County of Orange

OC Public Works

SANTA ANA, CALIFORNIA

JAMES TREADAWAY, P.E., S.E., DIRECTOR

PLANS FOR CONSTRUCTION OF

LOMA RIDGE ROAD WIDENING

FROM

EMERGENCY OPERATIONS CENTER SECURITY GATE

TO

EMERGENCY OPERATIONS CENTER

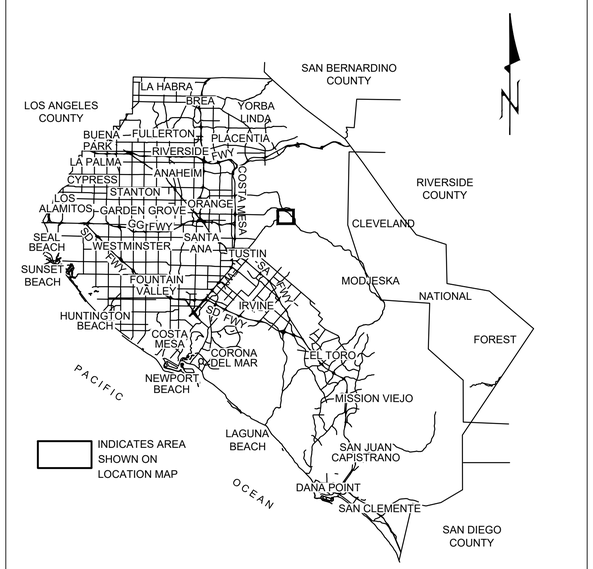
APPROXIMATELY 5,600 FEET

JANUARY 2022

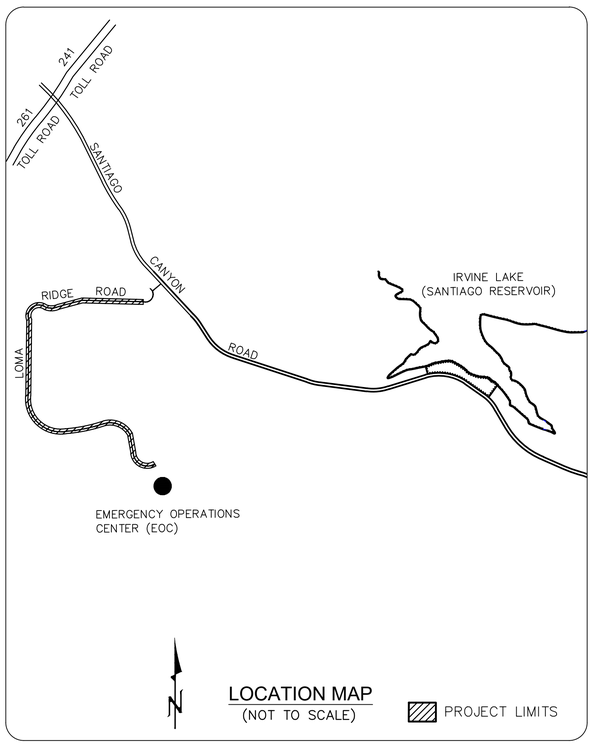
FUNDED BY : ORANGE COUNTY (OC) ROAD CAPITAL IMPROVEMENT FUND (FUND 174)

MAINTAINED BY: COUNTY OF ORANGE (OC OPERATIONS & MAINTENANCE)

POST-PROJECT OWNERSHIP: COUNTY OF ORANGE



VICINITY MAP
(NO SCALE)



LOCATION MAP
(NOT TO SCALE)

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UTILITY OWNER	CONTACT	PHONE NO.
AT&T	CARL JOHNSON	714-618-9141
IRWD - WATER	BELISANO RIOS	949-453-5394
SCE - DISTRIBUTION	DARREN HALVORSON	714-686-9880
CROWN CASTLE	MICHAEL MOATS	949-936-0043
COX COMMUNICATIONS	ROSENDO YANEZ	949-322-0337
UNDERGROUND SERVICE ALERT		800-422-4133

HORIZONTAL DATUM:

THE COORDINATES SHOWN ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE VI, NAD 83, (2017.50 EPOCH, O.C.S. G.P.S. ADJUSTMENT).

ALL DISTANCES SHOWN ARE GRID, UNLESS OTHERWISE NOTED. MULTIPLY A GRID DISTANCE BY 1.000065054 TO OBTAIN A GROUND DISTANCE. THE COMBINATION FACTOR WAS HELD AT POINT NUMBER 510 N=2226072.87' E=6105820.68'.

ALL DISTANCES ARE BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM:

NAVD88 (O.C.S. 1995 ADJUSTMENT)

BENCH MARK:

O.C.S. BM
"3D-158-99 ELEV. = 967.91'

LEVEL YEAR 2017

BASIS OF BEARINGS:

THE BASIS OF BEARING FOR THIS PROJECT IS THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), NAD 83, O.C.S. (2017.50) EPOCH ADJUSTMENT, AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING STATIONS (CGPS) "CCCS" AND "OEOC", BEING N45°17'30"W AS DERIVED FROM THE COORDINATES ESTABLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) ALONG WITH DATA SHEETS ON FILE IN THE OFFICE OF ORANGE COUNTY SURVEYOR.

NO.	DESCRIPTION	SHT.	APPROVED	DATE

REVISIONS

W. O. NO. EQ19821

DWG. NO.

SHEET 1 OF 56

RECORD DRAWING

CONTRACTOR:

RESIDENT ENGINEER:

INSPECTOR:

CONSTRUCTION START DATE:

CONSTRUCTION COMPLETION DATE:

COUNTY OF ORANGE OC PUBLIC WORKS DEPARTMENT

RECOMMENDED: for 2/15/2022
NABIL KHAN, P.E. DATE
DEPUTY DIRECTOR
OC INFRASTRUCTURE PROGRAMS

APPROVED: 2/16/2022
KEVIN ONUMA, P.E. DATE
COUNTY ENGINEER

PREPARED BY

PREPARED UNDER RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER — JUSAM LEE — No. C 67736 — CIVIL — STATE OF CALIFORNIA

01-07-22
JUSAM LEE, P.E. DATE

GENERAL NOTES

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY OR SUBSTRUCTURE SHOWN ON THESE PLANS WAS OBTAINED BY A SEARCH OF AVAILABLE RECORDS. NO CERTIFICATION IS MADE AS TO THE ACCURACY OR THOROUGHNESS OF THESE RECORDS. APPROVAL OF THIS PLAN BY THE COUNTY DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OR THE COMPLETENESS OF THE LOCATION OF THE EXISTENCE OR NONEXISTENCE OF ANY UNDERGROUND UTILITY OR SUBSTRUCTURE WITHIN THE LIMITS OF THE PROJECT.

2. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITION DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT TO BE LIMITED TO NORMAL WORKING HOURS.

3. PURSUANT TO THE BUSINESS AND PROFESSIONS CODE/LAND SURVEYORS ACT SECTION 8771 OF THE STATE OF CALIFORNIA, ALL SURVEY MONUMENTS DESTROYED BY CONSTRUCTION SHALL BE PERPETUATED BY A CALIFORNIA LICENSED LAND SURVEYOR IN ACCORDANCE TO THE METHODOLOGY AND DOCUMENTATION REQUIREMENTS OF THE LOCAL CITY, AND COUNTY JURISDICTIONS. IN THE EVENT THAT OCPW/OC SURVEY IS NOT COMMISSIONED TO PERFORM CONSTRUCTION SUPPORT SERVICES FOR THIS PROJECT THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED COSTS WITH THIS MONUMENT PERPETUATION.

4. THE CONTRACTOR SHALL USE PROPER SAFETY SIGNINGS AND BARRICADING AS REQUIRED PER CA MUTCD 2014 EDITION.

5. THE FIRST COAT OF STRIPING AND PAVEMENT MARKINGS SHALL BE APPLIED THE SAME DAY FOLLOWING THE PLACEMENT OF THE ASPHALT CONCRETE. THE SECOND COAT SHALL BE APPLIED NO SOONER THAN (7) SEVEN CALENDAR DAYS OR LATER THAN (14) FOURTEEN CALENDAR DAYS AFTER THE FIRST COAT.

6. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, THE LATEST EDITION STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION, THE LATEST VERSION OF THE ORANGE COUNTY OCPW STANDARD PLANS AND IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, ALL TO THE SATISFACTION OF THE COUNTY ENGINEER.

7. WORK SHOWN OR INDICATED ON THESE PLANS, OR CALLED FOR IN THE SPECIFICATIONS, BUT NOT INCLUDED AS PAY QUANTITY ITEMS, SHALL BE CONSIDERED INCIDENTAL WORK, THE COST OF WHICH SHALL BE INCLUDED IN THE CONTRACTOR'S BID FOR PAY QUANTITY ITEMS.

8. ESTIMATE OF QUANTITIES IN THE BID SCHEDULE IS APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING QUANTITIES AND CONDITIONS AT THE SITE.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES, PAVEMENT, CURBS, TRAFFIC STRIPING AND MARKINGS, TRAFFIC SIGNAL EQUIPMENT (INCLUDING DETECTOR LOOPS), STRUCTURES, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, AS A RESULT OF CONTRACTOR'S OPERATIONS AND WILL BE REQUIRED TO REPAIR, REMODEL OR REPLACE SAME TO THE SATISFACTION OF, AND AS DIRECTED BY, THE ENGINEER OR UTILITY COMPANY.

10. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND NOTIFY ALL UTILITY COMPANIES A MINIMUM OF 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL THE PHASES OF CONSTRUCTION WITH THE VARIOUS UTILITY COMPANIES INVOLVED.

11. THE WORK SITE AND EXTERIOR STREETS SHALL BE MAINTAINED IN A NEAT, CLEAN, HAZARD FREE, ORDERLY STATE, THROUGHOUT THE CONSTRUCTION PERIOD.CONTRACTOR SHALL SWEEP THE ENTIRE LENGTH AFFECTED STREETS WITH A VACUUM/BRUSH TYPE SWEEPER PRIOR TO LEAVING THE AREA FOR THE DAY FOR THE ENTIRE DURATION OF THE PROJECT. SITE SHALL ALSO BE CLEANED UPON REQUEST OF THE INSPECTOR. THE CONTRACTOR SHALL IMMEDIATELY HAUL AWAY AND DISPOSE OF, OFF THE PROJECT SITE, ALL EXCESS EXCAVATED MATERIAL AND CONSTRUCTION DEBRIS. ALL DISPOSALS SHALL BE AT THE CONTRACTOR'S EXPENSE.

12. CONTRACTOR SHALL NOTIFY THE FIRE AND POLICE DEPARTMENTS 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

13. THE CONTRACTOR SHALL HAVE COPIES OF THE PLANS AND SPECIFICATIONS FOR THIS PROJECT ON THE SITE AT ALL TIMES, AND SHALL BE FAMILIAR WITH ALL APPLICABLE STANDARDS AND SPECIFICATIONS.

14. THE CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS IN SUCH A MANNER THAT STORM OR OTHER WATERS MAY PROCEED UNINTERRUPTED ALONG THE STREET OR DRAINAGE COURSES. ALL STORM DRAIN INLETS IN THE PROJECT AREA SHALL BE PROTECTED USING GRAVEL BAGS AND FABRIC PER THE COUNTY INSPECTOR.

15. LOCATION OF REMOVALS AND WIDTHS OF REMOVALS INDICATE SCOPE OF WORK AND ARE APPROXIMATE ONLY. ACTUAL REMOVALS SHALL BE COORDINATED WITH THE ENGINEER IN THE FIELD.

16. ALL EXISTING IMPROVEMENTS INCLUDING CURB AND GUTTERS, DRAINAGE INLETS, ASPHALT CONCRETE OR PCC PAVING WHICH ARE BEING JOINED, OR MATCHED IN CONNECTION WITH THE PROJECT, SHALL BE JOINED, OR MATCHED IN A MANNER SATISFACTORY TO THE COUNTY ENGINEER, INCLUDING NECESSARY SAW CUTTING, REMOVAL, OR CAPPING. THE CONTRACTOR SHALL FOLLOW THE COUNTY'S STANDARD ENCROACHMENT CONDITIONS.

17. ALL WATER RELATED WORK SHALL BE CONSTRUCTED PER COUNTY OF ORANGE STANDARDS.

18. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK. REVISIONS SHALL NOT BE MADE TO THESE PLANS WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

19. THE CONTRACTOR SHALL OBTAIN SECURITY CLEARANCE APPROVAL FROM THE ORANGE COUNTY SHERIFF'S DEPARTMENT FOR THE CONSTRUCTION OF THIS PROJECT FOR WORK WITHIN THEIR RIGHT OF WAY.

20. AT NO TIME IS ANY BUSINESS OR RESIDENCE TO BE WITHOUT ACCESS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

21. THE CONTRACTOR SHALL NOTIFY THE COUNTY OF ORANGE INSPECTOR AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION.

22. THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ORANGE COUNTY SHERIFF'S DEPARTMENT PRIOR TO ANY ACCESS CLOSURES .

CAUTION NOTE TO CONTRACTOR

CONTRACTOR TO CONDUCT VARIOUS WORK OPERATIONS IN THE VICINITY OF SEVERAL BELOW AND ABOVE GROUND UTILITIES. CONTRACTOR IS TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO ANY WORK OPERATIONS WITHIN THE PROJECT LIMITS WHICH MAY DISRUPT OR IMPACT ANY OF THE UTILITIES.

PLAN
1"=20'

SIGNING AND STRIPING GENERAL NOTES

1. CONTRACTOR SHALL REMOVE ALL CONFLICTING SIGNING, STRIPING AND PAVEMENT MARKINGS BY WET SANDBLASTING. BLACKING OUT STRIPING WILL NOT BE PERMITTED.

2. INSTALLATION OF ALL STRIPING, SIGNS, PAVEMENT MARKERS, AND LEGENDS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3. ALL SIGNS, STRIPING, PAVEMENT MARKERS, AND LEGENDS SHALL CONFORM TO THE LATEST APPROVED/ ADOPTED EDITIONS OF THE CALTRANS STANDARD PLANS AND SPECIFICATIONS (2018) AND THE CALIFORNIA MUTCD (2014).

4. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY THE ENGINEER OF WORK PRIOR TO ANY CHANGES BEING MADE IN THE FIELD.

5. ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLANS SHALL BE NEW SIGNS PROVIDED AND INSTALLED BY THE CONTRACTOR, EXCEPT FOR EXISTING SIGNS SPECIFICALLY INDICATED TO BE RELOCATED OR TO REMAIN.

6. CONTRACTOR SHALL VERIFY ALL CONTROLLING FEILD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

7. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN. THIS PLAN ACURATE FOR PAVEMENT STRIPING AND SIGNING PLANS.

8. PROJECT INFORMATION SIGNS PER OCPW STD. PLAN 1418. EXACT LOCATION TO BE DETERMINED BY CONTRACTOR AND APPROVED BY THE ENGINEER.

ABBREVIATIONS

AC	ASPHALT CONCRETE
AB	AGGREGATE BASE
BC	BEGINNING OF CURVE
BCR	BEGINNING OF CURB RETURN
BEG.	BEGINNING
C&G	CURB & GUTTER
CCB	CABLE CONTROL BOX
DG	DISINTEGRATED GRANITE
COMM	COMMUNICATIONS
COO	COUNTY OF ORANGE
CMB	CRUSHED MISCELLANEOUS BASE
CMU	CONCRETE MASONRY UNIT
DWY	DRIVEWAY
EC	END OF CURVE
ECB	ELECTRIC CONTROL BOX
ECR	END OF CURB RETURN
EG	EXISTING GROUND
ELEC	ELECTRIC
E'LY	EASTERLY
EM	ELECTRIC METER
EMH	ELECTRIC MANHOLE
EP	EDGE OF PAVEMENT
ETW	EDGE OF TRAVELED WAY
EXIST	EXISTING
FH	FIRE HYDRANT
FL	FLOWLINE
FS	FINISHED SURFACE
GA	GUY ANCHOR
GV	GAS VALVE
HCP	HABITAT CONSERVATION PLAN
HP	HINGE POINT
HW	HINGE WIDTH
L.P.	LOW POINT
MBGR	METAL BEAM GUARD RAIL
MGS	MIDWEST GUARDRAIL SYSTEM
MH	MANHOLE
NCCP	NATURAL COMMUNITY CONSERVATION PLAN
OCPW	ORANGE COUNTY PUBLIC WORKS
OCSD	ORANGE COUNTY SANITATION DISTRICT
OH	OVERHEAD
OG	ORIGINAL GROUND
PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
PIP	PROTECT IN PLACE
PG	PROFILE GRADE
PP	POWER POLE
PROP	PROPOSED
PPB	PEDESTRIAN PUSH BUTTON
PRC	POINT OF REVERSE CURVE
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
ROE	RIGHT OF ENTRY
R/W	RIGHT OF WAY
TS	TRAFFIC SIGNAL
TPB	TRAFFIC SIGNAL PULLBOX
SCE	SOUTHERN CALIFORNIA EDISION
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SMH	SEWER MANHOLE
SC	SEWER CLEANOUT
SPPWC	STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
SSWR	SEWER
STA	STATION
STD	STANDARD
TC	TOP OF CURB
TI	TRAFFIC INDEX
UG	UNDERGROUND
UNK	UNKNOWN
UV	UTILITY VALVE
WCB	WATER CONTROL BOX
W'LY	WESTERLY
WM	WATER METER
WMA	WARM MIX ASPHALT CONCRETE
WV	WATER VALVE
WVB	WATER VALVE BOX

*NOTE:
ALL OTHER ABBREVIATIONS ARE DEFINED IN SECTION 1-3.2 OF THE "GREENBOOK" STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

EROSION CONTROL, SEDIMENT CONTROL AND WATER QUALITY NOTES

1. SEDIMENT FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE DURING STRUCTURAL CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE.

2. STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO ELIMINATE OR REDUCE SEDIMENT TRANSPORT FROM THE SITE TO THE STREETS, DRAINAGE FACILITIES, OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND.

3. APPROPRIATE BMPS FOR CONSTRUCTION RELATED MATERIALS, WASTES, SPILLS OR RESIDUES SHALL BE IMPLEMENTED TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTIES BY WIND OR RUNOFF.

4. RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT CONSTRUCTION SITES UNLESS TREATED TO REDUCE OR REMOVE SEDIMENT AND OTHER POLLUTANTS.

5. ALL CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OF THE REQUIRED BEST MANAGEMENT PRACTICES (BMPS) AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.

6. AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED OF IN TRASH OR RECYCLE BINS.

7. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT A STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OTHER THAN STORMWATER (NON-STORMWATER DISCHARGES) ARE PROHIBITED, EXCEPT AS AUTHORIZED BY AN INDIVIDUAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT OR THE STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO SOLID OR LIQUID CHEMICAL SPILLS, WASTES FROM PAINTS, STAINS, SEALANTS, SOLVENTS, DETERGENTS, GLUES, LIME, PESTICIDES, HERBICIDES, FERTILIZERS, WOOD PRESERVATIVES, AND ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS, CONCRETE AND RELATED CUTTING OR CURING RESIDUES; FLOATABLE WASTES; WASTES FROM ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING; WASTES FROM STREET CLEANING; AND SUPER-CHLORINATED POTABLE WATER FROM LINE FLUSHING AND TESTING. DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON-SITE PHYSICALLY SEPARATED FROM POTENTIAL STORMWATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.

8. DISCHARGING CONTAMINATED GROUNDWATER IS PROHIBITED. DISCHARGING OF NON-CONTAMINATED GROUNDWATER BY DEWATERING SHALL COMPLY WITH REQUIREMENTS OF APPLICABLE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS AS FOLLOWS: FOR PROJECTS WITHIN THE SANTA ANA REGION AND SAN DIEGO CREEK/ NEWPORT BAY WATERSHED, PERMIT NO. CAG918002, ORDER R8-2019-0061 ISSUED BY THE SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD. FOR OTHER PROJECTS WITHIN THE SANTA ANA REGION, PERMIT NO. CAG998001, ORDER R8-2020-0006 ISSUED BY THE SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD. FOR PROJECTS WITHIN THE SAN DIEGO REGION, PERMIT NO. CAG919003, ORDER NO. R9-2015-0013 ISSUED BY THE SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD. THESE THREE PERMITS MAY BE UPDATED AT ANY TIME DURING THE TERM OF PROJECT. ANY INDICATION OR EVIDENCE OF WATER QUALITY THAT DOES NOT MEET REQUIRED STANDARDS WILL BE REPORTED TO OC PUBLIC WORKS/COUNTYWIDE COMPLIANCE PROGRAM AT (877) 89-SPILL.

LEGEND

- SIGN
- GATE
- UTILITY POLE
- UTILITY POLE
- GUY ANCHOR
- GAS METER
- WATER METER
- BOLLARD
- OUTLET DRAIN
- GUARD RAIL
- EDGE OF PAVEMENT
- CHAIN-LINK FENCE
- FLOW LINE
- HINGE POINT
- TELEPHONE VAULT
- ELECTRICAL VAULT
- IRRIGATION VAULT
- SEWER CLEAN OUT
- CATCH BASIN
- TREE/STUMP
- WATER VALVE
- SEWER MANHOLE
- STORM DRAIN MANHOLE
- MISC. VALVE
- FIRE HYDRANT
- FLAG POLE
- DRAIN INLET
- POST

REMOVAL AND DISPOSITION

- (A) PROTECT IN PLACE
- (B) REMOVE
- (C) RELOCATE
- (D) REMOVE AND REPLACE
- (E) ADJUST TO GRADE

SIGNING AND STRIPING NOTES

(1) 6" SOLID WHITE LINE PER CALTRANS STD PLAN A20B DETAIL 27B

(2) 6" DOUBLE YELLOW LANE LINE PER CALTRANS STD PLAN A20A AND DETAIL 22

SIGNING AND STRIPING CONSTRUCTION NOTES

1. PROTECT IN PLACE
2. PAINT (2 COATS)
3. INSTALL NEW SIGN AND POST AS SHOWN ON PLANS

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

ROADWAY CONSTRUCTION NOTES

1. SAWCUT AND JOIN
2. 2" COLD MILL AC AND OVERLAY 2" AC (III-C3-PG64-10WMA)
3. CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)
4. CONSTRUCT FULL DEPTH 8.5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 6.5" BASE COURSE: III-B3-PG64-10WMA)
5. REMOVE EXISTING ENTIRE AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)
6. CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B
7. UNCLASSIFIED FILL
8. UNCLASSIFIED EXCAVATION
9. REMOVE DRAINAGE SYSTEM PER DETAILS
10. CONSTRUCT TYPE 5 INLET PER OCPW STD PLAN 1305 AND DETAILS
11. CONSTRUCT 4" PCC INLET APRON (MISCELLANEOUS CONCRETE) PER DETAILS
12. CONSTRUCT 10" PCC CURB (INLET APRON) PER DETAILS
13. CONSTRUCT HEADWALL PER CALTRANS STD PLAN D89
13A. CONSTRUCT RIP RAP ENERGY DISSIPATOR AND SILL PER DETAILS ON SHEET 16
14. CONSTRUCT 18" RCP (D2000)
15. CONSTRUCT CONCRETE COLLAR FOR RCP PER OCPW STD 380-4-OC
16. CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)
17. CONSTRUCT 31" FLARED TERMINAL SYSTEM END TREATMENT (FLEAT-SP-MSG)
18. CONSTRUCT END ANCHOR ASSEMBLY (TYPE SFT)
19. INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4
20. CONSTRUCT DEAD END GUARDRAIL SYSTEM AND SIGNING PER OCPW STD PLAN 1401
21. TEMPORARY HYDRAULIC MULCH
22. SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT
23. INSTALL TEMPORARY FENCE (TYPE ESA)

UNDERGROUND TRENCH CONSTRUCTION NOTES

24. UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMON)
25. UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMUNICATION)
26. UNDERGROUND UTILITY TRENCH EXCAVATION AND BACKFILL PER DETAILS (SCE)
27. CONSTRUCT UTILITY PULLBOX (SCE) PER SCE DETAILS
28. CONSTRUCT UTILITY PULLBOX (COMM.) PER ATT, COX, CROWN CASTLE COMPANY'S DETAILS
29. CONSTRUCT UTILITY CONDUIT PER DETAILS AND CORRESPONDING SPECIFICATIONS
30. CONSTRUCT 72"x94" PCC PAD (6" THICK PCC OVER 6" AB) PER SCE SURFACE-MOUNTED TRANSFORMER PAD DETAIL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

GENERAL
NOTES

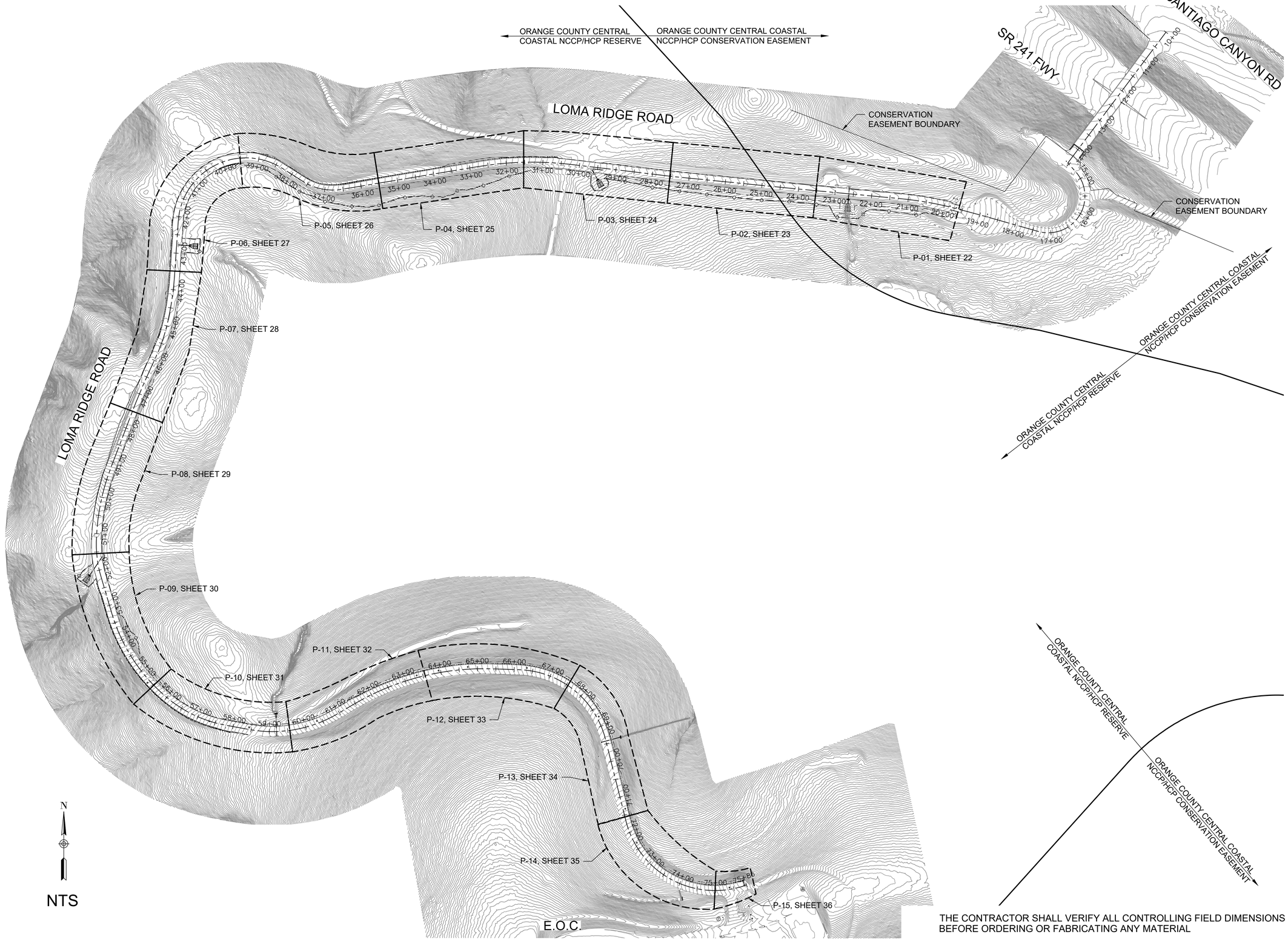
Sheet
Reference
Number

GN-01

Sheet 2 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO1982\DESIGN\SHEETS\02 - LOMA RIDGE - GENERAL NOTES.DWG

DATE PLOTTED : 1/20/2022 8:13 AM ocpw.ctb



THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
JUSAM LEE
REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA
01/07/22
DATE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

INDEX MAP

Sheet Reference Number

GN-02

Sheet 3 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EQ19821\DESIGN\SHEETS\03 - LOMA RIDGE - INDEX MAP.DWG

DATE PLOTTED : 1/20/2022 8:14 AM ocpw.ctb

0' 25' 50' 100' 150'

SCALE: 1" = 50'

CONTOUR INTERVAL= 1'

U.S. *Survey Foot*

OC Public Works
OC Survey/Field Services
Boundary Analysis & Mapping

#511
3-1/2" OCS ALUM DISK
BENCH MARK 3D-158-99
N: 2227865.75'
E: 6108528.88'
EL: 967.92'

SANTIAGO CANYON ROAD

FREEWAY 241

CONC BRIDGE NOT PART OF FIELD SURVEY

35.30'
17.75' 17.75'

DIRT TERRAIN CAPTURED BY LIDAR DATA

STEEL GRATE
TG EL.=982.19'
18" CMP INV EL.=972.54'

STEEL GRATE
TG EL.=982.42'
18" INV EL.=972.14'

STEEL GRATE
TG EL.=981.95'
18" INV EL.=974.03'

DIRT TERRAIN CAPTURED BY LIDAR DATA

PP#4883825E

STEEL GRATE
TG EL.=1029.17'

ROLLING GATE

LOMA RIDGE ROAD

HEADWALL
TW EL.=1025.06'
18" RCP INV EL.=1022.43'

#501
MAG SPIKE WITH OCS WASHER
N: 2227348.34'
E: 6108052.42'
EL: 1014.13'

DIRT TERRAIN CAPTURED BY LIDAR DATA

PLAN
1"=20'

LEGEND

SYMBOL

CBXEL	Control Box - Electrical	
CPT	Control Point	
DII	Drop Inlet	
FHH	Fire Hydrant	
DGT	Gate - Double	
GRI	Grate Inlet	
HBB	Hose Bib	
LPL	Light Pole - Single	
MHHEL	Manhole - Electrical	
MHHSD	Manhole - Storm Drain	
MHHSW	Manhole - Sewer	
MHHTL	Manhole - Telephone	
PBXEL	Pull Box - Electrical	
PBXIR	Pull Box- Irrigation	
PPO/PPI	Pipe Outlet/Inlet	
SNN	Sign Post	
VLTEL	Vault - Electrical	
VLTUN	Vault - Undefined	
VLTTL	Vault - Irrigation	
VLVWA	Valve - Water	
VPP	Vent Pipe	
CONC	Concrete	
PST	Post	
UP0	Powerpole	
GYA	Guy Wire	
YDL	Yard Light	
TSR	Traffic Sensor	
CMP	Corrigated Metal Pipe	
RCP	Reinforced Concrete Pipe	
TG	Top of Grate	
INV	Invert	

SYMBOL

TRE	Tree
TREPM	Tree - Palm

LINE PATTERN KEY

- Edge of Concrete
- Edge of Asphalt Pavement
- Fence - Chain Link
- Guard Rail
- Hinge Point
- Bushes
- Property Line
- Right-of-Way
- Wall - Concrete

AREA PATTERN KEY

- Concrete
- Dirt
- Rip-Rap

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

JUSAM LEE — 01/07/22 DATE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SURVEY CONTROL

Sheet Reference Number

SC-1

Sheet 4 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC E01982\DESIGN\SHEETS\04 - LOMA RIDGE - SURVEY CONTROL.DWG

DATE PLOTTED : 1/20/2022 8:14 AM ocpw.ctb

0' 25' 50' 100' 150'

SCALE: 1" = 50'

CONTOUR INTERVAL= 1'

U.S. Survey Foot

OC Public Works
OC Survey/Field Services
Boundary Analysis & Mapping

LEGEND

SYMBOL

E	CBXEL	Control Box - Electrical
△	CPT	Control Point
●	DII	Drop Inlet
	FHH	Fire Hydrant
	DGT	Gate - Double
■	GRI	Grate Inlet
	HBB	Hose Bib
	LPL	Light Pole - Single
E	MHHEL	Manhole - Electrical
D	MHHSD	Manhole - Storm Drain
S	MHHSW	Manhole - Sewer
P	MHHTL	Manhole - Telephone
E	PBXEL	Pull Box - Electrical
	PBXIR	Pull Box- Irrigation
	PPO/PPI	Pipe Outlet/Inlet
	SNN	Sign Post
E	VLTEL	Vault - Electrical
	VLTUN	Vault - Undefined
P	VLTTL	Vault - Irrigation
	VLVWA	Valve - Water
	VPP	Vent Pipe
	CONC	Concrete
	PST	Post
	UP0	Powerpole
	GYA	Guy Wire
	YDL	Yard Light
T	TSR	Traffic Sensor
	CMP	Corrigated Metal Pipe
	RCP	Reinforced Concrete Pipe
	TG	Top of Grade
	INV	Invert

SYMBOL

	TRE	Tree
	TREPM	Tree - Palm

LINE PATTERN KEY

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- Edge of Asphalt Pavement
- Fence - Chain Link
- Guard Rail
- Hinge Point
- Bushes
- Property Line
- Right-of-Way
- Wall - Concrete

AREA PATTERN KEY

- Concrete
- Dirt
- Rip-Rap

#503
MAG NAIL WITH OCS WASHER
N: 2227544.35'
E: 6106957.03'
EL: 1060.92'

STEEL GRATE
24" TG EL.=1057.18'

HEADWALL
TW EL.=1055.08'
12" RCP INV EL.=1052.90'

DIRT TERRAIN CAPTURED BY LIDAR DATA

STEEL GRATE
TG EL.=1029.17'

LOMA RIDGE ROAD

HEADWALL
TW EL.=1025.06'
18" RCP INV EL.=1022.43'

DIRT TERRAIN CAPTURED BY LIDAR DATA

ROLLING GATE

#501
MAG SPIKE WITH OCS WASHER
N: 2227348.34'
E: 6108052.42'
EL: 1014.13'

STEEL GRATE
TG EL.=982.19'
18" CMP INV EL.=972.54'

STEEL GRATE
TG EL.=982.42'
18" INV EL.=972.14'

STEEL GRATE
TG EL.=981.95'
18" INV EL.=974.03'

SEE SHEET 15

FREEWAY 241

DIRT TERRAIN CAPTURED BY LIDAR DATA

DIRT TERRAIN CAPTURED BY LIDAR DATA

PLAN
1"=20'

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

JUSAM LEE

DATE 01/07/22

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FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SURVEY CONTROL

Sheet Reference Number

SC-2

Sheet 5 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC E01992\DESIGN\SHEETS\04 - LOMA RIDGE - SURVEY CONTROL.DWG

DATE PLOTTED : 1/20/2022 8:15 AM ocpw.ctb

LEGEND

SYMBOL

E	CBXEL	Control Box - Electrical
△	CPT	Control Point
◍	DII	Drop Inlet
⚲	FHH	Fire Hydrant
⟷	DGT	Gate - Double
▩	GRI	Grate Inlet
HB	HBB	Hose Bib
☼	LPL	Light Pole - Single
E	MHHEL	Manhole - Electrical
D	MHHSD	Manhole - Storm Drain
S	MHHSW	Manhole - Sewer
P	MHHTL	Manhole - Telephone
E	PBXEL	Pull Box - Electrical
I	PBXIR	Pull Box- Irrigation
⟋	PPO/PPI	Pipe Outlet/Inlet
⊸	SNN	Sign Post
E	VLTEL	Vault - Electrical
▦	VLTUN	Vault - Undefined
P	VLTTL	Vault - Irrigation
⋈	VLVWA	Valve - Water
⊘	VPP	Vent Pipe
	CONC	Concrete
⟋	PST	Post
⊗	UP0	Powerpole
←	GYA	Guy Wire
☼	YDL	Yard Light
T	TSR	Traffic Sensor
	CMP	Corrigated Metal Pipe
	RCP	Reinforced Concrete Pipe
	TG	Top of Grate
	INV	Invert

SYMBOL

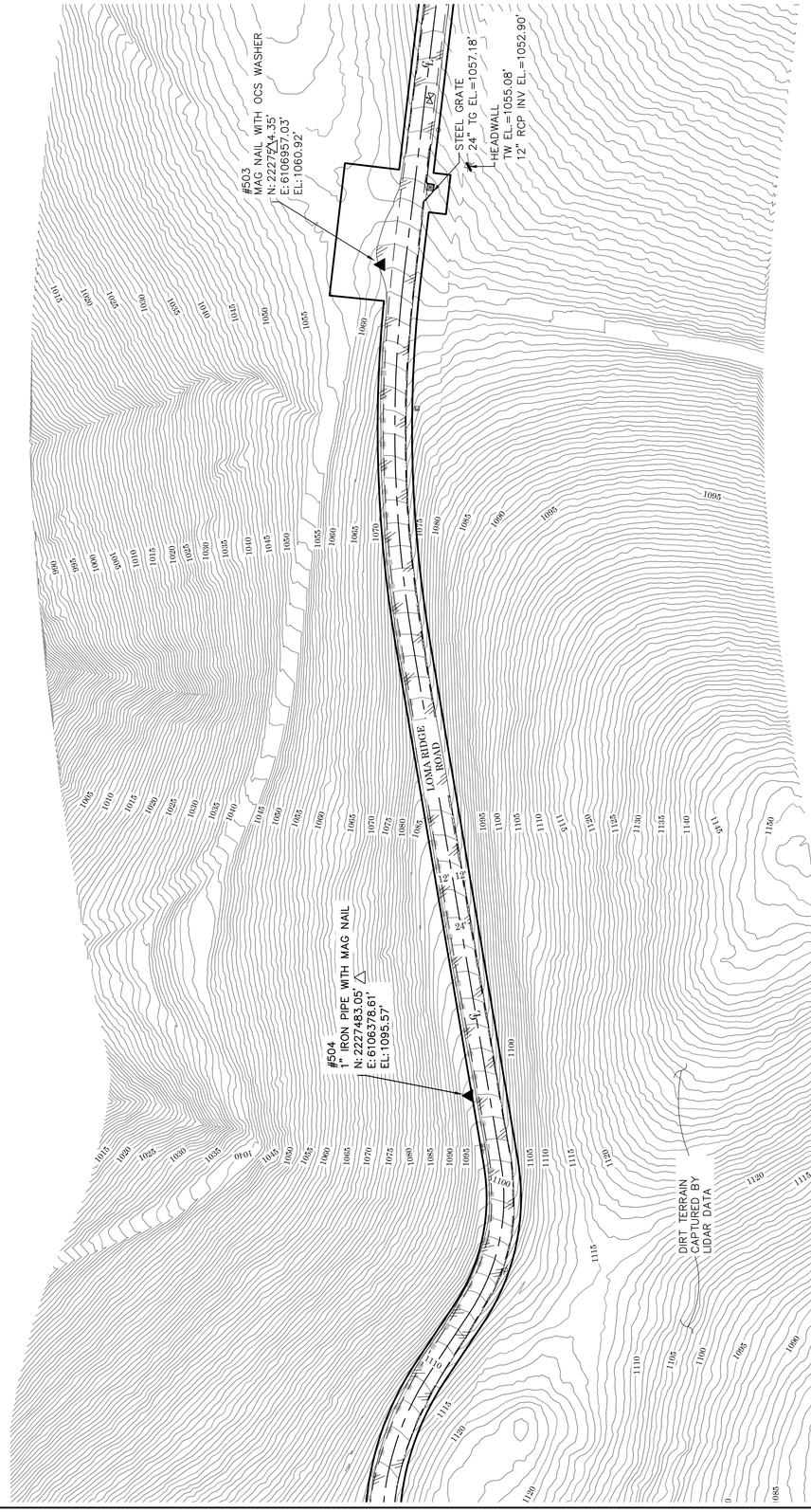
○	TRE	Tree
✳	TREPM	Tree - Palm

LINE PATTERN KEY

- Edge of Concrete
- Edge of Asphalt Pavement
- Fence - Chain Link
- Guard Rail
- Hinge Point
- Bushes
- Property Line
- Right-of-Way
- Wall - Concrete

