

DEPARTMENT OF TRANSPORTATION

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*Serious drought!
Help save water!*

July 19, 2016

Attention: Holly Grover
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA

Subject: Technical Information Provided by Regarding Caltrans Management Measures to Reduce Phosphorus Loads to Clear Lake per Water Code Section 13267

The *2006 Amendment to the Central Valley Regional Water Quality Control Board (CVRWQCB) Water Quality Control Plan* identified the California Department of Transportation (Caltrans) as one of two point source dischargers to Clear Lake. The *Clear Lake Nutrient TMDL Implementation Plan (Resolution No. R5-2006-0060)* assigned a waste load allocation of 100 kg/yr to Caltrans. The 100 kg/yr allocation was based on an estimated 135 miles of highway that discharge stormwater in the Clear Lake watershed.

In 2014 Caltrans completed a *Clear Lake Nutrient Data Collection Project* in order to estimate the typical phosphorus loading rate from discharged from the Caltrans right-of-way. The data analysis concluded that for the average rainfall conditions within the Clear Lake watershed (approximately 28 inches per year) the total annual phosphorus load is 84 kg/yr. Since phosphorus loading appears to positively correlated areas prone to slope erosion, Caltrans has focused on continued TMDL compliance and further reducing phosphorus load reductions by continuing and improving the implementation of erosion control practices during all phases of project development (e.g., design and construction) and maintenance.

The incorporation of design pollution prevention BMPs into projects within the Clear Lake watershed are evaluated and incorporated into projects to avoid and minimize sediment erosion and transport from the Caltrans right-of-way to Clear Lake. The following stormwater BMP categories and associated BMPs are incorporated into projects when feasible and required:

- **Down Slope Effects Related to Increased Flow Conveyance**
 - Peak flow attenuation methods and devices

- Increases in impervious surface
- Energy dissipation devices (e.g., RSP)
- Ditches, berms, dikes, and swales

➤ **Slope and Surface Protection**

- Vegetation protection and establishment
- Benching/terracing
- Temporary sediment and erosion control during construction

In 2015 Caltrans completed construction of the State Route 20/29 Roundabout which incorporated several design pollution prevention BMPs (See Attachment B). Caltrans is currently in the process implementing a project on State Routes 20 and 29 in Lake County. This project is being designed to repair and improve 26 existing culverts ditches, down-drains, drainage inlets, and drainage outlets (See Attachment A) which discharge to the Clear Lake watershed. The project is currently scheduled to go to construction in the spring of 2018 and therefore, and thus further reduce phosphorus/sediment discharges from the Caltrans right-of-way.

Caltrans requires the implementation of construction site BMPs to control erosion on every project by including details and specifications into the projects contract documents for guidance and requirements in the preparation and approval of a project Water Pollution Control Program (WPCP) or a Storm Water Pollution Prevention Program (SWPPP). Both WPCP and SWPPP projects require the inspection, maintenance, and repair of BMPs until all disturbed soil areas have been adequately stabilized.

Caltrans Maintenance Program activities are a key component to ensuring that areas prone to erosion along the highway are inspected and surveyed regularly. Slopes most prone to erosion are prioritized for long-term stabilization projects. The *2016/2017 Caltrans District 1 Work Plan* included one such location on State Route 20 at PM 24.4 to PM 24.8. A project has not currently been programed to address this area however, maintenance crews will continue to prioritize the removal of excess sediment from drainage inlets and roadside ditches here and within 200 feet of Clear Lake per the *2015 Caltrans Statewide Stormwater Management plan*. Caltrans would appreciate the opportunity to discuss potential solutions to this particular location at any time during the project design phase.

Based on the management measures discussed above, the annual rate of phosphorus/sediment discharged from its right-of-way to Clear Lake to be within 84 kg/yr. Therefore, Caltrans estimates that the rate of phosphorus/sediment discharged over the five year rolling average TMDL compliance period is likely well below both the 100 kg/yr allocation and the 84 kg/yr estimated during the TMDL monitoring phase.

