Public Information

- ☐ a. Brochures and Mailers $
- ☒ b. Press Release
- ☐ c. Paid Advertising $
- ☐ d. Public Information Center/Kiosk $
- ☐ e. Public Meeting/Speakers Bureau
- ☐ f. Telephone Hotline
- ☐ g. Internet, E-mail
- ☐ h. Notification to impacted groups (i.e. bicycle users, pedestrians with disabilities, others…)
- ☒ i. Others As determined by PIO $ 50,000.

2) Traveler Information Strategies

- ☐ a. Changeable Message Signs (Fixed) $
- ☒ b. Changeable Message Signs (Portable) $100,000.
- ☐ c. Ground Mounted Signs $ 10,000
- ☐ d. Highway Advisory Radio $
- ☐ e. Caltrans Highway Information Network (CHIN)
- ☐ f. Detour maps (i.e. bicycle, vehicle, pedestrian...etc)
- ☐ g. Revised Transit Schedules/maps
- ☐ h. Bicycle community information
- ☐ i. Others $

3) Incident Management

- ☐ a. Construction Zone Enhanced Enforcement Program (COZEEP) $975,000.
- ☐ b. Freeway Service Patrol $
- ☐ c. Traffic Management Team
- ☐ d. Helicopter Surveillance $
- ☐ e. Traffic Surveillance Stations (Loop Detector and CCTV) $
- ☐ f. Others $

TMP Data Sheet (cont.)

4) Construction Strategies

☒	a. Lane Closure Chart	
☐	b. Reversible Lanes	
☐	c. Total Facility Closure	
☐	d. Contra Flow	
☐	e. Truck Traffic Restrictions	$
☐	f. Reduced Speed Zone	$
☐	g. Connector and Ramp Closures	
☐	h. Incentive and Disincentive	$
☐	i. Moveable Barrier	$
☒	j. Maintain Traffic	$ 300,000.
☐	k. Others _____	$

5) Demand Management

☐	a. HOV Lanes/Ramps (New or Convert)	$
☐	b. Park and Ride Lots	$
☐	c. Rideshare Incentives	$
☐	d. Variable Work Hours	
☐	e. Telecommute	
☐	f. Ramp Metering (Temporary Installation)	$
☐	g. Ramp Metering (Modify Existing)	$
☐	h. Others _____	$

6) Alternate Route Strategies

☐	a. Add Capacity to Freeway Connector	$
☐	b. Street Improvement (widening, traffic signal... etc)	$
☐	c. Traffic Control Officers	$
☐	d. Parking Restrictions	
☐	e. Others _____	$

7) Other Strategies

☐	a. Application of New Technology	$
☐	e. Others _____	$

TOTAL ESTIMATED COST OF TMP ELEMENTS = $1,435,000.

*Please note that any change in project scope, schedule, or cost will require re-submittal of TMP Data Sheet request.

PREPARED BY OKLAH ALHAYEK DATE 9/21/19

APPROVAL RECOMMENDED BY CESAR PUJOL DATE 9/21/19

ATTACHMENT J

SHOPP Performance Measures

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 04 **Tool ID:** 13655 **Project ID:** 0417000010 **EA:** 2K700 **Co-Rte-PM:** ALA-880-0/11.8 (Primary Location) View/Print PIR (Performance) Report

Res In PID WP: 10/27/16 **Project Manager:** Yadollah Fathollahi **HQ PM Conc TYP:** 10/12/17 **HQ PM Conc PID:** 10/12/17 **HQ PM Conc PRG:** 10/12/17 **HQ PM Conc PCR:** 03/27/18

☐ Bridge ☑ Pavement ☐ Drainage ☐ Facilities ☑ Safety ☑ Mobility ☐ Roadside ☑ Complete Streets ☐ Sustainability /Climate Change ☐ Advance Mitigation/Mitigation ☐ Major Damage ☑ Green-house Gases ☐ Relinquishment

Performance & Accomplishments (PRG)

