08-RIV-15-20.3/40.1
EA 08-0J0820 – PN 0818000063 - PPNO 3009X
Program Code 800.100/HE13
September/2024

Draft Project Report

To Authorize Public Release of the Draft Environmental Document

On Route I-15

Between 0.3 mile north of Main Street

And 0.3 mile north of El Cerrito Road

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:

MC For Christine Senteno
REBECCA GUIRADO
Deputy District Director, Right of Way

APPROVAL RECOMMENDED:

MS
DANIEL CIACCHELLA
Project Manager

CONCURRED BY:

Shawn Oriaz
for KURT HEIDELBERG
Deputy District Director, Environmental Planning

Haissam Yahya
HAISSAM YAHYA
Deputy District Director, Traffic Operations

Jesus Galvan Jr
JESUS GALVAN MA
Deputy District Director, Design

APPROVAL BY:

CATALINO A. PINING III
District Director

10/04/2024
Date

Vicinity Map

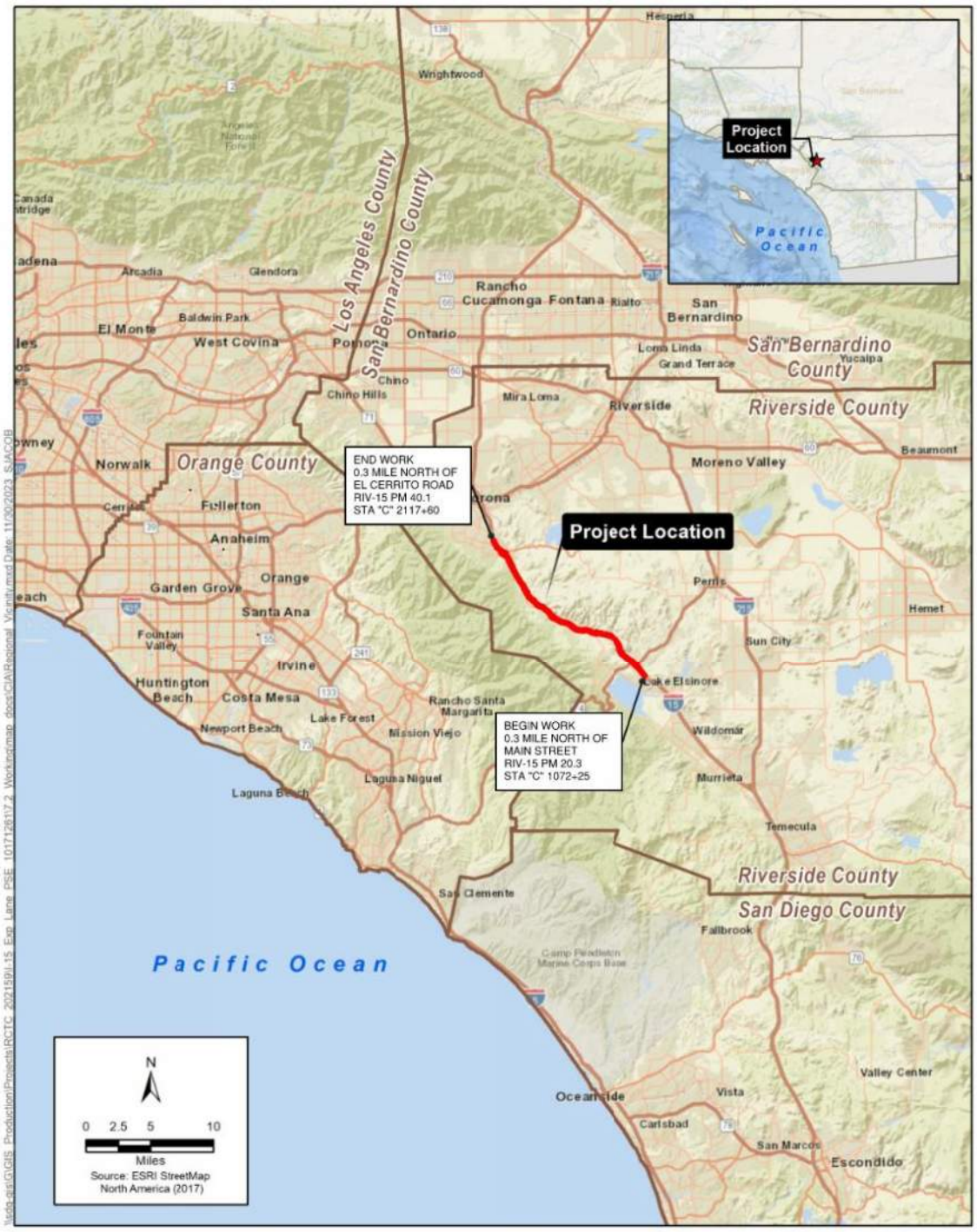

Figure 1
Regional Vicinity
Interstate 15 Express Lanes Project Southern Extension (I-15 ELPSE)

This Draft 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.

9/25/2024

BRIAN M. SMITH, PE DATE

Submitted By: Digitally signed by Jeff Dietzler DN: CN=Jeff Dietzler, OU=CAC, OU=RCTC-USERS, DC=RCTC, DC=local Date: 2024.09.26 10:42:08-07'00' 9/26/2024

JEFF DIETZLER Date
Capital Projects Manager (Tolling)
Riverside County Transportation Commission

Concurred By: 9/26/2024

JUSTINE NIU Date
Branch Chief, Design Oversight
Caltrans District 8

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List of Acronyms

Acronym	Definition
AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill, Aggregate Base
AC	asphalt concrete
ACM	Asbestos Containing Material
ADT	Average Daily Traffic
AM	Ante Meridiem
APS	advanced planning studies
AS	Aggregate Subbase
BMPs	best management practices
Caltrans	California Department of Transportation
CCP	Construction Contingency Plan
C-D	collector-distributor
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CETAP	Community and Environmental Transportation Acceptability Process
CHP	California Highway Patrol
CIP	Corridor Improvement Project
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CMMP	Contaminated Media Management Plan
CO	Carbon monoxide
ConOps	Concept of Operations
CPUC	California Public Utilities Commission
CRP	Conservation Reserve Program
CTC	California Transportation Commission
CWA	Clean Water Act
DBESP	Determination of Biologically Equivalent or Superior Preservation
DEC	Demand Exceeds Capacity
DED	Draft Environmental Document
DPR	Draft Project Report
DSD	Decision Sight Distance
EA	Environmental Assessment
EIR	Environmental Impact Report
EL	Express Lanes
ELP	Express Lanes Project
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FTA	Federal Transit Administration

FTIP	Federal Transportation Improvement Program
GP	general purpose
HASP	Health and Safety Plan
HIP(CPFCD)	Highway Improvement Program (Community Project Funding/Congressionally Directed)
HOV	high-occupancy vehicle
HMA-A	Hot Mix Asphalt (Type A)
I	Interstate
ICES	intermodal corridors of economic significance
ICOP	Interim Corridor Operations Project
IRRS	Interregional Road System
ISA	Initial Site Assessment
JPCP	Jointed Plain Concrete Pavement
JPR	Joint Project Review
L/R	Left/Right
LBP	Lead-Based Paint
LCCA	life cycle cost analysis
LOS	Level of Service
LPR	License Plate Recognition
LUSTs	leaking underground storage tanks
M	Million
MF	mixed flow
MPH	miles per hour
MSHCP	Multiple Species Habitat Conservation Plan
MV	million vehicles
MVV	million vehicle miles
NAC	noise abatement criteria
NADR	Noise Abatement Decision Report
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NSR	Noise Study Report
OC	Overcrossing
PA&ED	Project Approval and Environmental Document
PCC	Portland Cement Concrete
PDPM	Project Development Procedures Manual
PDT	Project Development Team
PID	Project Initiation Document
PM	Post Mile, Post Meridiem
PS&E	Plans, Specifications and Estimate
PSI	Preliminary Site Investigation
PSR-PDS	Project Study Report-Project Development Support

RCTC	Riverside County Transportation Commission
RECs	recognized environmental conditions
RIV	Riverside County
ROW	right of way
RTA	Riverside Transit Agency
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
SEMP	Systems Engineering Management Plan
SR	State Route
SRA	State Responsibility Area
SSD	Stopping Sight Distance
STAA	Surface Transportation Assistance Act
STBG	Surface Transportation Block Grant
STGA	Significant Trash Generating Area
SWDR	Storm Water Data Report
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Waer Resources Control Board
TASAS	Traffic Accident Surveillance and Analysis System
TCD	Trash Capture Device
TCR	Transportation Concept Report
TIFIA	Transportation Infrastructure Finance and Innovation Act
TMP	Transportation Management Plan
TOAR	Traffic Operations Analysis Report
UC	Undercrossing
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
VA	Value Analysis
VE	Value Engineering
VHD	Vehicle Hours Delay
VMT	Vehicle Miles Travelled
VPPP	Value Pricing Pilot Program

1. INTRODUCTION

The Riverside County Transportation Commission (RCTC), in cooperation with the California Department of Transportation (Caltrans), is proposing to construct new lanes along Interstate 15 (I-15) between Post Mile (PM) 21.2 and PM 38.1 in Riverside County, California for a total length of approximately 16.9 miles. The primary component of the I-15 Express Lanes Project Southern Extension (ELPSE) ("Project") would be the addition of two tolled express lanes in both the northbound (NB) and southbound (SB) directions, for a total of four express lanes, within the median of I-15 from State Route 74 (SR-74) (Central Avenue) (PM 22.3) in the City of Lake Elsinore, through the unincorporated Riverside County community of Temescal Valley, to El Cerrito Road (PM 38.1) in the City of Corona, for a distance of approximately 15.8 miles.

The Project would also add a SB auxiliary lane between both the Main Street (PM 21.2) Off-Ramp and SR-74 (Central Avenue) On-Ramp (approximately 0.75 mile), and the SR-74 (Central Avenue) Off-Ramp and Nichols Road On-Ramp (PM 23.9) (approximately 1 mile). In addition, the Project would convert the existing trap lane between the SB Cajalco On-Ramp and SB Weirick Off-Ramp to an auxiliary lane. Along with the lane additions, which would extend from PM 21.2 to 38.1, the Project would include the widening of 15 bridges, potential noise barriers, retaining walls, drainage system improvements, and installation of electronic toll collection equipment and signs. In addition, due to the SB express lanes access between the Cajalco Road Interchange and Weirick Road Interchange, the SB I-15 Weirick Road Off-Ramp would be configured as a dual lane exit. Figure 3-1 shows the limits of the I-15 ELPSE improvements. The Project Location Map is included in Attachment A.

Associated improvements for the toll lanes, including advance signage and transition striping, would extend approximately 2 miles from each end of the express lane limits to PM 20.3 in the south and PM 40.1 in the north. The proposed lane additions and supporting infrastructure are anticipated to be constructed within the existing State right of way (ROW).

The alternatives studied in this report consist of one Build Alternative and a No-Build Alternative. The Project is anticipated to be open to traffic in 2030. Once built, the Project would improve traffic operations and travel times, increase travel time reliability, manage long-term traffic throughput, provide a cost-effective mobility solution, and expand and maintain compatibility with the regional express lanes network in Riverside, Orange, San Bernardino, Los Angeles, and San Diego Counties.

The Project is subject to both state and federal environmental review requirements because of the use of federal funds. Project documentation has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the lead agency under both CEQA and NEPA, as assigned by the FHWA, in accordance with NEPA (42 United States Code [USC] 4321 et seq.) and the Council on Environmental Quality (CEQ) Regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508). RCTC is the local Project sponsor and would be a CEQA responsible agency. The preliminary studies for the Project would be funded by a combination of local, state, and federal funds. Toll and other funding sources would be considered for future phases of the Project, including design and construction.

This Project has been assigned a Project Development Category 4A because it would increase traffic capacity. The Project's category assignment was done in accordance with Chapter 8, Section 5 of the Caltrans Project Development Procedures Manual (PDPM). Attachment H includes the approved Project Category Determination Letter. Table 1-1 provides a summary of the Project information.

Table 1-1 Project Summary

Project Limits	08- RIV-15 PM 20.3/40.1	
Number of Alternatives	Two: No-Build Alternative, Build Alternative	
	Current Cost Estimate:	**Escalated Cost Estimate:**
Capital Outlay Support	$168 M	$168 M
Capital Outlay Construction	$386 M	$481 M
Capital Outlay Right-of-Way	$0 M	$0 M
Funding Source	Local, State & Federal	
Funding Year	2025/2026	
Type of Facility	6-Lane Freeway plus 4-Tolled Express Lanes	
Number of Structures	15 Bridge Structures	
Environmental Determination or Document	CEQA: Environmental Impact Report (EIR) NEPA: Environmental Assessment (EA)	
Legal Description	In Riverside County on Route 15 from 0.3 mile north of El Cerrito Road to 0.3 mile north of Main Street	
Project Development Category	4A	

2. RECOMMENDATION

It is recommended that this Draft Project Report (DPR) be approved and that the Draft CEQA Environmental Impact Report (EIR)/NEPA Environmental Assessment (EA) be approved to circulate for public review and comment.

3. BACKGROUND

Project History

In 1988, Riverside County voters approved Measure A, a half-cent sales tax for transportation improvements, in response to growing congestion. The $1 billion raised by Measure A from 1989 to 2009 benefitted virtually every major roadway in the County, as well as commuter rail and public transit. In 2002, Measure A was extended by Riverside County voters through 2039; this 30-year extension included improvements to the I-15 corridor. The 2009–2039 Measure A extension plan was to add a lane in each direction on I-15 from SR-60 to the San Diego County line. In the spring of 2006, RCTC assessed the feasibility of adding tolled express lanes on four freeway corridors in Riverside County and concluded that portions of the State Route 91 (SR-91) and I-15 corridors were generally feasible to toll from a financial, traffic operation, and engineering standpoint.

Throughout 2006, engineering, project scoping, and traffic and revenue study work was performed. A project scope was developed to both meet the Measure A commitment to voters as well as to use the revenue from tolling to fund more congestion relief and build more improvements than would have otherwise been possible using Measure A funds and other traditional state and federal freeway funding sources. In December 2006, RCTC approved the 2009 Measure A Western Riverside County Highway 10-Year Delivery Plan to advance the development of the highest priority projects in the 30-year Measure A extension. The 10-Year Delivery Plan called for development of high occupancy toll lanes within the I-15 corridor. RCTC's approval of the 10-Year Delivery Plan also authorized staff to begin environmental and preliminary engineering studies for projects within the plan, including the I-15 corridor.

In 2006, as part of the 10-Year Delivery Plan approval, RCTC also directed staff to include in the I-15 project scope, a general purpose lane in each direction from the San Bernardino County line to SR-74, a distance of approximately 31 miles. The addition of general purpose lanes added significant costs to the project and reduced its financial feasibility.

The economic downturn of 2008 led to traffic and transportation revenue declines and a change in the transportation bond market affecting the economic feasibility of largescale projects. In Riverside County, Measure A revenue dropped by 29 percent between 2007 and 2009 and revenue forecasts for 2009 through 2019 were less than half the forecast developed in 2006. RCTC concluded that moving forward with the original scope of the project was not financially feasible. RCTC established an ad hoc committee of County Transportation Commissioners from the cities along the I-15 corridor to provide input and direction on the future of the project. The need to maximize the value of improvements by focusing the project on the area with the greatest need for congestion relief and to minimize the need for Measure A funds in the short term emerged as guiding principles.

RCTC undertook a feasibility study to assess the viability of various project options, all of which focused on improving congestion. The feasibility study evaluated the NB and SB time savings value of each option in terms of Measure A cost per minute saved, defined as Measure A dollars required to save each vehicle one minute of travel time. Several qualitative factors were also considered: meeting Measure A commitments to Riverside County voters; ensuring consistency with the regional toll network; constructing future general purpose lanes; fiscal feasibility; feasibility of construction by 2020; and maximizing revenues for other future I-15 projects.

The express lanes option provided the largest fundable capacity increase in the short to medium term and was the only option capable of providing congestion relief. In addition, because construction would largely occur within the I-15 median and existing right of way, fewer environmental impacts would occur. Further, the express lanes option would provide driver choices not currently available including congestion-free travel for a fee and expanded opportunities for existing and future regional express bus operations through the use of express lanes. Currently, high-occupancy vehicle (HOV) 3+ vehicles are provided a discount of 100 percent for tolls, while Zero Emission Vehicles displaying a Department of Motor Vehicles-issued Clean Air Vehicle decal defined in California Vehicle Code Section 5205.5 receive a 15 percent discount if they register their vehicle with a California Toll Operators Committee agency.

Formal studies for the I-15 express lane network in Riverside County started in 2007 with Caltrans approval of the Project Study Report-Project Development Support (PSR-PDS). The Project Initiation Document (PID) level study focused on the 45-mile corridor from the Riverside/San Bernardino County Line in Ontario to the I-15/I-215 junction in Murrieta.

Recommendations stemming from the PID included the study of a No-Build Alternative and a Build Alternative that included the addition of two lanes in each direction within the existing median.

The PID led to the initiation of the Project Approval and Environmental Document (PA&ED) phase in 2008, with RCTC as the sponsor agency for the I-15 Corridor Improvement Project (CIP). Following the development of design alternatives in 2008, a Value Analysis (VA) Study was completed in 2009 to identify cost-benefits for the corridor as part of the PA&ED phase. Most VA Study recommendations were related to express lane elements, including a phasing strategy for development of specific segments of I-15. One of the VA alternatives recommended the implementation of express lanes from SR-60 southward to SR-74. The VA Study noted that express lanes would generate future toll revenue that could be used to fund additional transportation improvements along the I-15 corridor. In addition, because construction of express lanes would largely occur within the I-15 median and existing ROW, there would be fewer and less significant environmental impacts.

In 2009, RCTC received formal authorization for tolling authority on I-15 from the San Diego County Line to the San Bernardino County Line under Agreement Number 09-31-058-00, as agreed to by the Federal Highway Administration (FHWA), United States Department of Transportation (USDOT), Caltrans, and RCTC, which was dated July 17, 2009. This agreement followed the Value Pricing Pilot Program (VPPP) as originally established in August 2005. Through these actions RCTC received the federal authority to build and operate two express lanes in each direction within the I-15 corridor in Riverside County.

In early 2014, RCTC began construction of the SR-91 CIP (EA 0F540) which provided the first tolled express lanes in Riverside County. The SR-91 CIP also added an express lane connector between eastbound SR-91 and SB I-15 and between NB I-15 and westbound SR-91; it opened to traffic in March 2017. RCTC recently added a second express lane connector that opened in December 2023 between eastbound SR-91 and NB I-15, and between SB I-15 and westbound SR-91.

Also in 2014, RCTC moved forward with the initiation of the PA&ED phase of the I-15 Express Lanes Project (ELP) (EA 0J080) between Cajalco Road and SR-60, the northern-most 15-mile segment of the original 45-mile corridor, that included a direct connection to the express lanes on SR-91. A No-Build Alternative and a Build Alternative consisting of express lanes were evaluated for the ELP based on previous study recommendations and limited

funding options. The PA&ED was completed in 2016 and the design-build completed construction and opened for operations in April 2021.

The next segment of the I-15 corridor improvements is known as I-15 ELPSE (EA 0J082). It was initiated in December 2017 through the development of a Supplemental PSR-PDS Memorandum that was prepared to program funding for a PA&ED of its proposed 14.5-mile express lanes extension from Cajalco Road to SR-74 (Central Avenue). The I-15 ELPSE received State Transportation Improvement Program (STIP) funding from the California Transportation Commission (CTC) in early 2018 for the PA&ED phase.

The 2012 I-15 Transportation Concept Report (TCR), outlined the ultimate future lane cross section for each different segment of I-15 within the State. The TCR defined eight general purpose lanes and four express lanes as the ultimate lane configuration on I-15 between Cajalco Road and SR-74 (Central Avenue). This segment of I-15 (SR-74 [Central Avenue] to Cajalco Road) is categorized as Segment 6 in the 2012 Caltrans District 8 TCR. The I-15 ELPSE is consistent with the lane recommendations in the TCR for Segment 6, as the Project proposes to add two express lanes in each direction to the existing six general purpose lanes.

After the preliminary traffic operations analysis was completed for the I-15 ELPSE, auxiliary lanes were added near the terminus of the express lane system near SR-74 (Central Avenue) in the City of Lake Elsinore to help dissipate or relieve traffic congestion in the area. These auxiliary lanes were included in the SB direction between both Nichols Road and SR-74 (Central Avenue), and SR-74 (Central Avenue) and Main Street.

After the I-15 ELP opened to traffic in 2021, congestion was experienced in the City of Corona near the SB express lane terminus around Cajalco Road. To help improve traffic operations for the area, the I-15 Interim Corridor Operations Project (ICOP) (EA 1M750) was initiated by RCTC shortly after these express lanes opened. The I-15 ICOP added an auxiliary lane in the SB direction between Cajalco Road and Weirick Road and was opened to traffic in July 2022.

To further relieve congestion at the I-15 ELP SB express lane terminus, Caltrans initiated the Cajalco SB Lane Drop Extension Project (EA 1N690) which includes eliminating the existing SB lane drop within the Cajalco Road interchange and extending the number four (or outside) general purpose lane to join the existing auxiliary lane, constructed by the ICOP, and creates a trap lane that would exit at the Weirick Road Off-Ramp. This project plans to open to traffic

in late 2024. Figure 3-1 illustrates the limits of the I-15 ELPSE improvements. The Project Location Map is included in Attachment A.

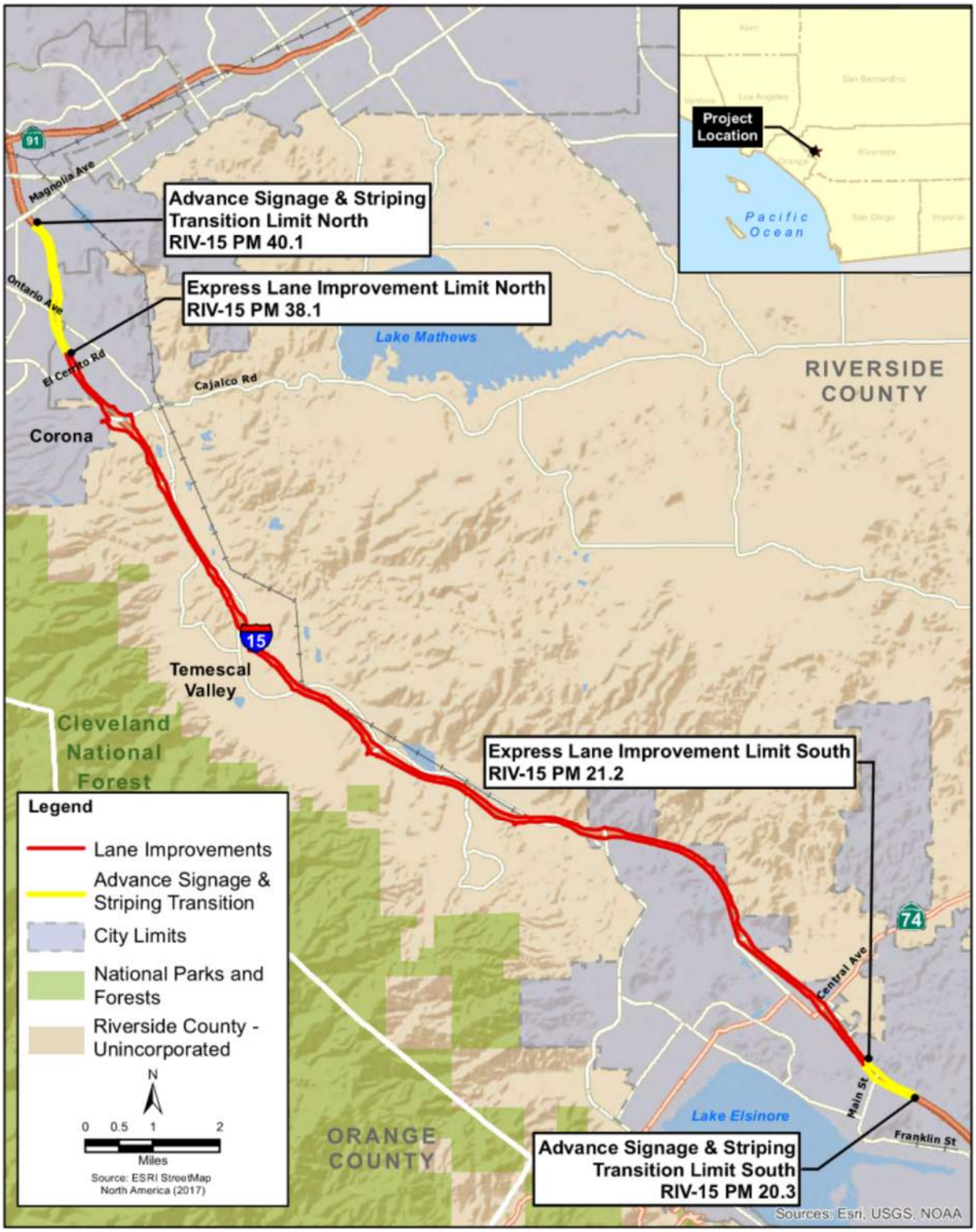

Figure 3-1 I-15 ELPSE Improvement Limits Map

Community Interaction

A Project kick-off meeting between the Project Development Team (PDT) and representatives from the cities of Corona, Lake Elsinore, and Riverside County occurred on Tuesday June 4, 2019, to discuss the intent to initiate the PA&ED studies to extend the I-15 express lanes to the south, from Cajalco Road to SR-74 (Central Avenue). The Project overview, Project limits, purpose and need, funding, and schedule were presented at the meeting. Since then, PDT meetings have been held every first Tuesday of the month and all stakeholders have been invited to attend to stay updated on the progress of the Project.

An initial public scoping period was held for a 33-day period between October 21 and November 22, 2019. The purpose of the scoping period was to inform the public about the Project and to provide the opportunity for public engagement, input through questions, and written comments about the Project. The initial scoping period event was promoted through the following methods:

- Advertisements – Local newspapers covering the corridor (English and Spanish) in print and online
- Business Chambers of Commerce – Corona Chamber of Commerce and Lake Elsinore Chamber of Commerce
- Certified Mail – Agency contacts were mailed a CD of the complete scoping notification package
- Digital Platforms – RCTC Facebook, Twitter, and Instagram
- Direct Mail Postcards – Property owners/tenants along the corridor were mailed scoping meeting notices
- Elected Officials and Select Environmental Organization Mailing – Elected officials representing constituents through the I-15 corridor at the city, county, state, and federal levels were mailed the formal scoping notice (English and Spanish); this mailing also included select environmental stakeholder organizations
- Elected Officials Outreach – Riverside County Board of Supervisors, Corona City Council members, and Lake Elsinore City Council members
- E-blast Announcements – email contacts from the project database were sent announcements of the scoping period and meetings

- Geofencing Mobile Ad Campaign – Active in a 5-mile radius along corridor
- Media Story Placements – Print newspaper, radio, television, and online news outlets
- Newsletters – We are Temescal Valley, Supervisor Kevin Jeffries' "Jeffries Journal," RCTC's "The Point"

During the scoping period, RCTC conducted three in-person public meetings held from 6 pm to 8 pm at the following dates and locations:

- November 12, 2019 at Temescal Valley Elementary School
- November 13, 2019 at Eagle Glen Golf Club
- November 14, 2019 at Ortega High School

These in-person meetings were easily accessible to the local communities, including low-income and minority residents and commuters. The in-person meetings were held in an open house format with stations that provided information exhibits on the following topics: Project History, Regional Express Lanes Network, Purpose of Project, Population Trends, Traffic Trends, Current and Proposed Conditions, Current 91 Lanes Express Use, How Do Express Lanes Work?, Environmental Process, Areas of Environmental Analyses, Right-of-Way, Noise & Potential Noise Barriers, Funding, Anticipated Schedule, Public Scoping Comments (Certified Court Reporter), and Stay Connected.

RCTC and Caltrans specialists in engineering, environmental, traffic, noise, and right of way were available to address concerns and answer questions. A total of 87 community members signed-in at the in-person meetings but there were additional attendees who intentionally choose not to sign-in. Attendees had the option to fill out comment cards or provide oral comments to a certified court reporter available at each of the three meetings.

In addition to the in-person meetings, RCTC hosted an online meeting with 24-hour access for the full duration of the scoping period. The online meeting was compliant with the Americans with Disabilities Act (ADA) and featured the same exhibits as the in-person meetings with the option to submit comments.

In total, 151 comments were collected during the initial public scoping period from the in-person meetings, the online meeting, emails to the Caltrans' Project email, to RCTC's general information email, and through United States mail. Current environmental laws do not require that responses be provided to public comments made during the scoping period. Although no

official responses were developed, the comments were considered by the PDT as they conduct technical studies and advance the development of the environmental document.

Existing Facility

I-15 is a major truck and passenger route that begins at its junction with I-5 in San Diego, approximately 10 miles north of the United States/Mexico Border and ends at the United States/Canada Border. At the national level, the I-15 is functionally classified at the federal level as a Rural/Urban Principal Arterial and is part of the Freeway and Expressway System, the Single Interstate Routing System, the National Highway System, and the Strategic Highway Corridor Network of National Defense. I-15 serves as both the primary North American Free Trade Agreement (NAFTA) related "CANAMEX" Corridor, between Canada and Mexico via the Mountain West. It is also a link to the main east-west freight routes (SR-60 / I-10, I-40, I-70, and I-80) that connect Southern California with the Midwest and East Coast. I-15 has been identified by USDOT as one of the six "Corridors of the Future" within the United States, which are vital to the long-term health and stability of the national economy.

I-15 is strategically located and is a vital interstate goods-movement corridor that links Southern California to the Inland Empire, Las Vegas, the Rocky Mountain states, and Canada. It is a primary link between major economic centers and geographic regions and is classified as a "High Emphasis" and "Gateway" route in the Interregional Road System (IRRS). I-15 is a major truck route and is included in the National Network for Federal Surface Transportation Assistance Act (STAA) for conventional combination trucks. Its main use is interstate and interregional movement of people and goods. I-15 is also part of the Intermodal Corridors of Economic Significance (ICES) system of routes, which are significant transportation arteries that provide access to major sea or waterway ports, nationwide railway systems, airports, and interstate and intrastate highway systems. These routes serve as intermodal corridors of economic significance. Weekend and holiday recreational traffic on the route is exceptionally high as it serves as a connection to Las Vegas, and the Colorado River area via I-40.

Within the Project limits, I-15 traverses developed and undeveloped areas of the City of Lake Elsinore, unincorporated areas of Riverside County, and the City of Corona. It is a major regional connection between the southwest and northwest Riverside County communities. I-15 provides continuity for regular commuters traveling for work and school to Temecula and San Diego to the south, and Riverside, San Bernardino County, Los Angeles County, Orange County, and other destinations to the north.

This segment of I-15 is an access-controlled route with rolling terrain and a posted speed limit of 70 miles per hour (mph); and it is designated as Segment 6 in Caltrans' I-15 TCR for District 8. The TCR's ultimate concept facility for this segment of I-15 shows eight general purpose lanes with four managed lanes for the 20- to 25-year planning horizon. Bicycles are not permitted on I-15 but Lakeshore Drive, Lake Street, and Temescal Canyon Road could be used as alternate bike routes. The following is a list of existing features for this segment of the I-15 corridor:

- It is a six-lane freeway facility with three 12-foot general purpose lanes in each direction of travel and a 70-foot-wide median that is unpaved beyond the median shoulders, which vary between 5 feet and 15 feet.
- The northern segment between Temescal Canyon Road and El Cerrito Road is paved with asphalt concrete (AC) pavement for the general purpose lanes and has 10-foot wide AC outside shoulders.
- The southern segment between Temescal Canyon Road and SR-74 is generally paved with concrete and has an additional 12 feet of concrete pavement on the outside of each direction of travel that is currently used as a roadway shoulder. The bridge structures in this segment were built to accommodate an additional outside lane plus standard 10-foot shoulders. Temescal Canyon Road is a historical route that meanders and crosses under the I-15 ELPSE alignment at three different locations between Lake Street and Weirick Road. In this southern segment of I-15, a small portion located just south of the second undercrossing of Temescal Canyon Road is paved with AC along with AC median shoulders to the southern limit of the Project.
- ROW widths vary from a minimum of 217 feet at tangent locations to approximately 600 feet at local interchanges.
- Dual profiles exist for both the NB and SB roadbeds along the inner edge of traveled way (ETW) grade line. The profiles generally have grades under 2 percent, with minimum grades of 0.30 percent and maximum grades of up to 2.36 percent at a small segment to the north of the Temescal Canyon Road northern-most undercrossing. The elevation differences between the NB and SB roadbeds vary from less than 1-foot to approximately 8 feet at certain locations.
- Freeway profile elevations decrease from south to north.
- Between Main Street and El Cerrito Road, there are nine local interchanges that provide connectivity to roadways traversing this segment of the freeway and access to and from I-

15 to the local communities. These interchanges are listed below, starting from the southern limits of the Project:

- Main Street
- SR-74 (Central Avenue)
- Nichols Road
- Lake Street
- Indian Truck Trail
- Temescal Canyon Road
- Weirick Road
- Cajalco Road
- El Cerrito Road

- There are 22 structures (bridges and culverts) in this segment of I-15, listed from south to north in Table 3-1.

Table 3-1 Existing Bridge and Culvert Structures

Structure Name	Number	Post Mile
Main Street Undercrossing (UC)	56 0382	20.95
Wasson Canyon Wash	56 0739 L/R	21.57
SR-74 (Central Avenue) UC	56 0723 L/R	22.26
Nichols Road Overcrossing (OC)	56 0725	23.85
Gavilan Wash	56 0726 L/R	25.55
Lake Street UC	56 0682 L/R	26.69
Sign Creek	56 0444	27.50
Temescal Canyon Road UC	56 0681 L/R	27.78/27.80
Temescal Wash	56 0680 L/R	28.04
Horsethief Canyon Road UC	56 0679 L/R	28.87
Horsethief Canyon Wash	56 0678 L/R	29.13
Indian Wash	56 0677 L/R	30.09
Indian Truck Trail UC	56 0676 L/R	30.40
Temescal Canyon Road UC	56 0675 L/R	31.90
Mayhew Wash	56 0674 L/R	31.97
Coldwater Wash	56 0543 L/R	32.96
Temescal Canyon Road UC	56 0542 L/R	33.25
Brown Canyon Wash	56 0559 L/R	34.72
Weirick Road UC	56 0541 L/R	35.64
Bedford Wash	56 0540 L/R	36.58
Cajalco Road OC	56 0863	36.84
El Cerrito Road UC	56 0558 L/R	37.82

- Within the Project limits, there are three Park-and-Ride lots:
    - The first Park-and-Ride lot is located on the southeast quadrant of the I-15/SR-74 Interchange
    - The second is located at the Outlets at Lake Elsinore, a retail mall
    - The third is located near the Ontario Avenue Interchange at Canyon Community Church, in the City of Corona
- No railroad facilities exist within this segment of I-15
- No paved or designated enforcement areas exist within the median.
- The on-ramps are unmetered at the SR-74 (Central Avenue), Nichols Road, and Lake Street interchanges. The on-ramps are metered at the Indian Truck Trail, Temescal Canyon Road, Weirick Road, and Cajalco Road interchanges. Paved enforcement areas are provided at some of the metered ramps.
- Temescal Canyon Road is a two- to four-lane road that serves as a frontage road between Lake Street and Cajalco Road, and crosses under I-15 at three different locations.
- Throughout the length of the Project the general drainage flow pattern is from south to north, and predominantly west to east, but varies depending on the location. Existing storm drain facilities run parallel (via roadside ditches and shoulder dikes), as well as intersects (via pipes and culverts) with the alignment of the I-15 ELPSE as the drainage conditions dictate. These systems range in size from 8 to 84 inches in diameter and varying dimensions for box culverts.
- The center median is largely a native soil “channel” that collects and conveys runoff from the existing roadway to the nearest inlet via a series of graded high points, flow-through situations, and sag locations. The shoulder areas typically sheet flow to graded swales and to AC dikes to direct flow to the nearest inlet or low point. Water collected by the median, shoulder dikes, and swales is conveyed through concrete pipes and culverts running transversely. The collected water is then discharged to marshes, creeks, and other surface depressions and ultimately to the Temescal Creek Wash. Several washes and creeks also cross this segment of I-15 (see Table 3-1).

4. PURPOSE AND NEED

4A. Problem, Deficiencies, Justification

Purpose

The purpose of this Project is to:

- Improve and manage traffic operations, throughput, and travel times along the corridor.
- Expand travel mode choice along the corridor.
- Provide an option for travel time reliability.
- Provide a cost-effective mobility solution.
- Expand and maintain compatibility with the express lane network in the region.

Need

Existing traffic volumes often exceed current highway capacity along several segments of I-15 between SR-74 (Central Avenue) and El Cerrito Road. Traffic congestion occurs primarily due to bottleneck conditions that limit throughput capacity upstream and downstream along the Project corridor. These bottlenecks can cause congestion at lower traffic volumes than those at which congestion would typically occur for a single freeway segment in isolation. Due to forecasted population growth and the continued development to support the projected growth in the region, the I-15 corridor is expected to continue to experience increased congestion and longer commute times that are projected to negatively affect traffic operations along the freeway mainline.

The Southern California Association of Governments (SCAG) recently adopted *Connect SoCal* (2024–2050 RTP/Sustainable Communities Strategy (SCS) Growth Forecast estimates a 25.4-percent increase in population in Riverside County between 2019 and 2050, with the number of households and employment increasing by approximately 42.7 percent and 39.9 percent, respectively. In the City of Corona, the 2020–2045 RTP/SCS Growth Forecast estimates an 11.6-percent increase in population from 2016 to 2045 and an 11.7-percent increase in households. According to the same source, the City of Lake Elsinore is projected to see a 76.8-percent increase in population. This projected growth is expected to place a high demand on existing transportation facilities and services.

Existing regional transit in Riverside County includes the Riverside Transit Agency (RTA) and Metrolink, which connects to various local transit services offered by municipalities (i.e., Corona Cruisers). RTA operates a weekday commuter bus service (Route 205/206) along I-15 and SR-91 for passengers traveling between the City of Temecula in Riverside County and the City of Orange in Orange County. Within the Project limits, this route offers stops at Dos Lagos, Temescal Canyon Road (Tom's Farms), and Nichols Road. Metrolink and Amtrak also operate within the northwestern portion of Riverside County, but do not currently offer rail transit options that would serve the populations traveling through Temescal Valley between Corona and Lake Elsinore. Overall, regional transit options are limited for travelers south of Corona's city limits.

The express lanes network in both Riverside and San Bernardino Counties has been growing rapidly in response to the increased inter-county travel demand. Development of an extensive regional express lanes network is a key strategy in the 2024–2050 RTP/SCS that aims to improve travel time reliability, provide travel choices, and optimize existing freeway capacity within the SCAG region. In 2017, RCTC completed construction of the SR-91 Express Lanes in the City of Corona—the first express lanes constructed in Riverside County. RCTC's I-15 ELP, which extends the SR-91 express lanes network north and south of SR-91 along I-15 through the Cities of Jurupa Valley, Eastvale, Norco, and Corona, opened to traffic in 2021. North of the I-15 ELP, in 2024 San Bernardino County Transportation Authority would break ground on the I-15 Corridor Project, which would construct express lanes in both directions along I-15 between Cantu-Galleano Ranch Road in the City of Jurupa Valley and Foothill Boulevard Road in the City of Rancho Cucamonga. In addition to providing continuity of express lanes north of the I-15 ELP, the I-15 Corridor Project would connect to the I-10 Corridor Project (Phase 1), which is currently under construction and would add two express lanes in each direction on I-10 from the Los Angeles County line to the I-15. Once these projects are completed in 2027, the southern terminus of the express lanes network in the Inland Empire would terminate at Cajalco Road on I-15.

As federal, state, and local funding becomes constrained and additional projects are developed to maintain the condition of existing roadways, it has become increasingly challenging for transportation agencies to develop, construct, operate, and maintain new projects that improve mobility in heavily congested corridors. Based on this situation, alternative funding streams like federal loans and revenue bonds can be utilized to fill the funding gaps. In some cases, if

financial obligations are met on express lane projects, excess toll revenue can provide additional funding to invest in other improvements within the corridor.

Currently, north-south mobility options for motorists are limited through this portion of Riverside County. Besides local streets, the only parallel route for motorists is Interstate 215 (I-215), which is over 10 miles east of I-15 and generally serves a different region within Riverside County. Under Existing Conditions (2019)[1] during the AM peak hour, NB I-15 experiences heavy congestion at the Cajalco Road Interchange due to commuter traffic along the corridor. This heavy congestion during the AM peak hour results in a bottleneck at the Cajalco Road On-Ramp that extends approximately 7 miles to the Indian Truck Trail Off-Ramp and impacts four interchanges. Through the project limits, during the PM peak hour, the SB direction experiences heavy congestion due to commuter traffic. The SB I-15 bottleneck at the Cajalco Road On-Ramp extends approximately 4.7 miles to the Magnolia Avenue On-Ramp during the PM peak hour and impacts five interchanges. These conditions are projected to worsen by Opening Year (2030) and Design Year (2050).

The expected increase in congestion during peak periods and worsening traffic conditions, particularly during AM and PM peak periods, are expected to result in additional local and regional traffic congestion. Existing heavy peak-period congestion and traffic delays, as evidenced by the poor Level of Service (LOS) and high traffic density, are expected to continue to negatively affect traffic operations along mainline I-15.

4B. Regional and System Planning

Identify Systems

I-15 is functionally classified at the federal level as a Rural/Urban Principal Arterial and is part of the Freeway and Expressway System, the Single Interstate Routing System, the National Highway System, and the Strategic Highway Corridor Network of National Defense. I-15 has been identified by the United States Department of Transportation as one of the six "Corridors of the Future" within the United States that are vital to the long-term health and stability of our national economy. It is a primary link between major economic centers and geographic regions and is classified as a "High Emphasis" and "Gateway" route in the IRRS.

[1] Existing Conditions (2019) do not include the I-15 ELP from SR-60 to Cajalco Road, because that project was not operational in 2019.

I-15 is a major truck route and is included in the National Network for Federal STAA for conventional combination trucks. It is also has been designated as part of the ICES system of routes, which are significant transportation arteries that provide access to major sea or waterway ports, nationwide railway systems, airports, and interstate and intrastate highway systems (State of California 2005).

Federal Tolling Authority

In March 2008, RCTC submitted an expression of interest to the FHWA as the first step in obtaining federal tolling authority for I-15. Based on the expression of interest, FHWA advised RCTC that the I-15 CIP would best fit under FHWA's VPPP, a program to support the development, operation, and evaluation of pilot tests of innovative road and parking pricing projects that achieve significant and lasting reductions in highway congestion. Interested public agencies would be eligible to apply for grants under the VPPP authorized by Section 1604(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). In July of 2008, RCTC submitted an application for federal tolling authority to FHWA and in July 2009 entered into a cooperative agreement with Caltrans and FHWA adding the I-15 CIP project to the VPPP authority Caltrans received from FHWA (FHWA/Caltrans/RCTC 2009). This agreement provided RCTC the federal authority to build, operate, and maintain two tolled express lanes in each direction on the I-15 corridor in Riverside County. While the requirement for tolling agreements was eliminated in the Moving Ahead for Progress in the 21st Century (MAP-21) Act, the VPPP agreements continue to remain in force (FHWA 2012). RCTC would build, operate, and maintain tolled express lanes on I-15 within Riverside County in accordance with all applicable requirements. Under the agreement, up to two lanes in each direction on I-15 may be tolled; toll revenues are to be used for constructing, operating, and maintaining the I-15 tolled express lanes, and for other adjacent projects in the corridor eligible for assistance under the Federal-Aid Highways Code (23 United States Code); toll rates charged would be variable; and use of toll revenues is subject to audit. RCTC is responsible for managing the day-to-day operations of the express lanes.

As stated in the RCTC/Caltrans/FHWA cooperative agreement, the Project "will utilize congestion pricing and enhanced technologies that are similar to those currently operating on existing toll facilities in Orange, Riverside, and San Diego counties, presenting the opportunity to create a regionally integrated and connected toll system" (FHWA/Caltrans/RCTC 2009).

State Planning

Within this segment of I-15, where the Project is located, the I-15 TCR recommends an ultimate cross section consisting of eight general purpose lanes plus four managed (toll) lanes. Thus, this Project would be consistent with the TCR by adding the four toll lanes in the median (two in each direction) and would not preclude the future addition of the fourth general purpose lane for the ultimate cross sectional configuration.

The 2011 California Recreational Trails Plan does not show any trails within the Project area. However, in 2013 a multi-agency team began exploring opportunities for development of a multi-use recreational trail following the historical alignment of the Butterfield Trail Stage Route Historic Alignment through Temescal Valley along the Temescal Wash corridor, from the City of Lake Elsinore to the City of Corona. The planning team envisioned a regional trail link that connects to the Murrieta Creek Regional Trail at its southern end (and, ultimately, to the Temecula Wine Country Trails) and at its northern end to the 100+ mile Santa Ana River Trail, which travels from the San Bernardino Mountains to Huntington Beach. The Riverside County Regional Park and Open Space District does not currently have a plan to implement the Butterfield Trail, and the Project would be expected to be completed prior to development of the Butterfield Trail.

The I-15 ELPSE would not have any impacts on the project that aims to establish a multi-use trail along this historical route.

State Tolling Authority

Assembly Bill (AB) 1467 (Nunez 2006) established a statewide pilot program for express lanes by authorizing four projects in California: two in Northern California and two in Southern California. This Public Partnership pilot program required a comprehensive application, a finding of eligibility by the CTC, and ratification of the CTC's finding by the State Legislature via statute. In December 2007, RCTC submitted an application under the Public Partnership pilot program. At its April 2008 meeting, the CTC found the I-15 CIP eligible for the pilot program. Later that year, AB 1954 (Jeffries, 2008) was signed into law, which ratified the CTC's April 2008 decision. The passage of AB 1954 provided RCTC the state authority to build and operate two express lanes in each direction within the I-15 corridor.

Regional Planning

The 2023 Federal Transportation Improvement Program (FTIP) adopted by the SCAG includes I-15 ELPSE with ID RIV170901. The Project description in the FTIP is consistent with the work proposed to extend the I-15 express lanes from Cajalco Road in the City of Corona to SR-74 in the City of Lake Elsinore. The proposed improvements are consistent with state, regional, and local mobility goals, and are being coordinated with the applicable governmental, regulatory, regional, and local agencies to ensure the Project is consistent with local and regional goals and objectives.

The FTIP project description (ID RIV170901) is as follows:

"IN WESTERN RIVERSIDE COUNTY – ON I-15, ADD 2 EXPRESS LANES IN EACH DIRECTION, GENERALLY IN THE MEDIAN, FROM SR-74 (CENTRAL AVENUE) IN THE CITY OF LAKE ELSINORE TO EL CERRITO ROAD IN THE CITY OF CORONA. CONSTRUCT SOUTHBOUND AUXILIARY LANE FROM MAIN STREET TO SR-74 (CENTRAL AVENUE) AND FROM SR-74 (CENTRAL AVENUE) TO NICHOLS ROAD. SIGNAGE AND TRANSITION STRIPING EXTENDS TO PM 20.3 TO THE SOUTH AND PM 40.1 TO THE NORTH. TC UTILIZATION FOR CMAQ, STBG, CRP, AND HIP(CPFCD)/EARMARK IN FY22/23."

Table 4-1 lists planned or active projects that were evaluated by the Project in the Traffic Operations Analysis Report (TOAR) and are located within or in close proximity to the Project limits, and their current status. These projects are listed either in the 2019 FTIP or in the 2016 SCAG RTP/SCS. The I-15 ELPSE does not preclude the implementation of any of these projects.

Table 4-1 2016 SCAG RTP/SCS Capital Improvement Projects

RTP ID	Description	Opening Year
3A01WT159	Replace two-lane bridge on Hamner Avenue over Santa Ana River	2030
3M04WT005	Reconstruct interchange ramps and channelization improvements at I-15 and Sixth Street between Hamner Avenue and Sierra Avenue	2030
3M0733	At I-15 on Second Street between Hamner Avenue and Valley View Avenue reconstruct/widen interchange from two to four lanes and widen ramps	2025

RTP ID	Description	Opening Year
3M04WT007	At I-15 on Hidden Valley Parkway between Hamner Avenue and beyond NB exit ramp, reconstruct interchange/ramps/channelization improvements	2025
3161L005	Widen Magnolia Avenue from four to six lanes from El Camino Avenue to 1,000 feet east of All-American Way	2022
3A04WT137A – 3A04WT138	Widen Cajalco Road from two to four through lanes in each direction from Temescal Canyon Road to Harvill Avenue and from four to six lanes from Harvill Avenue to I-215	2025
3C01MA01	Community and Environmental Transportation Acceptability Process (CETAP) West – provide new east-west transportation corridor between I-15 to the west, I-215 to the east, south of Lake Mathews to the north, and SR74 to the south	2040
I-15 ICOP FTIP ID RIV071267B**	Add auxiliary lane on SB I-15 from Cajalco Rd. SB On-Ramp to Weirick/Dos Lagos Rd. SB Off-Ramp for a distance of 0.9 mile	2022
3200S010/FTIP ID RIV071267A***	Restripe lane drop from PM 37.12 as lane extension (i.e., trap lane) in SB direction to exit at Weirick/Dos Lagos Dr. Join existing I-15 striping at PM 35.7 for temporary striping and ancillary improvements	2025
3M0728	At I-15 on Temescal Canyon, reconstruct/widen Temescal Canyon Interchange from two to four lanes and reconstruct ramps	2030
3A04WT198B	Widen Temescal Canyon from Indian Truck Trail to 0.22 miles west of Lake Street	2035
3A04WT161 – 3M0729	Widen Horsethief Canyon Road from Temescal Canyon Road to I-15 from two to four lanes and reconstruct ramps	2035
3M0737	Reconstruct/widen I-15 interchange at Lake Street from two to six lanes between Walker Canyon Road and Temescal Canyon Road and reconstruct/widen ramps	2022
3M0736	Reconstruct/widen I-15 interchange at Nichols Road from two to six lanes between the ramps and reconstruct/widen ramps	2025
3AL204	Widen Riverside Drive (SR-74) from three to six lanes and Grand Avenue from two to four lanes	2021
3A04WT191	Widen SR-74 from I-15 to Ethanac Road	2035
3A01WT151	Construct a four-lane arterial (Ethanac Road) from SR-74 to Keystone Drive	2030
3A04A17 – RIV060109	Construct NB hook on- and off- ramps at Dexter Avenue. Close	2025

RTP ID	Description	Opening Year
	existing NB on-ramp from SR-74 (Central Avenue); widen Central Avenue	
3A04A16	Construct new connecting four-lane arterial OC at I-15 and Second Street between Chaney Avenue and Camino Del Norte	2028
3160004 – RIV180144	Main Street/I-15 interchange improvements	2023
3160002	Construct two high-occupancy vehicle (HOV) lanes on I-15 between Junction I-15 / I-215 to SR-74 Central Avenue	2039
RIV010206A – RIV010206B	At I-15/ Railroad Canyon Road Interchange, widen NB on-ramp from two to three lanes, widen SB on-ramp from one to three lanes, widen ramp acceleration and deceleration lanes at Railroad Canyon Road (Phase I) Construct new I-15 Franklin Street Interchange and add auxiliary lanes from Franklin Street Interchange to Main Street Interchange and from Franklin Street Interchange to Railroad Canyon Interchange Realign/widen SB Main Street On-Ramp from one to two lanes and construct Frontage Road on west and east of I-15	2027
3M0734	Construct new four-lane OC over I-15 at Malaga Road between Casino Drive and Lakeview Terrace and Grape Street	2028
3M0735	Construct new four-lane interchange and ramps for I-15 at Olive Street between Orchard Street and Grape Street	2018 (not constructed)
3A01WT134	Widen Bundy Canyon Road from Mission Trail to I-15 from two to four lanes	2025
3M0727	Reconstruct/Widen Bundy Canyon Road Interchange from two to four lanes and reconstruct ramps	2025
3A01WT133	Widen Bundy Canyon Road between I-15 to Murrieta Road from two to four lanes	2020
3A04WT126	Widen Baxter Road from I-15 to Central Street from two to four lanes	2025
3M0730	Construct new NB loop on-ramp and realign existing NB off-ramp at I-15 and Murrieta Hot Springs Road	2019
RIV031215	French Valley Parkway Interchange Arterial Phases - Phase 2 – construct two-lane NB collector-distributor (CD) road of Winchester On-Ramp to just north of Route I-15/I-215 Junction with connectors to I-15 and I-215	2028

RTP ID	Description	Opening Year
	- Phase 3 – construct six-lane OC (Jefferson to Ynez) and ramps, NB/SB auxiliary lane, CD lanes (one NB and three SB); modify Winchester Road Interchange	
3M0721	At I-15 on Rancho California Road, reconfigure interchange from four to six lanes and modify ramps; type of lanes for arterial widening will be with through lanes	2035
RIV180102	Widen Ontario Avenue from five to seven lanes	2021

Local Planning

The Project is located within the local government boundary limits of the City of Lake Elsinore, unincorporated Riverside County, and the City of Corona. Many of the projects listed in Table 4-1 are sponsored by local government agencies and are shown in their General Plans. Construction of additional residential and commercial developments is continuing in the periphery of the I-15 corridor, as approved by the local government agencies. The I-15 ELPSE is consistent with the General Plans of the local agencies and does not preclude the implementation of any of these projects. As local and regional areas continue to grow and develop, the I-15 ELPSE would provide long term throughput management for the corridor.

Transit Operator Planning

Public transit in this area of Riverside County is provided by the RTA. Within Project limits, RTA offers services through the CommuterLink express bus routes 205/206 that run along I-15, connecting Metrolink stations, COASTER and SPRINTER stations, business parks, shopping malls, Park-and-Ride lots, and regional transit facilities. CommuterLink Express Routes 205/206 provide service between Temecula, Murrieta, Lake Elsinore, Tom's Farms, Dos Lagos, Corona Transit Center, and the Village at Orange. Additionally, Greyhound Lines, Inc. provides intercity bus services along I-15 within the project alignment. All transit and shared ride modes would continue to use I-15 during the Project's construction phase and would benefit from its improvements. Specifically, the proposed express lanes would allow transit services, shared rides, and the CommuterLink express bus service to operate in the express lanes with dependable and predictable travel times to improve efficiency. In addition, RTA would continue to identify opportunities to improve transit services in the I-15 corridor as part of its overall transit planning activities throughout Riverside County. The capacity and

operational improvements proposed by the I-15 ELPSE would support current and future transit and shared ride services.

4C. Traffic

Current and Forecasted Traffic

This section provides a summary of the current and forecasted traffic volumes within the study area under existing year (2019), opening year (2030), and horizon year (2050) for both the No-Build and Build alternatives. The summary is based on the Project's Traffic Operations Analysis Report (TOAR) concurred by Caltrans on February 22, 2021 (amended on April 7, 2022).

The I-15 ELPSE traffic study area covers approximately 22 miles on I-15 between the Franklin Street Overcrossing (to the south) and Hidden Valley Parkway Interchange (to the north). As shown in Figure 4-1, several miles beyond the I-15 ELPSE construction limits were included in the study area to analyze the effects of the proposed improvement with upstream and downstream bottlenecks. Within the study area, the study locations consist of roadway segments of I-15 mainline between Franklin Street Overcrossing and Hidden Valley Parkway Interchange, including the freeway-to-freeway connectors at SR-91 and the on- and off-ramps at 13 local interchanges.

The following local road interchanges are located within the traffic study area: Franklin Street, Main Street, SR-74 (Central Avenue), Nichols Road, Lake Street, Indian Truck Trail, Temescal Canyon Road, Weirick Road, Cajalco Road, El Cerrito Road, Ontario Avenue, Magnolia Avenue, SR-91, and Hidden Valley Parkway.

The Average Daily Traffic (ADT) and Annual Average Daily Traffic (AADT) on I-15 between SR-74 (Central Avenue) and Cajalco Road is provided in Table 4-2 for the existing year, opening year and horizon year.

Table 4-2 ADT and AADT from SR-74 (Central Avenue) to Cajalco Road

Existing Year (2019)		Opening Year (2030)		Horizon Year (2050)	
ADT	**AADT**	**ADT**	**AADT**	**ADT**	**AADT**
129,000	112,230	199,500	173,570	276,200	240,290

Figure 4-1 Lane Improvement Limits & Traffic Study Area

Existing Conditions (2019)

Existing traffic volumes were collected in the fall of 2019 from various sources including traffic counts conducted by Fehr & Peers for the I-15 ELPSE and Caltrans' Freeway Performance Measurement System (PeMS). Three-day, 72-hour traffic data collection for this project was completed between Tuesday, September 17, 2019 and Thursday, September 19, 2019 using machine counts (plastic tubes placed across the road), video cameras, and Wavetronix detection. The data was reviewed to verify no major traffic collisions or general anomalies occurred that might have disrupted the traffic counts.

Truck classification counts were collected on I-15 north of the Magnolia Avenue Interchange. At this count location, the highest combined NB and SB traffic demand is being served and would be representative of the vehicle flow mix on the corridor. Mainline counts were collected using Wavetronix detection which identifies motor vehicle classification by vehicle length. Collected counts reveal that at various times in the AM and PM peak periods, the percentage of trucks is higher than the 2018 Caltrans reported Annual Average Daily Traffic (AADT) total truck percentage of roughly 7 percent in the study corridor.

When evaluating over-saturated conditions, which is the case on I-15, traffic demand cannot be adequately accommodated by roadways, and the part of the traffic demand that can get through is the constrained volume or traffic count. Some of the existing count volumes are constrained volumes rather than traffic demand due to the over-saturated conditions along the I-15 study corridor. This occurs primarily at locations downstream of bottlenecks since some vehicles destined to these locations are stuck in queue.

Vehicle queue length at bottleneck locations were measured from speed plots, which were then verified and refined to be consistent with field observations. Vehicle headway was estimated using an empirical speed and density regression model. The traffic counts (served volume) and un-served traffic demand were summed to represent the existing demand volumes at each bottleneck location. The demand volume for the remaining freeway mainline segments were calculated using volume balancing based on the traffic demand at the bottleneck and the downstream on- and off-ramp volumes.

Figure 4-2 shows the existing (2019) peak hour demand volumes for freeway mainline segments and ramps.

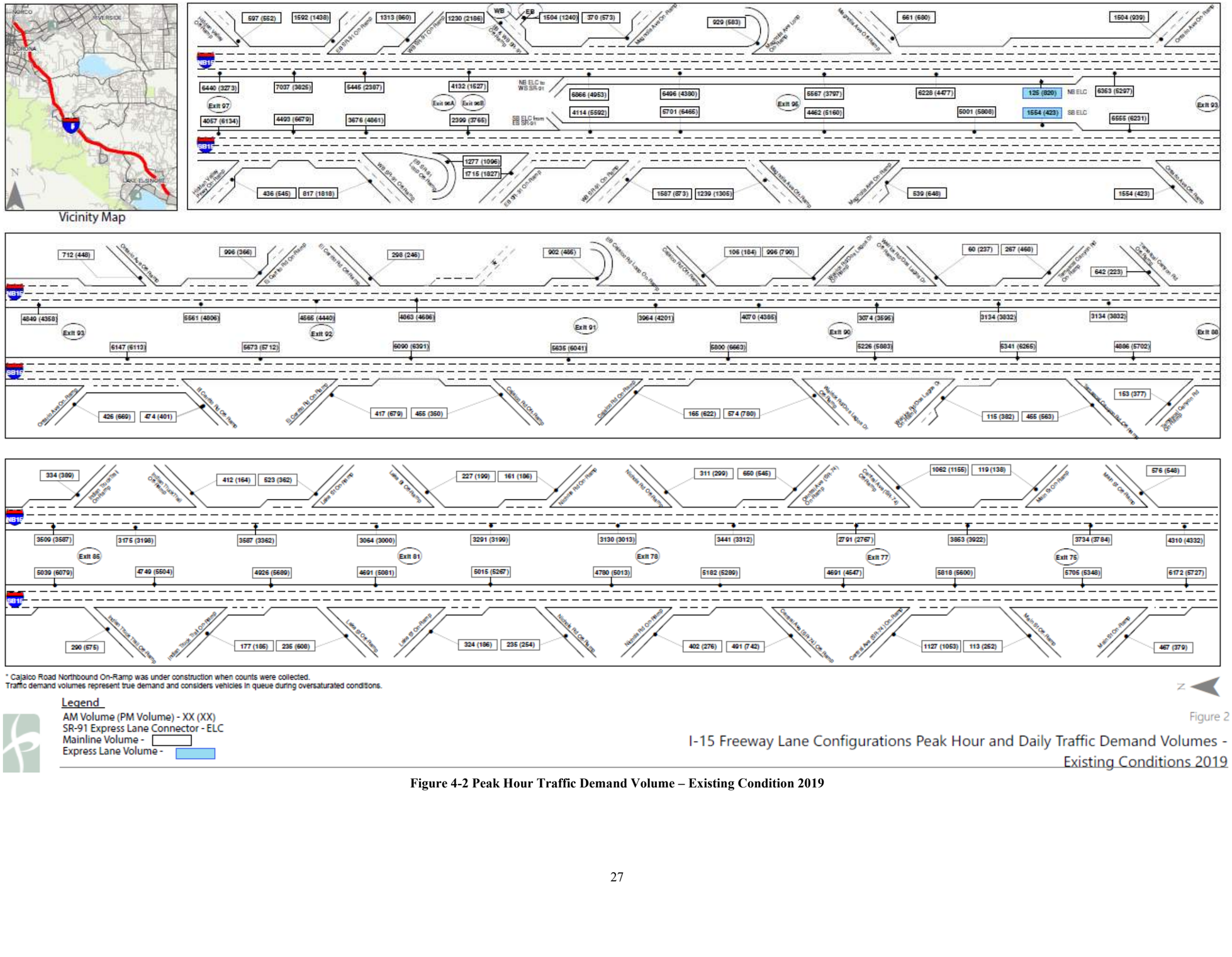

Figure 4-2 Peak Hour Traffic Demand Volume – Existing Condition 2019

Opening Year (2030) Volumes

Traffic analysis was conducted for both the No-Build and Build Project alternatives under opening year conditions. The detailed traffic forecasting methodology used is included in Chapter 2 of the TOAR. Although the Build Alternative is anticipated to be completed by 2028, an opening year of 2030 was used for the Project to be consistent with travel demand model forecasting which utilizes 5-year increments.

Other local and regional projects scheduled to open between 2028 and 2030 would not result in significant differences in volumes as it relates to I-15 where 2028 volumes would be higher than the 2030 volumes. The following projects were considered under the 2030 Opening Year, but would not be constructed by 2028.

- RTP ID 3A01WT151: Construct a four-lane arterial (Ethanac Road) from SR-74 to Keystone Drive (2030)
- RTP ID 3A04WT161, RTP ID 3M0729: Widen Horsethief Canyon Road from Temescal Canyon Road to I-15 from two four lanes and reconstruct ramps (PM 28.36 to 29.36, 2030)
- RTP ID 3160004: Main Street/I-15 interchange improvements. Widening of NB Main Street under the freeway from one to two lanes (2028)
- RTP ID 3M0728: At I-15 on Temescal Canyon reconstruct/widen Temescal Canyon Interchange from two to four lanes and reconstruct ramps (PM 32.60 to PM 33.60, 2030)

All projects considered in the 2030 Opening Year provide additional access to I-15. Although the listed projects would not exist in 2028 conditions, assuming their completion in the analysis year is a conservative approach because additional access to I-15 would increase travel demand to and from the freeway. As a result, the forecasted 2030 volumes would be higher than a forecasted 2028 volume set and would represent a worst-case-scenario. Because the Build Alternative adds capacity to the freeway and alleviates traffic on the mainline, it is assumed that trips that had used parallel streets to I-15 as cut-through in the No-Build Alternative would prefer to stay on I-15.

The No-Build Alternative Opening Year 2030 AM and PM peak hour traffic demand volume forecasts for the I-15 mainline segments, express lanes, and freeway ramps are shown on Figure 4-3. The Build Alternative Opening Year 2030 AM and PM peak hour traffic demand forecasts for the freeway mainline segment, express lanes, and freeway ramps are shown on Figure 4-4.

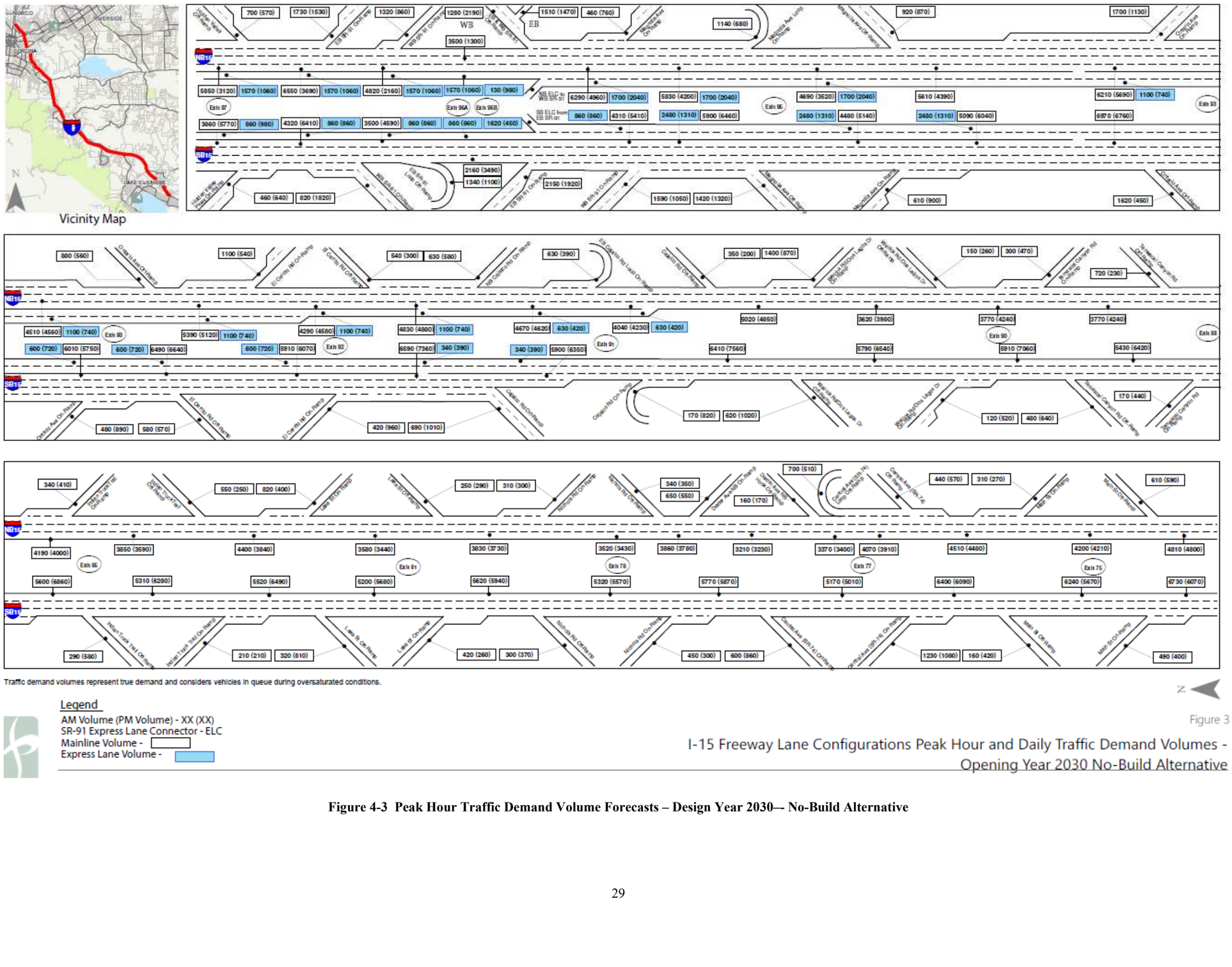

Figure 3

I-15 Freeway Lane Configurations Peak Hour and Daily Traffic Demand Volumes - Opening Year 2030 No-Build Alternative

Figure 4-3 Peak Hour Traffic Demand Volume Forecasts – Design Year 2030–- No-Build Alternative

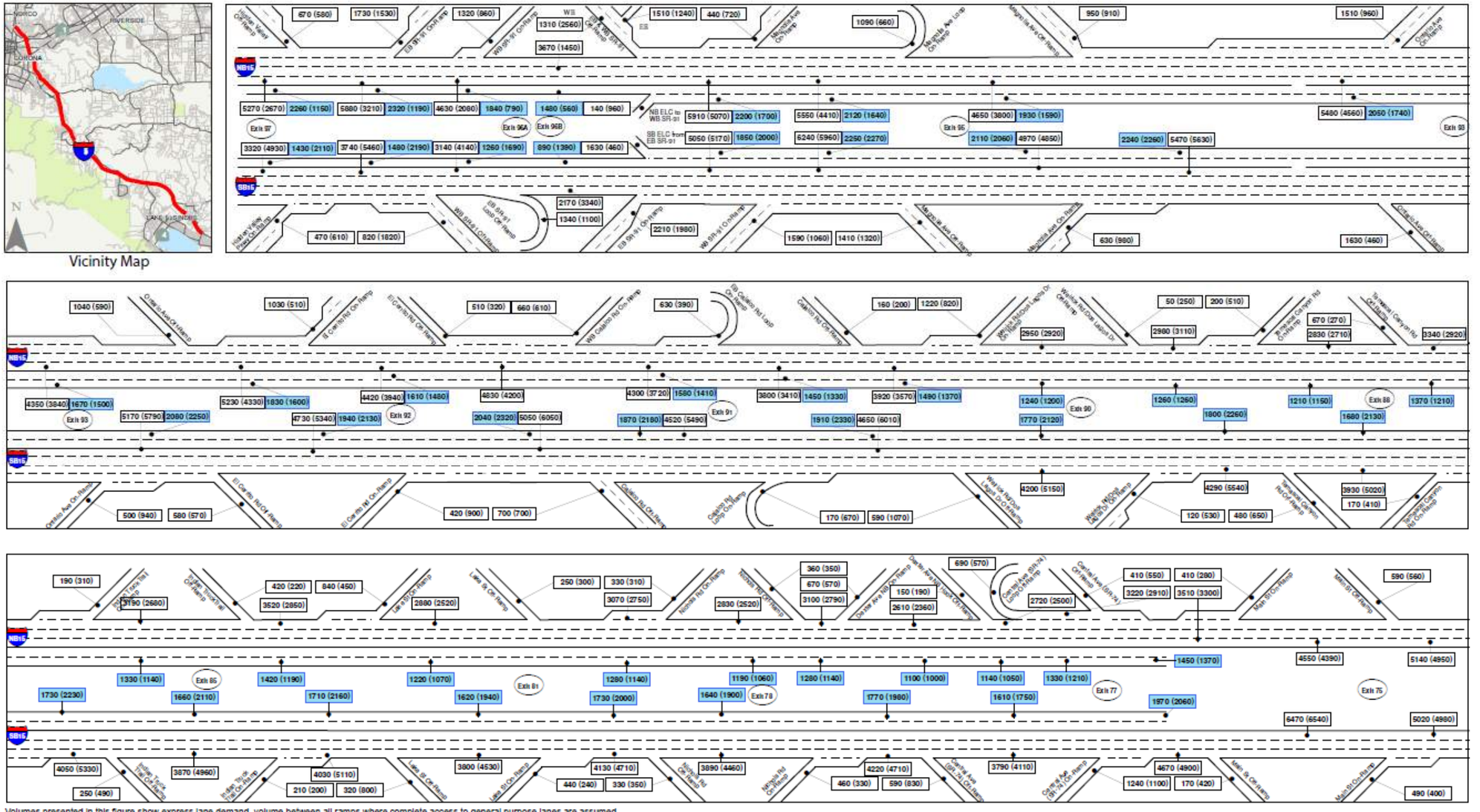

Figure 4-4 Peak Hour Traffic Demand Volume Forecasts – Design Year 2030–- Build Alternative

Design Year (2050) Volumes

Similar to opening year, traffic in the subarea is anticipated to grow in Design Year 2050 No-Build and Build alternatives. As population, households, and employment in the subarea increase, the number of trips loaded on the roadway links of the model would also increase.

The SCAG's 2016 financially constrained RTP projects are assumed to be in place for the design year forecasts. With the addition of Community and Environmental Transportation Acceptability Process (CETAP) East-West corridor in 2050 conditions, vehicle trips that may have used SR-91, Central Avenue (SR-74), and Ethanac Road would use Mid County Parkway to travel east and west between I-15 and I-215.

Because the Build Alternative adds capacity to the freeway and alleviates traffic on the mainline, it is assumed that trips that had used parallel streets to I-15 as cut-through in the No-Build Alternative would prefer to stay on I-15.

The No-Build Alternative Design Year 2050 AM and PM peak hour traffic demand volume forecasts for the I-15 mainline segments, express lanes, and freeway ramps are shown in Figure 4-5. The Build Alternative Design Year 2050 AM and PM peak hour traffic demand forecasts for the freeway mainline segment, express lanes, and freeway ramps are shown on Figure 4-6.

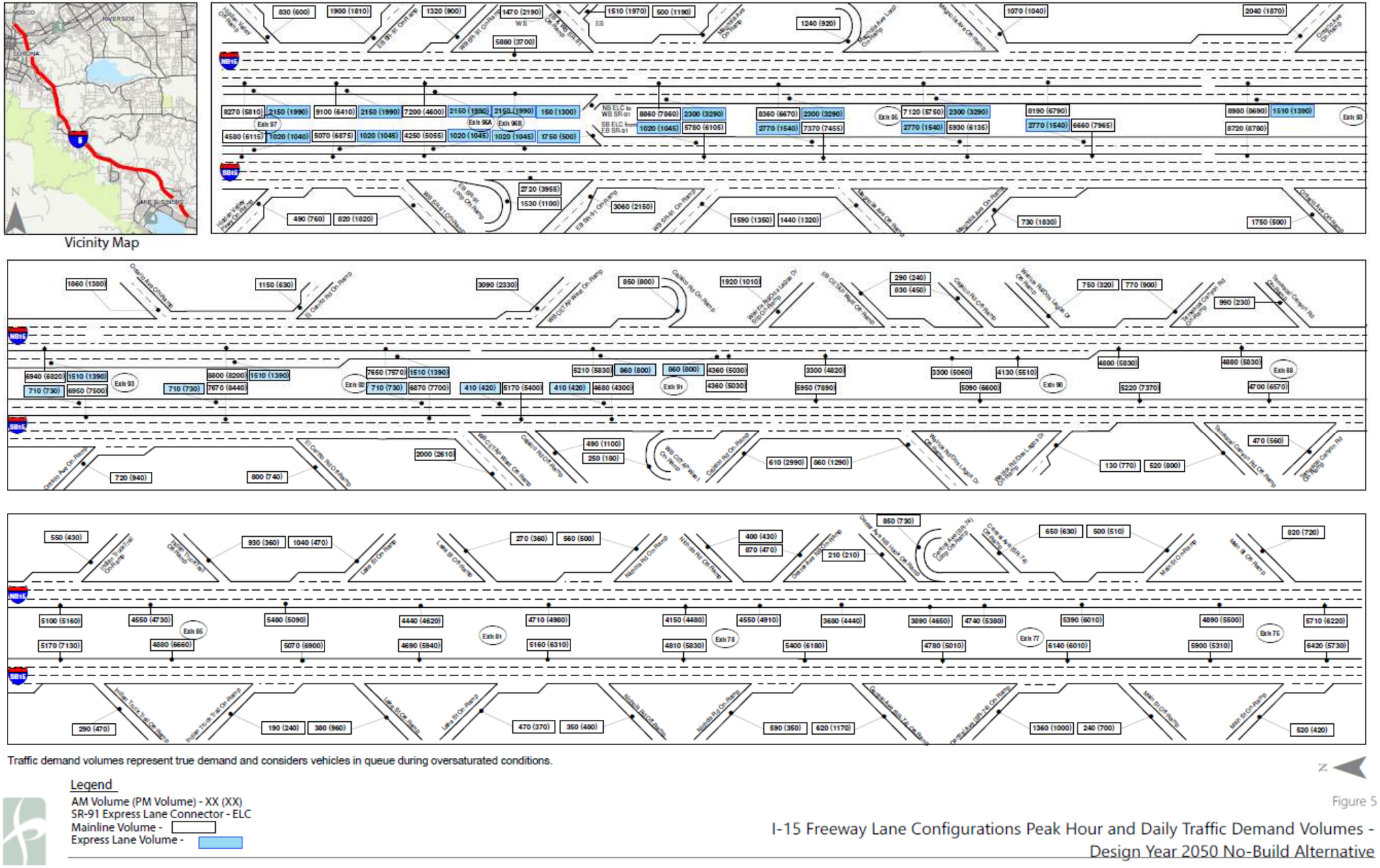

Figure 4-5 Peak Hour Traffic Demand Volume Forecasts – Design Year 2050— No-Build Alternative

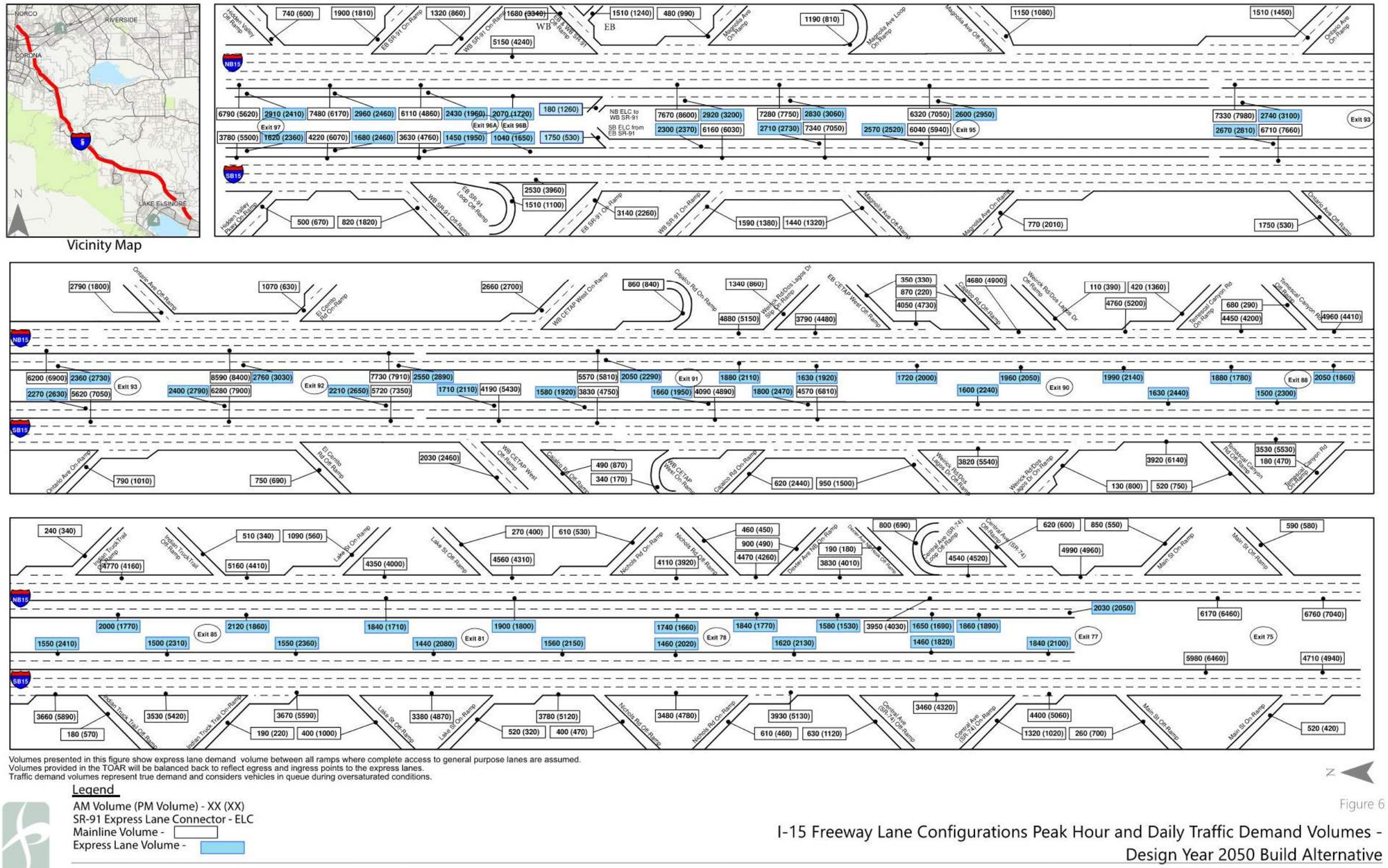

Figure 4-6 Peak Hour Traffic Demand Volume Forecasts – Design Year 2050— Build Alternative

Collision Analysis

This section discusses collision analysis within the Project limits. Since the express lanes are a proposed new facility, there is no collision data available related to the express lanes, therefore collision data was obtained for the existing GP lanes. Due to the length of the project, the collision data was obtained by segment from on-ramp to off-ramp and between existing local interchanges to facilitate appropriately identifying the applicable information to the design features in specific areas.

Traffic collision data for the I-15 general-purpose lanes was obtained on September 23, 2024 from the Traffic Accident Surveillance and Analysis System (TASAS), also known as "Table B", for a 36-month period from January 1, 2021 to December 31, 2023.

Tables 4-3 and 4-4 list the I-15 NB and SB rates (respectively) of fatal, fatal plus injury, and total collision rates on segments of the freeway mainline at interchange areas, between interchanges, and for the entire length within the Project limits. It depicts collision rates per Million Vehicles (MV) for ramps and segments less than 0.5 miles and per Million Vehicle Miles (MVM) for segments greater or equal to 0.5 miles.

Out of the twenty segment locations reported in the NB direction, four locations have fatal collision rates higher than statewide average, one location has fatal plus injury rates higher than statewide average, and two locations have a total collision rate higher than the statewide average. The collision rates for the entire project length in the NB direction are below the statewide average for similar facilities.

Similarly, from the twenty segment locations reported in the SB direction four locations have fatal collision rates higher than statewide average, three locations have fatal plus injury rates higher than statewide average, and three locations have a total collision rate higher than the statewide average. The collision rates for the entire project length in the SB direction are below the statewide average for similar facilities.

The higher than statewide average collision rates in the NB direction are consistent with the TOAR findings for the existing condition that demonstrates that during the AM peak hours, a traffic bottleneck forms at the Cajalco Road NB On-Ramp merge segment, which creates a queue that extends to the Indian Truck Trail NB Off-Ramp. The higher than statewide average collision rates in the SB direction are consistent with the TOAR findings for the existing condition that demonstrates that during the PM peak hours, traffic congestion and bottlenecks form at the Temescal Canyon Road SB Off-Ramp. Rear-end and sideswipe collisions on freeways are generally related to traffic congestion, speed differentials and abrupt lane

changes. The proposed extension of the express lanes would carry more traffic through congested areas where stop and go conditions occur during peak hours compared to the existing condition, which would result in a reduction of traffic in the GP lanes. A reduction of traffic translates to improved traffic operations and the potential reduction of certain types of collisions related to traffic congestion.

Table 4-5 compares the rates of fatal, fatal plus injury, and total collision rates for the ramp segments that include proposed nonstandard design features. The collision rates for these ramps are below the statewide average for similar facilities.

Tables 4-6 and 4-7 summarize the percentage of collisions by type for I-15 NB and SB directions respectively within the Project limits. For the entire Project length in the NB direction (PM 20.3 to PM 40.1) approximately 54 percent of the collisions were rear-end, 23 percent were sideswipe, and over 17 percent were hit objects. Other types of collision account for less than 4 percent of the total. As shown in Table 4-9, the TASAS reports that the primary collision factors were speeding, improper turn, and other violations.

Likewise, in the SB direction nearly 50 percent of the collisions were rear-end, over 30 percent were sideswipe, and 15 percent were hit objects. Other types of collision account for less than 3 percent of the total. Similar to the NB direction as shown in Table 4-10, the primary collision factors were speeding, improper turn, and other violations. Rear-end and sideswipe collisions on freeways are generally related to traffic congestion, speed differentials, and abrupt lane changes.

Table 4-8 summarizes the percentage of collisions by type for the ramp segments that include proposed nonstandard design features. The majority of the collisions were rear-end, sideswipe, and overturn. As shown in Table 4-11, the primary collision factors were speeding, other violations, and improper turn.

Table 4-3 Summary of Collision Rates for I-15 NB (01-01-2021 through 12-31-2023)

I-15 Mainline NB			Collision Rates (a/mvm or a/mv)					
			Actual Rates			Average Rates		
Location		Post Mile	F	F+I	TOT	F	F+I	TOT
1	Main St NB Off-Ramp to Main St NB On-Ramp	20.55/21.27	0.000	0.130	0.360	0.006	0.410	1.250
2	Main St NB On-Ramp to SR-74 (Central Ave) NB Off-Ramp	21.27/21.79	0.000	0.120	0.240	0.006	0.410	1.250
3	SR-74 (Central Ave) NB Off-Ramp to SR-74 (Central Ave) NB On-Ramp	21.81/22.66	0.000	0.130	0.380	0.006	0.410	1.250
4	SR-74 (Central Ave) NB On-Ramp to Nichols Rd NB Off-Ramp	22.66/23.43	0.000	0.040	0.200	0.006	0.410	1.250
5	Nichols Rd NB Off-Ramp to Nichols Rd NB On-Ramp	23.43/24.24	0.000	0.070	0.240	0.006	0.390	1.180
6	Nichols Rd NB On-Ramp to Lake St NB Off-Ramp	24.24/26.21	0.000	0.070	0.150	0.006	0.340	1.030
7	Lake St NB Off-Ramp to Lake St NB On-Ramp	26.21/27.13	0.000	0.140	0.330	0.006	0.340	1.030
8	Lake St NB On-Ramp to Indian Truck Tr NB Off-Ramp	27.14/30.00	0.005	0.150	0.440	0.006	0.320	0.970
9	Indian Truck Tr NB Off-Ramp to Indian Truck Tr NB On-Ramp	30.00/30.84	0.000	0.250	**0.910**	0.007	0.250	0.710
10	Indian Truck Tr NB On-Ramp to Temescal Cyn Rd NB Off-Ramp	30.84/32.83	**0.014**	0.180	0.590	0.007	0.250	0.710
11	Temescal Cyn Rd NB Off-Ramp to Temescal Cyn Rd NB On-Ramp	32.83/33.68	0.000	**0.310**	**0.760**	0.007	0.250	0.740
12	Temescal Cyn Rd NB On-Ramp to Weirick Rd NB Off-Ramp	33.68/35.29	0.000	0.200	0.470	0.006	0.340	1.030
13	Weirick Rd NB Off-Ramp to Weirick Rd NB On-Ramp	35.29/36.07	**0.030**	0.270	0.690	0.006	0.340	1.030
14	Weirick Rd NB On-Ramp to Cajalco Rd NB Off-Ramp	36.07/36.28	0.000	0.056	0.090	0.003	0.170	0.515
15	Cajalco Rd NB Off-Ramp to Cajalco Rd NB On-Ramp	36.28/37.24	**0.011**	0.130	0.320	0.006	0.340	1.030
16	Cajalco Rd NB On-Ramp to El Cerrito Rd NB Off-Ramp	37.24/37.60	0.000	0.090	0.300	0.006	0.340	1.030
17	El Cerrito Rd NB Off-Ramp to El Cerrito Rd NB On-Ramp	37.60/38.19	**0.018**	0.290	0.690	0.006	0.340	1.030
18	El Cerrito Rd NB On-Ramp to Ontario Ave NB Off-Ramp	38.19/38.31	0.000	0.032	0.085	0.003	0.170	0.515
19	Ontario Ave NB Off-Ramp to Ontario Ave NB On-Ramp	38.31/39.02	0.000	0.160	0.450	0.006	0.360	1.070
20	Ontario Ave NB On-Ramp to Magnolia Ave NB Off-Ramp	39.02/39.99	0.000	0.350	1.010	0.004	0.350	1.080
Entire Project Limits		20.30/40.10	0.006	0.005	0.180	0.490	0.006	0.330

Notes: F–- Fatal; I–- Injury; TOT – Total; a/mvm – accidents per million vehicle miles; a/mv – accidents per million vehicles

Bold text denotes collision rates higher than the statewide average

Source: Caltrans District 8 TASAS

Table 4-4 Summary of Collision Rates for I-15 SB (01-01-2021 through 12-31-2023)

I-15 Mainline SB			Collision Rates (a/mvm or a/mv)					
			Actual Rates			Average Rates		
Location		Post Mile	F	F+I	TOT	F	F+I	TOT
1	Main St SB On-Ramp to Main St SB Off-Ramp	20.55/21.27	0.000	0.170	0.280	0.006	0.410	1.250
2	Main St SB Off-Ramp to SR-74 (Central Ave) SB On-Ramp	21.27/21.79	0.000	0.150	0.360	0.006	0.410	1.250
3	SR-74 (Central Ave) SB On-Ramp to SR-74 (Central Ave) SB Off-Ramp	21.81/22.66	0.000	0.110	0.200	0.006	0.410	1.250
4	SR-74 (Central Ave) SB Off-Ramp to Nichols Rd SB On-Ramp	22.66/23.43	0.000	0.100	0.300	0.006	0.410	1.250
5	Nichols Rd SB On-Ramp to Nichols Rd SB Off-Ramp	23.43/24.24	0.000	0.280	0.560	0.006	0.390	1.180
6	Nichols Rd SB Off-Ramp to Lake St SB On-Ramp	24.24/26.21	**0.008**	0.120	0.300	0.006	0.340	1.030
7	Lake St SB On-Ramp to Lake St SB Off-Ramp	26.21/27.13	0.000	0.100	0.260	0.006	0.340	1.030
8	Lake St SB Off-Ramp to Indian Truck Tr SB On-Ramp	27.13/30.00	0.000	0.100	0.270	0.006	0.320	0.970
9	Indian Truck Tr SB On-Ramp to Indian Truck Tr SB Off-Ramp	30.00/30.84	0.000	0.070	0.200	0.007	0.250	0.710
10	Indian Truck Tr SB Off-Ramp to Temescal Cyn Rd SB On-Ramp	30.84/32.83	0.000	0.050	0.260	0.007	0.250	0.710
11	Temescal Cyn Rd SB On-Ramp to Temescal Cyn Rd SB Off-Ramp	32.83/33.68	**0.015**	0.050	0.200	0.007	0.250	0.740
12	Temescal Cyn Rd SB Off-Ramp to Weirick Rd SB On-Ramp	33.68/35.29	0.000	0.080	0.230	0.006	0.340	1.030
13	Weirick Rd SB On-Ramp to Weirick Rd SB Off-Ramp	35.29/36.07	0.000	0.230	0.540	0.006	0.340	1.030
14	Weirick Rd SB Off-Ramp to Cajalco Rd SB On-Ramp	36.07/36.28	0.000	0.090	0.237	0.003	0.170	0.515
15	Cajalco Rd SB On-Ramp to Cajalco Rd SB Off-Ramp	36.28/37.24	**0.034**	**0.490**	**1.120**	0.006	0.340	1.030
16	Cajalco Rd SB Off-Ramp to El Cerrito Rd SB On-Ramp	37.24/37.60	0.000	**0.480**	**1.470**	0.006	0.340	1.030
17	El Cerrito Rd SB On-Ramp to El Cerrito Rd SB Off-Ramp	37.60/38.19	**0.018**	**0.490**	**1.380**	0.006	0.340	1.030
18	El Cerrito Rd SB Off-Ramp to Ontario Ave SB On-Ramp	38.19/38.31	0.000	0.042	0.222	0.003	0.170	0.515
19	Ontario Ave SB On-Ramp to Ontario Ave SB Off-Ramp	38.31/39.02	0.000	0.250	0.730	0.006	0.360	1.070
20	Ontario Ave SB Off-Ramp to Magnolia Ave SB On-Ramp	39.02/39.99	0.000	0.250	0.820	0.004	0.350	1.080
Entire Project Limits		20.30/40.10	0.002	0.004	0.170	0.470	0.006	0.330

Notes: F–- Fatal; I–- Injury; TOT – Total; a/mvm – accidents per million vehicle miles; a/mv – accidents per million vehicles

Bold text denotes collision rates higher than the statewide average

Source: Caltrans District 8 TASAS

Table 4-5 Summary of Collision Rates for I-15 Ramps (01-01-2021 through 12-31-2023)

I-15 Ramps			Collision Rates (a/mv)					
			Actual Rates			Average Rates		
Location		Post Mile	F	F+I	TOT	F	F+I	TOT
1	SR-74 (Central Ave) SB On-Ramp	22.080	0.000	0.120	0.310	0.001	0.150	0.480
2	Nichols Rd SB Off-Ramp	24.075	0.000	0.330	0.660	0.003	0.380	1.040
3	Cajalco Rd NB Off-Ramp	36.639	0.000	0.000	0.190	0.006	0.310	0.900

Notes: F–- Fatal; I–- Injury; TOT – Total; a/mv – accidents per million vehicle

Bold text denotes collision rates higher than the statewide average

Source: Caltrans District 8 TASAS

Table 4-6 Percentage of Collisions by Type for I-15 NB (01-01-2021 through 12-31-2023)

I-15 Mainline NB			Collision Percentages by Type									
Interchange		Post Mile	Head-on	Side-swipe	Rear-End	Broad-Side	Hit-Object	Over-Turn	Auto-Ped	Other	Not-Stated	Total
1	Main St NB Off-Ramp to Main St NB On-Ramp	20.55/ 21.27	0.0%	17.6%	41.2%	0.0%	29.4%	11.8%	0.0%	0.0%	0.0%	100%
2	Main St NB On-Ramp to SR-74 (Central Ave) NB Off-Ramp	21.27/ 21.79	0.0%	0.0%	50.0%	0.0%	37.5%	0.0%	0.0%	12.5%	0.0%	100%
3	SR-74 (Central Ave) NB Off-Ramp to SR-74 (Central Ave) NB On-Ramp	21.81/ 22.66	0.0%	4.8%	61.9%	0.0%	28.6%	0.0%	0.0%	4.8%	0.0%	100%
4	SR-74 (Central Ave) NB On-Ramp to Nichols Rd NB Off-Ramp	22.66/ 23.43	0.0%	40.0%	30.0%	0.0%	10.0%	20.0%	0.0%	0.0%	0.0%	100%
5	Nichols Rd NB Off-Ramp to Nichols Rd NB On-Ramp	23.43/ 24.24	0.0%	30.8%	30.8%	7.7%	15.4%	15.4%	0.0%	0.0%	0.0%	100%
6	Nichols Rd NB On-Ramp to Lake St NB Off-Ramp	24.24/ 26.21	0.0%	42.1%	42.1%	0.0%	15.8%	0.0%	0.0%	0.0%	0.0%	100%
7	Lake St NB Off-Ramp to Lake St NB On-Ramp	26.21/ 27.13	0.0%	33.3%	52.4%	0.0%	14.3%	0.0%	0.0%	0.0%	0.0%	100%
8	Lake St NB On-Ramp to Indian Truck Tr NB Off-Ramp	27.13/ 30.00	0.0%	19.3%	55.7%	1.1%	20.5%	3.4%	0.0%	0.0%	0.0%	100%
9	Indian Truck Tr NB Off-Ramp to Indian Truck Tr NB On-Ramp	30.00/ 30.84	0.0%	9.1%	76.4%	0.0%	10.9%	1.8%	0.0%	1.8%	0.0%	100%
10	Indian Truck Tr NB On-Ramp to Temescal Cyn Rd NB Off-Ramp	30.84/ 32.83	0.0%	18.4%	62.1%	0.0%	11.5%	5.7%	0.0%	2.3%	0.0%	100%
11	Temescal Cyn Rd NB Off-Ramp to Temescal Cyn Rd NB On-Ramp	32.83/ 33.68	0.0%	12.2%	69.4%	0.0%	16.3%	2.0%	0.0%	0.0%	0.0%	100%

I-15 Mainline NB			Collision Percentages by Type									
Interchange		Post Mile	Head -on	Side-swipe	Rear-End	Broad -Side	Hit-Object	Over-Turn	Auto -Ped	Other	Not-Stated	Total
12	Temescal Cyn Rd NB On-Ramp to Weirick Rd NB Off-Ramp	33.68/ 35.29	0.0%	16.4%	57.4%	1.6%	24.6%	0.0%	0.0%	0.0%	0.0%	100%
13	Weirick Rd NB Off-Ramp to Weirick Rd NB On-Ramp	35.29/ 36.07	0.0%	23.9%	56.5%	0.0%	15.2%	4.3%	0.0%	0.0%	0.0%	100%
14	Weirick Rd NB On-Ramp to Cajalco Rd NB Off-Ramp	36.07/ 36.28	0.0%	12.5%	12.5%	25.0%	37.5%	0.0%	0.0%	12.5%	0.0%	100%
15	Cajalco Rd NB Off-Ramp to Cajalco Rd NB On-Ramp	36.28/ 37.24	0.0%	28.6%	25.0%	3.6%	35.7%	7.1%	0.0%	0.0%	0.0%	100%
16	Cajalco Rd NB On-Ramp to El Cerrito Rd NB Off-Ramp	37.24/ 37.60	0.0%	60.0%	30.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	100%
17	El Cerrito Rd NB Off-Ramp to El Cerrito Rd NB On-Ramp	37.60/ 38.19	0.0%	36.8%	42.1%	2.6%	15.8%	0.0%	2.6%	0.0%	0.0%	100%
18	El Cerrito Rd NB On-Ramp to Ontario Ave NB Off-Ramp	38.19/ 38.31	0.0%	12.5%	62.5%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%	100%
19	Ontario Ave NB Off-Ramp to Ontario Ave NB On-Ramp	38.31/ 39.02	0.0%	35.5%	41.9%	3.2%	12.9%	6.5%	0.0%	0.0%	0.0%	100%
20	Ontario Ave NB On-Ramp to Magnolia Ave NB Off-Ramp	39.02/ 39.99	0.0%	30.6%	48.0%	1.0%	19.4%	1.0%	0.0%	0.0%	0.0%	100%
Entire Project Limits		20.30/ 40.10	0.1%	22.9%	53.6%	1.2%	17.9%	3.1%	0.1%	0.9%	0.0%	100%

Notes:

PM 20.55 to PM 39.99 per I-15 segment breakdowns (Interchange areas and between interchanges)

PM 20.30 to PM 40.10 for entire Project limits

Table 4-7 Percentage of Collisions by Type for I-15 SB (01-01-2021 through 12-31-2023)

I-15 Mainline SB			Collision Percentages by Type									
Interchange		Post Mile	Head-on	Side-swipe	Rear-End	Broad-Side	Hit-Object	Over-Turn	Auto-Ped	Other	Not-Stated	Total
1	Main St SB On-Ramp to Main St SB Off-Ramp	20.55/ 21.27	0.0%	38.5%	46.2%	7.7%	7.7%	0.0%	0.0%	0.0%	0.0%	100%
2	Main St SB Off-Ramp to SR-74 (Central Ave) SB On-Ramp	21.27/ 21.79	0.0%	16.7%	58.3%	8.3%	0.0%	0.0%	0.0%	16.7%	0.0%	100%
3	SR-74 (Central Ave) SB On-Ramp to SR-74 (Central Ave) SB Off-Ramp	21.81/ 22.66	0.0%	45.5%	27.3%	0.0%	18.2%	9.1%	0.0%	0.0%	0.0%	100%
4	SR-74 (Central Ave) SB Off-Ramp to Nichols Rd SB On-Ramp	22.66/ 23.43	0.0%	40.0%	40.0%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	100%
5	Nichols Rd SB On-Ramp to Nichols Rd SB Off-Ramp	23.43/ 24.24	3.3%	33.3%	20.0%	0.0%	36.7%	3.3%	3.3%	0.0%	0.0%	100%
6	Nichols Rd SB Off-Ramp to Lake St SB On-Ramp	24.24/ 26.21	0.0%	28.2%	38.5%	0.0%	20.5%	10.3%	2.6%	0.0%	0.0%	100%
7	Lake St SB On-Ramp to Lake St SB Off-Ramp	26.21/ 27.13	0.0%	18.8%	18.8%	0.0%	62.5%	0.0%	0.0%	0.0%	0.0%	100%
8	Lake St SB Off-Ramp to Indian Truck Tr SB On-Ramp	27.13/ 30.00	0.0%	38.9%	31.5%	0.0%	22.2%	5.6%	0.0%	1.9%	0.0%	100%
9	Indian Truck Tr SB On-Ramp to Indian Truck Tr SB Off-Ramp	30.00/ 30.84	0.0%	41.7%	33.3%	0.0%	16.7%	0.0%	8.3%	0.0%	0.0%	100%
10	Indian Truck Tr SB Off-Ramp to Temescal Cyn Rd SB On-Ramp	30.84/ 32.83	0.0%	42.1%	34.2%	0.0%	18.4%	5.3%	0.0%	0.0%	0.0%	100%
11	Temescal Cyn Rd SB On-Ramp to Temescal Cyn Rd SB Off-Ramp	32.83/ 33.68	0.0%	61.5%	30.8%	0.0%	0.0%	0.0%	7.7%	0.0%	0.0%	100%

I-15 Mainline SB			Collision Percentages by Type									
Interchange		Post Mile	Head -on	Side-swipe	Rear-End	Broad -Side	Hit-Object	Over-Turn	Auto-Ped	Other	Not-Stated	Total
12	Temescal Cyn Rd SB Off-Ramp to Weirick Rd SB On-Ramp	33.68/ 35.29	0.0%	26.7%	66.7%	0.0%	3.3%	3.3%	0.0%	0.0%	0.0%	100%
13	Weirick Rd SB On-Ramp to Weirick Rd SB Off-Ramp	35.29/ 36.07	0.0%	27.8%	52.8%	2.8%	13.9%	2.8%	0.0%	0.0%	0.0%	100%
14	Weirick Rd SB Off-Ramp to Cajalco Rd SB On-Ramp	36.07/ 36.28	0.0%	28.6%	52.4%	0.0%	19.0%	0.0%	0.0%	0.0%	0.0%	100%
15	Cajalco Rd SB On-Ramp to Cajalco Rd SB Off-Ramp	36.28/ 37.24	0.0%	26.5%	50.0%	0.0%	20.4%	3.1%	0.0%	0.0%	0.0%	100%
16	Cajalco Rd SB Off-Ramp to El Cerrito Rd SB On-Ramp	37.24/ 37.60	0.0%	24.5%	59.2%	2.0%	12.2%	2.0%	0.0%	0.0%	0.0%	100%
17	El Cerrito Rd SB On-Ramp to El Cerrito Rd SB Off-Ramp	37.60/ 38.19	0.0%	30.3%	60.5%	0.0%	6.6%	0.0%	1.3%	1.3%	0.0%	100%
18	El Cerrito Rd SB Off-Ramp to Ontario Ave SB On-Ramp	38.19/ 38.31	0.0%	28.6%	61.9%	0.0%	9.5%	0.0%	0.0%	0.0%	0.0%	100%
19	Ontario Ave SB On-Ramp to Ontario Ave SB Off-Ramp	38.31/ 39.02	0.0%	20.0%	68.0%	0.0%	12.0%	0.0%	0.0%	0.0%	0.0%	100%
20	Ontario Ave SB Off-Ramp to Magnolia Ave SB On-Ramp	39.02/ 39.99	0.0%	33.8%	57.5%	0.0%	6.3%	2.5%	0.0%	0.0%	0.0%	100%
Entire Project Limits		20.30/ 40.10	0.1%	30.8%	49.4%	0.4%	15.1%	2.8%	0.7%	0.6%	0.0%	100%

Notes:

PM 20.55 to PM 39.99 per I-15 segment breakdowns (Interchange areas and between interchanges)

PM 20.30 to PM 40.10 for entire Project limits

Table 4-8 Percentage of Collisions by Type for I-15 Ramps (01-01-2021 through 12-31-2023)

I-15 Ramps			Collision Percentages by Type									
Location		Post Mile	Head-on	Side-swipe	Rear-End	Broad-Side	Hit-Object	Over-Turn	Auto-Ped	Other	Not-Stated	Total
1	SR-74 (Central Ave) SB On-Ramp	22.080	0.0%	20.0%	20.0%	0.0%	20.0%	40.0%	0.0%	0.0%	0.0%	100%
2	Nichols Rd SB Off-Ramp	24.075	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
3	Cajalco Rd NB Off-Ramp	36.639	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Table 4-9 Summary of Primary Collision Factors by Percent for I-15 NB (01-01-2021 through 12-31-2023)

I-15 Mainline NB			Primary Collision Factors by Percent									
Interchange		Post Mile	HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	Total
1	Main St NB Off-Ramp to Main St NB On-Ramp	20.55/ 21.27	17.6%	0.0%	0.0%	29.4%	35.3%	11.8%	0.0%	5.9%	0.0%	100%
2	Main St NB On-Ramp to SR-74 (Central Ave) NB Off-Ramp	21.27/ 21.79	0.0%	0.0%	0.0%	25.0%	50.0%	0.0%	0.0%	25.0%	0.0%	100%
3	SR-74 (Central Ave) NB Off-Ramp to SR-74 (Central Ave) NB On-Ramp	21.81/ 22.66	19.0%	0.0%	0.0%	19.0%	47.6%	9.5%	0.0%	4.8%	0.0%	100%
4	SR-74 (Central Ave) NB On-Ramp to Nichols Rd NB Off-Ramp	22.66/ 23.43	10.0%	0.0%	0.0%	50.0%	20.0%	10.0%	0.0%	10.0%	0.0%	100%
5	Nichols Rd NB Off-Ramp to Nichols Rd NB On-Ramp	23.43/ 24.24	7.7%	0.0%	0.0%	46.2%	23.1%	15.4%	0.0%	7.7%	0.0%	100%
6	Nichols Rd NB On-Ramp to Lake St NB Off-Ramp	24.24/ 26.21	5.3%	0.0%	0.0%	42.1%	42.1%	10.5%	0.0%	0.0%	0.0%	100%
7	Lake St NB Off-Ramp to Lake St NB On-Ramp	26.21/ 27.13	19.0%	0.0%	0.0%	28.6%	42.9%	9.5%	0.0%	0.0%	0.0%	100%
8	Lake St NB On-Ramp to Indian Truck Tr NB Off-Ramp	27.13/ 30.00	5.7%	0.0%	0.0%	21.6%	53.4%	10.2%	0.0%	9.1%	0.0%	100%
9	Indian Truck Tr NB Off-Ramp to Indian Truck Tr NB On-Ramp	30.00/ 30.84	3.6%	0.0%	0.0%	16.4%	74.5%	3.6%	0.0%	1.8%	0.0%	100%
10	Indian Truck Tr NB On-Ramp to Temescal Cyn Rd NB Off-Ramp	30.84/ 32.83	8.0%	0.0%	0.0%	23.0%	56.3%	5.7%	0.0%	6.9%	0.0%	100%
11	Temescal Cyn Rd NB Off-Ramp to Temescal Cyn Rd NB On-Ramp	32.83/ 33.68	4.1%	0.0%	0.0%	16.3%	67.3%	4.1%	0.0%	6.1%	2.0%	100%

I-15 Mainline NB			Primary Collision Factors by Percent									
Interchange		Post Mile	HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	Total
12	Temescal Cyn Rd NB On-Ramp to Weirick Rd NB Off-Ramp	33.68/ 35.29	4.9%	0.0%	0.0%	16.4%	59.0%	11.5%	0.0%	8.2%	0.0%	100%
13	Weirick Rd NB Off-Ramp to Weirick Rd NB On-Ramp	35.29/ 36.07	13.0%	0.0%	0.0%	26.1%	52.2%	6.5%	0.0%	2.2%	0.0%	100%
14	Weirick Rd NB On-Ramp to Cajalco Rd NB Off-Ramp	36.07/ 36.28	0.0%	0.0%	0.0%	37.5%	12.5%	0.0%	0.0%	50.0%	0.0%	100%
15	Cajalco Rd NB Off-Ramp to Cajalco Rd NB On-Ramp	36.28/ 37.24	10.7%	0.0%	0.0%	53.6%	17.9%	14.3%	0.0%	3.6%	0.0%	100%
16	Cajalco Rd NB On-Ramp to El Cerrito Rd NB Off-Ramp	37.24/ 37.60	30.0%	0.0%	0.0%	0.0%	0.0%	40.0%	0.0%	10.0%	20.0%	100%
17	El Cerrito Rd NB Off-Ramp to El Cerrito Rd NB On-Ramp	37.60/ 38.19	10.5%	0.0%	0.0%	39.5%	34.2%	15.8%	0.0%	0.0%	0.0%	100%
18	El Cerrito Rd NB On-Ramp to Ontario Ave NB Off-Ramp	38.19/ 38.31	12.5%	0.0%	0.0%	25.0%	50.0%	0.0%	0.0%	12.5%	0.0%	100%
19	Ontario Ave NB Off-Ramp to Ontario Ave NB On-Ramp	38.31/ 39.02	0.0%	0.0%	0.0%	32.3%	35.5%	29.0%	0.0%	3.2%	0.0%	100%
20	Ontario Ave NB On-Ramp to Magnolia Ave NB Off-Ramp	39.02/ 39.99	6.1%	1.0%	0.0%	27.6%	38.8%	20.4%	0.0%	5.1%	1.0%	100%
Entire Project Limits		20.30/ 40.10	8.0%	0.1%	0.0%	25.4%	48.2%	11.9%	0.0%	5.8%	0.5%	100%

Notes:

PM 20.55 to PM 39.99 per I-15 segment breakdowns (Interchange areas and between interchanges)

PM 20.30 to PM 40.10 for entire Project limits

HBD = Influence of Alcohol
FTC = Follow too Close
FTY = Failure to Yield
IT = Improper Turn
ESS = Speeding
OV = Other Violations
OTD = Other Than Driver
UNK = Unknown
ID = Improper Driving

Table 4-10 Summary of Primary Collision Factors by Percent for I-15 SB (01-01-2021 through 12-31-2023)

I-15 Mainline SB			Primary Collision Factors by Percent									
Interchange		Post Mile	HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	Total
1	Main St SB On-Ramp to Main St SB Off-Ramp	20.55/ 21.27	15.4%	0.0%	0.0%	30.8%	30.8%	23.1%	0.0%	0.0%	0.0%	100%
2	Main St SB Off-Ramp to SR-74 (Central Ave) SB On-Ramp	21.27/ 21.79	8.3%	0.0%	0.0%	16.7%	50.0%	16.7%	0.0%	8.3%	0.0%	100%
3	SR-74 (Central Ave) SB On-Ramp to SR-74 (Central Ave) SB Off-Ramp	21.81/ 22.66	18.2%	0.0%	0.0%	36.4%	27.3%	18.2%	0.0%	0.0%	0.0%	100%
4	SR-74 (Central Ave) SB Off-Ramp to Nichols Rd SB On-Ramp	22.66/ 23.43	13.3%	0.0%	0.0%	33.3%	33.3%	20.0%	0.0%	0.0%	0.0%	100%
5	Nichols Rd SB On-Ramp to Nichols Rd SB Off-Ramp	23.43/ 24.24	3.3%	0.0%	3.3%	46.7%	26.7%	13.3%	0.0%	6.7%	0.0%	100%
6	Nichols Rd SB Off-Ramp to Lake St SB On-Ramp	24.24/ 26.21	20.5%	0.0%	0.0%	30.8%	28.2%	7.7%	0.0%	12.8%	0.0%	100%
7	Lake St SB On-Ramp to Lake St SB Off-Ramp	26.21/ 27.13	6.3%	0.0%	0.0%	56.3%	18.8%	0.0%	0.0%	18.8%	0.0%	100%
8	Lake St SB Off-Ramp to Indian Truck Tr SB On-Ramp	27.13/ 30.00	9.3%	0.0%	0.0%	37.0%	29.6%	16.7%	0.0%	5.6%	1.9%	100%
9	Indian Truck Tr SB On-Ramp to Indian Truck Tr SB Off-Ramp	30.00/ 30.84	8.3%	0.0%	0.0%	66.7%	16.7%	8.3%	0.0%	0.0%	0.0%	100%
10	Indian Truck Tr SB Off-Ramp to Temescal Cyn Rd SB On-Ramp	30.84/ 32.83	13.2%	0.0%	0.0%	39.5%	21.1%	18.4%	0.0%	7.9%	0.0%	100%
11	Temescal Cyn Rd SB On-Ramp to Temescal Cyn Rd SB Off-Ramp	32.83/ 33.68	7.7%	0.0%	7.7%	30.8%	23.1%	30.8%	0.0%	0.0%	0.0%	100%

I-15 Mainline SB			Primary Collision Factors by Percent									
Interchange		Post Mile	HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	Total
12	Temescal Cyn Rd SB Off-Ramp to Weirick Rd SB On-Ramp	33.68/ 35.29	3.3%	0.0%	0.0%	23.3%	60.0%	6.7%	0.0%	6.7%	0.0%	100%
13	Weirick Rd SB On-Ramp to Weirick Rd SB Off-Ramp	35.29/ 36.07	13.9%	0.0%	0.0%	36.1%	36.1%	13.9%	0.0%	0.0%	0.0%	100%
14	Weirick Rd SB Off-Ramp to Cajalco Rd SB On-Ramp	36.07/ 36.28	19.0%	0.0%	0.0%	4.8%	52.4%	23.8%	0.0%	0.0%	0.0%	100%
15	Cajalco Rd SB On-Ramp to Cajalco Rd SB Off-Ramp	36.28/ 37.24	10.2%	0.0%	0.0%	22.4%	50.0%	15.3%	0.0%	2.0%	0.0%	100%
16	Cajalco Rd SB Off-Ramp to El Cerrito Rd SB On-Ramp	37.24/ 37.60	4.1%	0.0%	0.0%	18.4%	61.2%	12.2%	0.0%	2.0%	2.0%	100%
17	El Cerrito Rd SB On-Ramp to El Cerrito Rd SB Off-Ramp	37.60/ 38.19	3.9%	0.0%	1.3%	25.0%	60.5%	9.2%	0.0%	0.0%	0.0%	100%
18	El Cerrito Rd SB Off-Ramp to Ontario Ave SB On-Ramp	38.19/ 38.31	0.0%	4.8%	0.0%	23.8%	61.9%	9.5%	0.0%	0.0%	0.0%	100%
19	Ontario Ave SB On-Ramp to Ontario Ave SB Off-Ramp	38.31/ 39.02	2.0%	0.0%	0.0%	18.0%	60.0%	18.0%	0.0%	0.0%	2.0%	100%
20	Ontario Ave SB Off-Ramp to Magnolia Ave SB On-Ramp	39.02/ 39.99	5.0%	0.0%	0.0%	15.0%	47.5%	27.5%	0.0%	2.5%	2.5%	100%
Entire Project Limits		20.30/ 40.10	8.1%	0.1%	0.4%	27.1%	44.5%	15.5%	0.0%	3.4%	0.8%	100%

Notes:

PM 20.55 to PM 39.99 per I-15 segment breakdowns (Interchange areas and between interchanges)

PM 20.30 to PM 40.10 for entire Project limits

HBD = Influence of Alcohol
FTC = Follow too Close
FTY = Failure to Yield
IT = Improper Turn
ESS = Speeding
OV = Other Violations
OTD = Other Than Driver
UNK = Unknown
ID = Improper Driving

Table 4-11 Summary of Primary Collision Factors by Percent for I-15 Ramps (01-01-2021 through 12-31-2023)

I-15 Ramps			Collision Percentages by Type									
Location		Post Mile	HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	Total
1	SR-74 (Central Ave) SB On-Ramp	22.080	0.0%	0.0%	0.0%	60.0%	20.0%	20.0%	0.0%	0.0%	0.0%	100%
2	Nichols Rd SB Off-Ramp	24.075	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100%
3	Cajalco Rd NB Off-Ramp	36.639	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100%

Notes:

HBD = Influence of Alcohol
FTC = Follow too Close
FTY = Failure to Yield
IT = Improper Turn
ESS = Speeding
OV = Other Violations
OTD = Other Than Driver
UNK = Unknown
ID = Improper Driving

Highway Safety Manual

Caltrans' Memorandum "Performance Based Decision-Making using Highway Safety Manual," (i.e., Caltrans HSM Guidance Memo) dated April 4, 2022, provides a quantitative performance-based safety analysis for highway design using the American Association of State Highway and Transportation Officials (AASHTO) Highway Safety Manual (HSM). The HSM includes two methods for implementing performance-based decision making: Part C: Predictive Method and Part D: Crash Modification Factors (CMF's). The HSM Part C: Predictive Method for Freeways is not applicable to this project because the following project features are not consistent with the models:

- The proposed facility has limited access managed lanes that are buffer separated from the general purpose lanes.

