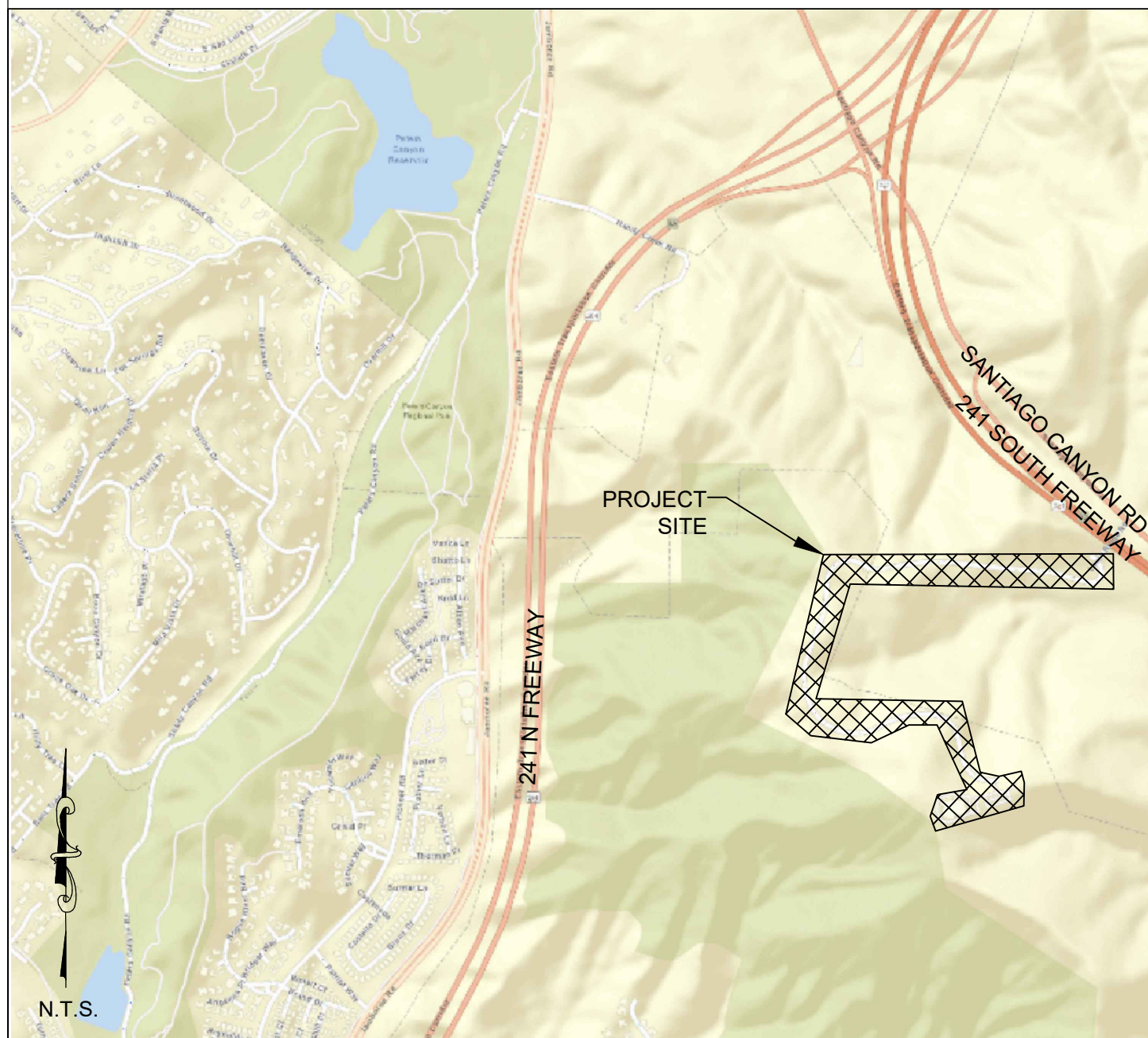




OC PUBLIC WORKS DEPARTMENT  
JAMES TREADWAY, DIRECTOR OF PUBLIC WORKS  
KEVIN HILLS, COUNTY SURVEYOR  
LOMA RIDGE ROAD REHABILITATION  
FROM SANTIAGO CANYON ROAD TO EOC BUILDING



LOCATION MAP



SENIOR LAND SURVEYOR'S CERTIFICATE:

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYOR'S ACT; THIS 30TH DAY OF DECEMBER, 2019.

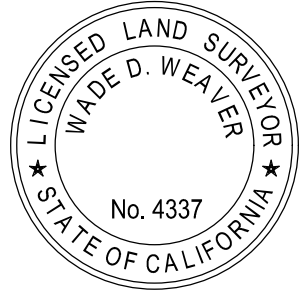
JESOM MORENO PLS SENIOR LAND SURVEYOR



DEPUTY COUNTY SURVEYOR'S STATEMENT:

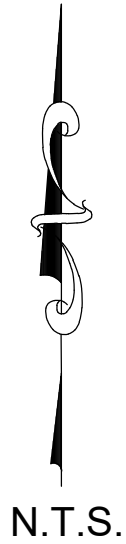
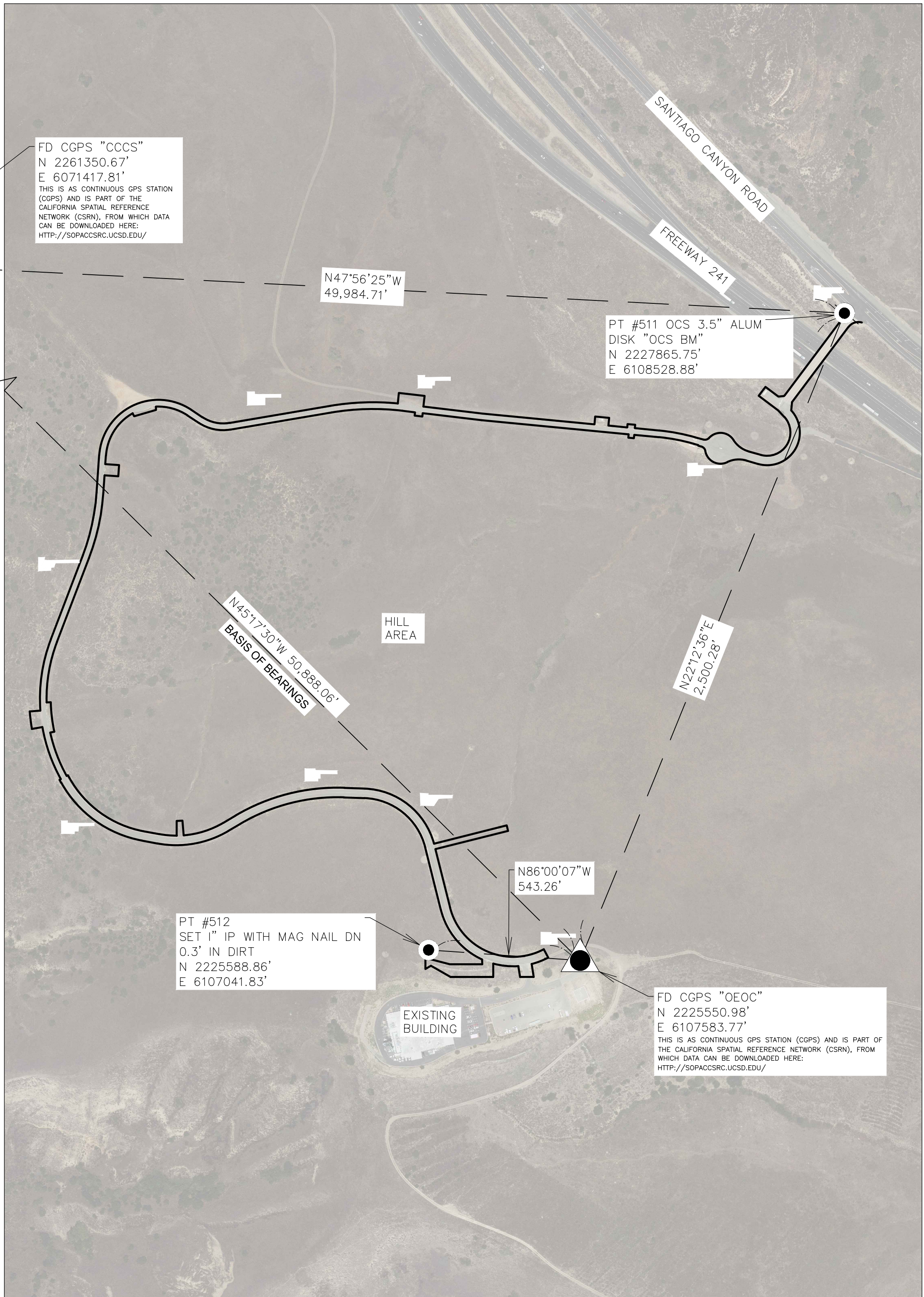
THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH THE PROFESSIONAL LAND SURVEYOR'S ACT; THIS 30TH DAY OF DECEMBER, 2019.

WADE WEAVER PLS DEPUTY COUNTY SURVEYOR



U.S. Survey  
Foot

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



BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, NAD 83, OCS (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 DATASHEETS ON FILE IN THE OFFICE OF ORANGE COUNTY SURVEYOR.

HORIZONTAL DATUM

COORDINATES SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, 1983 NORTH AMERICAN DATUM (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 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

O.C.S. BM. 3D-158-99 ELEV. = 967.91' YEAR LEVELED: 2017  
NAVD 1988 (O.C.S. 1995 ADJUSTMENT)

DESCRIPTION: DESCRIBED BY OCS 11/29/99-FOUND 3 3/4" OCS ALUMINUM BENCHMARK DISK STAMPED "3D-158-99" SET ON THE TOP NORTHWEST CORNER OF A 4.0 FT. BY 5.0 FT. DROP INLET. MONUMENT IS LOCATED NEAR THE NORTHWEST CORNER OF BRIDGE #55-958 (LOMA RIDGE ROAD), WHICH IS ALSO THE ACCESS TO THE ORANGE COUNTY COMMUNICATIONS FACILITY ON LOMA RIDGE. THIS BRIDGE IS 0.6 MILE SOUTHEASTERLY OF THE SANTIAGO CANYON ROAD OVER-CROSSING OF HIGHWAY 241, THE FOOTHILL CORRIDOR. IT IS ALSO 50 FT. SOUTHERLY OF THE CENTERLINE OF THE ROAD.

SHEET INDEX

| SHEET NO.   | DESCRIPTION     |
|-------------|-----------------|
| SHEET #1    | TITLE SHEET     |
| SHEET #2-8  | BOUNDARY        |
| SHEET #9-15 | TOPOGRAPHIC MAP |

|   |                    |                      |           |
|---|--------------------|----------------------|-----------|
| COUNTY OF ORANGE<br>OC PUBLIC WORKS<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING |                    |                      |           |
| LOMA RIDGE ROAD REHABILITATION<br>TOPOGRAPHIC SURVEY  |                    |                      |           |
| TITLE SHEET   |                    |                      |           |
| PROJECT LIMITS: SANTIAGO CANYON ROAD TO EOC BUILDING  |                    |                      |           |
| FILE NO: 1920PW-IN0006  |                    |                      |           |
| DATE OF SURVEY: 12-10-2019  | BY: BOYD & PARTY   | SHEET NO.<br>1 of 15 |           |
| TOPOGRAPHIC MAPPING   | BY: KARIM AHMED    |                      |           |
| OFFICE CHECK  | BY: J. MORENO, PLS |                      |           |
| FIELD CHECK   | BY: F. BOYD        |                      |           |
| SCALE: N.T.S.   | WD#: ER11161       |                      |           |
| MARK  | DATE               | ITEM                 | REVISIONS |
| FILE: LOMA RIDGE_TOPOGRAPHICMAP_2019.DWG  |                    |                      |           |

TOPOGRAPHIC MAPPING PROJECT



MONUMENT NOTES (GEODETIC ESTABLISHMENT NOTES)

- 1

S.F.N. GEODETIC VALUE OF U.S.C. & G.S. TRIANGULATION STATION ESTABLISHED BY CONVERTING ORANGE COUNTY SURVEY 9-1-71 HORIZONTAL DATUM VALUES PER RSB 93/5-6 (R6) TO COORDINATES BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, NAD 83, OCS 2017.50 EPOCH ADJUSTMENT
- 2

FOUND CONTINUOUS GPS STATION "OEOC" COORDINATES BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, NAD 83, OCS 2017.50 EPOCH ADJUSTMENT AND IS PART OF THE CALIFORNIA SPATIAL PREFERENCE NETWORK (CSRN), FROM WHICH DATA CAN BE DOWNLOADED HERE: [HTTP://SOPACCSRC.UCSD.EDU/](http://SOPACCSRC.UCSD.EDU/).
- 3

S.F.N. GEODETIC VALUES OF OCS GPS STATION "ECS2-88" ESTABLISHED BY CONVERTING CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, NAD 83, OCS 1991.35 EPOCH ADJUSTMENT PER 19980642022 O.R. AND CALTRANS RIGHT OF WAY MAP TR-241-C4 TO CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, NAD 83, OCS 2017.00 EPOCH ADJUSTMENT.

