SAN DIEGO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGN STANDARDS

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CIP Project Development Section

October 2012
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<tr>
<td>DS-23B</td>
<td>CABLE RAILING DETAILS</td>
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NOTES:
1. REFER TO SAN DIEGO COUNTY PUBLIC ROAD STANDARDS (PRS) FOR ADDITIONAL ROADWAY REQUIREMENTS.
2. ADDITIONAL ROAD SURFACING AND R/W MAY BE REQUIRED FOR MOBILITY ELEMENT ROADS IN INDUSTRIAL/COMMERCIAL ZONES (4 FEET AND 12 FEET RESPECTIVELY).
3. ADDITIONAL 12 TO 14 FEET OF ROAD SURFACING AND R/W IS REQUIRED FOR EACH ADDITIONAL TURN LANE.
4. MOBILITY ELEMENT ROADS DESIGNATED WITH BIKE LANE WILL REQUIRE AN ADDITIONAL 10–12 FEET OF ROAD SURFACING AND R/W. THROUGH TRAFFIC LANES ADJACENT TO BIKE LANES REQUIRE 13 FEET WIDE LANES. REFER TO COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS, SECTION 7, "BIKEWAYS".
5. INTERIM ROADS SHALL HAVE A MINIMUM WIDTH OF 28 FEET OF A.C. ROAD SURFACING WITHIN 40 FEET OF GRADED ROAD BED. WIDTHS WILL BE LARGER IF TRAFFIC VOLUMES REQUIRE MORE TRAVEL LANES.
6. EARTHWORK AND ALL CUT AND FILL SLOPE INCLINATIONS SHALL CONFORM TO THE COUNTY GRADING ORDINANCE.
NOTES:
1. THIS STANDARD IS APPLICABLE ONLY TO CATEGORY 2 HILLSIDE RESIDENTIAL STREETS AS DEFINED IN THE COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS.

2. USE OF HILLSIDE RESIDENTIAL STREET STANDARDS ARE APPLICABLE ONLY TO NON-MOBILITY ELEMENT STREETS CLASSIFIED AS RESIDENTIAL, RESIDENTIAL CUL-DE-SAC, OR RESIDENTIAL LOOP STREETS, AND ARE NOT APPLICABLE TO STREETS IN AREAS ZONED FOR COMMERCIAL, INDUSTRIAL OR MULTIPLE RESIDENTIAL USE.

3. CURB AND GUTTER (C&G) SHALL CONFORM TO SAN DIEGO AREA REGIONAL STANDARD DRAWINGS (RSD), COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS, AND THESE DESIGN STANDARDS.

4. ONE 600 SQUARE FEET PERPENDICULAR PARKING BAY REQUIRED PER LOT. THE COUNTY ENGINEER MAY ALSO ESTABLISH ALTERNATE STANDARD TYPICAL SECTIONS WHICH WILL PROVIDE A MINIMUM OF TWO PARKING STALLS PER LOT.

5. EARTHWORK AND CUT AND FILL SLOPES SHALL CONFORM TO REQUIREMENTS OF THE COUNTY OF SAN DIEGO GRADING ORDINANCE.
NOTES:
1. THIS STANDARD IS APPLICABLE ONLY TO CATEGORY 2 HILLSIDE RESIDENTIAL STREETS AS DEFINED IN THE COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS.
2. USE OF HILLSIDE RESIDENTIAL STREET STANDARDS ARE APPLICABLE ONLY TO NON-MOBILITY ELEMENT STREETS CLASSIFIED AS RESIDENTIAL, RESIDENTIAL CUL-DE-SAC, OR RESIDENTIAL LOOP STREETS, AND ARE NOT APPLICABLE TO STREETS IN AREAS ZONED FOR COMMERCIAL, INDUSTRIAL OR MULTIPLE RESIDENTIAL USE.
3. CURB AND GUTTER (C&G) SHALL CONFORM TO THE SAN DIEGO AREA REGIONAL STANDARD DRAWINGS (RSD), COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS, AND THESE DESIGN STANDARDS.
4. EARTHWORK AND ALL CUT AND FILL SLOPES SHALL CONFORM TO REQUIREMENTS OF THE COUNTY OF SAN DIEGO GRADING ORDINANCE.

SAN DIEGO COUNTY DESIGN STANDARD
HILLSIDE RESIDENTIAL STREET
ALTERNATIVE NO. 2

DRAWING NUMBER DS-03

DRAWN BY: EFM
CHECKED BY: JSM
RECOMMENDED BY: JEFF S. MOODY, P.E.
APPROVED BY COUNTY ENGINEER
MONAM ADI FAKHROUDDINE, P.E.
R.C.E. NO. 44520, EXP 3/31/2014

REVISIONS APPROVED DATE
REV JSM 10/2012
NOTES:
1. THIS STANDARD IS APPLICABLE ONLY TO CATEGORY 2 HILLSIDE RESIDENTIAL STREETS AS DEFINED IN THE COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS (PRS).
2. USE OF HILLSIDE RESIDENTIAL STREET STANDARDS ARE APPLICABLE ONLY TO NON-MOBILITY ELEMENT STREETS CLASSIFIED AS RESIDENTIAL, RESIDENTIAL CUL-DE-SAC, OR RESIDENTIAL LOOP STREETS, AND ARE NOT APPLICABLE TO STREETS IN AREAS ZONED FOR COMMERCIAL, INDUSTRIAL OR MULTIPLE RESIDENTIAL USE.
3. CURB AND GUTTER (C&G) SHALL CONFORM TO THE SAN DIEGO AREA REGIONAL STANDARD DRAWINGS (RSD), THE COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS, AND THESE DESIGN STANDARDS.
4. EARTHWORK AND ALL CUT AND FILL SLOPES SHALL CONFORM TO REQUIREMENTS OF THE COUNTY OF SAN DIEGO GRADING ORDINANCE.

SAN DIEGO COUNTY DESIGN STANDARD

HILLSIDE RESIDENTIAL STREET
ALTERNATIVE NO. 3

DRAWING NUMBER DS-04

REVISIONS APPROVED DATE

REV JSM 10/2012
LEGEND

A. PROVIDE DIKE OPENING FOR DRAINAGE WHEN REQUIRED
B. PERMANENT STREET SURFACING
C. CONCRETE GUTTER (SEE DETAIL)
D. TYPE G CURB & GUTTER (C&G) PER RSD G-2
E. TYPE B DIKE PER RSD G-5
F. SUBDIVISION LINE
G. GUARD POST BARRICADE PER RSD M-9

CONCRETE GUTTER DETAIL

NOTES:
1. FOR USE ON EITHER 36' OR 40' WIDE STREETS.
2. R=26' OR 1/2 R/W-2' WHICHEVER IS GREATER.
### TURNAROUND

**NO SCALE**

#### DIMENSIONS

<table>
<thead>
<tr>
<th>R/W</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>△ CURB</th>
<th>PROP.</th>
</tr>
</thead>
<tbody>
<tr>
<td>52'</td>
<td>26'</td>
<td>16'</td>
<td>10'</td>
<td>59.95'</td>
<td>42' 30'</td>
<td>26.09'</td>
</tr>
<tr>
<td>56'</td>
<td>28'</td>
<td>18'</td>
<td>10'</td>
<td>59.99'</td>
<td>42' 00'</td>
<td>27.66'</td>
</tr>
<tr>
<td>60'</td>
<td>30'</td>
<td>20'</td>
<td>10'</td>
<td>68.15'</td>
<td>29.31'</td>
<td>26.77'</td>
</tr>
<tr>
<td>72'</td>
<td>36'</td>
<td>26'</td>
<td>10'</td>
<td>81.36'</td>
<td>31' 36'</td>
<td>29.49'</td>
</tr>
</tbody>
</table>