Given that the Project's build alternative contains elements that are inconsistent with the currently available freeway and ramp models, it is determined that the HSM Part C: Predictive Method and associated software tools (ISATE and IHSDM) are not applicable to this Project. Since Part C: Predictive Method is not applicable, CMFs from Part D: Crash Modification Factors could not be applied directly to an analysis.

Project decisions were made based on specific Project conditions and requirements using actual collision frequency, engineering judgment and experience.

5. ALTERNATIVES

5A. Viable Alternatives

The viable alternatives evaluated in this report include the No-Build and Build alternative. Describing and analyzing a No-Build Alternative helps both decision-makers and the public to compare the impacts of approving the Project with the consequences of not approving the Project. The PDT, which includes Caltrans, RCTC, the Cities of Corona and Lake Elsinore and Riverside County Department of Transportation, considered several improvement options for this segment of the I-15 corridor. Based on Project impacts and recommendations from previous studies, the PDT agreed to carry a single Build Alternative forward in August of 2019.

No-Build (No-Action) Alternative

Under the No-Build Alternative, the I-15 ELPSE would not be constructed. The No-Build Alternative would not meet the purpose of the Project, as it would not improve existing and future traffic operations and mainline travel times, expand travel choice, increase travel time reliability, and expand the tolled express lane network. In addition, the No-Build Alternative would not address the existing and projected deficiencies in capacity and operations within the Project limits. Although the No-Build Alternative does not meet the Project purpose and need, it would not preclude the construction of other future improvements or general maintenance activities.

Build Alternative

The Build Alternative includes the addition of two tolled express lanes in both the NB and SB directions, for a total of four express lanes, within the median of I-15 from SR-74 (Central Avenue) (PM 22.3) in the City of Lake Elsinore to El Cerrito Road (PM 38.1) in the City of Corona, for a distance of approximately 15.8 miles. The Project is anticipated to be constructed within the existing State ROW. Sign modifications and the installation of new signs would also be included to support the new tolled express lanes. Advanced signage is required to be posted a minimum of two miles prior to the start of the tolled express lanes. Signage would be located within the Project limits between PM 20.3 and PM 40.1. Due to the SB express lanes access between the Cajalco Road Interchange and Weirick Road Interchange, the SB I-15 Weirick Road Off-Ramp would be configured as a dual lane exit. The Build Alternative would not add any new connections or ramps.

Traffic Operations Analysis

This section provides an overview of freeway traffic operations under the horizon year (2050) for the Build Alternative. Detailed information is provided in the Project's TOAR concurred by Caltrans on February 22, 2021 (amended on April 7, 2022).

The horizon year (2050) peak hour and daily capacity overview for the Build Alternative is presented in Table 5-1. Although several general-purpose lane segments of I-15 within the study limits are projected to be over capacity during the peak hours, the daily capacity is not exceeded in the horizon year. None of the express lane segments within the study limits are projected to be over capacity during the peak hours and the daily capacity is not exceeded in the horizon year.

Table 5-1 Horizon Year (2050) Peak Hour and Daily Capacity Overview

Performance Measure	Build Alternative		
	AM	PM	Daily
General Purpose Lane Segments[1]	114	114	114
LOS A-D	49%	25%	100%
LOS E-F (over capacity)	51%	75%	0%
Express Lane Segments[1]	19	19	19
LOS A-D	100%	100%	100%
LOS E-F (over capacity)	0%	0%	0%

Note: 1. Includes I-15 freeway segments between Hidden Valley Road overcrossing and Franklin Street overcrossing.
Source: Fehr & Peers, 2020

Proposed Engineering Features

Other improvements associated with the Project include:

- Paving the median and widening up to 15 bridges, including approach slabs, to accommodate the express lanes
- Installing median barrier
- Adding SB auxiliary lanes from Nichols Road (PM 23.9) to SR-74 (Central Avenue) and from SR-74 to Main Street (PM 21.2)
- Reconfiguring the existing trap lane SB between Cajalco Road (PM 36.75) to Weirick Road/Dos Lagos Drive (PM 35.91) into an auxiliary lane.
- Reconfiguring the SB Weirick Road Off-ramp to a dual exit configuration
- Creating multiple express lane ingress and egress locations, including weave zones between the express lanes and general purpose lanes
- Shifting the I-15 centerline 12' to the east between Cajalco Road (PM 36.75) to Weirick Road/Dos Lagos Drive (PM 35.91)

- Reconstructing portions of the Weirick Road/Dos Lagos Drive NB On-Ramp, Cajalco Road NB Off-Ramp, Cajalco Road NB Loop On-Ramp and SR-74 (Central Avenue) SB On-Ramp
- Constructing retaining walls
- Constructing potential noise barriers
- Modifying the existing drainage systems and incorporating stormwater treatment devices
- Installing gantries with electronic toll collection and monitoring equipment
- Installing vehicle detection equipment
- Installing roadside and overhead signs
- Installing changeable message signs
- Installing ramp metering at the Nichols Road and Lake Street interchanges
- Installing maintenance vehicle pullouts
- Installing lane delineators between the express lanes and general purpose lanes
- Installing emergency generators to support the toll collection equipment

The Build Alternative would not add any new connections or ramps. No borrow or fill sites are anticipated to be required, and all planned construction staging areas are within existing ROW. The Build Alternative is anticipated to be constructed within the existing State ROW. Preliminary Engineering Plans are included in Attachment B.

Typical Sections

For the Build Alternative, the Project proposes to widen the freeway to the inside to accommodate the addition of express lanes. The paved median would slope away from the proposed concrete barrier placed along the centerline in tangent segments to drain water to the outside. Along horizontal curves, the existing superelevation would be applied to closely match the existing cross slopes and transition rates. Retaining walls would be constructed within some portions of the median to accommodate the difference in elevation between the NB and SB roadbeds, when paving the full width of the median.

The existing inside asphalt median shoulders would be removed to provide for the median widening. At locations where auxiliary lanes are added, outside widening would occur including a standard 10-foot-wide outside shoulder. Standard 12-foot-wide lanes are typical; inside shoulder widths adjacent to the median barrier vary

between a minimum of 5 feet at constrained locations to 8 feet. The only exception is at two constrained locations where the express lane would transition to be 11 feet-wide to maintain a minimum 8-foot-wide inside shoulder and not widen to the outside. Further discussion of the geometry and nonstandard features is included in the Nonstandard Design Features section. Table 5-2 summarizes the typical mainline cross sections for the No-Build and Build Alternatives.

Table 5-2 Typical Mainline Cross Sections for the No-Build and Build Alternative

Freeway Segments	No-Build Alternative	Build Alternative
Main Street to SR-74 (Central Avenue)	3 General Purpose Lanes	3 General Purpose Lanes **1 Auxiliary Lane (SB Main Street to SR-74)**
SR-74 (Central Avenue) to Nichols Road	3 General Purpose Lanes	3 General Purpose Lanes **1 Auxiliary Lane (SB SR- 74 to Nichols Road)** ***1 Express Lane (I-15)**
Nichols Road to Weirick Road	3 General Purpose Lanes	3 General Purpose Lanes **2 Express Lanes (I-15)**
Weirick Road to Cajalco Road	3 General Purpose Lanes 1 Auxiliary Lane (SB Cajalco Road to Weirick Road)	3 General Purpose Lanes 1 Auxiliary Lane (SB Cajalco Road to Weirick Road) **2 Express Lanes (I-15)**
Cajalco Road to El Cerrito Road	3 General Purpose Lanes 1 Auxiliary Lane (SB El Cerrito Road to Cajalco Road) 1 Auxiliary Lane (NB between Cajalco Road to El Cerrito Road) 1 Express Lane (I-15)	3 General Purpose Lanes 1 Auxiliary Lane (SB El Cerrito Road to Cajalco Road) 1 Auxiliary Lane (NB between Cajalco Road to El Cerrito Road) **2 Express Lanes (I-15)**
El Cerrito Road to Ontario Avenue	3 General Purpose Lanes 1 Auxiliary Lane (SB Ontario Avenue to El Cerrito Road) 2 Express Lanes (I-15)	3 General Purpose Lanes 1 Auxiliary Lane (SB Ontario Avenue to El Cerrito Road) 2 Express Lanes (I-15)

*The SB buffer separated express lane (I-15) ends and transitions back to the existing general purpose lane configuration with conventional lane striping.

Notes: 1. Lane number refers to number of lanes per direction of travel unless otherwise noted

2. **Bold text signifies additional lanes added by the Project**

Drainage

Throughout the length of the I-15 ELPSE, the general transversal flow pattern is from either east to west or west to east depending on the location. Longitudinally, water flows either north to south or vice versa depending on the location. As it currently exists, the I-15 ELPSE uses several methods to convey stormwater runoff through and off its ROW. Existing storm drain facilities run parallel (via roadside ditches and shoulder dikes), as well as intersects (via pipes and culverts) the alignment of the I-15 as the drainage conditions dictate.

In the freeway sections within straight horizontal geometry, each road section (NB and SB) tends to drain toward the center median beginning at the inside edge of travel way, while the travel ways tend to drain toward the outside shoulders. In roadway sections within a superelevation, the superelevated travel way drains toward the center median.

The center median is largely a native soil "channel" that collects and conveys runoff from the existing roadway to the nearest inlet via a series of graded high points, flow-through situations, and sag locations. The shoulder areas typically sheet flow to graded swales and to asphalt dikes to direct flow to the nearest inlet or low point. Water collected by the median, shoulder dikes, and swales is conveyed through concrete pipes and culverts running transversely. The collected water is then discharged onto marshes, creeks, and other surface depressions and ultimately to the Temescal Creek Wash.

Existing storm drain systems within the Project's limits range from 12 inches to 84 inches in diameter for circular conduit and varying dimensions for box culverts. A variety of culvert material was used within the Project's limits, such as reinforced concrete pipe, reinforced concrete box, corrugated steel pipe, corrugated metal pipe, and alternative pipe culvert. In addition, several drainage systems are employed in a series, whereas most are a single pipe system conveying flow from one side of the freeway to the other.

As-builts were reviewed and field investigations were conducted to document the approximate centerline location of the existing drainage facilities within the I-15 ELPSE corridor. An inventory of the existing drainage facilities was created listing the approximate location, size, and type of material and can be found in the approved Preliminary Drainage Report for the Project.

The overall proposed drainage condition concept would remain similar to the existing drainage condition with respect to direction of flow. However, there are some changes due to the I-15 ELPSE improvements that would alter the method by which stormwater would be conveyed. No diversion from watersheds is planned. This change is due to its proposed improvements eliminating the median "channel" that currently exists in favor of paved lanes and shoulders, as well as the addition of retaining walls. These improvements and additions would necessitate the removal of existing inlets and adding new inlets along the new edge of shoulder to intercept stormwater runoff. Additionally, new longitudinal storm drain lines running parallel

to the roadway's alignment would be constructed to connect the new inlets to the existing transversal storm drain lines. Hydraulic analysis would be required in the final design phase to confirm new storm drain connections do not create adverse conditions in existing storm drain facilities. The proposed inlets along the new median edge of shoulder are only needed for superelevated roadway segments. In general, water would be directed away from the median onto the outer shoulders. Portions of the Project are located within a Fire Hazard Severity Zone (FHSZ), as discussed in Section 7M. Coordination with the District Hydraulics unit would be required in the final design phase to identify preferable drainage pipe materials.

The Preliminary Drainage Report provided conceptual analysis of the proposed onsite drainage improvements associated with the Project. Additional detailed analysis would occur, and a Final Drainage Report would be prepared during the final design phase. With the recommendations and implementations identified in the Final Drainage Report, no direct or indirect adverse long-term impacts would result from the Build Alternative.

Retaining Walls and Barriers

Throughout the Project, a concrete barrier is proposed in the median where it currently does not exist to separate NB and SB traffic. In some locations, a retaining wall with concrete barrier is proposed in the median to accommodate the differences in elevation between the NB and SB roadways when paving the full width of the median.

Additional retaining walls would be needed approaching the Cajalco Road Interchange in the NB direction along the outside to accommodate the widening within the ROW. Retaining walls for the Project are proposed at the locations shown in Table 5-3.

Table 5-3 Proposed Retaining Wall Locations

Retaining Wall No.	Location	Begin Sta.	End Sta.
1165	SB Central Avenue On-Ramp	"CE01" 160+65	"CE01" 168+00
1273M	Median	"C" 1196+30	"C" 1293+60
1321M	Median	"C" 1293+54	"C" 1350+90
1626M	Median	"C" 1623+60	"C" 1627+90
1668M	Median	"C" 1665+80	"C" 1668+40
1737M	Median	"C" 1732+80	"C" 1739+05
1786M	Median	"C" 1783+50	"C" 1790+00
1918M	Median	"C1" 905+80	"C1" 930+28
1886	NB Exterior Shoulder	"C1" 883+50	"C1" 891+02
1888	NB Weirick Road On-Ramp	"WE02" 886+37	"WE02" 890+40
1914	NB Exterior Shoulder	"C1" 908+50	"C1" 921+13

Nonstandard Design Features

Nonstandard boldface and underlined design standards were approved on April 9, 2024, for incorporation in the Project. Table 5-4 summarizes the nondelegated boldface design features included in the approved Design Standard Decision Document (DSDD). Table 5-5 summarizes the underlined design features included in the approved DSDD.

Table 5-4 Summary of Nondelegated Boldface Design Features Requiring Approval

Feature	HDM Index	Standard	Proposed Exception
Stopping Sight Distance (SSD)	201.1	For V = 80 mph, SSD = 930 feet	Provide SSD less than design speed of 80 mph
Standards for Superelevation	202.2(1)	Superelevation rates from Table 202.2 shall be used within the given range of curve radii	Maintain existing mainline superelevation rate
Stopping Sight Distance	203.1	Horizontal alignment shall provide at least the minimum SSD	Provide SSD less than posted speed of 65 mph
Lane Width	301.1	Minimum lane width shall be 12 feet	Provide 11-foot lanes
Shoulder Width	302.1	Shoulder widths from Table 302.1 should be a minimum of 10 feet	Provide shoulder widths between 2 and 10 feet
Median Standard Widths	305.1(3)(a)	In areas where restrictive conditions prevail the minimum median width shall be 22 feet.	Provide median between 18 and 22 feet
Horizontal Clearances	309.1(1)	Horizontal clearances shall be provided to meet horizontal sight distance requirements	Provide SSD less than design speed of 80 mph
Horizontal Clearances	309.1(3) (a)	Minimum horizontal clearance shall be equal to the standard shoulder width (10 feet)	Provide horizontal clearances between 2 and 10 feet
Interchange Spacing	501.3	Minimum interchange spacing shall be 1 mile in urban areas and 2 miles between freeway-to-freeway interchanges and other interchanges	Maintain existing interchange spacing

Table 5-5 Summary of Underlined Design Features Requiring Approval

Feature	HDM Index	Standard	Proposed Exception
Decision Sight Distance (DSD)	201.7	Decision sight distances shown in Table 201.7 should be used at off-ramp noses to interchanges	Provide DSD less than design speed of 80 mph
Superelevation Transition	202.5(1)	Superelevation transition should be designed as shown in Figure 202.5A	Not per Figure 202.5A, match existing superelevation transition
Superelevation Runoff	202.5(2)	Two-thirds of the superelevation runoff should be on the tangent and one-third within the curve	Two-thirds of superelevation runoff not in the tangent
Single Lane Ramps	504.3(5)	Provide passing lane on single lane ramps that exceed 1,000 feet	Provide a 1,51'' single lane ramp

A Supplemental DSDD has been prepared and is anticipated to be approved prior to completion of the PA&ED phase for the Project. The Supplemental DSDD is to document additional nonstandard features related to ramp metering that were identified in June 2024. Table 5-6 summarizes the nonstandard underlined design features included in the Supplemental DSDD for the Build Alternative including the probability of approval and justification. The identified nonstandard features have been discussed with the Caltrans District Design Liaison to determine the probability of approval.

Table 5-6 Supplemental Underlined Design Standards Risk Assessment

Supplemental Underlined Design Standards Risk Assessment			
Feature	**HDM Index**	**Probability of Nonstandard Design Feature Approval (None, Low, Medium, High,)**	**Justification for Probability Rating**
Auxiliary Lane at Metered Freeway Entrance Ramp	504.3(2)(a)	High	The Project would provide ramp meters for the existing single lane on-ramps at the Nichols Road and Lake Street Interchanges. Providing the 300' auxiliary lane for the on-ramp would impact the established Project footprint and require additional environmental analysis, which would result in delay to the Project delivery schedule. There are three locations for this feature included in the Supplemental DSDD.

Clear Recovery Zone	309.1(2)(a)	High	The Type 1A pole and flashing beacons are required for the ramp meter and cannot be eliminated, and per the RMDM Typical Type 1 Signal Standard Installations, is not yielding. Per Caltrans Traffic Safety Systems Guidance (TSSG), Section 3.5 "Placement of guardrail, itself a fixed object, may also increase the probability of a vehicle colliding with the guardrail. For this reason, fixed objects such as individual poles… are typically not shielded by guardrail." There are four locations for this feature included in the Supplemental DSDD.

Express Lanes

The Project would construct tolled express lanes, within the existing median, from the City of Corona to the City of Lake Elsinore, extending the existing tolled express lane system south from Cajalco Road to SR-74 (Central Avenue). The tolled express lanes would be used by vehicles with one or two occupants for a toll and by high occupancy vehicles with three or more occupants for free or a reduced toll. The toll rate would be adjusted based on the level of traffic congestion so that vehicles in the express lanes travel at highway speds even when the general purpose lanes are congested. These improvements would enhance regional mobility and offer greater user flexibility of the regional transportation system.

Typically, the express lanes would have 12-foot lanes with a 2-foot buffer between general purpose lanes and an 8-foot shoulder adjacent to the median barrier. At some locations, the shoulder would be reduced. The minimum shoulder width varies between 2 and 8 feet at specific locations. 11-foot express lanes have been proposed in specific locations to accommodate the express lanes within the existing median without outside widening and to increase sight distance for interior lanes on lengthy horizontal curves.

Caltrans guidance recommends the use of buffer separation between express lanes and general purpose lanes to provide a safe speed differential between both facilities. Per the recommendation, the Project proposes to separate the express lanes and

general purpose lanes with a buffer that consists of two solid white lane markings with an accommodation for channelizers, to deter illegal access.

Access into and out of the express lanes would be restricted, similar to the access operations on the existing I-15 and SR-91 express lanes and based on guidance specified in the Caltrans Traffic Operations Policy Directive (TOPD) guidance Memo #11-02, which provides "Updated Managed Lane Design" for access requirements regarding ingress and egress points for express lanes. At access points, the buffer that separates the general purpose lanes and express lanes transitions from two solid white lines to a single dashed white lane line.

The I-15 ELPSE evaluated six preliminary express lane access locations throughout the Project limits. The access points are located to provide access to all local street interchanges and are subject to adjustment or elimination during the final design phase. Two types of access points are proposed: combined ingress/egress without a weave lane and ingress-only. Table 5-7 lists the proposed preliminary express lane access locations by type and the interchanges that each access location serves.

Table 5-7 Preliminary Express Lane Access Locations

Direction	Access Locations Evaluated	Access Type	General Purpose Interchanges
SB	El Cerrito Road	Weave Zone Access	Replaces I-15 ELP dedicated Egress Egress to Cajalco Road Ingress from Ontario Avenue
	North of Weirick Road Off-Ramp	Weave Zone Access	Egress to Weirick Road Egress to Temescal Canyon Road Ingress from El Cerrito Road Ingress from Cajalco Road
	North of Indian Truck Trail Off-Ramp	Weave Zone Access	Egress to Indian Truck Trail Ingress from Weirick Road Ingress from Temescal Canyon Road
	North of Lake Street Off-Ramp	Weave Zone Access	Egress to Lake Street Ingress from Indian Truck Trail
	North of Nichols Road Off-Ramp	Egress Only End #2 EL	Egress to Nichols Road
	North of SR-74 (Central Avenue) Off-Ramp	Egress Only End #1 EL	Egress to SR-74 (Central Avenue) Egress to I-15 and points south
NB	North of SR74 (Central Avenue) On-Ramp	Ingress Only Start #1 EL	Ingress from I-15 and points south Ingress from SR-74 Central Avenue
	North of Nichols Road On-Ramp	Ingress Only Start # 2 EL	Ingress from Nichols Road
	North of Lake Street On-Ramp	Weave Zone Access	Egress to Indian Truck Trail Ingress from Lake Street
	North of Indian Truck Trail On-Ramp	Weave Zone Access	Egress to Temescal Canyon Road Egress to Weirick Road Egress to Cajalco Road Egress to El Cerrito Rd Ingress from Indian Truck Trail
	North of Weirick Road Off-Ramp	Ingress Only with Merge Lane	Maintains Ingress from Weirick Road
	El Cerrito Road	Weave Zone Access	Replaces I-15 ELP dedicated Ingress Ingress from Cajalco Road Egress to Ontario Avenue

For the combined ingress/egress with a weave zone, a minimum buffer opening of 2,000 feet is used in which a standard dashed white stripe is used to break the buffer. This type of access point is the most common, although it does not provide a separate weave lane, as weaving would be accomplished within the second express lane.

In the NB direction, a single express lane would be initiated within the SR-74 (Central Avenue) Interchange. North of Nichols Road, a second express lane would be added by opening an ingress lane in the median. The two NB express lanes would continue north to El Cerrito Road where they would join the two existing I-15 express lanes.

In the SB direction, the express lanes would join the two existing I-15 express lanes at El Cerrito Road and extend them south. At Nichols Road, the two express lanes would transition to one express lane by use of an egress lane that opens into a general purpose lane. The existing general purpose lanes would transition to the right and drop the right-most general purpose lane at the SB Nichols Road Off-Ramp and match existing conditions. The single express lane would then continue south and become a general purpose lane after the SB SR-74 (Central Avenue) Off-Ramp. The general purpose lanes would then transition back to the left to match existing conditions and to join the right-most general purpose lane to a new auxiliary lane that terminates at the SB Main Street Off-Ramp.

The toll collection system would be located within "toll zones" located along the express lanes. Each toll zone would include all systems related to toll collection, photographic enforcement for violations, vehicle classification detection, enforcement personnel observation locations, and equipment to support the toll system integrator, including all hardware, software, electrical, and communications equipment to facilitate toll collection. Equipment serving the toll collection and violation enforcement systems would generally include an overhead gantry, antenna, toll reader, vehicle sensor, pole-mounted camera, enforcement beacons, a hardened and protected utility cabinet on a concrete pad, and protected pavement areas to support enforcement and maintenance personnel.

The primary means of toll collection on the express lanes would be automatic collection from registered motorists who carry in-vehicle-mounted FasTrak® transponders. These transponders are interoperative with all toll roads and express lanes in the State. The amount of the toll charged at the time the express lanes are used would be deducted from the vehicle owner's pre-paid account maintained by

the agency that issued the transponder. License Plate Recognition (LPR) cameras would capture license plate images of vehicles that do not display a recognizable toll transponder. Although the use of LPR and toll transponders would automate toll violation detection, this automated enforcement would be supplemented by manual enforcement of routine traffic violations by the California Highway Patrol (CHP) field personnel. CHP would be responsible for enforcement of traffic violations on the express lanes, as in the general purpose lanes. RCTC would need to work with CHP and local law enforcement to coordinate speed enforcement, illegal access or egress ("lane diving"), and unauthorized vehicles.

Ramp Metering

Existing ramp meters for this Project would be maintained as they exist within the Project limits. The on-ramps are metered at the Indian Truck Trail, Temescal Canyon Road, Weirick Road, Cajalco Road, and El Cerrito Road interchanges. Ramp metering equipment at both the NB Weirick Road On-Ramp and the NB Cajalco Road Loop On-Ramp would be adjusted since the ramps are modified.

The on-ramps are currently unmetered at the SR-74 (Central Avenue), Nichols Road, and Lake Street interchanges. The I-15/SR-74 (Central Avenue) Interchange Improvement Project (EA 0F310) is planned to upgrade the interchange and modify the on-ramps and add ramp metering. Ramp metering would be added to the single lane on-ramps at the Nichols Road and Lake Street interchanges as part of this Project. An Exception to the Ramp Metering Policy was prepared to document the ramp metering policy non-compliance features and was approved on October 2, 2024

California Highway Patrol (CHP) Enforcement Area

In the Build alternative, CHP enforcement areas would be provided at all interchange on-ramps modified by the Project which includes the SR-74 (Central Avenue) SB On-Ramp, the Weirick Road NB On-Ramp and the Cajalco Road NB Loop On-Ramp CHP enforcement areas at the existing on-ramps within the Project area would be maintained. Currently there is an existing CHP enforcement area in the median of I-15 near the El Cerrito Road SB Off-Ramp.

The CHP observation areas for the express lanes would be located in the median and would be 14 feet wide, 600 feet long, with an 80:1 taper on each end. A 10-foot-wide double barrier protection section 100 foot long would be located before the

600-foot-long section for visual observation by CHP. These CHP areas would be located downstream of the access points, when possible, to provide opportunities for CHP to observe the operation, utilization, and potential violations of the express lanes. CHP observation areas are along the corridor at the following locations:

- NB I-15
  - from "A" Sta 1226+08 to 1232+08
  - from "A" Sta 1501+70 to 1507+70
  - from "A" Sta 1959+50 to 1965+77

- SB I-15
  - from "A" Sta 1286+50 to 1298+35
  - from "A" Sta 1429+54 to 1435+54
  - from "A" Sta 1693+80 to 1699+80
  - from "A" Sta 1868+95 to 1874+95
  - from "A" Sta 1952+50 to 1958+50

Park-and-Ride Facilities

The Park-and-Ride system is an integral tool to encourage effective utilization of the express lanes by providing locations for commuters to park their cars and participate in ridesharing or to access transit. The I-15 corridor has an existing system of three Park-and-Ride facilities along I-15. One Park-and-Ride lot is located on the southeast quadrant of the I-15/SR-74 Interchange; the second is located at the Outlets at Lake Elsinore, a retail mall; and the third is located near Ontario Avenue interchange at Canyon Community Church, in the City of Corona.

The Project does not propose any new Park-and-Ride facilities due to the lack of ROW and the fact that some of the existing Park-and-Ride facilities along the corridor are presently underutilized. I-15 ELPSE is not proposing any improvements to the existing Park-and-Ride facilities.

Utility and Other Owner Involvement

Preliminary utility research was conducted during the current PA&ED phase of the Project. The research involved retrieving DigAlert reports for the project area, contacting and obtaining utility maps and as-builts from different private and public agencies, and retrieving information from previous studies and projects located in the same area.

Private and public utilities and services include gas, electrical power, telecommunications, water supply, and sewer. The following list presents the utility providers of existing overhead and underground public utilities located within the Project limits:

- City of Corona
- Southern California Edison
- Elsinore Valley Metropolitan Water District
- Municipal Water District
- Lee Lake Water District
- Santa Ana Water Protect Authority
- Southern California Gas
- Time Warner
- Charter
- Spectrum
- MCI
- AT&T
- Century Link
- Crown Castle
- Sunesys

The Build Alternative is not anticipated to require any relocations of existing utilities. During construction, the Project would require connections to existing power sources, which include private utility companies. However, no disruption of utility services is anticipated as new service connections are constructed. The Right of Way Data Sheets for the Build Alternative are contained in Attachment E.

Railroad Involvement

No railroad agencies would be involved since there are no existing railroad facilities within or immediately adjacent to the Project.

Highway Planting

The Project improvements propose to widen the freeway to the inside median to accommodate the additional lanes. Improvements include paving the existing inside median, installing signing and striping, noise barriers, and associated stormwater and drainage modifications. Due to the scope of these improvements, it's expected that replacement planting would be provided, and no highway planting is proposed

as part of this Project. However, some minor widening to the outside is required to accommodate the planned auxiliary lanes in specific locations along the corridor and noise barriers would be placed, which may affect landscaping. Impacts to existing trees would be evaluated in the final design phase. If the existing trees within the Project limits are anticipated to be removed or damaged during construction, replacement planting would be installed at a rate, size, and location determined by the District Landscape Architect, consistent with the Environmental Commitment Record and Project Aesthetics and Landscape Master Plan.

Erosion Control

Erosion control would need to be considered to assure stormwater quality compliance and minimize maintenance requirements. A Storm Water Data Report (SWDR) has been updated for the PA&ED phase. The SWDR considers temporary best management practices (BMPs) to implement during construction and permanent BMPs for long-term measures. Permanent BMPs recommended for consideration in the SWDR include erosion control measures, biofiltration swales and biofiltration strips. Temporary BMPs recommended for consideration include soil stabilization protection, sediment control protection, tracking control protection, and waste management protection.

The limits of disturbance activities are within the roadways outside edge of pavements, specifically within the median and, in some segments, the outer shoulders. Disturbance is expected also within the outer shoulder ditches to accommodate the permanent BMPs. Permanent erosion control would be implemented on outer shoulders that are not part of biofiltration swales and biofiltration strips. Since the median is narrow and flat, erosion control BMPs are not anticipated in this area. Existing vegetation outside the necessary limits of disturbance would be preserved to the maximum extent practicable. Stormwater runoff control would be achieved with gravel bag berms placed along the downstream perimeters of the work area or median. The duration that disturbed areas are left exposed would be minimized to the maximum extent possible. Gravel bag berms would be used to divert run-on around disturbed areas as needed so as to not create a hazard for freeway traffic.

Sediment/desilting basins and sediment traps would not be needed due to the nature of this Project. Based on soil classification, adequate soil type does not exist

throughout the Project limits for Infiltration Devices to be implemented to treat runoff. Soil amendments may be incorporated to enhance infiltration.

For proposed slopes that are steeper than 4:1, an erosion control plan would be developed during the design phase under the supervision of the District Landscape Architect providing details on how the steeper slopes would be stabilized. For proposed slopes steeper than 2:1, the erosion control plan would include a Geotechnical Report that addresses the stability of slopes steeper than 2:1 and would be prepared with concurrence of the District Landscape Architect. Estimates of increased impervious surface area, BMP quantities and BMP costs are provided in the cost estimate. Data in the SWDR is based on the footprint of the Build Alternative.

Trash Capture Devices

The I-15 within the Project limits falls within a designated Significant Trash Generating Area (SGTA). Therefore, full trash capture devices (TCD) would be implemented to the maximum extent practicable, and Caltrans approved TCD's would be evaluated for inclusion in the final design phase. TCD's are recommended in urbanized areas, such as the north and south ends of the Project alignment, where the likelihood for high concentrations of trash is increased. TCD's are anticipated to be recommended along the outer shoulder areas at the downstream ends of drainage facilities where they can be safely maintained and avoid impacts to traffic operations.

Noise Barriers

Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772) is a requirement to provide procedures for noise studies and noise abatement measures to: help protect the public's health, welfare, and livability; and to supply Noise Abatement Criteria (NAC); and establish requirements for use in the planning and design of highways. Under this requirement the Project is classified as a Type I Project because it would add express lanes and auxiliary lanes on I-15. A noise analysis is required for all Type I projects and is defined in 23 CFR 772 as follows:

"Proposed federal or federal aid highway project for the construction of a highway on a new location or the physical alteration of an existing highway, which changes either the horizontal or vertical alignment or increases the number of through-traffic lanes."

Sensitive receptors were modeled and evaluated for potential noise impacts resulting from the Project. A summary of the findings from the Noise Study Report (NSR) and Noise Abatement Decision Report (NADR) is provided in Section 6H of this document.

Nonmotorized and Pedestrian Features

No Project elements would include modifications to local sidewalks, crosswalks, and other pedestrian facilities.

Review of existing and planned facilities identified bicycle paths and bicycle lanes that pass over or under the I-15 corridor within the Project limits. Class 2 bicycle routes are planned along the following roadways: Nichols Road, Indian Truck Trail, and Temescal Canyon Road. Temescal Canyon Road crosses the I-15 in three locations along the corridor within the Project limits.

Although the Project improves existing structures, there are no direct impacts to any existing pedestrian or bicycle facilities. The Project may periodically affect pedestrian and bicycle facilities during with falsework required during construction of the bridge widenings. It is anticipated that at these locations' openings would be provided to maintain connectivity for pedestrians/bicyclists. If openings are not feasible, detour routes would be provided.

Needed Roadway Rehabilitation and Upgrading

Evaluation of the existing pavement would appropriately be completed during the design phase of the Project. A pavement survey would be necessary for the roadway adjacent to any of the widened roadway segments to confirm the condition of the existing pavement within the project area.

Needed Structure Rehabilitation and Upgrading

Structure rehabilitation and upgrading requirements were reviewed in the bridge advanced planning studies (APS) for the Project. Identified needs and preliminary recommendations are summarized in Table 5-8. Additional details on the identified needs, including minor aesthetics, are given in the respective APS reports. The APS's for the Build Alternative are contained in Attachment D.

Table 5-8 Proposed Bridge Improvements

Existing Bridge	Proposed Improvement
Gavilan Wash	Inside widening both Left (Br No 56-0726L) & Right structures (Br No 56-0726R)
Lake Street UC	Inside widening both Left (Br No 56-0682L) & Right structures (Br No 56-0682R)
Temescal Canyon Road UC	Inside widening both Left (Br No 56-0681L) & Right structures (Br No 56-0681R)
Temescal Wash	Inside widening both Left (Br No 56-0680L) & Right structures (Br No 56-0680R)
Horsethief Canyon Road UC	Inside widening both Left (Br No 56-0679L) & Right structures (Br No 56-0679R)
Horsethief Canyon Wash	Inside widening both Left (Br No 56-0678L) & Right structures (Br No 56-0678R)
Indian Wash	Inside widening both Left (Br No 56-0677L) & Right structures (Br No 56-0677R)
Indian Truck Trail UC	Inside widening both Left (Br No 56-0676L) & Right structures (Br No 56-0676R)
Temescal Canyon Road UC	Inside widening both Left (Br No 56-0675L) & Right structures (Br No 56-0675R)
Mayhew Wash	Inside widening both Left (Br No 56-0674L) & Right structures (Br No 56-0674R)
Coldwater Wash	Inside widening both Left (Br No 56-0543L) & Right structures (Br No 56-0543R)
Temescal Canyon Road UC	Inside widening both Left (Br No 56-0542L) & Right structures (Br No 56-0542R)
Brown Canyon Wash	Inside widening both Left (Br No 56-0559L) & Right structures (Br No 56-0559R)
Weirick Road UC	Inside widening both Left (Br No 56-0541L) & Right structures (Br No 56-0543L)
Bedford Wash	Inside widening Left structure (Br No 56-0540L) /inside & outside widening Right structure (Br No 56-0540R)

Lateral Separation of Bridge Structures

During the PA&ED phase, multiple strategies have been identified related to the lateral separation of the proposed bridge widening structures. The necessary technical detail to support selection of the most appropriate strategy for each bridge widening would be determined during the Type Selection Process in the final design phase. This section outlines the options that should be considered in final design and the basis of assumption used for the preliminary design phase.

The Project would widen a total of 15 bridge crossings, 7 of which are over local roadways and 8 of which are over washes. Selection of the appropriate strategy related to lateral separation would need to consider the type of existing structure, seismic performance, ability to construct, provide access for bridge inspection and

maintenance of the structure and the roadway cross section (including lane widths and inside and outside shoulder widths) and governing design codes (Caltrans, AASHTO). The existing condition is generally a lateral separation between existing bridges that is greater than 15’ with a 5’ to 8’ inside shoulder across all the existing UC and wash bridges. The strategies that would be considered in final design include three options.

Option 1 includes a full bridge deck closure. In this option, the widening of bridge structures would result in combining the NB and SB bridge decks at the centerline or defined join line with a single concrete median barrier. A primary design consideration is the individual structure orientation and vertical separation between the NB and SB bridge decks, and concerns over the structural performance related to a resulting “sawtooth” or step in the combined bridge deck. This is the preferred option if structurally feasible and can be accommodated without requiring a structural retrofit of the existing bridge foundations. Figure 5-1 illustrates Option 1 for the lateral separation of bridge structures.

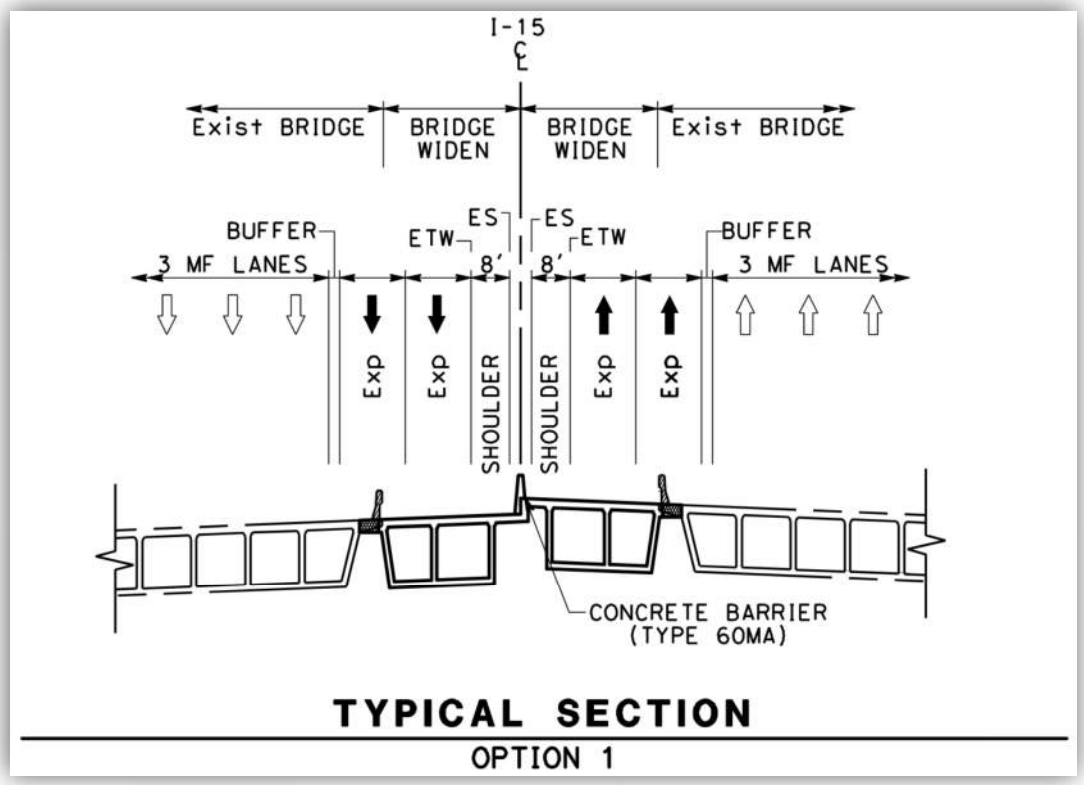

Figure 5-1 Lateral Separation of Bridge Structures – Option 1

Option 2 includes a small lateral bridge separation of about 6” with 7’ to 8’ inside shoulders. This is the design condition for the Engineering and Environmental studies. A primary design consideration is the ability to construct, inspect and maintain the structures given the close spacing between the independent bridge decks and concrete median barriers. Maintenance crews can perform inspections at UCs from the local road but repairs to the lower deck median bridge barrier could be challenging. Maintenance or potential barrier repairs at bridges over washes is challenging with the small separation given the limited ground access for personnel lifts and other necessary equipment and potential environmental concerns. Figure 5-2 illustrates Option 2 for the lateral separation of bridge structures.

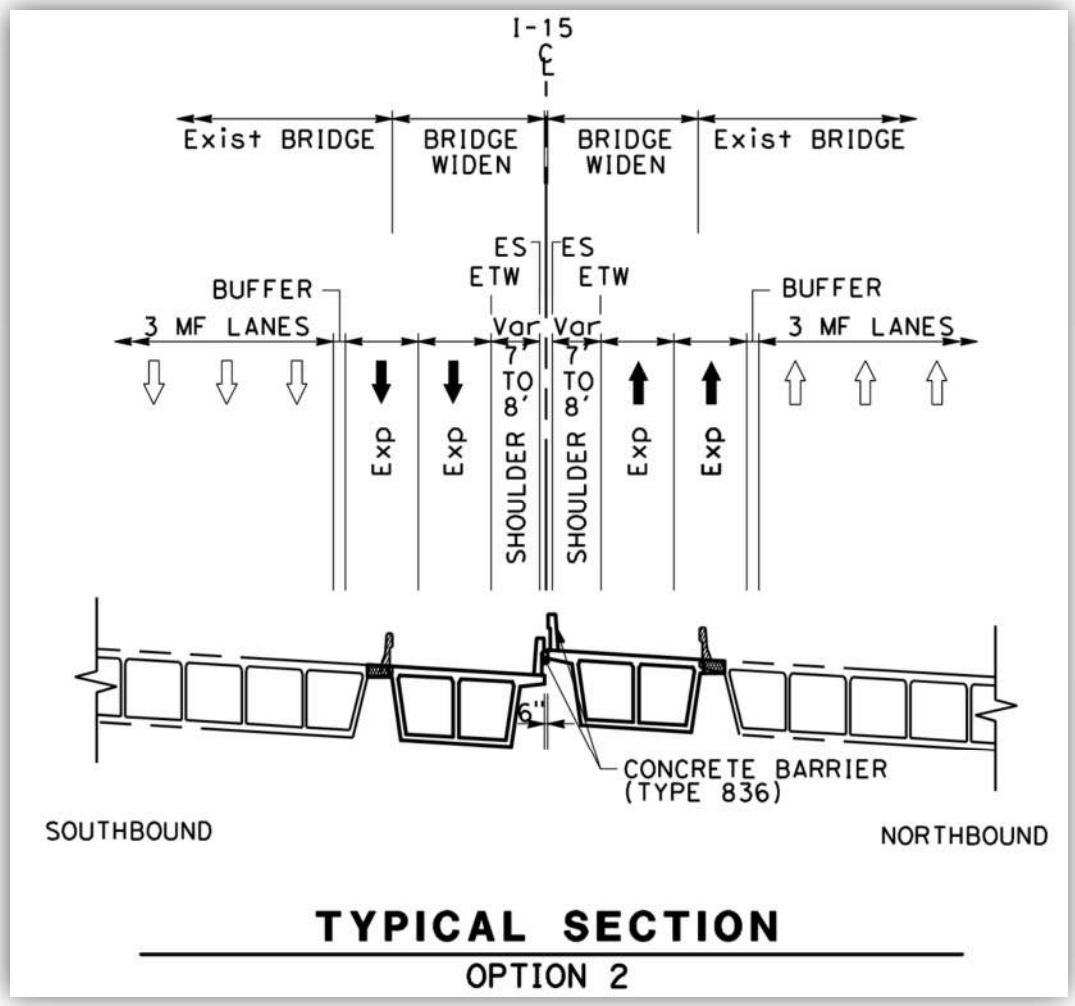

Figure 5-2 Lateral Separation of Bridge Structures – Option 1

Option 3 includes minimal lateral bridge separation of 6.5’ to 8.5’ with inside shoulders no less than 4’. Maintenance crews can perform inspections at UCs from the local road but repairs to the lower side median bridge rail could be challenging. Maintenance or potential barrier repairs at bridges over washes is challenging with the small separation given the limited ground access for personnel lifts and other necessary equipment and potential environmental concerns. Figure 5-3 illustrates Option 3 for the lateral separation of bridge structures.

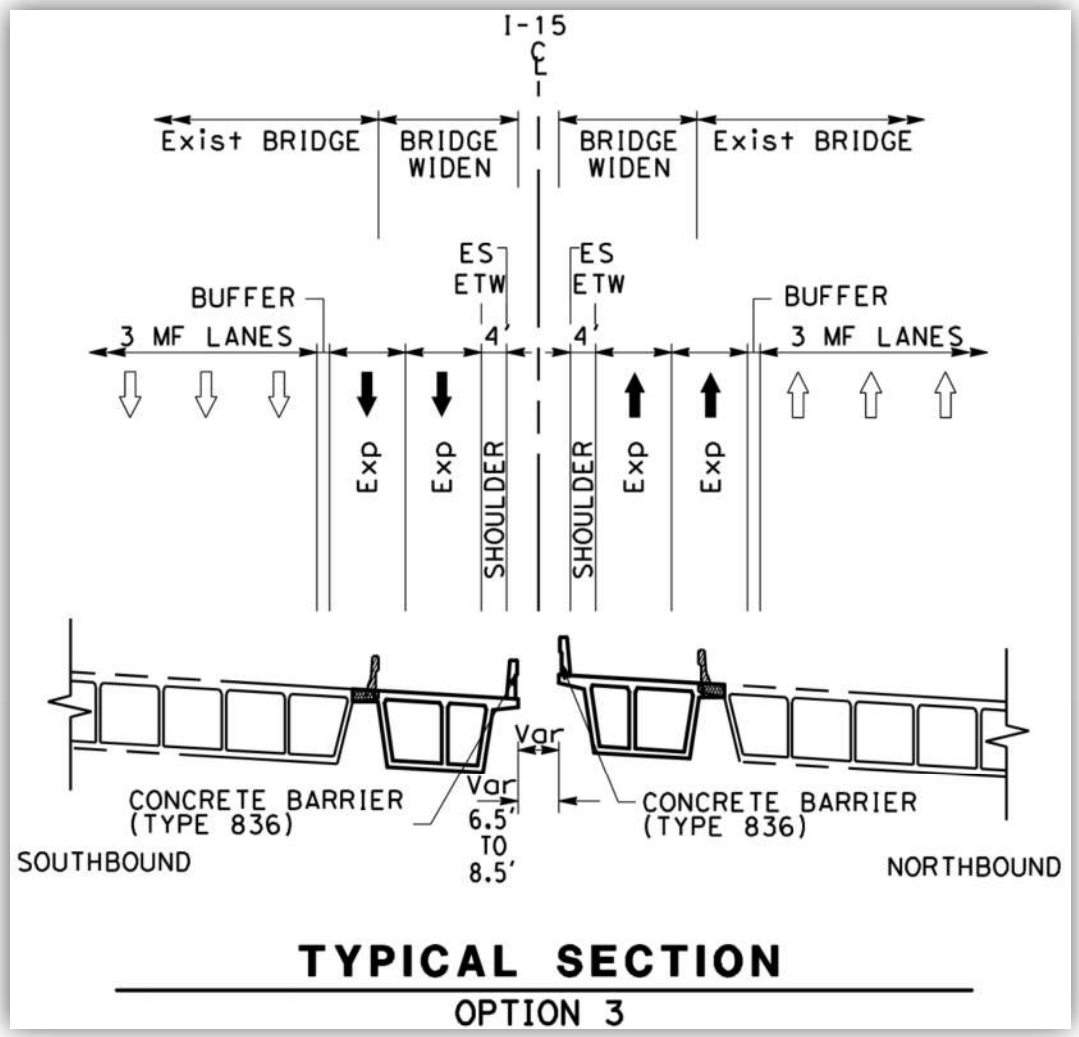

Figure 5-3 Lateral Separation of Bridge Structures – Option 3

For the purposes of the PA&ED phase, Option 2 was assumed for the Build Alternative based on a balance of design considerations and overall footprint. Option

2 created the largest structural footprint (and resulting largest environmental impact envelope) of closing the median gap but leaving a narrow 6" bridge separation to allow for independent bridge movements. Option 2 provides the most conservative estimate as it relates to inside shoulder exceptions that would most likely be encountered if decks cannot be joined. Using Option 2 for the Preliminary Engineering and Environmental Studies allows for future design refinement to either Option 1 or Option 3 without triggering a revalidation or additional technical studies. Using either Option 1 or 3 for the PA&ED studies might trigger a revalidation or additional technical studies if pursued during future Project phases.

Cost Estimate

The cost estimates for the Build Alternative are provided in Table 5-9 . Attachment C provides a detailed breakdown of the Project construction cost elements for the Build Alternative. The estimate includes only the roadway, structure, tolling infrastructure, and ROW costs.

Table 5-9 Cost Estimate Summary

Estimate	Build Alternative
Roadway Items	$328,041,800
Structure Items	$41,383,000
Toll Facilities	$16,274,400
Subtotal Construction Cost	**$385,699,200**
Right of Way	$0
Total Project Construction Costs	**$385,699,200**

Right of Way Data

Permanent ROW acquisitions are not required for the Build Alternative. No permanent or temporary acquisitions have been identified during the PA&ED phase on the surrounding properties along the State ROW. No ROW or utility relocation costs have been identified for the Project, as reported in the ROW Data Sheets and Utility Information Sheets in Attachment E and summarized in Table 5-8 above. Additional ROW information is provided in Section 6D.

Effects of Projects-Funded-by-Others on State Highways

The Build Alternative would fund operational improvements to the State Highway System (SHS) by adding express lanes in each direction on I-15. The Riverside County Transportation Commission is the Project Sponsor, and funding would be

provided by a combination of local, state, and federal funds. Caltrans would provide oversight through the construction phase of the Project.

5B. Rejected Alternatives

As part of the PA&ED development and design of the Build Alternative, one additional alternative was considered:

1. Add a high-occupancy vehicle (HOV) lane in each direction along I-15 between SR-74 (Central Avenue) and Cajalco Road.

Future traffic volumes within the I-15 corridor were projected to increase so much that the addition of a single HOV lane in each direction would not have met the purpose and need of the project based on the projected traffic demands. Based on a review of anticipated future funding for projects in Riverside County, it was determined that funding of an additional lane on I-15 from SR-74 (Central Avenue) to Cajalco Road could only be reasonably accomplished through the construction of a tolled facility along I-15. The cost for the HOV alternative was estimated to be approximately $330 million. Since the HOV alternative did not meet the Project's Purpose and Need and was not financially feasible, the HOV alternative was dropped from further consideration.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

An Initial Site Assessment (ISA) was prepared for the Project to identify potential and known contaminant sources or recognized environmental conditions (RECs), historical RECs (HREC), and controlled RECs (CREC). The ISA identifies facilities with documented or visible contamination or releases into the environment within the ISA Study Area. The ISA Study Area is defined as the area within the Project limits and a 300-foot buffer from the Project limits to account for adjoining properties. The ISA dated December 2021 was approved for this Project. The ISA signature page and ISA checklist are included in Attachment J.

Based upon the ISA there was no evidence of RECs within the ISA Study Area for the Project. However, the following sections highlight the environmental conditions that were identified for the Project and may be encountered during construction activities.

Sites of Concern

Although no open cases involving leaking underground storage tanks (LUST) or spills were identified within the Project limits, there is a potential for encountering unexpected or unknown contaminants during soil disturbance activities at six hazardous material sites. Table 6-1 lists these sites of concern.

Table 6-1 Hazardous Waste Sites of Concern

Site ID	Site Name	Distance/ Direction from Project Limits	Land Use	REC	Recommendation	Risk Ranking
32	Unnamed Site Nichols Rd at I-15 Lake Elsinore, CA	Within Project limits	Roadway	No	No open cases involving LUSTs or spills are associated with this property. Although there are no open cases, precaution should be taken for encountering unexpected or unknown contaminants during soil disturbance activities. A Health and Safety Plan (HASP), Contaminated Media Management Plan (CMMP), and Construction Contingency Plan (CCP) would be prepared for the Project that would outline specific procedures for encountering expected and unexpected contaminants to protect worker health and safety. The risk ranking for this site is considered to be low and a Preliminary Site Investigation (PSI) is not warranted.	Low
34	Bridge Maintenance on I-15 PM 25.55 Over Gavilan Wash Project (now Gavilan Wash Bridge) I-15 PM 25.55 Lake Elsinore, CA	Within Project limits	Roadway	No	No open cases involving LUSTs or spills are associated with this property. Although there are no open cases, precaution should be taken for encountering unexpected or unknown contaminants during soil disturbance activities. A HASP, CMMP, and CCP would be prepared for the Project that would outline specific procedures for encountering expected and unexpected contaminants to protect worker health and safety. The risk ranking for	Low

Site ID	Site Name	Distance/ Direction from Project Limits	Land Use	REC	Recommendation	Risk Ranking
					this site is considered to be low and a PSI is not warranted	
49	Indian Truck Trail I-15 Interchange Temescal Canyon to Campbell Ranch Road Lake Elsinore, CA	Within Project Limits	Roadway	No	No open cases involving LUSTs or spills are associated with this property. Although there are no open cases, precaution should be taken for encountering unexpected or unknown contaminants during soil disturbance activities. A HASP, CMMP, and CCP would be prepared for the Project that would outline specific procedures for encountering expected and unexpected contaminants to protect worker health and safety. The risk ranking for this site is considered to be low and a PSI is not warranted.	Low
55	Unnamed Site Temescal Canyon Road & I-15 Corona, CA	Roadway	No	No	No open cases involving LUSTs or spills are associated with this property. Although there are no open cases, precaution should be taken for encountering unexpected or unknown contaminants during soil disturbance activities. A HASP, CMMP, and CCP would be prepared for the Project that would outline specific procedures for encountering expected and unexpected contaminants to protect worker health and safety. The risk ranking for this site is considered to be low and a PSI is not warranted.	Low

Site ID	Site Name	Distance/ Direction from Project Limits	Land Use	REC	Recommendation	Risk Ranking
76	Coronita Ranch Sand Deposit Corona, CA	Within Project Limits	Roadway	No	Silica sand is not a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substance but can be toxic if made airborne and inhaled. Although there are no clear documentation of the presence or absence of silica sand within the Project limits, precaution should be taken if this material is encountered during soil disturbance activities such as intrusive geotechnical investigations. A HASP, CMMP, and CCP would be prepared for the Project that would outline specific procedures for encountering expected and unexpected contaminants, including silica sand, to protect worker health and safety. The risk ranking for this site is considered to be low and a PSI is not warranted.	Low
78	Cajalco Road/I-15 Interchange Improvement Cajalco Road and I-15 Corona, CA	Within Project Limits	Roadway	No	No open cases involving LUSTs or spills are associated with this property. Although there are no open cases, precaution should be taken for encountering unexpected or unknown contaminants during soil disturbance activities. A HASP, CMMP, and CCP would be prepared for the Project that would outline specific procedures for encountering expected and unexpected contaminants to protect worker health and safety. The risk ranking for this site is considered to be low and a PSI is not warranted.	Low

Aerially Deposited Lead

Soil within the Project limits including the median, shoulders, and ramps, do not represent a significant environmental or health hazard. According to the Department of Toxic Substances Control (DTSC) variance issued to Caltrans, these soils can be classified as unregulated Type X soil, non-hazardous, and can be reused on site without restriction. Per the soil reuse agreement, a Lead Compliance Plan is required for worker safety.

Asbestos Containing Material and Lead-Based Paint

Asbestos Containing Material (ACM) is present in the gray felt pad along the SB and NB Brown Canyon Wash Bridge and Weirick Road Undercrossing Bridge inner guard rails. In addition, there is a potential for all 15 bridges that require widening by the Project to contain ACMs in areas that have not been sampled.

Lead-Based Paint (LBP) is present on the railing of NB Temescal Wash Bridge and in the yellow lane surface paint at NB Indian Wash Bridge. In addition, there is a potential for all 15 bridges that require widening by the Project to contain LBP in areas that have not been sampled.

Treated Wood Waste

Wooden guardrail posts may have been treated with creosote and pentachlorophenol (common wood preservatives).

Paint and Thermoplastic Striping

Yellow paint used for lane striping and pavement marking along I-15 within ROW may contain lead chromate.

Construction of the Project may generate hazardous waste. Hazardous wastes generated during construction of the Project would require disposal and could include used oil (not hazardous), sediment from vehicle washing, petroleum materials, cleaning solvents, and paint. The scope of an ISA is limited to anecdotal and visual evidence of potential RECs and does not include verification of RECs based on Phase II soil or groundwater sampling. Based on the findings above, no RECs have been identified within the ISA Study Area; however, environmental conditions and construction generated hazardous waste have been identified and may be encountered during construction activities.

6B. Value Analysis

The I-15 CIP is the parent project for the I-15 ELPSE. In 2014, I-15 CIP conducted a VA Study to evaluate its full 43.5-mile corridor, which included Segment 3 that is consistent with the limits of the I-15 ELPSE. The I-15 CIP VA Study recommended several variations to the express lanes that were implemented as part of that project and carried forward with I-15 ELPSE.

Because a VA Study was performed as part of the I-15 CIP parent project, the I-15 ELPSE conducted a more focused Value Engineering (VE) Study that evaluated the details of the Project to find opportunities to enhance efficiencies related to operations and capital expenditures.

The 4-day Value Engineering (VE) Study was conducted in February 2022 for I-15 ELPSE. The VE team generated various ideas for the Project which are described in the Final VE Study Report (October 2022). These concepts were compared against the baseline developed by the Project team. The concepts that resulted in improved performance were further developed by the VE team and resulted in 11 recommendations. Table 6-2 summarizes the individual recommendations.

Table 6-2 Value Engineering Study Recommendations

VE Topic No.	Recommendation Description	Cost Savings / < Cost Added > ($M)	Performance Change
VE-1	Utilize V2X Technologies and Equipment	$0.36	+16%
VE-2	Engage Toll System Integrator (TSI) Now to Improve Design	Not Quantified	+16%
VE-3	Reduce Toll Price Signage	$14.00	+16%
VE-4	Utilize Occupancy Detection System (ODS)	< $0.93 >	+16%
VE-5	Advance Geotechnical Work Early	Not Quantified	+16%
VE-6	Justify a Modified Asphalt Section	$21.23	+16%
VE-7	Use Modified High-Mast Lighting for Toll Illumination	$0.98	+16%
VE-8	Extend the SB general purpose Lane into the Auxiliary Lane at the Southern Terminus	< $0.17 >	N/A
VE-9	Realign Roadway to Reduce Retaining Wall	$12.00	N/A
VE-10	Repurpose Existing Portland Cement Concrete (PCC) Pavement and Bridges	$126.23	+16%
VE-11	Install Tolling Infrastructure for Two Lanes	Not Quantified	+16%

Study Recommendations Implemented

VE-3 Reduce Toll Price Signage

The Project would implement this recommendation and propose one Toll Rate Dynamic Message Sign (TRDMS) per tolling segment. This recommendation is consistent with the I-15 ELP toll policies and infrastructure currently operating along the I-15 Corridor.

VE-7 Use Modified Lighting Fixtures for Toll Access Opening Illumination

The Project would implement this recommendation and utilize lighting fixtures for illumination of required toll systems. This recommendation is consistent with the recent improvements on the I-15 corridor and has received Caltrans approval by District 8 and is currently operational within the I-15 ELP tolling infrastructure.

VE-8 Extend the SB General Purpose Lane into the Auxiliary Lane at the Southern Terminus

The Project would implement this recommendation and extend the SB #4 general purpose lane into the auxiliary lane established at the SB SR-74 (Central Avenue) On-Ramp. The approved I-15 ELPSE TOAR, dated February 17, 2022, had previously evaluated this recommendation as identified as Design Variation #4, which indicated an increase in weaving that would result in longer durations of mainline congestion near the I-15/SR-74 (Central Avenue) Interchange during the peak period versus conditions without the Design Variation.

In October 2022, Caltrans indicated that based on lessons learned from the I-15 ELP SB terminus and the observed congestion due to the lane drop occurring within the interchange at Cajalco Road, it is the Caltrans Traffic Operations group's position to implement this VE recommendation, thereby extending the SB #4 general purpose Lane past the I-15/SR-74 IC and connects with the auxiliary lane established at the SB SR-74 (Central Avenue) On-Ramp.

VE-9 Realign Roadway to Reduce Retaining Wall

The Project would implement this recommendation and incorporate a horizontal lane shift to the east (approximately 12 feet) on the I-15 between the Weirick Road Interchange and Cajalco Road Interchange to avoid reconstruction of the two large existing retaining walls west of the existing SB roadbed. In addition to a cost-benefit analysis of the lane shift, this

recommendation allowed for the elimination of multiple non-standard features, including lane and shoulder widths in this segment of I-15.

Study Recommendations Deferred to Final Design

The Project would defer the following recommendations for further evaluation in the final design phase:

VE-1 Utilize V2X Technologies and Equipment, VE-2 Engage Toll System Integrator (TSI) Now to Improve Design, VE-4 Utilize Occupancy Detection System (ODS), and VE-11 Install Tolling Infrastructure for Two Lanes

Each of these toll infrastructure related recommendations are not included in the existing I-15 ELP tolling infrastructure which would rely upon the latest tolling technology and influenced by the Toll System Provider selected at a later stage of the Project.

VE-5 Advance Geotechnical Work Early

Advancing the geotechnical field investigations, particularly those associated with bridge structures over waterways, would require environmental evaluation and clearance that is anticipated to take up to 1 year. The current environmental evaluation for the Project would include the efforts needed to obtain the geotechnical field investigations and it is anticipated that the field investigations would be an early action task for the final design phase.

VE-6 Justify a Modified Asphalt Section

As directed by Caltrans, the final design Materials Report would utilize the CalME software for a mechanistic-empirical evaluation for flexible pavement design and those results can be included in the final design level Life Cycle Cost Analysis (LCCA) to confirm the recommended pavement type and structural sections if flexible pavement is deemed as a viable pavement surface by RCTC for express lanes.

Study Recommendations Not Implemented

VE-10 Repurpose Existing PCC Pavement and Bridges

The Project would not implement this recommendation. The recommendation presented significant cost savings, but they were associated with a single express lane configuration. To obtain an accurate assessment for comparison, a pavement cost evaluation was developed for the dual express lane configuration. The dual express lanes cost evaluation

considered both a rehabilitation of the existing PCC shoulders as well as a reconstruction of the existing surface pavement. The dual express lanes cost development also evaluated the impacts to existing interchange ramps that would be associated with shifting the general purpose lanes to the existing outside shoulders. The dual express lanes cost evaluation did present a cost savings associated with utilizing the outside shoulder as a future lane but showed significantly less savings than presented in the VE Report. The total cost was comparable with the baseline configuration that constructed two new dual express lanes in the inside median. With comparable construction costs, the long-term maintenance cost and shorter life expectancy associated with re-purposing the existing inside general purpose lane for the express lanes, it was determined to not implement this VE recommendation.

6C. Resource Conservation

The proposed improvements would maintain the majority of existing pavement along the Project corridor. The improvements primarily consist of freeway widening and not reconstruction of the pavement structural sections. However, there would be some pavement removal and replacement on the freeway (mainly inside shoulder) and select interchange ramps to accommodate the design concept.

Existing asphalt pavement (on-ramps and freeway shoulders) removed as a result of the proposed improvements would be recycled and reused in the construction to the extent possible. Existing concrete pavement (freeway median area, bridges) to be removed would be crushed and used as base material wherever possible. Reinforcing steel in existing bridges or walls to be demolished would be removed and recycled as scrap metal. Hardware (such as roadside signs, guardrails, drainage grates, etc.) and electrical equipment (such as controller cabinets, light standards, Closed Circuit Television (CCTV) poles and assemblies, Changeable Message Sign (CMS) units, etc.) would be reused on the project wherever possible or stockpiled for future uses. Salvaged materials that cannot be reused on the Project site would be made available to Caltrans for stockpiling and transported to a District 8 maintenance yard. Where applicable, low energy devices would be installed (e.g., Light Emitting Diode (LED) lighting).

6D. Right of Way Issues

Right of Way Required

All proposed improvements would be constructed within the existing State ROW, with the majority of the improvements occurring within the existing I-15 median. The project permanent improvements are within the existing State ROW. No permanent or temporary

acquisitions have been identified during the PA&ED phase on the surrounding properties along the State ROW. A ROW Data Sheet is provided in Attachment E.

Relocation Impact Studies

Because the proposed improvements would be constructed within the existing ROW, and no permanent ROW acquisitions are needed, there are no proposed relocations for this Project.

Right of Way Use Agreement (Formerly Air Space Lease)

No airspace lease agreements are present within the Project limits.

6E. Environmental Compliance

In compliance with CEQA documentation requirements, Caltrans determined that preparation of an EIR to be the appropriate type of environmental document. In compliance with NEPA, and in consultation with the Caltrans headquarters Environmental Coordinator assigned to District 8, an EA was identified as the appropriate type of environmental document. The EIR and EA are combined into one document as an EIR/EA for the Project.

The Draft EIR/EA has been prepared in accordance with Caltrans' environmental procedures, as well as State and federal environmental regulations. It is required that the Environmental Commitments Record (ECR), prepared as part of the EIR/EA, be referenced throughout the final design and construction phase of the project and updated as necessary based on direct coordination with Caltrans.

The cover page and signed title sheet from the Draft EIR/EA approved for public circulation is included in Attachment G.

6F. Air Quality Conformity

An Air Quality Report has been completed for the Project and was approved on August 29, 2022. During Project construction, the implementation of exhaust and fugitive dust emission control measures would avoid and/or minimize impacts to air quality.

The Project is listed in the 2024–2050 Regional Transportation Plan (RTP) that was approved by the Southern California Association of Governments' (SCAG's) Regional Council in April 2024, and it was found to conform by FHWA and the Federal Transit Administration (FTA) on May 10, 2024, as Project ID 3160001. It is also included in SCAG's financially constrained 2023 Federal Transportation Improvement Program (FTIP) Amendment #23-27,

adopted on April 25, 2024, and approved by FHWA and FTA on May 10, 2024, as Project ID RIV170901. Because the Project is located in a federal nonattainment area for PM2.5 and in an attainment/maintenance area for PM10 and carbon monoxide (CO), a project-level hot-spot analysis is required under 40 CFR 93.109. The Project does comply with all PM2.5 and PM10 measures in the State Implementation Plan (SIP) and implements measures relied on in the RTP/FTIP regional conformity analysis in a timely matter. It does not cause or contribute to any new localized CO, PM2.5, or PM10 violations or delay timely attainment of any National Ambient Air Quality Standards (NAAQS) or any required interim emission reductions or other milestones during the timeframe of the transportation plan (or regional emissions analysis).

The Project-level PM hot-spot analysis was presented to SCAG's Transportation Conformity Working Group for discussion and review on September 28, 2021. This hot-spot analysis is based on the Project description, limits, and traffic volumes and was listed under the current RTP/FTIP Project ID. Interagency consultation on the I-15 ELPSE determined that it is not a project of air quality concern (POAQC).

On September 28, 2021, the regional Transportation Conformity Working Group (TCWG) deemed that the Quantitative PM Hot-Spot Analysis was acceptable for NEPA circulation.

Each Project alternative is fully compatible with the design concept and scope described in the current RTP.

6G. Title VI Considerations

Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color or national origin in programs or activities receiving federal financial assistance. Federal-aid recipients, sub-recipients and contractors are required to prevent discrimination and ensure nondiscrimination in all of their programs, activities, and services whether these programs, activities, and services are federally funded or not. Caltrans and FHWA policies demonstrate a commitment to Title VI of the Civil Rights Act of 1964. This Project would comply with Title VI of the Civil Rights Act.

6H. Noise Abatement Decision Report

A Noise Study Report (NSR) and a Noise Abatement Decision Report (NADR) have been completed for this project.

This section represents the NADR which:

- Is an evaluation of the reasonableness and feasibility of incorporating noise abatement measures into this Project;
- Constitutes the preliminary decision on noise abatement measures to be incorporated into the DED (if applicable);
- Is required for Caltrans to meet the conditions of the Title 23 Code of Federal Regulations, Part 722 in accordance with the FHWA noise standards; and
- Represents the preliminary noise abatement decision as defined in Caltrans Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects

The NADR does not present the final decision regarding noise abatement; rather, it presents key information on abatement to be considered throughout the environmental review process, based on the best available information at the time the DED is published.

The NADR does not address noise barriers or other noise-reducing treatments required as mitigation for significant adverse environmental effects identified under CEQA.

Results of the Noise Study Report

The NSR for this Project was concurred by Caltrans District 8 on May 20, 2024.

Based upon the results of the traffic noise analysis, it was found that predicted noise levels at 70 of the 548 modeled receivers would approach or exceed the FHWA/Caltrans noise abatement criteria (NAC) for Activity Category B, C and E land uses with implementation of the Project in the Build condition. Traffic noise impacts are therefore predicted to occur at these locations.

Pursuant to Caltrans and FHWA regulations and guidance, noise abatement is considered for land uses where traffic noise impacts are predicted. For receivers that were found to experience traffic noise levels that approach or exceed the NAC, noise abatement in the form of barriers was considered. A total of 82 barriers were analyzed along the Project alignment and 46 of those barriers were found to be feasible to construct and meet the noise reduction design goal of 7 decibels (dBA).

A summary of the barrier evaluation from the NSR is provided in Table 6-3. Refer to the NSR for a graphical depiction of the approximate locations of the barriers studied.

Table 6-3 Summary of Noise Evaluation from Noise Study Report

Noise Barrier	Location	From/ To Station	Length (ft)	Height (ft)	Acoustic - ally Feasible ?	Number of Benefited Residences	Design Goal Achieved ?	Reasonable Allowance per Residence	Total Reasonable Allowance
SW1142B	R/W	1139+00 to 1146+25	725	14	Yes	1	No	$146,000	$146,000
				16	Yes	1	No	$146,000	$146,000
				18	Yes	2	No	$146,000	$292,000
				20	Yes	2	Yes	$146,000	$292,000
SW1109A + SW1109B	EOS	1108+00 to 1112+00 1106+69 to 1113+00	407 + 633	8	Yes	1	No	$146,000	$146,000
				10	Yes	1	No	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
SW1137B	Private Property	1139+50 to 1141+64	213	12	Yes	1	No	$146,000	$146,000
				14	Yes	1	No	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1204	Private Property	1202+50 to 1204+50	240	8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1208B	Private Property	1209+00 to 1211+00	375	8	Yes	1	No	$146,000	$146,000
				10	Yes	1	No	$146,000	$146,000
				12	Yes	2	Yes	$146,000	$292,000
				14	Yes	2	Yes	$146,000	$292,000
				16	Yes	2	Yes	$146,000	$292,000
SW1208D	R/W	1208+25 to 1219+00	1094	12	Yes	1	No	$146,000	$146,000
				14	Yes	1	No	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
				18	Yes	2	Yes	$146,000	$292,000
				20	Yes	2	Yes	$146,000	$292,000
SW1210	Private Property	1209+50 to 1210+50	135	6	Yes	1	No	$146,000	$146,000
				8	Yes	1	No	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000

Table 6-3 Summary of Noise Evaluation from Noise Study Report

Noise Barrier	Location	From/ To Station	Length (ft)	Height (ft)	Acoustic - ally Feasible ?	Number of Benefited Residences	Design Goal Achieved ?	Reasonable Allowance per Residence	Total Reasonable Allowance
SW1212	Private Property	1212+00 to 1215+35	485	6	Yes	1	No	$146,000	$146,000
				8	Yes	1	No	$146,000	$146,000
				10	Yes	1	No	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1214A	Between EOS and R/W	1214+00 to 1239+00	2500	10	Yes	7	No	$146,000	$1,022,000
				12	Yes	8	Yes	$146,000	$1,168,000
				14	Yes	10	Yes	$146,000	$1,460,000
SW1214B	Private Property	1214+27 to 1235+00	2123	6	Yes	8	Yes	$146,000	$1,168,000
				8	Yes	9	Yes	$146,000	$1,314,000
				10	Yes	9	Yes	$146,000	$1,314,000
				12	Yes	9	Yes	$146,000	$1,314,000
				14	Yes	9	Yes	$146,000	$1,314,000
				16	Yes	9	Yes	$146,000	$1,314,000
SW1214C	EOS	1214+00 to 1239+00	2500	8	Yes	5	No	$146,000	$730,000
				10	Yes	9	Yes	$146,000	$1,314,000
				12	Yes	9	Yes	$146,000	$1,314,000
				14	Yes	10	Yes	$146,000	$1,460,000
SW1214D	R/W	1214+00 to 1238+75	2266	10	Yes	6	No	$146,000	$876,000
				12	Yes	6	Yes	$146,000	$876,000
				14	Yes	6	Yes	$146,000	$876,000
				16	Yes	6	Yes	$146,000	$876,000
				18	Yes	7	Yes	$146,000	$1,022,000
				20	Yes	9	Yes	$146,000	$1,314,000
SW1226A	EOS	1210+50 to 1239+00	2850	8	Yes	8	No	$146,000	$1,168,000
				10	Yes	10	Yes	$146,000	$1,460,000
				12	Yes	10	Yes	$146,000	$1,460,000
				14	Yes	12	Yes	$146,000	$1,752,000
SW1226B	Between EOS and R/W	1211+00 to 1239+00	2800	10	Yes	7	No	$146,000	$1,022,000
				12	Yes	9	Yes	$146,000	$1,314,000
				14	Yes	12	Yes	$146,000	$1,752,000

Table 6-3 Summary of Noise Evaluation from Noise Study Report

Noise Barrier	Location	From/ To Station	Length (ft)	Height (ft)	Acoustic - ally Feasible ?	Number of Benefited Residences	Design Goal Achieved ?	Reasonable Allowance per Residence	Total Reasonable Allowance
SW1226C	R/W	1210+50 to 1238+75	2831	10	Yes	6	No	$146,000	$876,000
				12	Yes	7	Yes	$146,000	$1,022,000
				14	Yes	7	Yes	$146,000	$1,022,000
				16	Yes	7	Yes	$146,000	$1,022,000
				18	Yes	8	Yes	$146,000	$1,168,000
				20	Yes	11	Yes	$146,000	$1,606,000
SW1238	Private Property	1236+00 to 1238+00	291	6	Yes	1	No	$146,000	$146,000
				8	Yes	1	No	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1521C	Private Property	1519+75 to 1522+25	385	10	Yes	1	No	$146,000	$146,000
				12	Yes	1	No	$146,000	$146,000
				14	Yes	1	No	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1691	Private Property	1690+25 to 1690+75	75	6	Yes	1	Yes	$146,000	$146,000
				8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1693	Private Property	1691+75 to 1693+00	150	6	Yes	1	Yes	$146,000	$146,000
				8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1751B	Private Property	1751+50	113	6	Yes	1	No	$146,000	$146,000
				8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000

Table 6-3 Summary of Noise Evaluation from Noise Study Report

Noise Barrier	Location	From/ To Station	Length (ft)	Height (ft)	Acoustic - ally Feasible ?	Number of Benefited Residences	Design Goal Achieved ?	Reasonable Allowance per Residence	Total Reasonable Allowance
SW1784B	Private Property	1780+00 to 1784+00	304	8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1872	R/W	1869+44 to 1876+00	662	12	Yes	1	No	$146,000	$146,000
				14	Yes	2	Yes	$146,000	$292,000
				16	Yes	3	Yes	$146,000	$438,000
				18	Yes	3	Yes	$146,000	$438,000
SW1874	EOS	1869+00 to 1875+00	600	6	Yes	1	No	$146,000	$146,000
				8	Yes	1	No	$146,000	$146,000
				10	Yes	2	Yes	$146,000	$292,000
				12	Yes	2	Yes	$146,000	$292,000
				14	Yes	2	Yes	$146,000	$292,000
SW1874 + SW1878	EOS	1869+00 to 1876+00 1873+75 to 1878+00	700 + 525	6	Yes	1	No	$146,000	$146,000
				8	Yes	1	Yes	$146,000	$146,000
				10	Yes	3	Yes	$146,000	$438,000
				12	Yes	3	Yes	$146,000	$438,000
				14	Yes	3	Yes	$146,000	$438,000
SW1789	Private Property	1788+00 to 1789+00	164	8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1823	Private Property	1821+00 to 1828+00	743	10	Yes	2	No	$146,000	$292,000
				12	Yes	10	No	$146,000	$1,460,000
				14	Yes	10	No	$146,000	$1,460,000
				16	Yes	10	Yes	$146,000	$1,460,000
SW1831	Private Property	1829+00 to 1832+00	399	8	Yes	1	No	$146,000	$146,000
				10	Yes	3	Yes	$146,000	$438,000
				12	Yes	3	Yes	$146,000	$438,000
				14	Yes	3	Yes	$146,000	$438,000
				16	Yes	3	Yes	$146,000	$438,000

Table 6-3 Summary of Noise Evaluation from Noise Study Report

Noise Barrier	Location	From/ To Station	Length (ft)	Height (ft)	Acoustic - ally Feasible ?	Number of Benefited Residences	Design Goal Achieved ?	Reasonable Allowance per Residence	Total Reasonable Allowance
SW1833	Private Property	1832+00 to 1834+00	205	10	Yes	1	No	$146,000	$146,000
				12	Yes	2	Yes	$146,000	$292,000
				14	Yes	4	Yes	$146,000	$584,000
				16	Yes	4	Yes	$146,000	$584,000
SW1839	Private Property	1835+00 to 1841+00	674	10	Yes	1	No	$146,000	$146,000
				12	Yes	3	Yes	$146,000	$438,000
				14	Yes	3	Yes	$146,000	$438,000
				16	Yes	7	Yes	$146,000	$1,022,000
SW1875	Private Property	1875+00 to 1875+75	120	6	Yes	1	Yes	$146,000	$146,000
				8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1890A + SW1890B	EOS	1874+50 to 1890+00 1882+50 to 1894+25	1550 + 1194	10	Yes	12	No	$146,000	$1,752,000
				12	Yes	45	Yes	$146,000	$6,570,000
				14	Yes	65	Yes	$146,000	$9,490,000
SW1890A + SW1890C	EOS + ROW	1874+00 to 1890+00 1882+00 to 1895+78	1600 + 1388	8	Yes	7	No	$146,000	$1,022,000
				10	Yes	31	No	$146,000	$4,526,000
				12	Yes	70	Yes	$146,000	$10,220,000
				14	Yes	85	Yes	$146,000	$12,410,000
				16	Yes	92	Yes	$146,000	$13,432,000
				18	Yes	98	Yes	$146,000	$14,308,000
				20	Yes	109	Yes	$146,000	$15,914,000
SW1895	Private Property	1894+75 to 1895+00	63	6	Yes	1	Yes	$146,000	$146,000
				8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000

Table 6-3 Summary of Noise Evaluation from Noise Study Report

Noise Barrier	Location	From/ To Station	Length (ft)	Height (ft)	Acoustic - ally Feasible ?	Number of Benefited Residences	Design Goal Achieved ?	Reasonable Allowance per Residence	Total Reasonable Allowance
SW 1899	Private Property	1899+25 to 1899+75	48	6	Yes	1	Yes	$146,000	$146,000
				8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1903	R/W	1906+00 to 1918+00	1194	16	Yes	1	No	$146,000	$146,000
				18	Yes	2	No	$146,000	$292,000
				20	Yes	2	Yes	$146,000	$292,000
SW1905	Private Property	1905+25 to 1905+75	61	8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1907	Private Property	1906+00 to 1906+50	78	6	Yes	1	No	$146,000	$146,000
				8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1911	EOS	1906+00 to 1918+00	1163	12	Yes	1	No	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
SW1913	Private Property	1910+75 to 1913+00	172	6	Yes	1	No	$146,000	$146,000
				8	Yes	1	Yes	$146,000	$146,000
				10	Yes	1	Yes	$146,000	$146,000
				12	Yes	1	Yes	$146,000	$146,000
				14	Yes	1	Yes	$146,000	$146,000
				16	Yes	1	Yes	$146,000	$146,000
SW1996A + SW1996B	EOS	1990+00 to 1995+82 1982+00 to 1996+00	585 + 1438	6	Yes	3	No	$146,000	$438,000
				8	Yes	8	Yes	$146,000	$1,168,000
				10	Yes	10	Yes	$146,000	$1,460,000
				12	Yes	11	Yes	$146,000	$1,606,000
				14	Yes	14	Yes	$146,000	$2,044,000

Table 6-3 Summary of Noise Evaluation from Noise Study Report

Noise Barrier	Location	From/ To Station	Length (ft)	Height (ft)	Acoustic - ally Feasible ?	Number of Benefited Residences	Design Goal Achieved ?	Reasonable Allowance per Residence	Total Reasonable Allowance
SW1996B	EOS	1981+00 to 1996+00	1511	6	Yes	2	No	$146,000	$292,000
				8	Yes	6	No	$146,000	$876,000
				10	Yes	6	No	$146,000	$876,000
				12	Yes	8	Yes	$146,000	$1,168,000
				14	Yes	13	Yes	$146,000	$1,898,000
SW1996C	R/W	1983+00 to 1995+71	1281	12	Yes	1	No	$146,000	$146,000
				14	Yes	3	No	$146,000	$438,000
				16	Yes	6	Yes	$146,000	$876,000
				18	Yes	9	Yes	$146,000	$1,314,000
				20	Yes	9	Yes	$146,000	$1,314,000
SW2001 + SW2007A	EOS	2002+00 to 2004+54 2005+00 to 2011+37	255 + 637	6	Yes	1	No	$146,000	$146,000
				8	Yes	2	Yes	$146,000	$292,000
				10	Yes	5	Yes	$146,000	$730,000
				12	Yes	5	Yes	$146,000	$730,000
				14	Yes	5	Yes	$146,000	$730,000
SW2007A	EOS	2004+50 to 2011+37	687	6	Yes	1	No	$146,000	$146,000
				8	Yes	2	Yes	$146,000	$292,000
				10	Yes	5	Yes	$146,000	$730,000
				12	Yes	5	Yes	$146,000	$730,000
				14	Yes	5	Yes	$146,000	$730,000
SW2007B	R/W	2005+00 to 2011+00	592	14	Yes	1	No	$146,000	$146,000
				16	Yes	2	Yes	$146,000	$292,000
				18	Yes	5	Yes	$146,000	$730,000
				20	Yes	5	Yes	$146,000	$730,000
SW2007C	Private Property	2005+50 to 2011+00	638	6	Yes	3	No	$146,000	$438,000
				8	Yes	3	No	$146,000	$438,000
				10	Yes	6	Yes	$146,000	$876,000
				12	Yes	6	Yes	$146,000	$876,000
				14	Yes	6	Yes	$146,000	$876,000
				16	Yes	6	Yes	$146,000	$876,000

EOS = Edge of Shoulder; R/W = ROW; SW = Soundwall

Source: I-15 ELPSE NSR & NADR

Factors in the Noise Abatement Decision Report

The overall reasonableness of noise abatement is determined by the following three factors:

- The viewpoints of benefited receptors,
- The cost of noise abatement; and
- The noise reduction design goal.

The preliminary reasonableness determination reported in this document is based on the noise reduction design goal and the cost of abatement. The viewpoints of benefited receptors are determined by a survey that is normally conducted during the public review period of the Project's ED. Caltrans' noise reduction goal is that a barrier must be predicted to provide at least 7dBA of noise reduction at one or more benefited receptors. The cost reasonableness of abatement is determined by calculating a cost allowance that is considered to be a reasonable amount of energy to spend on abatement. If the engineer's cost estimate is less than the allowance and the abatement would provide at least 7dBA of noise reduction at one or more benefited receptors, then the preliminary determination is that the abatement is reasonable. If the cost estimate is higher than the allowance or if the design goal cannot be achieved, the preliminary determination is that abatement is not reasonable. Table 6-4 summarizes the locations of the 46 Design Barriers with variable heights that are acoustically feasible and achieve the 7dBA noise reduction design goal, as well as the number of benefited receptors and the reasonable cost allowance and the estimated construction cost for each barrier. Only the barrier heights that are acoustically feasible and achieve the 7dBA noise reduction design goal are included in the table.

Table 6-4 Summary of Abatement Key Information

Noise Barrier	Location	Height (ft)	Number of Benefited Residences	Design Goal Achieved?	Total Reasonable Allowance	Estimated Construction Cost	Cost Less Than Allowance?	Recommended for Construction?
SW1142B	R/W	20	2	Yes	$292,000	$1,355,750	No	No
SW1109A + SW1109B	EOS	12	1	Yes	$146,000	$1,470,560	No	No
		14	1	Yes	$146,000	$1,609,920	No	No
SW1137B	Private Property	16	1	Yes	$146,000	$271,575	No	No
SW1204	Private Property	8	1	Yes	$146,000	$179,760	No	No
		10	1	Yes	$146,000	$206,160	No	No
		12	1	Yes	$146,000	$237,840	No	No
		14	1	Yes	$146,000	$269,280	No	No
		16	1	Yes	$146,000	$306,000	No	No

Table 6-4 Summary of Abatement Key Information

Noise Barrier	Location	Height (ft)	Number of Benefited Residences	Design Goal Achieved?	Total Reasonable Allowance	Estimated Construction Cost	Cost Less Than Allowance?	Recommended for Construction?
SW1208B	Private Property	12	2	Yes	$292,000	$371,625	No	No
		14	2	Yes	$292,000	$420,750	No	No
		16	2	Yes	$292,000	$478,125	No	No
SW1208D	R/W	16	1	Yes	$146,000	$1,394,850	No	No
		18	2	Yes	$292,000	$1,493,310	No	No
		20	2	Yes	$292,000	$1,591,770	No	No
SW1210	Private Property	10	1	Yes	$146,000	$217,000	No	No
		12	1	Yes	$146,000	$231,000	No	No
		14	1	Yes	$146,000	$247,000	No	No
		16	1	Yes	$146,000	$263,000	No	No
SW1212	Private Property	12	1	Yes	$146,000	$480,635	No	No
		14	1	Yes	$146,000	$544,170	No	No
		16	1	Yes	$146,000	$618,375	No	No
SW1214A	Between EOS and R/W	12	8	Yes	$1,168,000	$3,535,000	No	No
		14	10	Yes	$1,460,000	$3,870,000	No	No
SW1214B	Private Property	6	8	Yes	$1,168,000	$1,358,720	No	No
		8	9	Yes	$1,314,000	$1,590,127	No	No
		10	9	Yes	$1,314,000	$1,823,657	No	No
		12	9	Yes	$1,314,000	$2,103,893	No	No
		14	9	Yes	$1,314,000	$2,382,006	No	No
		16	9	Yes	$1,314,000	$2,706,825	No	No
SW1214C	EOS	10	9	Yes	$1,314,000	$3,217,500	No	No
		12	9	Yes	$1,314,000	$3,535,000	No	No
		14	10	Yes	$1,460,000	$3,870,000	No	No
SW1214D	R/W	12	6	Yes	$876,000	$2,245,606	No	No
		14	6	Yes	$876,000	$2,542,452	No	No
		16	6	Yes	$876,000	$2,889,150	No	No
		18	7	Yes	$1,022,000	$3,093,090	No	No
		20	9	Yes	$1,314,000	$3,297,030	No	No
SW1226A	EOS	10	10	Yes	$1,460,000	$3,667,950	No	No
		12	10	Yes	$1,460,000	$4,029,900	No	No
		14	12	Yes	$1,752,000	$4,411,800	No	No
SW1226B	Between EOS and R/W	12	9	Yes	$1,314,000	$3,959,200	No	No
		14	12	Yes	$1,752,000	$4,334,400	No	No
SW1226C	R/W	12	7	Yes	$1,022,000	$2,805,521	No	No
		14	7	Yes	$1,022,000	$3,176,382	No	No
		16	7	Yes	$1,022,000	$3,609,525	No	No
		18	8	Yes	$1,168,000	$3,864,315	No	No
		20	11	Yes	$1,606,000	$4,119,105	No	No

Table 6-4 Summary of Abatement Key Information

Noise Barrier	Location	Height (ft)	Number of Benefited Residences	Design Goal Achieved?	Total Reasonable Allowance	Estimated Construction Cost	Cost Less Than Allowance?	Recommended for Construction?
SW1238	Private Property	10	1	Yes	$146,000	$249,969	No	No
		12	1	Yes	$146,000	$288,381	No	No
		14	1	Yes	$146,000	$326,502	No	No
		16	1	Yes	$146,000	$371,025	No	No
SW1521C	Private Property	16	1	Yes	$146,000	$490,875	No	No
SW1691	Private Property	6	1	Yes	$146,000	$192,000	No	No
		8	1	Yes	$146,000	$201,000	No	No
		10	1	Yes	$146,000	$210,000	No	No
		12	1	Yes	$146,000	$220,000	No	No
		14	1	Yes	$146,000	$231,000	No	No
		16	1	Yes	$146,000	$243,000	No	No
SW1693	Private Property	6	1	Yes	$146,000	$214,000	No	No
		8	1	Yes	$146,000	$230,000	No	No
		10	1	Yes	$146,000	$246,000	No	No
		12	1	Yes	$146,000	$262,000	No	No
		14	1	Yes	$146,000	$280,000	No	No
		16	1	Yes	$146,000	$297,000	No	No
SW1751B	Private Property	8	1	Yes	$146,000	$248,000	No	No
		10	1	Yes	$146,000	$261,000	No	No
		12	1	Yes	$146,000	$277,000	No	No
		14	1	Yes	$146,000	$293,000	No	No
		16	1	Yes	$146,000	$311,000	No	No
SW1784B	Private Property	8	1	Yes	$146,000	$227,088	No	No
		10	1	Yes	$146,000	$261,136	No	No
		12	1	Yes	$146,000	$301,264	No	No
		14	1	Yes	$146,000	$341,088	No	No
		16	1	Yes	$146,000	$387,600	No	No
SW1872	R/W	14	2	Yes	$292,000	$742,764	No	No
		16	3	Yes	$438,000	$844,050	No	No
		18	3	Yes	$438,000	$903,630	No	No
SW1874	EOS	10	2	Yes	$292,000	$772,200	No	No
		12	2	Yes	$292,000	$848,400	No	No
		14	2	Yes	$292,000	$928,800	No	No

Table 6-4 Summary of Abatement Key Information

Noise Barrier	Location	Height (ft)	Number of Benefited Residences	Design Goal Achieved?	Total Reasonable Allowance	Estimated Construction Cost	Cost Less Than Allowance?	Recommended for Construction?
SW1874 + SW1878	EOS	8	1	Yes	$146,000	$1,394,3050	No	No
		10	3	Yes	$438,000	$1,576,575	No	No
		12	3	Yes	$438,000	$1,732,150	No	No
		14	3	Yes	$438,000	$1,896,300	No	No
SW1789	Private Property	8	1	Yes	$146,000	$324,000	No	No
		10	1	Yes	$146,000	$349,000	No	No
		12	1	Yes	$146,000	$374,000	No	No
		14	1	Yes	$146,000	$402,000	No	No
		16	1	Yes	$146,000	$439,000	No	No
SW1823	Private Property	14	10	Yes	$1,460,000	$1,794,000	No	No
		16	10	Yes	$1,460,000	$1,915,000	No	No
SW1831	Private Property	10	3	Yes	$438,000	$621,000	No	No
		12	3	Yes	$438,000	$677,000	No	No
		14	3	Yes	$438,000	$733,000	No	No
		16	3	Yes	$438,000	$798,000	No	No
SW1833	Private Property	12	2	Yes	$292,000	$564,000	No	No
		14	4	Yes	$584,000	$592,000	No	No
		16	4	Yes	$584,000	$626,000	No	No
SW1839	Private Property	12	3	Yes	$438,000	$1,368,000	No	No
		14	3	Yes	$438,000	$1,463,000	No	No
		16	7	Yes	$1,022,000	$1,572,000	No	No
SW1875	Private Property	6	1	Yes	$146,000	$279,000	No	No
		8	1	Yes	$146,000	$291,000	No	No
		10	1	Yes	$146,000	$304,000	No	No
		12	1	Yes	$146,000	$317,000	No	No
		14	1	Yes	$146,000	$331,000	No	No
		16	1	Yes	$146,000	$344,000	No	No
SW1890A + SW1890B	EOS	12	45	Yes	$6,570,000	$3,047,000	Yes	Yes
		14	65	Yes	$9,490,000	$3,268,000	Yes	Yes
SW1890A + SW1890C	EOS + ROW	12	70	Yes	$10,220,000	$3,138,000	Yes	Yes
		14	85	Yes	$12,410,000	$3,366,000	Yes	Yes
SW1895	Private Property	6	1	Yes	$146,000	$269,000	No	No
		8	1	Yes	$146,000	$276,000	No	No
		10	1	Yes	$146,000	$284,000	No	No
		12	1	Yes	$146,000	$293,000	No	No
		14	1	Yes	$146,000	$301,000	No	No
		16	1	Yes	$146,000	$312,000	No	No

Table 6-4 Summary of Abatement Key Information

Noise Barrier	Location	Height (ft)	Number of Benefited Residences	Design Goal Achieved?	Total Reasonable Allowance	Estimated Construction Cost	Cost Less Than Allowance?	Recommended for Construction?
SW 1899	Private Property	6	1	Yes	$146,000	$419,000	No	No
		8	1	Yes	$146,000	$424,000	No	No
		10	1	Yes	$146,000	$430,000	No	No
		12	1	Yes	$146,000	$437,000	No	No
		14	1	Yes	$146,000	$443,000	No	No
		16	1	Yes	$146,000	$451,000	No	No
SW1903	R/W	20	2	Yes	$292,000	$1,737,270	No	No
SW1905	Private Property	8	1	Yes	$146,000	$297,000	No	No
		10	1	Yes	$146,000	$303,000	No	No
		12	1	Yes	$146,000	$310,000	No	No
		14	1	Yes	$146,000	$317,000	No	No
		16	1	Yes	$146,000	$324,000	No	No
SW1907	Private Property	8	1	Yes	$146,000	$357,000	No	No
		10	1	Yes	$146,000	$366,000	No	No
		12	1	Yes	$146,000	$377,000	No	No
		14	1	Yes	$146,000	$388,000	No	No
		16	1	Yes	$146,000	$401,000	No	No
SW1911	EOS	14	1	Yes	$146,000	$1,800,324	No	No
SW1913	Private Property	8	1	Yes	$146,000	$1,041,000	No	No
		10	1	Yes	$146,000	$1,059,000	No	No
		12	1	Yes	$146,000	$1,078,000	No	No
		14	1	Yes	$146,000	$1,098,000	No	No
		16	1	Yes	$146,000	$1,117,000	No	No
SW1996A + SW1996B	EOS	8	8	Yes	$1,168,000	$2,302,174	No	No
		10	10	Yes	$1,460,000	$2,603,601	No	No
		12	11	Yes	$1,606,000	$2,860,522	No	No
		14	14	Yes	$2,044,000	$3,131,604	No	No
SW1996B	EOS	12	8	Yes	$1,168,000	$2,136,554	No	No
		14	13	Yes	$1,898,000	$2,339,028	No	No
SW1996C	R/W	16	6	Yes	$876,000	$1,633,275	No	No
		18	9	Yes	$1,314,000	$1,748,565	No	No
		20	9	Yes	$1,314,000	$1,863,855	No	No
SW2001 + SW2007A	EOS	8	2	Yes	$292,000	$1,015,096	No	No
		10	5	Yes	$730,000	$1,148,004	No	No
		12	5	Yes	$730,000	$1,261,288	No	No
		14	5	Yes	$730,000	$1,380,816	No	No
SW2007A	EOS	8	2	Yes	$292,000	$1,300,000	No	No
		10	5	Yes	$730,000	$1,425,000	No	No
		12	5	Yes	$730,000	$1,532,000	No	No
		14	5	Yes	$730,000	$1,644,000	No	No
SW2007B	R/W	16	2	Yes	$292,000	$1,000,480	No	No
		18	5	Yes	$730,000	$1,053,760	No	No
		20	5	Yes	$730,000	$1,107,040	No	No

Table 6-4 Summary of Abatement Key Information

Noise Barrier	Location	Height (ft)	Number of Benefited Residences	Design Goal Achieved?	Total Reasonable Allowance	Estimated Construction Cost	Cost Less Than Allowance?	Recommended for Construction?
SW2007C	Private Property	10	6	Yes	$876,000	$1,528,000	No	No
		12	6	Yes	$876,000	$1,618,000	No	No
		14	6	Yes	$876,000	$2,708,000	No	No
		16	6	Yes	$876,000	$2,812,000	No	No

EOS = Edge of Shoulder; R/W= Right of Way; SW = Soundwall
Source: I-15 ELPSE NSR & NADR

Non-acoustical Factors Relating to Feasibility

Factors not relating to acoustics that must be considered for noise barriers include: geometric standards, safety, maintenance, security, utility relocations, geotechnical considerations, and visual impacts. Additional factors to consider include opinions of affected residents and input from the public and public agencies. Social, economic, legal, and technological factors also must be taken into consideration.

The noise barriers have been established at locations that are as far away from the travel way as possible, are accessible for maintenance purposes, and minimize impacts to existing utilities and drainage facilities. A Visual Impacts Assessment (VIA) prepared for the Project and approved by Caltrans on May 10, 2024 concluded that the Project Build Alternative would be designed and implanted in a manner consistent with the existing visual character and quality of the area and would not diminish visual resources. Cost for sound wall aesthetic treatments that may be required for visual mitigation cannot and have not been included in the construction costs evaluated.

The noise barriers were preliminarily designed to be in accordance with required geometric safety standards in such a way as to minimize or avoid these non-acoustical factors. If a final decision is made to construct any of the noise barriers evaluated, Caltrans should be consulted during the final design phase for any special reports, studies, or detailing that may be needed. Some of the factors mentioned above should be further evaluated during final design.

Preliminary Noise Abatement Decision

The 46 noise barriers presented in Table 6-4 are acoustically feasible and achieve the 7dBA noise reduction design goal. However, eight of them do not meet the minimum height needed to break the line-of-sight between an 11.5-foot-high truck stack and the first row of benefited receptors. Out of the 46 noise barriers, only the two noise barrier systems

SW1890A + SW1890B and SW1890A + SW1890C meet all the design criteria and have a total construction cost below the reasonable allowance for the benefited receptors, therefore are deemed cost reasonable. Both barrier systems are alternatives to provide noise abatement for receptors at the Terrano Apartments, and only one system would be selected for further consideration to be included as part of the Project.

The preliminary noise abatement decision presented in this report is based on preliminary project alignments and profiles, which may be subject to change. As such, the physical characteristics of noise abatement described herein also may be subject to change. If pertinent parameters change substantially during the final design, the preliminary noise abatement decision may be changed or eliminated from the final project design. A final decision to construct noise abatement would be made upon completion of the project design.

Secondary Effects of Abatement

As mentioned above, barrier systems SW1890A + SW1890B and SW1890A + SW1890C are cost reasonable and meet the design criteria, but only one system would be considered for construction since both systems provide noise abatement for the same community. With the best information available at the time this report was prepared and the conclusions from other technical studies completed to date for the Project, the following assessment of secondary effects of abatement was made for the two noise barrier systems:

- Cultural Resources – Both barrier systems are proposed within existing State right of way in previously disturbed areas of the northbound I-15 Weirick Road/Dos Lagos Drive interchange. Although it is unlikely that the shallow excavations needed for sound wall construction would uncover or affect paleonthological resources, a Paleonthological Mitigation Plan for the Project would be prepared during final design that would include mitigation measures should any paleonthological resources be encountered during construction of one of the two noise barrier systems.

- Scenic Views – According to the VIA, the Project limits are not located within a designated state scenic highway and the Build Alternative is not anticipated to result in adverse visual changes because the proposed elements would be consistent with the existing visual character and quality and would not degrade the surrounding area.

- Hazardous Materials – Based on records search and field reconnaissance data included in the Project's Initial Site Assessment, no contaminant sources or recognized environmental conditions (RECs) were identified within the Project study area. However, asbestos containing material is present in the gray felt pad along the guardrails of the Weirick Road bridge and additional sampling and handling procedures would be determined during final design of the Project.

- Biology – Since both barrier systems are proposed in previously disturbed areas of the northbound I-15 Weirick Road/Dos Lagos Drive interchange, construction of either one of the barrier systems is not anticipated to result in direct impacts to any threatened or endangered plants, nor to any other biological resources.

- Utility and/or Landscaping Impacts – Based on preliminary review of existing utilities, barriers SW 1890B or SW1890C have the potential to impact existing Caltrans fiber optic lines located across and along the outside of the northbound Weirick Road On-Ramp. Further investigation and positive location of existing utilities at the proposed barrier locations would be required prior to construction to identify potential conflicts and relocation needs.

  In the existing condition the infield and outside areas of the northbound Weirick Road On-Ramp where the noise barriers are proposed do not appear to have landscaping nor irrigation systems. It is anticipated that barrier SW 1890B would require removal of one existing large tree and barrier SW 1890C would require the removal of up to two existing large trees. Replacement of trees and vegetation would be at a ratio determined by the Caltrans Landscape Architect.

6I. Life-Cycle Cost Analysis

A LCCA has been completed for the Project and provides recommendations for the pavement structural sections. The report provides various pavement sections throughout the length of the Project for the mainline lanes, express lanes, and shoulders. The results from the LCCA are being utilized for structural section depth estimating purposes only.

Life cycle costs include initial construction costs, maintenance costs, and user costs due to future closures for maintenance operations. The pavement alternatives considered by the report for mainline construction included 40-year Jointed Plain Concrete Pavement (JPCP) and 40-year continuously reinforced concrete pavement (CRCP). For shoulder construction, JPCP was considered to match mainline pavement and adjacent shoulder pavements. It is anticipated that during final design, the grading plane of the shoulder would be adjusted at

select locations to match the grading plane of the adjacent lane for subsurface drainage and ease of construction. The costs of materials were estimated using data from Caltrans Contract Cost Data (2020b) for projects within the last 3 years; adjusted average pricing; using similar material quantities; and within Caltrans District 8 where possible.

Caltrans requires that documentation be provided wherever the alternative with the lowest life cycle cost is not selected. For this Project, no deviations are recommended from selecting the alternative with lowest life-cycle cost. Of the three alternatives for pavement structural sections analyzed by the LCCA, the alternative that is presented in Table 6-5 is the one recommended for design. The LCCA report is included in Attachment K.

Table 6-5 Recommended Pavement Structural Sections

Build Alternative Pavement Options by Location	Pavement Composition (feet)
Express NB – Pavement Alternative 1	0.95 CRCP over 0.25 HMA-A over 0.70 AS
Express SB – Pavement Alternative 1	0.85 CRCP over 0.25 HMA-A over 0.60 AS
Express Shoulder(a)(c)	0.80 JPCP over 1.00AB
Auxiliary Lane – Pavement Alternative 2	1.30 JPCP over 0.25 HMA-A over 0.70 AS
Auxiliary Shoulder – Pavement Alternative 2(b)(c)	0.90 JPCP over 0.25 HMA-A over 0.60 AS

Notes:
(a) LCCA was not performed for Express Shoulder.
(b) Alternative selected based lowest initial construction costs. LCCA was not performed for auxiliary shoulder.
(c) New or reconstructed shoulders should be designed to match the traffic data of the adjacent traffic lane as described in Section 613.4 (2)(b) of the Highway Design Manual. See additional details in Highway Design Manual (Caltrans 2022) and PMR (Leighton, 2022)

6J. Reversible Lanes

Reversible lanes are not considered feasible for this Project due to the difference in elevations between the NB and SB roadbeds of the I-15 mainline.

7. OTHER CONSIDERATIONS AS APPROPRIATE

7A. Public Hearing Process

An open forum public meeting would be held during circulation of the Draft EIR/EA. Information would be provided in both English and Spanish. Topics of discussion at the open forum public meeting would include the following: traffic circulation, project design features, noise impacts, locations of potential sound barriers, project funding, project schedule, access locations, impacts on biological resources, the tolling program, and opportunities to be placed on the Project mailing list.

7B. Route Matters

Freeway Agreements and New Connections

I-15 freeway is an existing access-controlled route. There are three Freeway Agreements within the Project limits as follows:

- Freeway Agreement with the City of Lake Elsinore dated May 28, 2019, relating to that portion of State Highway Route 15 between PM 18.5 to PM 27.0
- Freeway Agreement with the County of Riverside dated April 2, 1974, relating to that portion of State Highway Route 15 between PM 26.6 to PM 33.4
- Freeway Agreement with the City of Corona dated December 3, 2014, relating to that portion of State Highway Route 15 between PM 35.6 to PM 42.9

The Freeway Agreements accurately reflect current freeway access and county and city limits. The Project does not propose any new connections or permanent closures of the existing local roads. Therefore, a new freeway agreement is not required.

Route Adoptions

According to the Caltrans PDPM, route adoptions are required for any of the following situations:

- A new alignment for an existing route
- Establishment of a location for an unconstructed route
- Conversion of a conventional highway to a freeway or a controlled access freeway
- Designating a traversable highway
- Temporary connections

As none of the items above apply to this Project, there are no route adoptions needed.

Relinquishments

The Project does not include the removal of a State Highway (either in whole or in part) from the SHS. Therefore, there are no relinquishments proposed by this Project.

Permits

The regulatory permits, reviews and approvals listed in Table 7-1 would likely be required for the construction of the Project.

Table 7-1 Required Permits, Reviews, and Approvals

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service (USFWS)	Joint Project Review (JPR) for Multiple Species Habitat Conservation Plan (MSHCP) consistency (part of Streamlined Federal Endangered Species Act [FESA] Section 7 Consultation for the MSHCP).	JPR submitted to USFWS for MSHCP consistency review. USFWS concurrence pending review of JPR.
	Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan (HCP) review for consistency.	SKR HCP consistency analysis included in JPR submittal.
U. S. Army Corps of Engineers (USACE)	Clean Water Act (CWA) Section 404 Nationwide Permit and Section 408 NEPA Compliance.	To be submitted after approval of Project Report and Final Environmental Document.
California Department of Fish and Wildlife (CDFW)	California Fish and Game Code (CFGC) Section 1602 Lake or Streambed Alteration Agreement (SAA).	Application to be submitted during the Plans, Specifications, and Estimates (PS&E)/final design phase.
	JPR for MSHCP consistency.	JPR submitted to CDFW for MSHCP consistency review and concurrence through the JPR process.
FHWA	Air Quality conformity determination.	Prior to approval of Final Environmental Document.
Regional Water Quality Control Board (RWQCB)	Porter-Cologne Act and CWA Section 401 Water Quality Certification.	To be submitted after approval of Project Report and Final Environmental Document.
Western Riverside County Regional Conservation Authority (RCA)	JPR for MSHCP consistency.	JPR submitted to the RCA for MSHCP consistency review and concurrence through the JPR process.
SWRCB	CWA Section 402— A SWPPP required by the General NPDES Construction Permit would be prepared and is expected to provide all the necessary temporary pollution and erosion control measures required during construction. Post construction BMPs are required by Caltrans' NPDES permit and would be incorporated into PS&E package.	SWPPP would be submitted to Storm Water Multiple Application and Report Tracking System 30 days prior to construction, and post construction BMPs would be incorporated into construction documents.
County of Riverside	Oak Tree Management Guidelines	The Project would comply with the County of Riverside Oak Tree Management Guidelines if any oak trees are proposed for removal.

Agency	Permit/Approval	Status
Riverside County Flood Control and Water Conservation District	Encroachment Permit.	From construction of bridge widening discussion, application to be submitted after approval of Final Environmental Document.
California Public Utility Commission (CPUC)	Authorization obtained via the process prescribed under CPUC General Order 88-B.	Process to begin after approval of Final Environmental Document.
Caltrans	Caltrans Construction Encroachment Permit	To be submitted according to Oversight Project and Progressive Design-Build Project policies

7C. Cooperative Agreements

RCTC is the local Project Sponsor for funding and administering the Project development effort and has a cooperative agreement (Caltrans Agreement No. 08-1693) with Caltrans for the current PA&ED phase.

California Senate Bill 617 was approved on October 4, 2023, authorizing the use of progressive design-build (PDB) for local agency transportation projects. It is expected that RCTC and Caltrans would enter into a cooperative agreement for the PDB phase of this project and that RCTC would request approval to Advertise, Award and Administer (AAA) the PDB contract(s).

7D. Other Agreements

Numerous public agencies are involved in or affected by the Project. It is likely that interagency agreements or memoranda of understanding (MOU) would be required between many of the agencies at some stage in the Project. The most directly involved agencies, in addition to Caltrans Districts 8, include the RCTC, City of Corona, City Lake Elsinore, and the unincorporated County of Riverside. It is anticipated that RCTC and Caltrans would enter into a toll facility agreement for operation of the express lane facility.

7E. Transportation Management Plan

A Transportation Management Plan (TMP) has been prepared for the Project. Some of the key elements recommended in the TMP include the following:

- Public information/public awareness campaign
- Motorist information strategies
- Incident management
- Construction strategies
- Demand management

- Alternate Route Strategies
- Other strategies

The TMP Data Sheet for the Build Alternative is provided in Attachment F.

7F. Stage Construction

The Project is anticipated to be built with more than one construction package or in multiple construction packages. Project construction packages are discussed further in Section 7M. This section discusses a broad scoped staging concept that represents a general approach to construction. A detailed construction staging plan would be developed during the final design phase to demonstrate that existing lanes of traffic are maintained throughout the construction of the I-15 ELPSE improvements for each construction package.

The majority of the project improvements are confined to the median and include pavement widening, concrete barriers, retaining walls, installation of drainage features, and construction of overhead signage and tolling infrastructure. These improvements can primarily be completed in one stage.

Stage 1

During Stage 1, the travel lanes would be shifted to the outside to maintain existing lanes of traffic. The retaining wall on the NB outside shoulder between Weirick Road and Cajalco Road would need to be constructed prior to shifting the lanes to the outside. It is anticipated that the existing shoulder would require temporary repair for strengthening and to remove the existing rumble strips prior to the traffic shift. This traffic shift would allow the contractor to build the inside median. Stage 1 would allow the median to be fully paved for the overall limits of the Project. The portion of the median that was constructed with the I-15 ELP would be maintained in its current configuration to maintain the I-15 express lanes and the designated ingress/egress locations just north of Cajalco Road. While the traffic is shifted toward the outside, the bridge widening for the new express lanes in the median would be constructed. The median improvements constructed in Stage 1 are also anticipated to include median drainage improvements, median retaining walls and barriers as well as toll infrastructure and signage. There are no anticipated long-term closures or detours needed for this stage of the Project. During this stage there would be no inside shoulder and the traffic would be separated from the construction zone by temporary concrete barriers to provide a defined working zone. Construction access openings, as defined by the contractor, would be provided periodically in the temporary barrier to facilitate construction vehicle access to and from the existing I-15 lanes.

Although the majority of the project is confined within the median and can be built in a single stage, at locations where outside widening occurs, additional stages would need to be completed as summarized below.

Stage 2

During Stage 2, the travel lanes would be shifted to the inside on the newly paved median to accommodate the construction on the outside portion of the roadway. These improvements include but are not limited to; mainline pavement widening, ramp construction, retaining walls, noise barriers, drainage systems and treatment BMPs.

Temporary 55-hour closures may be needed to complete the ramp improvements at the following locations:

- SB SR-74 (Central Avenue) On-Ramp
- SB Nichols Road Off-Ramp
- NB Weirick Road On-Ramp
- NB Cajalco Road Off-Ramp
- NB Cajalco Road Loop On-Ramp
- SB Weirick Road Off-Ramp

Stage 3

Stage 3 would complete construction that was not able to be completed in the previous stages. Final bridge construction, walls, drainage and other minor items such as BMPs would be constructed. Also, work required to finalize the ramp connections affected with outside widening such as the construction of the gore areas, would be completed. Final sign panels would be installed and express lane testing could be performed.

7G. Accommodation of Oversize Loads

Table 7-2 summarizes the existing bridges that limit load heights along I-15. Interchanges where ramps can provide direct bypasses to the overcrossing structure are noted in the table. For other locations, if any bypass exists, it involves the local street system that is likely to impose other vertical clearance constraints, such as: traffic signals, overhead lines, and roadside signs along the adjacent bypass roads within the Project limits. These conditions would have to be considered if an oversize load is moved through alternate routes. Existing overhead sign structures that potentially restrict vertical clearance are not identified in the table.

Table 7-2 Existing Vertical Clearance Restrictions

County Route Post Mile	Structure Name	Vertical Clearance (ft)	Bypass
RIV-23.85	Nichols Road OC	18.24	Direct bypass available
RIV-36.84	Cajalco Road OC	20.0	Bypass available

Source: Caltrans California Log of Bridges on State Highways

7H. Graffiti Control

For the proposed median improvements of the freeway, the development of a graffiti removal specification is not anticipated to be required, but its need would be further evaluated during the final design phase.

If noise barriers (soundwalls) are recommended in the NADR and accepted by the residents and local community, regionally appropriate drought resistant planting could be installed as a graffiti control measure for noise barrier walls. Aesthetic architectural treatment would be considered to discourage graffiti, minimize adverse impacts, and allow for easy maintenance wherever retaining walls, soundwalls or other large vertical surfaces are accessible. Anti-graffiti coating on walls may also be considered.

7I. Asset Management

There are no outstanding issues carried over from a previous phase of the Project that would require discussion.

7J. Complete Streets

As the Project is located along an accessed-controlled freeway facility, the Complete Streets Program does not apply to this Project.

7K. Climate Change Considerations

Greenhouse gas (GHG) emissions from transportation projects can be divided into those produced during operation and use of the State Highway System (SHS) (operational emissions) and those produced during construction. Four primary strategies can reduce GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies; (2) reducing travel activity; (3) transitioning to fuels that emit lower levels of GHGs; and (4) improving vehicle technologies and efficiency.

The purpose of the Project is to manage traffic operations, throughput, and travel times on the northbound and southbound mainline; provide an option for travel time reliability; and increase vehicular throughput within the Project limits with forecasted population growth.

Existing traffic volumes often exceed current highway capacity along several segments of I-15 within the Project area. Due to forecasted population growth and continued development to support the projected growth in the region, the I-15 corridor is expected to continue to experience increased congestion and longer commute times that are projected to negatively affect traffic operations along the freeway mainline. Constructing new lanes, adding auxiliary lanes, and widening bridges are expected to provide more vehicle storage space to accommodate the projected traffic volumes. Auxiliary lanes would provide an opportunity for drivers to find gaps in the traffic flow before merging onto freeway lanes and without causing unnecessary delay. The Project specifically involves the Transportation System Management strategy of constructing auxiliary lanes to increase throughput by improving the operational capacity and efficiency of I-15.

The Project is listed in the SCAG 2024–2050 RTP/SCS under project number 3160001-RIV170901. The 2024–2050 RTP was approved by FHWA on May 10, 2024. Implementation of the 2024–2050 RTP/SCS would result in a 19-percent reduction of GHG emissions per capita by 2035. This would meet or exceed the State's mandated reductions for the SCAG region, which is 19-percent per capita by 2035.

The Build Alternative directly supports the 2024–2050 RTP/SCS mobility and accessibility performance outcome by reducing vehicle delay and increasing throughput. Reducing vehicle delay and increasing throughput is expected to help minimize idling GHG emissions, as well as lower the time traffic spends at a lower vehicle speed where GHG emissions are higher. Therefore, this strategy contributes to overall GHG reduction efforts regarding mobile sources within the SCAG region.

Vehicle Miles Travelled (VMT) was used to model GHG for the Project. VMT is expected to increase between the Existing (2019) and the Opening Year (2030) and Design Year (2050) scenarios under the No-Build Alternative and Build Alternative. The expected increase in VMT across all alternatives, including the No-Build Alternative, is a result of land use growth and population growth assumed in the future year travel demand model.