	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond	Assets in Fair Cond	Assets in Poor Cond	New Asset Added	Comment
1	Mainline existing Asphalt CAPM (e.g. 2" thin overlay (w or w/o wearing surface, cold in place, digouts, etc) (201.121)	Pavement Class I	Lane Miles	90.094	49.281	40.813			
2	Guard Rail (201.010, .015)	No Performance Objective in the SHSMP	LF	4318.000			4318.000		
3	ADA - Repair/upgrade curb ramp (201.361)	No Performance Objective in the SHSMP	EA	10.000			10.000		
4	ADA - Deficient Elements	ADA Pedestrian Infrastructure	Deficient Elements	10.000			10.000		
5	Enhanced Crosswalk Visibility (201.999)	No Performance Objective in the SHSMP	EA	14.000				14.000	RRFB
6	Crosswalks (201.999)	No Performance Objective in the SHSMP	EA	1.000					repaint xwalk, detectable warn surf, etc
7	Quantitative - Proposed Mitigated	No Performance Objective in the SHSMP	MTCO2e	573.000					
8	Quantitative - Unmitigated	No Performance Objective in the SHSMP	MTCO2e	1346.000					

ATTACHMENT K

Stormwater Data Report (Long Form) Cover Sheet

Dist-County-Route: 04-2K700-ALA-880
Post Mile Limits: R0.0/11.8
Type of Work: Capital Preventive Maintenance Project
Project ID (EA): 0417000010 (2K700)
Program Identification: SHOPP 201.121
Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): San Francisco Bay (R-2)
Total Disturbed Soil Area: 1.75 acres PCTA: 0
Alternative Compliance (acres): 0 ATA 2 (50% Rule)? Yes ☐ No ☒
Estimated Const. Start Date: 03/01/2023 Estimated Const. Completion Date: 12/31/2024
Risk Level: RL 1 ☐ RL 2 ☒ RL 3 ☐ WPCP ☐ Other: _____
Is MWELO applicable? Yes ☐ No ☒
Is the Project within a TMDL watershed? Yes ☒ No ☐
TMDL Compliance Units (acres): 0
Notification of ADL reuse (if yes, provide date): Yes ☐ Date: _____ No ☒

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E only.

Chris Elbo, Registered Project Engineer — 1/10/2020 Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

Ron Kiaaina, Project Manager — 1/10/20 *Date*

Markus Lansdowne, Designated Maintenance Representative — 01/15/2020 *Date*

PHILIP DINH / *Alex McDonald, Designated Landscape Architect Representative* — 1/14/20 *Date*

[Stamp Required at PS&E only] *Ganga Tripathi, District Design SW Designee* — 01/13/2020 *Date*

ATTACHMENT L

Risk Register

RISK REGISTER LEVEL	2	PROJECT NAME	ALA 880-PM 0.0/12.0- Pavement Preservation and ADA Curb Ramps Upgrade	DIST-EA	04- 2K700 (0417000010)	Project Manager	Kenneth Puth	RISK MANAGER	Patrick Treacy / Gurmukh Thiara / Pradeep Narra / Daniel Y. Chang	TOTAL COST (Capital +Support)	$71,371,000.00
PROJECT PHASE	PA&ED	PDT MEMBERS	Kenneth Puth (PM), Bob Zandipour & Chris Elbo (Design) , Brian Gassner (Env), (Hydraulics), (Construction)	RISK ASSESSMENT INFORMATION						TOTAL DAYS (Construction + Initial review (30 days)+ Closeout (60 days))	470