#### CURVE 1

- CURB: 54.37' 26.54'
- PROP.: 64.87' 26.54'

#### CURVE 2

- CURB: 54.37' 26.54'
- PROP.: 64.87' 26.54'

---

**SAN DIEGO COUNTY DESIGN STANDARD**

**TURNAROUND DETAIL AND CALCULATIONS**

**DRAWING NUMBER** DS-06
DRIVEWAY PAVING SCHEDULE

<table>
<thead>
<tr>
<th>DEPTH OF A.C.</th>
<th>GRADE</th>
</tr>
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<tbody>
<tr>
<td>0.17&quot; (2&quot;)</td>
<td>0-15%</td>
</tr>
<tr>
<td>0.25&quot; (3&quot;)</td>
<td>15-20%</td>
</tr>
<tr>
<td>0.33&quot; (4&quot;)</td>
<td>20-25%</td>
</tr>
</tbody>
</table>

ALL A.C. OVER 0.33" (4") MINIMUM CL. II AB

COMPACT ENTIRE STRUCTURAL SECTION TO 95% RELATIVE COMPACTION

PLAN

NOTES:
1. DRIVEWAY PROFILE, WIDTH (W) AND LENGTH (L) SHALL BE SHOWN ON PLANS.
2. DRIVEWAYS WITH GRADES GREATER THAN 15% SHALL BE SURFADED WITH ASPHALT CONCRETE (AC) OR PORTLAND CEMENT CONCRETE (PCC).
3. MAXIMUM GRADE BREAK 14% (5' MINIMUM VERTICAL CURVE PREFERRED).
4. SEE SAN DIEGO AREA REGIONAL STANDARD DRAWINGS G-15 & G-16 FOR DRIVEWAY LOCATION & WIDTH REQUIREMENTS AND G-14 SERIES FOR PCC DRIVEWAYS.
5. WHEN ROADWAY GRADE EXCEEDS 5% THE DOWNSLOPE PARKWAY SHALL BE SURFADED WITH 0.17" (2") THICK A.C. BETWEEN THE A.C. DIKE AND HINGE POINT FOR A DISTANCE OF 15 LF FROM THE EDGE OF DRIVEWAY. THE A.C. SURFACING SHALL MATCH THE PARKWAY GRADE.
6. ALL DRIVEWAYS SHALL SATISFY COUNTY SIGHT DISTANCE REQUIREMENTS.

SAN DIEGO COUNTY DESIGN STANDARD

ASPHALT CONCRETE

DRIVEWAY

DRAWING NUMBER DS-07

REVISIONS APPROVED DATE
REV JSM 10/2012
TYPICAL FINISHED GRADING
NO SCALE

NOTES:

1. ELEVATION "A" IS LOCATED AT THE MOST REMOTE CORNER OF THE LOT FROM THE DRAIN POINT "ELEVATION B". ELEVATION "A" SHALL EQUAL ELEVATION "B" PLUS 1% TIMES ONE-HALF THE PERIMETER OF THE LOT.

2. DRAINAGE LOOP SWALE SHALL HAVE 1% MINIMUM GRADIENT TOWARDS STREET OR OTHER DISCHARGE POINT.

3. ALL SLOPE SURFACES SHALL BE PROTECTED BY APPROVED EROSION CONTROL MATERIAL.
** SLOPE INCLINATION SHALL CONFORM TO THE CURRENT COUNTY OF SAN DIEGO GRADING ORDINANCE.

FENCING RETAINING WALLS
FOR WALL HEIGHTS GREATER THAN 4 FT.

NOTES:
1. CHAIN LINK FENCE OR ALTERNATE FENCE ACCEPTABLE TO THE COUNTY ENGINEER SHALL BE INSTALLED ALONG THE TOP OF SLOPES EXCEEDING 15 FEET VERTICAL HEIGHT AND 3:1 (HORIZONTAL:VERTICAL) SLOPE AND ALONG THE TOP OF ALL WALLS EXCEEDING 4 FEET VERTICAL HEIGHT.

2. RETAINING WALLS AND FENCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH SAN DIEGO COUNTY APPROVED PLANS.
FOR FENCING REQUIREMENTS SEE DS-09
FOR SETBACK REQUIREMENTS SEE DS-11

ORIGINAL GROUND (OG) SURFACE
FINISH GRADE (FG) SURFACE

TYPICAL CUT SLOPE
NO SCALE

** SLOPE INCLINATION SHALL CONFORM TO THE CURRENT COUNTY OF SAN DIEGO GRADING ORDINANCE

DETAIL A
SEE TABLE 2

NOTES:
1. BROW Ditch PER RSD D-75
2. TERRACE Ditch PER RSD D-75
3. REMOVE SOIL MANTLE
4. BENCHES REQUIRED FOR ORIGINAL GROUND SLOPE GREATER THAN 5:1
5. ALL FILL MUST BE COMPACTED TO A MINIMUM 90% RELATIVE COMPACTION (RC) EXCEPT FOR THE OUTER 8" OF SLOPE SURFACE WHICH MAY BE GRID ROLLED TO 85% RC

SLOPE ROUNDING
SEE DETAIL A

TYPICAL FILL SLOPE
NO SCALE

TABLE 2
SLOPE ROUNDING

<table>
<thead>
<tr>
<th>H FEET</th>
<th>L FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>0'-5'</td>
<td>2.5'</td>
</tr>
<tr>
<td>5'-20'</td>
<td>5'</td>
</tr>
<tr>
<td>20'-40'</td>
<td>10'</td>
</tr>
<tr>
<td>OVER 40'</td>
<td>10'</td>
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</tbody>
</table>

SEE DETAIL B

SAN DIEGO COUNTY DESIGN STANDARD
REGRADING OF SLOPES

DRAWN BY: PEM
CHECKED BY: JSM
RECOMMENDED BY: JEFF S. MOODY, P.E.
APPROVED BY COUNTY ENGINEER

DATE: 10/1/12

DRAWING NUMBER DS-10
PROPERTY LINE SETBACKS
NO SCALE

** SLOPE INCLINATION SHALL CONFORM WITH THE CURRENT COUNTY OF SAN DIEGO GRADING ORDINANCE

BUILDING SETBACKS
NO SCALE

<table>
<thead>
<tr>
<th>REQUIRED SETBACKS</th>
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<tbody>
<tr>
<td><strong>H FEET</strong></td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>0-15</td>
</tr>
<tr>
<td>15-30</td>
</tr>
<tr>
<td>OVER 30</td>
</tr>
</tbody>
</table>

NOTES:
A = DISTANCE FROM TOE OF SLOPE TO PROPERTY LINE.
B = DISTANCE FROM EDGE OF FOUNDATION TO TOE OR TOP OF SLOPE.
D = DISTANCE FROM TOP OF SLOPE TO PROPERTY LINE.
H = TOTAL SLOPE HEIGHT MEASURED VERTICALLY.
VARES (24" MIN. TO 60" MAX)