Caltrans will continue implementing sediment and erosion control measures on State Routes 20 and 29 to ensure that the rate of phosphorus/sediment discharged remains at its current rate of delivery. We will also continue to work cooperatively with other responsible parties to identify and repair any additional areas of prone to slope erosion. Our NPDES Coordinators would like to meet with you or your staff in the near future to identify potential projects that have the greatest potential for success. If you or your staff have any questions, please contact me at 707. 445.5201.

“I certify under penalty of law that to the best of my knowledge and belief, this document and any attachments submitted is true, accurate, and complete and was prepared by me or under my direction or supervision. I am aware that there are significant penalties for knowingly submitting false information.”

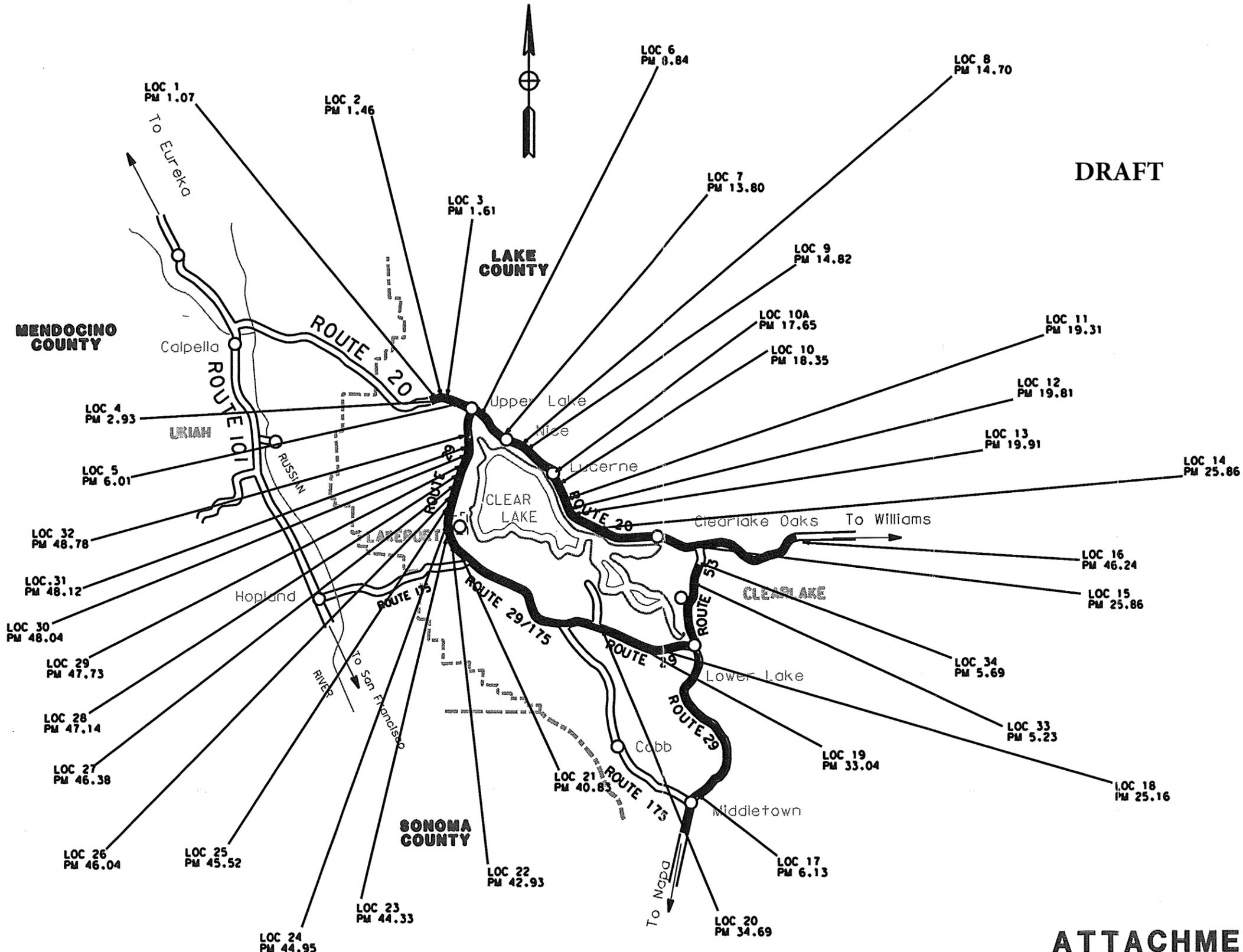
Sincerely,

David Melendez, P.E.
Caltrans Branch Chief
North Region Environmental Engineering