The Project would increase travel speeds and reduce vehicle delays, but operational GHG emissions under the Build Alternative are projected to increase in the Design Year (2050) compared to existing conditions. The Project would conflict with the goals included in the State's Assembly Bill (AB) 32 Climate Change Scoping Plan and other regulations adopted for the purpose of reducing the emissions of GHGs. This impact is considered significant under CEQA.

Construction GHG emissions would result from material processing and transportation, on-site construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. While construction GHG emissions are only produced for a short time, they have long-term effects in the atmosphere, so cannot be considered "temporary" in the same way as criteria pollutants that subside after construction is completed.

The Project would implement mitigation measures identified in the Draft EIR/EA approved for public circulation that would reduce operational and construction GHG emissions. However, the impact would remain significant and unavoidable.

7L. Broadband and Advance Technologies

According to Caltrans' website for wired broadband facilities on State Highway right of way, California Governor's Executive Order S-23-06 Twenty-First Century Government directed the establishment of the California Broadband Task Force, of which Caltrans is a member, to bring together public and private stakeholders to better facilitate broadband installation, identify opportunities for increased broadband adoption, and enable access to and deployment of new advanced communication technologies.

Caltrans installed and upgraded transportation management system (TMS) elements throughout the limits of I-15 ELPSE in 2019. The TMS improvements included installation of a new fiber optic backbone predominantly beyond the west side or outside shoulder of SB I-15, wireless vehicle detection stations and connection of existing TMS elements to the newly installed fiber optic infrastructure. The TMS infrastructure provides real-time data to the Caltrans District 8, Traffic Management Center (TMC). The Caltrans District 8 TMC is located in the City of Fontana and serves as the operations focal point for maximizing traffic flow and reducing congestion and is the hub for emergency response efforts and freeway incidents management on the San Bernardino County and Riverside County freeway systems.

In addition, the preliminary utility research identified the existence of intercontinental fiber optic lines in the vicinity of the Project. The existing fiber optic lines run parallel to the I-15 ELPSE in Temescal Canyon Road from the northern project limits to Lake Street. The existing fiber optic lines cross under I-15 at the following locations:

- Temescal Canyon Road Undercrossing (PM 33.25)
- Temescal Canyon Road Undercrossing (PM 31.90)
- Temescal Canyon Road Undercrossing (PM 27.78)

No impacts are anticipated to the existing or planned facilities because of the Project.

7M. Other Appropriate Topics

Project Construction Packages

Construction of the Project is planned to commence in 2025 and is anticipated to be open to traffic by 2030. Due to recent dynamic cost escalation and funding constraints, RCTC may need to contract out the project in more than one construction package or in multiple construction packages. Caltrans and RCTC agree that the priority for the first order of work as part of the initial construction package is to construct the SB I-15 improvements between Cajalco Road and Weirick Road. Subsequent construction packages would be identified as the project advances through the PDB process.

Fire Hazard Severity Zones

Public Resources Code 4201-4204 directs the California Department of Forestry and Fire Protection (CAL FIRE) to map fire hazard wildland zones within State Responsibility Areas (SRA) based on fuel loading, slope, fire weather, and other relevant factors present, including areas where winds have been identified by the department as a major cause of wildfire spread. These zones, referred to as Fire Hazard Severity Zones (FHSZ), classify a wildland zone as Moderate, High, or Very High fire hazard based on the average hazard across the area included in the zone.

Portions of the Project fall within FHSZ identified as Moderate, High and Very High. The Project is not anticipated to negatively impact the Fire Hazard classification within its limits as the project improvements include paving the existing vegetated median. See Attachment L for the currently adopted Fire Hazard Severity Zones in SRA for Western Riverside County.

Caltrans SHOPP Projects

The State Highway Operation and Protection Program (SHOPP) is the SHS's "fix-it-first" program that funds the repair and preservation, emergency repairs, safety improvements, and some highway operational improvements on the SHS. Coordination is anticipated to be required for any overlapping SHOPP projects within the Project limits.

8. FUNDING, PROGRAMMING AND ESTIMATE

8A. Funding

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

Special Funding

About 45-percent of the project allocation is planned to be Measure A. Measure A funds were obligated under the ½ cent 30-year sales tax measure which passed in 2006 and runs from 2009 through 2039.

8B. Programming

The project is included in the 2023 FTIP. The FTIP provides the following information for programmed dollar amounts as shown in Table 8-1.

Table 8-1 I-15 ELPSE Funding

Fund Source	Prelim Eng	ROW	Const	Fiscal Year Estimates in Thousands of Dollars (1,000)								
				Prior	22/23	23/24	24/25	25/26	26/27	27/28	Future	Total
CMAQ	56,586		76,375	56,586	3,180	4,136	35,637	33,422				
Carbon Reduction Program	3,966			3,966								
Coronavirus Response-Relief Supp	6,314			6,314								
Highway Infra-structure	3,000			3,000								
STP Local	29,962		12,000	29,962				12,000				
Agency			479,925					479,925				
Total	**99,828**		**568,300**	**99,828**	**3,180**	**4,136**	**35,637**	**525,347**				**668,128**

Prelim Eng = Preliminary Engineering Costs; ROW = Right of Way Costs; Const = Construction Costs
Source: 2023 FTIP

8C. Estimate

The current overall Project capital outlay cost is estimated to be $386 million and $481 million escalated. The major cost items include the pavement structural section, median retaining walls, bridge widenings and associated drainage and stormwater items. Project

support costs are anticipated to be approximately 35% of the capital outlay costs. The complete Project Cost Estimate is provided under Attachment C.

9. DELIVERY SCHEDULE

Table 9-1 summarizes the schedule that was developed for this Project.

Table 9-1 Project Schedule

Project Milestones		Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
PROGRAM PROJECT	M015	January 2019	Actual
BEGIN ENVIRONMENTAL	M020	May 2019	Actual
BEGIN STRUCTURE	M215	January 2021	Actual
CIRCULATE DPR & DED EXTERNALLY	M120	October-November 2024	Actual
PA&ED	M200	August 2025	Target
PROJECT PS&E	M380	September 2026	Target
RIGHT OF WAY CERTIFICATION	M410	September 2026	Target
AWARD (INITIATE PDB CONTRACT)	M495	August 2025	Target
CONTRACT ACCEPTANCE	M600	September 2030	Target
END PROJECT EXPENDITURES	M800	March 2031	Target
FINAL PROJECT CLOSEOUT	M900	May 2031	Target

10. RISKS

A Risk Register was created for the Project and is provided as Attachment I. The Project Risk Register identified 45 risks which categorized as being related to Design (15), Environmental (23), Organizational (4), or Right of Way (3).

11. EXTERNAL AGENCY COORDINATION

Coordination with the following agencies is expected to be required for the Project.

11A. Federal Highway Administration (FHWA)

A meeting was held with FHWA on October 20, 2020 to discuss the Project and FHWA requirements. Feedback received from FHWA provided three project conditions:

- A substantially complete draft Concept of Operations (ConOps), addressing project elements which may affect environmental impacts, shall be reviewed by FHWA prior to presentation of Environmental Documents to the public.
- A final ConOps shall be prepared by RCTC and approved by FHWA prior to issuing a solicitation for procurement of construction or technology contractors.

- A Systems Engineering Management Plan (SEMP) Framework shall be approved by FHWA prior to issuing a solicitation for procurement of technology contractor(s).

During the meeting, it was agreed that RCTC would prepare a Managed Lanes Engineering Study and Toll Concept Report as part of the PA&ED phase that would satisfy the requirements of the substantially complete ConOps. Caltrans and FHWA concurrence with the Managed Lanes Engineering Study and Toll Concept Report were received on July 11, 2023.

This DPR has been reviewed by Caltrans' FHWA Liaison, Sergio Avila on January 23, 2024 and this project is eligible for federal aid funding. Per the current Joint Stewardship and Oversight Agreement between Caltrans and FHWA, dated May 28, 2015, this project is considered a Delegated Project. However, should any future situation/circumstance that would potentially classify the project for Risk-based Project Involvement (RBPI), Caltrans shall notify FHWA. FHWA would reassess this project to determine if project is selected for RBPI and identify the specific FHWA involvement activities.

11B. Additional Agency Coordination

The Project requires the following coordination:

US Fish and Wildlife Service
JPR for MSHCP consistency
SKR HCP Consistency Determination

US Army Corps of Engineers CWA
Section 404 Nationwide Permit
Section 408 NEPA Compliance

General Permits (Regional Permit, Nationwide Permit or Programmatic Permit)
Standard Permits (Individual Permit or Letter of Permission)
Section 9 Permit

California Department of Fish and Wildlife
CFGC Section 1602 Streambed Alteration Agreement
JPR for MSHCP consistency

California State Lands Commission
California Public Resources Code Division 6
Permit

Regional Water Quality Control Board (Santa Ana)

Porter-Cologne Act and CWA Section 401 – Water Quality Certification

Western Riverside County Regional Conservation Authority
JPR for MSHCP consistency

State Water Resources Control Board
CWA Section 402

Riverside County Flood Control and Water Conservation District
Encroachment Permit

California Public Utility Commission
Authorization obtained via the process described under CPUC General Order 88-B

Caltrans
Caltrans Construction Encroachment Permit

County of Riverside
Cooperative Agreements with the County of Riverside regarding oaks and oak woodlands to comply with the County of Riverside Oak Tree Management Guidelines would occur.

12. PROJECT REVIEWS

For Caltrans District 8, the following individuals reviewed this DPR:

		Date
Amy Fong	Headquarters Project Delivery Coordinator	06/24/2024
Daniel Ciacchella	Project Manager	01/26/2024
Sergio Avila	District Design Liaison/FHWA/ADA	07/08/2024
Kevin Chen	Safety Review	08/14/2024
Ihab Boulos	Constructability Review	01/26//2024
Nhan Nguyen	District Maintenance Engineering	01/02/2024

13. PROJECT PERSONNEL

Table 13-1 summarizes the Project Personnel.

Table 13-1 Project Personnel

Title	Organization	Name	Phone #
RCTC Project Delivery Director, Toll	RCTC	David Thomas	951.205.4956
RCTC Project Manager	RCTC	Jeff Dietzler	951.787.4019
RCTC Public Outreach Liaison	RCTC	Ariel Alcon Tapia	951.235.9564
RCTC Environmental Oversight	RCTC/Bechtel	Gustavo Quintero	951.787.7935
RCTC Right of Way Agent	RCTC	Hector Casillas	951.205.9975

Title	Organization	Name	Phone #
Project Manager	Caltrans	Dan Ciacchella	951.452.6169
Design Oversight Branch Chief	Caltrans	Justine Niu	909.665.3707
Design Oversight	Caltrans	Andrew Pachol	213.598.6717
Traffic Operations Office Chief	Caltrans	Siva Sivakkolunthar	909.255.2368
Environmental Planning Branch Chief	Caltrans	Shawn Oriaz	909.501.5743
Environmental Oversight	Caltrans	Gita Tokhmafshan	909.501.5742
Environmental Oversight	Caltrans	Natasha Walton	909.260.4891
Public Information Officer	Caltrans	Carolina Rojas	909.289.2836
Senior Right of Way Agent	Caltrans	Marissa Cofer	909.518.4119
Project Manager	HDR	Mark Hager	951.746.5756
Deputy Project Manager	HDR	Brian Smith	951.750.4038
Roadway Design Lead	HDR	Jessica Slater	951.981.4590
Structures Lead	HDR	Daniel LaFranchi	714.368.5601
Tolling Lead	HDR (retired)	Kent Olsen	213.503.8689
Environmental Lead	ICF	Brian Calvert	949.400.3953
Drainage & Utility Lead	TAGE	Andy Duong	323.609.6101

14. ATTACHMENTS

Attachment A – Location Map (1)

Attachment B – Engineering Plans (95)

Attachment C – Project Cost Estimate (13)

Attachment D – Advanced Planning Studies (30)

Attachment E – Right of Way Data Sheet (6)

Attachment F – Transportation Management Plan Data Sheet (5)

Attachment G – Cover Page and Signed Title Sheet from Draft EIR/EA Approved for Public Circulation (4)

Attachment H – Project Category Determination Letter (1)

Attachment I – Project Risk Register (10)

Attachment J – Initial Site Assessment (ISA) Signature Page and ISA Checklist (2)

Attachment K – Life Cycle Cost Analysis (Summary) (2)

Attachment L - Fire Hazard Severity Zones in SRA for Western Riverside County (1)

Attachment A – Location Map

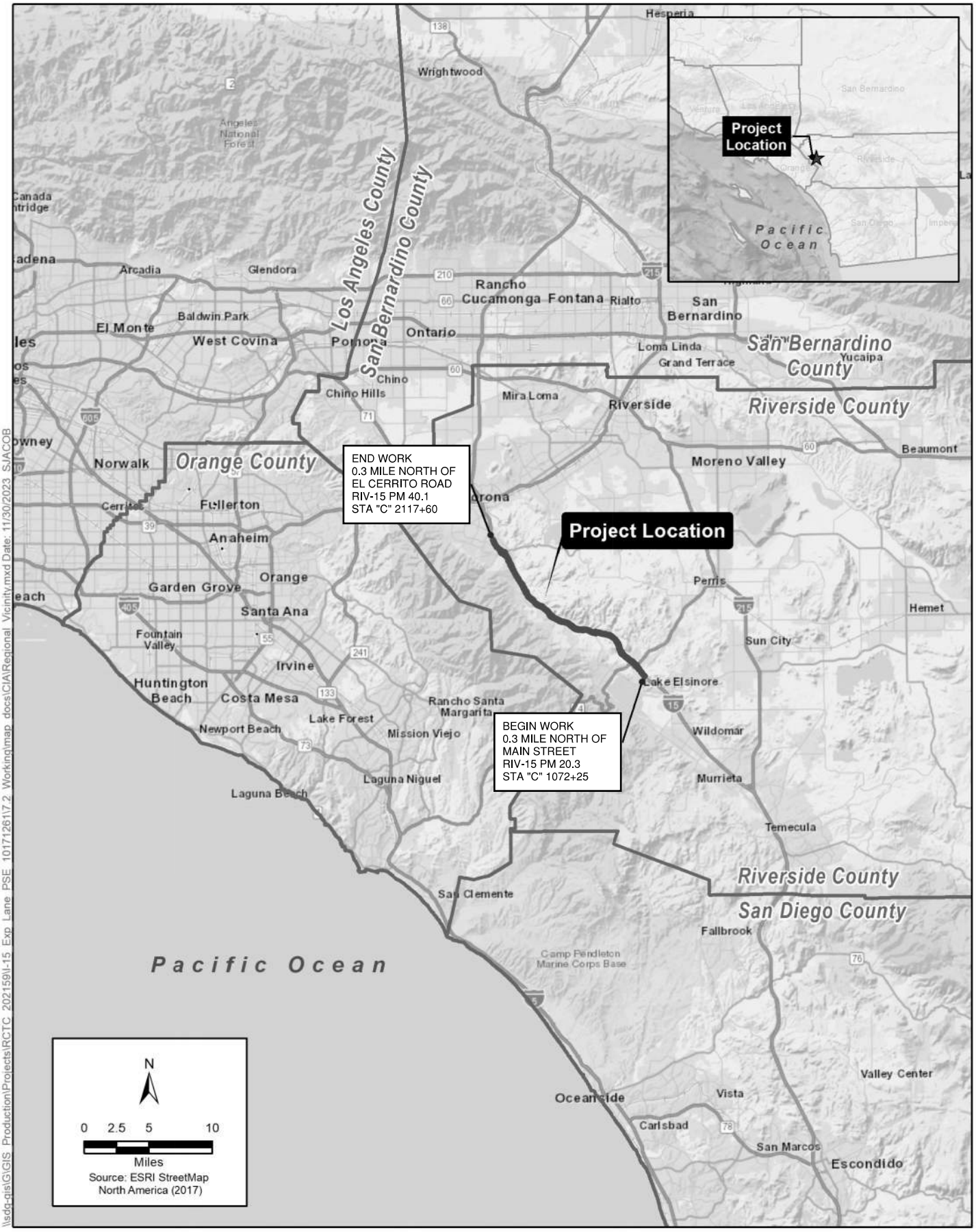

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Figure 1
Regional Vicinity
Interstate 15 Express Lanes Project Southern Extension (I-15 ELPSE)

Attachment B – Engineering Plans

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	1	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

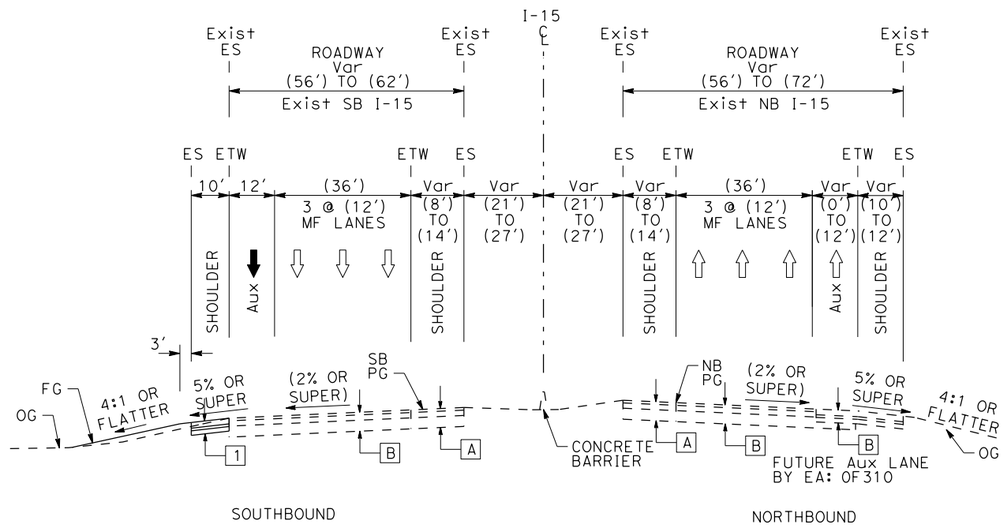
[A] Exist HMA Pvmt

[B] Exist Conc Pvmt

[1] Prop HMA Pvmt

[2] Prop Conc Pvmt

[3] Prop GRIND & HMA OVERLAY



TYPICAL SECTION

AUXILIARY LANE WIDENING
STA C 1121+50 TO STA C 1174+54

TYPICAL CROSS SECTIONS

NO SCALE

X-1

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00 | DATE PLOTTED => 8/27/2024 | TIME PLOTTED => 1:26:06 PM

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	2	95

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PLANS APPROVAL DATE

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2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

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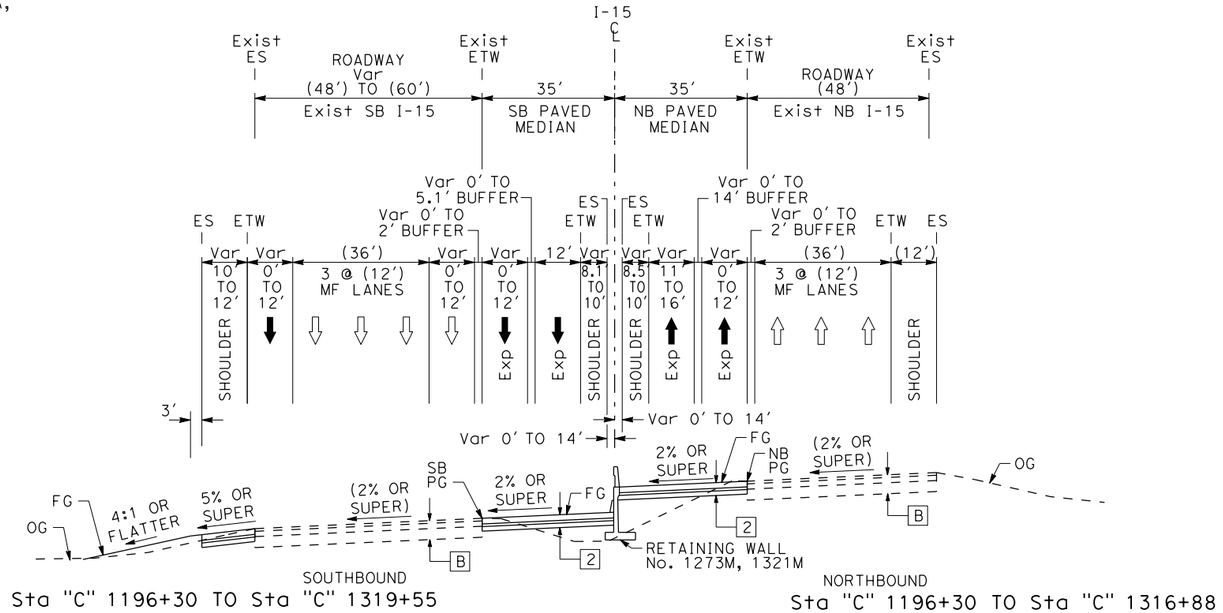
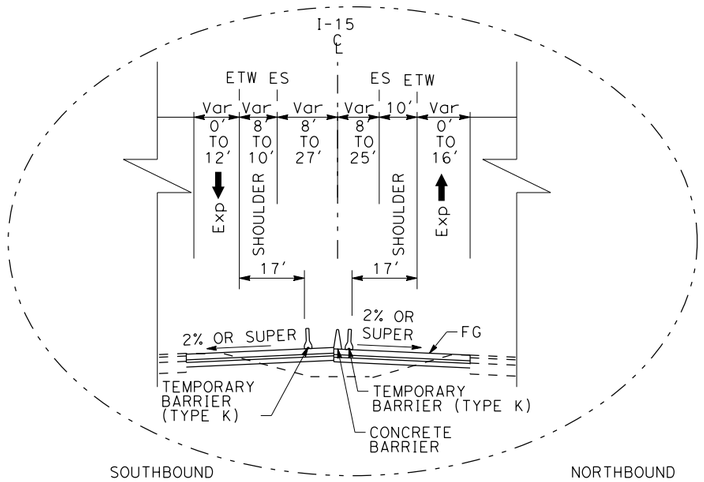


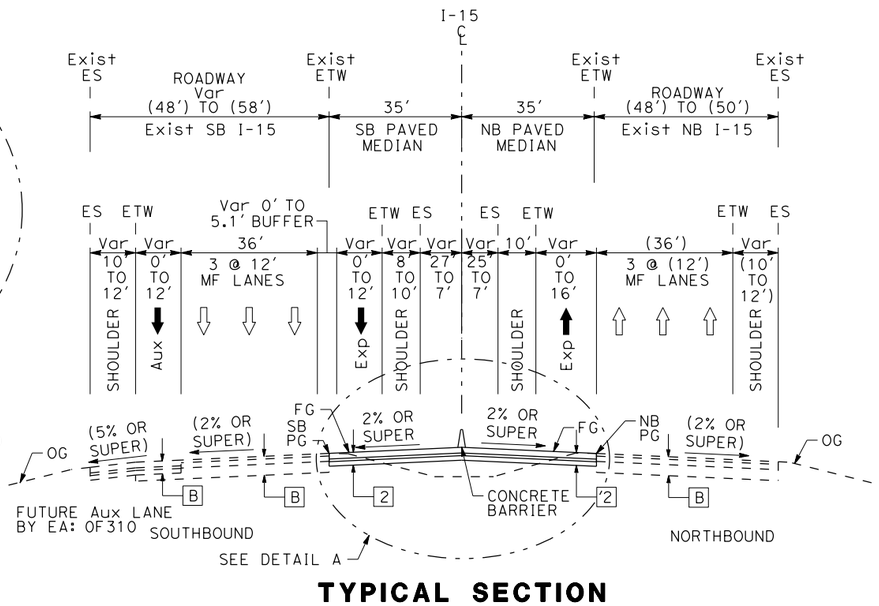
TYPICAL SECTION

SINGLE EXPRESS LANE - RETAINING WALL SEPARATED
WITH TRANSITION TO TWO EXPRESS LANE



DETAIL A

CENTRAL AVENUE (STATE ROUTE 74)
Sta "C" 1176+35 TO Sta "C" 1195+22



TYPICAL SECTION

SINGLE EXPRESS LANE - BARRIER SEPARATED
Sta "C" 1176+35 TO Sta "C" 1196+30

TYPICAL CROSS SECTIONS

NO SCALE

X-2

CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED
JESSICA HEGARDT
BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 8/27/2024
TIME PLOTTED => 11:24:45 PM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ca002.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	3	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

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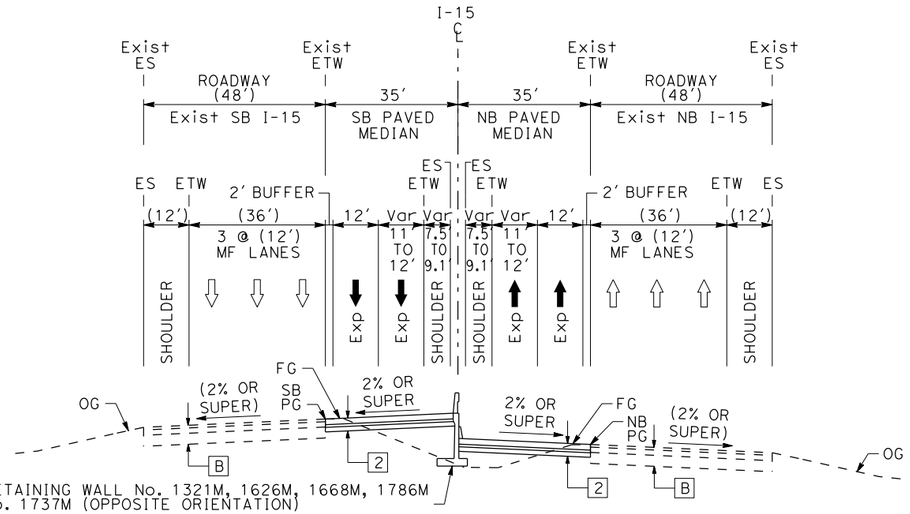


SOUTHBOUND

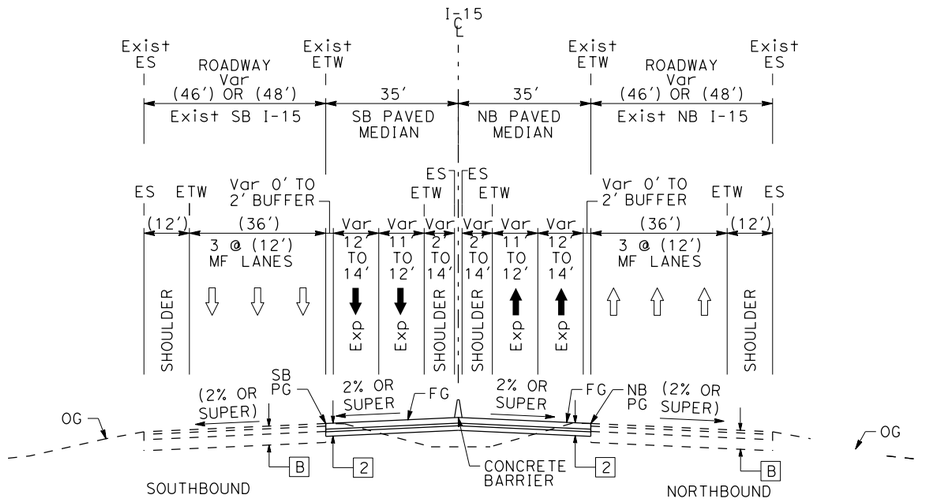
Sta "C" 1319+55 TO Sta "C" 1350+90
Sta "C" 1623+60 TO Sta "C" 1627+90
Sta "C" 1665+80 TO Sta "C" 1668+40
Sta "C" 1732+80 TO Sta "C" 1739+05

NORTHBOUND

Sta "C" 1316+88 TO Sta "C" 1350+90
Sta "C" 1623+60 TO Sta "C" 1627+90
Sta "C" 1665+80 TO Sta "C" 1668+40
Sta "C" 1732+80 TO Sta "C" 1739+05

TYPICAL SECTION

DUAL EXPRESS LANES - RETAINING WALL SEPARATED



TYPICAL SECTION

DUAL EXPRESS LANES - BARRIER SEPARATED

Sta "C" 1350+90 TO Sta "C" 1623+60
Sta "C" 1627+90 TO Sta "C" 1665+80
Sta "C" 1668+40 TO Sta "C" 1732+80
Sta "C" 1742+11 TO Sta "C" 1754+94

TYPICAL CROSS SECTIONS

NO SCALE

X-3

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 8/27/2024 | TIME PLOTTED => 1:24:45 PM

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	4	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

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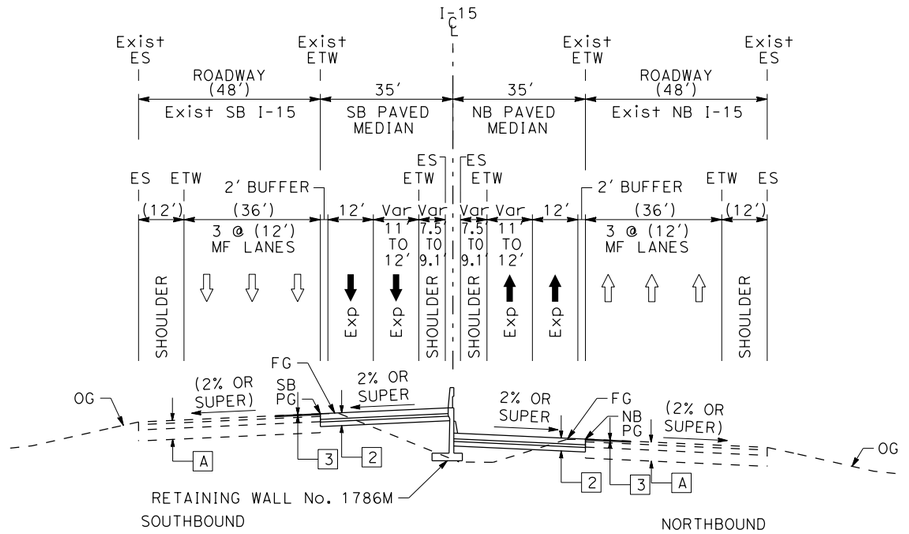
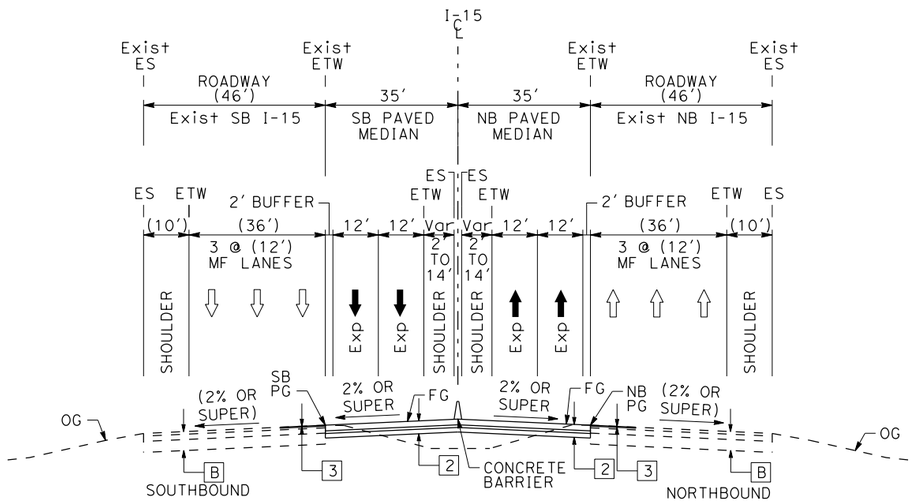


TYPICAL SECTION

DUAL EXPRESS LANES -RETAINING WALL SEPARATED
Sta "C" 1783+50 TO Sta "C" 1790+00



TYPICAL SECTION

DUAL EXPRESS LANES - BARRIER SEPARATED
Sta "C" 1756+40 TO Sta "C" 1783+50
Sta "C" 1790+00 TO Sta "C" 1883+50

TYPICAL CROSS SECTIONS

NO SCALE

X-4

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 8/27/2024
TIME PLOTTED => 1:25:24 PM

BORDER LAST REVISED 7/2/2010
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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	5	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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HDR ENGINEERING,INC.
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RIVERSIDE, CA 92501-2110

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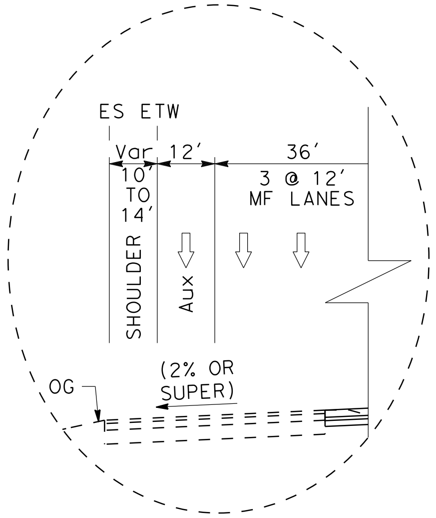
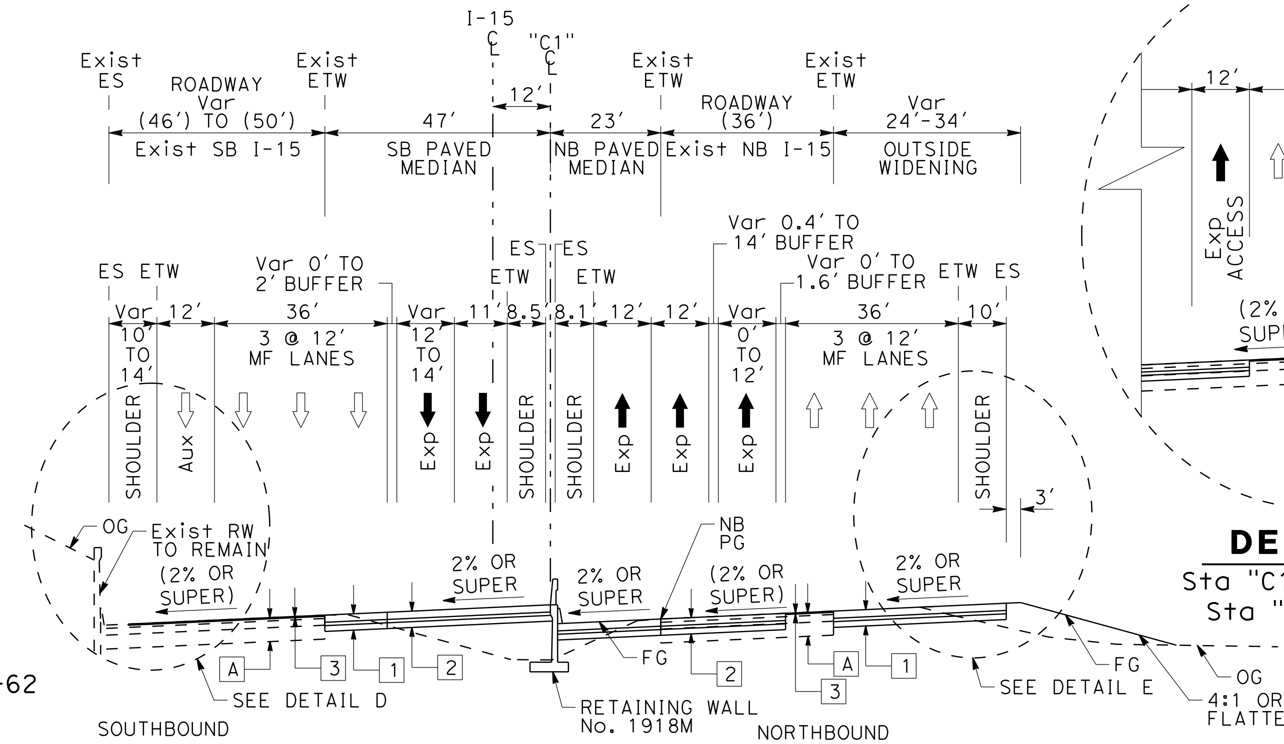
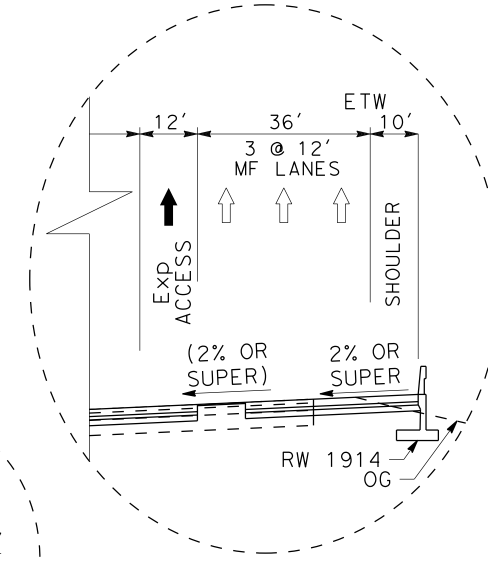


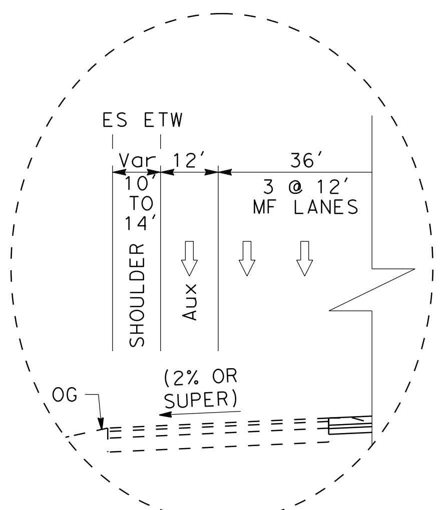
DETAIL D
Sta "C1" 906+20 TO Sta "C1" 919+62



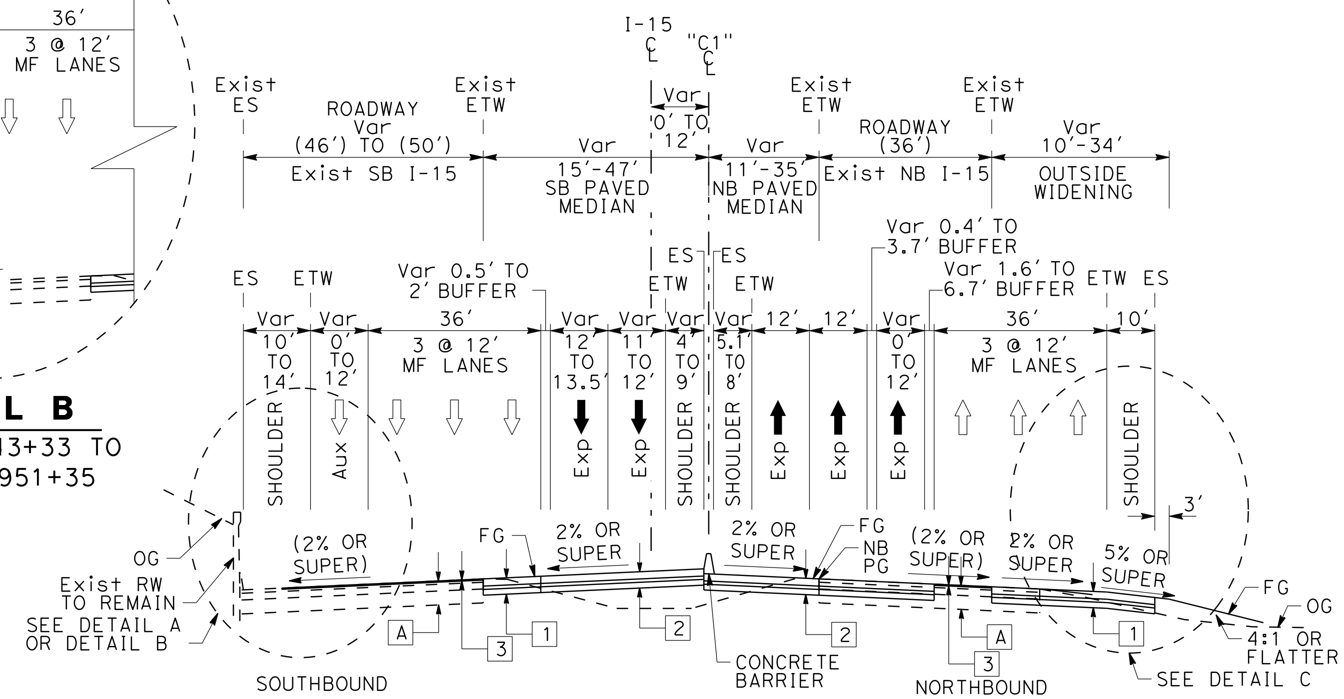
TYPICAL SECTION
WEIRICK ROAD TO CAJALCO ROAD
SHIFTED CENTERLINE - RETAINING WALL SEPARATED
Sta "C1" 905+80 TO Sta "C1" 930+28



DETAIL E
Sta "C1" 908+50 TO
Sta "C1" 921+13



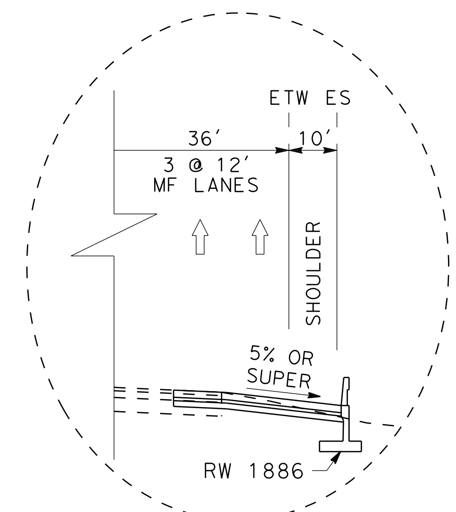
DETAIL B
Sta "C1" 943+33 TO
Sta "C" 1951+35



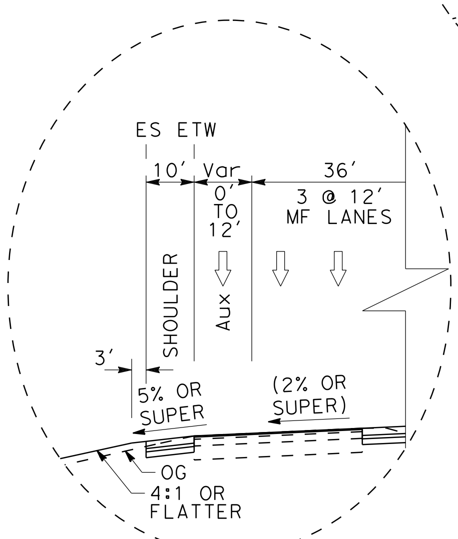
Sta "C1" 931+90 TO Sta "C" 1951+35
Sta "C1" 883+50 TO Sta "C1" 905+80

Sta "C1" 931+90 TO Sta "C" 1947+70
Sta "C1" 883+50 TO Sta "C1" 905+80

TYPICAL SECTION
WEIRICK ROAD TO CAJALCO ROAD
SHIFTED CENTERLINE - BARRIER SEPARATED



DETAIL C
Sta "C1" 883+50 TO Sta "C1" 891+02



DETAIL A
Sta "C1" 931+90 TO Sta "C1" 943+33
Sta "C1" 883+50 TO Sta "C1" 894+73

TYPICAL CROSS SECTIONS
NO SCALE

X-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY JESSICA HEGARDT
CHECKED BY BRIAN SMITH
REVISED BY
DATE REVISED

DATE PLOTTED => 8/27/2024
TIME PLOTTED => 1:25:45 PM
LAST REVISION 00-00-00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	6	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

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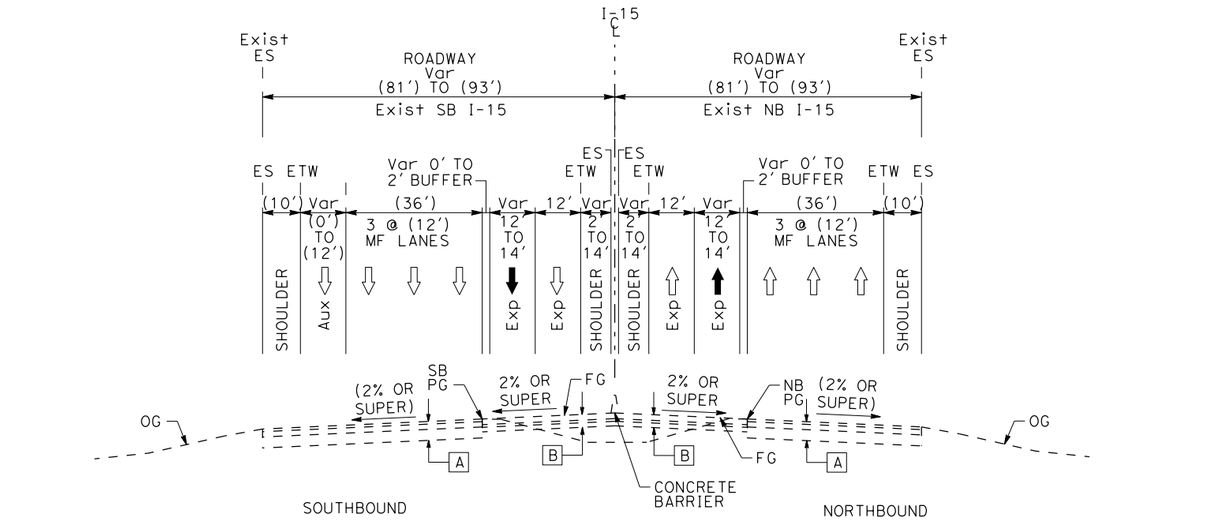

TYPICAL SECTION

EXISTING PAVED MEDIAN

TYPICAL CROSS SECTIONS

NO SCALE

X-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
JESSICA HEGARDT
BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 8/27/2024
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BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ca006.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

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8	RIV	15	20.3/40.1	7	95

REGISTERED CIVIL ENGINEER DATE

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2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

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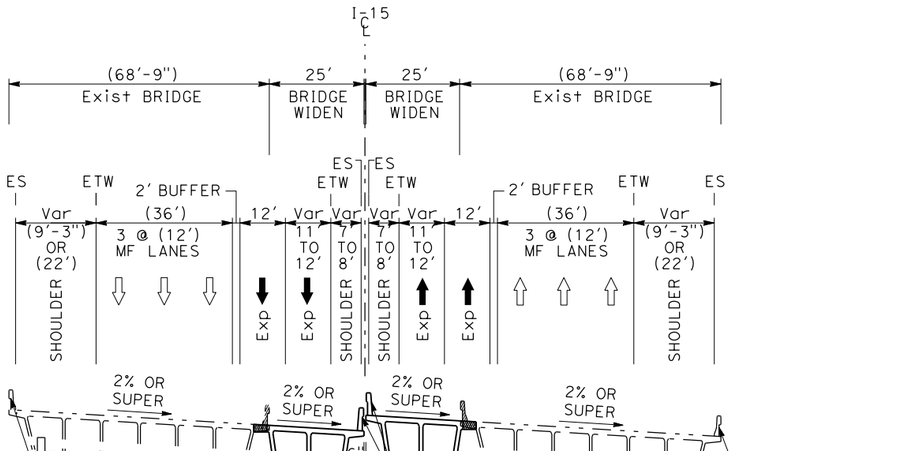
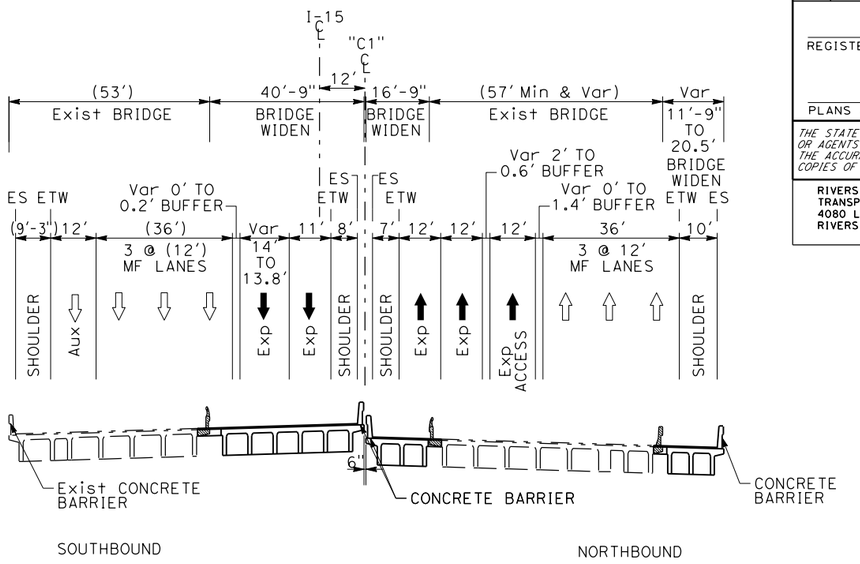


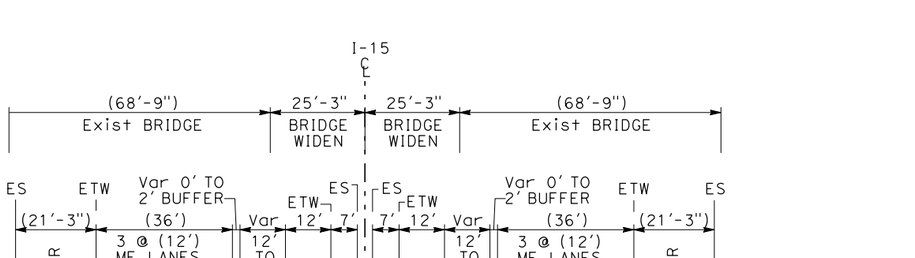
TYPICAL SECTION

Br No. 56-0541 R/L: Sta "C" 1880+67 TO Sta "C" 1882+67
Br No. 56-0559 R/L: Sta "C" 1832+20 TO Sta "C" 1833+59
Br No. 56-0543 R/L: Sta "C" 1739+05 TO Sta "C" 1742+11
Br No. 56-0674 R/L: Sta "C" 1686+72 TO Sta "C" 1688+84
Br No. 56-0675 R/L: Sta "C" 1683+04 TO Sta "C" 1685+46
Br No. 56-0676 R/L: Sta "C" 1603+97 TO Sta "C" 1605+97
Br No. 56-0677 R/L: Sta "C" 1587+47 TO Sta "C" 1589+50
Br No. 56-0678 R/L: Sta "C" 1536+84 TO Sta "C" 1538+82
Br No. 56-0679 R/L: Sta "C" 1522+97 TO Sta "C" 1524+68
Br No. 56-0680 R/L: Sta "C" 1479+43 TO Sta "C" 1483+92
Br No. 56-0682 R/L: Sta "C" 1407+97 TO Sta "C" 1409+74
Br No. 56-0726 R/L: Sta "C" 1347+83 TO Sta "C" 1349+21



TYPICAL SECTION

Br No. 56-0542 R/L: Sta "C" 1754+43 TO Sta "C" 1756+58
Br No. 56-0681 R/L: Sta "C" 1466+21 TO Sta "C" 1470+74



TYPICAL CROSS SECTIONS

NO SCALE

X-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR: JESSICA HEGARDT
CALCULATED-DESIGNED BY: BRIAN SMITH
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 8/27/2024
TIME PLOTTED => 1:25:30 PM

BORDER LAST REVISED 7/2/2010
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DGN FILE => 080j08200ca007.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

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RIVERSIDE, CA 92502

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2280 MARKET STREET-SUITE 100
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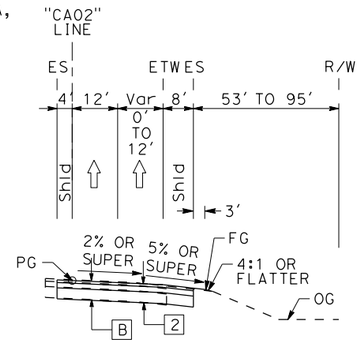
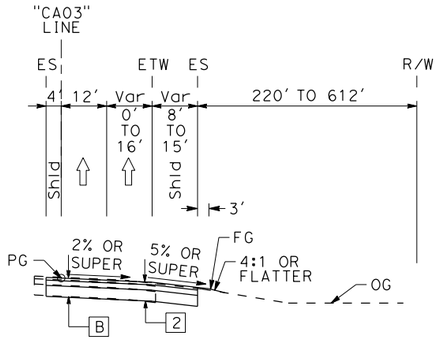


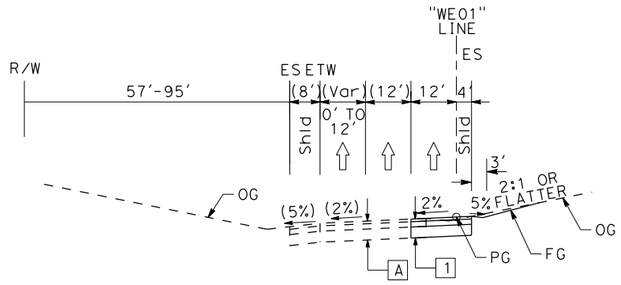
TYPICAL SECTION

CAJALCO ROAD NB OFF-RAMP
"CA02" 1992+75 TO "CA02" 1929+41



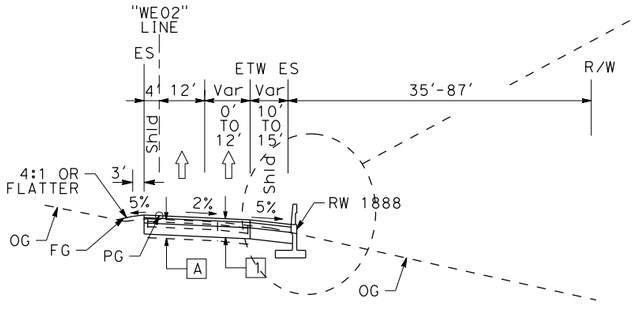
TYPICAL SECTION

CAJALCO ROAD NB LOOP ON-RAMP
"CA03" 936+26 TO "CA03" 946+05



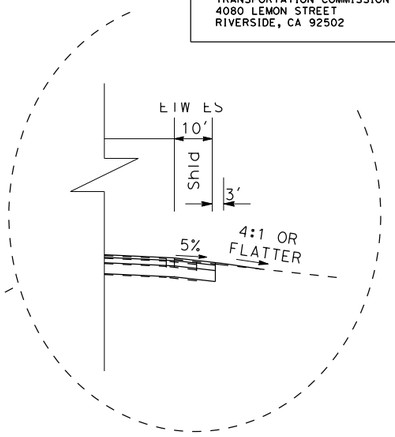
TYPICAL SECTION

WEIRICK ROAD SB OFF-RAMP
"WE01" 885+86 TO "WE01" 894+74



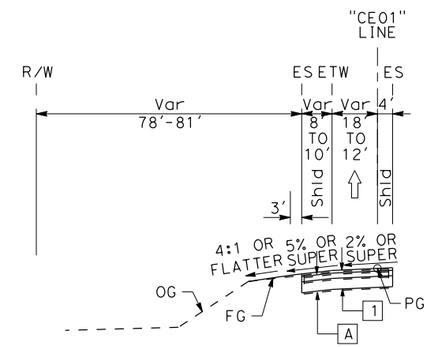
TYPICAL SECTION

WEIRICK ROAD NB ON-RAMP
"WE02" 886+37 TO "WE02" 896+98



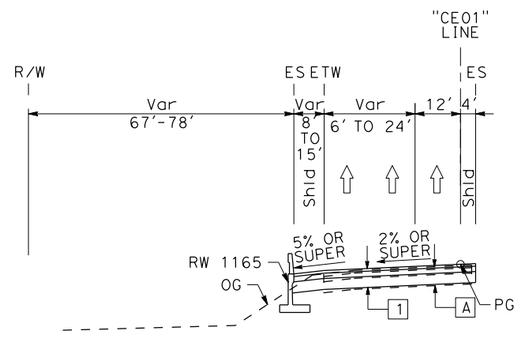
DETAIL F

Sta "WE02" 890+40
TO "WE02" 896+98



TYPICAL SECTION

CENTRAL AVENUE SB ON-RAMP
"CE01" 157+65 TO "CE01" 160+65



TYPICAL SECTION

CENTRAL AVENUE SB ON-RAMP
"CE01" 160+65 TO "CE01" 168+00

TYPICAL CROSS SECTIONS

NO SCALE

X-8

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 8/27/2024 | TIME PLOTTED => 1:24:19 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ca008.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	9	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

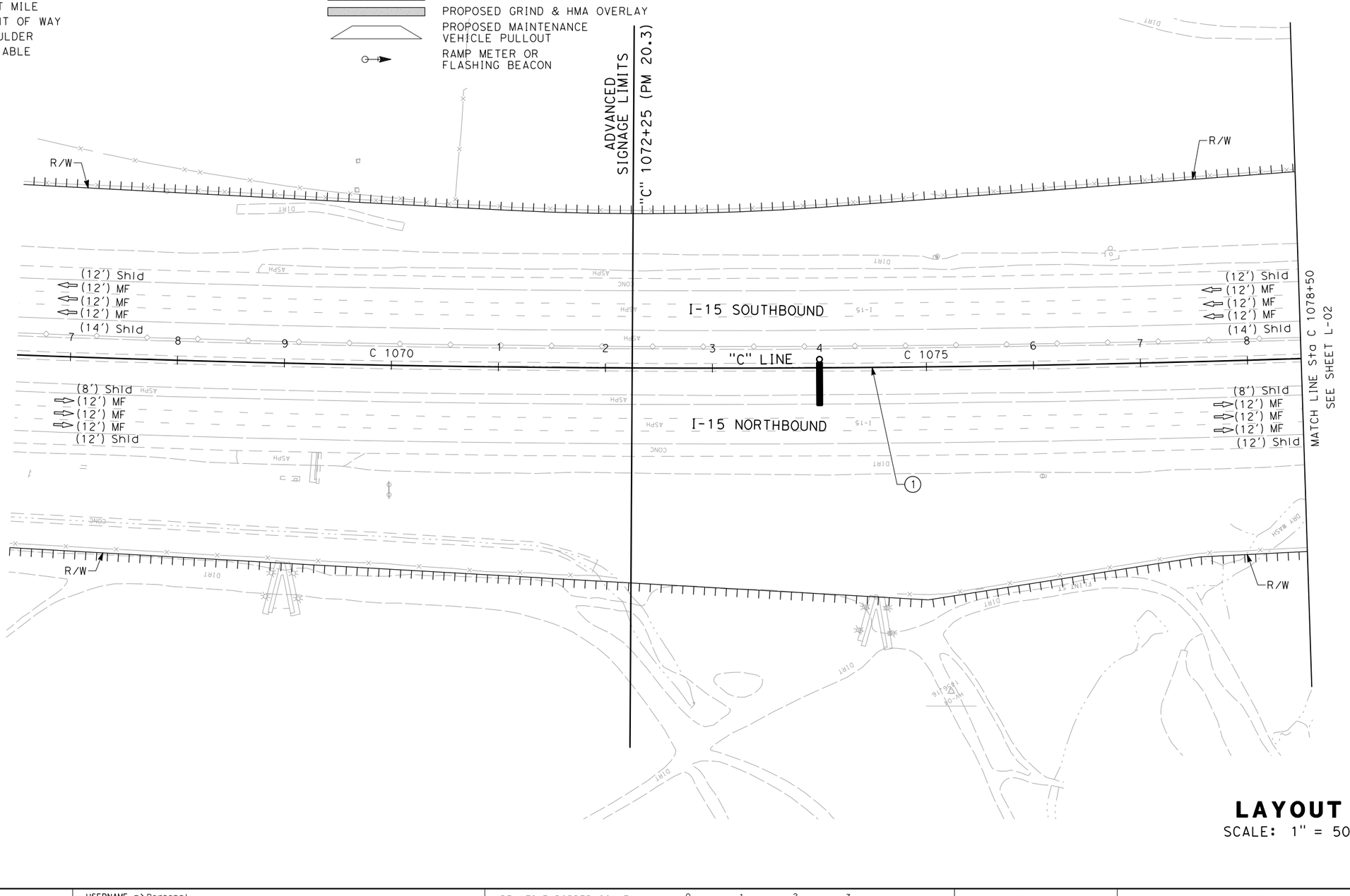
ABBREVIATIONS:

AP	ANGLE POINT
Aux	AUXILIARY LANE
Exp	EXPRESS LANE
MF	MIXED FLOW LANE
MGS	MIDWEST GUARDRAIL SYSTEM
PM	POST MILE
R/W	RIGHT OF WAY
Shld	SHOULDER
Var	VARIABLE

LEGEND:

- (X) CURVE DATA NUMBER
- DIRECTION OF TRAVEL EXISTING LANE
- DIRECTION OF TRAVEL PROPOSED LANE
- EXISTING RIGHT OF WAY
- EXISTING GUARDRAIL
- PROPOSED CONCRETE BARRIER
- PROPOSED RETAINING WALL
- PROPOSED Conc MEDIAN PAVING
- PROPOSED HMA OUTSIDE PAVING
- PROPOSED BRIDGE WIDENING
- PROPOSED GRIND & HMA OVERLAY
- PROPOSED MAINTENANCE VEHICLE PULLOUT
- RAMP METER OR FLASHING BEACON

CURVE DATA				
No.	R	△	T	L
(1)	16998.44′	35°05′00"	5373.18′	10408.47′



LAYOUT
SCALE: 1" = 50′

L-01

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/3/2024
TIME PLOTTED => 6:00:50 PM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	10	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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RIVERSIDE COUNTY
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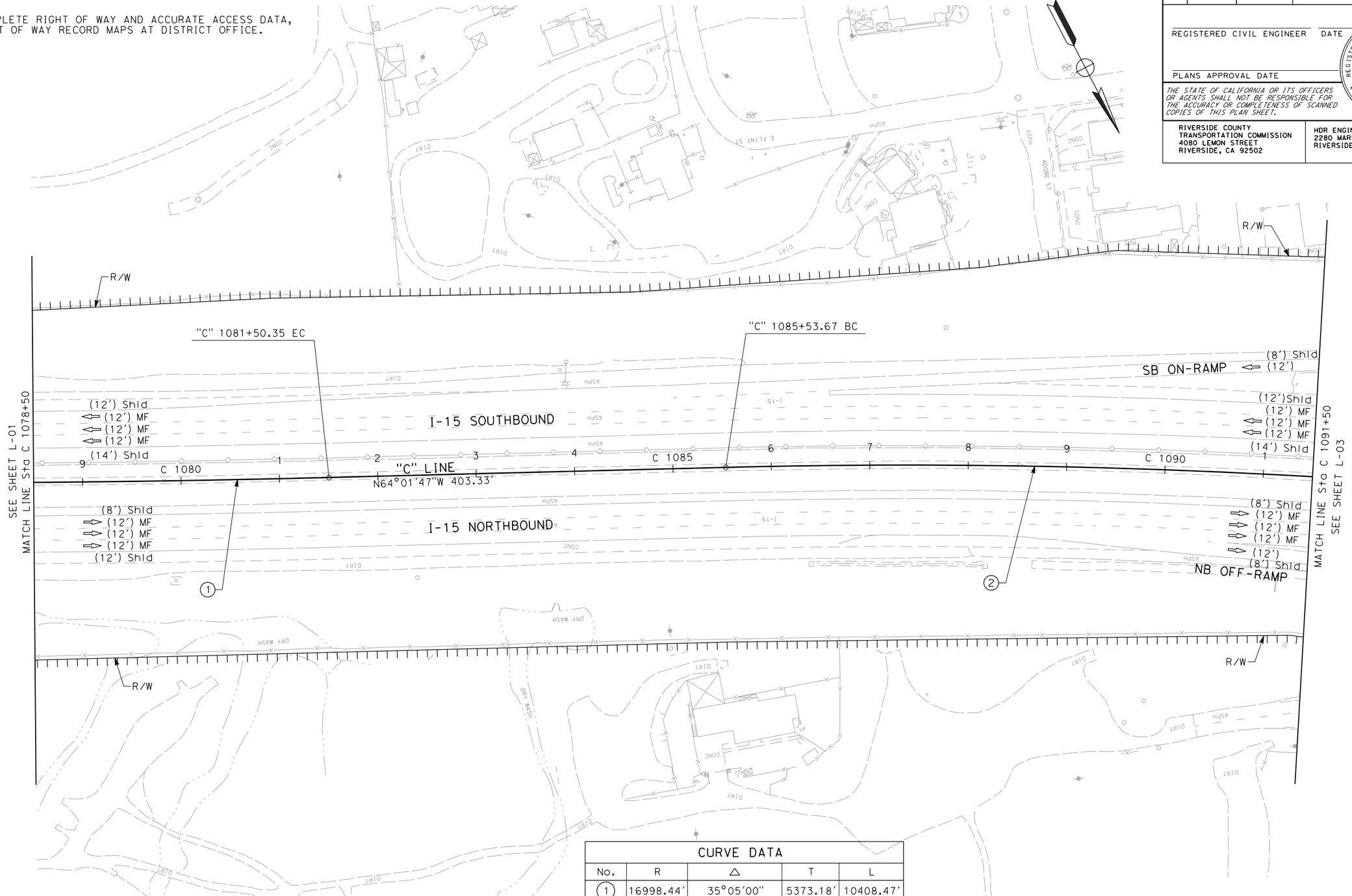
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(1)	16998.44'	35°05'00"	5373.18'	10408.47'
(2)	7199.37'	27°22'45"	1753.62'	3440.25'

LAYOUT
SCALE: 1" = 50'

L-02

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CALCULATED-DESIGNED BY: JESSICA HEGARDT
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/3/2024
TIME PLOTTED => 6:00:20 PM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea002.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	11	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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RIVERSIDE COUNTY
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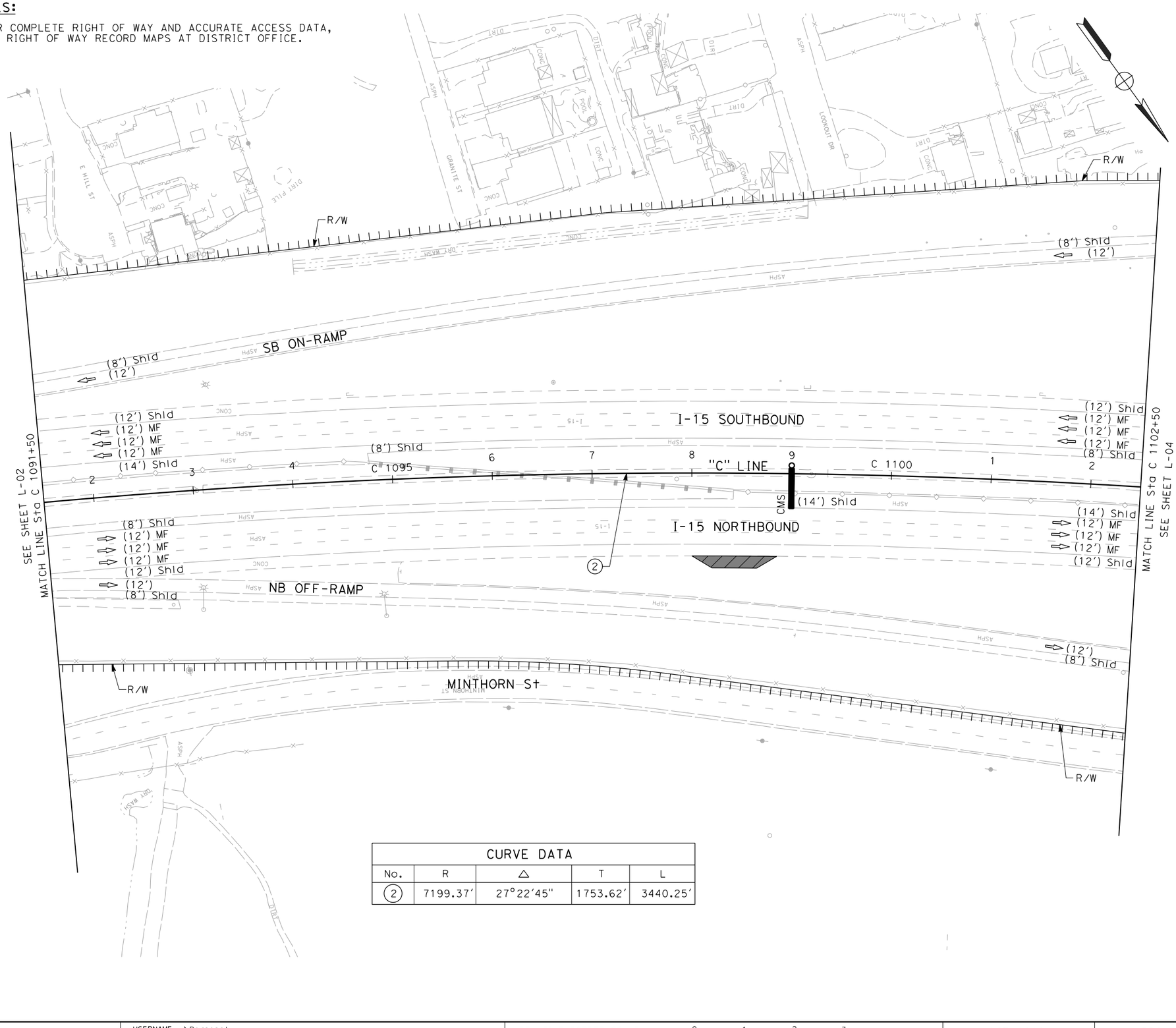
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(2)	7199.37'	27°22'45"	1753.62'	3440.25'

LAYOUT
SCALE: 1" = 50'

L-03

REVISED BY | DATE REVISED
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Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/3/2024 | TIME PLOTTED => 6:00:54 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	12	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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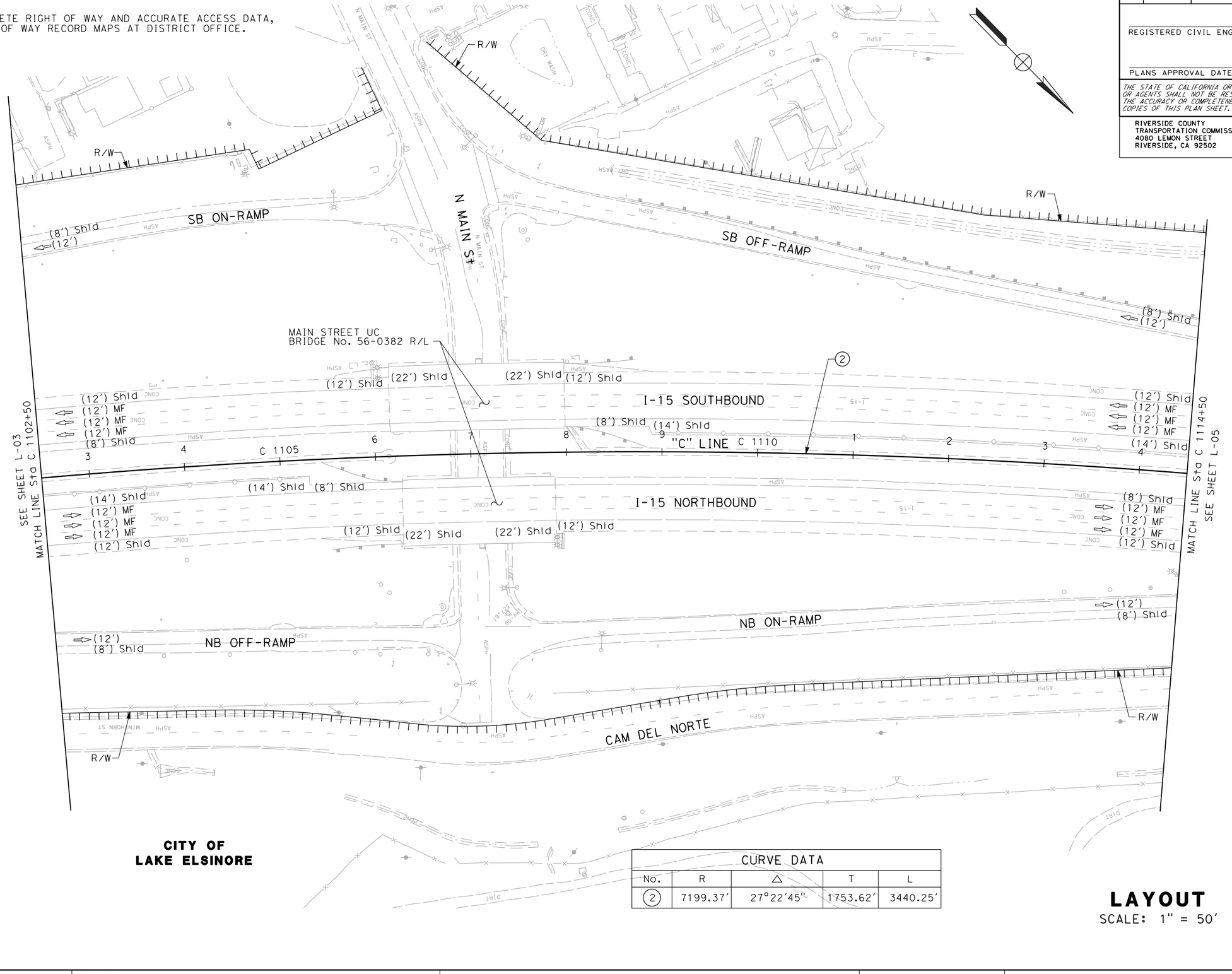
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(2)	7199.37'	27°22'45"	1753.62'	3440.25'

LAYOUT

SCALE: 1" = 50'

L-04

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED

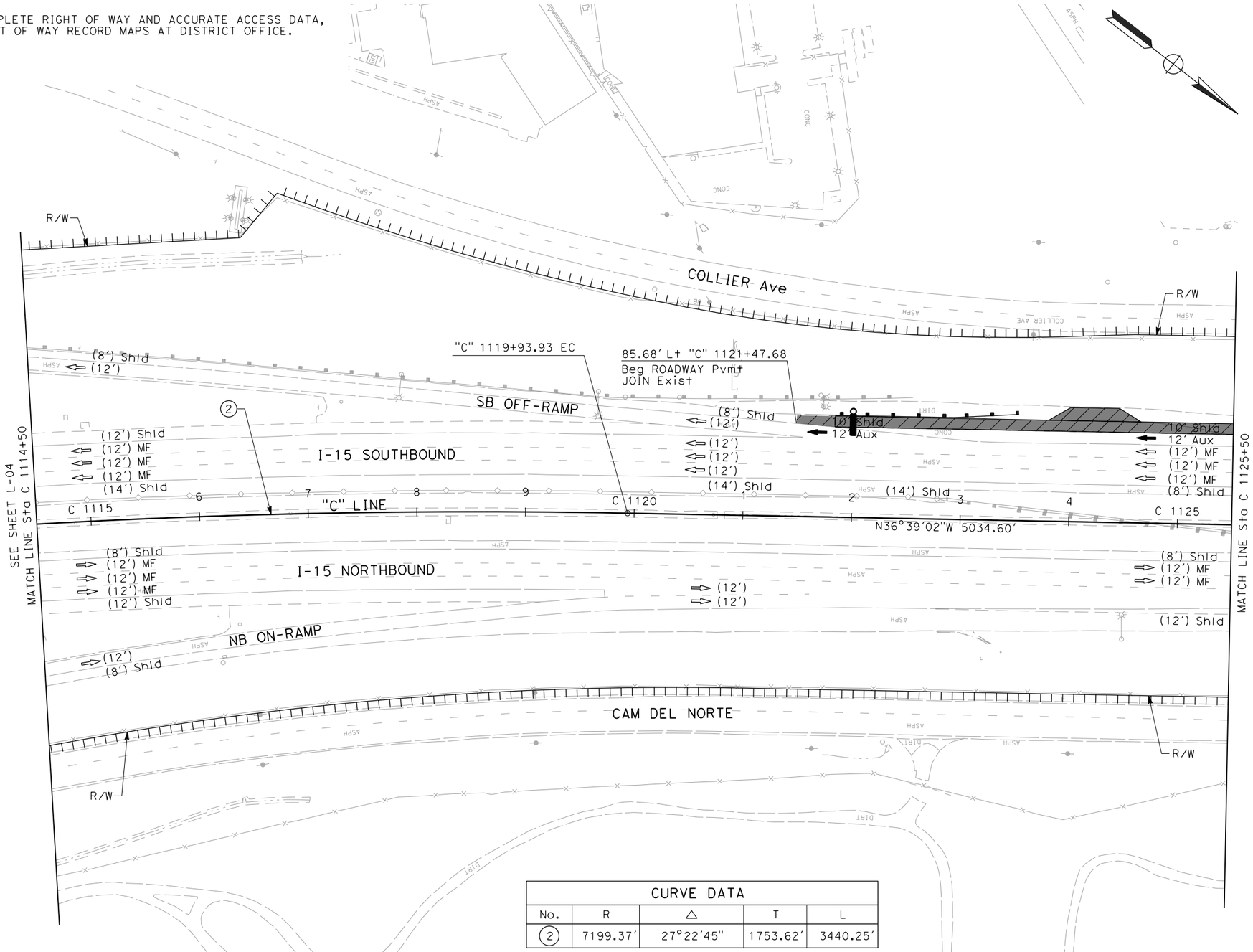
JESSICA HEGARDT | BRIAN SMITH

LAST REVISION 00-00-00 | DATE PLOTTED => 9/3/2024 | TIME PLOTTED => 6:00:38 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(2)	7199.37'	27°22'45"	1753.62'	3440.25'

LAYOUT
SCALE: 1" = 50'

L-05

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	13	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE, CA 92502

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2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/3/2024 | TIME PLOTTED => 6:01:02 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea005.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	14	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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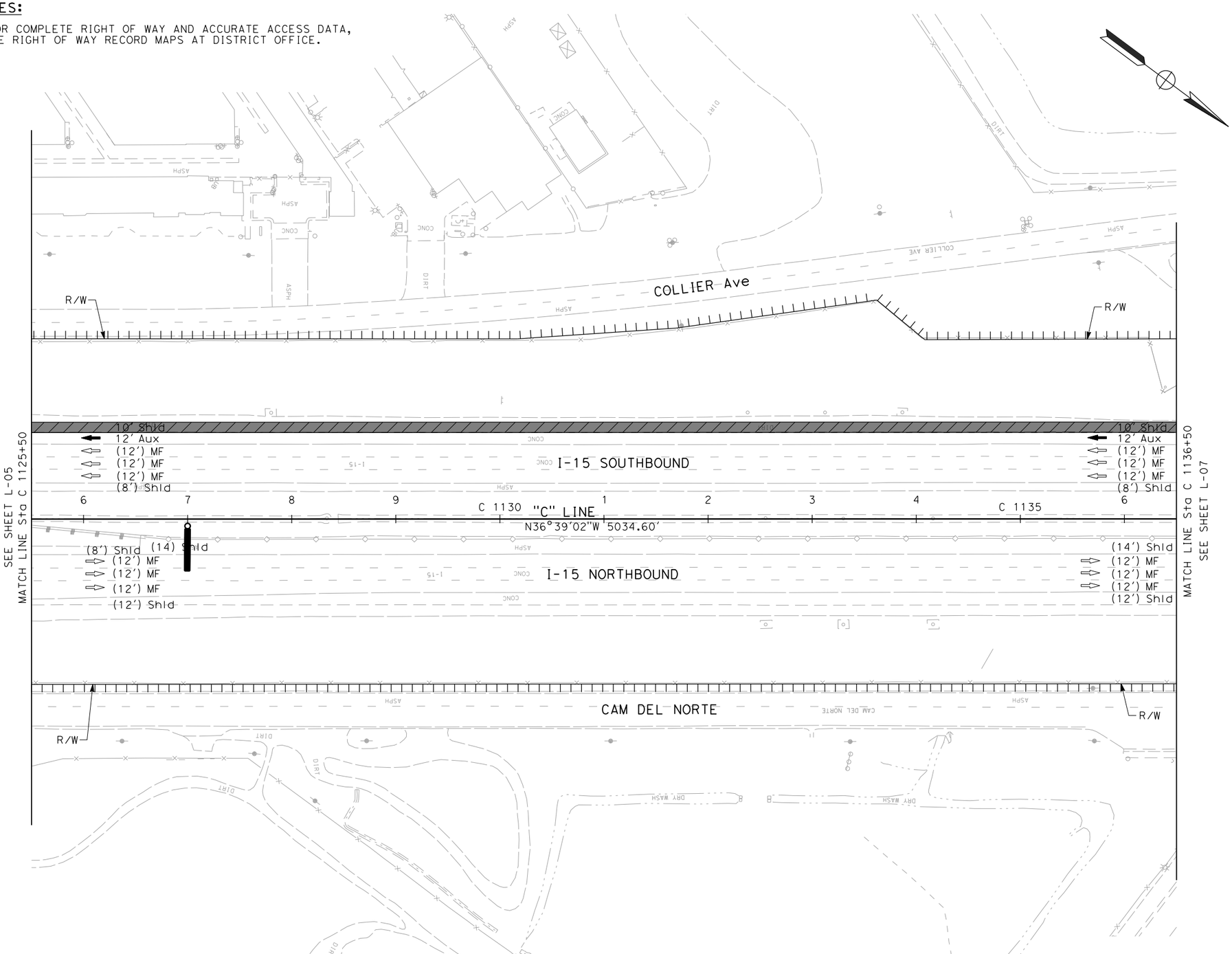
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



LAYOUT

SCALE: 1" = 50'

L-06

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/3/2024
TIME PLOTTED => 6:00:17 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea006.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	15	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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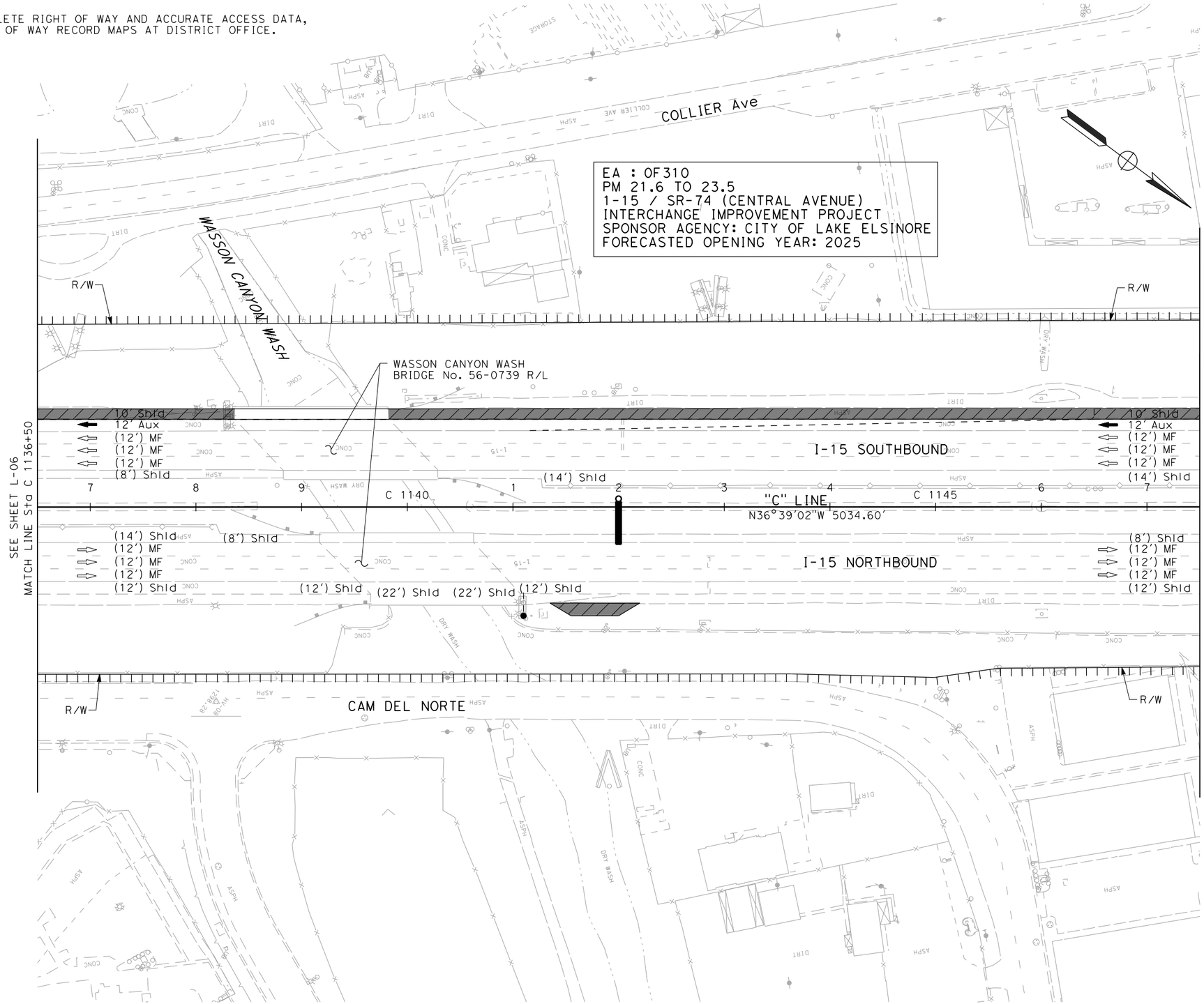
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

EA : 0F310
PM 21.6 TO 23.5
1-15 / SR-74 (CENTRAL AVENUE)
INTERCHANGE IMPROVEMENT PROJECT
SPONSOR AGENCY: CITY OF LAKE ELSINORE
FORECASTED OPENING YEAR: 2025



LAYOUT
SCALE: 1" = 50'

L-07

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
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Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/3/2024 | TIME PLOTTED => 6:00:20 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea007.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	16	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE, CA 92502

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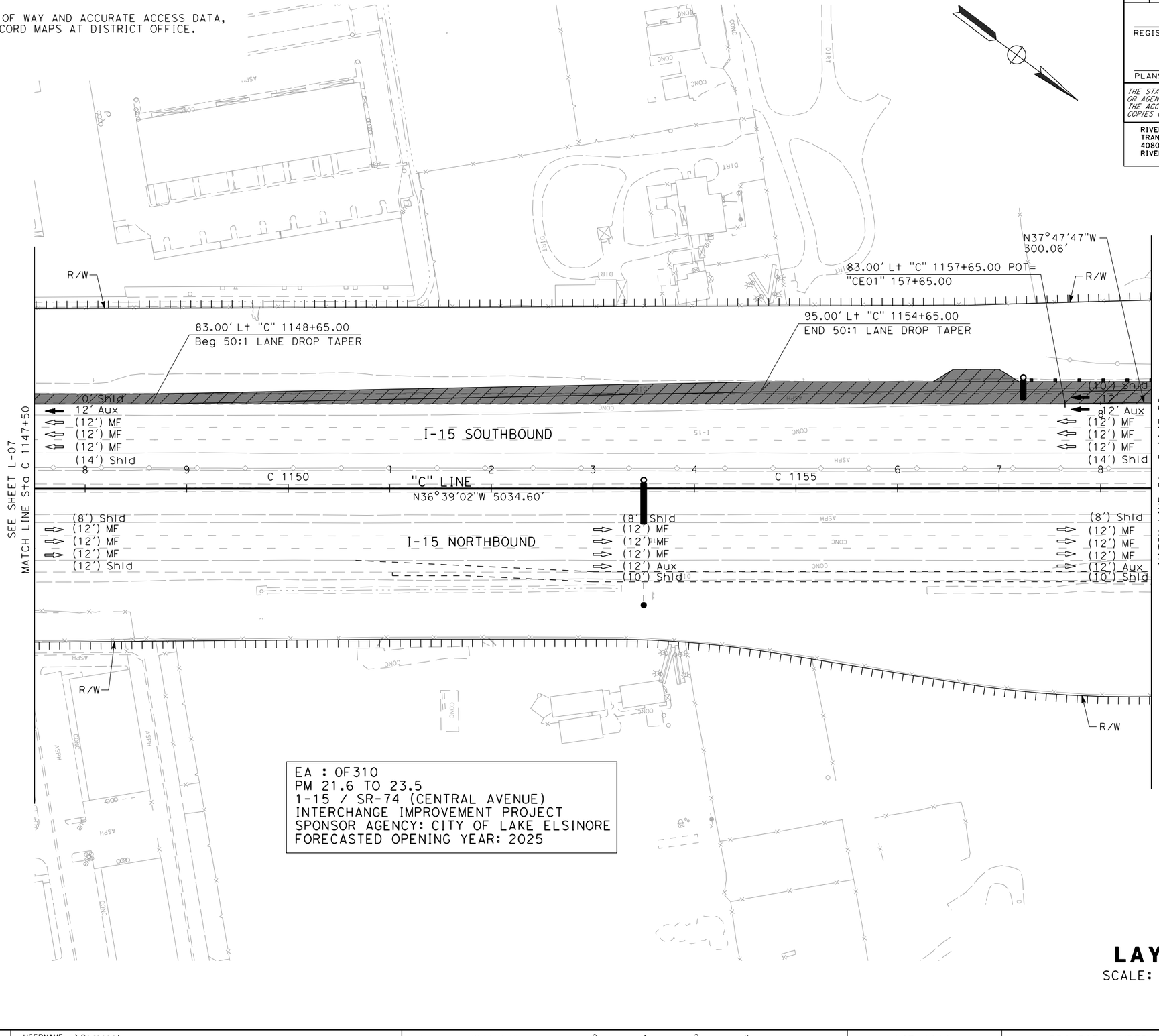
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



EA : 0F310
PM 21.6 TO 23.5
1-15 / SR-74 (CENTRAL AVENUE)
INTERCHANGE IMPROVEMENT PROJECT
SPONSOR AGENCY: CITY OF LAKE ELSINORE
FORECASTED OPENING YEAR: 2025

LAYOUT
SCALE: 1" = 50'

L-08

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/3/2024
TIME PLOTTED => 6:00:45 PM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea008.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	17	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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RIVERSIDE, CA 92502

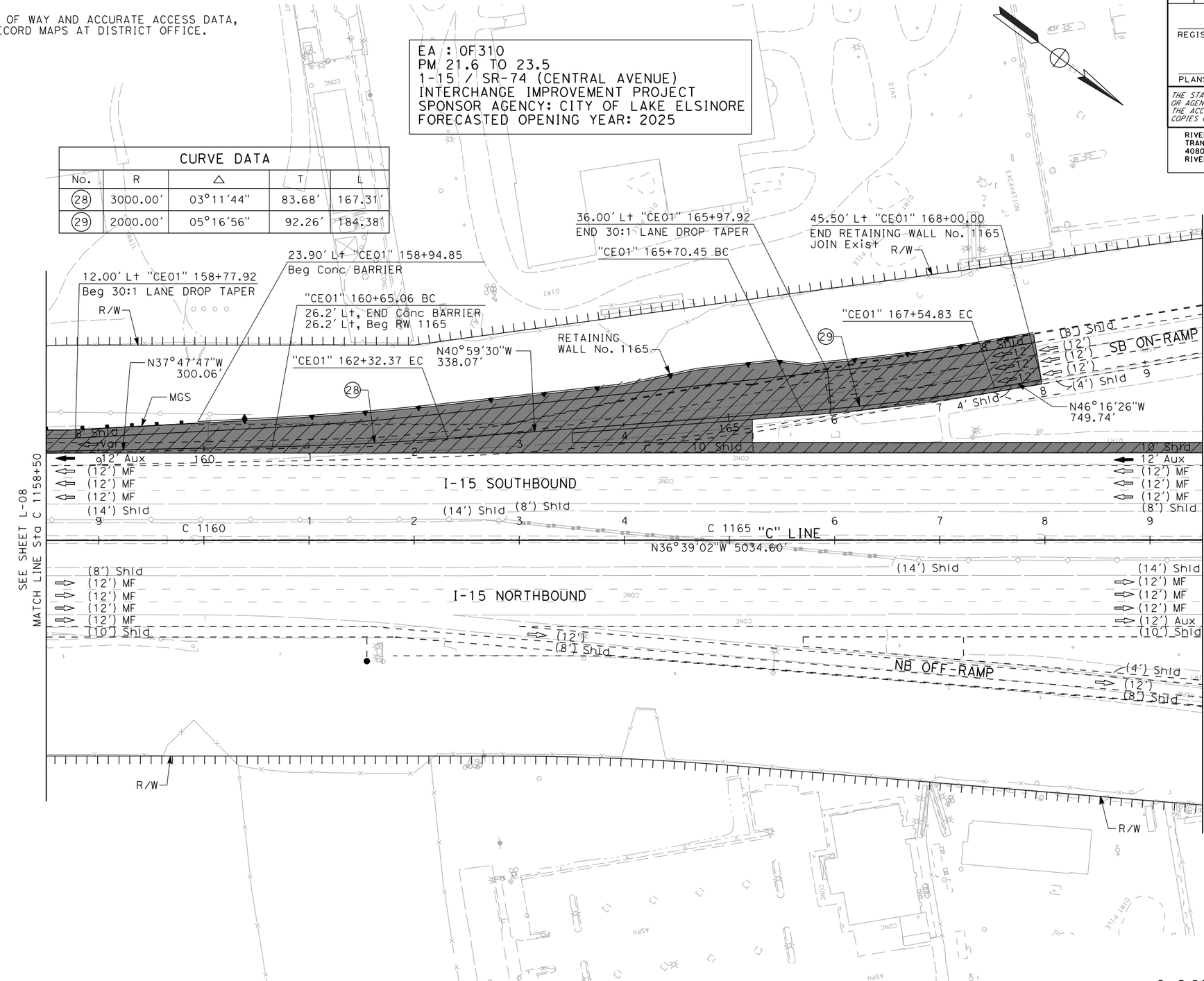
HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

EA : 0F310
PM 21.6 TO 23.5
1-15 / SR-74 (CENTRAL AVENUE)
INTERCHANGE IMPROVEMENT PROJECT
SPONSOR AGENCY: CITY OF LAKE ELSINORE
FORECASTED OPENING YEAR: 2025

CURVE DATA				
No.	R	△	T	L
(28)	3000.00′	03°11′44"	83.68′	167.31′
(29)	2000.00′	05°16′56"	92.26′	184.38′



LAYOUT

SCALE: 1" = 50′

L-09

REVISED BY	DATE REVISED
JESSICA HEGARDT	

CALCULATED-DESIGNED BY	CHECKED BY
BRIAN SMITH	

CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/3/2024
TIME PLOTTED => 6:00:38 PM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea009.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	18	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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RIVERSIDE, CA 92502

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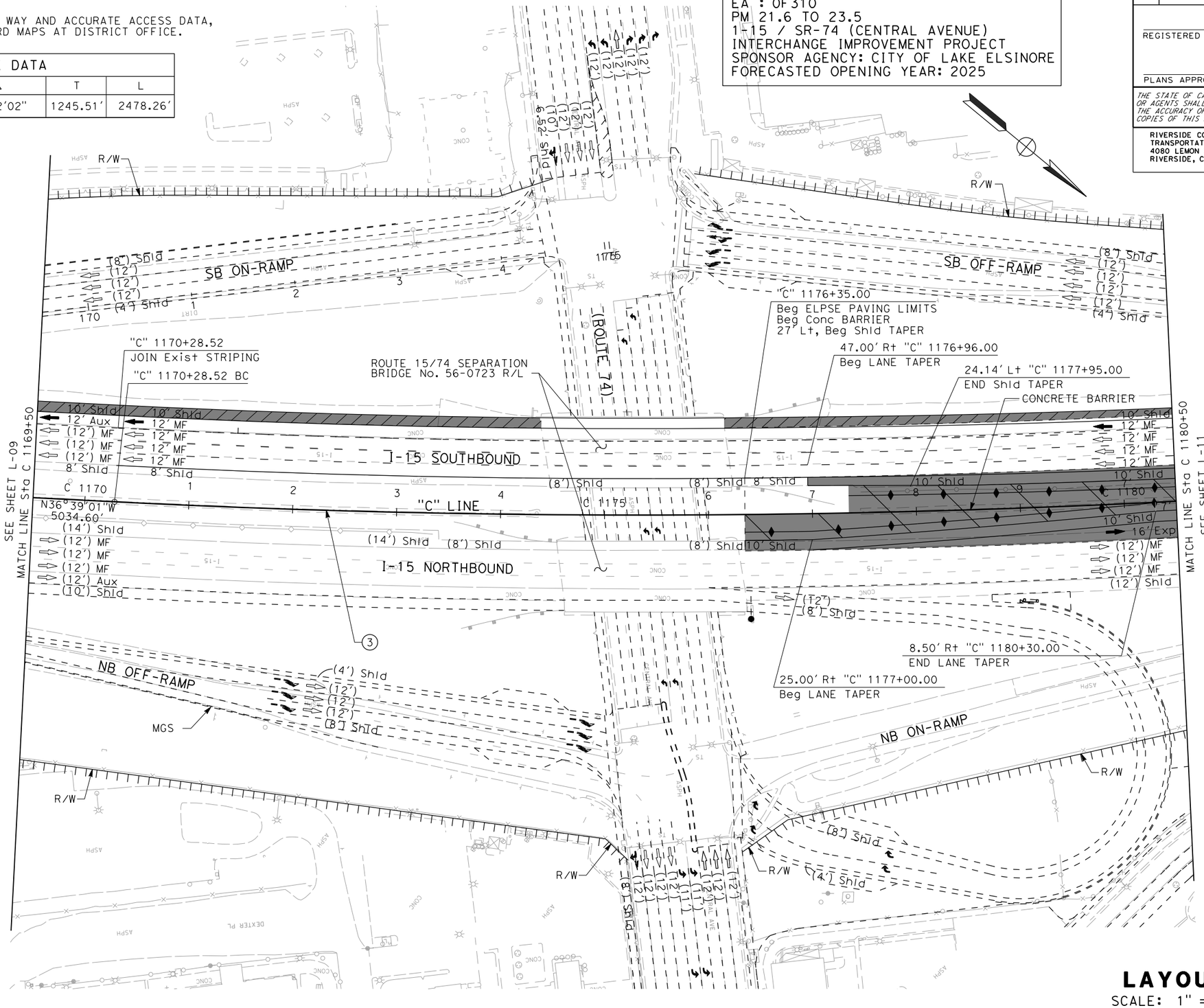
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(3)	9999.16′	14°12′02"	1245.51′	2478.26′

EA : 0F310
PM 21.6 TO 23.5
I-15 / SR-74 (CENTRAL AVENUE)
INTERCHANGE IMPROVEMENT PROJECT
SPONSOR AGENCY: CITY OF LAKE ELSINORE
FORECASTED OPENING YEAR: 2025



LAYOUT

SCALE: 1" = 50′

L-10

REVISED BY	DATE REVISED
JESSICA HEGARDT	BRIAN SMITH
CALCULATED-DESIGNED BY	CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR

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LAST REVISION 00-00-00
DATE PLOTTED => 9/3/2024
TIME PLOTTED => 6:00:41 PM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea010.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	19	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

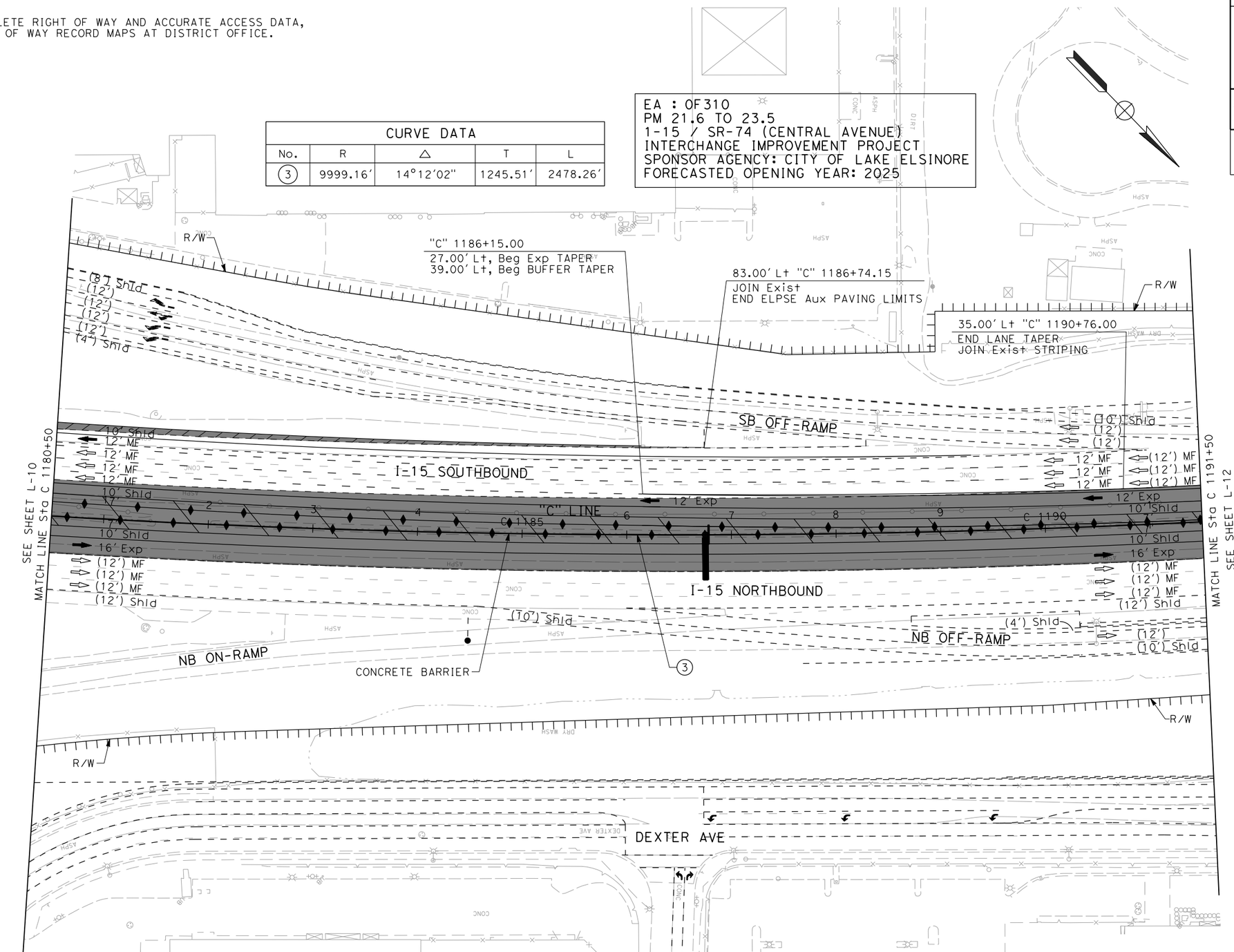
HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(3)	9999.16′	14°12′02"	1245.51′	2478.26′

EA : 0F310
PM 21.6 TO 23.5
1-15 / SR-74 (CENTRAL AVENUE)
INTERCHANGE IMPROVEMENT PROJECT
SPONSOR AGENCY: CITY OF LAKE ELSINORE
FORECASTED OPENING YEAR: 2025



LAYOUT

SCALE: 1" = 50′

L-11

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
JESSICA HEGARDT
BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/3/2024
TIME PLOTTED => 7:05:41 PM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea011.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	20	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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RIVERSIDE, CA 92502

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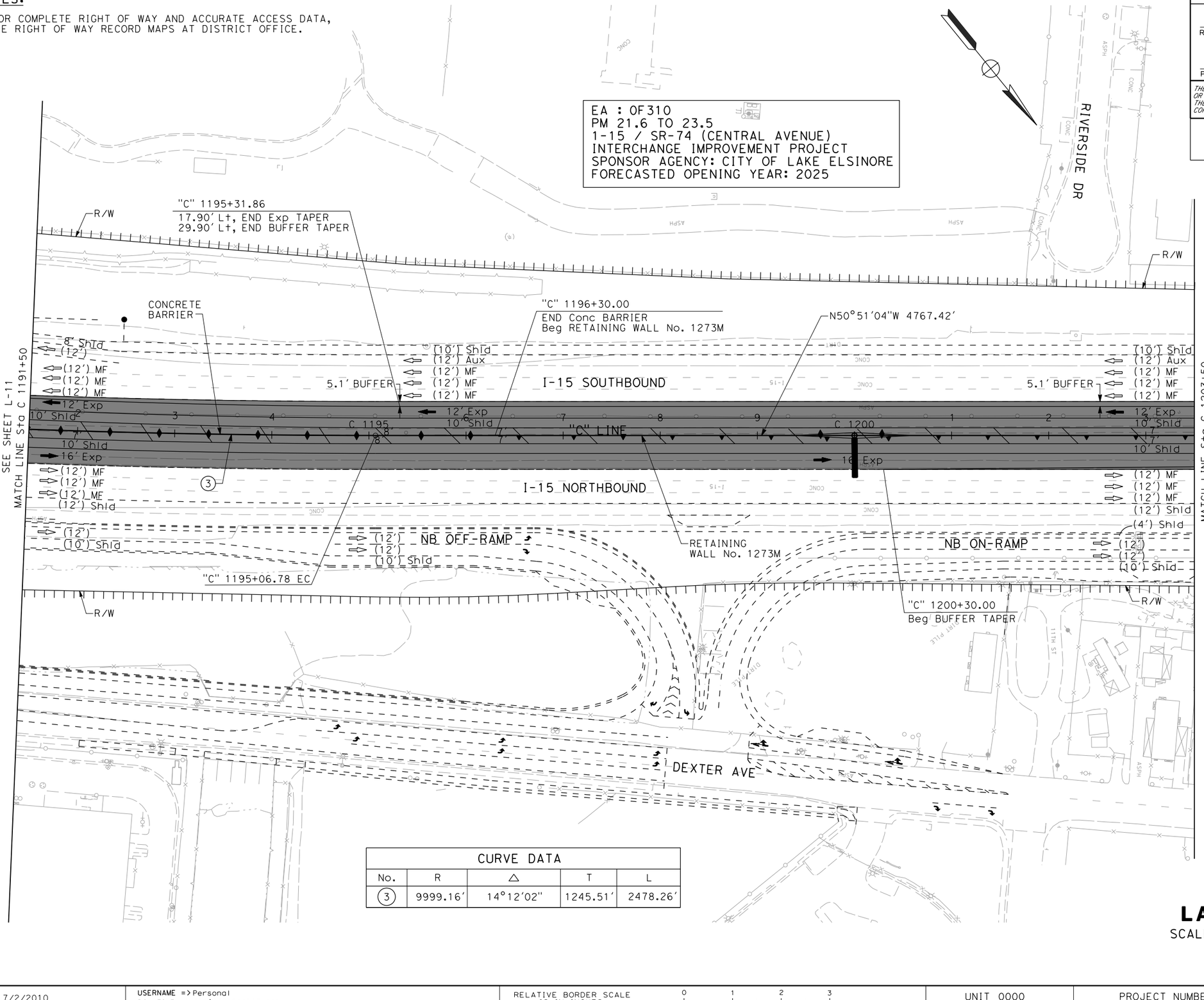
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

EA : 0F310
PM 21.6 TO 23.5
1-15 / SR-74 (CENTRAL AVENUE)
INTERCHANGE IMPROVEMENT PROJECT
SPONSOR AGENCY: CITY OF LAKE ELSINORE
FORECASTED OPENING YEAR: 2025



CURVE DATA				
No.	R	△	T	L
(3)	9999.16'	14°12'02"	1245.51'	2478.26'

LAYOUT
SCALE: 1" = 50'

L-12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY: JESSICA HEGARDT | CHECKED BY: BRIAN SMITH | REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 9/3/2024
00-00-00 | TIME PLOTTED => 7:05:19 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea012.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	21	95

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.

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

EA : 0F310
PM 21.6 TO 23.5
I-15 / SR-74 (CENTRAL AVENUE)
INTERCHANGE IMPROVEMENT PROJECT
SPONSOR AGENCY: CITY OF LAKE ELSINORE
FORECASTED OPENING YEAR: 2025

EL TORE Rd

93.00' Lt "C" 1205+45.00
Beg ELPSE Aux PAVING LIMITS
JOIN IMPROVEMENTS FROM
EA: 0F310 SB Aux LANE IMPROVEMENTS BY OTHERS

N50°51'04"W 4767.42'

I-15 SOUTHBOUND

(10') Shld
(12') Aux
(12') MF
(12') MF
(12') MF
5.1' BUFFER
12' Exp
10' Shld
7'
10' Shld
Var Exp
(12') MF
(12') MF
(12') MF
(12') Shld
4.5' BUFFER

I-15 NORTHBOUND

(4') Shld
(12')
(12')
(10') Shld
NB ON-RAMP

30.50' Lt "C" 1205+47.50
END BUFFER TAPER

"C" LINE

C 1205
C 1210
C 1215

RETAINING WALL No. 1273M

10' Shld
12' Aux
(12') MF
(12') MF
(12') MF
5.1' BUFFER
12' Exp
10' Shld
10' Shld
12' Exp
(12') MF
(12') MF
(12') MF
(12') Aux
(10') Shld
4.5' BUFFER
(12')
(8') Shld

R/W

DEXTER AVE

SEE SHEET L-12
MATCH LINE Sta C 1203+50

MATCH LINE Sta C 1215+50
SEE SHEET L-14

LAYOUT

SCALE: 1" = 50'

L-13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/3/2024
TIME PLOTTED => 7:05:40 PM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea013.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	22	95

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.