Risk Identification						Probability	Cost Impact		Time Impact		Phase	Individual Risk	Risk Response			
Status	ID #	Category	Title	Risk Statement	Current Status/ Assumptions	Rating	Rating	Score	Rating	Score	DGN / CON	Rationale	Strategy	Response Actions	Risk Owner	Updated
Retired	1	PM	Programming	The project may not be programmed into the next funding round, leading to a shelved project, resulting in additional cost and revised milestone schedule when the project is back to active.	The Project is not programmed in the next SHOPP cycle.	2-Low	02-Low	4	02-Low	4	DGN	Based on Department's experience with past projects of similar nature.	Accept	Risk is Retired. The project is funded under SHOPP 201.121, Pavement Preservation. Update project cost estimate.	Kenneth Puth	1/31/2020
Retired	2	Environmental	Public Objection	The project may experience public complaints during the life of the project, leading to delays or additional work to mitigate concerns or complaints, resulting in additional cost and schedule delays.	Public complaints may challenge the Environmental report and clearance, delaying the start of construction.	2-Low	04-Moderate	8	02-Low	4	DGN	Based on Department's experience with past projects of similar nature.	Mitigate	Address concerns of stakeholders and public during Environmental Process.	Environmental	1/31/2020
Retired	3	ROW	Right of Way Certificate	Right of Way Certification process may not be completed on time due to outside factors, leading to missed project milestone, resulting in additional cost and schedule delay.	A delay in Right of Way Certificate or Easement delivery may be anticipated since Americans with Disabilities Act (ADA) upgrades will require additional R/W.	2-Low	04-Moderate	8	02-Low	4	DGN	Based on Department's experience with past projects of similar nature.	Accept	Right of Way Certificate will be prepared and reviewed during PS&E phase.	ROW	1/31/2020
Active	4	Construction	Buried Man Made Objects	Unanticipated Buried Man-Made Objects (BMMO) encountered during construction may require mitigation, removal and disposal, leading to additional work not originally anticipated, resulting in additional costs to the project.	Project scope included MGS work, which require deeper posts. Unexpected Buried Man-Made Objects (BMMO) may be encountered during construction.	2-Low	04-Moderate	8	02-Low	4	CON	Based on Department's experience with past projects of similar nature.	Accept	Construction will work with contractor to resolve unanticipated BMMO when encountered. RE to tap into contingency in case of need.	Construction	1/31/2020
Active	5	Environmental	Environmental Documents	Preliminary Environmental Documents may not reveal the lengthy environmental required process, leading to additional time needed to complete the environmental process, resulting in additional cost and schedule delays.	A design change due to crosswalk and RRFB needs that is outside of the parameters contemplated in the Environmental Document triggers a supplemental Environmental Impact Report (EIR) which causes a delay due to the public comment period.	2-Low	04-Moderate	8	02-Low	4	DGN	Based on Department's experience with past projects of similar nature.	Avoid	Monitor design changes against Environmental Documents (ED) to avoid reassessment of ED unless the opportunity outweighs the threat.	Environmental	1/31/2020
Active	6	Construction	Bird Nesting Season	Nesting birds or roosting bats in trees adjacent to the project footprint, protected from harassment under the Migratory Bird Treaty Act (MBTA) may delay construction during the nesting season, leading to extended construction time, resulting in additional cost and schedule delays.	The project may have nesting birds within the project area. Bird nesting on the side of the road could delay the construction activities from proceeding. Bird nesting season is from February 1 to September 30 for each construction season. Projects within the range of bird nesting season will need to perform preconstruction survey prior to the start of work to identify active nesting birds.	1-Very Low	01-Very Low	1	01-Very Low	1	CON	Based on Department's experience with past projects of similar nature.	Mitigate	1) Schedule contract work to avoid nesting season or remove nesting habitat before starting work. 2)PDT to do a field visit during PS&E phase and perform a pre-construction survey. 3) If unanticipated bird nests are discovered within the project site, the contractor is to stop construction activities around the area until the area has been cleared by CT biologist and appropriate mitigation measures have been implemented.	Construction	1/31/2020