1" MIN LEFT MARGIN

1/2" RADIUS TYP

PRIVATE ROAD DESIGNATOR
SEE DS-13B NOTE 6

2" MIN CLR

1/4"

1/4"

1/4"

1/4"

PVT

12300

Rodgier Rd

STREET NAME SEE
DS-13B NOTE 3

BLOCK NUMBER
SEE DS-13B NOTE 4

BLOCK NUMBER
ARROW SEE DETAIL
AND DS-13B NOTE 5

DIRECTIONAL ARROW DETAIL

SEE NOTES ON DS-13B FOR ADDITIONAL
SPECIFICATIONS AND REQUIREMENTS

YEAR, ENGINEER, AND DRAWING NUMBER

SAN DIEGO COUNTY DESIGN STANDARD

STREET NAME SIGN FOR
UNIGNALIZED INTERSECTIONS

DRAWING NUMBER DS-13A

DATE: 10/12/02

DRAWN BY: "GE"  CHECKED BY: KVS

RECOMMENDED BY: JEFF S. MOODY, P. E.

APPROVED BY COUNTY ENGINEER

NOHAMED FAKHRIBINDE, P. E.

R.C.E. NO. 440500, EXP 3/31/2014

REVISIONS  APPROVED  DATE

NEW  JSM  10/2012
1. THE BLADES OF STREET NAME SIGNS AT UNSIGNALIZED INTERSECTIONS SHALL BE DOUBLE FACED WITH A GREEN BACKGROUND AND WHITE LEGEND. THE STREET NAME SIGN BLADE BLANK SHALL BE 0.125" THICK ALUMINUM ALLOY 6063-T6, 6061-T6, 5052-H38, OR APPROVED EQUAL. UNLESS OTHERWISE SPECIFIED, THE SMALLEST POSSIBLE BLANK WHICH MEETS THESE SPECIFICATIONS AND MAINTAINS AESTHETICS SHALL BE USED FOR EACH STREET NAME SIGN BLADE. BOTH FACES OF THE BLANK SHALL BE COMPLETELY COVERED WITH EITHER WHITE ASTM D4956 TYPE IX SIGN SHEETING (3M DIAMOND GRADE VIP WHITE 3990 OR APPROVED EQUAL) OR PROPOSED TYPE XI SIGN SHEETING (3M DIAMOND GRADE DG3 WHITE 4090 OR APPROVED EQUAL). THEN, 3M ELECTRONIC CUTTABLE TRANSPARENT FILM GREEN 1177 (OR APPROVED EQUAL) WITH THE DESIGNATED STREET NAME SIGN INFORMATION CUT OUT SHALL BE APPLIED TO BOTH SIGN FACES OF THE BLADE. THE YELLOW PRIVATE ROAD DESIGNATOR SHALL BE APPLIED PER NOTE 6. LASTLY, BOTH SIDES OF THE BLADE IS COVERED WITH PREMIUM CLEAR PROTECTIVE OVERLAY FILM (3M 1160 OR EQUIVALENT). ALL SIGN SHEETING AND FILMS USED ON EACH STREET NAME SIGN BLADE SHALL BE COMPATIBLE TO ENSURE MATERIAL WARRANTIES ARE EFFECTIVE.

2. THE DIRECTIONAL ARROW SHALL BE USED AT INTERSECTIONS THAT HAVE STREET NAME CHANGES. THE DIRECTIONAL ARROW INDICATES WHICH LEG OF THE INTERSECTION HAS THE RESPECTIVE STREET NAME. THE DIRECTIONAL ARROW IS DISPLAYED IN WHITE ON THE BLADE. THE COMPASS DIRECTION OF THE DIRECTIONAL ARROW FOR EACH STREET NAME SIGN BLADE SHALL BE SPECIFIED WHEN ORDERED.

3. THE STREET NAME IS DISPLAYED IN WHITE ON THE STREET NAME SIGN BLADE. ONLY THE OFFICIAL COUNTY RECORDED NAME AND SPELLING SHALL BE USED ON THE STREET NAME SIGN. ONLY COUNTY APPROVED ABBREVIATIONS PER DS-13C SHALL BE USED ON THE STREET NAME SIGN BLADE. THE STREET NAME SHALL BE CENTERED VERTICALLY ON EACH STREET NAME SIGN BLADE. THE STREET NAME LETTERING SHALL BE 6" UPPERCASE AND 4.5" LOWERCASE HIGHWAY GOthic FONT, WITH STYLE AND SPACING AS ESTABLISHED IN THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CAMUTCD), CURRENT EDITION. STROKE WIDTH AND LETTER WIDTH USED FOR THE WHOLE STREET NAME MAY VARY FROM SERIES B TO SERIES E (REFER TO FHWA STANDARD SIGNS AND MARKINGS SIGN FONTS AT HTTP://MUTCD.FHWA.DOT.GOV/SHSE/ALPHABETS.PDF). THE MINIMUM GAP DISTANCE BETWEEN THE DIRECTIONAL ARROW AND THE STREET NAME SHALL EQUAL THE SPACING USED FOR THE BLANK SPACES IN THE STREET NAME.

4. THE BLOCK NUMBER IS DISPLAYED IN WHITE ON THE STREET NAME SIGN BLADE. THE BLOCK NUMBER LETTERING SHALL BE 3" HIGHWAY GOthic FONT WITH STYLE AND SPACING AS ESTABLISHED BY THE CAMUTCD, CURRENT EDITION. THE SERIES USED FOR THE WHOLE BLOCK NUMBER SHALL BE OF THE SAME SERIES THAT IS USED FOR THE STREET NAME.

5. THE BLOCK NUMBER ARROW IS DISPLAYED IN WHITE ON THE STREET NAME SIGN BLADE. THE BLOCK NUMBER ARROW SHALL BE CENTERED BELOW THE BLOCK NUMBER. THE COMPASS DIRECTION OF THE BLOCK NUMBER ARROW FOR EACH STREET NAME SIGN BLADE SHALL BE SPECIFIED WHEN ORDERED.

6. THE PRIVATE ROAD DESIGNATOR (PVT) IS ONLY USED ON STREET NAME BLADES FOR ROADS THAT ARE NOT MAINTAINED BY THE COUNTY OF SAN DIEGO (PRIVATE ROADS). THE PVT IS DISPLAYED IN YELLOW ON THE STREET NAME BLADE. THE PVT SHALL BE CENTERED ABOVE THE BLOCK NUMBER. THE PVT LETTERING SHALL BE 1 1/4" UPPERCASE HIGHWAY GOthic FONT SERIES E WITH STYLE AND SPACING AS ESTABLISHED BY THE CAMUTCD, CURRENT EDITION. THE PVT SHALL BE MADE OF ASTM D4956 TYPE I SHEETING (3M PRISMATIC ENGINEER GRADE YELLOW 3431 OR APPROVED EQUAL) AND PLACED ON THE STREET NAME SIGN BLADE PRIOR TO THE CLEAR PROTECTIVE OVERLAY SHEETING.

