Foreword

Uniform Standard Drawings for Public Works' Construction, Offsite Improvements, Clark County Area, Nevada

Volume I

The following participating entities of the Clark County, Nevada area have adopted these standard drawings.

City of Las Vegas
Adopted by City Council action ............................................................November 4, 1987

City of Henderson
Adopted by City Council action .............................................................October 20, 1987

City of North Las Vegas
Adopted by City Council action .............................................................November 4, 1987

City of Boulder City
Adopted by City Council action .............................................................January 26, 1988

City of Mesquite
Adopted by City Council action .............................................................January 26, 1988

Clark County
Adopted by Board action ......................................................................April 1998

Regional Street and Highway Commission
Adopted by Commission Action .................................................................October 8, 1987

The Uniform Standard Drawings for Public Works Construction may be revised by issuance of revisions or supplements to correct errors and omissions found in these drawings and to reflect advanced thinking and the changing technology of the construction industry. Each revision will supersede any previous pertinent drawing. Upon approval by the RTC, revisions will become effective and be posted on the RTC web-site, www.rtsouthernnevada.com, by the first day of the month of January and July.

To implement this end a Specifications Committee has been established as a permanent organization to continually study and recommend changes to the standard drawings. Interested parties may address suggested changes and questions to the Regional Transportation Commission, 600 South Grand Central Parkway, Suite 350, Las Vegas, Nevada, 89106-4512.
PLAN ONLY

PROPOSED CONSTRUCTION

EXISTING

CURB AND GUTTER

VALLEY GUTTER

DRIVEWAY

WHEELCHAIR RAMP

DROP INLET

EDGE OF PAVEMENT

ELEVATIONS

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CUT OR FILL SLOPES

TOE OF SLOPE

NOTE: FUTURE CONSTRUCTION ITEMS ON PLANS SHALL BE INDICATED BY A DASHED LINE AND APPROPRIATE NOTE.
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DATE 12-12-96  DWG. NO. 104  PAGE NO. 4
| Aban | Abandon |
| AIP | Abandoned in Place |
| Agg | Aggregate |
| Alt | Alternate |
| A | Anode, Gas |
| ACP | Asbestos Cement Pipe |
| AC | Asphaltic Concrete |
| Ave | Avenue |
| BC | Back of Curb |
| BCR | Back of Curb Radius |
| BVC | Beginning of Vertical Curve |
| BM | Bench Mark |
| Bdry Line | Boundary Line |
| CATV | Cable Television |
| C-C | Center to Center |
| D | Centerline |
| CBC | City of Boulder City |
| CLV | City of Las Vegas |
| COH | City of Henderson |
| CM | City of Mesquite |
| CNLV | City of North Las Vegas |
| CC | Clark County |
| CCSD | Clark County Sanitation District |
| CO | Clean Out, Sewer |
| Comm | Commercial |
| Conc, PCC | Concrete |
| Const | Construction or Construct |
| Cor | Corner |
| CMP | Corrugated Metal Pipe |
| CSAP | Corrugated Steel Arch Pipe |
| CSP | Corrugated Steel Pipe |
| C&G | Curb and Gutter |
| CIP | Cast Iron Pipe |
| Col | Column |
| Cu Yd, CY | Cubic Yard |
| Cu Ft, CF | Cubic Feet |
| Culv | Culvert |
| CF | Curb Face |
| Dept | Department |
| Dia | Diameter |
| Dwy | Driveway |
| DI | Drop Inlet |
| Esmt | Easement |
| E/o | East of |
| EP | Edge of Pavement |
| EO | Edge of Oil |
| E | Electric |
| EM | Electric Meter |
| Elev | Elevation |
| Embk | Embankment |
| ECR | End of Curb Return |
| EC | End of Curve |
| EBS | Cathode Protection |
| EVC | End of Vertical Curve |
| F | Existing |
| Ft | Feet or Foot |
| FG | Finish Grade |
| FA | Fire Alarm |
| FH | Fire Hydrant |
| Fl | Flow Line |
| Galv | Galvanized |
| GM | Gas Meter |
| GR | Gas Pressure Regulator |
| PL-G | Plastic Gas |
| S-G | Steel Gas |
| GB | Grade Break |
| Gut | Gutter |
| Hdw | Headwall |
| In | Inch |
| INT | Intersection |
| INV | Invert |
| ISL | Island |
| JB | Junction Box |
| LOC | Length of Curb |
| Lt | Left |
| LF | Linear Feet |
| LVVWD | Las Vegas Valley Water District |
| MH | Manhole |
| Max | Maximum |
| Min | Minimum |
| Mon | Monolithic |
| No/ | North of |
| NTS | Not to Scale |
| OC | On Center |
| OG | Open-Graded Pavement, Original Ground |
| Pmt | Pavement |
| PI | Point of Intersection |
| PRC | Point of Reverse Curve |
| PC | Point of Curve |
| PT | Point of Tangency |
| PCC | Point of Compound Curve |
| PCC, Conc | Portland Cement Concrete |
Effective 01/01/11 - 06/30/11


