CITY OF LAKE ELSINORE
STANDARD PLANS

2009 EDITION

Bob Brady  City Manager
Ken Seumalo  City Engineer
FORWARD

This first edition approved in 2009, of the City of Lake Elsinore Standard Plans marked the culmination of years of effort by City staff working in cooperation with organizations such as the Southern California Edison Company, the Gas Company, GTE California, and Elsinore Valley Municipal Water District, as well as private members of the construction industry.

This first edition maintains a “living” document of the City of Lake Elsinore Standard Plans.

These standard plans answer the need for uniform design standards, and will benefit both the general public and private contracting industry by eliminating conflicts and confusion, lowering construction costs, and encouraging more competitive bidding by private contractors.

Mayor

Ken Seumalo  Director of Public Works

ADOPTED BY RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAKE ELsinore

City of Lake Elsinore • 130 S. Main Street, Lake Elsinore, CA 92530 • (951) 674-3124
CITY OF LAKE ELSIMORE

IMPROVEMENT STANDARDS

These Improvement Standards Have Been Adopted By Lake Elsinore City Council For Public And Private Use. These Standards Are Intended To Provide Uniform Development Throughout the City, Whether Work Is Undertaken by The City or Private Development.

Ken A. Seumalo P.E.
Director of Public Works
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## STANDARD PLAN NUMBERS

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<tr>
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<tr>
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STANDARD PLANS

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<th>LOCAL</th>
<th>COLLECTOR</th>
<th>SECONDARY</th>
<th>MAJOR ARTERIAL</th>
<th>URBAN ARTERIAL</th>
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<th>URBAN EXPRESWAY</th>
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<td>90</td>
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<td>120</td>
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<td>MINIMUM RADI HORIZONTAL</td>
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<td>70</td>
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<td>96</td>
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<td>ROLLING (4-9%)</td>
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<td>1000</td>
<td>1600</td>
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<td>MOUNTAINOUS (9-15%)</td>
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<td>300</td>
<td>550</td>
<td>1000</td>
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<td>MAXIMUM GRADE %</td>
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<td>FLAT ROLLING</td>
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<td>DESIGN SPEED (MPH)</td>
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<td>INTERSECTION INTERVALS</td>
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<td>330</td>
<td>660</td>
<td>1320</td>
<td>1320</td>
<td>5280</td>
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1. DIRECT RESIDENTIAL ACCESS RESTRICTED.
2. DIRECT ACCESS RESTRICTED.

**NOTES:**

1.) MINIMUM GRADE = 1.0%.
2.) ANY DEVIATION FROM APPROVED STD. WILL REQUIRE APPROVAL OF THE CITY ENGINEER.
3.) PART WIDTH STREETS SHALL HAVE A MINIMUM OF ONE-HALF WIDTH RIGHT-OF-WAY PLUS AN ADDITIONAL FIFTEEN (15) FEET. ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED DUE TO A.C. PAVING REQUIREMENTS AS ESTABLISHED BY CITY ENGINEER.
### STREET CLASSIFICATION AND X-SECTION DESIGN STANDARDS

<table>
<thead>
<tr>
<th>STREET CLASS</th>
<th>ROW CURB TO CURB</th>
<th>TYPICAL SECTION (BIKE LANE &amp; OR PARKING, TRAVEL LANES &amp; MEDIAN)</th>
<th>PARKWAY WIDTH (FT.)</th>
<th>THRU LANES</th>
<th>DESIGN MIN. TRAFFIC CAPACITY (A.D.T.)</th>
<th>MIN. A.G. THICKNESS (in)</th>
<th>MIN. A.B. THICKNESS (in)</th>
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<tr>
<td>URBAN ARTERIAL SR-74</td>
<td>194/110</td>
<td>(RAISED) (CENTRAL AVENUE) MEDIAN</td>
<td>10</td>
<td>12</td>
<td>50,000-60,000</td>
<td>5 1/2</td>
<td>12</td>
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<td>URBAN ARTERIAL</td>
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<td>(RAISED) MEDIAN</td>
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<td>12</td>
<td>50,000-60,000</td>
<td>5 1/2</td>
<td>6</td>
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<td>MAJOR ARTERIAL</td>
<td>100/80</td>
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<td>8</td>
<td>15</td>
<td>32,000-40,000</td>
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<td>SECONDARY ARTERIAL</td>
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<td>20,000-32,000</td>
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<td>COLLECTOR</td>
<td>68/48</td>
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<td>10,000-15,000</td>
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<td>8</td>
<td>12</td>
<td>N/A</td>
<td>5 3/4</td>
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</table>

* INTERSECTION WIDENING WHERE REQUIRED MAY INCREASE WIDTH VALUES
+ LEFT TURN LANES OR POCKETS WITHOUT ELIMINATING PARKING.
1 STREETS DESIGNATED AS TRUCK ROUTES MAY REQUIRE A TT OF 10 OR MORE.

NOTES:
M ost ARTERIAL STREETS REQUIRE BIKE LANES PER GENERAL PLAN. PARKING IS NOT USUALLY ACCOMMODATED ON ANY ARTERIAL STREETS.
PARKING MAY BE ELIMINATED AT INTERSECTIONS TO ACCOMMODATE TURN POCKETS.
ALL OF THE ABOVE LANE WIDTHS SHALL BE USED TO DESIGN STRIPING PLANS UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.
TYPICAL 1/2 WIDTH SECTION

NOTES:

1.) ADDITIONAL RIGHT OF WAY MAY BE REQUIRED WHEN AN ARTERIAL HIGHWAY COINCIDES WITH AN ADOPTED ROUTE FOR AN ADDITIONAL PUBLIC FACILITY (I.E., PEDESTRIAN, BICYCLE, OR EQUESTRIAN TRAIL)

2.) THICKNESS OF PAVEMENT SECTION TO BE DETERMINED BY R-VALUE TESTING PER CALTRANS DESIGN METHOD WITH RECOMMENDED SAFETY FACTOR. MIN. 5 1/2" AC/12" AB.

3.) STREETS SHALL BE CONSTRUCTED TO CENTERLINE PLUS 21' INCLUDING MEDIAN

4.) REFER TO THE GENERAL PLAN FOR BIKE LANE REQUIREMENTS

5.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
TYPICAL SECTION

NOTES:

1.) ADDITIONAL RIGHT OF WAY MAY BE REQUIRED WHEN AN ARTERIAL HIGHWAY COINCIDES WITH AN ADOPTED ROUTE FOR AN ADDITIONAL PUBLIC FACILITY (I.E., PEDESTRIAN, BICYCLE, OR EQUESTRIAN TRAIL), OR FOR A SCENIC HIGHWAY.

2.) THICKNESS OF PAVEMENT SECTION TO BE DETERMINED BY P-VALUE TESTING PER CALTRANS DESIGN METHOD WITH RECOMMENDED SAFETY FACTOR. SEE STD. PLAN NO. 100

3.) MIN. T.I. = 9.

4.) HALF WIDTH STREETS SHALL BE CONSTRUCTED TO A WIDTH OF 1/2 STREET WIDTH PLUS 19" INCLUDING FULL MEDIAN.

5.) REFER TO GENERAL PLAN FOR ANY BIKE LANE REQUIREMENTS

6.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
TYPICAL SECTION

NOTES:

1.) ADDITIONAL RIGHT OF WAY MAY BE REQUIRED WHEN AN ARTERIAL HIGHWAY COINCIDES WITH AN ADOPTED ROUTE FOR AN ADDITIONAL PUBLIC FACILITY (I.E., PEDESTRIAN, BICYCLE, OR EQUESTRIAN TRAIL), OR FOR A SCENIC HIGHWAY.

2.) THICKNESS OF PAVEMENT SECTION TO BE DETERMINED BY R-VALUE TESTING PER CALTRANS DESIGN METHOD WITH RECOMMENDED SAFETY FACTOR. MINIMUM STRUCTURAL SECTION .45' AC/ 1.00' AB.

3.) MIN. T.I. = 10.

4.) HALF WIDTH STREETS SHALL BE CONSTRUCTED TO A WIDTH OF 1/2 STREET WIDTH PLUS 21" WIDTH MEDIAN.

5.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
TYPICAL 1/2 WIDTH SECTION

NOTES:

1.) ADDITIONAL RIGHT OF WAY MAY BE REQUIRED WHEN AN ARTERIAL HIGHWAY COINCIDES WITH AN ADOPTED ROUTE FOR AN ADDITIONAL PUBLIC FACILITY

2.) THICKNESS OF PAVEMENT SECTION TO BE DETERMINED BY R-VALUE TESTING PER CALTRANS DESIGN METHOD WITH RECOMMENDED SAFETY FACTOR. SEE STD DWG 100

3.) MIN. T.I.=8

4.) HALF WIDTH STREETS SHALL BE CONSTRUCTED TO A WIDTH OF 1/2 STREET WIDTH PLUS 19'.

5.) REFER TO GENERAL PLAN FOR BIKE LANE REQUIREMENTS

5.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
TYPICAL SECTION

NOTES:

1.) THICKNESS OF PAVEMENT SECTION TO BE DETERMINED BY R VALUE TESTING PER CALTRANS DESIGN METHOD WITH RECOMMENDED SAFETY FACTOR, MIN. .4" AC/ 6" AB.

2.) THICKNESS OF PAVEMENT SECTION TO BE DETERMINED BY R-VALUE TESTING PER CALTRANS DESIGN METHOD WITH RECOMMENDED SAFETY FACTOR.

3.) MIN. T.I. = 7.

4.) HALF WIDTH STREETS SHALL BE CONSTRUCTED TO A WIDTH OF 1/2 STREET WIDTH PLUS 12".

5.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

COLLECTOR

NO. 105
TYPICAL SECTION

NOTES:

1.) THICKNESS OF PAVEMENT SECTION TO BE DETERMINED BY R VALUE TESTING PER CALTRANS DESIGN METHOD WITH RECOMMENDED SAFETY FACTOR, MIN 1/2" AC/6"AB.

2.) THICKNESS OF PAVEMENT SECTION TO BE DETERMINED BY R-VALUE TESTING PER CALTRANS DESIGN METHOD WITH RECOMMENDED SAFETY FACTOR.
   SEE STD DWG 100

3.) MIN. T.I.=6.

4.) HALF WIDTH STREETS SHALL BE CONSTRUCTED TO A WIDTH OF 1/2 STREET WIDTH PLUS 12'.

5.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
TYPICAL SECTION

NOTES:

1) THICKNESS OF PAVEMENT SECTION TO BE DETERMINED BY R VALUE TESTING PER CALTRANS DESIGN METHOD WITH RECOMMENDED SAFETY FACTOR, MIN. .33' AC/.50' AB.

2) MIN. T.I. = 6.

3) HALF WIDTH STREETS SHALL BE CONSTRUCTED TO A WIDTH OF 1/2 STREET WIDTH PLUS 12'.

4) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
NOTES:

1.) DRAINAGE CONTROL TO BE APPROVED BY THE CITY ENGINEER.

2.) THICKNESS OF PAVEMENT TO BE DETERMINED BY R VALUE TESTING PER CALTRANS DESIGN METHOD WITH RECOMMENDED SAFETY FACTOR, MIN. 0.33' AC/.50' AB.

3.) MIN. T.I. = 6.

4.) NO PARKING PERMITTED ON EITHER SIDE.

5.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
NOTES:

1.) SEE STD. DWG. No. 203 FOR TYPE "BA" CURB.

2.) MEDIAN DRAINAGE STRUCTURES SHALL BE PROVIDED TO PREVENT ANY WATER FROM OVERFLOWING CURBS.

3.) MEDIAN DRAINAGE STRUCTURES AND UNDERDRAINS SHALL DRAIN TO A POINT OF DISPOSAL MEETING APPROVAL OF THE CITY.

4.) PLACEMENT OF PLANTS SHALL NOT OBSTRUCT THE FLOW OF WATER TO THE EXTENT THAT IT WILL OVERFLOW CURBS OR OBSTRUCT SIGHT DISTANCE.

5.) MEDIAN AREAS LESS THAN 6' IN WIDTH SHALL BE PAVED WITH 12" PATTERN STAMPED COLORED CONCRETE. THE MINIMUM 3" THICK CONCRETE MOW STRIP SHALL HAVE A BRICK 4"X8" PATTERN, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

6.) ALL LANDSCAPE AND IRRIGATION PLANS SHALL COMPLY WITH THE CITY'S DEVELOPMENT CODE AND LANDSCAPE DEVELOPMENT GUIDELINES AND SPECIFICATIONS, AND ANY APPLICABLE SPECIFIC PLAN DESIGN MANUAL, OR CONDITIONS OF APPROVAL.

7.) ALL LANDSCAPE, IRRIGATION, AND DRAINAGE PLANS AND DEVICES SHALL BE APPROVED BY THE CITY PRIOR TO INSTALLATION.

8.) THE LANDSCAPE PLAN SHALL MINIMIZE RUNOFF TO THE PAVEMENT, MINIMIZE MAINTENANCE, PROMOTE WATER CONSERVATION AND ASSURE DESIGN CONTINUITY OF THE PROPOSED PROJECT WITH EXISTING MEDIANS ON THE STREET. THE LANDSCAPE PLAN SO PREPARED SHALL CONSIST OF AREAS OF CREATIVE HARDSCAPE AND PLANTING, WITH NO MORE THAN 25% HARDSCAPE. WHERE IRRIGATION IS PROPOSED, Drip irrigation systems are required, WHERE APPLICABLE, AND PLANT MATERIALS SHALL BE APPROPRIATE TO THE PROPOSED SYSTEM. THE LANDSCAPE PLAN SHALL BE SUBJECT TO FINAL APPROVAL BY THE CITY ENGINEER. THE CITY ENGINEER MAY APPROVE VARIATIONS IN THESE STANDARDS IF STRICT APPLICATION OF THE PERCENTAGE PROVES INFEASIBLE.

9.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
NOTE: THE NUMBER OF PLANTER OPENINGS WILL VARY BY LENGTH OF LEFT TURN POCKET. NO PLANTER OPENINGS SHALL EXTEND INTO THE TRANSITION SEGMENT OR BE LOCATED IN MEDIAN LESS THAN 6' WIDE (CURB FACE TO CURB FACE).

STamped CONCRETE INSET
PLANTER OPENINGS
SEE DETAIL "A" BELOW

NOTE:
SEE GENERAL NOTES: STAMPED CONCRETE (STANDARD NO. 224.)
AND TYPE D-1 CURB (STANDARD NO. 204)
GLUED DOWN OPTION

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
MEDIAN HARDSCAPE
111
*SUBJECT TO REVISION BY THE CITY ENGINEER

TYPICAL SECTION

NOTES:

1.) BRIDGE TYPE TO BE APPROVED BY CITY ENGINEER.

2.) RAISED SIDEWALK TO BE PROVIDED WHEN REQUIRED BY THE CITY ENGINEER.
    IF NOT REQUIRED, NON-SIDEWALK CONCRETE BARRIER SHALL BE USED.

3.) CONCRETE BARRIER SHALL BE TO CALTRANS STANDARDS OR AS APPROVED
    BY CITY ENGINEER.

4.) ULTIMATE TYPICAL BRIDGE SECTIONS TO BE CONSISTENT WITH THE APPROACH
    ROAD SECTION AS APPROVED BY THE CITY ENGINEER.

5.) CURBED MEDIAN TO BE USED ONLY WHEN APPROACHING HIGHWAY HAS A
    RAISED MEDIAN WIDTH ALSO. MEDIAN WIDTH MAY VARY WITH RAISED CURB

6.) CONCRETE BARRIER SHALL BE CALTRANS STANDARDS OR AS APPROVED
    BY THE CITY ENGINEER.

7.) EXTERIOR DESIGN SHALL BE REVIEWED AND APPROVED BY THE COMMUNITY
    DEVELOPMENT DIRECTOR

8.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS
    STANDARDS.
NOTES:

1.) BRIDGE TYPE TO BE APPROVED BY CITY ENGINEER.

2.) RAISED SIDEWALK TO BE PROVIDED WHEN REQUIRED BY THE CITY ENGINEER.
    IF NOT REQUIRED, NON-SIDEWALK CONCRETE BARRIER SHALL BE USED.

3.) CONCRETE BARRIER SHALL BE TO CALTRANS STANDARDS OR AS APPROVED
    BY CITY ENGINEER.

4.) ULTIMATE TYPICAL BRIDGE SECTIONS TO BE CONSISTENT WITH THE APPROACH
    ROAD SECTION AS APPROVED BY THE CITY ENGINEER.

5.) EXTERIOR DESIGN SHALL BE REVIEWED AND APPROVED BY THE COMMUNITY
    DEVELOPMENT DIRECTOR

6.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS
    STANDARDS.
NOTES:
1.) ALL CONCRETE SHALL BE CLASS 520-C-2500, CURED WITH WHITE PIGMENTED CURING COMPOUND.
2.) ALL EXISTING P.C.C. TO BE REMOVED SHALL BE SAWCUT AT THE JOINTS.
3.) DRIVeways WITH WIDTHS BETWEEN 14' AND 20' SHALL HAVE 1 WEAKENED PLANE AT Jjoint AT 1/2W. DRIVeways WIDER THAN 20' SHALL HAVE WEAKENED PLANE JOINTS NOT TO EXCEED 7' ON CENTER.
4.) FOR NEW DRIVeway APPROACHES ON EXISTING STREETS, A 12" WIDTH OF ASPHALT CONCRETE SHALL BE REMOVED AND REPLACED TO PCC GUTTER DEPTH.
5.) DRIVeways FOR CORNER LOTS SHALL BE LOCATED ADJACENT TO THE PROPERTY LINE AWAY FROM THE INTERSECTION.
6.) WIDTH DIMENSION SHALL MATCH WIDTH OF GARAGE(S) OPENING UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
7.) 14% MAX. GRADE BREAK BETWEEN DRIVeway AND APPROACH IS ACCEPTABLE.
8.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
SECTION A–A

NOTES:
1.) TYPE 1 APPROACH MAY BE USED WHEN SIDEWALK IS ADJACENT TO PROPERTY LINE.
2.) WEAKENED PLANE JOINT REQUIRED AT CENTERLINE OF APPROACH.
3.) CONCRETE SHALL BE CLASS 520–C–2500, CURED WITH WHITE PIGMENTED CURING COMPOUND.
4.) MINIMUM WIDTH SHALL BE 24', MAXIMUM WIDTH SHALL BE 40'
5.) STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
NOTES:
1. TYPE II APPROACH SHALL BE USED WHEN SIDEWALK IS ADJACENT TO CURB.
2. WEAKENED PLANE JOINT REQUIRED AT CENTERLINE OF APPROACH, AND AT 1/2 △
3. CONCRETE SHALL BE CLASS 560-C-3250, CURED WITH WHITE PIGMENTED CURING COMPOUND.
4. TOP OF SIDEWALK RAMP SHALL HAVE 12" WIDE BORDER WITH GROOVES 1/4" DEEP, WITH 1/8" RADIUS,
5. X SHALL HAVE A MAXIMUM SLOPE OF 1:12 (8.33%), AND A MINIMUM SLOPE OF 1:15 (6.67%).
6. MAXIMUM GRADE BREAK SHALL BE 3%.
7. RAMP SURFACE SHALL BE SLIP-RESISTANT AND SHALL BE OF CONTRASTING FINISH FROM
   ADJACENT SIDEWALK (MEDIUM BROOM FINISH OR EQUIVALENT).
8. ALL ACCESS RAMP SHALL BE CONSTRUCTED TO THE MOST CURRENT REQUIREMENTS OF THE AMERICANS
   WITH DISABILITIES ACT (ADA) STANDARDS/CALIFORNIA CODE OF REGULATIONS TITLE 24—ACCESSIBILITY
   REGULATIONS. ADJUSTMENTS SHALL BE MADE IN THE FIELD TO ACHIEVE RAMP CONDITIONS.
9. STRUCTURAL SECTION COMPACTION PER APPROVED PLANS OR MIN. CALTRANS STANDARDS.
SIGHT DISTANCE STANDARDS

<table>
<thead>
<tr>
<th>DESIGN SPEED (M.P.H.)</th>
<th>MINIMUM STOPPING (FT.)</th>
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</thead>
<tbody>
<tr>
<td>20</td>
<td>125</td>
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<tr>
<td>25</td>
<td>150</td>
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<td>50</td>
<td>430</td>
</tr>
<tr>
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<td>500</td>
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</table>

NOTE:
These are min. requirements usually dictated by existing conditions. Std 126 shall be used for all new development.

1.) Increase by 20% on sustained down grade greater than 3% and longer than 1 mile.
2.) Where no parking zone is being determined, use 8' for parking zone and then apply 6' for line of sight determination.
3.) For non passing zones, use Caltrans standard.
NOTES:

1. This standard shall be used for all new development.

2. The limited use area is determined by the graphical method using the appropriate distances given in the above table. It shall be used for the purpose of prohibiting or clearing obstructions in order to maintain adequate sight distance at intersections.

3. The line of sight shall be shown at intersections on all landscaping plans, grading plans, and tentative tract plans where safe sight distance is questionable. In cases where an intersection is located on a vertical curve, a profile of the sight line may be required.