7. STREET NAME SIGNS SHALL BE MOUNTED ON POLES PER DS-13C. NO OTHER SIGNS SHALL BE MOUNTED ON STREET NAME SIGN POLES UNLESS TALLER POLES ARE SPECIFIED TO MEET CAMUTCD REQUIRED GROUND CLEARANCES FOR SIGNS.
SIGN TO SIGN CAST ALUMINUM BRACKET, DIMENSION TO BE COMPATIBLE WITH POST CAP

SEE POST CAP DETAIL
12" X 2 - ¾" O.D. ALUMINUM ALLOY 6063-T6, CLEAR ANODIZED POST

TYPICAL STREET NAME BLADE DETAIL

DRILL HOLE TO SECURE CAP TO POST WITH SCREW OR RIVET

SETBACK
(SEE TABLE)

SLOPE TO ¾" ABOVE GRADE

13" ø x 4'-0" PCC FOOTING

Curb and Sidewalk Width Minimum Setback

<table>
<thead>
<tr>
<th></th>
<th>Sidewalk Width</th>
<th>Minimum Setback</th>
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</thead>
<tbody>
<tr>
<td>Contiguous</td>
<td>6' or less</td>
<td>Sidewalk Width</td>
</tr>
<tr>
<td>Contiguous</td>
<td>More than 6'</td>
<td>5'</td>
</tr>
<tr>
<td>Non Contiguous</td>
<td>--</td>
<td>5'</td>
</tr>
</tbody>
</table>

DRILL AND TAP FOR ⅜" #18 SET SCREW (3 PLACES)

POST CAP DETAIL

POST CAP HALF-SECTION DETAIL

NOTES:

1. DRILL 11/32" ø THROUGH HOLE NEAR SIDE FLANGE (TYP 2 LOCATIONS). DRILL AND TAP FOR 5/16"-#18 BOLTS IN LINE WITH 11/32" ø HOLES.

2. ALL ATTACHING SCREWS SHALL BE VANDAL PROOF TYPE AND GREASED BEFORE INSTALLATION.

3. CONCRETE SHALL BE EITHER GREENBOOK 520-C-2500 OR MINOR CONCRETE PER CALTRANS STANDARD SPECIFICATIONS AS SPECIFIED BY THE ENGINEER.

STREET NAME SIGN LOCATION

NUMBER INDICATES PRIORITY OF LOCATION SELECTION

SAN DIEGO COUNTY DESIGN STANDARD

STREET NAME SIGN DETAILS FOR UNSIGNALIZED INTERSECTIONS

DRAWING NUMBER DS-13C

DRAWN BY: GE CHECKED BY: KVS
RECOMMENDED BY: JEFF S. MOODY, P.E.
APPROVED BY COUNTY ENGINEER

REV JSW 10/2012

DATE: 10/12/09

MAMAD NOUBREDINE, P. E.
R.C. NO. 44320, EXP 3/31/2014
Wynola
Sol Dr
1270 N

SEE NOTES ON DS-13E FOR ADDITIONAL SPECIFICATIONS AND REQUIREMENTS

SAN DIEGO COUNTY DESIGN STANDARD

STREET NAME SIGN FOR SIGNALIZED INTERSECTIONS

DRAWING NUMBER DS-13D

RECOMMENDED BY: JEFF S. MOODY, P.E.
APPROVED BY COUNTY ENGINEER

MAGHREDI, P.E.
A.C.E. NO. 44520, EXP 3/31/2014

DRAWN BY: GE
CHECKED BY: JVS

REVISIONS APPROVED DATE
NEW JSM 10/2012
1. STREET NAME SIGNS AT SIGNALIZED INTERSECTIONS SHALL BE SINGLE FACED SIGNS WITH GREEN BACKGROUND, WHITE LEGEND, AND WHITE, 1" WIDE BORDER. THE STREET NAME SIGN BLANK SHALL BE 0.080" THICK ALUMINUM ALLOY 6063-T6, 6061-T6, 5052-H38, OR APPROVED EQUAL. UNLESS OTHERWISE SPECIFIED, THE SMALLEST POSSIBLE BLANK WHICH MEETS THESE SPECIFICATIONS AND MAINTAINS AESTHETICS SHALL BE USED FOR EACH STREET NAME SIGN. THE BLANK SHALL BE COMPLETELY COVERED WITH EITHER WHITE ASTM D4956 TYPE IX SIGN SHEETING (3M DIAMOND GRADE VIP WHITE 3090 OR APPROVED EQUAL) OR TYPE XI SIGN SHEETING (3M DIAMOND GRADE DC3 WHITE 4090 OR APPROVED EQUAL). THEN, A SINGLE SHEET OF 3M ELECTRONIC CUTOFF TRANSPARENT FILM GREEN 1177 (OR APPROVED EQUAL) WITH THE DESIGNATED STREET NAME SIGN INFORMATION CUT OUT SHALL BE APPLIED TO THE SIGN FACE. THE 1" WIDE BORDER SHALL HAVE ROUNDED CORNERS (3" OUTSIDE RADIUS TYPICAL). LASTLY, THE SIGN FACE SHALL BE COVERED WITH PREMIUM CLEAR PROTECTIVE OVERLAY FILM (3M 1160 OR EQUIVALENT). ALL SHEETING AND FILMS USED ON EACH STREET NAME SIGN SHALL BE COMPATIBLE TO ENSURE MATERIAL WARRANTIES ARE EFFECTIVE.

2. THE DIRECTIONAL ARROW SHALL BE USED AT INTERSECTIONS THAT HAVE STREET NAME CHANGES, AND SHALL INDICATE WHICH LEG OF THE INTERSECTION HAS THE RESPECTIVE STREET NAME. THE DIRECTIONAL ARROW IS DISPLAYED IN WHITE ON THE BLADE. THE DIRECTIONAL ARROW IS CENTERED VERTICALLY WITH RESPECT TO THE ASSOCIATED LINE OF TEXT. THE COMPASS DIRECTION OF THE DIRECTIONAL ARROW FOR EACH STREET NAME SIGN BLADE SHALL BE SPECIFIED WHEN ORDERED.


4. THE BLOCK NUMBER IS DISPLAYED IN WHITE ON THE STREET NAME SIGN. THE BLOCK NUMBER LETTERING SHALL BE 4.5" HIGHWAY GOTHIC FONT, WITH STYLE AND SPACING PER CAMUTDC, CURRENT EDITION. THE SERIES USED FOR THE WHOLE BLOCK NUMBER SHALL BE THE SAME SERIES THAT IS USED FOR THE STREET NAME. THE BLOCK NUMBER SHALL BE CENTERED HORIZONTALLY ON THE STREET NAME SIGN.


6. SIGNS SHALL BE MOUNTED ON TRAFFIC SIGNAL POLES PER DS-13F.
NOTES:

1. THE NEW STREET NAME SIGN SHALL BE MOUNTED ON THE POLE APPROXIMATELY 17 FEET ABOVE THE GROUND SURFACE (ABOVE THE POLE MOUNTED SIGNAL HEAD AND IF POSSIBLE ABOVE THE MAST ARM). THE MOUNTING ASSEMBLY SHALL BE AN ASTRO SIGN-BRAC BAND MOUNT ASSEMBLY OR APPROVED EQUAL. ONE MOUNTING BRACKET ASSEMBLY SHALL BE USED PER 16 SQUARE FEET OF SIGN AREA. SIGNS SHALL BE MOUNTED WITH A 5-DEGREE TILT FROM VERTICAL TOWARD ONCOMING TRAFFIC FOR EASY READING. SIGNS SHALL BE MOUNTED SO THAT THE SIGN TEXT IS LEVEL. SITE PLANS SHALL SHOW THE APPROXIMATE ORIENTATIONS OF INDIVIDUAL SIGNS.