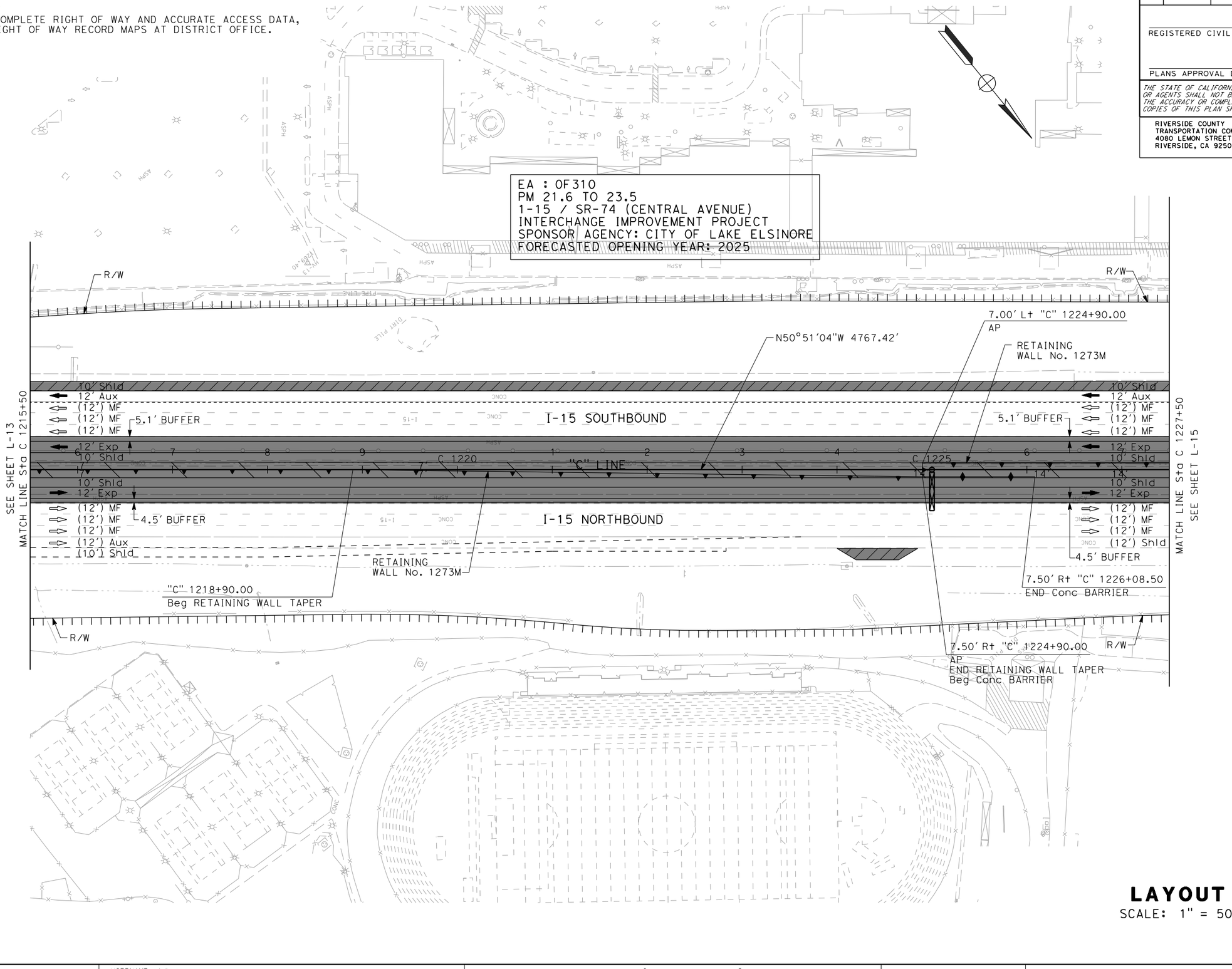
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

EA : 0F310
PM 21.6 TO 23.5
1-15 / SR-74 (CENTRAL AVENUE)
INTERCHANGE IMPROVEMENT PROJECT
SPONSOR AGENCY: CITY OF LAKE ELSINORE
FORECASTED OPENING YEAR: 2025



LAYOUT
SCALE: 1" = 50'

L-14

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION DATE PLOTTED => 9/3/2024
00-00-00 TIME PLOTTED => 7:05:18 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea014.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	23	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

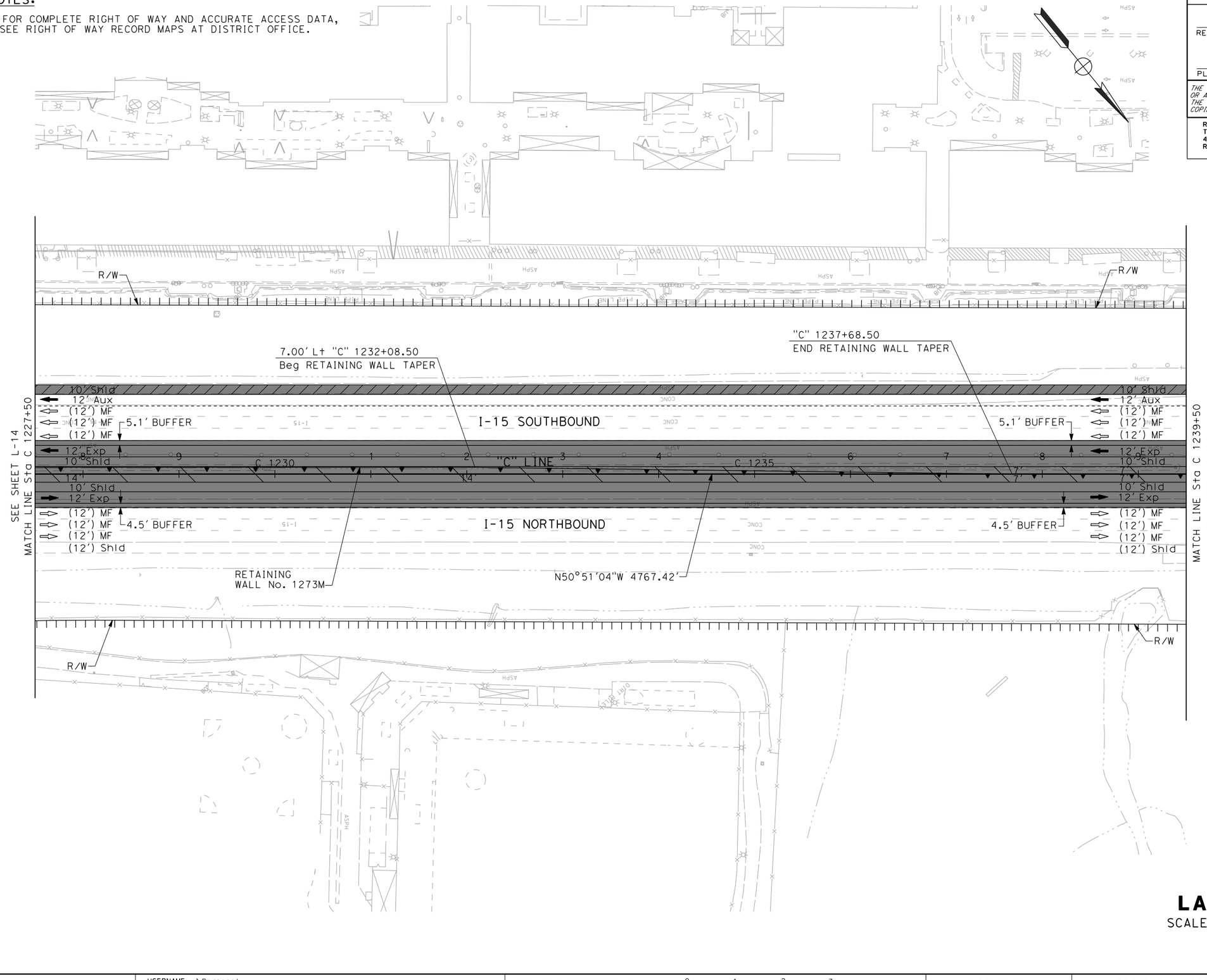
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



LAYOUT
SCALE: 1" = 50'

L-15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/3/2024
TIME PLOTTED => 7:05:14 PM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea015.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	24	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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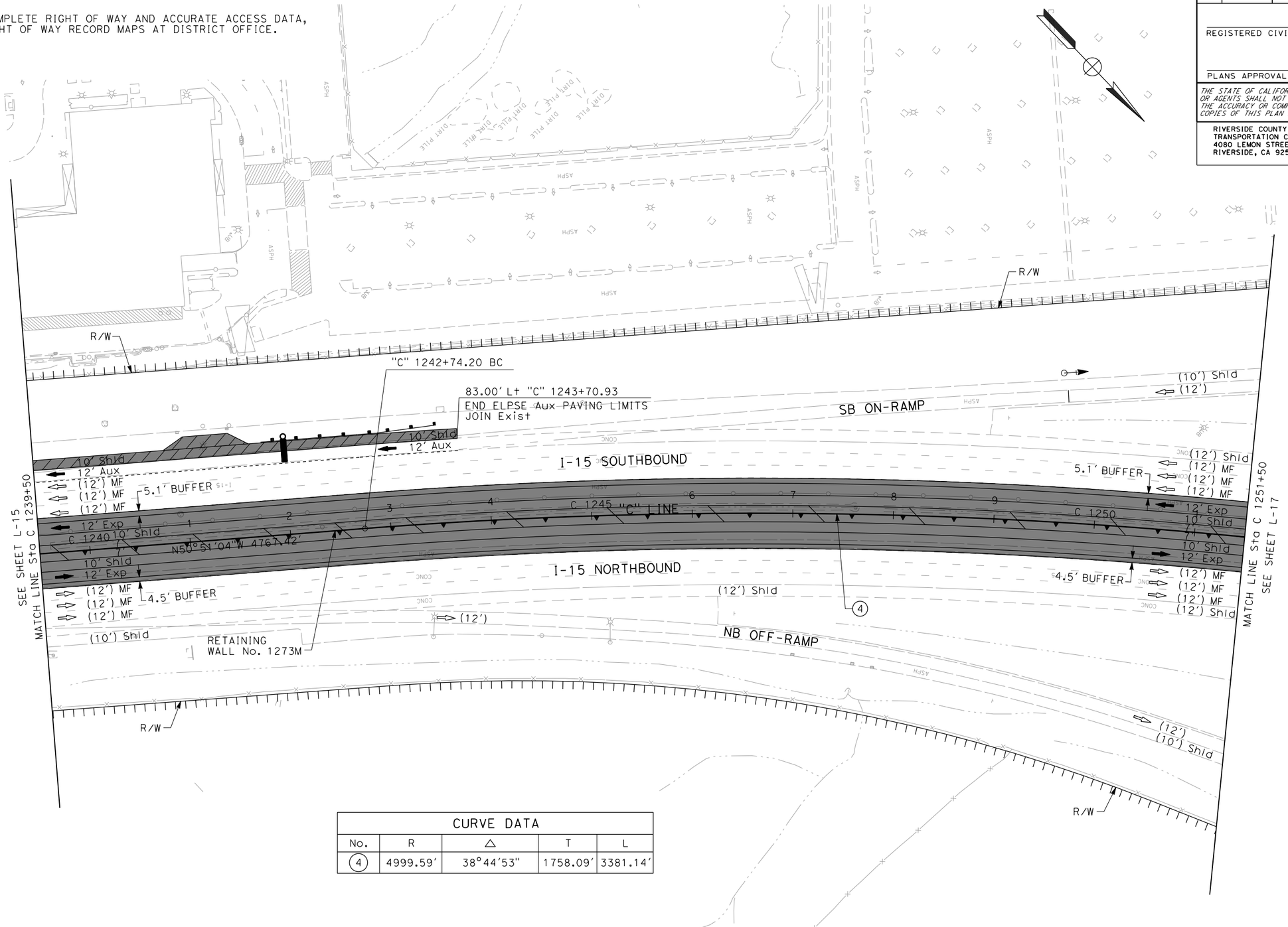
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(4)	4999.59'	38°44'53"	1758.09'	3381.14'

LAYOUT

SCALE: 1" = 50'

L-16

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:19 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea016.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(4)	4999.59′	38°44′53"	1758.09′	3381.14′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	25	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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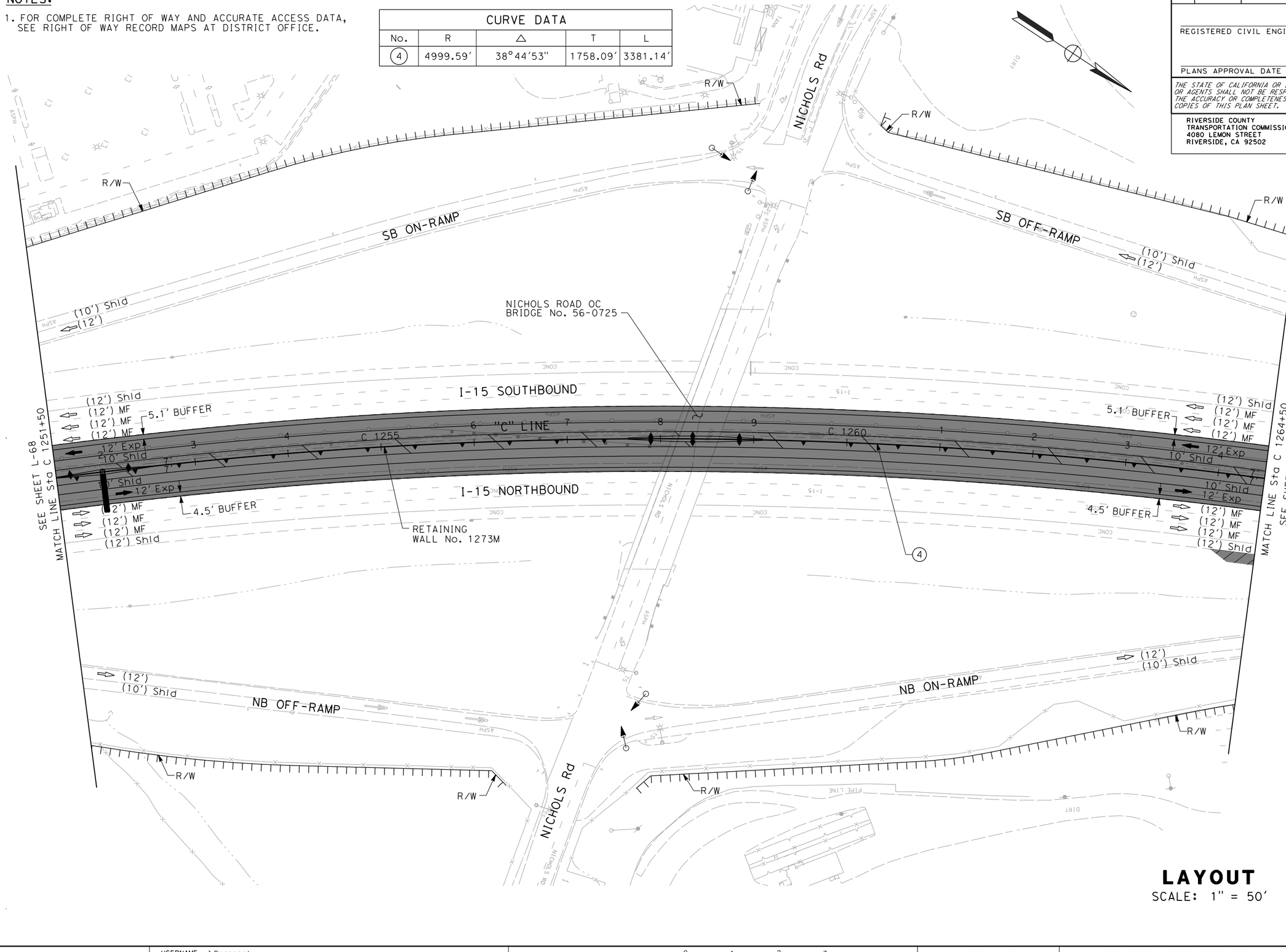
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-17

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED

JESSICA HEGARDT | BRIAN SMITH

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 10:16:44 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea017.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	26	95

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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TRANSPORTATION COMMISSION
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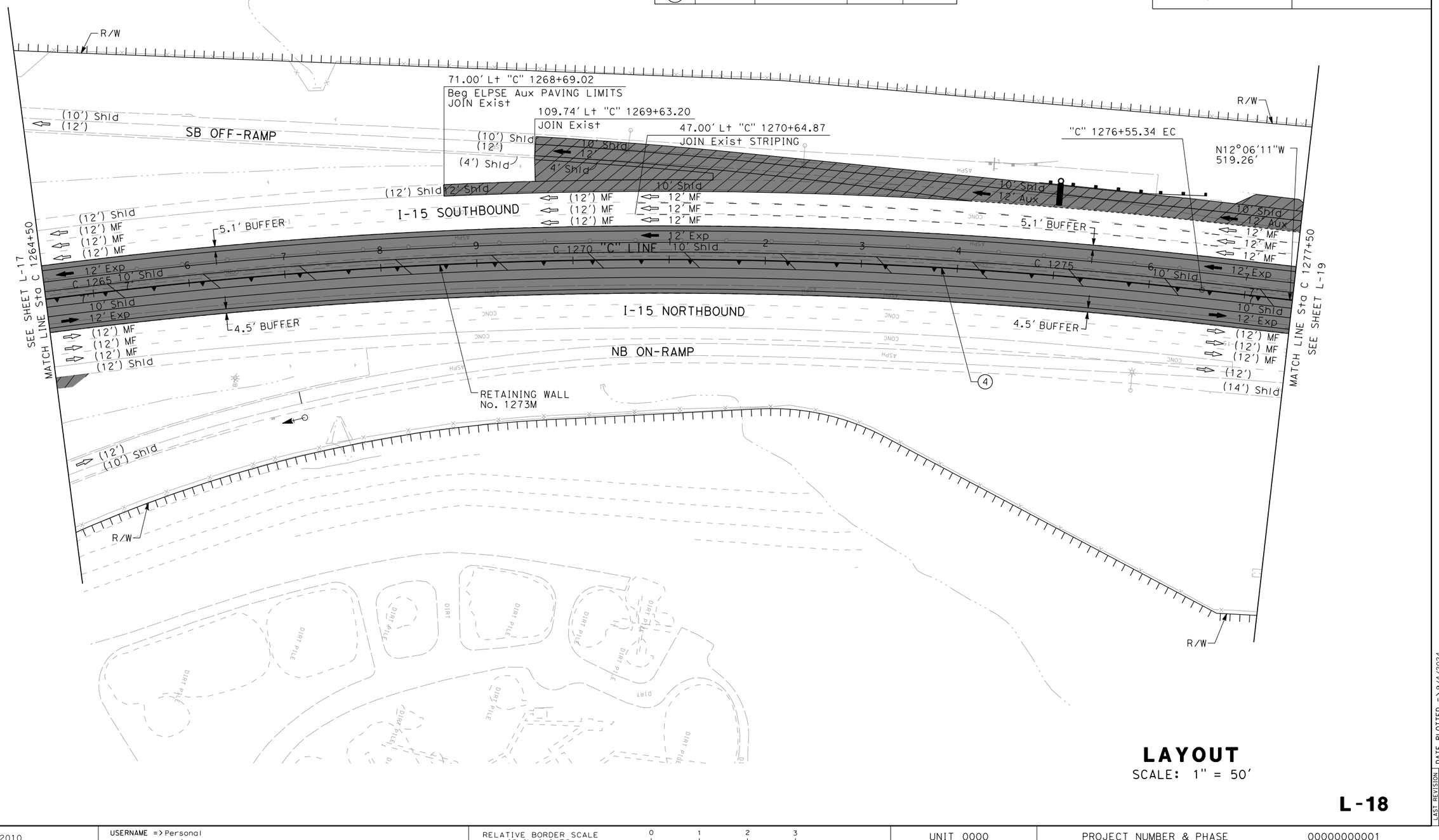
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(4)	4999.59′	38°44′53"	1758.09′	3381.14′



LAYOUT

SCALE: 1" = 50′

L-18

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY
JESSICA HEGARDT | BRIAN SMITH

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 9/4/2024
00-00-00 | TIME PLOTTED => 10:16:46 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea018.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	27	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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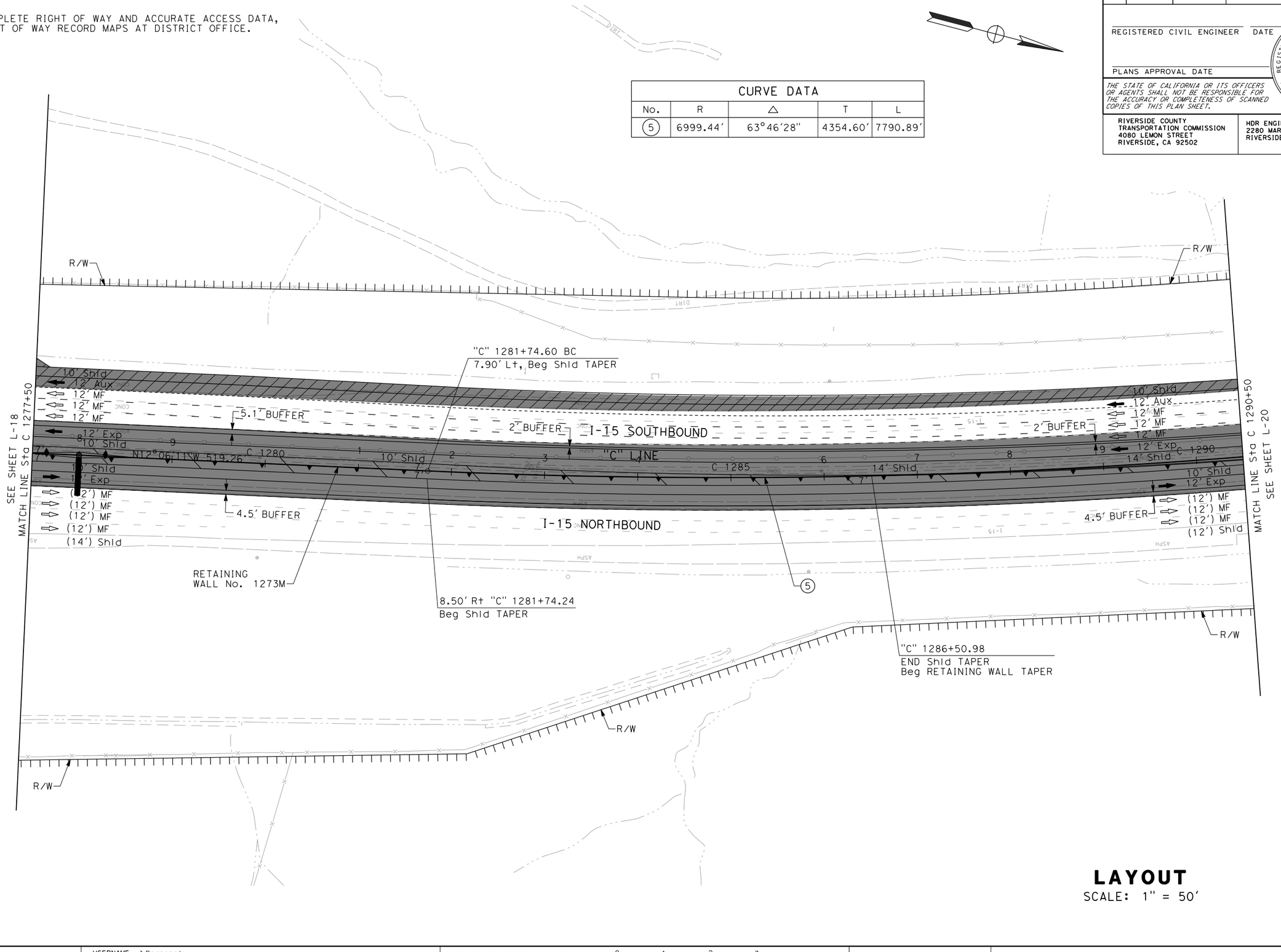
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(5)	6999.44′	63°46′28"	4354.60′	7790.89′



LAYOUT
SCALE: 1" = 50′

L-19

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:43 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea019.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(5)	6999.44′	63°46′28"	4354.60′	7790.89′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	28	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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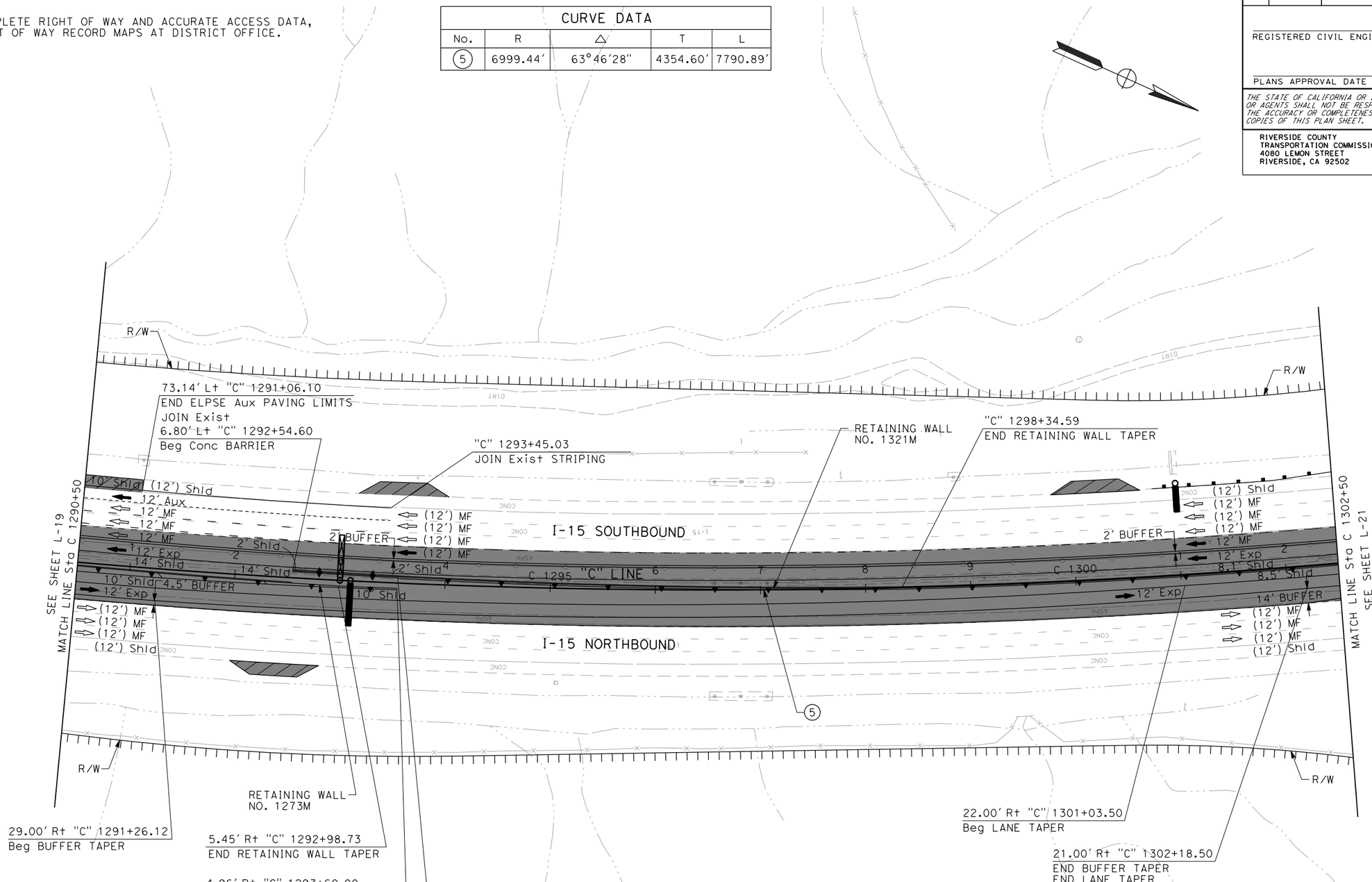
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-20

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:46 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea020.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(5)	6999.44′	63°46′28"	4354.60′	7790.89′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	29	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

RIVERSIDE COUNTY
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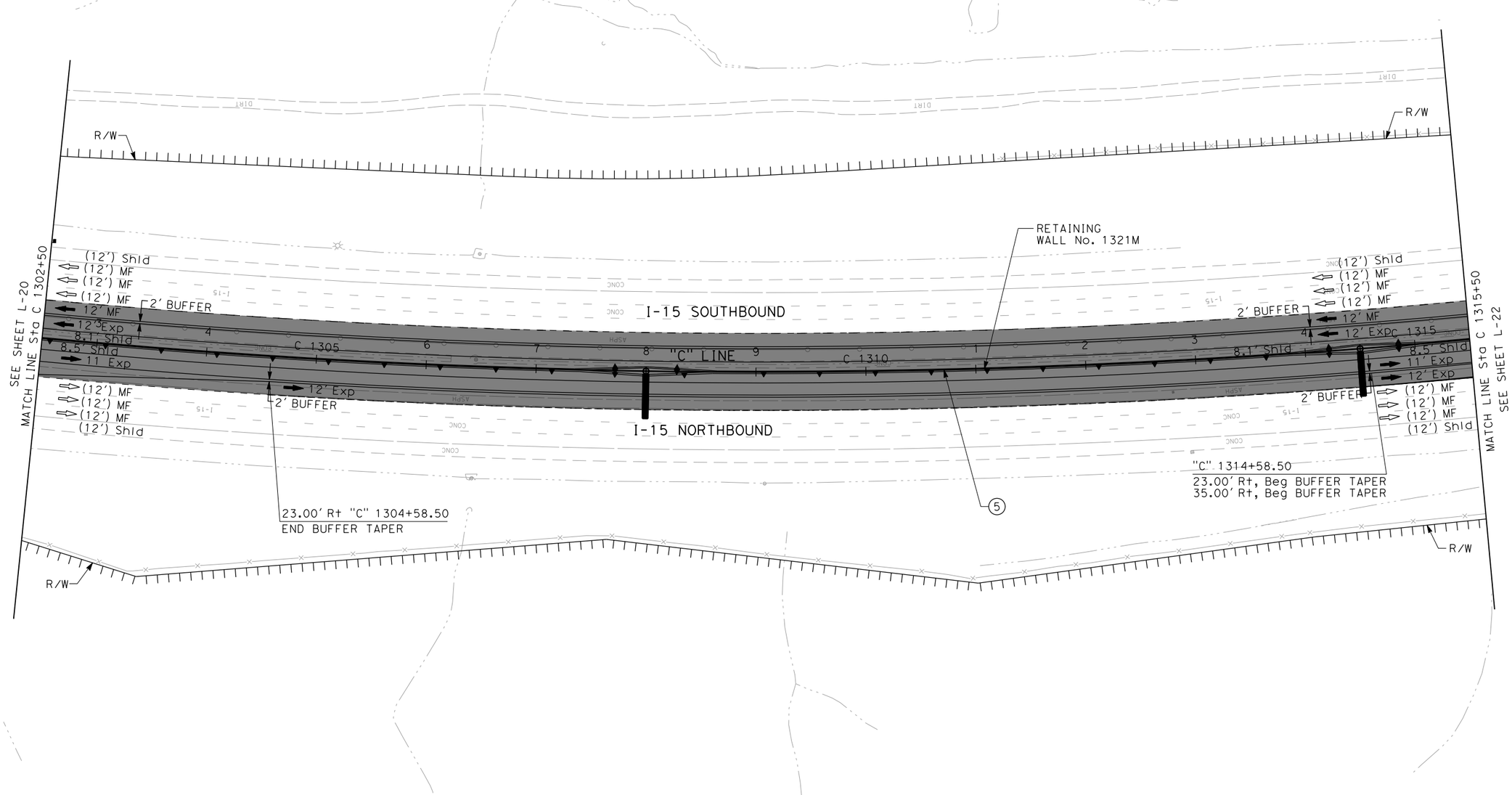
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT

SCALE: 1" = 50′

L-21

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

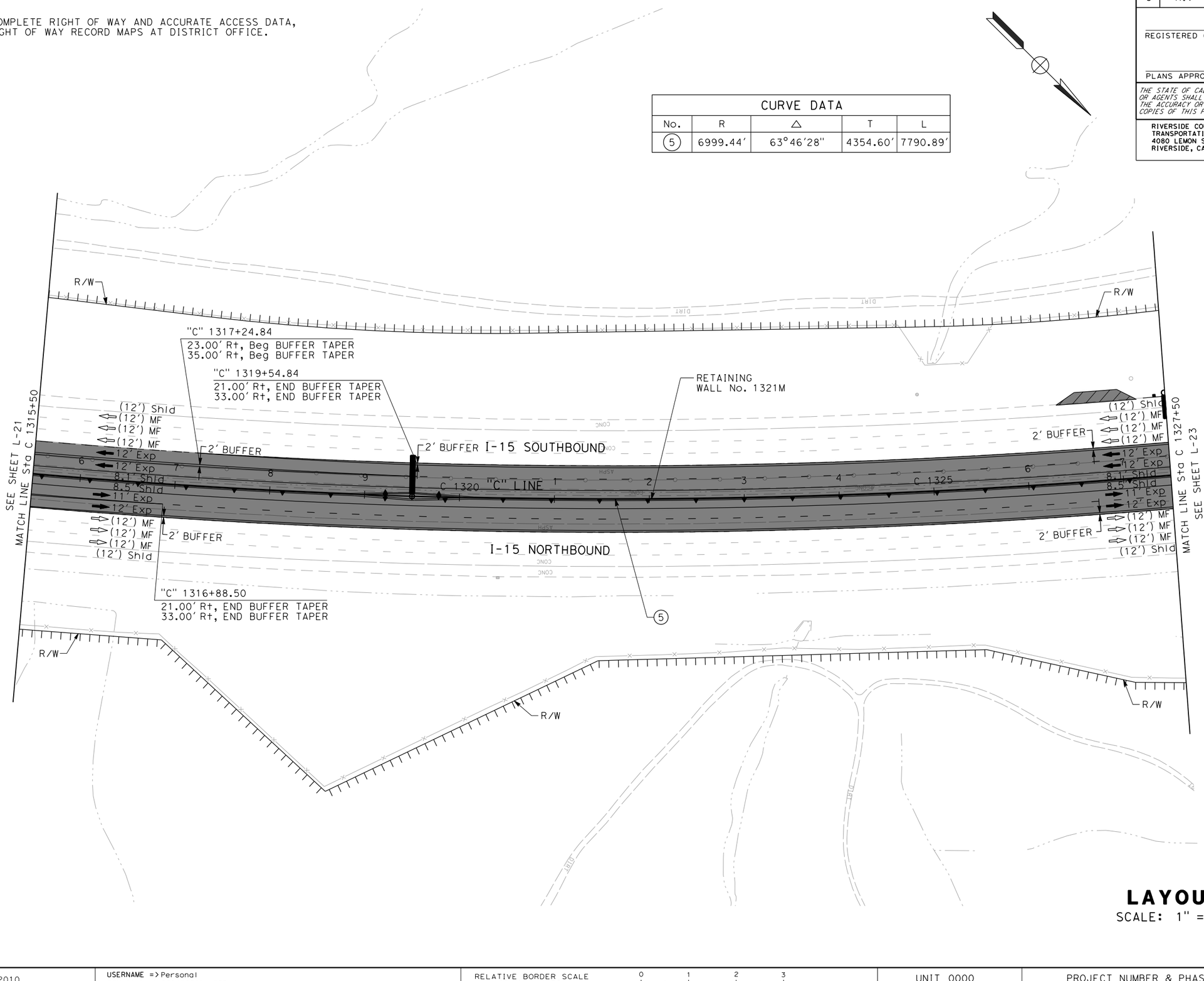
LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:26 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea021.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(5)	6999.44′	63°46′28"	4354.60′	7790.89′



LAYOUT

SCALE: 1" = 50′

L-22

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	30	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:41 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea022.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	31	95

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.

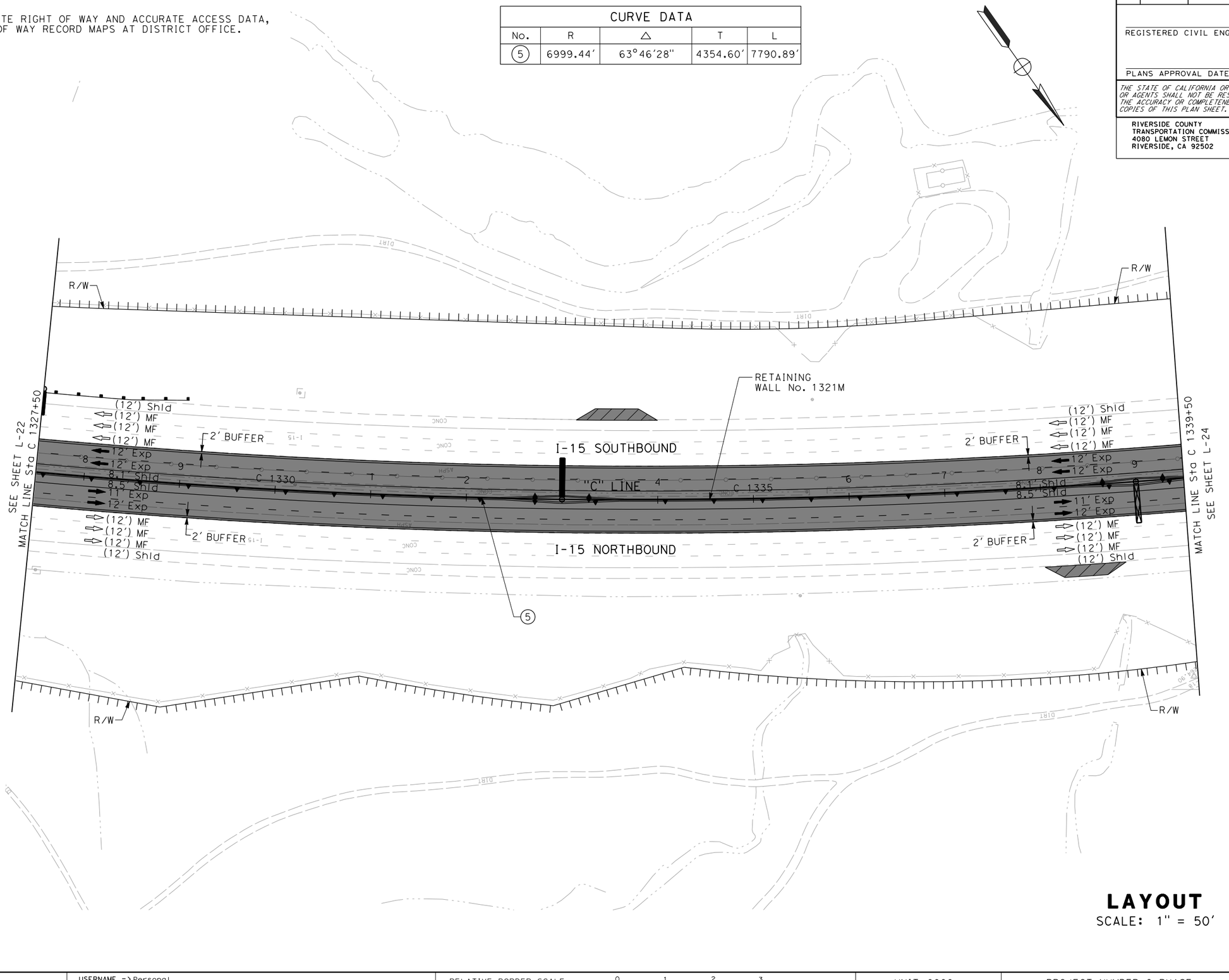
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(5)	6999.44′	63°46′28"	4354.60′	7790.89′



LAYOUT

SCALE: 1" = 50′

L-23

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:46 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea023.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(5)	6999.44′	63°46′28"	4354.60′	7790.89′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	32	95

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

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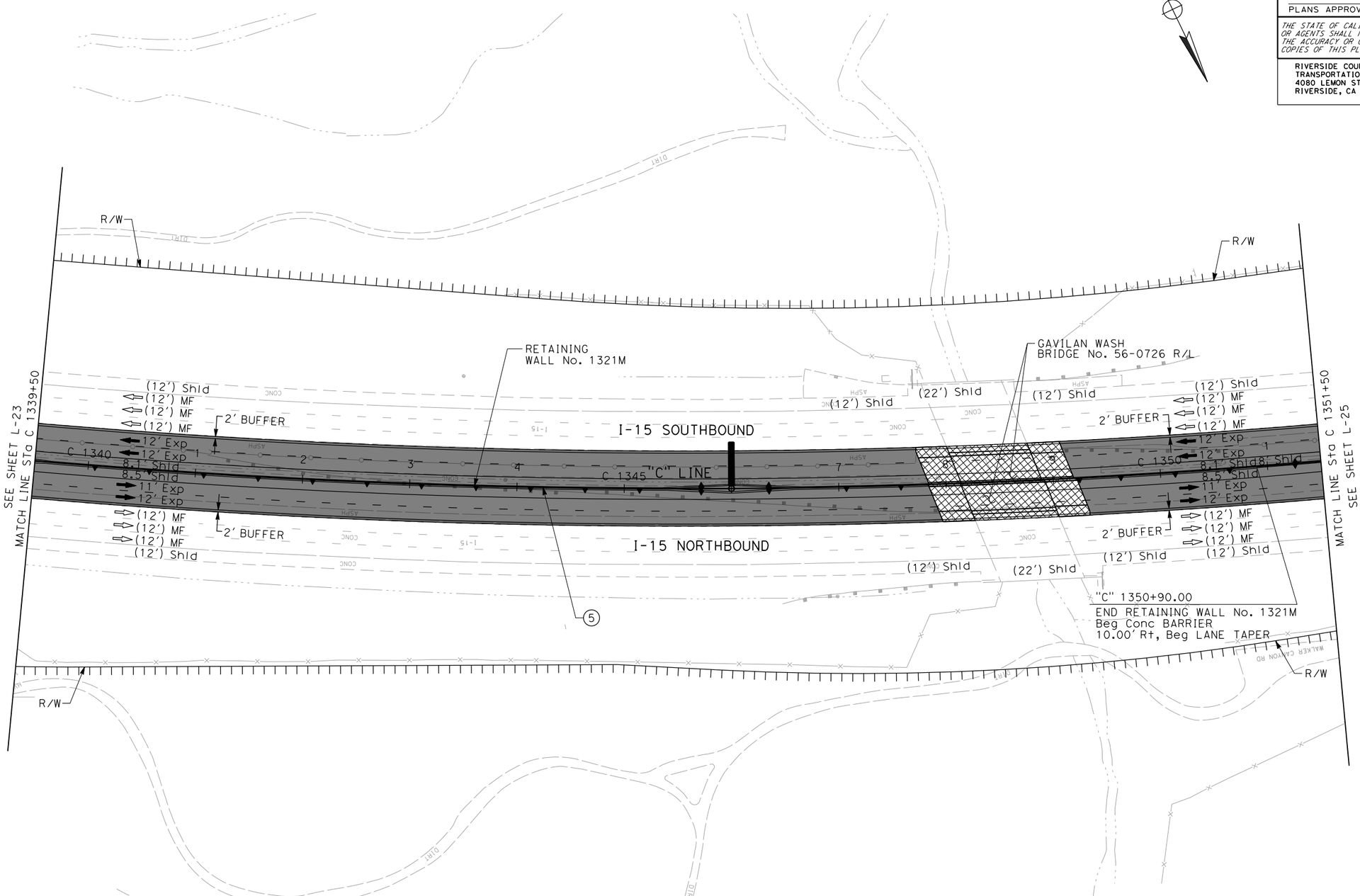
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-24

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 10:16:19 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea024.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	33	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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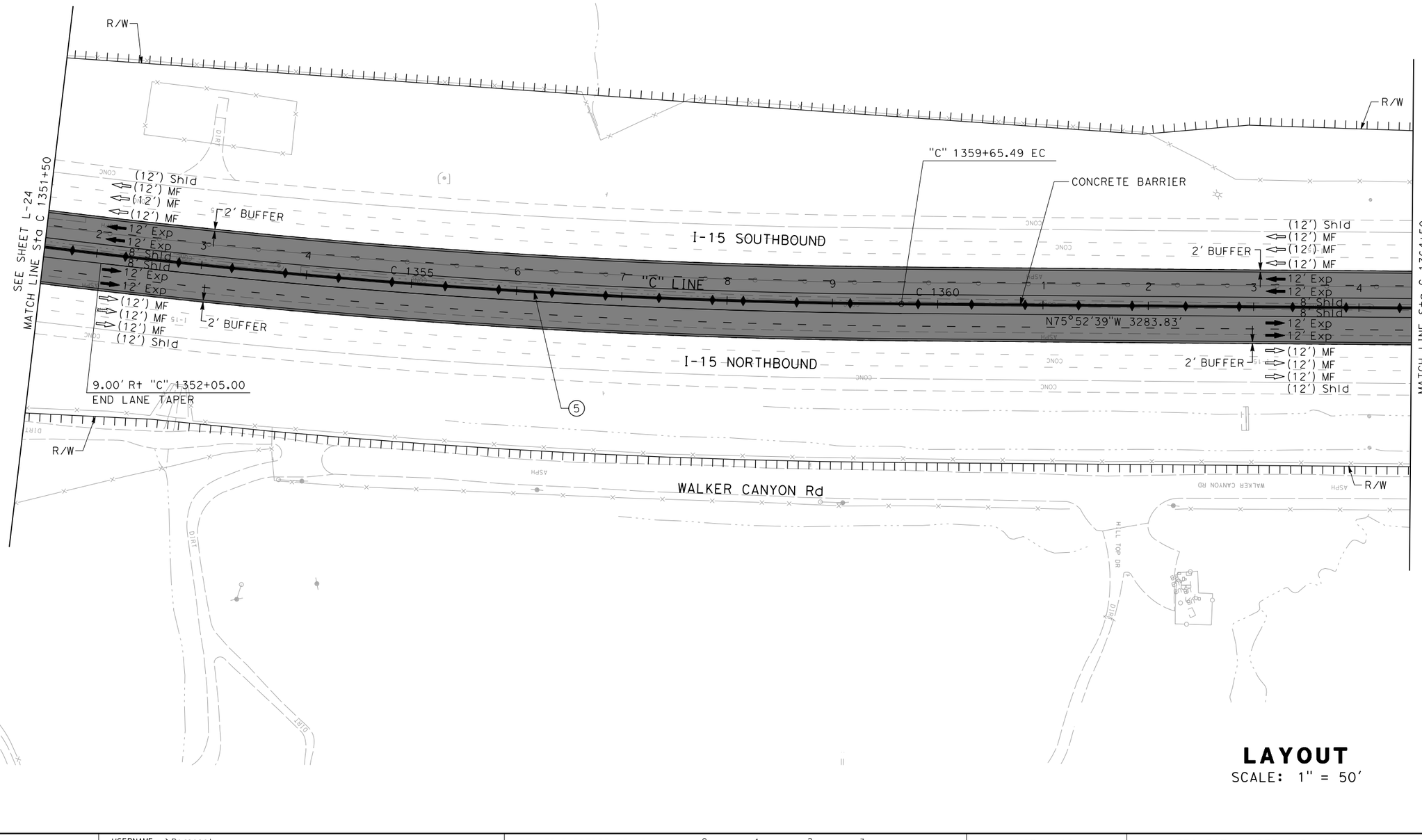
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

CURVE DATA				
No.	R	△	T	L
(5)	6999.44′	63°46′28"	4354.60′	7790.89′



LAYOUT
SCALE: 1" = 50′

L-25

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY / DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:44 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea025.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	34	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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RIVERSIDE COUNTY
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4080 LEMON STREET
RIVERSIDE, CA 92502

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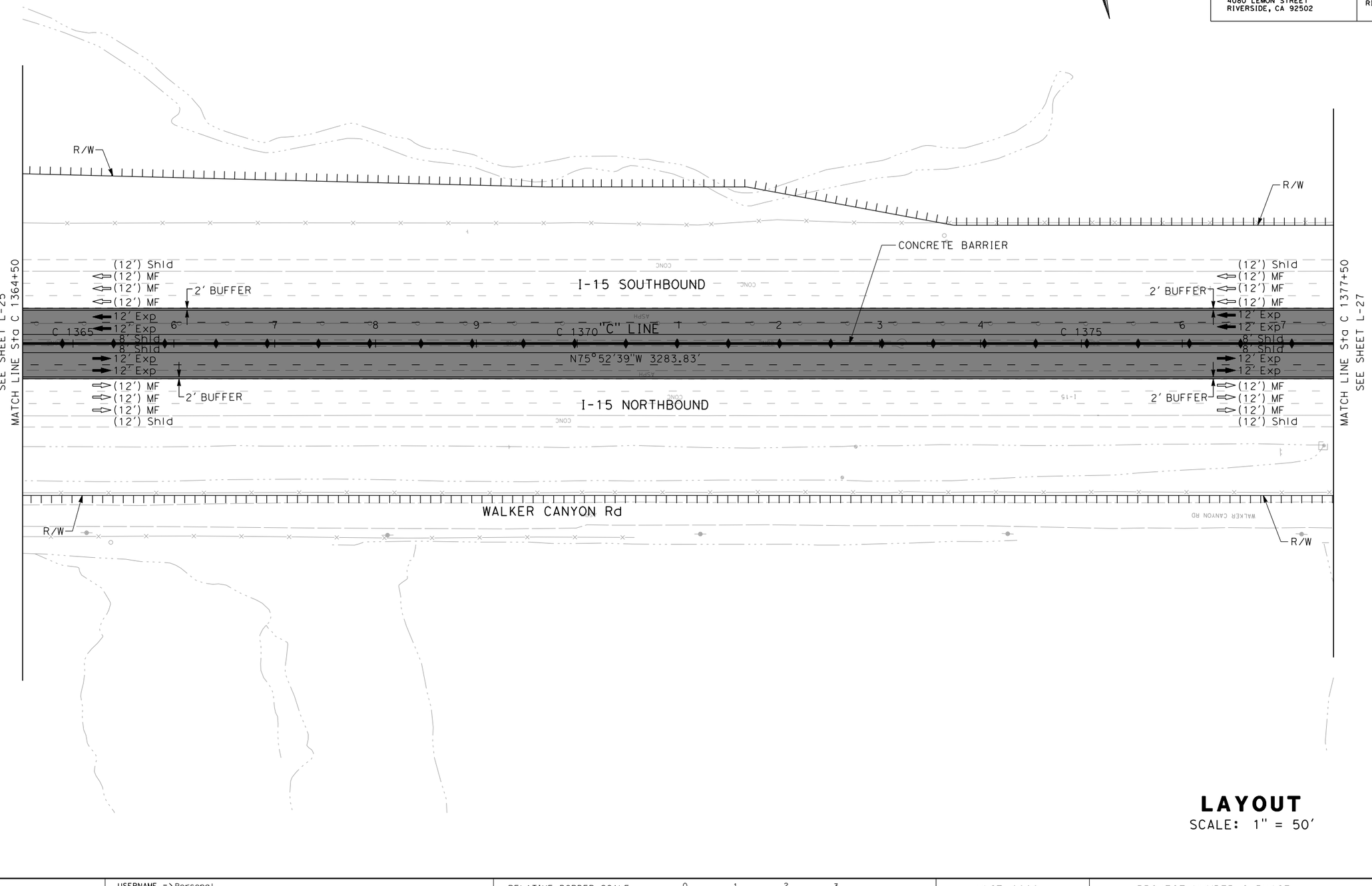
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



LAYOUT
SCALE: 1" = 50'

L-26

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
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LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:46 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea026.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	35	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

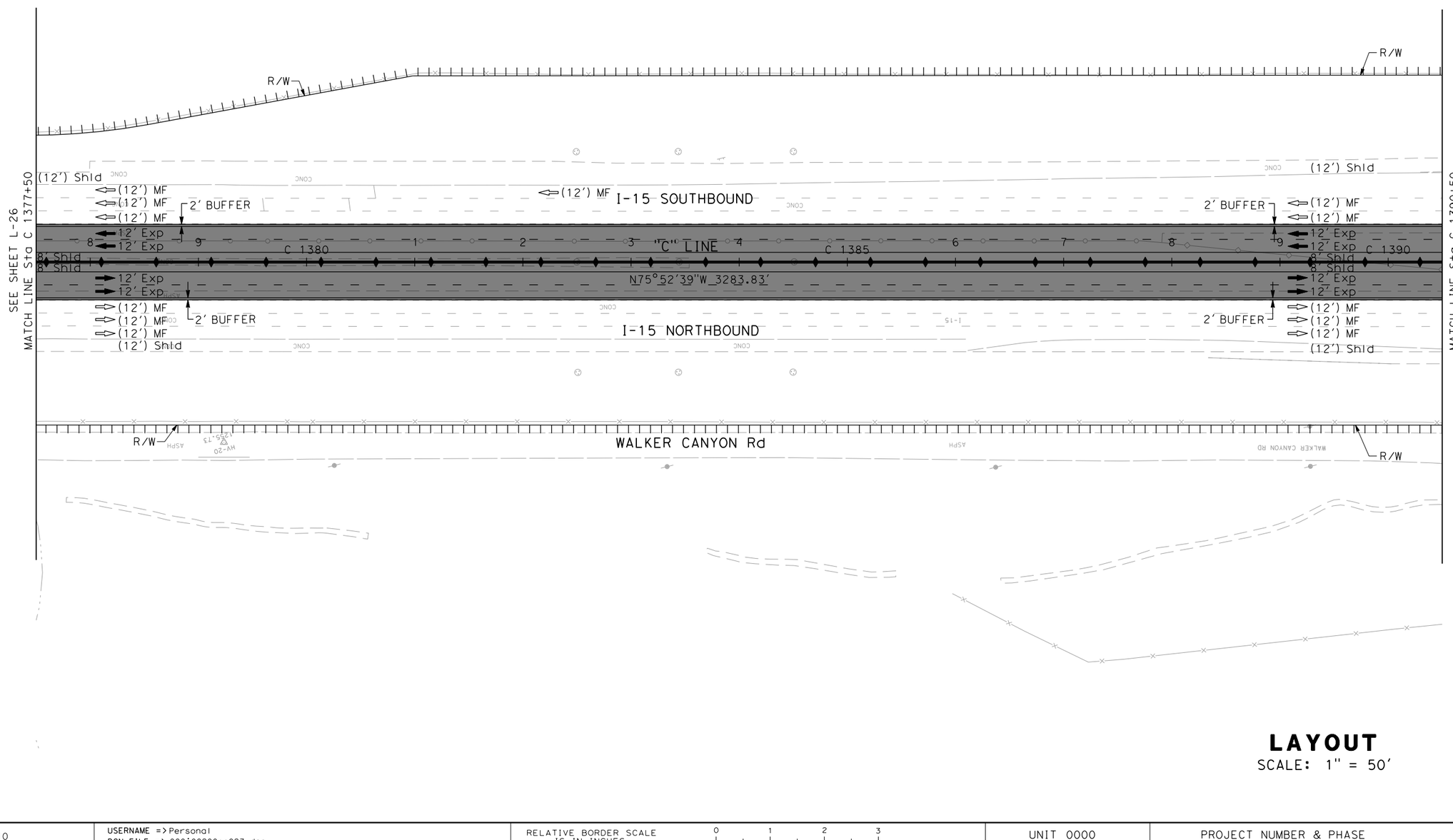
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



LAYOUT
SCALE: 1" = 50'

L-27

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY
JESSICA HEGARDT | BRIAN SMITH

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 9/4/2024
00-00-00 | TIME PLOTTED => 10:16:43 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea027.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	36	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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RIVERSIDE COUNTY
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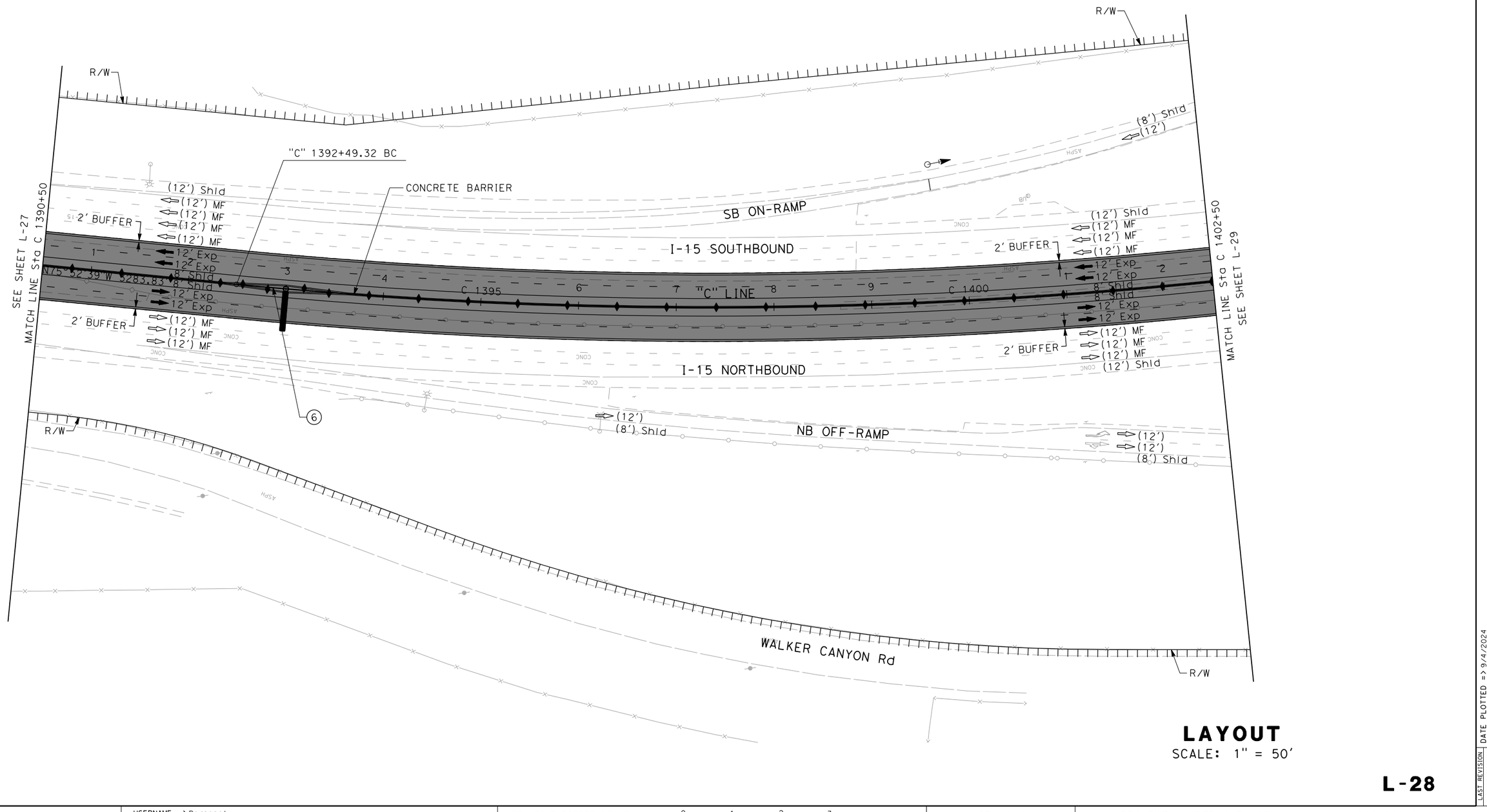
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(6)	4999.62′	13°57′52"	612.30′	1218.52′



LAYOUT
SCALE: 1" = 50′

L-28

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

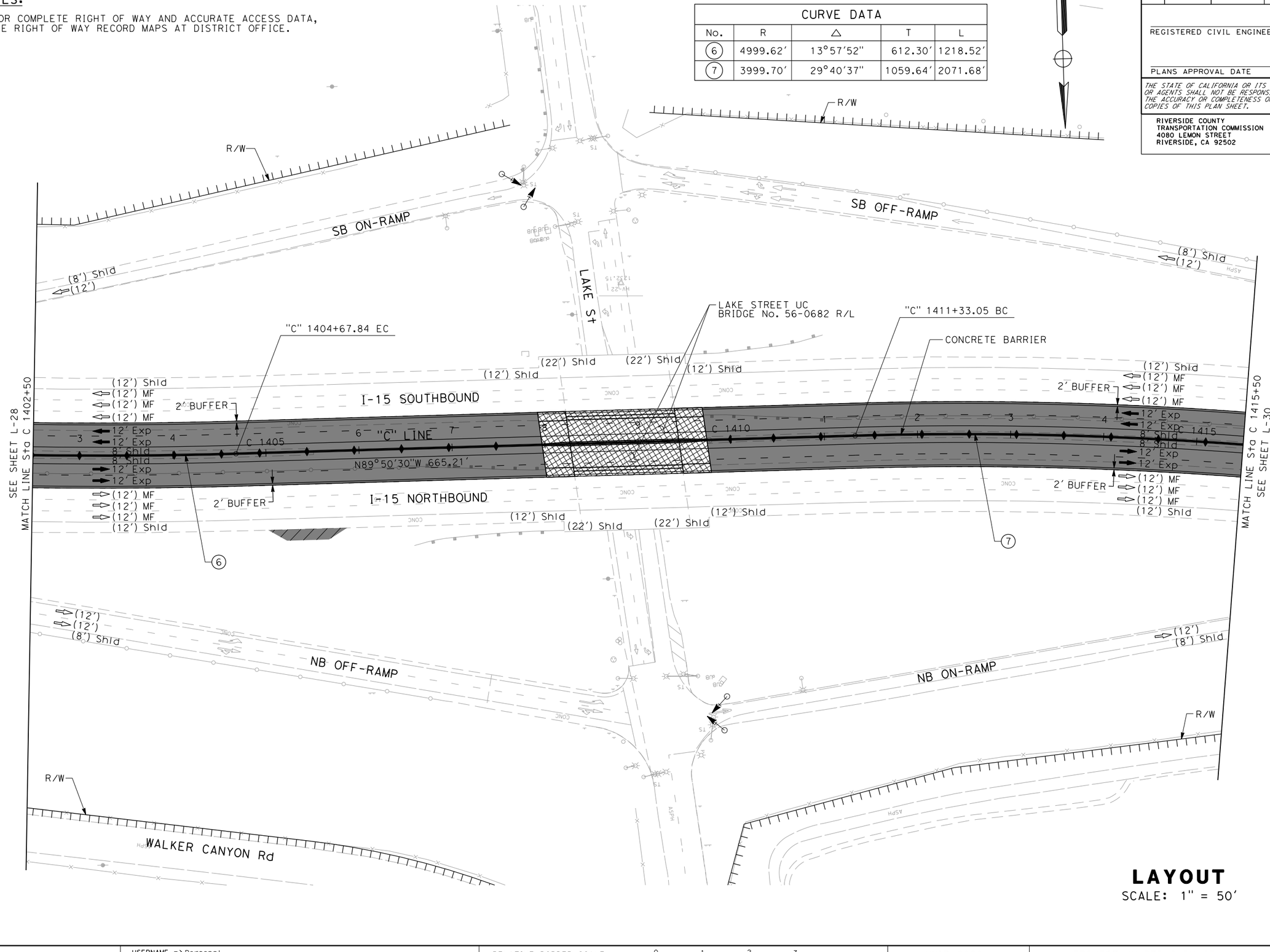
LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:41 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea028.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	Δ	T	L
(6)	4999.62′	13°57′52"	612.30′	1218.52′
(7)	3999.70′	29°40′37"	1059.64′	2071.68′



LAYOUT
SCALE: 1" = 50′

L-29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	37	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:26 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea029.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	38	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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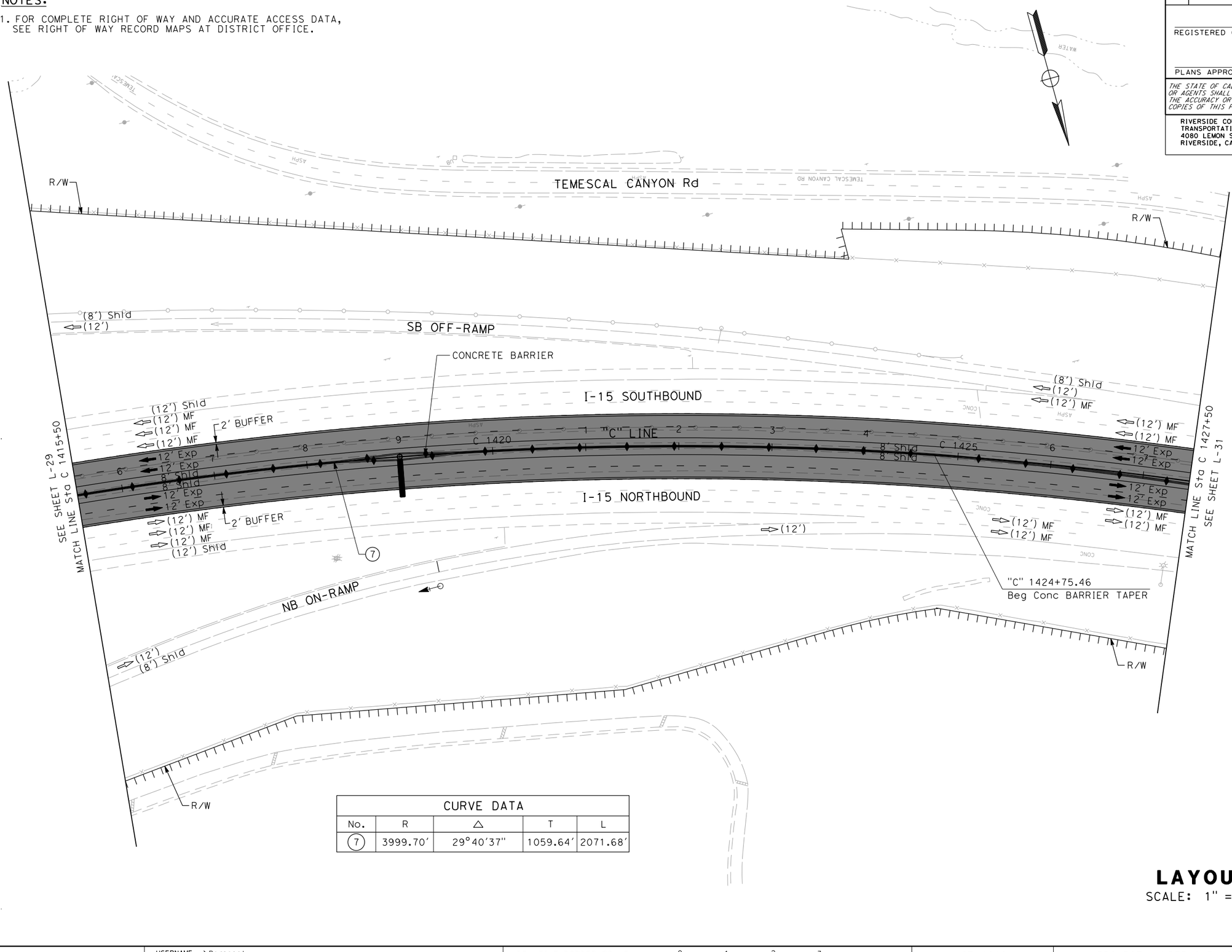
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(7)	3999.70′	29°40′37"	1059.64′	2071.68′

LAYOUT
SCALE: 1" = 50′

L-30

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY / DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:16:19 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea030.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	39	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

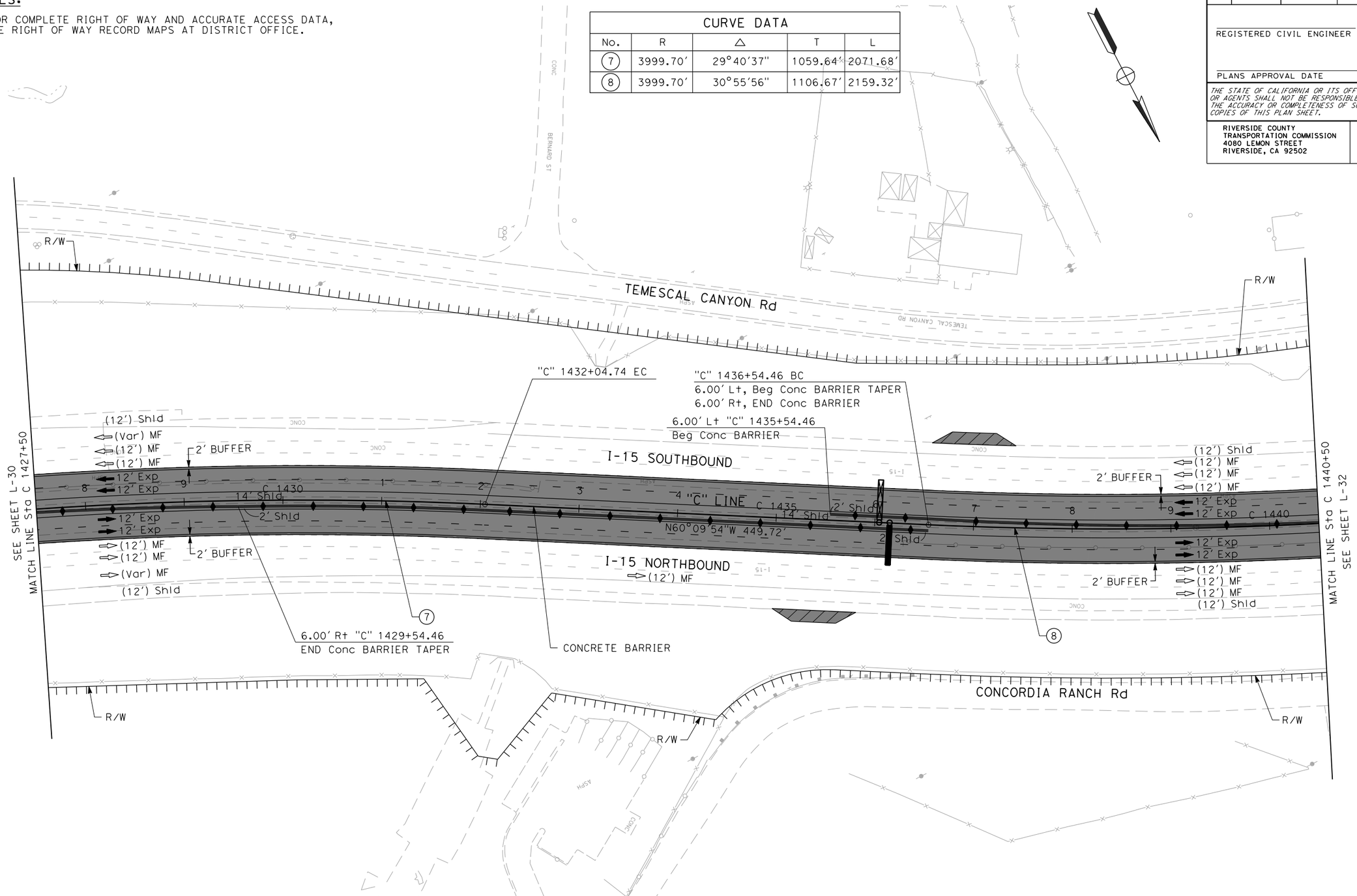
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(7)	3999.70′	29°40′37"	1059.64′	2071.68′
(8)	3999.70′	30°55′56"	1106.67′	2159.32′



LAYOUT
SCALE: 1" = 50′

L-31

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:32:18 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea031.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	40	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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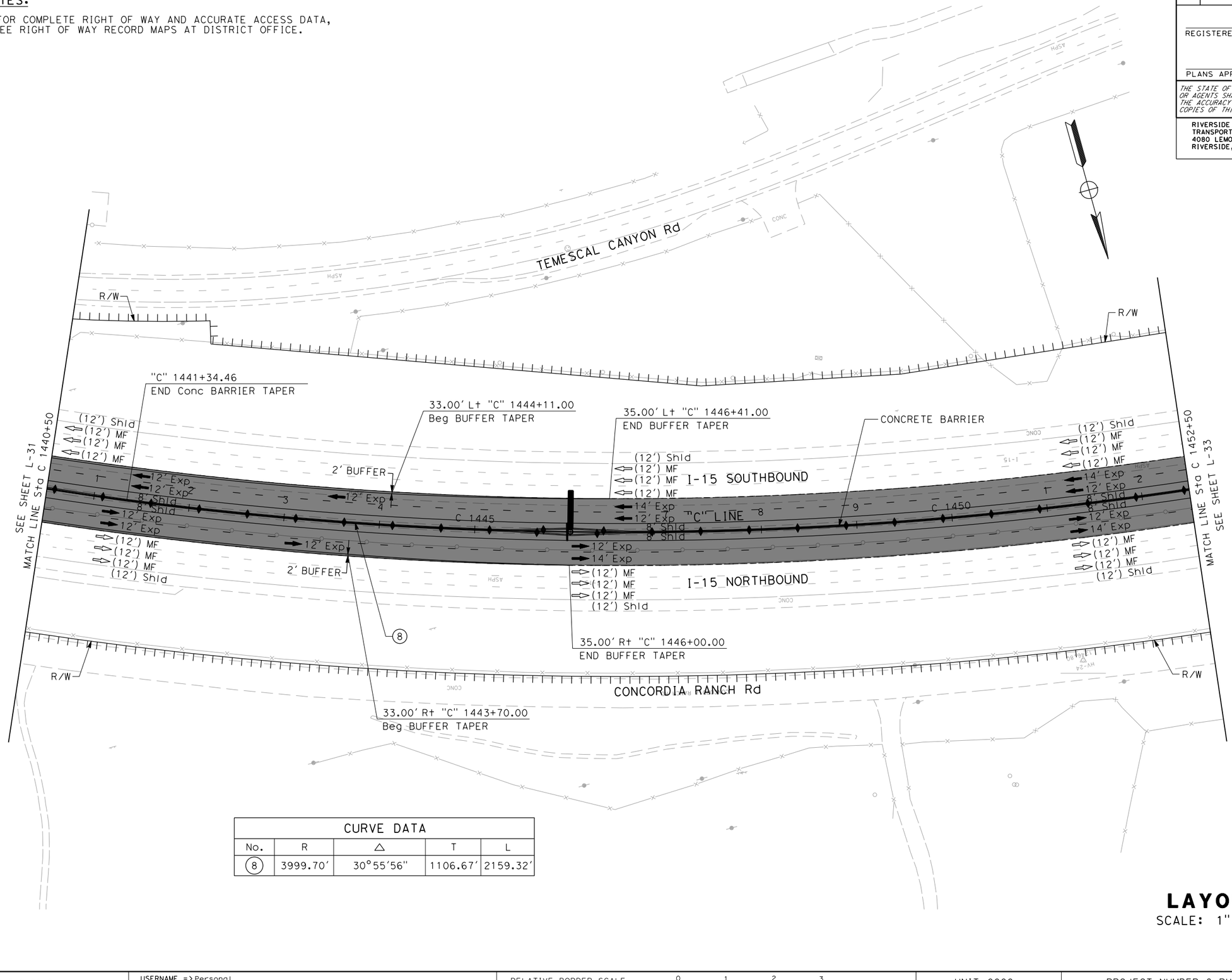
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(8)	3999.70'	30°55'56"	1106.67'	2159.32'

LAYOUT
SCALE: 1" = 50'

L-32

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 9/4/2024
00-00-00 | TIME PLOTTED => 10:32:43 AM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea032.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	41	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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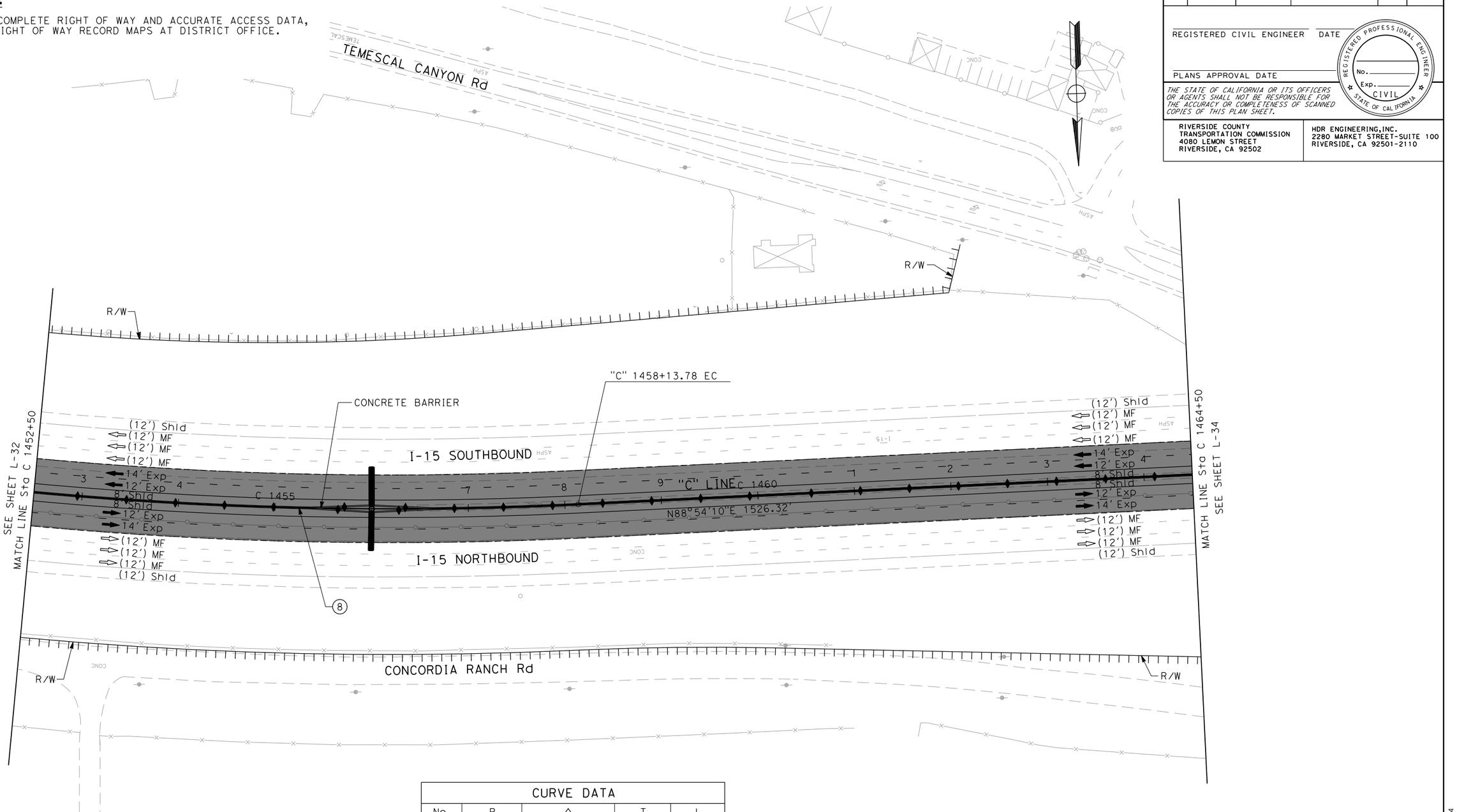
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(8)	3999.70′	30°55′56"	1106.67′	2159.32′

LAYOUT
SCALE: 1" = 50′

L-33

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:31:58 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea033.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(9)	3999.70′	39°07′07"	1421.03′	2730.80′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	42	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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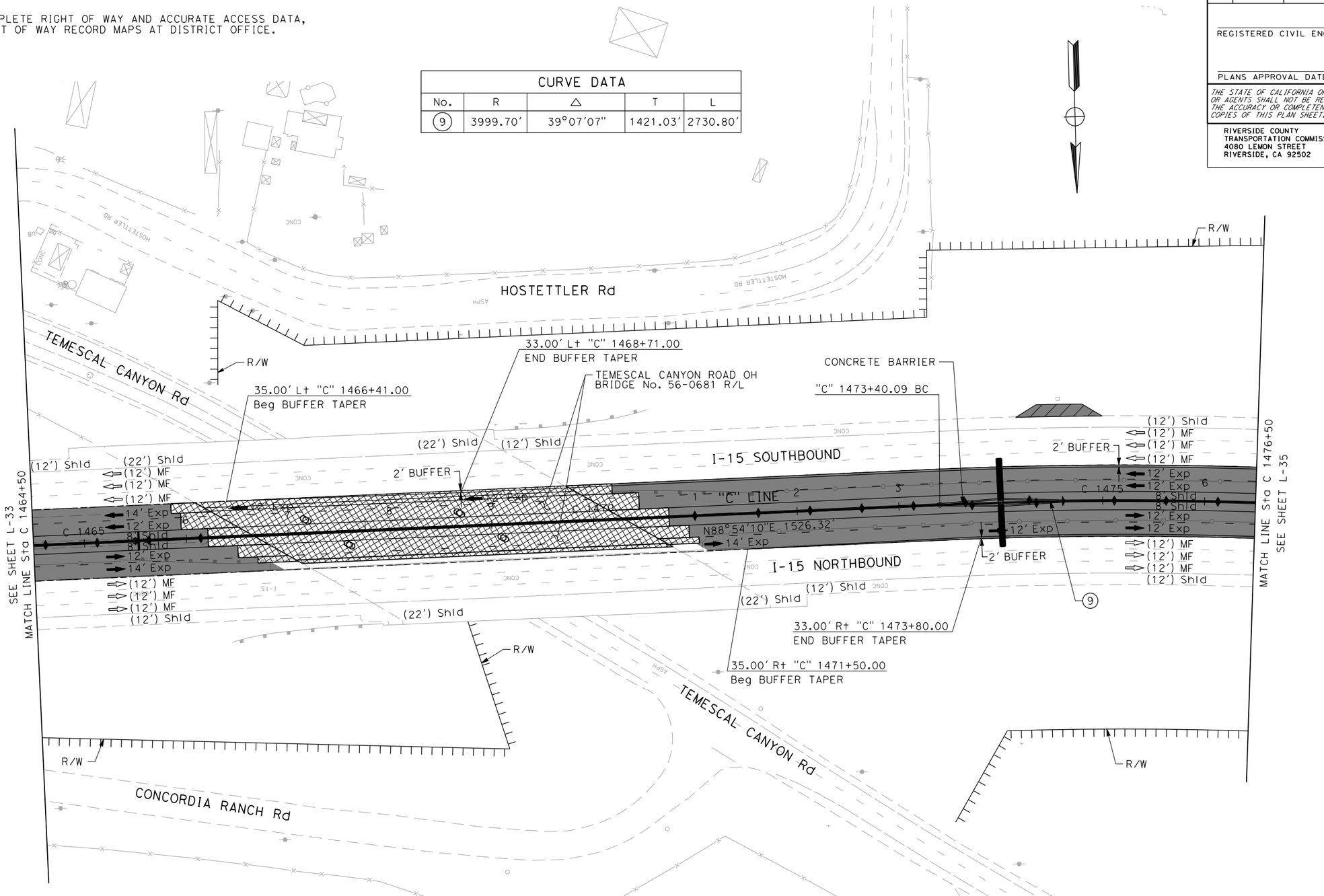
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-34

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 10:32:29 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea034.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	43	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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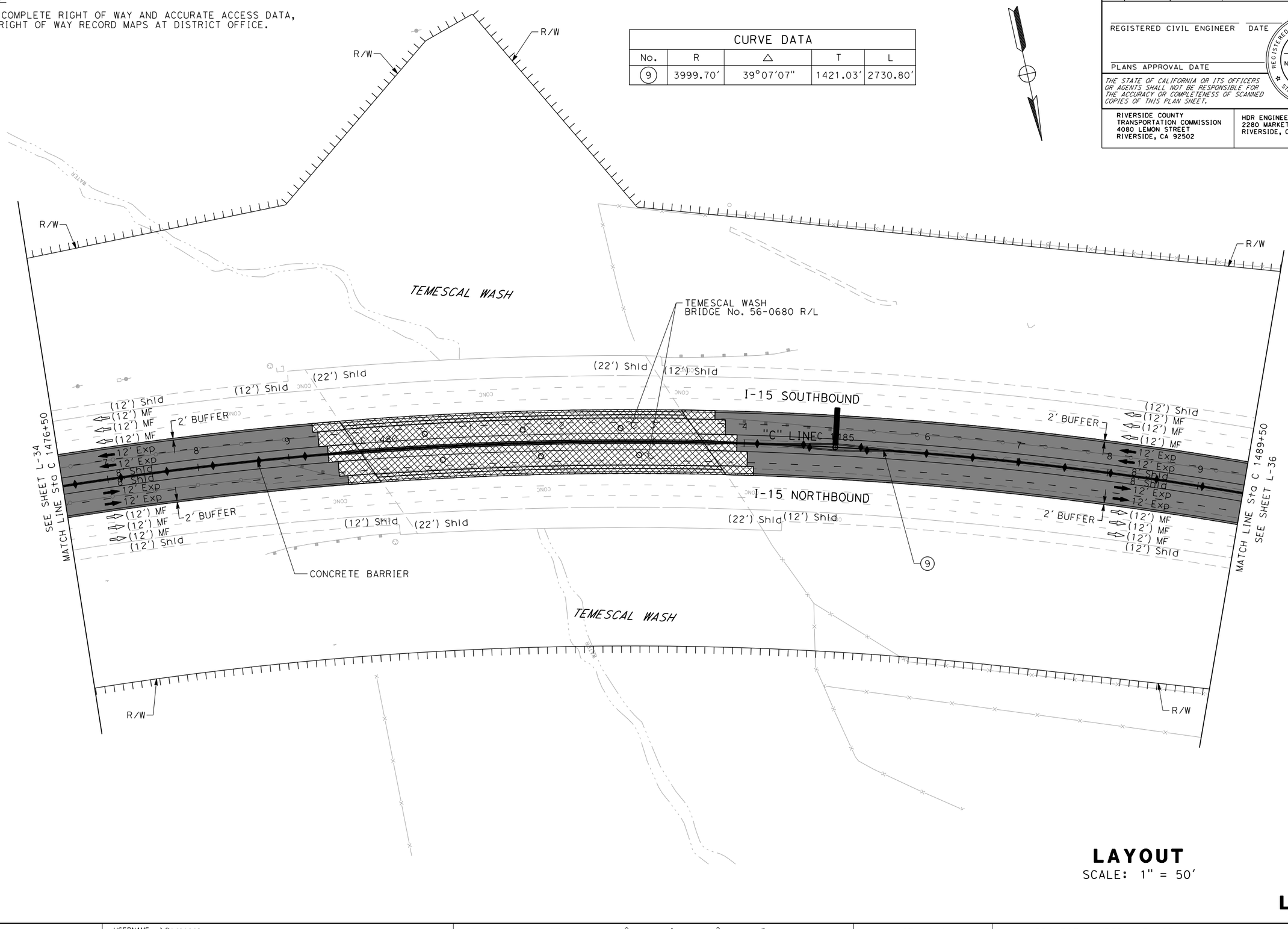
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(9)	3999.70′	39°07′07"	1421.03′	2730.80′



LAYOUT

SCALE: 1" = 50′

L-35

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:32:35 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea035.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	44	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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RIVERSIDE, CA 92502

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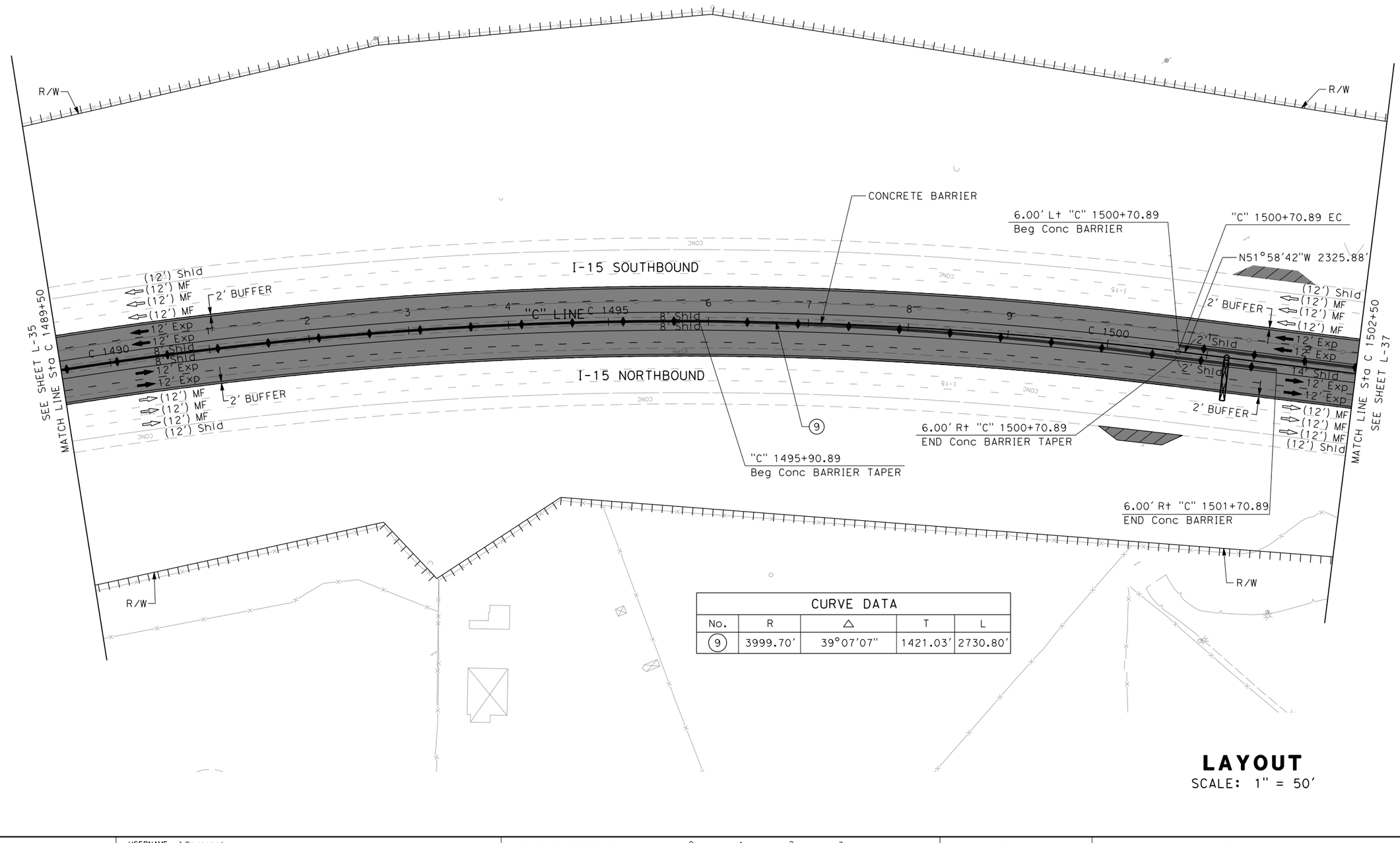
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(9)	3999.70'	39°07'07"	1421.03'	2730.80'

LAYOUT
SCALE: 1" = 50'

L-36

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:32:23 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea036.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	45	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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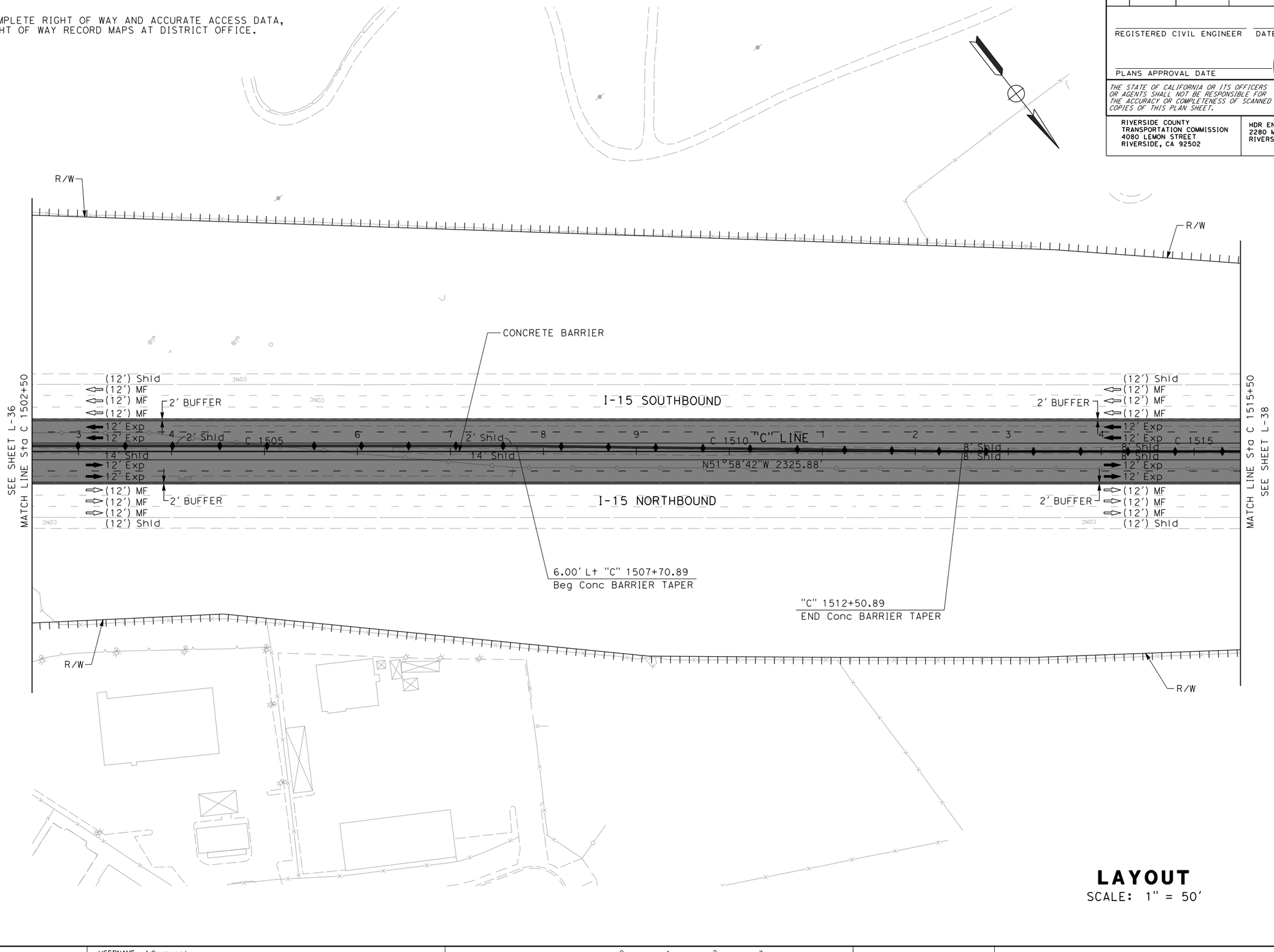
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50'

L-37

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 10:32:21 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea037.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	46	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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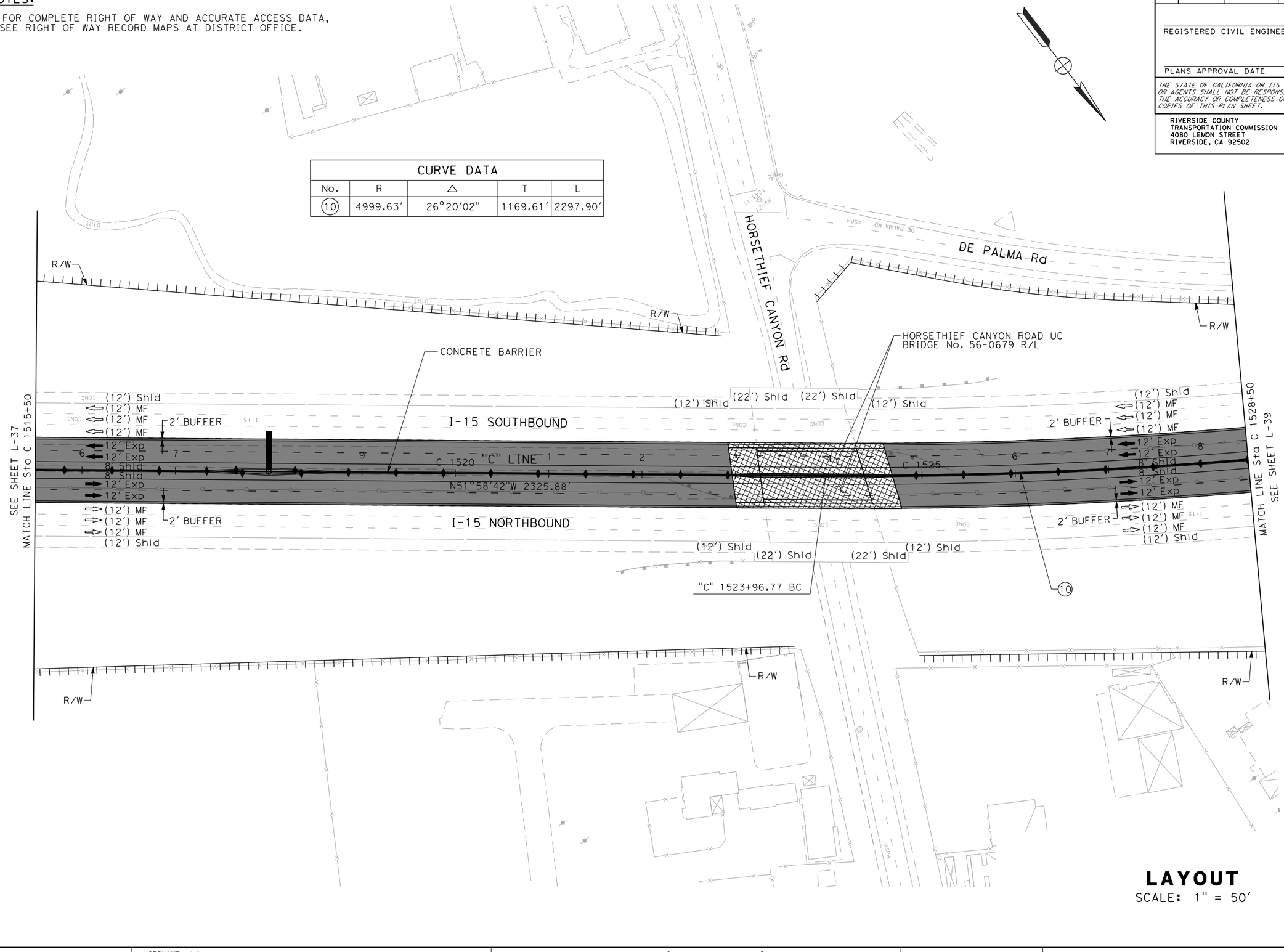
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	Δ	T	L
(10)	4999.63′	26°20′02"	1169.61′	2297.90′



LAYOUT

SCALE: 1" = 50′

L-38

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:31:58 AM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea038.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(10)	4999.63′	26°20′02"	1169.61′	2297.90′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	47	95

REGISTERED CIVIL ENGINEER DATE

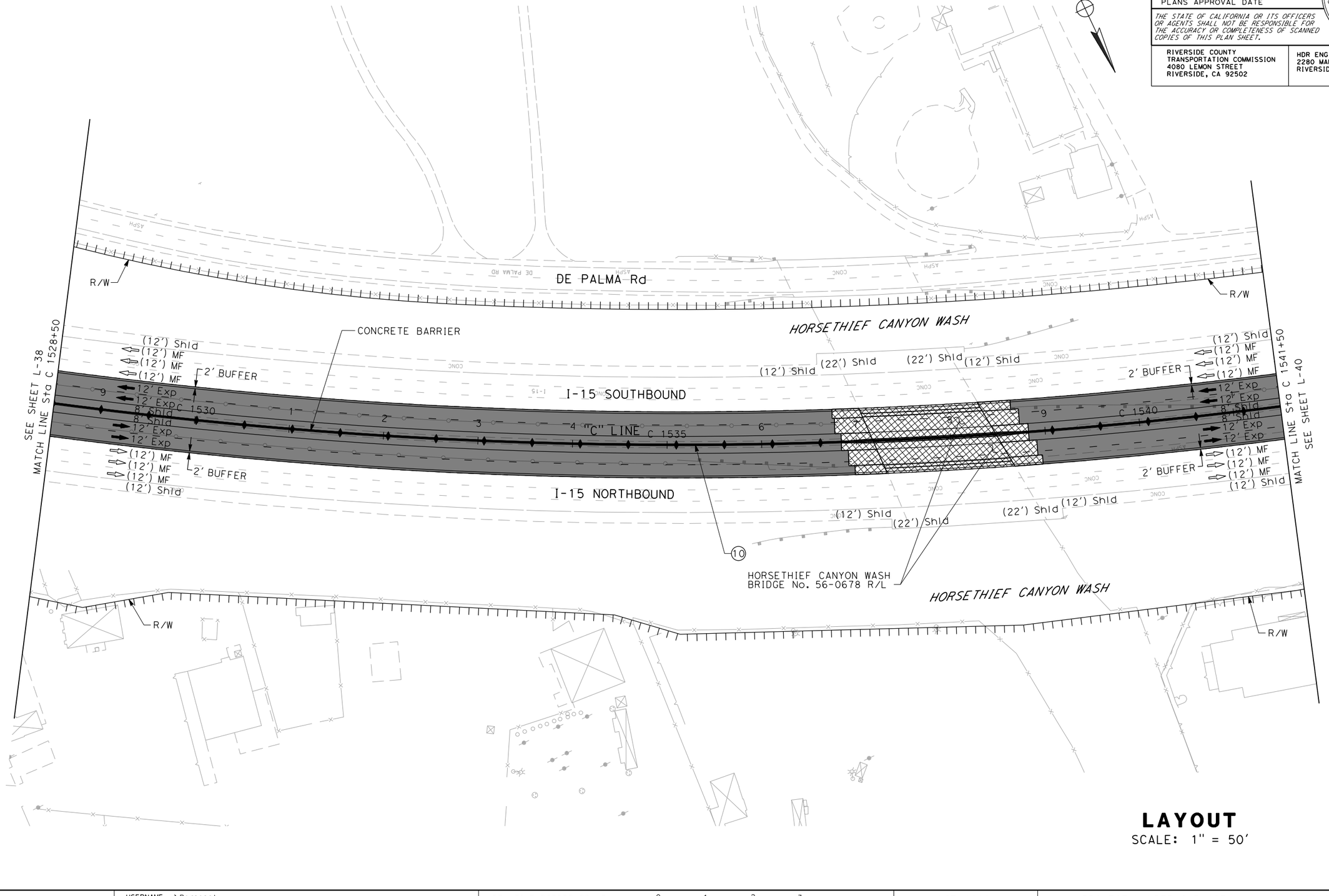
PLANS APPROVAL DATE

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.

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-39

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:32:23 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea039.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	48	95

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.

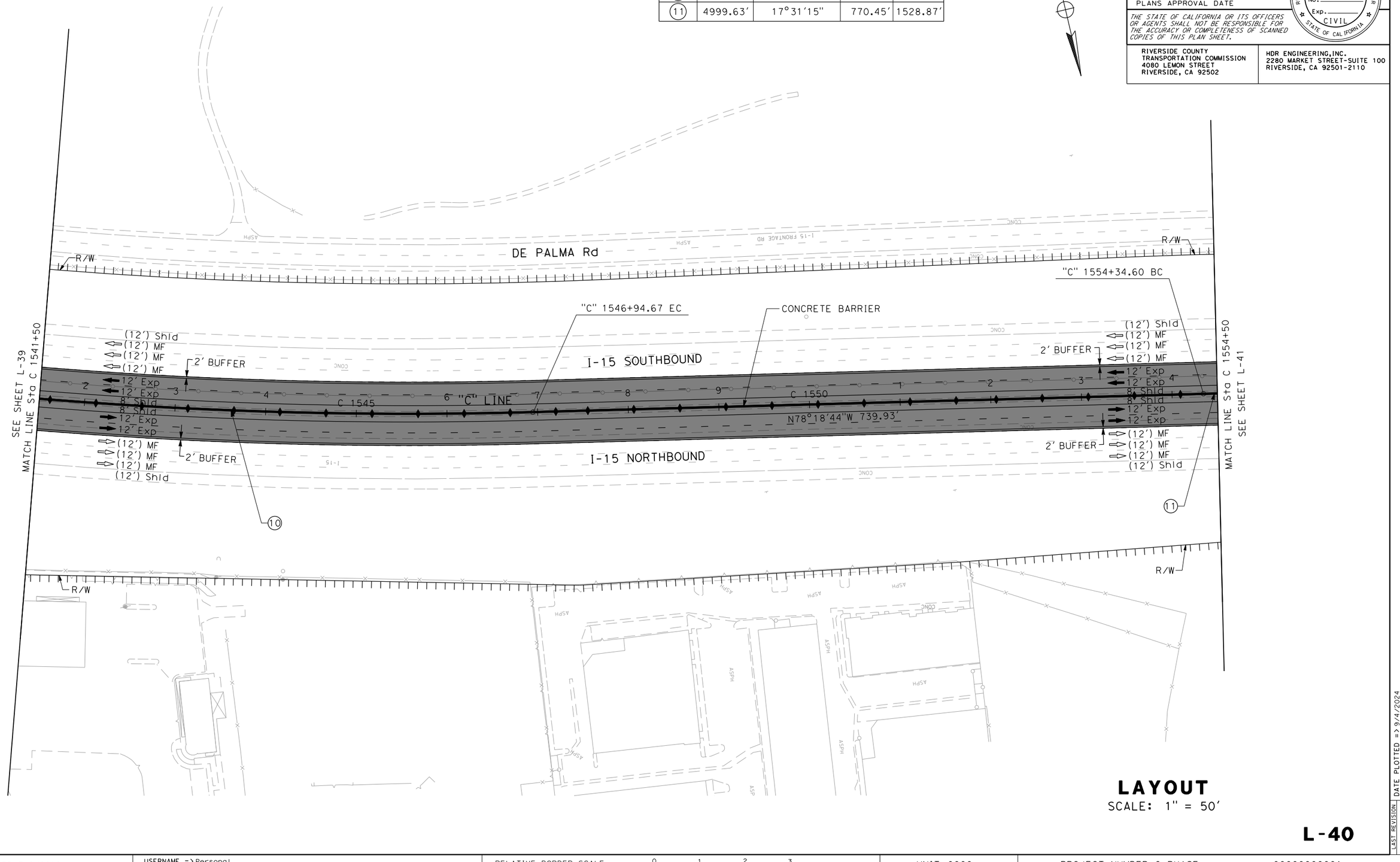
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(10)	4999.63′	26°20′02"	1169.61′	2297.90′
(11)	4999.63′	17°31′15"	770.45′	1528.87′



LAYOUT
SCALE: 1" = 50′

L-40

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY JESSICA HEGARDT | CHECKED BY BRIAN SMITH | REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 9/4/2024 | 00-00-00 | TIME PLOTTED => 10:32:18 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea040.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(11)	4999.63′	17°31′15"	770.45′	1528.87′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	49	95

REGISTERED CIVIL ENGINEER DATE

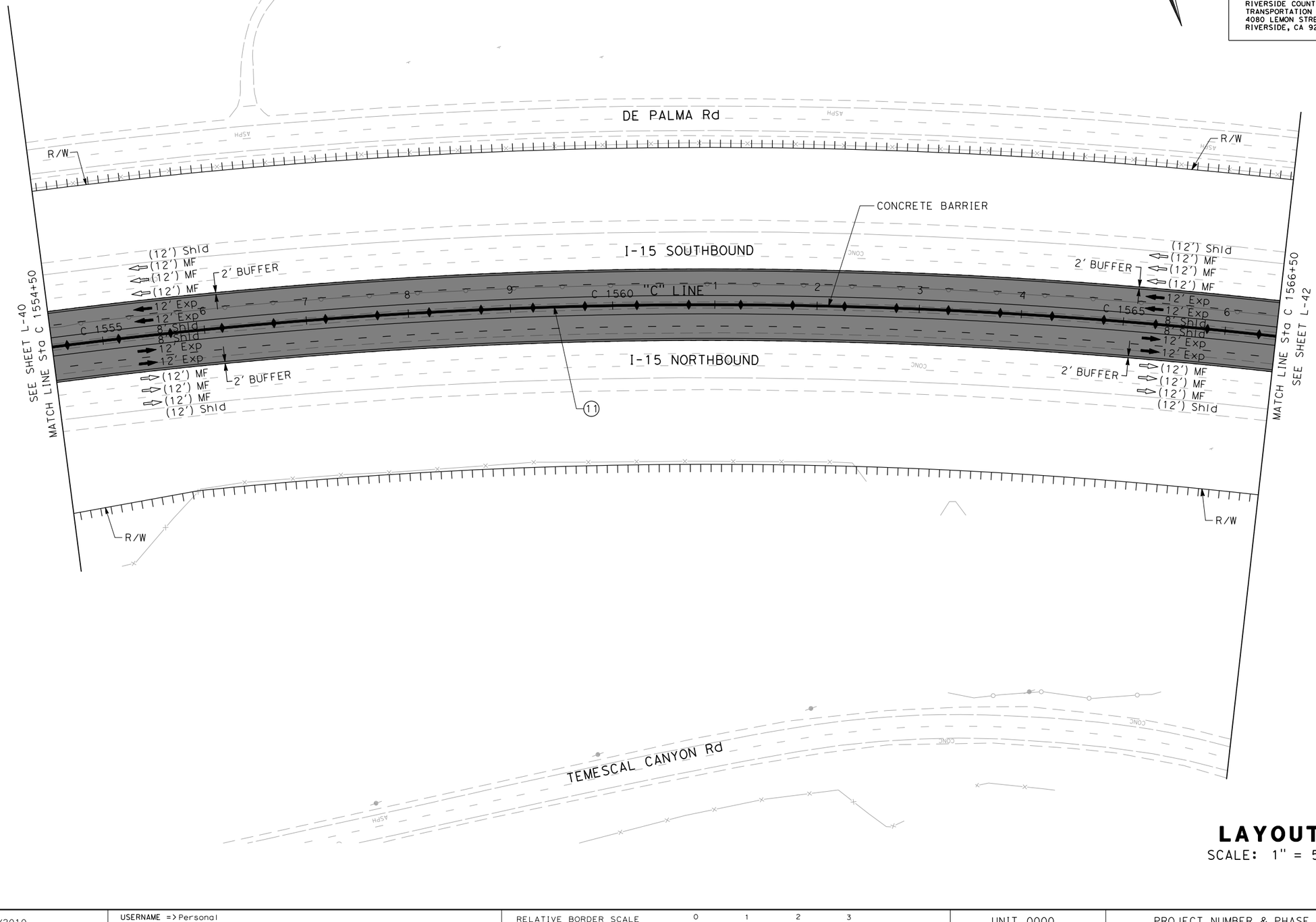
PLANS APPROVAL DATE

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.

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-41

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 9/4/2024
00-00-00 | TIME PLOTTED => 10:47:53 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea041.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(11)	4999.63′	17°31′15"	770.45′	1528.87′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	50	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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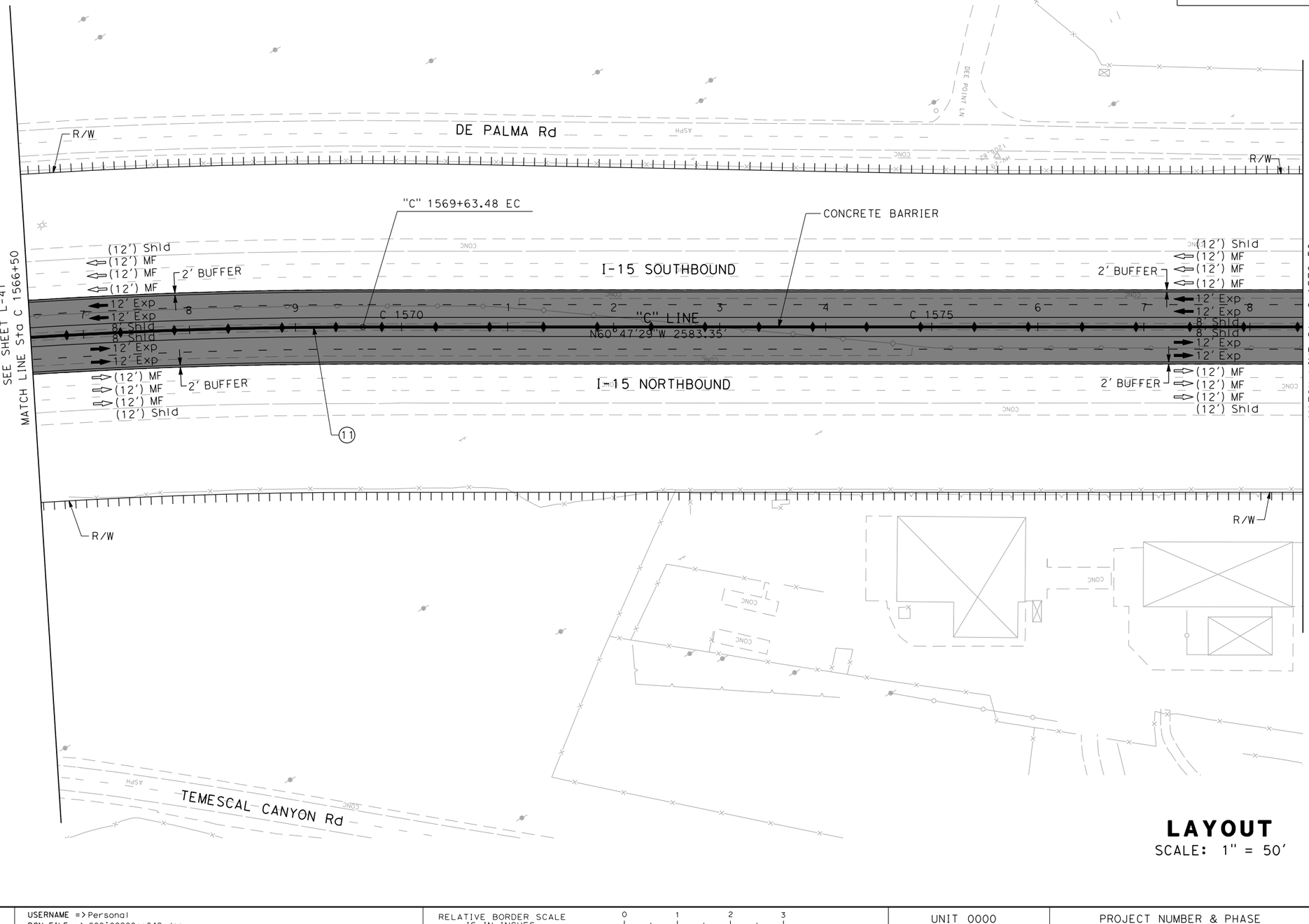
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-42

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION | DATE PLOTTED => 9/4/2024
00-00-00 | TIME PLOTTED => 10:47:56 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea042.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	51	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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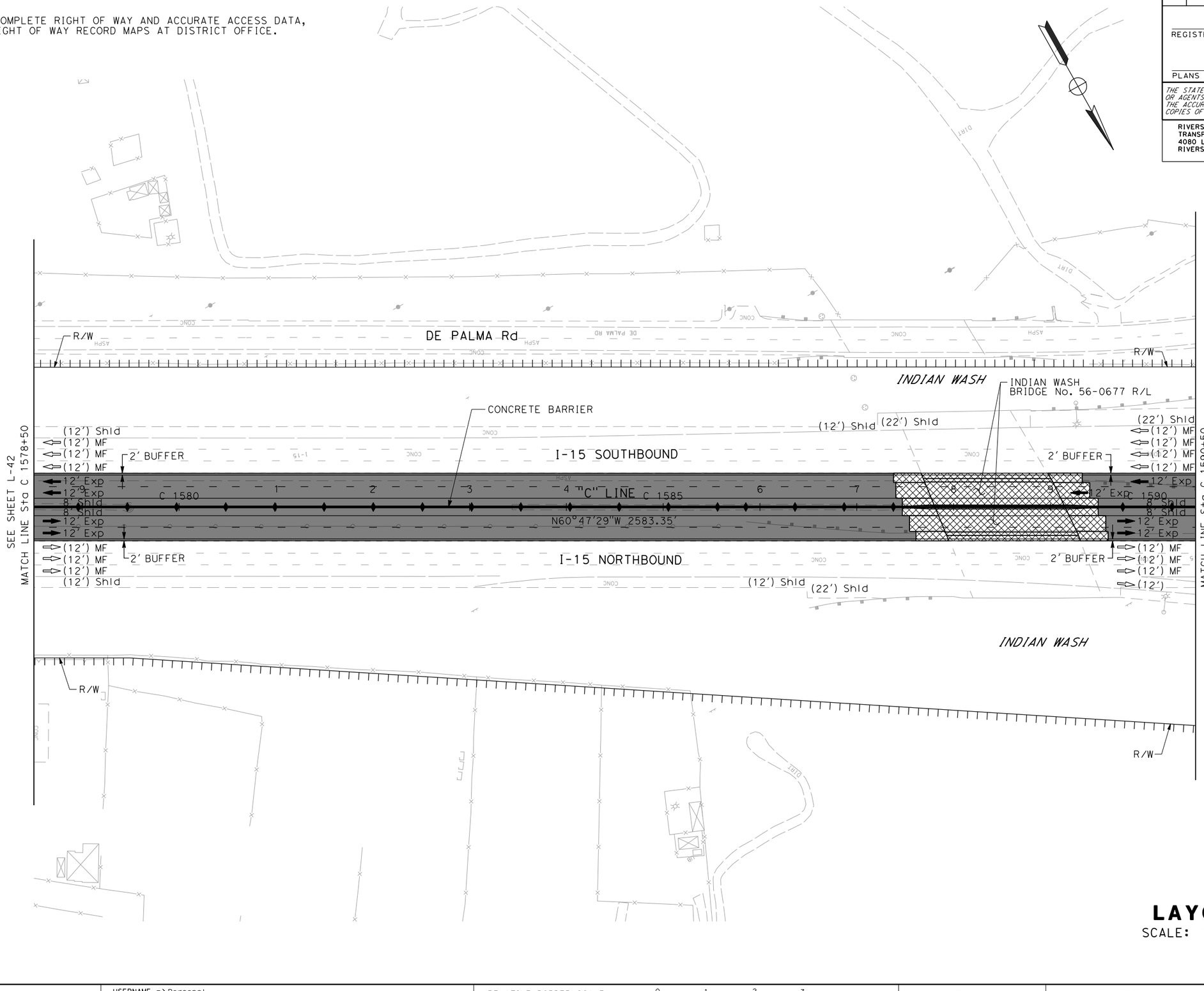
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT

SCALE: 1" = 50'

L-43

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY: JESSICA HEGARDT

CHECKED BY: BRIAN SMITH

DATE REVISED	REVISED BY

LAST REVISION 00-00-00

DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:48:30 AM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea043.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	52	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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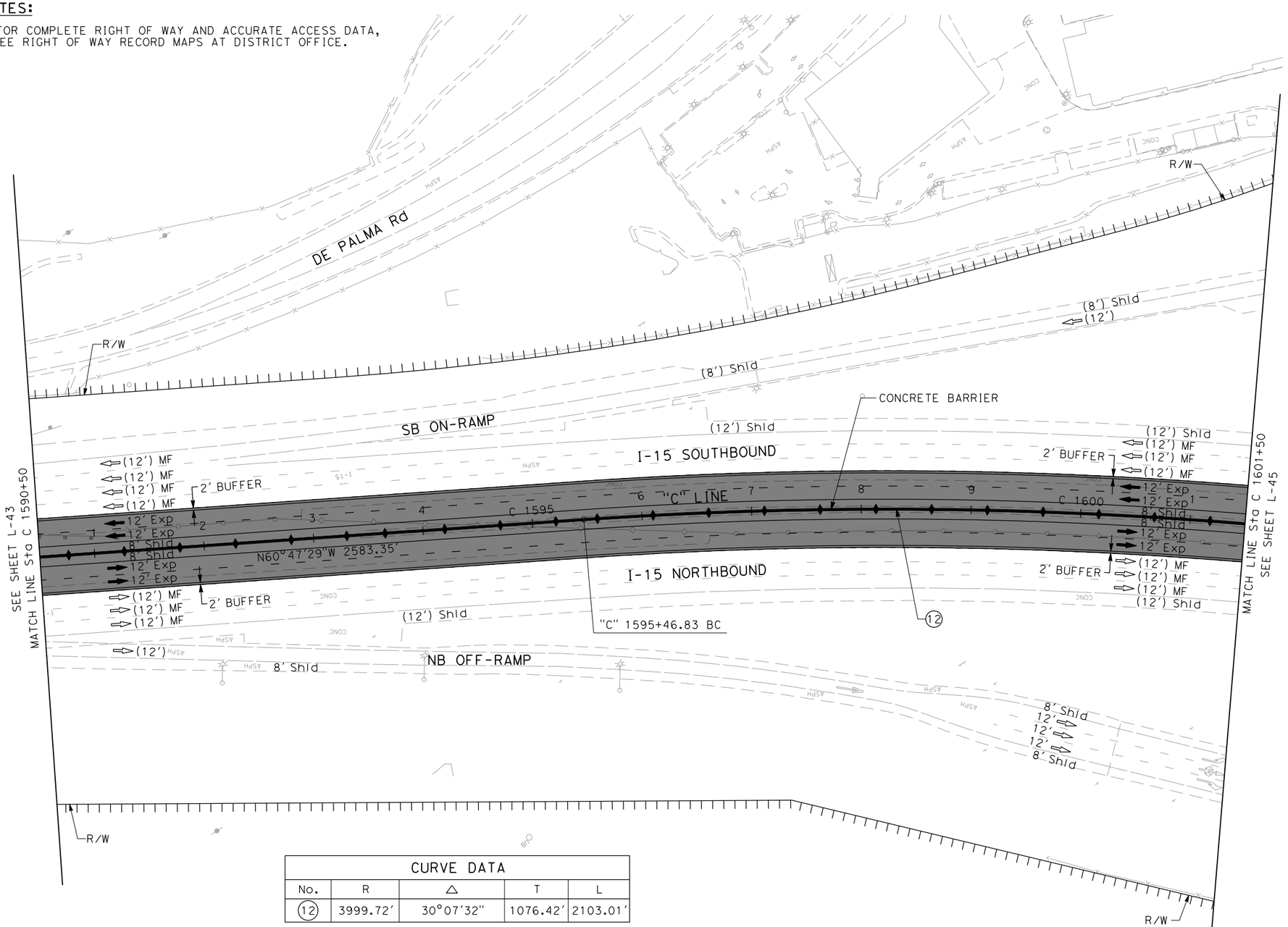
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(12)	3999.72'	30°07'32"	1076.42'	2103.01'

LAYOUT

SCALE: 1" = 50'

L-44

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH

REVISED BY	DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:48:39 AM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea044.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	53	95

REGISTERED CIVIL ENGINEER DATE

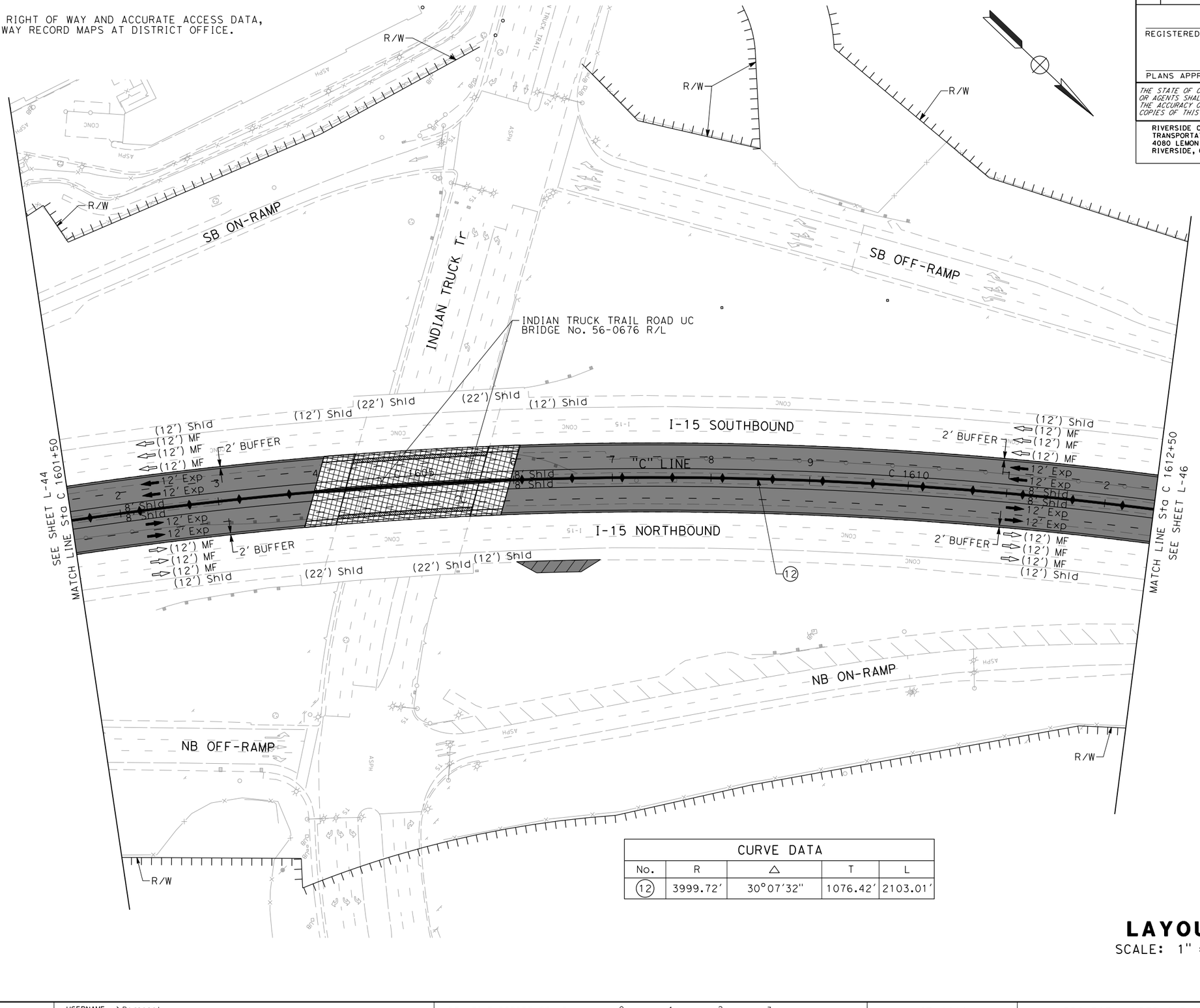
PLANS APPROVAL DATE

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.