Active	7	ROW	Additional Temporary Construction Easements (TCE)	The project may need to encroach temporary on adjacent properties to carry out construction work, leading to temporary constructions easements (TCE) that could delay RTL , resulting in additional project cost and schedule delays.	Project proposed work, including Americans with Disabilities Act (ADA) curb ramp upgrade is with in state Right of Way.	2-Low	02-Low	4	04-Moderate	8	DGN	Based on Department's experience with past projects of similar nature.	Mitigate	Design to coordinate with Right of Way as the need for TCE's is determined and ROW to approach property owners for the approval.	ROW	3/2/2020
Active	8	Construction	Hazardous Material	Unanticipated hazardous materials may be encountered during construction, leading to additional mitigation, removal and disposal activities, resulting in additional costs.	Existing yellow thermoplastic traffic striping and pavement marking will need to be removed properly according to standard specification, section 14-11 Hazardous Waste and Contamination. Asphalt paving grinding mixed with thermoplastic paint may contain soluble lead in excess of the threshold limit.	2-Low	02-Low	4	02-Low	4	CON	Based on Department's experience with past projects of similar nature.	Accept	Design will request Hazardous Material testing during PS&E phase. Ensure storage space will be available and handling cost is included.	Construction	1/31/2020
Active	9	Construction	Asphalt Price Index Fluctuations	Oil price fluctuation may increase amount of oil based products, leading to increase in bid Item amount over and above originally estimated in the BEES, resulting in additional cost to the project.	The project proposes to resurface the existing Asphalt Concrete (AC) pavement and repair localized failed AC pavement. Products cost fluctuate based on demand and supply.	1-Very Low	01-Very Low	1	01-Very Low	1	CON	Based on Department's experience with past projects of similar nature.	Accept	Project BEES has accounted for Adjustments for Price Index Fluctuations in the Supplemental Work as oil price is on a rising trend. This risk is to cover for costs above and beyond anticipated as part of BEES.	Construction	1/31/2020
Active	10	Design	American Disability Act (ADA)	The project may not meet Americans with Disabilities Act (ADA) requirements or will have to make changes, leading to change in scope to meet current ADA standards, resulting in additional costs and schedule delays.	The project involves repair/upgrade of ADA curb ramps. Site conditions may preclude placement of ADA compliant curb ramps.	2-Low	02-Low	4	02-Low	4	DGN	Based on Department's experience with past projects of similar nature.	Avoid	Each curb ramp location will be surveyed and individually designed during PS&E phase. This risk captures unforeseen ADA issues during construction that were unforeseen during design of the project.	Design	1/31/2020
Active	11	Construction	Unidentified Facilities Conflicts	Unanticipated existing facilities encountered on the project site may conflict with the construction activities, leading to additional work around or repairs, resulting in additional cost and potential delays.	Existing facilities such as poles and Metal Beam Guardrails (MBGR) will be relocated or replaced when needed to meet the current safety standards. The office of Traffic Safety will be consulted during the PS&E phase.	2-Low	02-Low	4	02-Low	4	CON	Based on Department's experience with past projects of similar nature.	Mitigate	Design will work to identify all facilities that are in conflict with scope of work. Any required facilities adjustments will need to be included in project plans.	Construction	1/31/2020
Active	12	Construction	Drainage Modification	Drainage modifications to the existing systems called out on plans may need additional tweaking in the field, leading to RFI (Request for Information) and CCO (Contract Change Order), resulting in additional costs and schedule delays.	Existing drainage inlets and facilities that is in conflict with Americans with Disabilities Act (ADA) curb ramps and metal beam guardrail upgrades will require modifications. Drainage inlets will be adjusted to grade. Design doesn't see any issues with this item of work.	1-Very Low	01-Very Low	1	01-Very Low	1	CON	Based on Department's experience with past projects of similar nature.	Mitigate	Design will work with Hydraulics during PS&E phase to identify all the drainage inlets , outlets that will be impacted by the ADA curb ramp modification to be replaced and upgraded.	Construction	1/31/2020
Active	13	Construction	Staging Loop Detector Work	Existing mainline loop detectors may be damaged during cold planning operations leading to system operation disruptions resulting in additional cost and project schedule delays.	Existing mainline loop detectors will be shown as part of the plans.	2-Low	02-Low	4	02-Low	4	CON	Based on Department's experience with past projects of similar nature.	Avoid	RE to keep a close watch on the work. Team to tap into contingency in case of need.	Construction	1/31/2020