4. Walls or any obstructions that could restrict the view within the limited use area shall not be permitted.

5. The toe of the slope shall not encroach into the limited use area.

6. The limited use area shall be as near level as possible yet maintain proper drainage.

7. Plants and shrubs shall be of the type that will grow no higher than 30 inches above the ground within the limited use area.

8. No trees shall be allowed within the Parkway Sight Triangle.

9. Points A and A1 are the locations of a driver's line of sight while in a vehicle at an intersection 10 feet back from the projection of the curb line. The distance Y1 is the distance measured from the centerline of the road to the far right through traffic lane. The distance Y1 is equal to zero for T-intersections.

10. The distance S represents the safe stopping distance measured along the centerline of the road.

11. Points C and C1 are the locations (centerline of the travel lanes) where the driver of a vehicle, traveling at a given speed, has the minimum stopping sight distance required to bring the vehicle to a safe stop.
\[ Y = 2.25W \left( \frac{L}{3} \right)^2 \]

**L** = LENGTH OF TAPER  
**W** = MAXIMUM OFFSET DISTANCE  
**X** = DISTANCE ALONG BASELINE  
**Y** = OFFSET FROM BASELINE

<table>
<thead>
<tr>
<th>L</th>
<th>DISTANCE X</th>
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<tbody>
<tr>
<td>60'</td>
<td>5' 10' 15' 20' 25' 30' 35' 40' 45' 50' 55' 60'</td>
</tr>
<tr>
<td>72'</td>
<td>6' 12' 18' 24' 30' 36' 42' 48' 54' 60' 66' 72'</td>
</tr>
<tr>
<td>90'</td>
<td>7.5' 15' 22.5' 30' 37.5' 45' 52.5' 60' 67.5' 75' 82.5' 90'</td>
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<table>
<thead>
<tr>
<th>W</th>
<th>OFFSET Y</th>
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</thead>
<tbody>
<tr>
<td>10'</td>
<td>0.16' 0.62' 1.41' 2.50' 3.75' 5.00' 6.25' 7.50' 8.59' 9.38' 9.84' 10.00'</td>
</tr>
<tr>
<td>11'</td>
<td>0.17' 0.69' 1.55' 2.75' 4.13' 5.50' 6.88' 8.25' 9.45' 10.31' 10.83' 11.00'</td>
</tr>
<tr>
<td>12'</td>
<td>0.19' 0.75' 1.69' 3.00' 4.50' 6.00' 7.50' 9.00' 10.31' 11.25' 11.81' 12.00'</td>
</tr>
</tbody>
</table>

**NOTE:**

1.) TO DETERMINE OFFSET DISTANCE FOR ANY LENGTH OF TAPER USE THE FORMULA \( Y = 2.25W \left( \frac{L}{3} \right)^2 \) FOR THE PORTIONS A-B1 AND C1-D1 WHICH ARE PARABOLIC CURVES. THE PORTION B1-C1 IS A TANGENT. WHEN THE BASE LINE IS CURVED, THE OFFSETS ARE APPLIED TO THE CURVED BASE LINE, AND B1-C1 IS NO LONGER A TANGENT.
\[ Y = W \left( \frac{X}{L} \right)^2 \]

\[ \tan \theta = \frac{2W}{T} \]

\[ T = R \tan \left( \frac{\theta}{2} \right) \]

**OFFSET Y**

<table>
<thead>
<tr>
<th>L</th>
<th>10'</th>
<th>15'</th>
<th>20'</th>
<th>25'</th>
<th>30'</th>
<th>40'</th>
<th>45'</th>
<th>50'</th>
<th>60'</th>
<th>70'</th>
<th>75'</th>
<th>80'</th>
<th>90'</th>
<th>100'</th>
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<tr>
<td>25'</td>
<td>0.80'</td>
<td>1.60'</td>
<td>1.80'</td>
<td>3.20'</td>
<td>5.00'</td>
<td>5.60'</td>
<td>6.40'</td>
<td>8.10'</td>
<td>10.00'</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>50'</td>
<td>0.40'</td>
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<td>1.60'</td>
<td>2.50'</td>
<td>3.60'</td>
<td>6.40'</td>
<td>8.10'</td>
<td>10.00'</td>
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</tr>
</tbody>
</table>

FOR W/L = 1:10

| 50' | 0.20' | 0.45' | 0.80' | 1.25' | 1.80' | 3.20' | 4.05' | 5.00' |
| 100' | 0.10' | 0.23' | 0.40' | 0.63' | 0.90' | 1.60' | 2.03' | 2.50' |

FOR W/L = 1:15

| 45' | 0.15' | 0.33' | 0.59' | 0.93' | 1.33' | 2.37' | 3.00' |
| 75' | 0.09' | 0.20' | 0.36' | 0.56' | 0.80' | 1.42' | 1.80' |
| 90' | 0.07' | 0.17' | 0.30' | 0.46' | 0.67' | 1.19' | 1.50' |

**NOTE:**
1.) If station of radius point is not given on plan, tangent "T" may be ignored.

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CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

MEDIAN FLARE

NO. 128
CITY OF LAKE ELSINORE
STANDARD PLANS

SECTION 2:
Curbs, Gutters, and Sidewalks
NOTES:

1.) CONCRETE SHALL BE CLASS 520-C-2500 P.C.C.; CURED WITH WHITE PIGMENTED CURING COMPOUND.

2.) ALL EXPOSED CORNERS SHALL BE FINISHED WITH 1/2" RADIUS.

3.) FINISH SHALL BE FINE BROOM.

4.) EXISTING P.C.C. SHALL BE SAWCUT AT WEAKENED PLANE JOINT PRIOR TO REMOVAL.

5.) CURBS SHALL HAVE WEAKENED PLANE JOINTS AT 10' INTERVALS; NO SCORELINES ALLOWED.

6.) WHEN CURB AND GUTTER IS PLACED BY AN EXTRUSION MACHINE, FINISHING WORK SHALL PROVIDE AN ACCEPTABLE FINISH AND WEAKENED PLANE JOINTS MAY BE SAWCUT.

7.) A MINIMUM 1' WIDE A.C. PAVEMENT REPAIR PATCH IS REQUIRED WHEN CURB AND GUTTER IS PLACED ADJACENT TO EXISTING A.C. PAVEMENT.

8.) MIN. PERMISSIBLE GRADE 1.0 % UNLESS APPROVED BY CITY ENGINEER

9.) SLOPE TOP OF CURB 1/4" PER FOOT TOWARD STREET
NOTES:

1.) CONCRETE SHALL BE CLASS 520–C–2500 P.C.C.; CURED WITH WHITE PIGMENTED CURING COMPOUND.

2.) ALL EXPOSED CORNERS SHALL BE FINISHED WITH 1/2" RADIUS.

3.) FINISH SHALL BE FINE BROOM.

4.) EXISTING P.C.C. SHALL BE SAWCUT AT WEAKENED PLANE JOINT PRIOR TO REMOVAL.

5.) CURBS SHALL HAVE WEAKENED PLANE JOINTS AT 10' INTERVALS; NO SCORELINES ALLOWED.

6.) WHEN CURB AND GUTTER IS PLACED BY AN EXTENSION MACHINE, FINISHING WORK SHALL PROVIDE AN ACCEPTABLE FINISH AND WEAKENED PLANE JOINTS MAY BE SAWCUT.

7.) A MINIMUM 1' WIDE A.C. PAVEMENT REPAIR PATCH IS REQUIRED WHEN CURB AND GUTTER IS PLACED ADJACENT TO EXISTING A.C. PAVEMENT.

8.) MIN. PERMISSIBLE GRADE 1.0 % UNLESS APPROVED BY CITY ENGINEER

9.) SLOPE TOP OF CURB 1/4" PER FOOT TOWARD STREET
NOTES:

1.) CONCRETE SHALL BE CLASS 560-C-3250 P.C.C., CURED WITH WHITE PIGMENTED CURING COMPOUND.

2.) ALL EXPOSED CORNERS SHALL BE FINISHED WITH 1/2" RADIUS.

3.) FINISH SHALL BE FINE BROOM.

4.) EXISTING P.C.C. SHALL BE SAWCUT AT JOINT PRIOR TO REMOVAL.

5.) CURBS SHALL HAVE EXPANSION JOINTS AT B.C.R. AND E.C.R. AND WEAKENED PLANE JOINTS AT 10' INTERVALS ONLY.

6.) WHEN CURB AND GUTTER IS PLACED BY AN EXTRUSION MACHINE, FINISHING WORK SHALL PROVIDE AN ACCEPTABLE FINISH AND WEAKENED PLANE JOINTS MAY BE SAWCUT.

7.) SLOPE TOP OF CURB 1/4" PER FOOT TOWARD STREET
NOTES:

1.) CONCRETE SHALL BE CLASS 520-C-2500 P.C.C., CURED WITH WHITE PIGMENTED CURING COMPOUND.

2.) ALL EXPOSED CORNERS SHALL BE FINISHED WITH 1/2" RADIUS.

3.) FINISH SHALL BE FINE BROOM.

4.) EXISTING P.C.C. SHALL BE SAWCUT AT SCORELINE PRIOR TO REMOVAL.

5.) CURBS SHALL HAVE EXPANSION JOINTS AT B.C.R. AND E.C.R. AND WEAKENED PLANE JOINTS AT 10' INTERVALS ONLY.

6.) WHEN CURB AND GUTTER IS PLACED BY AN EXTRUSION MACHINE, FINISHING WORK SHALL PROVIDE AN ACCEPTABLE FINISH AND WEAKENED PLANE JOINTS MAY BE SAWCUT.

7.) SLOPE TOP OF CURB 1/4" PER FOOT TOWARD STREET
NOTES:

1.) CONCRETE SHALL BE CLASS 560-C-3250 P.C.C., CURED WITH WHITE PIGMENTED CURING COMPOUND.

2.) ALL EXPOSED CORNERS SHALL BE FINISHED WITH 1/2" RADIUS.

3.) FINISH SHALL BE FINE BROOM.

4.) EXISTING P.C.C. SHALL BE SAWCUT AT SCORELINE PRIOR TO REMOVAL.

5.) CURBS SHALL HAVE EXPANSION JOINTS AT B.C.R. AND E.C.R. AND WEAKENED PLANE JOINTS AT 10' INTERVALS ONLY.

6.) WHEN CURB AND GUTTER IS PLACED BY AN EXTRUSION MACHINE, FINISHING WORK SHALL PROVIDE AN ACCEPTABLE FINISH AND WEAKENED PLANE JOINTS MAY BE SAWCUT.

7.) SLOPE TOP OF CURB 1/4" PER FOOT TOWARD STREET
NOTES:
1.) CONCRETE SHALL BE CLASS 520–C–2500 P.C.C.; CURED WITH WHITE PIGMENTED CURING COMPOUND.
2.) ALL EXPOSED CORNERS SHALL BE FINISHED WITH 1/2" RADIUS.
3.) FINISH SHALL BE FINE BROOM.
4.) EXISTING P.C.C. SHALL BE SAWCUT AT SCORELINE PRIOR TO REMOVAL.
5.) CURBS SHALL HAVE EXPANSION JOINTS AT 60’ INTERVALS, AND WEAKENED PLANE JOINTS AT 10’ INTERVALS ONLY; NO SCORELINES ALLOWED.
6.) WHEN CURB AND GUTTER IS PLACED BY AN EXTRUSION MACHINE, FINISHING WORK SHALL PROVIDE AN ACCEPTABLE FINISH AND WEAKENED PLANE JOINTS MAY BE SAWCUT.
7.) MAY ONLY BE USED WITH THE APPROVAL OF THE CITY ENGINEER.
NOTE:
TO BE USED ONLY WHEN ROLLED CURB HAS BEEN APPROVED FOR USE BY THE CITY ENGINEER PRIOR TO DESIGN.
NOTES:

1.) THE ASPHALT CONCRETE MIXTURE SHALL BE TYPE III D-AR 8000 WITH A MINIMUM ASPHALT BINDER OF 5.8 PERCENT.

2.) PRIOR TO PLACEMENT, A TACK COAT SHALL BE APPLIED TO THE EXISTING SURFACE. TACK COAT SHALL BE AR100D AT AN APPROXIMATE RATE OF 0.05 GALLON PER SQUARE YARD OR GRADE 55-1. EMULSIFIED ASPHALT AT AN APPROXIMATE RATE OF 0.05 TO 0.10 GALLON PER SQUARE YARD.

3.) THE TEMPERATURE OF THE MIX AT THE TIME OF PLACEMENT SHALL NOT BE LESS THAN 250° F OR MORE THAN 285° F.

4.) ALL EXTRUDERS AND SHOES SHALL BE APPROVED BY THE ENGINEER.

5.) USE CASE A BACKFILL UNLESS NOTED OTHERWISE

6.) A.C. CURB IS TO BE PLACED ON A MIN. OF 2” OF A.C. ROAD SURFACING, EXTENDING THROUGHOUT THE WIDTH OF A CURB.
R = 25' IF INTERSECTING STREETS HAVE A WIDTH LESS THAN 64 FEET CURB TO CURB.

R = 35' IF EITHER INTERSECTING STREET IS AN INDUSTRIAL COLLECTOR STREET OR HAS A WIDTH EQUAL TO OR GREATER THAN 64' CURB TO CURB, EXCEPT IN CASES WHERE SPECIAL DESIGN EXISTS.
NOTES:
1.) ALL CONCRETE SHALL BE CLASS 560-C-325G, CURED WITH WHITE PIGMENTED CURING COMPOUND.
2.) DIMENSIONS MAY BE INCREASED DEPENDING ON DRAINAGE CONSIDERATIONS.
3.) 6" CLASS 2 AGGREGATE BASE SHALL BE PLACED AND COMPACTED TO 95% RELATIVE COMPACTION UNDER CROSS GUTTER AND SPANDRELS.
4.) SPANDREL WEAKENED PLANE JOINT LOCATIONS WILL BE DETERMINED BY ACCESS RAMP LOCATIONS.
5.) A MINIMUM 1' WIDE A.C. PAVEMENT REPAIR PATCH IS REQUIRED WHEN CROSS GUTTER IS PLACED ADJACENT TO EXISTING A.C. PAVEMENT.
6.) CURB BETWEEN P.R.C.'S SHALL BE CONSIDERED AS PART OF CROSS GUTTER

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
CROSS GUTTER LAYOUT 209
NOTES:
1.) THICKNESS OF SIDEWALK SHALL BE 4" EXCEPT IN DRIVEWAY APRONS, WHERE 6" IS REQUIRED FOR SINGLE FAMILY RESIDENTIAL DRIVEWAYS, AND 8" IS REQUIRED FOR ALL OTHERS.
2.) SIDEWALK SHALL HAVE 1-1/2" DEEP WEAKENED PLANE JOINTS AT INTERVALS SHOWN HEREON. JOINTS SHALL HAVE EDGES WITH 1/8" RADII.
3.) CONCRETE SHALL BE CLASS 520-C-2500, CURED WITH WHITE PIGMENTED CURING COMPOUND.
4.) 18" MOISTURE PENETRATION REQUIRED PRIOR TO PLACING CONCRETE IN SIDEWALK AREA (NON-EXPANSIVE SOIL AS DETERMINED BY SOILS TEST ARE EXEMPT AND REQUIRE ONLY SURFACE WETTING.)
5.) SIDEWALKS SHALL BE FORMED IN SUCH A MANNER AS TO MAINTAIN 48" MINIMUM OF UNOBSCTRED PEDESTRIAN WAY AT ALL LOCATIONS, INCLUDING BUT NOT LIMITED TO ELECTROLIERS, POWER POLES, AND FIRE HYDRANTS.
NOTES:
1. THICKNESS OF SIDEWALK SHALL BE 4" EXCEPT IN DRIVEWAY APRONS WHERE 6" IS REQUIRED FOR RESIDENTIAL DRIVEWAYS AND 8" IS REQUIRED FOR COMMERCIAL DRIVEWAYS.

2. SIDEWALK SHALL HAVE 1/2" PREMOLDED EXPANSION JOINTS AND 1-1/2" DEEP WEAKENED PLANE JOINTS AT INTERVALS SHOWN HEREON. JOINTS SHALL HAVE EDGES WITH 1/8" RADIUS.

3. CONCRETE SHALL BE CLASS 520-C-3250, CURE WITH WHITE PIGMENTED CURING COMPOUND.

4. 18" MOISTURE PENETRATION REQUIRED PRIOR TO PLACING CONCRETE IN SIDEWALK AREA (NON-EXPANSIVE SOIL AS DETERMINED BY SOILS TEST ARE EXEMPT AND REQUIRE ONLY SURFACE WETTING.)

5. PARKWAY FROM CURB TO PROPERTY LINE TO BE BROUGHT TO GRADE BY CONTRACTOR BEFORE FINAL APPROVAL.

6. SIDEWALKS SHALL BE FORMED IN SUCH A MANNER AS TO MAINTAIN 48" MINIMUM OF UNOBBSTRUCTED PEDESTRIAN WAY AT ALL LOCATIONS, INCLUDING BUT NOT LIMITED TO ELECTROLERS, POWER POLES, AND FIRE HYDRANTS.
SIDEWALK SHALL MEANDER AS DETERMINED BY THE CITY ENGINEER

NOTES:

1. THICKNESS OF SIDEWALK SHALL BE 4" EXCEPT IN DRIVEWAY APRONS WHERE 6" IS REQUIRED FOR RESIDENTIAL DRIVEWAYS AND 8" IS REQUIRED FOR COMMERCIAL DRIVEWAYS.

2. SIDEWALK SHALL HAVE 1/2" PREMOLDED EXPANSION JOINTS AND 1-1/2" DEEP WEAKENED PLANE JOINTS AT INTERVALS SHOWN HEREON. JOINTS SHALL HAVE EDGES WITH 1/8" RADIUS.

3. CONCRETE SHALL BE CLASS 520-C-2500, CURED WITH WHITE PIGMENT CURING COMPOUND

4. 18" MOISTURE PENETRATION REQUIRED PRIOR TO PLACING CONCRETE IN SIDEWALK AREA (NON-EXPANSIVE SOIL AS DETERMINED BY SOILS TEST ARE EXEMPT AND REQUIRE ONLY SURFACE WETTING.)

5. PARKWAY FROM CURB TO PROPERTY LINE TO BE BROUGHT TO GRADE BY CONTRACTOR BEFORE FINAL APPROVAL.

6. SIDEWALKS SHALL BE FORMED IN SUCH A MANNER AS TO MAINTAIN 48" MINIMUM OF UNOBSURED PEDESTRIAN WAY AT ALL LOCATIONS, INCLUDING BUT NOT LIMITED TO ELECTROLIERS, POWELL POLES, AND FIRE HYDRANTS.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

MEANDERING SIDEWALK

NO. 212
10' MIN. \hspace{1cm} 20' MIN. \hspace{1cm} 10' MIN.

5' or 6' MIN.

4' MIN.

18'' MIN.

CURB FACE

OBSTRUCTIONS (POWER POLE, FIRE HYDRANT, MAILBOX, ETC.)

SIDEWALK

SIDEWALK SHALL BE WIDENED TO MINIMUM 5' OR 6' CLEARANCE FOR A MINIMUM LENGTH OF 10'.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

.Side Walk Placement Around Obstructions NO. 213
SECTION "A-A"

NOTES:

1.) ALL ACCESS RAMPS SHALL BE CONSTRUCTED TO THE MOST CURRENT REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS/CALIFORNIA CODE OF REGULATIONS TITLE 24—ACCESSIBILITY REGULATIONS. ADJUSTMENTS SHALL BE MADE IN THE FIELD TO ACHIEVE RAMP CONDITIONS.

2.) CONCRETE SHALL BE CLASS 520-C-2500, CURED WITH WHITE PIGMENTED CURING COMPOUND.

3.) A LEVEL 4' MINIMUM DEPTH LANDING IS REQUIRED AT THE TOP OF THE RAMP OVER THE ENTIRE RAMP WIDTH. CROSS SLOPE OF LANDING MAY NOT EXCEED 1:50 (2.0%).

4.) X SHALL HAVE A MAXIMUM SLOPE OF 1:10 (10%) (6" CURB X=5'; 8" CURB X=7"–8"). IF THE LANDING IS LESS THAN 4', X SHALL HAVE A MAXIMUM SLOPE OF 1:12 (8.3%).

5.) GROOVED BORDER SHALL BE 12" wide along the top and sides of the ramp at the level surface of the sidewalk. OMIT GROOVES ADJACENT TO NON–PAVED AREAS.

6.) RAMP SURFACE AND FLARED SIDES SHALL BE SLIP–RESISTANT AND SHALL BE OF CONTRASTING FINISH FROM ADJACENT SIDEWALK (MEDIUM BROOM FINISH OR EQUIVALENT).

7.) SEE STANDARD PLAN 411 FOR CROSSWALK DETAIL.

8.) THE SLOPES OF THE ROAD, GUTTER, OR ACCESSIBLE ROUTE ADJOINING THE CURB RAMP SHALL NOT EXCEED 1:20 (5%) WITHIN 4' OF THE TOP AND BOTTOM OF THE RAMP.