ESTABLISHMENT NOTES

- A

ESTABLISHED THE TRUE POINT OF BEGINNING OF PARCEL GA1239-22 BY HOLDING RECORD BEARING AND DISTANCE FROM U.S.C. & G.S. TRIANGULATION STATION "LOMAS" PER R1, PAGE 33 OF DOCUMENT. (CONVERTED RECORD DISTANCE FROM R1 TO GRID DISTANCE)
- B

ESTABLISHED POINT BY HOLDING RECORD BEARING AND DISTANCE FROM TPOB OF PARCEL GA1239-22 PER R1, PAGE 33 OF DOCUMENT. (CONVERTED RECORD DISTANCE FROM R1 TO GRID DISTANCE)
- C

ESTABLISHED NORTHERLY LINE OF PARCEL GA1239-22 BY LINE HOLDING POINTS FROM ESTABLISHMENT NOTES A AND B
- D

ESTABLISHED TRUE POINT OF BEGINNING OF PARCEL NO. 22.61-1, LOMA RIDGE ACCESS ROAD EASEMENT, BY HOLDING RECORD BEARING FROM U.S.C. & G.S. TRIANGULATION STATION "LOMAS" PER R2 AND INTERSECTING NORTHERLY LINE OF PARCEL GA1239-22 AS SHOWN BY ESTABLISHMENT NOTE C
- E

ESTABLISHED PARCEL NO. 22.61-1, LOMA RIDGE ACCESS ROAD EASEMENT, BY HOLDING RECORD BEARING, DISTANCES, AND CURVE DATA, PER R2, PAGE 5 OF DOCUMENT, EXCEPTING PARTIAL QUITCLAIM OF SAID PARCEL AS DESCRIBED IN INSTRUMENT NO. 19980642021 O.R. (R7)
- F

ESTABLISHED CONSTRUCTION CENTERLINE ALIGNMENT OF LOMA RIDGE RD BY EVEN SPLIT OF METES AND BOUNDS DESCRIPTION OF PARCEL NO. 22.61-1, LOMA RIDGE ACCESS ROAD EASEMENT, AS SHOWN IN ESTABLISHMENT NOTE E ALONG THE TRAVELED PATH OF ACCESS ROAD.
- G

ESTABLISHED THE OLD CENTERLINE OF SANTIAGO CANYON ROAD FROM SURVEY RESULTS PERFORMED IN 2017 FOR SANTIAGO CANYON ROAD HIGHWAY SAFETY IMPROVEMENT PROJECT (HSIP) SURVEY FILE NO. 1617PW-RD0003. CONVERTED CENTERLINE FROM CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, NAD 83, OCS 2007.00 EPOCH ADJUSTMENT TO CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, NAD 83, OCS 2017.00 EPOCH ADJUSTMENT.
- H

ESTABLISHED THE POINT OF BEGINNING OF PARCEL 300257-1 BY HOLDING RECORD DISTANCE ALONG CENTERLINE OF OLD SANTIAGO CANYON RD AS SHOWN IN ESTABLISHMENT NOTE G FROM THE SOUTHEASTERLY TERMINUS OF TANGENT CURVE PER R4, PAGE 34 OF DOCUMENT.
- I

ESTABLISHED THE GENERAL SOUTHERLY LINE OF PARCEL 300257-1 BY HOLDING RECORD DISTANCE AND ANGLES PER R4, PAGE 34 OF DOCUMENT
- J

ESTABLISHED POINT BY HOLDING RECORD GEODETIC BEARING AND GRID DISTANCE FROM OCS GPS STATION "ECS2-88" PER R3.
- K

ESTABLISHED BEARING OF SOUTHERLY CALTRANS RIGHT OF WAY LINE BY HOLDING RECORD ANGLE WITH ESTABLISHMENT NOTE I PER R5, SHEET 4 OF DOCUMENT.
- L

ESTABLISHED BY INTERSECTION OF ESTABLISHMENT NOTES I AND K
- M

ESTABLISHED LINE BY HOLDING RECORD GEODETIC BEARING AND GRID DISTANCE FROM ESTABLISHMENT NOTE I PER R3.

ESTABLISHMENT NOTES (CONTINUED)

- N

ESTABLISHED AT THE NORTHEASTERLY TERMINUS OF ESTABLISHMENT NOTE M
- O

ESTABLISHED THE POINT OF COMMENCEMENT OF PARCEL 300257-23 AT THE SOUTHERLY TERMINUS OF THAT CERTAIN COURSE DESCRIBED AS HAVING A BEARING AND DISTANCE OF "NORTH 10°19'24" EAST 145.34 FEET" PER R3.
- P

ESTABLISHED THE TRUE POINT OF BEGINNING OF PARCEL 300257-23 BY HOLDING RECORD GRID DISTANCE ALONG ESTABLISHMENT O PER R3
- Q

ESTABLISHED POINT BY HOLDING RECORD GRID DISTANCE ALONG ESTABLISHMENT NOTE I PER R3
- R

ESTABLISHED PARCEL 300257-23, ACCESS EASEMENT, BY HOLDING RECORD GEODETIC BEARINGS, GRID DISTANCES AND CURVE DATA UNLESS OTHERWISE NOTED PER R3.
- S

ESTABLISHED POINT OF BEGINNING OF PARCEL 300257-28 BY HOLDING RECORD GEODETIC BEARINGS AND GRID DISTANCES FROM ESTABLISHMENT NOTE N PER R3
- T

ESTABLISHED POINT BY HOLDING RECORD GEODETIC BEARING AND GRID DISTANCE FROM OCS GPS STATION "ECS2-88" PER R3.
- U

ESTABLISHED PARCEL 300257-28 BY HOLDING RECORD GEODETIC BEARINGS, GRID DISTANCES AND CURVE DATA FROM ESTABLISHMENT NOTE S PER R3
- V

ESTABLISHED CONSTRUCTION CENTERLINE ALIGNMENT OF LOMA RIDGE RD BY BEST EVEN SPLIT OF METES AND BOUNDS DESCRIPTION OF PARCEL 300257-23, ACCESS EASEMENT, AS SHOWN IN ESTABLISHMENT NOTE U ALONG THE TRAVELED PATH OF ACCESS ROAD.
- W

ESTABLISHED CONSTRUCTION CENTERLINE ALIGNMENT OF LOMA RIDGE RD BY BEST EVEN SPLIT OF METES AND BOUNDS DESCRIPTION OF PARCEL 300257-28, ACCESS EASEMENT, AS SHOWN IN ESTABLISHMENT NOTE U ALONG THE TRAVELED PATH OF ACCESS ROAD.
- X

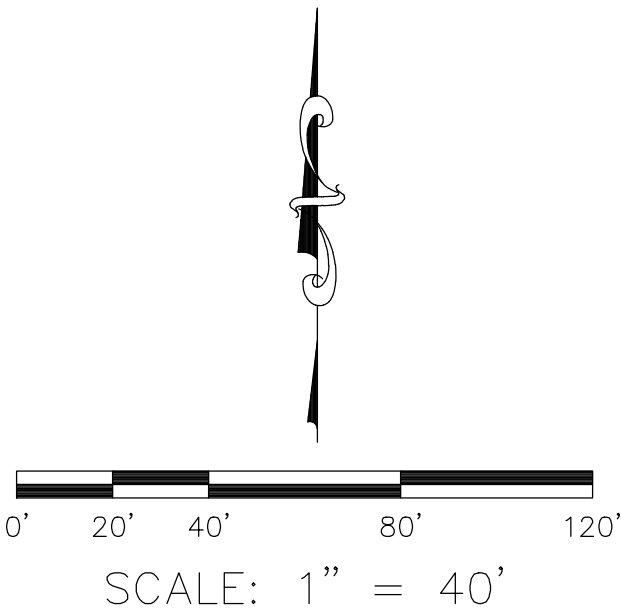
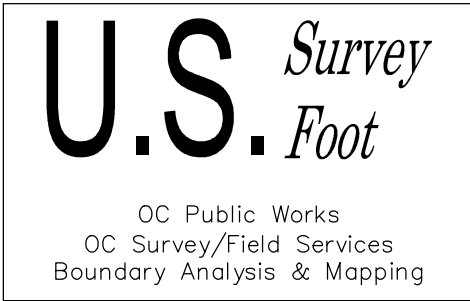
ESTABLISHED BY INTERSECTION OF ESTABLISHMENT NOTE V AND SOUTHWESTERLY PROLONGATION OF ESTABLISHMENT NOTE W
- Y

ESTABLISHED THE CENTERLINE ALIGNMENT OF SANTIAGO CANYON ROAD FROM SURVEY RESULTS PERFORMED IN 2017 FOR SANTIAGO CANYON ROAD HIGHWAY SAFETY IMPROVEMENT PROJECT (HSIP) SURVEY FILE NO. 1617PW-RD0003. CONVERTED CENTERLINE FROM CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, NAD 83, OCS 2007.00 EPOCH ADJUSTMENT TO CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, NAD 83, OCS 2017.00 EPOCH ADJUSTMENT.
- Z

ESTABLISHED BY INTERSECTION OF ESTABLISHMENT NOTE Y AND NORTHEASTERLY PROLONGATION OF ESTABLISHMENT NOTE W

REFERENCES

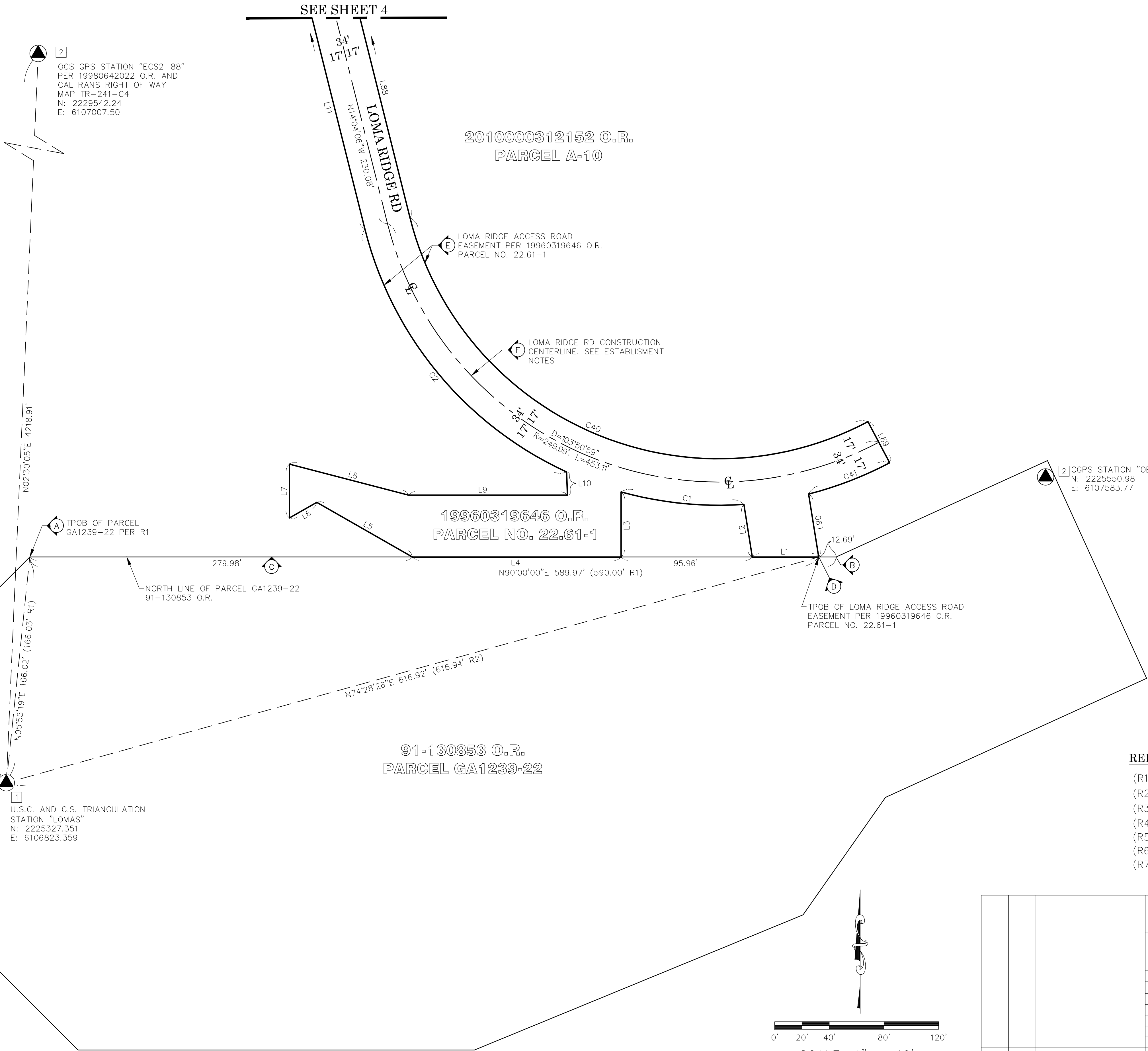
- (R1) = DOCUMENT NO 91-130853 O.R.  
(R2) = INSTRUMENT NO. 19960319646 O.R.  
(R3) = INSTRUMENT NO. 19980642022 O.R.  
(R4) = DOCUMENT NO. 95-0245698 O.R.  
(R5) = CALTRANS RIGHT OF WAY MAP NO. TR-241-C4  
(R6) = RECORD OF SURVEY RSB 93/5-6  
(R7) = INSTRUMENT NO. 19980642021 O.R.



|   |      |                     |                          |
|---|------|---------------------|--------------------------|
| COUNTY OF ORANGE  |      |                     |                          |
| OC PUBLIC WORKS/ENGINEERING SERVICES                                      |      |                     |                          |
| OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING                      |      |                     |                          |
| LOMA RIDGE REHABILITATION   |      |                     |                          |
| TOPOGRAPHIC SURVEY  |      |                     |                          |
| BOUNDARY SHEET  |      |                     |                          |
| PROJECT LIMITS: SANTIAGO CANYON ROAD TO LOMA RIDGE COMMUNICATIONS AND EOC |      |                     |                          |
|   |      |                     |                          |
| DATE OF SURVEY:12-10-2019   |      | BY:JOHNS & PARTY    | SHEET NO.<br><br>2 of 15 |
| TOPOGRAPHIC MAPPING   |      | BY:KARIM AHMED      |                          |
| OFFICE CHECK  |      | BY:J. MORENO, PLS   |                          |
| FIELD CHECK   |      | BY:J. JOHNS         |                          |
| SCALE:1"=40'  |      | W.O. #ER11161       |                          |
| FILE:LOMA RIDGE RD_BOUNDARY.DWG   |      | FILE #1920PW-IN0006 | REVISIONS                |
| MARK  | DATE | ITEM                |                          |

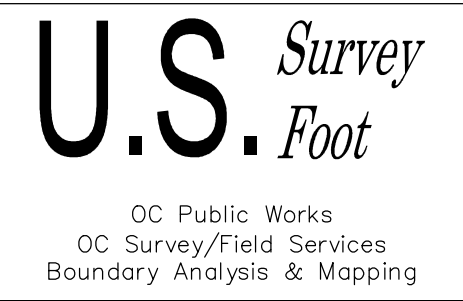
| LINE TABLE |             |                   |                 |
|------------|-------------|-------------------|-----------------|
| LINE #     | BEARING     | MEASURED DISTANCE | RECORD DISTANCE |
| L1         | N90°00'00"W | 48.61'            | (M&R2)          |
| L2         | N09°05'26"W | 38.97'            | (M&R2)          |
| L3         | N00°00'00"E | 47.60'            | (M&R2)          |
| L4         | N90°00'00"W | 152.72'           | (152.73' R2)    |
| L5         | N60°15'18"W | 80.62'            | (M&R2)          |
| L6         | N60°15'18"E | 22.99'            | (M&R2)          |
| L7         | N00°00'00"E | 39.30'            | (M&R2)          |
| L8         | N75°26'48"W | 90.05'            | (M&R2)          |
| L9         | N90°00'00"E | 116.22'           | (116.23' R2)    |
| L10        | N02°05'26"W | 16.95'            | (M&R2)          |
| L11        | N14°04'06"W | 230.08'           | (230.09' R2)    |
| L88        | N14°04'06"W | 215.33'           | (215.34' R2)    |
| L89        | N27°55'05"W | 34.00'            | (M&R2)          |
| L90        | N09°05'56"W | 46.65'            | (M&R2)          |

| CURVE TABLE |         |         |            |               |               |
|-------------|---------|---------|------------|---------------|---------------|
| CURVE #     | LENGTH  | RADIUS  | DELTA      | RECORD LENGTH | RECORD RADIUS |
| C1          | 90.71'  | 266.99' | 019°27'56" | (M&R2)        | (267.00' R2)  |
| C2          | 238.90' | 266.99' | 051°16'09" | (238.92' R2)  | (267.00' R2)  |
| C40         | 422.29' | 232.99' | 103°50'59" | (422.32' R2)  | (233.00' R2)  |
| C41         | 63.71'  | 266.99' | 013°40'18" | (63.71' R2)   | (267.00' R2)  |