2. IF THE NEW STREET NAME SIGN CANNOT BE MOUNTED ON THE POLE AS DESCRIBED ABOVE, THE SIGN SHALL BE MOUNTED ON THE MAST ARM NEXT TO THE POLE. AN ASTRO SIGN-BRAC BAND MOUNT ASSEMBLY OR APPROVED EQUAL SHALL BE USED TO MOUNT THE NEW STREET NAME SIGN ONTO THE TRAFFIC SIGNAL MAST ARM. ONE MOUNTING BRACKET ASSEMBLY SHALL BE USED PER 16 SQUARE FEET OF SIGN AREA. SIGNS SHALL BE MOUNTED WITH A 5-DEGREE TILT FROM VERTICAL TOWARD ONCOMING TRAFFIC FOR EASY READING. SIGNS SHALL BE MOUNTED SO THAT THE SIGN TEXT IS LEVEL. SITE PLANS SHALL SHOW THE APPROXIMATE ORIENTATIONS OF INDIVIDUAL SIGNS.
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<td>West</td>
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NOTES:

1. DIP SECTIONS SHALL CONFORM TO SECTION 5.11, "DRAINAGE IMPROVEMENTS" OF THE COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS.

2. THE MAXIMUM WATER DEPTH FOR A Q10 FREQUENCY STORM (D), SHALL NOT EXCEED 10" AND THE DEPTH (D) IN FEET MULTIPLIED BY THE VELOCITY (V) IN FEET PER SECOND SHALL NOT EXCEED 6.

3. PORTLAND CEMENT CONCRETE SHALL EXTEND AT LEAST TO THE LIMITS OF THE Q100 FLOODWAY.

4. VERTICAL CURVES (V.C.) SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.

5. LOW FLOW CULVERTS (18" MINIMUM DIAMETER) MAY BE OMITTED IF THE CONDITIONS OF NOTES 2 AND 3 CAN BE SATISFIED WITHOUT THEIR USE.

6. PORTLAND CEMENT CONCRETE SHALL CONFORM TO EITHER GREENBOOK 560-C-3250 OR CALTRANS MINOR CONCRETE. REINFORCING STEEL SHALL CONSIST OF A MINIMUM 6" X 6" X 10 GA WWF.
NOTES:
1. $\Delta = 110'$ MAX. AND 70' MIN.
   IF $\Delta$ IS GREATER THAN 110', THEN 200' MINIMUM CENTERLINE RADIUS REQUIRED.
2. DESIGNER TO SHOW CENTERLINE CURVE.
   DATA: $R$, $\Delta$, $L$, $T$, $R_1$, AND $R_2$ ON PLANS.

<table>
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<tr>
<th>A (R/W)</th>
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<td>48'</td>
<td>28'</td>
<td>56'</td>
<td>30'</td>
<td>10'</td>
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* DIMENSIONS SHOWN ARE MINIMUMS

SAN DIEGO COUNTY DESIGN STANDARD

STREET KNUCKLE

DRAWING NUMBER DS-15
NOTE A
ROTATE ARROW TO INDICATE LOCATION OF TARGET POINT. SHOW SIGHT DISTANCE (XX) IN FEET

INTERSECTION DETAIL
NO SCALE

NOTES:
TYPE 1: BRONZE MARKER TO BE SET IN PCC CURB WHERE LINE-OF-SIGHT INTERSECTS CURB.

TYPE 2: IF NO PCC CURB, SET BRONZE MARKER IN CONCRETE IN 2" Ø X 24" LONG GALVANIZED STEEL PIPE AT THE INTERSECTION OF THE LINE-OF-SIGHT AND PROPERTY LINE.

CLEAR SPACE EASEMENTS FOR SIGHT DISTANCE, WHERE SPECIFIED ON PLANS, SHALL BE DESIGNATED BY A BRONZE MARKER ACCORDING TO EITHER TYPE 1 OR TYPE 2 ABOVE.
GATED DRIVEWAY ENTRANCE
NO SCALE

SAN DIEGO COUNTY DESIGN STANDARD

GATED DRIVEWAY ENTRANCE
TYPE I

DRAWING NUMBER DS-17
GATED DRIVEWAY ENTRANCE

NO SCALE
GATED DRIVEWAY ENTRANCE

NO SCALE

* CARD READER OR GUARD STATION MUST PROVIDE SUFFICIENT ROOM FOR AN EMERGENCY VEHICLE TO TURN AROUND.
CLEAR SPACE EASEMENT — NO TREES OR OTHER SIGHT OBSTRUCTIONS WITHIN CLEAR SPACE. LOW GROWING GROUND COVER ONLY. LABEL ON PLANS AS "CLEAR SPACE EASEMENT. NO SIGHT OBSTRUCTIONS WITHIN THIS SPACE." SPECIFY TYPE OF MARKER PER DS-16 AND LIST COORDINATES OF EACH MARKER. SHOW TURNING POINTS AND BEARING OF EASEMENT. RECORD EASEMENT.

OBSERVATION POINT SHALL BE 10' FROM ROAD "A" EDGE OF PAVEMENT (OR PROLONGATION OF CURB LINE) AND 2' RIGHT OF ROAD "B" CENTERLINE AT A HEIGHT OF 3.5'.

CURB AND GUTTER OR EDGE OF PAVEMENT

TARGET OBJECT 4.25' HIGH LOCATED ON ROAD "A" CENTERLINE

TARGET OBJECT 4.25' HIGH LOCATED 8' FROM CURB & GUTTER OR EDGE OF PAVEMENT.

CLEAR SPACE EASEMENT AREA

INTERSECTION SIGHT DISTANCE

NO SCALE

PER COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS THE REQUIRED MINIMUM INTERSECTION SIGHT DISTANCE SHALL BE TEN TIMES THE DESIGN SPEED OF THE MAJOR ROAD (ROAD "A" DESIGN SPEED (MPH) X 10FT/MPH). INTERSECTION SIGHT DISTANCE IS MEASURED FROM AN OBSERVATION POINT 2 FEET RIGHT OF ROAD "B" CENTERLINE AND 10 FEET BACK FROM ROAD "A" EDGE OF PAVEMENT (OR PROLONGATION OF CURB LINE) AND MEASURED FROM A HEIGHT OF 3.5 FEET TO AN OBJECT HEIGHT OF 4.25 FEET.