9.) Dimensions shown for sloping portions of ramp may vary due to field conditions.
SECTION "A-A"

NOTES:
1.) CONCRETE SHALL BE CLASS 520-C-2500, CURED WITH WHITE PIGMENTED CURING COMPOUND.
2.) ADJUSTMENTS SHALL BE MADE IN THE FIELD AS NECESSARY TO ACHIEVE RAMP CONDITIONS.
3.) A LEVEL 4' MINIMUM DEPTH LANDING IS REQUIRED AT THE TOP OF THE RAMP OVER THE ENTIRE RAMP WIDTH. IF NOT POSSIBLE, SEE NOTE 4 BELOW.
4.) X SHALL HAVE A MAXIMUM SLOPE OF 1:10 (6" CURB X=5', 8" CURB X=6'-8") IF THE LANDING IS LESS THAN 4', X SHALL BE A MAXIMUM SLOPE OF 1:12.
5.) BORDER 1' WIDE OF 1/4" DEEP X 1/4" WIDE GROOVES 3/4" APART ON THE LEVEL SURFACE AT THE TOP AND SIDES OF RAMP.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
ACCESS RAMP: TYPE II
214B
NOTES:

1.) TYPE III RAMP MAY BE USED WHEN INSUFFICIENT RIGHT-OF-WAY EXISTS.

2.) ALL ACCESS RAMPS SHALL BE CONSTRUCTED TO THE MOST CURRENT REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS/ CALIFORNIA CODE OF REGULATIONS TITLE 24—ACCESSIBILITY REGULATIONS. ADJUSTMENTS SHALL BE MADE IN THE FIELD TO ACHIEVE RAMP CONDITIONS.

3.) CONCRETE SHALL BE CLASS 560—C—3250, CURED WITH WHITE PIGMENTED CURING COMPOUND, AND MINIMUM THICKNESS FOR RAMP AND LANDING SHALL BE 4".

4.) X SHALL HAVE A MAXIMUM SLOPE OF 1:12 (8.33%), AND A MINIMUM SLOPE OF 1:15 (6.67%).

5.) GROOVED BORDER SHALL BE 12" WIDE ALONG THE TOP OF THE RAMP AT THE LEVEL SURFACE OF THE SIDEWALK. OMIT GROOVES ADJACENT TO NON-PAVED AREAS.

6.) RAMP SURFACE SHALL BE SLIP-RESISTANT AND SHALL BE OF CONTRASTING FINISH FROM ADJACENT SIDEWALK (MEDIUM BROOM FINISH OR EQUIVALENT).

7.) SEE STANDARD PLAN 411 FOR CROSSWALK DETAIL.

8.) THE SLOPES OF THE ROAD, GUTTER, OR ACCESSIBLE ROUTE ADJOINING THE CURB RAMP SHALL NOT EXCEED 1:20 (5%) WITHIN 4' OF THE TOP AND BOTTOM OF THE RAMP.
TYPE A:
STANDARD ALLEY INTERSECTION

SECTION
a a1 a2

SECTION
b b1 b2

TYPE B:
ALLEY INTERSECTION
WITH OFF-SET FLOW LINE

SECTION
a1 a2

SECTION
b1 b2

ALLEY INTERSECTION:
HANDICAP ACCESS

NOTES:
1.) V = THREE INCHES, UNLESS OTHERWISE SPECIFIED.
2.) POINTS b b1 b2 SHALL BE ON A STRAIGHT GRADE BETWEEN POINTS a a1 a2 AND POINTS c c1 c2 RESPECTIVELY.
3.) CONCRETE SURFACE FOR FOUR INCHES ON EACH SIDE OF A FLOW LINE SHALL BE GIVEN A STEEL TROWEL FINISH EXCEPT BETWEEN THE PROPERTY LINE AND THE GUTTER FLOW LINE.
4.) "2" SHALL BE FIVE FEET UNLESS OTHERWISE SPECIFIED.
5.) CURB FACE SHALL BE VARIABLE BETWEEN LINES b b1 b2 AND c c1 c2.
6.) CURB FACE SHALL BE ZERO INCH BETWEEN LINES a a1 a2 AND B b1 b2 (SIDEWALK AREA) TO PROVIDE ACCESS FOR THE HANDICAPPED.
7.) CURB RETURNS SHALL HAVE A RADIUS (R) OF 12 FEET UNLESS OTHERWISE SPECIFIED. CURB RADIUS SHALL NOT EXCEED BORDER WIDTH.
8.) CONCRETE PAVEMENT SHALL BE 8 INCHES THICK UNLESS OTHERWISE SPECIFIED.
9.) ALL CONCRETE SHALL BE CLASS 550-C-3250, CURED WITH WHITE PIGMENTED CURING COMPOUND.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

ALLEY INTERSECTION

REVISION

ENGINEERING

DATE 07/09

APPROVED

APPROVED BY

Ken A. Salsberg
CITY ENGINEER

DATE 08/31/2009

NO. 215
CLASS 1

(with pedestrian separation)

CLASS 2

NOTE: CLASS 3 BIKE ROUTES DESIGNATED WITH SIGNAGE ONLY.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

TWO-WAY BIKE PATH ON SEPARATE RIGHT-OF-WAY

NO. 216

K.A. Siracusa
CITY ENGINEER
09/30/2009 DATE
EQUESTRIAN TRAIL EASEMENT
ADJACENT TO STREET WITH SIDEWALK

EASEMENT WIDTH 30'

2' MIN.

BIKEWAY
10' MIN.

BUFFER
4' MIN.

TRAIL
10' MIN.

12' MIN. OVERHEAD CLEARANCE

PVC THREE RAIL FENCE TYP.

CONCRETE MOW STRIP

DECOMPOSED GRANITE BASE 4'-6" IN DEPTH

WOOD HEADER ONLY IF LANDSCAPE IS AT GRADE OR BELOW, OTHERWISE, CONCRETE IS REQUIRED

EQUESTRIAN TRAIL EASEMENT
TRAIL AND BIKEWAY COMBINATION

NOTE: 2" THICK REDWOOD HEADER REQUIRED WHERE LANDSCAPE IS PROVIDED AT GRADE.
EQUESTRIAN TRAIL EASEMENT
ADJACENT TO STREET WITHOUT SIDEWALK

SECONDARY EQUESTRIAN TRAIL EASEMENT
ADJACENT TO FENCE, BLOCK WALL
OR RETAINING WALL

NOTE: REDWOOD HEADER REQUIRED WHERE LANDSCAPE IS PROVIDED.
EQUESTRIAN TRAIL EASEMENT
ADJACENT TO FENCE, BLOCK WALL
OR RETAINING WALL

NOTE: REDWOOD HEADER REQUIRED WHERE LANDSCAPE IS PROVIDED.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
EQUESTRIAN TRAIL EASEMENT

217C
PRIMARY RIDING AND HIKING TRAIL
(STANDARD)

SECONDARY RIDING AND HIKING TRAIL
(STANDARD)
Note:
Gate to be constructed in accordance to specifications STD 218C.
width varies 10' - 20'.
Fencing type/brand:

The fence material shall be PVC, 3-rail routed equestrian fencing.

- PVC fence color shall be almond, unless indicated otherwise.
- Fencing shall be installed with a finished height of 54" (top of post w/o cap).
- Posts shall be 5" x 5" square.
- Post footings shall be 12" diameter, 24" deep, spaced 8'0" on center where applicable. Post caps shall be installed with PVC clear solvent weld.
- 2000 lb. minimum PSI concrete shall be poured into posthole, then the post driven into the concrete. ‘Green Book’ standards shall be in affect for all concrete.
- Posts shall be installed plumb.
- Post routing: First hole shall be 3" from top of post. Mid rail is to be spaced 11" from bottom of top rail to top of mid rail. Third rail is to be spaced 11" from bottom of mid rail to top of third rail. Third rail is to have approximately 12" spacing from bottom of third rail to finish grade. Finish grade shall be calculated to top of decomposed granite path. See drawing detail.
- Rails shall be nominal 2" x 6" x 16' PVC.
- Minimum trail width shall be 10’. Where Fire Department access is necessary, trail shall be a minimum of 20’ wide. Trail width is defined as minimum surface area without obstructions (fence posts, ‘V’ ditch, etc.).
- Equestrian fencing shall be installed on both sides of trail, unless approved by the Parks and Facilities Manager.
- Equestrian trailheads shall be utilized when a trail terminates at a public street or highway, where specified. The rough dimensions for equestrian switchbacks are 5’ x 10’. See drawing details. A ‘STOP’ sign shall be installed at all locations that exit onto a roadway. Sign and post specifications are to adhere to the City’s Standard Plans.
- The trail and fencing shall connect with adjacent trails.

- Gates are required in locations where fire and/or maintenance access is designated. Gates for openings shall be constructed of hot dipped galvanized steel pipe. Single gate width is not to exceed 10’. Gate openings in excess of 10’ shall be equal sized double gates with a sleeved removable post 2-3/8” diameter. The gates shall be equipped with a latching mechanism and provisions made so the center post cannot be removed when the gates are latched. Additionally, the center post is to have a domed cap installed. All gates are to be equipped with a heavy-duty malleable iron fork latch assembly, heavy-duty chain, and Knox box. These items are to be welded to frame. Hinged posts shall be 4” SS-40 or schedule 40 pipe.
Latch posts shall be 2-3/8" SS-40 or schedule 40 pipe. All gate posts, with the exception of the center post shall be filled with concrete and dome topped. Gate frames shall be constructed of 1-5/8", SS-40 galvanized pipe. Frames shall have mitered corners and the center rail shall be cut with a radius to fit into frame. Frames shall be attached to posts with two (2) 180-degree industrial hinges, bolted and tack-welded to frame and post. The rail spacing on the gates shall match the rail spacing on the fence. 2" x 6", #1 Douglas fir shall be attached to the hinge posts, gate frame and rails with 'U' bolts counter sunk into the wood, filled, and finished flat. The wood shall be pre-primed (all sides before installation) and finished with 2 coats of semi-gloss acrylic latex paint. Touch-up priming and painting shall be performed after installation where applicable. The primer shall be 'Vista' brand 'Uniprime'. The paint shall be 'Vista' brand 'Carefree Semi-Gloss', #60 "Indian White" color. Gate design alternates must be approved by the Parks and Facilities Manager or designee before installation.

Trail Surface:

- All plan details are required to show cross sections of the trail. The trail cross sections must reflect and indicate the various grade changes along the length of the trail. Trails shall not exceed a 10% grade in any area and have a 2% cross slope. The Parks and Facilities Manager shall approve any grade changes in writing before plans are approved and construction commences. All landings shall be gradually incorporated into the grade, in order to allow large vehicles easy transition. All details and grades for the trail shall be reviewed and approved by the Parks and Facilities Manager prior to any trail construction.

- Decomposed granite (DG) shall be the material utilized for the trail surface. The D.G. specification is '3/8 California Gold with Stabilizer', installed at 4" – 6" thick compacted depth. The Decomposed Granite shall conform to Greenbook Standards 400-2.3, 400-2.3.1, 400-2.3.2, and 4002.3.3. The Sieve Analysis shall conform to ASTM C 136 and the Sand Equivalent shall conform to ASTM D 2419. Compaction shall be obtained through a combination of water and heavy equipment roller. A sample must be submitted to the Parks and Facilities Manager or designee for approval before installation. Decomposed Granite available from: Gail Materials, Corona, California.

- Where trail is adjacent and level to landscaped areas, the decomposed granite shall be confined in trail by the use of 2" thick redwood header, staked at a minimum spacing of 4'.

- Where trail boundaries an upslope, downslope, or is otherwise indicated, concrete shall be required in place of redwood header. The specification for concrete border is 4"- wide x 6" - 12" deep, 2,500 lb. PSI, 5" slump ('Green Book' 500-C-2500), with #3 rebar reinforcement.
Concrete:

- All concrete shall be in accordance to “Greenbook” Standard Specification For Public Works Construction, Section 201, unless otherwise noted. Copies of all load tickets are required to be submitted to the Parks Division weekly.

- All concrete for ‘V’ or brow ditches, catch basins, swales, retaining walls, channels, drive approaches, and other flatwork shall be integrally mixed with Davis Colors concentrated pigments at the rate specified by the manufacturer. The color shall be “Omaha Tan”. Finishes shall be per plan. Colored concrete shall be cured with Davis W-1000 Clear spray-on membrane. Any requested color deviations require a color chart submittal, product specification, and a finished sample of the product submitted to the Parks and Facilities Manager for written approval prior to any trail construction.

- “V” or brow ditch shall be separated from the trail by PVC fencing.

- Concrete drive approaches to trails shall be constructed 6”-thick, 3250 PSI, 4” slump (‘Green Book’ 560-C-3250), with #4 rebar tied 12” O.C. The finish shall be rough. All joints shall be deep trowel.

Masonry:

- The side of the trail that is adjacent to residences shall contain fencing constructed of concrete block or concrete block/ornamental iron with a minimum height of 72”. The concrete block color shall be Angelus #201 or equal. The concrete block design and color shall be approved by the City’s Planning Division and the Parks and Facilities Division.

- All masonry adjacent to trails and their entrances shall be graffiti coated with ‘Vitrocem Hi-Build Anti Graffiti Glazed Coatings’, Manufactured by Bithel Inc @ (800) 277-1676. Follow manufacturers directions for application. Any requested product deviations require a product specification sheet and a finished sample of the product. They shall be submitted to the Parks and Facilities Manager for written approval prior to any trail construction.

Drawings and Inspections:

- All construction drawings must be submitted to the Parks and Facilities Manager and approved before construction begins.
- All changes shall be “Redlined” and approved by the Parks and Facilities Manager and the architect before they are made.
NOTES:

1.) DRIVE APPROACHES SHALL NOT BE LOCATED OVER SEWER OR WATER LATERALS.
2.) WATER METERS, FIRE HYDRANTS, AND STREET LIGHTS SHALL BE A MINIMUM OF 3' FROM DRIVE APPROACHES.
3.) ALTERNATE LOCATION AND SPACING MAY BE REQUIRED BY CITY ENGINEER TO PROVIDE FOR SITE CLEARANCE OR OTHER SAFETY CONCERNS.
4'-1" X 4'-1" X 3" THICK, NATURAL COLOR PERMEABLE CONCRETE TREE WELL COVER

CASE 1

2'-11" X 5'-6" X 3" THICK, NATURAL COLOR PERMEABLE CONCRETE TREE WELL COVER

CASE 2

SECTION "A-A"

NOTE:

NO TREES SHALL BE LOCATED WITHIN 200' OF AN INTERSECTION WITHOUT PRIOR APPROVAL OF THE TRAFFIC ENGINEER.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

TREE WELL: TYPE 1

1 OF 5
NO. 220A
PARKWAYS LESS THAN 8'
STYLE
CASE 1: 1'-6" X 3' TREE WELL
CASE 2: 2'-4" TREE WELL

PARKWAYS 8' OR GREATER
2 COVERS REQUIRED
CASE 3: 3'-3" TREE WELL
CASE 4: 4'-4" TREE WELL

TREE WELLS

POROUS, PERMEABLE P.C.C.,
REINFORCED WITH 2-1/4" X 2-1/4"
16 GAUGE WIRE MESH

POROUS TREE WELL
COVER

CASE
A  B  C  D
1  3'-0"  1'-6"  2'-11"  1'-5 1/2"
2  4'-0"  2'-0"  3'-11"  1'-11 1/2"
3  3'-0"  3'-0"  2'-11"  1'-5 1/2"
4  4'-0"  4'-0"  3'-11"  1'-11 1/2"

GRADE TO BE FLUSH WITH
ADJACENT WALK

TYPICAL SECTIONS

NOTES:

1.) TREE WELLS SHALL BE SPACED AS DIRECTED BY THE CITY ENGINEER OR INDICATED ON
   THE CONTRACT DOCUMENTS.

2.) LOCATION OF TREES WILL BE SUBJECT TO THE FOLLOWING CONDITIONS:
   A. MIN. 25' FROM CURB RETURNS.
   B. MIN. 15' FROM LIGHT STANDARDS.
   C. MIN. 5' FROM FIRE HYDRANTS.
   D. MIN. 5' FROM DRIVEWAYS.

3.) COVERS ARE TO BE COLORED BUFF USING AN ACCEPTABLE COLORING AGENT.

4.) TREE WELLS ARE TO BE BACKFILLED WITH CLEAN DIRT AND FLUSH WITH ADJACENT
   WALK UNTIL TREES ARE PLANTED.

5.) PARKWAYS LESS THAN 8': CASE 1—UNLESS OTHERWISE SPECIFIED. CASE 2—USE WHERE
   THERE IS AN EXISTING FENCE OR WALL AT THE P.L. CASE 3—UNLESS OTHERWISE
   SPECIFIED. CASE 4—MAY BE SPECIFIED WITH WALKS 7' OR GREATER.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

REVISION
DATE APPROVED
ENGINEERING
DATE 07/09

APPROVED BY

CITY ENGINEER

NO. 220C
CASE 2  
(15 GALLON SIZE OR LESS)  

CASE 1  
(BOXED TREE 24" SIZE OR LESS)  

SECTION "A-A"  

TOP OF TREE WELL COVER OR GRATING  
(SEE 220E NOTE NO. 1)  

A LAYER OF NO. 3 CONCRETE AGGREGATE  

ROOT BARRIER (SEE 220E NOTE NO. 2)  

PREPARE SOIL MIX (SEE 220E NOTES 3B & 5)  

ROOT BALL  

NO. 3 CONCRETE AGGREGATE  
(SEE 220E NOTE NO. 3A)  

COMPACTED, PREPARED SOIL MIX TO BOTTOM  
OF ROOT BALL (SEE 220E NOTE NO. 3B)  

JETTED PREPARED SOIL MIX BACKFILL  
(SEE 220E NOTE NO. 3A)  

NOTE:  
FINISHED SURFACE  
WHEN TREE WELL  
OR GRATING IS NOT  
USED SHALL BE  
AS SHOWN AT RIGHT  

CITY OF LAKE ELSINORE  
PREPARED BY PUBLIC WORKS  

TREE WELL: TYPE 4  

REVISION  

DATE  

ENGINEERING  

APPROVED BY  

DATE  

CITY ENGINEER  

DATE  

4 OF 5  
NO. 220D
NOTES:

1.) See project plans for type of tree well cover or tree guard and grating to be used.

2.) Root barrier shall be fabricated from a high density and high impact plastic such as polyvinyl chloride, ABS or polyethylene and have a minimum thickness of 0.6 inch. The plastic shall have 1/2” high raised vertical ribs on the inner surface spaced not more than 6” apart. Installation per manufacturer’s printed instructions.

3.) Planting shall conform to subsection 308-4 of the Standard Specifications for Public Works Construction, except that:
   a. The lower 10” of the excavation shall be backfilled with prepared soil mix and jetted prior to placing the root barrier and the no. 3 concrete aggregate.
   b. Prepared soil mix shall be placed in the planting hole and compacted to bottom of root ball elevation prior to proceeding with tree planting.

4.) After planting, each tree shall be watered immediately with a minimum of 20 gallons of water. Repeat the watering twice in the next 3 days, at no closer than 24 hour intervals.

5.) After the tree has been watered for three days, allow the soil to dry sufficiently, then tamp and grade the soil. Place and grade the layer of concrete aggregate in order to set the tree well cover or grating firmly and flush with the top of the sidewalk or curb.
MID-BLOCK

W = VARIES PER STANDARD 100 OR AS REQUIRED BY CITY ENGINEER

FAR SIDE OF DRIVEWAY

NOTES:
1.) R = 50'.
2.) P.C.C. PAVEMENT THICKNESS SHALL BE DETERMINED BY THE ENGINEER. MINIMUM THICKNESS SHALL BE 8".
3.) BUS SHELTERS SHALL BE SET BACK FROM THE FACE OF THE CURB A MINIMUM CLEAR DISTANCE OF FOUR (4) FEET FOR PEDESTRIAN TRAVELWAY.
4.) CURB SHALL BE POURED MONOLITHIC WITH P.C.C. PAVEMENT.
5.) MODIFICATIONS OF THIS STANDARD SHALL BE REVIEWED FOR ACCEPTABILITY BY THE CITY ENGINEER.
6.) CONCRETE SHALL BE CLASS 560-C-3250.
7.) ADDITIONAL R/W MAY BE REQUIRED BY CITY ENGINEER.
8.) REFER TO 121(A) FOR KEY TO VARIABLES

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

BUS TURNOUTS

NO. 121A
NOTES:

1.) R = 50'.
2.) P.C.C. PAVEMENT THICKNESS SHALL BE DETERMINED BY THE ENGINEER. MINIMUM THICKNESS SHALL BE 8''.
3.) BUS SHELTERS SHALL BE SET BACK FROM THE FACE OF THE CURB A MINIMUM CLEAR DISTANCE OF FOUR (4) FEET FOR PEDESTRIAN TRAVELWAY.
4.) CURB SHALL BE POURED MONOLITHIC WITH P.C.C. PAVEMENT.
5.) MODIFICATIONS OF THIS STANDARD MAY BE MADE BY THE CITY ENGINEER.
6.) CONCRETE SHALL BE CLASS 560-C-3250.
7.) ADDITIONAL R/W MAY BE REQUIRED BY CITY ENGINEER.
NOTE:
1. TOP AND END OPENING MAILBOXES PERMITTED PROVIDED THAT THE FACE OF MAILBOX DOES NOT EXTEND BEYOND BACK OF CURB LINE. OPENING MUST FACE STREET.
NOTES:
1. CASE "A" SHALL BE THE PREFERRED LOCATION FOR MAILBOX. WHEN FIELD CONDITIONS INDICATE, CASE "B" MAY BE USED.