Attachments:

- A- Map of Caltrans Drainage System Improvement Project Locations
- B- Drainage and Erosion Control Plan Sheets for the SR 20/29 Roundabout

DRAFT



ATTACHMENT A LOCATIONS MAP

PROJECT ENGINEER	DATE	DESIGN ENGINEER	DATE	APPROVAL	RECOMMENDED BY	DATE
D. CRIPPEN						

NO SCALE

Contract No. 01-42780k

CU 03 266

EA 42780k

date Revised 12-11-01

Attachment B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak	20, 29	8.2/8.6 52.3/52.5	27	115

Valency M. Fitzgerald
 REGISTERED CIVIL ENGINEER 6-19-14 DATE
 June 19, 2014
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 VALENCY M. FITZGERALD
 No. C 60127
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

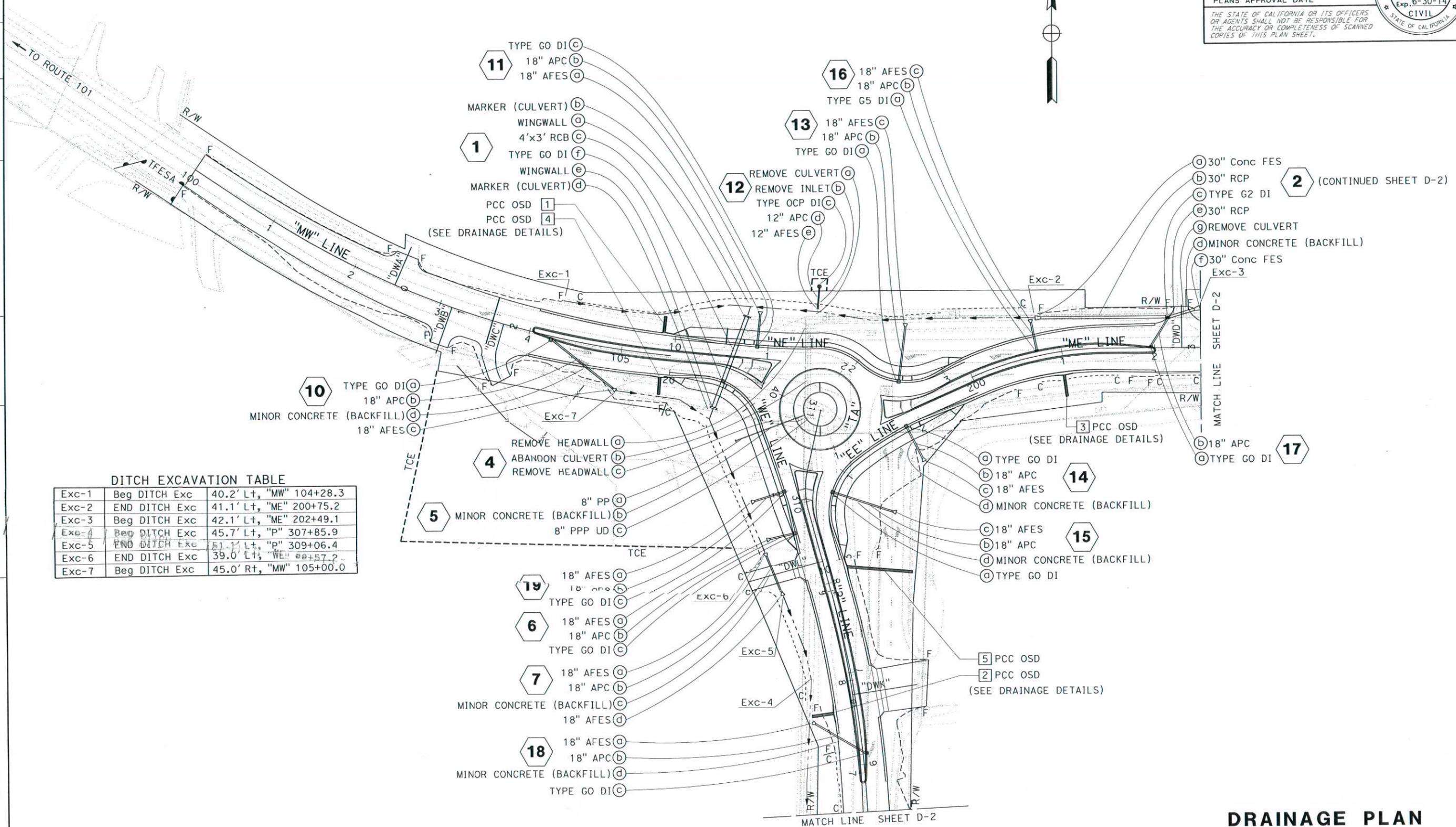
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NOTE:
FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