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



CURVE DATA				
No.	R	△	T	L
(12)	3999.72′	30°07′32″	1076.42′	2103.01′

LAYOUT
SCALE: 1" = 50′

L-45

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH

REVISED BY	DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:48:26 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea045.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	54	95

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.

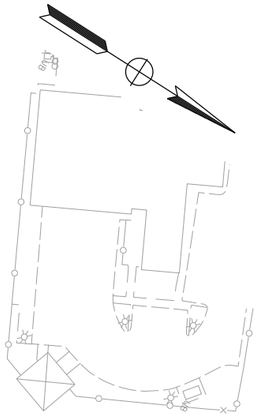
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

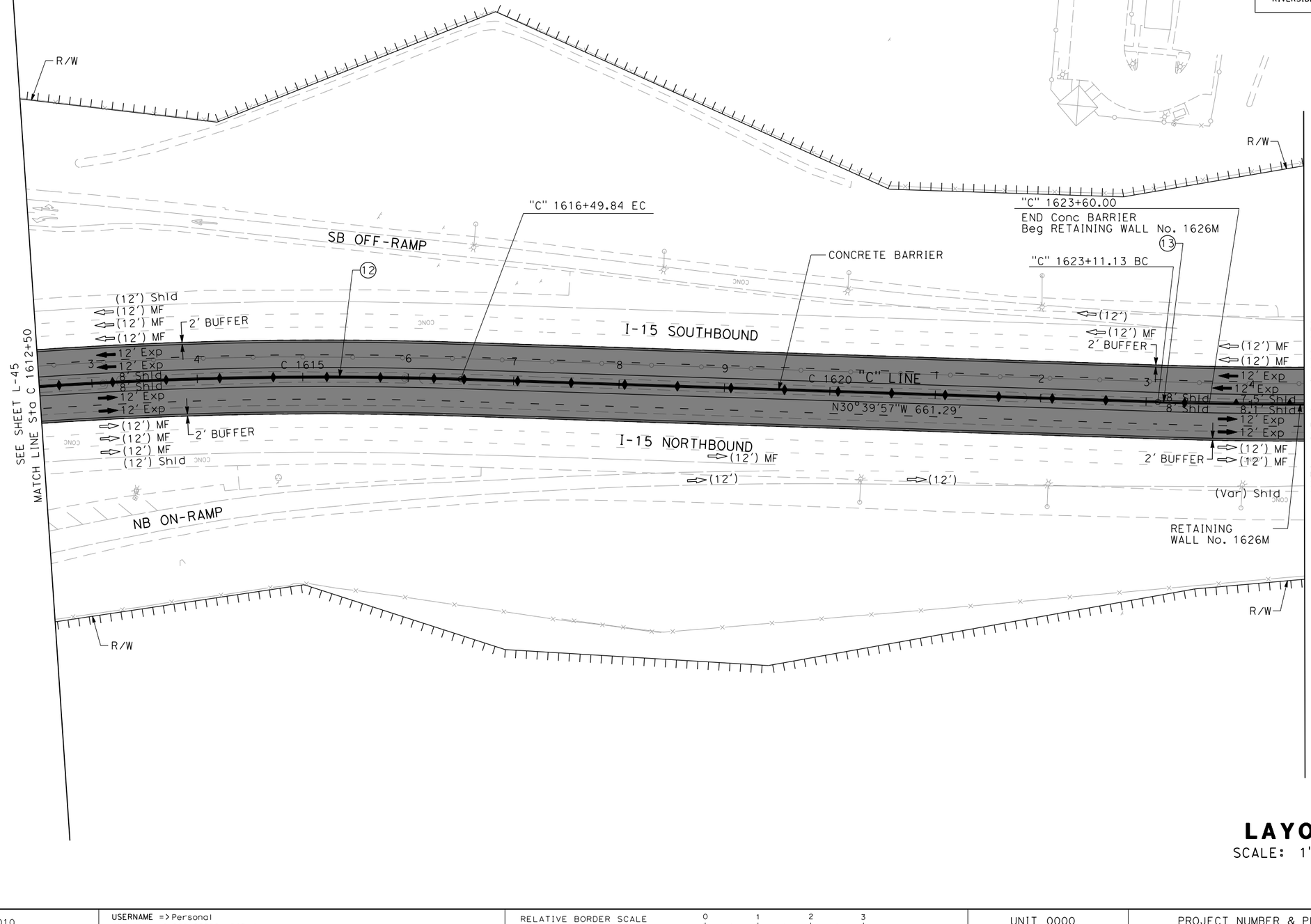
HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	Δ	T	L
(12)	3999.72′	30°07′32"	1076.42′	2103.01′
(13)	3999.72′	20°44′54"	732.22′	1448.40′





LAYOUT

SCALE: 1" = 50′

L-46

REVISED BY	DATE REVISED
JESSICA HEGARDT	BRIAN SMITH

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 10:48:15 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea046.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	55	95

REGISTERED CIVIL ENGINEER DATE

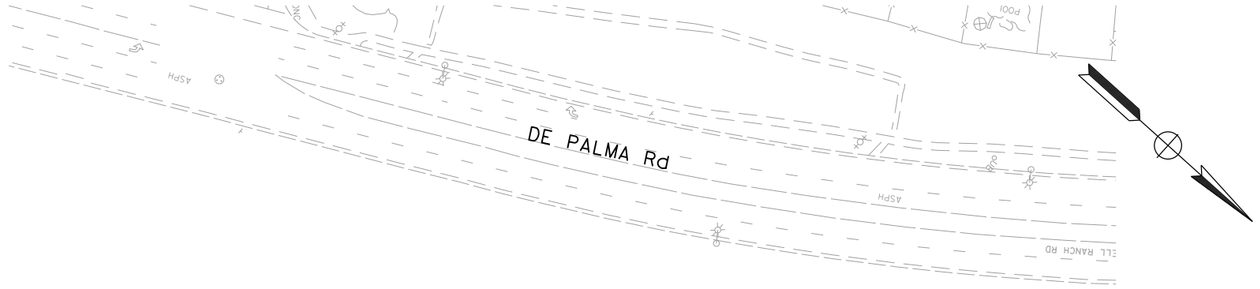
PLANS APPROVAL DATE

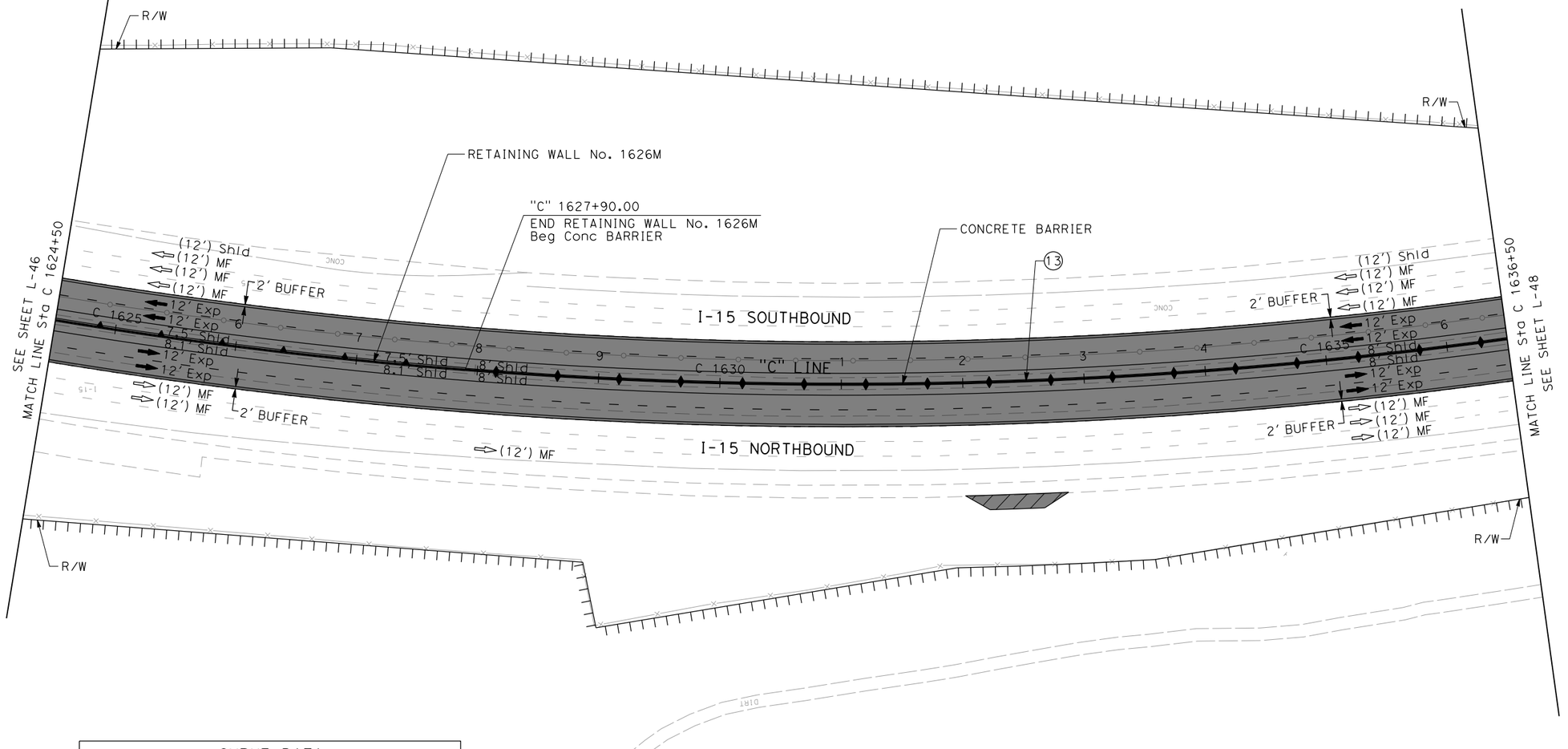
REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

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.

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110





CURVE DATA				
No.	R	△	T	L
(13)	3999.72′	20°44′54"	732.22′	1448.40′

LAYOUT
SCALE: 1" = 50′

L-47

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

REVISED BY	DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:47:58 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea047.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	56	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

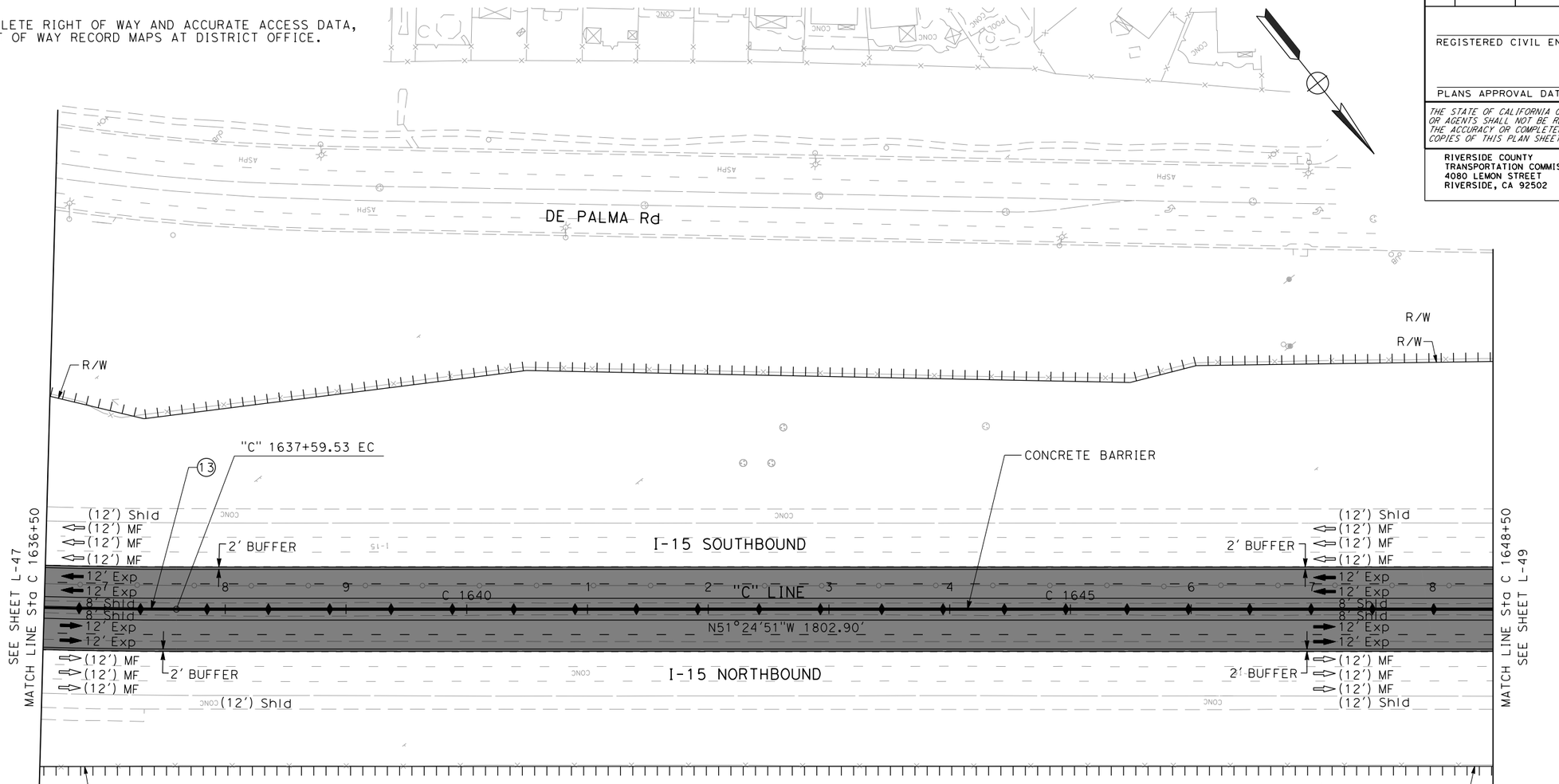
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
13	3999.72'	20°44'54"	732.22'	1448.40'

LAYOUT

SCALE: 1" = 50'

L-48

REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 10:48:15 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea048.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(14)	3999.72′	18°57′35"	667.88′	1323.55′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	57	95

REGISTERED CIVIL ENGINEER DATE

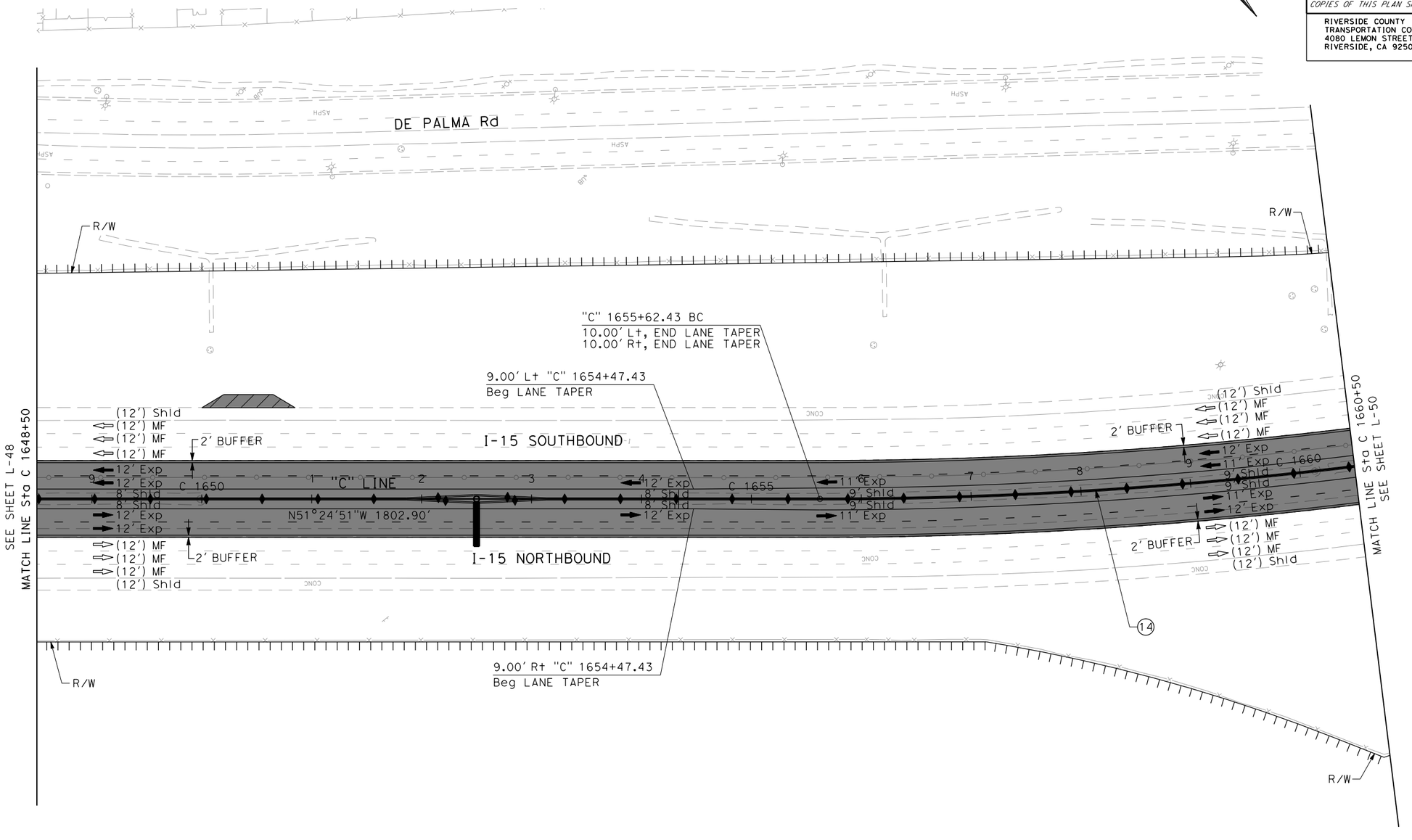
PLANS APPROVAL DATE

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.

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT

SCALE: 1" = 50′

L-49

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
JESSICA HEGARDT
CALCULATED-DESIGNED BY
BRIAN SMITH
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:47:56 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea049.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	58	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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4080 LEMON STREET
RIVERSIDE, CA 92502

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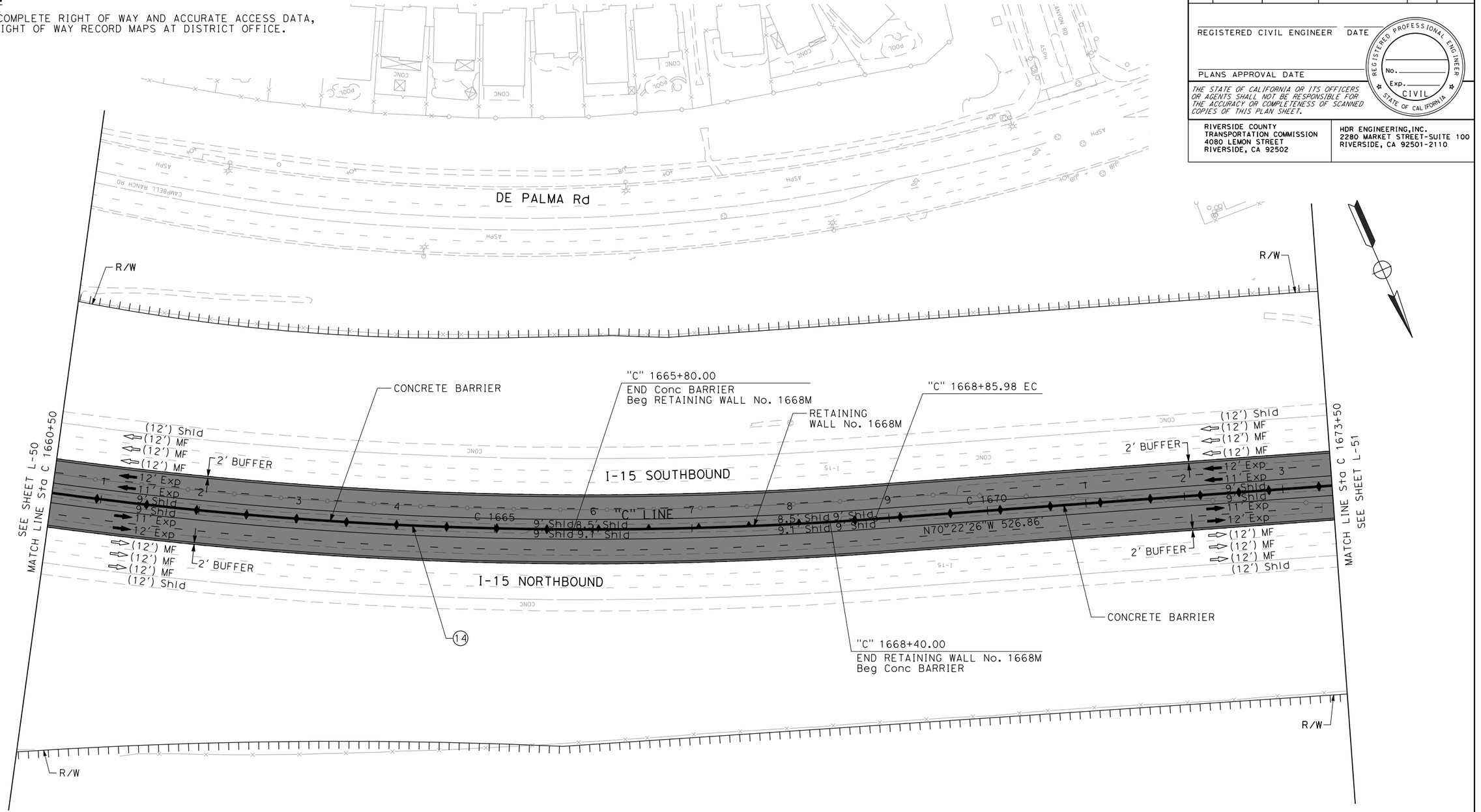
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(14)	3999.72′	18°57′35"	667.88′	1323.55′

LAYOUT

SCALE: 1" = 50′

L-50

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH

REVISED BY	DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 10:47:53 AM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea050.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(15)	3999.74′	34°45′02"	1251.55′	2425.89′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	59	95

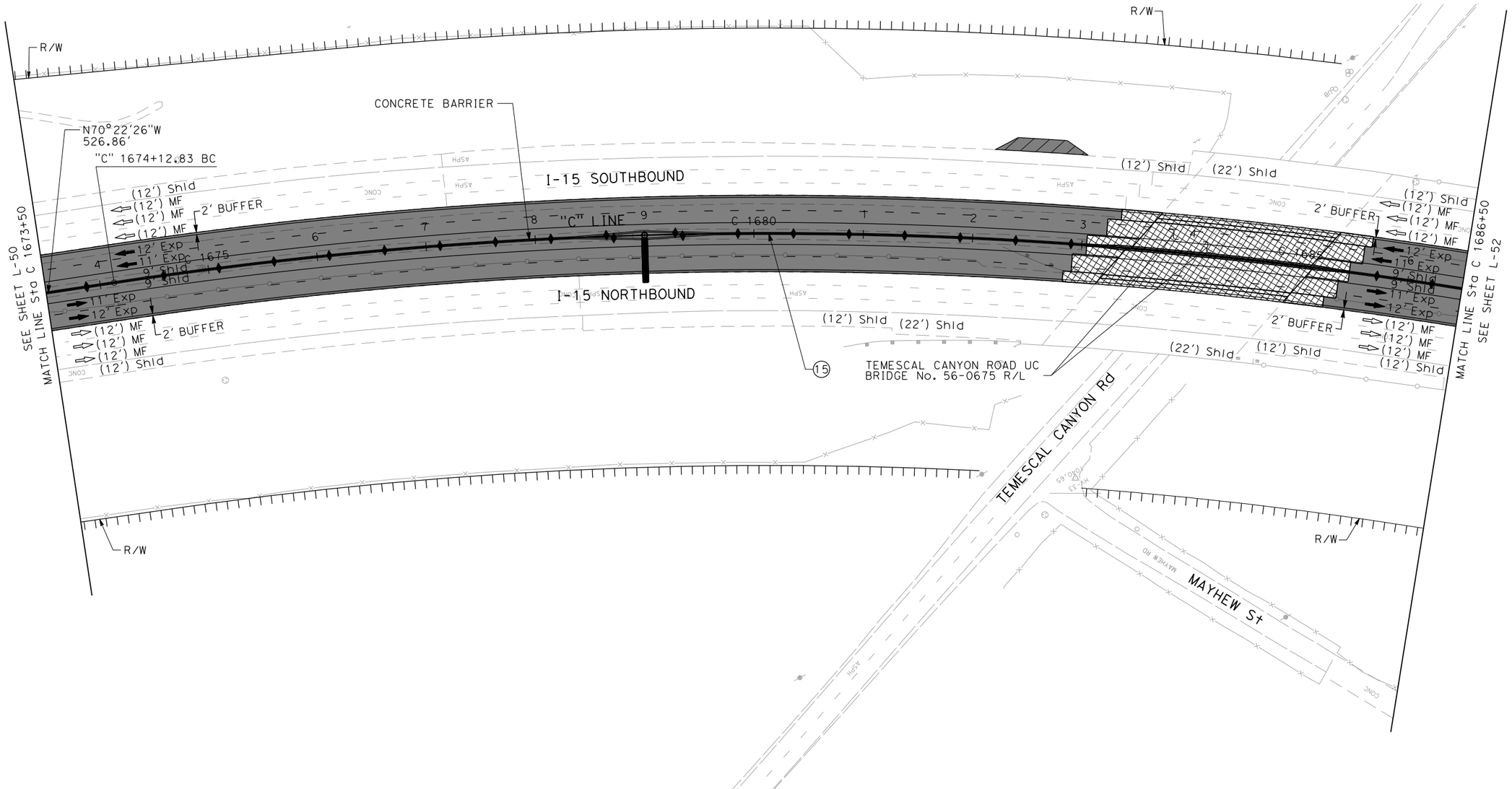
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT

SCALE: 1" = 50′

L-51

REVISED BY	DATE REVISED
JESSICA HEGARDT	BRIAN SMITH
CALCULATED-DESIGNED BY	CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:05:27 AM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea051.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(15)	3999.74′	34°45′02"	1251.55′	2425.89′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	60	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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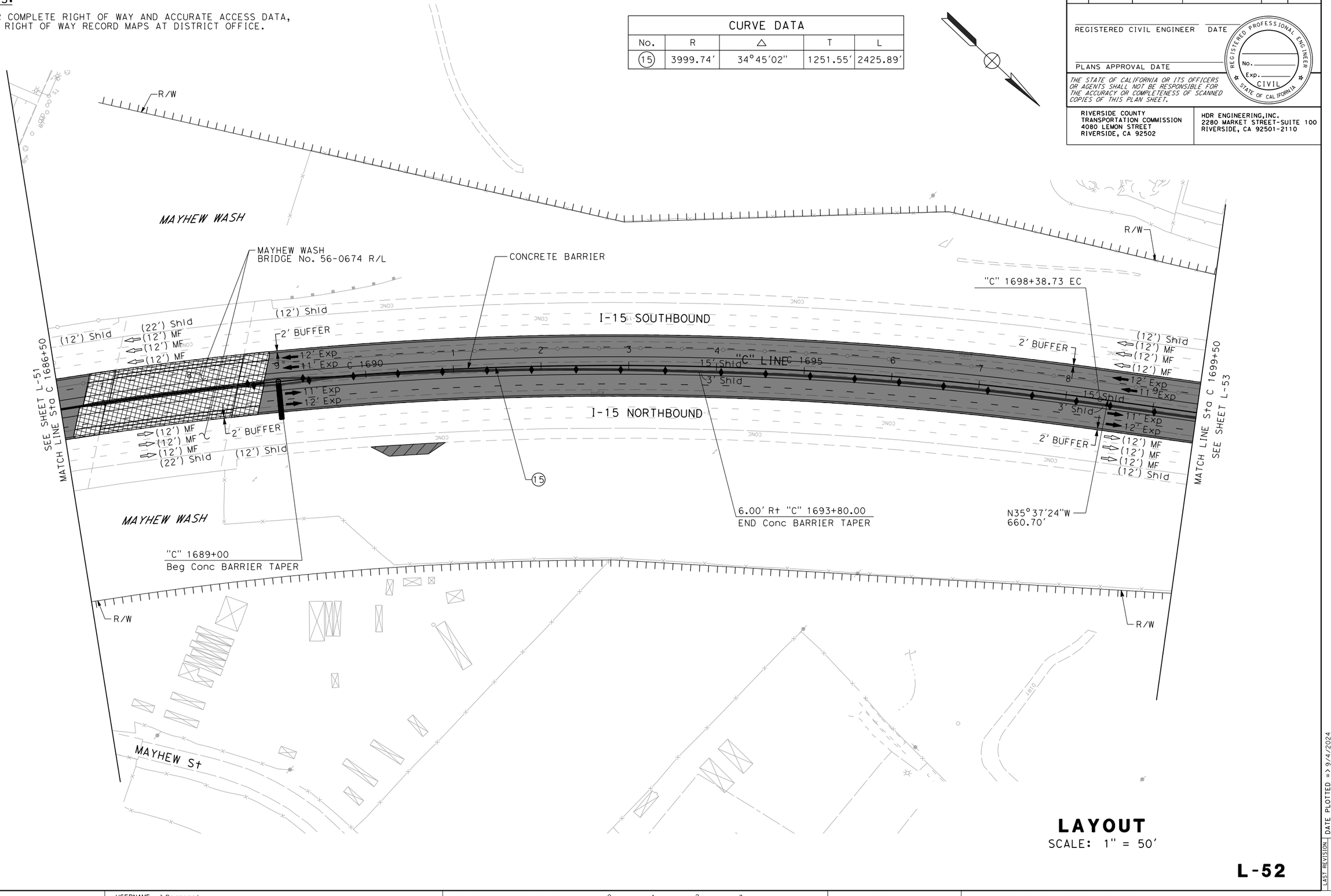
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-52

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 11:05:47 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea052.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(16)	3999.74′	18°19′32"	645.15′	1279.28′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	61	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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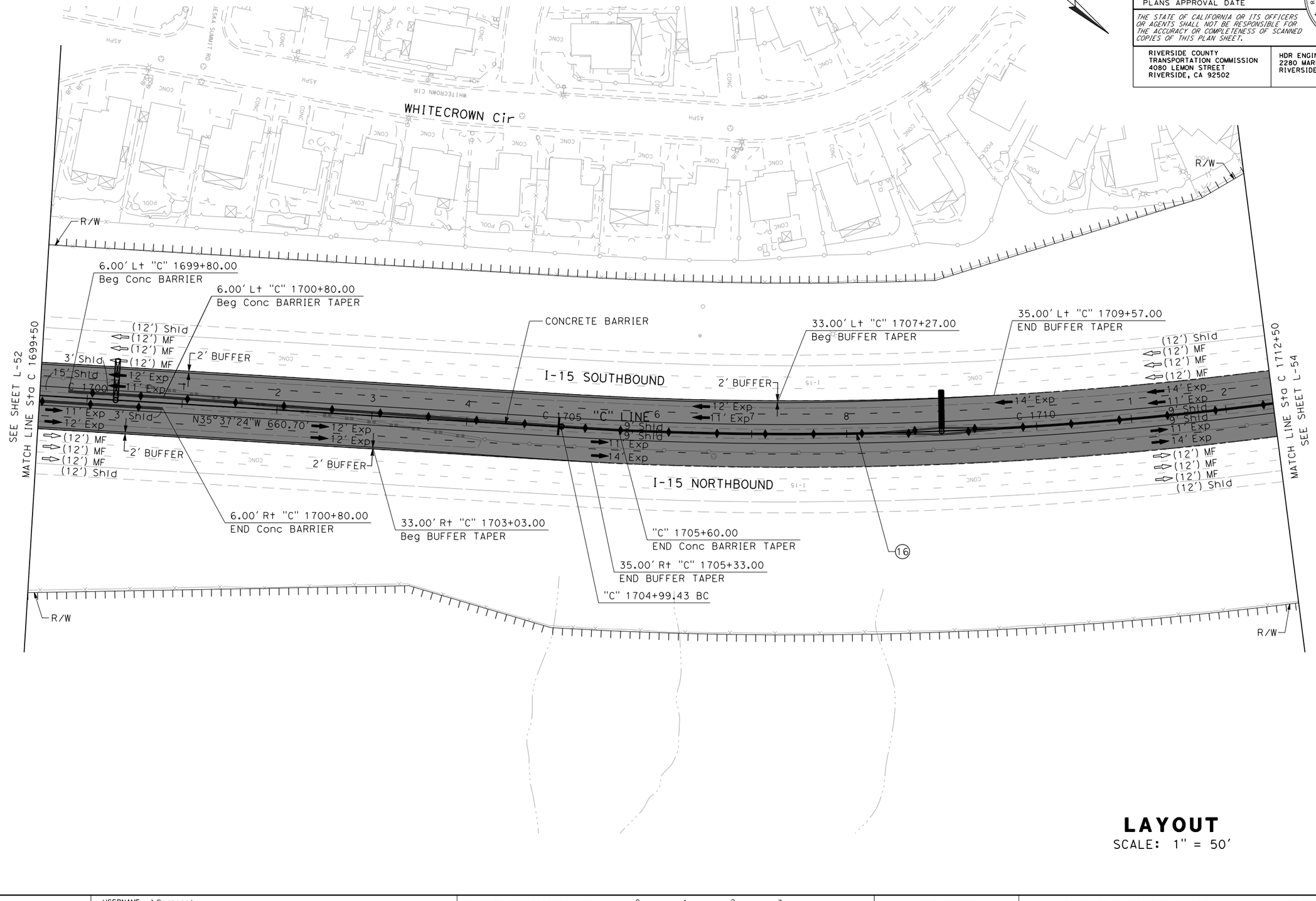
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-53

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

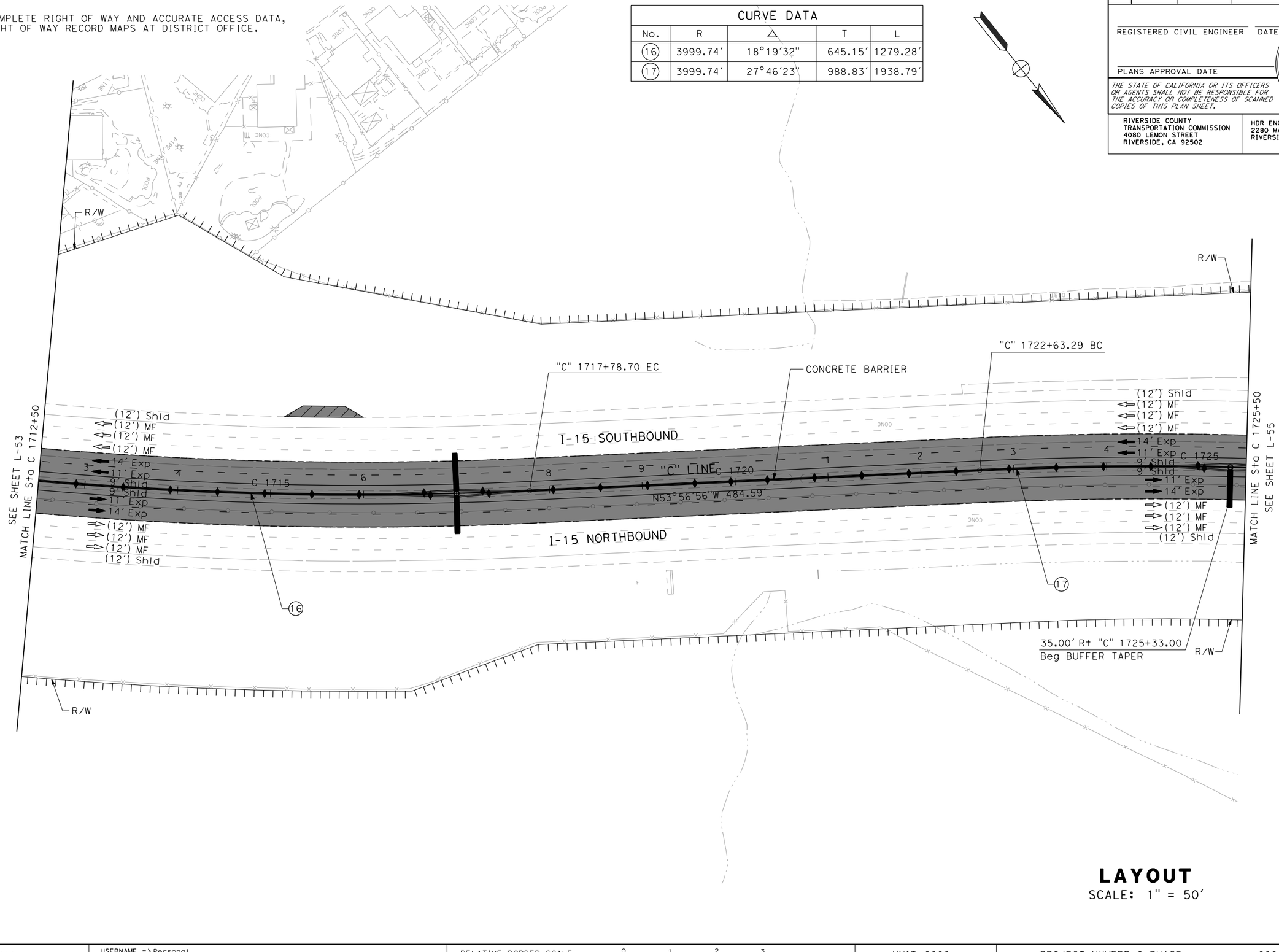
LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:05:00 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea053.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(16)	3999.74′	18°19′32"	645.15′	1279.28′
(17)	3999.74′	27°46′23"	988.83′	1938.79′



LAYOUT
SCALE: 1" = 50′

L-54

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	62	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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4080 LEMON STREET
RIVERSIDE, CA 92502

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2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:05:41 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea054.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	63	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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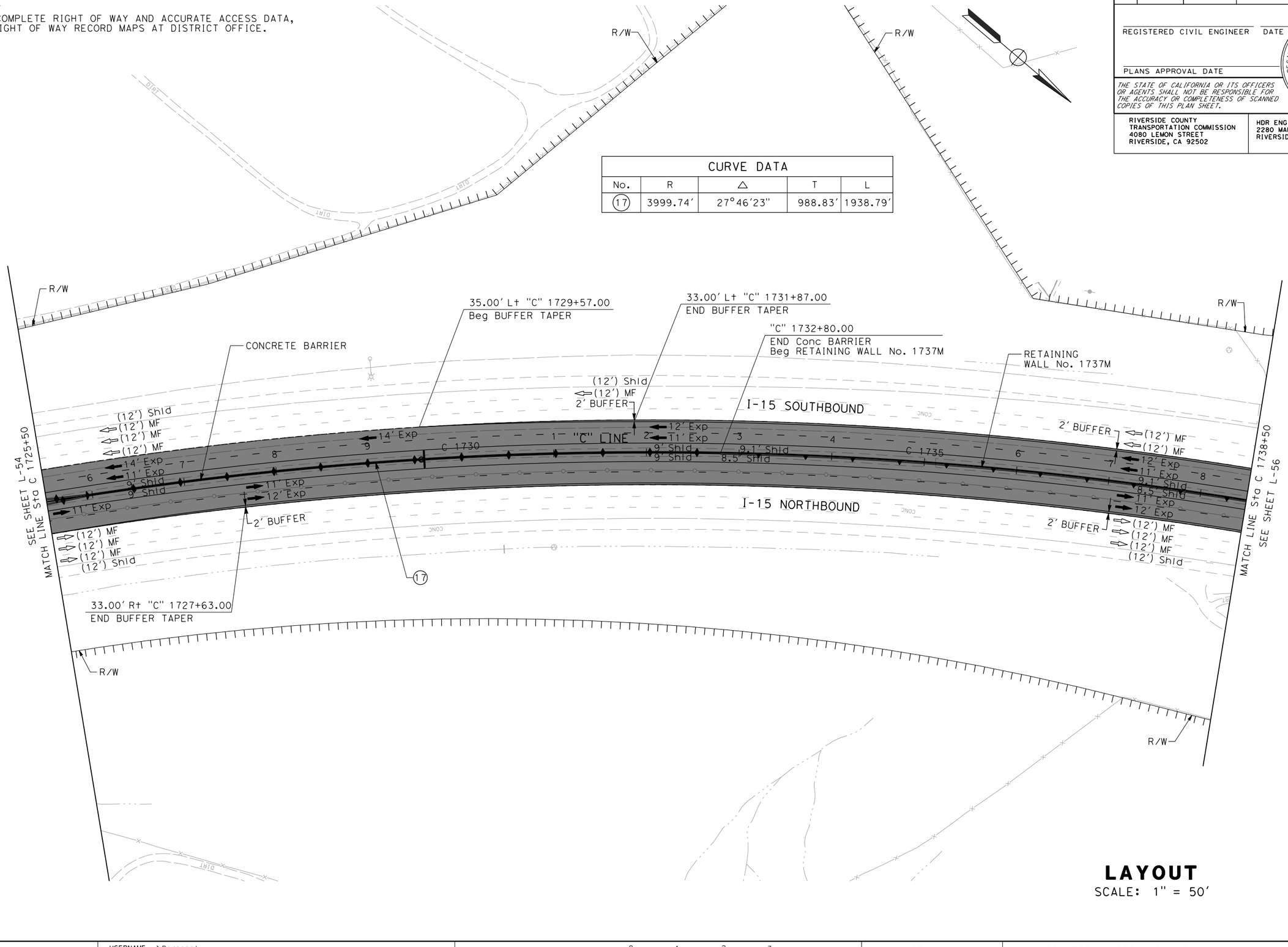
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	Δ	T	L
(17)	3999.74′	27°46′23″	988.83′	1938.79′



LAYOUT

SCALE: 1" = 50′

L-55

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:03:19 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea055.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	64	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE, CA 92502

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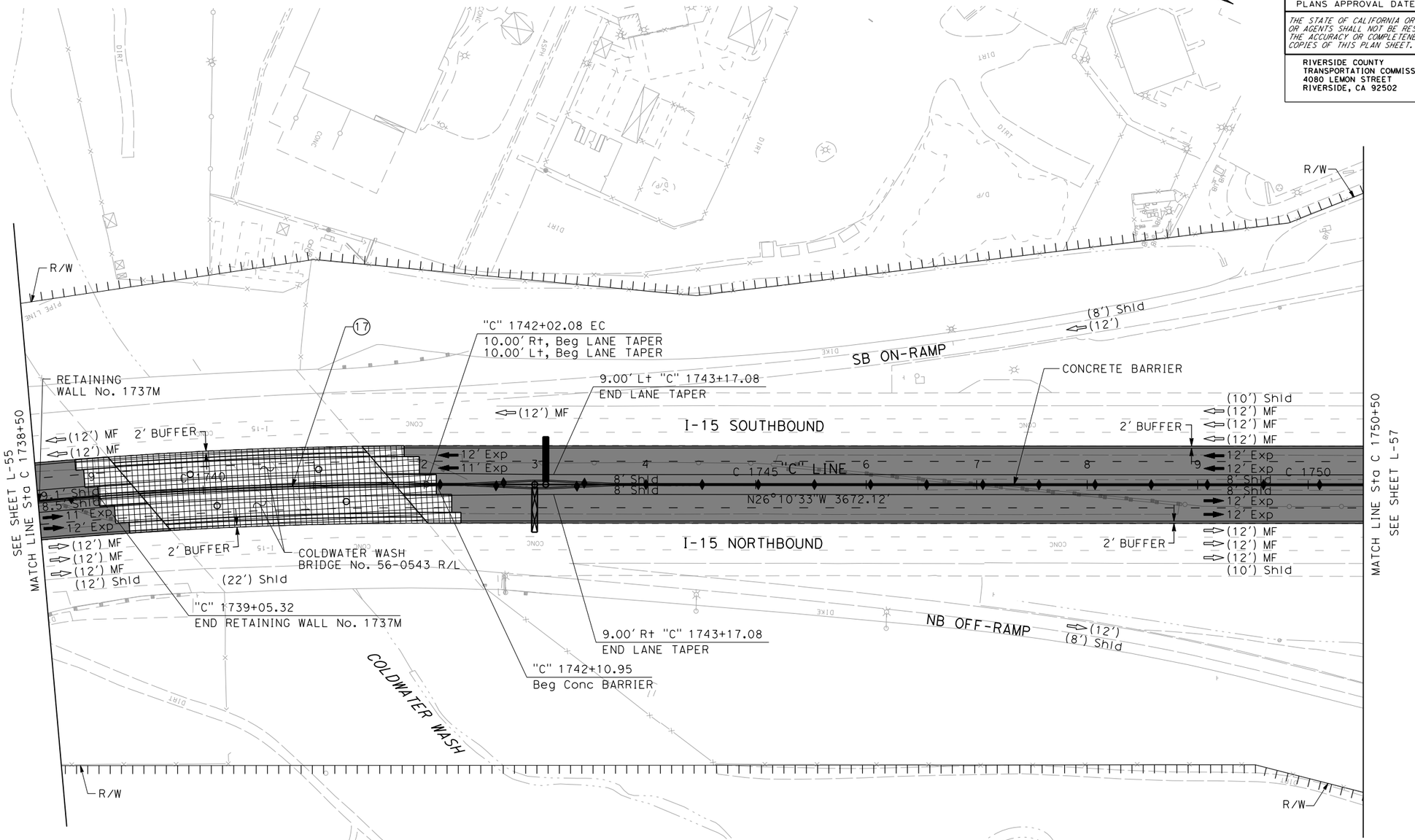
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(17)	3999.74′	27°46′23″	988.83′	1938.79′



LAYOUT
SCALE: 1" = 50′

L-56

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:05:10 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea056.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	65	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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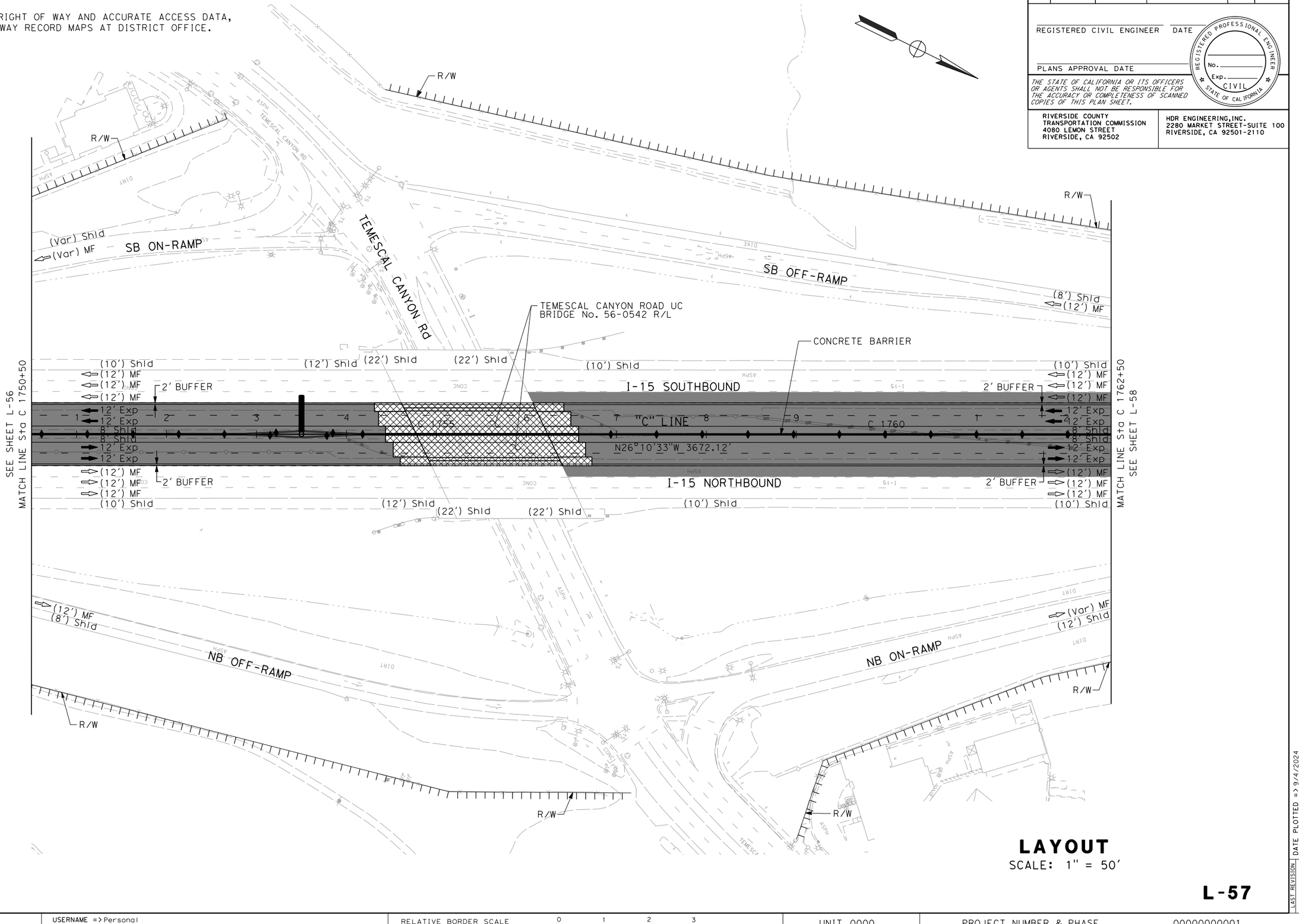
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



LAYOUT

SCALE: 1" = 50'

L-57

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 9/4/2024
00-00-00 TIME PLOTTED => 11:03:19 AM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea057.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	66	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

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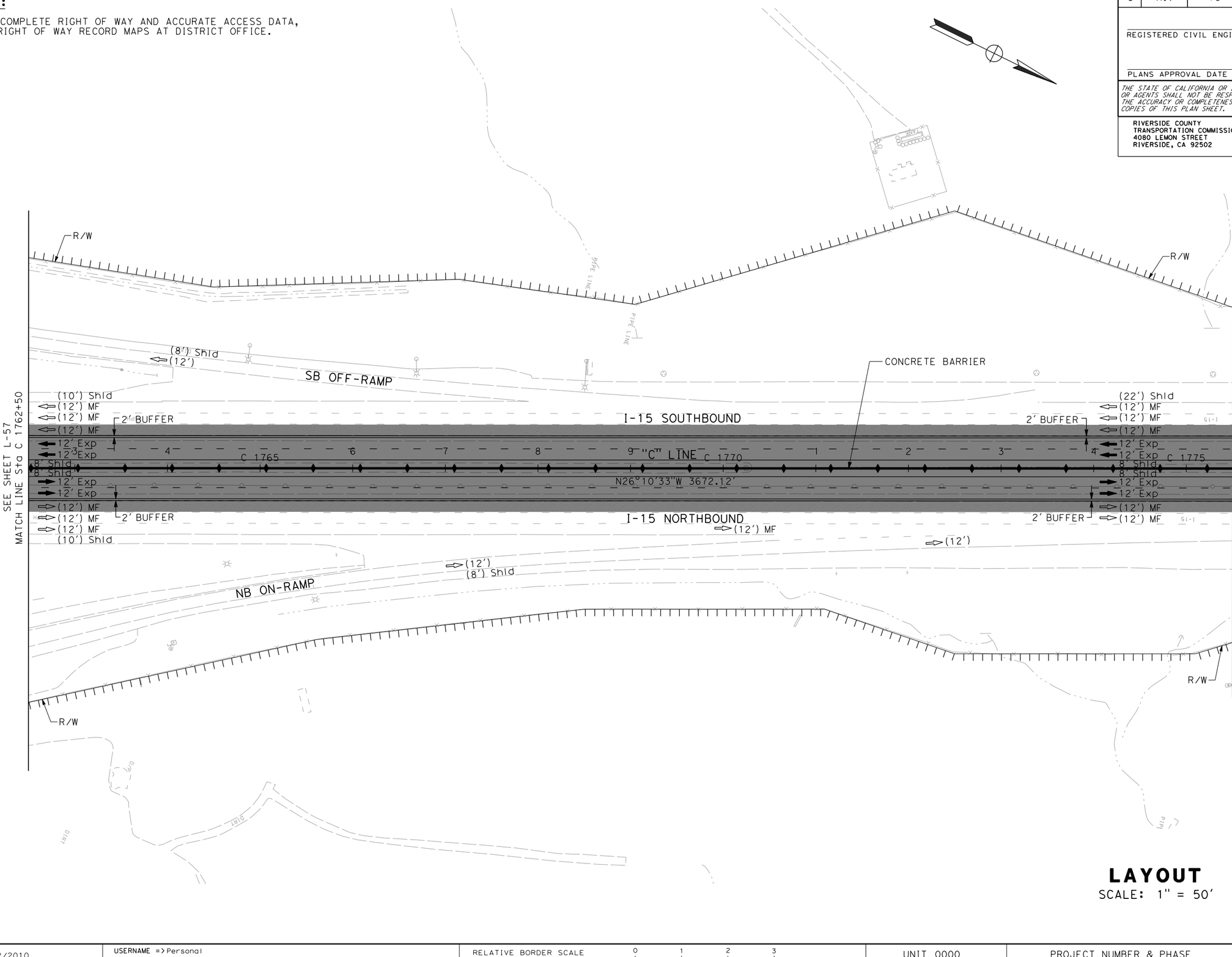
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT

SCALE: 1" = 50'

L-58

CALCULATED-DESIGNED BY | JESSICA HEGARDT
CHECKED BY | BRIAN SMITH
REVISED BY | DATE REVISED
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:04:56 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea058.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(18)	9999.94′	6°05′11"	531.61′	1062.23′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	67	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

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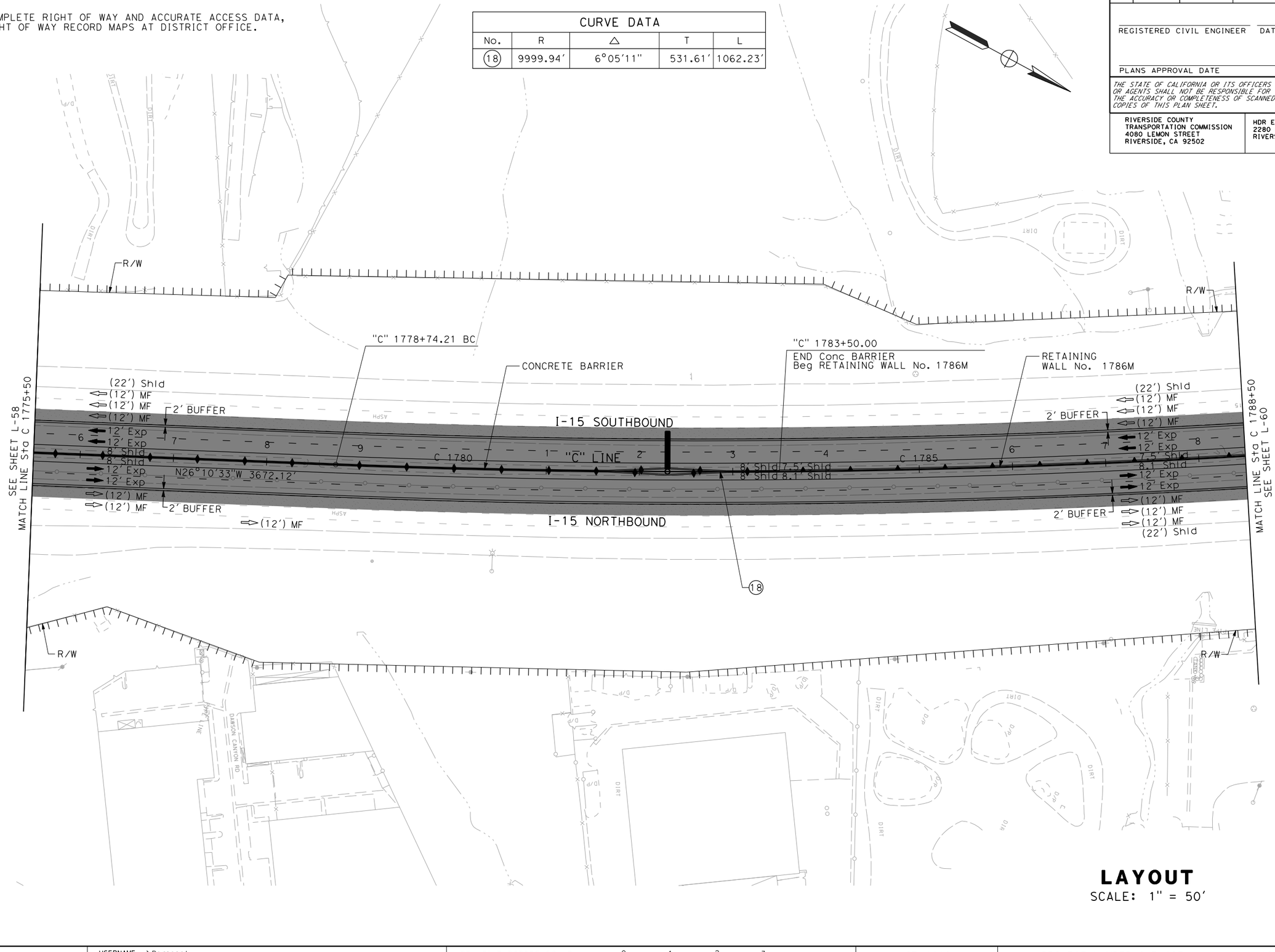
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-59

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:03:15 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea059.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	68	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE, CA 92502

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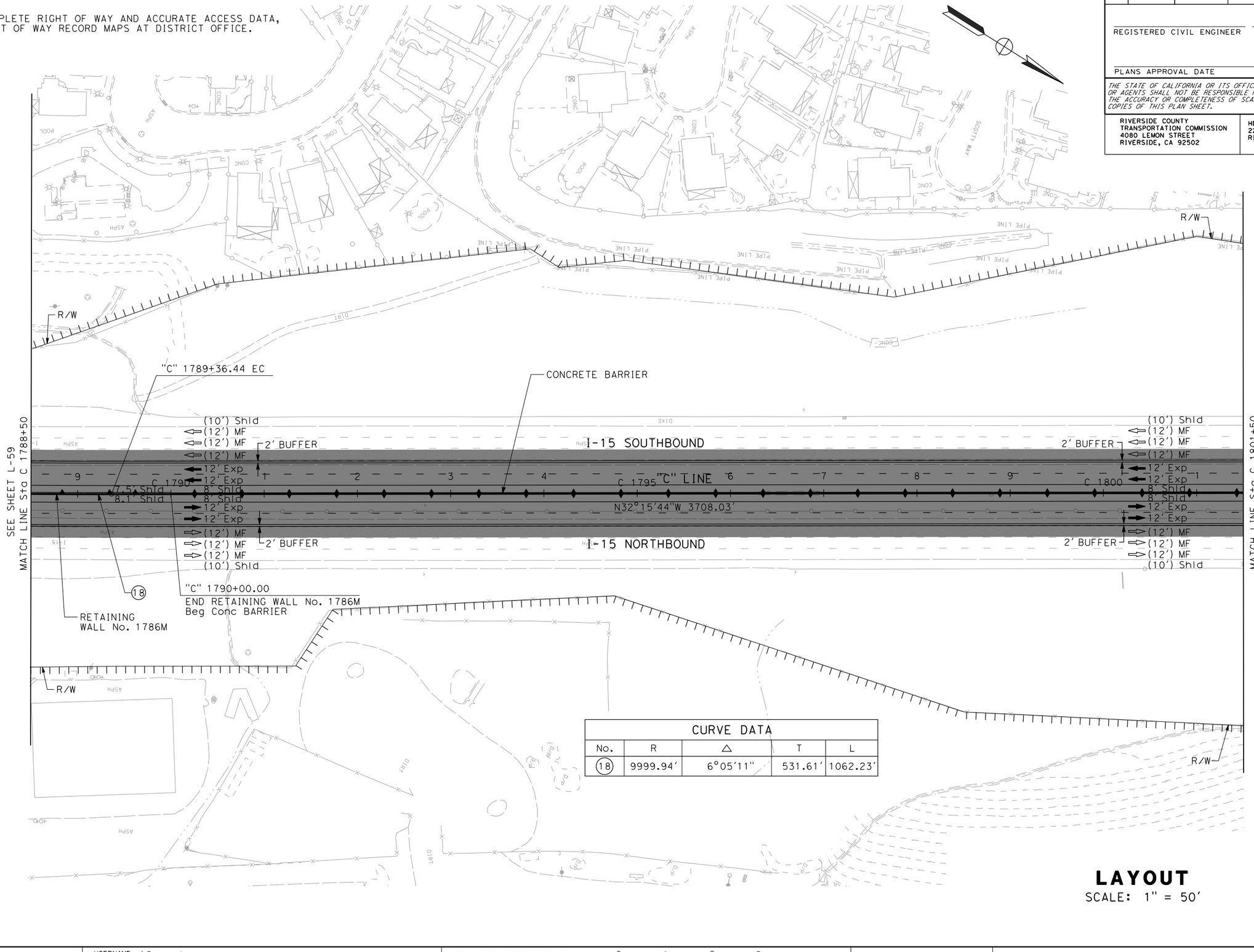
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



CURVE DATA				
No.	R	△	T	L
(18)	9999.94'	6°05'11"	531.61'	1062.23'

LAYOUT

SCALE: 1" = 50'

L-60

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
JESSICA HEGARDT
BRIAN SMITH
CHECKED BY
CALCULATED-DESIGNED BY
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:03:15 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea060.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	69	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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4080 LEMON STREET
RIVERSIDE, CA 92502

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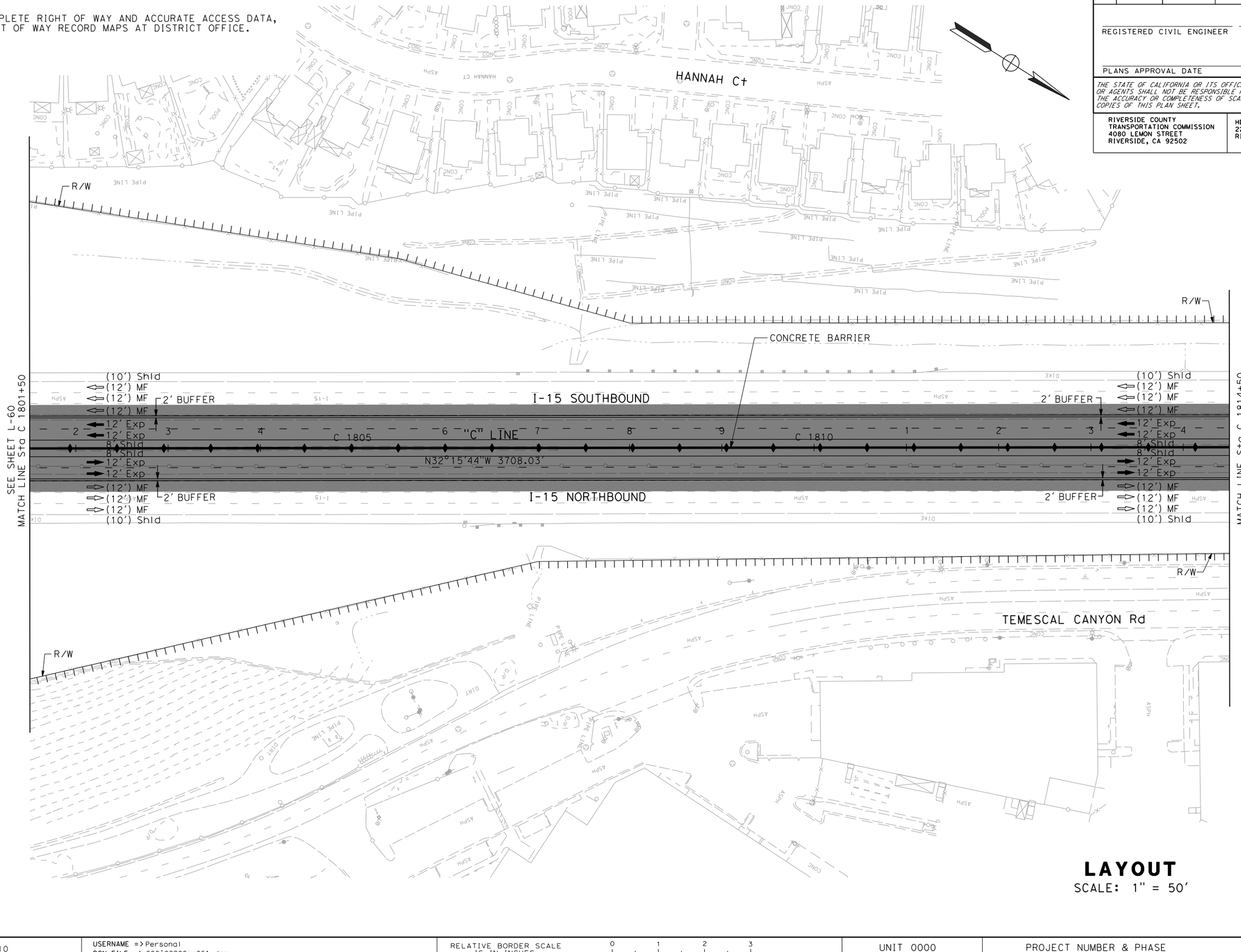
RIVERSIDE, CA 92501-2110



LAYOUT

SCALE: 1" = 50'

L-61

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 9/4/2024
00-00-00 | TIME PLOTTED => 11:21:30 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea061.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	70	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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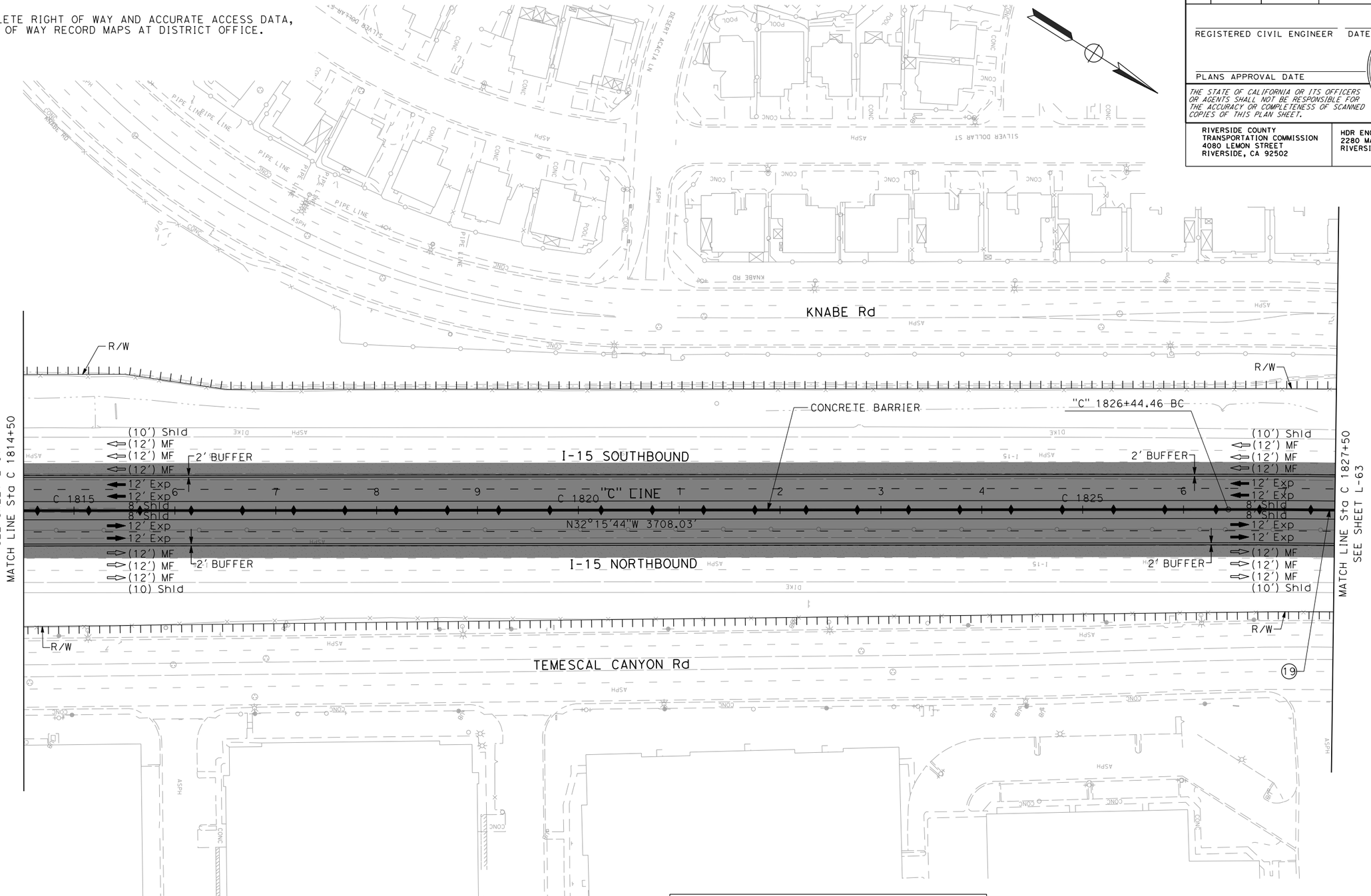
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(19)	7499.60	4°00'01"	261.91'	523.60'

LAYOUT
SCALE: 1" = 50'

L-62

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:21:32 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea062.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	71	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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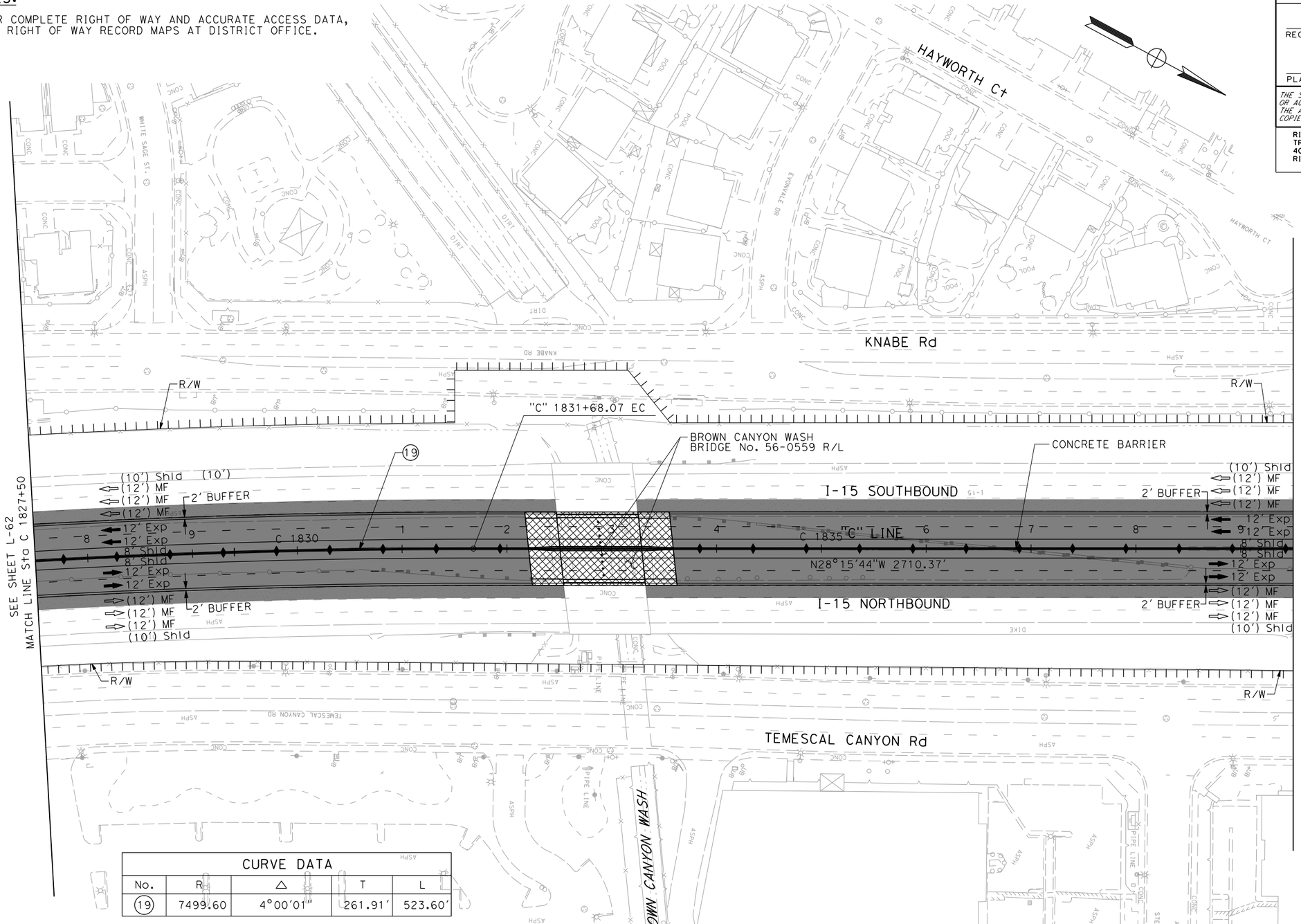
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



CURVE DATA				
No.	R	△	T	L
(19)	7499.60	4°00'01"	261.91'	523.60'

LAYOUT

SCALE: 1" = 50'

L-63

CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED
JESSICA HEGARDT
BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:21:13 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea063.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	72	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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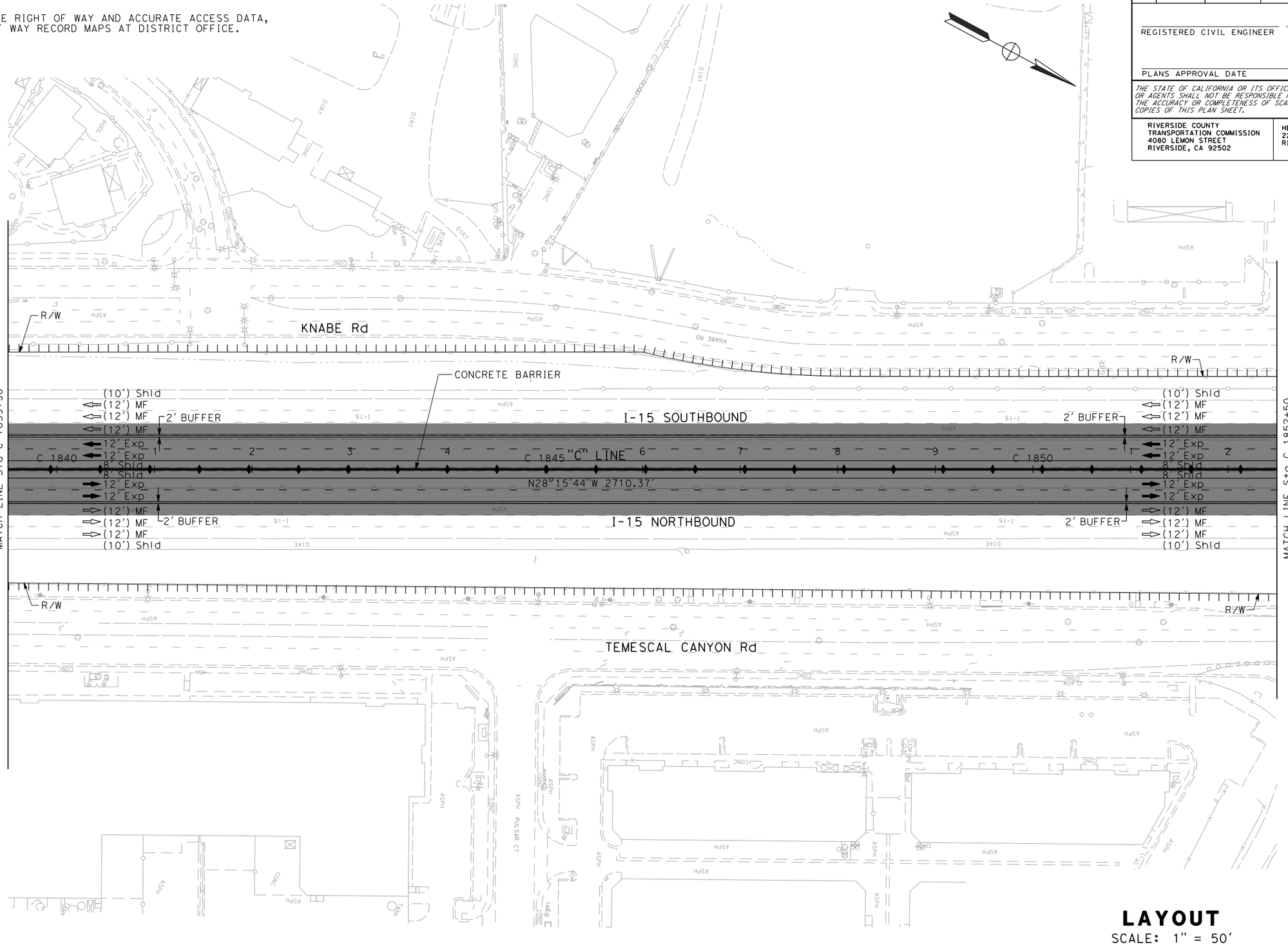
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50'

L-64

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:21:57 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea064.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	73	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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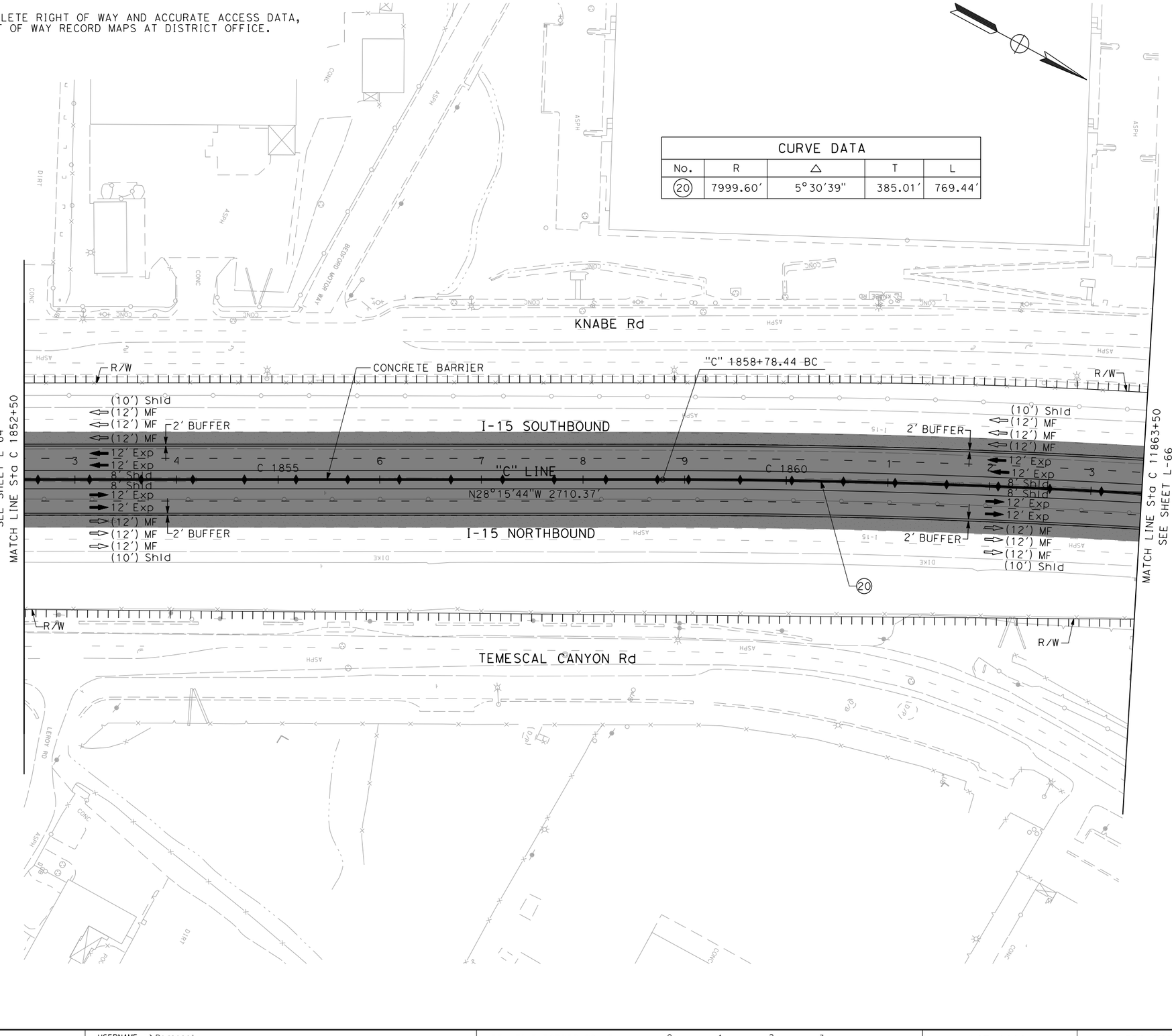
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(20)	7999.60′	5°30′39"	385.01′	769.44′



LAYOUT
SCALE: 1" = 50′

L-65

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:21:22 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea065.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	74	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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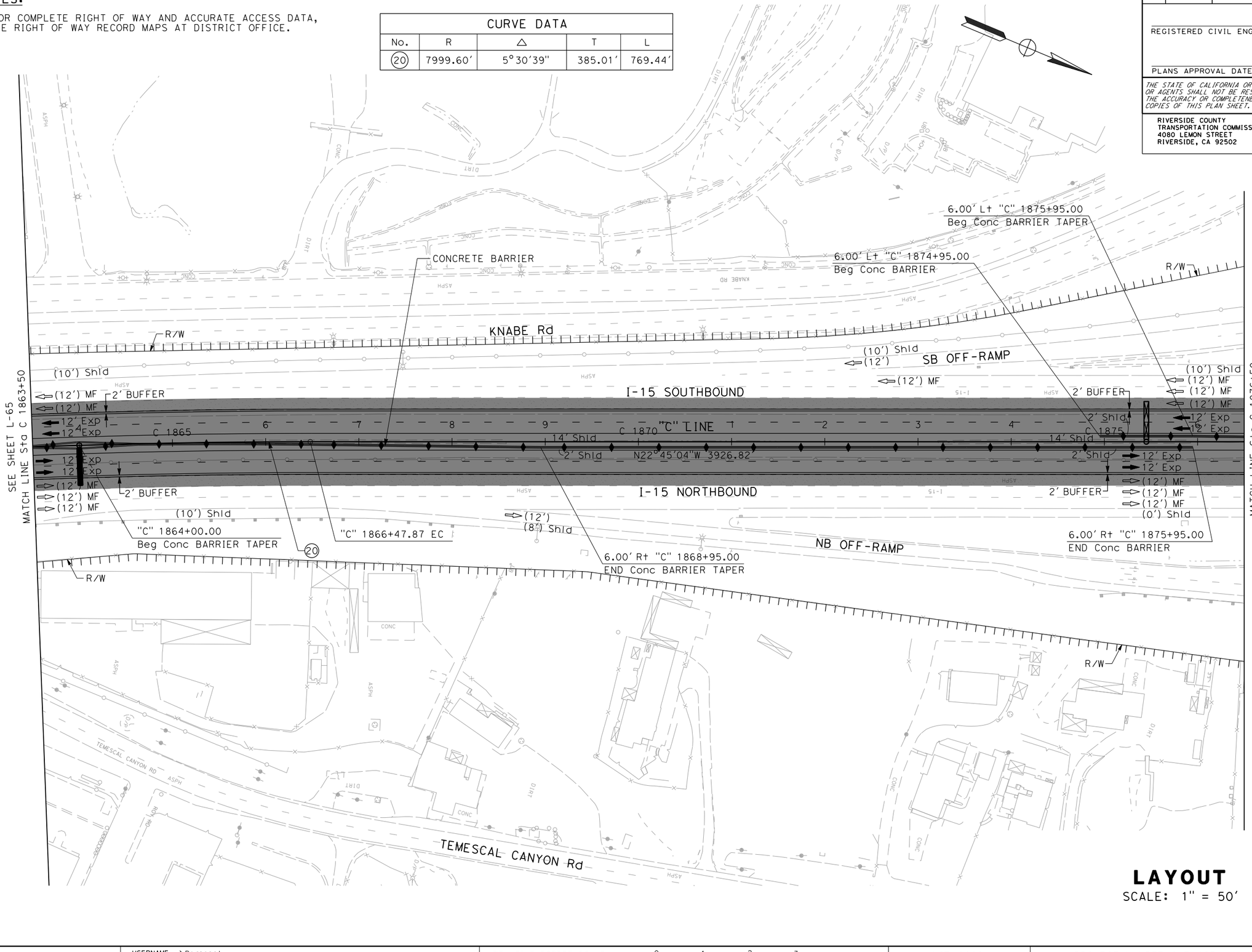
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(20)	7999.60′	5°30′39"	385.01′	769.44′



LAYOUT
SCALE: 1" = 50′

L-66

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY
JESSICA HEGARDT | BRIAN SMITH
REVISED BY | DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:19:32 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea066.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	75	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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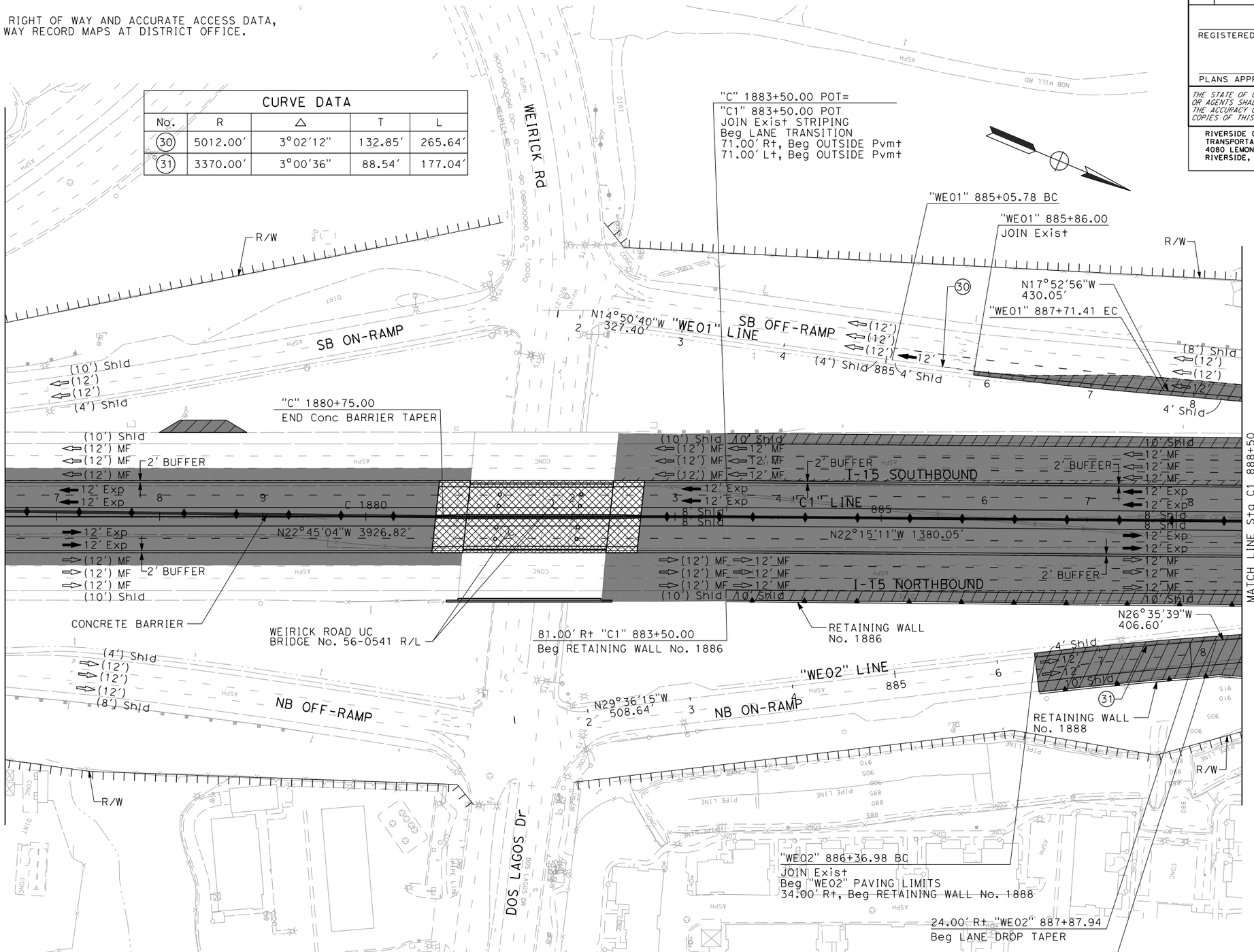
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	Δ	T	L
(30)	5012.00′	3°02′12"	132.85′	265.64′
(31)	3370.00′	3°00′36"	88.54′	177.04′



LAYOUT

SCALE: 1" = 50′

L-67

REVISED BY	DATE REVISED
JESSICA HEGARDT	BRIAN SMITH

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 11:19:32 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea067.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	76	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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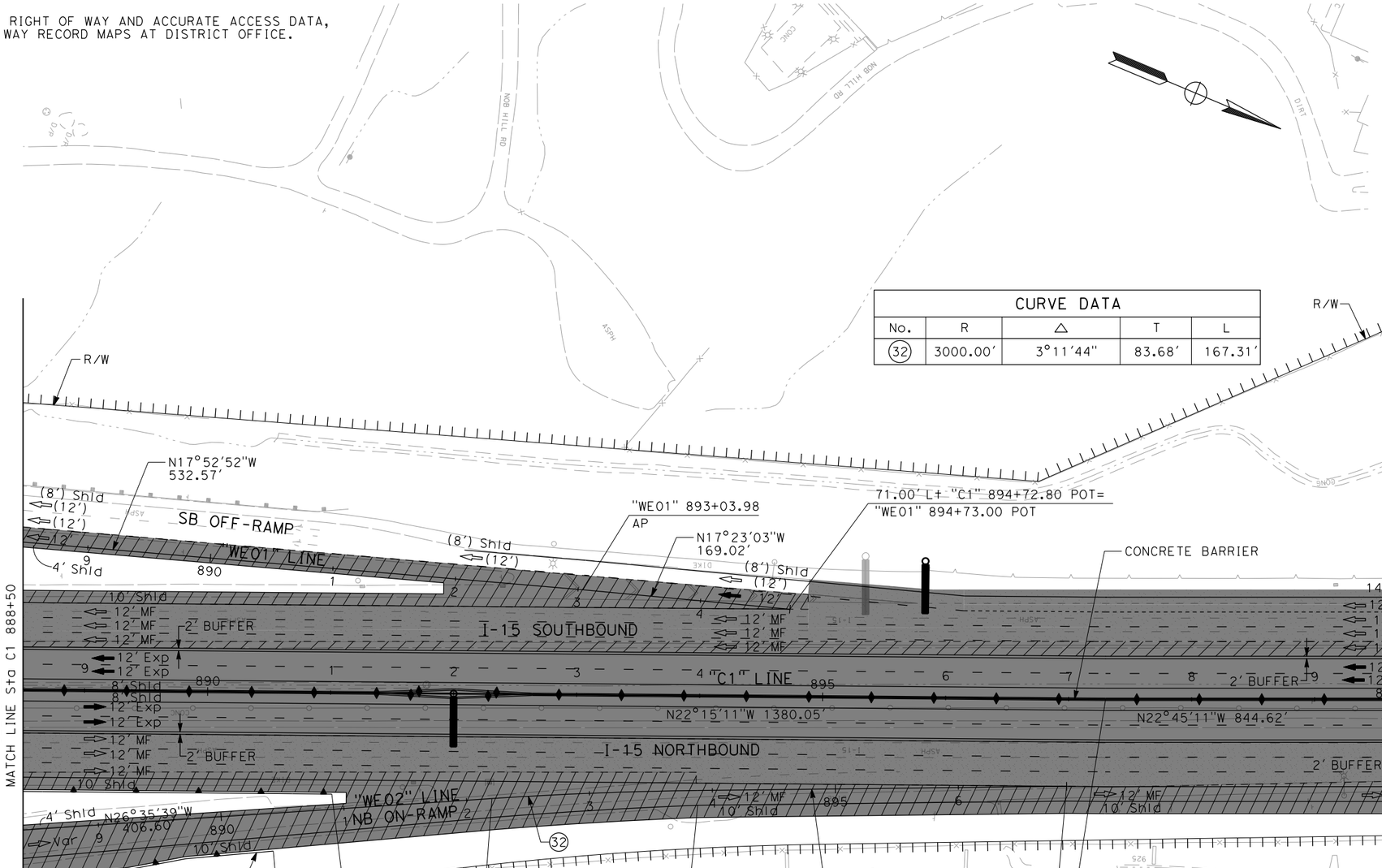
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(32)	3000.00'	3°11'44"	83.68'	167.31'

LAYOUT
SCALE: 1" = 50'

L-68

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
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CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 11:21:41 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea068.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	77	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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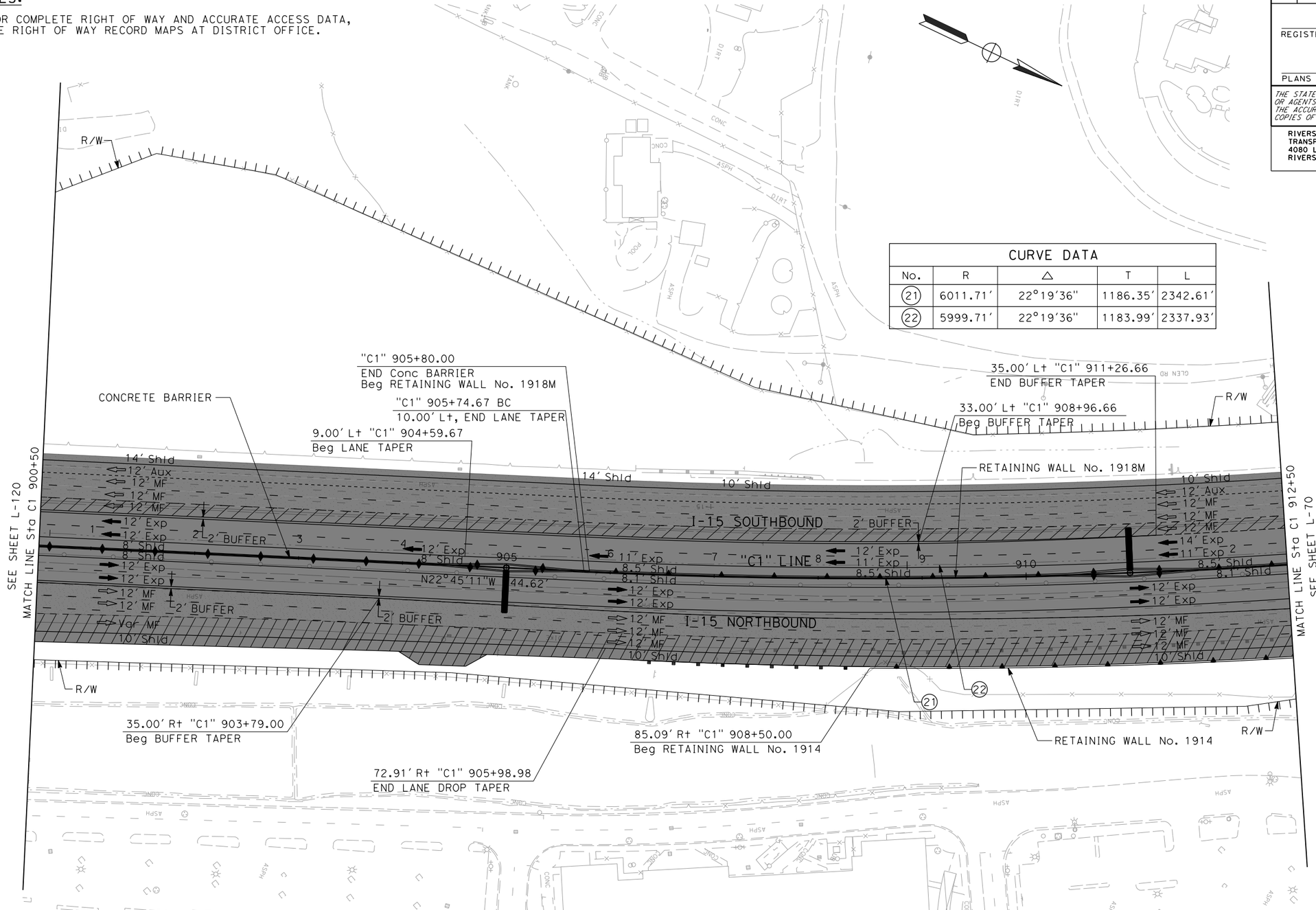
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(21)	6011.71′	22°19′36"	1186.35′	2342.61′
(22)	5999.71′	22°19′36"	1183.99′	2337.93′



LAYOUT

SCALE: 1" = 50′

L-69

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:20:55 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea069.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	78	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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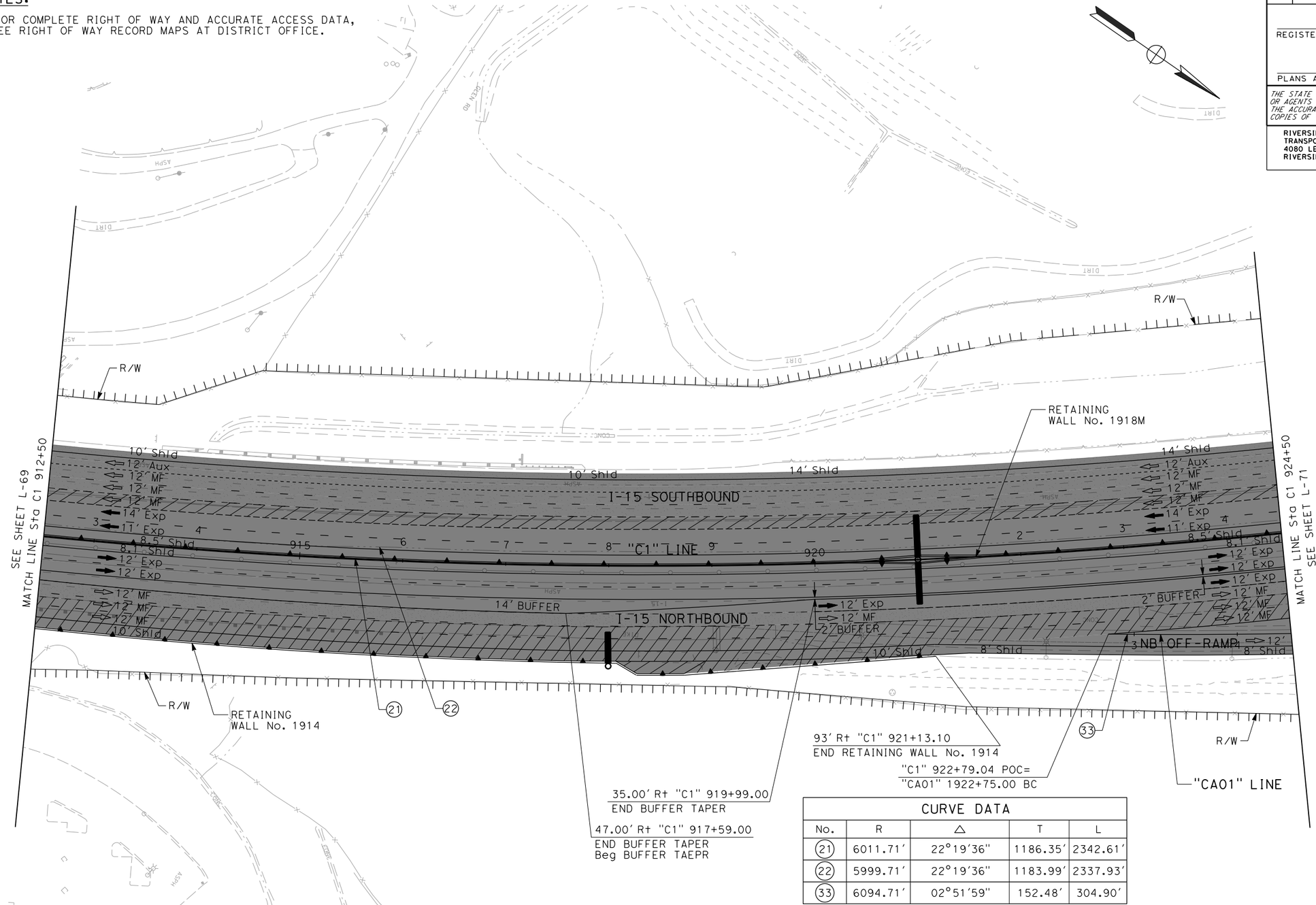
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(21)	6011.71′	22°19′36"	1186.35′	2342.61′
(22)	5999.71′	22°19′36"	1183.99′	2337.93′
(33)	6094.71′	02°51′59"	152.48′	304.90′

LAYOUT

SCALE: 1" = 50′

L-70

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:19:32 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea070.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	79	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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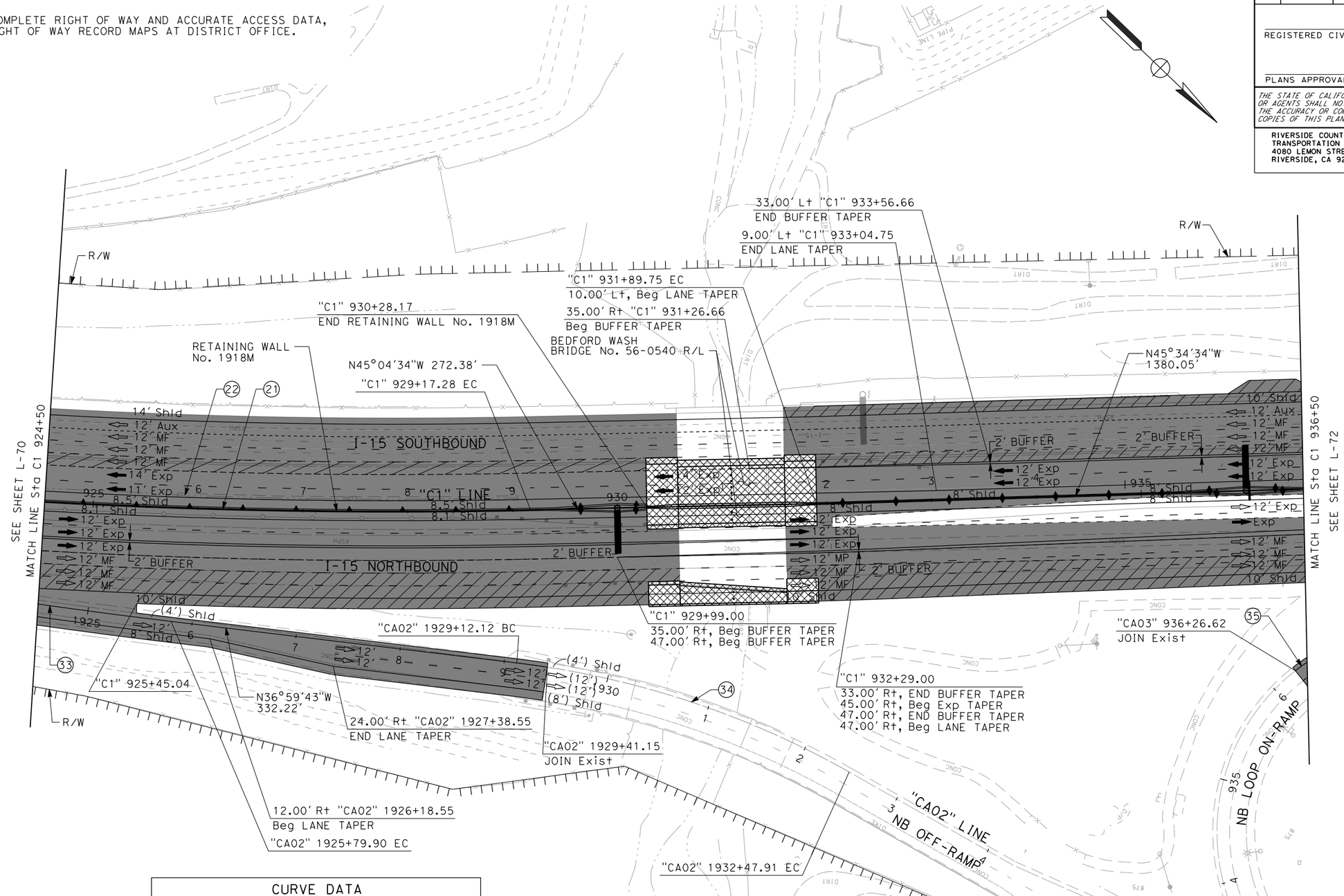
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(21)	6011.71'	22°19'36"	1186.35'	2342.61'
(22)	5999.71'	22°19'36"	1183.99'	2337.93'
(33)	6094.71'	02°51'59"	152.48'	304.90'
(34)	850.00'	22°38'05"	170.12'	335.79'
(35)	195.00'	141°51'48"	564.14'	482.82'

LAYOUT

SCALE: 1" = 50'

L-71

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 11:53:53 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea071.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	80	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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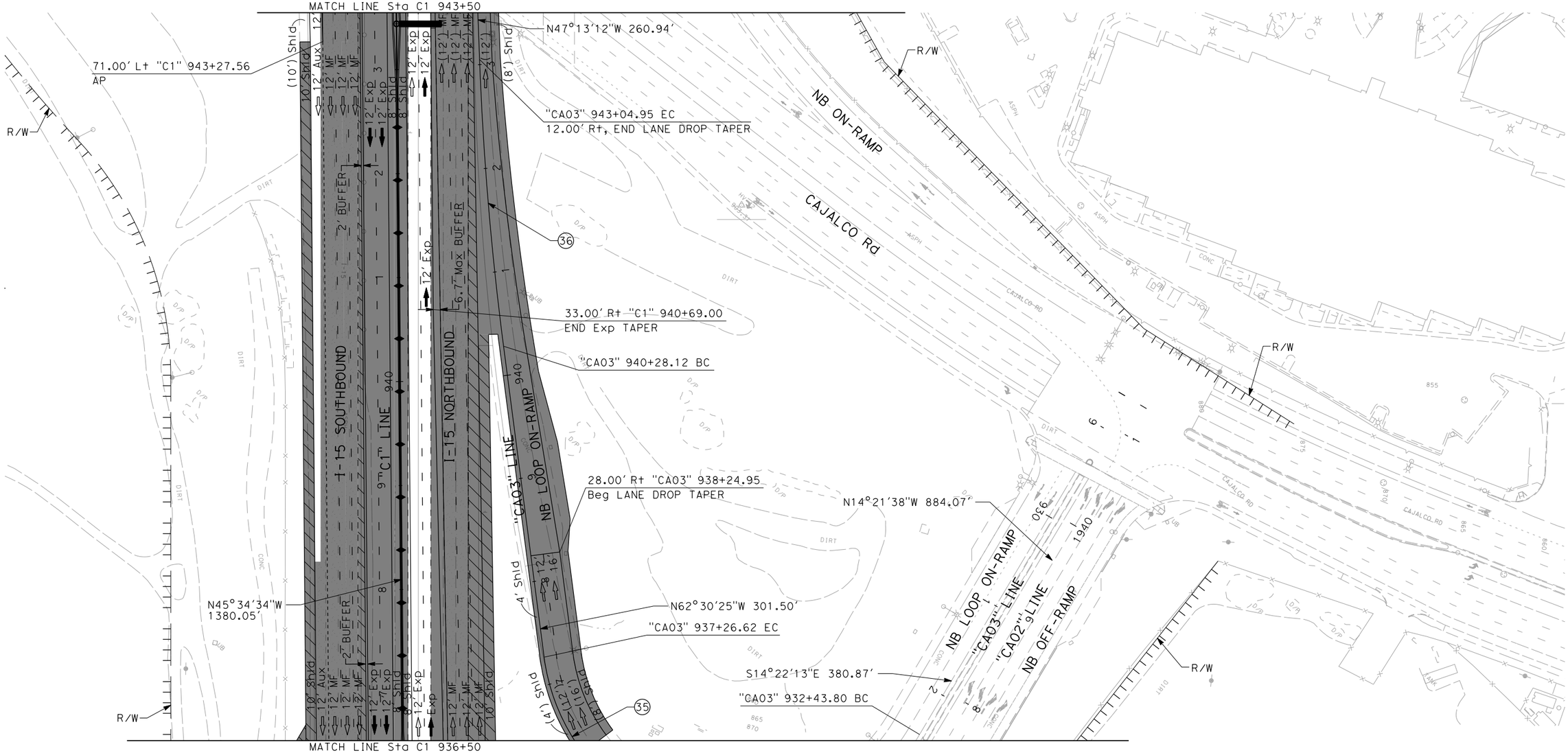
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

CURVE DATA				
No.	R	△	T	L
(35)	195.00′	141°51′48"	564.14′	482.82′
(36)	3000.00′	05°17′13"	138.51′	276.82′



LAYOUT

SCALE: 1" = 50′

L-72

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans®

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY: JESSICA HEGARDT

CHECKED BY: BRIAN SMITH

REVISED BY	DATE REVISED

LAST REVISION DATE PLOTTED => 9/4/2024
00-00-00 TIME PLOTTED => 11:53:53 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea072.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	81	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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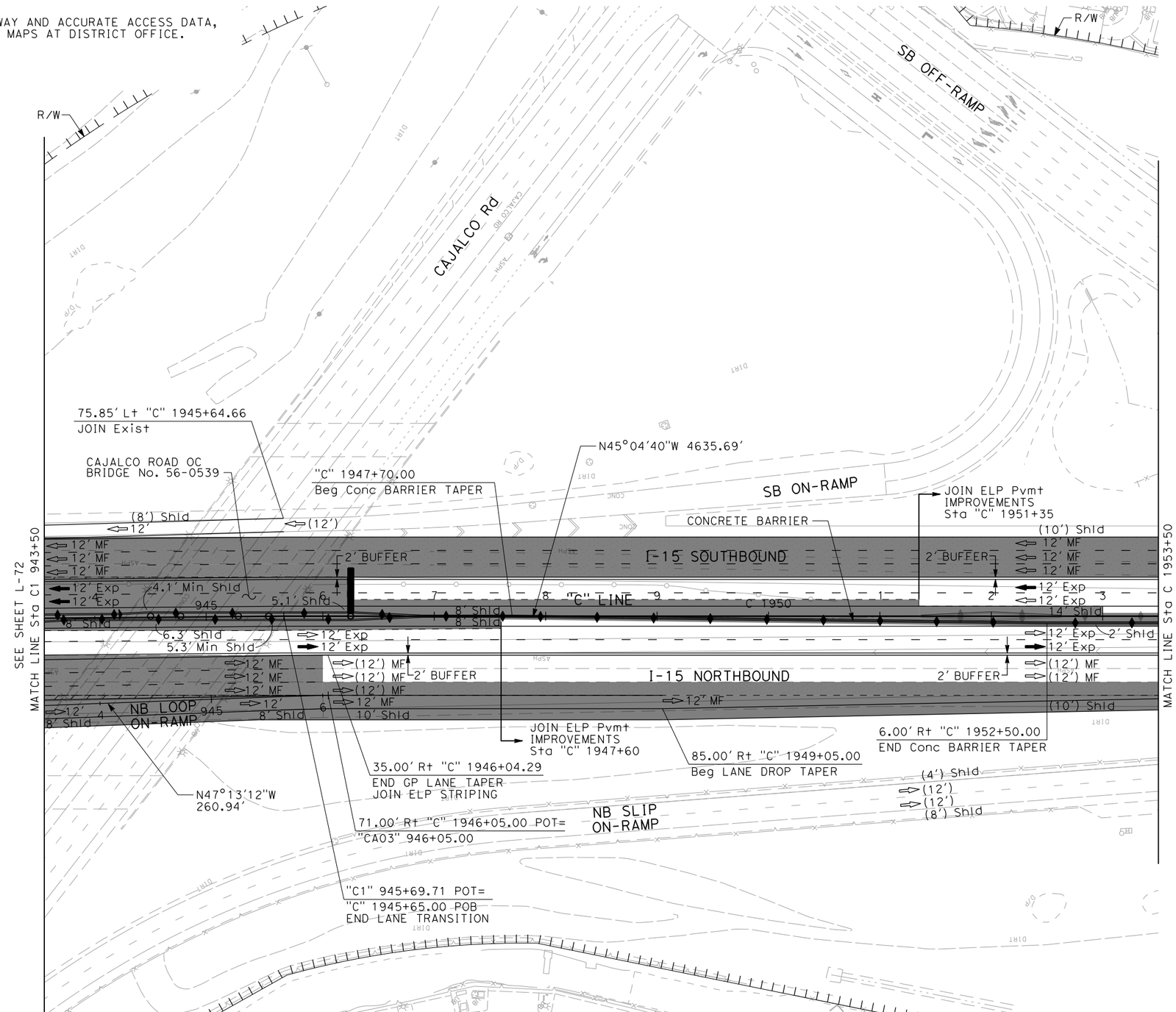
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



LAYOUT
SCALE: 1" = 50'

L-73

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:54:55 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea073.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	82	95

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.