2. MAILBOX LOCATION, FOUNDATION, PAD, ANCHOR BOLTS AND BOLT HOLES SHALL CONFORM TO SPECIFICATIONS FURNISHED BY THE POSTMASTER.

3. NO MAILBOXES SHALL BE LOCATED ON INDUSTRIAL COLLECTORS OR GREATER ROAD CLASSIFICATION.
NOTES:

1.) The contractor for the stamped concrete shall provide conclusive proof that he or she is qualified to and has previously produced such textured paving and can comply with the provisions specified herein. The contractor shall also stipulate that he or she will not infringe on any applicable patent rights and will hold the City harmless from any damages arising from patent infringement.

2.) The contractor shall submit a sample of the specified stamped concrete a minimum of 4 s.f. by 3 inches or shall indicate two locations where their prior work of similar stamped concrete can be observed. The samples shall meet the approval of the City Engineer and all work shall match the approved samples.

3.) Concrete work shall conform to the applicable requirements of Sections 200, 201 and 303 of the Standard Specifications for Public Works Construction. Any modification must have prior approval.

4.) Stamped concrete shall be a minimum of 5” thick. Concrete mix shall be proportioned using 560-C-3250. An air-entraining agent conforming to ASTM C260 and/or a normal set or retarded-set water reducing admixture conforming with ASTM C494 may be used. Calcium chloride will not be allowed. The slump shall not exceed 4”.

5.) The coloring mixture for the stamped concrete shall be integrally mixed.

6.) The coloring mixture for the stamped concrete shall be “brick red” No. 160, by Davis Colors. matching the City Engineer’s selected and approved sample pattern. A translucent curing compound shall be applied uniformly to the concrete immediately after finishing.

7.) The contractor shall deliver to the City Engineer two labels from the packages containing the selected coloring agent used in the course of the specified work.

8.) The contractor shall be responsible for adjusting existing City electrical and irrigation valve boxes in all new concrete and for protecting existing irrigation systems from damage.
Typical Crosswalk

Minimum 2-1/4" interlocking paving stones

1/4" expansion joint

12" 10' MIN. 12" 1/4" thick expansion joint

1-1/4" thick mortar base

P.C.C. slab with 10" x 10" wire mesh (to be placed in center of P.C.C. slab.)

Existing A.C.

Existing concrete pavement

Compacted native subgrade (95% relative compaction) or Class II aggregate base as directed by the City Engineer

Note:
All concrete shall be Class 560-C-3250, cured with white pigmented curing compound.

Section "A-A"

Crosswalk enhancement allowed only with the approval of the City Engineer.
4237

LENGTH TO PROVIDE 1" MINIMUM BORDER ALL AROUND

1.) BACKGROUND SHALL BE PAINTED WITH GOOD QUALITY HIGH GLOSS REFLECTIVE WHITE PAINT.

2.) NUMBERS SHALL BE PAINTED WITH GOOD QUALITY FLAT BLACK PAINT.
CURB PAINTING NOTES

1) A CITY BUSINESS LICENSE & AN ENCROACHMENT PERMIT SHALL BE REQUIRED.

2) THE CITY SHALL BE CONTACTED AT LEAST ONCE EACH WEEK TO RECEIVE NOTICE OF COMPLAINTS SO THAT THEY MAY BE RECTIFIED IN A TIMELY FASHION.

3) A CASH BOND SHALL BE POSTED WITH THE CITY FOR EACH AND EVERY INDIVIDUAL WHO WILL BE INVOLVED IN THE PAINTING OR SOLICITATION OF ORDERS FOR PAINTING TO INSURE THAT ALL VALID COMPLAINTS ARE RECTIFIED PROMPTLY. THIS DEPOSIT WILL BE REFUNDED WITHIN 30 DAYS AFTER SATISFACTORY COMPLETION OF THE LETTERING.

4) NO NUMBER SHALL BE PAINTED UNTIL AN ORDER IS RECEIVED FROM THE OCCUPANT AND/OR OWNER.

5) A RECEIPT SHALL BE ISSUED TO THE OCCUPANT FOR EACH ADDRESS SO PAINTED.

6) THERE WILL BE NO ORDERS REQUESTED BEFORE 9:00 A.M. OR AFTER 8:00 P.M. OR ANY TIME SUNDAY.

7) ANY WRITTEN DOCUMENTS INTENDED TO BE USED WITH THE SOLICITATION SHALL BE SUBMITTED TO THE CITY FOR PRIOR WRITTEN AUTHORIZATION TO USE THEM.

8) ANY VALID COMPLAINT REGARDING COERCION TO PURCHASE THE CURB NUMBERING IN ANY MANNER SHALL RESULT IN THE TERMINATION OF THE PERMIT AND THE FORFEITURE OF THE BOND.

9) UNLESS A CHANGE IS REQUESTED BY A PURCHASER, THE NUMBER SHALL BE IN THE IDENTICAL LOCATION WITH THE PREVIOUSLY PRINTED NUMBER. IF A LOCATION IS REQUESTED TO BE CHANGED, THE OLD NUMBER SHALL BE OBLITERATED AT NO EXTRA CHARGE.

10) ALL WORK SHALL BE DIRECTLY SUPERVISED BY AN ADULT AND SHALL BE DONE IN A WORKMANLIKE MANNER.

11) A LIST OF THOSE NUMBERS PAINTED SHALL BE SUBMITTED TO THE CITY AT THE COMPLETION OF WORK IN ORDER TO ALLOW FOR THE REFUND OF THE CASH DEPOSIT.

12) A COPY OF THE PERMIT ISSUED BY THE CITY SHALL BE IN THE POSSESSION OF THE INDIVIDUAL AUTHORIZED TO DO CURB LETTERING AT ALL TIMES WHILE ACTUALLY ENGAGED IN SUCH ACTIVITY.

13) PERMITTEE IS RESPONSIBLE FOR MAINTAINING A SAFE WORK AREA AND SHALL TAKE ALL NECESSARY SAFETY PRECAUTIONS.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

CURB PAINTING NOTES

2 OF 2
NO. 226B
CITY OF LAKE ELSINORE
STANDARD PLANS

SECTION 3:
Drainage
NOTES:
1. SPAN "S" AND HEIGHT OF OPENING AND CURB FACE AT CULVERT SHALL BE NOTED ON PLANS.
2. SEE STANDARD PLAN NO. 300C FOR DETAILS AND NOTES.
3. CONCRETE SHALL BE CLASS 560-C-3250.
4. FACE ANGLE SHALL BE ANCHORED BY FULL PENETRATION WITH A 3-3/8 x 3-3/8 STEEL STUD OR BUTT WELD.
5. UNLESS OTHERWISE SPECIFIED, STANDARD FRAME AND COVER SHALL BE ALHAMBRA FOUNDRY GALVANIZED PIPE OR EQUAL.
6. 1 INCH STEEL CLEARANCE MINIMUM FROM FACE OF CONCRETE.
7. TOP OF INLET STRUCTURE TO MATCH ADJACENT SLOPE.
Notes:

1. See Std. No. 300C for details and notes.
2. Alhambra Foundry A-2773 rectangular cast iron pipe may be substituted at the contractor's option or as specified on the plans.
3. Cast iron facilities shall have a bituminous coating conforming to AASHTO designations M190.
4. P.V.C. pipes shall be schedule 40 or as specified on the plans.

City of Lake Elsinore
Prepared by Public Works

Curb Outlet
Type "B"
OUTLET DETAIL

NOTES:
1.) USE PARKWAY CULVERT—TYPE "A" WHEN INLET VELOCITIES WILL BE 10 FEET PER SECOND OR GREATER.
2.) USE PARKWAY CULVERT—TYPE "B" WHEN INLET VELOCITIES WILL BE LESS THAN 10 FEET PER SECOND.
3.) FLOOR OF PARKWAY CULVERT SHALL HAVE A SMOOTH FINISH.
4.) ALL EXPOSED METAL SHALL BE GALVANIZED AFTER FABRICATION.
5.) HEIGHT OF CURB OPENING FOR TYPES "A" AND "B" PARKWAY CULVERTS WILL VARY WITH TYPE OF CURB.
6.) SPAN "S" AND HEIGHT OF CURB OPENING WILL BE DETERMINED FROM THE REQUIRED HYDRAULIC CAPACITY AND LIMITED TO THE DIMENSION IN TABLE 1.
7.) REINFORCING STEEL SHALL BE 1" CLEAR TO INSIDE OF CULVERT UNLESS OTHERWISE SPECIFIED.
8.) CONSTRUCT P.C.C. WALK AS SPECIFIED ON PLAN. THE CONTRACT PRICE PAID FOR P.C.C. WALK ITEM SHALL INCLUDE WALK CONSTRUCTED IN CONJUNCTION WITH PARKWAY CULVERT.
9.) TYPE, DIMENSIONS, AND ELEVATIONS PER IMPROVEMENT PLAN.

<table>
<thead>
<tr>
<th>SPAN &quot;S&quot;</th>
<th>B</th>
<th>STEEL SCHEDULE J-BARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3'-0&quot;</td>
<td>3&quot;</td>
<td>#3 6&quot; 2'-9&quot;</td>
</tr>
<tr>
<td>3'-6&quot;</td>
<td>3&quot;</td>
<td>#3 6&quot; 3'-3&quot;</td>
</tr>
<tr>
<td>4'-0&quot;</td>
<td>3&quot;</td>
<td>#4 6&quot; 4'-3&quot;</td>
</tr>
<tr>
<td>4'-6&quot;</td>
<td>4&quot;</td>
<td>#4 6&quot; 5'-3&quot;</td>
</tr>
<tr>
<td>5'-0&quot;</td>
<td>4&quot;</td>
<td>#4 6&quot; 6'-3&quot;</td>
</tr>
</tbody>
</table>

TABLE 1

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
CURB OUTLET DETAILS AND NOTES
3 OF 3
NO. 300C
NOTES:

1.) Concrete shall be class 560-C-3250 P.C.C., cured with white pigmented curing compound.

2.) The surface of all exposed concrete shall conform in slope, grade, finish, and scoring to existing curb, gutter and walk adjacent to the structure.

3.) Curvature of concrete surface shall be shaped by curved forms and shall not be shaped by plastering.

4.) The invert of the structure shall be given a steel troweled finish and constructed on a straight grade from the inlet invert through point B to point D. The V-section of the invert shall extend from point C through point B to point A. Warp the invert from the end of the V-section to join the gutter flow line at point D. The soffit of the structure shall be free of corrugations.

5.) Dimensions (unless otherwise indicated on the project plans):
   A-B = 5'
   B-C = 3'
   C-D = 3'
   D-E = 5'
   W = 3'

6.) Dowels shall be required at each corner and at 2 feet O.C. (max.) when the top slab is poured separately. When the top slab is poured monolithic with adjacent sidewalk, the dowels may be omitted.

7.) Install face angle and anchors at the outlet of the structure in conformance with Standard Plan No. 300C.

8.) Install catch basin manhole frame and cover conforming to A.P.W.A. Standard Plan No. 312-0. Agency inscription shall be "Lake Elsinore."
STANDARD BEING REVISED

CONTACT ENGINEERING TECHNICIAN
FOR INFORMATION
ELEVATION

SIDEWALK SECTION "A–A"

NOTES:
1.) DRAINS SHALL BE 4 INCH DIA. P.V.C. PIPE (SCHEDULE 40) OR RECTANGULAR CAST IRON BOX FOR 6 INCH CURB FACE AND 4 INCH DIA. P.V.C. PIPE (SCHEDULE 40) OR RECTANGULAR CAST IRON BOX FOR 8 INCH CURB FACE.

2.) THE CURB SHALL BE CORED FOR ALL DRAIN PIPES.

3.) THE NUMBER OF PIPES AT ANY LOCATION SHALL NOT EXCEED 1 @ 12" O.C.

3.) ALL CURB CORES MUST BE BORED, USE OF WATER JET IS UNACCEPTABLE.
CITY OF LAKE ELSINORE
STANDARD PLANS

SECTION 4:
Traffic
PRIMARY & PRIMARY INTERSECTION
Always locate street name sign as shown
Exceptions as approved by City Engineer

See Standard 404 for exact placement
See Standard 401 for Street Name Sign

PRIMARY

STREET

SECONDARY

STREET

SECONDARY & SECONDARY INTERSECTION
Always locate street name sign on
approaching nearside of street with out stop
control. Exceptions as approved by City Engineer

See Standard 404 for exact placement
See Standard 401 for Street Name Sign

PRIMARY

STREET

SECONDARY

STREET

"T" INTERSECTIONS
Always locate street name sign on
approaching nearside of through street
Exceptions as approved by City Engineer

See Standard 404 for exact placement
See Standard 401 for Street Name Sign

PRIMARY

STREET

SECONDARY

STREET

KNUCKLE INTERSECTION
Locate street name sign as approved
by City Engineer

SECONDARY

STREET

SECONDARY

STREET

SECONDARY

STREET

THE TERMS "PRIMARY" AND "SECONDARY" STREETS ARE INTENDED TO DENOTE WHICH STREET IS MORE IMPORTANT: e.g.: (The wider street is the primary street)

<table>
<thead>
<tr>
<th>PRIMARY</th>
<th>SECONDARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTERIAL</td>
<td>COLLECTOR/RESIDENTIAL</td>
</tr>
<tr>
<td>COLLECTOR</td>
<td>LOCAL</td>
</tr>
<tr>
<td>LOCAL</td>
<td>CUL-DE-SAC</td>
</tr>
</tbody>
</table>

AT THE INTERSECTION OF 2 LOCAL STREETS, THE STREET CONSIDERED TO BE THE THROUGH STREET WILL BE BASED ON EXAMINATION OF NEIGHBORHOOD STREET PATTERNS BY THE TRAFFIC ENGINEER.

---

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

STREET NAME SIGN LOCATION
NO. 400A
STANDARD STREET NAME SIGN

Type 1 include all streets on the City Of Lake Elsinore General Plan classified as Arterials, Majors, Secondaries and any other street, of type, that intersect these street classifications.

Type 2 include all streets classified as local and collector.

NOTES:
Each sign post shall accompany two street name sign blads.
See Standard No. 402 for complete street name sign specifications.
See Standard 404 for complete address and arrow placement.
See Standard 407-408 for complete sign post installation.
For Signal Mounted SNS, see city Traffic Signal Special Provisions.

CITY OF LAKE ELsinore
PREPARED BY PUBLIC WORKS
STREET NAME SIGN NO. 400B
STANDARD BEING REVISED

CONTACT ENGINEERING TECHNICIAN
FOR INFORMATION
NOTES:

1.) SIGN MATERIALS, SIZES and FABRICATION
   A.) Sign blank must be 0.125 thick aluminum, 5052-H38 aluminum alloy.
   B.) Sign blank dimensions are 9" high by a minimum of 24" to maximum of 48" long as required (use metric equivalent).
   C.) Sign sheeting must be high performance wide angle prismatic lens reflective white (silver) sheeting (3M Scotchlite Diamond Grade VIP 3990) or approved equivalent. The background must be screen printed blue using reflective sheeting manufacturer match component ink (3M 883) or approved equivalent.
   D.) Sign street name letters must be white (silver) FWHA (Federal Highway Administration) Series C—6" (150mm) upper case and 4 1/2" (115mm) lower case. Address block numbers must be white (silver) FWHA Series C—2" (50mm). Street name suffix must be white (silver) FWHA 2" (50mm) upper case and 1.5" (40mm) lower case.
      EXCEPTION: Intersecting secondary streets use 5" upper case and equivalent lower case street name letters.
   E.) The letter sizing and spacing must meet FWHA spacing guidelines. Minor variations as approved by the City Engineer.
   F.) The City logo must be a blue graphic on a white (silver) background.
      EXCEPTION: NO city emblem required for Intersecting secondary streets.
   G.) Street name must appear on each side of the sign blank.
   H.) Street name signs MAY be fabricated using reflective sheeting manufactures matched component electronic cuttable films (3M E.C. 1175) or approved equal, with City Engineer approval.
   I.) Slight layout variations are permitted and must be approved by the City Engineer.

2.) POST MATERIALS
   A.) Post must be a Telespar 2" square post (hot dipped galvanized inside and outside) or approved equivalent.
   B.) Anchor must be Telespar 30" or 36" 2 1/4" square anchors and 2 1/2" sleeves or approved equivalent.
   C.) Drive rivets must be 3/8" or approved equivalent (2 rivets minimum required per post/anchor assembly).
   D.) Aluminum cap post bracket must be Zumar Industries 812 or approved equivalent.
   E.) Aluminum cross saddle bracket must be 12" sign hardware holding brackets or approved equivalent.

3.) STREET NAME SIGN PLACEMENT
   A.) Primary street intersecting secondary street locate on primary street – see Standard 404.
   B.) Primary street intersecting primary street locate on northeast corner AND southwest corner.
   C.) Secondary street intersecting secondary street locate on northeast corner or as approved.

   NOTES: Use metric equivalents as required.
      Complete technical provisions are on file with the Transportation Engineering Division.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

STREET NAME SIGN
NOTES
NO. 402
STANDARD ABBREVIATIONS

Alley/Aly/Aly       Ay
Avenue/Ave/Avenida Av
Beach              Bch
Boulevard          Bl
Bridge             Br
Brook              Brk
Canal              Cnl
Canyon             Cyn
Center             Cntr
Circle             Cir
Coast              Cst
Corner/Corners     Cor
Court              Ct
Creek              Cek
Drive              Dr
Eastway            Ewy
Estates            Est
Expressway         Expwy
Field/Fields       Fld
Fort               Ft
Freeway            Fwy
Grove              Gr
Heights            Hts
Highway            Hwy
Home               Hm
Island/Islands     Isl
Junction           Jct
Lake/Lakes         Lk
Lane               Ln
Manor              Mnr
Mount              Mt
Mountain           Mtn
Park               Pk
Parkway            Pkwy
Place              Pl
Plaza              Plaza
Point              Pt
Ranch/Rancho       Rch
River              Rv
Road               Rd
Saint              St
Spring/Springs     Spg
Square             Sq
Station            Sta
Street             St
Summit             Sum
Terrace            Ter
Trail/Trails       Trl
Valley             Vly
Village            Vlg
Walk               Wk
Way                Wy
Westway            Wwy

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REVISION
DATE  APPROVED  ENGINEERING  DATE 07/09

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

STREET NAME
ABBREVIATIONS
NO.  403

APPROVED BY

CITY ENGINEER  DATE 08/31/2009
TRAFFIC STRIPES AND PAVEMENT MARKING REQUIREMENTS

ALL WORK AND MATERIALS SHALL CONFORM TO THE LATEST PROVISIONS SET FORTH IN SECTION 84, "TRAFFIC STRIPES AND PAVEMENT MARKINGS" OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, EXCEPT AS NOTED OTHERWISE IN THE FOLLOWING SPECIFIC PROVISIONS OR CITY STANDARDS.

MATERIALS

PAINT FOR TRAFFIC STRIPING AND PAVEMENT MARKINGS SHALL BE WHITE, YELLOW OR BLACK AS REQUIRED, SHALL BE WATER-BORNE TRAFFIC PAINT, FAST DRY CONFORMING TO CALIFORNIA STATE SPECIFICATIONS AND SHALL BE REVIEWED AND APPROVED BY THE CITY ENGINEER OR DESIGNEE PRIOR TO APPLICATION.

ALL STENCILS USED TO PAINT PAVEMENT MARKINGS MUST CONFORM TO THE LATEST CALTRANS APPROVED METRIC STENCILING STANDARDS.

LAYOUT

THE CONTRACTOR SHALL LAYOUT AND CATTRACK THE ALIGNMENT OF THE PROPOSED STRIPING AT 15 FOOT INTERVALS, THE PROPER WIDTH AND LOCATION OF THE MARKINGS AS CALLED FOR ON THE STRIPING PLANS. STRIPING SHALL VARY NO MORE THAN 1/2 INCH IN 50 FEET FROM THE SPECIFIED WIDTH. MINOR VARIATIONS MAY BE WAIVED BY THE CITY ENGINEER OR DESIGNEE.

THE CONTRACTOR SHALL NOT PROCEED WITH THE PAINTING OF ANY PAVEMENT MARKINGS AND/OR STRIPING UNTIL THE CATTRACKING AND SPOTTING IS CHECKED AND APPROVED BY THE PUBLIC WORKS INSPECTOR.

APPLICATION

TRAFFIC STRIPING AND PAVEMENT MARKINGS SHALL BE APPLIED IN TWO (2) COATS WITH AIRLESS EQUIPMENT. ALL TRAFFIC STRIPING SHALL BE PERFORMED WITH A ROADLINE TRUCK MOUNTED STRIPING MACHINE. EXCEPTIONS ONLY AS APPROVED BY THE CITY ENGINEER OR DESIGNEE.