REFERENCES

- (R1) = DOCUMENT NO 91-130853 O.R.
- (R2) = INSTRUMENT NO. 19960319646 O.R.
- (R3) = INSTRUMENT NO. 19980642022 O.R.
- (R4) = DOCUMENT NO. 95-0245698 O.R.
- (R5) = CALTRANS RIGHT OF WAY MAP NO. TR-241-C4
- (R6) = RECORD OF SURVEY RSB 93/5-6
- (R7) = INSTRUMENT NO. 19980642021 O.R.



| COUNTY OF ORANGE<br>OC PUBLIC WORKS/ENGINEERING SERVICES<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING |      |                     |           |
|--|------|---------------------|-----------|
| LOMA RIDGE REHABILITATION<br>TOPOGRAPHIC SURVEY  |      |                     |           |
| BOUNDARY SHEET   |      |                     |           |
| PROJECT LIMITS: SANTIAGO CANYON RD TO LOMA RIDGE COMMUNICATIONS AND EOC  |      |                     |           |
|  |      |                     |           |
| DATE OF SURVEY: 12-10-2019   |      | BY: JOHNS & PARTY   |           |
| TOPOGRAPHIC MAPPING  |      | BY: KARIM AHMED     |           |
| OFFICE CHECK   |      | BY: J. MORENO, PLS  |           |
| FIELD CHECK  |      | BY: J. JOHNS        |           |
| SCALE: 1"=40'  |      | W.O. #ER1161        |           |
| FILE: LOMA RIDGE RD_BOUNDARY.DWG   |      | FILE #1920PW-IN0006 |           |
| MARK   | DATE | ITEM                | SHEET NO. |
| REVISIONS  |      |                     | 3 of 15   |

SEE SHEET 5

L16  
L15  
L77  
L92  
L78

2010000312152 O.R.  
PARCEL A-10

LOMA RIDGE RD

(F) LOMA RIDGE RD CONSTRUCTION  
CENTERLINE. SEE ESTABLISHMENT  
NOTES

(E) LOMA RIDGE ACCESS ROAD  
EASEMENT PER 19960319646 O.R.  
PARCEL NO. 22.61-1

D=50°27'17"  
R=399.98', L=352.28'

MATCHLINE SEE BELOW

34'  
17'17"

L14

(E) LOMA RIDGE ACCESS ROAD  
EASEMENT PER 19960319646 O.R.  
PARCEL NO. 22.61-1

LOMA RIDGE RD

(F) LOMA RIDGE RD CONSTRUCTION  
CENTERLINE. SEE ESTABLISHMENT  
NOTES

2010000312152 O.R.  
PARCEL A-10

C38

D=32°30'00"  
R=699.98', L=397.04'

C4

L12

D=74°00'03"  
R=249.99', L=322.87'

C39

C3

34'  
17'17"

L1

L11

L17

L18

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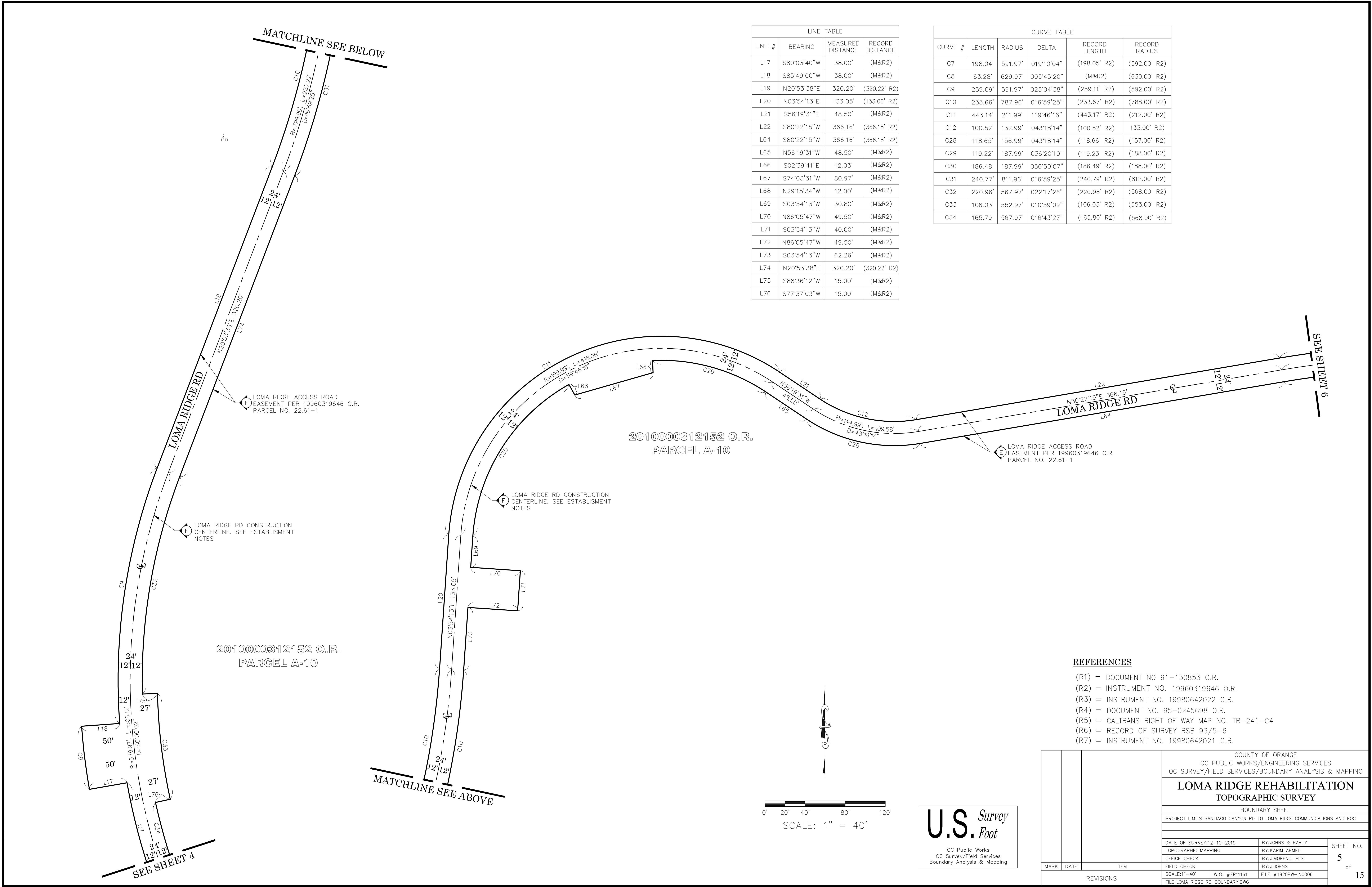
L313

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L316





| LINE TABLE |             |                   |                 |
|------------|-------------|-------------------|-----------------|
| LINE #     | BEARING     | MEASURED DISTANCE | RECORD DISTANCE |
| L17        | S80°03'46"W | 38.00'            | (M&R2)          |
| L18        | S85°49'00"W | 38.00'            | (M&R2)          |
| L19        | N20°53'38"E | 320.20'           | (320.22' R2)    |
| L20        | N03°54'13"E | 133.05'           | (133.06' R2)    |
| L21        | S56°19'31"E | 48.50'            | (M&R2)          |
| L22        | S80°22'15"W | 366.16'           | (366.18' R2)    |
| L64        | S80°22'15"W | 366.16'           | (366.18' R2)    |
| L65        | N56°19'31"W | 48.50'            | (M&R2)          |
| L66        | S02°39'41"E | 12.03'            | (M&R2)          |
| L67        | S74°03'31"W | 80.97'            | (M&R2)          |
| L68        | N29°15'34"W | 12.00'            | (M&R2)          |
| L69        | S03°54'13"W | 30.80'            | (M&R2)          |
| L70        | N86°05'47"W | 49.50'            | (M&R2)          |
| L71        | S03°54'13"W | 40.00'            | (M&R2)          |
| L72        | N86°05'47"W | 49.50'            | (M&R2)          |
| L73        | S03°54'13"W | 62.26'            | (M&R2)          |
| L74        | N20°53'38"E | 320.20'           | (320.22' R2)    |
| L75        | S88°36'12"W | 15.00'            | (M&R2)          |
| L76        | S77°37'03"W | 15.00'            | (M&R2)          |

| CURVE TABLE |         |         |            |               |               |
|-------------|---------|---------|------------|---------------|---------------|
| CURVE #     | LENGTH  | RADIUS  | DELTA      | RECORD LENGTH | RECORD RADIUS |
| C7          | 198.04' | 591.97' | 019°10'04" | (198.05' R2)  | (592.00' R2)  |
| C8          | 63.28'  | 629.97' | 005°45'20" | (M&R2)        | (630.00' R2)  |
| C9          | 259.09' | 591.97' | 025°04'38" | (259.11' R2)  | (592.00' R2)  |
| C10         | 233.66' | 787.96' | 016°59'25" | (233.67' R2)  | (788.00' R2)  |
| C11         | 443.14' | 211.99' | 119°46'16" | (443.17' R2)  | (212.00' R2)  |
| C12         | 100.52' | 132.99' | 043°18'14" | (100.52' R2)  | (133.00' R2)  |
| C28         | 118.65' | 156.99' | 043°18'14" | (118.66' R2)  | (157.00' R2)  |
| C29         | 119.22' | 187.99' | 036°20'10" | (119.23' R2)  | (188.00' R2)  |
| C30         | 186.48' | 187.99' | 056°50'07" | (186.49' R2)  | (188.00' R2)  |
| C31         | 240.77' | 811.96' | 016°59'25" | (240.79' R2)  | (812.00' R2)  |
| C32         | 220.96' | 567.97' | 022°17'26" | (220.98' R2)  | (568.00' R2)  |
| C33         | 106.03' | 552.97' | 010°59'09" | (106.03' R2)  | (553.00' R2)  |
| C34         | 165.79' | 567.97' | 016°43'27" | (165.80' R2)  | (568.00' R2)  |

REFERENCES

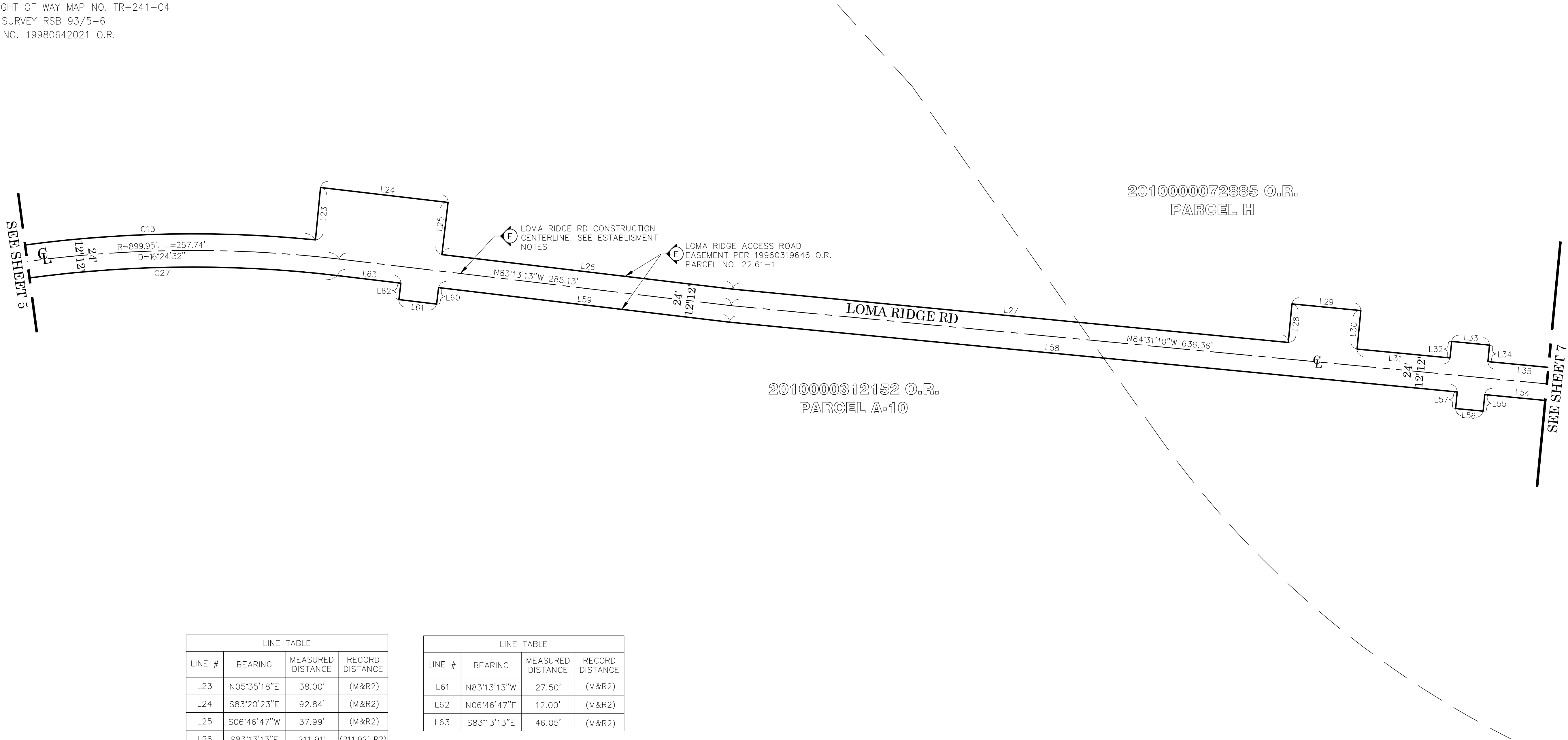
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(R2) = INSTRUMENT NO. 19960319646 O.R.  
(R3) = INSTRUMENT NO. 19980642022 O.R.  
(R4) = DOCUMENT NO. 95-0245698 O.R.  
(R5) = CALTRANS RIGHT OF WAY MAP NO. TR-241-C4  
(R6) = RECORD OF SURVEY RSB 93/5-6  
(R7) = INSTRUMENT NO. 19980642021 O.R.