AREA PATTERN KEY

- Concrete
- Dirt
- Rip-Rap



0' 25' 50' 100' 150'

SCALE: 1" = 50'

CONTOUR INTERVAL= 1'

U.S. *Survey Foot*

OC Public Works
OC Survey/Field Services
Boundary Analysis & Mapping

PLAN
1"=20'

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

JUSAM LEE

01/07/22
DATE

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DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

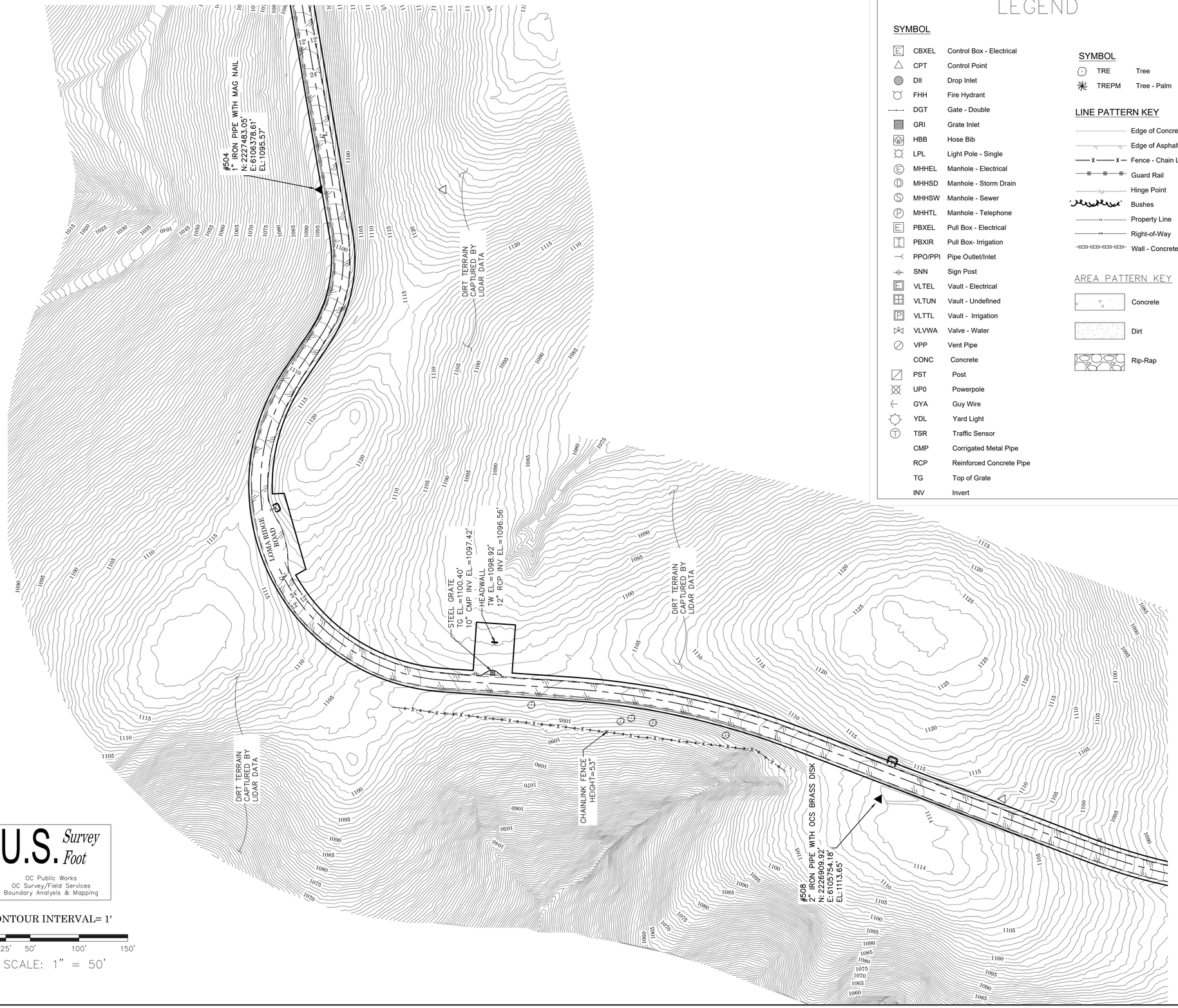
SURVEY CONTROL

Sheet Reference Number

SC-3

Sheet 6 of 56

DATE PLOTTED : 1/20/2022 8:15 AM ocpw.ctb



LEGEND

SYMBOL

E	CBXEL	Control Box - Electrical
△	CPT	Control Point
	DII	Drop Inlet
	FHH	Fire Hydrant
	DGT	Gate - Double
	GRI	Grate Inlet
W	HBB	Hose Bib
	LPL	Light Pole - Single
E	MHHEL	Manhole - Electrical
D	MHHSD	Manhole - Storm Drain
S	MHHSW	Manhole - Sewer
P	MHHTL	Manhole - Telephone
E	PBXEL	Pull Box - Electrical
I	PBXIR	Pull Box- Irrigation
	PPO/PPI	Pipe Outlet/Inlet
	SNN	Sign Post
E	VLTEL	Vault - Electrical
	VLTUN	Vault - Undefined
P	VLTTL	Vault - Irrigation
	VLVWA	Valve - Water
	VPP	Vent Pipe
	CONC	Concrete
	PST	Post
	UP0	Powerpole
	GYA	Guy Wire
	YDL	Yard Light
T	TSR	Traffic Sensor
	CMP	Corrigated Metal Pipe
	RCP	Reinforced Concrete Pipe
	TG	Top of Grate
	INV	Invert

SYMBOL

	TRE	Tree
	TREPM	Tree - Palm

LINE PATTERN KEY

- Edge of Concrete
- Edge of Asphalt Pavement
- Fence - Chain Link
- Guard Rail
- Hinge Point
- Bushes
- Property Line
- Right-of-Way
- Wall - Concrete

AREA PATTERN KEY

- Concrete
- Dirt
- Rip-Rap

U.S. *Survey Foot*

OC Public Works
OC Survey/Field Services
Boundary Analysis & Mapping

CONTOUR INTERVAL= 1'

0' 25' 50' 100' 150'

SCALE: 1" = 50'

PLAN
1"=20'

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

DATE 01/07/22

JUSAM LEE

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CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SURVEY CONTROL

Sheet Reference Number

SC-4

Sheet 7 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC E01992\1DESIGN\SHEETS\04 - LOMA RIDGE - SURVEY CONTROL.DWG

DATE PLOTTED : 1/20/2022 8:15 AM ocpw.ctb

0' 25' 50' 100' 150'

SCALE: 1" = 50'

CONTOUR INTERVAL= 1'

U.S. *Survey Foot*

OC Public Works
OC Survey/Field Services
Boundary Analysis & Mapping

LEGEND

SYMBOL

E	CBXEL	Control Box - Electrical
△	CPT	Control Point
	DII	Drop Inlet
	FHH	Fire Hydrant
	DGT	Gate - Double
	GRI	Grate Inlet
HB	HBB	Hose Bib
	LPL	Light Pole - Single
E	MHHEL	Manhole - Electrical
D	MHHSD	Manhole - Storm Drain
S	MHHSW	Manhole - Sewer
P	MHHTL	Manhole - Telephone
E	PBXEL	Pull Box - Electrical
I	PBXIR	Pull Box- Irrigation
	PPO/PPI	Pipe Outlet/Inlet
	SNN	Sign Post
E	VLTEL	Vault - Electrical
	VLTUN	Vault - Undefined
P	VLTTL	Vault - Irrigation
	VLVWA	Valve - Water
	VPP	Vent Pipe
	CONC	Concrete
	PST	Post
	UP0	Powerpole
	GYA	Guy Wire
	YDL	Yard Light
T	TSR	Traffic Sensor
	CMP	Corrigated Metal Pipe
	RCP	Reinforced Concrete Pipe
	TG	Top of Grate
	INV	Invert

SYMBOL

	TRE	Tree
	TREPM	Tree - Palm

LINE PATTERN KEY

- Edge of Concrete
- Edge of Asphalt Pavement
- Fence - Chain Link
- Guard Rail
- Hinge Point
- Bushes
- Property Line
- Right-of-Way
- Wall - Concrete

AREA PATTERN KEY

- Concrete
- Dirt
- Rip-Rap

CHAINLINK FENCE HEIGHT=5.3'

#508 2" IRON PIPE WITH OCS BRASS DISK N: 2226909.92' E: 6105754.18' EL: 113.65'

DIRT TERRAIN CAPTURED BY LIDAR DATA

STEEL GRATE TG EL.=1082.30'

LOMA RIDGE ROAD

HEADWALL TW EL.=1078.82' 18" RCP INV EL.=1076.11'

SEWER MANHOLE RIM EL.=1102.97' INV EL.=1098.87'

#510 1" IRON PIPE WITH MAG NAIL N: 2226072.87' E: 6105820.68' EL: 1105.17'

END CONC CURB

SEWER MANHOLE RIM EL.=1122.29' INV EL.=1117.31'

CONC CURB & GUTTER

SEWER MANHOLE RIM EL.=1147.81' INV EL.=1142.79'

HEADWALL TW EL.=1135.83' 22" CMP INV EL.=1133.05'

BEGIN CONC CURB

STEEL GRATE TG EL.=1137.79' INV EL.=1134.79'

SEWER MANHOLE RIM EL.=1132.84' INV EL.=1128.02'

PLAN
1"=20'

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

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DRAWING CODE:	
FILE NAME:	PLOT DATE: AS SHOWN | SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SURVEY CONTROL

Sheet Reference Number

SC-5

Sheet 8 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EQ19821\DESIGN\SHEETS\04 - LOMA RIDGE - SURVEY CONTROL.DWG

DATE PLOTTED : 1/20/2022 8:15 AM ocpw.ctb

#103
REBAR WITH OCS ALUM CAP
N: 2226129.02'
E: 6106939.07'
EL: 1205.94'

#104
REBAR WITH OCS ALUM CAP
N: 2226156.71'
E: 6106585.39'
EL: 1181.18'

SEWER MANHOLE
RIM EL=1217.51'
INV EL=1211.76'

PP #195045E

HEADWALL 22" RCP
TW EL=1210.61'
INV EL=1207.72'

STORM DRAIN MANHOLE
RIM EL=1221.48'
INV EL=1214.43'

PP #1288667E

SEWER MANHOLE
RIM EL=1232.54'
INV EL=1227.54'

SEWER MANHOLE
RIM EL=1241.36'
INV EL=1235.63'

SEWER MANHOLE
RIM EL=1198.18'
INV EL=1192.36'

SEWER MANHOLE
RIM EL=1186.83'
INV EL=1181.58'

SEWER MANHOLE
RIM EL=1182.89'
INV EL=1177.74'

SEWER MANHOLE
RIM EL=1178.57'
INV EL=1173.55'

SEWER MANHOLE
RIM EL=1147.81'
INV EL=1142.79'

LOMA RIDGE ROAD

CONC CURB & GUTTER

DIRT TERRAIN CAPTURED BY LIDAR DATA

EXISTING BUILDING–NOT PART OF THIS SURVEY

PLAN
1"=20'

LEGEND

SYMBOL

E	CBXEL	Control Box - Electrical
	CPT	Control Point
	DII	Drop Inlet
	FHH	Fire Hydrant
	DGT	Gate - Double
	GRI	Grate Inlet
HB	HBB	Hose Bib
	LPL	Light Pole - Single
E	MHHEL	Manhole - Electrical
D	MHHSD	Manhole - Storm Drain
S	MHHSW	Manhole - Sewer
P	MHHTL	Manhole - Telephone
E	PBXEL	Pull Box - Electrical
I	PBXIR	Pull Box- Irrigation
	PPO/PPI	Pipe Outlet/Inlet
	SNN	Sign Post
E	VLTEL	Vault - Electrical
	VLTUN	Vault - Undefined
P	VLTTL	Vault - Irrigation
	VLVWA	Valve - Water
	VPP	Vent Pipe
	CONC	Concrete
	PST	Post
	UP0	Powerpole
	GYA	Guy Wire
	YDL	Yard Light
T	TSR	Traffic Sensor
	CMP	Corrigated Metal Pipe
	RCP	Reinforced Concrete Pipe
	TG	Top of Grate
	INV	Invert

SYMBOL

	TRE	Tree
	TREPM	Tree - Palm

LINE PATTERN KEY

- Edge of Concrete
- Edge of Asphalt Pavement
- Fence - Chain Link
- Guard Rail
- Hinge Point
- Bushes
- Property Line
- Right-of-Way
- Wall - Concrete

AREA PATTERN KEY

- Concrete
- Dirt
- Rip-Rap

0' 25' 50' 100' 150'

SCALE: 1" = 50'

CONTOUR INTERVAL= 1'

U.S. *Survey Foot*

OC Public Works
OC Survey/Field Services
Boundary Analysis & Mapping

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

JUSAM LEE — 01/07/22
DATE

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FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SURVEY CONTROL

Sheet Reference Number

SC-6

Sheet 9 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO ECC EQ19921\DESIGN\SHEETS\04 - LOMA RIDGE - SURVEY CONTROL.DWG

DATE PLOTTED : 1/20/2022 8:15 AM ocpw.ctb

LEGEND

SYMBOL

E	CBXEL	Control Box - Electrical
△	CPT	Control Point
	DII	Drop Inlet
	FHH	Fire Hydrant
	DGT	Gate - Double
	GRI	Grate Inlet
	HBB	Hose Bib
	LPL	Light Pole - Single
E	MHHEL	Manhole - Electrical
D	MHHSD	Manhole - Storm Drain
S	MHHSW	Manhole - Sewer
P	MHHTL	Manhole - Telephone
E	PBXEL	Pull Box - Electrical
I	PBXIR	Pull Box- Irrigation
	PPO/PPI	Pipe Outlet/Inlet
	SNN	Sign Post
E	VLTEL	Vault - Electrical
	VLTUN	Vault - Undefined
P	VLTTL	Vault - Irrigation
	VLVWA	Valve - Water
	VPP	Vent Pipe
	CONC	Concrete
	PST	Post
	UP0	Powerpole
	GYA	Guy Wire
	YDL	Yard Light
T	TSR	Traffic Sensor
	CMP	Corrigated Metal Pipe
	RCP	Reinforced Concrete Pipe
	TG	Top of Grate
	INV	Invert

SYMBOL

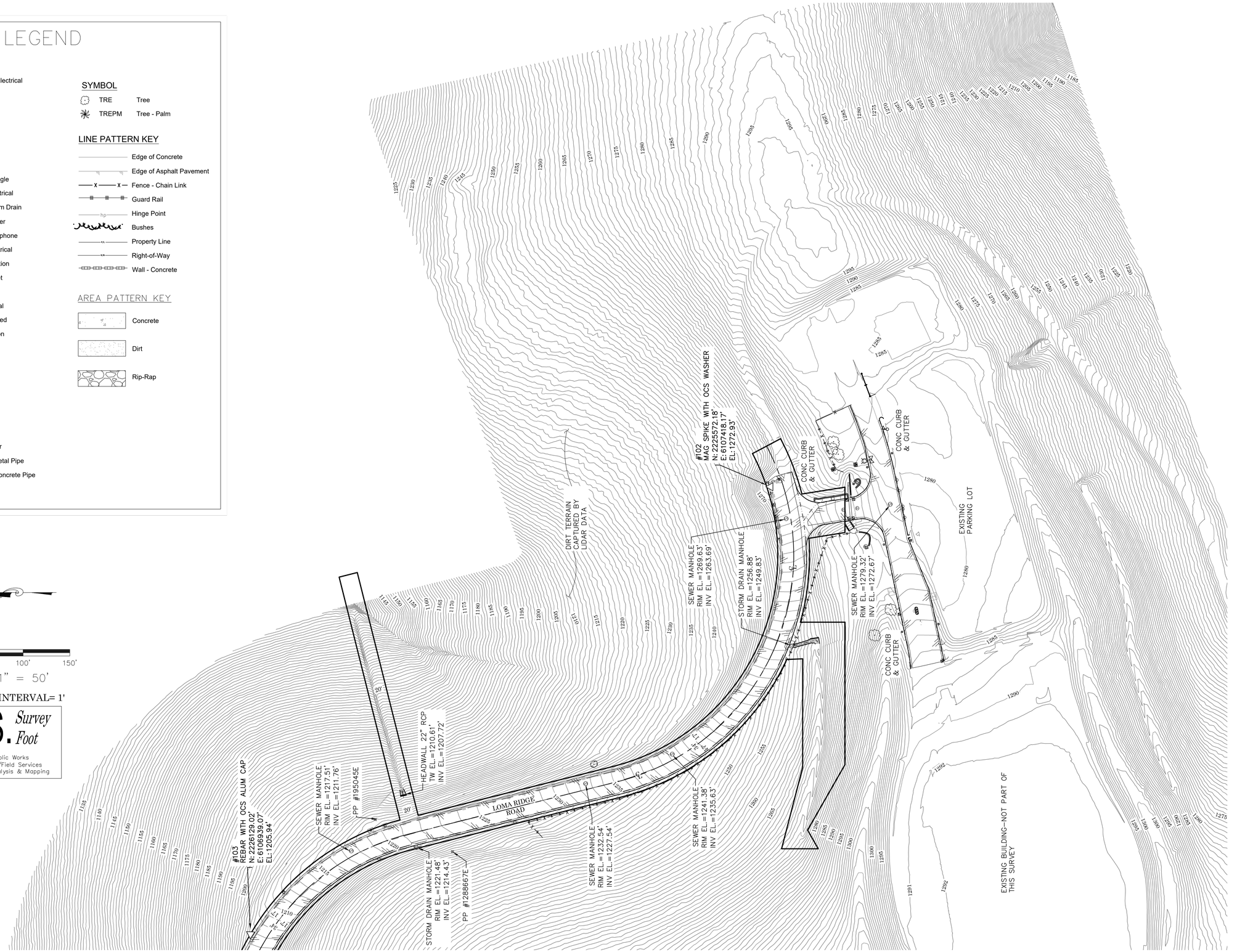
	TRE	Tree
	TREPM	Tree - Palm

LINE PATTERN KEY

- Edge of Concrete
- Edge of Asphalt Pavement
- Fence - Chain Link
- Guard Rail
- Hinge Point
- Bushes
- Property Line
- Right-of-Way
- Wall - Concrete

AREA PATTERN KEY

- Concrete
- Dirt
- Rip-Rap



0' 25' 50' 100' 150'

SCALE: 1" = 50'

CONTOUR INTERVAL= 1'

U.S. *Survey Foot*

OC Public Works
OC Survey/Field Services
Boundary Analysis & Mapping

PLAN
1"=20'

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SURVEY CONTROL

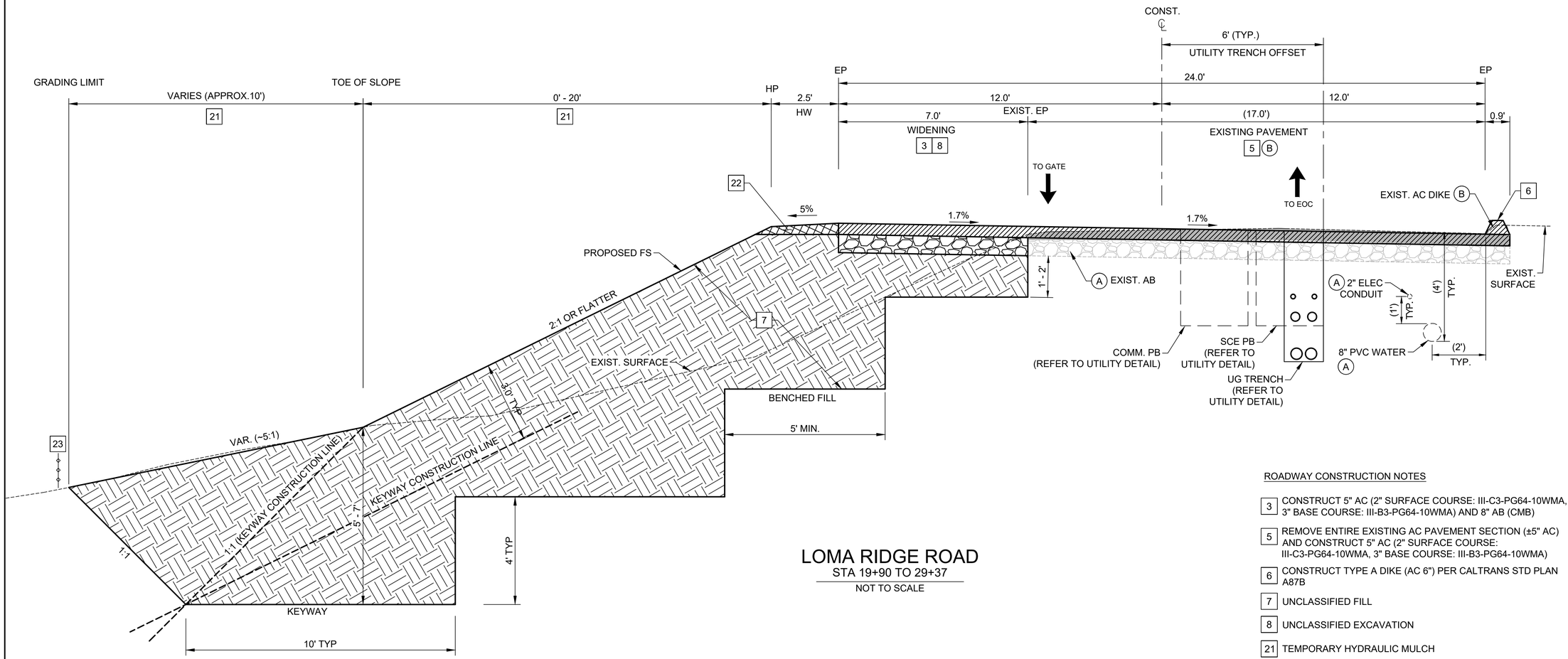
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Reference
Number

SC-7

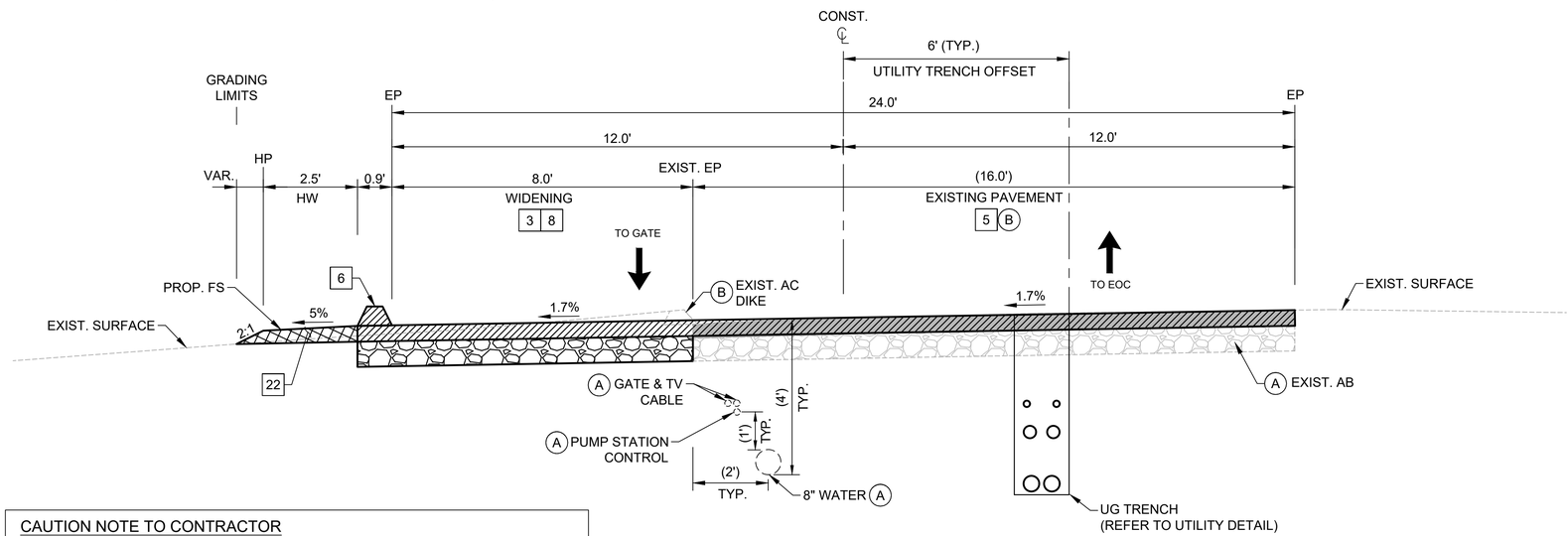
Sheet 10 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN *\LOMA RIDGE_ROAD TO EOC EQ19821\DESIGN\SHEETS\04 - LOMA RIDGE - SURVEY CONTROL.DWG

DATE PLOTTED : 1/20/2022 8:15 AM ocpw.ctb



LOMA RIDGE ROAD
STA 19+90 TO 29+37
NOT TO SCALE



LOMA RIDGE ROAD
STA 29+37 TO 30+62
NOT TO SCALE

CAUTION NOTE TO CONTRACTOR

CONTRACTOR TO CONDUCT VARIOUS WORK OPERATIONS IN THE VICINITY OF SEVERAL BELOW AND ABOVE GROUND UTILITIES. CONTRACTOR IS TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO ANY WORK OPERATIONS WITHIN THE PROJECT LIMITS WHICH MAY DISRUPT OR IMPACT ANY OF THE UTILITIES.

PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

7 UNCLASSIFIED FILL

8 UNCLASSIFIED EXCAVATION

21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

23 INSTALL TEMPORARY FENCE (TYPE ESA)

REMOVAL AND DISPOSITION

A PROTECT IN PLACE

B REMOVE

LEGEND

- EXISTING AC PAVEMENT
- EXISTING AGGREGATE BASE
- PROPOSED AC PAVEMENT
- PROPOSED AGGREGATE BASE
- UNCLASSIFIED FILL
- SHOULDER BACKING

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA
JUSAM LEE
DATE 01/07/22

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CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD RECONSTRUCTION

TYPICAL SECTIONS

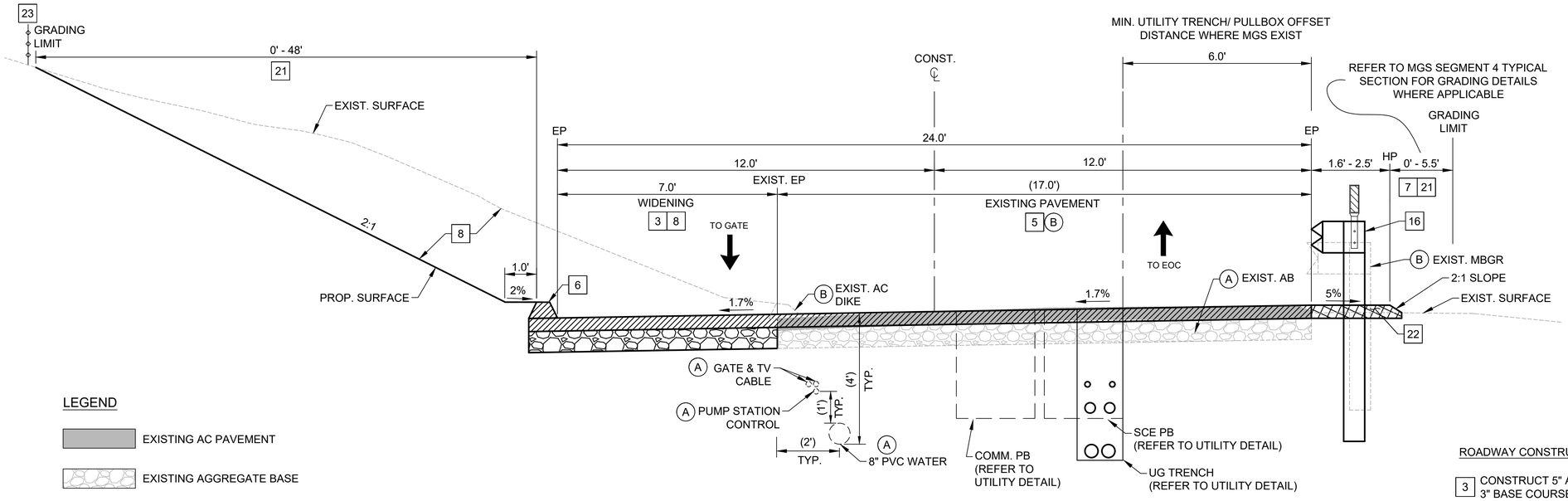
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XS-01

Sheet 11 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO ECC EQ19827\DESIGN\SHEETS\05 - LOMA RIDGE - CROSS SECTIONS.DWG

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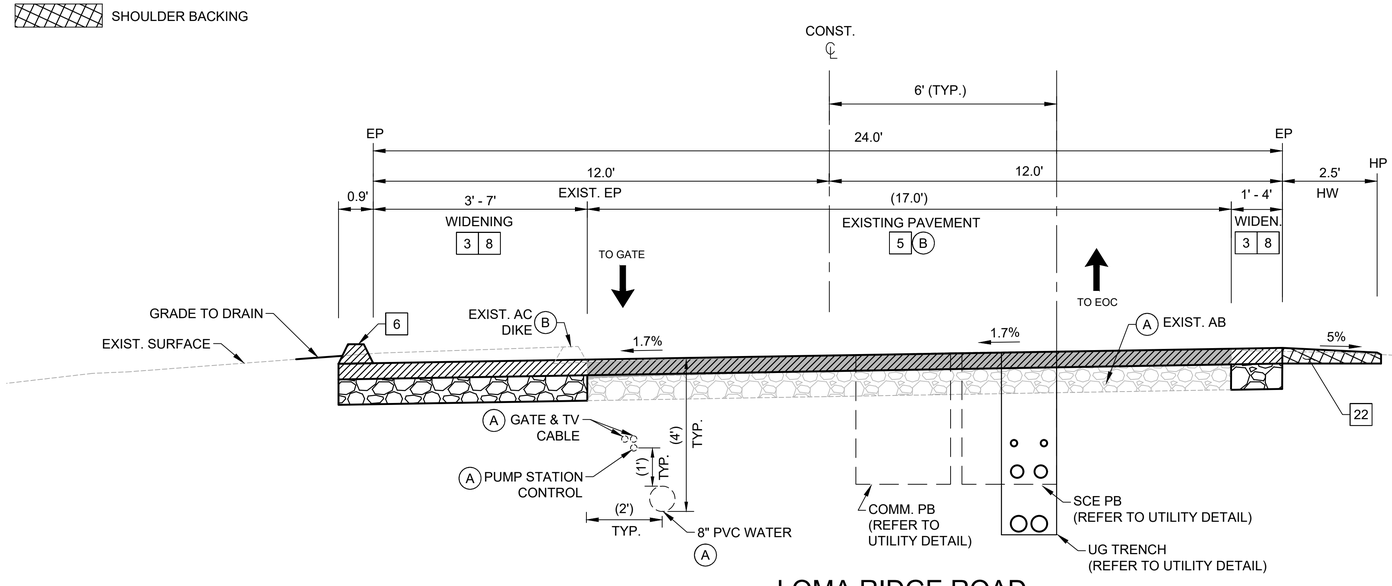
LOMA RIDGE ROAD (MGS SEGMENT1)

STA 30+62 TO 39+14

NOT TO SCALE

LEGEND

- EXISTING AC PAVEMENT
- EXISTING AGGREGATE BASE
- PROPOSED AC PAVEMENT
- PROPOSED AGGREGATE BASE
- UNCLASSIFIED FILL
- SHOULDER BACKING



LOMA RIDGE ROAD

STA 39+14 TO 42+14

NOT TO SCALE

PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

7 UNCLASSIFIED FILL

8 UNCLASSIFIED EXCAVATION

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

23 INSTALL TEMPORARY FENCE (TYPE ESA)

REMOVAL AND DISPOSITION

A PROTECT IN PLACE

B REMOVE

CAUTION NOTE TO CONTRACTOR

CONTRACTOR TO CONDUCT VARIOUS WORK OPERATIONS IN THE VICINITY OF SEVERAL BELOW AND ABOVE GROUND UTILITIES. CONTRACTOR IS TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO ANY WORK OPERATIONS WITHIN THE PROJECT LIMITS WHICH MAY DISRUPT OR IMPACT ANY OF THE UTILITIES.

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COUNTY OF ORANGE CALIFORNIA

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JUSAM LEE

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COUNTY OF ORANGE OC PUBLIC WORKS

LOMA RIDGE ROAD RECONSTRUCTION

TYPICAL SECTIONS

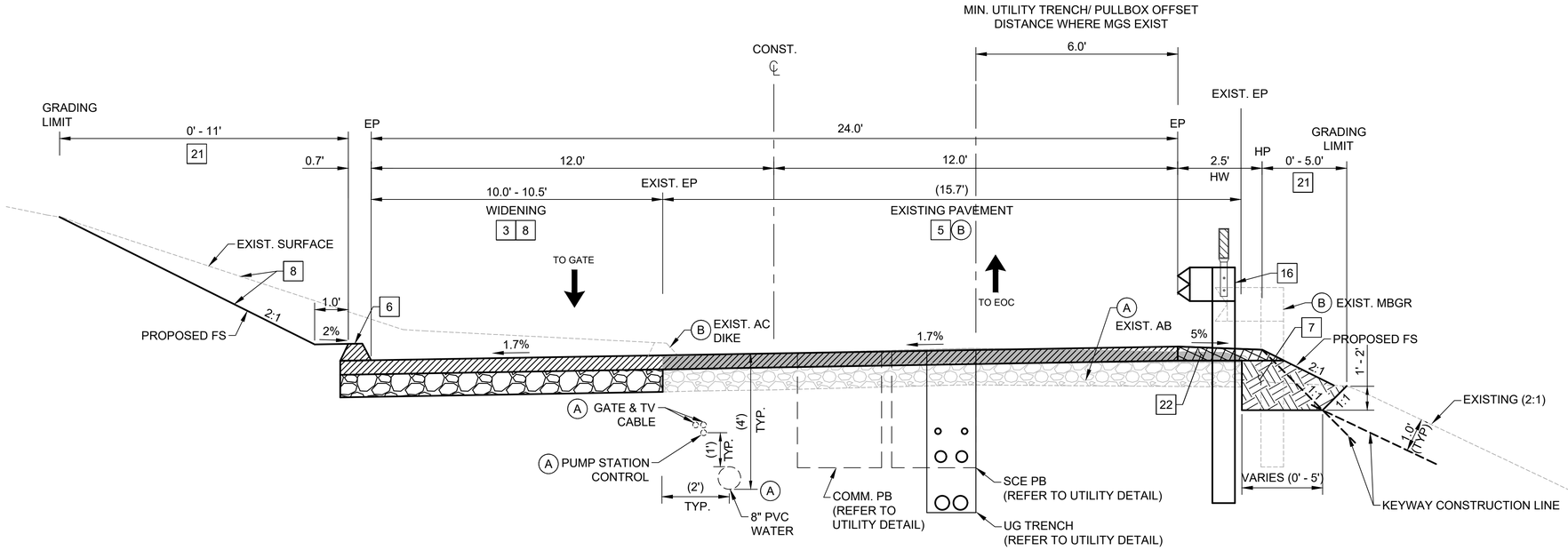
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Sheet 12 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO ECC EQ19021\DESIGN\SHEETS\05 - LOMA RIDGE - CROSS SECTIONS.DWG

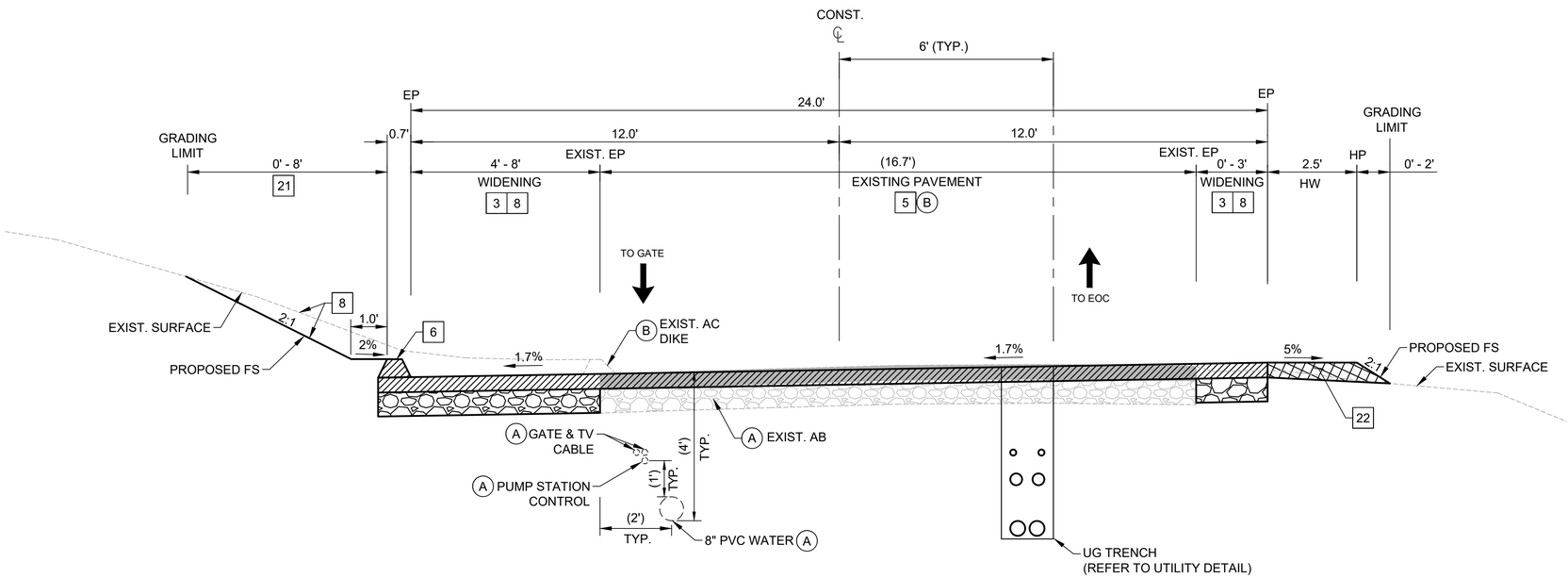
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LOMA RIDGE ROAD (MGS SEGMENT 2)

STA 42+14 TO 45+69

NOT TO SCALE



LOMA RIDGE ROAD

STA 45+69 TO 46+44

NOT TO SCALE

PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

7 UNCLASSIFIED FILL

8 UNCLASSIFIED EXCAVATION

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

A PROTECT IN PLACE

B REMOVE

LEGEND

- EXISTING AC PAVEMENT
- EXISTING AGGREGATE BASE
- PROPOSED AC PAVEMENT
- PROPOSED AGGREGATE BASE
- UNCLASSIFIED FILL
- SHOULDER BACKING

CAUTION NOTE TO CONTRACTOR

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COUNTY OF ORANGE CALIFORNIA

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JUSAM LEE

01/07/22
DATE

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COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