THE FIRST COAT OF PAINT SHALL BE APPLIED UPON COMPLETION OF THE SURFACING. THE SECOND COAT OF PAINT SHALL NOT BE APPLIED UNTIL AT LEAST SEVEN (7) CALENDAR DAYS AFTER THE FIRST COAT. EACH COAT OF PAINT SHALL BE APPLIED AT THE WET FILM THICKNESS OF 10-1/2 MILS FOR WHITE AND YELLOW PAINT AND 11 MILS FOR BLACK PAINT. ALL PAINT SHALL BE APPLIED AT A RELATIVE HUMIDITY BELOW 75% AND AN AMBIENT TEMPERATURE ABOVE 55 F., UNLESS WAIVED BY THE CITY ENGINEER OR DESIGNEE.

A CONTINUOUS ONE COAT 3-INCH WIDE BLACK STRIPE SHALL BE PAINTED BETWEEN ALONG TWO 4-INCH WIDE YELLOW STRIPES OF A DOUBLE TRAFFIC STRIPE. THIS SPECIFICATION APPLIES TO BOTH DOUBLE YELLOW CENTERLINE STRIPE AND CONTINUOUS TURN POCKET STRIPING DETAILS. THE BLACK STRIPE SHALL BE APPLIED CONCURRENTLY WITH THE SECOND COAT OF YELLOW STRIPES.

EXCEPT FOR BLACK PAINT, REFLECTIVE GLASS BEADS SHALL BE UNIFORMLY INCORPORATED IN ALL COATS OF PAINT CONCURRENTLY WITH THE APPLICATION OF THE PAINT. THE GLASS BEADS SHALL BE EMBEDDED IN THE COAT OF TRAFFIC PAINT BEING APPLIED TO A DEPTH OF AT LEAST ONE-HALF THEIR DIAMETER. THE REFLECTIVE GLASS BEADS SHALL BE APPLIED TO THE FIRST COAT OF PAINT AT THE RATE OF 6 POUNDS OF BEADS PER GALLON OF PAINT AND TO THE SECOND COAT OF PAINT AT THE RATE OF 8 POUNDS OF BEADS PER GALLON OF PAINT.

ANY STRIPING OR PAVEMENT MARKINGS NOT SHOWN ON THE APPROVED PLAN, BUT DEEMED NECESSARY BY THE CITY ENGINEER OR DESIGNEE, SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE OF THE STREET.

PROTECTION

NEWLY PAINTED STRIPING AND PAVEMENT MARKINGS SHALL BE PROTECTED FROM DAMAGE BY PUBLIC TRAFFIC OR OTHER CAUSES UNTIL THE PAINT IS THOROUGHLY DRY. ANY NEWLY PAINTED STRIPING OR PAVEMENT MARKINGS WHICH ARE DAMAGED AS A RESULT OF THE CONSTRUCTION, INCLUDING WHEEL MARKINGS BY PUBLIC TRAFFIC AND THE CONSTRUCTION EQUIPMENT, SHALL BE REPAINTED BY THE CONTRACTOR.

REMOVALS

EXISTING TRAFFIC STRIPING AND PAVEMENT MARKINGS THAT DO NOT CONFORM TO THE APPROVED PLAN SHALL BE REMOVED BY WET SANDBLASTING. BLACKOUT OF EXISTING TRAFFIC STRIPING OR PAVEMENT MARKINGS WHICH DO NOT CONFORM TO THE APPROVED PLAN WILL NOT BE ALLOWED.

PAVEMENT MARKERS

ALL WORK SHALL CONFORM TO THE LATEST PROVISIONS SET FORTH IN SECTION 85, "PAVEMENT MARKERS" OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, EXCEPT AS NOTED OTHERWISE IN THE FOLLOWING SPECIAL PROVISIONS.

DURA-STRIPES

DURA-STRIPES INSTALLATION MUST HAVE PRIOR APPROVAL OF THE CITY ENGINEER OR DESIGNEE. ASPHALT SURFACES SHALL BE DRY, CLEAN, AND FREE OF CONTAMINANTS SUCH AS SURFACE OILS OR EXISTING ROAD MARKING MATERIALS. CONTAMINANTS SHALL BE REMOVED BY MECHANICAL MEANS AND THE MATERIAL SHALL BE APPLIED ONLY WITH EQUIPMENT WHICH IS SPECIFICALLY DESIGNED AND CAPABLE OF PROPERLY MIXING AT THE POINT AND TIME OF APPLICATION. THE MATERIAL SHALL BE MIXED IN THE RATIO STATED IN THE DURA-STRIPES SPECIFICATIONS FOR THE TYPE IN USE. ROADWAY SURFACE TEMPERATURES SHALL BE IN THE RANGE OF 20° TO 100° FAHRENHEIT.

SPECIAL PROVISIONS

MATERIAL

REFLECTIVE PAVEMENT MARKERS SHALL BE OF THE PRISMATIC REFLECTOR TYPE (JM MODEL 291-2Y YELLOW, 290-V WHITE OR EQUIVALENT) AS OUTLINED IN SECTION 85-105 OF THE CALTRANS STANDARD SPECIFICATIONS. NON-REFLECTIVE PAVEMENT MARKERS SHALL COMPLY WITH THE REQUIREMENTS OUTLINED IN SECTION 85-104A OF THE LATEST EDITION OF THE CALTRANS STANDARD SPECIFICATIONS.

INSTALLATION

REFLECTIVE PAVEMENT MARKERS MUST BE NEW AND INSTALLED PER THE APPROVED PLAN. INSTALLATION OF REFLECTIVE PAVEMENT MARKERS SHALL BE ACCOMPANIED WITH THE USE OF A BIBERIOR SILICONE TYPE HOT-MELT ADHESIVE SUITABLE FOR BONDING CERAMIC AND PLASTIC MARKERS TO PORTLAND CEMENT, ASPHALTIC CONCRETE AND CHIP-SEALED ROAD SURFACES. THE COMPOSITION OF THE MATERIAL MUST BE SUCH THAT ITS PROPERTIES WILL NOT DETERIORATE WHEN HEATED TO AND APPLIED AT TEMPERATURES UP TO 425 F. USING EITHER AIR OR OIL JACKETED MELTERS.

REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED ON A LOCATION ESTABLISHED BY THE APPLICABLE CALTRANS STRIPING DETAIL, NOTED ON THE APPROVED STRIPING PLAN.

REMOVALS

EXISTING REFLECTIVE PAVEMENT MARKERS THAT DO NOT CONFORM TO THE APPROVED PLAN SHALL BE REMOVED BY THE CONTRACTOR PRIOR TO ANY CATTRACKING OR OTHER WORK RELATED TO THE TRAFFIC STRIPING.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

STREET STRIPING AND PAVEMENT LEGEND STANDARDS AND SPECIFICATIONS

NO. 405B
NOTES:

1.) STOP SIGNS ARE REQUIRED FOR TRAFFIC CONTROL ON ALL LOCAL STREETS INTERSECTING WITH DESIGNATED "THROUGH STREETS" EXCEPT WHERE CONTROL IS BY A TRAFFIC SIGNAL SYSTEM OR WHERE APPROVED BY THE CITY ENGINEER.

2.) STOP SIGNS SHALL BE INSTALLED PER THE ABOVE DRAWINGS.

3.) STOP BARS AND "STOP" LEGEND SHALL BE PAINTED IN CONJUNCTION WITH ALL STOP SIGNS.

4.) THE POST AND ANCHOR SHALL BE MADE OF HOT DIPPED GALVANIZED STEEL SQUARE TUBE BY UNISTRUT OR EQUAL APPROVED IN WRITING PRIOR TO INSTALLATION. ALL SIGN POSTS ARE TO BE 2" TELESPAR SQUARE TUBE WITH ANCHOR BREAKAWAY ASSEMBLY, AVAILABLE FROM UNISTRUT OR EQUAL.

5.) THE POST SHALL BE SECURED TO THE ANCHOR ASSEMBLY A 3/8" DRIVE RIVET ABOVE THE SURFACE. NO "BOLT-THRU" SECURING METHODS WILL BE ALLOWED.

6.) THE STOP SIGN SHALL BE 36" X 36" HIGH INTENSITY GRADE REFLECTORIZED .080 ALUMINUM.
BAND-IT - C406 OR EQUAL, 316 STAINLESS STEEL
3/4" OR 19.05mm WIDTH
.030" OR .76mm THICKNESS
BRACKET - BAND-IT, D001 OR EQUAL, 1 BOLT
STRAIGHT LEG STAINLESS STEEL.
Buckles - BAND-IT, C456 OR EQUAL, EAR LOCKED
316 STAINLESS STEEL 3/4" OR 19.05mm.
BOLTS - 1" X 5/16" COARSE THREAD STAINLESS STEEL.
WASHERS - ALL SIGNS SHALL BE INSTALLED WITH 5/16" ZINC
COATED WASHERS LARGER THAN THE HEAD OF THE BOLT.
ANY SIGN 24" OR LARGER SHALL BE INSTALLED WITH
WASHERS NO LESS THAN 1" OUTSIDE DIAMETER
ANY SIGN 30" OR LARGER SHALL BE INSTALLED WITH
WASHERS NO LESS THAN 1-1/2" OUTSIDE DIAMETER
(FENDER WASHER).

1. THE MINIMUM VERTICAL CLEARANCE SHALL BE 7' TO THE
   BOTTOM OF THE LOWEST SIGN ON THE MARBELITE.
2. THE SIGN SHALL BE BANDED TO THE FLAT SURFACE OF
   THE MARBELITE THAT BEST ACCOMMODATES A 90 DEGREE
   ANGLE TO ON COMING TRAFFIC UNLESS OTHERWISE SPECIFIED.
3. THE BAND SHALL BE TIGHTENED TO A POINT AT WHICH IT
   DOES NOT BREAK, YET PREVENTS MOVEMENT BY HAND OF
   THE SIGN, BAND, OR BRACKET.
4. ALL SIGNS BEING BANDED TO MARBELITES SHALL HAVE NO
   LESS THAN 2 BANDS (UPPER AND LOWER). ANY SIGN
   LARGER THAN 36" SHALL HAVE NO LESS THAN 3 BANDS
   (UPPER, LOWER, AND MIDDLE).
5. UNDER NO CIRCUMSTANCES SHALL THE BANDS COVER THE
   IDENTIFICATION TAG ON THE MARBELITE.
NOTE:
1. SIGN POST BLOCK OUTS SHALL BE USED FOR ANY SIGN IN CONCRETE.

*DISTANCE DETERMINED BY WIDTH OF SIGN.
NOTES:
1.) ALL LETTERS WILL BE IN CONFORMANCE WITH THE CALTRANS STANDARD FOR PAVEMENT MARKINGS WORDS (LATEST EDITION).
2.) ONE STOP LEGEND SHALL BE INSTALLED IN CENTER OF EACH TRAVEL LANE.
3.) STOP LIMIT BAR AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, STOP LIMIT BAR PLACED TO THE EDGE OF A.C. PAVEMENT.
NOTES:

1.) CROSSWALK WIDTHS:
   10' (INSIDE TO INSIDE) CROSSWALK FOR ROAD WIDTH 44' OR LESS.

2.) PEDESTRIAN PUSH BUTTON SHOULD BE LOCATED NOT MORE THAN 5' FROM CROSSWALK.
    SEPARATE PUSH BUTTON POSTS SHOULD BE USED WHEN THE SIGNAL POLES ARE MORE THAN
    5' FROM CROSSWALK.

3.) STOP BAR AND CROSSWALK SHALL BE THERMOPLASTIC, LOCATION TO BE DETERMINED IN FIELD.

4.) THE ENGINEER WILL DETERMINE CROSSWALK LOCATIONS THAT VARY FROM THIS STANDARD.
NOTES:
1.) THREE TYPE N2 AND ONE W31 (END SIGN) SHALL BE PLACED AT THE END OF EACH ROADWAY AS SHOWN ON THIS STANDARD DRAWING, AND ONLY AT THE DIRECTION OF THE CITY ENGINEER.
2.) TYPE N2 SIGNS OR TYPE W31 (END SIGNS) SHALL BE PLACED AS SHOWN WITH REFLECTIVE FACE IN DIRECT LINE OF SIGHT FOR APPROACHING MOTORIST.
3.) LENGTH OF METAL BEAM GUARD RAILING SHALL BE IN MULTIPLES OF 12"-6", PLUS 1'-9" FOR EACH END PIECE.
4.) SEE STANDARD DRAWING NUMBER 413B FOR METAL BEAM GUARD RAILING DETAILS.
5.) SHALL BE USED ONLY WITH THE APPROVAL OF CITY TRAFFIC ENGINEER.
INSTALLATION
NOTE: GUARD RAILING FLARES AT BRIDGE APPROACHES SHALL HAVE A MINIMUM RADIUS OF 150'.

SECTION THROUGH RAIL ELEMENT

ARRANGEMENT OF POSTS

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
METAL BEAM GUARD
RAILING NOTES

2 OF 2
NO. 413B
TYPICAL TAPER PLACEMENT DETAIL

END OF CURVE

BEGINNING OF CURVE

EDGE OF SHOULDER

EDGE OF PAVEMENT

TANGENT TO Q. OF CURVE

EDGE OF SHOULDER

EDGE OF PAVEMENT

CURVE PLACEMENT DETAIL

TABLE 1

<table>
<thead>
<tr>
<th>R in feet</th>
<th>S in feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>50'</td>
<td>20'</td>
</tr>
<tr>
<td>75'</td>
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<tr>
<td>100'</td>
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</tr>
<tr>
<td>150'</td>
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<td>1800'</td>
<td>125'</td>
</tr>
<tr>
<td>2000'</td>
<td>130'</td>
</tr>
</tbody>
</table>

SPACING DETAIL

NOTES:
1. MAXIMUM SPACING BETWEEN GUIDE MARKERS = 300'; MINIMUM = 20'.
2. GUIDE MARKER SPACING ON CURVES LESS THAN 2000' RADIUS SHALL CONFORM TO THE SPACING INDICATED IN TABLE 1.
3. PRORATE DISTANCE "X" AMONG ALL SPACINGS WITHIN CURVE SO LAST GUIDE MARKER FALLS AT THE END OF CURVE.

LEGEND:
S = GUIDE MARKER SPACING IN FEET, S=3(R-50).
R = CENTERLINE CURVE RADIUS IN FEET.
> = ALTERNATING GUIDE MARKERS TYPE I CLASS I AND WB1.
X = DISTANCE REMAINING WITHIN CURVE FROM LAST CALCULATED GUIDE MARKER TO END OF CURVE.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

GUIDE MARKING PLACEMENT

NO. 415
<table>
<thead>
<tr>
<th>TYPE</th>
<th>REFLECTOR COLOR</th>
<th>BACK</th>
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</thead>
<tbody>
<tr>
<td>E</td>
<td>WHITE</td>
<td>WHITE (SEE NOTE 1)</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>WHITE</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>YELLOW</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>YELLOW</td>
<td>YELLOW (SEE NOTE 1)</td>
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</tr>
</tbody>
</table>

**NOTES:**

1. **THE REFLECTOR USED ON BACK OF DELINEATOR SHALL BE ONE 3" SQUARE REFLECTIVE SHEETING ON CLASS 1 DELINEATOR AND ONE STANDARD REFLEX REFLECTOR ON CLASS 2 DELINEATOR.**

2. **THE TYPE OF REFLECTORIZATION AND THE CLASS OF DELINEATOR TO BE INSTALLED WILL BE DESIGNATED ON THE PLANS AS E-1, F-2, ETC.**

**DELINEATOR REFLECTORIZATION**

**DELINEATOR POSITIONING**

**CLASS 1 FLEXIBLE POST**

**CLASS 2 METAL POST**

**DELINEATORS**

---

**CITY OF LAKE ELSINORE**

**PREPARED BY PUBLIC WORKS**

**DELINEATORS**

**NO. 417**
NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO CALTRANS STANDARD PLANS AND SPECIFICATIONS.

2. THE CITY TRAFFIC ENGINEER OR HIS REPRESENTATIVE SHALL APPROVE THE EXACT LOCATION OF ALL CONDUIT AND PULL BOXES.

3. THE LOCATION OF INTERCONNECT CONDUIT AND PULL BOXES WILL BE DETERMINED PRIOR TO SUBMITTAL OF THE ENGINEERING PLANS.

4. NO SPlice INTERCONNECT EXCEPT IN THE TRAFFIC SIGNAL CONTROLLER CABINET.

1 FURNISH AND INSTALL NO. 6 PULL BOX (MAX. 200' SPACING)

2 FURNISH AND INSTALL NEW 2" GALVANIZED RIDGED STEEL CONDUIT (GSR), AS APPROVED BY THE CITY TRAFFIC ENGINEER OR HIS REPRESENTATIVE.

3 FURNISH AND INSTALL 6 PAIR NO. 19 INTERCONNECT CABLE.
"BLUE DOT" TYPE 1 MARKER PLACEMENT NOTES

1. THE REFLECTIVE SIDE SHALL FACE THE FLOW OF TRAFFIC.

2. THE "BLUE DOT" SHALL BE IN LINE WITH THE FIRE HYDRANT, EXCEPT WHERE TWO (2) DOTS ARE USED FOR INTERSECTIONS.

3. A BLUE REFLECTIVE MARKER WILL BE PLACED 6" FROM THE CENTER OF THE PAINTED LINES AS PER PLACEMENT STANDARD 422B OR 422C AS APPLICABLE. IF NO TRAFFIC LINES EXIST, PLACE BLUE DOT 6" FROM CENTER OF THE STREET ON THE FIRE HYDRANT SIDE. (SEE STANDARD PLACEMENT DETAIL HEREON.)

4. IF A PAINTED TRAFFIC LIMIT LINE FOR STOP SIGNS EXISTS, PLACE THE SECOND "BLUE DOT" 2 FEET BACK FROM LINE, 6" ON CENTER FROM PAINTED TRAFFIC LIMIT LINE (SEE STANDARD 422B, "STREET INTERSECTION")

5. IF NO TRAFFIC LIMIT LINE FOR STOP SIGNS EXISTS, PLACE "BLUE DOT" IN LINE WITH SIDEWALK EDGE ON THE SIDE CLOSEST TO PROPERTY LINE, 6" ON CENTER FROM THE CENTER OF THE STREET LINE (SEE STANDARD 422B, "STREET INTERSECTION").

6. THE "BLUE DOT" SHALL BE APPLIED TO A DRY, DIRT FREE STREET AND ENOUGH ADHESIVE SHALL BE APPLIED SO THAT SOME ADHESIVE OOZES OUT AROUND THE EDGES OF THE "BLUE DOT".

---

UNMARKED STREETS: PLACE MARKER 6" FROM EDGE OF IMAGINARY LINE OF STREET ON HYDRANT SIDE.

MARKED STREETS: PLACE MARKER 6" FROM CENTERLINE OF PAINTED LINE TO CENTERLINE OF MARKER ON HYDRANT SIDE.

---

FIRE HYDRANT  ■  BLUE MARKER

---

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

"BLUE DOT" TYPE 1 MARKER PLACEMENT NOTES

1 OF 3
NO. 422A
NOTE: FOR NOTES REGARDING "BLUE DOT" MARKER PLACEMENT, SEE STD. PLAN 422A
DIVIDED STREET

STREET WITH TURN LANE

NOTE: FOR NOTES REGARDING "BLUE DOT" MARKER PLACEMENT, SEE STD. PLAN 422A

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

"BLUE DOT" TYPE I MARKER PLACEMENT
DIVIDED STREET & STREET WITH TURN LANE

3 OF 3
NO.
422C
CITY OF LAKE ELSINORE
STANDARD PLANS

SECTION 5:
Street Lights,
Irrigation and
Planting
# STANDARD INSTALLATION DETAILS
## IRRIGATION (PUBLIC WORKS)

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## PLANTING (PUBLIC WORKS AND PRIVATE)

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LUMINAIRE RESIDENTIAL 9500 LUMEN HIGH PRESSURE SODIUM TYPE TO BE SHOWN ON GENERAL STREET LIGHTING PLAN.

** WHEN STREET LIGHT IS INSTALLED ADJACENT TO CURB, MAST ARM LENGTH SHALL BE 4'-0"

MARBELITE, ORNAMENTAL GRANITE, OR APPROVED EQUAL

NOTE:
THESE LIGHTING STANDARDS MAY BE SUPERSEDED BY THE STANDARDS OF THE SERVING UTILITY IF THEY ARE IN ACCORDANCE WITH THE NATIONAL STREET LIGHTING GUIDE.

4" X 36" X 4"
ANCHOR RODS

2'-6"
SQUARE OR ROUND

1'-3"
5'-0"

2'-5"-9"
27'
25'

8'-0" **
2.375" O.D.

* 6'-0" STANDARD
1'-6" WHEN SIDEWALKS ARE NOT PROPOSED FOR INSTALLATION
MIN. 4" CLEARANCE FOR SIDEWALK

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
RESIDENTIAL LIGHTING NO. 501
LUMINAIRE 22,000 LUMEN HIGH PRESSURE SODIUM TYPE TO BE SHOWN ON GENERAL STREET LIGHTING PLAN.