|      |      |      |  |  |                  |                                    |
|------|------|------|--|--|------------------|------------------------------------|
|      |      |      | COUNTY OF ORANGE<br>OC PUBLIC WORKS/ENGINEERING SERVICES<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING |  |                  |                                    |
|      |      |      | LOMA RIDGE REHABILITATION<br>TOPOGRAPHIC SURVEY  |  |                  |                                    |
|      |      |      | BOUNDARY SHEET   |  |                  |                                    |
|      |      |      | PROJECT LIMITS: SANTIAGO CANYON RD TO LOMA RIDGE COMMUNICATIONS AND EOC  |  |                  |                                    |
|      |      |      |  |  |                  |                                    |
|      |      |      |  |  |                  |                                    |
|      |      |      | DATE OF SURVEY:12-10-2019  |  | BY:JOHNS & PARTY | SHEET NO.<br><br>5<br>of<br><br>15 |
|      |      |      | TOPOGRAPHIC MAPPING  |  | BY:KARIM AHMED   |                                    |
|      |      |      | OFFICE CHECK   |  | BY:J.MORENO, PLS |                                    |
|      |      |      | FIELD CHECK  |  | BY:J.JOHNS       |                                    |
| MARK | DATE | ITEM | SCALE:1"=40'   |  | W.O. #ER11161    | FILE #1920PW-IN0006                |
|      |      |      | FILE:LOMA RIDGE RD_BOUNDARY.DWG  |  |                  |                                    |



REFERENCES

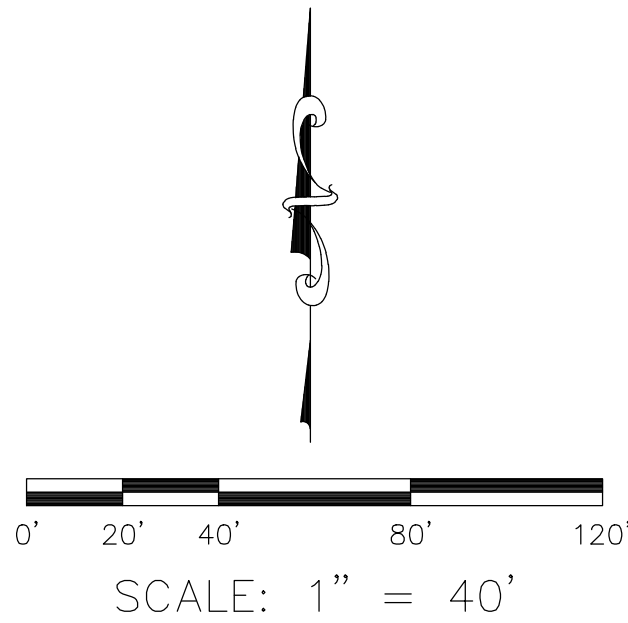
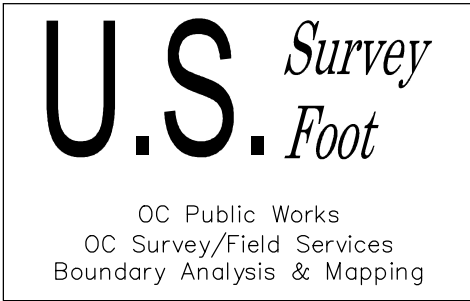
- (R1) = DOCUMENT NO 91-130853 O.R.  
(R2) = INSTRUMENT NO. 19960319646 O.R.  
(R3) = INSTRUMENT NO. 19980642022 O.R.  
(R4) = DOCUMENT NO. 95-0245698 O.R.  
(R5) = CALTRANS RIGHT OF WAY MAP NO. TR-241-C4  
(R6) = RECORD OF SURVEY RSB 93/5-6  
(R7) = INSTRUMENT NO. 19980642021 O.R.



| LINE TABLE |             |                   |                 |
|------------|-------------|-------------------|-----------------|
| LINE #     | BEARING     | MEASURED DISTANCE | RECORD DISTANCE |
| L23        | N05°35'18"E | 38.00'            | (M&R2)          |
| L24        | S83°20'23"E | 92.84'            | (M&R2)          |
| L25        | S06°46'47"W | 37.99'            | (M&R2)          |
| L26        | S83°13'13"E | 211.91'           | (211.92' R2)    |
| L27        | S84°31'10"E | 403.27'           | (403.29' R2)    |
| L28        | N05°28'50"E | 28.00'            | (M&R2)          |
| L29        | S84°31'10"E | 50.00'            | (M&R2)          |
| L30        | S05°28'50"W | 28.00'            | (M&R2)          |
| L31        | S84°31'10"E | 67.50'            | (M&R2)          |
| L32        | N05°28'50"E | 12.00'            | (M&R2)          |
| L33        | S84°31'10"E | 27.50'            | (M&R2)          |
| L34        | S05°28'50"W | 12.00'            | (M&R2)          |
| L35        | S84°31'10"E | 87.97'            | (M&R2)          |
| L54        | N84°31'10"W | 87.97'            | (M&R2)          |
| L55        | S05°28'50"W | 12.00'            | (M&R2)          |
| L56        | N84°31'10"W | 20.00'            | (M&R2)          |
| L57        | N05°28'50"E | 12.00'            | (M&R2)          |
| L58        | S84°31'10"E | 528.54'           | (528.54' R2)    |
| L59        | N83°13'13"W | 211.71'           | (211.72' R2)    |
| L60        | N06°46'47"E | 12.00'            | (M&R2)          |

| LINE TABLE |             |                   |                 |
|------------|-------------|-------------------|-----------------|
| LINE #     | BEARING     | MEASURED DISTANCE | RECORD DISTANCE |
| L61        | N83°13'13"W | 27.50'            | (M&R2)          |
| L62        | N06°46'47"E | 12.00'            | (M&R2)          |
| L63        | S83°13'13"E | 46.05'            | (M&R2)          |

| CURVE TABLE |         |         |            |               |               |
|-------------|---------|---------|------------|---------------|---------------|
| CURVE #     | LENGTH  | RADIUS  | DELTA      | RECORD LENGTH | RECORD RADIUS |
| C13         | 242.21' | 911.95' | 015°13'03" | (242.22' R2)  | (912.00 R2)   |
| C27         | 254.30' | 887.95' | 016°24'32" | (245.31' R2)  | (888.00 R2)   |



|               |      |               |  |  |                    |  |                                    |
|---------------|------|---------------|--|--|--------------------|--|------------------------------------|
|               |      |               | COUNTY OF ORANGE<br>OC PUBLIC WORKS/ENGINEERING SERVICES<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING |  |                    |  |                                    |
|               |      |               | LOMA RIDGE REHABILITATION<br>TOPOGRAPHIC SURVEY  |  |                    |  |                                    |
|               |      |               | BOUNDARY SHEET   |  |                    |  |                                    |
|               |      |               | PROJECT LIMITS: SANTIAGO CANYON RD TO LOMA RIDGE COMMUNICATIONS AND EOC  |  |                    |  |                                    |
|               |      |               |  |  |                    |  |                                    |
|               |      |               |  |  |                    |  |                                    |
|               |      |               | DATE OF SURVEY: 12-10-2019   |  | BY: JOHNS & PARTY  |  | SHEET NO.<br><br>6<br>of<br><br>15 |
|               |      |               | TOPOGRAPHIC MAPPING  |  | BY: KARIM AHMED    |  |                                    |
|               |      |               | OFFICE CHECK   |  | BY: J. MORENO, PLS |  |                                    |
|               |      |               | FIELD CHECK  |  | BY: J. JOHNS       |  |                                    |
| SCALE: 1"=40' |      | W.O. #ER11161 |  |  |                    |  |                                    |
| MARK          | DATE | ITEM          | FILE: LOMA RIDGE RD_BOUNDARY.DWG   |  |                    |  |                                    |
| REVISIONS     |      |               |  |  |                    |  |                                    |

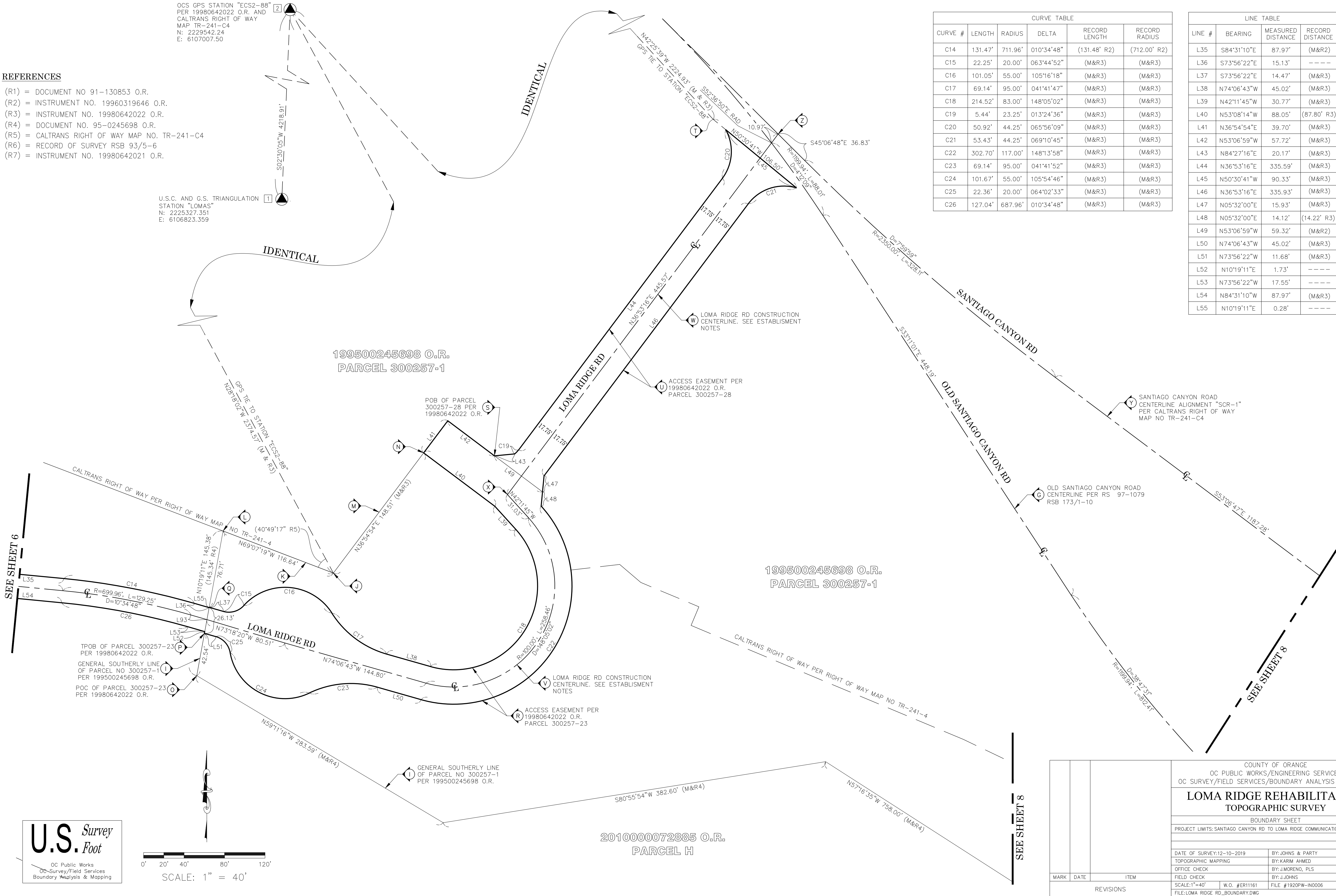


REFERENCES

- (R1) = DOCUMENT NO 91-130853 O.R.  
(R2) = INSTRUMENT NO. 19960319646 O.R.  
(R3) = INSTRUMENT NO. 19980642022 O.R.  
(R4) = DOCUMENT NO. 95-0245698 O.R.  
(R5) = CALTRANS RIGHT OF WAY MAP NO. TR-241-C4  
(R6) = RECORD OF SURVEY RSB 93/5-6  
(R7) = INSTRUMENT NO. 19980642021 O.R.