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<td>3.5</td>
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NOTES:

1. THIS CHART WAS CONSTRUCTED USING THE 1993 AASHTO PAVEMENT DESIGN GUIDE, 1996 NDOT MANUAL AND THE 2000 RTC DESIGN CRITERIA, SECTION 401.01.02 OF THE STANDARD SPECIFICATIONS.

2. AN AVERAGE R-VALUE MAY BE USED IF IT IS REPRESENTATIVE OF ALL PROJECT CONDITIONS.

3. ADDITIONAL DESIGN COMPENSATION IS REQUIRED IF EXPANSIVE SOILS, HYDRO-COLLABSIBLE SOILS, OR SOLUBLE MATERIALS ARE PRESENT.

4. AC DEPTHS SHOWN ARE MINIMUMS AND 4" MINIMUM TYPE II IS REQUIRED; OTHER COMBINATIONS THAT MEET OR EXCEED THE STRUCTURAL NUMBER REQUIREMENTS ARE ACCEPTABLE.
NOTES
PROPERTY LINES SHALL BE PARALLEL AND RADIAL TO THE BACK OF CURB AT A DISTANCE CONSISTENT WITH THE STANDARD STREET SECTIONS DRAWING NUMBERS.

* PROPERTY LINE RADIUS SHALL BE A MINIMUM OF 54 FEET.

** PROPERTY LINE RADIUS SHALL BE A MINIMUM OF 40 FEET.

<table>
<thead>
<tr>
<th>&quot;B&quot; OR &quot;A&quot;</th>
<th>60' OR LESS</th>
<th>80'</th>
<th>100' OR MORE</th>
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<tr>
<td>60' OR LESS</td>
<td>20'</td>
<td>25'</td>
<td>30'</td>
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<tr>
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<tr>
<td>100' OR MORE</td>
<td>30'</td>
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MINIMUM BACK OF CURB RADIUS
NOTE:

SEE STANDARD DRAWING
NO. 245.1 (2 SHEETS) FOR
TYPICAL LANE CONFIGURATIONS
AND DIMENSIONS

* AT THE INTERSECTIONS OF
80 FT. AND 100 FT. STREETS,
ADDITIONAL RIGHT-OF-WAY MAY BE
REQUIRED FOR THE 80 FT. STREET.
TYPICALLY, THESE 80 FT. STREETS
WILL BE IDENTIFIED AS ARTERIALS IN
THE REGIONAL TRANSPORTATION PLAN.

RIGHT-OF-WAY (BEYOND
STANDARD 100' ACQUISITION)
NECESSARY FOR INTERSECTION

ADDITIONAL RIGHT-OF-WAY
NECESSARY FOR EXCLUSIVE
RIGHT TURN LANE
AT INTERSECTION

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

ADDITIONAL RIGHT-OF-WAY REQUIRED
AT MAJOR INTERSECTIONS

DATE 7-10-03  DWG. NO. 201.1  PAGE NO. 7.1
INTERSECTION SIGHT VISIBILITY ZONE

TYPICAL INTERSECTION CORNER

NOTE: FOR SIGHT ZONE DIMENSIONS, SEE SETBACK TABLE ON SHEET 2 OF THIS STANDARD DRAWING.
### General Notes

1. Each corner of every intersection shall have a sight visibility easement regardless of right-of-way width.

2. No walls, fences, trees, shrubs, utility appurtenances or any other object, other than traffic control devices and street light poles, may be constructed or installed within the sight visibility zone unless said object is maintained at least than 24 inches in height, measured from top of curb, or where no curb exists, a height of 27 inches measured from the top of adjacent asphalt, gravel or pavement street surface.

3. At intersections where the classification of major and minor streets cannot be permanently established, each leg of the intersection must be analyzed as if the approach leg is a minor street intersecting a major street. The portions of the sight visibility zone labeled “N/A” in the setback table are not required. All “T” intersections, the terminating leg will always be the minor street.

4. Curving roadways and roadways with intersecting angles greater than 10 degrees must be analyzed using D1, D2, the eye position, and the car position as shown in the information above.

5. Use of a sight visibility zone different than that shown herein shall require a sight visibility analysis prepared and submitted for approval to the local entity engineer by a civil engineer registered in the State of Nevada.