**WHEN STREET LIGHT IS INSTALLED ADJACENT TO CURB, MAST ARM LENGTH SHALL BE 4'-0"**

MARBELITE, ORNAMENTAL GRANITE, OR APPROVED EQUAL

4 1"x36"x4" ANCHOR RODS

2'-6" SQUARE OR ROUND

*6'-0" STANDARD 1'-6" WHEN SIDEWALKS ARE NOT PROPOSED FOR INSTALLATION

NOTE:

THESE LIGHTING STANDARDS MAY BE SUPERSEDED BY THE STANDARDS OF THE SERVING UTILITY IF THEY ARE IN ACCORDANCE WITH THE NATIONAL STREET LIGHTING GUIDE.
NOTES:

1.) RADIO ANTENNA MAST SHALL BE 2" THREADED STEEL PIPE STOCK & FITTINGS

2.) ANTENNA MAST SURFACE COATING SHALL BE GLYD-ZINC Y-5536/ 5537 - GREY-GREEN (OR APPROVED EQUAL)

3.) ANTENNA LEAD WIRE SWEEPS/ CONDUIT TO BE SCHR 40 PVC. ALL SWEEPS TO BE 1" MIN. DIA. 
   EXTEND CONDUIT ALONG THE ENTIRE REACH OF LEAD WIRE PATH, ENDING IN CCU ENCLOSURE

4.) ANTENNA CABLE SHALL EXTEND INTO ENCLOSURE 18" PAST END OF SWEEP

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER
**LEGEND:**

1. ELECTRICAL METER/IRRIGATION CONTROLLER ENCLOSURE W/ 110 VAC SERVICE PANEL—DOUBLED DOOR—STAINLESS STEEL
2. 5/8" x 8' COPPER-CLAD GROUNDING ROD (GROUND 110 V CONTROLLER)
3. DUPLEX OUTLET (CONDUIT PATH TO SERVICE PANEL PER CODE). INSTALL W/ SURGE ARRESTER — TRIPP-LITE MODEL ISO-40X 2-0
4. APPLIANCE GRD 110 VAC 3-WIRE CONDUCTOR POWER CORD (SIZED TO REACH DUPLEX OUTLET). SECURE TO CONTROLLER CABINET
5. 3" SCH. 40 E.G. SWEEP ELL FOR 14 GA. UF CONTROL WIRE ONLY
6. 3/4" SCH. 40 E.G. SWEEP ELL W/ NYLON PULL ROPE FOR FUTURE MOISTURE SENSOR WIRING
7. TERMINAL STRIP FOR CONNECTION OF 14 GA. UF FIELD WIRE FROM SWEEP. USE 16 GA. UTILITY WIRE TO CONNECT TERMINAL STRIP TO CONTROLLER (HYP.)
8. #10 SOLID COPPER WIRE FROM GROUNDING ROD TO CONTROLLER GROUND LUG
9. BRASS / BRONZE GROUND CLAMP
10. REMOTE CONTROL ACTUATOR INTERFACE—PER PLAN
11. TELEDYNY CONDUIT — SIZE PER PLAN. EXTEND PE 59 CABLE INTO ENCLOSURE 18" MIN. FROM END OF SWEEP (USE FOR MAXCOM WIRE LINK / FLOW SENSOR WIRE LINK @ 1 PER UNIT)
12. 6" THICK CONCRETE FOOTING POURED ON COMPACTED SUBGRADE (95% RELATIVE COMPACTION). RADIUS EDGES @ 1/2"
13. ELECTRIC METER
14. IRRIGATION CONTROLLER—MODEL # PER PLAN CALL-OUT
15. ANTENNA—RADAR LINKED MAXICOM ONLY — MODEL # PER PLAN CALL-OUT
16. FLOW SENSING COMPONENTS (INSTALL IF SHOWN ON PLAN) — MODEL #S PER PLAN CALL-OUT

**NOTES:**

1.) COMMON WIRE TO BE WHITE. PILOT WIRES TO BE RED
2.) NO SPLICES ALLOWED BETWEEN TERMINAL STRIP AND RCV
3.) INSTALL ONE (1) EXTRA PILOT WIRE (ORANGE) TO FARTHEST RCV IN ANY/ALL DIRECTIONS FROM ENCLOSURE. LOOP INTO EACH VALVE BOX ALONG WIRE PATH
4.) IF FLOW SENSOR TO BE INSTALLED, INCLUDE 3/4" CONDUIT PATH FROM ENCLOSURE TO SENSOR VAULT

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER

---

**CITY OF LAKE ELSINORE**

**ENGINEERING**

**DATE 07/09**

**APPROVED BY**

**CITY ENGINEER**

**DATE**

**CONTROLLER/SATELLITE ENCLOSURE DETAIL**

**NO. 543**

**PREPARED BY PUBLIC WORKS**
LEGEND:

1. PLASTIC VALVE BOX W/ TWO 6" EXTENSIONS & LOCKING COVER
2. FINISH GRADE
3. WATERPROOF CONNECTION
4. TWO CONDUCTOR SHIELDED CABLE - ROUTE TO CONTROLLER VIA CONDUIT
5. DATA INDUSTRIAL FLOW SENSOR - PER PLAN
6. PIPE CHoke - REDUCE TO NEXT SIZE BELOW MAINLNE PIPE SIZE
7. VALVE BOX EXTENSION
8. PEA GRAVEL DRAIN SUMP - 30" DIAM. X 6" DEEP MINIMUM
9. 3/4" E.C. WIRE PATH FROM SENSOR VAULT TO NEAREST SATELLITE ENCLOSURE

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER
LEGEND:

1. APPROVED PULL BOX – NOM. DIM. Ø 17"L x 11"W x 12"D
   - INSTALL @ INTERVALS NOT TO EXCEED 200 FT.
   - SET 1" ABOVE FINISH GRADE IN TURF AREAS
   - SET 2" ABOVE FINISH GRADE IN PLANTER AREAS

2. PVC Schd. 40 CONDUIT – 1 1/2" NOM. O.D.

3. PVC Schd. 40 90 deg. SWEEP ELL (typ.)

4. PVC Schd. 40 SXS COUPLER (typ.)

5. POLY PULL ROPE – 300 lb. TEST
   - INSTALL PULL ROPE ALONG WITH COMM. CABLE
   - LEAVE 2ft. LOOP IN BOX

6. COMMUNICATION CABLE w/ PERMANENT I.D. TAG (Christy’s or EQ.)
   - LEAVE 18" min. LOOP IN BOX
   - COMM. CABLE TO BE "PE 39"

7. CONDUIT BUSHING – INSTALL ON PVC Schd. 40 MALE ADAPTER
   - SEAL ALL CONDUIT ENDS w/ WATERPROOF SILICONE
   - SEALER AFTER CABLE/PULL ROPE INSTALLED

8. 3/4" WASHED CRUSHED AGGREGATE – 6" DEPTH

9. FINISH GRADE

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER

CITY OF LAKE ELSINORE
TELEMETRY PULL-BOX ASSEMBLY DETAIL
NO. 545
NOTES:

1.) GROUND WIRE SHALL BE #10 COPPER (INSULATED – GREEN).
2.) GROUNDING ROD SHALL BE 5/8" x 8'0" COPPER CLAD.
3.) ATTACH GROUND WIRE TO GROUNDING ROD USING BRASS GROUND ROD CLAMP.
4.) ENCLOSE GROUND ROD IN 10-INCH ROUND PLASTIC VALVE BOX w/ LOCKING LID.
5.) CONNECT FIELD GROUND WIRE TO TERMINAL STRIP
6.) GROUND WIRE SWEEPS/CONDUIT TO BE SCHED. 80 PVC. ALL SWEEPS TO BE 1" MIN. DIAM.
   EXTEND CONDUIT ALONG THE ENTIRE REACH OF GROUND WIRE PATH, ENDING IN GROUND ROD BOX.

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER
LEGEND:

1. VALVE BOX - MODEL # & SIZE PER PLAN
2. TOE NIPPLE ASSEMBLY - USE IN PLACE OF MIPT ADAPTERS (typ)
3. MASTER CONTROL VALVE - MODEL # & SIZE PER PLAN
4. WATERPROOF CONNECTION - SPEARS DS-100 OR APPROVED EQUAL. FILL W/ DS-300 SEALANT OR APPROVED EQUAL
5. PROVIDE 24” min. EXPANSION LOOP
6. SCHED. 80 PVC UNION
7. 3/4” WASHED CRUSHED AGGREGATE - 6” DEPTH
8. MAINLINE FROM POC/BACKFLOW PREVENTER ASSEMBLY
9. FINISH GRADE

NOTES:

1. INSTALL MASTER VALVE MINIMUM 3 ft. DOWNSTREAM OF POC/BACKFLOW ASSEMBLY
2. INSTALL MASTER VALVE MINIMUM 12” FROM STRUCTURES/HARDSCAPE

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER
LEGEND:

1. PVC MAIN / LATERAL LINE PIPE
2. SCHD. 40 PVC COUPLER FS x FS
3. SCHD. 80 PVC NIPPLE - THREADED ONE END
   - 6" MIN. LENGTH
   - CUT THREADS ONLY - NO MOLDED NIPPLES

NOTE:

1.) USE TOE NIPPLE ASS'Y IN PLACE OF MIPT ADAPTERS
STEP 1

SLIP BASE SOCKET OVER END OF WIRES

STEP 2

APPLY SEALER TO OUTSIDE OF SEALING PLUG—FILL CAVITY WITH SEALER

PUT CRIMP SLEEVE WIRE ENDS—CRIMP SLEEVE AND CUT OFF EXCESS WIRE

STEP 3

PULL BASE SOCKET OVER END AS FAR AS POSSIBLE

PUSH SEALING PLUG INTO BASE SOCKET

STEP 4

PUSH WIRES TO END OF BASE SOCKET TO INSURE COMPLETE SEALING OF CONNECTION

WATERPROOF WIRE CONNECTOR

NOTE:

1. PRE-FILLED CONNECTORS NOT TO BE USED WITHOUT PRIOR APPROVAL OF CITY ENGINEER

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER
**LEGEND**

1. Discharge flanged tee.
2. Companion flange.
3. Pressure gauge.
4. Pressure gauge.
5. Bypass - 2" dia. min.
7. Flow switch to be installed in section header wired to pump panel.
8. Companion flange.
11. Flanged 90 combination pressure regulating and non-slam check valve.
12. Bailey #400 ACP or Cla-Val # 91A.
13. Flanged concentric reducer.
15. Controller (3 phase, 230 volt).
16. Controller support.
17. Sealite conduit.
19. 36" x 42" x 20" sheet metal enclosure for exterior pump installation.
20. Galvanized steel skid, with 4 9/16" holes.
21. Pre-cast concrete pad by MFG.
22. Rigid steel conduit to power source.

**NOTES:**

1. Enclosure is required subject to city approval.
2. Contractor to verify available voltage compatible with motor specifications.

* See city standard equipment list for manufacturer.

---

**CITY OF LAKE ELSINOIRE**

PREPARED BY PUBLIC WORKS

IRRIGATION BOOSTER PUMP

DETAIL

NO. 552
LEGEND

1. BACKFLOW PREVENTER ASSEMBLY
2. BRASS NIPPLE - TYPICAL (4) PLACES
3. BRASS 90 ELL - TYPICAL (2) PLACES
4. BRASS NIPPLE
5. 6" THICK CONCRETE PAD (SEE PAD SCHEDULE) SLOPE TO DRAIN AT MINIMUM 2%
6. FINISH GRADE
7. BRASS NIPPLE - TYPICAL (2) PLACES
8. 12" X 12" X 12" CONCRETE THRUST BLOCKS - TYPICAL (2) PLACES
9. BRASS 90 ELL - TYPICAL (2) PLACES
10. SCHEDULE 80 TOE NIPPLE ASSEMBLY - TYPICAL (2) PLACES
11. LINE SIZED BRASS GATE VALVE / BALL VALVE
12. BRASS WYE STRAINER WITH 60 MESH SCREEN
13. FROM WATER SOURCE
14. BRASS UNION

NOTES:

1. EQUIPMENT TO BE INSTALLED AT A MINIMUM OF 24" FROM ANY STRUCTURES OR HARDSCAPING.
2. WHEN UNIT IS NEXT TO A STRUCTURE (I.E. WALL, BUILDING, ETC.) MOUNT TEST COCKS ON OPEN OR NON-STRUCTURE SIDE.
3. SERVICE LINE MUST BE SAME SIZE AS RP DEVICE PER EMUD

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER

---

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

REDUCED PRESSURE BACKFLOW PREVENTER

NO. 553

REVISION

ENGINEERING

DATE 07/09

APPROVED

DATE

APPROVED BY

CITY ENGINEER

DATE
LEGEND

1. 1 1/2"-#9 expanded metal
2. 1 1/2" x 1 1/2" x 3/16" angle frame
3. Concrete pad (see standard MV-553)
4. Hasp for pad lock
5. Lifting handle
6. Hinge plate

NOTES:

1.) Finish to be two coats of semi-gloss green enamel paint
2.) For units 2" and under use single swing hinge model

* See City Standard Equipment List for Manufacturer
1. Place aggregate prior to installation of box

* See City Standard Equipment List for Manufacturer
LEGEND

1. 10" ROUND PLASTIC VALVE BOX WITH LOCKING LID
   COVER SHALL BE MARKED "CV" VIA BRANDING
2. FINISH GRADE
3. BRASS GATE VALVE WITH BRONZE HAND WHEEL
4. 3/4" WASHED CRUSHED AGGREGATE BASE
5. SCH 80 PVC TOE NIPPLE ASSEMBLIES
6. SCH 80 PVC UNION, SLIP X SLIP

NOTE:

1. PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX
2. IF BALL VALVES USED, A JUMBO RECTANGULAR BOX SHALL BE INSTALLED
3. CAST IRON AND/OR FLANGED VALVES WILL REQUIRE A Poured-IN-PLACE
   CONCRETE SUPPORT (NOT SHOWN)

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER
LEGEND

1. JUMBO PLASTIC VALVE BOX WITH LOCKING LID, SHALL BE MARKED "REV" WITH
   STATION NUMBERS FOR CONTROL VALVES BRANDED ON LID
2. TO SPRINKLER - ANGLE PIPE TO SPECIFIED DEPTH WITH 45 DEGREE ELLS IF NECESSARY
3. SCH 80 PVC HDPE NIPPLE ASSEMBLY
4. SCH 80 PVC UNION
5. SCH 80 PVC CLOSE NIPPLE
6. WATER PROOF CONNECTORS, (SEE DETAIL NO. 4-03)
7. ELECTRIC CONTROL VALVE
8. FINISH GRADE
9. PVC TAIL EXPANSION LOOP (MIN. 24" LONG)
10. ANGLE VALVE
11. SCH. 80 PVC CLOSE NIPPLE
12. WASHED CRUSHED AGGREGATE
13. SCH 80 PVC NIPPLE
14. CONTROL & COMMON WIRES
15. PRESSURE SUPPLY LINE
16. SCH 40 PVC SIX-SIDED TEE

NOTES:

1. INSTALL CONTROL VALVES A MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPE
2. INSTALL VALUES IN PLANTER BEDS WHEREVER POSSIBLE NEXT TO SIDEWALKS.
3. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPE
4. PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX.
5. ATTACH VALVE IDENTIFICATION TAG WITH APPROPRIATE CONTROLLER DESIGNATION
   TO CONTROL WIRE.
6. ONE VALVE PER BOX ALLOWED ONLY.
7. PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
REMOTE CONTROL VALVE
WITH UNION
NO. 557
LEGEND

1. Brass Angle Valve with Union - Same size as RCV
2. PVC Y, Strainer with Integral Ball Flush Valve and Schrader Pressure Test Valve
3. Remote Control Valve - Plan sized w/ Pressure Regulator
4. SCH. 80 PVC close nipple
5. SCH. 80 Union with toe nipple assembly
6. SCH 40 PVC 5 X 5 X T tee
7. Pressure supply line
8. SCH. 80 PVC nipple
9. 6" Thick 3/4" Washed Crushed Aggregate
10. 3/4" or 1 Ø.D. Flexible Algae Resistant Heavy Wall PVC Hose (or rigid PVC Header)
11. Jumbo Plastic Valve Box with Locking Lid
   Shall be branded "RCV" with Station Numbers for Control Valves
12. Solenoid wires, pig -tail each 24" long

NOTE:
1. Place aggregate prior to installing valve box

* See City Standard equipment List for manufacturer
**LEGEND**

1. STRUCTURE OR HARDSCAPE
2. 10" ROUND VALVE BOX WITH "OC" BRANDED ON LID
3. FINISH GRADE
4. QUICK COUPLING VALVE (SIZE PER PLAN)
5. STAINLESS STEEL SCREW, CLAMP MIN. (3) PLACES
6. 3/4" WASHED CRUSHED AGGREGATE BASE
7. SCH. 80 NIPPLE
8. SCH. 80 NIPPLE - 6" LONG
9. SCH. 40 PVC 90 DEGREE ELL
10. SCH. 40 PVC 90 DEGREE STREET ELL
11. 90 DEGREE STREET ELL AND 1" X 3/4" MIPT X FIPT REDUCER BUSHING - (SCH. 80 PVC)
12. PRESSURE SUPPLY LINE FITTING
13. PRESSURE SUPPLY LINE
14. #4 REBAR STAKE (24" LONG)

**NOTES:**

1. PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX
2. INSTALL Q.C.Y. & BOX IN PLANTERS WHEN EVER POSSIBLE, NOT IN TURF AREAS

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER

**CITY OF LAKE ELSINORE**

PREPARED BY PUBLIC WORKS

QUICK COUPLING VALVE  NO. 559
LEGEND

1. PLASTIC VALVE BOX WITH LOCKING LID – BRANDED X –RCV
   REFER TO CITY RCV BOX STANDARD # 557
2. PIG-TAIL COMMON WIRE (CONTINUOUS LOOP)
3. BRASS GATE VALVE – LINE SIZE
4. PIG-TAIL PILOT WIRE AND WATERPROOF END (SEE DETAIL # 551)
5. FINISH GRADE
6. SUPPLY LINE-SIZE PER PLAN
7. 3/4" WASHED CRUSHED AGGREGATE BASE
8. SCH. 80 TOE NIPPLE ASSEMBLY
9. SCH. 80 TOE NIPPLE ASSEMBLY WITH THREAD CAP

NOTES:

1). PLACE AGGREGATE PRIOR TO INSTALLING BOX
2). GATE VALVE TO REMAIN AT TIME OF INSTALLATION OF NEW REMOTE CONTROL VALVE BOX

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER
LEGEND

1. Finish Grade
2. Clean backfill—see specs. for material, 90% compaction required
3. Non-pressure lateral line
4. Pressure supply line
5. Provide 2" of clean backfill
6. Control wires—bundle and tape at 15" O.C. and install below pressure supply line

NOTES:

1. Pigtail and loop control wire at all 90 degree changes in direction
2. Splicing of wire run per city specifications only
3. Minimum cover for reclaimed water mainline: 3" and larger = 24"; 2" and smaller = 18"

* See city standard equipment list for manufacturer
LEGEND

1. HARDSCAPING
2. CLEAN BACKFILL - SEE SPECS. FOR MATERIAL, 90% COMPACTION REQUIRED
3. SAND
4. NON-PRESSURE LATERAL LINE SLEEVE SIZE TWICE DIAMETER OF NON-PRESSURE LATERAL LINE
5. CONTROL WIRE SLEEVE - SIZE PER PLAN, INSTALL ADJACENT TO PRESSURE SUPPLY LINE
6. PRESSURE SUPPLY LINE SLEEVE - SIZE TWICE DIAMETER OF PRESSURE SUPPLY LINE

NOTES:

1. ALL SLEEVES TO BE SCH. 40 PVC.
2. EXTEND ALL SLEEVES 12" BEYOND EDGE OF HARDSCAPE AT BOTH ENDS
LEGEND

1. POP-UP HEAD
2. FINISH GRADE
3. SCH. 80 PVC NIPPLE LENGTH AS NECESSARY
4. SCH. 40 PVC T X 90 DEGREE ELL
5. MARLEX 90 DEGREE STREET ELL
6. SCH. 80 PVC NIPPLE (8" LONG)
7. NON-PRESSURE LATERAL LINE & TEE FITTING
8. MARLEX 90 DEGREE ELL
9. ANTI-DRAIN VALVE—ALL DOWN SLOPE HEADS—IF NOT RETROFITTED IN HEADS

NOTE:

1. LOCATE HEAD 4" FROM HARDSCAPING, IN TURF – 8" MINIMUM IN PLANTER (THESE MINIMUMS MAY BE INCREASED PER SPEC.)
2. USE TEFLOM TAPE ON ALL MALE THREADS.

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER
LEGEND

1. HI-POP SHRUB HEAD
2. FINISH GRADE
3. MARLEX 90 DEGREE STREET ELL
4. NON PRESSURE LATERAL LINE & TEE FITTING
5. SCH 80 PVC 90 DEGREE STREET ELL
6. MARLEX 90 DEGREE STREET ELL
7. SCH 80 PVC NIPPLE - TYPICAL (2) PLACES
8. ANTI-DRAIN VALVE - ALL DOWN SLOPE HEADS - IF NOT RETROFITTED IN HEAD

NOTES:

1. LOCATE HEAD 4" FROM HARDSCAPING, IN TURF - 8" MINIMUM IN PLANTER (THESE MINIMUMS MAY BE INCREASED PER SPEC.)
2. USE TEFLOM TAPE ON ALL MALE THREADS.