NOTE THE REQUIRED SIGHT DISTANCE APPLIES TO BOTH HORIZONTAL AND VERTICAL OBSTRUCTIONS.
CLEAR SPACE EASEMENTS— NO TREES OR OTHER SIGHT OBSTRUCTIONS WITHIN CLEAR SPACE, LOW GROWING GROUND COVER ONLY. LABEL ON PLANS AS "CLEAR SPACE EASEMENT. NO SIGHT OBSTRUCTIONS WITHIN THIS SPACE." SPECIFY TYPE OF MARKER PER DS-16 AND LIST COORDINATES OF EACH MARKER. SHOW TURNING POINT AND BEARING OF EASEMENT. RECORD EASEMENT

INTERSECTION SIGHT DISTANCE
NO SCALE

PER COUNTY PUBLIC ROAD STANDARDS THE REQUIRED MINIMUM INTERSECTION SIGHT DISTANCE SHALL BE TEN TIMES THE DESIGN SPEED OF THE MAJOR ROAD (ROAD "A" DESIGN SPEED (MPH) X 10FT/MPH). INTERSECTION SIGHT DISTANCE IS MEASURED FROM AN OBSERVATION POINT 2 FEET RIGHT OF ROAD "B" CENTERLINE AND 10 FEET BACK FROM ROAD "A" EDGE OF PAVEMENT (OR PROLONGATION OF THE CURB LINE) AND MEASURED FROM A HEIGHT OF 3.5 FEET TO AN OBJECT HEIGHT OF 4.25 FEET.

NOTE THE REQUIRED SIGHT DISTANCE APPLIES TO BOTH HORIZONTAL AND VERTICAL OBSTRUCTIONS
LIMITED USE AREA. NO SIGHT OBSTRUCTIONS OR VEGETATION WITHIN THIS AREA.

CLEAR SPACE EASEMENT. NO SIGHT OBSTRUCTIONS WITHIN THIS AREA. REFER TO DS-16, DS-20A AND DS-20B OF THESE DESIGN STANDARDS.

E = OBSERVATION POINT OF MOTORIST ON MINOR ROAD. THE OBSERVATION POINT IS LOCATED 10 FEET BACK FROM THE PROLONGATION OF THE EDGE OF PAVEMENT OR CURB LINE OF THE MAJOR ROAD AND 2 FEET RIGHT OF THE MINOR ROAD CENTERLINE. SIGHT DISTANCE IS MEASURED FROM AN EYE HEIGHT OF 3.5 FEET ABOVE THE ROAD SURFACE AT THE OBSERVATION POINT.


LINE OF SIGHT = LINE ALONG WHICH SIGHT DISTANCE IS MEASURED. THE REQUIRED MINIMUM SIGHT DISTANCE IS SPECIFIED IN THE COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS. ALSO REFER TO DETAILS DS-20A AND DS-20B OF THESE DESIGN STANDARDS.

CLEAR SPACE EASEMENT = AREA OUTSIDE THE ROAD RIGHT OF WAY REQUIRING RESTRICTIONS ON SIGHT DISTANCE OBSTRUCTIONS. CLEAR SPACE EASEMENTS SHALL BE MONUMENTED AND RECORDED IN ACCORDANCE WITH DETAILS DS-16, DS-20A AND DS-20B OF THESE DESIGN STANDARDS.

LIMITED USE AREA = AREA WITHIN RAISED MEDIANS WHERE SIGHT OBSTRUCTIONS AND VEGETATION ARE PROHIBITED.

NOTE: ALL LIMITED USE AREAS SHALL BE NOTED ON THE ROAD IMPROVEMENT AND LANDSCAPING PLANS WITH CONSPICUOUS TEXT STATING NO SIGHT OBSTRUCTIONS OR VEGETATION IN THIS AREA.

SAN DIEGO COUNTY DESIGN STANDARD

LIMITED USE AREA
TYPE A

DRAWING NUMBER DS-20C
LIMITED USE AREA. NO SIGHT OBSTRUCTIONS OR VEGETATION WITHIN THIS AREA.

E = OBSERVATION POINT OF MOTORIST ON THE MAJOR ROAD TURNING LEFT. THE OBSERVATION POINT IS LOCATED 10 FEET BACK FROM THE PROLONGATION OF THE EDGE OF PAVEMENT OR CURB LINE OF THE MINOR ROAD AND 2 FEET RIGHT OF THE MAJOR ROAD MEDIAN OR STRIPED CENTERLINE. SIGHT DISTANCE IS MEASURED FROM AN EYE HEIGHT OF 3.5 FEET ABOVE THE ROAD SURFACE AT THE OBSERVATION POINT.

O = LOCATION OF THE OBJECT VEHICLE APPROACHING THE INTERSECTION ON THE MAJOR ROAD. THE APPROACHING VEHICLE OBJECT HEIGHT IS 3.5 FEET ABOVE THE ROAD SURFACE AND THE VEHICLE IS ASSUMED LOCATED AT THE MOST CRITICAL OF EITHER 2 FEET RIGHT OF THE MEDIAN OR 8 FEET FROM THE RIGHT EDGE OF TRAVELED WAY DEPENDING ON THE NUMBER OF LANES AND ROAD ALIGNMENT.

LINE OF SIGHT = LINE ALONG WHICH SIGHT DISTANCE IS MEASURED. SIGHT DISTANCE SHALL BE CALCULATED IN ACCORDANCE WITH THE 2011 AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, TABLE 9.13, "TIME GAP FOR CASE F, LEFT TURNS FROM MAJOR ROAD", BASED ON THE HIGHER OF THE DESIGN SPEED (PER ROAD CLASSIFICATION AND COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS) OR THE PREVAILING SPEED ON THE MAJOR ROAD, WHICHEVER IS GREATER, AND ADJUSTED FOR THE NUMBER OF LANES TO BE CROSSED AND GRADE APPROACHING THE INTERSECTION ON THE MAJOR ROAD. THE AASHTO SIGHT DISTANCE SHALL BE INCREASED BY 50 FEET AND THE RESULTANT SIGHT DISTANCE SHALL BE CONSPICUOUSLY NOTED ON THE PLAN.

LIMITED USE AREA = AREA WITHIN RAISED MEDIANS WHERE SIGHT OBSTRUCTIONS AND VEGETATION ARE PROHIBITED.

NOTE: ALL LIMITED USE AREAS SHALL BE NOTED ON THE ROAD IMPROVEMENT AND LANDSCAPING PLANS WITH CONSPICUOUS TEXT STATING NO SIGHT OBSTRUCTIONS OR VEGETATION IN THIS AREA.
1. Match Existing Curb, Gutter & Sidewalk (TYP).
2. Expansion Joint Per RSD G-10 (TYP).
3. Monolithic Curb (H=6") If Specified.
5. Weakened Plane Joint Per RSD G-10 (TYP).
7. Lip of Curb.
8. Top of Monolithic Curb (H=6") If Specified.
10. Elevation Not to Scale.

**TABLE A**

<table>
<thead>
<tr>
<th>CURB HEIGHT</th>
<th>RAMP LENGTH</th>
<th>SIDE SLOPE*</th>
</tr>
</thead>
<tbody>
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<td>8'-0&quot;</td>
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</tbody>
</table>

* Based on 12:1 slope relative to gutter flow line.