TYPICAL SECTIONS

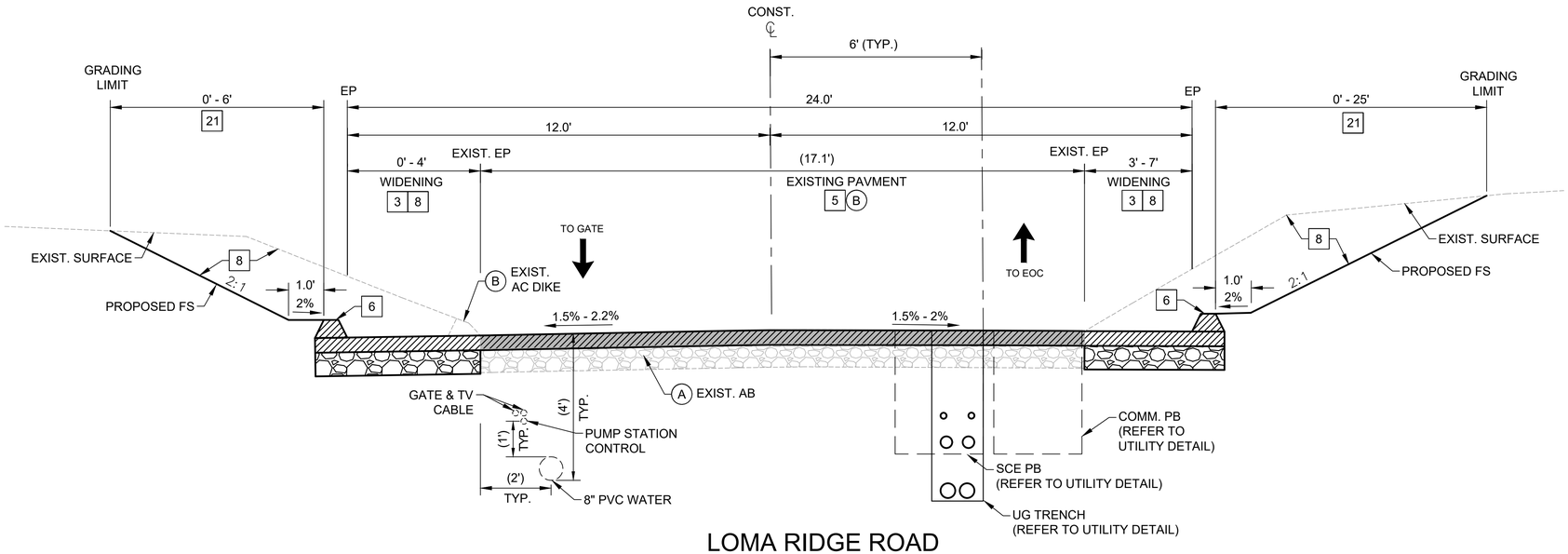
Sheet Reference Number

XS-03

Sheet 13 of 56

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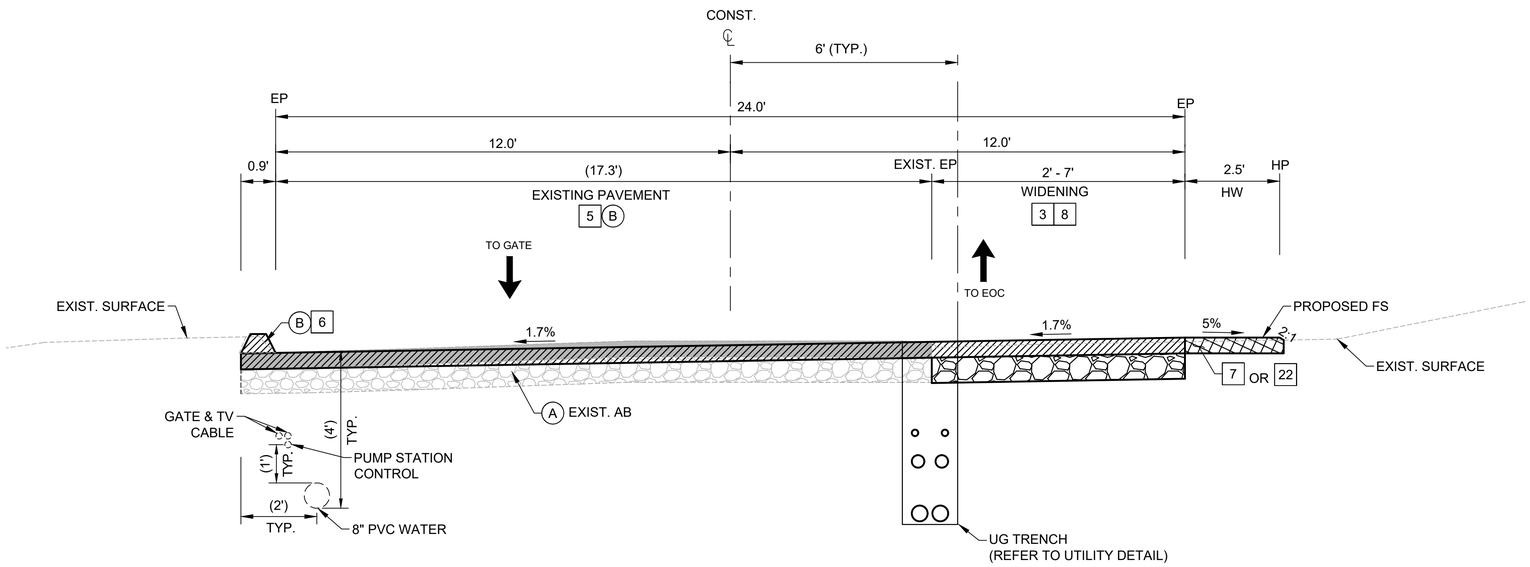
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LOMA RIDGE ROAD

STA 46+44 TO 49+44

NOT TO SCALE



LOMA RIDGE ROAD

STA 49+44 TO 52+29

NOT TO SCALE

PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

7 UNCLASSIFIED FILL

8 UNCLASSIFIED EXCAVATION

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

A PROTECT IN PLACE

B REMOVE

LEGEND

- EXISTING AC PAVEMENT
- EXISTING AGGREGATE BASE
- PROPOSED AC PAVEMENT
- PROPOSED AGGREGATE BASE
- UNCLASSIFIED FILL
- SHOULDER BACKING

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COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

TYPICAL SECTIONS

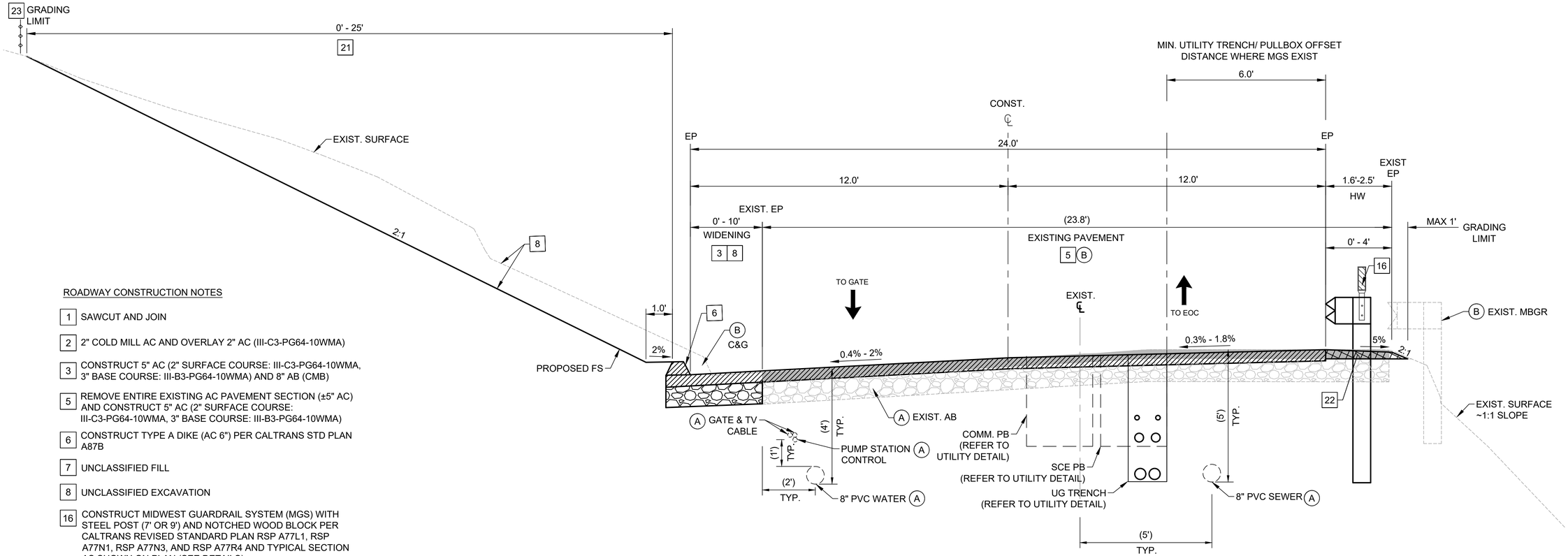
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Sheet 14 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN !!\LOMA RIDGE_ROAD TO EOC EG19921\DESIGN\SHEETS\05 - LOMA RIDGE - CROSS SECTIONS.DWG

DATE PLOTTED : 1/20/2022 8:15 AM ocpw-f.ctb



LOMA RIDGE ROAD (MGS SEGMENT 3)

STA 52+29 TO 58+45

NOT TO SCALE

ROADWAY CONSTRUCTION NOTES

1. SAWCUT AND JOIN
2. 2" COLD MILL AC AND OVERLAY 2" AC (III-C3-PG64-10WMA)
3. CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)
5. REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)
6. CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B
7. UNCLASSIFIED FILL
8. UNCLASSIFIED EXCAVATION
16. CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)
21. TEMPORARY HYDRAULIC MULCH
22. SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT
23. INSTALL TEMPORARY FENCE (TYPE ESA)

REMOVAL AND DISPOSITION

- (A) PROTECT IN PLACE
- (B) REMOVE

LEGEND

- EXISTING AC PAVEMENT
- EXISTING AGGREGATE BASE
- PROPOSED AC PAVEMENT
- PROPOSED AGGREGATE BASE
- UNCLASSIFIED FILL
- SHOULDER BACKING

CAUTION NOTE TO CONTRACTOR

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PLAN
1"=20'

COUNTY OF ORANGE CALIFORNIA

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01/07/22 DATE
JUSAM LEE

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COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD RECONSTRUCTION

TYPICAL SECTIONS

Sheet Reference Number

XS-05

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FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO ECC EQ19921\DESIGN\SHEETS\05 - LOMA RIDGE - CROSS SECTIONS.DWG

DATE PLOTTED : 1/20/2022 8:15 AM ocpw-f.ctb

ROADWAY CONSTRUCTION NOTES

1 SAWCUT AND JOIN

2 2" COLD MILL AC AND OVERLAY 2" AC (III-C3-PG64-10WMA)

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

4 CONSTRUCT FULL DEPTH 8.5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 6.5" BASE COURSE: III-B3-PG64-10WMA)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

7 UNCLASSIFIED FILL

8 UNCLASSIFIED EXCAVATION

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

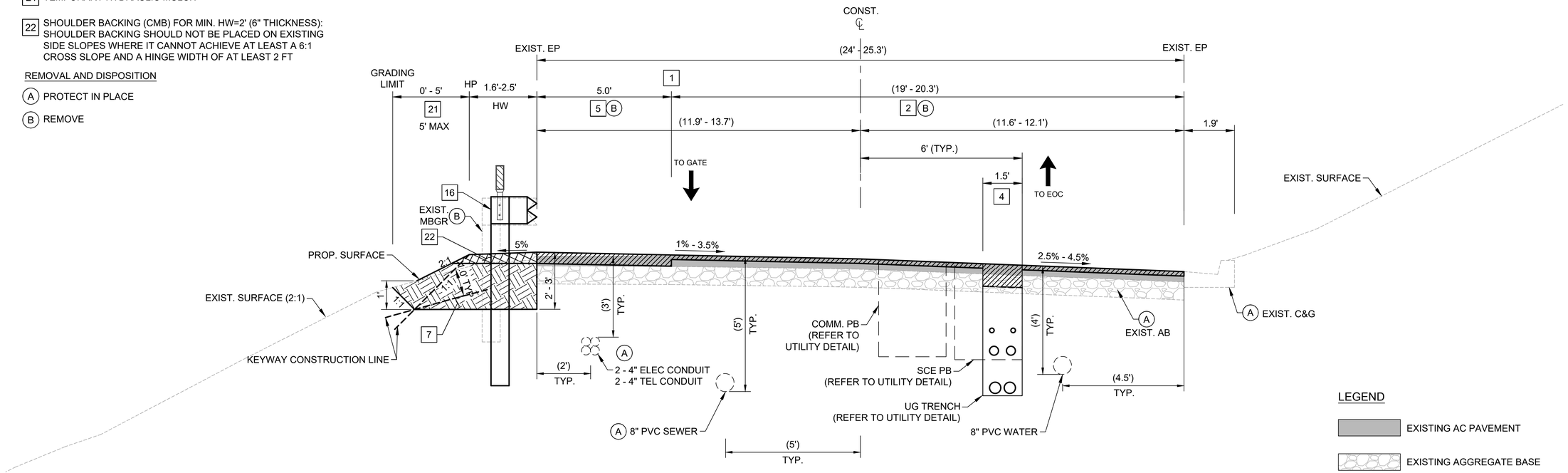
21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE



LOMA RIDGE ROAD (MGS SEGMENT 4)

STA 58+45 TO 76+20

NOT TO SCALE

PLAN
1"=20'

LEGEND

- EXISTING AC PAVEMENT
- EXISTING AGGREGATE BASE
- PROPOSED AC PAVEMENT
- PROPOSED AGGREGATE BASE
- UNCLASSIFIED FILL
- SHOULDER BACKING

CAUTION NOTE TO CONTRACTOR

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JUSAM LEE

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COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD RECONSTRUCTION

TYPICAL SECTIONS

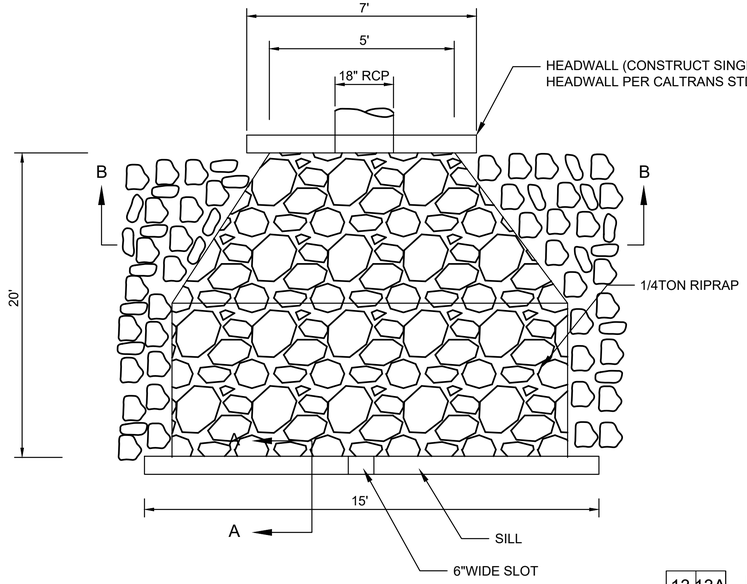
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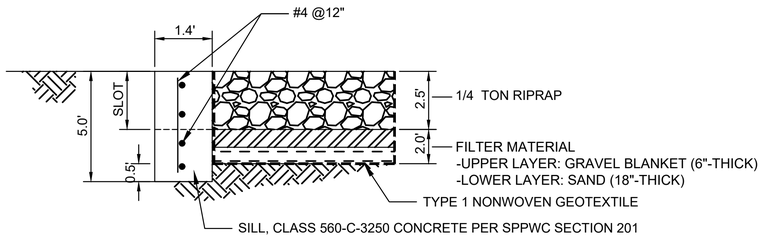
XS-06

Sheet 16 of 56

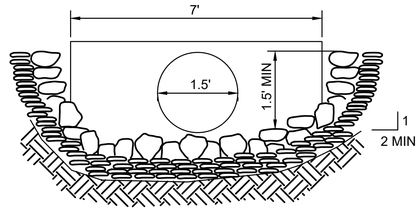
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DATE PLOTTED : 1/20/2022 8:16 AM ocpw-f.ctb





SECTION A-A



SECTION B-B

13 13A HEADWALL, SILL, RIP RAP ENERGY DISSIPATOR & INFILTRATION BMP DETAIL

ROADWAY CONSTRUCTION NOTES

13 CONSTRUCT HEADWALL PER CALTRANS STD PLAN D89

13A CONSTRUCT RIP RAP ENERGY DISSIPATOR AND SILL PER DETAILS

14 CONSTRUCT 18" RCP (D2000)

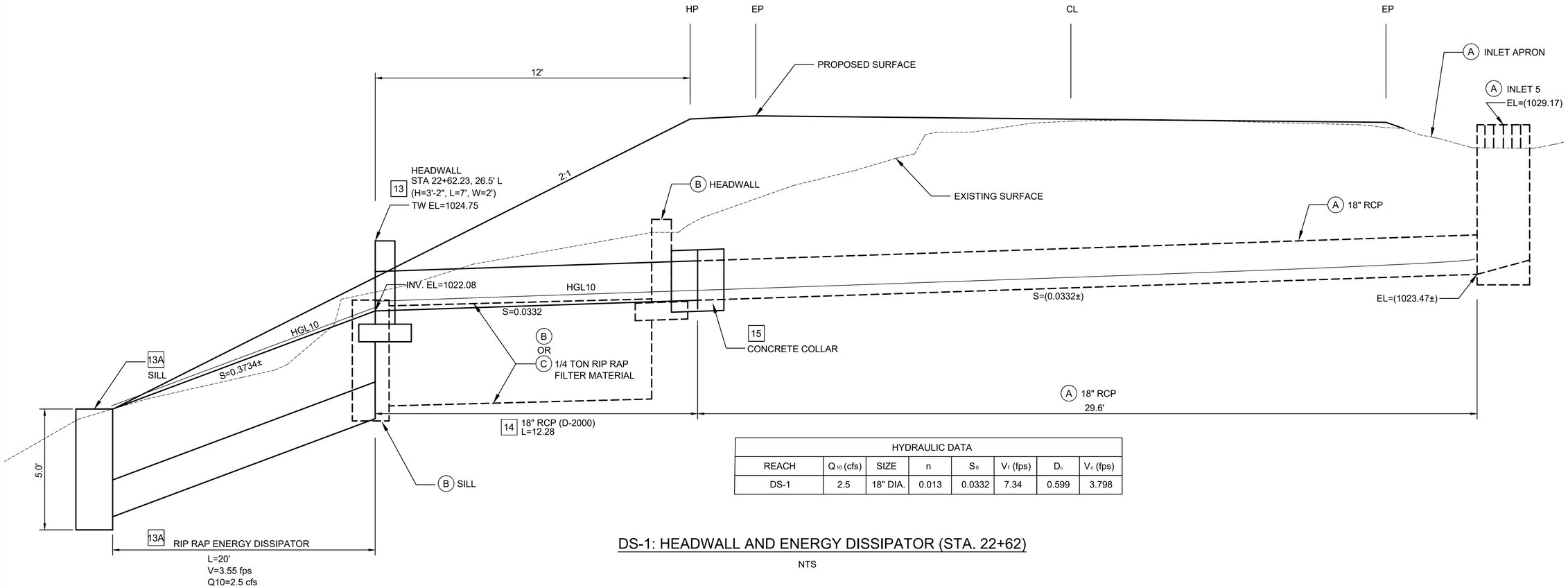
15 CONSTRUCT CONCRETE COLLAR FOR RCP PER OCPW STD 380-4-OC

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

(C) RELOCATE



HYDRAULIC DATA							
REACH	Q_{10} (cfs)	SIZE	n	S_0	V_f (fps)	D_c	V_c (fps)
DS-1	2.5	18" DIA.	0.013	0.0332	7.34	0.599	3.798

DS-1: HEADWALL AND ENERGY DISSIPATOR (STA. 22+62)

NTS

PLAN
1"=20'

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COUNTY OF ORANGE CALIFORNIA

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COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD RECONSTRUCTION

CIVIL DETAILS

Sheet Reference Number

CD-01

Sheet 17 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO18921\DESIGN\SHEETS\06 - LOMA RIDGE - CONSTRUCTION DETAILS.DWG

DATE PLOTTED : 2/14/2022 3:50 PM ocpw-f.ctb

ROADWAY CONSTRUCTION NOTES

9 REMOVE DRAINAGE SYSTEM PER DETAILS

10 CONSTRUCT TYPE 5 INLET PER OCPW STD PLAN 1305 AND DETAILS

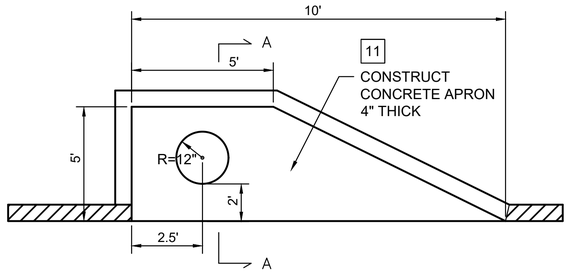
11 CONSTRUCT 4" PCC INLET APRON (MISCELLANEOUS CONCRETE) PER DETAILS

12 CONSTRUCT 10" PCC CURB (INLET APRON) PER DETAILS

REMOVAL AND DISPOSITION

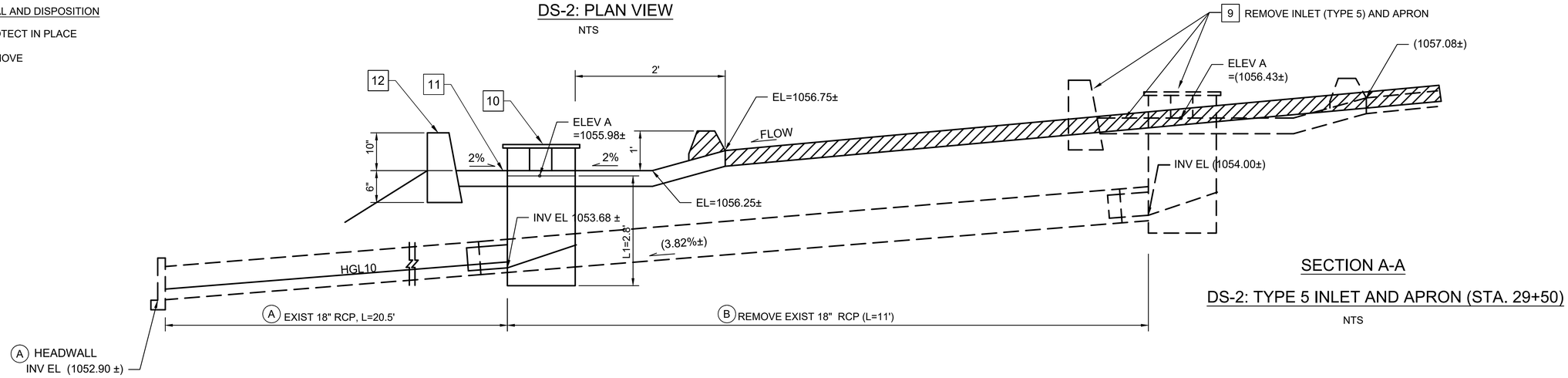
(A) PROTECT IN PLACE

(B) REMOVE



DS-2: PLAN VIEW

NTS

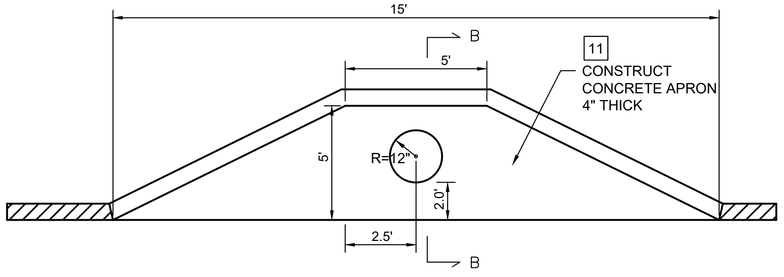


SECTION A-A

DS-2: TYPE 5 INLET AND APRON (STA. 29+50)

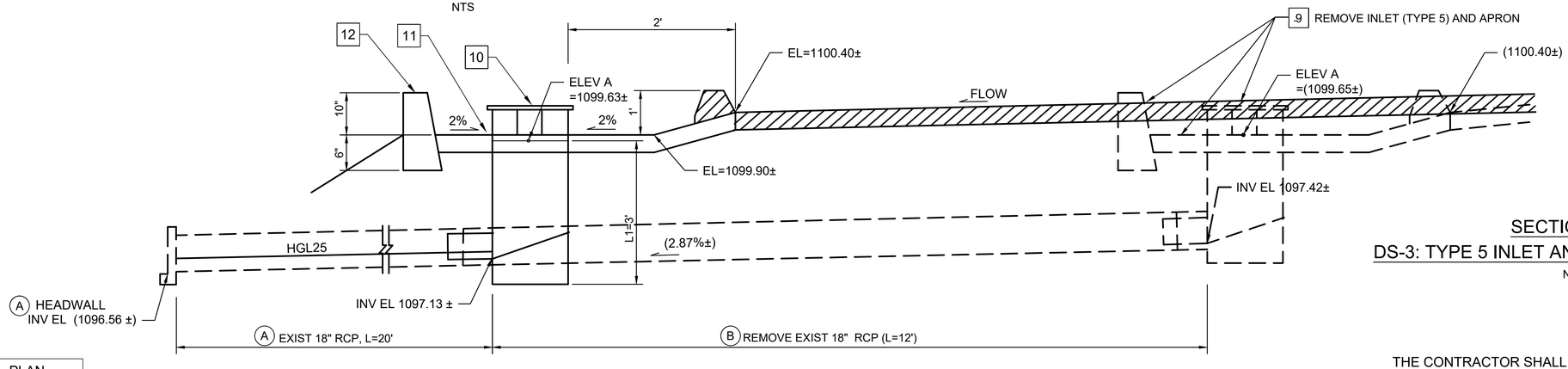
NTS

HYDRAULIC DATA							
REACH	Q (cfs)	SIZE	n	S_0	V_f (fps)	D_c	V_c (fps)
DS-2	Q_{10} =3.1	18" DIA.	0.013	0.0382	7.510	0.670	4.060
DS-3	Q_{25} =2.2	18" DIA.	0.013	0.0287	6.330	0.560	3.654



DS-3: PLAN VIEW

NTS



SECTION B-B

DS-3: TYPE 5 INLET AND APRON (STA. 42+75) SUMP

NTS

PLAN

1"=20'

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

JUSAM LEE

DATE 01/07/22

DESIGNED BY: JL/CO

DRAWN BY: CO

CHECKED BY: JL

DRAWING CODE:

FILE NAME:

PLOT DATE: AS SHOWN

SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

CIVIL DETAILS

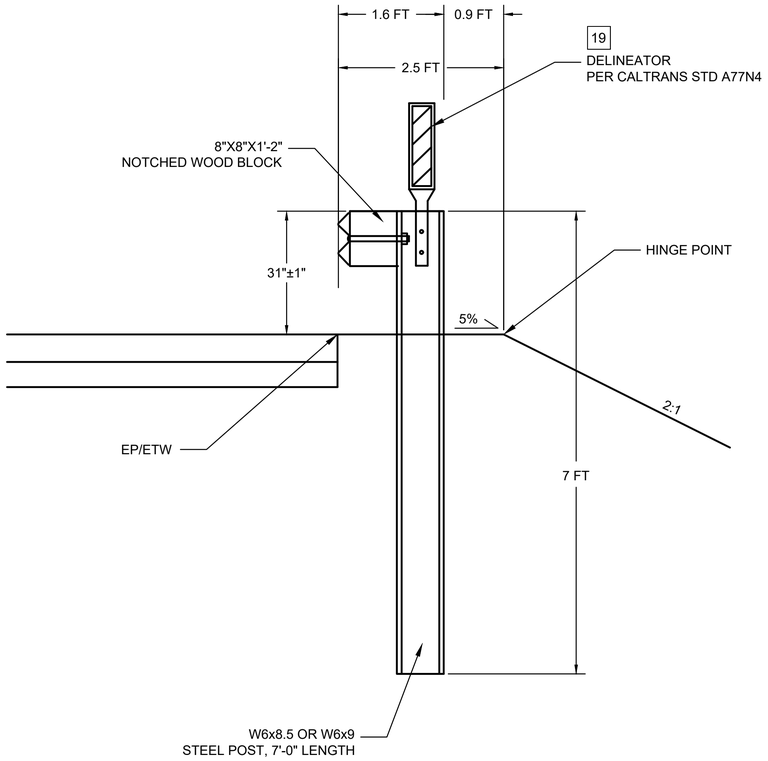
Sheet Reference Number

CD-02

Sheet 18 of 56

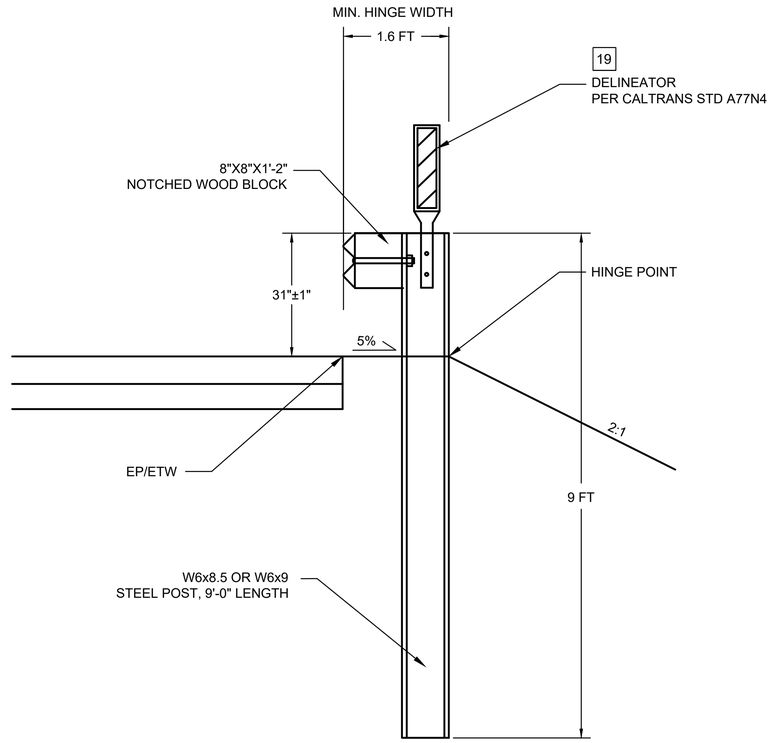
FILE NAME: S:\ROAD PROJECTS\DESIGN !!\LOMA RIDGE_ROAD TO EOC EG19821\DESIGN\SHEETS\06 - LOMA RIDGE - CONSTRUCTION DETAILS.DWG

DATE PLOTTED : 1/20/2022 8:16 AM ocpw.ctb



16 MIDWEST GUARDRAIL SYSTEM DETAIL (7FT POST)

NTS



16 MIDWEST GUARDRAIL SYSTEM DETAIL (9FT POST) FOR NARROW HINGE WIDTH

* WHERE THE HINGE IS LESS THAN 2.5' IN WIDTH, 9FT POST IS TO BE USED. OTHERWISE, 7FT POST IS TO BE USED. THE BELOW ARE APPROXIMATED SUBJECT AREAS WHICH CAN BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY ENGINEER.

STA 32+50 - 33+60 (110 FT)
STA 56+80 - 57+55 (75 FT)
STA 64+95 - 65+60 (65 FT)
STA 66+35 - 67+20 (85 FT)
STA 69+45 - 73+55 (410 FT)

NTS

ROADWAY CONSTRUCTION NOTES

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

MIDWEST GUARDRAIL

	FLARED END TERMINAL SYSTEM (FLEAT-SP-MSG TERMINAL)	STATION LIMITS MIDWEST GUARDRAIL SYSTEM (STEEL POST)	FLARED END TERMINAL SYSTEM (FLEAT-SP-MSG TERMINAL)	FLARED END TERMINAL SYSTEM (FLEAT-SP-MSG TERMINAL)	END ANCHOR ASSEMBLY (TYPE SFT)	END CAP (TYPE A)	MIDWEST GUARDRAIL SYSTEM (STEEL POST)	STEEL POST LENGTH
				EA	EA	EA	LF	FT
SEGMENT 1	30+61.62 TO 31+00.00	31+00.11 TO 38+79.13 (R)	38+79.13 TO 39+14.05	2			779	7 OR 9*
SEGMENT 2	42+10.10 TO 42+49.00	42+49.01 TO 45+30.55 (R)	45+30.55 TO 45+69.28	2			281	7
SEGMENT 3	52+32.92 TO 52+72.00	52+72.00 TO 57+56.82 (R)	57+56.82 TO 57+95.04	2			485	7 OR 9*
SEGMENT 4	61+35.53 TO 61+73.81	61+73.81 TO 75+76.31 (L)	-	1	1		1414	7 OR 9*
DEAD END		AT 75+81				2	DEAD END GUARDRAIL SYSTEM	7
TOTAL				7	1	2	2,959	

PLAN
1"=20'

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
JUSAM LEE
REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA
01/07/22
DATE
JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD RECONSTRUCTION

CIVIL DETAILS

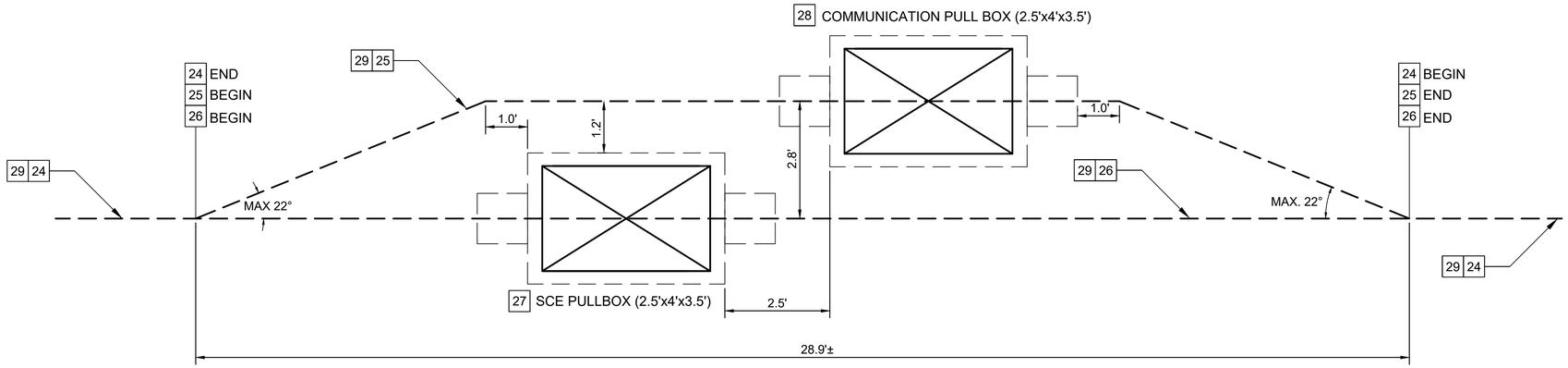
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Sheet 19 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO18621\DESIGN\SHEETS\06 - LOMA RIDGE - CONSTRUCTION DETAILS.DWG

DATE PLOTTED : 1/20/2022 8:16 AM ocpw.ctb



UNDERGROUND UTILITY PULLBOX / CONDUIT LAYOUT

NTS

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB

4 CONSTRUCT FULL DEPTH 8.5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 6.5" BASE COURSE: III-B3-PG64-10WMA)

UNDERGROUND TRENCH CONSTRUCTION NOTES

24 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMON)

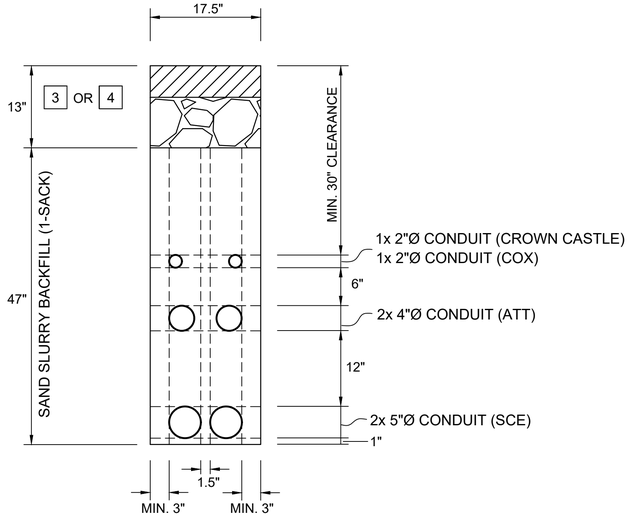
25 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMUNICATION)

26 UNDERGROUND UTILITY TRENCH EXCAVATION AND BACKFILL PER DETAILS (SCE)

27 CONSTRUCT UTILITY PULLBOX (SCE) PER SCE DETAILS

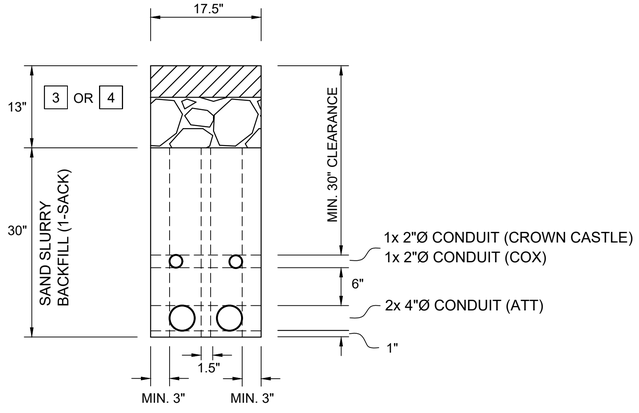
28 CONSTRUCT UTILITY PULLBOX (COMM.) PER ATT, COX, CROWN CASTLE COMPANY'S DETAILS

29 CONSTRUCT UTILITY CONDUIT PER DETAILS AND CORRESPONDING SPECIFICATIONS



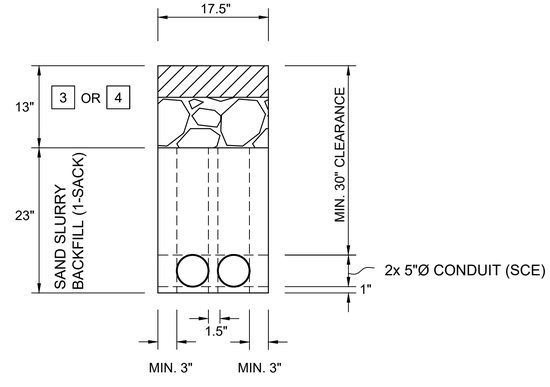
24 UNDERGROUND UTILITY COMMON TRENCH DETAIL

NTS



25 UNDERGROUND UTILITY (COMMUNICATION) TRENCH DETAIL

NTS



26 UNDERGROUND UTILITY (SCE) TRENCH DETAIL

NTS

PLAN
1"=20'