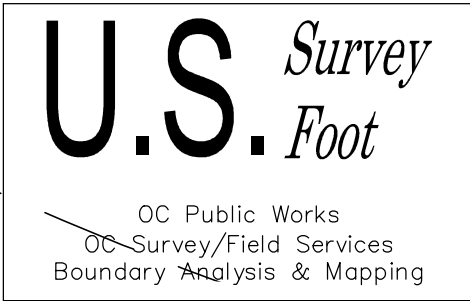
U.S.C. AND G.S. TRIANGULATION  
STATION "LOMAS"  
N: 2225327.351  
E: 6106823.359

OCS GPS STATION "ECS2-88"  
PER 19980642022 O.R. AND  
CALTRANS RIGHT OF WAY  
MAP TR-241-C4  
N: 2229542.24  
E: 6107007.50



| CURVE TABLE |         |         |            |               |               |
|-------------|---------|---------|------------|---------------|---------------|
| CURVE #     | LENGTH  | RADIUS  | DELTA      | RECORD LENGTH | RECORD RADIUS |
| C14         | 131.47' | 711.96' | 010°34'48" | (131.48' R2)  | (712.00' R2)  |
| C15         | 22.25'  | 20.00'  | 063°44'52" | (M&R3)        | (M&R3)        |
| C16         | 101.05' | 55.00'  | 105°16'18" | (M&R3)        | (M&R3)        |
| C17         | 69.14'  | 95.00'  | 041°41'47" | (M&R3)        | (M&R3)        |
| C18         | 214.52' | 83.00'  | 148°05'02" | (M&R3)        | (M&R3)        |
| C19         | 5.44'   | 23.25'  | 013°24'36" | (M&R3)        | (M&R3)        |
| C20         | 50.92'  | 44.25'  | 065°56'09" | (M&R3)        | (M&R3)        |
| C21         | 53.43'  | 44.25'  | 069°10'45" | (M&R3)        | (M&R3)        |
| C22         | 302.70' | 117.00' | 148°13'58" | (M&R3)        | (M&R3)        |
| C23         | 69.14'  | 95.00'  | 041°41'52" | (M&R3)        | (M&R3)        |
| C24         | 101.67' | 55.00'  | 105°54'46" | (M&R3)        | (M&R3)        |
| C25         | 22.36'  | 20.00'  | 064°02'33" | (M&R3)        | (M&R3)        |
| C26         | 127.04' | 687.96' | 010°34'48" | (M&R3)        | (M&R3)        |

| LINE TABLE |             |                   |                 |
|------------|-------------|-------------------|-----------------|
| LINE #     | BEARING     | MEASURED DISTANCE | RECORD DISTANCE |
| L35        | S84°31'10"E | 87.97'            | (M&R2)          |
| L36        | S73°56'22"E | 15.13'            | ----            |
| L37        | S73°56'22"E | 14.47'            | (M&R3)          |
| L38        | N74°06'43"W | 45.02'            | (M&R3)          |
| L39        | N42°11'45"W | 30.77'            | (M&R3)          |
| L40        | N53°08'14"W | 88.05'            | (87.80' R3)     |
| L41        | N36°54'54"E | 39.70'            | (M&R3)          |
| L42        | N53°06'59"W | 57.72'            | (M&R3)          |
| L43        | N84°27'16"E | 20.17'            | (M&R3)          |
| L44        | N36°53'16"E | 335.59'           | (M&R3)          |
| L45        | N50°30'41"W | 90.33'            | (M&R3)          |
| L46        | N36°53'16"E | 335.93'           | (M&R3)          |
| L47        | N05°32'00"E | 15.93'            | (M&R3)          |
| L48        | N05°32'00"E | 14.12'            | (14.22' R3)     |
| L49        | N53°06'59"W | 59.32'            | (M&R2)          |
| L50        | N74°06'43"W | 45.02'            | (M&R3)          |
| L51        | N73°56'22"W | 11.68'            | (M&R3)          |
| L52        | N10°19'11"E | 1.73'             | ----            |
| L53        | N73°56'22"W | 17.55'            | ----            |
| L54        | N84°31'10"W | 87.97'            | (M&R3)          |
| L55        | N10°19'11"E | 0.28'             | ----            |



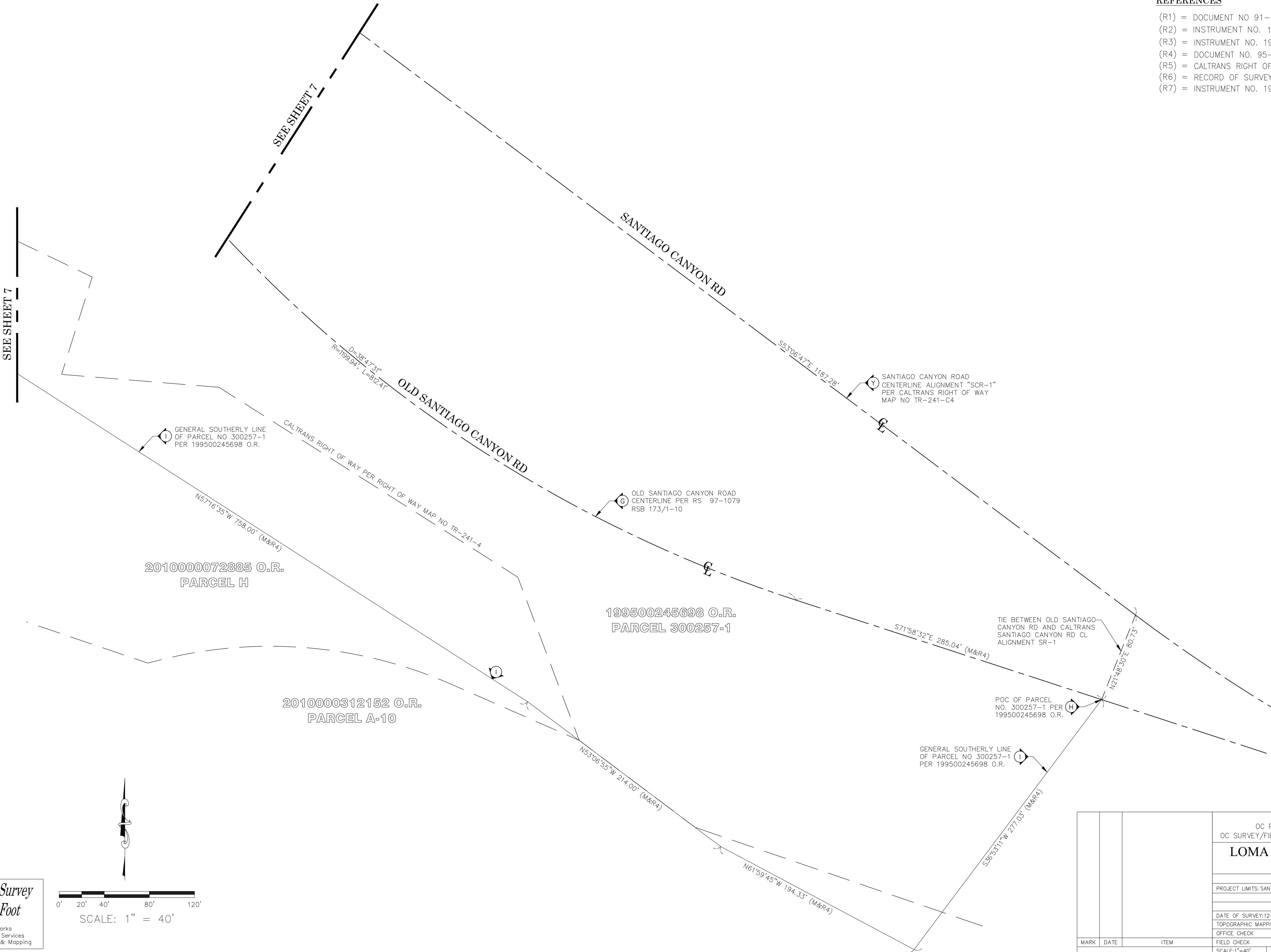
SCALE: 1" = 40'

| COUNTY OF ORANGE<br>OC PUBLIC WORKS/ENGINEERING SERVICES<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING |  |                      |                                |
|--|--|----------------------|--------------------------------|
| LOMA RIDGE REHABILITATION<br>TOPOGRAPHIC SURVEY  |  |                      |                                |
| BOUNDARY SHEET   |  |                      |                                |
| PROJECT LIMITS: SANTIAGO CANYON RD TO LOMA RIDGE COMMUNICATIONS AND EOC  |  |                      |                                |
|  |  |                      |                                |
| DATE OF SURVEY: 12-10-2019   |  | BY: JOHNS & PARTY    | SHEET NO.<br><br>7<br>of<br>15 |
| TOPOGRAPHIC MAPPING  |  | BY: KARIM AHMED      |                                |
| OFFICE CHECK   |  | BY: J. MORENO, PLS   |                                |
| FIELD CHECK  |  | BY: J. JOHNS         |                                |
| SCALE: 1"= 40'   |  | W.O. #ER1161         |                                |
| FILE: LOMA RIDGE RD_BOUNDARY.DWG   |  | FILE # 1920PW-IN0006 |                                |
|  |  |                      |                                |



REFERENCES

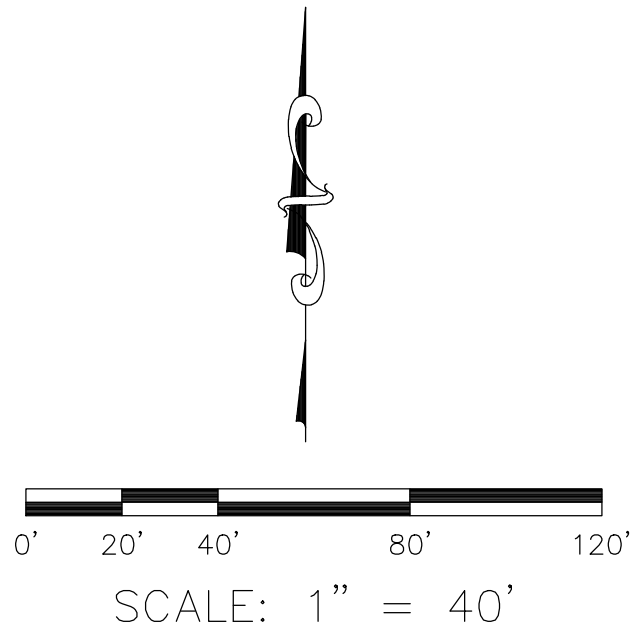
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(R2) = INSTRUMENT NO. 19960319646 O.R.  
(R3) = INSTRUMENT NO. 19980642022 O.R.  
(R4) = DOCUMENT NO. 95-0245698 O.R.  
(R5) = CALTRANS RIGHT OF WAY MAP NO. TR-241-C4  
(R6) = RECORD OF SURVEY RSB 93/5-6  
(R7) = INSTRUMENT NO. 19980642021 O.R.



U.S. Survey

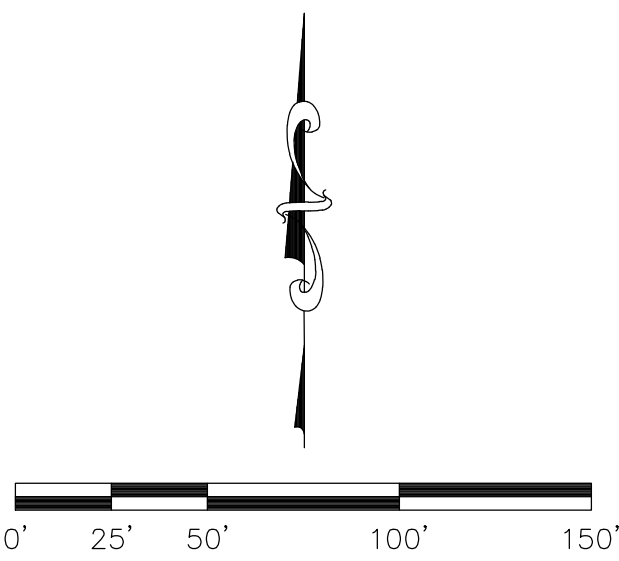
Foot

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



|              |      |               |  |  |                  |                                    |
|--------------|------|---------------|--|--|------------------|------------------------------------|
|              |      |               | COUNTY OF ORANGE<br>OC PUBLIC WORKS/ENGINEERING SERVICES<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING |  |                  |                                    |
|              |      |               | LOMA RIDGE REHABILITATION<br>TOPOGRAPHIC SURVEY  |  |                  |                                    |
|              |      |               | BOUNDARY SHEET   |  |                  |                                    |
|              |      |               | PROJECT LIMITS: SANTIAGO CANYON RD TO LOMA RIDGE COMMUNICATIONS AND EOC  |  |                  |                                    |
|              |      |               |  |  |                  |                                    |
|              |      |               |  |  |                  |                                    |
|              |      |               | DATE OF SURVEY:12-10-2019  |  | BY:JOHNS & PARTY | SHEET NO.<br><br>8<br>of<br><br>15 |
|              |      |               | TOPOGRAPHIC MAPPING  |  | BY:KARIM AHMED   |                                    |
|              |      |               | OFFICE CHECK   |  | BY:J.MORENO, PLS |                                    |
|              |      |               | FIELD CHECK  |  | BY:J.JOHNS       |                                    |
| SCALE:1"=40' |      | W.O. #ER11161 |  |  |                  |                                    |
| MARK         | DATE | ITEM          | REVISIONS  |  |                  |                                    |
|              |      |               | FILE:LOMA RIDGE RD_BOUNDARY.DWG  |  |                  |                                    |





SCALE: 1" = 50'  
CONTOUR INTERVAL= 1'  
**U.S. Survey**  
Foot  
OC Public Works  
OC Survey/Field Services  
Boundary Analysis & Mapping

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     |
|  | MHHSDD  | Manhole - Storm Drain    |
|  | MHHSWS  | 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        |
|  | VLTLL   | Vault - Irrigation       |
|  | VLVWA   | Valve - Water            |
|  | VPP     | Vent Pipe                |
|  | CONC    | Concrete                 |
|  | PST     | Post                     |
|  | UP0     | Powerpole                |
|  | GYA     | Guy Wire                 |
|  | YDL     | Yard Light               |
|  | TSR     | Traffic Sensor           |
|  | CMP     | Corrugated Metal Pipe    |
|  | RCP     | Reinforced Concrete Pipe |
|  | TG      | Top of Grate             |
|  | INV     | Invert                   |