6. The area within the limits of the arc and the chord at the curb return shall be added to the sight visibility zone at each corner of every intersection, except for 100’ x 100’ intersections or greater.

7. On-street parking shall be prohibited within areas designated by dimensions “A” and “D” on sheet 1 of this drawing. Subject to the approval of the traffic engineer or designated representative of the entity having jurisdiction.

### Basis for Analysis

The following criteria was and shall be used as the basis for design of sight visibility zones:

AASHTO Publication of “A Policy on Geometric Design of Highways and Streets”, 1990 Edition, Chapter IX, using the most restrictive sight line derived from each of the three possible crossing maneuvers (stopped condition):

- Case 3A - Crossing Maneuver
- Case 3B - Left Turn Maneuver onto a major street
- Case 3C - Right Turn Maneuver onto a major street

The analysis should use the greater of the following:

- Design speed = posted speed limit plus five
- Design speed = posted speed limit divided by 0.85

Car and eye positions are as shown on sheet 1 of this drawing.

---

### Setback Table

<table>
<thead>
<tr>
<th>MINOR ROW</th>
<th>48'</th>
<th>51'</th>
<th>60'</th>
<th>80'</th>
<th>100'</th>
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</thead>
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<tr>
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<table>
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<tr>
<th>MAJOR ROW</th>
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### Uniform Standard Drawings

<table>
<thead>
<tr>
<th>Specification Reference</th>
<th>Uniform Standard Drawings Clark County Area</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>SIGHT VISIBILITY ZONES AT INTERSECTIONS</td>
</tr>
</tbody>
</table>

Date: 8-21-97  DWG. NO: 201.2 (2 OF 2)  PAGE: 7.2A
NOTES:

1. FINAL A.C. PAVEMENT SURFACE SHALL BE 1/2" MAXIMUM ABOVE LIP OF GUTTER. PAVEMENT SHALL BE FLUSH WITH LIP AT SIDEWALK RAMPS.

2. STRUCTURAL SECTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 401 AND STANDARD DRAWING 200.

3. A 3/4" OPEN GRADE IS REQUIRED ON CLARK COUNTY ROADWAYS AND MAY BE REQUIRED IN OTHER JURISDICTIONS AS DETERMINED BY THE ENTITY'S ENGINEER.

4. IF OPEN GRADE IS REQUIRED DENSE GRADE SHALL BE FLUSH WITH LIP OF GUTTER AND FINAL A.C. PAVEMENT SURFACE SHALL BE 3/4" MAXIMUM ABOVE LIP OF GUTTER. FINAL A.C. PAVEMENT SURFACE SHALL BE FLUSH WITH LIP AT SIDEWALK RAMPS.

5. FOG SEAL AND PRIME COAT REQUIRED IN THE CITIES OF LAS VEGAS AND NORTH LAS VEGAS.
### Notes:

1. FINAL A.C. PAVEMENT SURFACE (INCLUDING OPEN GRADE) SHALL BE 3/4” MAXIMUM ABOVE LIP OF GUTTER. PAVEMENT SHALL BE FLUSH WITH LIP AT SIDEWALK RAMPS.

2. DENSE GRADE SHALL BE FLUSH WITH LIP OF GUTTER.

3. STRUCTURAL SECTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 401 AND STANDARD DRAWING NO. 200.

4. THIS STANDARD IS AN ALTERNATE STREET SECTION TO BE USED AT LOCATIONS DETERMINED BY EACH LOCAL JURISDICTION. NO ABOVE GROUND OBJECTS SHALL BE PLACED WITHIN THE 5 FOOT SIDEWALK.

5. UNDERGROUND DRY UTILITIES SHOULD BE PLACED IN A UTILITY CORRIDOR UNDER THE SIDEWALK.

6. INCREASE PAVEMENT WIDTH BY 11 FEET ON EACH SIDE OF ROADSIDE FOR AN 8 LANE CROSS SECTION.

### Specification Reference

<table>
<thead>
<tr>
<th>Specification Reference</th>
<th>Uniform Standard Drawings Clark County Area</th>
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<tbody>
<tr>
<td>302 AGGREGATE BASE</td>
<td>Arterial Alternate Urban Area Street Sections With Offset Sidewalk</td>
</tr>
<tr>
<td>401 BITUMINOUS PAVEMENT</td>
<td></td>
</tr>
<tr>
<td>403 OPEN GRADE</td>
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<tr>
<td>501 CONCRETE</td>
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</table>