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

01/07/22 DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD RECONSTRUCTION

CIVIL DETAILS

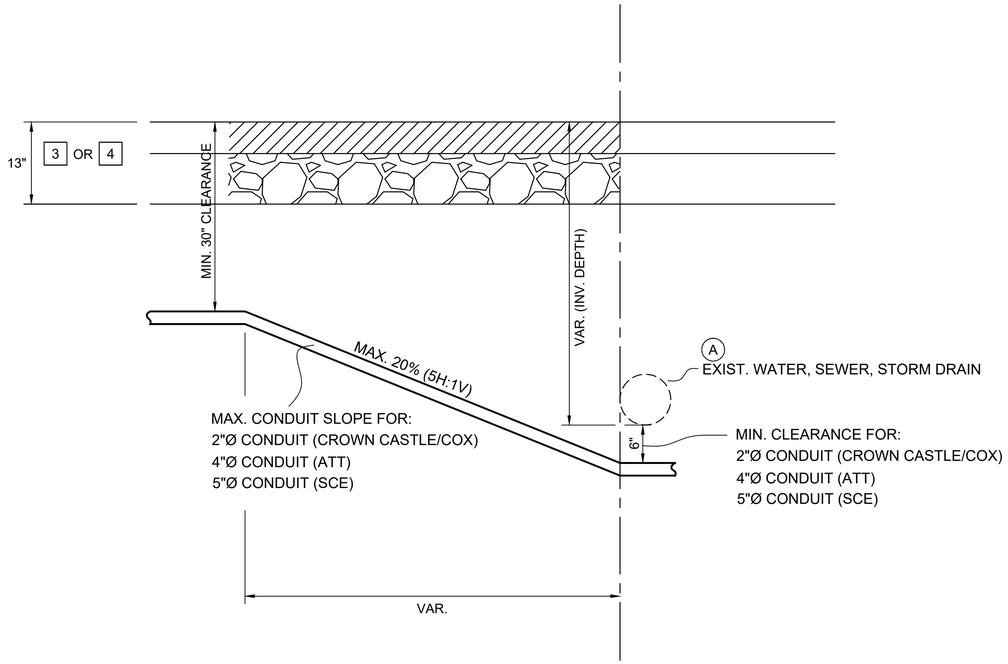
Sheet Reference Number

CD-04

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FILE NAME: S:\ROAD PROJECTS\DESIGN !\LOMA RIDGE_ROAD TO EOC EG19821\DESIGN\SHEETS\06 - LOMA RIDGE - CONSTRUCTION DETAILS.DWG

DATE PLOTTED : 1/20/2022 8:16 AM ocpw.ctb



CONDUIT VERTICAL CLEARANCE AND TRANSITION FOR EXISTING UTILITY CROSSING

NTS

PLAN
1"=20'

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB

4 CONSTRUCT FULL DEPTH 8.5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 6.5" BASE COURSE: III-B3-PG64-10WMA)

REMOVAL AND DISPOSITION

A PROTECT IN PLACE

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

JUSAM LEE

DATE 01/07/22

BY:

DESIGNED BY: JL/CO	DRAWN BY: CO	CHECKED BY: JL
DRAWING CODE:	FILE NAME:	PLOT DATE: AS SHOWN / SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

CIVIL DETAILS

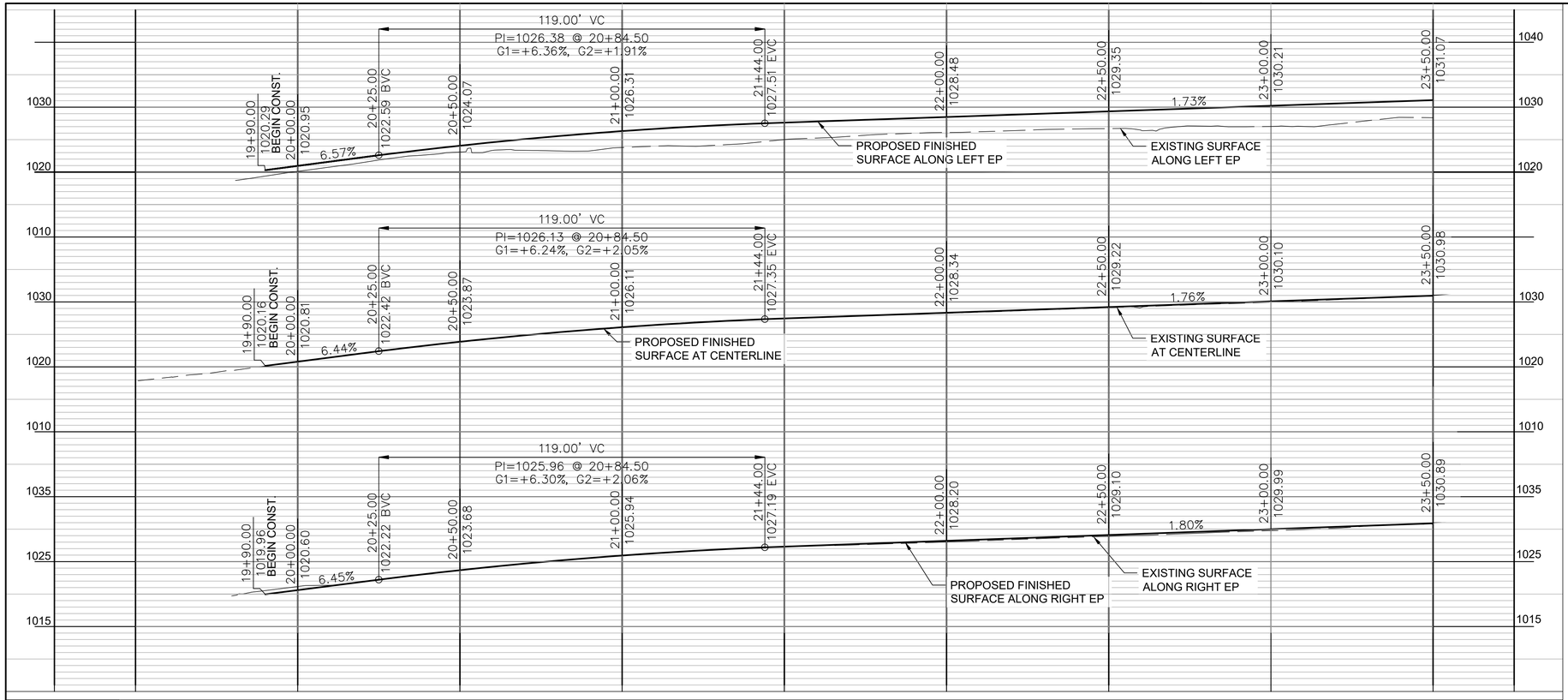
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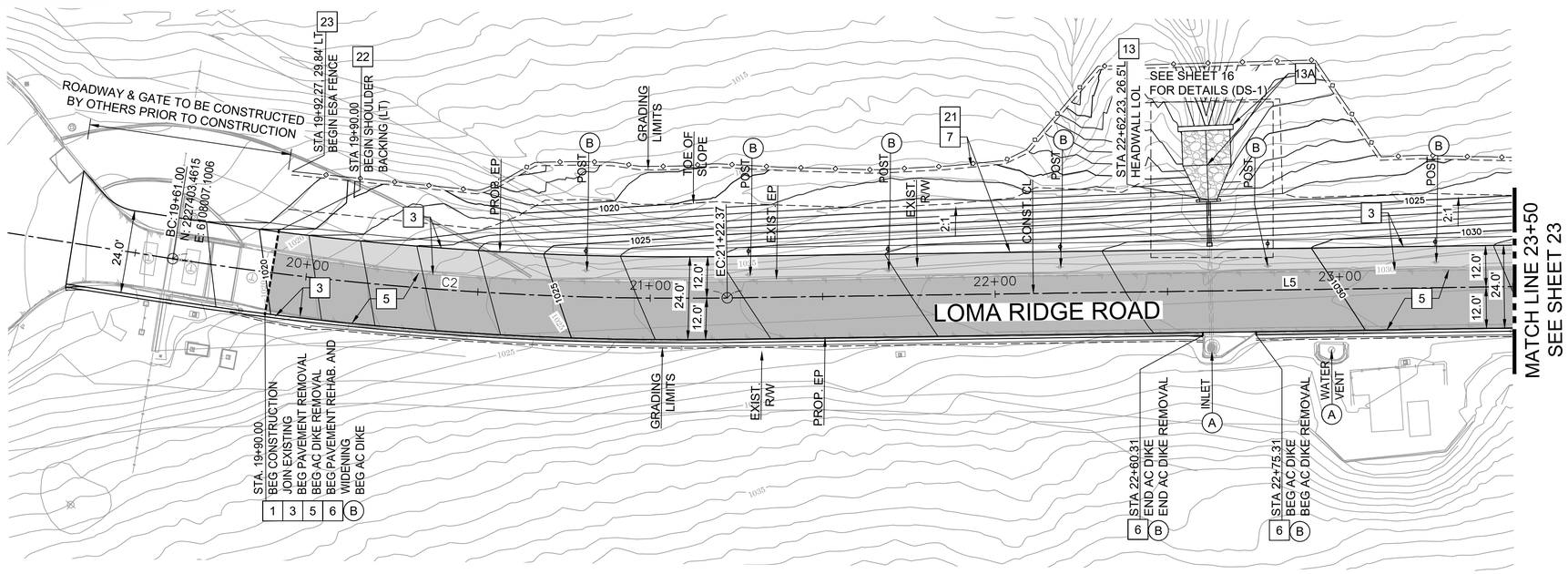
Sheet 21 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EG19821\DESIGN\SHEETS\06 - LOMA RIDGE - CONSTRUCTION DETAILS.DWG

DATE PLOTTED : 1/20/2022 8:16 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

1. SAWCUT AND JOIN
3. CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)
5. REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)
6. CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B
7. UNCLASSIFIED FILL
13. CONSTRUCT HEADWALL PER CALTRAN STD PLAN D89
13A. CONSTRUCT RIP RAP ENERGY DISSIPATOR AND SILL PER DETAILS
21. TEMPORARY HYDRAULIC MULCH
22. SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT
23. INSTALL TEMPORARY FENCE (TYPE ESA)

REMOVAL AND DISPOSITION

- (A) PROTECT IN PLACE
- (B) REMOVE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L5	257.43'	N84°38'13.96"W

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C2	9°43'57"	950.00'	161.37'	80.88'

N

0 20 40 80
Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67736
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA
01/07/22
DATE
JUSAM LEE

DESIGNED BY: JUSAM LEE, P.E.
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

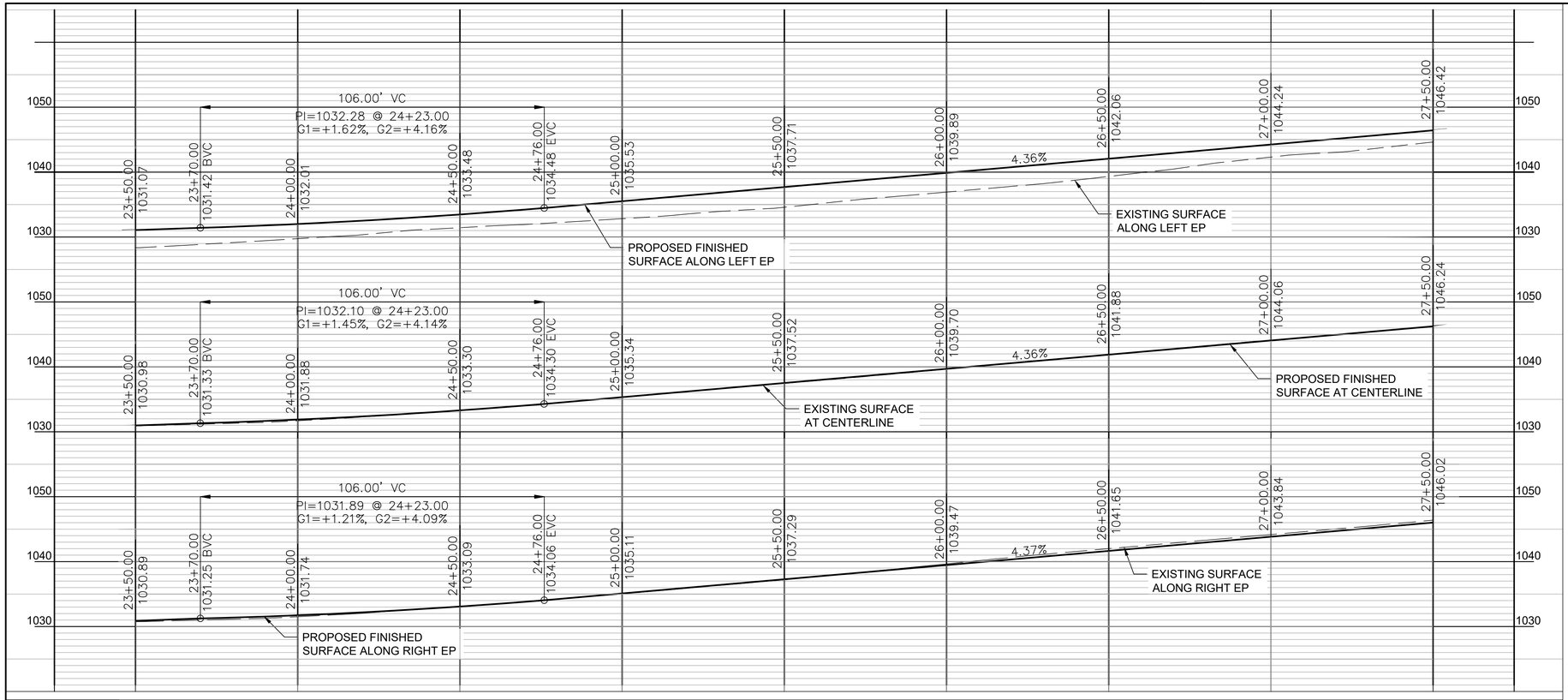
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION
PLAN AND PROFILE
STA 19+50 TO
STA 23+50

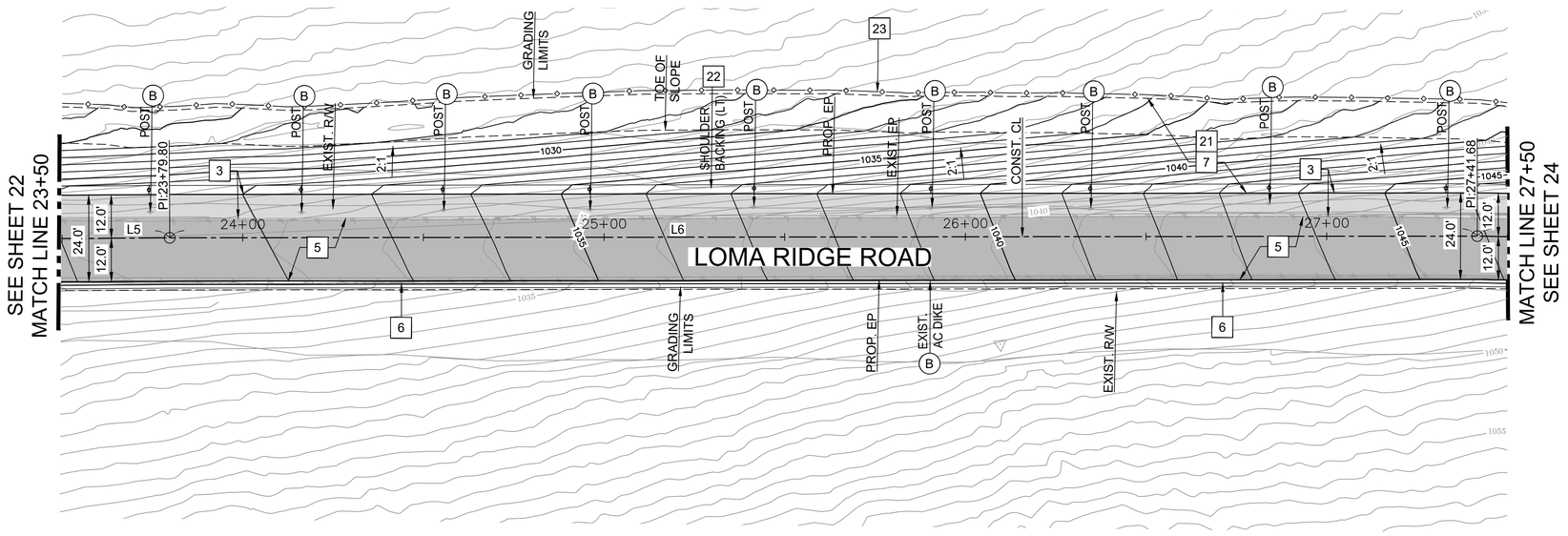
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Sheet 22 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO18621\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:17 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

7 UNCLASSIFIED FILL

21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

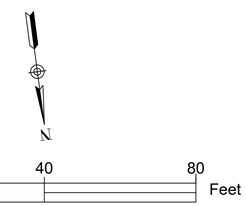
23 INSTALL TEMPORARY FENCE (TYPE ESA)

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L5	257.43'	N84°38'13.96"W
L6	361.88'	N84°19'52.61"W



THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

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REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67736 Exp. 6/30/23 CIVIL STATE OF CALIFORNIA
01/07/22 DATE
JUSAM LEE

DESIGNED BY: JUSAM LEE, P.E.
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CHECKED BY: JL
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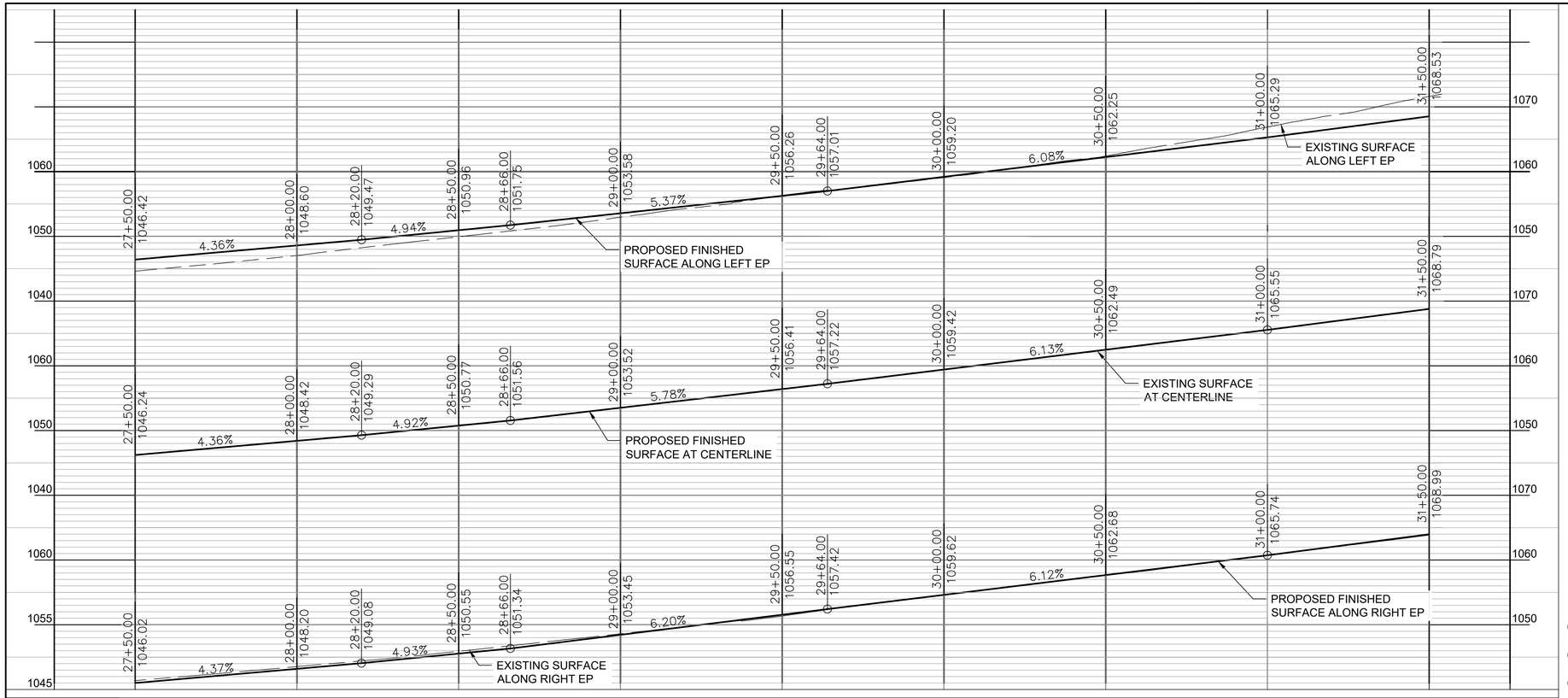
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD RECONSTRUCTION
PLAN AND PROFILE STA 23+50 TO STA 27+50

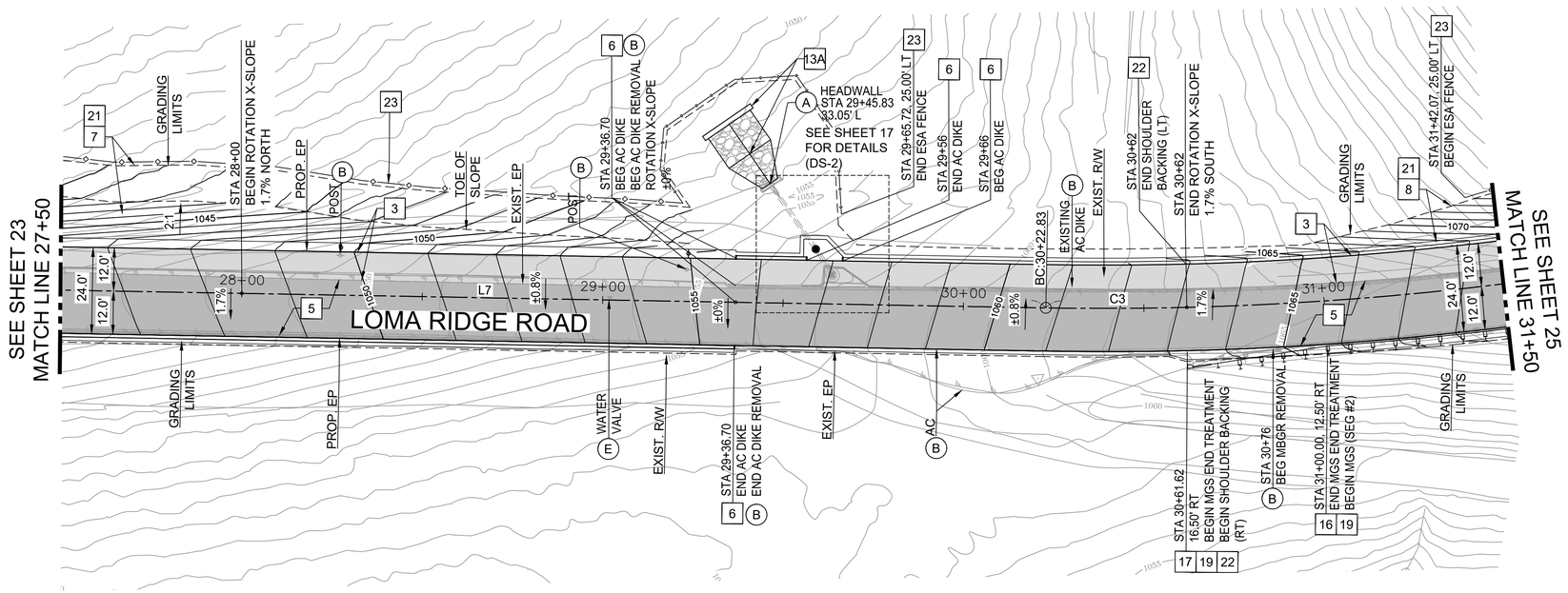
Sheet Reference Number
P-02
Sheet 23 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19\21\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:17 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3	CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)
5	REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)
6	CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B
7	UNCLASSIFIED FILL
8	UNCLASSIFIED EXCAVATION
13A	CONSTRUCT RIP RAP ENERGY DISSIPATOR AND SILL PER DETAILS
16	CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)
17	CONSTRUCT 31" FLARED TERMINAL SYSTEM END TREATMENT (FLEAT-SP-MSG)
19	INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4
21	TEMPORARY HYDRAULIC MULCH
22	SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT
23	INSTALL TEMPORARY FENCE (TYPE ESA)

REMOVAL AND DISPOSITION

- (A) PROTECT IN PLACE
- (B) REMOVE
- (E) ADJUST TO GRADE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L7	281.15'	N83°13'13.00"W

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C3	16°15'10"	900.00'	255.30'	128.51'

N

0 20 40 80 Feet

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COUNTY OF ORANGE CALIFORNIA

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No. C 67736
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA
01/07/22
DATE
JUSAM LEE

DESIGNED BY: JUSAM LEE, P.E.
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

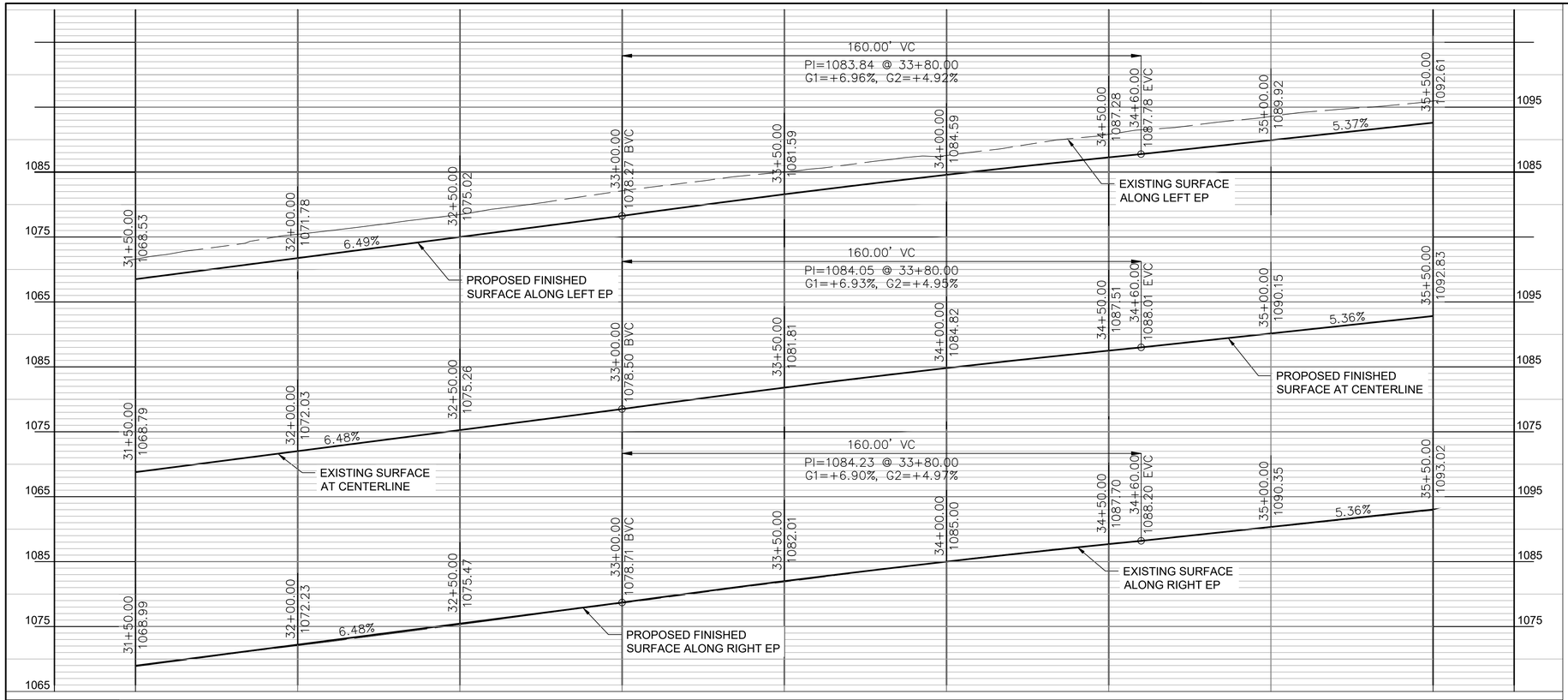
PLAN AND PROFILE
STA 27+50 TO
STA 31+50

Sheet Reference Number
P-03

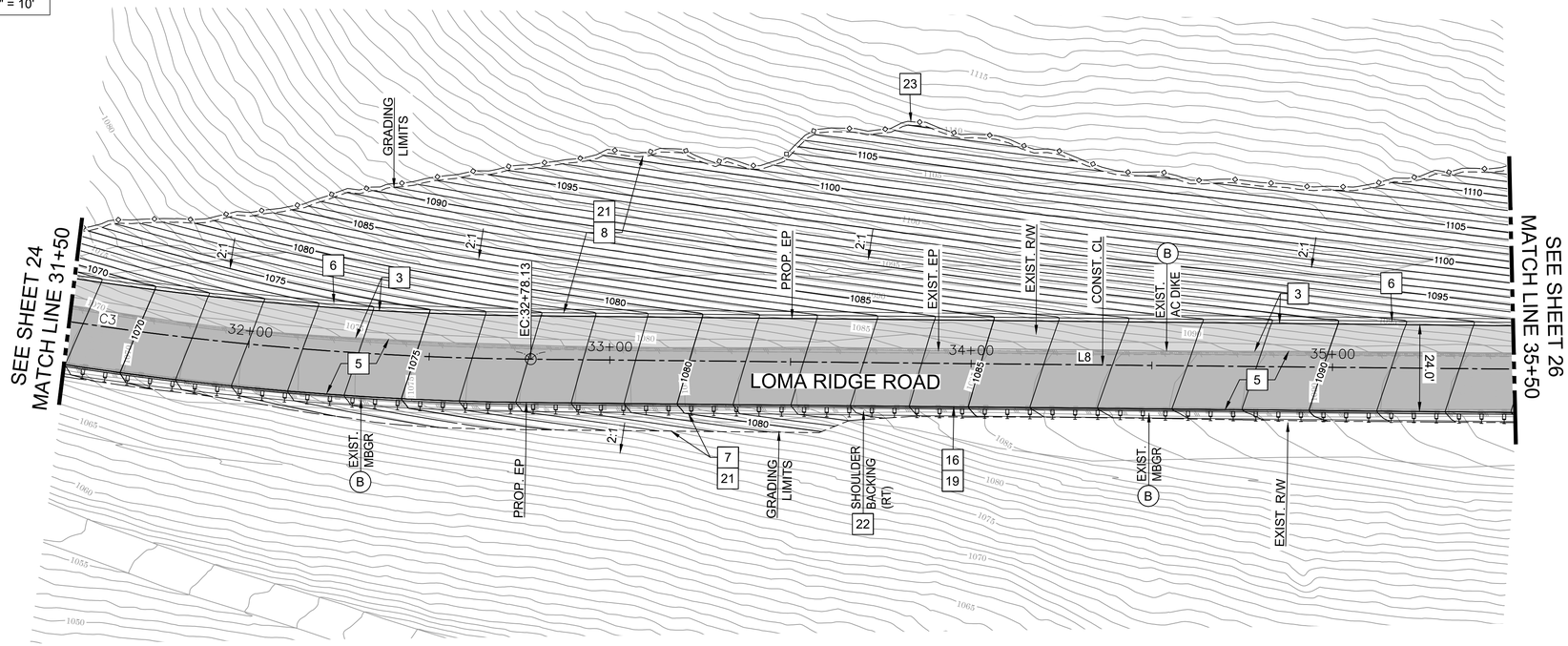
Sheet 24 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19821\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:18 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

LINE TABLE		
LINE #	LENGTH	DIRECTION
L8	375.47'	S80°31'37.46"W

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C3	16°15'10"	900.00'	255.30'	128.51'

N

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

7 UNCLASSIFIED FILL

8 UNCLASSIFIED EXCAVATION

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

23 INSTALL TEMPORARY FENCE (TYPE ESA)

REMOVAL AND DISPOSITION

(B) REMOVE

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67736 Exp. 6/30/23 CIVIL STATE OF CALIFORNIA
01/07/22 DATE
JUSAM LEE

DESIGNED BY: JUSAM LEE, P.E.
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

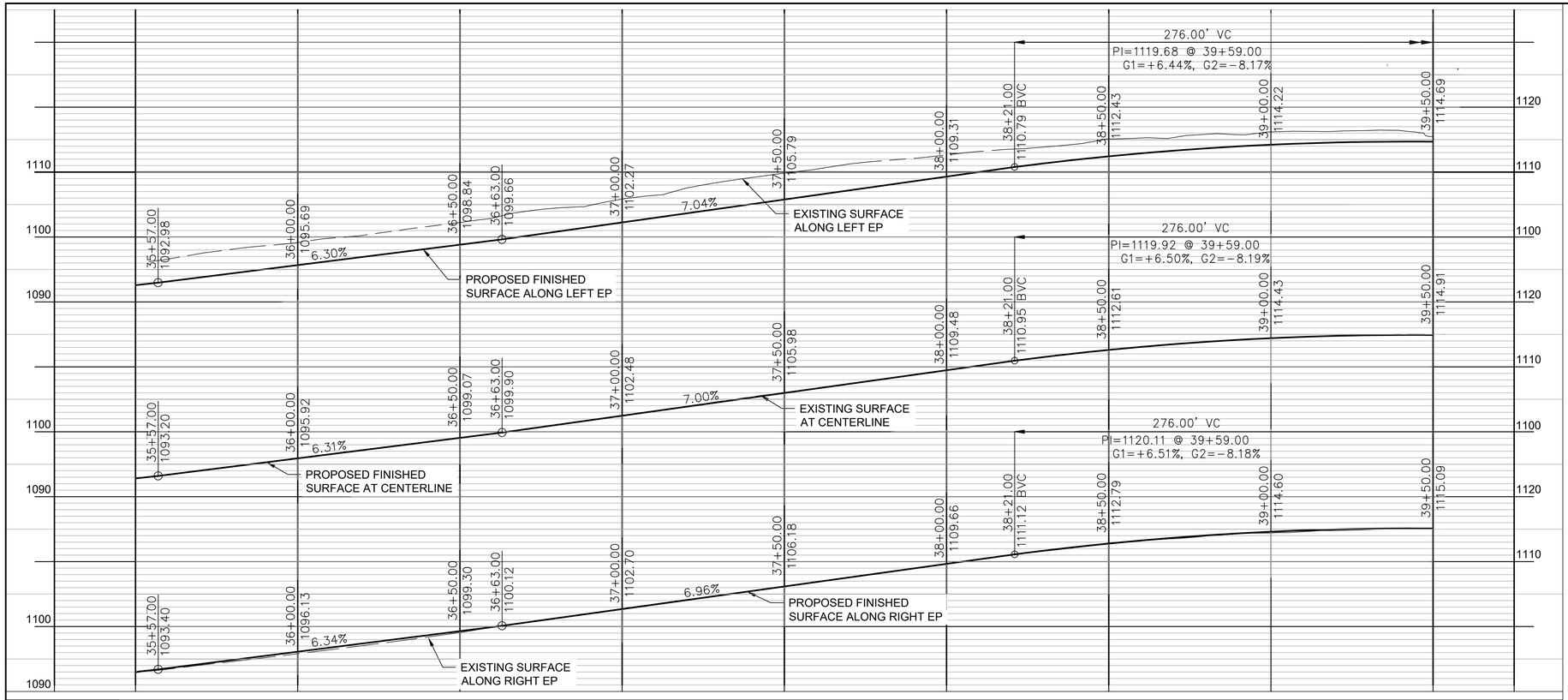
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION
PLAN AND PROFILE
STA 31+50 TO
STA 35+50

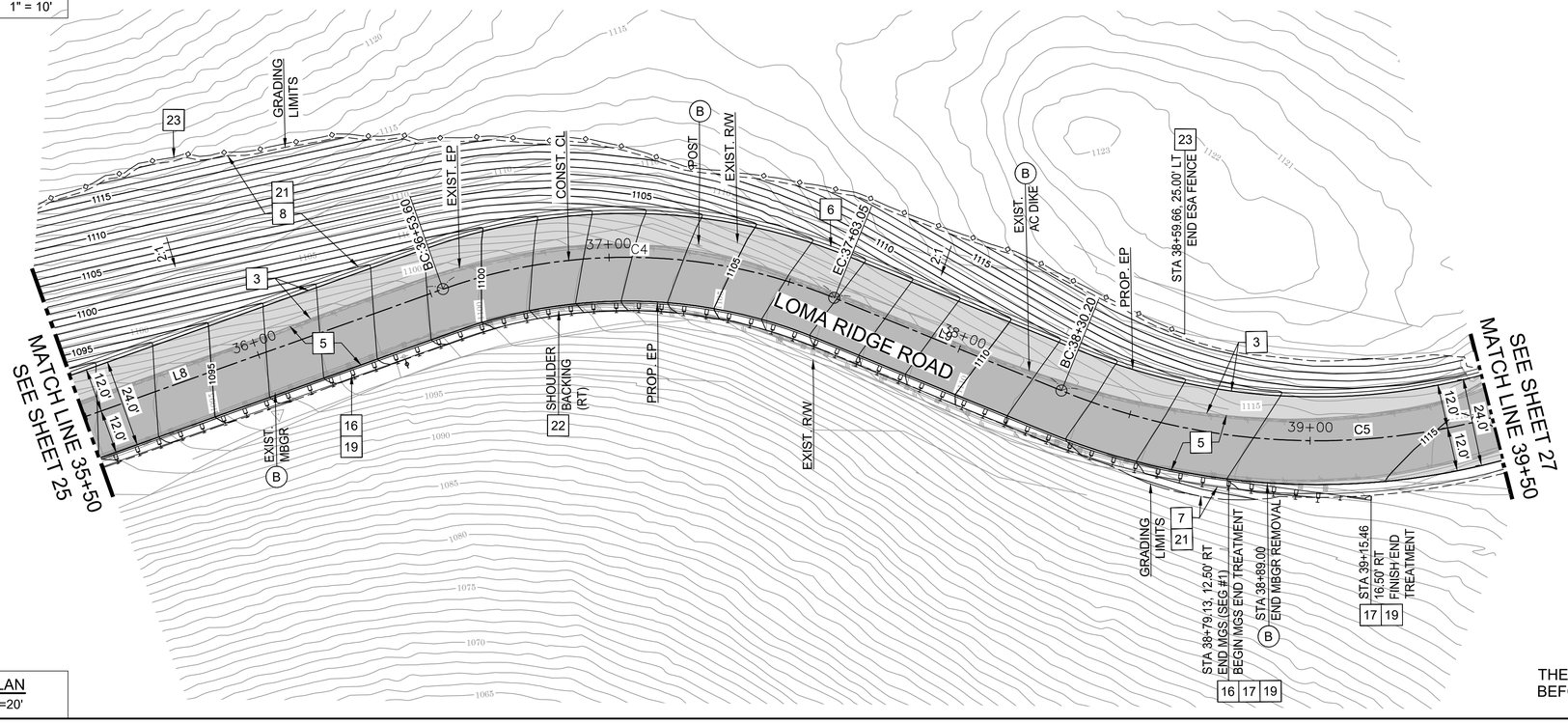
Sheet Reference Number
P-04
Sheet 25 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19B21\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:18 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

7 UNCLASSIFIED FILL

8 UNCLASSIFIED EXCAVATION

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

17 CONSTRUCT 31" FLARED TERMINAL SYSTEM END TREATMENT (FLEAT-SP-MSG)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

23 INSTALL TEMPORARY FENCE (TYPE ESA)

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L8	375.47'	S80°31'37.46"W
L9	67.15'	N57°39'57.51"W

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C4	41°48'25"	150.00'	109.45'	57.29'
C5	118°25'47"	185.00'	382.39'	310.52'

N

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
JUSAM LEE
REGISTERED PROFESSIONAL ENGINEER
No. C 67736 Exp. 6/30/23 CIVIL
STATE OF CALIFORNIA
01/07/22 DATE