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Active	14	Design	Utility Relocation (ADA)	Utility conflicts may be encountered during design, leading to extra work and/or agency coordination for relocation or mitigation, resulting in additional project costs and schedule delays.	Existing underground utilities may conflict with design work when upgrading ADA curb ramps.	2-Low	02-Low	4	04-Moderate	8	DGN	Based on Department's experience with past projects of similar nature.	Mitigate	Design will submit a utility verification request and include in the project plans during PS&E. Any known utility conflicts will be identified and mitigated prior to construction.	Design	1/31/2020
Retired	15	Environmental	Permits	Environmental permits from outside agencies may have longer than expected lead time for approval, leading to schedule delays if permits are not issued in a timely manner, resulting in additional cost and reschedule milestone.	The project will likely be documented as Categorical Exemption /Categorical Exclusion (CE/CE). 401 Permit from the Regional Water Quality Control Board, 404 Permit from U.S. Army Corps of Engineers and Bay Conservation and Development Commission Permits may be enquired.	2-Low	02-Low	4	04-Moderate	8	DGN	Based on Department's experience with past projects of similar nature.	Avoid	The Environmental Document was a CE/CE, signed on 12/5/19. No permits were required for project scope.	Environmental	3/2/2020
Active	16	Construction	Extra Dig-outs and repaving of Asphalt Concrete	During construction, New distressed asphalt locations that are not called out on plans may be found or increased deterioration of existing locations may occur, leading to increase in quantity of work, resulting in additional costs and schedule delays.	Unidentified quantities of deteriorated localized failed existing Asphalt Concrete (AC) pavement during construction will require extra dig-outs.	2-Low	02-Low	4	02-Low	4	CON	Based on Department's experience with past projects of similar nature.	Mitigate	Field reviews will be conducted to identify potential dig-out locations during design. This risk captures the unanticipated potential dig-outs construction may encounter due to the time difference between pavement survey and actual paving.	Construction	1/31/2020
Active	17	Environmental	Protected Species In Work Zone	Effect on federally listed species may impact construction activities, leading to stopped work, resulting in additional cost and schedule delays.	Several sensitive species such as California tiger salamander have been identified at the southbound I-880 and ramp. Burrowing owl occurs in the area to the west. If impacts to creek areas occur, a 1602 permit from California Department of Fish and Wildlife (CDFW), Federal consultation with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) will be required.	2-Low	02-Low	4	04-Moderate	8	CON	Based on Department's experience with past projects of similar nature.	Mitigate	Biological assessment to project site will be conducted during PS&E phase to include all mitigation measures. The Environmental Team will perform a biological survey prior to construction to reduce the probability of the risk occurring.	Environmental	1/31/2020
Active	18	PM	Coordination with Local Agencies	Outside agencies may require unanticipated work not originally scoped out in the project, leading to lead time, resulting in project delays and additional cost.	Coordination with Alameda County will be required.	2-Low	02-Low	4	02-Low	4	DGN	Based on Department's experience with past projects of similar nature.	Mitigate	PM & PE will coordinate with relevant agencies on a regular basis.	Kenneth Puth	1/31/2020
Retired	19	Environmental	Archeological Site Discovery	During construction, if archaeological materials are discovered, construction activities may be delayed until the discovery is investigated by project archeologists, leading to lead time ,resulting in additional cost and schedule delays.	One archaeological site has been identified within the project limits near postmile 3.2 and another site along the Thornton Avenue northbound on-ramp. Delays are contingent on the significance and extent of the discovery until cleared by the engineer.	2-Low	02-Low	4	04-Moderate	8	CON	Based on Department's experience with past projects of similar nature.	Accept	Archaeologists will monitor the presence of archeological findings and cultural resource during construction. A Historic Property Survey Report (HPSR) will be required.	Environmental	1/31/2020
Active	20	Construction	Tight weather window for paving	Any delay in start of construction that's planned for summer season may lead to a delay of paving operation resulting in additional costs and possible schedule extension.	Construction may occur during fall / winter season. Rubberized Hot Mix Asphalt (RHMA) is not suitable for paving during winter or cold weather.	2-Low	02-Low	4	02-Low	4	CON	Based on Department's experience with past projects of similar nature.	Avoid	Warm Mix Asphalt (WMA) technology will be used and included in the specifications. WMA allows for a lower minimum temperature requirement during fall/ winter season.	Construction	1/31/2020
Active	21	Environmental	Water Quality	Construction activities that have not been properly contained may lead to unanticipated consequences including pollution to surface water bodies and/or cause band side erosion, leading to extra work and lead time, resulting in additional cost and schedule delays to the project.	The project will create a Disturbed Soil Area (DSA) of about 1.8 acres, and is subject to the National Pollutant Discharge Elimination System (NPDES) construction Permit. A Stormwater Pollution Prevention Program (SWPPP) and stormwater treatment BMPs measures will be required.	2-Low	02-Low	4	04-Moderate	8	DGN	Based on Department's experience with past projects of similar nature.	Mitigate	Appropriate construction Best Management Practices (BMPs) will be incorporated during PS&E phase to mitigate the discharge of pollutants during construction.	Environmental	1/31/2020
Active	22	Construction	COZEEP	Construction activities not performed during the day may need to be performed during night time, leading to additional traffic lane closure and COZEEP, resulting in additional cost to the project.	Construction will be performed in stages and is proposed both during and outside normal construction hours. Partial lane and shoulder closures are expected and some of the construction activities will be undertaken during the night.	2-Low	02-Low	4	02-Low	4	CON	Based on Department's experience with past projects of similar nature.	Mitigate	COZEEP funds are allocated as part of BEES. This risk is to cover for any cost overages above and beyond allocated as part of BEES.	Construction	1/31/2020
Retired	23	Environmental	Visual Impacts	Construction activities may disturb or remove existing vegetation to remain within the project limits leading to project site visual impact, change in environmental documents, resulting in additional costs and schedule delays.	Construction staging activities will have impact on the existing landscaping and irrigation facilities.	2-Low	02-Low	4	04-Moderate	8	DGN	Based on Department's experience with past projects of similar nature.	Avoid	PDT will coordinate with Environmental during PS&E phase to avoid impacts of landscaped areas from construction staging activities.	Environmental	1/31/2020