SYMBOL

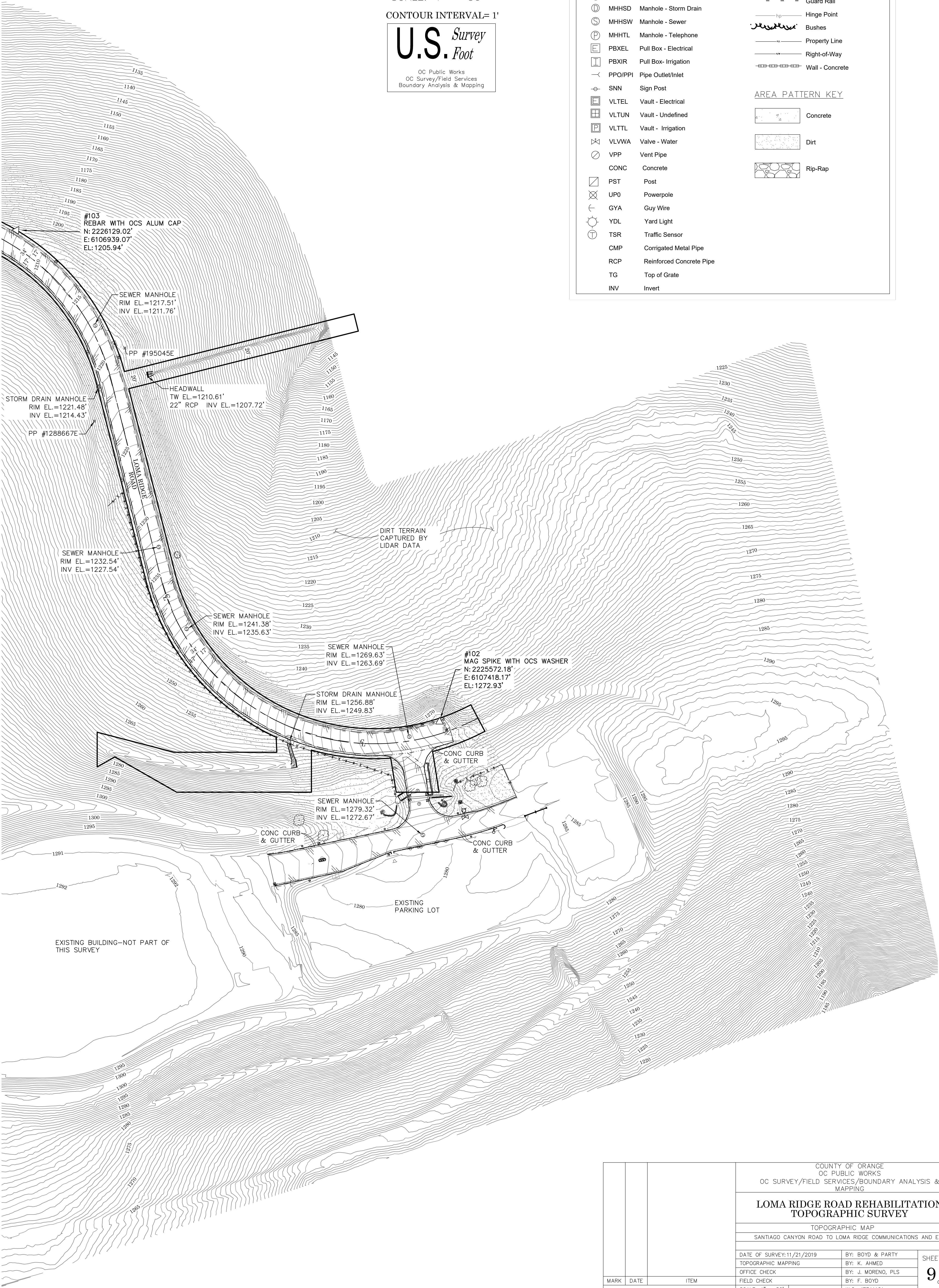
|  |       |             |
|--|-------|-------------|
|  | TRE   | Tree        |
|  | TREPM | Tree - Palm |

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          |

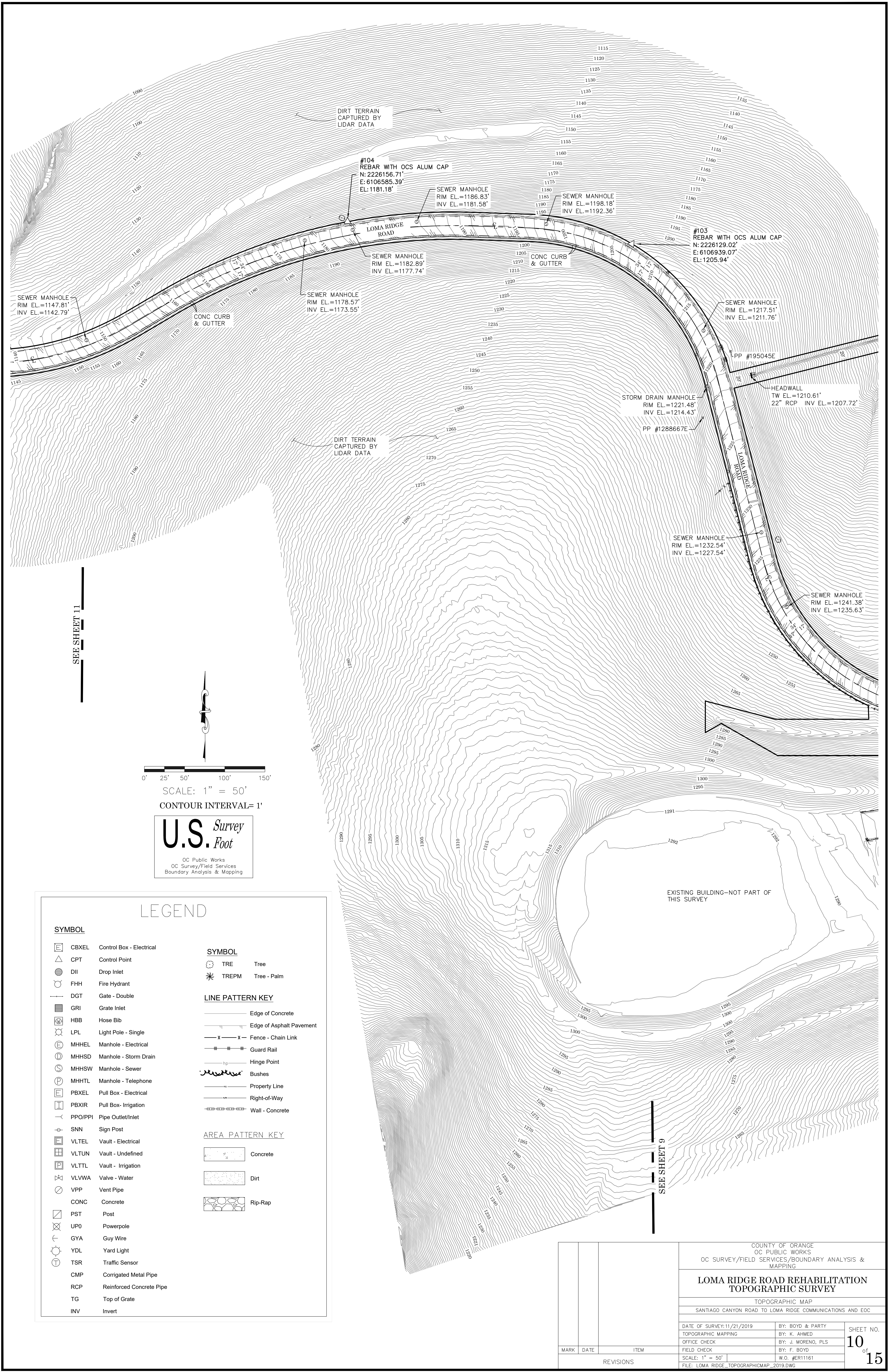
AREA PATTERN KEY

|  |          |
|--|----------|
|  | Concrete |
|  | Dirt     |
|  | Rip-Rap  |

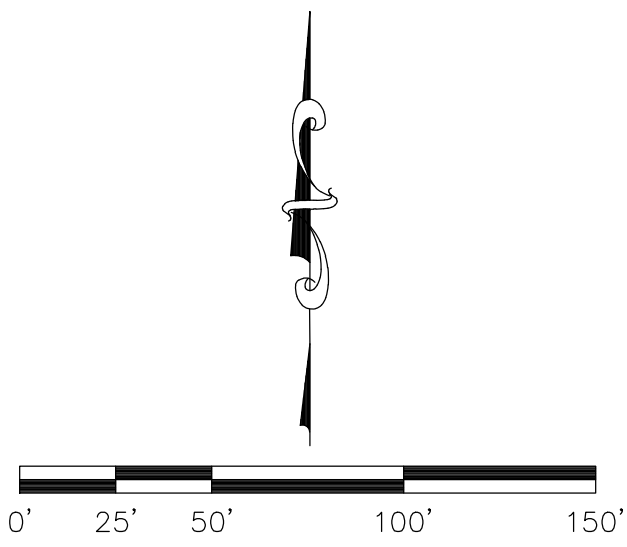


|           |      |   |                    |
|-----------|------|---|--------------------|
|           |      | COUNTY OF ORANGE<br>OC PUBLIC WORKS<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING |                    |
|           |      | <b>LOMA RIDGE ROAD REHABILITATION<br/>TOPOGRAPHIC SURVEY</b>                                |                    |
|           |      | TOPOGRAPHIC MAP<br>SANTIAGO CANYON ROAD TO LOMA RIDGE COMMUNICATIONS AND EOC                |                    |
|           |      | DATE OF SURVEY: 11/21/2019  | BY: BOYD & PARTY   |
|           |      | TOPOGRAPHIC MAPPING   | BY: K. AHMED       |
|           |      | OFFICE CHECK  | BY: J. MORENO, PLS |
|           |      | FIELD CHECK   | BY: F. BOYD        |
|           |      | SCALE: 1" = 50'   | W.O. #ER11161      |
|           |      | FILE: LOMA RIDGE_TOPOGRAPHICMAP_2019.DWG  |                    |
| MARK      | DATE | ITEM  |                    |
| REVISIONS |      |   |                    |





SEE SHEET 11



SCALE: 1" = 50'  
CONTOUR INTERVAL= 1'

U.S. Survey  
Foot

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

## LEGEND

### SYMBOL

|  |                          |
|--|--------------------------|
|  | Control Box - Electrical |
|  | Control Point            |
|  | Drop Inlet               |
|  | Fire Hydrant             |
|  | Gate - Double            |
|  | Grate Inlet              |
|  | Hose Bib                 |
|  | Light Pole - Single      |
|  | Manhole - Electrical     |
|  | Manhole - Storm Drain    |
|  | Manhole - Sewer          |
|  | Manhole - Telephone      |
|  | Pull Box - Electrical    |
|  | Pull Box - Irrigation    |
|  | Pipe Outlet/Inlet        |
|  | Sign Post                |
|  | Vault - Electrical       |
|  | Vault - Undefined        |
|  | Vault - Irrigation       |
|  | Valve - Water            |
|  | Vent Pipe                |
|  | Concrete                 |
|  | Post                     |
|  | Powerpole                |
|  | Guy Wire                 |
|  | Yard Light               |
|  | Traffic Sensor           |
|  | Corrugated Metal Pipe    |
|  | Reinforced Concrete Pipe |
|  | Top of Grate             |
|  | Invert                   |

### SYMBOL

|  |             |
|--|-------------|
|  | Tree        |
|  | 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

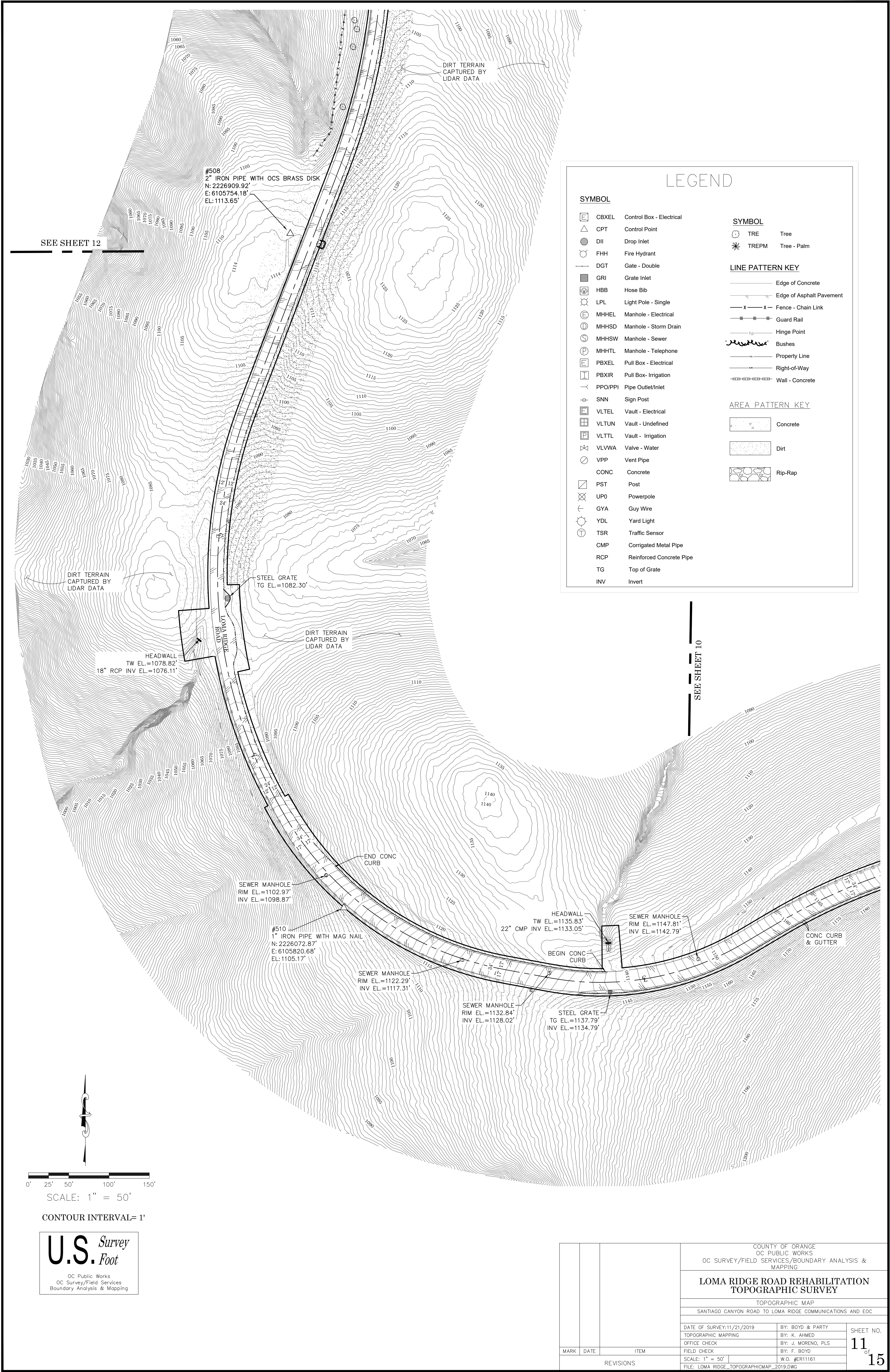
|  |          |
|--|----------|
|  | Concrete |
|  | Dirt     |
|  | Rip-Rap  |

EXISTING BUILDING--NOT PART OF  
THIS SURVEY

SEE SHEET 9

|  |      |      |  |  |                    |                                 |
|--|------|------|--|--|--------------------|---------------------------------|
|  |      |      | COUNTY OF ORANGE<br>OC PUBLIC WORKS<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS &<br>MAPPING |  |                    |                                 |
|  |      |      | LOMA RIDGE ROAD REHABILITATION<br>TOPOGRAPHIC SURVEY   |  |                    |                                 |
|  |      |      | TOPOGRAPHIC MAP  |  |                    |                                 |
|  |      |      | SANTIAGO CANYON ROAD TO LOMA RIDGE COMMUNICATIONS AND EOC                                      |  |                    |                                 |
|  |      |      |  |  |                    |                                 |
|  |      |      | DATE OF SURVEY: 11/21/2019   |  | BY: BOYD & PARTY   | SHEET NO.<br><br>10<br>of<br>15 |
|  |      |      | TOPOGRAPHIC MAPPING  |  | BY: K. AHMED       |                                 |
|  |      |      | OFFICE CHECK   |  | BY: J. MORENO, PLS |                                 |
|  |      |      | FIELD CHECK  |  | BY: F. BOYD        |                                 |
|  |      |      | SCALE: 1" = 50'  |  | W.O. #ER11161      |                                 |
| FILE: LOMA RIDGE_TOPOGRAPHICMAP_2019.DWG |      |      |  |  |                    |                                 |
| MARK                                     | DATE | ITEM |  |  |                    |                                 |
| REVISIONS                                |      |      |  |  |                    |                                 |