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SCALE: AS SHOWN

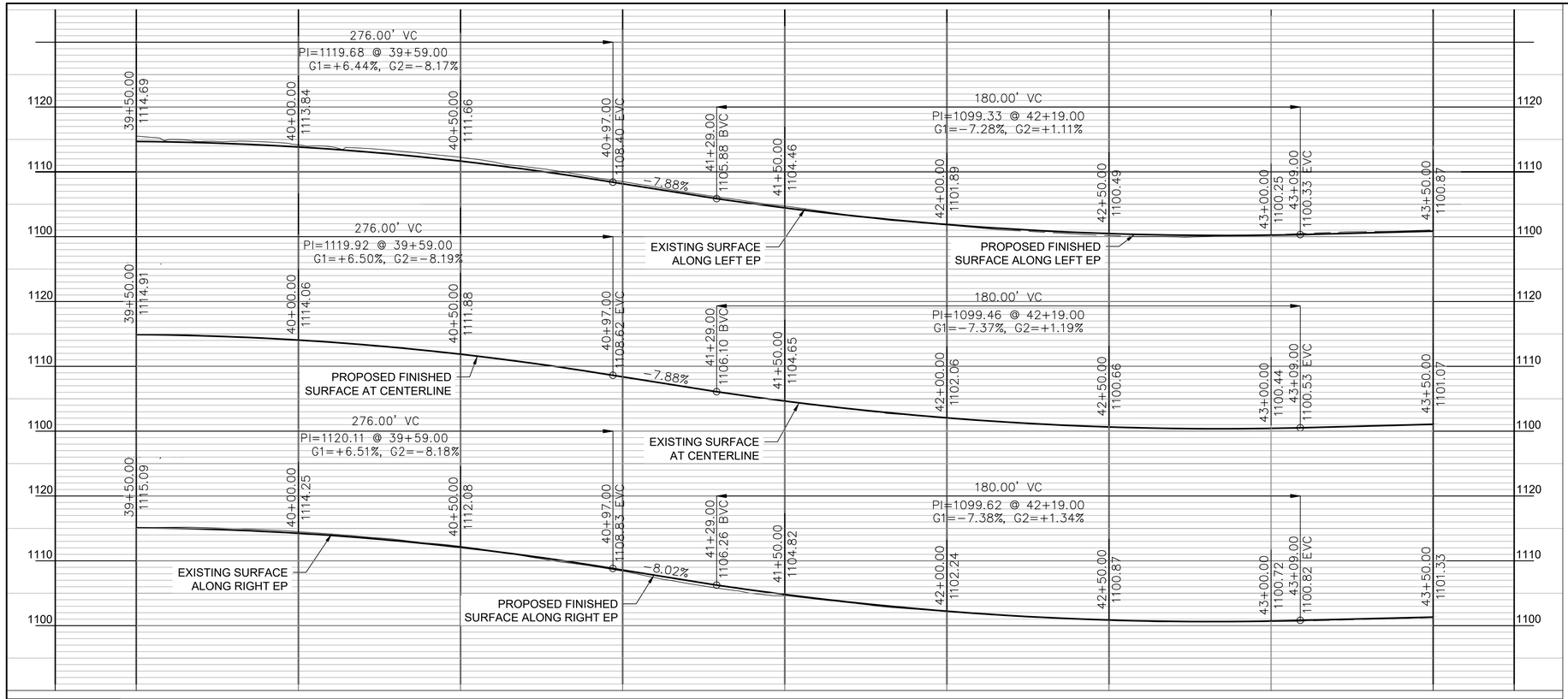
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION
PLAN AND PROFILE
STA 35+50 TO
STA 39+50

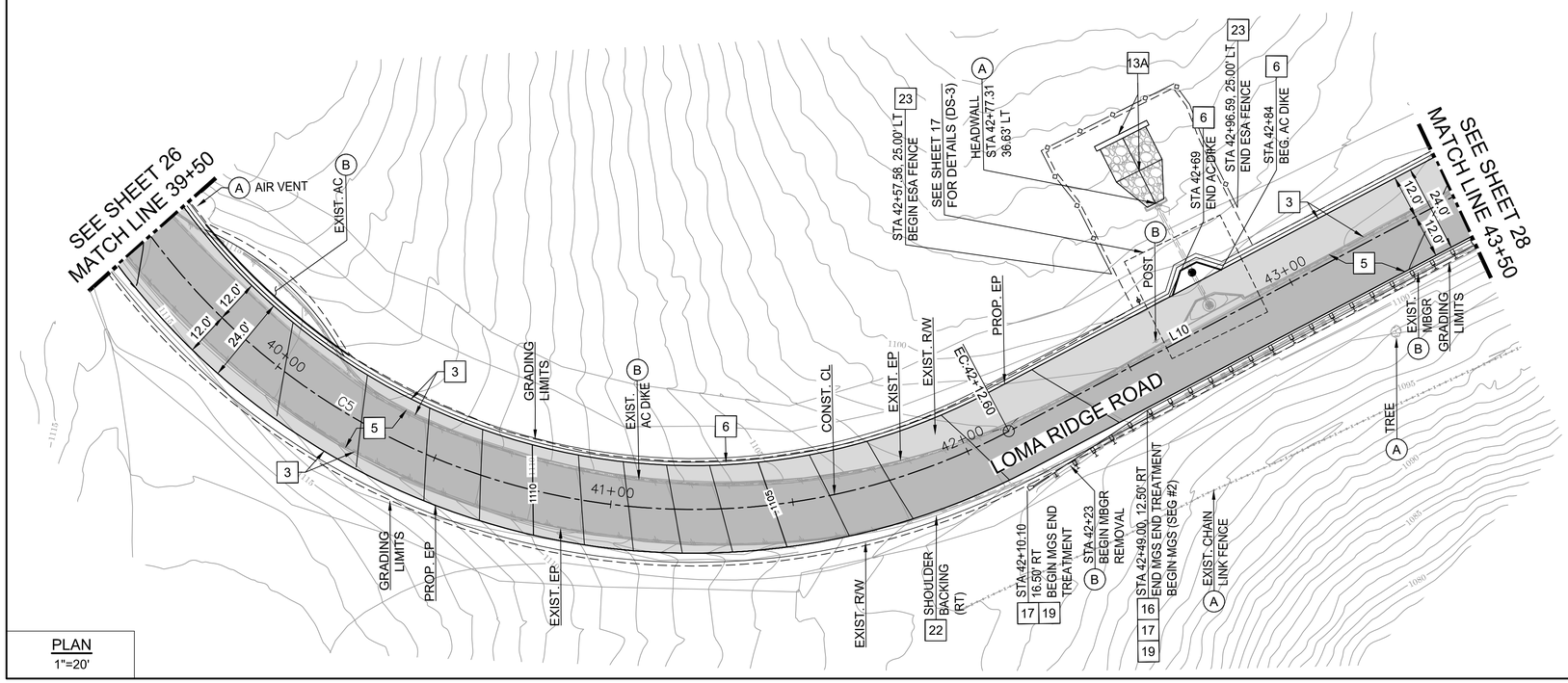
Sheet Reference Number
P-05
Sheet 26 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19821\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:18 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

13A CONSTRUCT RIP RAP ENERGY DISSIPATOR AND SILL PER DETAILS ON SHEET 16

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

17 CONSTRUCT 31" FLARED TERMINAL SYSTEM END TREATMENT (FLEAT-SP-MSG)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

23 INSTALL TEMPORARY FENCE (TYPE ESA)

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L10	150.04'	S03°54'15.44"W

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C5	118°25'47"	185.00'	382.39'	310.52'

N

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
JUSAM LEE
01/07/22
DATE

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67736
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA

DESIGNED BY: JUSAM LEE, P.E.
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

PLAN AND PROFILE
STA 39+50 TO
STA 43+50

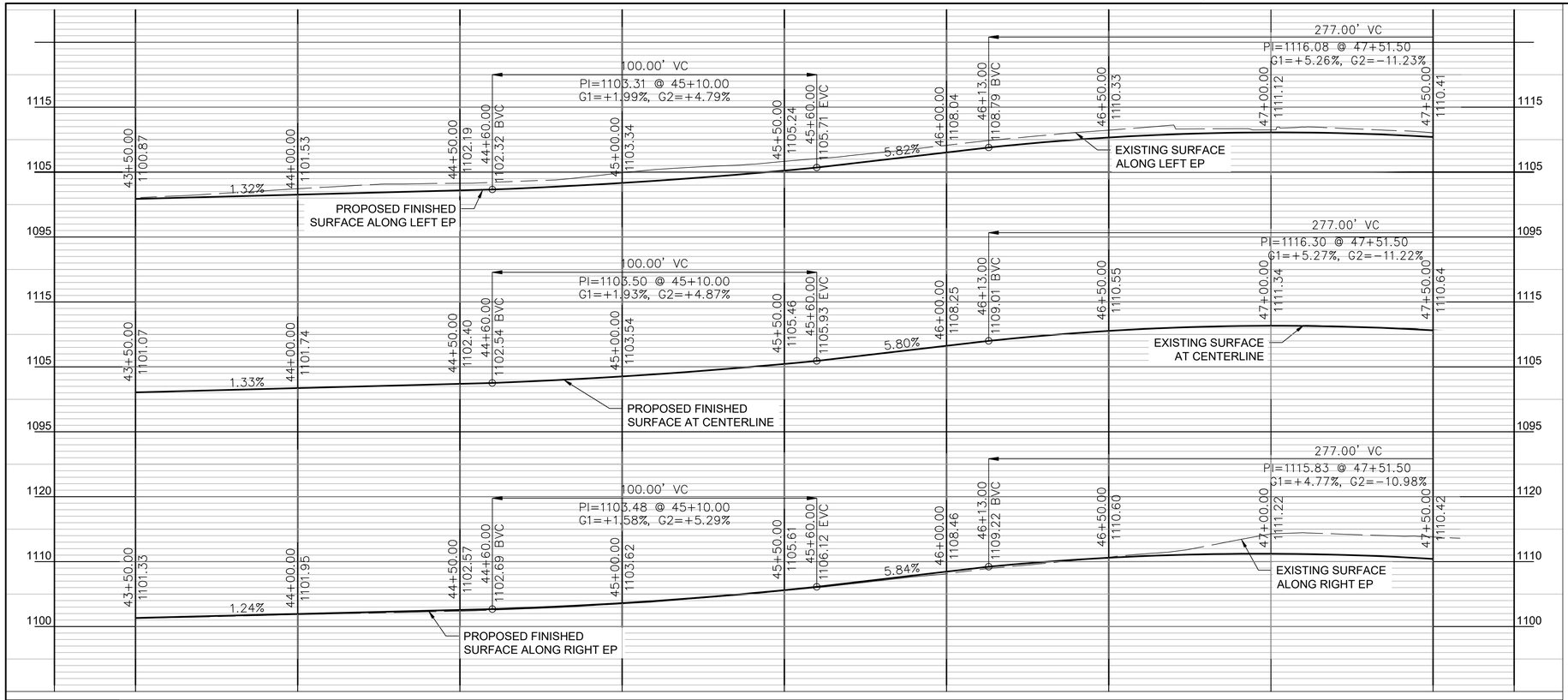
Sheet Reference Number

P-06

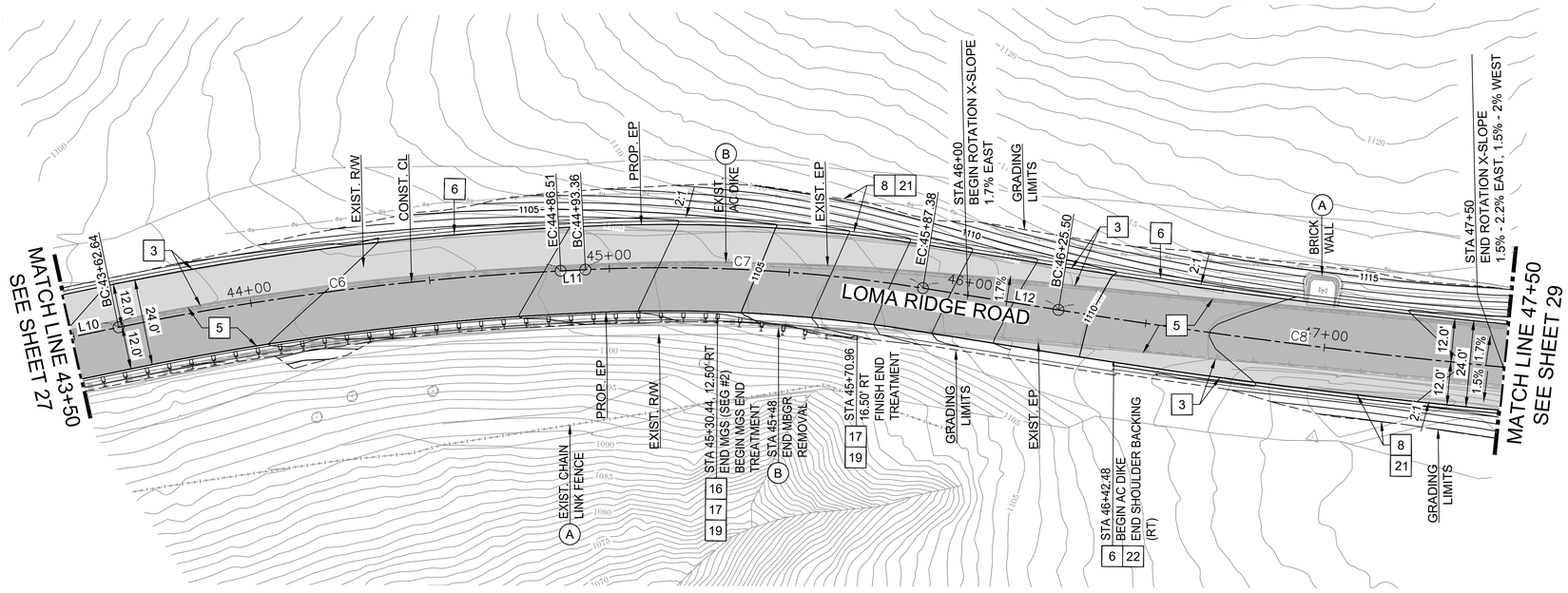
Sheet 27 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19B21\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:19 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

7 UNCLASSIFIED FILL

8 UNCLASSIFIED EXCAVATION

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

17 CONSTRUCT 31" FLARED TERMINAL SYSTEM END TREATMENT (FLEAT-SP-MSG)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L11	6.85'	S12°46'33.89"W
L12	38.12'	S24°44'50.56"W

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C6	8°52'18"	800.00'	123.87'	62.06'
C7	11°58'17"	450.00'	94.02'	47.18'
C8	3°51'13"	2000.00'	134.51'	67.28'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67736 Exp. 6/30/23 CIVIL STATE OF CALIFORNIA
01/07/22 DATE
JUSAM LEE

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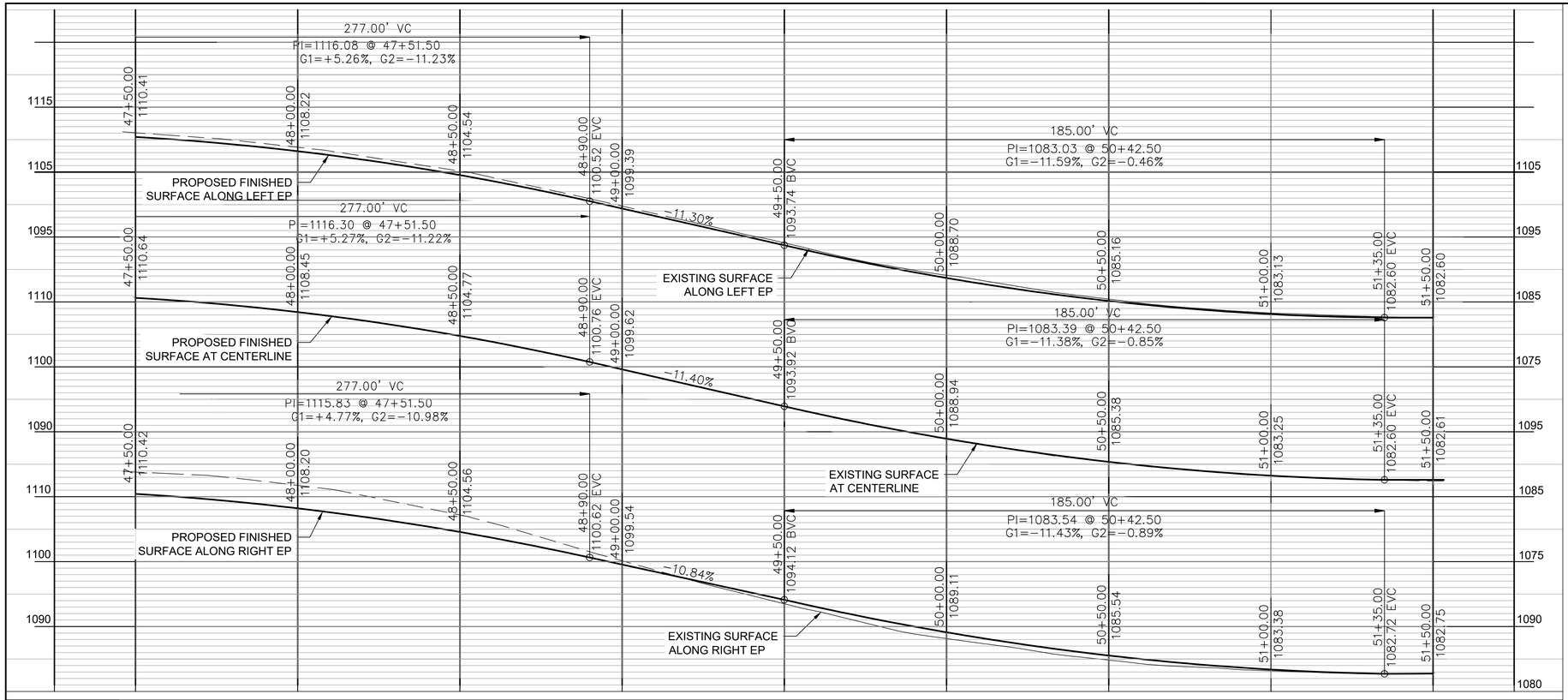
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION
PLAN AND PROFILE
STA 43+50 TO
STA 47+50

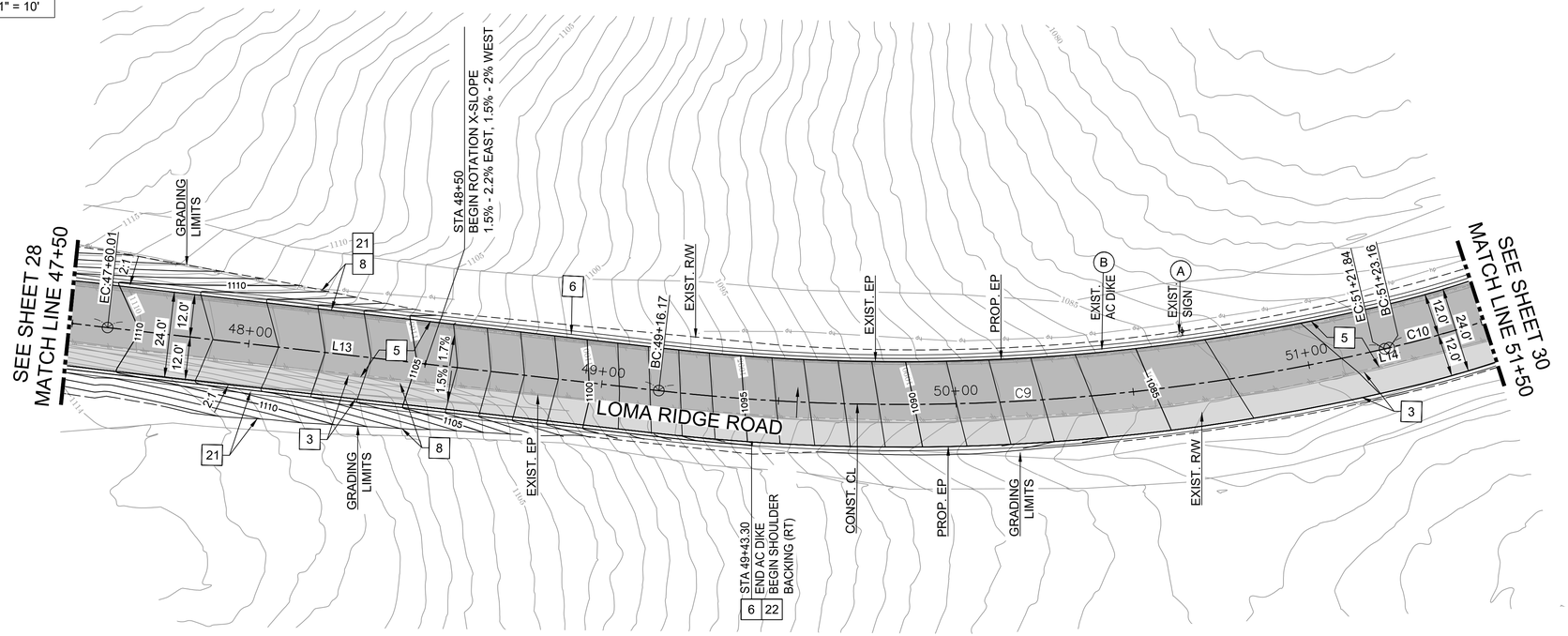
Sheet Reference Number
P-07
Sheet 28 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO18621\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:19 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B.

8 UNCLASSIFIED EXCAVATION

21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L13	156.16'	S20°53'38.00"W
L14	1.32'	S01°15'14.66"W

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C9	19°38'23"	600.00'	205.67'	103.85'
C10	15°37'11"	310.00'	84.51'	42.52'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
JUSAM LEE
REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67736
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA
01/07/22
DATE
JUSAM LEE

DESIGNED BY: JUSAM LEE, P.E.
DRAWN BY: CO
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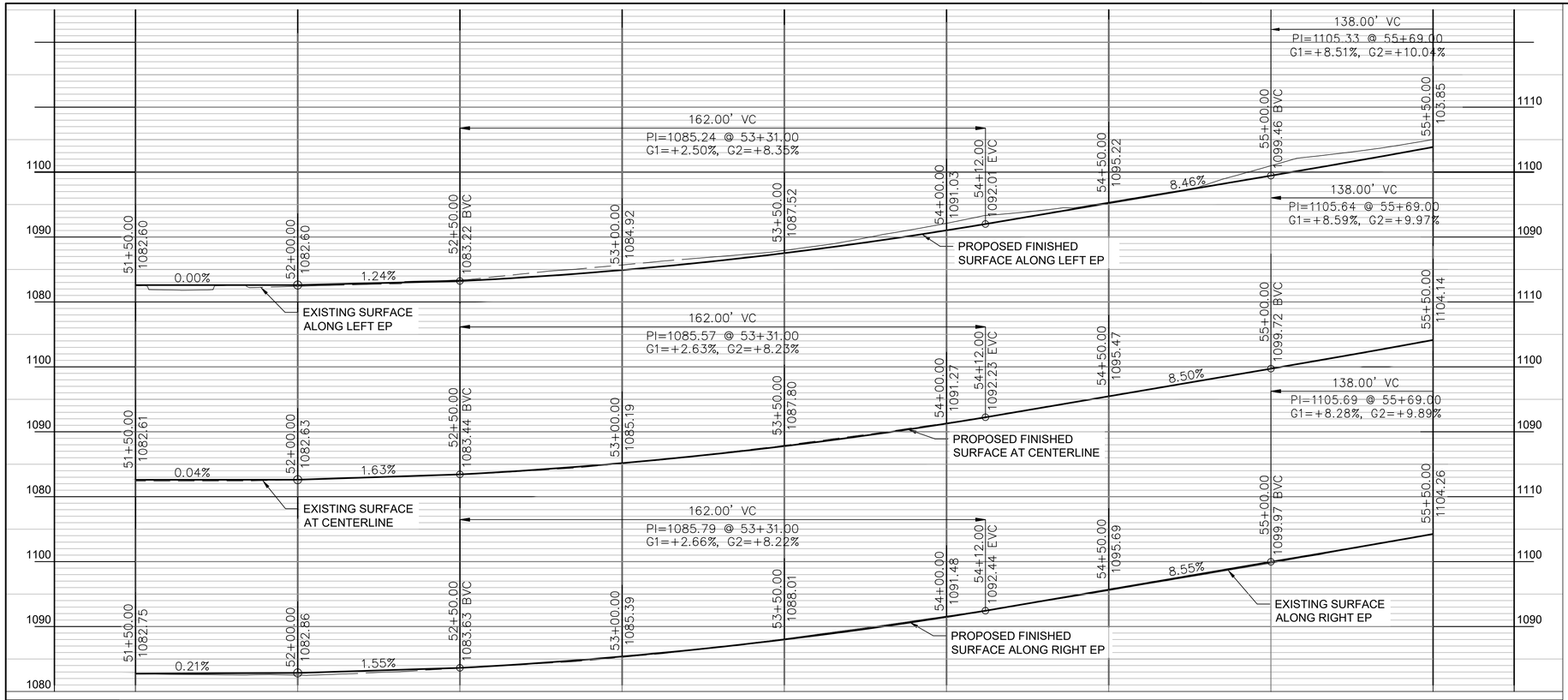
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION
PLAN AND PROFILE
STA 47+50 TO
STA 51+50

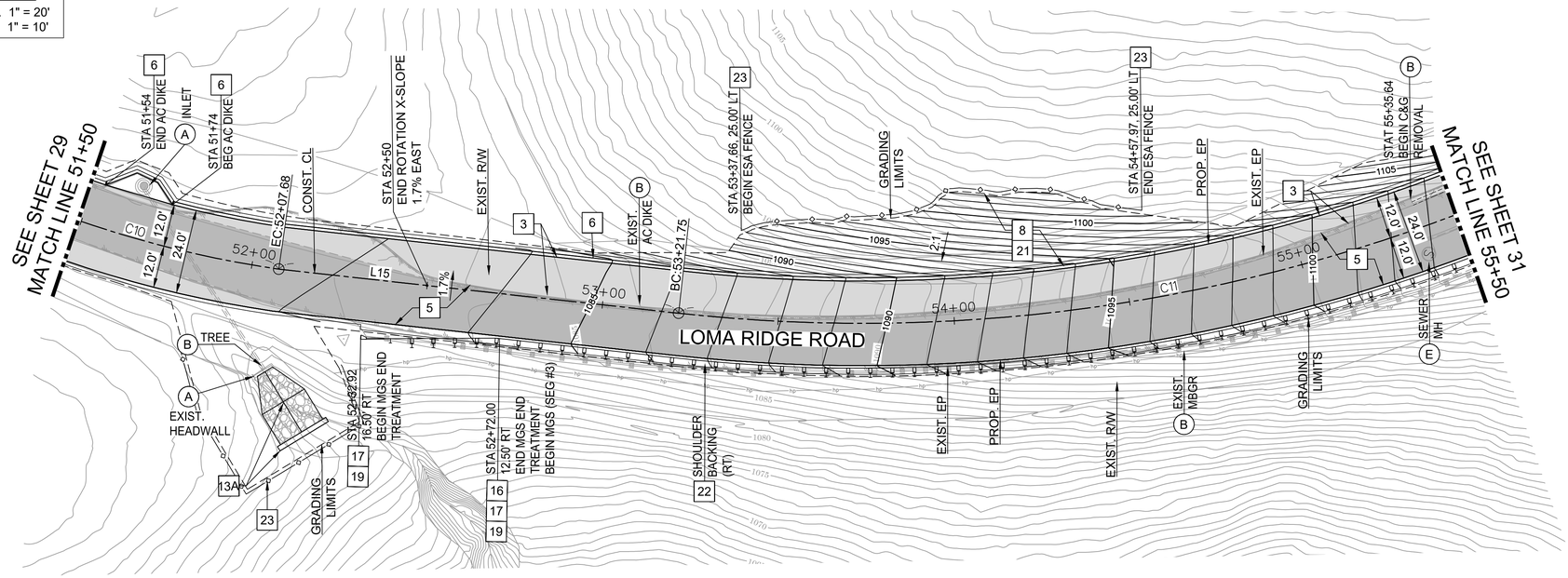
Sheet Reference Number
P-08
Sheet 29 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19821\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:19 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

3 CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA) AND 8" AB (CMB)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

8 UNCLASSIFIED EXCAVATION

13A CONSTRUCT RIP RAP ENERGY DISSIPATOR AND SILL PER DETAILS ON SHEET 16

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

17 CONSTRUCT 31" FLARED TERMINAL SYSTEM END TREATMENT (FLEAT-SP-MSG)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

21 TEMPORARY HYDRAULIC MULCH

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

23 INSTALL TEMPORARY FENCE (TYPE ESA)

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

(E) ADJUST TO GRADE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L15	114.08'	S16°20'00.88"E

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C10	15°37'11"	310.00'	84.51'	42.52'
C11	33°44'38"	475.00'	279.75'	144.06'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

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REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67736 Exp. 6/30/23 CIVIL State of California
JUSAM LEE
DATE 01/07/22

DESIGNED BY: JUSAM LEE, P.E.
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PLOT DATE: AS SHOWN
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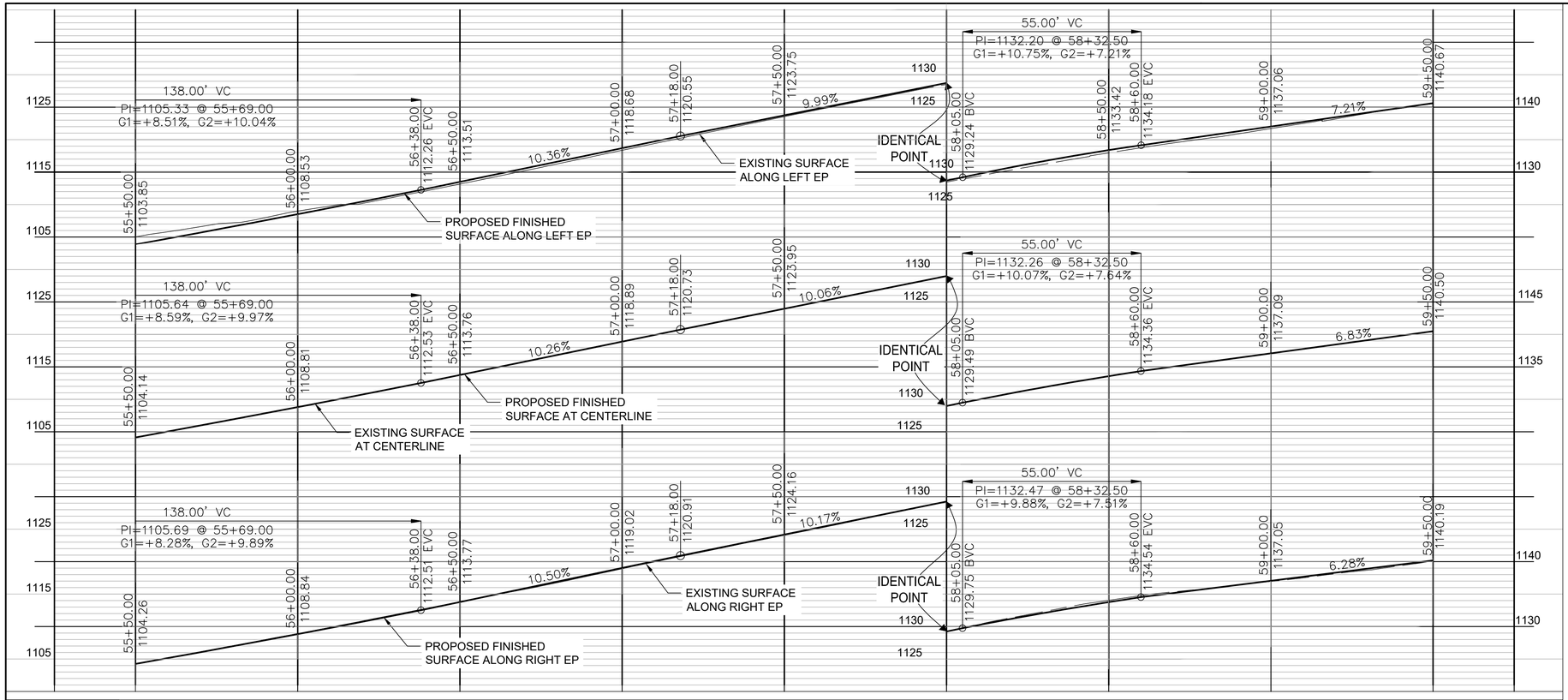
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION
PLAN AND PROFILE
STA 51+50 TO
STA 55+50

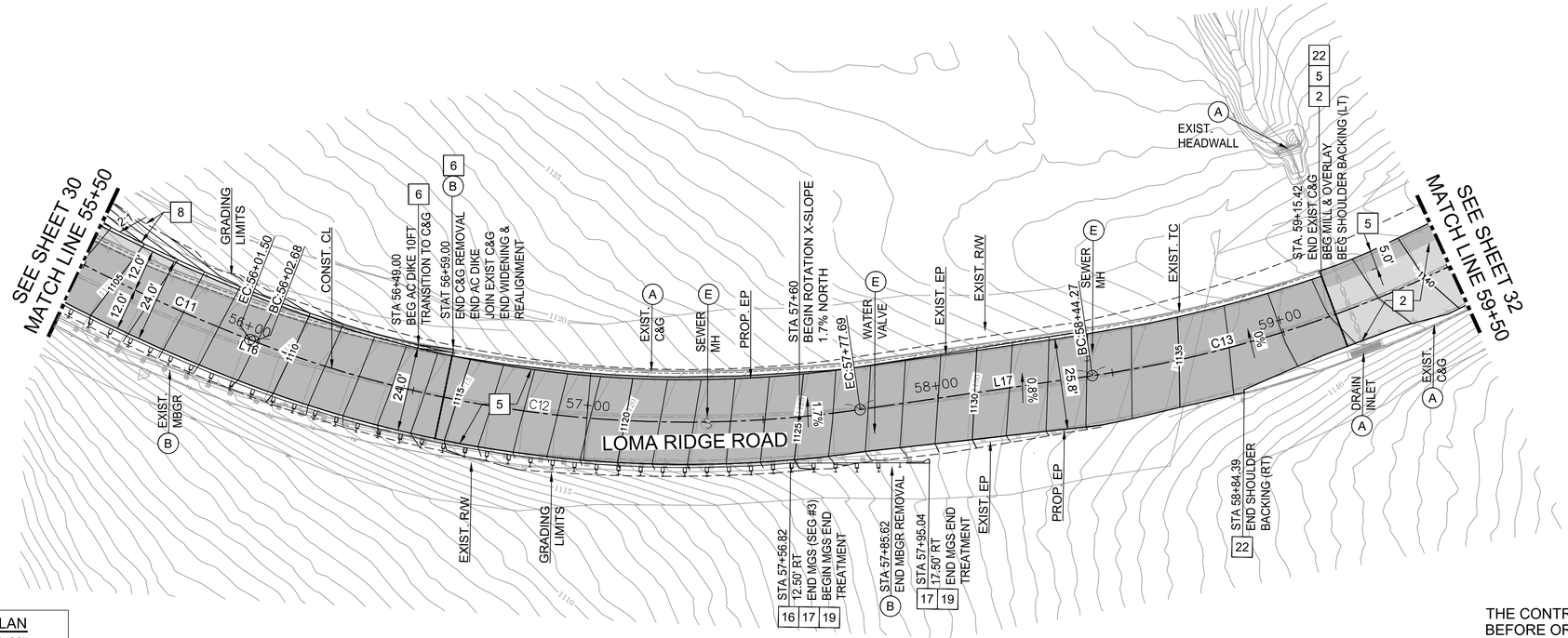
Sheet Reference Number
P-09
Sheet 30 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19B21\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:20 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

2 2" COLD MILL AC AND OVERLAY 2" AC (III-C3-PG64-10WMA)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

6 CONSTRUCT TYPE A DIKE (AC 6") PER CALTRANS STD PLAN A87B

8 UNCLASSIFIED EXCAVATION

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

17 CONSTRUCT 31" FLARED TERMINAL SYSTEM END TREATMENT (FLEAT-SP-MSG)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

(E) ADJUST TO GRADE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L16	1.18'	S50°04'39.31"E
L17	66.58'	S79°34'11.00"E

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C12	29°29'32"	340.00'	175.01'	89.49'
C13	40°59'58"	350.00'	250.44'	130.85'

N

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

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01/07/22 DATE
JUSAM LEE

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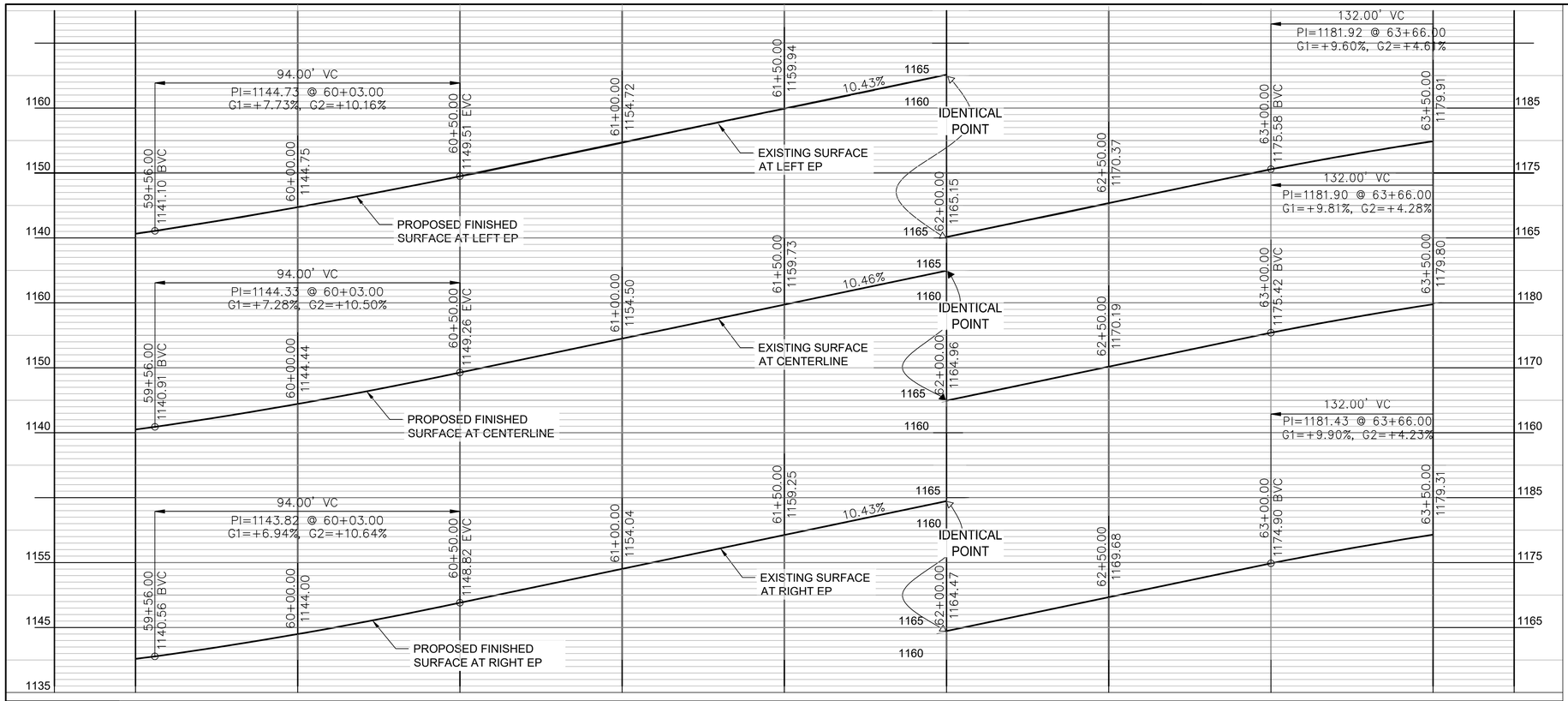
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION
PLAN AND PROFILE
STA 55+50 TO
STA 59+50

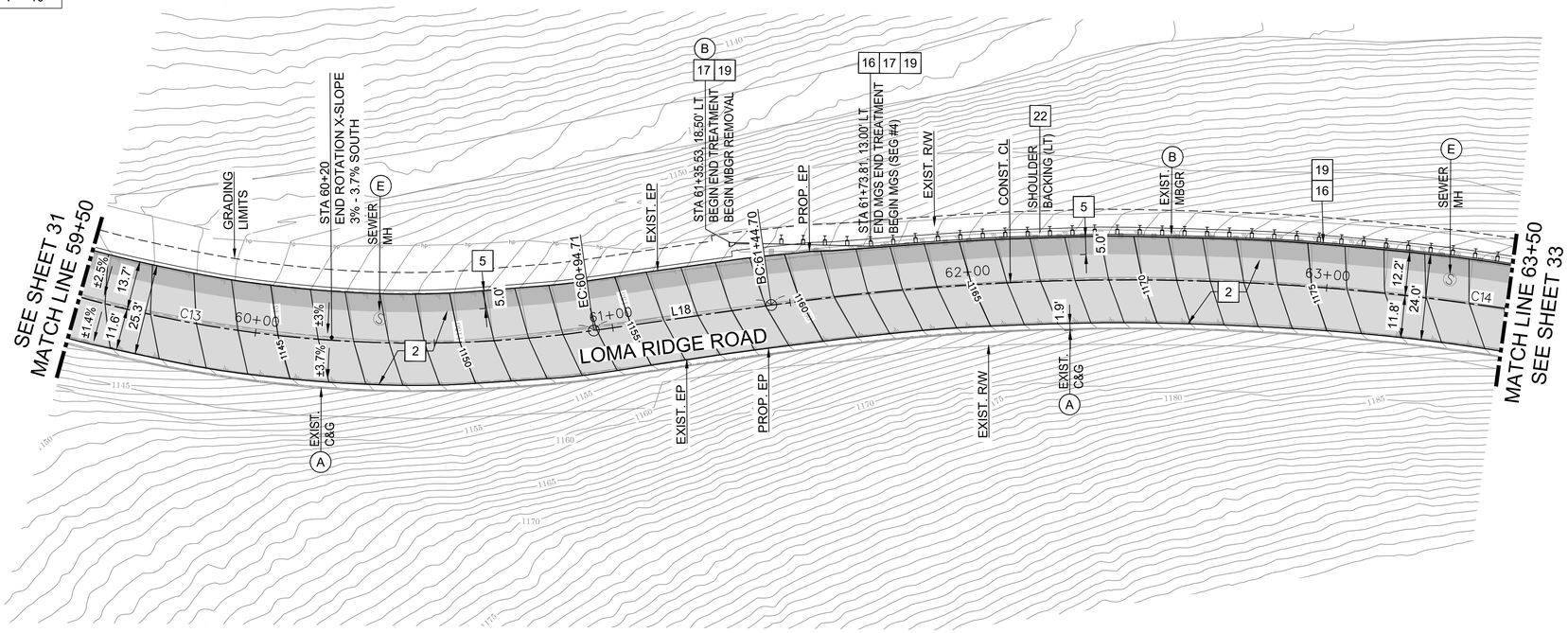
Sheet Reference Number
P-10
Sheet 31 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19B21\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

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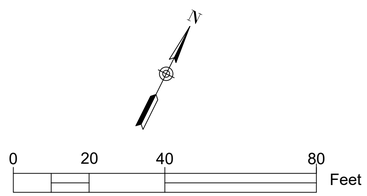
PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

LINE TABLE		
LINE #	LENGTH	DIRECTION
L18	50.00'	N59°25'51.00"E

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C13	40°59'58"	350.00'	250.44'	130.85'
C14	32°30'00"	700.00'	397.04'	204.02'



THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

ROADWAY CONSTRUCTION NOTES

2 2" COLD MILL AC AND OVERLAY 2" AC (III-C3-PG64-10WMA).