**Date:** 11-10-04 | **DWG. No.:** 202 ALT | **Page No.:** 8.1ALT
Effective 01/01/11 - 06/30/11

**MAJOR COLLECTOR**

**NON-RESIDENTIAL LOCAL OR MINOR RESIDENTIAL COLLECTOR**

NOTES:

1. A.C. PAVEMENT TO BE 1/2" MAXIMUM ABOVE LIP OF GUTTER AFTER COMPACTION. PAVEMENT SHALL BE FLUSH WITH LIP AT SIDEWALK RAMPS.
2. THE GRADE BREAK OCCURRING IN THE CROSS SECTION SHALL FALL BETWEEN DRIVING LANES.
3. STRUCTURAL SECTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 401 AND STANDARD DRAWING NOS. 200 AND 200A.
4. PRIME COAT IS NOT REQUIRED IN HENDERSON, MESQUITE OR BOULDER CITY WHEN A.C. THICKNESS >= 5 IN.
5. 4 INCH MINIMUM THICKNESS REQUIRED IN HENDERSON, MESQUITE AND BOULDER CITY.
6. 3/4" OPEN GRADE REQUIRED IN CLARK COUNTY. OPEN GRADE IN OTHER JURISDICTIONS AS REQUIRED BY THE ENGINEER.

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</th>
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</thead>
<tbody>
<tr>
<td>302 AGGREGATE BASE</td>
<td>COLLECTOR URBAN AREA STREET SECTIONS WITH CURBSIDE SIDEWALK</td>
</tr>
<tr>
<td>401 BITUMINOUS PAVEMENT</td>
<td>DATE 11-10-04 DWG. NO. 205 PAGE NO. 11</td>
</tr>
<tr>
<td>406 PRIME COAT</td>
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</tr>
<tr>
<td>407 FOG SEAL</td>
<td></td>
</tr>
<tr>
<td>501 CONCRETE</td>
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</tbody>
</table>
NOTES:
1. A.C. PAVEMENT TO BE 1/2" MAXIMUM ABOVE LIP OF GUTTER AFTER COMPACTION. PAVEMENT SHALL BE FLUSH WITH LIP AT SIDEWALK RAMPS.
2. THE GRADE BREAK OCCURRING IN THE CROSS SECTION SHALL FALL BETWEEN DRIVING LANES.
3. STRUCTURAL SECTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 401 AND STANDARD DRAWING NOS. 200 AND 200A.
4. THIS STANDARD IS AN ALTERNATE STREET SECTION TO BE USED AT LOCATIONS DETERMINED BY EACH LOCAL JURISDICTION. NO ABOVE GROUND OBJECTS SHALL BE PLACED WITHIN THE 5 FOOT SIDEWALK.
5. UNDERGROUND DRY UTILITIES SHOULD BE PLACED IN A UTILITY CORRIDOR UNDER THE SIDEWALK.
6. 3/4" OPEN GRADE REQUIRED IN CLARK COUNTY. OPEN GRADE IN OTHER JURISDICTIONS AS REQUIRED BY THE ENGINEER.
NOTES:

1. FINAL A.C. PAVEMENT SURFACE SHALL BE 1/4" MAXIMUM ABOVE LIP OF GUTTER. PAVEMENT SHALL BE FLUSH WITH LIP AT SIDEWALK RAMPS.

2. STRUCTURAL SECTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 401 AND STANDARD DRAWING NO. 200A.
Notes:

1. A.C. Pavement and base thickness shall be in accordance to standard drawings number 202 through 207, whichever is applicable.

2. Greater widths may be required if traffic warrants, as determined by the engineer.

### Specification Reference

<table>
<thead>
<tr>
<th>Specification Reference</th>
<th>Uniform Standard Drawings</th>
</tr>
</thead>
<tbody>
<tr>
<td>302 AGGREGATE BASE</td>
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<td>406 PRIME COAT</td>
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<td>407 FOG SEAL</td>
<td></td>
</tr>
<tr>
<td>501 CONCRETE</td>
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</tr>
</tbody>
</table>

**Half Street Construction Sections**
NOTES:

1. A.C. PAVEMENT AND BASE THICKNESS SHALL BE IN ACCORDANCE TO STANDARD DRAWINGS NUMBER 202 THROUGH 207, WHICHEVER IS APPLICABLE.

2. GREATER WIDTHS MAY BE REQUIRED IF TRAFFIC WARRANTS, AS DETERMINED BY THE ENGINEER.
NOTES:

1. INTERSECTIONS SHALL HAVE 34 FOOT MINIMUM EDGE OF A.C. RETURN RADI.

2. COMPACITION OF AGGREGATE BASE AND SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE UNIFORM STANDARD SPECIFICATIONS.