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
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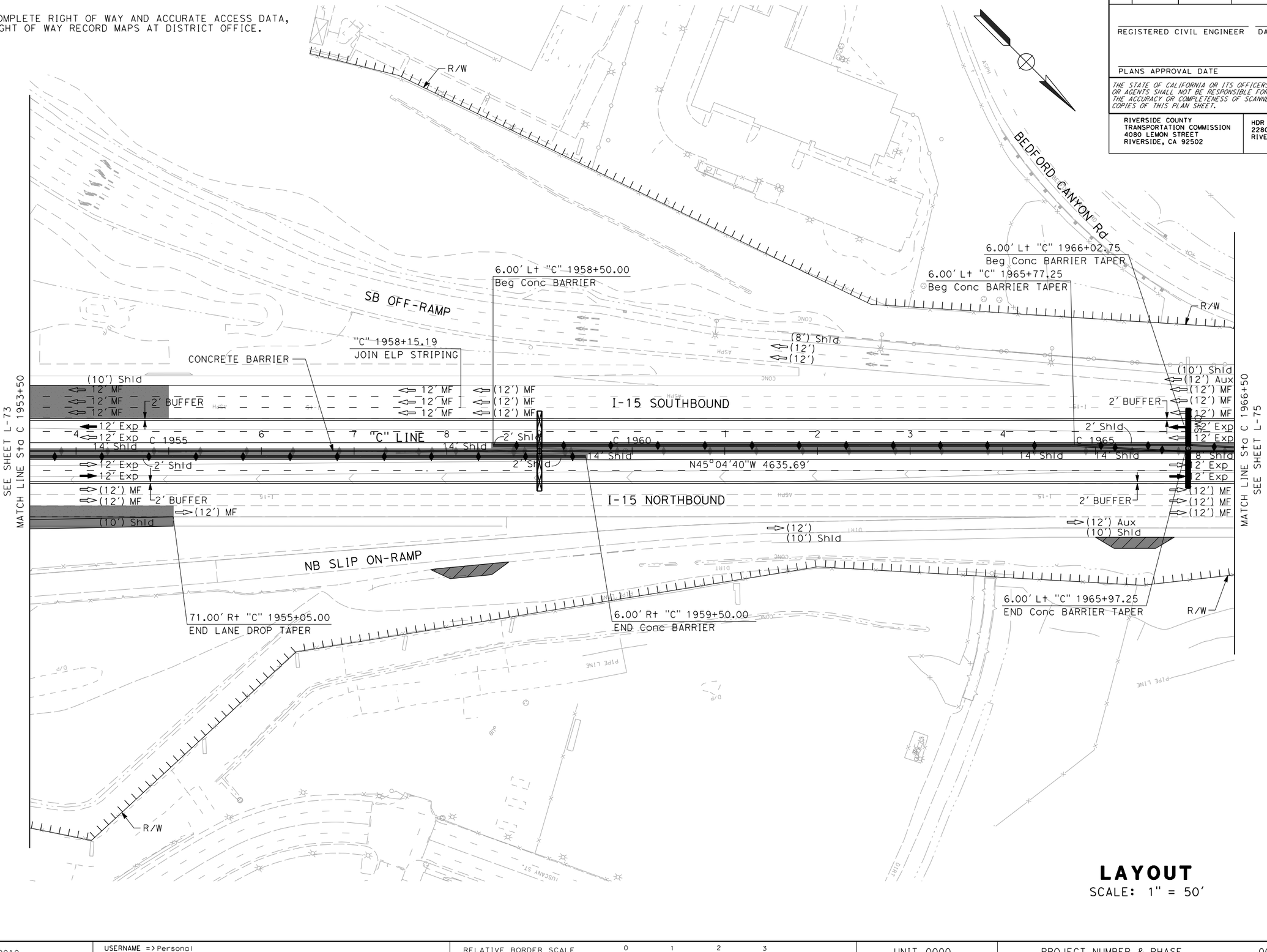
RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



LAYOUT
SCALE: 1" = 50'

L-74

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH

REVISED BY	DATE REVISED

LAST REVISION => 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:55:15 AM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea074.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

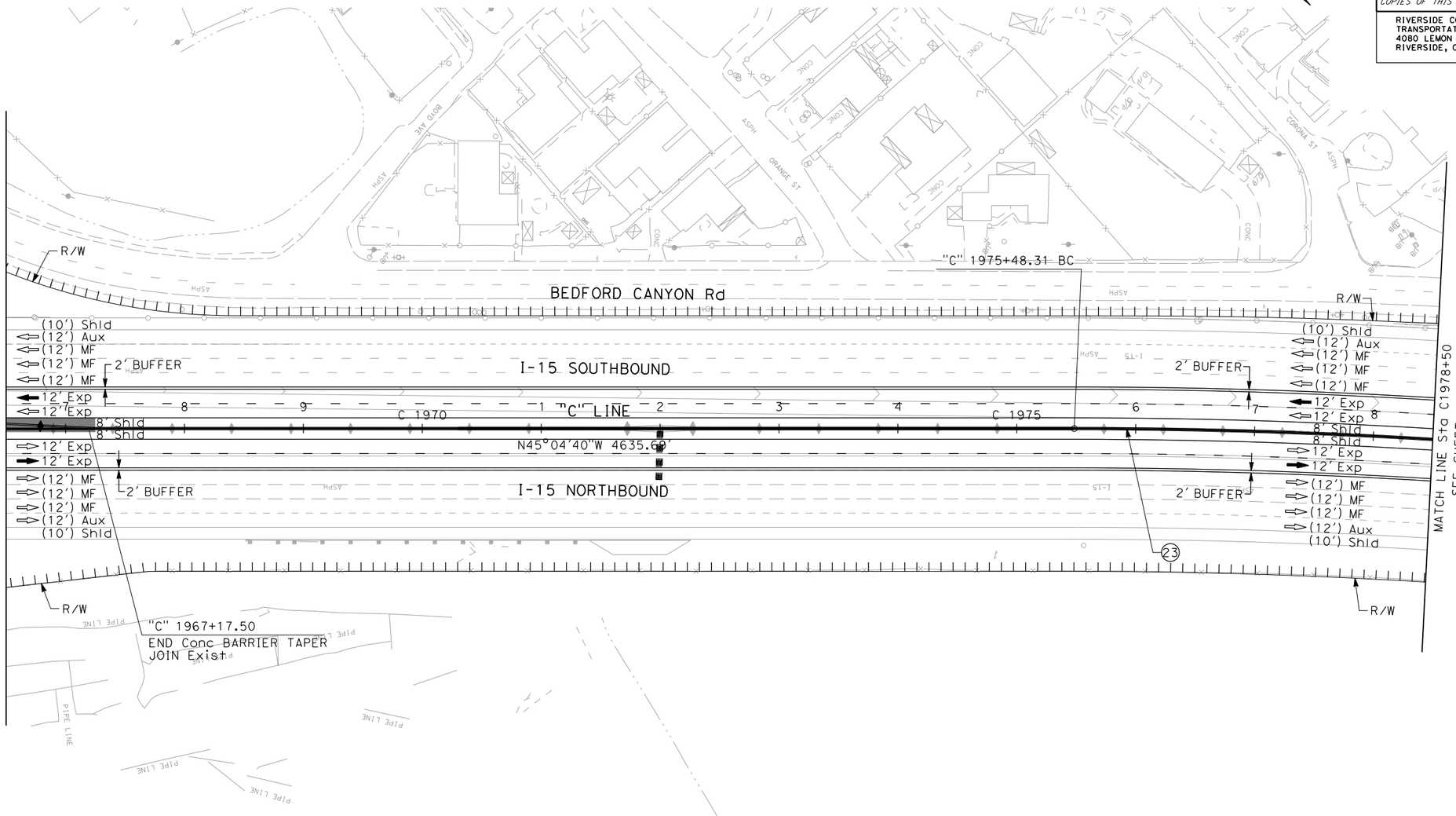
UNIT 0000

PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(23)	4999.76′	19°36′33"	864.02′	1711.13′



LAYOUT
SCALE: 1" = 50′

L-75

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	83	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE COUNTY
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RIVERSIDE, CA 92502

HDR ENGINEERING,INC.
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:55:18 AM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea075.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(23)	4999.76′	19°36′33"	864.02′	1711.13′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	84	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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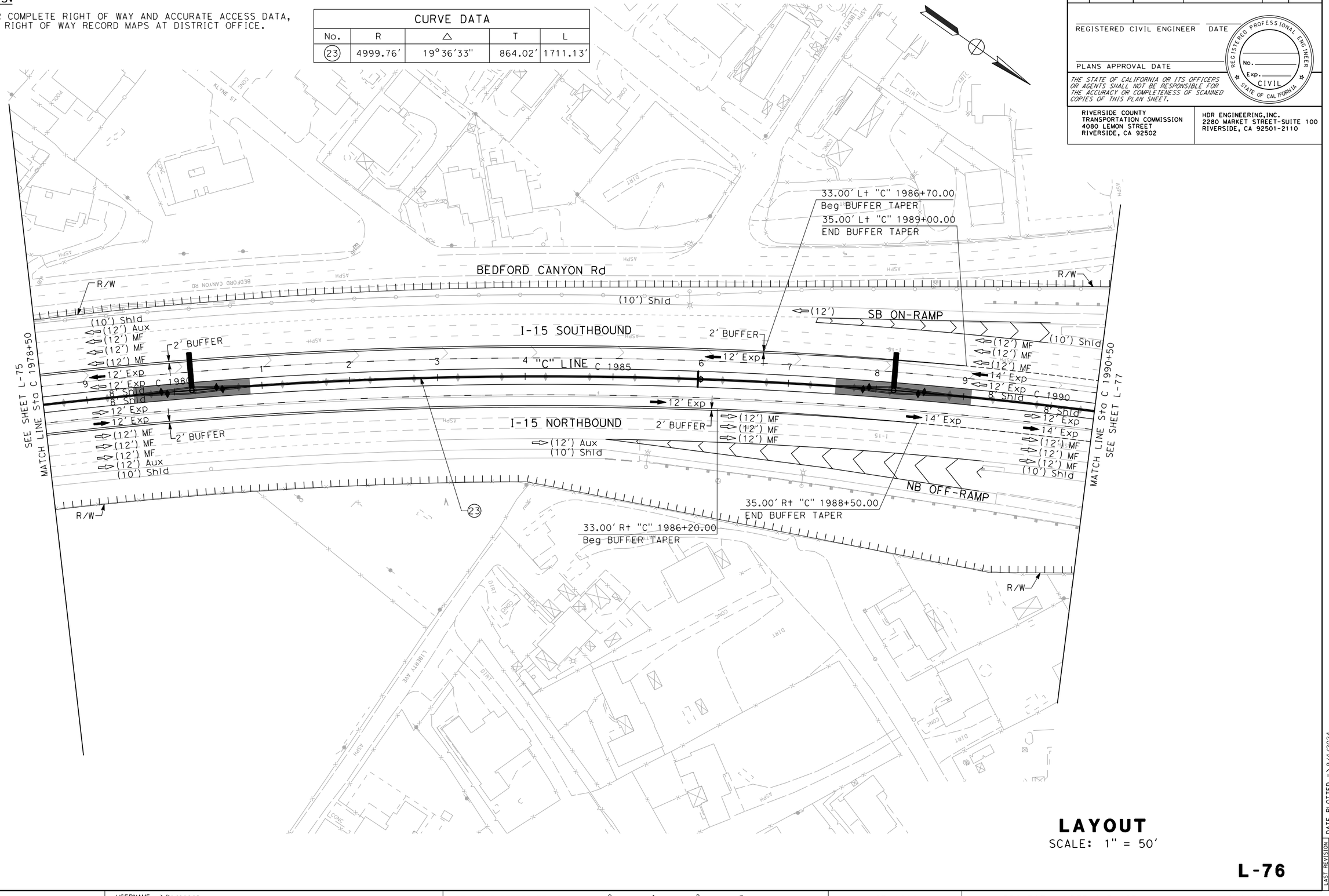

LAYOUT
SCALE: 1" = 50′

L-76

REVISED BY	DATE REVISED
JESSICA HEGARDT	
BRIAN SMITH	

CALCULATED-DESIGNED BY
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DATE PLOTTED => 9/4/2024
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BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea076.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	Δ	T	L
(23)	4999.76′	19°36′33"	864.02′	1711.13′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	85	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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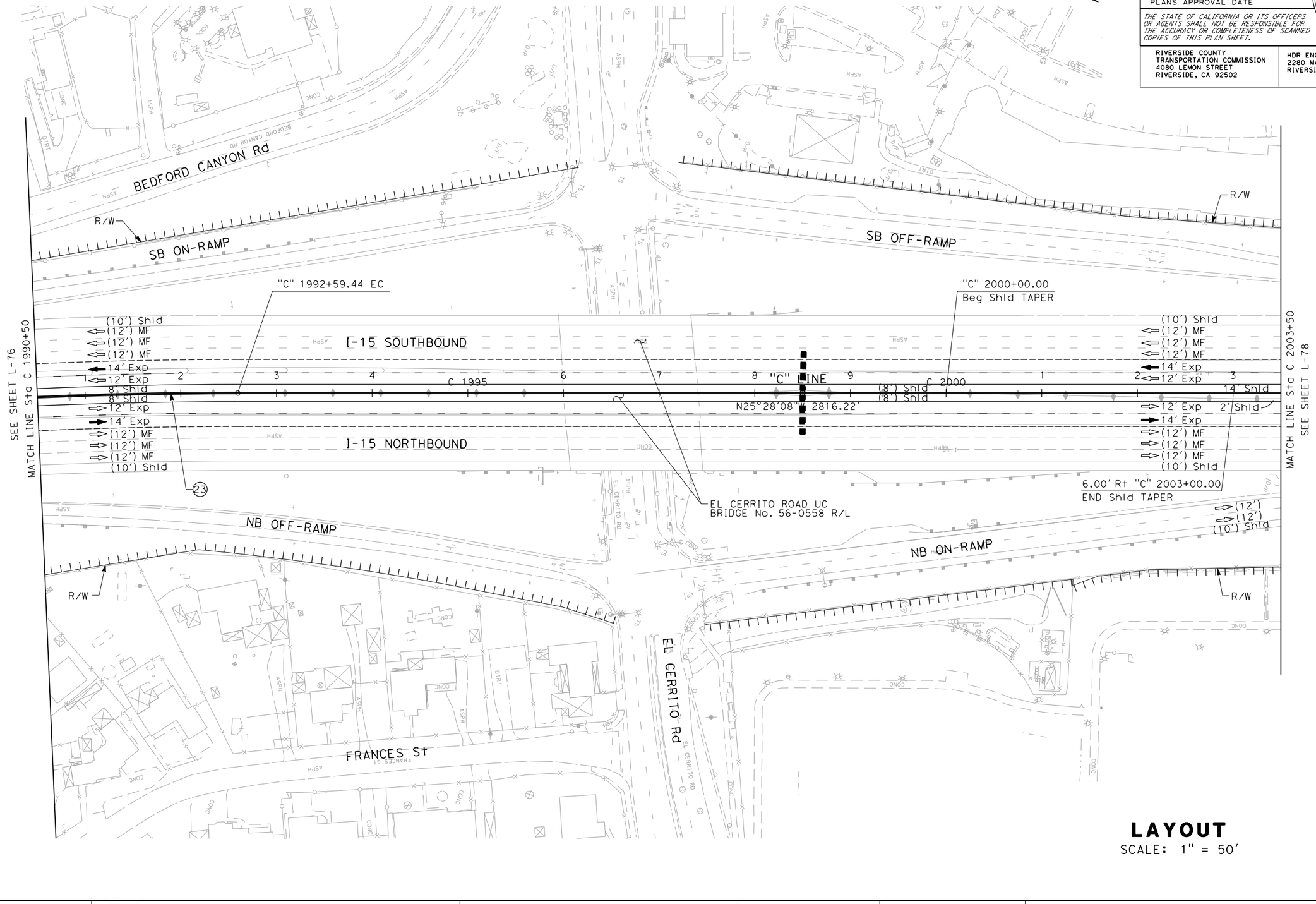

LAYOUT
SCALE: 1" = 50′

L-77

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

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JESSICA HEGARDT | BRIAN SMITH

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 11:55:28 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea077.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	86	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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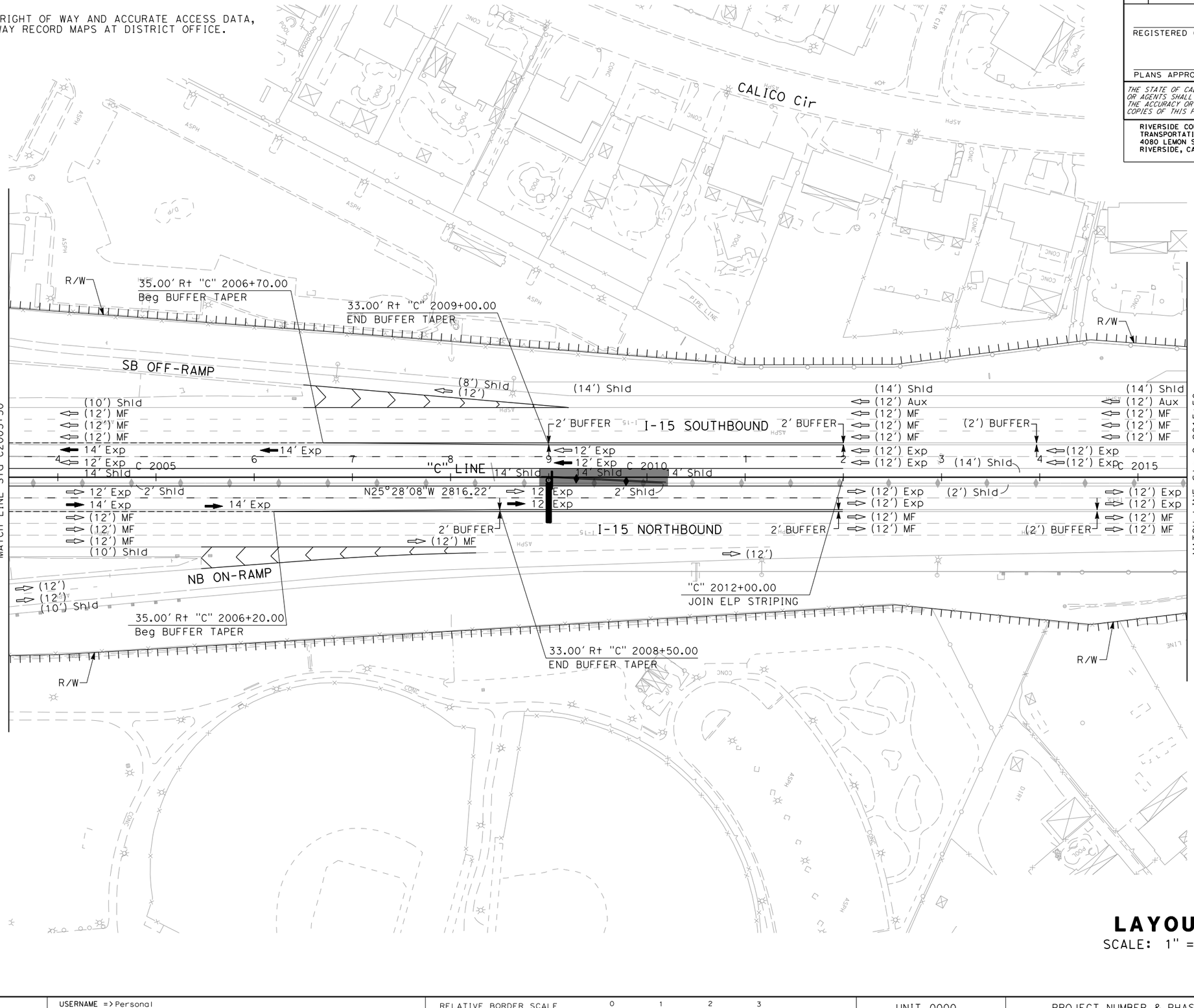
NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



LAYOUT
SCALE: 1" = 50'

L-78

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00-00-00 | TIME PLOTTED => 11:55:33 AM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea078.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

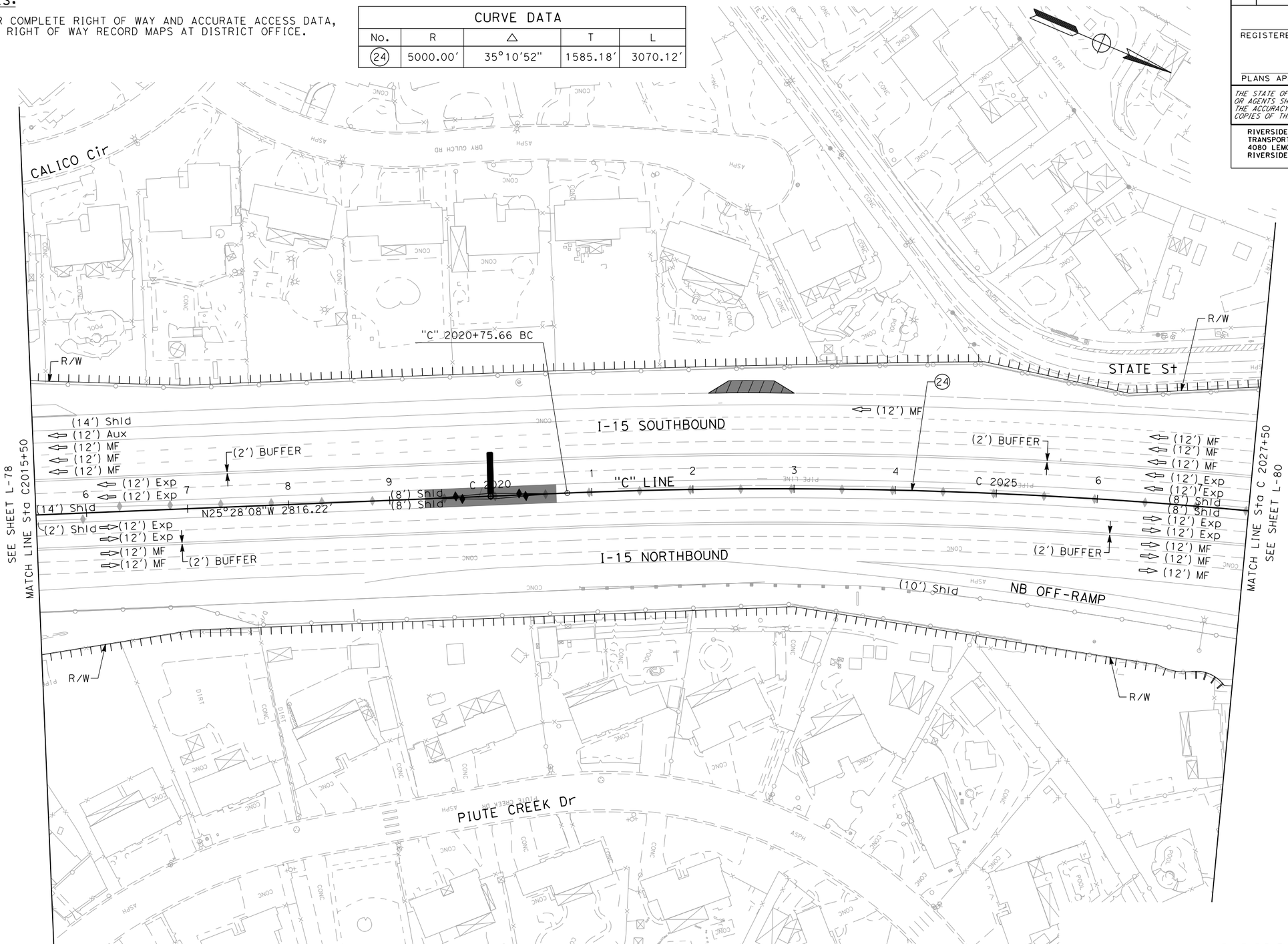
UNIT 0000

PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(24)	5000.00′	35°10′52"	1585.18′	3070.12′



LAYOUT
SCALE: 1" = 50′

L-79

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	87	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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CHECKED BY: BRIAN SMITH
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BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea079.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(24)	5000.00′	35°10′52"	1585.18′	3070.12′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	88	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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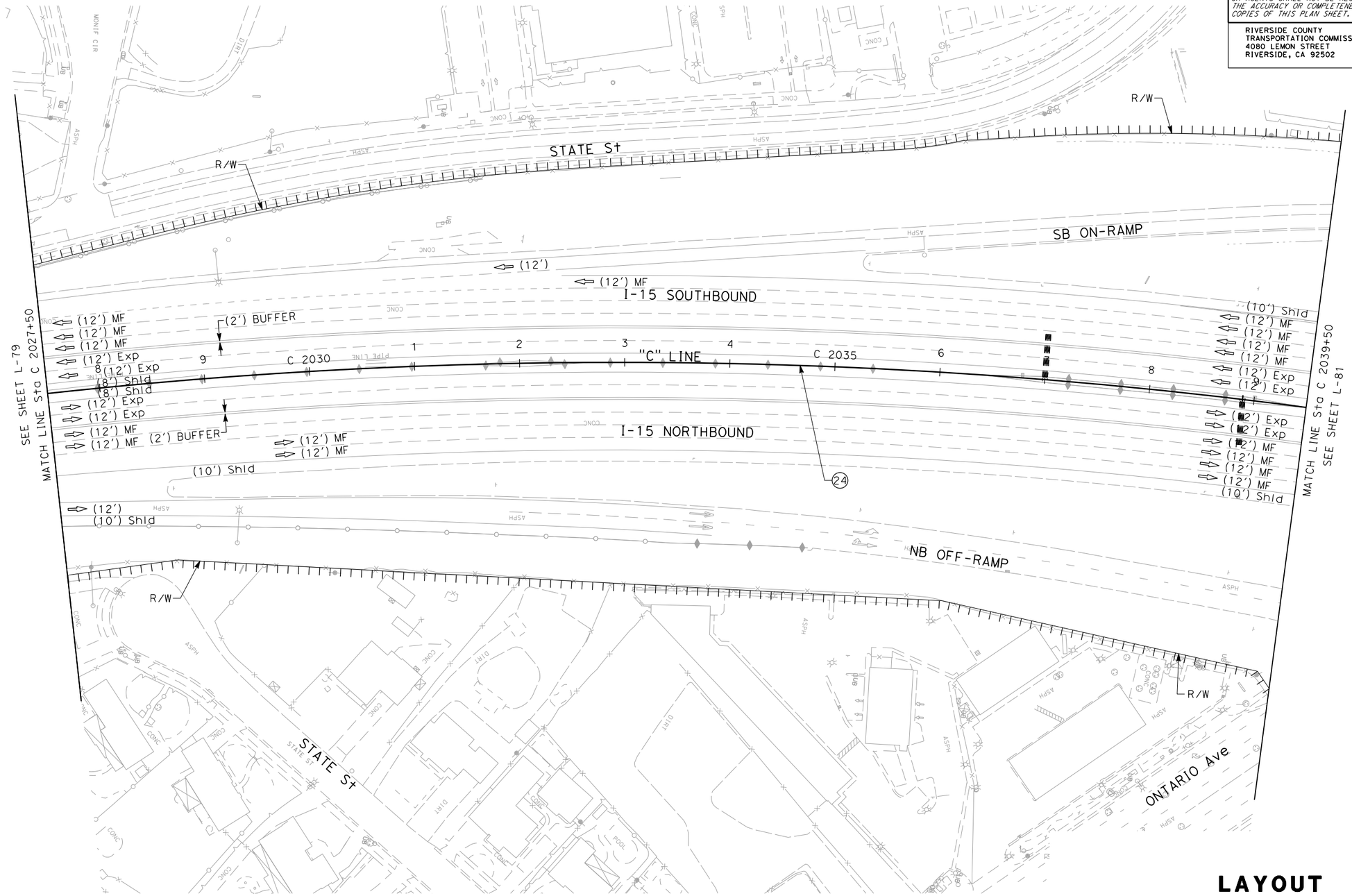

LAYOUT
SCALE: 1" = 50′

L-80

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LAST REVISION 00-00-00
DATE PLOTTED => 9/4/2024
TIME PLOTTED => 11:53:53 AM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea080.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	89	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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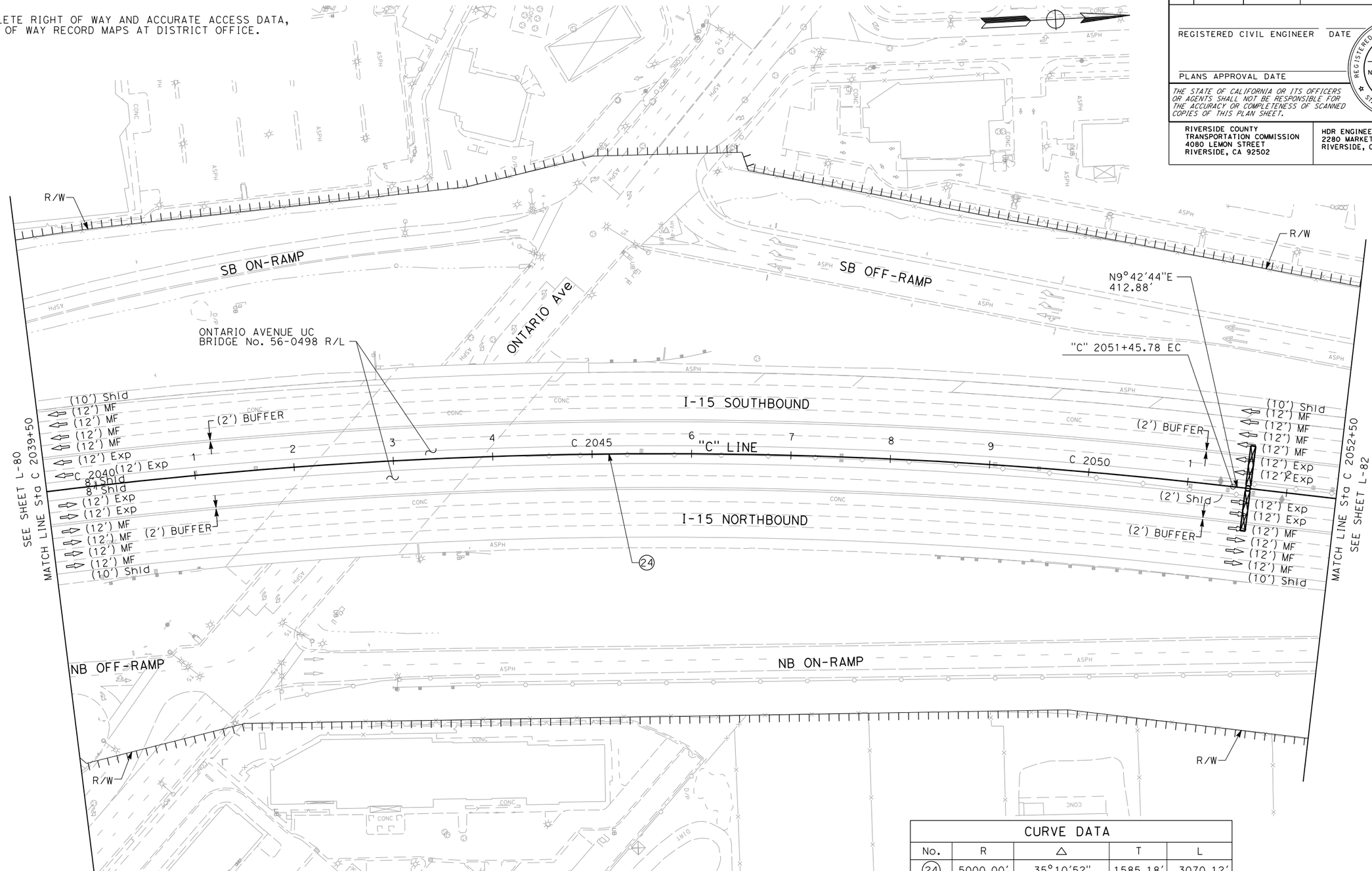
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CURVE DATA				
No.	R	△	T	L
(24)	5000.00′	35°10′52"	1585.18′	3070.12′

LAYOUT
SCALE: 1" = 50′

L-81

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

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NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(25)	4000.00′	23°11′58"	821.06′	1619.63′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	90	95

REGISTERED CIVIL ENGINEER DATE

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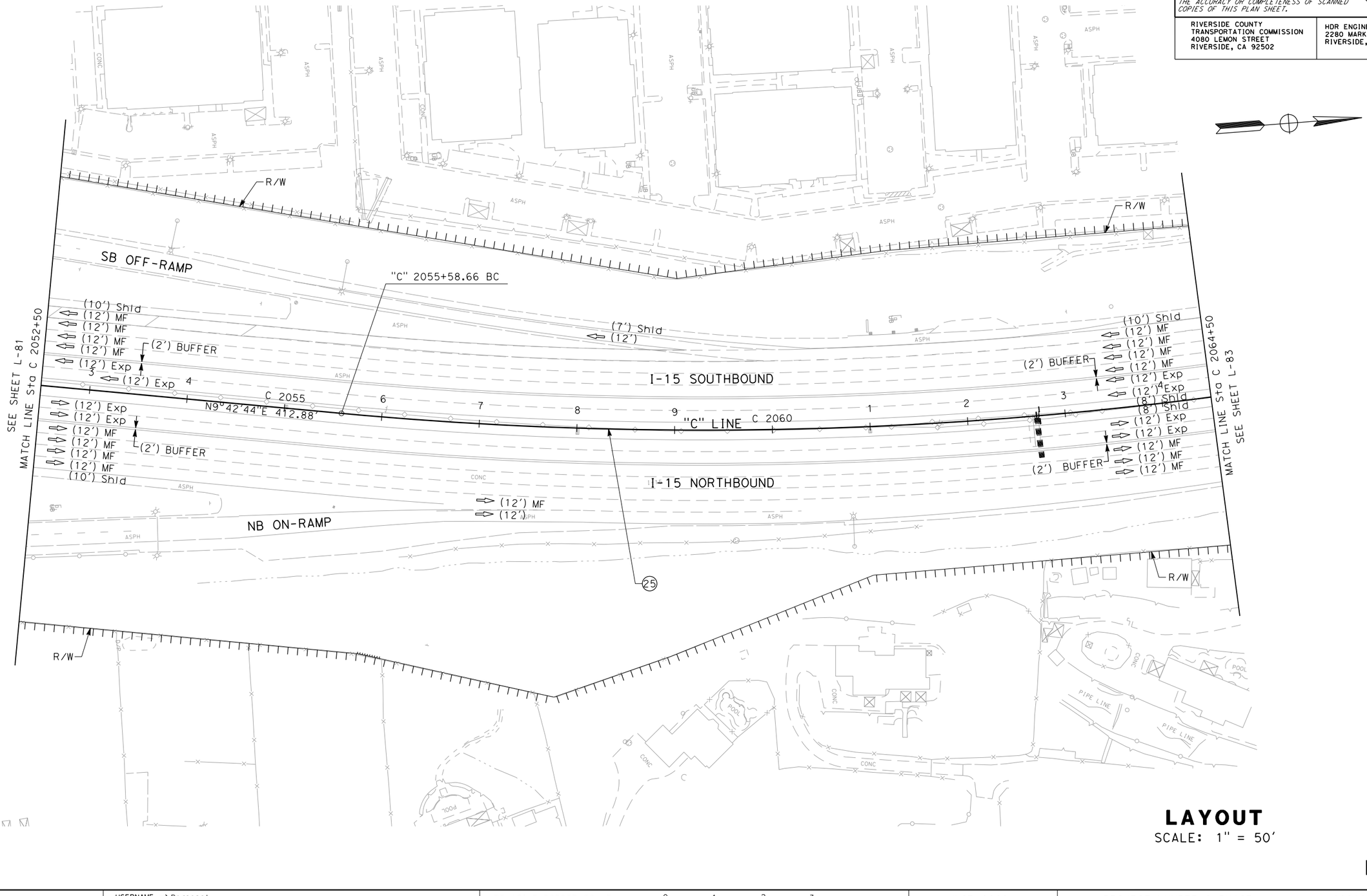

LAYOUT
SCALE: 1" = 50′

L-82

REVISED BY | DATE REVISED
JESSICA HEGARDT | BRIAN SMITH
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00 | DATE PLOTTED => 9/4/2024 | TIME PLOTTED => 12:05:31 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea082.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(25)	4000.00′	23°11′58"	821.06′	1619.63′
(26)	4000.00′	10°49′23"	378.93′	755.60′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	91	95

REGISTERED CIVIL ENGINEER DATE

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

PLANS APPROVAL DATE

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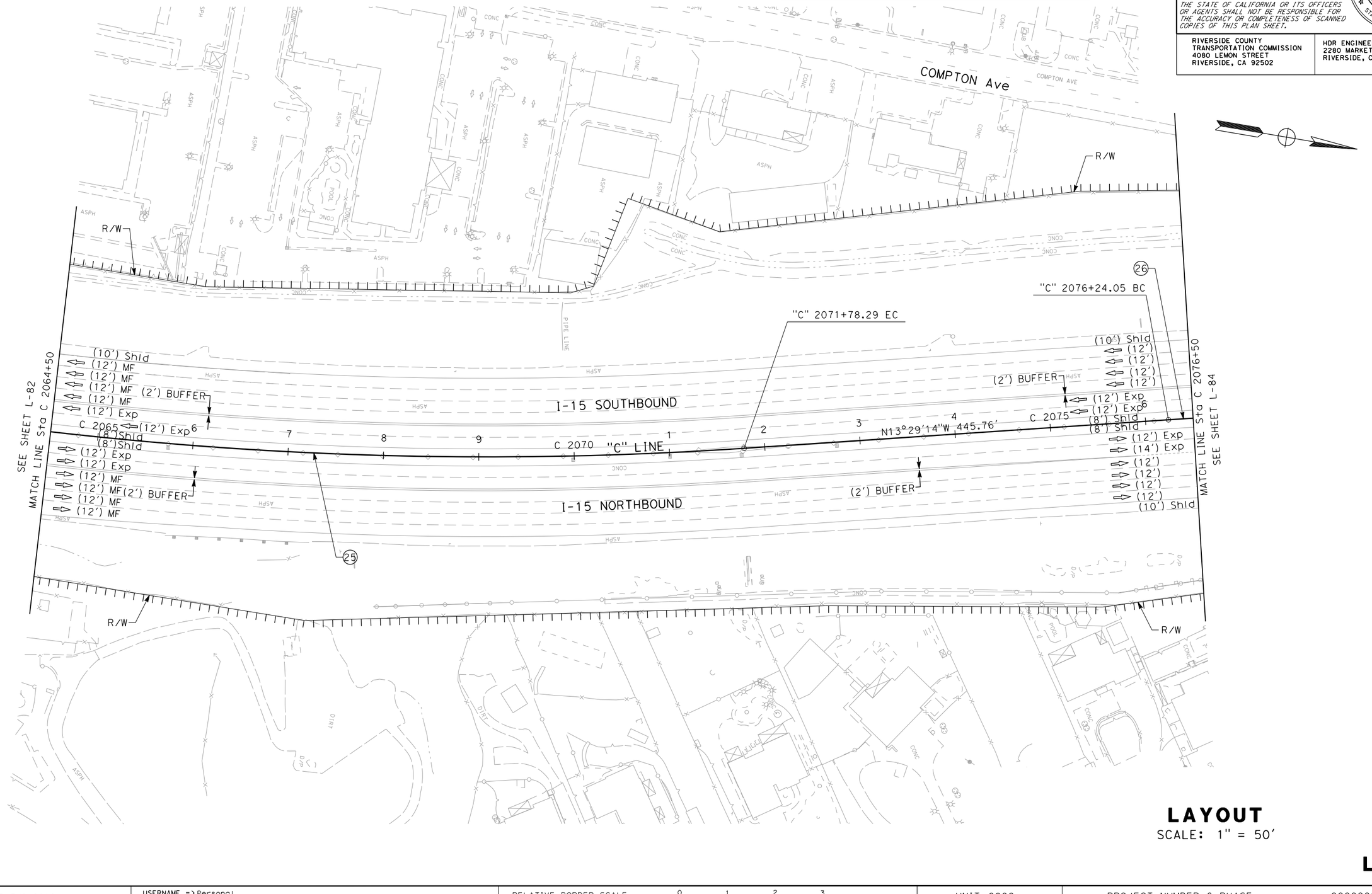
2280 MARKET STREET-SUITE 100
RIVERSIDE, CA 92501-2110



LAYOUT
SCALE: 1" = 50′

L-83

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans®
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CALCULATED-DESIGNED BY: JESSICA HEGARDT
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REVISED BY
DATE REVISED

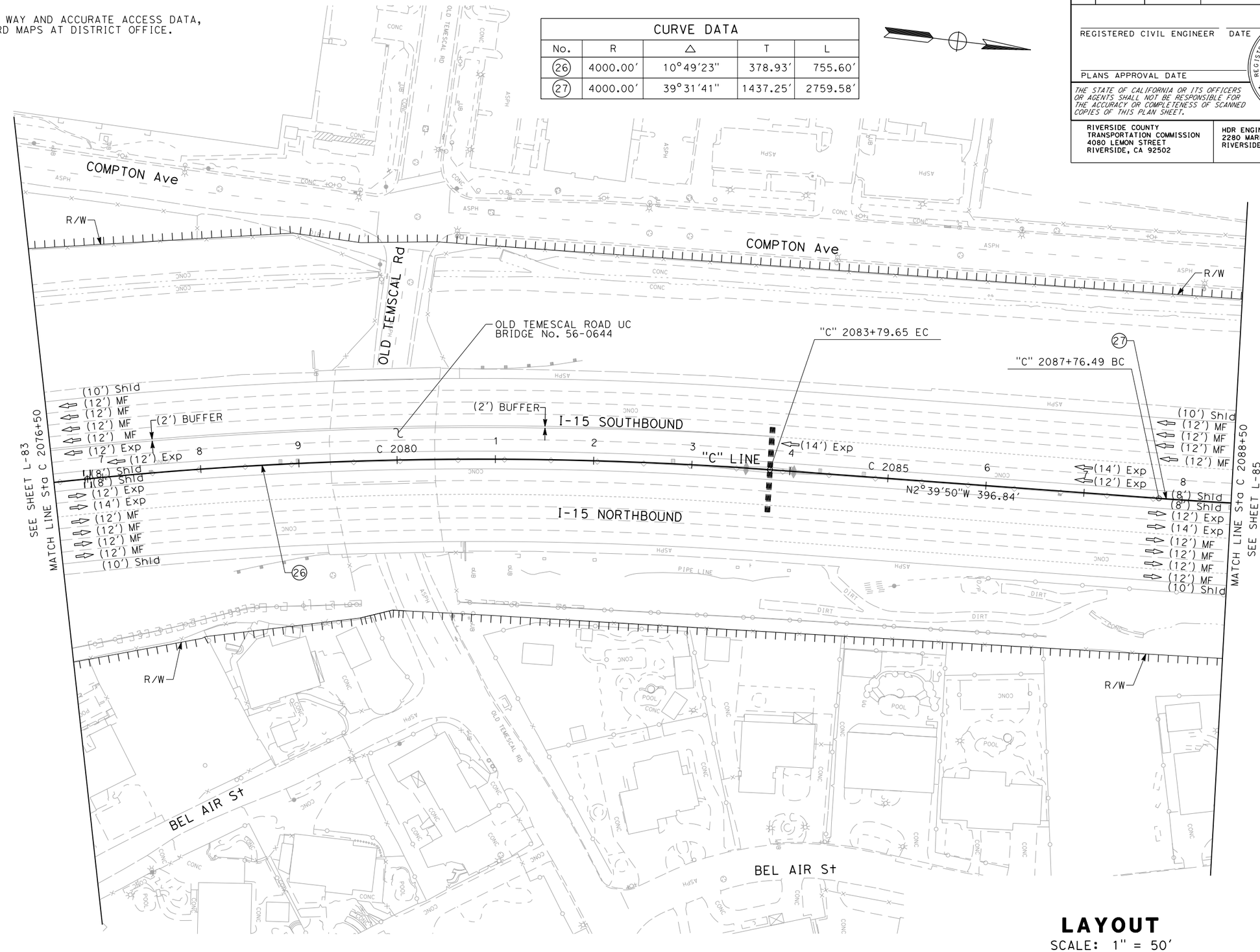
LAST REVISION DATE PLOTTED => 9/4/2024
00-00-00 TIME PLOTTED => 12:05:25 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea083.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(26)	4000.00′	10°49′23"	378.93′	755.60′
(27)	4000.00′	39°31′41"	1437.25′	2759.58′



LAYOUT

SCALE: 1" = 50′

L-84

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	92	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REVISED BY	DATE REVISED

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CHECKED BY: BRIAN SMITH
CONSULTANT FUNCTIONAL SUPERVISOR:

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DATE PLOTTED => 9/4/2024
TIME PLOTTED => 12:05:46 PM

BORDER LAST REVISED 7/2/2010

USERNAME => Personal
DGN FILE => 080j08200ea084.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

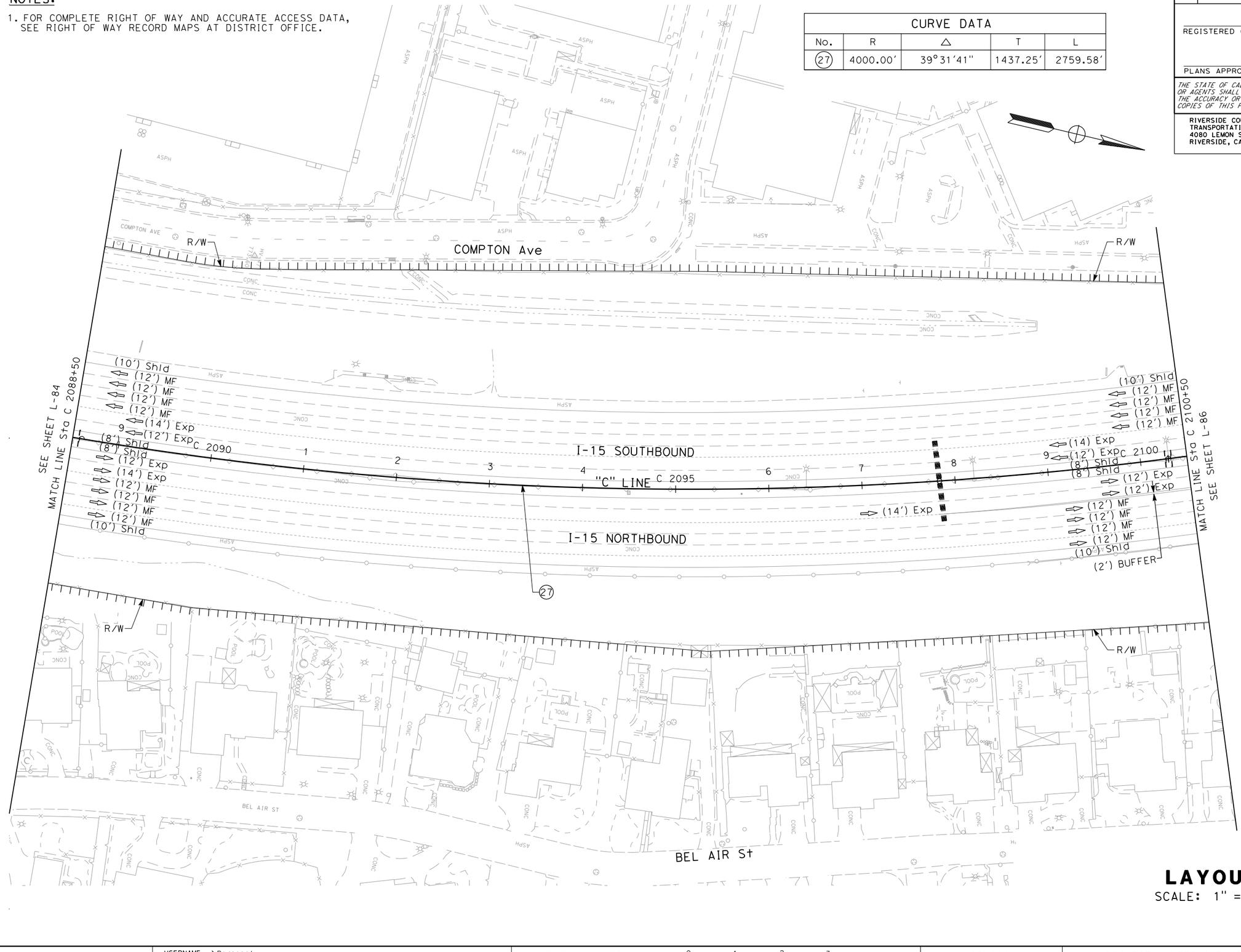
UNIT 0000

PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(27)	4000.00′	39°31′41"	1437.25′	2759.58′



LAYOUT

SCALE: 1" = 50′

L-85

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	93	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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RIVERSIDE, CA 92501-2110

CALCULATED-DESIGNED BY: JESSICA HEGARDT
CHECKED BY: BRIAN SMITH
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DATE PLOTTED => 9/4/2024
TIME PLOTTED => 12:05:42 PM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea085.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	94	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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RIVERSIDE, CA 92502

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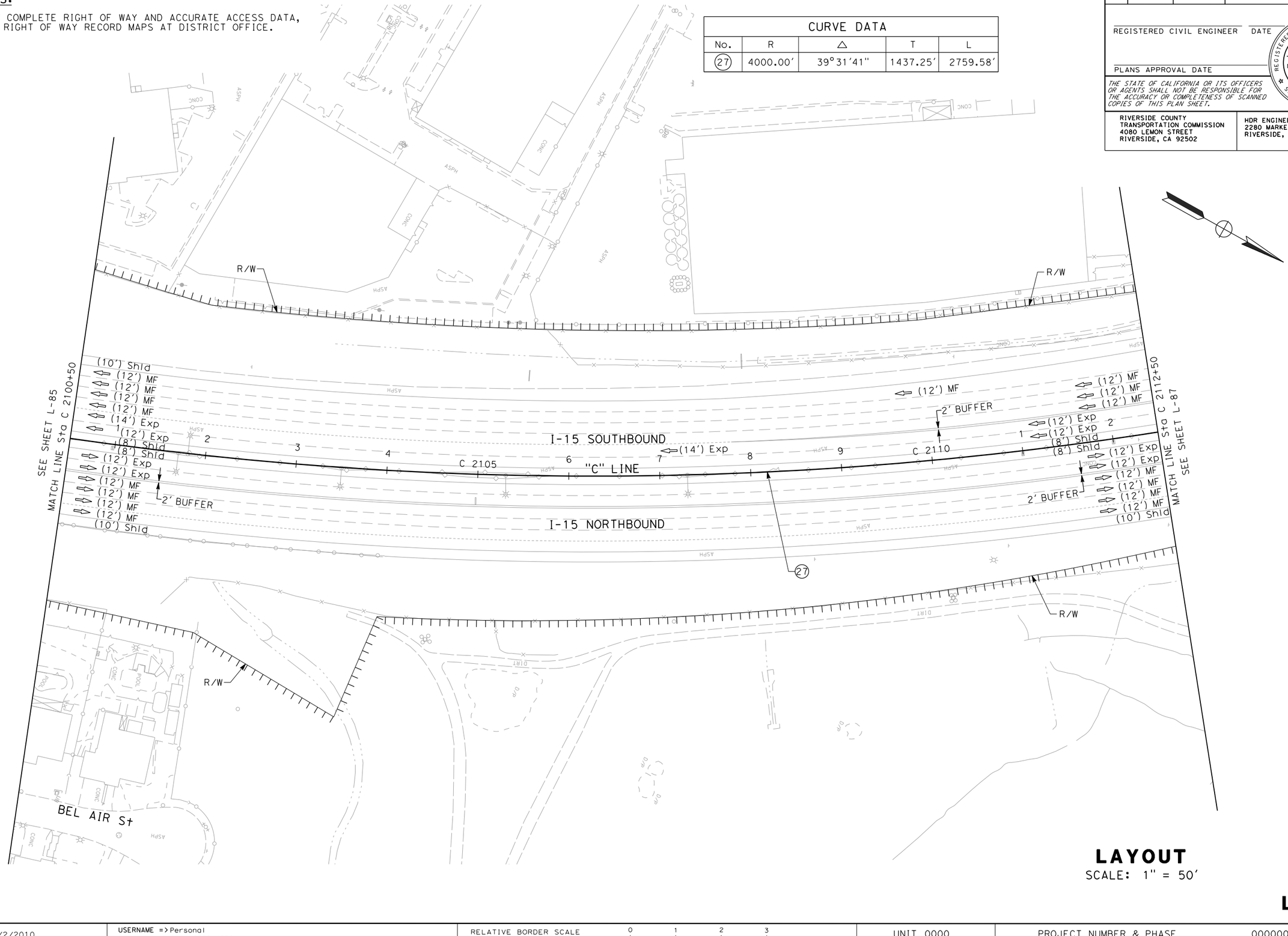
RIVERSIDE, CA 92501-2110

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(27)	4000.00′	39°31′41"	1437.25′	2759.58′



LAYOUT
SCALE: 1" = 50′

L-86

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans		JESSICA HEGARDT	BRIAN SMITH		

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TIME PLOTTED => 12:05:49 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => Personal | DGN FILE => 080j08200ea086.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CURVE DATA				
No.	R	△	T	L
(27)	4000.00′	39°31′41"	1437.25′	2759.58′

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	RIV	15	20.3/40.1	95	95

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

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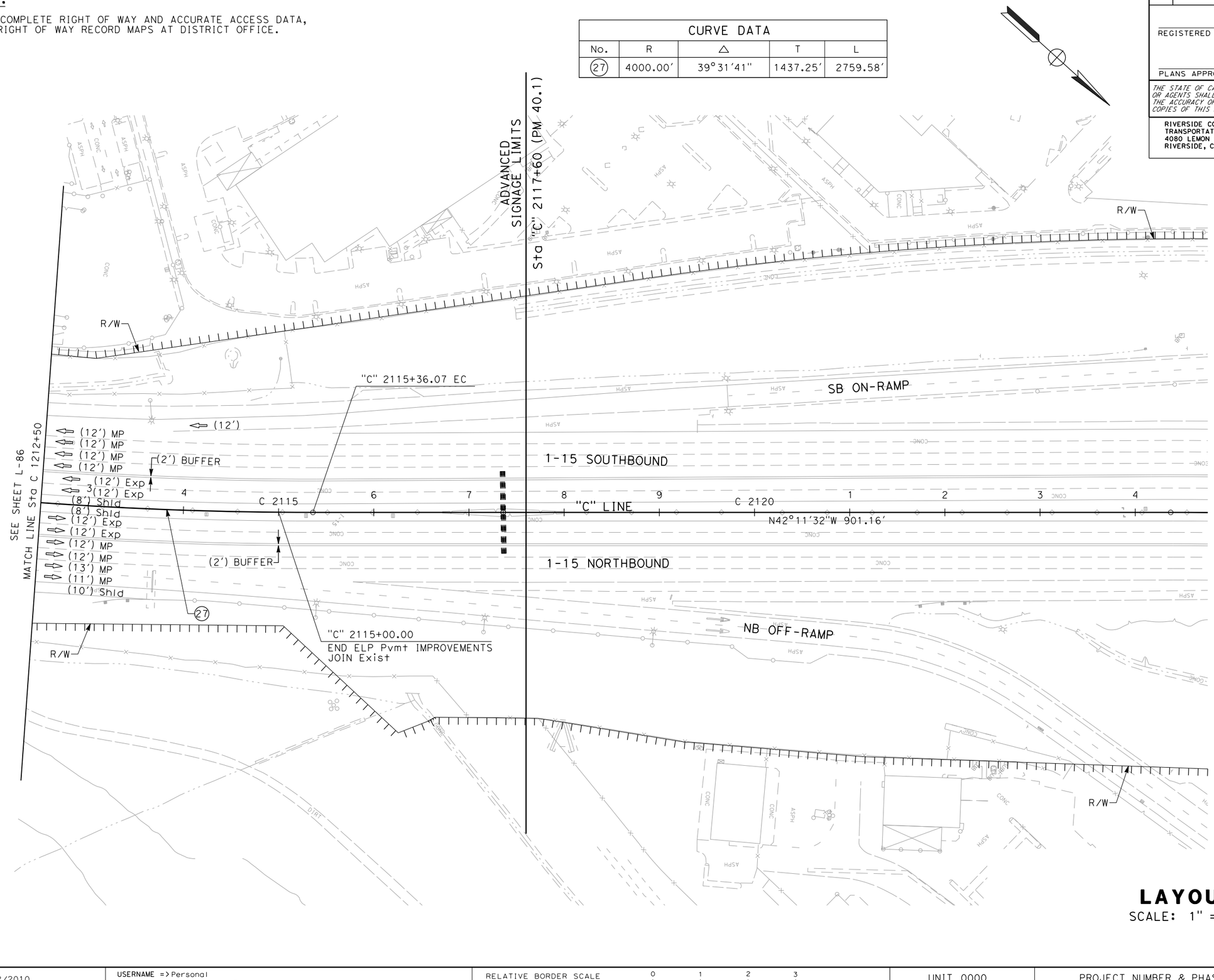

LAYOUT
SCALE: 1" = 50′

L-87

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY JESSICA HEGARDT
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DATE REVISED

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DATE PLOTTED => 9/4/2024
TIME PLOTTED => 12:05:07 PM

BORDER LAST REVISED 7/2/2010
USERNAME => Personal
DGN FILE => 080j08200ea087.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 00000000001

Attachment C – Project Cost Summary

PROJECT

PLANNING COST ESTIMATE©

EA: 08-0J0820 PID: 08-18000063

EA: 08-0J0820

PID: 08-18000063

District-County-Route: 08-RIV-15

PM: 20.3 - 40.1

Type of Estimate : Draft Project Report Estimate for PA&ED

Program Code :

Project Limits : District 08 / Route 15 / PM 20.3 to PM 40.1 Riverside County

Project Description: Build Two Tolled Express Lanes in each direction between State Route 74 (Central Avenue) in Lake Elsinore to join the existing express lanes near El Cerrito Road in Corona

Scope : Construction of 15.8 miles of two tolled express lanes in each direction in the median of I-15. Additional improvements include widening of 15 bridges, three auxiliary lanes in the southbound direction, potential construction of noise barriers, retaining walls, drainage systems, and implementation of electronic toll collection equipment and signs.

Alternative : Build Alternative

SUMMARY OF PROJECT COST ESTIMATE

	2023 Current Year Cost	2028 Escalated Cost
TOTAL ROADWAY COST	$ 328,041,800	$ 408,965,871
TOTAL STRUCTURES COST	$ 41,383,000	$ 51,591,702
SUBTOTAL CONSTRUCTION COST	$ 369,424,800	$ 460,557,573
TOTAL RIGHT OF WAY COST	$ -	$ -
TOLL FACILITIES	$ 16,274,400	$ 20,289,104
TOTAL CAPITAL OUTLAY COSTS	$ 385,700,000	$ 480,847,000
PA&ED SUPPORT	$ 32,000,000	$ 32,000,000
PS&E SUPPORT	$ 55,000,000	$ 55,000,000
RIGHT OF WAY SUPPORT	$ -	$ -
CONSTRUCTION SUPPORT	$ 81,000,000	$ 81,000,000
TOTAL SUPPORT COST	$ 168,000,000	$ 168,000,000
TOTAL PROJECT COST	$ 554,000,000	$ 649,000,000 *

Programmed Amount

	Month	Year
Date of Estimate (Month/Year)	1	2024
Estimated Construction Start (Month/Year)	9	2026
Number of Working Days =		770
Estimated Mid-Point of Construction (Month/Year)	3	2028
Estimated Construction End (Month/Year)	9	2029
Number of Plant Establishment Days		240

Estimated Project Schedule

PID Approval	9/2007
PA&ED Approval	8/2025
PS&E	9/2026
RTL	10/2026
Begin Construction	11/2026

Reviewed by Cost Estimate Certifier	Brian Smith, HDR Engineering Inc.	9/4/2024	(951) 750-4038
	Cost Estimate Certifier	**Date**	**Phone**
Approved by Project Manager	Mark Hager, HDR Engineering Inc.	9/4/2024	(951) 320-7343
	Project Manager	**Date**	**Phone**

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	14,156,600
2	**Pavement Structural Section**	$	85,576,500
3	**Drainage**	$	10,253,400
4	**Specialty Items**	$	52,197,200
5	**Environmental**	$	22,281,100
6	**Traffic Items**	$	23,646,100
7	**Detours**	$	-
8	**Minor Items**	$	10,405,600
9	**Roadway Mobilization**	$	21,851,700
10	**Supplemental Work**	$	13,459,900
11	**State Furnished**	$	3,491,200
12	**Time-Related Overhead**	$	16,048,800
13	**Total Roadway Contingency**	$	54,673,700
	TOTAL ROADWAY ITEMS	**$**	**328,041,800**

Estimate Prepared By :	Jason Brown, Roadway Engineer	TDB	(951) 320-7351
	Name and Title	Date	Phone
Estimate Reviewed By :	Brian Smith, Deputy Project Manager	TBD	(951) 750-4038
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	279,126	x	22.50	=	$	6,280,335
19010X	Roadway Excavation (Insert Type) ADL	CY		x		=	$	-
198010	Imported Borrow	CY		x		=	$	-
194001	Ditch Excavation	CY		x		=	$	-
192037	Structure Excavation (Retaining Wall)	CY	33,021	x	77.00	=	$	2,542,617
193013	Structure Backfill (Retaining Wall)	CY	42,345	x	84.00	=	$	3,556,980
193031	Pervious Backfill Material (Retaining Wall)	CY	2,604	x	152.00	=	$	395,808
170105	Clearing & Grubbing	ACRE	128	x	6,100.00	=	$	780,800
100100	Develop Water Supply	LS	1	x	600,000.00	=	$	600,000
210121	Duff	ACRE		x		=	$	-

TOTAL EARTHWORK SECTION ITEMS	$	14,156,600

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement	CY	51,585	x	315.00	=	$	16,249,275
400050	Continuously Reinforced Concrete Pavement	CY	119,089	x	355.00	=	$	42,276,595
390132	Hot Mix Asphalt (Type A)	TON	97,973	x	133.00	=	$	13,030,409
260203	Class 2 Aggregate Base	CY	78,487	x	71.00	=	$	5,572,577
250201	Class 2 Aggregate Subbase	CY	109,321	x	48.00	=	$	5,247,408
414240	Isolation Joint Seal (Asphalt Rubber)	LF	154,250	x	7.50	=	$	1,156,875
414241	Isolation Joint Seal (Silicone)	LF		x		=	$	-
280010	Rapid Strength Concrete Base	CY		x		=	$	-
410096	Drill and Bond (Dowel Bar)	EA		x		=	$	-
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON		x		=	$	-
391006	Asphalt Binder (Geosynthetic Pavement Interlayer)	TON		x		=	$	-
290201	Asphalt Treated Permeable Base	CY		x		=	$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		=	$	-
390100	Prime Coat	TON	759	x	1,000.00	=	$	759,000
397005	Tack Coat	TON	24	x	955.00	=	$	22,920
377501	Slurry Seal	TON		x		=	$	-
374493	Polymer Asphaltic Emulsion (Seal Coat)	TON		x		=	$	-
370001	Sand Cover (Seal)	TON		x		=	$	-
731530	Minor Concrete (Textured Paving)	CY		x		=	$	-
731502	Minor Concrete (Miscellaneous Construction)	CY		x		=	$	-
394073	Place Hot Mix Asphalt Dike (Type A)	LF	22,470	x	10.00	=	$	224,700
398100	Remove Asphalt Concrete Dike	LF		x		=	$	-
420201	Grind Existing Concrete Pavement	SQYD	51,551	x	7.50	=	$	386,633
398300	Remove Base and Surfacing	CY		x		=	$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		=	$	-
41800X	Remove Concrete Pavement	SQYD/CY		x		=	$	-
394090	Place Hot Mix Asphalt (Miscellaneous Area)	SQYD		x		=	$	-
398200	Cold Plane Asphalt Concrete Pavement	SQYD	79,855	x	7.50	=	$	598,913
846046	6" Rumble Strip (Asphalt Concrete Pavement)	STA		x		=	$	-
846049	6" Rumble Strip (Concrete Pavement)	STA		x		=	$	-
846051	12" Rumble Strip (Asphalt Concrete Pavement)	STA	210	x	115.00	=	$	24,150
846052	12" Rumble Strip (Concrete Pavement)	STA	27	x	1,000.00	=	$	27,000
420102	Groove Existing Concrete Pavement	SQYD		x		=	$	-
394095	Roadside Paving (Miscellaneous Areas)	SQYD		x		=	$	-
390136	Minor Hot Mix Asphalt	TON		x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS	$	85,576,500

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
71013X	Remove Culvert	EA/LF		x		=	$	-
710240	Modify Inlet	EA		x		=	$	-
710370	Sand Backfill	CY		x		=	$	-
71010X	Abandon Culvert	EA/LF		x		=	$	-
710196	Adjust Inlet	LF		x		=	$	-
710262	Cap Inlet	EA		x		=	$	-
710XXX	Miscellaneous Drainage Removals/Adjustments/Modifications	LS	1	x	1,250,000.00	=	$	1,250,000
510501	Minor Concrete	CY		x		=	$	-
510502	Minor Concrete (Minor Structure)	CY	791	x	2,310.00	=	$	1,827,210
731627	Minor Concrete (Curb, Sidewalk, and Curb Ramp)	CY		x		=	$	-
610108	18" Alternative Pipe Culvert (Insert Type)	LF	33,281	x	155.25	=	$	5,166,875
610112	24" Alternative Pipe Culvert (Insert Type)	LF	1,571	x	230.00	=	$	361,330
6411XX	XX" Plastic Pipe	LF		x		=	$	-
65XXXX	XX" Reinforced Concrete Pipe (Insert Type)	LF		x		=	$	-
6811XX	XX" Plastic Pipe (Edge Drain)	LF		x		=	$	-
6901XX	XX" Corrugated Steel Pipe Downdrain (0.XXX" Thick)	LF		x		=	$	-
7006XX	XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF		x		=	$	-
7032XX	XX" Corrugated Steel Pipe Riser (0.XXX" Thick)	LF		x		=	$	-
7050XX	XX" Steel Flared End Section	EA		x		=	$	-
703233	Grated Line Drain	LF	3,293	x	322.00	=	$	1,060,346
72XXXX	Rock Slope Protection (Type and Method)	CY/TON		x		=	$	-
72901X	Rock Slope Protection Fabric (Insert Class)	SQYD		x		=	$	-
721420	Concrete (Ditch Lining)	CY		x		=	$	-
721430	Concrete (Channel Lining)	CY		x		=	$	-
750001	Miscellaneous Iron and Steel	LB	146,892	x	4.00	=	$	587,568
XXXXXX	Additional Drainage	LS		x		=	$	-

TOTAL DRAINAGE ITEMS $ 10,253,400

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
520103	Bar Reinforced Steel (Retaining Wall)	LB	2,105,140	x	1.75	=	$	3,683,995
5100XX	Structural Concrete	CY		x		=	$	-
510060	Structural Concrete, Retaining Wall	CY	16,193	x	865.00	=	$	14,006,945
5201XX	Bar Reinforcing Steel	LB		x		=	$	-
080050	Progress Schedule (Critical Path Method)	LS	1	x	75,000	=	$	75,000
582001	Sound Wall (Masonry Block)	LS	1	x	6,200,000	=	$	6,200,000
510530	Minor Concrete (Wall)	CY		x		=	$	-
60005X	Remove Sound Wall	LF/LS/SQFT		x		=	$	-
070030	Lead Compliance Plan	LS		x		=	$	-
141120	Treated Wood Waste	LB	113,341	x	0.55	=	$	62,338
839750	Remove Barrier	LF	78,860	x	19.00	=	$	1,498,340
839752	Remove Guardrail	LF	10,402	x	9.00	=	$	93,618
710167	Remove Flared End Section	EA		x		=	$	-
8000XX	Chain Link Fence (Insert Type)	LF		x		=	$	-
80XXXX	XX" Chain Link Gate (Type CL-X)	EA		x		=	$	-
832019	Midwest Guardrail System (Wood Post)	LF	10,000	x	40.50	=	$	405,000
839301	Single Thrie Beam Barrier	LF		x		=	$	-
839310	Double Thrie Beam Barrier	LF		x		=	$	-
839521	Cable Railing	LF		x		=	$	-
839566	Terminal System (Type CAT)	EA		x		=	$	-
839584	Alternative In-line Terminal System	EA		x		=	$	-
839585	Alternative Flared Terminal System	EA		x		=	$	-
4906XX	XX" Cast-In-Drilled-Hole Concrete Piling	LF		x		=	$	-
8396XX	Crash Cushion (Insert Type)	EA		x		=	$	-
839640	Concrete Barrier (Type 60M)	LF	4,020	x	120.00	=	$	482,400
839642	Concrete Barrier (Type 60MC)	LF	78,969	x	148.00	=	$	11,687,412
839643	Concrete Barrier (Type 60MD)	LF	20,130		135.00		$	2,717,550
839746	Concrete Barrier (Type 842)	LF	23,325	x	231.00	=	$	5,388,075
XXXXXX	Coldwater Wash Scour Countermeasures	LS	1	x	1,865,060.00	=	$	1,865,060
XXXXXX	Temescal Wash Scour Countermeasures	LS	1	x	3,222,460.00	=	$	3,222,460
XXXXXX	Bedford Wash Scour Countermeasures	LS	1	x	809,000.00	=	$	809,000
475010	Retaining Wall (Masonry Wall)	SQFT		x		=	$	-
511035	Architectural Treatment	SQFT		x		=	$	-
780460	Anti-Graffiti Coating	SQFT		x		=	$	-
780450	Rock Stain	SQFT		x		=	$	-
4730XX	Reinforced Concrete Crib Wall (Insert Type)	SQFT		x		=	$	-
83954X	Transition Railing (Insert Type)	EA		x		=	$	-
780440	Prepare and Stain Concrete	SQFT		x		=	$	-
839561	Rail Tensioning Assembly	EA		x		=	$	-
83958X	End Anchor Assembly (Insert Type)	EA						

TOTAL SPECIALTY ITEMS $ 52,197,200

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
	Enviornmental Permitting Fees	LS	1	x	50,000.00	=	$	50,000
	Biological Mitigation (on-site)	LS	1	x	11,055,000.00	=	$	11,055,000
	Enviornmental Monitoring	LS	1	x	388,000.00	=	$	388,000
80010X	Temporary Fence (Insert Type)	LF		x		=	$	-
130670	Temporary Reinforced Silt Fence	LF		x		=	$	-

Subtotal Environmental Mitigation $ *11,493,000*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
20XXXX	Highway Planting (Replacement)	LS	1	x	200,000.00	=	$	200,000
206XXX	Irrigation System (Replacement)	LS	1	x	25,000.00	=	$	25,000
204099	Plant Establishment Work	LS	1	x	50,000.00	=	$	50,000
20XXXX	Follow-up Landscape Project	LS		x		=	$	-
206405	Remove Irrigation Facility	LS		x		=	$	-
204096	Maintain Existing Planted Areas	LS	1	x	50,000.00	=	$	50,000
206400	Check and Test Existing Irrigation Facilities	LS	1	x	15,000.00	=	$	15,000
21011X	Imported Topsoil	CY/TON		x		=	$	-
200114	Rock Blanket	SQFT	109,540	x	20.00	=	$	2,190,800
200122	Weed Germination	SQYD		x		=	$	-
995100	Water Meter Charges	LS		x		=	$	-
2087XX	XX" Conduit (Use for Irrigation x-overs)	LF		x		=	$	-
20890X	Extend X" Conduit (Use for Extension of Irrigation x-overs)	LF		x		=	$	-

Subtotal Landscape and Irrigation $ *2,530,800*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)			Cost
211111	Permanent Erosion Control Establishment Work	LS	1	x	100,000.00	=	$	100,000
210010	Move-In/Move-Out (Erosion Control)	EA	20	x	1,250.00	=	$	25,000
210350	Fiber Rolls	LF		x		=	$	-
210360	Compost Sock	LF		x		=	$	-
210280	Rolled Erosion Control Product (Blanket)	SQFT	307,340	x	1.00	=	$	307,340
21025X	Bonded Fiber Matrix	SQFT/ACRE		x		=	$	-
210300	Hydromulch	SQFT		x		=	$	-
210420	Straw	SQFT		x		=	$	-
210430	Hydroseed	SQFT	307,340	x	0.15	=	$	46,101
210610	Compost	CY	2,846	x	50.00	=	$	142,300
210630	Incorporate Materials	SQFT	307,340	x	0.25	=	$	76,835

Subtotal Erosion Control $ *620,741*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost
130300	Prepare SWPPP	LS	1	x	10,000.00	=	$	10,000
130200	Prepare WPCP	LS		x		=	$	-
130100	Job Site Management	LS		x		=	$	-
130330	Storm Water Annual Report	EA		x		=	$	-
130310	Rain Event Action Plan	EA		x		=	$	-
130320	Storm Water Sampling and Analysis Day	EA		x		=	$	-
130520	Temporary Hydraulic Mulch	SQYD		x		=	$	-
130550	Temporary Hydroseed	SQYD		x		=	$	-
130505	Move-In/Move-Out (Temporary Erosion Control)	EA		x		=	$	-
130640	Temporary Fiber Roll	LF		x		=	$	-
130900	Temporary Concrete Washout	LS		x		=	$	-
130710	Temporary Construction Entrance	EA		x		=	$	-
130610	Temporary Check Dam	LF		x		=	$	-
130620	Temporary Drainage Inlet Protection	EA		x		=	$	-
130730	Street Sweeping	LS		x		=	$	-
703XXX	Trash Capture Devices	EA	31	x	1,500.00	=	$	46,500
XXXXXX	Temporary Construction BMP's	LS	1	x	6,000,000.00	=	$	6,000,000
XXXXXX	Permanent BMP's	LS	1	x	1,580,000.00	=	$	1,580,000

Subtotal NPDES $ *7,636,500*

TOTAL ENVIRONMENTAL $ 22,281,100

Supplemental Work for NPDES

066595	Water Pollution Control Maintenance Sharing*	LS	1	x	210,000.00	=	$	210,000
066596	Additional Water Pollution Control**	LS	1	x	25,000.00	=	$	25,000
066597	Storm Water Sampling and Analysis***	LS	1	x	15,000.00	=	$	15,000
XXXXXX	Some Item	LS		x		=	$	-

Subtotal Supplemental Work for NDPS $ *250,000*

*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.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
870200	Lighting System	EA	54	x	10,000.00	=	$	540,000
870300	Sign Illumination System	LS		x		=	$	-
870400	Signal and Lighting System	LS		x		=	$	-
870510	Ramp Metering System	LS	1	x	1,000,000.00	=	$	1,000,000
872131	Modify Lighting Systems	LS	1	x	96,000.00	=	$	96,000
872134	Modify Ramp Metering Systems	LS	1	x	150,000.00	=	$	150,000
87181X	Interconnection Conduit and Cable	LF/LS		x		=	$	-
560208	Furnish Sign Structure (Tubular)	LB	1,062,000	x	6.50	=	$	6,903,000
5602XX	Install Sign Structure (Insert Type)	LB	1,062,000	x	1.00	=	$	1,062,000
820770	Furnish Single Sheet Aluminum Sign (0.125" - Unframed)	SQFT	9,674	x	14.00	=	$	135,436
820670	Install Removable Sign Panel Frame	LB	16,321	x	5.00	=	$	81,605
498052	60" CIDHC Pile (Sign Foundation)	LF	1,375	x	2,750.00	=	$	3,781,250
87011X	Inductive Loop Detector	EA/LS		x		=	$	-
872135	Modifying Traffic Monitoring Stations	LS	1	x	55,000.00	=	$	55,000
568046	Remove Sign Structure	EA	8	x	4,500.00	=	$	36,000
568054	Reconstruct Sign Structure	EA		x		=	$	-
568060	Modify Sign Structure	EA		x		=	$	-
870009	Maintaining Existing Traffic Management System Elements During Construction	LS	1	x	250,000.00	=	$	250,000
871900	Fiber Optic Cable System	LS	1	x	200,000.00	=	$	200,000
872005A	Temporary Fiber Optic Cable Systems	LS	1	x	53,000.00	=	$	53,000
XXXXX	Some Item	Unit		x		=	$	-

Subtotal Traffic Electrical *$ 14,343,291*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
820840	Roadside Sign - One Post	EA		x		=	$	-
820850	Roadside Sign - Two Post	EA		x		=	$	-
5602XX	Furnish Sign Structure (Insert Type)	SQFT		x		=	$	-
820890	Install Sign Panel on Existing Frame	SQFT		x		=	$	-
846020	Remove Painted Traffic Stripe	LF	730,000	x	0.60	=	$	438,000
141102	Remove Yellow Painted Traffic Stripe (Hazardous Waste)	LF		x		=	$	-
846025	Remove Painted Pavement Marking	SQFT		x		=	$	-
820250	Remove Roadside Sign	EA		x		=	$	-
820530	Reset Roadside Sign	EA		x		=	$	-
820610	Relocate Roadside Sign	EA	4	x	250.00	=	$	1,000
820420	Salvage Roadside Sign Panel	EA	12	x	200.00	=	$	2,400
81017X	Delineator (Surface Mounted)	EA	12,574	x	55.00	=	$	691,570
840502	Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility)	LF		x		=	$	-
846012	Thermoplastic Crosswalk and Pavement Marking (Enhanced Wet Night Visibility)	SQFT		x		=	$	-
120090	Construction Area Signs	LS	1	x	200,000.00	=	$	200,000
84XXXX	Permanent Pavement Delineation (With Contrast Stripe)	LS	1	x	1,000,000.00	=	$	1,000,000

Subtotal Traffic Signing and Striping *$ 2,332,970*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
12865X	Portable Changeable Message Sign	EA/LS	8	x	$ 36,000	=	$	288,000

Subtotal Traffic Management Plan *$ 288,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120198	Plastic Traffic Drums	EA		x		=	$	-
12016X	Channelizer (Surface Mounted)	EA		x		=	$	-
120116	Type II Barricade	EA		x		=	$	-
120120	Type III Barricade	EA		x		=	$	-
129100	Temporary Crash Cushion Module	EA	700	x	300.00	=	$	210,000
120320	Temporary Barrier System	LF	174,660	x	20.00	=	$	3,493,200
120100	Traffic Control System	LS	1	x	2,000,000.00	=	$	2,000,000
129110	Temporary Crash Cushion	EA		x		=	$	-
129000	Temporary Railing (Type K)	LF		x		=	$	-
120XXX	Temporary Pavement Marking (Paint with Contrast Stripe)	LS	1	x	750,000.00	=	$	750,000
120152	Temporary Pavement Marking (Tape)	SQFT		x		=	$	-
8101XX	Delineator (Insert Class)	EA		x		=	$	-
XXXXXX	Temporary Shoulder Repair (Rumble Strip)	LF	101,600	x	2.25	=	$	228,600

$ 6,681,800

TOTAL TRAFFIC ITEMS $ 23,646,100

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY		x		=	$	-
19801X	Imported Borrow	CY/TON		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON		x		=	$	-
26020X	Class 2 Aggregate Base	CY/TON		x		=	$	-
250401	Class 4 Aggregate Subbase	CY		x		=	$	-
130620	Temporary Drainage Inlet Protection	EA		x		=	$	-
129000	Temporary Railing (Type K)	LF		x		=	$	-
128601	Temporary Signal System	LS		x		=	$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
80010X	Temporary Fence (Insert Type)	LF		x		=	$	-
XXXXXX	Some Item	LS		x		=	$	-

TOTAL DETOURS **$ -**

SUBTOTAL SECTIONS 1 through 7 $ 208,110,900

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items

ADA Items $ -

8B - Bike Path Items

Bike Path Items $ -

8C - Other Minor Items

Other Minor Items 5.0% $ 10,405,545

Total of Section 1-7 $ 208,110,900 x 5.0% = $ 10,405,545

TOTAL MINOR ITEMS **$ 10,405,600**

SECTIONS 9: ROADWAY MOBILIZATION *

Item code								
999990	Total Section 1-8	$	218,516,500	x	10%	=	$	21,851,650

TOTAL ROADWAY MOBILIZATION **$ 21,851,700**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066670	Payment Adjustments For Price Index Fluctuations	LS	1	x	384,879.20	=	$	384,879
066063	TMP - Motorist Information Strategies	LS	1	x	150,000.00	=	$	150,000
066094	Value Analysis	LS	1	x	10,000.00	=	$	10,000
066070	Maintain Traffic	LS	1	x	616,000.00	=	$	616,000
090205	Dispute Resolution Board On-Site Meeting	EA	26	x	6,000.00	=	$	156,000
090210	Hourly Off-Site Dispute Resolution Board Related Tasks	HR	240	x	200.00	=	$	48,000
066015	Federal Trainee Program	LS	1	x	67,200.00	=	$	67,200
066610	Partnering	LS	1	x	90,000.00	=	$	90,000
066405	Concrete Pavement Smoothness Incentive	LS	1	x	622,462.50	=	$	622,463
066393	HMA Smoothness Incentive	LS	1	x	139,500.00	=	$	139,500
066204	Remove Rock and Debris	LS		x		=	$	-
066222	Locate Existing Crossover	LS		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

*Cost of **NPDES** Supplemental Work specified in Section 5D* = $ 250,000

Total Section 1-8 $ 218,516,500 5% = $ 10,925,825

TOTAL SUPPLEMENTAL WORK **$ 13,459,900**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	253,644.44	=	$253,645
066063	Traffic Management Plan - Public Information (Agency)	LS	1	x	800,000.00	=	$800,000
066901	Water Expenses	LS		x		=	$0
872135	Modify Traffic Monitoring Stations	LS	1	x	100,000.00	=	$100,000
066841	Traffic Controller Assembly	LS		x		=	$0
066840	Traffic Signal Controller Assembly	LS		x		=	$0
066062	COZEEP Contract	LS	1	x	1,900,000.00	=	$1,900,000
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066065	Tow Truck Service Patrol	LS	1	x	437,500.00	=	$437,500
066916	Annual Construction General Permit Fee	LS		x		=	$0
XXXXXX	Some Item	Unit		x		=	$0
	Total Section 1-8	$	218,516,500		0%	=	$ -

TOTAL STATE FURNISHED	**$3,491,200**

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization $237,759,500 (used to calculate total TRO)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **6.75%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	770	X	$20,843	=	$16,048,800

TOTAL TIME-RELATED OVERHEAD	**$16,048,800**

SECTION 13: ROADWAY CONTINGENCY*

Risk Amount from Risk Register	(for Known Risks)			0%		
Additional or Residual Contingency	(for Unknown/Undefined Risks)			20%		$54,673,620
Total Section 1-12	$	273,368,100	x	**20%**	=	$54,673,620

TOTAL CONTINGENCY*	**$54,673,700**

II. STRUCTURE ITEMS

	Bridge 1	Bridge 2	Bridge 3
DATE OF ESTIMATE	03/01/21	03/01/21	03/01/21
Bridge Name	(S01) Gavilan Wash (Widen)	(S02) Lake Street (Widen)	(S03)Temescal Cyn Rd (Widen)
Bridge Number	56-0726 R/L	56-0682 R/L	56-0681 R/L
Structure Type	CIP/PS Conc Box Girder	CIP/PS Conc Box Girder	CIP/PS Conc Box Girder
Width (Feet) [out to out]	50.00 LF	50.00 LF	50.50 LF
Total Bridge Length (Feet)	76.74 LF	117.00 LF	364.00 LF
Total Area (Square Feet)	3837.00 SQFT	5850.00 SQFT	18382.00 SQFT
Structure Depth (Feet)	3.50 LF	5.50 LF	6.25 LF
Footing Type (pile or spread)	HP 10X57 Steel Piles	Spread Footing	Class 140 Concrete Pile
Cost Per Square Foot	$328	$323	$355
COST OF EACH	**$1,259,000**	**$1,891,000**	**$6,526,000**

	Bridge 4	Bridge 5	Bridge 6
DATE OF ESTIMATE	03/01/21	03/01/21	03/01/21
Bridge Name	(S04) Temescal Wash (Widen)	(S05) Horsethief Cyn Rd (Widen)	(S06) Horsethief Cyn Wash (Widen)
Bridge Number	56-0680 R/L	56-0679 R/L	56-0678 R/L
Structure Type	CIP/PS Conc Box Girder	CIP/PS Conc Box Girder	CIP/PS Conc Box Girder
Width (Feet) [out to out]	50.00 LF	50.00 LF	50.00 LF
Total Bridge Length (Feet)	377.00 LF	112.00 LF	130.11 LF
Total Area (Square Feet)	18850.00 SQFT	5600.00 SQFT	6506.00 SQFT
Structure Depth (Feet)	6.00 LF	5.50 LF	6.00 LF
Footing Type (pile or spread)	HP 10 x 57 Steel Piles	Spread Footing	HP 10 x 57 Steel Piles
Cost Per Square Foot	$301	$346	$299
COST OF EACH	**$5,681,000**	**$1,939,000**	**$1,947,000**

TOTAL COST OF BRIDGES	**$19,243,000**
TOTAL COST OF BUILDINGS	**$0**

TOTAL COST OF STRUCTURES (1 to 6) $19,243,000

Estimate Prepared By: See Advanced Planning Study Reports

XXXXXXXXXXXXXXXX ------ Division of Structures

Date

II. STRUCTURE ITEMS

	Bridge 7		Bridge 8		Bridge 9
DATE OF ESTIMATE	04/01/21		03/01/21		04/01/21
Bridge Name	(S07) Indian Wash (Widen)		(S08) Indian Trail UC (Widen)		(S09)Temescal Cyn Rd (Widen)
Bridge Number	56-0677 R/L		56-0676 R/L		56-0675 R/L
Structure Type	CIP/PS Conc Box Girder		CIP/PS Conc Box Girder		CIP/PS Conc Box Girder
Width (Feet) [out to out]	50.00 LF		50.00 LF		50.00 LF
Total Bridge Length (Feet)	133.50 LF		135.39 LF		168.23 LF
Total Area (Square Feet)	6675.00 SQFT		6770.00 SQFT		8412.00 SQFT
Structure Depth (Feet)	6.25 LF		6.25 LF		7.75 LF
Footing Type (pile or spread)	HP 10x57 Steel Piles		Class 140 Concrete Piles		HP 10x57 Steel Piles
Cost Per Square Foot	$317		$408		$303
COST OF EACH	**$2,114,000**		**$2,761,000**		**$2,548,000**

	Bridge 10		Bridge 11		Bridge 12
DATE OF ESTIMATE	04/01/21		06/01/21		06/01/21
Bridge Name	(S10) Mayhew Wash (Widen)		(S11) Coldwater Wash (Widen)		(S12) Temescal Cyn Rd (Widen)
Bridge Number	56-0674 R/L		56-0543 R/L		56-0542 R/L
Structure Type	CIP/PS Conc Box Girder		CIP/PS Conc Box Girder		CIP/PS Conc Box Girder
Width (Feet) [out to out]	50.00 LF		50.00 LF		50.50 LF
Total Bridge Length (Feet)	149.75 LF		231.31 LF		146.00 LF
Total Area (Square Feet)	7487.00 SQFT		11566.00 SQFT		7373.00 SQFT
Structure Depth (Feet)	6.75/7.00 LF		6.50 LF		6.75 LF
Footing Type (pile or spread)	HP 10x57 Steel Piles		HP 10x57 Steel Piles		Spread Footing
Cost Per Square Foot	$302		$364		$295
COST OF EACH	**$2,265,000**		**$4,213,000**		**$2,173,000**

TOTAL COST OF BRIDGES	**$16,074,000**
TOTAL COST OF BUILDINGS	**$0**

TOTAL COST OF STRUCTURES (7 to 12) $16,074,000

Estimate Prepared By: See Advanced Planning Study Reports

XXXXXXXXXXXXXXXX ------ Division of Structures

Date

II. STRUCTURE ITEMS

	Bridge 13	Bridge 14	Bridge 15
DATE OF ESTIMATE	06/01/21	06/01/21	08/01/22
Bridge Name	(S13) Brown Cyn Wash (Widen)	(S14) Weirick Road UC (Widen)	(S15) Bedford Wash
Bridge Number	56-0559 R/L	56-0541 R/L	56-0540 R/L
Structure Type	CIP/PS Conc Box Girder	CIP/PS Conc Box Girder	CIP/RC T-Girder
Width (Feet) [out to out]	57.50 LF	57.50 LF	73.63 LF
Total Bridge Length (Feet)	78.00 LF	139.00 LF	102.00 LF
Total Area (Square Feet)	4485.00 SQFT	7993.00 SQFT	7510.00 SQFT
Structure Depth (Feet)	2.50 LF	4.50 LF	3.50 LF
Footing Type (pile or spread)	Class 90 Concrete Pile	Spread Footing	HP 10x57 Steel Piles
Cost Per Square Foot	$298	$322	$286
COST OF EACH	**$1,339,000**	**$2,576,000**	**$2,151,000**

DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Bridge Name	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx
Bridge Number	XX-XXX	XX-XXX	XX-XXX
Structure Type	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0 LF	0 LF	0 LF
Total Bridge Length (Feet)	0 LF	0 LF	0 LF
Total Area (Square Feet)	0 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0	$0	$0
COST OF EACH	**$0**	**$0**	**$0**

TOTAL COST OF BRIDGES	**$6,066,000**
TOTAL COST OF BUILDINGS	**$0**

TOTAL COST OF STRUCTURES (1 to 6)	**$19,243,000**
TOTAL COST OF STRUCTURES (7 to 12)	**$16,074,000**
TOTAL COST OF STRUCTURES (13 to 15)	**$6,066,000**
TOTAL COST OF STRUCTURES	**$41,383,000**

Estimate Prepared By: **See Advanced Planning Study Reports**

XXXXXXXXXXXXXXXX ------ Division of Structures

Date

EA: 08-0J0820 PID: 08-18000063

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

				Current Value Future Use		*Escalated Value*
A)	A1)	Acquisition, including Excess Land, Fees, Damages, Goodwill	$	0	$	0
	A2)	Acquisition of Offsite Mitigation	$	0	$	0
	A3)	Railroad Acquisition	$	0	$	0
B)	B1)	Utility Relocation (State Share)	$	0	$	0
	B2)	Potholing (Design Phase)	$	0	$	0
C)		Utility - Advance Engineering Estimate (Encumber with State Only Funds)	$	0	$	0
D)		RAP and/or Last Resort Housing	$	0	$	0
E)		Clearance & Demolition	$	0	$	0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	0	$	0
G)		Title and Escrow	$	0	$	0
H)		Environmental Review	$	0	$	0
I)		Condemnation Settlements 0%	$	0	$	0
J)		Design Appreciation Factor 0%	$	0	$	0
K)		Utility Relocation (Construction Cost)	$	0	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$0**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$0**
N)	**RIGHT OF WAY SUPPORT**	**$0**

Support Cost Estimate Prepared By _____ Project Coordinator[1] Phone

Utility Estimate Prepared By _____ Utility Coordinator[2] Phone

R/W Acquisition Estimate Prepared By _____ Right of Way Estimator[3] Phone

Note: Items G & H applied to items A + B

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

SECTION 1: INTELLIGENT TRANSPORTATION SYSTEMS / EXPRESS LANE SIGNING

Item code		*Unit*	*Quantity*		*Unit Price ($)*			*Cost*
	Communication	LS	1	x	3,746,000.00	=	$	3,746,000
	Power	LS	1	x	3,006,000.00	=	$	3,006,000
	Device Cabinets	LS	1	x	2,498,000.00	=	$	2,498,000
	Lane Control Signs (LCS)	LS	1	x	270,000.00	=	$	270,000
	Toll Gantry Structures	LS	1	x	2,762,000.00	=	$	2,762,000
	Caltrans Loops	LS	1	x	110,000.00	=	$	110,000
	Electrical Utility Upgrades	LS	1	x	1,050,000.00	=	$	1,050,000
	System Deployment	LS	1	x	120,000.00	=	$	120,000
	Contingency	LS	1	x	2,712,400.00		$	2,712,400

TOTAL ITS/EL SIGNING SECTION ITEMS	**$**	**16,274,400**

Attachment D – Advanced Planning Studies

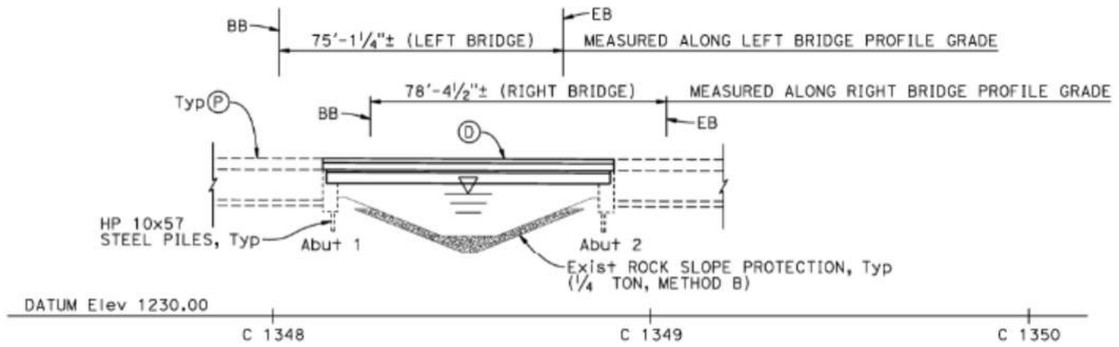
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	25.55

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

Note: Profile Grade to match existing.



DEVELOPED ELEVATION ALONG "C" LINE
1" = 20'

ASSUMPTIONS:

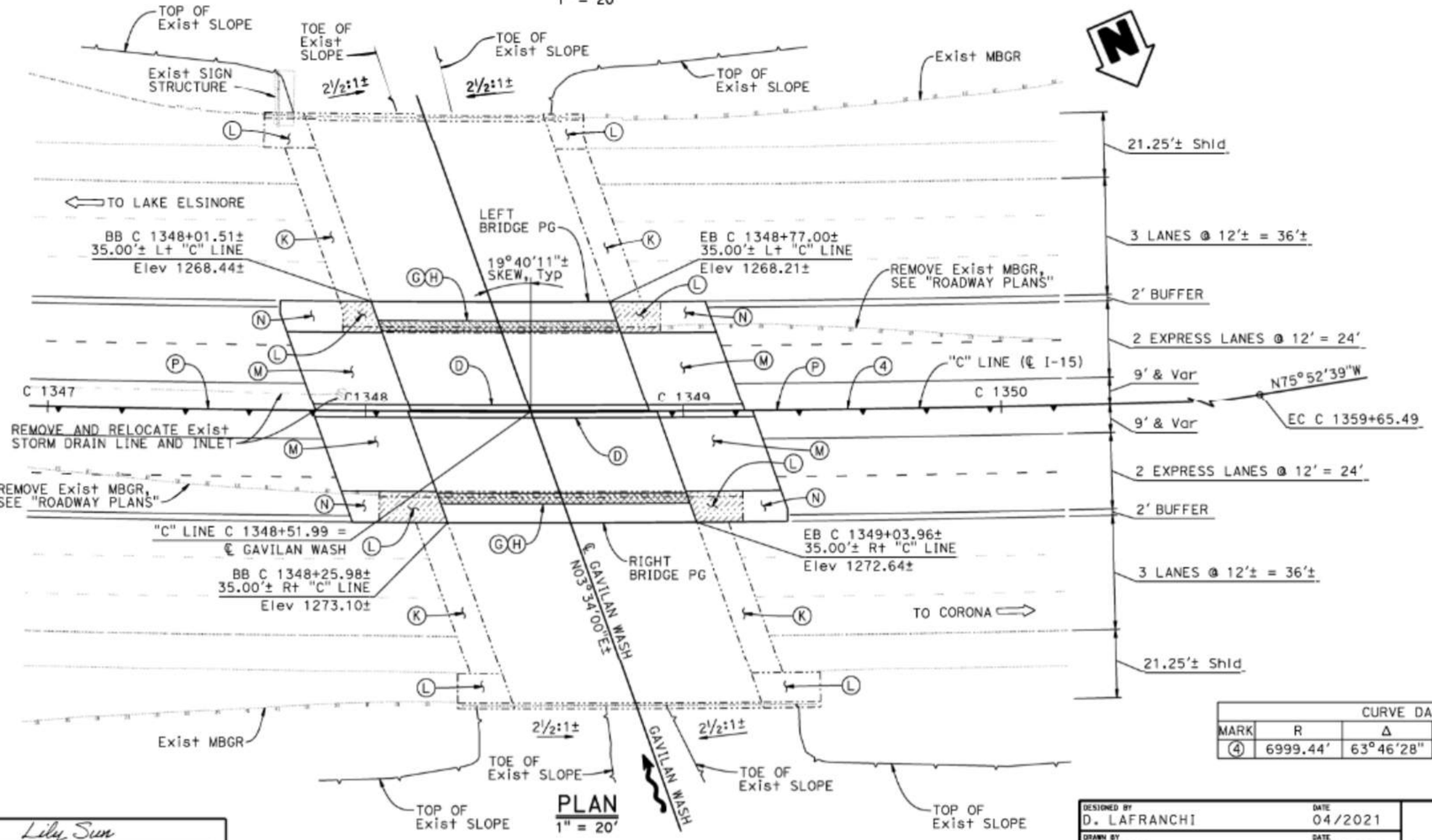
1. Vehicular traffic will not pass through the construction site. No falsework openings required.
2. No existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic retrofit assessment for this structure will be considered in the design phase of the project.
5. Bridge deck drainage analysis shall be conducted in the next phase of design.

NOTES:

(D) Concrete Barrier (Type 836)
(G) Bridge Removal (Portion)
(H) Closure Pour (3'-3")
(K) Existing Structure Approach
(L) Existing Shoulder Slab
(M) Structure Approach Type N(30)
(N) Structure Approach Type R(30)
(P) Retaining Wall, see "ROADWAY PLANS"

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour
- Direction of traffic
- Direction of channel flow
- High water surface elevation (Right Bridge = 1265.3±) (Left Bridge = 1263.8±)



PLAN
1" = 20'

CURVE DATA				
MARK	R	Δ	T	L
(4)	6999.44'	63°46'28"	4354.60'	7790.89'

DATE OF ESTIMATE	03/2021
BRIDGE REMOVAL	= 570 SQFT
STRUCTURE DEPTH	= 3'-6"
LENGTH	= 76'-8 ⅞" (Avg)
WIDTH	= 50'-0"
AREA	= 3,837 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $328
TOTAL COST	= $1,259,000

Lily Sun
DESIGN OVERSIGHT
5/25/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 22-APR-2021 TIME PLOTTED => 20:05
FILE => 56-0726r1-a-gp01.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 04/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 04/2021		GAVILAN WASH (WIDEN)
CHECKED BY A. ROMINGER	DATE 04/2021		UNIT: 0000 / BRIDGE No.: 56-0726 R/L PROJECT
APPROVED J. WANG	DATE 04/2021		CONTRACT No.: 08-0J0820 / No. & PHASE: 0818000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	25.55

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

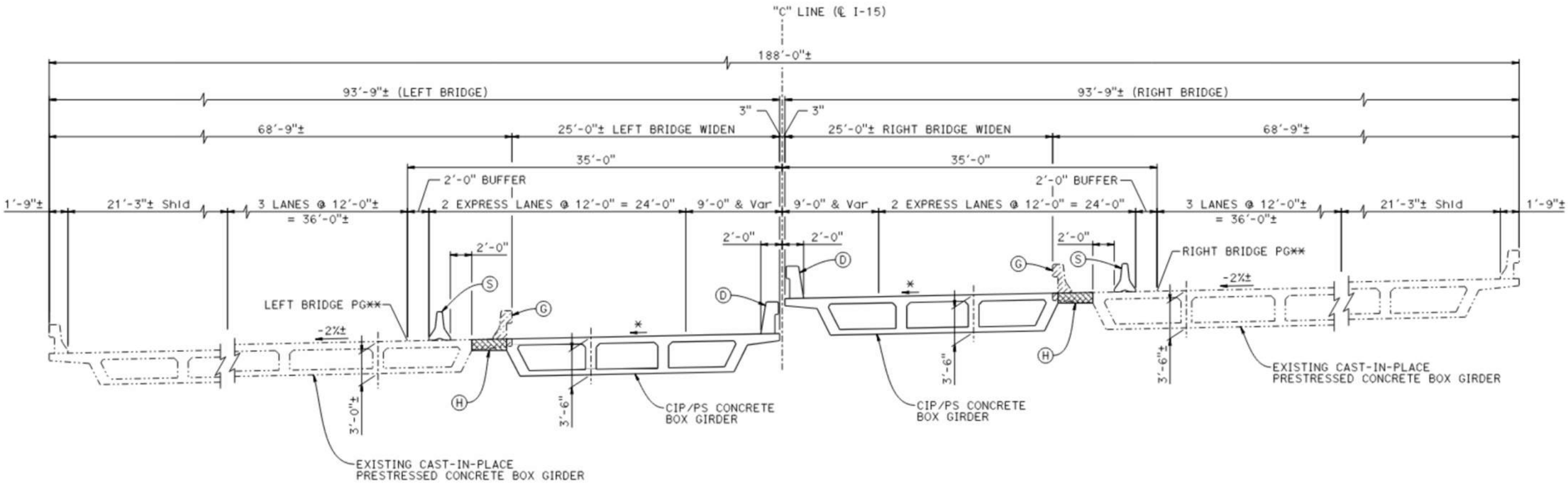
HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-3")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
5/25/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 17-MAR-2021 TIME PLOTTED => 16:43
FILE => 56-0726r1-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 03/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 03/2021		GAVILAN WASH (WIDEN)
CHECKED BY A. ROMINGER	DATE 03/2021		UNIT: 0000 / BRIDGE No.: 56-0726 R/L
APPROVED J. WANG	DATE 03/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

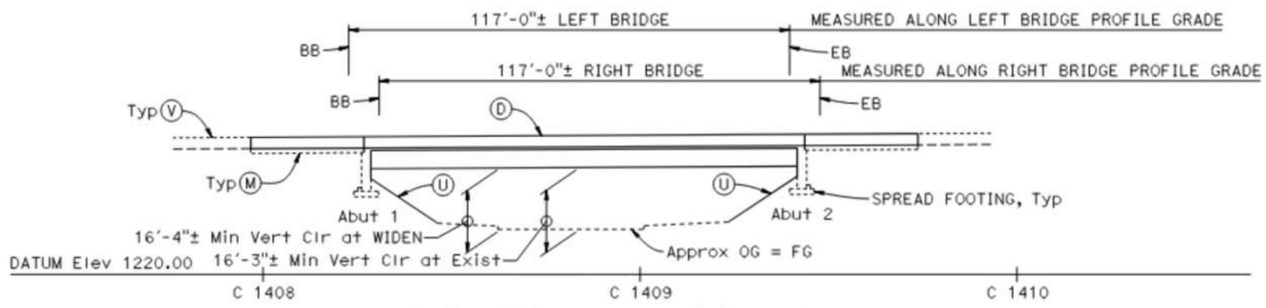
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	26.69

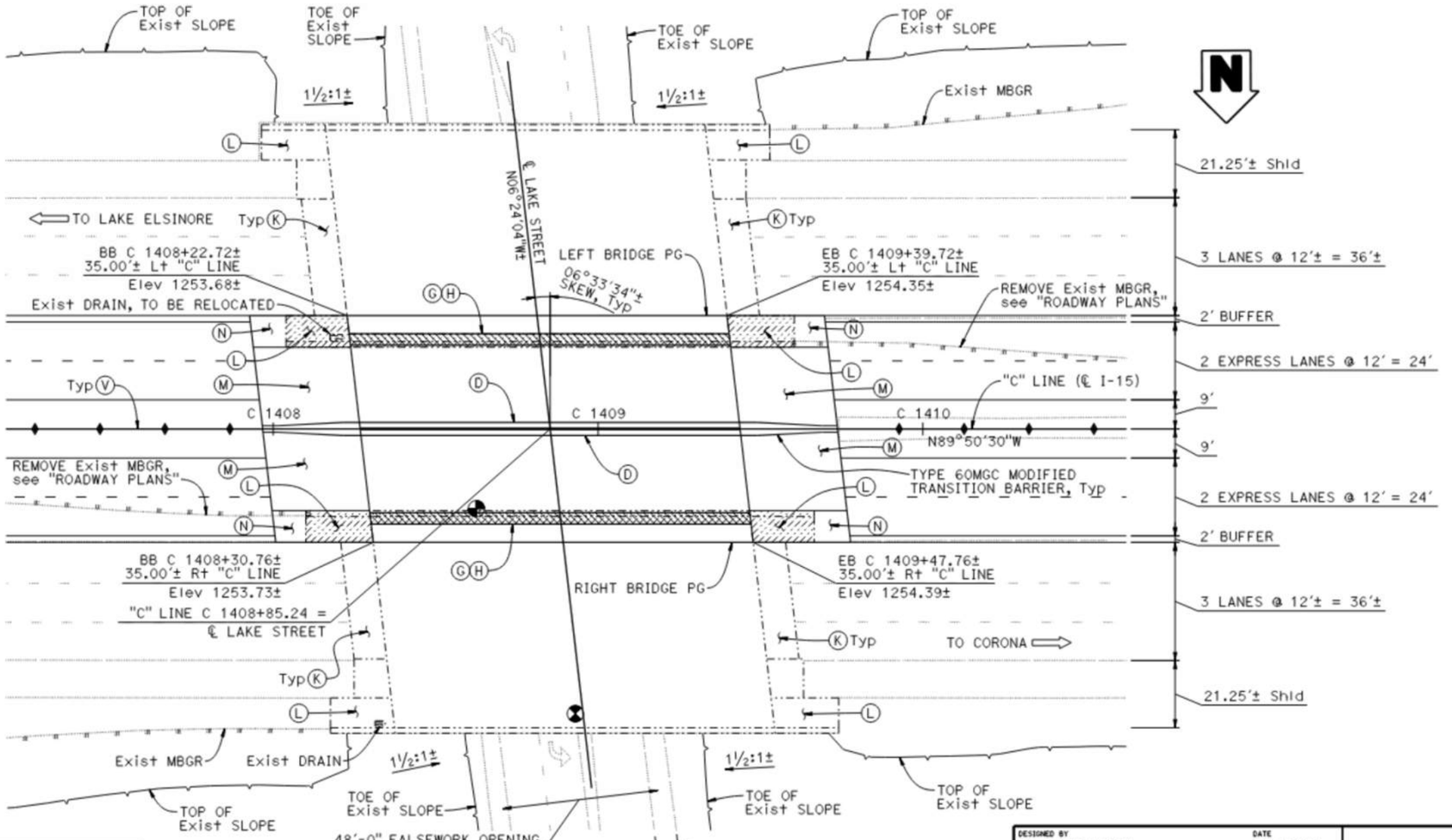
RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

NOTE: Profile Grade to match existing



ELEVATION ALONG "C" LINE
1" = 20'



LEGEND:
- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure pour
- Point of Min Vert Clr (Widen)
- Point of Min Vert Clr (Exist)
- Direction of traffic

NOTES:
- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (K) Existing Structure Approach
- (L) Existing Shoulder Slab
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (U) Slope Paving
- (V) Median Barrier, see "ROADWAY PLANS"

ASSUMPTIONS:
1. Vehicular traffic will pass through the construction site. A 15'-0" minimum vertical clearance is required under falsework. Falsework openings are required. Falsework depth assumed to be 3'-0" (48'-0" opening).
2. No existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic retrofit assessment for this structure will be considered in the design phase of the project.

DATE OF ESTIMATE	03/2021
BRIDGE REMOVAL	= 965 SQFT
STRUCTURE DEPTH	= 5'-6" (Lt and Rt)
LENGTH	= 117'-0" (Lt and Rt)
WIDTH	= 50'-0"
AREA	= 5,850 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $323
TOTAL COST	= $1,891,000

Lily Sun
DESIGN OVERSIGHT
5/28/2021
SIGN OFF DATE

DESIGNED BY D. LAFRANCHI	DATE 05/2021	J. WANG, PROJECT ENGINEER
DRAWN BY E. GRAY	DATE 05/2021	
CHECKED BY W. PEERY	DATE 05/2021	
APPROVED J. WANG	DATE 05/2021	

PLANNING STUDY
LAKE STREET UC (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0682 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)
DATE PLOTTED => 27-MAY-2021 TIME PLOTTED => 17:14
FILE => 56-0682r1-a-gp01.dgn USERNAME => DLAFRANCHI

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

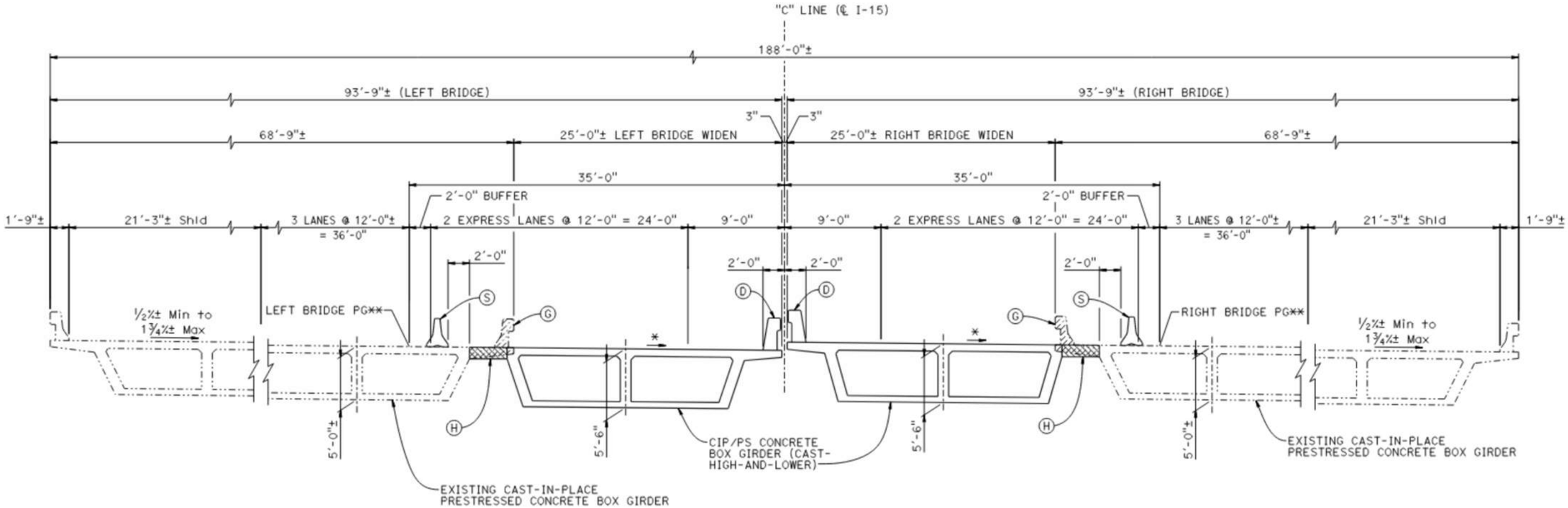
Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	26.69

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

LEGEND:
- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

NOTES:
- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
5/28/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 18-MAR-2021 TIME PLOTTED => 08:00
FILE => 56-0682r1-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 03/2021	J. WANG, PROJECT ENGINEER
DRAWN BY E. GRAY	DATE 03/2021	
CHECKED BY W. PEERY	DATE 03/2021	
APPROVED J. WANG	DATE 03/2021	

PLANNING STUDY

LAKE STREET UC (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0682 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

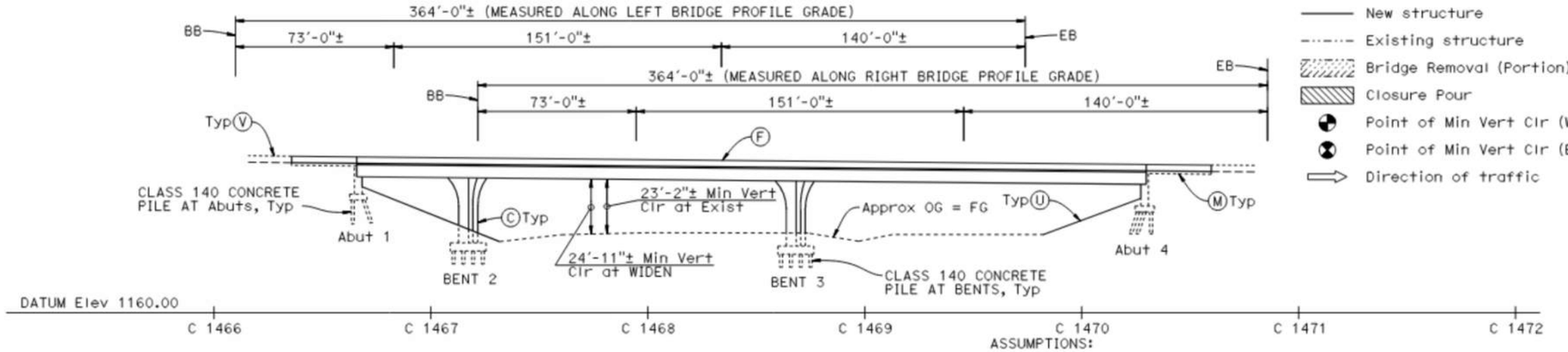
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	27.78

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

Note: Profile Grade to match existing.