**NOTES:**

1. See Drawings DS-21E and DS-21F for additional information.
2. Curb ramp side slopes shall be constructed per Table A.

**SECTION A-A**

**NOT TO SCALE**

**PLANS SHALL SPECIFY A 5' LANDING WHERE TURNING SPACE IS CONSTRAINED**

**SAN DIEGO COUNTY DESIGN STANDARD**

**CURB RAMP - TYPE A**

(NEW CONSTRUCTION)

**DRAWING NUMBER** DS-21A
TABLE A

<table>
<thead>
<tr>
<th>CURB HEIGHT</th>
<th>RAMP LENGTH</th>
<th>SIDE SLOPE*</th>
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* Based on 12:1 slope relative to gutter flow line

NOTES:
1. See Drawings DS-21E and DS-21F for additional information
2. Curb ramp side slopes shall be constructed per Table A

SAN DIEGO COUNTY DESIGN STANDARD

CURB RAMP - TYPE B
(NEW CONSTRUCTION)
12" WIDE BORDER (TYP)
SEE DETAIL "A" ON DS-21F
MATCH EXISTING CURB,
GUTTER & SIDEWALK (TYP)

** TABLE A **
<table>
<thead>
<tr>
<th>CURB HEIGHT</th>
<th>SIDE SLOPE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1'</td>
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* BASED ON 12:1 SLOPE
RELATIVE TO GUTTER FLOW LINE

** NOTES:**
1. SEE DRAWINGS DS-21E AND DS-21F FOR ADDITIONAL INFORMATION
2. CURB RAMP SIDE SLOPES SHALL BE CONSTRUCTED PER TABLE A
3. TYPE C CURB RAMPS SHALL BE USED ONLY TO MITIGATE EXISTING CONDITIONS WHERE R/W IS CONSTRAINED

** CURB RAMP - TYPE C **
(EXISTING SIDEWALK)

** SAN DIEGO COUNTY DESIGN STANDARD **

** DRAWING NUMBER ** DS-21C
**PLAN TYPE 1**

**PLAN TYPE 2**

**PLAN TYPE 3**

**TYPICAL SECTION**

NOTES:
1. SEE DRAWINGS DS-21E AND DS-21F FOR ADDITIONAL INFORMATION
2. TYPE D CURB RAMPS SHALL BE USED ONLY FOR ALLEY STREETS AND DRIVEWAYS
3. CURB RAMP SIDE SLOPES SHALL BE CONSTRUCTED PER TABLE A

<table>
<thead>
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<th>CURB HEIGHT</th>
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<td>8&quot;</td>
<td>8'-0&quot;</td>
<td>8'-0&quot;</td>
</tr>
</tbody>
</table>

* BASED ON 12:1 SLOPE RELATIVE TO GUTTER FLOW LINE

SEE DETAIL "B" ON DS-21F

20:1 (5%) MAX GUTTER APRON SLOPE AT RAMP OPENING

12:1(8.33%) MAX.

TRUNCATED DOMES SEE DETAILS ON DS-21F

SEE DETAIL A ON DS-21F

**PLANS SHALL SPECIFY A 5' LANDING WHERE TURNING SPACE IS CONSTRAINED**

**SAN DIEGO COUNTY DESIGN STANDARD**

**CURB RAMP - TYPE D**

(ALLEY STREETS & DRIVEWAYS)

**DRAWING NUMBER** DS-21D

**REVISIONS** | **APPROVED** | **DATE**
---|---|---
**ADA** | JSM | 10/2012
CURB RAMPS NOTES:

1. REMOVAL AND REPLACEMENT OF EXISTING CONCRETE CURB, GUTTER, SIDEWALK AND PAVEMENT FOR PEDESTRIAN RAMP INSTALLATION SHALL COMPLY WITH SAN DIEGO AREA REGIONAL STANDARD DRAWING G-11.

2. CURB RAMP CONCRETE SHALL CONSIST OF GREENBOOK CLASS 520-C-2500 OR CALTRANS MINOR CONCRETE AS SPECIFIED IN THE PROJECT SPECIAL PROVISIONS, AND SHALL BE FINISHED WITH A MEDIUM TO HEAVY BROOM TEXTURE FINISH PERPENDICULAR TO THE AXIS OF THE RAMP.

3. AREAS DELINEATED BY  represents the minimum required for a complete ramp installation.

4. IF OBSTRUCTIONS SUCH AS INLETS, UTILITY POLES, FIRE HYDRANTS, ETC. ARE ENCOUNTERED THE RAMP LOCATIONS MAY BE ADJUSTED UPON APPROVAL BY THE ENGINEER.

5. CURB RAMP SIDE SLOPES ARE TO BE MEASURED RELATIVE TO THE GUTTER FLOWLINE GRADE.

6. LANDING SLOPE SHALL BE 2% MAX MEASURED PARALLEL TO THE CURB RAMP CENTERLINE.

7. THE EDGE OF THE TRUNCATED DOME PANEL SHALL BE LOCATED 6" MINIMUM AND 8" MAXIMUM FROM THE GUTTER FLOW LINE. SEE DETAIL "B" ON DRAWING DS-21F. ANY CUTTING OF PANELS REQUIRED FOR COMPLIANCE SHALL CONFORM TO THE MANUFACTURER’S RECOMMENDATIONS.

8. WEAKENED PLANE JOINTS AND EXPANSION JOINTS SHALL CONFORM TO SAN DIEGO AREA REGIONAL STANDARD (RSO) DRAWING G-10.

DETECTABLE WARNING SURFACE (TRUNCATED DOME) NOTES:

9. TRUNCATED DOMES ARE A DETECTABLE WARNING SURFACE CONSISTING OF A CAST IN PLACE PREFABRICATED PANEL COMPOSED OF VITRIFIED POLYMER INCLUDING ALUMINUM OXIDE, SOUND AMPLIFYING, MATERIAL SUCH AS "ARMOR-TILE CAST-IN-PLACE TACTILE PANELS" OR APPROVED EQUAL.

10. THE CONTRACTOR SHALL SUBMIT PRODUCT INFORMATION, INSTALLATION INSTRUCTIONS AND TWO (2) PANEL SAMPLES (MINIMUM SIZE 6" X 8" EACH) TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING OR INSTALLING MATERIALS.

11. DETECTABLE WARNING SURFACE SHALL BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO ORDERING.

12. THE DETECTABLE WARNING SURFACE SHALL BE COLORED DARK GREY CONTRASTING IN COLOR FROM CURB RAMP CONCRETE. THE CONTRAST SHOULD BE AT LEAST 70%. THE CONTRAST IN PERCENT IS DETERMINED BY:

   \[ \text{CONTRAST} = \left( \frac{B1-B2}{B1} \right) \times 100 \]

   WHERE

   \[ B1 = \text{LIGHT REFLECTANCE VALUE (LRV) OF THE LIGHTER AREA} \]

   \[ B2 = \text{LIGHT REFLECTANCE VALUE (LRV) OF THE LIGHTER AREA} \]

   NOTE THAT IN ANY APPLICATION BOTH WHITE AND BLACK ARE NEVER ABSOLUTE; THUS, B1 NEVER EQUALS 100 AND B2 IS ALWAYS GREATER THAN ZERO.

13. A CERTIFICATE OF COMPLIANCE SHALL BE FURNISHED TO CERTIFY THAT THE DETECTABLE WARNING SURFACES CONFORM TO THE AMERICANS WITH DISABILITY ACT ACCESSIBILITY GUIDELINES (ADAAG) AND REQUIREMENTS. THE CERTIFICATE OF COMPLIANCE SHALL INCLUDE A FIVE (5) YEAR WRITTEN MANUFACTURERS WARRANTY.