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS).

17 CONSTRUCT 31" FLARED TERMINAL SYSTEM END TREATMENT (FLEAT-SP-MSG).

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4.

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

(E) ADJUST TO GRADE

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67736
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA
01/07/22
DATE
JUSAM LEE

DESIGNED BY: JUSAM LEE, P.E.
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

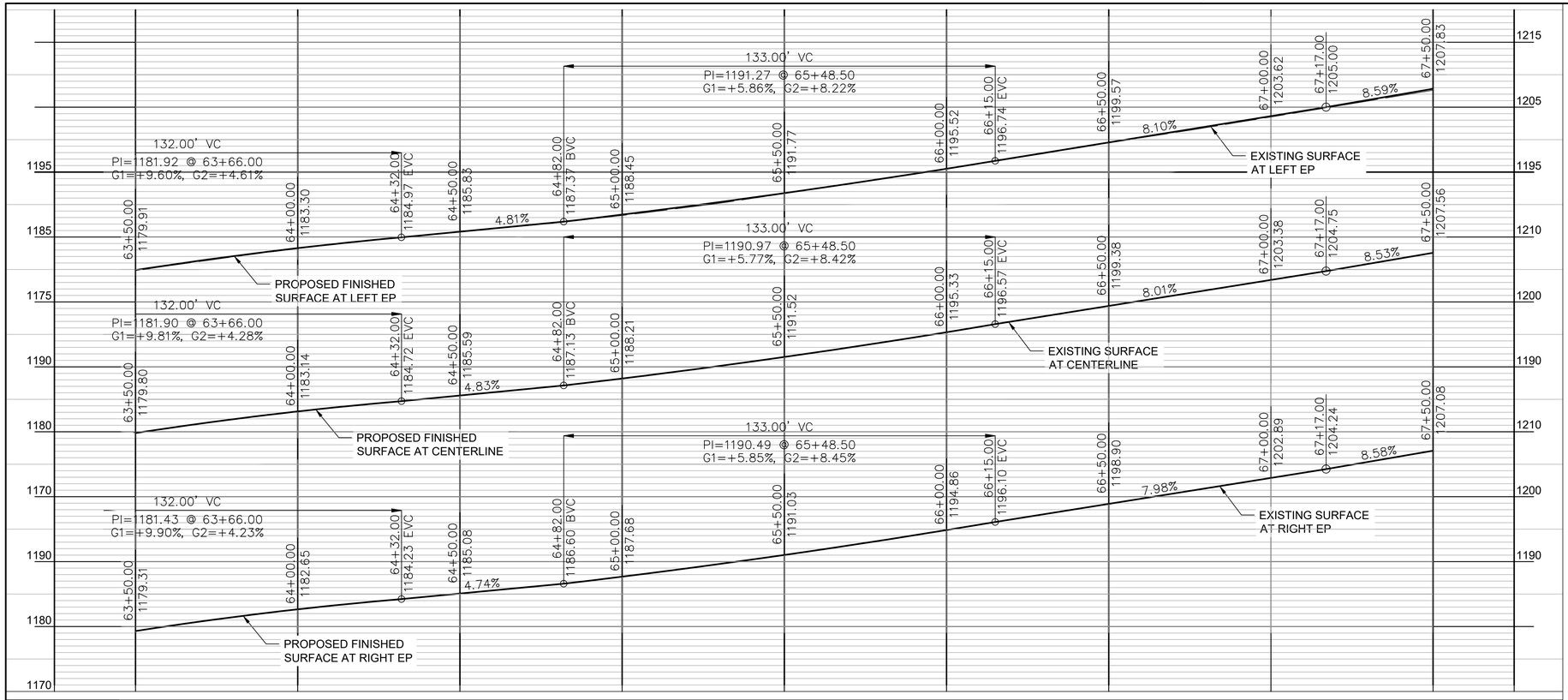
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION
PLAN AND PROFILE
STA 59+50 TO
STA 63+50

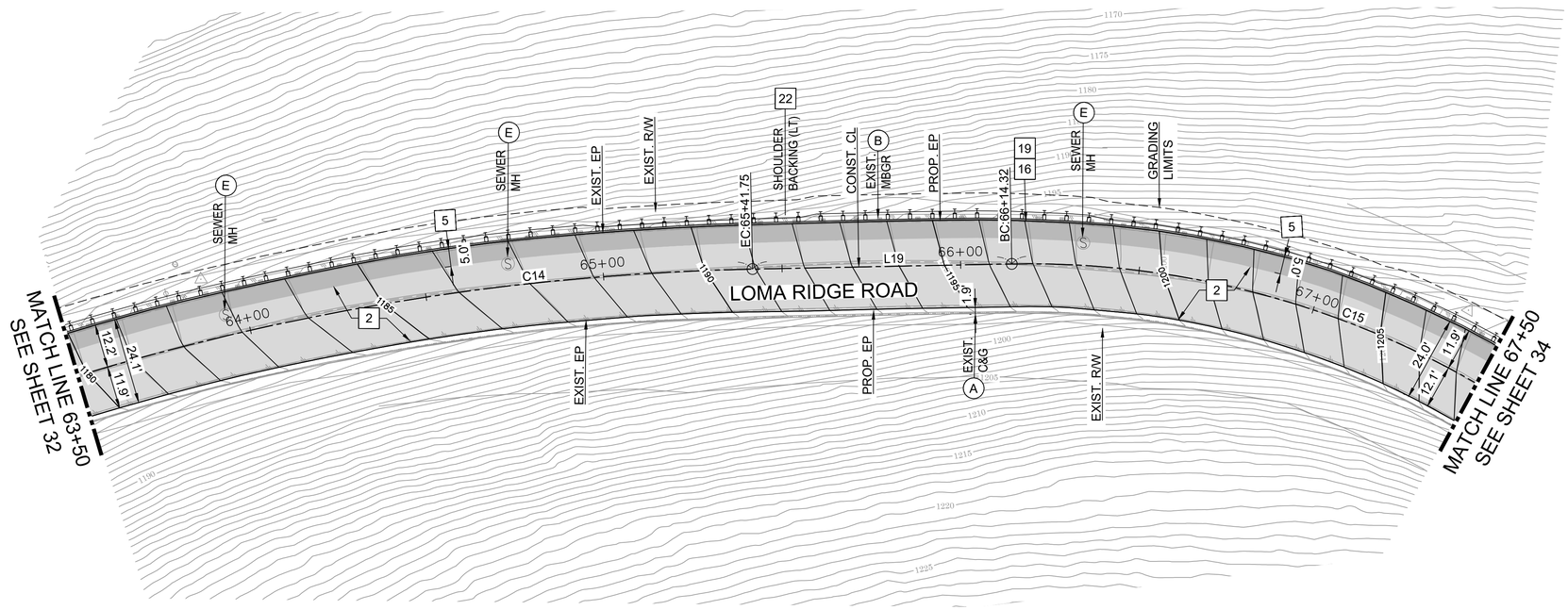
Sheet Reference Number
P-11
Sheet 32 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19B21\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:20 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

2 2" COLD MILL AC AND OVERLAY 2" AC (III-C3-PG64-10WMA)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

(E) ADJUST TO GRADE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L19	72.58'	S88°04'09.00"E

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C14	32°30'00"	700.00'	397.04'	204.02'
C15	74°00'03"	250.00'	322.87'	188.38'

N

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67736 Exp. 6/30/23 CIVIL STATE OF CALIFORNIA
01/07/22 DATE
JUSAM LEE

DESIGNED BY: JUSAM LEE, P.E.
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

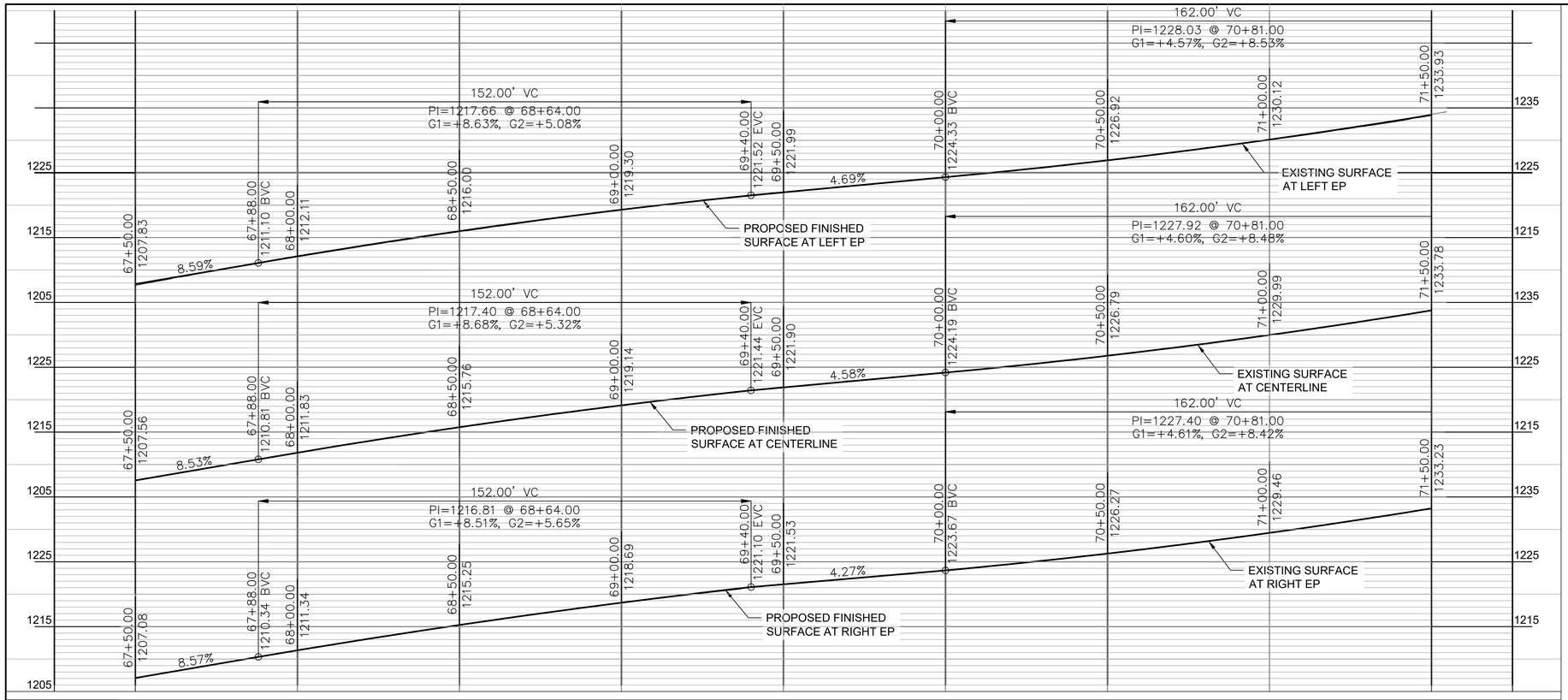
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION
PLAN AND PROFILE
STA 63+50 TO
STA 67+50

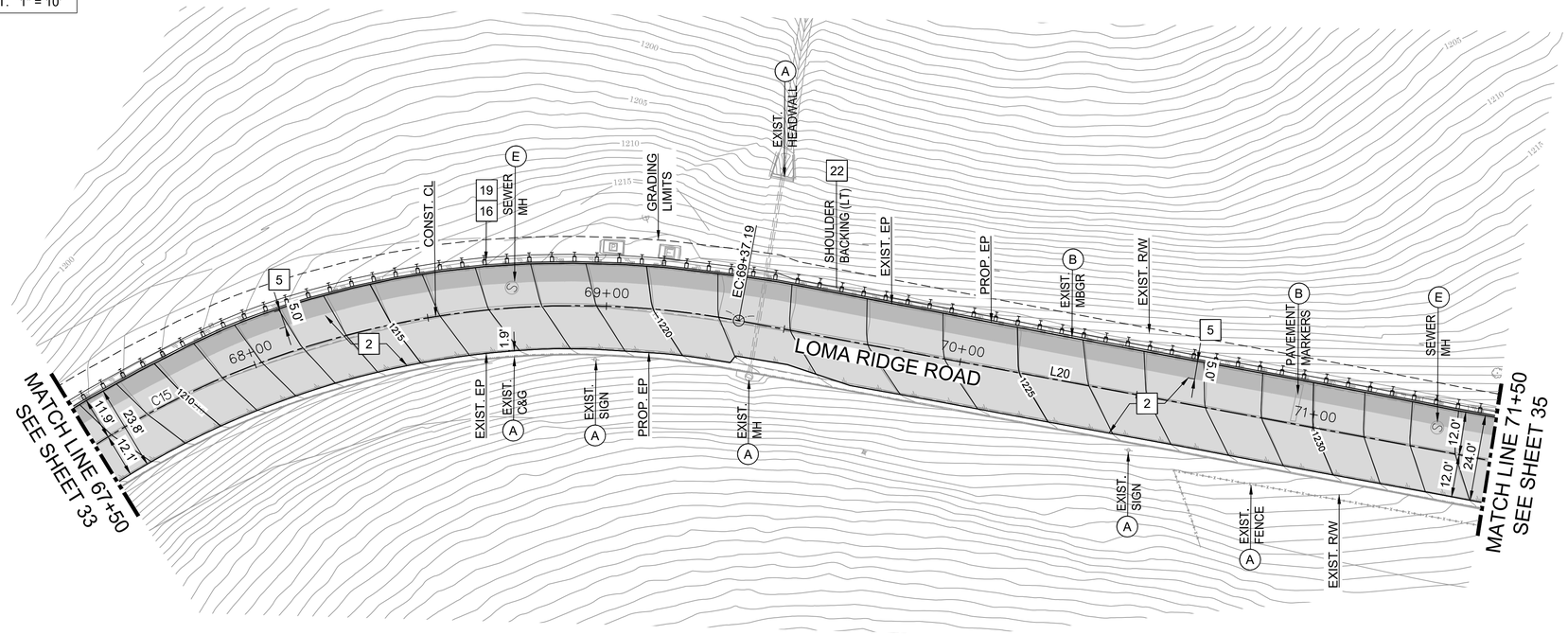
Sheet Reference Number
P-12
Sheet 33 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO18621\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:21 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

LINE TABLE		
LINE #	LENGTH	DIRECTION
L20	230.08'	S14°04'06.00"E

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C15	74°00'03"	250.00'	322.87'	188.38'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

ROADWAY CONSTRUCTION NOTES

2 2" COLD MILL AC AND OVERLAY 2" AC (III-C3-PG64-10WMA)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

(E) ADJUST TO GRADE

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
JUSAM LEE
DATE 01/07/22

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67736
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA

DESIGNED BY: JUSAM LEE, P.E.
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

PLAN AND PROFILE
STA 67+50 TO
STA 71+50

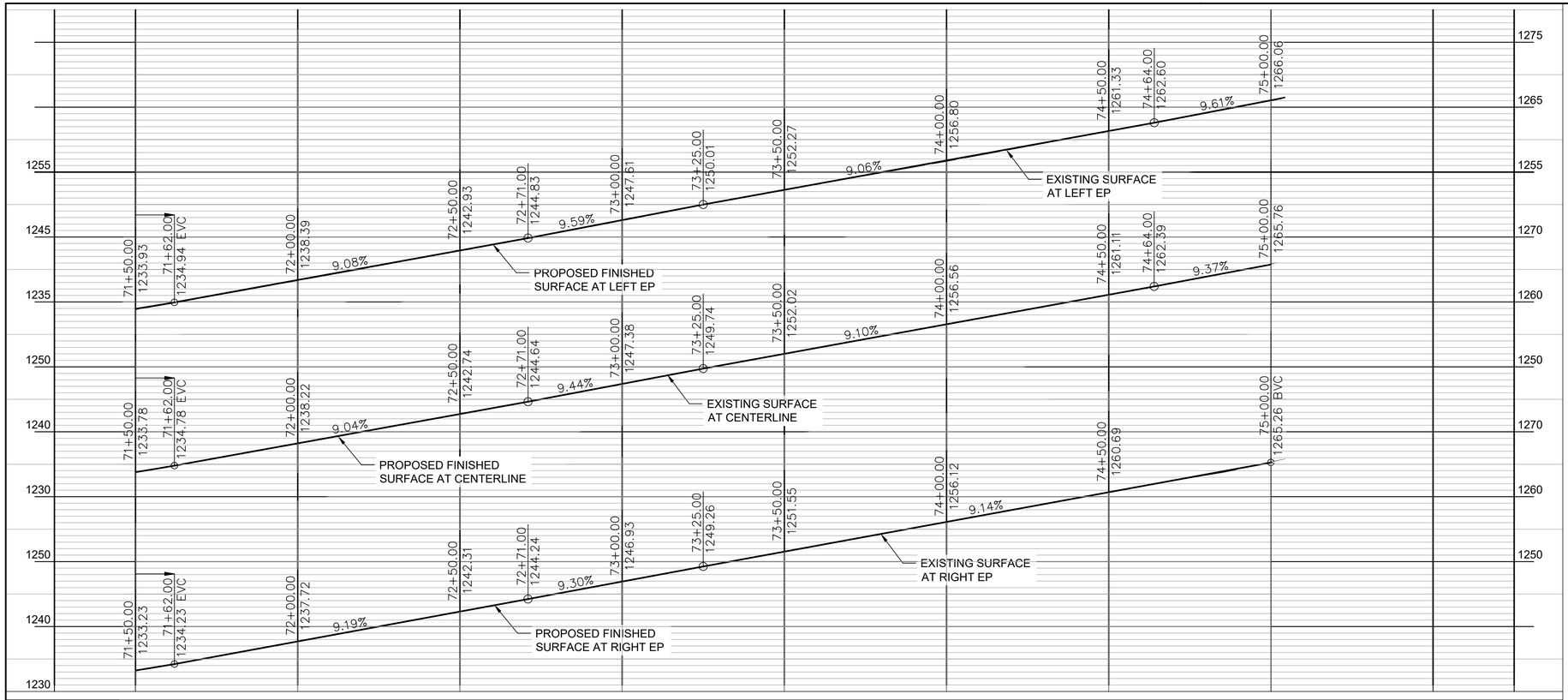
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P-13

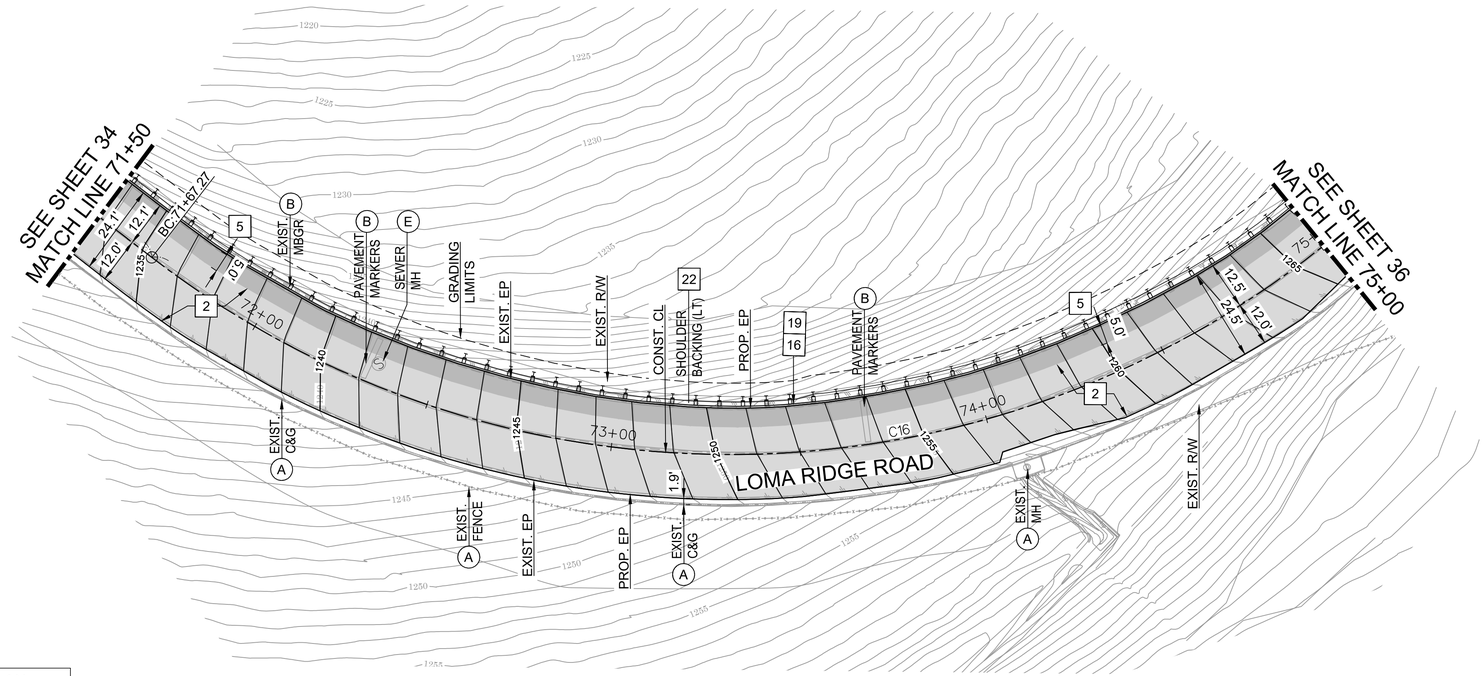
Sheet 34 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19B21\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:21 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C16	96°01'22"	250.00'	418.96'	277.75'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

ROADWAY CONSTRUCTION NOTES

2 2" COLD MILL AC AND OVERLAY 2" AC (III-C3-PG64-10WMA)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

(E) ADJUST TO GRADE

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67736 Exp. 6/30/23 CIVIL STATE OF CALIFORNIA
01/07/22 DATE
JUSAM LEE

DESIGNED BY: JUSAM LEE, P.E.
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

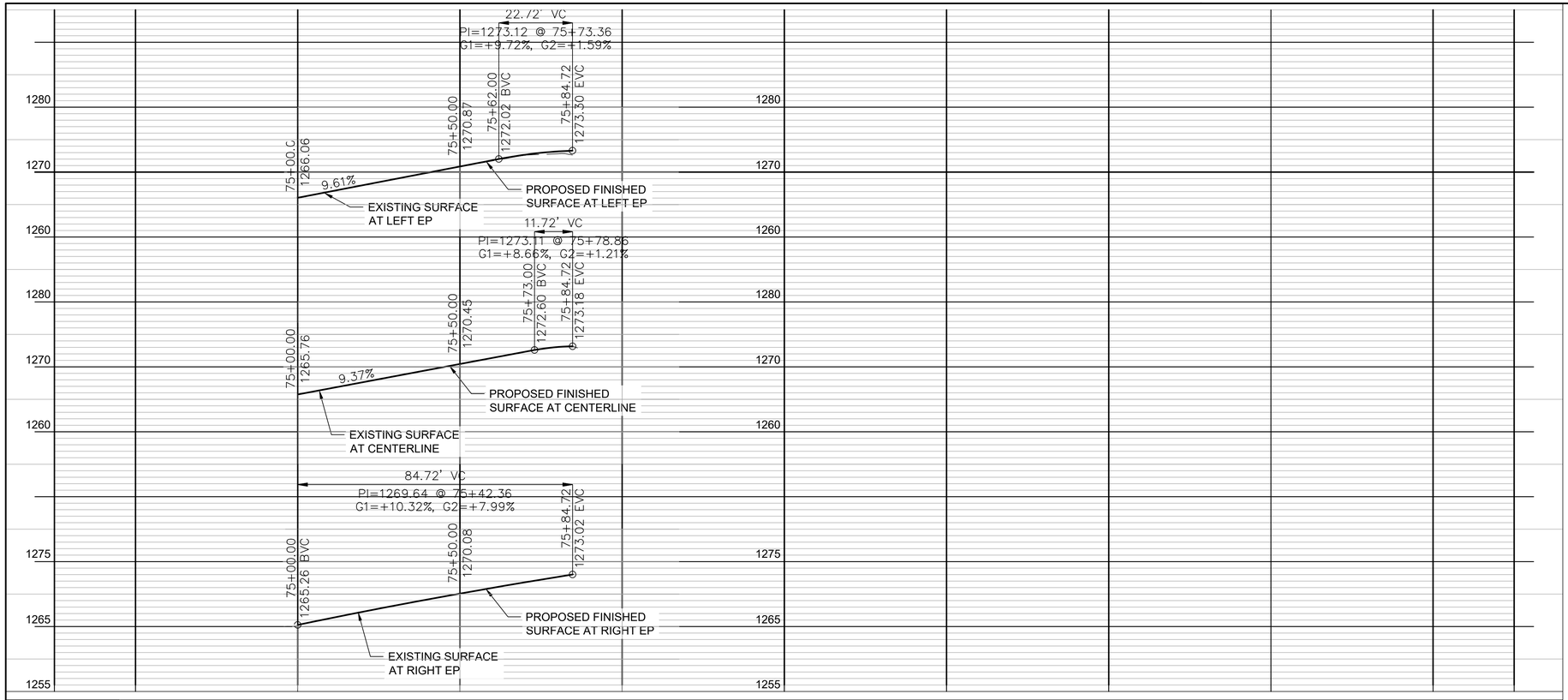
COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION
PLAN AND PROFILE
STA 71+50 TO
STA 75+00

Sheet Reference Number
P-14
Sheet 35 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19B21\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:22 AM ocpw.ctb



PROFILE
HORIZ. 1" = 20'
VERT. 1" = 10'



PLAN
1"=20'

ROADWAY CONSTRUCTION NOTES

2 2" COLD MILL AC AND OVERLAY 2" AC (III-C3-PG64-10WMA)

5 REMOVE ENTIRE EXISTING AC PAVEMENT SECTION (±5" AC) AND CONSTRUCT 5" AC (2" SURFACE COURSE: III-C3-PG64-10WMA, 3" BASE COURSE: III-B3-PG64-10WMA)

16 CONSTRUCT MIDWEST GUARDRAIL SYSTEM (MGS) WITH STEEL POST (7' OR 9') AND NOTCHED WOOD BLOCK PER CALTRANS REVISED STANDARD PLAN RSP A77L1, RSP A77N1, RSP A77N3, AND RSP A77R4 AND TYPICAL SECTION AS SHOWN ON PLAN (SEE DETAILS)

19 INSTALL FLEXIBLE GUARDRAIL DELINEATORS, TYPE E, PER CALTRANS REVISED STANDARD PLAN RSP A77N4

20 CONSTRUCT DEAD END GUARDRAIL SYSTEM AND SIGNING PER OCPW STD PLAN 1401

22 SHOULDER BACKING (CMB) FOR MIN. HW=2' (6" THICKNESS): SHOULDER BACKING SHOULD NOT BE PLACED ON EXISTING SIDE SLOPES WHERE IT CANNOT ACHIEVE AT LEAST A 6:1 CROSS SLOPE AND A HINGE WIDTH OF AT LEAST 2 FT

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE

(B) REMOVE

(E) ADJUST TO GRADE

CURVE TABLE				
No.	DELTA	RADIUS	LENGTH	TANGENT
C16	96°01'22"	250.00'	418.96'	277.75'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
JUSAM LEE
DATE 01/07/22

REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67736 Exp. 6/30/23 CIVIL STATE OF CALIFORNIA

DESIGNED BY: JUSAM LEE, P.E.
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD RECONSTRUCTION

PLAN AND PROFILE STA 75+00 TO STA END

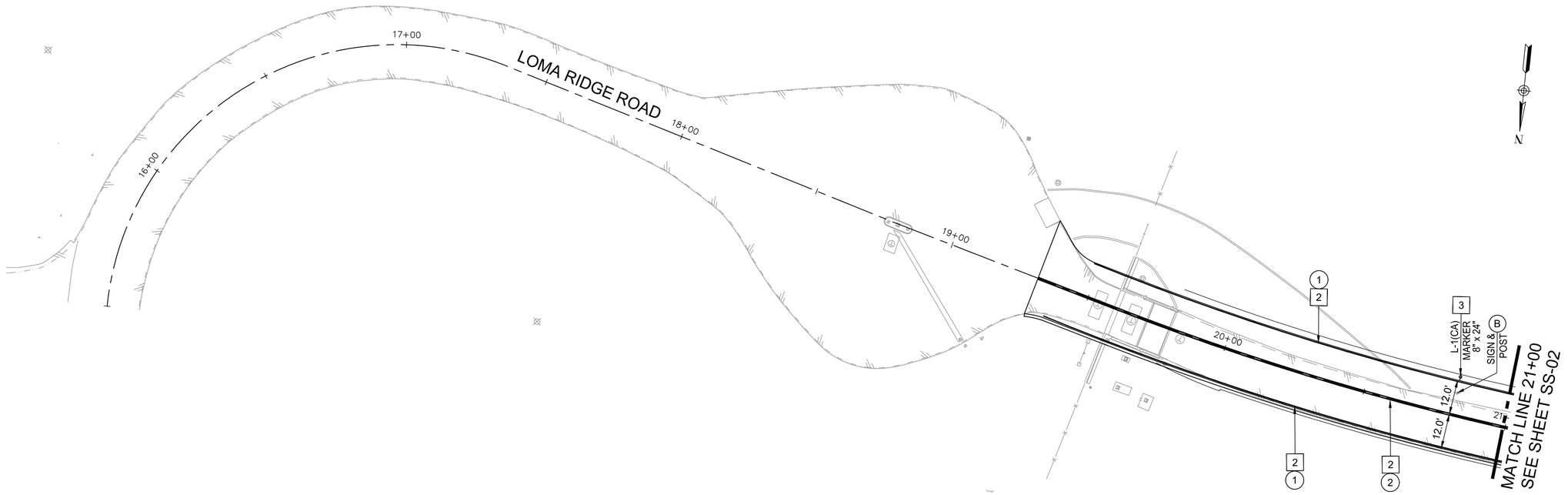
Sheet Reference Number

P-15

Sheet 36 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO18621\DESIGN\SHEETS\07 - LOMA RIDGE - PLAN AND PROFILE.DWG

DATE PLOTTED : 1/20/2022 8:22 AM ocpw.ctb



PLAN
1"=20'

0 20 40 80 Feet

SIGNING AND STRIPING CONSTRUCTION NOTES

1. PROTECT IN PLACE
2. PAINT (2 COATS)
3. INSTALL NEW SIGN AND POST AS SHOWN ON PLANS

SIGNING AND STRIPING NOTES

(1) 6" SOLID WHITE LINE PER CALTRANS STD PLAN A20B DETAIL 27B.

(2) 6" DOUBLE YELLOW LANE LINE PER CALTRANS STD PLAN A20A AND DETAIL 22

REMOVAL AND DISPOSITION

(B) REMOVE

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA
01/07/22
DATE
JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SIGNING & STRIPING
BEGINNING TO STA 21+00

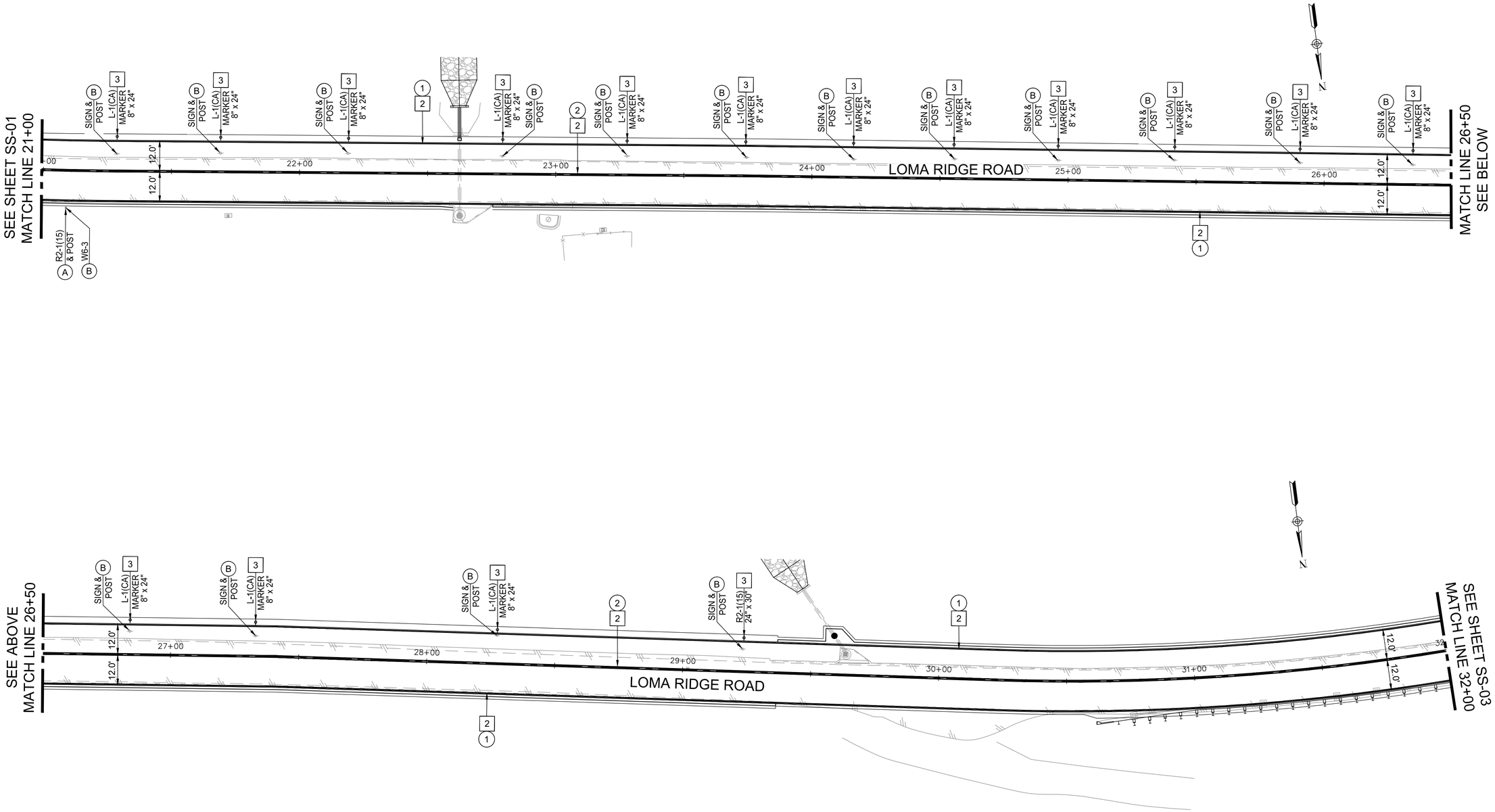
Sheet Reference Number

SS-01

Sheet 37 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN !!\LOMA RIDGE_ROAD TO EOC EG19821\DESIGN\SHEETS\08 - LOMA RIDGE - SIGNING AND STRIPING.DWG

DATE PLOTTED : 1/20/2022 8:22 AM ocpw.ctb



PLAN
1"=20'

0 20 40 80 Feet

SIGNING AND STRIPING CONSTRUCTION NOTES

2 PAINT (2 COATS)

3 INSTALL NEW SIGN AND POST AS SHOWN ON PLANS

SIGNING AND STRIPING NOTES

(1) 6" SOLID WHITE LINE PER CALTRANS STD PLAN A20B DETAIL 27B.