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     |
|  | MHHSDD  | Manhole - Storm Drain    |
|  | MHHSWS  | 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        |
|  | VLTLT   | Vault - Irrigation       |
|  | VLVWA   | Valve - Water            |
|  | VPP     | Vent Pipe                |
|  | CONC    | Concrete                 |
|  | PST     | Post                     |
|  | UP0     | Powerpole                |
|  | GYA     | Guy Wire                 |
|  | YDL     | Yard Light               |
|  | TSR     | Traffic Sensor           |
|  | CMP     | Corrugated Metal Pipe    |
|  | RCP     | Reinforced Concrete Pipe |
|  | TG      | Top of Grate             |
|  | INV     | Invert                   |

SYMBOL

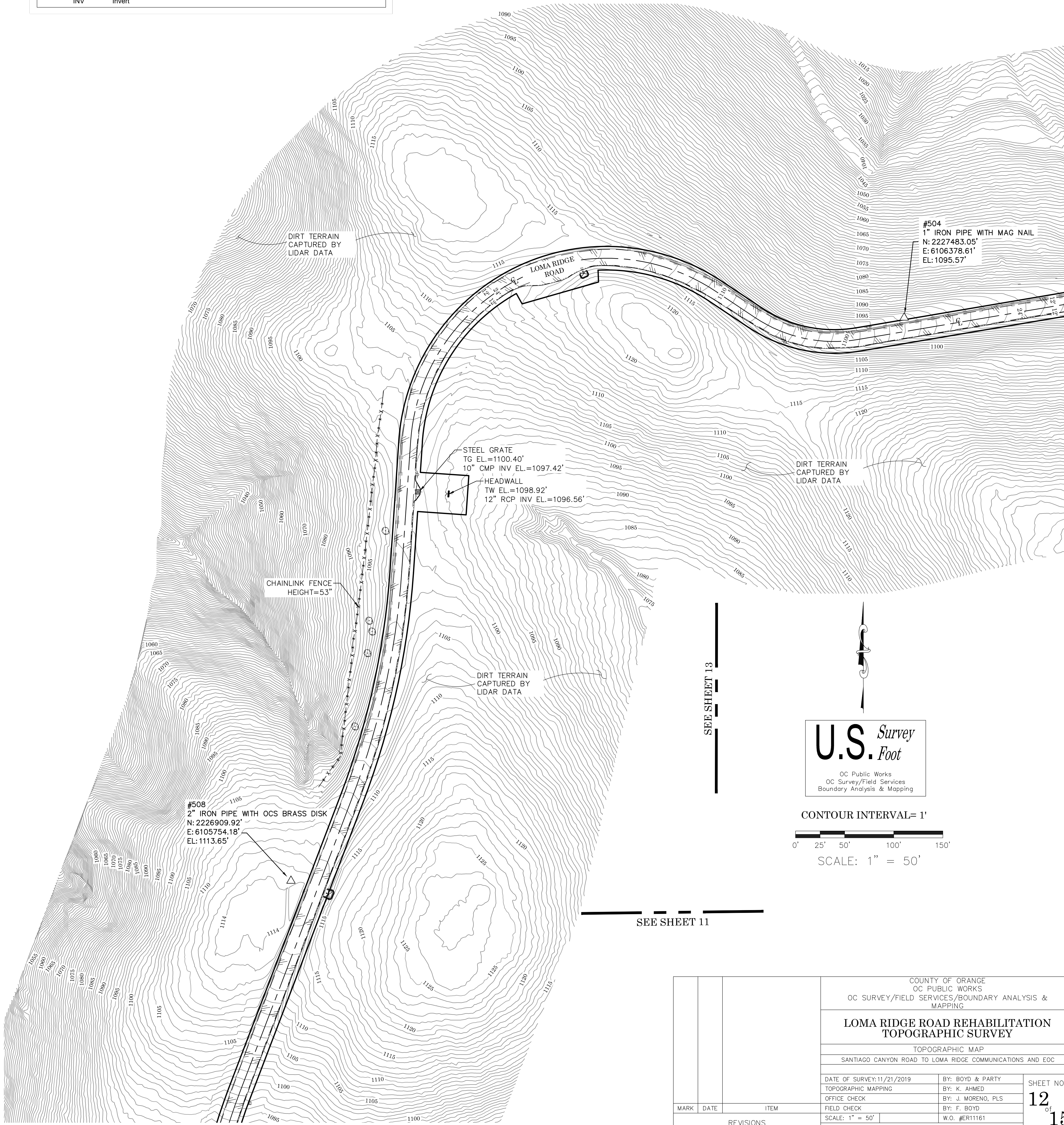
|  |       |             |
|--|-------|-------------|
|  | TRE   | Tree        |
|  | TREPM | Tree - Palm |

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          |

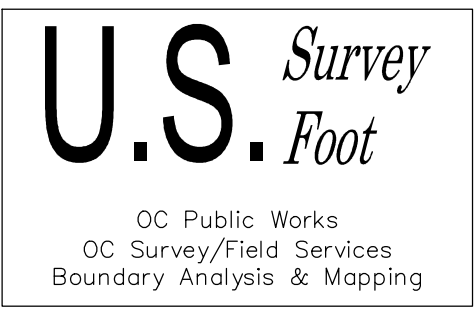
AREA PATTERN KEY

|  |          |
|--|----------|
|  | Concrete |
|  | Dirt     |
|  | Rip-Rap  |



SEE SHEET 13

SEE SHEET 11



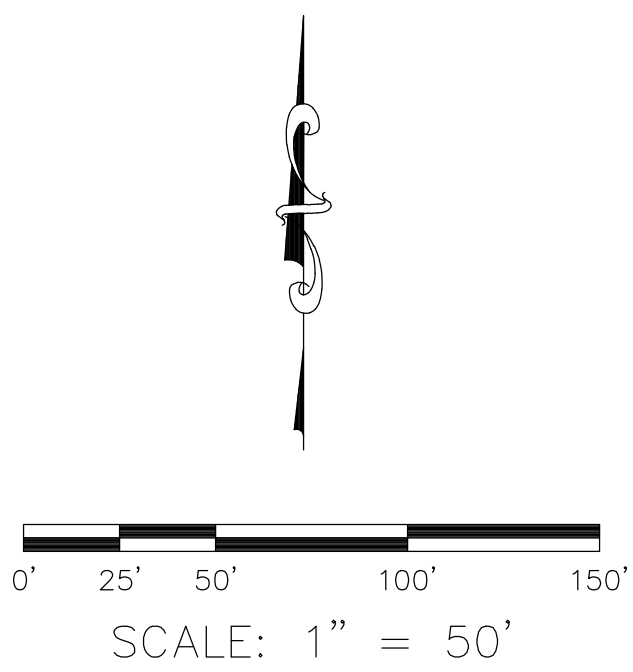
CONTOUR INTERVAL= 1'



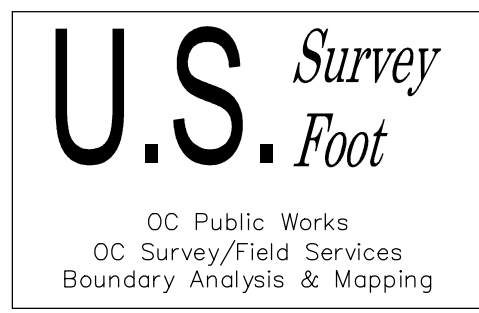
SCALE: 1" = 50'

|           |      |   |                       |
|-----------|------|---|-----------------------|
|           |      | COUNTY OF ORANGE<br>OC PUBLIC WORKS<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING |                       |
|           |      | LOMA RIDGE ROAD REHABILITATION<br>TOPOGRAPHIC MAP   |                       |
|           |      | SANTIAGO CANYON ROAD TO LOMA RIDGE COMMUNICATIONS AND EOC                                   |                       |
| MARK      | DATE | DATE OF SURVEY: 11/21/2019  | BY: BOYD & PARTY      |
|           |      | TOPOGRAPHIC MAPPING   | BY: K. AHMED          |
|           |      | OFFICE CHECK  | BY: J. MORENO, PLS    |
|           |      | FIELD CHECK   | BY: F. BOYD           |
|           |      | SCALE: 1" = 50'   | W.O. #ER11161         |
| REVISIONS |      | FILE: LOMA RIDGE_TOPOGRAPHICMAP_2019.DWG  |                       |
|           |      |   | SHEET NO.<br>12 of 15 |

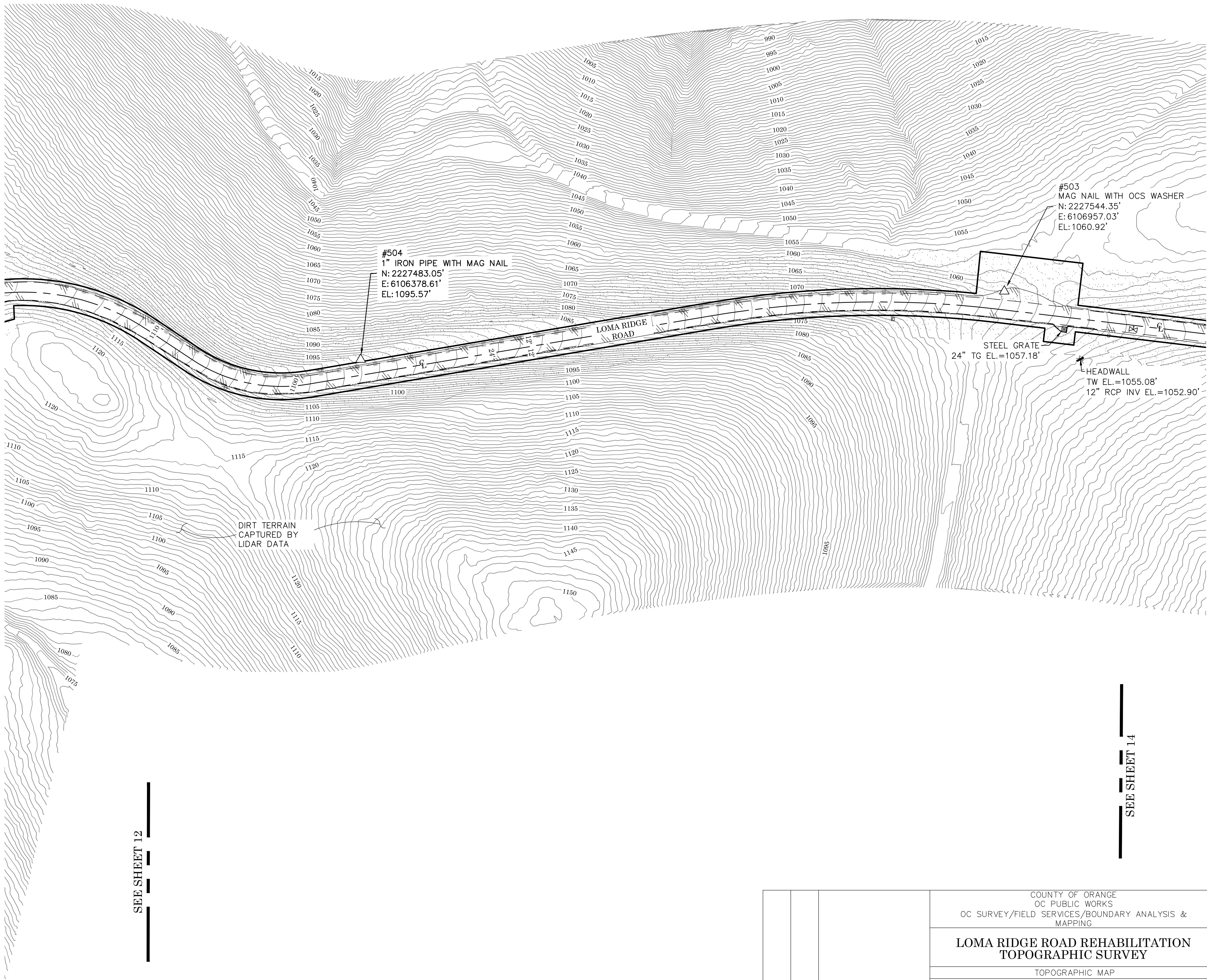




CONTOUR INTERVAL= 1'



| SYMBOL |                                | SYMBOL           |                          |
|--------|--------------------------------|------------------|--------------------------|
|        | CBXEL Control Box - Electrical |                  | TRE Tree                 |
|        | CPT Control Point              |                  | TREPM Tree - Palm        |
|        | DII Drop Inlet                 | LINE PATTERN KEY |                          |
|        | FHH Fire Hydrant               |                  | Edge of Concrete         |
|        | DGT Gate - Double              |                  | Edge of Asphalt Pavement |
|        | GRI Grate Inlet                |                  | Fence - Chain Link       |
|        | HBB Hose Bib                   |                  | Guard Rail               |
|        | LPL Light Pole - Single        |                  | Hinge Point              |
|        | MHHEL Manhole - Electrical     |                  | Bushes                   |
|        | MHHSD Manhole - Storm Drain    |                  | Property Line            |
|        | MHHSW Manhole - Sewer          |                  | Right-of-Way             |
|        | MHHTL Manhole - Telephone      |                  | Wall - Concrete          |
|        | PBXEL Pull Box - Electrical    | AREA PATTERN KEY |                          |
|        | PBXIR Pull Box- Irrigation     |                  | Concrete                 |
|        | PPO/PPI Pipe Outlet/Inlet      |                  | Dirt                     |
|        | SNN Sign Post                  |                  | Rip-Rap                  |
|        | 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 Corrugated Metal Pipe      |                  |                          |
|        | RCP Reinforced Concrete Pipe   |                  |                          |
|        | TG Top of Grate                |                  |                          |
|        | INV Invert                     |                  |                          |



|           |      |   |                    |
|-----------|------|---|--------------------|
|           |      | COUNTY OF ORANGE<br>OC PUBLIC WORKS<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING |                    |
|           |      | LOMA RIDGE ROAD REHABILITATION<br>TOPOGRAPHIC MAP   |                    |
|           |      | SANTIAGO CANYON ROAD TO LOMA RIDGE COMMUNICATIONS AND EOC                                   |                    |
|           |      | DATE OF SURVEY: 11/21/2019  | BY: BOYD & PARTY   |
|           |      | TOPOGRAPHIC MAPPING   | BY: K. AHMED       |
|           |      | OFFICE CHECK  | BY: J. MORENO, PLS |
|           |      | FIELD CHECK   | BY: F. BOYD        |
|           |      | SCALE: 1" = 50'   | W.O. #ER11161      |
|           |      | FILE: LOMA RIDGE_TOPOGRAPHICMAP_2019.DWG  |                    |
| MARK      | DATE | ITEM  | SHEET NO.          |
| REVISIONS |      |   | 13 of 15           |