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

12" POP-UP SPRAY HEAD
NO. 565
LEGEND

1. FINISH GRADE
2. POP-UP GEARED ROTOR W/INTERNAL ANTI-DRAIN VALVES
3. 3/4" SCH. 40 PVC 90 DEGREE STREET ELL
4. 3/4" MARLEX 90 DEGREE STREET ELL
5. 3/4" SCH. 80 NIPPLE (LENGTH AS REQUIRED)
6. 3/4" MARLEX 90 DEGREE STREET ELL
7. PVC TEE
8. NON-PRESSURE LATERAL

NOTE:

1. USE 12" HIGH-POPS IN SHRUB AREAS
2. ALIGN HEADS PERPENDICULAR WITH ANGLE OF SLOPE
3. ADD ANTI-DRAIN VALVES ON 3/4" NIPPLE ON DOWN SLOPE ROTORS IF NOT FITTED IN HEAD BY MFG
4. LOCATE HEAD 6" FROM HARDSCAPE IN TURF - 12" IN PLANTER
   (THESE MINIMUMS MAY BE INCREASED PER SPEC.)

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

POP-UP ROTARY HEAD  NO. 566
LEGEND

1. GEARED SHRUB ROTOR
2. SCH. 80 3/4" PVC RISER (LENGTH AS REQUIRED) (REBAR STAKED WITH 2 STAINLESS STEEL CLAMPS IF 6" OR MORE EXPOSURE)
3. FINISH GRADE (ALIGN HEAD PERPENDICULAR WITH ANGLE OF SLOPE)
4. 3/4" SCH. 40 PVC 90 DEGREE STREET ELL
5. 3/4" MARLEX 90 DEGREE STREET ELL
6. 3/4" X 4" SCH. 80 NIPPLE
7. 3/4" MARLEX STREET ELL
8. ANTI DRAIN VALVE ON DOWN SLOPE ROTORS IF NOT FITTED IN BY MFG.
9. PVC TEE
10. 3/4" PVC LATERAL LINE OR LARGER
11. STAINLESS STEEL SCREW, CLAMP MIN. (2) PLACES
12. #4 REBAR STAKE (24" LONG)

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER.
LEGEND

1. TREE TRUNK
2. 2" LODGE POLE STAKES (PER CITY STANDARDS)
3. FINISH GRADE: 2" BELOW TOP OF WALK
4. 6" POP UP SPRINKLER WITH FLOOD BUBBLER INSERT (PER PLAN)
5. EXISTING HARDSCAPE EDGE
6. MARLEX DOUBLE STREET ELLS
7. CL. 200 PVC LATERAL IRRIGATION LINE -THRU "CHIMNEY" - BOTH SIDES
8. 6" DIAMETER X 24" LONG PERFORATED ABS DRAIN PIPE WITH 1/2" AGGREGATE, FILLED TO TOP OF SPRINKLER
9. TREE PLANTING PIT WIDTH OF 4 TIMES ROOTBALL DIAMETER
10. PLANT TABLETS PER MANUFACTURER'S RECOMMENDATIONS (DISTRIBUTED AROUND ROOTBALL)
11. TEE AROUND PERIMETER OF TREE WELL
12. UNDISTURBED NATIVE SOIL
13. INSTALL VERTICAL ROOT BARRIER PER MFG. INSTRUCTIONS (WHERE SPECIFIED)
14. ROOTBALL

NOTE:

1). SUPPLEMENTAL TREE IRRIGATION: 1 DEEP WELL SYSTEM FOR 5 GALLON TREES, 2 DEEP WELL SYSTEMS FOR 15 GALLON TREES, AND LARGER

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

DEEP WELL TREE IRRIGATION:
DRIP AND/OR BUBBLER

NO. 568
LEGEND

1. FINISH GRADE
2. MEDIUM GRIND SHREDDED MULCH COVER OVER DIST. TUBES - IN PLANTER BEDS
3. VALVE BOX 3" ABOVE FINISH GRADE
4. Emitter outlet - cap/plug unused outlets if necessary
5. Distribution tubes with outlet check valve caps. (Min. 2 per shrub) Install with plastic tube stakes
6. 10" plastic valve box branded "EMT" on lid
7. 1/2" dia. SCH. 80 PVC nipple length as required
8. Multi-outlet emitter with threaded riser adapter. (1 emitter per 2 or 3 shrubs,
   1 emitter per 5 gallon tree and 2 emitters per 15 gallon and larger trees
9. 3/8" washed aggregate. Leave space between emitter and top of aggregate
10. Marlex DBL. STREET ELLS BETWEEN LATERAL LINE AND RISER

NOTES:

1). Install two multi emitters 18" from trunk of every tree (do not use distribution tubing).
2). Install one multi emitter per six ground cover plants (one distribution tube per plant.)

* See city standard equipment list for manufacturer.
LEGEND

1) PALM TRUNK (TRIMMED)
2) FINISH GRADE
3) PALM ROOT BALL (TRIMMED)
4) WASHED PLASTER SAND BACKFILL
5) NATIVE SOIL
6) 3/4" WASHED CRUSHED AGGREGATE
7) 3" SHREDDED MULCH IN PLANTER BED

NOTES:

1) ALL PALMS SHALL BE TRIMMED & TIED PRIOR TO PLANTING, LEAVE TIED 30 DAYS MIN.
2) TRIMMED PALM TO HAVE 6-8 FRONDS MAX.
3) UPON INSTALLATION REPRESENTATIVES OF THE CITY, THE LANDSCAPE ARCHITECT, AND THE LANDSCAPE CONTRACTOR SHALL DETERMINE IF PALMS REQUIRE GUING
NOTES:

1. INSTALL GUYS TO PREVENT DEFORMATION OF LIMBS
2. PLACE FERTILIZER TABS IN BOX PRIOR TO PLANTING FOR OBSERVATION PURPOSES
3. ALTERNATE DEADMAN ASSEMBLY

LEGEND:

1. (3) DOUBLE STRAND CALV. 12 GA. WIRE GUYS SPACED EQUALLY AROUND TREE - COVER WITH 3/8" DIA. x 3" WHITE PVC TUBING
2. REFER TO DETAIL STANDARD NO. 563 FOR IRRIGATION METHOD
3. USE TRUNK GUARD WHERE TREE IS INSTALLED IN TURF AREAS
4. 4" BERM TO FORM DEPRESSED WATERING BASIN
5. 3" THICK SHREDDED MULCH IN PLANTER
6. PLANT TABS PER MANUFACTURER'S RECOMMENDATIONS
7. ROOT BALL
8. NEW RUBBER HOSE OVER WIRE AT POINT OF CONNECTION
9. BACKFILL MIX PER SPECIFICATIONS
10. REDWOOD DEADMAN PER DETAIL THIS SHEET, ALTERNATE METHOD PER CITY EQUIPMENT LIST
11. TURF
12. PLANT PIT TO BE 2 TIMES THE WIDTH OF ROOT BALL & SAME DEPTH AS THE ROOT BALL

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER.

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

TREE GUING DETAIL - 36" BOX OR LARGER

NO. 581
LEGEND:

1. TREE TIES 4 REQ'D
2. 2" LODGEPOLE PINE STAKE
3. REFER TO MY-588 CITY STANDARD FOR IRRIGATION METHOD
4. BACKFILL MIX PER SPECIFICATIONS
5. 4" BERM FOR TEMPORARY WATERING UNTIL SEEDING
6. 3" THICK SHREDDED MULCH - WHERE APPLICABLE IN PLANTER BEDS
7. PLANT PIT: 2 TIMES WIDTH OF ROOT BALL & SAME DEPTH AS ROOT BALL
8. TRUNK GUARD IN TURF AREAS
9. PLACE PLANT TABS PER MANUFACTURERS RECOMMENDATION

NOTE:

1.) INSTALL STAKES 12" FROM TREE TRUNK

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER.
LEGEND

1. TOP OF STAKES
2. MAIN TRUNK
3. TREE TIES (4 REQ'D) 12" APART MIN. NAILED TO STAKES
4. APPROVED 10' TREE STAKES (2) PER SPECIFICATIONS
5. ORIGINAL GRADE
6. REFER TO STANDARD DETAIL MV-568 FOR IRRIGATION METHOD
7. CONTAINER ROOT BALL
8. BACKFILL MIX PER SPECIFICATIONS
9. 3" BERM TIGHTLY COMPACTED IN PLACE TO FORM WATERING BASIN
10. PLANT TAGS PER MANUFACTURERS RECOMMENDATIONS
11. PLANT PIT TO BE 2 TIMES WIDTH OF ROOT BALL & SAME DEPTH AS THE ROOT BALL
12. NATIVE SOIL BACKFILL (COMPACTED)

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER.
**LEGEND:**

1. PROPOSED CENTER OF TREE
2. STRUCTURE / WALL / ETC.
3. AWNING / BUILDING OVERHANG
4. HARDSCAPING

**NOTES:**

1. MINIMUM CLEARANCE: 5'-0" for 5 gallon to 24" box trees. Larger trees per city approval 10'-0" minimum clearance from street lights - all trees
2. IN CASES WHERE TREE TRUNKS ARE 5'-0" OR LESS FROM WALLS AND HARDSCAPING, INSTALL TREE WITH ROOT BARRIERS
3. TREE SPACING SHALL BE APPROVED ON PLAN BY THE CITY BEFORE ANY SCHEDULED INSTALLATION
4. STREET TREE PLANS SHALL INCLUDE ALL VERTICAL UTILITIES ON PLANTING PLAN

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER.

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**CITY OF LAKE ELSINORE**

**PREPARED BY PUBLIC WORKS**

**TREE SPACING REQUIREMENTS**

**NO. 584**
LEGEND:

1. 3" THICK SHREDDED MULCH (MINIMUM)
2. 4" BERM TO FORM DEPRESSED WATERING BASIN
3. PLANT TABB PER MANUFACTURER'S RECOMMENDATIONS
4. BACKFILL MIX PER SPECIFICATIONS
5. CONTAINER PLANT ROOT BALL
6. PLANT PIT TO BE 2 TIMES THE WIDTH OF THE ROOT BALL & SAME DEPTH AS THE ROOT BALL

NOTES:

1. UNTANGLE MATTED ROOTS BY LOOSENING ALL ROOTS AT EDGE OF ROOT BALL WITH WATER FROM HOSE. DO NOT CRACK ROOT BALL
2. DO NOT USE BARK CHIPS WHERE PLAN CALLS FOR MULCH COVER IN PLANTER AREAS
**LEGEND:**

1. ORIGINAL GRADE
2. CONTAINER PLANT ROOT BALL
3. BACKFILL MIX PER SPECIFICATIONS
4. 3" BERM TIGHTLY COMPACTED IN PLACE TO FORM WATERING BASIN
5. PLANT TABS PER MANUFACTURER'S RECOMMENDATIONS
6. PLANT PIT TO BE 2 TIMES THE WIDTH OF THE ROOT BALL & SAME DEPTH AS THE ROOT BALL

**NOTES:**

1. UNTANGLE MATTED ROOTS BY LOOSENING ALL ROOTS AT EDGE OF ROOT BALL WITH WATER FROM HOSE. DO NOT CRACK ROOT BALL.

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**CITY OF LAKE ELSINORE**
**PREPARED BY PUBLIC WORKS**

CONTAINER PLANTING ON SLOPE  NO. 586
LEGEND

1. BACK OF CURB OR EDGE OF PAVING
2. PLANT LOCATION

NOTE:

1.) ALL SHRUBS/GROUND COVER TO BE PLANTED AT EQUAL SPACING (TRIANGULAR), UNLESS OTHERWISE INDICATED ON PLANS: SEE LEGEND FOR SPACING REQUIREMENTS
ELEVATION

PLAN VIEW

LEGEND

1. WALL
2. FINISH GRADE
3. EYEBOLTS: 1/2" DIA. EYEBOLTS IN LEAD SHIELDS
4. 12 GA. GALV. WIRE: SECURE VINE TO WIRE WITH NURSERYMAN'S TAPE
5. EYEBOLTS FOR FUTURE USE
6. 6" X 8" CONCRETE VINE COLLARS IN TURF AREAS ONLY. INSIDE RADIUS OF COLLAR TO BE TWO TIMES THE DIAMETER OF FOOTBALL MINIMUM
7. ANGLE BACK TO WALL TRUNK OF VINE, AND REMOVE STAKE WHILE SECURING VINE TO WIRES

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
VINE DETAIL: NON-ADHERING TYPE

REVISON
DATE
APPROVED
ENGINEERING
DATE 07/09
APPROVED BY

CITY ENGINEER
DATE

NO. 588
LEGEND

1. HARDSCAPING/HEADERBOARD
2. SHREDDED MULCH (MEDIUM GRIND) DO NOT BARK CHIPS
3. FINISH GRADE
4. SHOVEL CUT EDGE

NOTES:

1.) MULCH UNDER TREES AND SHRUBS, AND BLEND EDGES AT GROUND COVER AREAS
2.) NOT TO BE USED WITH FLATTED PLANTS UNDER 16" ON CENTER
3.) PULL MULCH AWAY FROM ROOT CROWNS OF TREES & SHRUBS

* SEE CITY STANDARD EQUIPMENT LIST FOR MANUFACTURER.
1" IN GROUND COVER
3" IN SHREDDED MULCH REFER TO DETAIL 589

LEGEND

1. FINISH GRADE
2. 2 X 4 ROUGH SAWN REDWOOD HEADER BOARD (NOTCH) OR INSTALL AT GRADE LEVEL AT SWALE CROSSING
3. FINISH GRADE IN PLANT BED
4. 8d GALVANIZED NAILS (2)
5. 2" X 2" X 24" REDWOOD STAKES AT 3" O.C. AND AT ALL SPLICES

NOTES:

1.) 24" LAP ALL SPLICES. USE ROUGH SAWN LUMBER UNLESS OTHERWISE APPROVED BY CITY
2.) CURVED SECTIONS OF HEADER SHALL BE CONSTRUCTED OF THREE 3/8" X 4" LAMINATED REDWOOD BENDER BOARD

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
2 X 4 REDWOOD HEADER NO. 590
NOTE:

1.) PROVIDE SCORE JOINTS AT 10'-0" O.C. AND 3/8" BITUMINOUS FELT EXPANSION JOINTS AT 20'-0" O.C.

NOTE:

1.) PROVIDE SCORE JOINT AT 10'-0" O.C. ABO 3/8" BITUMINOUS FELT EXPANSION JOINT AT EACH END

LEGEND

1. CONCRETE MOW CURB - RADIUS EXPOSED EDGES, MED. BROWN FINISH OR PER PLAN (INSTALL GRADE LEVEL AT SWALE CROSSING)
2. FINISH GRADE
3. #3 REBAR CONTINUOUS (UNLESS OTHERWISE INSTRUCTED)
INSTALLATION NOTES:

1.) GROUND COVER MAY BE PLANTED THROUGH THE FABRIC.
2.) THE FABRIC SHALL BE INSTALLED ON GROUND A MINIMUM OF 48 HOURS PRIOR TO PLANTING TO ALLOW FABRIC TO SETTLE.
3.) HOLES FOR PLANTING SHALL BE MADE WITH SHARP KNIVES OR SHEARS.
4.) FABRIC IS TO BE FASTENED USING NO. 11 GAUGE WIRE, "U" SHAPED WITH 1" CROWN AND LESS 12" IN LENGTH OR PREFABRICATED STAPLES.
5.) INSTALLATION SPECIFICATIONS PER MFG.
CITY OF LAKE ELSINORE
STANDARD PLANS

SECTION 6:
Miscellaneous
NOTES:

1.) SIGN SHALL BE 4' x 8' & HAVE MINIMUM 7' GROUND CLEARANCE

2.) SIGN SHALL BE STARK WHITE BACKGROUND AND BLUE LETTERING

1.) CAST IRON SHALL CONFORM TO SECTION 206-3 OF "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION."

2.) LETTERING SHALL BE AS SHOWN HEREON, 1/8" HIGH, AND SHALL BE CAST INTEGRAL WITH THE CASTING.

3.) THE 3/8" DIAMETER HOLES IN THE COVER SHALL BE AS SHOWN HEREON, AND SHALL EITHER BE FORMED BY PROVIDING A REMOVABLE PLUG PRIOR TO CASTING OR DRILLED AFTER CASTING HAS COOLED AND BEFORE COATING IS APPLIED. THE HOLES SHALL NOT BE PUNCHED.

4.) AFTER CASTING HAS COOLED, IT SHALL BE GIVEN AN ASPHALTIC COATING CONFORMING TO SECTION 206-3.6 OF THE STANDARD SPECIFICATIONS.

5.) DURING INSTALLATION, WHEN THE PAVEMENT IS FOUND TO BE LESS THAN 6-5/8" THICK THE BASE OF THE MONUMENT COVER SHALL BE CUT SO THAT THE BASE OF THE MONUMENT COVER DOES NOT EXTEND INTO THE BASE. APPLY A COAT OF ASPHALTIC COATING OR ASPHALT PAINT TO ANY UNCOATED SURFACE OR CUTEDGE.

SECTION "A-A"
MONUMENTING STREET CENTER LINES WHEN SEWERS ARE LOCATED ON CENTER LINE.

NOTES:
1. L & T AS SHOWN HEREON INDICATES LEAD AND TACK OR STEEL PIN MONUMENT SET IN CURB.
2. LEAD AND TACK OR STEEL PIN MONUMENT WITNESS TO PROPERTY CORNER MAY BE SET, NOT REQUIRED.
3. SEE STD. NO. 601A FOR MONUMENT COVER STD. NO. 601B FOR TYPE "A" & "B" MONUMENT.

MONUMENTING STREET CENTER LINES WHERE CURBS ARE NOT REQUIRED.
MONUMENTING STREET INTERSECTIONS WHERE CURB AND GUTTERS ARE INSTALLED.

NOTES:

1. L&T SHOWN HEREON INDICATES LEAD AND TACK OR STEEL PIN MONUMENT SET IN CONCRETE CURB.

2. LEAD AND TACK OR STEEL PIN MONUMENT WITNESS TO PROPERTY CORNER MAY BE SET ("E" MONUMENT) IN LIEU OF SETTING FRONT LOT CORNERS.

3. THE P.I. OF THE CURVE CLOSEST TO A STREET MAY BE MONUMENTED IN LIEU OF E.C. AND B.C. IF THE P.I. FALLS WITHIN THE TRAVELLED WAY. IT SHALL BE REFERENCED WITH L&T'S IN CURB.
1. GENERAL REQUIREMENTS: The subdivision boundaries, lot corners, city limits, road, street, highway centerline, angle points in all lines, beginning and end of all curved lines, shall be monumented in accordance with the hereinafter described standard monuments and procedures. Any monument having characteristics other than the hereinafter described may be used only upon written approval of the City Engineer. If an existing record and identified monument is found on the ground at the location of a subdivision corner, this monument may be used in lieu of replacement with a new monument provided the existing monument is a type considered to be durable.

2. STANDARD "A" MONUMENTS: This monument is to be one inch (inside diameter) galvanized iron pipe eighteen (18") inches long. A metal disc or plastic plug bearing the registered civil engineer or land surveyor number shall be securely affixed to the top of the pipe. The top surface of the monument shall be flush with natural ground, below the paved street surface with monument cover, and twelve (12") inches down in unpaved streets.

3. STANDARD "B" MONUMENTS: This monument is to be an eighteen (18") inch copper clad steel pin to which is secured at one end a one and one-half (1-1/2") inch conical brass cap. The monument may be used as an alternative to the type "A" monument to mark centerline control on streets. The monument is to be driven below the paved surface with monument cover. After setting the monument, the registered civil engineer or land surveyor number shall be stamped into the surface of the brass cap. See standard drawings nos. 601A and 601B.

4. STANDARD "C" MONUMENTS: This monument to consist of a 1/2" rebar, 18" long with appropriate stamped cap. See monument schedule for use of this monument.

5. STANDARD "D" MONUMENTS: This monument to consist of a 3/4" inside diameter x 18" long galvanized iron pipe driven to a point not to exceed 1" above the natural ground surface. The exact point of intersection of the lines shall be marked on the top center of the pipe by a suitable tack or nail, which in turn shall be used to secure to the stake the metal disk bearing the registered civil engineer or land surveyor number or plastic plug with RCE or LS number with mark for exact point. See monument schedule for use of this monument.

6. STANDARD "E" MONUMENTS: This monument to consist of lead plug or steel pin with metal identification disk set in concrete curb. See monument schedule for use of this monument.