ELEVATION ALONG "C" LINE
1" = 30'

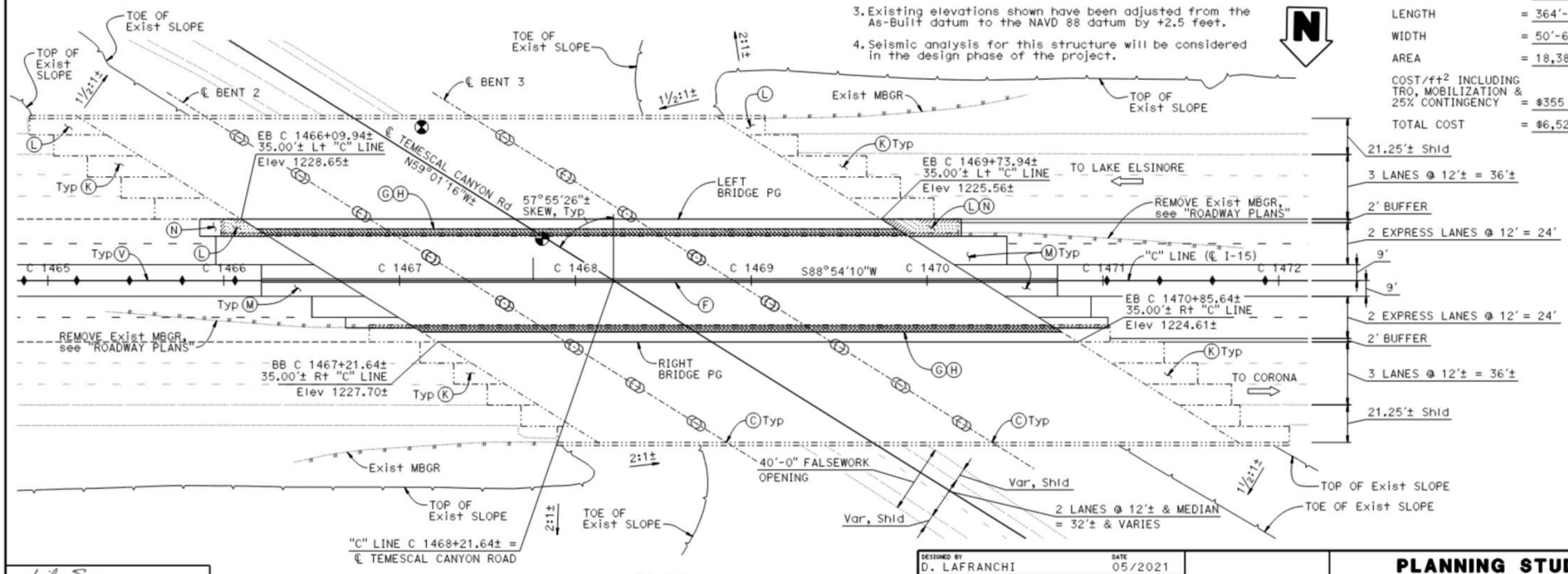
LEGEND:
- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour
- Point of Min Vert Clr (Widen)
- Point of Min Vert Clr (Exist)
- Direction of traffic

ASSUMPTIONS:

1. Vehicular traffic will pass through construction site. A 15'-0" minimum vertical clearance is required under falsework. Falsework openings are required. Falsework depth assumed is 2'-1" (40'-0" opening).
2. A 30" Water Line at Bent 3 to be relocated. A telemeter cable might require relocation near Bent 3. No other existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic analysis for this structure will be considered in the design phase of the project.

NOTES:
- (C) Paint Bent Number
- (F) Concrete Barrier (Type 60MA)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (K) Existing Structure Approach
- (L) Existing Shoulder Slab
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (U) Remove and Reconstruct Slope Paving (portion)
- (V) Median Barrier, see "ROADWAY PLANS"

DATE OF ESTIMATE	= 03/2021
BRIDGE REMOVAL	= 3,003 SQFT
STRUCTURE DEPTH	= 6'-3"
LENGTH	= 364'-0"
WIDTH	= 50'-6"
AREA	= 18,382 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $355
TOTAL COST	= $6,526,000



PLAN
1" = 30'

Lily Sun
DESIGN OVERSIGHT
5/28/2021
SIGN OFF DATE

DESIGNED BY D. LAFRANCHI	DATE 05/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 05/2021		TEMESCAL CANYON ROAD UC (WIDEN)
CHECKED BY W. PEERY	DATE 05/2021		UNIT: 0000 / BRIDGE No.: 56-0681 R/L
APPROVED J. WANG	DATE 05/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)
DATE PLOTTED => 27-MAY-2021 TIME PLOTTED => 17:34
FILE => 56-0681r1-a-gp01.dgn USERNAME => DLAFRANCHI

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

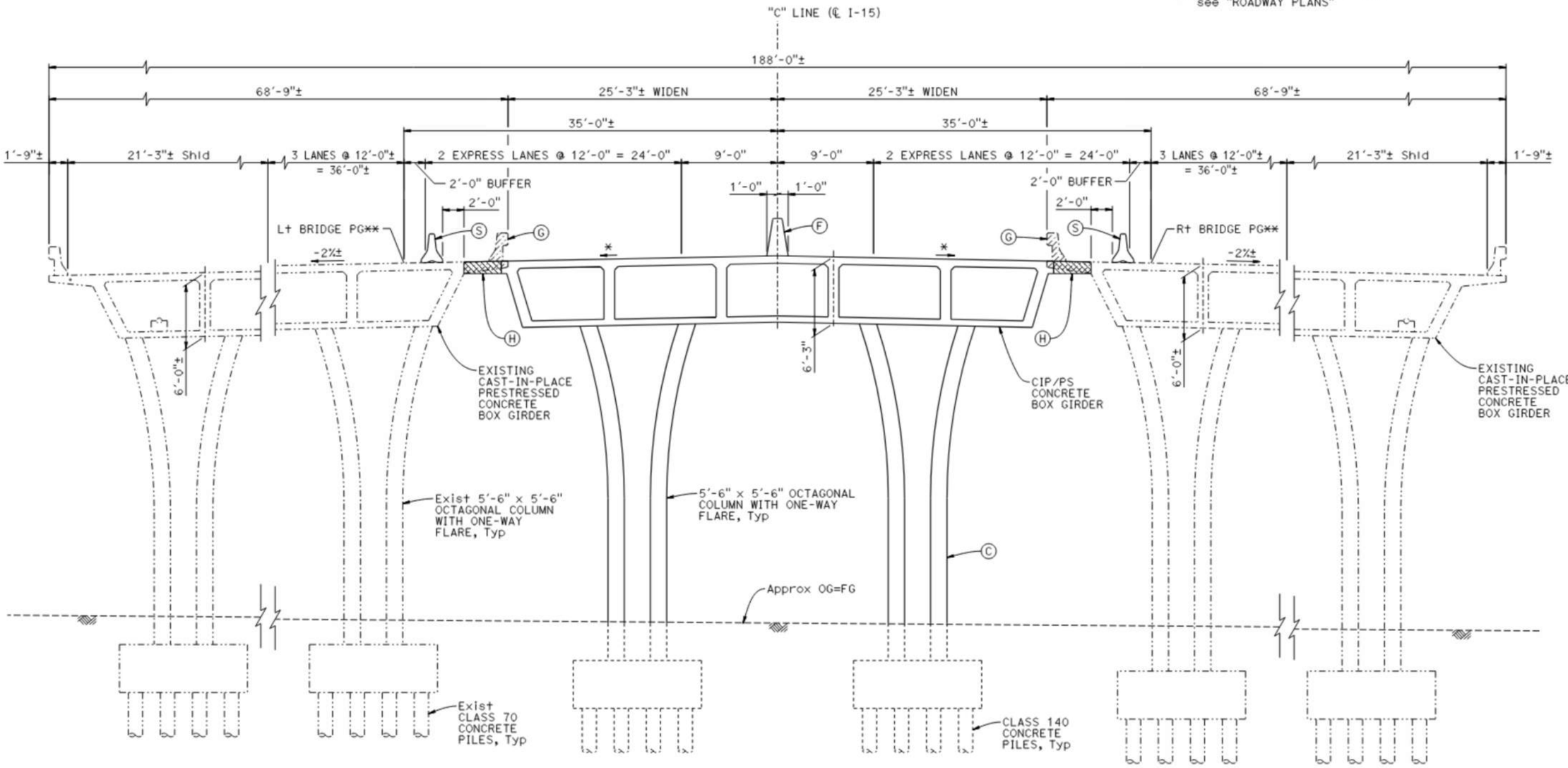
Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	27.78

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

LEGEND:
- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

NOTES:
- Ⓒ Paint Bent Number
- Ⓕ Concrete Barrier (Type 60MA)
- Ⓖ Bridge Removal (Portion)
- Ⓗ Closure Pour (3'-6")
- Ⓢ Temporary Railing (Type K), see "ROADWAY PLANS"



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
5/28/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 19-APR-2021 TIME PLOTTED => 13:57
FILE => 56-0681r1-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 04/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 04/2021		TEMESCAL CANYON ROAD UC (WIDEN)
CHECKED BY W. PEERY	DATE 04/2021		UNIT: 0000 / BRIDGE No.: 56-0681 R/L
APPROVED J. WANG	DATE 04/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

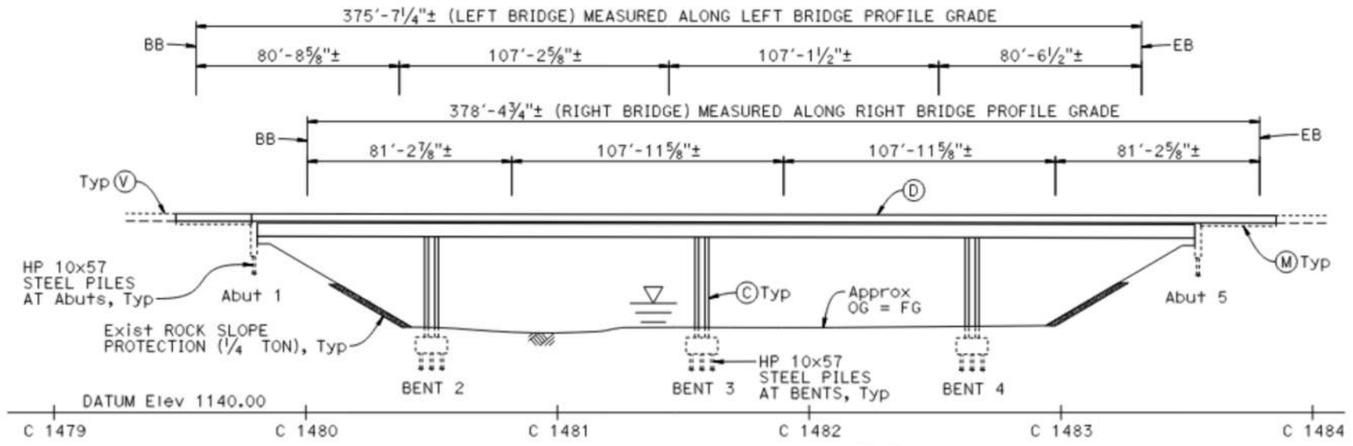
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	28.04

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

Note: Profile Grade to match existing.



DEVELOPED ELEVATION ALONG "C" LINE
1" = 30'

CURVE DATA				
MARK	R	Δ	T	L
(8)	3999.70'	39°07'07"	1421.03'	2730.80'

ASSUMPTIONS:

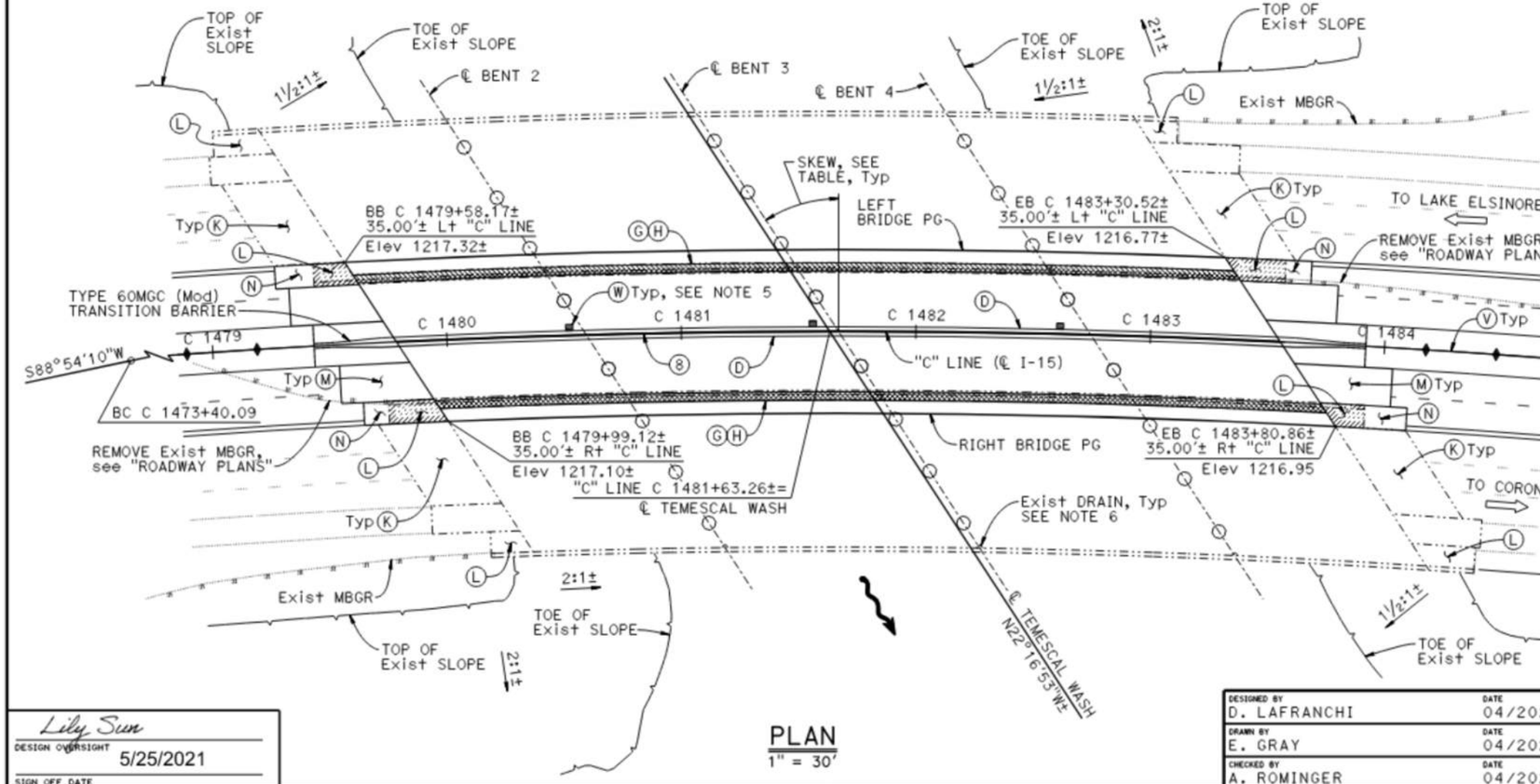
1. Vehicular traffic will not pass through the construction site. No falsework openings required.
2. No existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic analysis for this structure will be considered in the design phase of the project.
5. Deck drainage system to be developed and provided in the design phase.
6. Per Caltrans District 8 Storm Water Coordinator, existing deck drains that discharge surface flows directly to blue-line streams below will require coordination, analysis and potential drainge system retrofit during the design phase to maintain National Pollutant Discharge Elimination System (NPDES) and Regional Water Quality Control Board (RWQCB) compliance.

NOTES:

- (C) Paint Bent Number
- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (K) Existing Structure Approach
- (L) Existing Shoulder Slab
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (V) Median Barrier, see "ROADWAY PLANS"
- (W) Deck Drain (Type D-3)

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour
- Direction of traffic
- Direction of flow
- High water surface elevation (Right Bridge = 1191.0±) (Left Bridge = 1192.6±)



PLAN
1" = 30'

SKEW DATA	
SUPPORT	SKEW
Abut 1	30°19'43"±
BENT 2	31°29'19"±
BENT 3	33°01'47"±
BENT 4	34°34'13"±
Abut 5	35°43'44"±

DATE OF ESTIMATE	04/2021
BRIDGE REMOVAL	= 3,111 SQFT
STRUCTURE DEPTH	= 6'-0"
LENGTH	= 377'-0" (Avg)
WIDTH	= 50'-0"
AREA	= 18,850 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $301
TOTAL COST	= $5,681,000

Lily Sun
DESIGN OVERSIGHT
5/25/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 22-APR-2021 TIME PLOTTED => 14:28
FILE => 56-0680r1-a-gp01.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 04/2021	J. WANG PROJECT ENGINEER
DRAWN BY E. GRAY	DATE 04/2021	
CHECKED BY A. ROMINGER	DATE 04/2021	
APPROVED J. WANG	DATE 04/2021	

PLANNING STUDY

TEMESCAL WASH (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0680 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

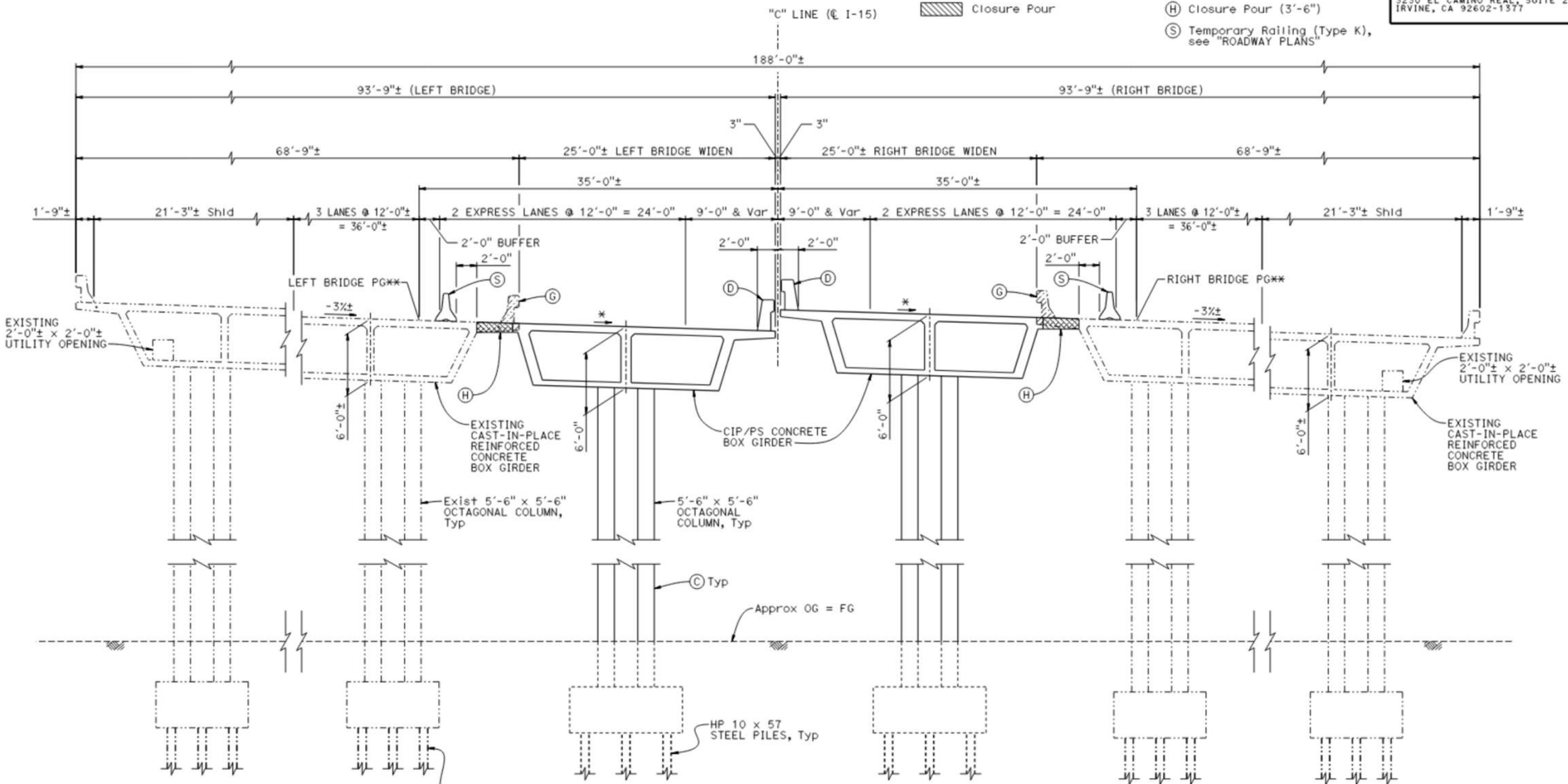
Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	28.04

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

LEGEND:
- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

NOTES:
- Ⓒ Paint Bent Number
- Ⓓ Concrete Barrier (Type 836)
- Ⓖ Bridge Removal (Portion)
- Ⓗ Closure Pour (3'-6")
- Ⓢ Temporary Railing (Type K), see "ROADWAY PLANS"



TYPICAL SECTION
1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
5/25/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 14-APR-2021 TIME PLOTTED => 16:08
FILE => 56-0680r1-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 04/2021	
DRAWN BY E. GRAY	DATE 04/2021	
CHECKED BY A. ROMINGER	DATE 04/2021	
APPROVED J. WANG	DATE 04/2021	

J. WANG
PROJECT ENGINEER

PLANNING STUDY
TEMESCAL WASH (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0680 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

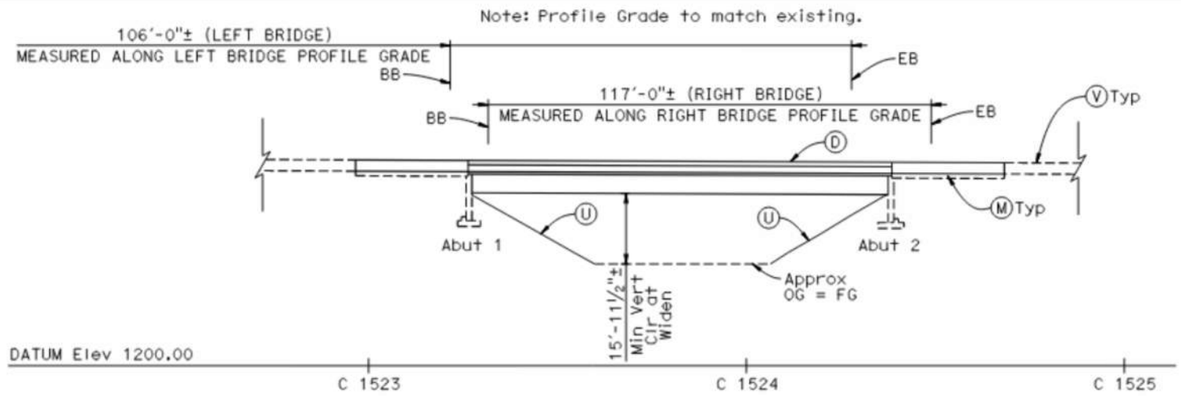
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	28.87

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

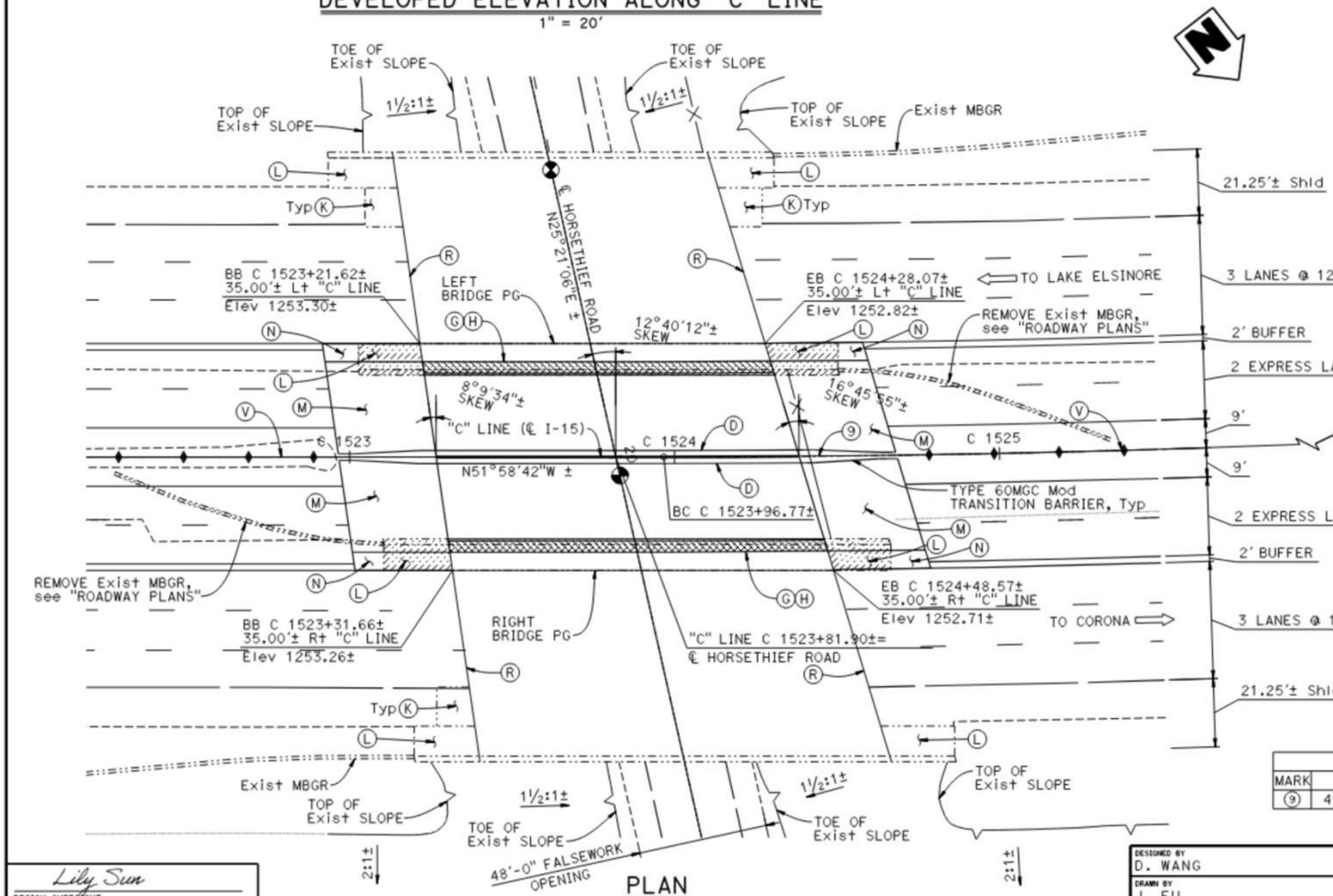
IDC CONSULTING ENGINEERS, INC.
300 SOUTH HARBOR BLVD,
SUITE 710
ANAHEIM, CA 92805-3719

Note: Profile Grade to match existing.



DEVELOPED ELEVATION ALONG "C" LINE

1" = 20'



PLAN

1" = 20'

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour
- Point of Min Vert Clr (Widen)
- Point of Min Vert Clr (Exist)
- Direction of traffic

NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (K) Existing Structure Approach
- (L) Existing Shoulder Slab
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (R) Clean expansion joint and place new joint seal
- (U) Slope Paving
- (V) Median Barrier, see "ROADWAY PLANS"

ASSUMPTIONS:

1. Vehicular traffic will pass through the construction site. A 15'-0" minimum vertical clearance is required under falsework. Falsework openings are required. Falsework depth is assumed to be 3'-0" (48'-0" opening).
2. No existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic retrofit assessment for this structure will be considered in the design phase of the project.
5. Brigde Deck Drainage Analysis shall be conducted in the design phase of the project.

CURVE DATA				
MARK	R	Δ	T	L
(9)	4999.63'	26°20'02"	1169.91'	2297.90'

DATE OF ESTIMATE	02/2021
BRIDGE REMOVAL	= 920 SQFT
STRUCTURE DEPTH	= 5'-6"
LENGTH	= 112'-0" (Avg)
WIDTH	= 50'-0"
AREA	= 5,600 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $346
TOTAL COST	= $1,939,000

Lily Sun
DESIGN OVERSIGHT
5/25/2021
SIGN OFF DATE

DESIGNED BY D. WANG	DATE 04/2021	D. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY J. FU	DATE 04/2021		HORSETHIEF CANYON ROAD UC (WIDEN)
CHECKED BY W. LI	DATE 04/2021		UNIT: 0000 / BRIDGE No.: 56-0679 R/L
APPROVED X. WU	DATE 04/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 27-APR-2021 TIME PLOTTED => 16:40
FILE => (505) Horsethief Canyon Road USER NAME = X-630679 R

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

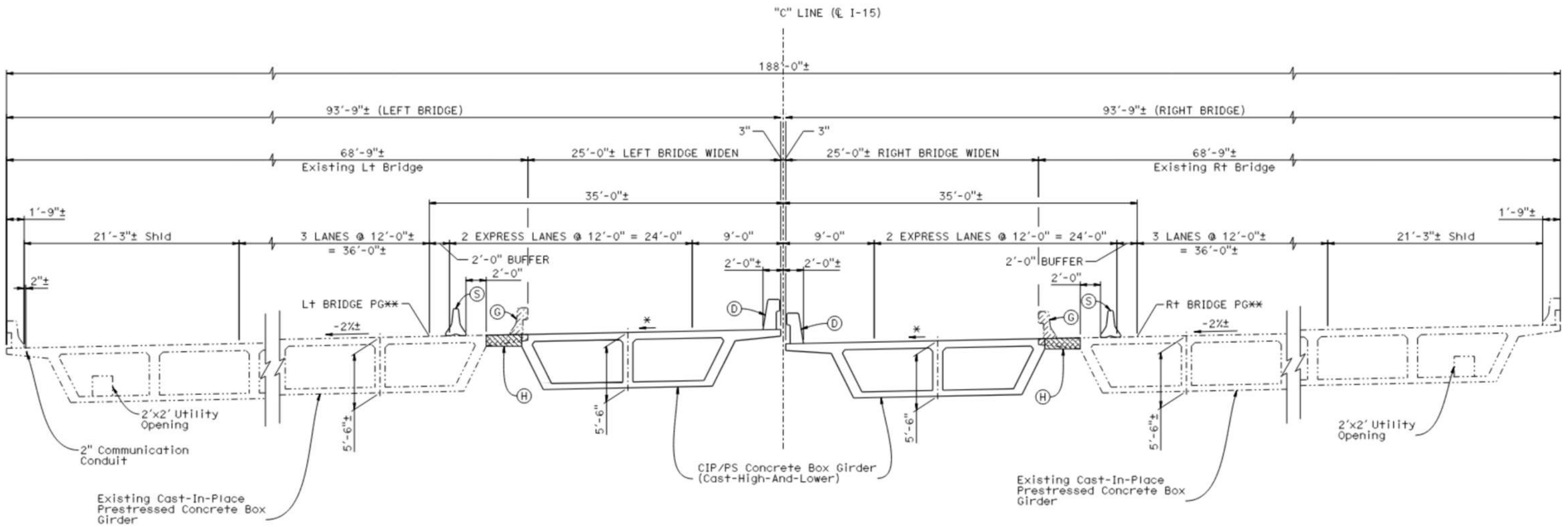
LEGEND:
- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

NOTES:
- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	28.87

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

IDC CONSULTING ENGINEERS, INC.
300 SOUTH HARBOR BLVD,
SUITE 710
ANAHEIM, CA 92805-3719



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
5/25/2021
SIGN OFF DATE

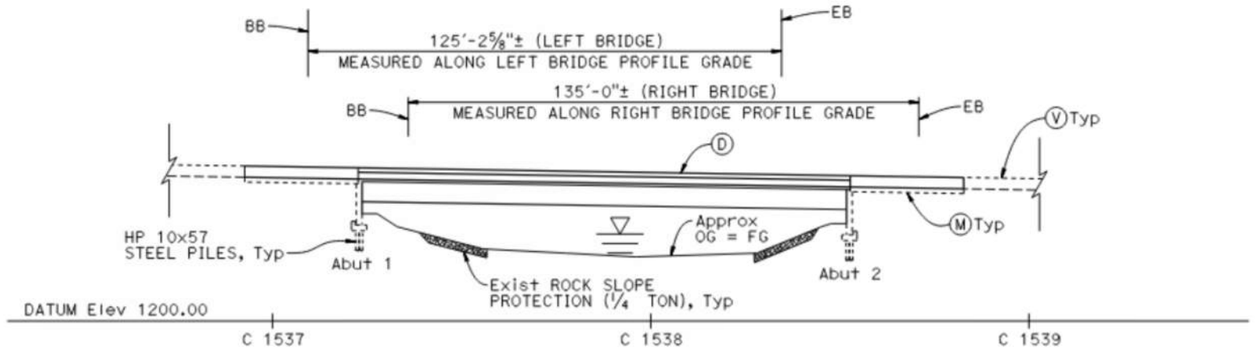
ADVANCE PLANNING STUDY SHEET
(ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 27-APR-2021 TIME PLOTTED => 16:36
FILE => (S05) Horsethief Canyon Road UC Bridge 56-0679 R

DESIGNED BY D. WANG	DATE 04/2021	D. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY J. FU	DATE 04/2021		HORSETHIEF CANYON ROAD UC (WIDEN)
CHECKED BY W. LI	DATE 04/2021		UNIT: 0000 / BRIDGE No.: 56-0679 R/L
APPROVED X. WU	DATE 04/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

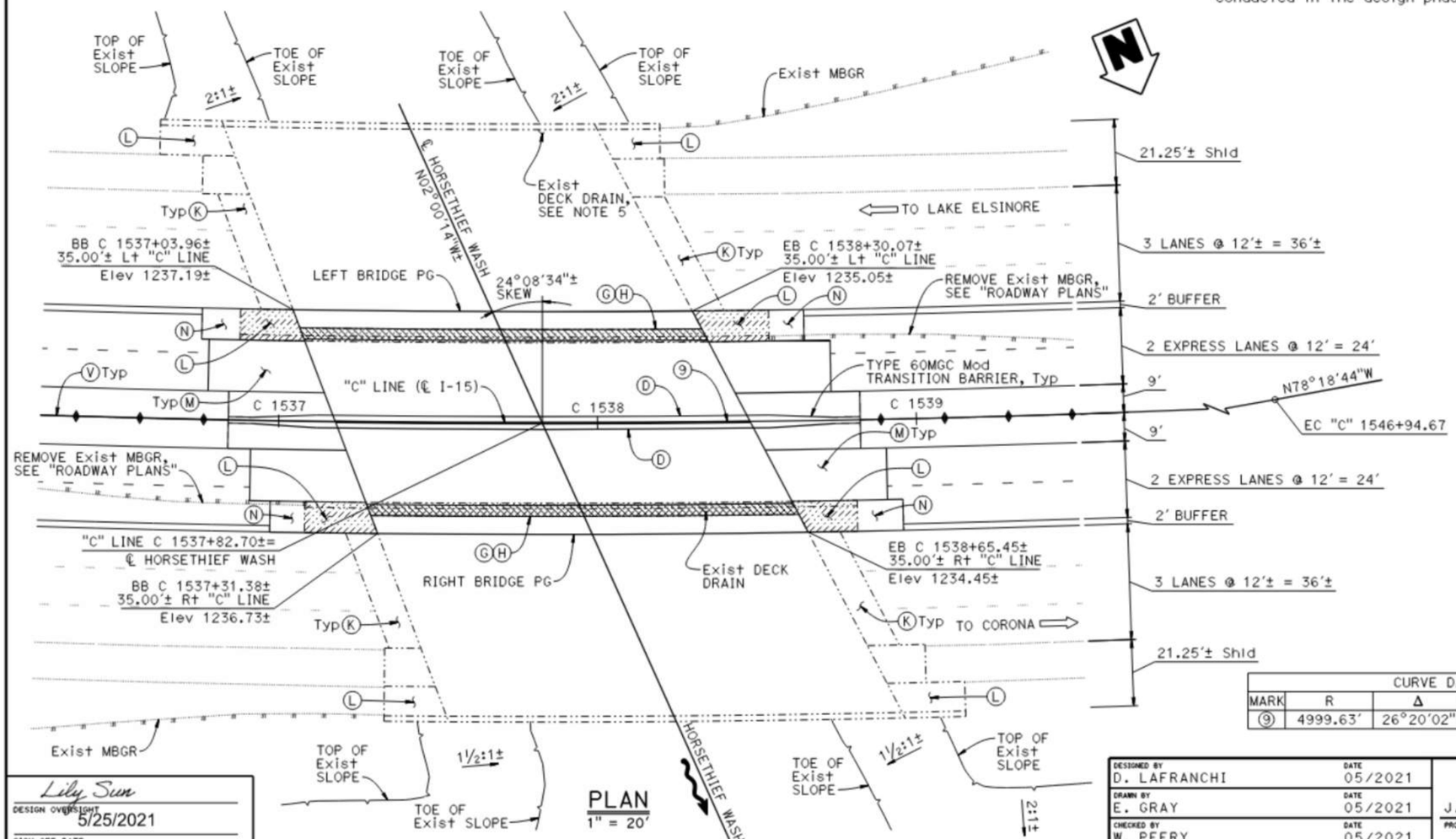
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Note: Profile Grade to match existing.



DEVELOPED ELEVATION ALONG "C" LINE

1" = 20'



PLAN

1" = 20'

ASSUMPTIONS:

1. Vehicular traffic will not pass through the construction site. No falsework openings required.
2. No existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to NAVD 88 datum by +2.5 feet.
4. Seismic retrofit assessment for this structure will be considered in the design phase of the project.
5. Per Caltrans District 8 Storm Water Coordinator, existing deck drains that discharge surface flows directly to blue-line streams below will require coordination, analysis and potential drainage system retrofit during the design phase to maintain National Pollutant Discharge Elimination System (NPDES) and Regional Water Quality Control Board (RWQCB) compliance.
6. Bridge deck drainage analysis shall be conducted in the design phase.

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	29.13

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

NOTES:

(D) Concrete Barrier (Type 836)
(G) Bridge Removal (Portion)
(H) Closure Pour (3'-6")
(K) Existing Structure Approach
(L) Existing Shoulder Slab
(M) Structure Approach Type N(30)
(N) Structure Approach Type R(30)
(V) Median Barrier, see "ROADWAY PLANS"

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour
- Direction of traffic
- Direction of channel flow
- High water surface elevation (Right Bridge = 1222.7±) (Left Bridge = 1226.2±)

CURVE DATA				
MARK	R	Δ	T	L
(9)	4999.63'	26°20'02"	1169.61'	2297.90'

DATE OF ESTIMATE	04/2021
BRIDGE REMOVAL	= 1,073 SQFT
STRUCTURE DEPTH	= 6'-0"
LENGTH	= 130'-1 ⅜" (Avg)
WIDTH	= 50'-0"
AREA	= 6,506 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $299
TOTAL COST	= $1,947,000

Lily Sun
DESIGN OVERSIGHT
5/25/2021
SIGN OFF DATE

DESIGNED BY D. LAFRANCHI	DATE 05/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 05/2021		HORSETHIEF CANYON WASH (WIDEN)
CHECKED BY W. PEERY	DATE 05/2021		UNIT: 0000 / BRIDGE No.: 56-0678 R/L
APPROVED J. WANG	DATE 05/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 10-MAY-2021 TIME PLOTTED => 13:09
FILE => 56-0678r1-a-gp01.dgn USERNAME => DLAFRANCHI

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	29.13

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

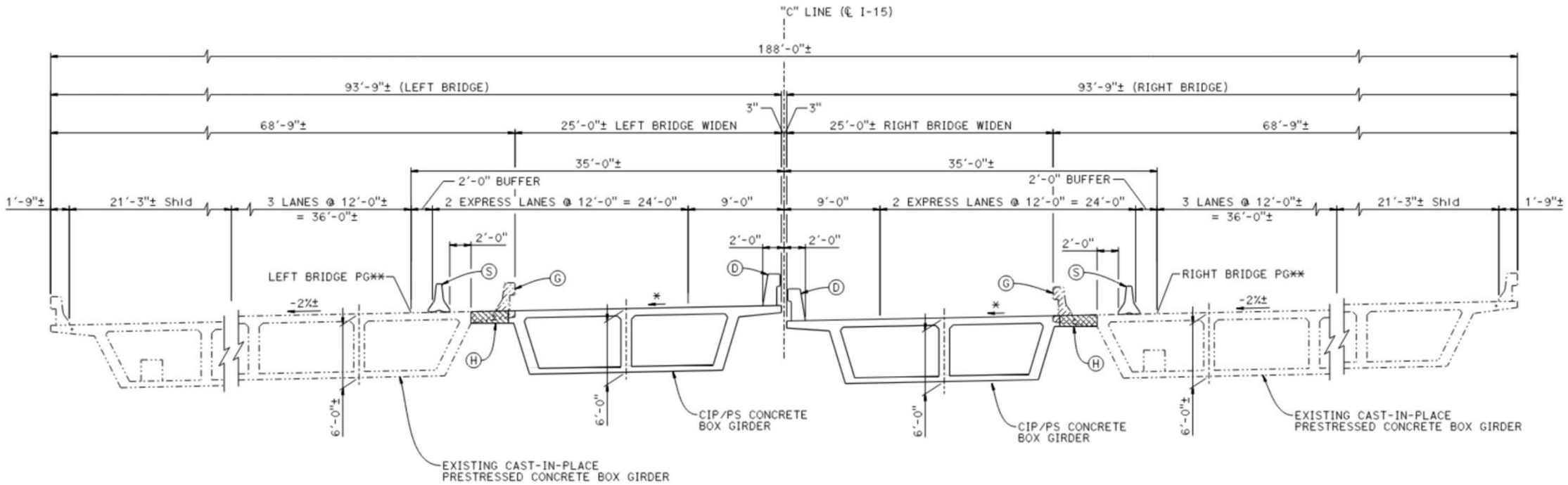
HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
5/25/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET
(ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 10-MAY-2021 TIME PLOTTED => 13:13
FILE => 56-0678r1-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 05/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 05/2021		HORSETHIEF CANYON WASH (WIDEN)
CHECKED BY W. PEERY	DATE 05/2021		UNIT: 0000 / BRIDGE No.: 56-0678 R/L
APPROVED J. WANG	DATE 05/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

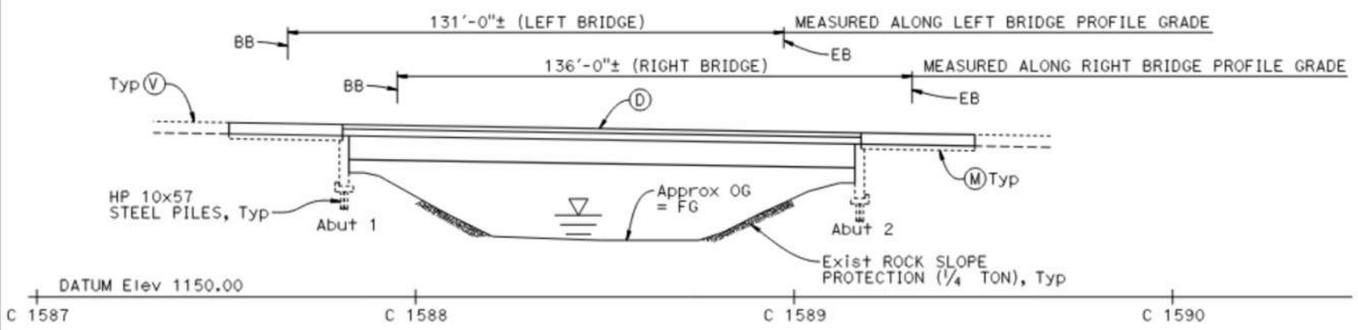
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	30.09

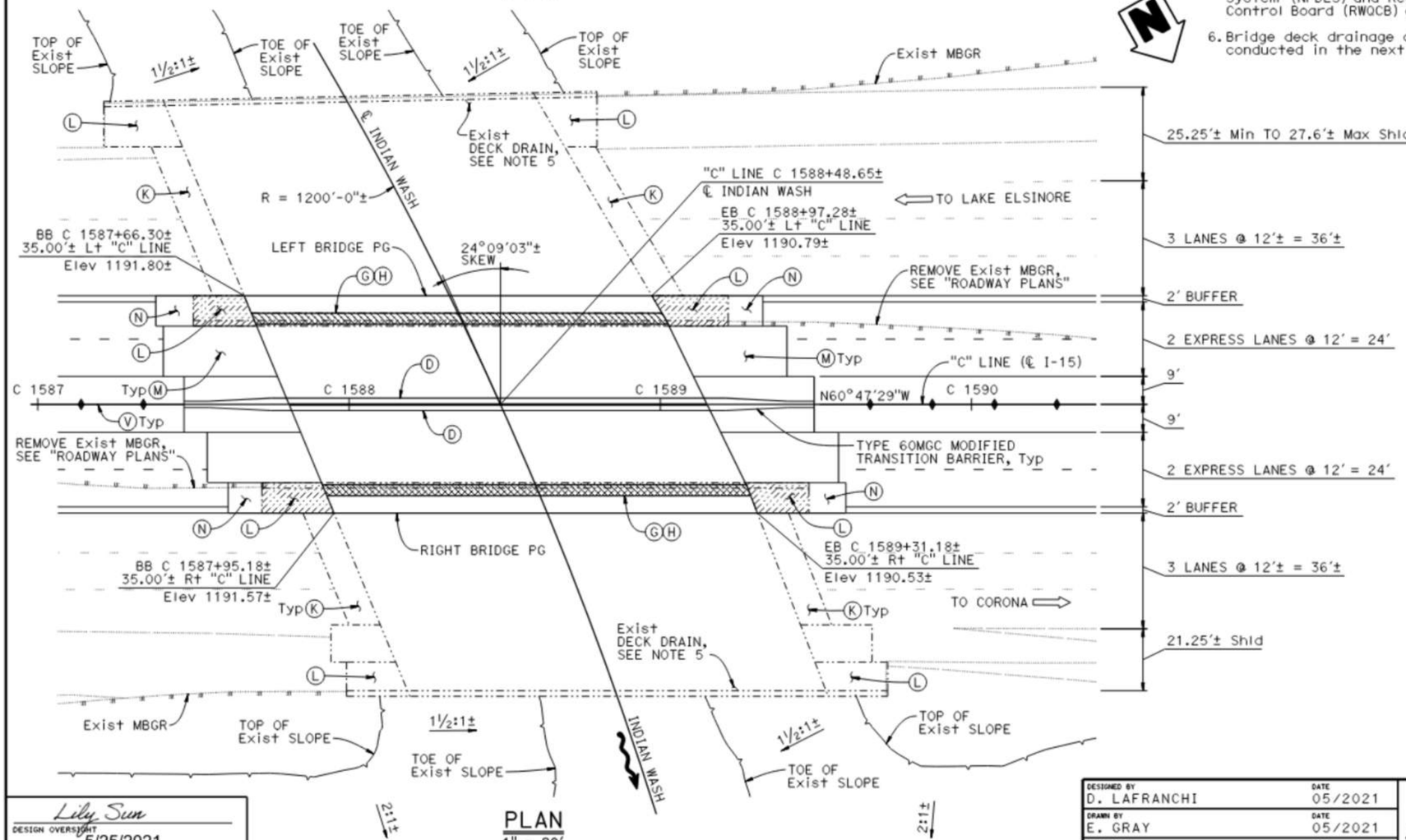
RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

Note: Profile Grade to match existing.



ELEVATION ALONG "C" LINE
1" = 20'



PLAN
1" = 20'

ASSUMPTIONS:

1. Vehicular traffic will not pass through the construction site. No falsework openings required.
2. No existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic retrofit assessment for this structure will be considered in the design phase of the project.
5. Per Caltrans District 8 Storm Water Coordinator, existing deck drains that discharge surface flows directly to blue-line streams below will require coordination, analysis and potential drainage system retrofit during the design phase to maintain National Pollutant Discharge Elimination System (NPDES) and Regional Water Quality Control Board (RWQCB) compliance.
6. Bridge deck drainage analysis shall be conducted in the next phase of design.

NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (K) Existing Structure Approach
- (L) Existing Shoulder Slab
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (V) Median Barrier, see "ROADWAY PLANS"

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour
- Direction of traffic
- Direction of flow
- High water surface elevation (Left Bridge 1173.3±) (Right Bridge 1170.1±)

DATE OF ESTIMATE	04/2021
BRIDGE REMOVAL	= 1109 SQFT
STRUCTURE DEPTH	= 6'-3" (Lt and Rt)
LENGTH	= 133'-6" (Avg)
WIDTH	= 50'-0"
AREA	= 6675 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $317
TOTAL COST	= $2,114,000

Lily Sun
DESIGN OVERSIGHT
5/25/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)
DATE PLOTTED => 20-MAY-2021 TIME PLOTTED => 13:37
FILE => 56-0677r1-a-gp01.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 05/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 05/2021		INDIAN WASH (WIDEN)
CHECKED BY W. PEERY	DATE 05/2021		UNIT: 0000 / BRIDGE No.: 56-0677 R/L
APPROVED J. WANG	DATE 05/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

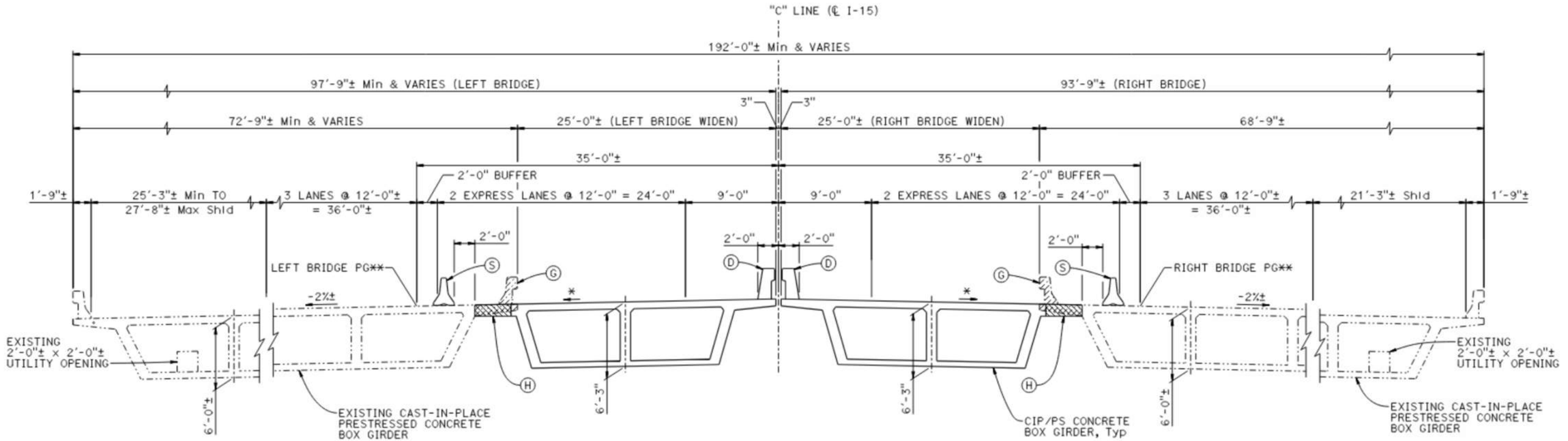
NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	30.09

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
5/25/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 10-MAY-2021 TIME PLOTTED => 13:37
FILE => 56-0677r1-a-gp02.dgn USERNAME => DLAFRANCHI

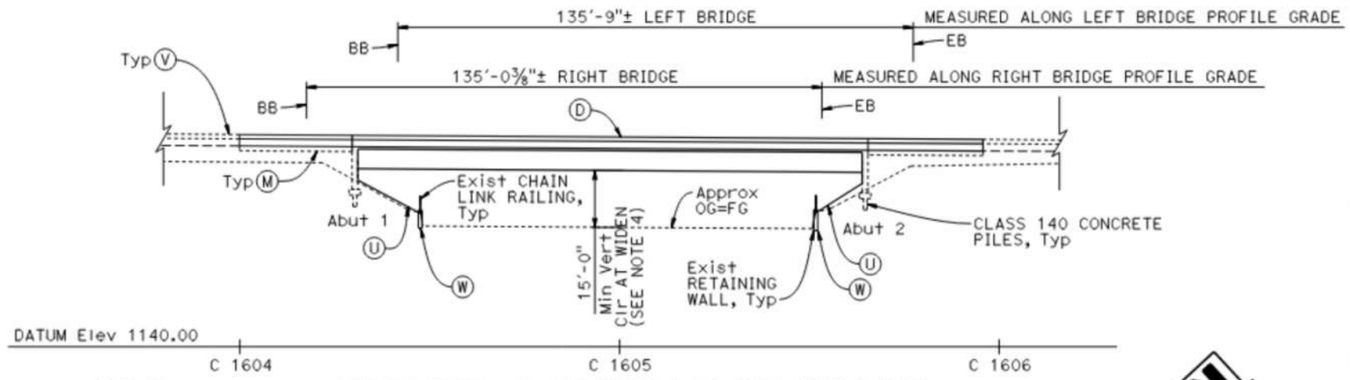
DESIGNED BY D. LAFRANCHI	DATE 05/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 05/2021		INDIAN WASH (WIDEN)
CHECKED BY W. PEERY	DATE 05/2021		UNIT: 0000 / BRIDGE No.: 56-0677 R/L
APPROVED J. WANG	DATE 05/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	30.4

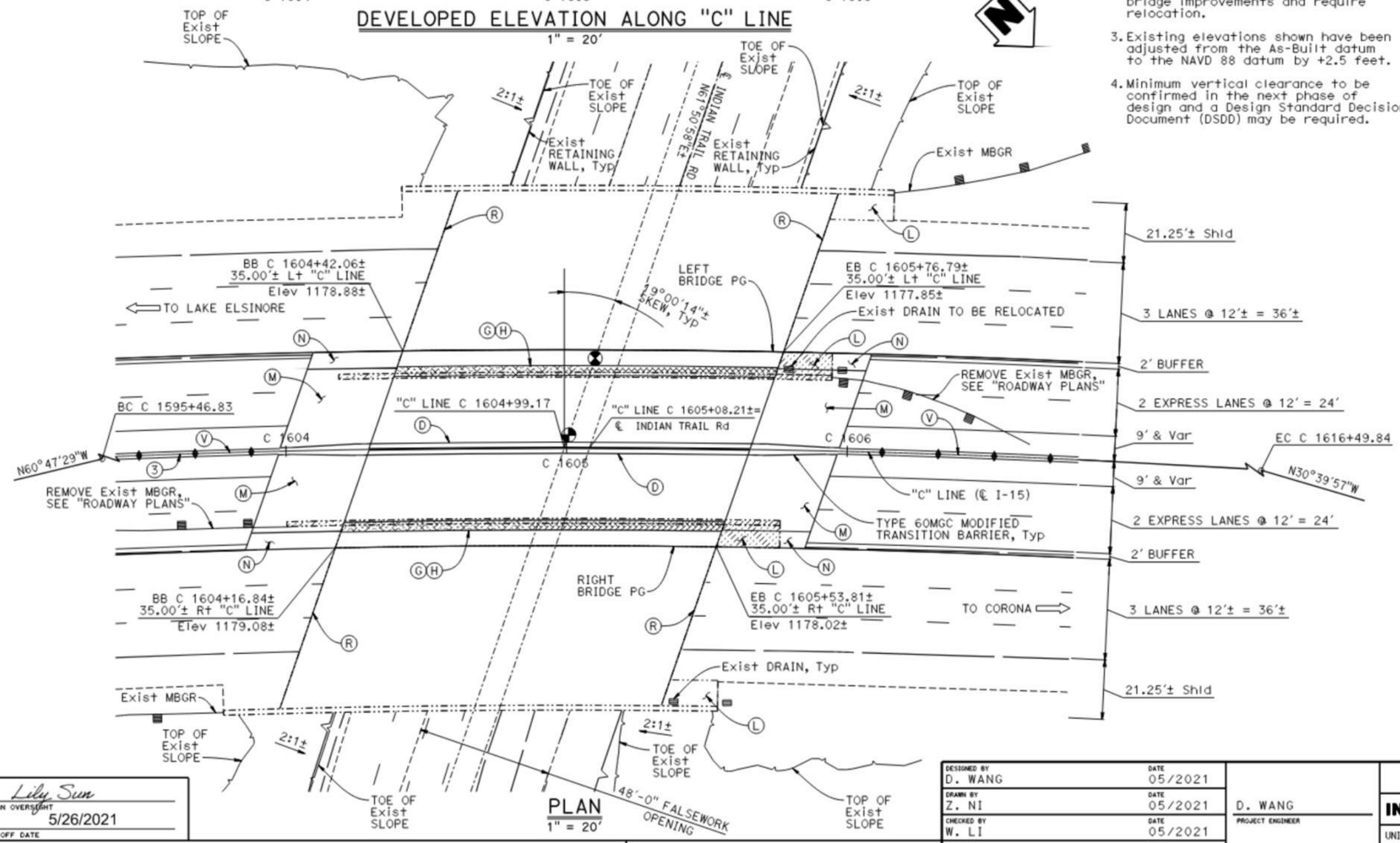
RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

IDC CONSULTING ENGINEERS, INC.
300 SOUTH HARBOR BLVD,
SUITE 710
ANAHEIM, CA 92805-3719



DEVELOPED ELEVATION ALONG "C" LINE

1" = 20'



PLAN

1" = 20'

CURVE DATA				
MARK	R	Δ	T	L
(3)	3999.72'	30°07'32"	1076.42'	2103.01'

ASSUMPTIONS:

1. Vehicular traffic will pass through the construction site. A 15'-0" minimum vertical clearance is required under falsework. Falsework openings are required. Falsework depth assumed to be 3'-0" (48'-0" Opening).
2. No existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Minimum vertical clearance to be confirmed in the next phase of design and a Design Standard Decision Document (DSDD) may be required.

NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (L) Existing Shoulder Slab
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (R) Clean Expansion Joint and Place New Joint Seal
- (U) Remove and Reconstruct Slope Paving (Portion)
- (V) Median Barrier, see "ROADWAY PLANS"
- (W) Remove and Reconstruct Retaining Wall (Portion)

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour
- Direction of traffic
- Point of Min Vert Clr (Widen)
- Point of Min Vert Clr (Exist)

DATE OF ESTIMATE	03/2021
BRIDGE REMOVAL	= 1,117 SQFT
STRUCTURE DEPTH	= 6'-3"
LENGTH	= 135'-4⅝"(Avg)
WIDTH	= 50'-0"
AREA	= 6,770 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $408
TOTAL COST	= $2,761,000

Lily Sun
DESIGN OVERSIGHT
5/26/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 27-MAY-2021 TIME PLOTTED => 22:08
FILE => 56-0676r1-a-gp01.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. WANG	DATE 05/2021
DRAWN BY Z. NI	DATE 05/2021
CHECKED BY W. LI	DATE 05/2021
APPROVED X. WU	DATE 05/2021

D. WANG
PROJECT ENGINEER

PLANNING STUDY

INDIAN TRUCK TRAIL UC (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0676 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

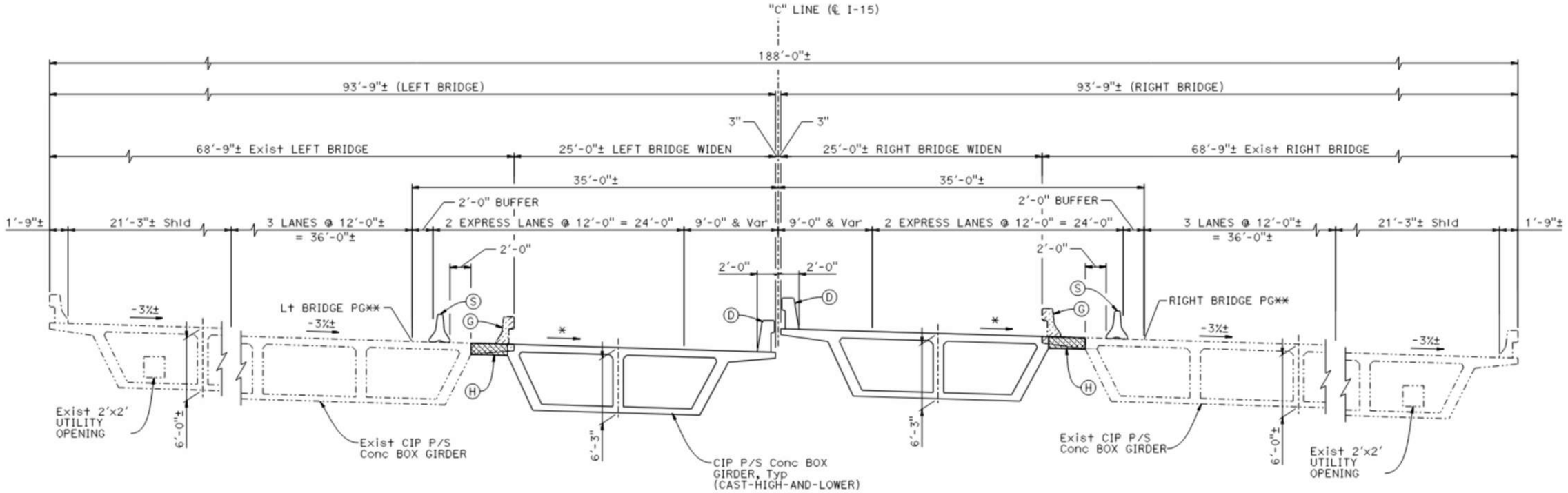
NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3-6")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	30.4

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

IDC CONSULTING ENGINEERS, INC.
300 SOUTH HARBOR BLVD,
SUITE 710
ANAHEIM, CA 92805-3719



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
5/26/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 06-APR-2021 TIME PLOTTED => 07:41
FILE => 56-0676r1-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY	D. WANG	DATE	04/2021
DRAWN BY	Z. NI	DATE	04/2021
CHECKED BY	W. LI	DATE	04/2021
APPROVED	X. WU	DATE	04/2021

D. WANG
PROJECT ENGINEER

PLANNING STUDY

INDIAN TRUCK TRAIL UC (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0676 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

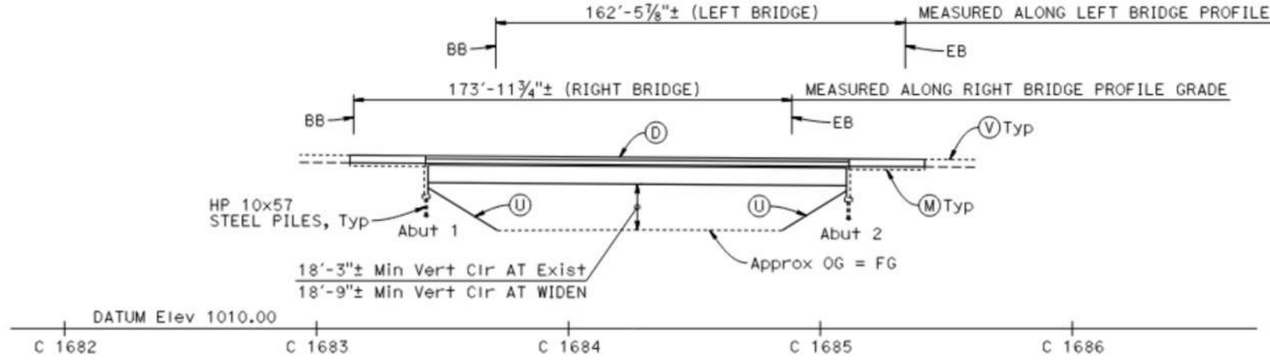
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	31.90

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

NOTE: Profile Grade to match existing



DEVELOPED ELEVATION ALONG "C" LINE

1" = 30'

CURVE DATA				
MARK	R	Δ	T	L
(14)	3999.74'	34°45'02"	1251.55'	2425.89'

LEGEND:

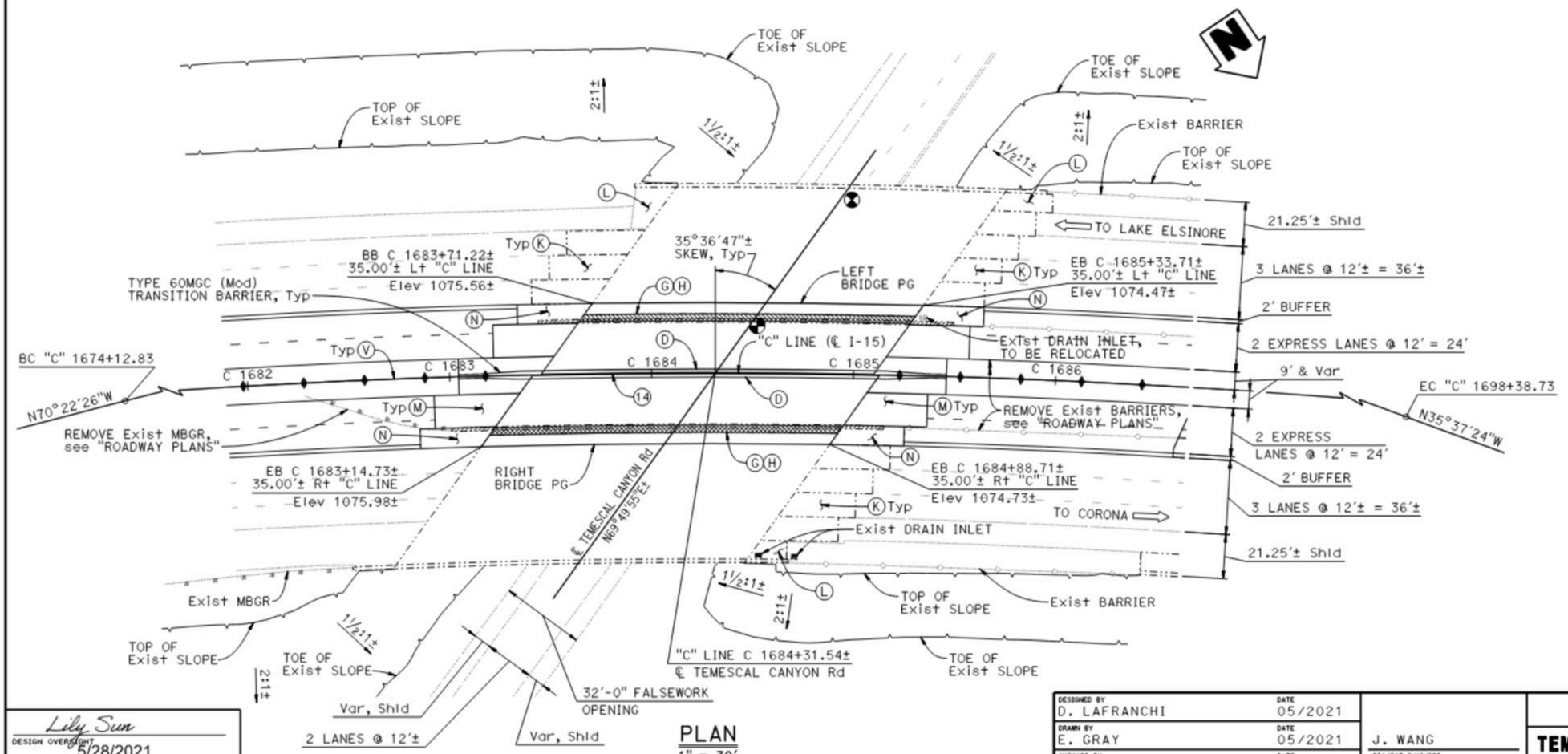
- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure pour
- Point of Min Vert Clr (Widen)
- Point of Min Vert Clr (Exist)
- Direction of traffic

NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge removal (portion)
- (H) Closure pour (3'-6")
- (K) Existing Structure Approach
- (L) Existing Shoulder Slab
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (U) Slope Paving
- (V) Median Barrier, see "ROADWAY PLANS"

ASSUMPTIONS:

1. Vehicular traffic will pass through the construction site. A 15'-0" minimum vertical clearance is required under falsework. Falsework openings are required. Falsework depth assumed to be 2'-8 ½" (32'-0" opening).
2. No existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic retrofit assessment for this structure will be considered in the design phase of the project.



PLAN

1" = 30'

DATE OF ESTIMATE	04/2021
BRIDGE REMOVAL	= 1388 SQFT
STRUCTURE DEPTH	= 7'-9"
LENGTH	= 168'-2 ⅝" (Avg)
WIDTH	= 50'-0" Avg
AREA	= 8412 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $303
TOTAL COST	= $2,548,000

Lily Sun
DESIGN OVERSIGHT
5/28/2021
SIGN OFF DATE

DESIGNED BY D. LAFRANCHI	DATE 05/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 05/2021		TEMESCAL CANYON ROAD UC (WIDEN)
CHECKED BY W. PEERY	DATE 05/2021		UNIT: 0000 / BRIDGE No.: 56-0675 R/L
APPROVED J. WANG	DATE 05/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)
DATE PLOTTED => 27-MAY-2021 TIME PLOTTED => 17:40
FILE => 56-0675r1-a-gp01.dgn USERNAME => DLAFRANCHI

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

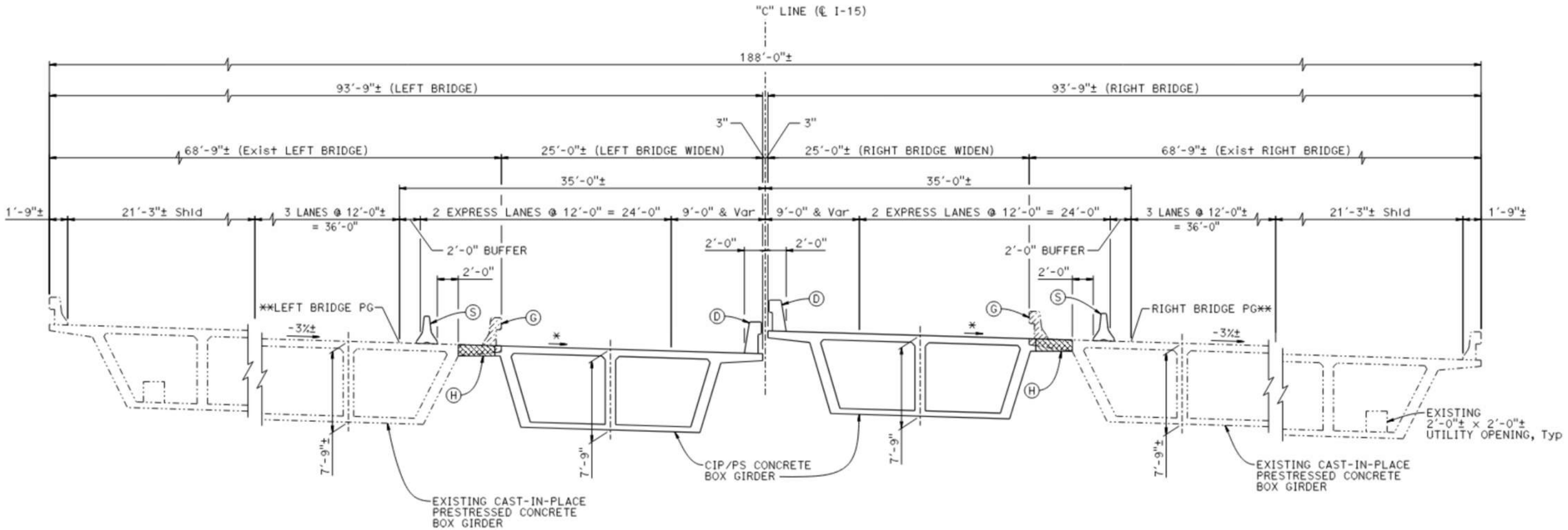
Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	31.90

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

LEGEND:
- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

NOTES:
- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"



TYPICAL SECTION

1" = 5'

* Match existing cross-slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
5/28/2021
SIGN OFF DATE

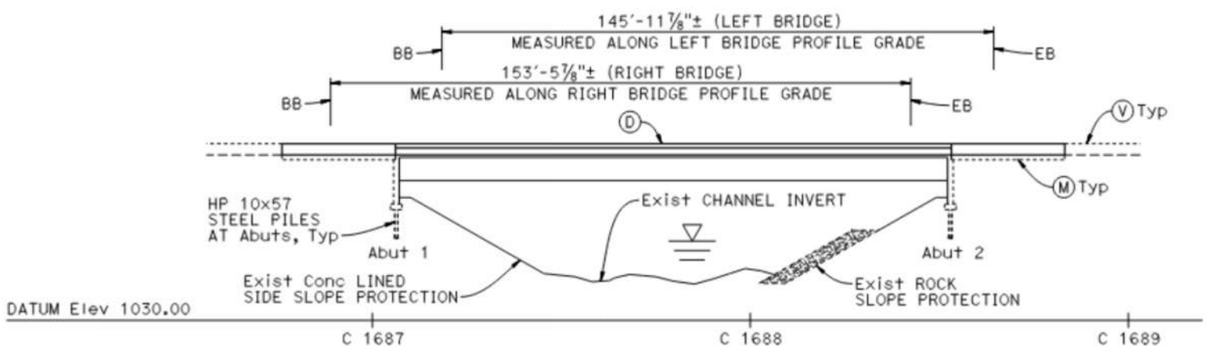
ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 10-MAY-2021 TIME PLOTTED => 13:42
FILE => 56-0675r1-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 05/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 05/2021		TEMESCAL CANYON ROAD UC (WIDEN)
CHECKED BY W. PEERY	DATE 05/2021		UNIT: 0000 / BRIDGE No.: 56-0675 R/L
APPROVED J. WANG	DATE 05/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

NOTE: Profile Grade to match existing



DEVELOPED ELEVATION ALONG "C" LINE

1" = 20'

ASSUMPTIONS:

1. Vehicular traffic will not pass through the construction site. No falsework openings required.
2. No existing utilities conflict with bridge improvements and require relocation.
3. Exsiting elevations shown have been adjusted from the As-Built datum to NAVD 88 datum by +2.5 feet.
4. Seismic retrofit assessment for this structure will be considered in the design phase of the project.
5. Bridge deck drainage system to be developed and provided in the design phase.
6. Per Caltrans District 8 Storm Water Coordinator, existing deck drains that discharge surface flows directly to blue-line streams below will require coordination, analysis and potential drainage system retrofit during the design phase to maintain National Pollutant Discharge Elimination System (NPDES) and Regional Water Quality Control Board (RWQCB) compliance.

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	31.97

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

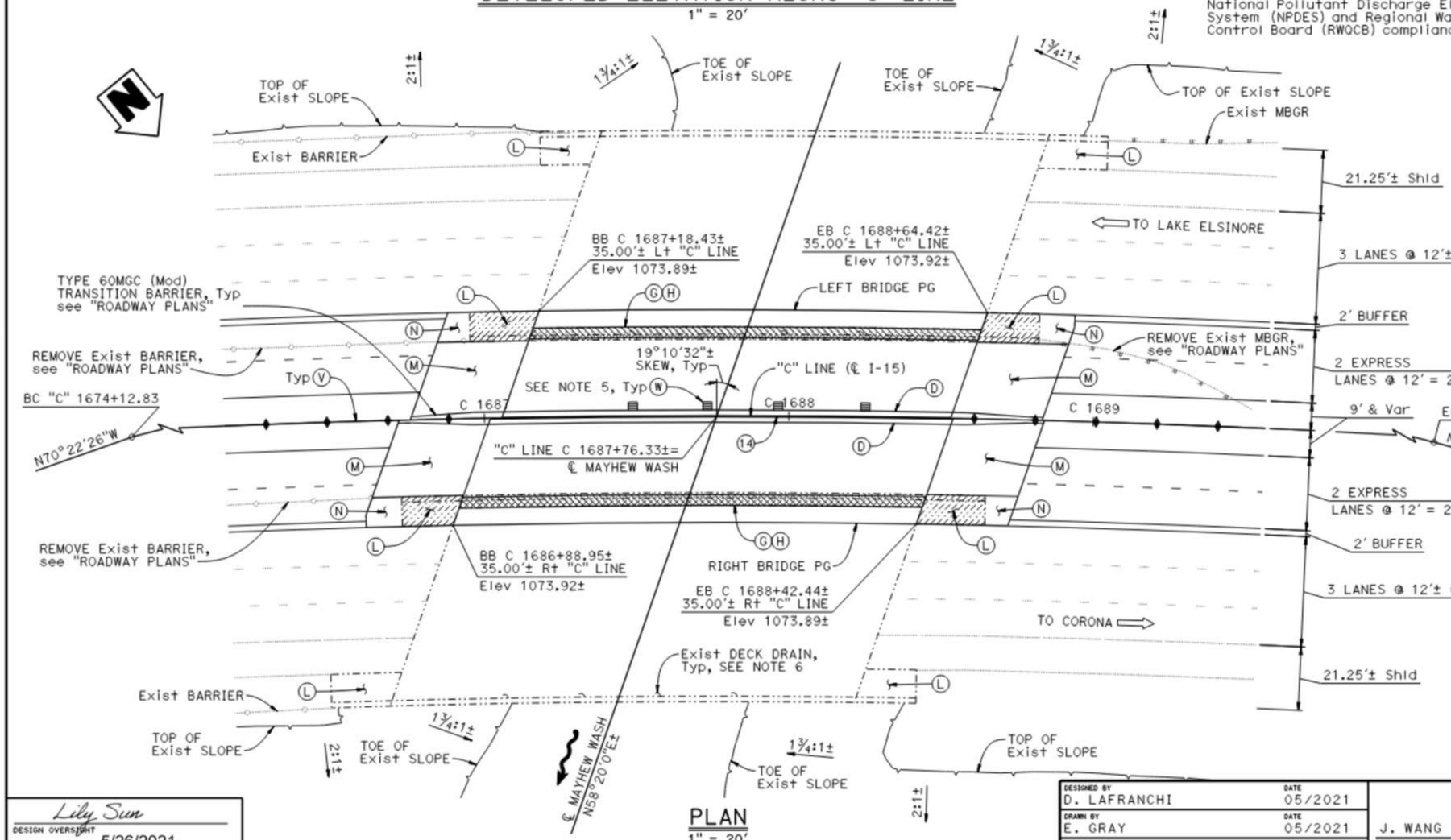
HDR ENGINEERING, INC.
5230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge removal (portion)
- (H) Closure pour (3'-6")
- (L) Existing Shoulder Slab
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (V) Median Barrier, see "ROADWAY PLANS"
- (W) Deck Drain (Type D-3)

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour
- Direction of traffic
- Direction of flow
- High water surface elevation (Left Bridge 1051.0±) (Right Bridge 1048.5±)



PLAN

1" = 20'

CURVE DATA				
MARK	R	Δ	T	L
(14)	3999.74'	34°45'02"	1251.55'	2425.89'

DATE OF ESTIMATE	04/2021
BRIDGE REMOVAL	= 1234 SQFT
STRUCTURE DEPTH	= 6'-9" (Lt); 7'-0" (Rt)
LENGTH	= 149'-9" (Avg)
WIDTH	= 50'-0"
AREA	= 7487 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $302
TOTAL COST	= $2,265,000

Lily Sun
DESIGN OVERSIGHT
5/26/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 10-MAY-2021 TIME PLOTTED => 13:44
FILE => 56-0674r1-a-gp01.dgn USERNAME => DLAFRANCHI

DESIGNED BY	D. LAFRANCHI	DATE	05/2021
DRAWN BY	E. GRAY	DATE	05/2021
CHECKED BY	A. ROMINGER	DATE	05/2021
APPROVED	J. WANG	DATE	05/2021

J. WANG
PROJECT ENGINEER

PLANNING STUDY

MAYHEW WASH (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0674 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	31.97

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

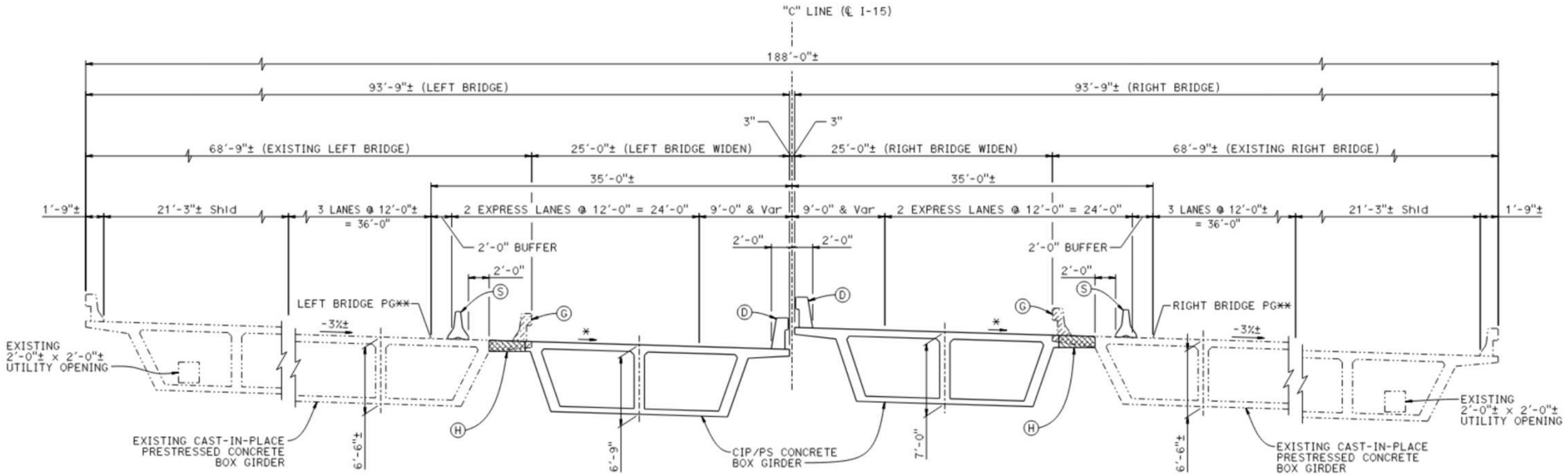
HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
5/26/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 10-MAY-2021 TIME PLOTTED => 13:46
FILE => 56-0674rt-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 05/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 05/2021		MAYHEW WASH (WIDEN)
CHECKED BY A. ROMINGER	DATE 05/2021		UNIT: 0000 / BRIDGE No.: 56-0674 R/L
APPROVED J. WANG	DATE 05/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

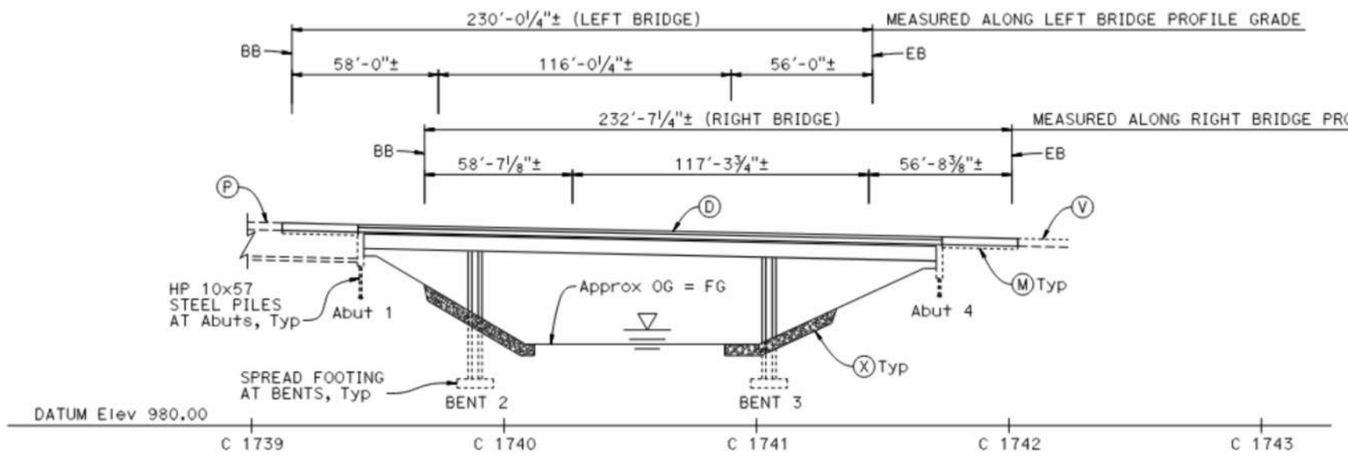
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	32.96

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

NOTE: Profile Grade to match existing



DEVELOPED ELEVATION ALONG "C" LINE

1" = 30'

CURVE DATA				
MARK	R	Δ	T	L
(16)	3999.74'	27°46'23"	988.83'	1938.79'

SKEW DATA	
SUPPORT	SKEW
Abut 1	36°53'24"±
BENT 2	37°43'30"±
BENT 3	39°23'46"±
Abut 4	40°12'11"±

ASSUMPTIONS:

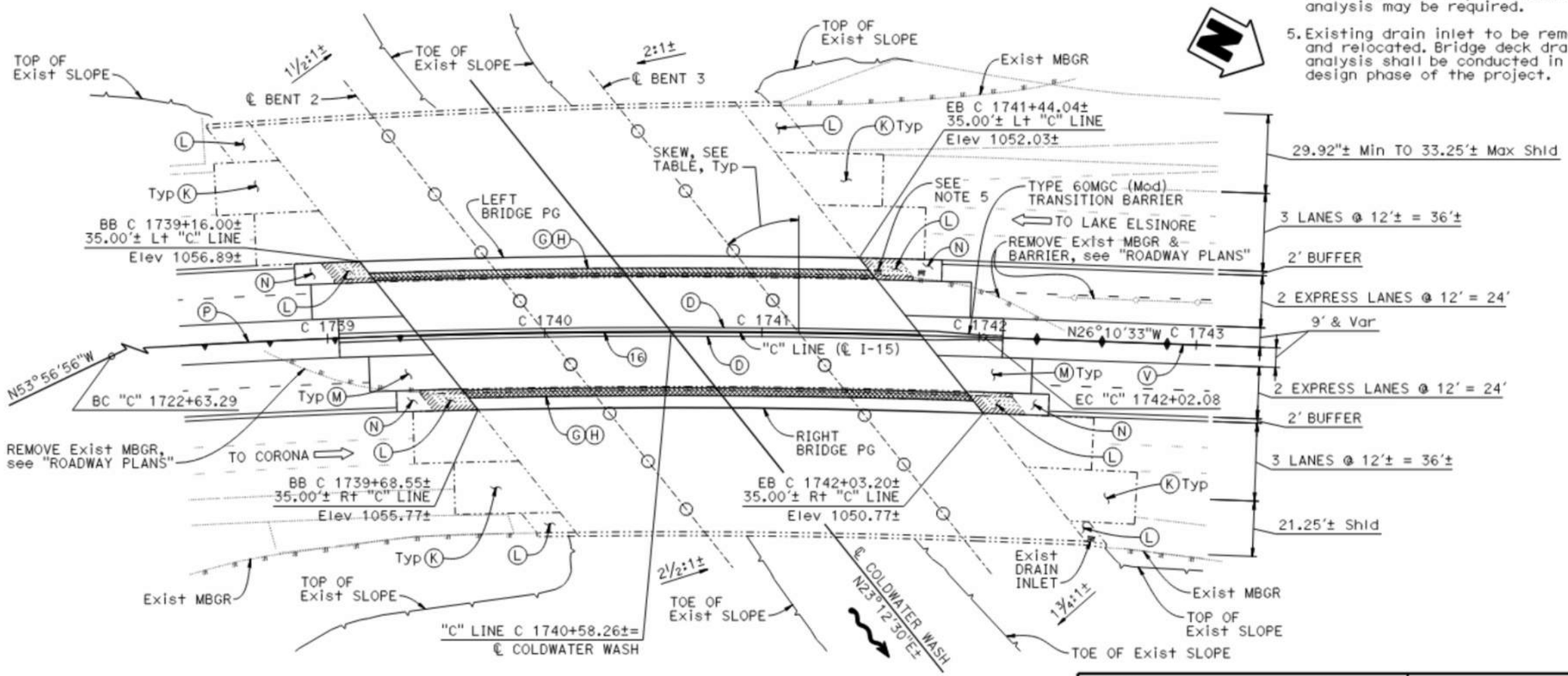
1. Vehicular traffic will not pass through the construction site. No falsework openings required.
2. No existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic analysis for this structure will be considered in the design phase of the project. Additional fault rupture hazard analysis may be required.
5. Existing drain inlet to be removed and relocated. Bridge deck drainage analysis shall be conducted in the design phase of the project.

NOTES:

- (D) Concrete Barrier (Type 836)
- (G) Bridge removal (portion)
- (H) Closure pour (3'-6")
- (K) Existing Structure Approach
- (L) Existing Shoulder Slab
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (P) Retaining Wall, see "ROADWAY PLANS"
- (V) Median Barrier, see "ROADWAY PLANS"
- (X) Rock Slope Protection

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour
- Direction of traffic
- Direction of flow
- High water surface elevation (Left Bridge 1028.3±) (Right Bridge 1024.3±)



PLAN

1" = 30'

DATE OF ESTIMATE	06/2021
BRIDGE REMOVAL	= 1908 SQFT
STRUCTURE DEPTH	= 6'-6"
LENGTH	= 231'-3¾" (Avg)
WIDTH	= 50'-0"
AREA	= 11,566 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $364
TOTAL COST	= $4,213,000

Lily Sun
DESIGN OVERSIGHT
7/29/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 30-JUN-2021 TIME PLOTTED => 07:18
FILE => 56-0543r1-a-gp01.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 07/2021
DRAWN BY E. GRAY	DATE 07/2021
CHECKED BY A. ROMINGER	DATE 07/2021
APPROVED J. WANG	DATE 07/2021

J. WANG
PROJECT ENGINEER

PLANNING STUDY

COLDWATER WASH (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0543 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

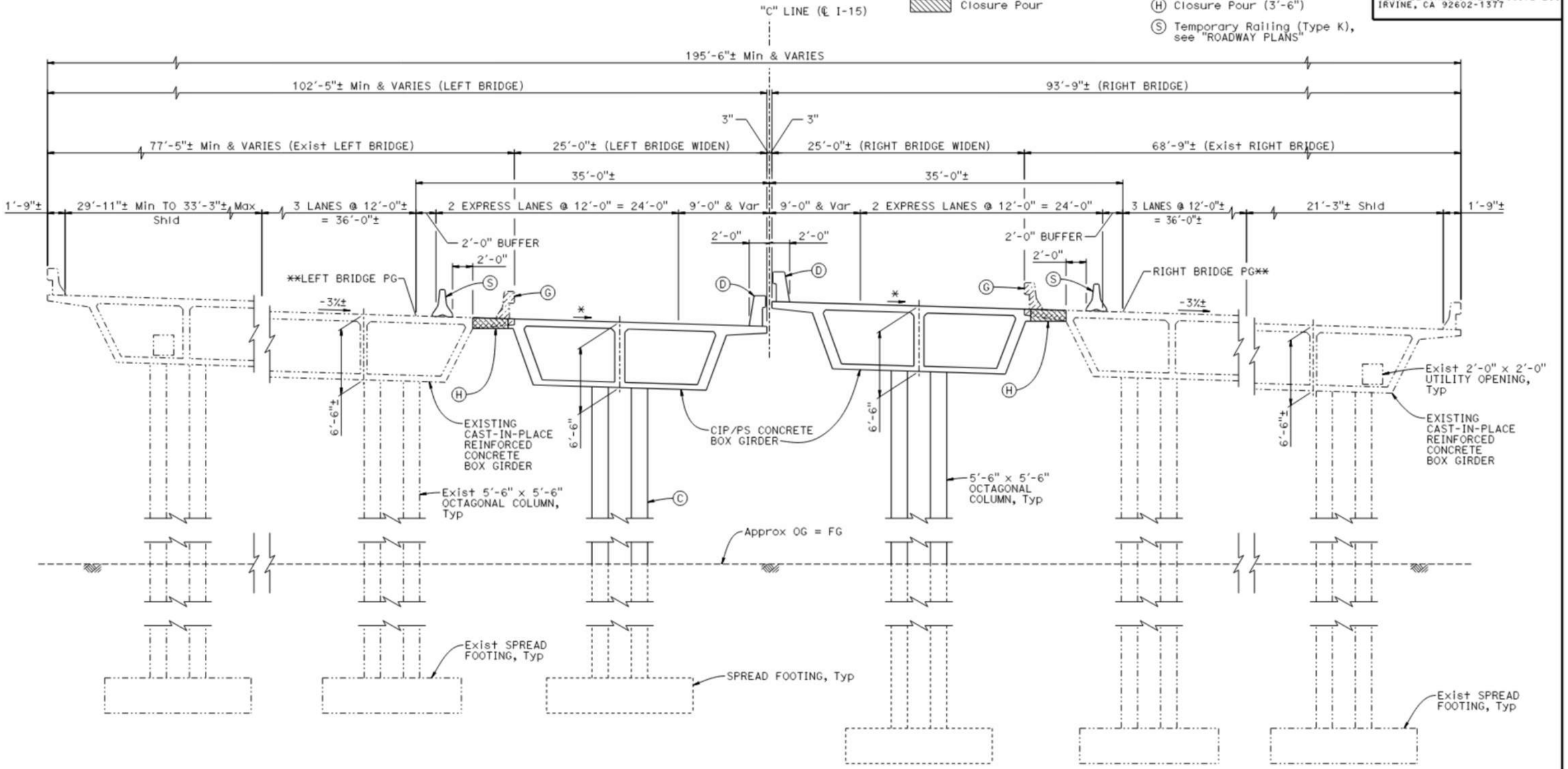
Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	32.96

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

LEGEND:
- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

NOTES:
- (C) Paint Bent Number
- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
7/29/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 30-JUN-2021 TIME PLOTTED => 07:25
FILE => 56-0543r1-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 07/2021	J. WANG, PROJECT ENGINEER
DRAWN BY E. GRAY	DATE 07/2021	
CHECKED BY A. ROMINGER	DATE 07/2021	
APPROVED J. WANG	DATE 07/2021	

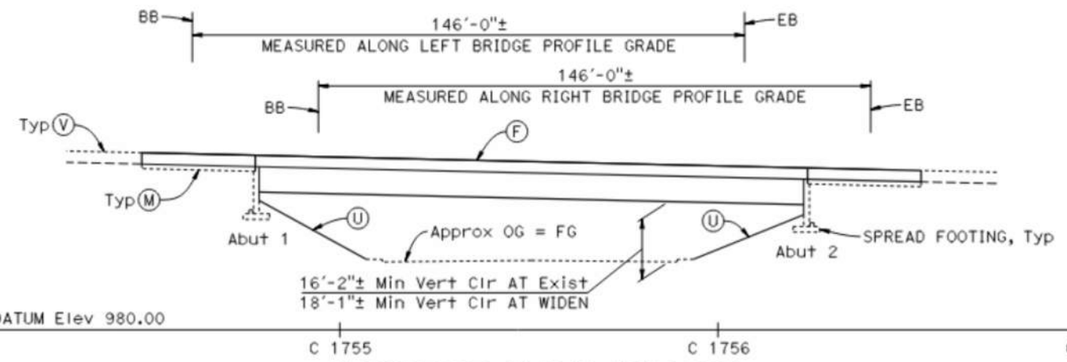
PLANNING STUDY

COLDWATER WASH (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0543 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

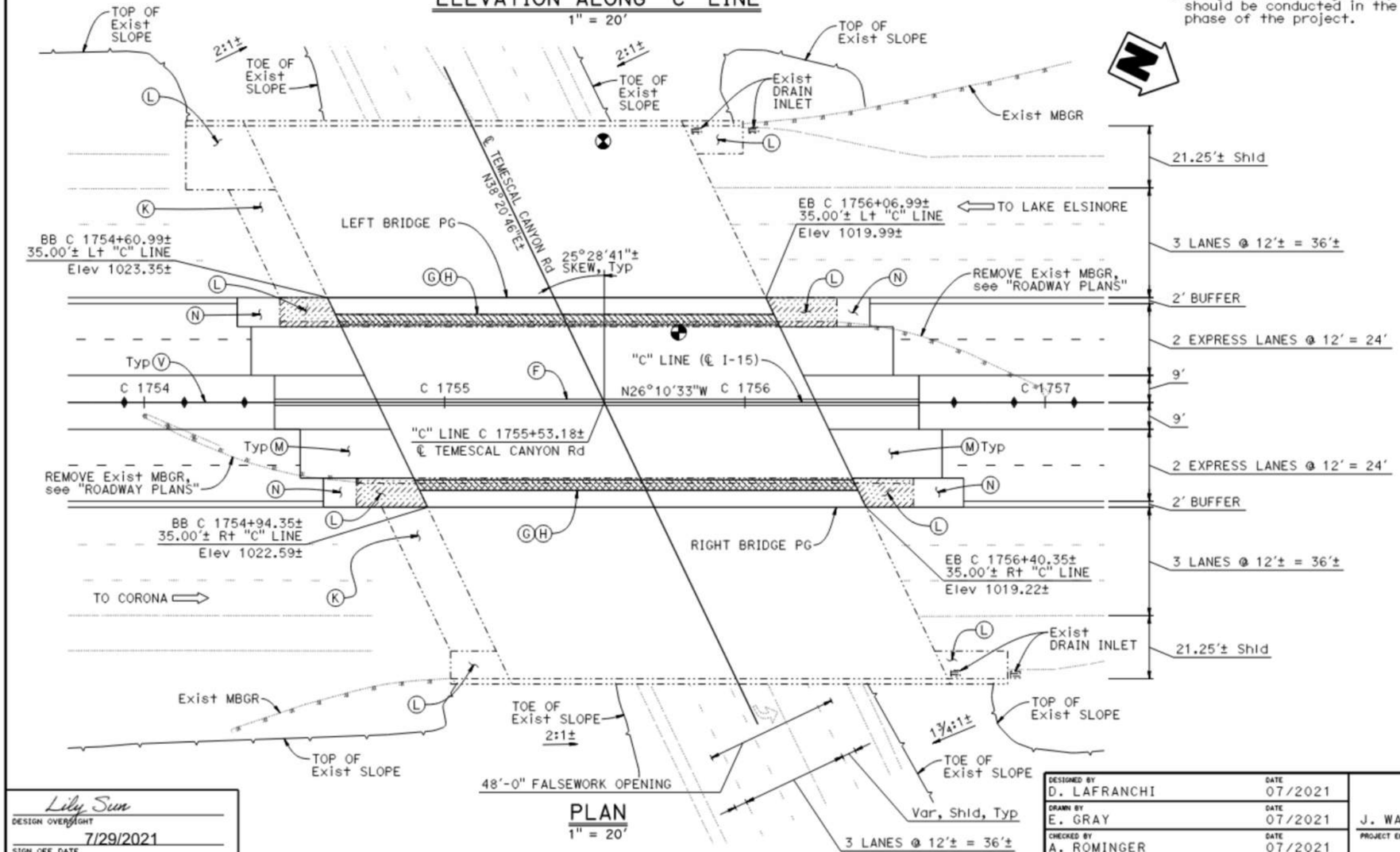
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

NOTE: Profile Grade to match existing



ELEVATION ALONG "C" LINE

1" = 20'



PLAN

1" = 20'

ASSUMPTIONS:

1. Vehicular traffic will pass through the construction site. A 15'-0" minimum vertical clearance is required under falsework. Falsework openings are required. Falsework depth assumed to be 3'-0" (48'-0" opening).
2. No existing utilities conflict with bridge improvements and require relocation except a fiber optic line near Abutment 1 approach slabs.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic retrofit assessment for this structure should be considered in the design phase of the project.
5. Bridge deck drainage analysis should be conducted in the design phase of the project.

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	33.25

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

NOTES:

- (F) Concrete Barrier (Type 60MA)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-6")
- (K) Existing Structure Approach
- (L) Existing Shoulder Slab
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (U) Slope Paving
- (V) Median Barrier, see "ROADWAY PLANS"

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure pour
- Point of Min Vert Clr (Widen)
- Point of Min Vert Clr (Exist)
- Direction of traffic

DATE OF ESTIMATE	06/2021
BRIDGE REMOVAL	= 1205 SQFT
STRUCTURE DEPTH	= 6'-9"
LENGTH	= 146'-0"
WIDTH	= 50'-6"
AREA	= 7373 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $295
TOTAL COST	= $2,173,000

Lily Sun
DESIGN OVERSIGHT
7/29/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 30-JUN-2021 TIME PLOTTED => 07:30
FILE => 56-0542r1-a-gp01.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 07/2021
DRAWN BY E. GRAY	DATE 07/2021
CHECKED BY A. ROMINGER	DATE 07/2021
APPROVED J. WANG	DATE 07/2021

J. WANG
PROJECT ENGINEER

PLANNING STUDY

TEMESCAL CANYON RD UC (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0542 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

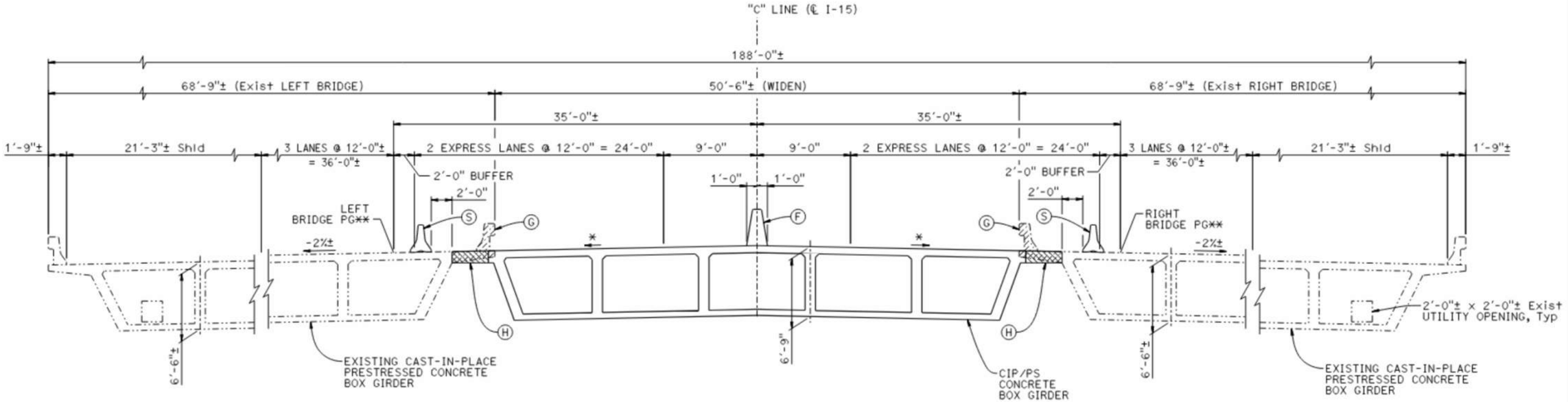
NOTES:

(F) Concrete Barrier (Type 60MA)
(G) Bridge Removal (Portion)
(H) Closure Pour (3'-6")
(S) Temporary Railing (Type K), see "ROADWAY PLANS"

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	33.25

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
7/29/2021
SIGN OFF DATE

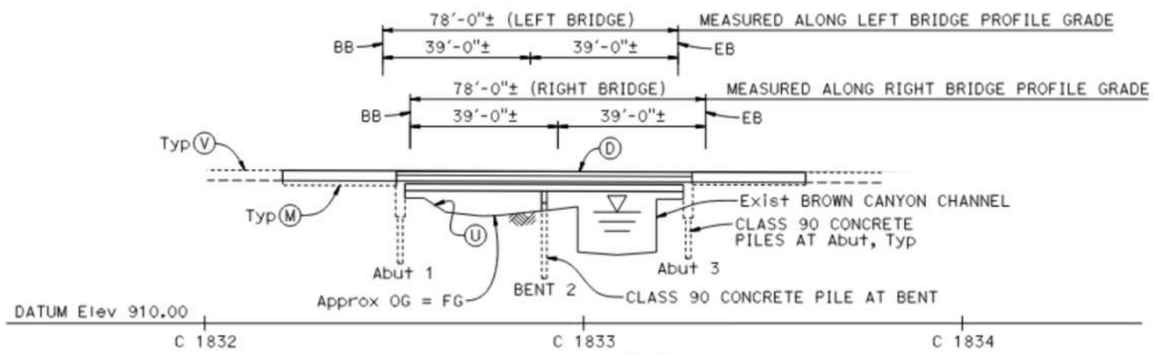
ADVANCE PLANNING STUDY SHEET
(ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 30-JUN-2021
FILE => 56-0542r1-a-gp02.dgn
TIME PLOTTED => 07:36
USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 07/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 07/2021		TEMESCAL CANYON RD UC (WIDEN)
CHECKED BY A. ROMINGER	DATE 07/2021		UNIT: 0000 / BRIDGE No.: 56-0542 R/L
APPROVED J. WANG	DATE 07/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

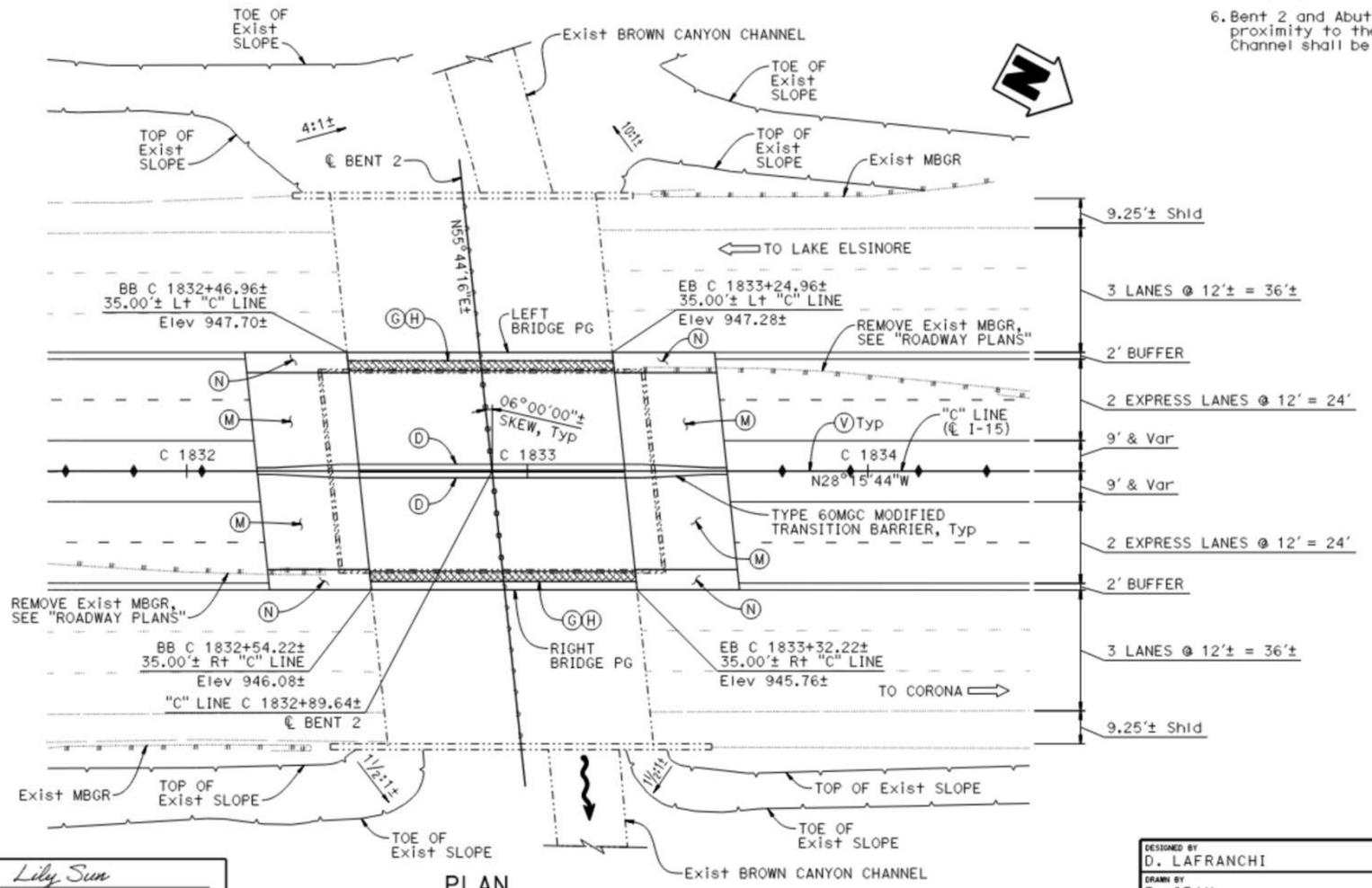
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

NOTE: Profile Grade to match existing



ELEVATION ALONG "C" LINE

1" = 20'



PLAN

1" = 20'

ASSUMPTIONS:

1. Vehicular traffic will not pass through the construction site. No falsework openings required.
2. An existing 24" water line runs parallel to the proposed Bent 2 columns and shall be protected in place or require relocation. No other existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic analysis for this structure will be considered in the design phase of the project. Additional fault rupture hazard analysis may be required.
5. A bridge deck drainage analysis should be conducted in the design phase of the project.
6. Bent 2 and Abutment 3 piles driven in close proximity to the existing Brown Canyon Channel shall be pre-drilled.

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	34.72

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

NOTES:

(D) Concrete Barrier (Type 836)
(G) Bridge Removal (Portion)
(H) Closure Pour (3'-0")
(M) Structure Approach Type N(30)
(N) Structure Approach Type R(30)
(U) Remove and Reconstruct Slope Paving (Portion)
(V) Median Barrier, see "ROADWAY PLANS"

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour
- Direction of traffic
- Direction of flow
- High water surface elevation (Left Bridge 940.4±) (Right Bridge 937.3±)

DATE OF ESTIMATE	06/2021
BRIDGE REMOVAL	= 540 SQFT
STRUCTURE DEPTH	= 2'-6"
LENGTH	= 78'-0" (Lt and Rt)
WIDTH	= 57'-6"
AREA	= 4485 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $298
TOTAL COST	= $1,339,000

Lily Sun
DESIGN OVERSIGHT
7/29/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 30-JUN-2021 TIME PLOTTED => 07:39
FILE => 56-0559rt-a-gp01.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 07/2021
DRAWN BY E. GRAY	DATE 07/2021
CHECKED BY A. ROMINGER	DATE 07/2021
APPROVED J. WANG	DATE 07/2021

J. WANG
PROJECT ENGINEER

PLANNING STUDY

BROWN CANYON WASH (WIDEN)

UNIT: 0000	BRIDGE No.: 56-0559 R/L
CONTRACT No.: 08-0J0820	PROJECT No. & PHASE: 08-18000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

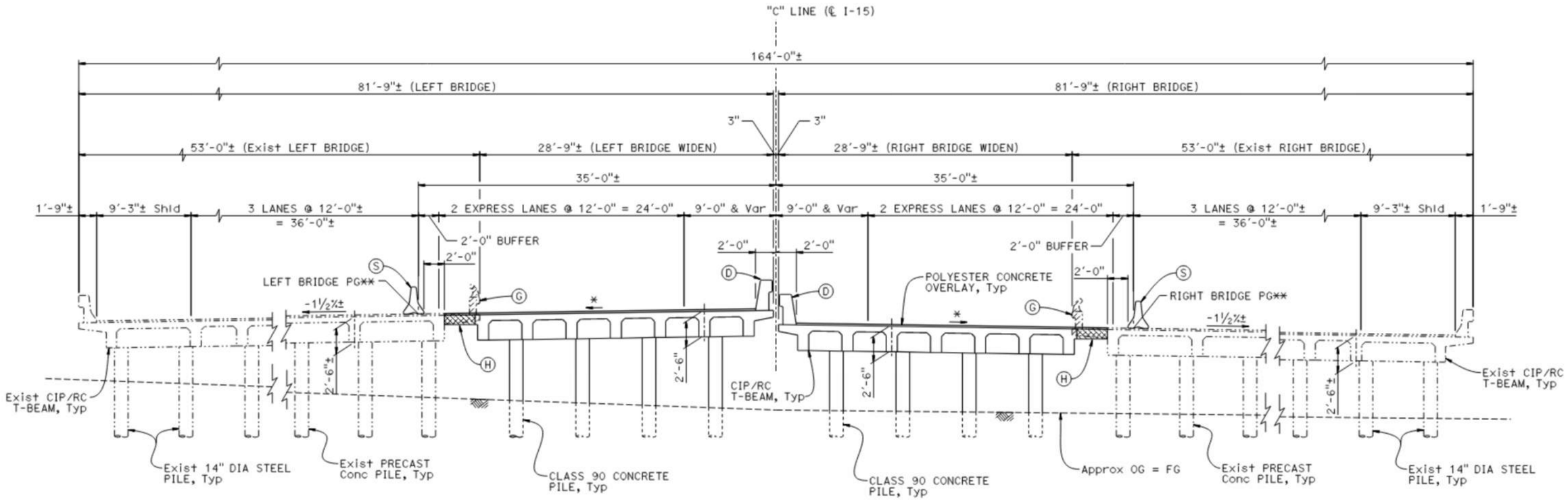
LEGEND:
- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

NOTES:
- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-0")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	34.72

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
7/29/2021
SIGN OFF DATE

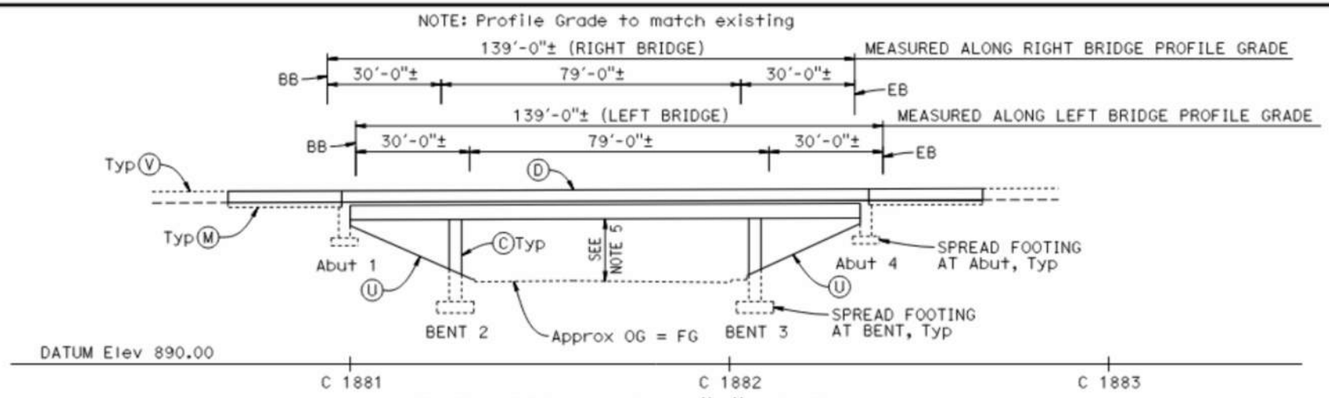
ADVANCE PLANNING STUDY SHEET
(ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 30-JUN-2021 TIME PLOTTED => 07:41
FILE => 56-0559r1-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 07/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 07/2021		BROWN CANYON WASH (WIDEN)
CHECKED BY A. ROMINGER	DATE 07/2021		UNIT: 0000 / BRIDGE No.: 56-0559 R/L
APPROVED J. WANG	DATE 07/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

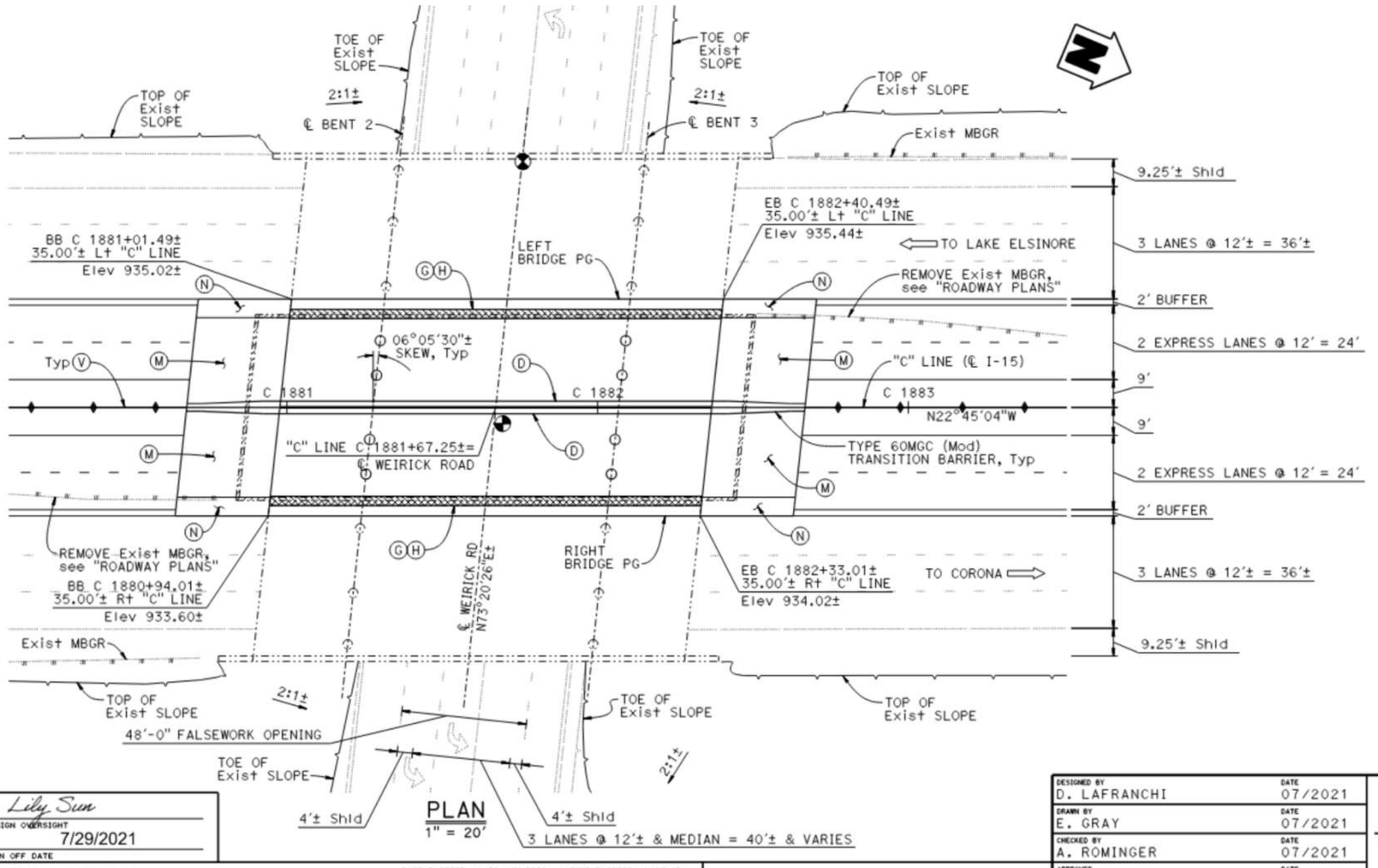
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

NOTE: Profile Grade to match existing



ELEVATION ALONG "C" LINE

1" = 20'



PLAN

1" = 20'

ASSUMPTIONS:

1. Vehicular traffic will pass through the construction site. A 15'-0" minimum vertical clearance is required under falsework. Falsework openings are required. Falsework depth assumed to be 3'-0" (48'-0" opening).
2. An existing telephone line runs parallel to ℄ BENT 3 and shall be protected in place or require relocation. No other existing utilities conflict with bridge improvements and require relocation.
3. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5 feet.
4. Seismic analysis for this structure will be considered in the design phase of the project.
5. 15'-2"± minimum vertical clearance at Existing. 18'-1"± minimum vertical clearance at Widen.