SEE SHEET 13

## LEGEND

### SYMBOL

|  |                          |
|--|--------------------------|
|  | Control Box - Electrical |
|  | Control Point            |
|  | Drop Inlet               |
|  | Fire Hydrant             |
|  | Gate - Double            |
|  | Grate Inlet              |
|  | Hose Bib                 |
|  | Light Pole - Single      |
|  | Manhole - Electrical     |
|  | Manhole - Storm Drain    |
|  | Manhole - Sewer          |
|  | Manhole - Telephone      |
|  | Pull Box - Electrical    |
|  | Pull Box - Irrigation    |
|  | Pipe Outlet/Inlet        |
|  | Sign Post                |
|  | Vault - Electrical       |
|  | Vault - Undefined        |
|  | Vault - Irrigation       |
|  | Valve - Water            |
|  | Vent Pipe                |
|  | Concrete                 |
|  | Post                     |
|  | Powerpole                |
|  | Guy Wire                 |
|  | Yard Light               |
|  | Traffic Sensor           |
|  | Corrugated Metal Pipe    |
|  | Reinforced Concrete Pipe |
|  | Top of Grate             |
|  | Invert                   |

### SYMBOL

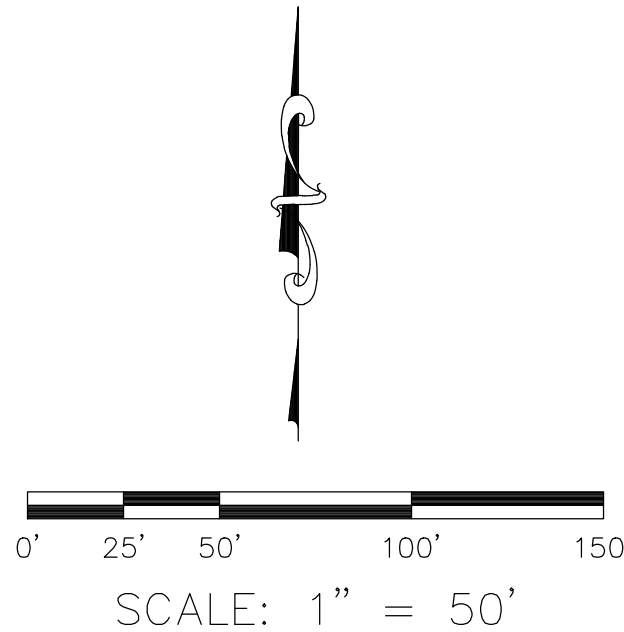
|  |             |
|--|-------------|
|  | Tree        |
|  | Tree - Palm |

### 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  |

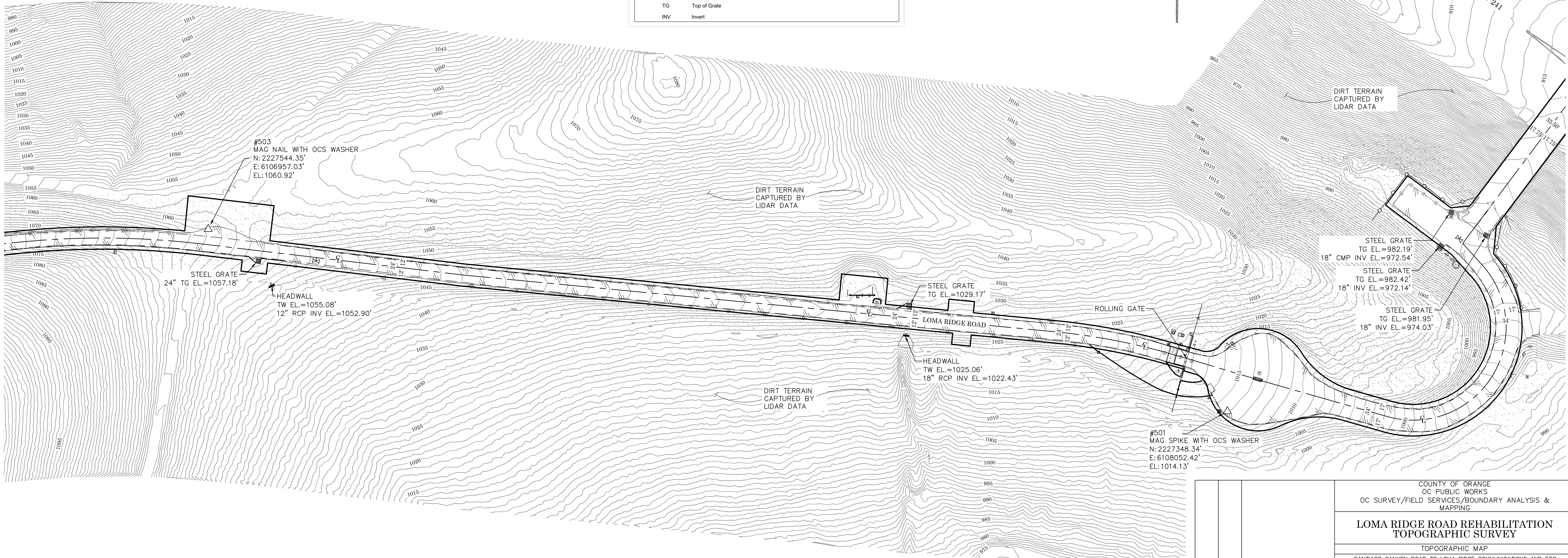


CONTOUR INTERVAL= 1'

**U.S. Survey**  
**Foot**

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

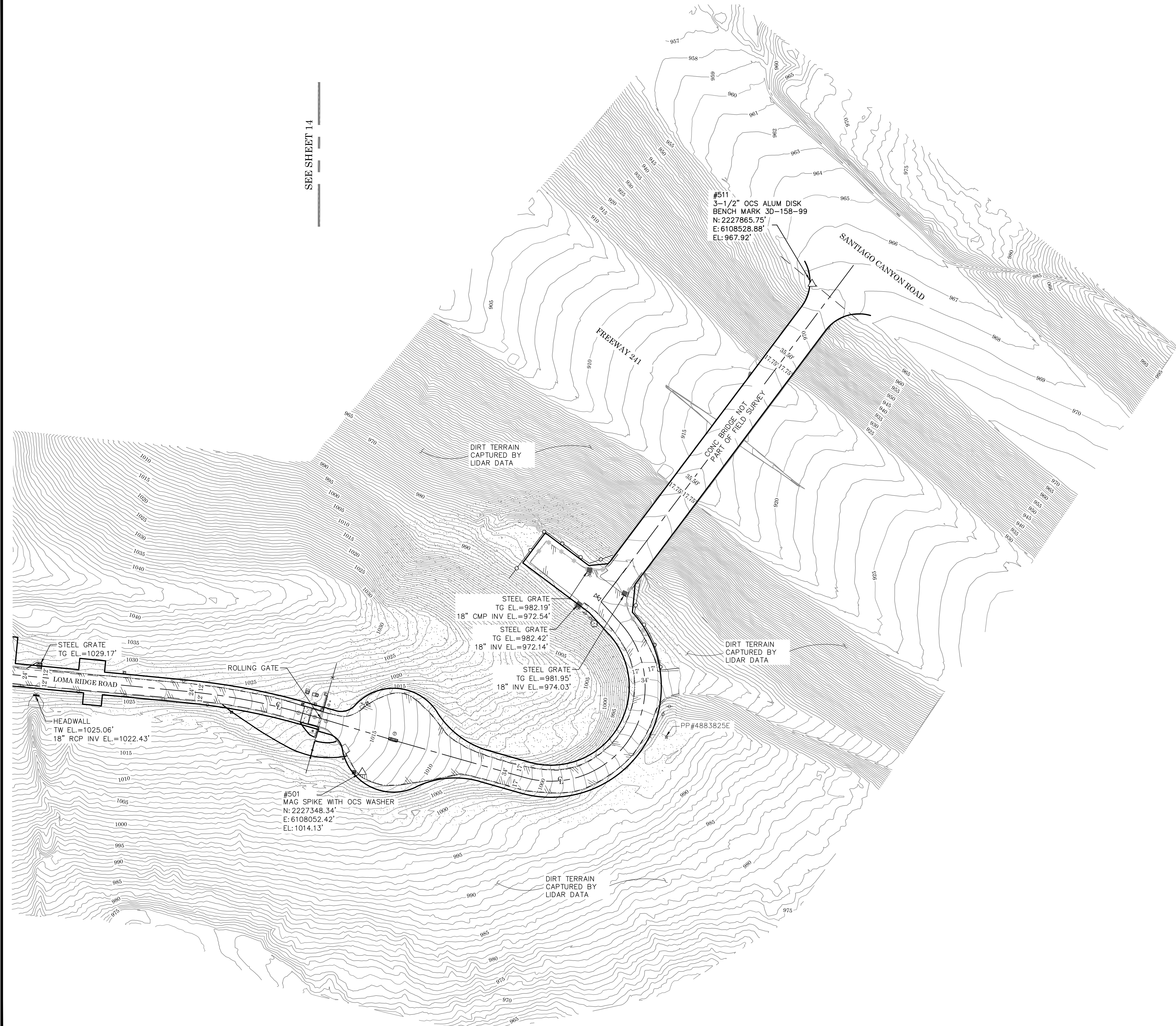
SEE SHEET 15



|  |      |      |  |  |                                 |
|--|------|------|--|--|---------------------------------|
|  |      |      | COUNTY OF ORANGE<br>OC PUBLIC WORKS<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS &<br>MAPPING |  |                                 |
|  |      |      | LOMA RIDGE ROAD REHABILITATION<br>TOPOGRAPHIC SURVEY   |  |                                 |
|  |      |      | TOPOGRAPHIC MAP  |  |                                 |
|  |      |      | SANTIAGO CANYON ROAD TO LOMA RIDGE COMMUNICATIONS AND EOC                                      |  |                                 |
|  |      |      | DATE OF SURVEY:11/21/2019  |  |                                 |
|  |      |      | BY: BOYD & PARTY   |  | SHEET NO.<br><br>14<br>of<br>15 |
|  |      |      | TOPOGRAPHIC MAPPING  |  |                                 |
|  |      |      | OFFICE CHECK   |  |                                 |
|  |      |      | FIELD CHECK  |  |                                 |
|  |      |      | SCALE: 1" = 50'  |  |                                 |
| FILE: LOMA RIDGE_TOPOGRAPHICMAP_2019.DWG |      |      |  |  |                                 |
| MARK                                     | DATE | ITEM |  |  |                                 |
| REVISIONS                                |      |      |  |  |                                 |



SEE SHEET 14



## 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
- VL TTL Vault - Irrigation
- VLVWA Valve - Water
- VPP Vent Pipe
- CONC Concrete
- PST Post
- UPO Powerspole
- GYA Guy Wire
- YDL Yard Light
- TSR Traffic Sensor
- CMP Corrugated Metal Pipe
- RCP Reinforced Concrete Pipe
- TG Top of Grate
- INV Invert

### SYMBOL

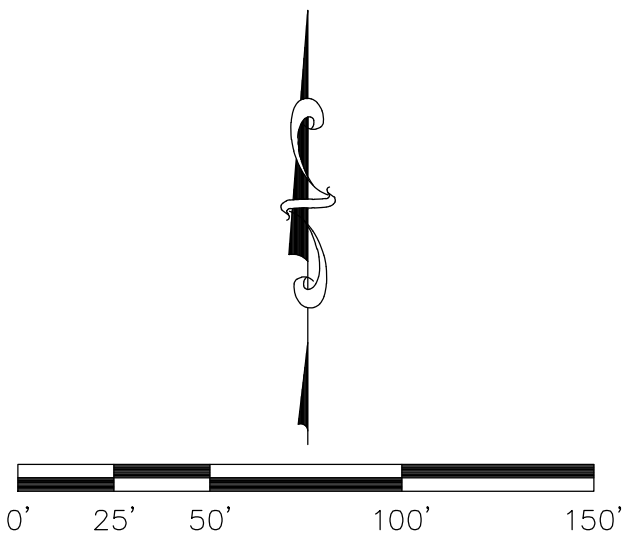
- TRE Tree
- TREPM Tree - Palm

### 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



SCALE: 1" = 50'

CONTOUR INTERVAL= 1'

**U.S. Survey Foot**

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

|                 |      |  |   |  |                    |  |                                 |
|-----------------|------|--|---|--|--------------------|--|---------------------------------|
| MARK            | DATE | ITEM                                     | COUNTY OF ORANGE<br>OC PUBLIC WORKS<br>OC SURVEY/FIELD SERVICES/BOUNDARY ANALYSIS & MAPPING |  |                    |  |                                 |
|                 |      |  | LOMA RIDGE ROAD REHABILITATION<br>TOPOGRAPHIC SURVEY  |  |                    |  |                                 |
|                 |      |  | TOPOGRAPHIC MAP   |  |                    |  |                                 |
|                 |      |  | SANTIAGO CANYON ROAD TO LOMA RIDGE COMMUNICATIONS AND EOC                                   |  |                    |  |                                 |
|                 |      |  |   |  |                    |  |                                 |
|                 |      |  | DATE OF SURVEY: 11/21/2019  |  | BY: BOYD & PARTY   |  | SHEET NO.<br><br>15<br>of<br>15 |
|                 |      |  | TOPOGRAPHIC MAPPING   |  | BY: K. AHMED       |  |                                 |
|                 |      |  | OFFICE CHECK  |  | BY: J. MORENO, PLS |  |                                 |
| FIELD CHECK     |      | BY: F. BOYD                              |   |  |                    |  |                                 |
| SCALE: 1" = 50' |      | W.O. #ER11161                            |   |  |                    |  |                                 |
| REVISIONS       |      | FILE: LOMA RIDGE_TOPOGRAPHICMAP_2019.DWG |   |  |                    |  |                                 |