(2) 6" DOUBLE YELLOW LANE LINE PER CALTRANS STD PLAN A20A AND DETAIL 22

REMOVAL AND DISPOSITION

(B) REMOVE

SPEED LIMIT 15

R2-1 (15) 24"x30"

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SIGNING & STRIPING
STA 21+00 TO STA 32+00

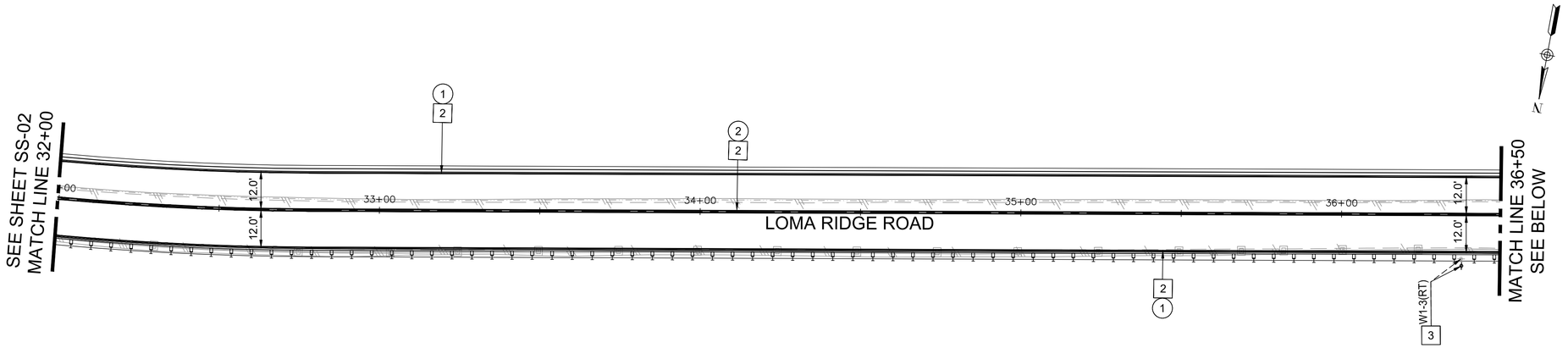
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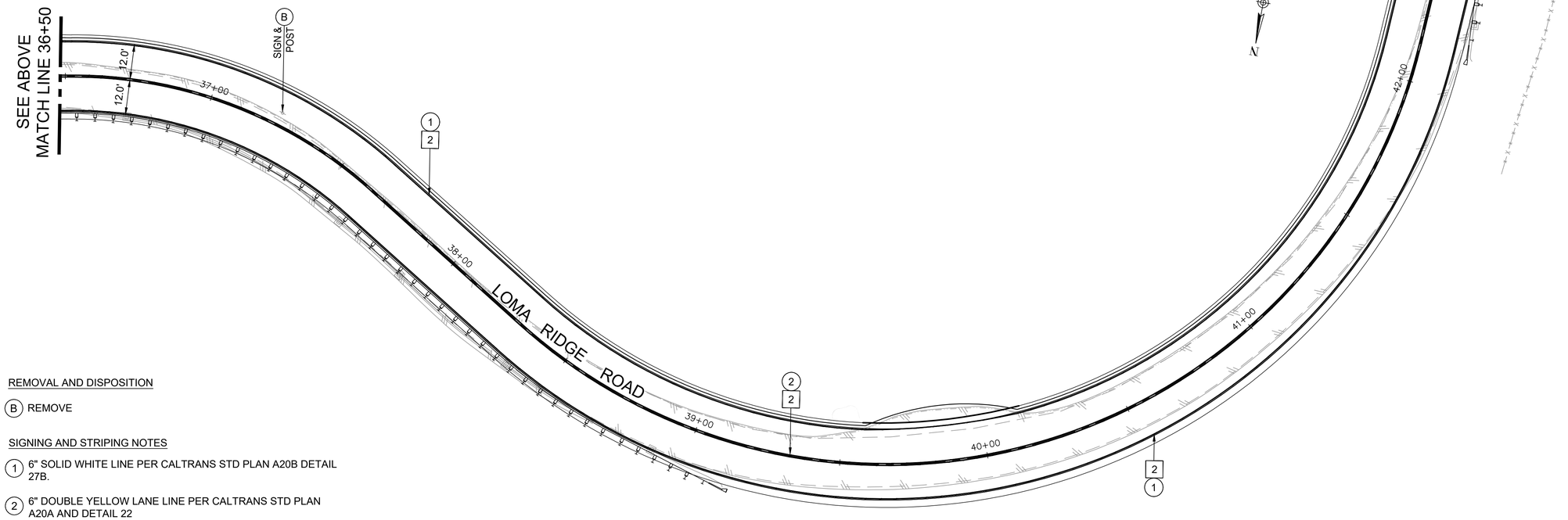
SS-02

Sheet 38 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EQ19821\DESIGN\SHEETS\08 - LOMA RIDGE - SIGNING AND STRIPING.DWG

DATE PLOTTED : 1/20/2022 8:23 AM ocpw.ctb





REMOVAL AND DISPOSITION

(B) REMOVE

SIGNING AND STRIPING NOTES

(1) 6" SOLID WHITE LINE PER CALTRANS STD PLAN A20B DETAIL 27B.

(2) 6" DOUBLE YELLOW LANE LINE PER CALTRANS STD PLAN A20A AND DETAIL 22

SIGNING AND STRIPING CONSTRUCTION NOTES

[2] PAINT (2 COATS)

[3] INSTALL NEW SIGN AND POST AS SHOWN ON PLANS

W1-3R
36"x36"

PLAN
1"=20'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SIGNING & STRIPING
STA 32+00 TO STA 42+50

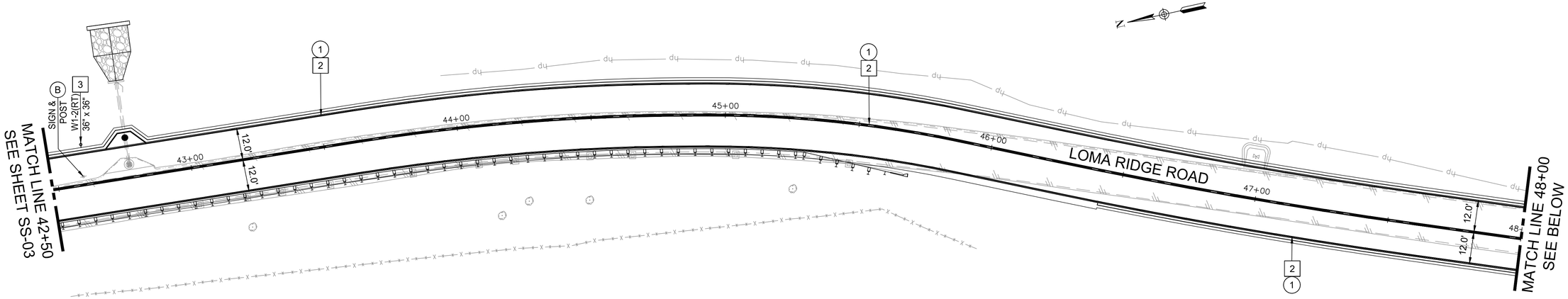
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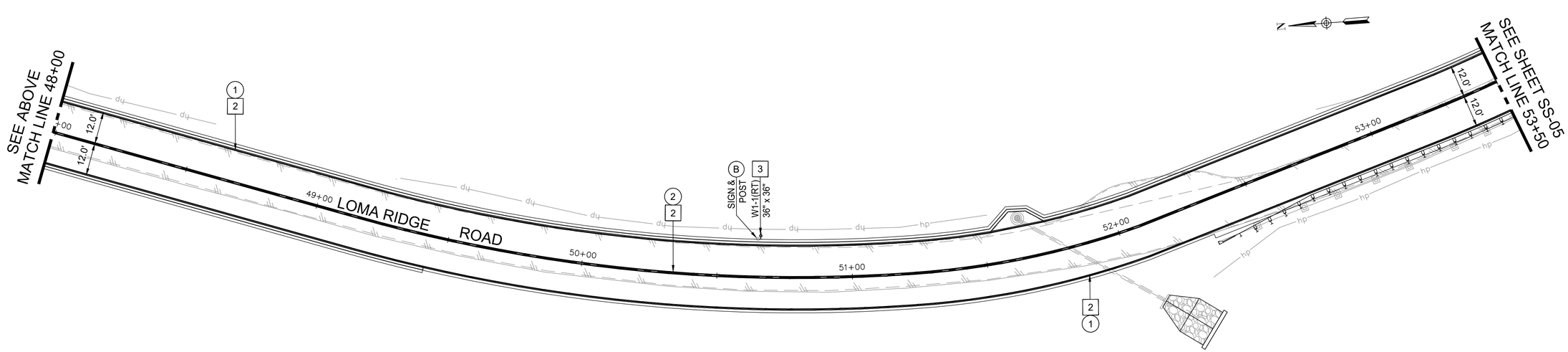
SS-03

Sheet 39 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN !!\LOMA RIDGE_ROAD TO EOC EG19821\DESIGN\SHEETS\08 - LOMA RIDGE - SIGNING AND STRIPING.DWG

DATE PLOTTED : 1/20/2022 8:23 AM ocpw.ctb









PLAN
1"=20'

0 20 40 80 Feet

SIGNING AND STRIPING CONSTRUCTION NOTES

2 PAINT (2 COATS)

3 INSTALL NEW SIGN AND POST AS SHOWN ON PLANS

SIGNING AND STRIPING NOTES

1 6" SOLID WHITE LINE PER CALTRANS STD PLAN A20B DETAIL 27B.

2 6" DOUBLE YELLOW LANE LINE PER CALTRANS STD PLAN A20A AND DETAIL 22

REMOVAL AND DISPOSITION

B REMOVE

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

JUSAM LEE

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SIGNING & STRIPING
STA 42+50 TO STA 53+50

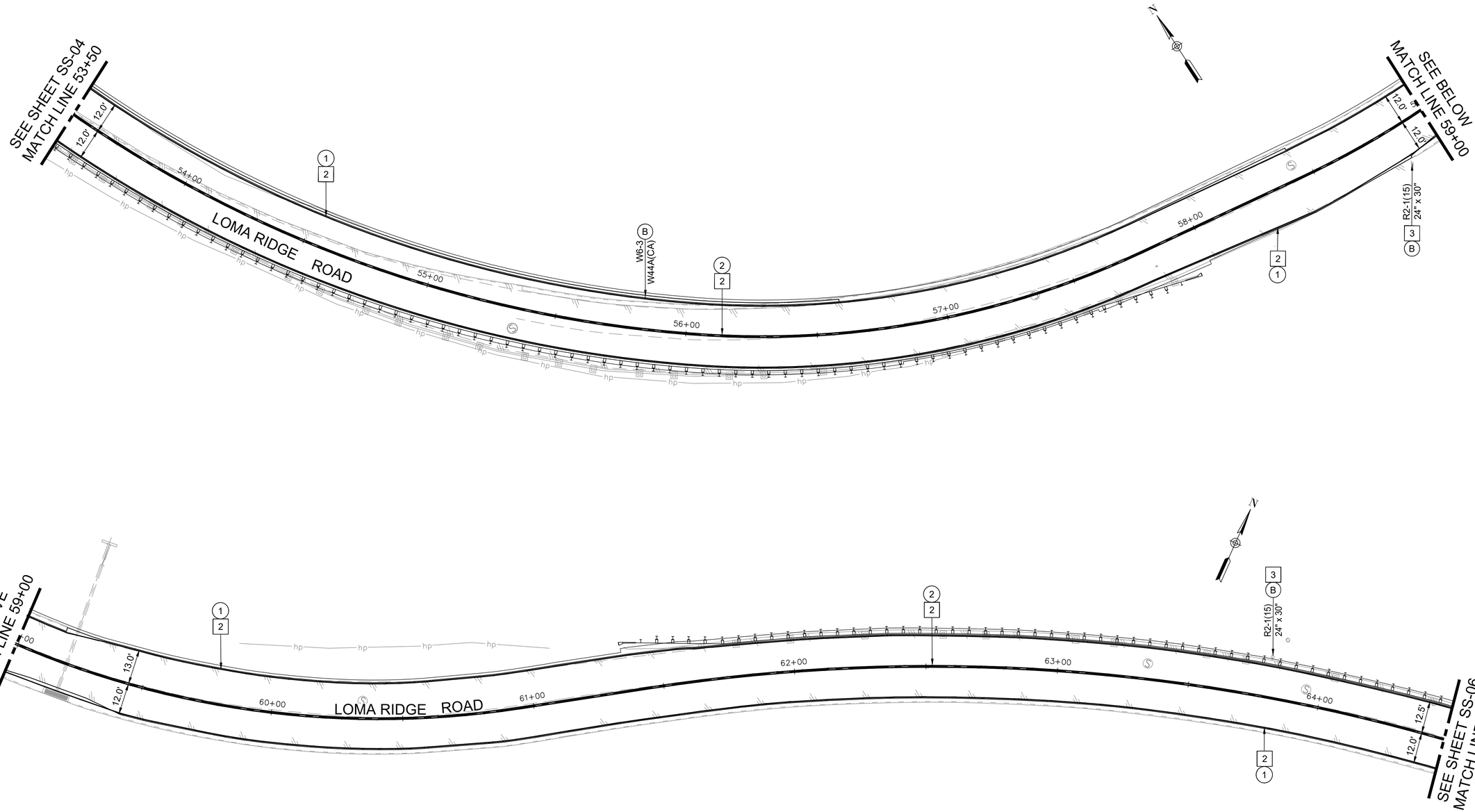
Sheet Reference Number

SS-04

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FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EG19921\DESIGN\SHEETS\08 - LOMA RIDGE - SIGNING AND STRIPING.DWG

DATE PLOTTED : 1/20/2022 8:23 AM ocpw.ctb



PLAN
1"=20'

0 20 40 80 Feet

SIGNING AND STRIPING CONSTRUCTION NOTES

2 PAINT (2 COATS)

3 INSTALL NEW SIGN AND POST AS SHOWN ON PLANS

SIGNING AND STRIPING NOTES

(1) 6" SOLID WHITE LINE PER CALTRANS STD PLAN A20B DETAIL 27B.

(2) 6" DOUBLE YELLOW LANE LINE PER CALTRANS STD PLAN A20A AND DETAIL 22

REMOVAL AND DISPOSITION

(B) REMOVE

SPEED LIMIT 15

R2-1 (15)
24"x30"

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SIGNING & STRIPING
STA 53+50 TO STA 64+50

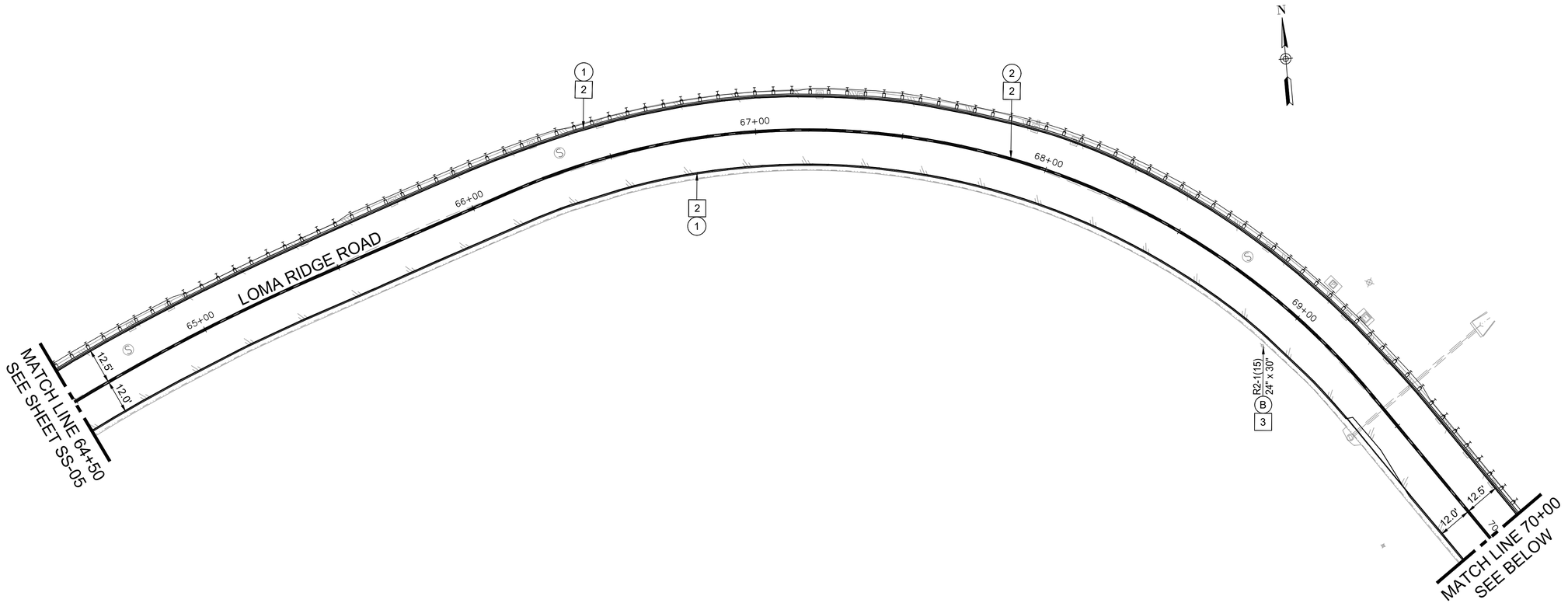
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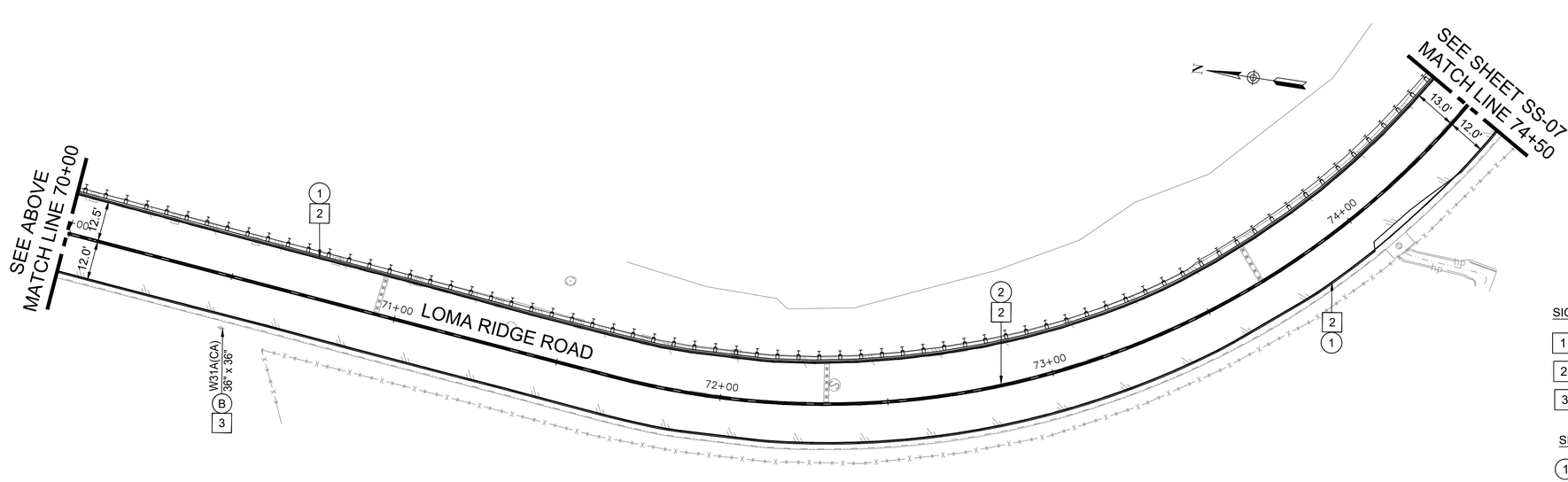
SS-05

Sheet 41 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN !\LOMA RIDGE_ROAD TO EOC EO19821\DESIGN\SHEETS\08 - LOMA RIDGE - SIGNING AND STRIPING.DWG

DATE PLOTTED : 1/20/2022 8:23 AM ocpw.ctb





SPEED LIMIT 15

R2-1 (15)
24"x30"

ROAD ENDS 500 FT

W31A (CA)
36"x36"

SIGNING AND STRIPING CONSTRUCTION NOTES

1. PROTECT IN PLACE
2. PAINT (2 COATS)
3. INSTALL NEW SIGN AND POST AS SHOWN ON PLANS

SIGNING AND STRIPING NOTES

1. 6" SOLID WHITE LINE PER CALTRANS STD PLAN A20B DETAIL 27B.
2. 6" DOUBLE YELLOW LANE LINE PER CALTRANS STD PLAN A20A AND DETAIL 22

REMOVAL AND DISPOSITION

B. REMOVE

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PLAN
1"=20'

0 20 40 80 Feet

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SIGNING & STRIPING
STA 64+50 TO STA 74+50

Sheet Reference Number

SS-06

Sheet 42 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO1982\DESIGN\SHEETS\08 - LOMA RIDGE - SIGNING AND STRIPING.DWG

DATE PLOTTED : 2/16/2022 10:27 AM ocpw-f.ctb

SIGNING AND STRIPING CONSTRUCTION NOTES

2 PAINT (2 COATS)

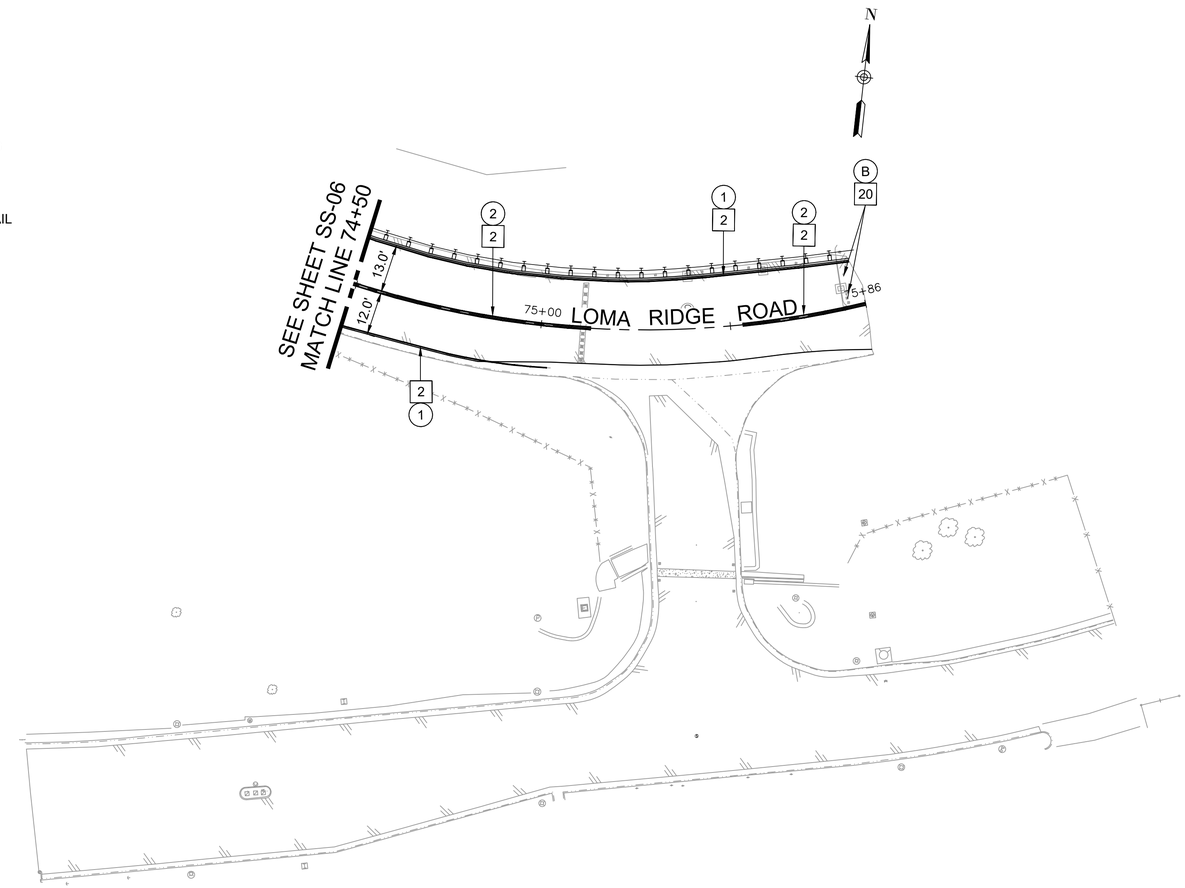
3 INSTALL NEW SIGN AND POST AS SHOWN ON PLANS

20 CONSTRUCT DEAD END GUARDRAIL SYSTEM AND SIGNING PER OCPW STD PLAN 1401

SIGNING AND STRIPING NOTES

(1) 6" SOLID WHITE LINE PER CALTRANS STD PLAN A20B DETAIL 27B.

(2) 6" DOUBLE YELLOW LANE LINE PER CALTRANS STD PLAN A20A AND DETAIL 22



PLAN
1"=20'

0 20 40 80
Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
JUSAM LEE
REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA
01/07/22
DATE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

SIGNING & STRIPING
STA 74+50 TO STA END

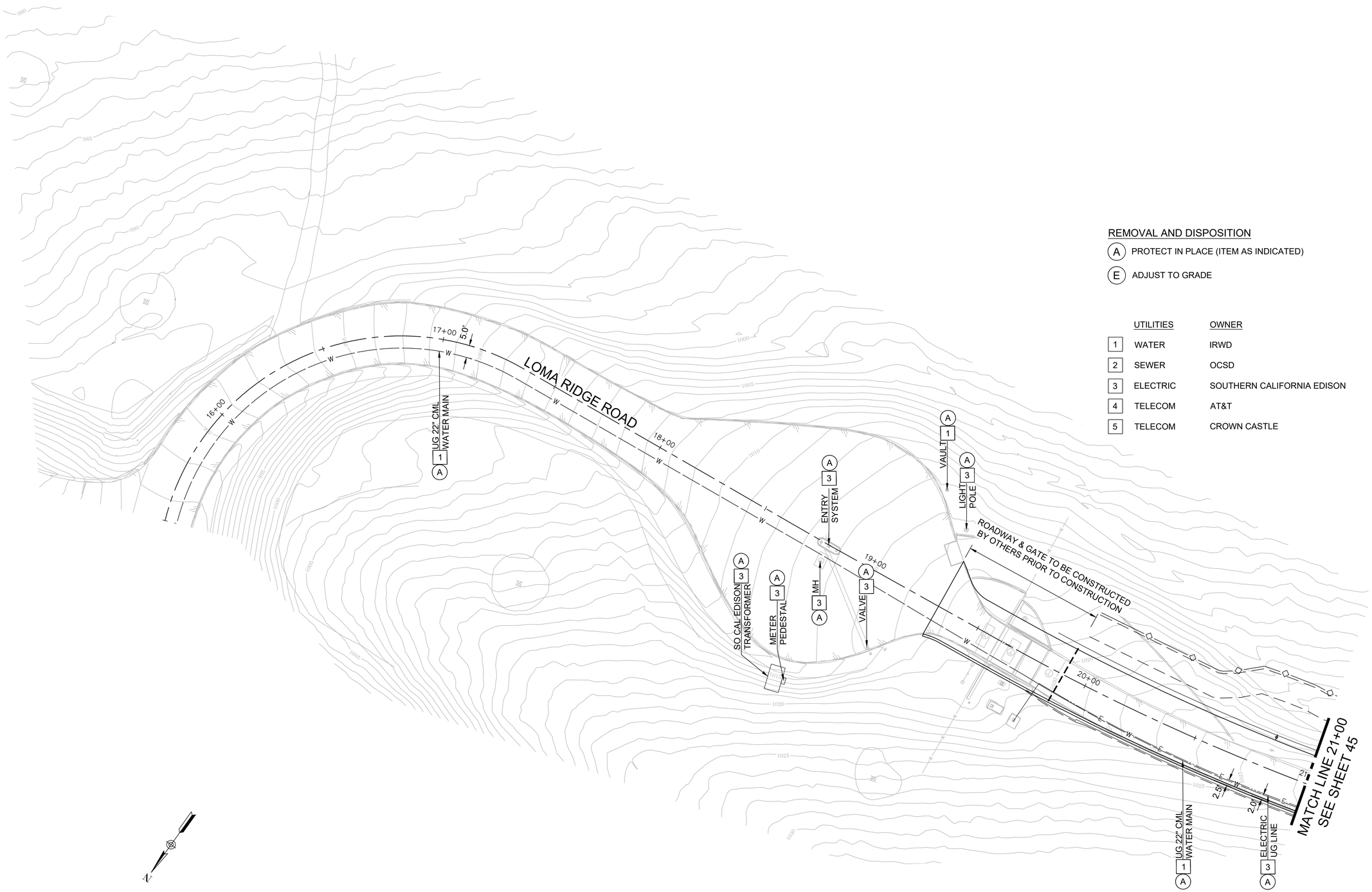
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Reference
Number

SS-07

Sheet 43 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO1962\1DESIGN\SHEETS\08 - LOMA RIDGE - SIGNING AND STRIPING.DWG

DATE PLOTTED : 1/20/2022 8:23 AM ocpw.ctb



REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE (ITEM AS INDICATED)

(E) ADJUST TO GRADE

	UTILITIES	OWNER
1	WATER	IRWD
2	SEWER	OCSD
3	ELECTRIC	SOUTHERN CALIFORNIA EDISON
4	TELECOM	AT&T
5	TELECOM	CROWN CASTLE

PLAN
1"=20'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

JUSAM LEE — DATE 01/07/22

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY PLAN
SANTIAGO CANYON RD
TO STA 21+00

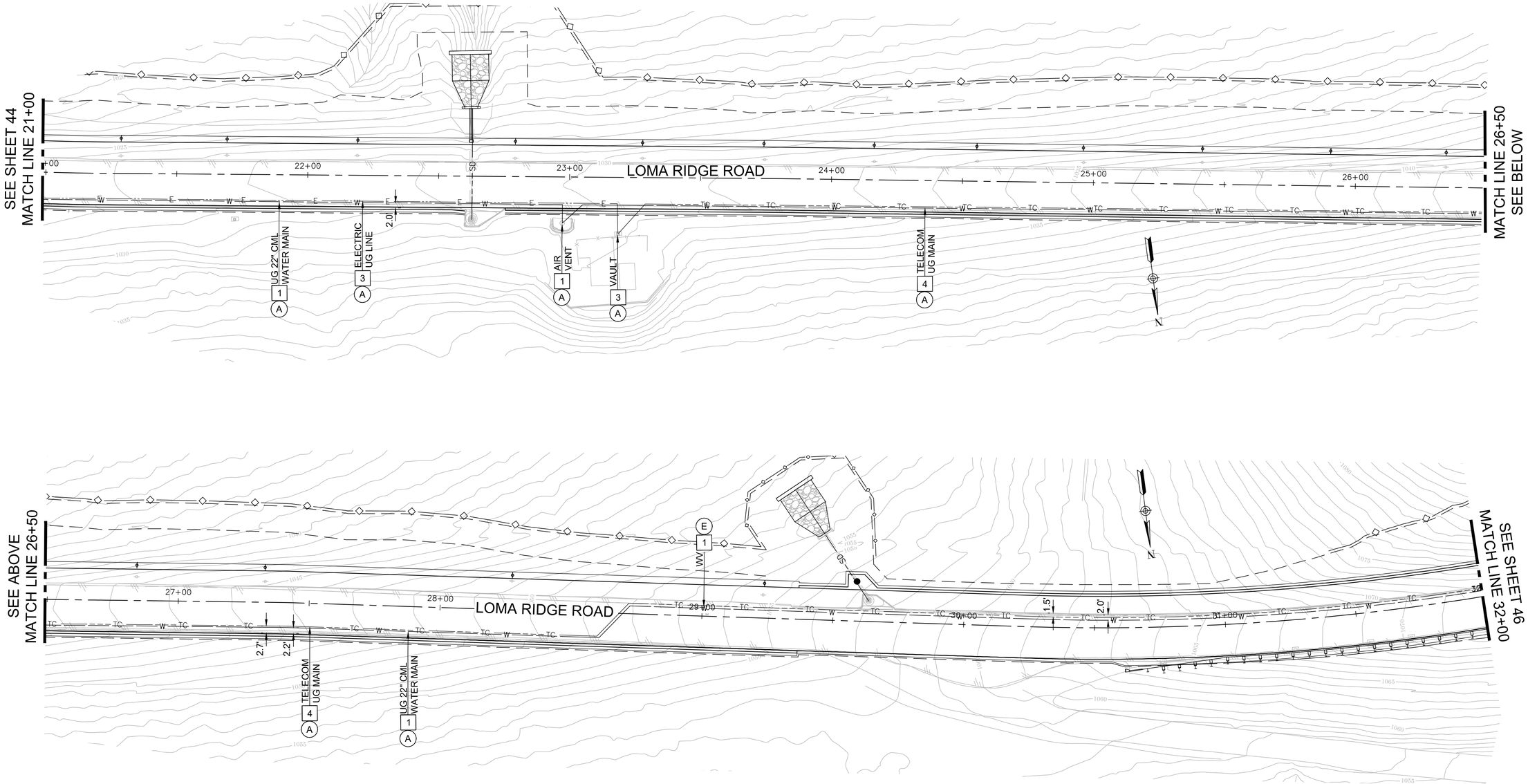
Sheet Reference Number

UT-01

Sheet 44 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC EO19\21\DESIGN\SHEETS\09 - LOMA RIDGE - UTILITY PLAN.DWG

DATE PLOTTED : 1/20/2022 8:24 AM ocpw.ctb



PLAN
1"=20'

0 20 40 80 Feet

	UTILITIES	OWNER
1	WATER	IRWD
2	SEWER/SD	OCSD
3	ELECTRIC	SOUTHERN CALIFORNIA EDISON
4	TELECOM	AT&T
5	TELECOM	CROWN CASTLE

REMOVAL AND DISPOSITION

- (A) PROTECT IN PLACE (ITEM AS INDICATED)
- (B) REMOVE (ITEM AS INDICATED)
- (C) RELOCATE (ITEM AS INDICATED)
- (E) ADJUST TO GRADE

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA
01/07/22
DATE
JUSAM LEE

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DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY PLAN
STA 21+00 TO STA 32+00

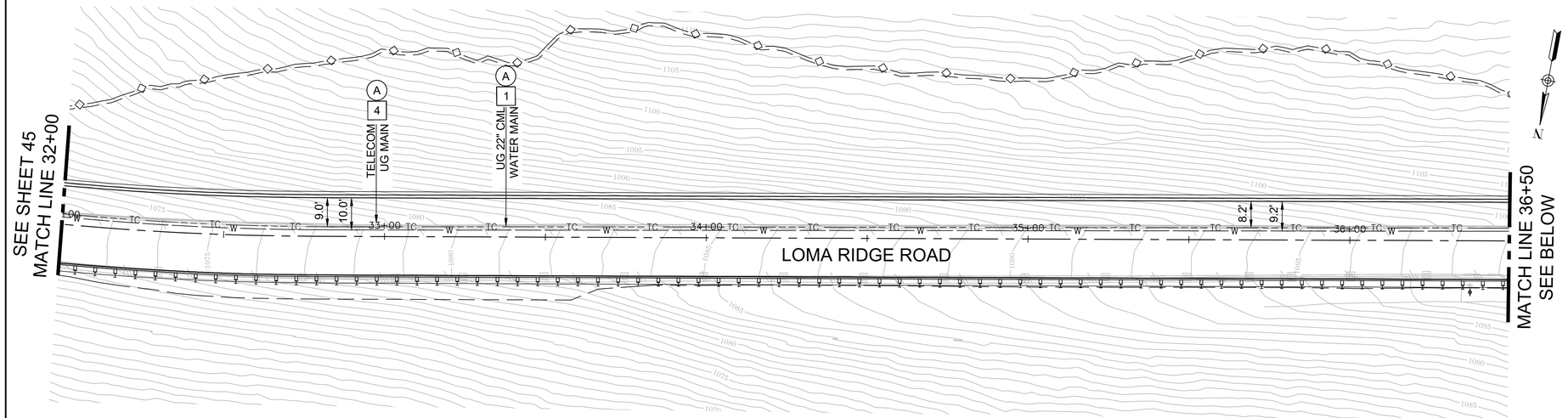
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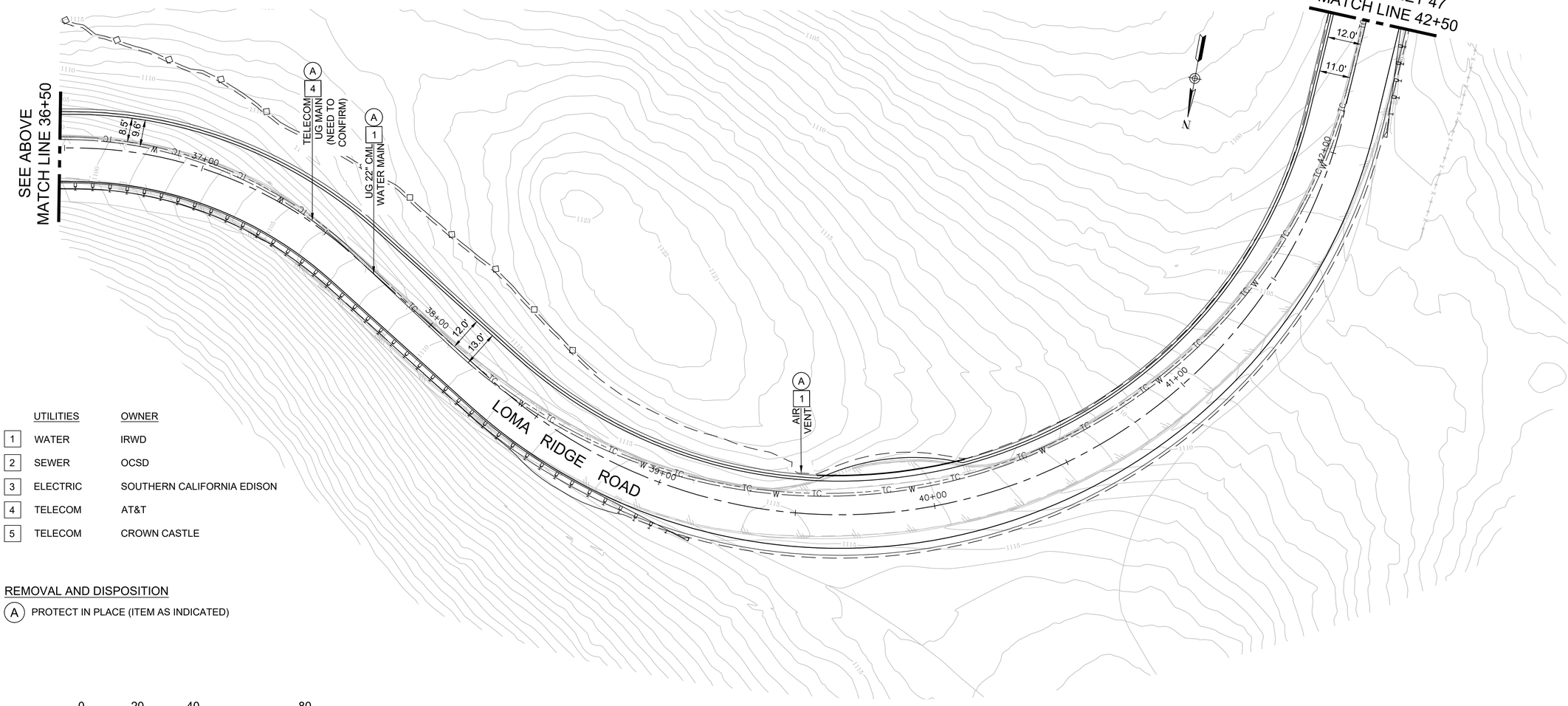
UT-02

Sheet 45 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO19621\DESIGN\SHEETS\09 - LOMA RIDGE - UTILITY PLAN.DWG

DATE PLOTTED : 1/20/2022 8:24 AM ocpw.ctb





	UTILITIES	OWNER
1	WATER	IRWD
2	SEWER	OCSD
3	ELECTRIC	SOUTHERN CALIFORNIA EDISON
4	TELECOM	AT&T
5	TELECOM	CROWN CASTLE

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE (ITEM AS INDICATED)

PLAN
1"=20'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY PLAN
STA 32+00 TO STA 42+50