ABBREVIATIONS
DITCH Ex DITCH EXCAVATION



REVISOR: VALENCY M. FITZGERALD
 DATE: DIANNE EDWARDS
 CALCULATED/DESIGNED BY: KEDLY B. TIMMONS
 CHECKED BY:



DITCH EXCAVATION TABLE

Exc-1	Beg DITCH Exc	40.2' Lt, "MW" 104+28.3
Exc-2	END DITCH Exc	41.1' Lt, "ME" 200+75.2
Exc-3	Beg DITCH Exc	42.1' Lt, "ME" 202+49.1
Exc-4	Beg DITCH Exc	45.7' Lt, "P" 307+85.9
Exc-5	END DITCH Exc	51.1' Lt, "P" 309+06.4
Exc-6	END DITCH Exc	39.0' Lt, "WE" 208+57.2
Exc-7	Beg DITCH Exc	45.0' Rt, "MW" 105+00.0

- 11 TYPE GO DI (C)
18" APC (B)
18" AFES (A)
- 1 MARKER (CULVERT) (B)
WINGWALL (A)
4'x3' RCB (C)
TYPE GO DI (F)
WINGWALL (E)
MARKER (CULVERT) (D)
PCC OSD (1)
PCC OSD (4)
(SEE DRAINAGE DETAILS)
- 16 18" AFES (C)
18" APC (B)
TYPE G5 DI (A)
- 13 18" AFES (C)
18" APC (B)
TYPE GO DI (A)
- 12 REMOVE CULVERT (D)
REMOVE INLET (B)
TYPE OCP DI (C)
12" APC (D)
12" AFES (E)
- 2 (CONTINUED SHEET D-2)
30" Conc FES (A)
30" RCP (B)
TYPE G2 DI (C)
30" RCP (E)
REMOVE CULVERT (G)
MINOR CONCRETE (BACKFILL) (D)
30" Conc FES (F)
Exc-3
- 10 TYPE GO DI (A)
18" APC (B)
MINOR CONCRETE (BACKFILL) (D)
18" AFES (C)
- 4 REMOVE HEADWALL (A)
ABANDON CULVERT (B)
REMOVE HEADWALL (C)
8" PP (A)
MINOR CONCRETE (BACKFILL) (B)
8" PPP UD (C)
- 5 MINOR CONCRETE (BACKFILL) (B)
8" PPP UD (C)
- 14 TYPE GO DI (A)
18" APC (B)
18" AFES (C)
MINOR CONCRETE (BACKFILL) (D)
- 15 18" AFES (C)
18" APC (B)
MINOR CONCRETE (BACKFILL) (D)
TYPE GO DI (A)
- 17 18" APC (B)
TYPE GO DI (A)
- 19 18" AFES (A)
18" APC (B)
TYPE GO DI (C)
- 6 18" AFES (A)
18" APC (B)
TYPE GO DI (C)
- 7 18" AFES (A)
18" APC (B)
MINOR CONCRETE (BACKFILL) (C)
18" AFES (D)
- 18 18" AFES (A)
18" APC (B)
MINOR CONCRETE (BACKFILL) (D)
TYPE GO DI (C)

DRAINAGE PLAN
SCALE: 1" = 50'

D-1