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	35.64

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

NOTES:

- (C) Paint Bent Number
- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-0")
- (M) Structure Approach Type N(30)
- (N) Structure Approach Type R(30)
- (U) Slope Paving
- (V) Median Barrier, see "ROADWAY PLANS"

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure pour
- Point of Min Vert Clr (Widen)
- Point of Min Vert Clr (Exist)
- Direction of traffic

DATE OF ESTIMATE	06/2021
BRIDGE REMOVAL	= 741 SQFT
STRUCTURE DEPTH	= 4'-6"
LENGTH	= 139'-0" (Lt and Rt)
WIDTH	= 57'-6"
AREA	= 7993 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $322
TOTAL COST	= $2,576,000

Lily Sun
DESIGN OVERSIGHT
7/29/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 30-JUN-2021 TIME PLOTTED => 07:43
FILE => 56-0541r1-a-gp01.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 07/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 07/2021		WEIRICK ROAD UC (WIDEN)
CHECKED BY A. ROMINGER	DATE 07/2021		UNIT: 0000 / BRIDGE No.: 56-0541 R/L
APPROVED J. WANG	DATE 07/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Lily Sun

LEGEND:

- New structure
- Existing structure
- Bridge Removal (Portion)
- Closure Pour

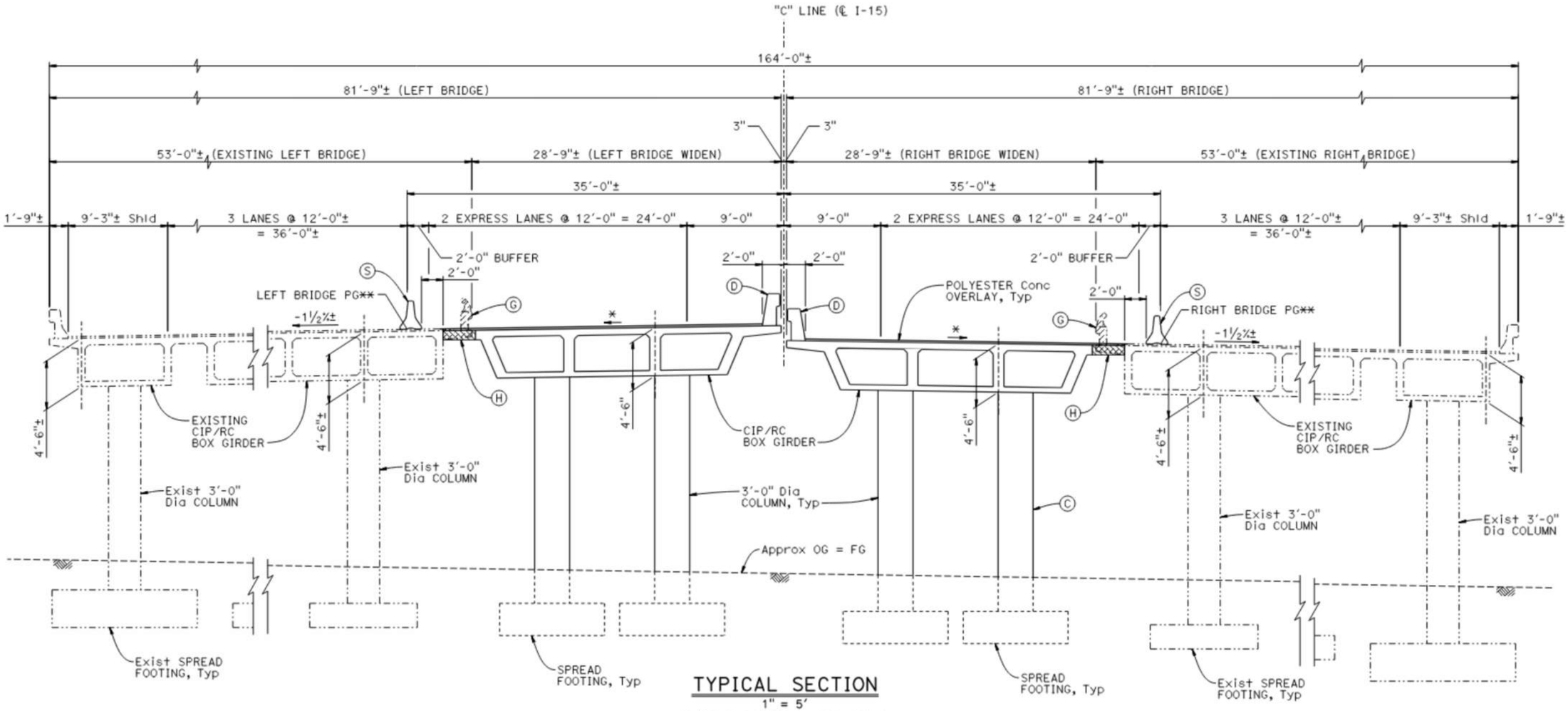
NOTES:

- (C) Paint Bent Number
- (D) Concrete Barrier (Type 836)
- (G) Bridge Removal (Portion)
- (H) Closure Pour (3'-0")
- (S) Temporary Railing (Type K), see "ROADWAY PLANS"

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	35.64

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377



TYPICAL SECTION

1" = 5'

* Match existing cross slope
** Match existing profile grade

Lily Sun
DESIGN OVERSIGHT
7/29/2021
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 30-JUN-2021 TIME PLOTTED => 07:45
FILE => 56-0541r1-a-gp02.dgn USERNAME => DLAFRANCHI

DESIGNED BY D. LAFRANCHI	DATE 07/2021	J. WANG PROJECT ENGINEER	PLANNING STUDY
DRAWN BY E. GRAY	DATE 07/2021		WEIRICK ROAD UC (WIDEN)
CHECKED BY A. ROMINGER	DATE 07/2021		UNIT: 0000 / BRIDGE No.: 56-0541 R/L
APPROVED J. WANG	DATE 07/2021		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

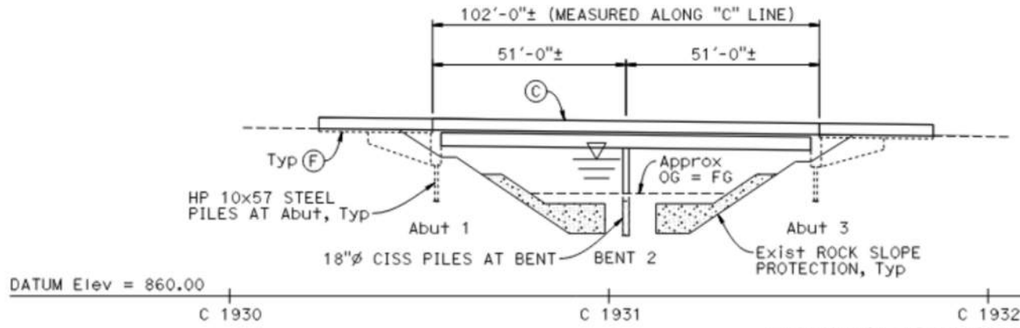
PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	36.58

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

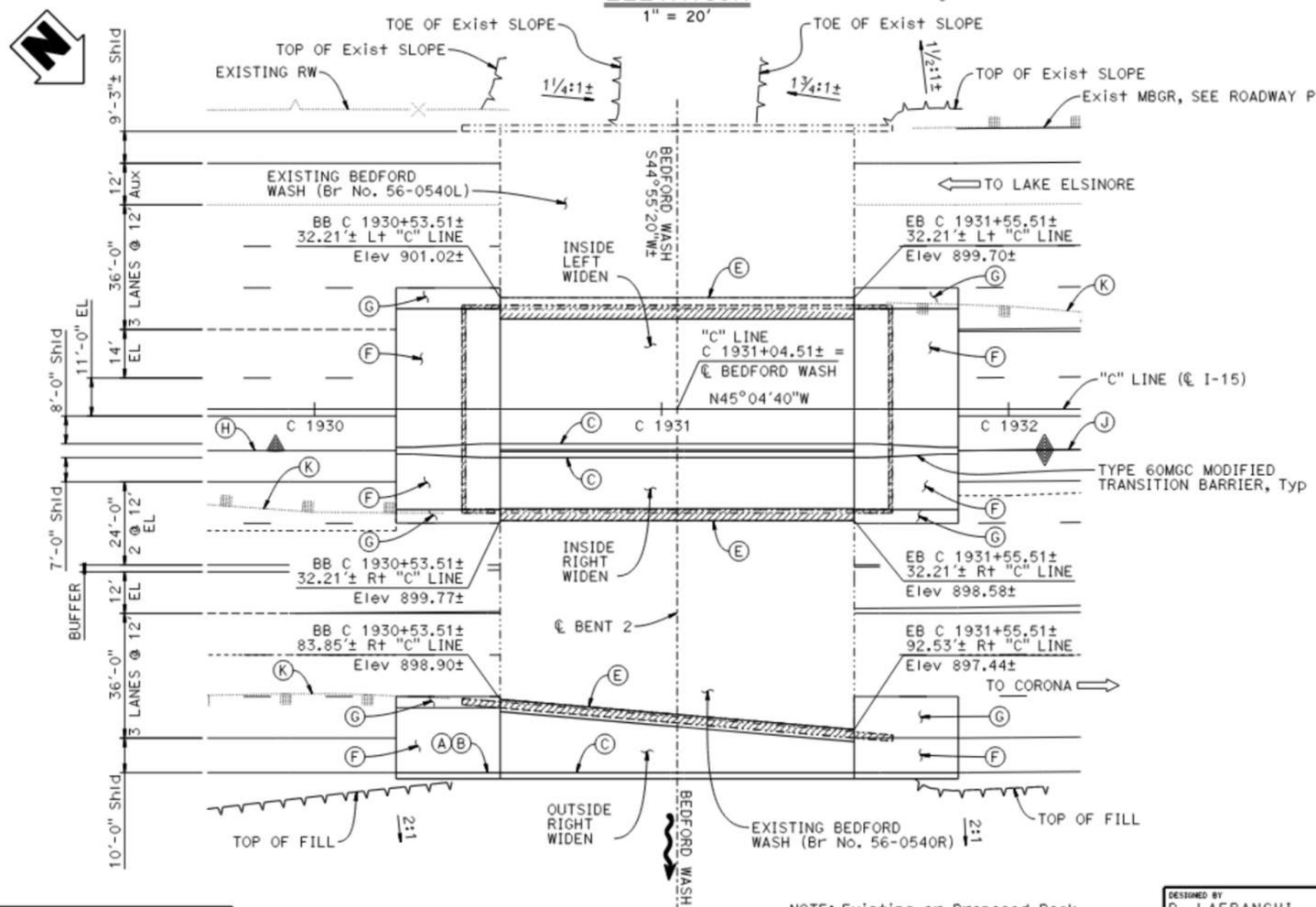
HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377

Note: Profile Grade to match existing.



ELEVATION
1" = 20'

NOTE: Outside Right Widen shown.
Inside Right and Inside Left Widen similar.



PLAN
1" = 20'

NOTE: Existing or Proposed Rock Riprap Sideslope Protection countermeasure not shown. See ROADWAY PLANS.

LEGEND:
- Existing structure
- Bridge Removal (Portion)
- Direction of Traffic
- Direction of flow
- High water surface elevation (Right Bridge = 888.2±) (Left Bridge = 891.9±)

NOTES:
- (A) Paint "Br No. 56-0540 R/L"
- (B) Paint "BEDFORD WASH" and Year Constructed
- (C) Concrete Barrier (Type 836)
- (E) Closure Pour
- (F) Structure Approach Type N (30)
- (G) Structure Approach Type R (30)
- (H) Retaining Wall, see ROADWAY PLANS
- (J) Median Barrier, see ROADWAY PLANS
- (K) Remove Existing MBGR, see ROADWAY PLANS

1. Portions of widening may be advanced in I-15 Corridor Operations Project (EA 08-0J0830).
2. "EL" indicates Express Lane.

ASSUMPTIONS:

1. Vehicular traffic will not pass through the construction site. No falsework openings required.
2. Existing elevations shown have been adjusted from the As-Built datum to the NAVD 88 datum by +2.5-feet.
3. Seismic retrofit assessment for this structure will be considered in the design phase of the Project.
4. Scour analysis and determination for need of scour countermeasure shall be considered in the design phase of the Project.
5. The following existing utilities may require removal, relocation, or coordination with the utility owner:
   - 5"ø Fiber Optic Conduit (Left Bridge)
   - 24"ø CSP (between Abut 1)
   - 5"ø Fiber Optic Conduit (Right Bridge)
   - 12" x 28' CSP Downdrain (Right Bridge)
   - 8"ø cement mortar-lined and coated pipe (parallel to Abutment 3)

DATE OF ESTIMATE	08/2022
BRIDGE REMOVAL	= 902 SQFT
STRUCTURE DEPTH	= 3'-6"
LENGTH	= 102'-0"
WIDTH	= 73'-7½" Avg
AREA	= 7,510 SQFT
COST/ft² INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= $286
TOTAL COST	= $2,151,000

Lily Sun
DESIGN OVERSIGHT
11-30-2022
SIGN OFF DATE

DESIGNED BY D. LAFRANCHI	DATE 09/2022	D. LAFRANCHI PROJECT ENGINEER	PLANNING STUDY
DRAWN BY D. LAFRANCHI	DATE 09/2022		BEDFORD WASH (WIDEN)
CHECKED BY J. WANG	DATE 09/2022		UNIT: 0000 / BRIDGE No.: 56-0540 R/L
APPROVED J. WANG	DATE 09/2022		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)
DATE PLOTTED => 21-SEP-2022 TIME PLOTTED => 17:44
FILE => 56-0540rt-a-gp01.dgn USERNAME => svc_in_preservice

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

NOTES:

Ⓒ Concrete Barrier (Type 836)

Ⓔ Closure Pour

Ⓘ Temporary Barrier System, see ROADWAY PLANS

Ⓛ Existing Concrete Barrier Railing Type 1

NOTES (Cont):

Ⓜ Existing Concrete Barrier Railing Type 25

Ⓝ Polyester Concrete Overlay

1. Portions of widening may be advanced in I-15 Corridor Operations Project (EA 08-0J0830).
2. "EL" indicates Express Lane.

LEGEND:

Existing structure

Bridge Removal (Portion)

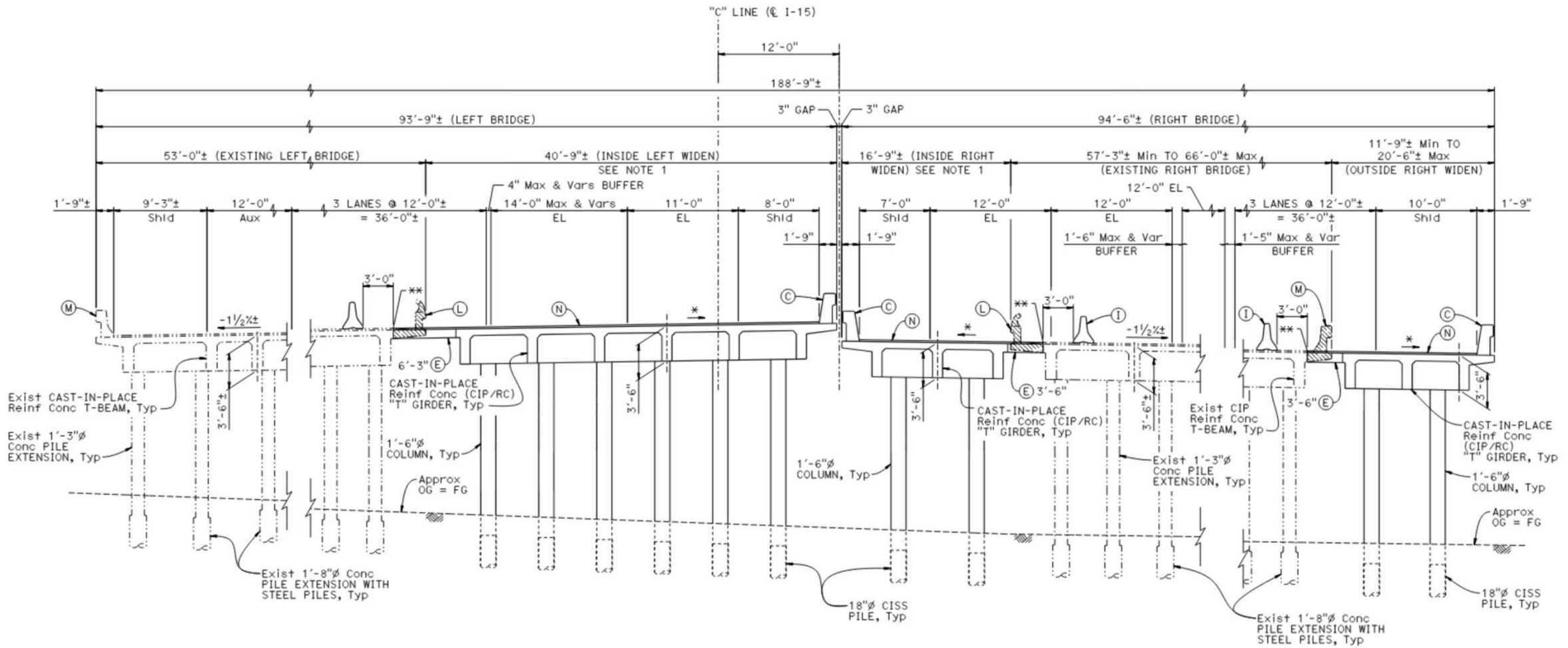
* Match existing cross slope

** Match existing profile grade

Dist	COUNTY	ROUTE	POST MILE
08	RIV	15	36.58

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

HDR ENGINEERING, INC.
3230 EL CAMINO REAL, SUITE 200
IRVINE, CA 92602-1377



TYPICAL SECTION
1" = 5'

Lily Sun
DESIGN OVERSIGHT
11-30-2022
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 4/19/2018)

DATE PLOTTED => 21-SEP-2022 TIME PLOTTED => 17:44
FILE => 56-0540r1-a-gp02.dgn USERNAME => svc_in_pwservice

DESIGNED BY D. LAFRANCHI	DATE 09/2022	D. LAFRANCHI PROJECT ENGINEER	PLANNING STUDY
DRAWN BY D. LAFRANCHI	DATE 09/2022		BEDFORD WASH (WIDEN)
CHECKED BY J. WANG	DATE 09/2022		UNIT: 0000 / BRIDGE No.: 56-0540 R/L
APPROVED J. WANG	DATE 09/2022		CONTRACT No.: 08-0J0820 / PROJECT No. & PHASE: 08-18000063 & 0

Attachment E – Right of Way Data Sheet

To: Rebecca Guirado
Division of Right of Way and Land Surveys

Date: 9/6/2024

Co. RIV Rte. 15
Expense Authorization 08-0J0820

Attention: Marissa Cofer
District 8 R/W Local Programs

Subject: **RIGHT OF WAY DATA SHEET - LOCAL PUBLIC AGENCIES**

Project Description:

The Riverside County Transportation Commission (RCTC), in cooperation with the California Department of Transportation (Caltrans), is proposing to construct new lanes along Interstate 15 (I-15) between Post Mile (PM) 21.2 and PM 38.1 in Riverside County, California. The primary component of the I-15 Express Lanes Project Southern Extension (Project) would be the addition of two tolled express lanes[1] in both the northbound and southbound directions within the median of I-15 from State Route 74 (SR-74) (Central Avenue) (PM 22.3) in the City of Lake Elsinore, through the unincorporated Riverside County community of Temescal Valley, to El Cerrito Road (PM 38.1) in the City of Corona, for a distance of approximately 15.8 miles. The proposed Project would also add a southbound auxiliary lane between both the Main Street (PM 21.2) off-ramp and SR-74 (Central Avenue) on-ramp (approximately 0.75 mile), and the SR-74 (Central Avenue) off-ramp and Nichols Road on-ramp (PM 23.9) (approximately 1 mile). Along with the lane additions, which would extend from PM 21.2 to 38.1, the proposed Project would include widening of 15 bridges, potential construction of noise barriers, retaining walls, drainage systems, and implementation of electronic toll collection equipment and signs. In addition, due to the southbound express lanes access between the Cajalco Road and Weirick Road interchanges, the southbound I-15 Weirick Road off-ramp would be configured as a dual lane exit.

Associated improvements for the toll lanes, including advance signage and transition striping, would extend approximately 2 miles from each end of the express lane limits to PM 20.3 in the south and PM 40.1 in the north. The proposed lane additions and supporting infrastructure are expected to be constructed primarily within the existing State right of way.

Right of way necessary for the subject project will be the responsibility of Riverside County Transportation Commission.

The information in this data sheet was developed by Brian Smith at HDR Engineering, Inc in collaboration with Wendell Taylor at The Alliance Group Enterprise, Inc (Utility Lead).

I. ***Right of Way Engineering***

Will Right of Way Engineering be required for this project?

- No __X__
- Yes _____ (Submit a copy of the *Right of Way Engineering Surveys and Mapping Services checklist for Locally Funded Projects*. This checklist includes, but is not limited to, the following items.)

  - Hard copy (base map) _____
  - Appraisal map _____
  - Acquisition Documents _____
  - Property Transfer Documents _____
  - R/W Record Map _____
  - Record of Survey _____

The preliminary Noise Abatement Decision Report (NADR) indicates no TCE's will be required for noise barriers along the Project limits.

[1] Express lanes are traffic lanes that are separated from general purpose lanes where users are charged a toll to use the lanes.

II. ***Engineering Surveys***

1. Is any surveying or photogrammetric mapping required?

No _____ Yes __X__ (Complete the following.)

Final design engineering survey will be completed in a future project phase.

2. Datum Requirements

Yes __X__ Project will adhere to the following criteria:
- Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English system of units and measures.
- Vertical - datum policy is NAVD 88.
- Units - metric is not required.

No _____ Provide an explanation on additional page.

3. Will land survey monument perpetuation be scoped into the project, if required?

Yes __X__

No _____ Provide explanation on additional page.

III. ***Parcel Information (Land and Improvements)***

Are there any property rights required within the proposed project limits?

No ___X___ Yes _____ (Complete the following.)

	Part Take	Full Take	Estimate $
A. Number of Vacant Land Parcels	0	0	$ 0
B. Number of Single Family Residential Units	0	0	$ 0
C. Number of Multifamily Residential Units	0	0	$ 0
D. Number of Commercial/Industrial Parcels	0	0	$ 0
E. Number of Farm/Agricultural Parcels	0	0	$ 0
F. Permanent and/or Temporary Easements	0	0	$ 0
G. Other Parcels (define in "Remarks" section)	0	0	$ 0
Totals	0	0	$ 0

Provide a general description of the right of way and excess lands required (zoning, use, improvements, critical, or sensitive parcels, etc.).
The project permanent improvements are within the existing State Right of Way (ROW). No permanent or temporary acquisitions have been identified during the PA&ED phase on the surrounding properties along the State ROW.

IV. ***Dedications***

Are there any property rights which have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No __X__ Yes _____ (Complete the following.)

Number of dedicated parcels _____

Have the dedication parcel(s) been accepted by the municipality involved?

V. ***Excess Lands / Relinquishments***

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No __X__ Yes _____ (Provide an explanation on additional page.)

VI. ***Relocation Information***

Are relocation displacements anticipated?

No __X__ Yes _____ (Complete the following.)

A. Number of Single Family Residential Units		
Estimated RAP Payments		$
B. Number of Multifamily Residential Units		
Estimated RAP Payments		$
C. Number of Business/Nonprofit		
Estimated RAP Payments		$
D. Number of Farms		
Estimated RAP Payments		$
E. Other (define in the "Remarks" section)		
Estimated RAP Payments		$
Totals	0	$ 0

VII. ***Utility Relocation Information***

Do you anticipate any utility facilities or utility rights of way to be affected?

No __X__ Yes ____ (Complete the following.)

Facility	Owner	Estimated Relocation Expense		
		State Obligation	Local Obligation	Utility Owner Obligation
A.		$	$	$
B.		$	$	$
C.		$	$	$
D.		$	$	$
E.		$	$	$
F.		$	$	$
Totals		$ 0	$ 0	$ 0
Number of facilities				0

Any additional information concerning utility involvement on this project? No, all existing utility facilities are anticipated to be protected in place during construction.

VIII. ***Rail Information***

Are railroad facilities or railroad rights of way affected?

No __X__ Yes _____ (Complete the following.)

Describe railroad facilities or railroad rights of way affected.

Owner's Name	Transverse Crossing	Longitudinal Encroachment
A. N/A	N/A	N/A
B. N/A	N/A	N/A

Discuss types of agreements and rights required from the railroads. Are grade crossings that require services contracts, or grade separations that require construction and maintenance agreements involved?

IX. ***Clearance Information***

Are there improvements that require clearance?

No __X__ Yes _____ (Complete the following.)

A. Number of Structures to be Demolished 0
Estimated Cost of Demolition $ _____

X. ***Hazardous Materials/Waste***

Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain *hazardous materials*? None _____ Yes __X__ (Explain in the "Remarks" section.)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain *hazardous waste*? None _____ Yes ___X__ (Explain in the "Remarks" section.)

XI. ***Project Scheduling***

	Proposed lead time	Completion date
* Preliminary Engineering, Surveys	0 (months)	N/A
* R/W Engineering Submittals	0 (months)	N/A
* R/W Appraisals/Acquisition	0 (months)	N/A
Proposed Environmental Clearance		8/2025
Proposed R/W Certification		9/2026

XII. ***Proposed Funding***

	Local	State	Federal	Other
Acquisition	N/A	N/A	N/A	N/A
Utilities	N/A	N/A	N/A	N/A
Relocation Assistance Program	N/A	N/A	N/A	N/A
R/W Support	N/A	N/A	N/A	N/A
Cost (Eng. Appraisals, etc.)	N/A	N/A	N/A	N/A

XIII. ***Remarks***

The project permanent improvements are within the existing State Right of Way (ROW). No partial or full permanent acquisitions or temporary acquisitions have been identified during the PA&ED phase on the surrounding properties along the State ROW.

Known hazardous materials have been identified in the Brown Canyon Wash Bridge (Asbestos Containing Material (ACM)), Bedford Wash Bridge (ACM), Weirick Road Undercrossing Bridge (ACM), Temescal Wash Bridge (Lead Based Paint (LBP), Indian Wash Bridge (LBP), wooden guardrail posts (creosote & pentachlorophenol), traffic striping & pavement markings (lead chromate).

Potential hazardous materials have been identified for soil disturbing activities at six hazardous material sites, they are: Nichols Road / I-15 Interchange (Site #32), Gavilan Wash Bridge (Site #34), Indian Truck Trail / I-15 Interchange (Site #49), Temescal Canyon Road / I-15 interchange (Site #55), Coronita Ranch Sand Deposit (Site #76), and Cajalco Road / I-15 Interchange (Site #78).

Project Sponsor Consultant
Prepared by:

Brian Smith, PE

HDR Engineering, Inc.

9/6/2024
Date

Project Sponsor
Reviewed and Approved by:

Jeff Dietzler

RCTC

Date

Caltrans
Reviewed and approved based on information provided to date:

Marissa Cofer
District 8 Local Programs
Division of Right of Way

Date

Attachment F –

Transportation Management Plan Data Sheet

For DTM use		Caltrans District 8 (Riverside & San Bernardino)	
Developer		TMP Data Sheet (Ver. Nov. 2023)	

Transportation Management Plan (TMP) Data Sheet is for PID, PSR, PR and PS&E considering DTM's requirements. The validity of this TMP expires at the same time the associated LRCs expires.

The TMP Data Sheet includes background & signature, TMP elements & TMP estimate

Requester: *Complete section (A) & (B) of this page only*

Requester: Submit separate request for each roadway (Type the information in the cells below with yellow background ONLY)

TMP receiver: Please note that

Project shall not be certified without the approval of the Lane Requirement Charts (LRCs) & the TMP by the DTM

(A) Requester's info.

1 - Date of request	3/1/2024	2 - Department	Design
3 - Full name	Brian Smith (HDR)	4 - Phone No.	951.750.4038
5 - email address	brian.smith@hdrinc.com		
6 - Project Manager's name	Mark Hager (HDR)		
7 - Project Manager's email	mark.hager@hdrinc.com		

(B) Project information

		1-EA#/ID#	0J082/0818000063		
2-County/Route	Riv 15		3-phase/sub object	0/180	
4-Post mile (From-To)	20.3/40.1				
5-Short description of job	Construction of two tolled express lanes in both the northbound and southbound directions				
Construction period per WPS					
6-Estimated start date	06/02/25	8-# of working days	770		
7-Estimated end date	07/03/28	9-Estimated Proj. cost	$ 500,000,000		

10- Requester: Use section (H), in the bottom of the page, to add any other information that helps developing the TMP

11- Documents to send — *Requester: Please attach the location map in jpeg/pdf format to your E-mail*

12- If hard copies are requested, Send or bring them to the DTM office located on the south side of 11th. Floor, Attn: Al Afaneh. Questions: call 383-6262

13- E-mail the request to: al_afaneh@dot.ca.gov

Following is for DTM use >>>>>>>>>>> Developer: Fill info in green cells only

C) BACKGROUND INFORMATION					
		Date request received	03/14/23	Job assigned to	John H. Lee
# of working days	770				
Estimated Project cost ($)	500,000,000	Per E-mail dated	Per WPS		
TMP estimate($)	**$3,137,500**	Equal to **0.63%**	Of the project cost		

D) IMPACT	High	Medium	Low	N/A	Developer: (*Briefly, explain the high impact/mitigation):*
State Hwy.		x			
Local road		x			
Ramp/connector		x			

E) Developer: Complete the info

Developed by	John H. Lee	Original signed by:	John H. Lee	Date	3/4/2024
Title	Transportation Engineer				
E-mail	john_h_lee@dot.ca.gov				
Phone/Fax	909-806-3902				

F) Approved by		Original signed by:	Siva Sivakkolunthar	Date	03/04/24
Name:	Siva Sivakkolunthar				
Title	District Traffic Manager				
E-mail	sivakkolunthar.sivakulam@dot.ca.gov				
Phone/Fax	909-255-2368				

G) District's info:

Department of Transportation		
District:	8	
Address:	464 W. Fourth St., San Bernardino, Ca., 92401-1400	
Operations, DTM, MS >>>>	711	

DTM is located on the North side of 7th. Fl. Enter from the open door & turn left. MS: 711

H) Remarks

Form was developed by Saleh Yadegari (September 2014)

TMP Elements	EA #/ID#	0J082/0818000063	Date	3/4/2024

Note: A checkmark in the box means you need to include this in the project unless staging, material, or work hour changes eliminate the need for the item. A ? in front means TMP anticipates this - please check into this. A blank box means the item is not needed at this time based on the information received.

Public Affairs officer's 1st. & last name		Phone number

1 Public Information/Public Awareness Campaign (PAC). Developer:

Remember to obtain the estimate from Public affairs by contacting Emily Leinen. Procedure is in the file under 3- TMP matters

Estimated Cost: $ 800,000

BEES 066063 (Traffic Management Plan-Public Information). Cost to be reduced by Public Affairs (PA) and Construction Liaison (CL) only. Show under **State Furnished** as the **total** of PA+CL.

- 1.1 ☑ Include Rideshare information in PA/CL project material to encourage vehicles reduction in work area
- 1.2 ☑ Brochures and Mailers
- 1.3 ☑ Media Releases (& minority media sources)
- 1.4 ☑ Paid Advertising
- 1.5 ☑ Public Meetings/PAC Mtgs./Speakers Bureau (show cost also for room rental)
- 1.6 ☑ Hand deliver notices to vicinity
- 1.7 ☑ Broadcast fax service
- 1.8 ☑ Telephone Hotline OR
- 1.9 ☑ 1-800-COMMUTE (The telephone number is shown on CS-Info signs) -
- 1.10 ☑ Visual Information (videos, slide shows, etc.)
- 1.11 ☑ Local cable TV and News
- 1.12 ☑ Traveler Information System (Internet)
- 1.13 ☑ Internet, E-mail, Social Media
- 1.14 ☑ Notification to targeted groups:
  - ☐ Revised Transit Schedules/maps
  - ☐ Rideshare organizations
  - ☐ schools
  - ☐ organizations representing people with disabilities
  - ☐ bicycle organizations
- 1.15 ☐ Include PA/CL/Consultant resources in WPS
- 1.16 ☐ Commercial traffic reporters/feeds - e.g. brief Traffic Information people (TIP) group
- 1.17 ☐ Insert SSP's

"A representative of the Contractor, at Superintendent level or higher, and authorized to commit the Contractor, shall attend and participate in all Public Awareness Campaign meetings. Time commitment for the meeting(s) varies from two to four hours per month."

Section 1 Total	$ 800,000

2 Motorist Information Strategies

Project team needs to coordinate with Traffic Design!

- 2.1 ☑ Existing Overhead Changeable Message Signs (Stationary)

☐ New Installation (Stationary) - BEES 860532 CHANGEABLE MESSAGE SIGN SYSTEM - list locations

- 2.2 ☑ Lane Closure System Website
- 2.3 ☑ Caltrans Highway Information Network (CHIN)
- 2.4 ☑ Portable Radar Speed Feedback Sign Systeem Day BEES 120204 (approx. EA @ $50,000)
- 2.5 ☐ Bicycle and pedestrian information, e.g. Detour maps
- 2.6 ☐ Automated Workzone Information System (AWIS) BEES 120105

Section 2 Total	$ -

3 Incident Management

- 3.1 ☐ CHP's Construction or Maintenance Zone Enhanced Enforcement Program – COZEEP or MAZEEP. BEES 066062 - show under "State or Agency furnished" in the Cost Estimate.

Make sure to consider the LC hours and add CHP driving time to/from their office

TMP Elements	EA #/ID#	0J082/0818000063	Date	3/4/2024

Day COZEEP: To protect active closures

# of days	hours/day	CHP vehicles	# of officers.	Rate/Hr.	
0	0	1	1	$ 190	$ -

Night COZEEP: To protect active closures

# of nights		hours/night	CHP vehicles	# of officers. Nights need 2 per car	Rate/Hr.	
500		10	1	2	$ 190	$ 1,900,000

3.2 ☐ **Tow Truck Service for Construction** $/hr./truck $70

BEES 120100 - Traffic Control System

A For service within the regular Tow Truck hours

# of trucks	# of days	Hours per day	
			$0

B For service outside the regular Tow Truck hours

# of trucks	# of days	Hours per day	
1	625	10	$437,500

Section 3 Total	$ 2,337,500

4 Construction Strategies

Contact DTM, at 909-383-6262, to get Delay Calculations, Lane Requirement Charts (LRC), Table Z and Special events list. Inform DTM of any concerns/commitments regarding special LC days, times, seasons, events; environmental restrictions; if work may be affected by snow and low or high temperatures. E.g. excessive heat may delay HMA operations lane openings which may increase traffic impact when vehicles overheat in the queue; etc. If traffic volumes vary significantly between seasons, consider 2 sets of LRCs to avoid CCOs.

4.1 This TMP presumes that work is planned as below. If different, TMP needs to be revised. The Project Engineer shall ensure all appropriate lane requirement charts are included.

- ☑ Day
- ☑ Night
- ☑ Weekend

4.2 Expected facility closures and requirements

- ☐ Flagging
- ☑ Shoulder
- ☑ Lane
- ☐ Local Street
- ☑ Ramp
- ☑ Connector*
- ☐ Extended Weekend Closures*
- ☑ Total Facility Closures*

*Consult with TMP developer and the DTM regarding COZEEP & other costs. Provide proposed detour and traffic diversion plans for review.

CAUTION: If the Lane Requirement Chart (LRC) for full mainline closures, of one or both directions on a highway or freeway, does not show the maximum number of allowable closures, the PS&E shall not be certified by DTM/TMP.

4.3 ☐ BEES 066008 Incentives

4.4 ☑ Strictly enforce construction CPM schedule

4.5 ☑ 10-Min. Delay Penalty — Contact DTM at 909-838-6262 for 10 Min. Delay Penalty Calculations.

Section 4 Total	$ -

5 Demand Management (DM)

Project team needs to coordinate with RCTC/SBCTA

5.1 ☐ A co-op will be executed - mentioned in PSR or PR.

☐ Instead of a co-op, 15% is added to the cost of DM elements since the payment to the local agency will be routed through the contractor.

Instead of a co-op, the local agency will make their own arrangements with RCTC/SBCTA.

PA/CL or local agency need to inform commuters through RCTC/SBCTA. Funds part of PA/CL.

5.2 ☐ HOV Lanes/Ramps (New or Convert)

5.3 ☐ Park-and-Ride Lots

5.4 ☐ Parking Management/Pricing (Coordination with local agency is required)

5.5 ☐ BEES 066067 Rideshare Promotion

Section 5 Total	$ -

TMP Elements	EA #/ID#	0J082/0818000063	Date	3/4/2024

6 Alternate Route Strategies

Caution - signed detours may require environmental clearance. Traffic diversion may increase available work hours. Please work with Traffic Design.

- 6.1 ☐ Add Capacity to Freeway connector
- 6.2 ☐ Ramp Closures
- 6.3 ☐ Temporary Highway Lanes or Shoulder Use
- 6.4 ☐ Parking Restrictions
- 6.5 ☐ Street Improvements
  - ☐ State R/W - Signals, Widen, etc.
  - ☐ Local R/W - Signals, Widen, etc. co-op or permit may be needed
- 6.6 ☐ Local Street USE - co-op or Permit may be needed
- 6.7 ☐ Traffic Control Officers (see 3.1 COZEEP)
- 6.8 ☐ Signed detour - using State routes
- 6.9 ☐ Signed detour - using local streets and roads. Coordinate with corresponding local agency.
- 6.10 ☐ Adjust signals
- 6.11 ☐ Temporary bicycle or pedestrian facilities

Section 6 Total	$ -

TMP Estimate

Developed by	John H. Lee	EA#/ID#	0J082/0818000063	Date	3/4/2024

TMP developer: Amounts under the cost column will automatically be copied from the TMP elements

TMP Elements	Cost
1. Public Information	$800,000
2. Motorist Information Strategies	$0
3. Incident Management	$2,337,500
4. Construction Strategies	$0
5. Demand Management (DM)	$0
6. Alternate Route Strategies	$0
Total TMP Estimate	$ 3,137,500

Attachment G –

Cover Page and Signed Title Sheet for Draft EIR/EA Approved for Public Circulation

I-15 Express Lanes Project Southern Extension (ELPSE)

RIVERSIDE COUNTY, CALIFORNIA
DISTRICT 8 – RIV – 15 – 20.3/40.1
in the Cities of Lake Elsinore, Corona, and unincorporated Riverside County
EA 08-0J0820 / ID: 08-18000063

Draft Environmental Impact Report/Environmental Assessment

Prepared by the
State of California, Department of Transportation

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 May 27, 2022, and executed by FHWA and Caltrans.

October 2024

General Information about This Document

What's in this document:
The California Department of Transportation (Department), as assigned by the Federal Highway Administration (FHWA), has prepared this Environmental Impact Report/ Environmental Assessment (EIR/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed Project located in Riverside County, California. The Department is the lead agency under the National Environmental Policy Act (NEPA). The Department is the lead agency under the California Environmental Quality Act (CEQA). The Riverside County Transportation Commission will be a CEQA responsible agency. The document tells you why the Project is being proposed, what alternatives we have considered for the Project, how the existing environment could be affected by the Project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
- Additional copies of this document and the related technical studies are available for review at:
    - Riverside County Transportation Commission
      4080 Lemon St. 3rd Floor
      P.O. Box 12008,
      Riverside, CA 92502
    - City of Lake Elsinore, 130 South Main Street, Lake Elsinore, California 92530 (Available for review Monday through Thursday from 8:00 a.m. to 5:00 p.m. and Friday from 8 a.m. to 4 p.m. Closed on holidays. Please call the City of Lake Elsinore at [951] 674-3124 to confirm availability of hard copies for review.)
    - Lake Elsinore Library, 600 West Graham, Lake Elsinore, California 92530 (Available for review Monday, Wednesday, and Thursday from 10:00 a.m. to 6:00 p.m., Tuesday from 11:00 a.m. to 7:00 p.m., Friday from 10:00 a.m. to 5:00 p.m., and Saturday 10:00 a.m. to 2:00 p.m. Closed on holidays. Please call the Lake Elsinore Library at [951] 674-4517 to confirm availability of hard copies for review.)
    - Corona Public Library, 650 S Main Street, Corona, CA 92882
      (Available Monday through Thursday 10:00 a.m. to 8:00 p.m., Friday 10:00 a.m. to 6:00 p.m., and Saturday 1:00 p.m. to 5 p.m. Closed on holidays. Please call the Corona Public Library at [951] 736-2381 to confirm availability of hard copies for review.)
- This document may be downloaded at the following website:
  https://www.rctc.org/projects/i15-express-southern-extension/

- Attend the public hearings on October 22, 23, and 29, 2024:

Temescal Valley
The Retreat
8007 Soft Winds Drive, Corona, California 92883
Public hearing will be held on:
- **Tuesday, October 22, 2024**
- **From 6 p.m. to 8 p.m.**

Lake Elsinore
Lake Elsinore Cultural Center
183 N Main Street
Lake Elsinore, California 92530
Public hearing will be held on:
- **Wednesday, October 23, 2024**
- **From 6 p.m. to 8 p.m.**

Corona
Eagle Glen Golf Club
1800 Eagle Glen Parkway
Corona, California 92883
Public hearing will be held on:
- **Tuesday, October 29, 2024**
- **From 6 p.m. to 8 p.m.**

- We'd like to hear what you think. If you have any comments about the proposed Project, please attend the Public Hearing and/or send your written comments via postal mail or email to the Department by the deadline, November 26, 2024.

  Send comments via postal mail to:
  Jeff Dietzler, Capital Projects Manager (Tolling)
  Riverside County Transportation Commission
  4080 Lemon Street, Third Floor
  P.O. Box 12008
  Riverside, CA 92501

- Send comments via email to: 15projectsouth@rctc.org
- Be sure to send comments by the deadline: November 26, 2024

What happens next:
After comments are received from the public and reviewing agencies, the Department, as assigned by the FHWA, may: (1) give environmental approval to the Project, (2) do additional environmental studies, or (3) abandon the Project. If the Project is given environmental approval and funding is obtained, the Department could design and construct all or part of the Project.

Alternative Formats:
For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Riverside County Transportation Commission (RCTC), Attn: Jeff Dietzler, Capital Projects Manager (Tolling), 4080 Lemon Street, 3rd Floor, Riverside, CA 92502; call (915) 787-7141 (voice); or use the California Relay Service, at California Relay Service 1 (800) 735-2929 (TTY English), 1 (800) 855-3000 (TTY Spanish), 1 (800) 735-2929 (Voice English), 1 (800) 855-3000 (Voice Spanish) or 711.

SCH# 2019100381
DISTRICT 8 – RIV – 15 – 20.3/40.1
EA 08-0J0820
ID: 08-18000063

Construct new express lanes in both the northbound (NB) and southbound (SB) directions within the median of I-15 from State Route (SR-) 74 (Central Avenue) (post mile [PM] 22.3) in the City of Lake Elsinore, through the unincorporated Riverside County community of Temescal Valley, to El Cerrito Road (PM 38.1) in the City of Corona, for a distance of approximately 15.8 miles. The Project would also add a SB auxiliary lane between both the Main Street (PM 21.2) Off-Ramp and SR-74 (Central Avenue) On-Ramp (approximately 0.75 mile), and the SR-74 (Central Avenue) Off-Ramp and Nichols Road On-Ramp (PM 23.9) (approximately 1 mile). In addition, due to the SB express lanes access between the Cajalco Road Interchange and Weirick Road Interchange, the SB I-15 Weirick Road Off-Ramp would be configured as a dual lane exit.

Draft Environmental Impact Report/Environmental Assessment

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation
And Responsible Agency: Riverside County Transportation Commission (RCTC)
Cooperating Agencies: US Fish and Wildlife Service and U.S. Army Corps of Engineers

October 3, 2024
Date

Shawn Oriaz
for Kurt Heidelberg
Deputy District Director, Environmental
District 8
California Department of Transportation
CEQA & NEPA Lead Agency

The following persons may be contacted for more information about this document:

Gita Tokhmafshan
Senior Environmental Planner
Department of Transportation, District 8
464 West 4th Street, 6th Floor, MS 827
San Bernardino, CA 92401-1400

Jeff Dietzler
Capital Projects Manager (Tolling)
Riverside County Transportation Commission
4080 Lemon Street, 3rd floor
Riverside, CA 92502

Attachment H –

Project Category Determination Letter

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

4080 Lemon Street, 3rd Floor • Riverside, CA
Mailing Address: P.O. Box 12008 • Riverside, CA 92502-2208
951.787.7141 • 951.787.7920 • www.rctc.org

Jamal Elsaleh
Deputy District Director, Design
Caltrans District 8
464 West Fourth Street
San Bernardino, CA 92401

September 12, 2022

Subject: Request for Project Development Category Approval
I-15 Express Lanes Southern Extension (ELPSE)
EA 0J0820 / 08-RIV-15 PM 20.3/40.1

Dear Mr. Elsaleh:

The Riverside County Transportation Commission (RCTC), as the project sponsor agency, requests approval of the Project Category Determination for the I-15 ELPSE.

The improvements proposed for the build alternative includes the addition of two tolled express lanes in both the northbound and southbound directions within the median of I-15 from State Route 74 (SR-74) (Central Avenue) to El Cerrito Road, for a distance of approximately 15.8 miles. The proposed Project would also add a southbound auxiliary lane between both the Main Street Off-Ramp and SR-74 (Central Avenue) On-Ramp, and the SR-74 (Central Avenue) Off-Ramp and Nichols Road On-Ramp.

Along with the lane additions, the proposed Project would include widening of 15 bridges, potential construction of noise barriers, retaining walls, drainage systems, and implementation of electronic toll collection equipment and signs. In addition, the southbound I-15 Weirick Road off-ramp will be configured as a dual lane exit.

According to Caltrans' Project Development Procedures Manual, Chapter 8, Section 5 – Project Development Categories, the Project is a Category 4A project based on the following items:

1. Interstate 15 is an existing facility
2. The Project does not require local adoption or a freeway agreement, and does not meet the criteria of Categories 5 or 6
3. The proposed Project would substantially increase traffic capacity

Should you need further information, please do not hesitate to contact me at (951) 787-4019 or our consultant Project Manager, Mark Hager of HDR Inc at (951) 320-7343.

Thank you,

Category Determination Approval

Submitted By:

SBlanco

Stephanie Blanco
Capital Projects Manager (Toll)
Riverside County Transportation Commission

Concurred By:

Jamal Elsaleh

Jamal Elsaleh
Deputy District Director,
Caltrans Design

10/5/2022

Date

Attachment I – Project Risk Register

LEVEL 3 - RISK REGISTER	Project Name:	I-15 ELPSE PA&ED (Draft PA&ED Delivery Risks)	Project Manager:	Mark Hager	DIST- EA	08-0J0820

Risk Identification					Risk Assessment					Risk Response*(See note 2)		
Status	ID #	Category	Title	Risk Statement	Current Status	Risk Mitigation	Probability* (See Note 1)		Risk Assumptions	Strategy	Risk Owner	Updated
Retired	1	Environmental	Impacts to Butterfield Ranch Trail - Section (4f) resource	A future planned trail, as part of the Butterfield Ranch project may require coordination with the developer, since it is in close proximity and may be impacted by our project.	Confirmed as a Section 4(f) resource. The project is not proposing any improvements that would preclude the planned trail.	Avoid direct impacts or design features with median bridge widening improvements that would preclude perpetuation of the trail beneath I-15 at existing local undercrossings. Confirm that design (including abutment and utilities) would not result in a "use" as defined under Section 4(f).	10%	20%	This future planned trail is not expected to experience permanent direct impacts where the trail crosses I-15 at three specific undercrossing locations proposed for widening by I-15 ELPSE. Schedule Impact - Delay to coordinate with developer and potentially adjust to accommodate abutment slopes or walls Scope/Cost Impact - Additional scope elements to address developer concerns or trail wall needs near abutments. If Programmatic or Individual 4(f) is required then this would add additional effort related to alternatives development, analysis, and documentation.	Accept	RCTC	Retired Q3 2024
Retired	2	Environmental	Noise Model	Finalizing the Noise model can be challenging due to land use changes along the corridor for the duration of the PA&ED, agreement on modeling assumptions and COVID-19 related impacts with access to measurement locations and reduced traffic volumes resulting from stay at home orders.	A Final Noise Work plan has been prepared and approved by Caltrans to identify NSR methodologies to determine the appropriate measurement and modeling locations including clarification of light truck to include all pick-up trucks as passenger car classifications. The validation model has been prepared and is currently in Caltrans review. Additional field measurements have been identified for locations that did not validate within standard limits and are scheduled to occur in March 2021. All noise models approved as of 10/25/2023 and the team utilized approved models by CT D8 in development of the NSR and NADR and obtained approval with only select walls near Weirick Rd IC being deemed potential and are within State R/W.	Advance noise model development of existing conditions model and utilize traffic data developed in the Caltrans approved TOAR. Actively work with Caltrans to manage compliance with the Final Noise Work Plan as part of the monthly PDT and focus meetings.	40%	70%	The TeNS and Noise Protocol in conjunction with clarification in the NSR Work plan will be used as a project specific guide to NSR and Model development to complete PA&ED based on existing and future approved land uses. (Consider options to defer noise measurements until vehicle volumes return to normal following COVID-19 issues with options to build the existing noise model first then perform field measurements.) (March 20, 2020 - Noise modeling team was directed by CT Env Engineering to use a value of 1,650 vplph to establish a free flow (LOS C) condition in the noise model development.) Schedule Impact - Delay to accommodate model re-adjustments deemed necessary for NSR concurrence Scope/Cost Impact - minimal with assumption that Final Noise Work plan is adhered to as assembled for the project	Accept	RCTC	Retired Q3 2024
Retired	3	Environmental	Traffic model/simulation	Caltrans is requesting only HCM methodology to be used, which is not intended for over capacity modeling.	HCM methodology will be used for Caltrans review in addition to VISSIM analysis to further support the PA&ED decisions for RCTC. Haissam requested a clarification email to use only Vissim on 4/7 to follow up with his staff and have one tool for operational analysis.	Proceed with only VISSIM 11 to meet CT & RCTC expectation.	30%	40%	This effort was readdressed by the PDT and Vissim 11 will be the only simulation method used per Rithy Sar/CT 4-17-2020 email. Caltrans will only require HCM analysis, RCTC desires to have additional analysis (VISSIM) completed beyond HCM to further justify operational analysis for potential express lane access points.	Accept	N/A	Retired Q4 2019 / Updated Q2 2020
Retired	4	Environmental	Impacts to Environmentally Sensitive Areas	Identification of Environmentally Sensitive Areas that limit temporary and permanent disturbance areas.	Early project footprint encompasses what the design team deems as a conservative footprint for the project, which is predominately within the existing State R/W for I-15. The final footprint with temporary and permanent impact areas will be identified when the alternatives are fully developed, after operational analysis is complete. Environmental field surveys and mapping are currently underway. Ongoing coordination with the design and environmental teams are occurring to refine footprints and identified environmental areas of concern. VE Study final disposition (July 2022) adjusted to project impact mapping, however the revised impacts were fully contained within the original study limits. The draft NSR identified potential sound walls outside of the planned project disturbance limits. NADR costs for walls outside of Caltrans ROW were not be cost feasible. The preliminary NADR cost feasible walls remain in State R/W and do not occur within environmentally sensitive areas.	Technical study surveys will identify sensitive area and options to place toll equipment, noise barriers, and outside widening in locations where direct impacts can be avoided in a Context Sensitive approach.	20%	30%	ESA's will be determined by the project team once the footprint for the build alternative is finalized. The impacts after the implementation of avoidance, minimization, and/or mitigation measures could impact project costs, specifically related to areas requiring BMP's and TCEs and acquisitions necessary for construction of noise barriers. Schedule Impact - Delay for additional coordination if ESA's can not be avoided. Scope Impact - Redesign if conflicts identified or If ESAs cannot be avoided then additional evaluation and/or documentation may be needed.	Accept	RCTC	Retired Q3 2024

Risk Identification					Risk Assessment					Risk Response*(See note 2)		
Status	ID #	Category	Title	Risk Statement	Current Status	Risk Mitigation	Probability* (See Note 1)		Risk Assumptions	Strategy	Risk Owner	Updated
Active	5	Environmental	Impacts to Biological Resources and Jurisdictional Resources	If the project would result in the loss of habitat or jurisdictional wetlands. As a result, it may require habitat restoration or compensation, or mitigation measures resulting in additional costs.	Sensitive biological impacts will be assessed early as part of general habitat and focused biological surveys conducted in spring/summer 2020 & 2021. Sensitive jurisdictional resources located at individual stream / wash crossings will also be evaluated early on as part of summer 2020 & 2021 surveys. Ongoing coordination with the design and environmental teams are occurring to refine footprints and identified environmental areas of concern as field surveys are completed. VE Study final disposition (July 2022) adjusted to project impact mapping, however the revised impacts were fully contained within the original study limits. A Determination of Biological Equivalent or Superior Preservation (DBESP) has been prepared and is in the review process with Caltrans and ongoing coordination has occurred with RCA.	Early impacts and avoidance measures for ESA will be employed as well as lessons learned on the Santa Ana River crossing and other areas initially deemed as ESA under I-15 ELP.	20%	40%	Following initial assessment of biological and jurisdictional impacts during field visits conducted during spring/summer 2020 & 2021 field surveys, avoidance, or minimization, and/or mitigation measures of impacts would be identified and incorporated. Schedule Impact - Depending on the resources involved and the mitigation necessary additional delay for review, investigation, and documentation Scope/Cost Impact - Redesign if conflicts are identified that cannot be eliminated with project feature adjustments such as storm water treatment BMP/DPPIA's, noise barriers, or utility service drop needs to support tolling infrastructure. Depending on the resources involved and the mitigation necessary additional review, investigation, and documentation may be required.	Mitigate	RCTC	Q3 2024
Retired	6	Environmental	Delay in acceptance of Traffic Operations Analysis Report	Delays in acceptance of TOAR could result in subsequent delays of the technical studies on critical path - such as AQ and Noise.	The TOAR was approved by Caltrans on February 22, 2021	Meet early and often with Traffic Studies reviewer and achieve concurrence on methodology and results.	40%	60%	The vphpl in Express Lanes can impact budget and schedule and has been defined in the approved traffic methodology memo for i-15 ELPSE (approved Oct 29, 2019) to account for express lane volumes at 1,750 vphpl while evaluating the performance of the existing General Purpose lanes on the corridor. Schedule Impact - the TOAR approval was 2 months delayed from Dec 2020 baseline schedule, Feb 2021 identified a 12 day delay to the overall PA&ED schedule.	Accept	RCTC	Retired Q1 2022 with TOAR Approval
Retired	7	Environmental	SB 743 (VMT analysis)	SB 743 guidance from Caltrans as a lead agency for express lanes projects and its effect on the level of PA&ED environmental document	The environmental document proposed for the project will be a EIR/EA to address potential increases in VMT and Greenhouse Gas emission impacts as a result of the project. RCTC and the team is preparing a memorandum to document the projects "exempt" status for Caltrans concurrence. Caltrans provided screened out concurrence on 8/11/2022.	RCTC will look at the project type being express lanes in the median of an existing facility that may allow the project to be classified as "exempt". RCTC provided Caltrans an email and checklist for VMT screening out and exemption on 8/11/2020	40%	70%	The unknown is if there is a potential for mitigation, if it can be incorporated as part of the project. Additionally, what is the benefit by adding express lanes to an existing mainline and how much credit can be granted to the project for the inclusion of bus services and carpooling to reduce VMT. Schedule Impact - Delay to confirm "exempt" status and/or identify mitigation measures Scope/Cost Impact - If mitigation measures identified, they may need to be incorporated into the project and funded.	Accept	RCTC / CT	Retired Q3 2022 with TOAR Approval
Active	8	Environmental	Section 7 consultation under the Federal Endangered Species Act (FESA) and Section 2080 consultation under the California Endangered Species Act (CESA), associated mitigation	If federally or state listed species are found in the project area, Section 7 consultation under FESA and/or Section 2080 consultation under CESA may be required. A Biological Assessment may need to be prepared and submitted to the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to obtain concurrence, which could delay the schedule, and mitigation may be required, which could result in additional cost.	Risk is primarily associated with bridge crossings of existing streams and will need to be evaluated based on improvements and construction areas defined for specific corridor features when the footprint is defined for the build alternative. Environmental field surveys and mapping are currently underway. Ongoing coordination with the design and environmental teams are occurring to refine footprints and identified environmental areas of concern. Most species with potential to occur in the vicinity of the BSA are fully covered under the MSHCP and take has already been authorized by USFWS/CDFW. Those which are not fully covered are not expected to constrain the project because 1) they are not expected to have an occur in numbers high enough to constrain the project or 2) we are building in measures to ensure there is no take and this will be documented during the Joint Project Review . The take authorizations for Permittees are authorized when the Permittee (RCTC) is able to demonstrate consistency with the MSHCP and the process in this case is different. Coordination with the resource agencies would still occur but through the Joint Project Review Process instead (see Risk 40)	Complete Section 7 and Section 2080 consultation, and adjust schedule if needed.	10%	20%	The project area includes habitat for listed species. Formal consultation could take up to 135 days, and NEPA cannot be approved until consultation is completed. Assumption is no Section 7/Section 2080 consultation is required Schedule Impact - Delay for formal consultation is required (Agency review/coordination). Scope/Cost Impact - cost to prepare additional reports and coordination with resource agencies	Accept	RCTC	Q1 2021

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Retired	9	Environmental	AB 52 Consultation	AB 52 is a relatively new process under CEQA that gives tribes that choose to be consulted on the lead agency's projects more power to negotiate terms that may increase costs on the lead agency's part. Since consultation can be lengthy, there could be delays in schedule, as well.	AB 52 letters were developed by the team through coordination of mailing by Gary J./CT to identify the proposed project to Native American on October 29, 2019. Responses have been received by CT from all formal consultation letters sent. Consultation is ongoing and will be furthered once CT has reviewed the archaeological survey report and informs the tribes of the results. We anticipate that there may be tribal cultural resources identified within the APE during consultation which could require mitigation. Updated AB-52 consultation letters were sent to the tribes on 3/1/2023. No impacts to resources are expected outside the previously disturbed State R/W.	Consultation letters have been sent and have been responded to by the Native American organizations and points on contact in the area of the I-15 corridor.	30%	60%	AB 52 consultation is required for any CEQA projects that begin after July 2015 and this was accomplished with 15-days of the NOP filing. Schedule Impact - Highest potential for schedule impact would be if a tribe identifies a Tribal Cultural Resource or request a MOU which would result in delays for additional coordination/documentation that may be required. Scope/Cost Impact - If mitigation measures identified, they may need to be incorporated into project and funded. Cost of further documents (such as a MOU and a Finding of Effect) and coordination with tribes may be required.	Accept	RCTC / CT	Retired Q3 2024
Retired	10	Environmental	Section 106 consultation under the National Historic Preservation Act for effects on historic properties, mitigation for impacts on historic resources	If the Area of Potential Effect (APE) includes historic properties, Section 106 consultation with the State Historic Preservation Officer (SHPO) would be required, and a Finding of Effect (FOE) would need to be submitted for SHPO concurrence. If the findings of the FOE indicate adverse effects on historic properties, a Memorandum of Agreement (MOA) and mitigation may be required.	Properties adjacent to the State R/W may require evaluation even though nearly all improvement are expected to remain within existing R/W. Exceptions to this situation may include noise barriers along private properties and connections to existing utilities that are outside of the State R/W and are required for the lane additions. Ongoing coordination with the design and environmental teams are occurring to refine footprints and identified environmental areas of concern. Surveys may find that some resources identified in the record search are not in APE and may not need evaluation. State Historic Preservation Officer (SHPO) provided concurrence on the HPSR on 5/25/2023.	Review historic parcel information and look at avoidance measures related to impacts that would include R/W adjacent improvements including noise barrier and electrical service drops to support the express lane development.	10%	20%	Historic properties are located in proximity to the project area, and may be included in the APE for the project. Schedule Impact - If adjacent properties need to be surveyed and evaluated by architectural historians, then an additional delay may be required for those documentation efforts. If a FOE and MOA and SHPO review and concurrence are required, delays may also be required to complete those steps. Scope/Cost Impact - Additional survey and documentation in addition to Agency review and coordination.	Accept	RCTC	Retired Q3 2024
Retired	11	Environmental	Right of Entry (ROE) for environmental surveys	If property owners do not allow right of entry for environmental surveys, negotiation with property owners would be required, which could delay the schedule.	Active ROE outreach was concluded in Jan 2021 in advance of the Spring 2021 surveys. A ROE outreach summary was prepared to document outreach efforts, permissions granted/denied and non-responsive properties. In agreement with Caltrans, the related technical studies will summarize the ROE efforts and document properties that were not accessible for field investigations. Field surveys are anticipated to be complete in summer 2021. No additional surveys are anticipated as of December 2023. This is now confirmed with completion of the NSR & NADR concurrence in early 2024 and completion of the DED.	Coordinate with private and public property owners as early as possible to avoid delays Initiated Door Hanger in-person outreach in August 2020 to reach critical owners. Final efforts would include legal action by RCTC legal resulting in filing of court orders for access.	30%	50%	Inability to negotiate or obtain access with property owners could result in delays to request/process court orders to review for potential JD Resources (rare plants/bats/fairy shrimp), Burrowing Owl, Least Bells Vireo & Southwestern Flycatcher if access to large key private properties are not granted. Schedule Impact - Delay to obtain ROE not granted and agreed to by CT D8 that 2020 and 2021 surveys can be referenced in the Env Tech Studies. Scope/Cost Impact - Additional costs due to schedule delay and additional efforts expended to obtain ROE's or supplemental surveys required by CT for Tech Study concurrence.	Accept	RCTC / CT	Retired Q3 2024
Active	12	Environmental	Unanticipated discoveries of cultural resources from ground disturbance activities during PS&E and Construction	If unanticipated cultural resources are discovered during ground disturbance activities during PS&E and Construction phases, such as geotechnical investigations, or construction, and associated mitigation. However, these activities would be performed during later phases, such as PS&E and Construction, and the approximate schedule delays are unknown until the most of technical analysis is complete. In the event that unanticipated cultural resources are discovered during ground disturbance activities, RCTC's designated contractor will need to stop work and then follow Caltrans' standard measures for material recovery.	Primary corridor improvement are planned in the median of I-15 which has previously been disturbed and mass graded which further limits the risk of discovery of unanticipated cultural resources. The PA&ED limits are defined and all improvements, including preliminary noise walls, are located within State ROW and the roadway prism. This risk will carry forward into the final design and construction phases and may requiring monitoring as select locations for specific type of work / soil disturbances.	Treat unanticipated discoveries and adjust schedule.	10%	20%	Impacts beyond the State R/W related to potential noise barriers and utility connection will be further defined as these have the highest risk to potential cultural impacts especially in rural areas further south on the corridor. Schedule Impact - Time impacts due to preparation of additional tech studies or memos and obtaining approval. Scope/Cost Impact - Depending on what's found and project impacts, discovery of unanticipated cultural resources could result in additional studies; Cultural report would go to CFO (HQ), which requires additional review that isn't generally needed, as well as a Finding of Effect (FOE), and Memorandum of Understanding (MOU). These additional reviews and reports would result in added time and cost.	Accept	RCTC	Q4 2023

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Active	13	Environmental	Approval of Air Quality Conformity	The SAFE Vehicle Act may impact the projects ability to obtain air quality conformity and NEPA approval/ROD.	The Regional Transportation Plan (RTP) was updated in January 2021 as part of the 2020 Amendment #1 . When further information is available for the SAFE Vehicle Act, this Risk Register will be updated. No additional modeling as a result of the SAFE Vehicle Rule will be required. On 9/28/2021, TCWG provided agreement that the project can move forward as a project NOT of air quality concern. The AQC Finding will be formally submitted after selection of the Pref Alt which is anticipated to occur in early 2025.	Track Approval of RTP throughout project. Track modification in requirements due to Supreme Court case	30%	50%	In order to obtain air quality conformity, the RTP and FTIP will need to be consistent with our proposed Project in order to obtain NEPA approval and issuance of ROD. The updated RTP is consistent with the approved TOAR and ongoing technical studies currently in preparation. Schedule Impact - Delays would be caused by reapplying to RTP and redoing analysis. Scope/Cost Impact - Additional delivery costs due schedule delay if the Final Environmental Document described lane improvement limits are not consistent with programmed improvements outlined in the RTP or FTIP or pending amendment.	Mitigate	RCTC	Q3 2024
Retired	14	Environmental	Addition of new alternative	Stakeholders and reviewing agencies may introduce additional alternative to study during scoping.	Two (2) Alternatives have been set for PA&ED (1-No Build, 2-Express Lanes).	Coordinate and communicate with agencies to concur that other alternatives would not be required or feasible.	10%	30%	Scoping meetings did not introduce the potential/need for an additional alternative. Analysis in PA&ED will describe the travel time changes for both General Purpose and Express Lanes in the No Build and Build Alternative conditions for review during Public Circulation.	Accept	RCTC / CT	Retired Q4 2019
Active	15	Environmental	Update of existing FTIP information	Current FTIP information will require update to reflect project limits, project descriptions, and that the project is not considered exempt from AQ Conformity.	The project limits and description have been updated in the RTP 2020 Amendment #1 in Jan 2021. the updated RTP/FTIP is consistent with the approved TOAR and ongoing technical studies currently in preparation. FTIP Amendment 23-11 is current and correct as of December 2023. The project limits will be confirmed as adequate following public circulation and verify consistency for use in the FED.	Submit amendment to FTIP in Q1 2021 following TOAR Approval, finalizing project description, project limits, and alternative limits including SB Aux Lanes.	20%	30%	FTIP must be consistent with the project limits in order for the ED to be environmentally cleared under NEPA and prior to the Project obtaining a ROD. Schedule Impact - Project delays due to additional administrative efforts and approval. Scope/Cost Impact - Cost increases to complete PA&ED due to project delays related to completion of the Final Environmental Document being consistent with the RTP & FTIP or pending amendment for consistency in the overall lane improvements and limits	Mitigate	RCTC	Q3 2024
Active	16	Environmental	Air Quality	Air quality documentation requirements may change due to recent California Supreme Court Case.	Recent California Supreme Court case (Friant Ranch) may change requirements of Air quality requirement for transportation projects and the project would have to adapt to this updated information. Air Quality Report approved on 8/29/2022.	Track modification in requirements due to Supreme Court case and adhere to the planned RTP & FTIP update following TOAR approval in Q1 2021 to avoid late project programming changes.	30%	50%	Probability is low because pollutant emissions for the proposed project are less than significant thus potential effects on human health are less than significant. Schedule Impact - Project delays due to additional administrative efforts and approval. Scope/Cost Impact - Cost increases to complete PA&ED due to project delays related to completion of the Final Environmental Document being consistent with the RTP & FTIP or pending amendment for consistency in the overall lane improvements and limits	Mitigate	RCTC / CT	Q4 2023
Active	17	Environmental	Hazardous Waste	Preliminary Site Investigations (PSI) conducted during PS&E may require additional site investigation, including Detailed Site Investigation (DSI) and/or remediation cleanup.	PSIs may be needed for asbestos-containing materials (ACM)/lead-based paint (LBP) for affected structures, lead chromate in yellow traffic striping, and polychlorinated biphenyls (PCB) in transformers. Additional PSIs may be required pending the findings and recommendations of the Initial Site Assessment (ISA). The PA&ED limits are defined and all improvements, including preliminary noise walls, are located within State ROW and have been tested and documented in the LBP/ACP & ADL reports. This risk will carry forward into the final design and construction phases with various D-B contractor plans for Lead Compliance Plan (striping) and Electric Waste, etc.	Conduct PSIs early in the final design phase of the project based on ISA findings and identify the expected time to conduct any additional site investigations and/or remediation cleanup that would be needed in the future phases. (LBP/ACP & ADL Reports have been approved for PA&ED - remaining report is the overall ISA for the PA&ED delivery efforts.)	30%	50%	The probability of encountering high risk hazardous waste sites is considered to be low since the surrounding land uses from the project is primarily open space and is expected to be confined to existing State R/W. Schedule Impact - Delays would be caused by having to conduct additional site investigation and/or remediation cleanup. Scope/Cost Impact - Additional costs due to additional site investigations and/or remediation cleanup and potential construction schedule delay.	Mitigate	RCTC/CT	Q3 2024
Retired	18	Environmental	2-Year Survey Period (2020-2021) for NES	Due to limitations in Right of Entry access for priority parcels due to COVID-19, Surveys will need to be performed over a two year period.	An approach to conduct the surveys needed for the NES and JD over a two year period was provided to Caltrans and approved.	Access for Agency priority parcels will continue during COVID-19. Once RCTC wants to resume public outreach for parcel access from private owners, the team will focus on priority parcels. In-person door to door outreach resumed with door hanger packets 8/2020.	80%	90%	2 year survey periods will need to occur for all studies based on the right of entry access granted by various owners prior to COVID-19.	Accept	RCTC	Retired Q3 2020

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Active	19	Design	New or revised design criteria	Design standards are updated, resulting in updating design which impacts cost and schedule.	MASH compliance in one example that has introduced wider barriers that may further reduce median shoulder widths and retaining wall offsets which may require consideration for more frequent needs for outside widening. Design team monitoring Caltrans design changes that impact design included in the approved TOAR which is being utilized in development of the GAD's and DSDD approval documents. Draft DSDD/GAD's (as of December 2023) identify a Lateral Structure Separation (HDM 309.4) of 6". It has been agreed to in the Project Charter that this condition will be assumed for the PA&ED phase and will be addressed in Type Selection. Both the GAD & DSDD have received concurrence from Caltrans.	Review design standard updates as they become available. Subscribe to List Server.	20%	40%	Design Standards are continuously updated. Some are significant and will be considered early in conceptual layouts of the build alternative. TOPD and FHWA guidance has been adhered to and outline in the Access Design Memo. Schedule Impact - Delay a result of re-design or additional exception approval to absorb overall width increases with lane width reductions from 12' to 11' in the EL and GP lanes Scope/Cost Impact - Additional costs due to re-design which would result in a schedule delay.	Mitigate	RCTC / CT	Q3 2024
Retired	20	Design	Noise Barriers	Early finalization of potential barriers are critical to the footprint development along with ongoing FHWA cost/benefited receptor updates.	Refinements of the footprint are expected, however early conservative assumptions to include potential barriers will be considered and implemented in the early development of the project impacts. With the TOAR approval, early identification of potential noise barriers can begin with the initiation of the future noise models. The draft NSR identified sound reasonable walls that fall outside of the project limits. Preliminary NADR costs for walls outside of Caltrans ROW appear to not be cost feasible. The preliminary NADR cost feasible walls do not appear to fall outside of the environmental footprint limits. Potential noise walls have been confirmed with the final approved NADR and the DED and FED will document the benefited receptor feedback on construction of the two potential noise barrier systems within the Weirick Road IC within State R/W.	Monitor FHWA cost thresholds for the cost level per benefited receptor, this is typically updated annually and will need to be applied in the Draft and Final NADR. Current cost threshold of $146k/benefitted receiver was established in mid 2023.	30%	60%	Removal of potential barriers initially identified and later no longer considered reasonable and feasible will result in a reduction of project footprint. A reduction in footprint will be easier to amend supporting tech studies and the environmental document. Schedule Impact - Delays if barriers are added after footprint established or federal cost thresholds are increased making more wall locations viable from a cost to benefited receptor basis Scope/Cost Impact - Cost to revisit completed studies based on revised limits.	Accept	RCTC	Retired Q3 2024
Active	21	Design	Groundwater	Presence of isolated shallow groundwater can affect the performance of Drainage/BMP requirements.	Evaluation of groundwater levels will be considered in the early selection of potential BMP types for use on the corridor.	Monitoring of locations for BMP's will need to take into account potential ground water and pavement design, within the asphalt section, will need to have additional attention for outside widening and the presence of underdrains along the existing outside shoulders.	10%	20%	Infiltration areas and stripes/swales will be the primary surface treatment method considered for implementation to meet water quality treatment volumes. Schedule Impact - 0 to 1 if groundwater discovered that impacts BMP strategy Scope/Cost Impact - cost to update completed studies based on discovered groundwater	Accept	RCTC	Q1 2021
Active	22	Design	Northern Terminus (Operations)	Impacts to project limits depending on operational analysis specifically when looking at changes near Cajalco Road IC and northward based on I-15 ELP.	Based on RFC plans from I-15 ELP the dual express lanes limit is established to El Cerrito Road IC and will become the connection point for lane striping changes for technical studies. The project TOAR was approved in February 2021. A Revised ELPSE TOAR was approved in April 2022. Any final changes to access or tolling points would be as a result of public circulations comments specific to the South Corona area as I-15 ELPSE joins I-15 ELP and the September 2024 Construction of the SB Restripe Project being delivered by Caltrans D8.	Advance traffic operational analysis for the determination of impacts to express lane and general purpose lanes related to weaving and turbulence as express lane access points and refined. Feedback will be provided based on the 1st Draft TOAR submittal to CT in August 2020.	40%	60%	The northern terminus may require additional analysis and adjustments based on mainline operational analysis, access placements, and impacts to toll zones established by I-15 ELP (2020). Schedule Impact - Traffic Operations related to the Weirick/Cajalco Ingress Only access point resulted in a 2 month delay to the TOAR approval. Scope/Cost Impact - Design efforts to revise geometry and future construction costs.	Mitigate	RCTC / CT	Q3 2024
Active	23	Design	CETAP West (Traffic Model)	Impacts to regional traffic model and trip distributions with changes to the Regional Transportation Plan.	CETAP West will be retained in the regional traffic model (2040 OY) per coordination with RCTD this was previously noted as 2035. If this facility is revised changes to traffic volumes and future operations will require revisions to HY. The ELPSE TOAR was approved in February 2021. A Revised ELPSE TOAR was approved in April 2022	Cajalco Road Widening & CETAP West has gone through an opening year update by RCTD, CETAP West has been noted as an opening year of 2035 (Q1 20202) and will not currently alter traffic demands as this is prior to the 2027 - 2047 (2030 - 2050) for I-15 ELPSE.	20%	40%	Revisions the CETAP West in a regional model related to -15 ELPSE Opening Year & Horizon Year would require rework of volumes and operations which is critical path. Schedule Impact - Delay to assess and implement design revisions and updates to technical studies Scope/Cost Impact - Redesign and coordination efforts in addition to construction costs associated with revisions.	Avoid	RCTC / CT	Q1 2021

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Retired	24	Design	91/15 North Facing Connector (NFC) - distribution of traffic	Once the NFC opens, traffic will be redistributed throughout the network and could affect our traffic analysis for the project.	Trip distribution is not certain and may be subject to adjustment to actual volumes following the opening of I-15/SR-91 NFC in 2023. ELPSE TOAR was approved in February 2021. A Revised ELPSE TOAR was approved in April 2022. Construction completed in November 2023.	The team has agreed to the maximum number of vehicles within the express lanes (1,750 vplph) as a value for modeling efforts.	10%	30%	Assumptions for express lanes are 1,750 vplph and is metered with dynamic pricing on I-15 to limit vehicle in the facility. This value (1,750) was discussed and agreed to as a value by CT in the approved Traffic Methodology Memo on October 28, 2019. Schedule Impact - Delay to assess and implement design revisions and updates to technical studies Scope/Cost Impact - Redesign and coordination efforts in addition to construction costs associated with revisions.	Accept	RCTC / CT	Retired Q3 2024
Retired	25	Design	I-15 Express Lanes Project (ELP)	Once the ELP opens, traffic will be redistributed throughout the network and could affect our traffic analysis for the project.	Trip distribution is not certain and may be subject to adjustment following the opening of I-15 ELP in late 2020. ELPSE TOAR was approved in February 2021. A Revised ELPSE TOAR was approved in April 2022. ELP has been operational for several years and the public is familiar with the operational and access points in South Corona which will become the EL network mid-point with the completion of ELPSE.	Estimates for ELP volumes will be used until formal numbers based on use counts in late 2020 and early 2021 from telemetry from I-15 ELP.	30%	50%	Assumptions for express lanes are 1,750 vplph and is metered with dynamic pricing on I-15 to limit vehicle in the facility. Schedule Impact - Delay to assess and implement design revisions and updates to technical studies Scope/Cost Impact - Redesign and coordination efforts in addition to construction costs associated with revisions.	Accept	RCTC / CT	Retired Q3 2024
Active	26	Design	Electrical Service Connections in rural areas	Frequency of service connections may be difficult to determine due to the southern portion of the project being in a rural area	Multiple connections to existing electrical service lines (approx. 24) that may require easements and work area and permanent disturbances beyond State R/W.	Coordination local service drops that will need to be addressed as tolling locations / gantries / zones are defined for the EL network.	10%	30%	Service connections will be evaluated based on existing transmission and distribution service facilities from various local electrical power service providers. Schedule Impact - Delay to coordinate/confirm service requirements with electrical providers Scope/Cost Impact - not anticipated	Accept	RCTC	Q1 2021
Active	27	Design	HSM performance Based Decision	New Caltrans design criteria to evaluate collision statistics.	Risk on schedule and budget to gain consensus on recent recommendations to evaluate performance based decision making. Afshin noted this is complicated for D8 staff to review since it is new and very few people have experience performing this work in other delivery teams and needs to be used in the justification of the DSDD exception request process. Based on the VE Revisions, the non-standard features requiring an HSM Analysis (Bedford Wash pinch point) were eliminated and the analysis is no longer required. Current GAD configuration (as of December 2023) does not have any nonstandard design features that are applicable to be modeled with an HSM analysis. The HSM analysis is not required for EL facilities and there are no changes to GP lane or outside shoulder widths.	Early coordination with CT by submittal of the Access Design Memo has been established to justify configuration and physical dimensions for various access points.	10%	20%	Subjective analysis for all projects with PA&ED completion after June 20, 2020. Schedule Impact - Delay for additional review/preparation Scope/Cost Impact - additional analysis requirements	Mitigate	RCTC	Q4 2023
Active	28	Design	Changes to Storm Water Requirements	Design team is made aware of updates to regulatory Storm Water requirements during coordination meetings.	Trash Policy is the most recent requirement to enhance treatment measures in high trash areas as further defined by D8 Storm Water Coordinator. A focus meeting (5/10/22) with CT SW unit was held where CT provided preliminary concurrence with the proposed trash capture strategy. The SWDR was deemed adequate for Draft PA&ED and with be finalized after selection of the Preferred Alternative and updated in Final PA&ED.	Coordinate with regulatory agency on continual basis throughout life of project to identify any new procedural requirements as early as possible to minimize impacts to project schedule.	20%	30%	Track updates and update storm water design as appropriate to complete PA&ED and compliment the delivery of the WQAR. Schedule Impact - Delays would be the result of updating design and SWDR. Scope/Cost Impact - Additional costs to update of Stormwater design and potential project delay.	Mitigate	RCTC	Q3 2024
Active	29	Design	Drainage impacts to water quantity and quality considerations.	Treatment of increased flows and water quality can become challenging and increase cost to the project.	Establish early potential BMP locations and the type of treatment systems to treat project water quality flows due to added impervious area. A focus meeting (5/10/22) with CT SW unit was held where CT provided preliminary concurrence with the proposed trash capture BMP strategy. Collaboration with Caltrans has occurred in 2024 related to the planned drainage rehabilitation that is being publicly circulated as of August 2024 by Caltrans District 8 between PM 30 & 33. No conflicts occur between the two projects.	Increased impervious areas are expected to be treated with roadside features and will be identified in the disturbance areas for the project following definition of new pavement with the express lane alternative.	10%	20%	Sizing of BMP's will be based on full median paving for a dual express lane network along with outside widening for Aux Lanes or Ingress/Egress locations. Schedule Impact - Delay for additional coordination/review Scope/Cost Impact - additional analysis requirements	Accept	RCTC	Q3 2024

Risk Identification					Risk Assessment					Risk Response*(See note 2)		
Status	ID #	Category	Title	Risk Statement	Current Status	Risk Mitigation	Probability* (See Note 1)		Risk Assumptions	Strategy	Risk Owner	Updated
Active	30	Organizational	Tolling Technology	Tolling Technology is regularly changing. Project needs to be compatible with existing facilities as well as utilizing current technology could result in cost changes and maintenance agreements.	Our footprint will be conservative for tolling infrastructure including the use of a 2 ft buffer separated express lane network from the general purpose lanes. This includes potential TUB pads, enforcement areas, lighting, access locations, and toll gantries.	Widening will be limited to the outside and use of the 2 ft buffer is consistent on the corridor with I-15 ELP and allows express lanes to be accommodated within the existing median of I-15 and general purpose lanes to remain within the pavement slabs joints and prolongs pavement life and is consistent with delineation of lane stripes except where it is deemed necessary to provide dedicated access openings for express lane as shifts in travel lanes occur. Access Geometry Memo was approved by CT on 5/1/2020 which defines the use of the access configuration and use of a 2 ft buffer with surface mount delineators.	20%	30%	Monitor TOPD guidance for toll facility recommendations including design parameters and recommendations on access point configuration geometry, signing, and striping. (Access Design Memo was submitted to CT and approved to confirm acceptable access geometry to be employed for EL configuration in the Geometric Review Drawings (GRD) to include orientation, length of EL openings, weave lengths to adjacent IC's, buffer width and buffer taper rates.) Schedule Impact - Delay for additional coordination/review Scope/Cost Impact - additional analysis requirements	Mitigate	RCTC / CT	Q1 2021
Retired	31	Organizational	Delays in scheduling scoping meeting	Inability to finalize the NOP may cause Scoping meetings to be pushed out.	RETIRED - public scoping period was completed 11/22/2019	Scoping meetings were completed in October 2019 ahead of schedule.	20%	30%	RETIRED - public scoping period was completed 11/22/2019	Mitigate	RCTC	Retired Q4 2019
Active	32	Organizational	Public Opposition	Recent public feedback opposes carpool lane conversions for the development of express lanes. Comments during public scoping and public hearing may include recommendations and the No Build being the preferred alternative.	Early feedback from public scoping meetings demonstrated there is a demand for more capacity on I-15 to ease congestion and delay on the corridor.	Conduct early and ongoing public outreach, and confirm that compensation and relocation assistance are provided, in accordance with regulations after PA&ED approval.	30%	50%	Public outreach will be ongoing throughout the project following the completion of scoping with a project website and public hearings as part of the formal Draft EIR/EA circulation. Schedule Impact - Delays may be significant due to public controversy Scope/Cost Impact - Design adjustments or additional studies required based on public feedback	Avoid	RCTC / CT	Q1 2021
Retired	33	Organizational	COVID-19 Virus / Pandemic Impacts	COVID-19 was further complicated in CA with a "Safe In Home" issued by the Governor in mid-March 2020 limiting work to "essential" or "critical" personnel and social separation limiting integration with property owners and potential delay to spring surveys and other technical studies and in-person meetings.	All meetings will be held virtually to maintain project continuity with team members and agency stakeholders. Survey period will be extended into 2021. Public Hearing will be held as in-person public open house style meeting to accommodate the public at three locations on three separate evenings during public circulation along the corridor. Additionally, public facing content including the DED will be available on the RCTC project website.	This pandemic will create alternative work requirements for the project team to work through and address schedule issues related to field studies and in-person meeting replaced with conference calls and screen sharing through WebEx for CT, RCTC, and consulting team staff.	30%	70%	Schedule Impact - None at this time Scope/Cost Impact - None at this time	Accept	RCTC / CT	Retired Q3 2024
Retired	34	R/W	Additional right of way needed that would result in additional community impacts	If additional right of way is needed for the proposed improvements, additional community impacts may result and will need to be addressed in CIA and DRIR, which could delay the schedule.	Delays due to R/W are relatively small since express lane improvements are primarily expected in the median of I-15. The draft NSR identified sound reasonable walls that fall outside of the project limits. Preliminary NADR costs for walls outside of Caltrans ROW appear to not be cost feasible. As of December 2023, no ROW is anticipated to be required for the project. This was further confirmed with completion of the NADR and DED and finalization of the R/W Data Sheets included in the DPR.	Determine right of way requirements early and conduct early and ongoing public outreach, and ensure that compensation and relocation assistance are provided, in accordance with regulations.	20%	30%	A public outreach campaign can be conducted to communicate with property owners, local businesses, and community members to address community impacts. Schedule Impact - Delays may be significant due to public discourse Scope/Cost Impact - Additional costs due to additional meetings, re-do of studies, and schedule delays	Accept	RCTC	Retired Q3 2024
Active	35	R/W	Utility impacts	Identification of Utilities that requires avoidance, protection or relocation.	Coordination with utility companies will begin early in the project with emphasis on electrical service drops for operating tolling equipment. One utility impact Castle Comm has been addressed by Jeff D. (RCTC) directly with CT to remove the unpermitted aerial crossing to underground or removal prior to D-B phase.	Direct utility impacts are not expected but if encountered will be considered for protection prior to relocation which is a last resort.	10%	20%	Major utility conflicts are not anticipated with the planned improvements and will be verified with completion of first draft APS General Plans for each bridge widening. Schedule Impact - Delay if utility coordination is required Scope/Cost Impact - Scope/Cost associated with redesign efforts	Accept	RCTC	Q3 2024

Risk Identification					Risk Assessment					Risk Response*(See note 2)		
Status	ID #	Category	Title	Risk Statement	Current Status	Risk Mitigation	Probability* (See Note 1)		Risk Assumptions	Strategy	Risk Owner	Updated
Retired	36	R/W	Potential Noise Barriers	Identify adequate width temporary easements on private property for walls / barriers along the State R/W and representative costs.	R/W data sheets will be developed to account for costs of temporary and permanent easements along with cost basis updates for feasibility of potential noise barrier cost based on individual benefited receptors. The draft NSR identified sound reasonable walls that fall outside of the project limits. Preliminary NADR costs for walls outside of Caltrans ROW appear to not be cost feasible. As of December 2023, no ROW is anticipated to be required for the project. Potential noise barriers that remain are within Weirick Road IC and within the State R/W.	Early noise barrier identification and potential TCE for R/W adjacent walls or walls on private property will be critical. This will be an iterative analysis process between environmental and engineering and may require a conservative approach to include walls until NSR approval is achieved.	30%	50%	Easement cost will be developed for residential and commercial properties on a sq. ft. basis and areas will be validated with the constructability review. Schedule Impact - not anticipated Scope/Cost Impact - Cost associated with larger R/W easement needs	Accept	RCTC	Retired Q3 2024
Retired	37	Environmental	TOAR Supplemental Memo	A delay in approval of the TOAR supplemental memo required to incorporate the I-15 Corridor Operations Project (EA 0J0830) would impact the projects critical path as it's findings are required for the Noise Model.	The Draft TOAR Supplemental Memo was submitted to Caltrans for initial review in March 2021 and reflects positive operational impacts on the ELPSE project and geometric refinements do not require any non-standard features to accommodate. A Revised ELPSE TOAR was approved in April 2022	Develop project geometrics which do not require additional non-standard features or have negative impacts on the traffic operations approved in the approved TOAR (2/2021).	10%	30%	The initial draft of the TOAR Supplemental Memo demonstrates operational benefit to the I-15 corridor and the geometrics to accommodate the additional auxiliary lane installed by the COP does not require non-standard features. Schedule Impact - Delay for review/refinements Scope/Cost Impact - Cost associated with developing TOAR Supplemental Memo and develop geometrics to accommodate COP.	Accept	RCTC	Retired Q3 2024
Retired	38	Environmental	Noise Model - AM/PM Traffic Volumes	A delay in the noise model approval and overall project schedule could result if the AM/PM peak hour volumes extracted from the approved TOAR and field observations which are incorporated in the Future No-Build and Build models require significant adjustments after Caltrans review.	The AM/PM Peak Hour volumes from the approved TOAR will need to be evaluated and processed for use in the noise modelling efforts to identify the condition that creates the most noisiest conditions. With the validation models currently in review, the ICF team will be initiating preparation of the Future No-Build and Build condition models shortly. A focus meeting was held on 4/19/2022 that discussed an agreed approach to establishing AM/PM noisiest hour determination. All noise models approved as of 10/25/2023 and the team is utilizing those models in development of the NSR and NADR. The NSR and NADR have been approved and models have been developed consistent with fleet mix and local circulation and limit lines for ramp meters, general purpose lanes, and EL's.	A focus meeting would allow the ICF team developing the Future No-Build and Build models to discuss and reach agreement with the Caltrans review team on the appropriate methodologies in extracting the information needed from the TOAR.	20%	40%	A focus meeting between the ICF team developing the models and the Caltrans review team will result in an agreed upon and documented methodology that will be referenced in preparation and review of the future model conditions. Schedule Impact - Delay for review/refinements Scope/Cost Impact - Cost associated with coordination and model refinements	Accept	RCTC	Retired Q3 2024
Active	39	Environmental	Noise Model - Field Re-Measurements for validation model	A delay in the noise model approval and overall project schedule could result if noise model re-measurements taken in the field still do not fall within acceptable validation ranges do not meet Caltrans criteria for acceptable measurement conditions or use in the noise validation models.	The noise validation model currently in Caltrans review has multiple locations where the field measurement results and the model results did not fall within acceptable tolerance ranges. These locations require additional field measurements (as close as possible to original field measurement locations) to compare with initial measurement results in an effort to identify the cause of the out of tolerance ranges. A focus meeting with Caltrans will be required to determine how to proceed with any locations that still fall outside acceptable ranges. Additional noise measurements were taken at the Terrano appt complex on 1/5/2022 in coordination with the ICOP project. The corresponding validation model was approved by CT on 3/21/2022. Field reviews were completed with CT, RCTC, HDR, ICF prior to finalization of the NADR to discuss site impact related to landscaped parkways, ramp orientations, terrain to accommodate noise barriers, and other impacts to dwellings near Knabe Road and various single family dwellings and the multi-family dwellings northeast of Weirick Road IC.	To help ensure that the field re-measurements are satisfactory to the Caltrans review team, a focus meeting will be held immediately after the field measurements are taken to discuss locations and conditions of measurements. This focus meeting will allow the team to quickly identify any concerns over re-measurement locations and conditions and would reduce the risk of a need for third field measurements.	20%	40%	A focus meeting between the ICF team performing the field measurements and the Caltrans review team will result in an acceptable field data that can be utilized in the development of the noise models. Schedule Impact - Delay for additional field measurements Scope/Cost Impact - Cost associated with coordination, model refinements and additional field measurements	Accept	RCTC	Retired Q3 2024

Risk Identification					Risk Assessment					Risk Response*(See note 2)		
Status	ID #	Category	Title	Risk Statement	Current Status	Risk Mitigation	Probability* (See Note 1)		Risk Assumptions	Strategy	Risk Owner	Updated
Active	40	Environmental	Joint Project Review	Federally listed species and state listed species in the vicinity of the project are present or have a potential to be present. A JPR will be submitted to the RCA for their approval and USFWS/CDFW for their concurrence.	Coordination with the RCA, USFWS, and CDFW has not occurred to date. Once focused studies are complete, the preliminary results can be discussed with the RCA, USFWS, and CDFW. Continued coordination has occurred with RCA in 2024 and formal submittal of the final impact determination letter (2nd Revision) occurred on 9/3/2024 under JPR 24-03-15-01.	Coordination with the RCA, USFWS, and CDFW after focused studies are completed is a strategy used to share results for biological resources and begin mitigation strategy and streamline the JPR approval.	20%	50%	Coordination with the RCA, USFWS, and CDFW may be necessary to get them on board with the mitigation strategy or make adjustments if they do have concerns. Schedule Impact - Depending on the resources involved and the mitigation necessary additional delay for review, investigation, and documentation Scope/Cost Impact - Depending on the resources involved and the mitigation necessary additional review, investigation, and documentation may be required.	Mitigate	RCTC	Q3 2024
Retired	41	Design	Approach Slabs on Existing Bridges	As a result of lack of approach slabs at some existing bridge structures, Caltrans may request to add improvements into the ELPSE project which would increase costs and add additional impacts to traffic staging during construction.	A comment was generated in the APS Package 1 Caltrans review that requested adding approach slabs to existing bridges where not present. Per email from Lily Sun (Caltrans HQ Structures) on 4/7/2021, the RCTC response to comment was accepted and adding approach slabs will not be required.	Ongoing communication and active coordination with Caltrans reviewers to limit these types of maintained related scope creep additional improvements to portions of the I-15 corridor not impacted by the addition of the proposed Express Lanes.	20%	40%	Current project improvements are limited to elements required to constructed the Express Lane system within the project improvements. Schedule Impact - Depending on request, delay to respond to requests and/or accommodate design elements into project. Scope/Cost Impact - Depending on request, additional costs to design requested feature and associated construction costs.	Accept	RCTC	Q2 2021
Active	42	Design	Pavement Slab Replacement in Adjacent GP Lanes	As a result of potentially poor pavement conditions in the existing GP lanes, Caltrans may request to add improvements into the ELPSE project which would increase costs and add additional impacts to traffic staging during construction.	Current proposed pavement improvements are limited to what is necessary to construct the proposed Express Lanes. This would continue into final design by RCTC and CT to determine if select slab replacements are warranted to occur in the D-B phase.	Ongoing communication and active coordination with Caltrans reviewers to limit these types of maintained related scope creep additional improvements to portions of the I-15 corridor not impacted by the addition of the proposed Express Lanes.	20%	40%	Current project improvements are limited to elements required to constructed the Express Lane system within the project improvements. Schedule Impact - Depending on request, delay to respond to requests and/or accommodate design elements into project. Scope/Cost Impact - Depending on request, additional costs to design requested feature and associated construction costs.	Mitigate	RCTC	Q3 2024
Active	43	Design	Deck drain outlets directly to blueline streams.	As a result of Caltrans receiving notification by the Water Resource Control Board that identified concerns with direct discharges from bridges to blueline streams/ This may lead to design requirements to modify deck drain systems on existing bridges that are not requiring widening on the outside.	Caltrans has provided a comment on the draft Preliminary Hydraulics Report that raised the concern, however the exterior bridge rails and drain systems are not revised with median deck widening. Deck drains may need to be modified in final design so the D-B Team may need to address this condition and based on other bridge widening projects in District 8 over washes adjustments to deck drains will be considered on a location by location basis.	The project APS's identify locations that contain deck drains that outlet directly to the blueline streams below. In the APS a recommended strategy is identified. The recommended strategy is to retrofit the deck drains to outlet to a 8" collector pipe system anchored under the existing bridge. This strategy was used on the I-10 Holt Bridge project that was approved in 2020 and is referenced in the APS's.	50%	70%	Current project improvements are limited to elements required to constructed the Express Lane system within the project improvements. This requirement would add construction costs to retrofit portions of the existing bridges that previously did not require widening or modifications. Schedule Impact - Delay to develop and coordinate mitigation strategy with Caltrans. Scope/Cost Impact - Additional costs to design requested feature and associated construction costs.	Mitigate	RCTC	Q3 2024
Retired	44	Environmental	Annotated Outline for EIR/EA	A lack of a formal annotated outline for the EIR/EA that includes VMT analysis could result in delay in the approval of the draft EIR/EA and public circulation.	Caltrans is in the development stages of an annotated outline for the EIR/EA that includes the VMT analysis, but no timeframe has been established. Caltrans provided screened out concurrence on 8/11/2022. The Draft EIR/EA is utilizing the latest available outline available on the SER as of December 2023 and with final DED revisions in September 2024.	The PDT has agreed (Sept 2021) to proceed with an approach to have a VMT analysis and documentation section in the DED.	20%	30%	The team is proceeding with VMT analysis in preparation of incorporating into the annotated outline when it is available from Caltrans Schedule Impact -Lack of an approved annotated outline for the EIR/EA would delay the approval of the DED for public circulation to prepare a project specific format to present the VMT analysis and obtain Caltrans approval. Scope/Cost Impact - Depending on request, additional costs for multiple iterations of DED preparation and review process.	Accept	RCTC	Q4 2023

Risk Identification					Risk Assessment					Risk Response*(See note 2)		
Status	ID #	Category	Title	Risk Statement	Current Status	Risk Mitigation	Probability* (See Note 1)		Risk Assumptions	Strategy	Risk Owner	Updated
Active	45	Design	Geometric Refinements	As a result of geometric refinements to enhance operation and drivability of the Express Lanes, design exceptions and or additional environmental clearance needs may be identified which would lead to potential schedule delays and/or additional costs.	Stemming out of a geometric review meeting with RCTC on May 6th, some minor revisions to the Geometric Review Drawings (GRDs) were proposed. These are currently under development and review. The GAD's (Aug 2022) have been updated to include the VE Study recommendations that have eliminated multiple non-standard design features within the corridor and provided an overall cost decrease. A Supplemental DSDD is being finalized by the team as of September 2024 to accommodate the late request by Caltrans to include ramp meter systems at Lake Street and Nichols Road Interchanges for consistency with the Ramp Meter Policy being applied to all projects no matter if ramp improvements are being deferred to a future	Geometric refinements from the GRDs will be reviewed for consistency with Caltrans HDM design standards and the environmental technical studies that have been completed for compatibility. Any identified deviations will be quickly elevated to determine the appropriateness to proceed with incorporating the refinement into the proposed design.	30%	40%	The team is evaluating design refinements as they are identified and elevating deviations from standards and environmental footprints. Schedule Impact - Depending on request, delays to the project schedule may be necessary to obtain additional approvals. Scope/Cost Impact - Depending on request, additional costs may result from added design features and or additional studies.	Accept		Q4 2024

* NOTES:

1) The Probability of each risk includes a low and high range that each can range from 0% to 100%
   Level 3 project risk is analyzed by assessing the probability of occurrence and the corresponding impact on the project and should be agreed upon by the PDT and provided by the Project Manager.
2) Risk active and currently being addressed by the team

Attachment J – Initial Site Assessment (ISA) Signature Page and ISA Checklist

15-RIV-08-PM 20.3 to PM 40.1

EA: RIV 08-0J0820

Traffic capacity and operational improvements would be constructed on Interstate 15 (I-15) between post miles (PM) 21.2 near Main Street in Lake Elsinore to PM 38.1 near El Cerrito Road in Corona. This area is referred to as the lane improvement limits. These lane improvements are located within Riverside County, California and run through the cities of Lake Elsinore, Corona and portions of unincorporated Riverside County including the Temescal Valley. Limits for the express lanes advance signage extend from PM 20.3 to PM 40.1 in Riverside County; these post miles constitute the overall Project limits.

Initial Site Assessment

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S.C 4332(2)(C) and 49 U.S.C. 303

THE STATE OF CALIFORNIA
Department of Transportation
in cooperation with
THE RIVERSIDE COUNTY TRANSPORTATION COMMISSION

01/20/22
Date of Approval

Daniel Ciacchella
District 8, Caltrans Consultant Project Manager
California Department of Transportation

12/9/21
Date of Approval

Stephanie Blanco
Capital Projects Manager (Toll)
Riverside County Transportation Commission

Figure 18-4 Initial Site Assessment (ISA) Checklist

INITIAL SITE ASSESSMENT (ISA) CHECKLIST

DATE: 4/26/2021

PROJECT INFORMATION

DISTRICT 8 **County** RIV **Route** I-15 **KiloPost(PM)** 20.3/40.1 **EA** 0J08020

Scope of Project:
The proposed project would extend the I-15 Express Lanes from SR-74 (Central Avenue) (PM 22.3) in the City of Lake Elsinore, through the unincorporated Riverside County community of Temescal Valley, to El Cerrito Road (PM 38.1) in the City of Corona. Associated improvements include advance signage and transition striping, bridge widening, potential construction of noise barriers, retaining walls, drainage systems, and implementation of electronic toll collection equipment and sign. No right of way acquisition would be required since all project work and staging areas would occur within Caltrans right of way.

Project Engineer: Jiaqian Li , Caltrans District 8 **Telephone** (909) 806-3263
Environmental Coordinator: Diana DeGroot, Caltrans District 8 **Telephone** (909) 383-5917

DATE ISA NEEDED: N/A

Attach the project location map and an aerial photo to this checklist to show the location of proposed RW and all known and/or potential hazardous waste sites.

1. Project Features: New RW? ☐ Excavation? ☒ Railroad Involvement: ☐
   Structure Demolition/Modification? ☒ Subsurface Utility Relocation ☐
2. Project Setting: Rural ☒ Urban ☐
   Current Land Uses: Transportation
   Adjacent Land Uses: Primarily agricultural, commercial, residential, manufacturing/industrial, light industrial, and mining land uses.
   (Industrial, light industrial, commercial, agriculture, residential, other)
3. Check Federal, State and local environmental and health regulatory agency records as necessary to see if any known hazardous waste site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets as needed to provide all information available pertinent to the proposed project. **IS PROJECT AFFECTING SITES LISTED ON CORTESE LIST? NO** ☒ **YES** ☐ **IF YES DESCRIBE SITE:**

4 **Conduct Field Inspection.** Uyenlan Vu, Aaron Newton, & Rebecca Schartau, HDR **Date** December 10, 11, and 14, 2020, and April 1, 2021

Storage Structures/Pipelines:				Contamination: (spill, leaks, illegal dumping, etc.)		Hazardous Materials: (asbestos, lead, etc.)	
USTs	Yes			Surface staining	Yes	Buildings	Unknown
Surface tanks	Yes			Oil sheens	N/A	Sprayed-on fireproofing	Unknown
sumps	N/A	ponds	N/A		N/A		
drums	Yes	basins	N/A	Odors	N/A	Pipe wrap	Unknown
transformers	Yes			Vegetation, carnage	N/A	friable tile	Unkonwn
landfill	Yes			Other	De minimis surficial staining from oil at Sites 3, 31, & 127. Refer to ISA.	Acoustical plaster	Unknown
other						Serpentine	N/A
						paint	Unknown
						other	

5. **Other comments and/or observations:**

ISA DETERMINATION:
Does the project have potential hazardous waste involvement?
If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the preliminary Site Investigation? If yes, explain and give estimate of additional time required:

Yes, the project has the potential for hazardous waste involvement (e.g. treated wood waste, paint and thermoplastic striping, lead/asbestos from affected bridge structures), but no additional ISA work is needed before task orders can be prepared for PSIs.

ISA CONDUCTED BY: Uyenlan Vu, HDR **DATE:** 4/26/2021

Attachment K – Life Cycle Cost Analysis

Life-Cycle Cost Analysis Summary

Brief Project Description:

Widen the median of I-15 in Riverside County from PM 20.3 to PM 40.1 to add two Express lanes in each direction.

Express Lanes Northbound – Alternative 1

Widen the median with 0.95 CRCP / 0.25 HMA-A / 0.70 AS

Pavement Design Life: 40 Years
Initial Construction Costs: $25,433,000
Future Maintenance & Rehabilitation Costs: $124,000
TOTAL AGENCY COSTS: $25,557,000
TOTAL USER COSTS: $0
TOTAL LIFE CYCLE COSTS: $25,557,000

Express Lanes Northbound – Alternative 2

Widen the median with 0.10 NSWC / 0/20 RHMA-G / 1.40 HMA-A / 0.50 CLASS 2 AB / SEGT

Pavement Design Life: 40 Years
Initial Construction Costs: $21,116,000
Future Maintenance & Rehabilitation Costs: $8,520,000
TOTAL AGENCY COSTS: $29,636,000
TOTAL USER COSTS: $3,010,000
TOTAL LIFE CYCLE COSTS: $32,646,000

Express Lanes Southbound – Alternative 1

Widen the median with 0.85 CRCP / 0.25 HMA-A / 0.60 AS

Pavement Design Life: 40 Years
Initial Construction Costs: $29,964,000
Future Maintenance & Rehabilitation Costs: $135,000
TOTAL AGENCY COSTS: $30,099,000
TOTAL USER COSTS: $0
TOTAL LIFE CYCLE COSTS: $30,099,000

Express Lanes Southbound – Alternative 2

Widen the median with 0.10 NSWC / 0.20 RHMA-G / 1.20 HMA-A / 0.50 CLASS 2 AB / SEGT

Pavement Design Life: 40 Years
Initial Construction Costs: $20,543,000
Future Maintenance & Rehabilitation Costs: $9,170,000
TOTAL AGENCY COSTS: $29,713,000
TOTAL USER COSTS: $2,875,000
TOTAL LIFE CYCLE COSTS: $32,588,000

Auxiliary Lane – Alternative 1

Widen to the outside with 1.10 CRCP / 0.25 HMA-A / 0.70 AS

Pavement Design Life: 40 Years
Initial Construction Costs: $2,233,000
Future Maintenance & Rehabilitation Costs: $70,000
TOTAL AGENCY COSTS: $2,303,000
TOTAL USER COSTS: $0
TOTAL LIFE CYCLE COSTS: $2,303,000

Auxiliary Lane – Alternative 2

Widen to the outside with 1.30 JPCP / 0.25 HMA-A / 0.70 AS

Pavement Design Life: 40 Years
Initial Construction Costs: $2,043,000
Future Maintenance & Rehabilitation Costs: $82,000
TOTAL AGENCY COSTS: $2,125,000
TOTAL USER COSTS: $21,000
TOTAL LIFE CYCLE COSTS: $2,146,000

Is the lowest life cycle cost option selected as the recommended alternative? If not, why?
For the Express Lanes North and Express Lanes South, the agency, user and total life cycle cost (agency + user cost) Alternative 1 is less than Alternative 2. Based on the analysis it is recommended that the Alternative 1, 40 year CRCP is the recommended pavement design alternative.

For the Auxiliary Lane, the agency, user and total life cycle cost (agency + user cost) Alternative 2 is less than Alternative 1. Based on the analysis, it is recommended that Alternative 2, 40-year JPCP, is the recommended pavement design alternative.

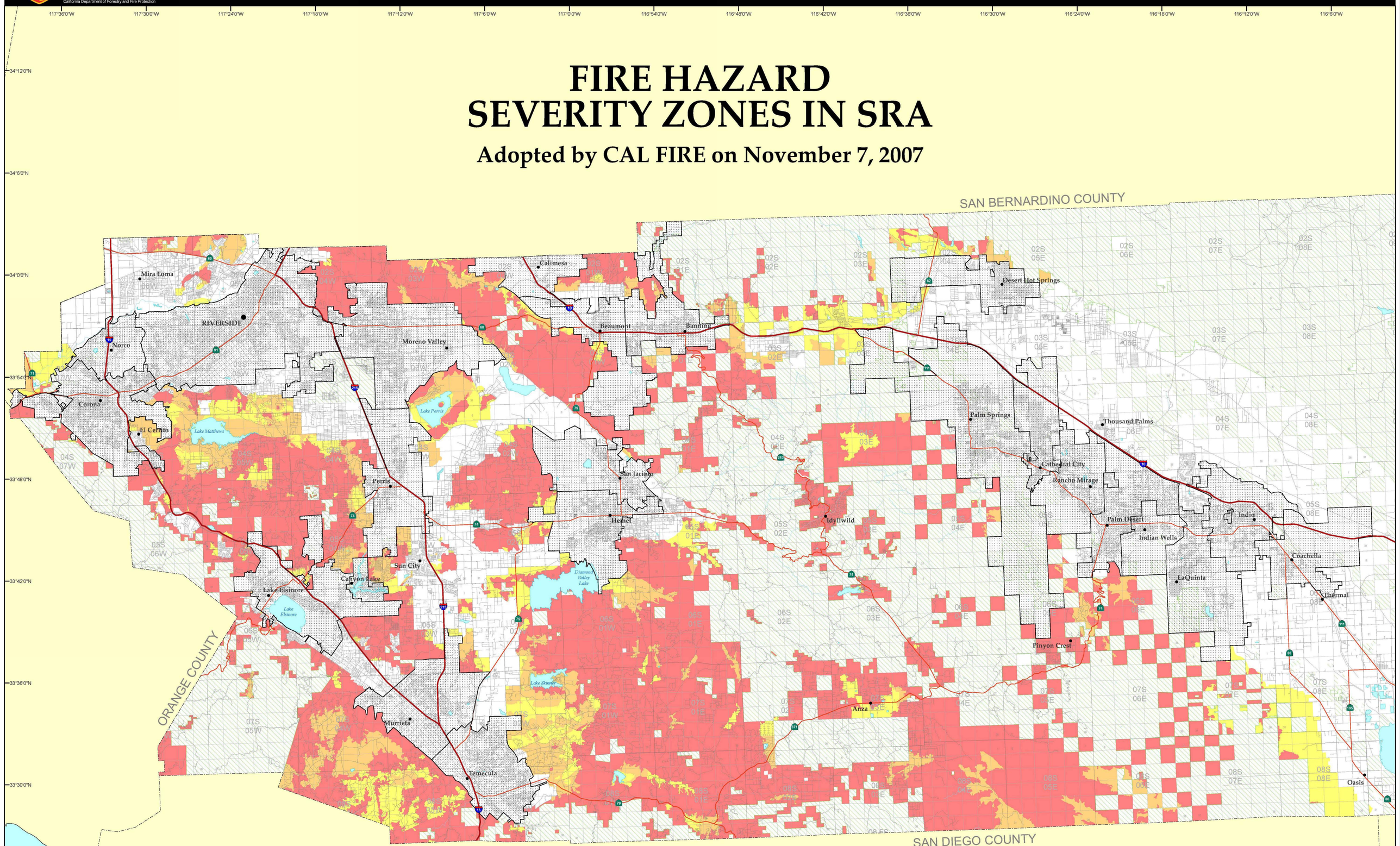
Attachment L – Fire Hazard Severity Zones in SRA for Western Riverside County

WESTERN RIVERSIDE COUNTY

Fire and Resource Assessment Program
California Department of Forestry and Fire Protection

FIRE HAZARD SEVERITY ZONES IN SRA

Adopted by CAL FIRE on November 7, 2007



FIRE HAZARD SEVERITY ZONES in State Responsibility Area (SRA)
- Moderate
- High
- Very High

FIRE PROTECTION RESPONSIBILITY
- Federal Responsibility Area (FRA)
- Local Responsibility Area (LRA) - Unincorporated
- Local Responsibility Area (LRA) - Incorporated

Public Resources Code 4201-4204 direct the California Department of Forestry and Fire Protection (CAL FIRE) to map fire hazard within State Responsibility Areas (SRA), based on relevant factors such as fuels, terrain, and weather. These statutes were passed after significant wildland-urban interface fires; consequently these hazards are described according to their potential for causing ignitions to buildings. These zones referred to as Fire Hazard Severity Zones(FHSZ), provide the basis for application of various mitigation strategies to reduce risks to buildings associated with wildland fires. The zones also relate to the requirements for building codes designed to reduce the ignition potential to buildings in the wildland-urban interface zones.

These maps have been created by CAL FIRE's Fire and Resource Assessment Program (FRAP) using data and models describing development patterns, estimated fire behavior characteristics based on potential fuels over a 30-50 year time horizon, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure to new construction. Details on the project and specific modeling methodology can be found at http://frap.cdf.ca.gov/projects/hazard/methods.htm.

The version of the map shown here represents the official "Maps of Fire Hazard Severity Zones in the State Responsibility Area of California" as required by Public Resources Code 4201-4204 and entitled in the California Code of Regulation, Title 14, Section 1280 Fire Hazard Severity Zones, and as adopted by CAL FIRE on November 7, 2007.

An interactive system for viewing map data is hosted by the UC Center for Fire at http://firecenter.berkeley.edu/fhsz/

Questions can be directed to David Sapsis, at 916.445.5369, dave.sapsis@fire.ca.gov.

0 5 Miles
0 10 Kilometers

Projection Albers, NAD 1927
Scale 1: 150,000
at 40" x 34"
November 07, 2007

Obtain FRAP maps, data, metadata and publications on the Internet at http://frap.cdf.ca.gov
For more information, contact CAL FIRE-FRAP, PO Box 944246, Sacramento, CA 94244-2460, (916) 327-3939.

Arnold Schwarzenegger, Governor,
State of California
Mike Chrisman, Secretary for Resources,
The Resources Agency
Ruben Grijalva, Director,
Department of Forestry and Fire Protection

MAP ID: FHSZS_MAP

DATA SOURCES
CAL FIRE Fire Hazard Severity Zones (FHSZS06_3)
CAL FIRE State Responsibility Areas (SRA05_5)
CAL FIRE Incorporated Cities (Incorp07_3)
PLSS (1:100,000 USGS, Land Grants with CAL FIRE grid)