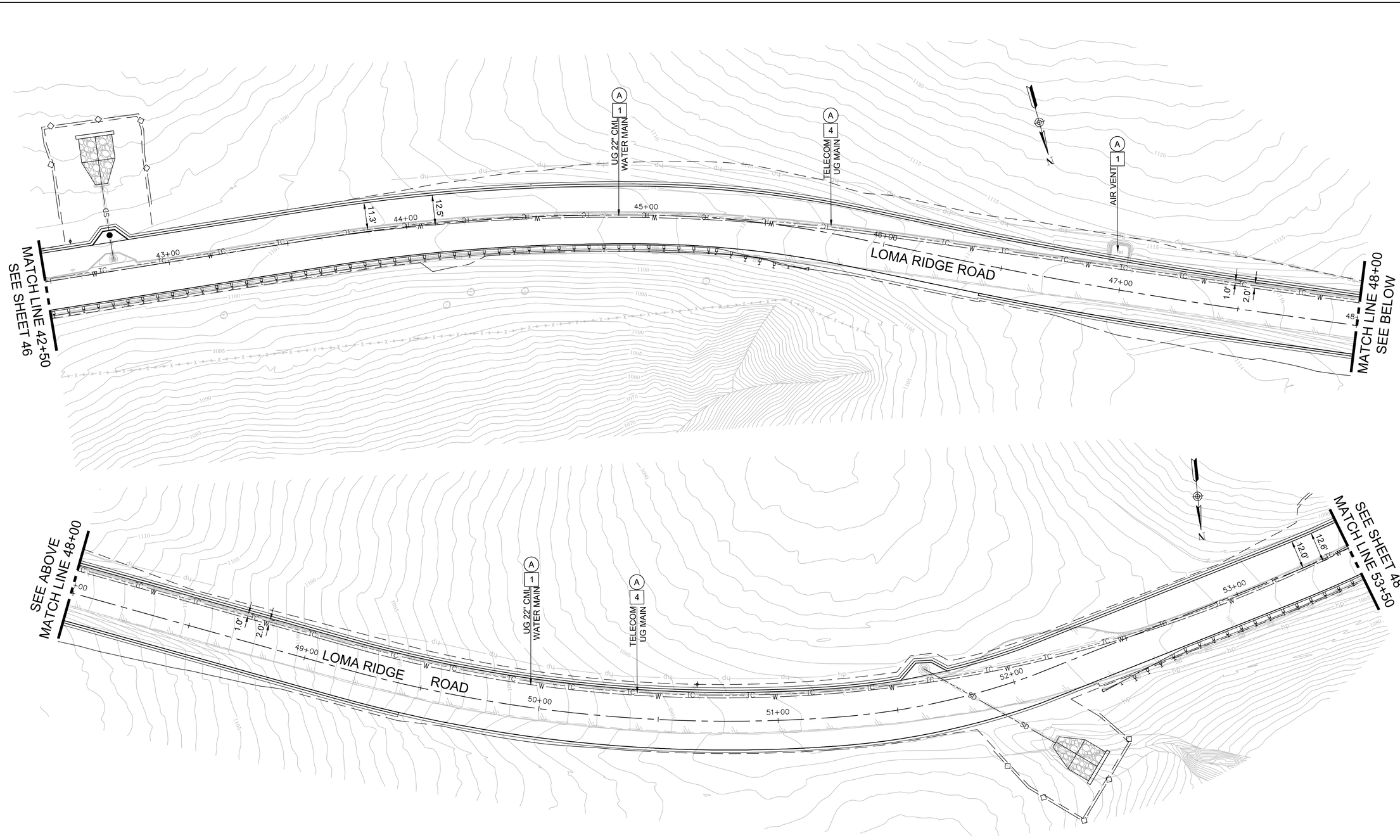
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Reference
Number

UT-03

Sheet 46 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN !!LOMA RIDGE_ROAD TO EOC EG19921\DESIGN\SHEETS\09 - LOMA RIDGE - UTILITY PLAN.DWG

DATE PLOTTED : 1/20/2022 8:25 AM ocpw.ctb



	UTILITIES	OWNER
1	WATER	IRWD
2	SEWER	OCSD
3	ELECTRIC	SOUTHERN CALIFORNIA EDISON
4	TELECOM	AT&T
5	TELECOM	CROWN CASTLE

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE (ITEM AS INDICATED)

(B) REMOVE (ITEM AS INDICATED)

(C) RELOCATE (ITEM AS INDICATED)

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PLAN
1"=20'

0 20 40 80 Feet

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY PLAN
STA 42+50 TO STA 53+50

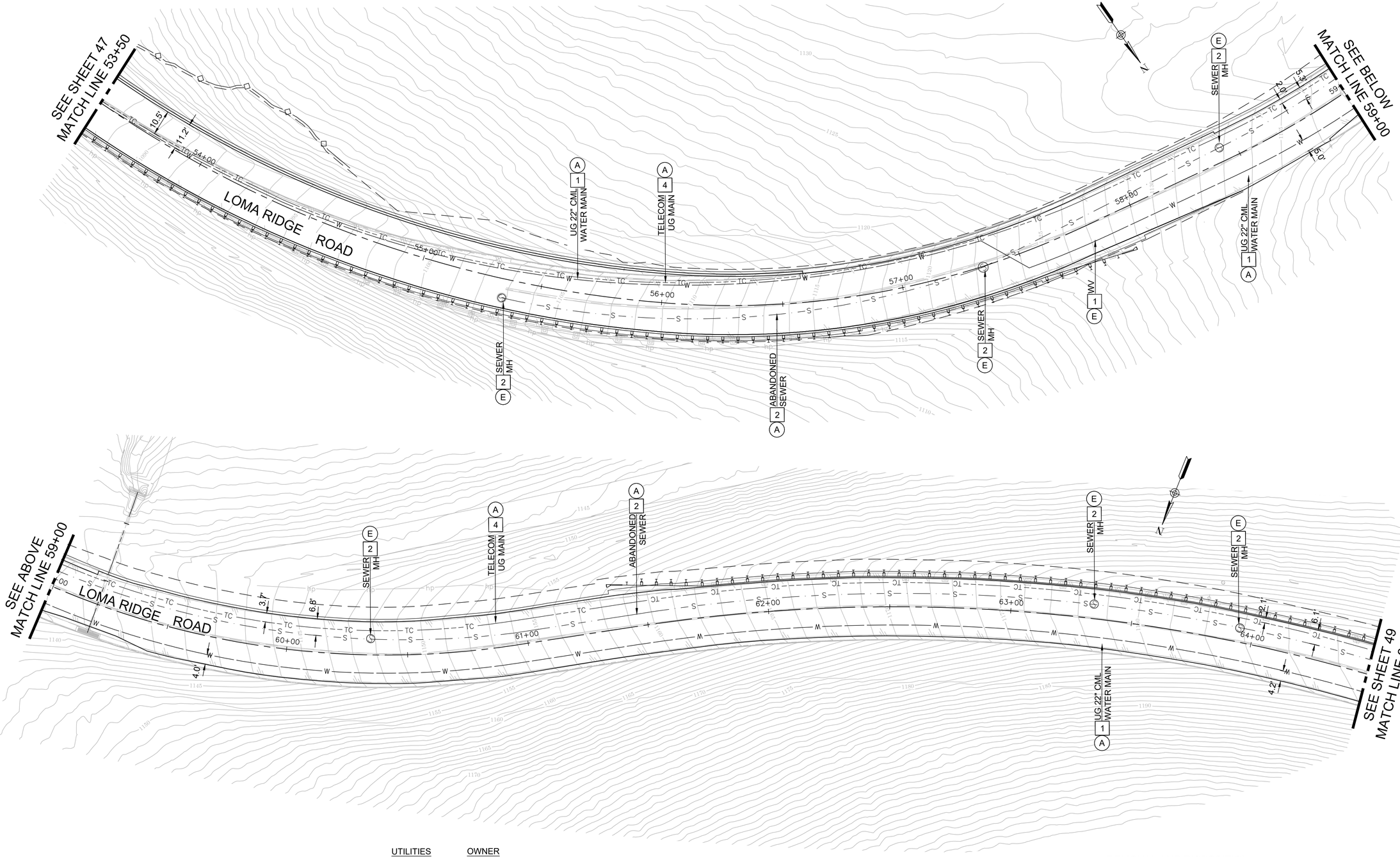
Sheet Reference Number

UT-04

Sheet 47 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO19921\DESIGN\SHEETS\99 - LOMA RIDGE - UTILITY PLAN.DWG

DATE PLOTTED : 1/20/2022 8:25 AM ocpw.ctb



PLAN
1"=20'

0 20 40 80 Feet

	UTILITIES	OWNER
1	WATER	IRWD
2	SEWER	OCSD
3	ELECTRIC	SOUTHERN CALIFORNIA EDISON
4	TELECOM	AT&T
5	TELECOM	CROWN CASTLE

REMOVAL AND DISPOSITION

- (A) PROTECT IN PLACE (ITEM AS INDICATED)
- (C) RELOCATE (ITEM AS INDICATED)
- (E) ADJUST TO GRADE

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JU/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY PLAN
STA 53+50 TO STA 64+50

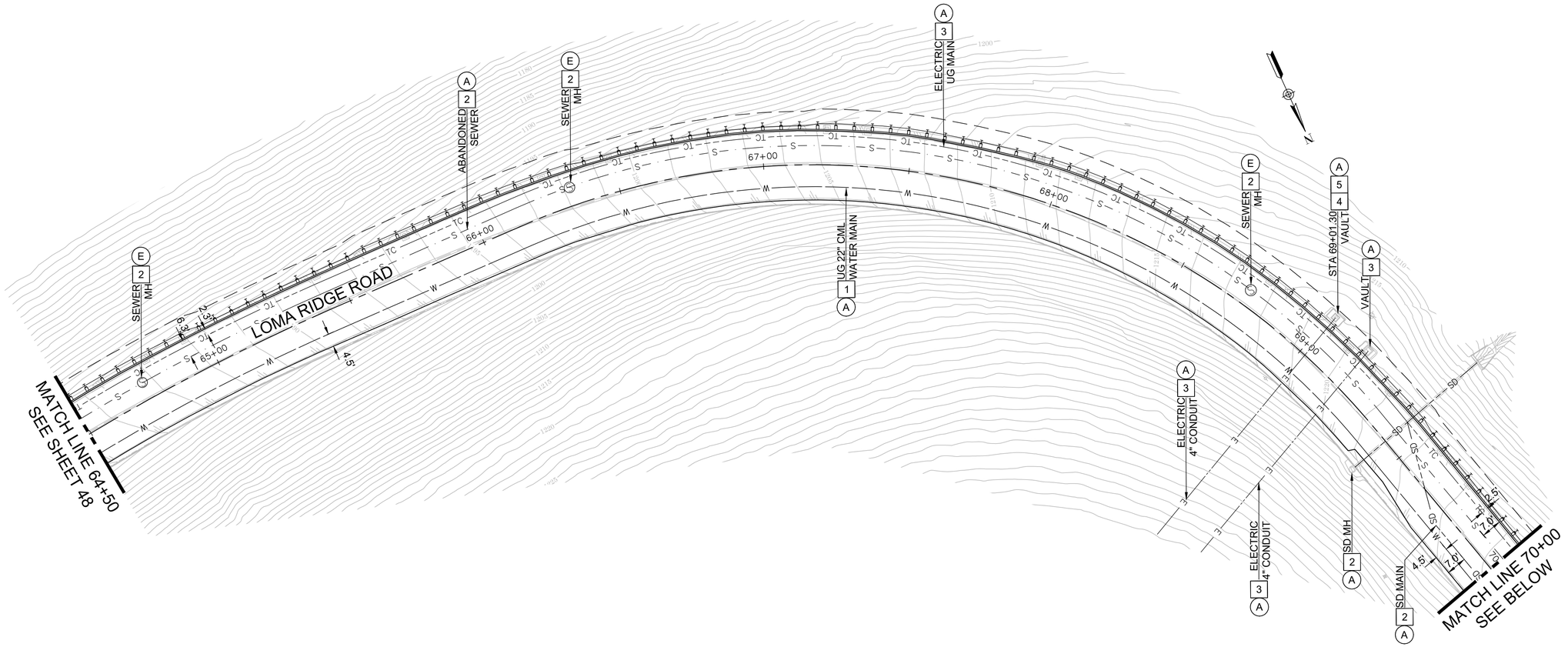
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Reference
Number

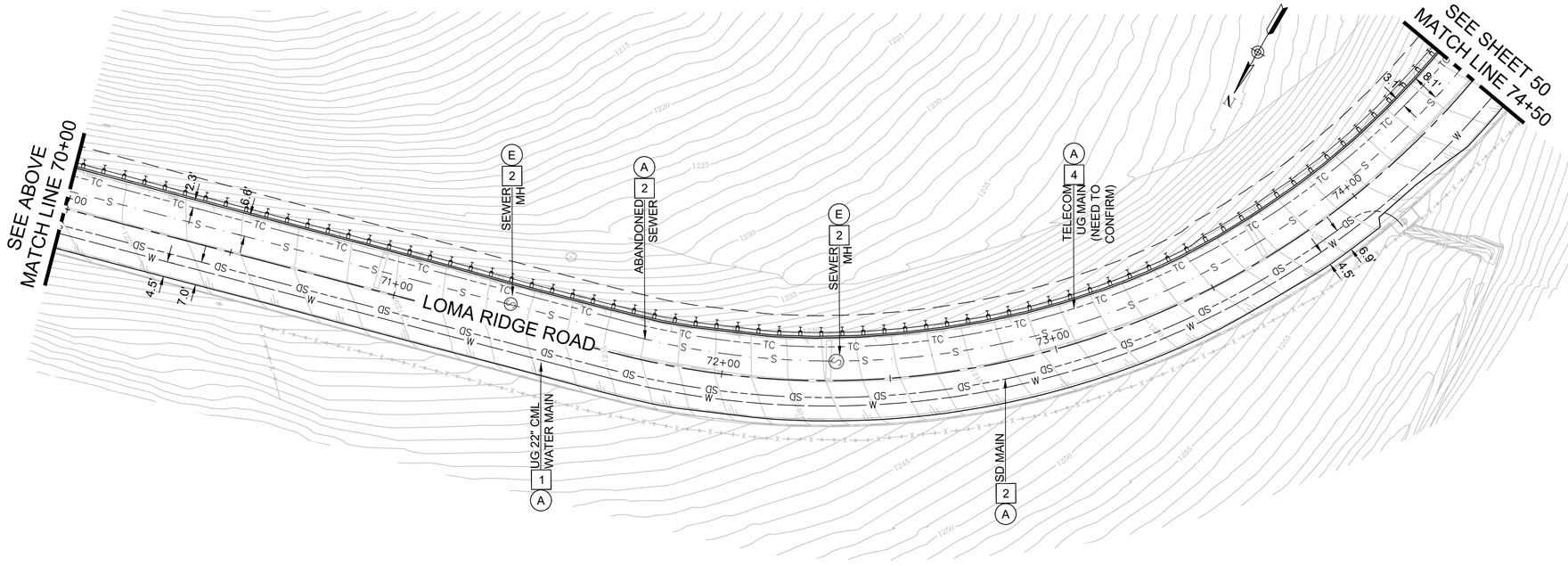
UT-05

Sheet 48 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN \LOMA RIDGE_ROAD TO EOC E01992\1DESIGN\SHEETS\09 - LOMA RIDGE - UTILITY PLAN.DWG

DATE PLOTTED : 1/20/2022 8:26 AM ocpw.ctb





	UTILITIES	OWNER
1	WATER	IRWD
2	SEWER	OCSD
3	ELECTRIC	SOUTHERN CALIFORNIA EDISON
4	TELECOM	AT&T
5	TELECOM	CROWN CASTLE

REMOVAL AND DISPOSITION

- (A) PROTECT IN PLACE (ITEM AS INDICATED)
- (C) RELOCATE (ITEM AS INDICATED)
- (E) ADJUST TO GRADE

PLAN
1"=20'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

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CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY PLAN
STA 64+50 TO STA 74+50

Sheet Reference Number

UT-06

Sheet 49 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO1862\DESIGN\SHEETS\09 - LOMA RIDGE - UTILITY PLAN.DWG

DATE PLOTTED : 1/20/2022 8:26 AM ocpw.ctb

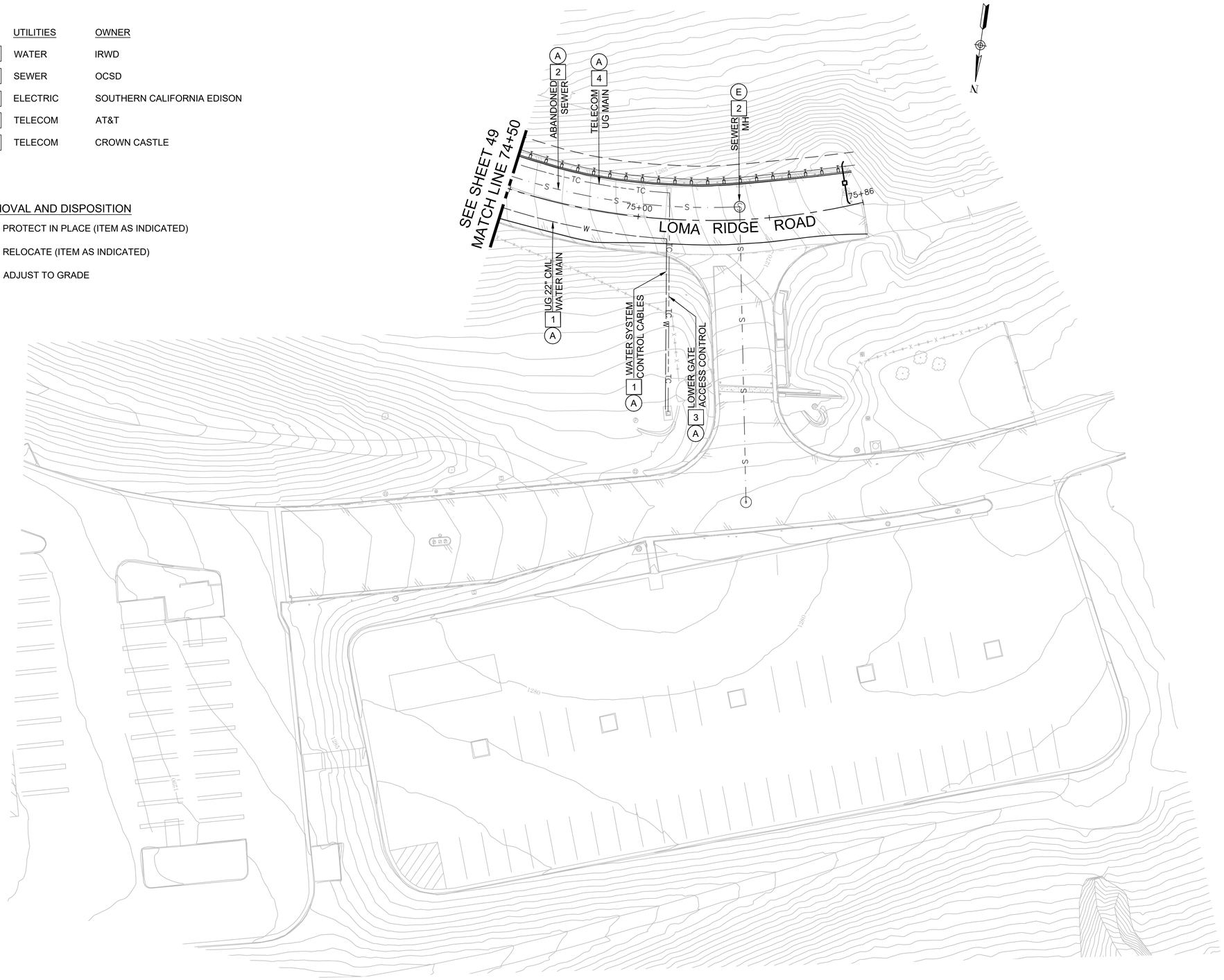
	UTILITIES	OWNER
1	WATER	IRWD
2	SEWER	OCSD
3	ELECTRIC	SOUTHERN CALIFORNIA EDISON
4	TELECOM	AT&T
5	TELECOM	CROWN CASTLE

REMOVAL AND DISPOSITION

(A) PROTECT IN PLACE (ITEM AS INDICATED)

(C) RELOCATE (ITEM AS INDICATED)

(E) ADJUST TO GRADE



PLAN
1"=20'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY PLAN
STA 74+50 TO STA END

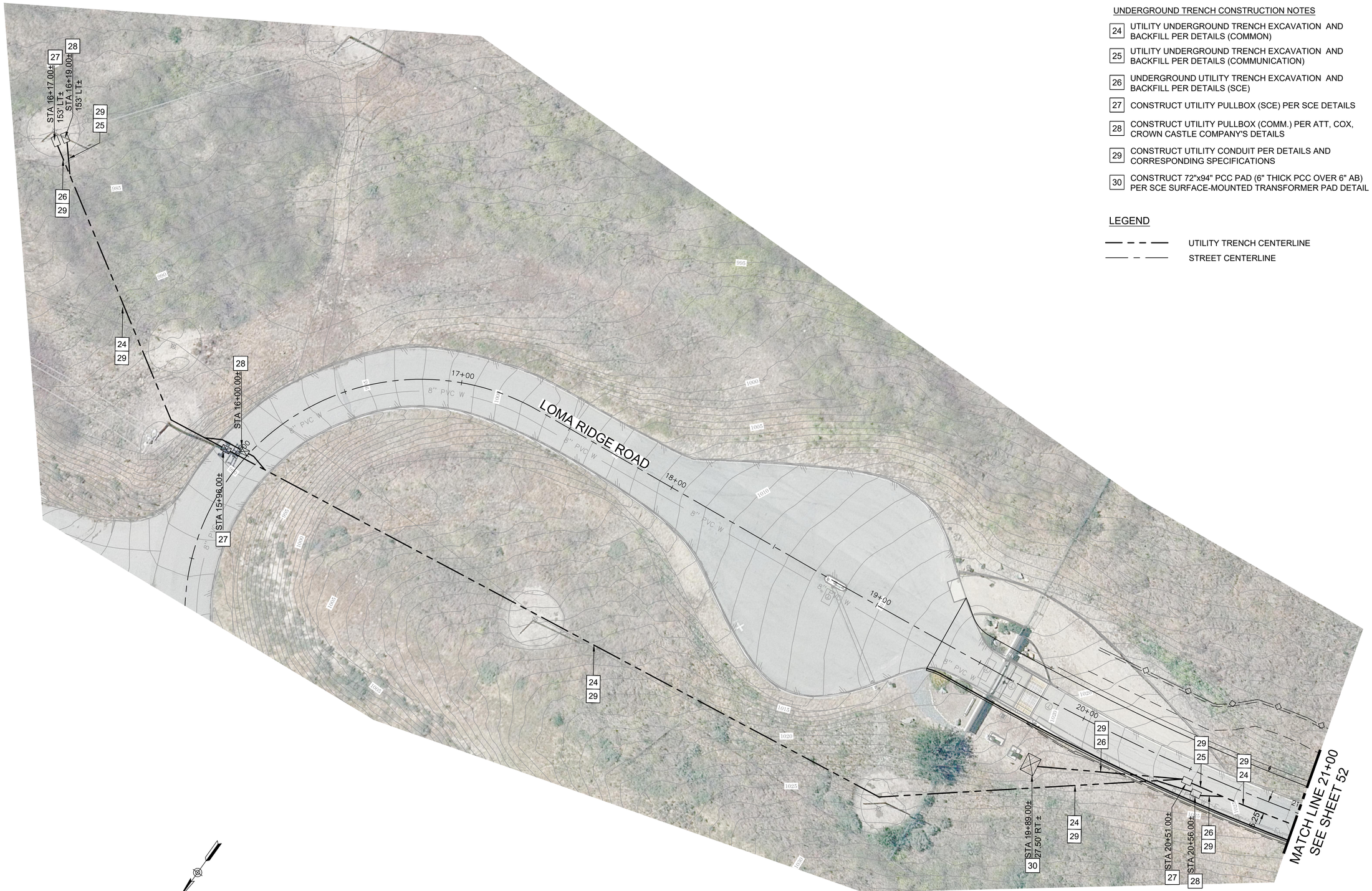
Sheet Reference Number

UT-07

Sheet 50 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO19621\DESIGN\SHEETS\09 - LOMA RIDGE - UTILITY PLAN.DWG

DATE PLOTTED : 1/20/2022 8:26 AM ocpw.ctb



PLAN
1"=20'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

UNDERGROUND TRENCH CONSTRUCTION NOTES

24 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMON)

25 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMUNICATION)

26 UNDERGROUND UTILITY TRENCH EXCAVATION AND BACKFILL PER DETAILS (SCE)

27 CONSTRUCT UTILITY PULLBOX (SCE) PER SCE DETAILS

28 CONSTRUCT UTILITY PULLBOX (COMM.) PER ATT, COX, CROWN CASTLE COMPANY'S DETAILS

29 CONSTRUCT UTILITY CONDUIT PER DETAILS AND CORRESPONDING SPECIFICATIONS

30 CONSTRUCT 72"x94" PCC PAD (6" THICK PCC OVER 6" AB) PER SCE SURFACE-MOUNTED TRANSFORMER PAD DETAIL

LEGEND

UTILITY TRENCH CENTERLINE

STREET CENTERLINE

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

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CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY TRENCH PLAN
BEGINING
TO STA 21+00

Sheet Reference Number

UGT-01

Sheet 51 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EC19821\DESIGN SHEETS\10 - LOMA RIDGE - UNDERGROUND.DWG

DATE PLOTTED : 1/20/2022 8:27 AM ocpw.ctb



PLAN
1"=20'

0 20 40 80 Feet

UNDERGROUND TRENCH CONSTRUCTION NOTES

24 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMON)

25 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMUNICATION)

26 UNDERGROUND UTILITY TRENCH EXCAVATION AND BACKFILL PER DETAILS (SCE)

27 CONSTRUCT UTILITY PULLBOX (SCE) PER SCE DETAILS

28 CONSTRUCT UTILITY PULLBOX (COMM.) PER ATT, COX, CROWN CASTLE COMPANY'S DETAILS

29 CONSTRUCT UTILITY CONDUIT PER DETAILS AND CORRESPONDING SPECIFICATIONS

LEGEND

UTILITY TRENCH CENTERLINE

STREET CENTERLINE

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

JUSAM LEE

01/07/22
DATE

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DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY TRENCH PLAN
STA 21+00 TO STA 32+00

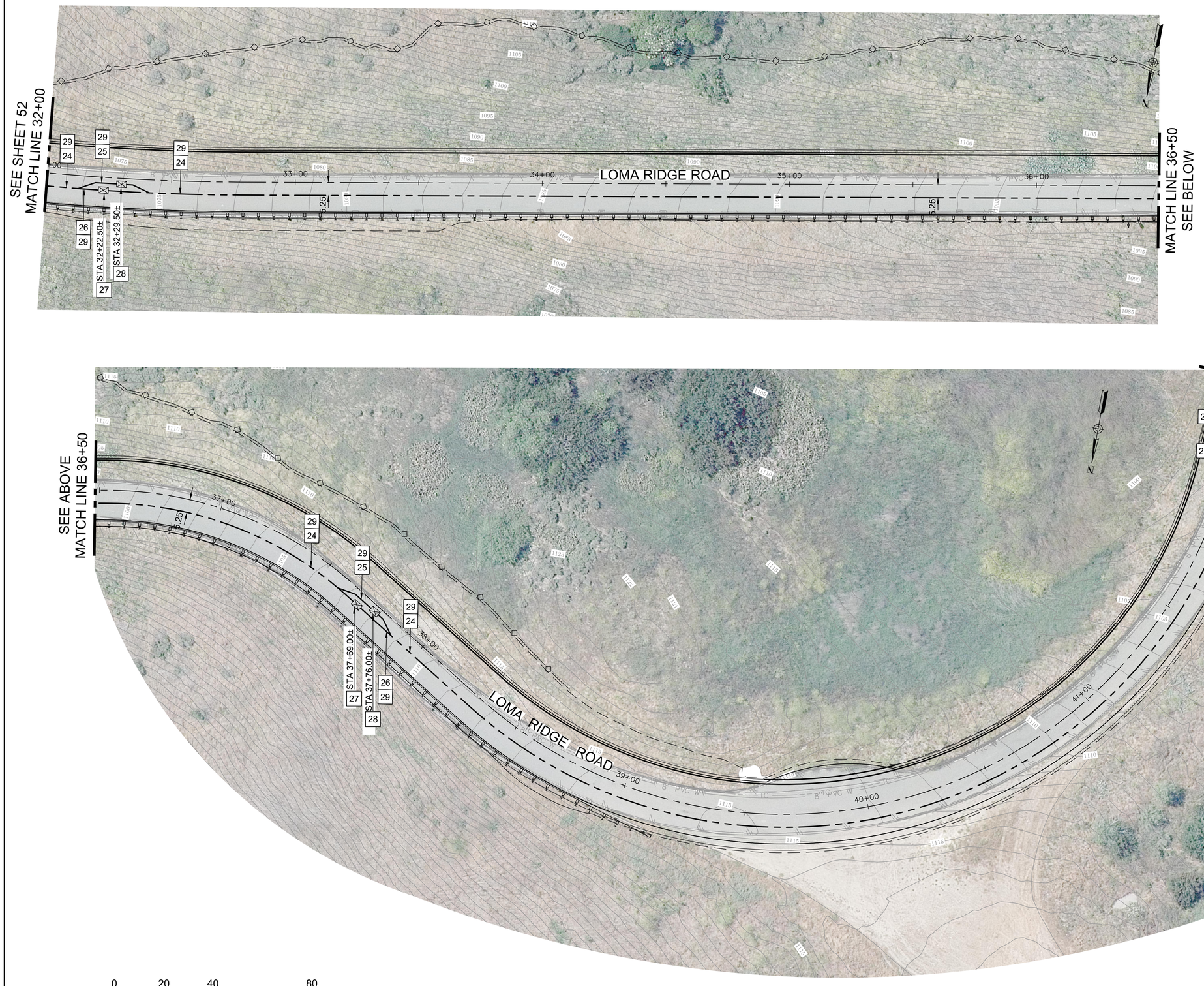
Sheet Reference Number

UGT-02

Sheet 52 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO19621\DESIGN\SHEETS\10 - LOMA RIDGE - UNDERGROUNDING.DWG

DATE PLOTTED : 1/20/2022 8:27 AM ocpw.ctb



UNDERGROUND TRENCH CONSTRUCTION NOTES

24 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMON)

25 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMUNICATION)

26 UNDERGROUND UTILITY TRENCH EXCAVATION AND BACKFILL PER DETAILS (SCE)

27 CONSTRUCT UTILITY PULLBOX (SCE) PER SCE DETAILS

28 CONSTRUCT UTILITY PULLBOX (COMM.) PER ATT, COX, CROWN CASTLE COMPANY'S DETAILS

29 CONSTRUCT UTILITY CONDUIT PER DETAILS AND CORRESPONDING SPECIFICATIONS

LEGEND

UTILITY TRENCH CENTERLINE

STREET CENTERLINE

PLAN
1"=20'

0 20 40 80 Feet

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER JUSAM LEE No. C 67763 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY TRENCH PLAN
STA 32+00 TO STA 42+50

Sheet Reference Number

UGT-03

Sheet 53 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO1962\DESIGN\SHEETS\10 - LOMA RIDGE - UNDERGROUNDING.DWG

DATE PLOTTED : 1/20/2022 8:28 AM ocpw.ctb



UNDERGROUND TRENCH CONSTRUCTION NOTES

24 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMON)

25 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMUNICATION)

26 UNDERGROUND UTILITY TRENCH EXCAVATION AND BACKFILL PER DETAILS (SCE)

27 CONSTRUCT UTILITY PULLBOX (SCE) PER SCE DETAILS

28 CONSTRUCT UTILITY PULLBOX (COMM.) PER ATT, COX, CROWN CASTLE COMPANY'S DETAILS

29 CONSTRUCT UTILITY CONDUIT PER DETAILS AND CORRESPONDING SPECIFICATIONS

LEGEND

UTILITY TRENCH CENTERLINE

STREET CENTERLINE

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PLAN
1"=20'

0 20 40 80 Feet

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
JUSAM LEE
REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA
01/07/22
DATE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY TRENCH PLAN
STA 42+50 TO STA 53+50

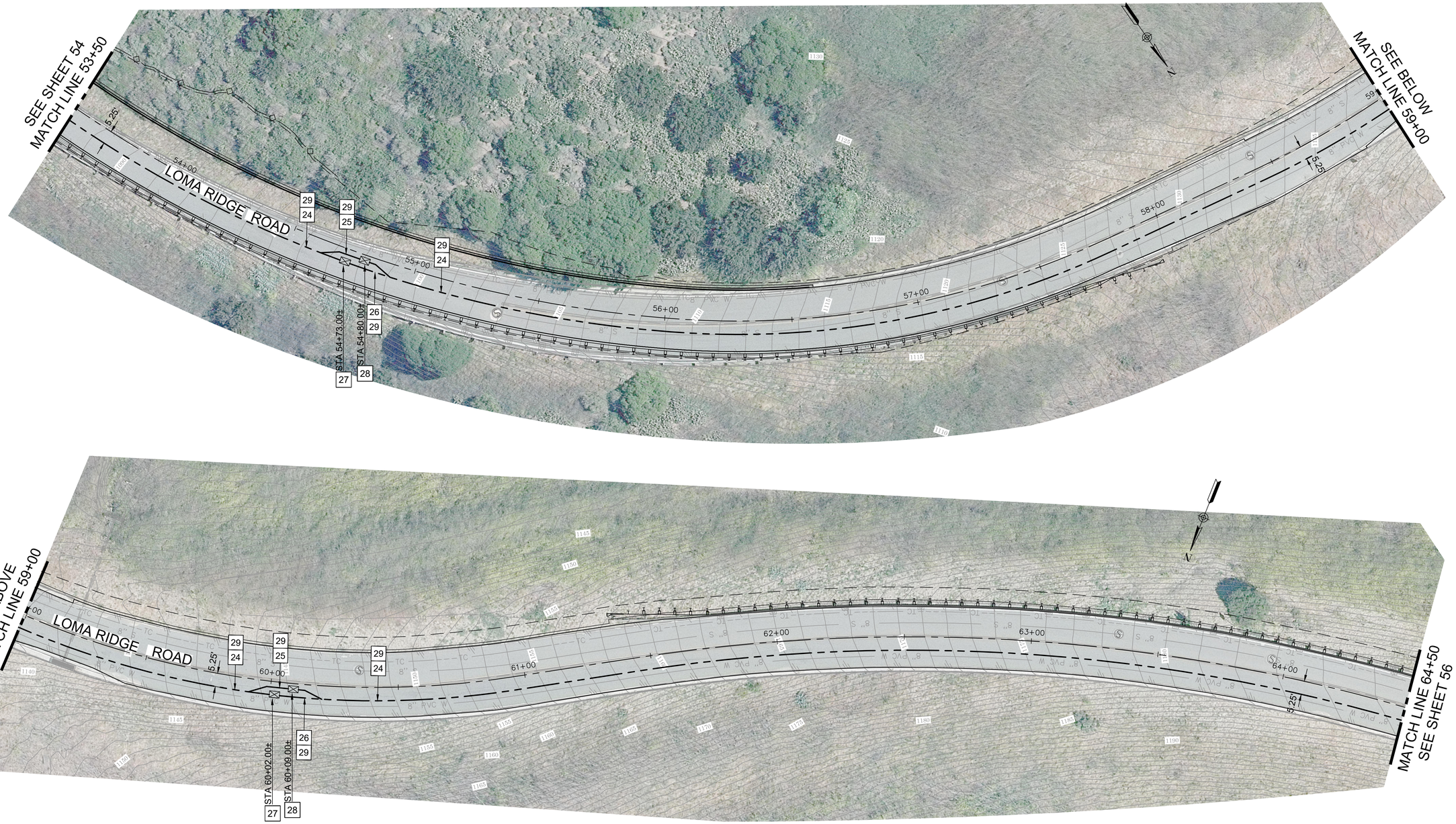
Sheet Reference Number

UGT-04

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FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO1982\DESIGN\SHEETS\10 - LOMA RIDGE - UNDERGROUNDING.DWG

DATE PLOTTED : 1/20/2022 8:28 AM ocpw.ctb



PLAN
1"=20'

0 20 40 80 Feet

UNDERGROUND TRENCH CONSTRUCTION NOTES

24 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMON)

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LEGEND

UTILITY TRENCH CENTERLINE

STREET CENTERLINE

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

JUSAM LEE

01/07/22
DATE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY TRENCH PLAN
STA 53+50 TO STA 64+50

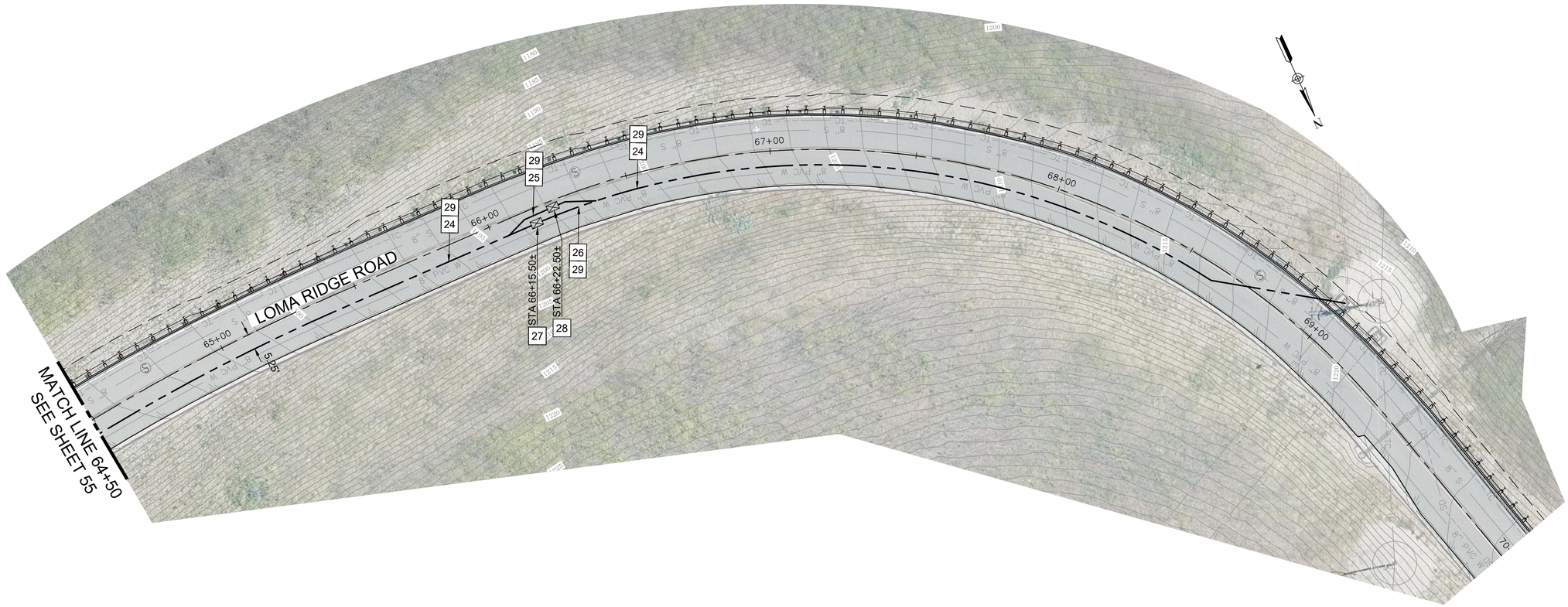
Sheet Reference Number

UGT-05

Sheet 55 of 56

FILE NAME: S:\ROAD PROJECTS\DESIGN 1\LOMA RIDGE_ROAD TO EOC EO1962\1DESIGN\SHEETS\10 - LOMA RIDGE - UNDERGROUNDING.DWG

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UNDERGROUND TRENCH CONSTRUCTION NOTES

24 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMON)

25 UTILITY UNDERGROUND TRENCH EXCAVATION AND BACKFILL PER DETAILS (COMMUNICATION)

26 UNDERGROUND UTILITY TRENCH EXCAVATION AND BACKFILL PER DETAILS (SCE)

27 CONSTRUCT UTILITY PULLBOX (SCE) PER SCE DETAILS

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29 CONSTRUCT UTILITY CONDUIT PER DETAILS AND CORRESPONDING SPECIFICATIONS

LEGEND

UTILITY TRENCH CENTERLINE

STREET CENTERLINE

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PLAN
1"=20'

0 20 40 80 Feet

COUNTY OF ORANGE
CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
JUSAM LEE
No. C 67763
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

01/07/22
DATE

JUSAM LEE

DESIGNED BY: JL/CO
DRAWN BY: CO
CHECKED BY: JL
DRAWING CODE:
FILE NAME:
PLOT DATE: AS SHOWN
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

LOMA RIDGE ROAD
RECONSTRUCTION

UTILITY TRENCH PLAN
STA 64+50 TO END

Sheet Reference Number

UGT-06

Sheet 56 of 56

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