14. DURING PANEL INSTALLATION AND CONCRETE CURING THERE SHALL BE NO WALKING, LEANING OR EXTERNAL FORCES PLACED ON THE PANEL TO ROCK THE PANEL SO AS TO CAUSE A VOID BETWEEN THE PANEL AND THE CONCRETE. THE CONTRACTOR SHALL BLOCK OFF THE AREA TO PREVENT PEDESTRIAN ACCESS DURING CURING.

15. THE TOP DIAMETER OF EACH TRUNCATED Dome SHALL BE BETWEEN 50% MINIMUM AND 65% MAXIMUM OF THE BASE DIAMETER.
*PLANS SHALL SPECIFY A 5' LANDING WHERE TURNING SPACE IS CONSTRAINED*

TRUNCATED DOME PANEL
SEE DETAILS BELOW

2% MAX
12:1(8.33%) MAX
3’ MIN
SEE DETAIL B

DETAIL A
NOT TO SCALE

CURB RAMPS
3’ MIN LENGTH
4’ WIDTH
TRUNCATED DOME PANEL
NOT TO SCALE

SEE NOTE 15 ON DS-21E

BASE
0.5"R
0.2"
0.9" TO 1.4"

SEE DETAIL C
SEE NOTES 13 AND 14 ON DS-21E

 DETAIL B
NOT TO SCALE

1.6" TO 2.4"
0.65" MIN.

DETAIL D
NOT TO SCALE

PATTERN, SIZE AND ORIENTATION OF DOMES SHALL BE PER MANUFACTURER'S RECOMMENDATION.
SEE NOTE 13 ON DS-21E
NEW ASPHALT CONCRETE PAVEMENT WITH 3/4" AGGREGATE COMPACTED TO 95% OF MAXIMUM RELATIVE COMPACTION (MRC)

EXISTING ASPHALT CONCRETE PAVEMENT

6" MIN. CLASS II AGGREGATE BASE COMPACTED TO 95% OF MRC

12" MIN. BACKFILL COMPACTED TO 95% OF MRC

BACKFILL COMPACTED TO 90% OF MRC (UNLESS SPECIFIED OTHERWISE)

PIPE ZONE / BEDDING PER SPECIFICATIONS (SEE NOTE 5)

W

6" TYP.

1/2" TYP.

COLD PLANE 1-1/2" AND PAVE WITH ASPHALT CONCRETE, 1/2" AGGREGATE

PHASE 1 - BASE PAVING
NOT TO SCALE

PHASE 2 - FINISH PAVING
SEE NOTE 6
NOT TO SCALE

NOTES:
1. PAVEMENT MATERIAL AND SURFACING SHALL MATCH EXISTING.
2. ALL REMOVED SURFACE IMPROVEMENTS (CURBS, DIKES, SIDEWALKS, ETC.) SHALL BE REPLACED IN KIND.
3. ALL AREAS OF EXISTING AC LESS THAN 48" WIDE REMAINING AFTER TRENCHING SHALL BE COLD PLANED AND PAVED PER PHASE II FINISH PAVING.
4. PHASE I PAVEMENT THICKNESS SHALL EQUAL EXISTING PAVEMENT THICKNESS PLUS 1" (4" MINIMUM / 7" MAXIMUM).
5. WHEN GRAVEL OR ROCK IS USED WITHIN THE PIPE ZONE, THAT MATERIAL SHALL BE ENCAPSULATED IN A FILTER FABRIC ENVELOPE WITH W/2 > 12" MINIMUM OVERLAP. THIS REQUIREMENT APPLIES ONLY TO TRENCHES UNDER OR WITHIN 10' OF SURFACING.
6. PHASE II PAVING SHALL BE COMPLETED NOT EARLIER THAN 14 CALENDAR DAYS AND NOT LATER THAN 75 CALENDAR DAYS AFTER PHASE 1 PAVING.
7. FOR PCC PAVEMENT REFER TO RSD G25.
GALVANIZED STEEL POST CAP TYP

GALVANIZED STEEL POST TYP

S ≤ 4" TYP

1/4"@ GALVANIZED STEEL CABLE TYP

TOP SURFACE OF RETAINING WALL

POST POCKET TYP SEE DETAIL A OR B ON DS-23B

6' O.C. MAX TYP

TYPICAL MID-SPAN ELEVATION
NOT TO SCALE

1/4"@ EYE BOLT PEEN END TYP

1/4" BOLT-PEEN END TYP

GALVANIZED STEEL PIPE NPS 1-1/4" STD TYP

M E T A L E N D C A P T Y P

5/16" TURNBUCKLE WITH 4-1/2" ADJUSTMENT TYP

5/16" METAL CLAMP TYP

TYPICAL DEAD-END ELEVATION
NOT TO SCALE

NOTES:

1. 200 FEET MAXIMUM DISTANCE BETWEEN TURNBUCKLES
2. STAGGER INTERMEDIATE TURNBUCKLES IN ADJACENT SPANS
3. NO CABLE SPlicing BETWEEN INTERMEDIATE TURNBUCKLE AND END POST
4. CABLE ALIGNMENT MAY VARY TO MATCH SLOPE IN TOP SURFACE OF RETAINING WALL
5. CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS PRIOR TO ORDERING MATERIALS OR FABRICATING ASSEMBLIES
6. LINE POSTS SHALL BE BRACED HORIZONTALLY AND TRUSSED DIAGONALLY IN BOTH IN LINE DIRECTIONS AT INTERVALS NOT TO EXCEED 1000 FEET
7. ALL CABLE ENDS SHALL BE CAPPED WITH MECHANICALLY LOCKING, STAINLESS STEEL CAP COVERS (QuickConnect-SS OR EQUAL)
8. WHERE HORIZONTAL FENCE ALIGNMENT DEFLECTS 15 DEGREES OR MORE, POSTS AT ANGLE POINTS SHALL BE BRACED IN BOTH IN LINE DIRECTIONS WITH DIAGONAL BRACING PER TYPICAL DEAD END ELEVATION DETAIL
9. THIMBLES SHALL BE INSTALLED ON ALL CABLE LOOPS
10. SEE DS-23B FOR ADDITIONAL DETAILS
11. CENTERLINE OF POST MUST BE AT LEAST 9 INCHES FROM NIFARES® EXPANSION JOINT

SAN DIEGO COUNTY DESIGN STANDARD
CABLE RAILING
FOR RETAINING WALL

NEW JSM 10/2012
A EN 09/2013
A EN 12/2013
DRAWING NUMBER DS-23A
DETAIL A
CONCRETE RETAINING WALL
NOT TO SCALE
EXISTING REINFORCING NOT SHOWN FOR CLARITY

DETAIL B
MASONRY RETAINING WALL
NOT TO SCALE
EXISTING REINFORCING NOT SHOWN FOR CLARITY

ALTERNATIVE CABLE CONNECTION
NOT TO SCALE

ALTERNATIVE DEAD END ANCHORAGE
NOT TO SCALE

NOTES:
1. POST SHALL BE CENTERED IN WALL AND PLUMB
2. ALL METAL COMPONENTS AND HARDWARE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION
3. ONLY ONE OF THE TWO ALTERNATIVE CONNECTIONS IS ALLOWED FOR THE SAME CABLE END