7. MONUMENT SCHEDULE:

<table>
<thead>
<tr>
<th>STANDARD</th>
<th>USE OF MONUMENT</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
<td>Tract boundary control; Street centerline control-unpaved and paved</td>
<td>As specified by the City Engineer.</td>
</tr>
<tr>
<td>&quot;B&quot;</td>
<td>Street centerline control</td>
<td>May be used in lieu of type &quot;A&quot; monument in paved streets.</td>
</tr>
<tr>
<td>&quot;C&quot;</td>
<td>Lot corner, angle point in lot line, E.C. and B.C., Lot line, Right of Way line</td>
<td></td>
</tr>
<tr>
<td>&quot;D&quot;</td>
<td>Same as &quot;C&quot;</td>
<td>All lot corner monuments except when lot corner is coincident with boundary corner may be set in the face of the curb on the prolongation of the lot line. In the event improvements in a subdivision include a block wall along the rear lot lines, a standard &quot;E&quot; monument may be set on both sides of the block wall to indicate direction of the side lot lines. Such points shall be noted on the final map as &quot;points on line.&quot;</td>
</tr>
<tr>
<td>&quot;E&quot;</td>
<td>Same as &quot;C&quot;</td>
<td></td>
</tr>
</tbody>
</table>

8. MONUMENT TIES: Upon completion of the tract monumentation, the engineer or licensed land surveyor shall furnish to the City Engineer ties to all street centerline monuments. Such ties are to be permanent physical objects, there being not less than 3 and preferably 4 ties to each monument. Whenever curb and gutter is installed, street centerline monuments are to be tied to permanent points set in the curb. These permanent points to consist of either of the following: lead and tack or steel pin driven into the concrete. Use of a cross cut into the concrete will not be acceptable. Cross over ties are preferred when made with transit and tape. The ties furnished to the City Engineer are to be prepared on 8-1/2"x11" sheets of mylar. Sketch to be clear and legible and spaced to avoid confusion or misinterpretation.
STANDARD BEING REVISED

CONTACT ENGINEERING TECHNICIAN
FOR INFORMATION
NOTE:
Street sections newly paved, reconstructed, or overlaid within the last five (5) years will require special pavement replacement at the discretion of the City Engineer.
STANDARD BEING REVISED

CONTACT ENGINEERING TECHNICIAN FOR INFORMATION
NOTES:

1.) LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE SUBDIVIDER AND SHOWN ON ANY PLANS SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.

2.) CHANGES MAY BE PERMITTED BY CITY ENGINEER IN CASES OF CONFLICTING FACILITIES.

3.) CONFLICTS BETWEEN UTILITY COMPANIES FACILITIES, EXISTING AND PROPOSED, MUST BE MUTUALLY RESOLVED BY THE UTILITY COMPANIES.

4.) FOR COMMERCIAL SIDEWALKS, THE FIRE HYDRANT SHALL BE PLACED WITHIN THE SIDEWALK 1.5' BEHIND FACE OF CURB.

5.) SEE STANDARD NOS. 500 AND 501 FOR LIGHTING DETAILS.
TYPICAL FENCE ELEVATION

INTERMEDIATE POST DETAIL

CHANNEL WALL AND WINGWALL DETAIL AT HEADWALL

REVISION | ENGINEERING | DATE 07/09
---|---|---

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

FENCE AND GATES FOR WALL AND CHANNEL

1 OF 2

NO. 604A
TYPICAL WALK GATE

TYPICAL DRIVE GATE

DETAIL OF CUT-OUT FOR CHAIN AND LOCK

NOTES:
1. Secure drive fit galvanized cap to post with 7/64" round head rivet.
2. "H" denotes fabric width and nominal fence height; it shall be 5'-0" unless otherwise specified.
3. If chain link fence with top rail is specified, delete steel tension wire at the top and the pipe rails at the intermediate, end and corner posts. Extend tension rod to the top rail.
4. Barbed wire shall be used only when specified.
5. All data shown on typical details shall be applicable to other pertinent details.
6. The galvanizing of the fence fabric shall produce a zinc coating weighing not less than 1.2 oz. per sq. ft.
NOTE: SEE PROJECT PLAN FOR STAIR AND HANDRAIL DETAILS OR STANDARD PLAN NO. 607
HANDRAIL INSTALLATION ON STAIRWAYS

SLIP JOINT DETAIL

CAP DETAIL FOR RAIL END

NOTES:
1.) TYPE B OR TYPE C SHALL BE USED WHERE ADJACENT GRADE IS MORE THAN 2'-6" BELOW LANDING OR SIDEWALK FINISHED SURFACE.
2.) PROVIDE SLIP JOINTS AT STAIRWAY EXPANSION JOINTS AND AT EVERY 24 FEET ON CENTER MAXIMUM.
3.) MAXIMUM SPACING OF POST SHALL BE 8 FEET ON STRAIGHT ALIGNMENT 6 FEET ON CURVED ALIGNMENT LESS THAN 30 FEET RADIUS. SPACING SHALL BE UNIFORM BETWEEN CHANGES IN ALIGNMENT.
TYPICAL CROSS SECTION
STANDARD BEING REVISED

CONTACT ENGINEERING TECHNICIAN FOR INFORMATION
STANDARD BEING REVISED

CONTACT ENGINEERING TECHNICIAN FOR INFORMATION
STANDARD BEING REVISED

CONTACT ENGINEERING TECHNICIAN
FOR INFORMATION
NOTES:
1. PLACE BALES PERPENDICULAR TO FLOW.
2. EMBED THE BALES 4" (100mm) INTO THE SOIL AND "KEY" THE END BALES INTO THE CHANNEL BANKS TO PREVENT FLOW AROUND THE BALES.
3. BALES PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING.
4. POINT "A" SHALL BE HIGHER THAN POINT "B".
5. SPILLWAY HEIGHT SHALL NOT EXCEED 24" (0.6m)

* SEE EROSION CONTROL NOTES, CITY STANDARD NUMBER 609

CITY OF LAKE ELSINORE

PREPARED BY PUBLIC WORKS

SEMI-PERVIOUS STRAW BALE SEDIMENT BARRIER

610
NOTES:
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS, OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. LEAVE ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVER FLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVEL WAY IMMEDIATELY.

* SEE EROSION CONTROL NOTES, CITY STANDARD NUMBER 609
GRAVEL AND WIRE MESH FILTER

A. PLACE WIRE MESH OVER THE CATCH BASIN SO THAT THE WIRE EXTENDS A MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE CATCH BASIN. USE HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2 INCH OPENINGS. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, OVERLAP THE STRIPS. PLACE FILTER FABRIC OVER WIRE MESH.

B. PLACE 3/4 TO 3 INCH GRAVEL OVER THE FILTER/WIRE MESH. THE DEPTH OF WASHED GRAVEL SHOULD BE AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING.

C. IF THE WASHED GRAVEL FILTER BECOMES CLOGGED WITH SEDIMENT, THE WASHED GRAVEL MUST BE PULLED AWAY FROM THE INLET AND CLEANED OR REPLACED. SINCE CLEANING OF WASHED GRAVEL AT A CONSTRUCTION SITE MAY BE DIFFICULT, AN ALTERNATIVE APPROACH WOULD BE TO USE THE CLOGGED WASHED GRAVEL AS FILL AND PUT FRESH WASHED GRAVEL AROUND THE INLET.

* SEE EROSION CONTROL NOTES, CITY STANDARD NUMBER 609
FILTER FABRIC MATERIAL 60" WIDE ROLLS. USE STAPLES OR WIRE RINGS TO ATTACH FABRIC TO WIRE.

2"X2"X14 GA. WIRE FABRIC OR EQUIV.
FILTER FABRIC - SECURE TO POST.
WASHED GRAVEL (WHERE REQUIRED)

PROVIDE 3/4"-1.5" WASHED GRAVEL BACKFILL IN TRENCH AND ON BOTH SIDES OF FILTER FENCE FABRIC ON THE SURFACE.

2"X4" WOOD POST ALT: STEEL FENCE POSTS 6' MAX. SPACING.

2" BY 4" WOOD POSTS, STANDARD OR BETTER OR EQUAL ALTERNATE:
STEEL FENCE POSTS.

FILTER FABRIC MATERIAL 60" WIDE ROLLS. USE STAPLES OR WIRE RINGS TO ATTACH FABRIC TO WIRE.

2" BY 2" BY 14 GA. WIRE FABRIC OR EQUIV.

BURY BOTTOM OF FILTER MATERIAL IN 8" BY 12" TRENCH.

* SEE EROSION CONTROL NOTES, CITY STANDARD NUMBER 609

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

SILT FENCE DETAIL
NO. 613
EXISTING ROAD

R=AS NOTED 25' MIN.
12" MIN. DEPTH
4" - 8" QUARRY SPALLS

PROVIDE FULL WIDTH OF INGRESS/EGRESS AREA

* SEE EROSION CONTROL NOTES, CITY STANDARD NUMBER 609

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS
STABILIZED CONSTRUCTION ENTRANCE

07/09
08/1/2009

APPROVED BY
CITY ENGINEER

STANDARD UNDER REVISION;

PLEASE USE CASQA STANDARD SE-2 AND/OR SE-3

NOTES:

1. INDICATE DIMENSIONS FOR D, H, W, AND O ON THE PLANS.


3. THE SPILLWAY MUST BE CONSTRUCTED WITH CONCRETE OR GUNITE WHEN D EXCEEDS 3' OR WHEN THE STORAGE VOLUME EXCEEDS 1 ACRE FOOT (1600 CUBIC YARDS). SANDBAGGED SPILLWAYS MAY BE ALLOWED FOR LESSER DEPTHS AND STORAGE VOLUMES DEPENDING ON EXISTING DOWNSTREAM DEVELOPMENT.

4. THE DIKE SHALL BE COMPACTED TO 95% COMPACTION.
For Right of Way assistance, please contact City of Lake Elsinore Engineering Division at 951-674-3124, ext 241.
CITY OF LAKE ELSINORE
STANDARD PLANS

SECTION 7:
Standard Notes
and Symbols
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>A.C.</td>
<td>Asphalitic Concrete</td>
</tr>
<tr>
<td>&amp;</td>
<td>and</td>
</tr>
<tr>
<td>@</td>
<td>at</td>
</tr>
<tr>
<td>A.C.P.</td>
<td>Asbestos Cement Pipe</td>
</tr>
<tr>
<td>Ave.</td>
<td>Avenue</td>
</tr>
<tr>
<td>B.C.</td>
<td>Begin Curve</td>
</tr>
<tr>
<td>B.C.R.</td>
<td>Begin curb return</td>
</tr>
<tr>
<td>Bit.</td>
<td>Bituminous</td>
</tr>
<tr>
<td>Bldg.</td>
<td>Building</td>
</tr>
<tr>
<td>Blvd.</td>
<td>Boulevard</td>
</tr>
<tr>
<td>BVC</td>
<td>Begin Vertical Curve</td>
</tr>
<tr>
<td>B/W</td>
<td>Back of sidewalk</td>
</tr>
<tr>
<td>Bl.</td>
<td>Book</td>
</tr>
<tr>
<td>B.M.</td>
<td>Bench Mark</td>
</tr>
<tr>
<td>C</td>
<td>Correction at center of V.C.</td>
</tr>
<tr>
<td>C.B.</td>
<td>Catch Basin</td>
</tr>
<tr>
<td>C.C.</td>
<td>Center to Center</td>
</tr>
<tr>
<td>C.F.</td>
<td>Curb Face</td>
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<tr>
<td>C.I.</td>
<td>Cast Iron</td>
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<tr>
<td>C</td>
<td>Center line</td>
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<tr>
<td>C.M.P.</td>
<td>Corrugated Metal Pipe</td>
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<tr>
<td>C.O.</td>
<td>Cleanout</td>
</tr>
<tr>
<td>Conc.</td>
<td>Concrete</td>
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<tr>
<td>Constr.</td>
<td>Construct</td>
</tr>
<tr>
<td>C.U.P.</td>
<td>Conditional Use Permit</td>
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<tr>
<td>D.A.</td>
<td>Drive Approach</td>
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<tr>
<td>D.</td>
<td>Diameter</td>
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<tr>
<td>D.M.H.</td>
<td>Drop Manhole</td>
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<tr>
<td>Drwg.</td>
<td>Drawing</td>
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<tr>
<td>Dwy.</td>
<td>Driveway</td>
</tr>
<tr>
<td>E</td>
<td>East</td>
</tr>
<tr>
<td>E.C.</td>
<td>End Curve</td>
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<tr>
<td>E.C.R.</td>
<td>End Curb Return</td>
</tr>
<tr>
<td>El.</td>
<td>Elevation</td>
</tr>
<tr>
<td>E.V.C.</td>
<td>End Vertical Curve</td>
</tr>
<tr>
<td>Exist.</td>
<td>Existing</td>
</tr>
<tr>
<td>F.B.</td>
<td>Field Bok</td>
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<tr>
<td>F.H.</td>
<td>Fire Hydrant</td>
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<tr>
<td>F.L.</td>
<td>Flow Line</td>
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<tr>
<td>F.S.</td>
<td>Finished Surface</td>
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<tr>
<td>G.P.</td>
<td>Grading Plan</td>
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<tr>
<td>G.L.</td>
<td>Ground Line</td>
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<tr>
<td>G.T.P.</td>
<td>Gas Tax Project</td>
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<tr>
<td>Gr.</td>
<td>Grade</td>
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<tr>
<td>I</td>
<td>Central Angle or Delta</td>
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<tr>
<td>L</td>
<td>Length or Length of Arc</td>
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<tr>
<td>Lt.</td>
<td>Left</td>
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<tr>
<td>M.H.</td>
<td>Manhole</td>
</tr>
<tr>
<td>M.B.</td>
<td>Map Book</td>
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<tr>
<td>N.</td>
<td>North</td>
</tr>
<tr>
<td>Mon.</td>
<td>Monument</td>
</tr>
<tr>
<td>No.</td>
<td>Number</td>
</tr>
<tr>
<td>%</td>
<td>Per cent</td>
</tr>
<tr>
<td>P.C.C.</td>
<td>Point of Compound Curve</td>
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<tr>
<td>P</td>
<td>Property Line</td>
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<tr>
<td>P.R.C.</td>
<td>Point of Reverse Curve</td>
</tr>
<tr>
<td>Proj.</td>
<td>Project</td>
</tr>
<tr>
<td>P.I.</td>
<td>Point of Intersection</td>
</tr>
<tr>
<td>P.V.I.</td>
<td>Point of Vertical Intersection</td>
</tr>
<tr>
<td>P.P.</td>
<td>Power Pole</td>
</tr>
<tr>
<td>Pvm.</td>
<td>Pavement</td>
</tr>
<tr>
<td>R</td>
<td>Radius</td>
</tr>
<tr>
<td>R.C.P.</td>
<td>Reinforced Concrete Pipe</td>
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<tr>
<td>Rd.</td>
<td>Road</td>
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<tr>
<td>Rdwy.</td>
<td>Roadway</td>
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<td>R/S</td>
<td>Record of Survey</td>
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<tr>
<td>Rf.</td>
<td>Right</td>
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<tr>
<td>R/W</td>
<td>Right of Way</td>
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<tr>
<td>S.</td>
<td>South</td>
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<tr>
<td>Sect.</td>
<td>Section</td>
</tr>
<tr>
<td>Sl.</td>
<td>Slope</td>
</tr>
<tr>
<td>S.P.</td>
<td>Site Plan</td>
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<tr>
<td>Sp.M.H.</td>
<td>Special Manhole</td>
</tr>
<tr>
<td>Spec.</td>
<td>Specification</td>
</tr>
<tr>
<td>S.S.</td>
<td>Sanitary Sewer</td>
</tr>
<tr>
<td>St.</td>
<td>Street</td>
</tr>
<tr>
<td>Std.</td>
<td>Standard</td>
</tr>
<tr>
<td>Sta.</td>
<td>Station</td>
</tr>
<tr>
<td>S.W.</td>
<td>Sidewalk</td>
</tr>
<tr>
<td>T.</td>
<td>Tangent Length for Curve</td>
</tr>
<tr>
<td>Tr.</td>
<td>Tract</td>
</tr>
<tr>
<td>V.C.</td>
<td>Vertical Curve</td>
</tr>
<tr>
<td>V.C.P.</td>
<td>Vitrified Clay Pipe</td>
</tr>
<tr>
<td>W.</td>
<td>West or Width</td>
</tr>
<tr>
<td>2:1</td>
<td>Slope of one foot measured vertically for every two feet measured horizontally</td>
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**ABBREVIATIONS**

CITY OF LAKE ELSINORE
PREPARED BY PUBLIC WORKS

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<thead>
<tr>
<th>REVISION</th>
<th>ENGINEERING DATE 07/09</th>
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APPROVED BY

[Signature]
CITY ENGINEER
DATE

NO. 701
CENTER LINE

POINT OF INTERSECTION

RIGHT OF WAY

PROPERTY LINE

EXISTING CURB

NEW CURB

EXISTING CURB AND GUTTER

NEW CURB AND GUTTER

EXISTING SIDEWALK

NEW CONCRETE SIDEWALK

NEW CONCRETE DRIVEWAY

NEW PAVEMENT

NEW PAVEMENT TO BE OVERLAID OVER EXISTING PAVEMENT

24"RCP

EXISTING REINFORCED CONCRETE PIPE OR STORM DRAIN

18"X11" CMP

EXISTING CORRUGATED METAL PIPE OR STORM DRAIN

EXISTING CURB INLET

EXISTING CURB INLET WITH GRATING

18"RCP

NEW STORM DRAIN, CURB INLET AND GUTTER DEPRESSION
UTILITY LINE (* = LISTED BELOW)

E = ELECTRICAL   SD = STORM DRAIN
G = GAS  T = TELEPHONE
I = IRRIGATION  TV = TELEVISION CABLE
O = OIL  W = WATER
S = SEWER  X = INDUSTRIAL WASTE

W
WATER METER

×
WATER VALVE

○
FIRE HYDRANT

●
TELEPHONE POLE

←
POLE ANCHOR

●
GUY POLE

●
TELEPHONE AND POWER ON SAME POLE

★
EXISTING STREET LIGHT

←
NEW STREET LIGHT

★
EXISTING TRAFFIC SIGNAL

◆
EXISTING TRAFFIC SIGNAL DETECTOR

□
EXISTING TRAFFIC SIGNAL CONTROLLER

PB
PULL BOX

$  
STOP SIGN

γ
NEW YIELD SIGN

-util
NEW INFORMATIONAL SIGN

↓
EXISTING STREET NAME SIGN

↓
NEW STREET NAME SIGN

----
RAILROAD TRACK

△
EXISTING RAILROAD CROSSING SIGN

△
EXISTING RAILROAD CROSSING SIGNAL

-----
EXISTING HEDGE

○
SHRUB
<table>
<thead>
<tr>
<th>NEW METRIC STANDARD</th>
<th>REPLACES IMPERIAL STANDARD</th>
</tr>
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<tbody>
<tr>
<td>0.6m (1.97')</td>
<td>2'</td>
</tr>
<tr>
<td>1.2m (3.94')</td>
<td>4'</td>
</tr>
<tr>
<td>1.5m (4.92)</td>
<td>5'</td>
</tr>
<tr>
<td>1.8m (5.91')</td>
<td>6'</td>
</tr>
<tr>
<td>2.1m (6.89')</td>
<td>7'</td>
</tr>
<tr>
<td>2.4m (7.87')</td>
<td>8'</td>
</tr>
<tr>
<td>2.7m (8.86')</td>
<td>9'</td>
</tr>
<tr>
<td>3.0m (9.84')</td>
<td>10'</td>
</tr>
<tr>
<td>3.3m (10.83')</td>
<td>11'</td>
</tr>
<tr>
<td>3.6m (11.81')</td>
<td>12'</td>
</tr>
<tr>
<td>4.0m (13.12')</td>
<td>13'</td>
</tr>
<tr>
<td>4.2m (13.78')</td>
<td>14'</td>
</tr>
<tr>
<td>4.6m (15.09')</td>
<td>15'</td>
</tr>
<tr>
<td>5.5m (18.05')</td>
<td>18'</td>
</tr>
<tr>
<td>6.0m (19.69')</td>
<td>20'</td>
</tr>
<tr>
<td>6.6m (21.25')</td>
<td>22'</td>
</tr>
<tr>
<td>7.6m (24.93')</td>
<td>25'</td>
</tr>
<tr>
<td>9.0m (29.53')</td>
<td>30'</td>
</tr>
<tr>
<td>9.8m (32.15')</td>
<td>32'</td>
</tr>
<tr>
<td>10.7m (35.10')</td>
<td>35'</td>
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<tr>
<td>10.8m (35.45')</td>
<td>36'</td>
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<tr>
<td>11.6m (38.06')</td>
<td>38'</td>
</tr>
<tr>
<td>12.2m (40.03')</td>
<td>40'</td>
</tr>
<tr>
<td>13.1m (42.98')</td>
<td>43'</td>
</tr>
<tr>
<td>13.4m (43.97')</td>
<td>44'</td>
</tr>
<tr>
<td>15.2m (49.87')</td>
<td>50'</td>
</tr>
<tr>
<td>16.8m (55.12')</td>
<td>55'</td>
</tr>
<tr>
<td>17.1m (56.11')</td>
<td>56'</td>
</tr>
<tr>
<td>18.3m (60.04')</td>
<td>60'</td>
</tr>
<tr>
<td>20.1m (65.95')</td>
<td>66'</td>
</tr>
<tr>
<td>20.4m (66.93')</td>
<td>67'</td>
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<tr>
<td>23.8m (78.09')</td>
<td>78'</td>
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METRIC CONVERSION