3. STRUCTURAL SECTION SHOWN IS BASED ON A SUBGRADE "R" VALUE OF 20. OTHER STRUCTURAL SECTIONS MAY BE APPROVED IF BASED ON ENGINEERING ANALYSIS BASED ON "R" OR "CBR" VALUES DETERMINED BY SOIL TESTING.

4. CULVERTS MAY BE REQUIRED AT DRIVEWAYS.

5. A.C. PAVEMENT SHALL BE IN ACCORDANCE WITH SECTION 401 OF THE UNIFORM STANDARD SPECIFICATIONS. ALTERNATE PAVEMENT MATERIALS MAY BE USED AT THE DISCRETION OF THE ENTITY.

6. PAVEMENT MARKINGS MAY BE REQUIRED AND INCLUDE DOUBLE YELLOW CENTERLINE, RAISED PAVEMENT MARKERS OR YELLOW PAINT, AND 4' OFFSET WHITE PAINTED EDGELINES.

7. PAVEMENT WIDTH AND PAVEMENT THICKNESS MAY BE REDUCED TO 28 FEET (14 FEET EACH DIRECTION) AND 2 INCHES RESPECTIVELY BASED UPON A DETERMINATION BY THE LOCAL ENTITY THAT THE REDUCED WIDTH AND THICKNESS WILL PROVIDE SATISFACTORY LIFE AND A SAFE ROADWAY.

<table>
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<tr>
<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS</th>
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<tbody>
<tr>
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<td>CLARK COUNTY AREA</td>
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<tr>
<td>401 BITUMINOUS PAVEMENT</td>
<td></td>
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</table>

ACCESS ROADS
(FOR USE IN HYDROGRAPHIC BASIN NO. 212)
(PM-10 NON-ATTAINMENT AREAS)

DATE 5-20-04  DWG. NO. 209  PAGE NO. 15
NOTES:

1. INTERSECTIONS SHALL HAVE 25 FOOT MINIMUM EDGE OF OIL RADI.

2. COMPACTION OF AGGREGATE BASE AND SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS".

3. STRUCTURAL SECTION SHOWN IS BASED ON A SUBGRADE "R" VALUE OF 20. OTHER STRUCTURAL SECTIONS MAY BE APPROVED IF BASED ON ENGINEERING ANALYSIS BASED ON "R" OR "CBR" VALUES DETERMINED BY SOIL TESTING. IN NO CASE SHALL THE A.C. THICKNESS BE LESS THAN THAT SHOWN, NOR SHALL THE BASE BE LESS THAN 4".

4. CULVERTS MAY BE REQUIRED AT DRIVEWAYS.

SPECIFICATION REFERENCE

<table>
<thead>
<tr>
<th>Specification</th>
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<tr>
<td>302</td>
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<tr>
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<td>BITUMINOUS PAVEMENT</td>
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<td>PRIME COAT</td>
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<td>407</td>
<td>FOG SEAL</td>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

ACCESS ROADS
(FOR USE IN PM-10 COMPLIANT AREAS)

DATE 12-14-00 DWG. NO. 209A PAGE NO. 15A
GRAVEL

(THIS SECTION NOT FOR USE IN PM-10 NON-ATTAINMENT AREAS)

NOTES:

1. INTERSECTIONS SHALL HAVE 25 FOOT MINIMUM EDGE OF OIL RADIi OR 20 FOOT MINIMUM BACK OF CURB RADIi.

2. COMPACtION OF AGGREGATE BASE AND SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATION".

3. STRUCTURAL SECTION SHOWN IS BASED ON A SUBGRADE "R" VALUE OF 20. OTHER STRUCTURAL SECTIONS MAY BE APPROVED IF BASED ON ENGINEERING ANALYSIS BASED ON "R" OR "CBR" VALUES DETERMINED BY SOIL TESTING. IN NO CASE SHALL THE A.C. THICKNESS BE LESS THAN THAT SHOWN, NOR SHALL THE BASE BE LESS THAN 4" EXCEPT THAT THE BASE SHALL NOT BE LESS THAN 10" IN NORTH LAS VEGAS.

4. ALLOW IN CITY OF NORTH LAS VEGAS ONLY WITH EXPRESS WRITTEN PERMISSION FROM THE CITY ENGINEER.

SPECIFICATION REFERENCE

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<td>FOG SEAL</td>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

PRIVATE STREET SECTIONS

DATE 12-14-00  DWG. NO.  210  PAGE  16
CURVE DATA
PROPERTY LINE

\[ \Delta_1 > 75^\circ \quad \text{USE } R = 30' \text{ MIN.} \]

65° TO 75° USE R = 35' MIN.

55° TO 65° USE R = 45' MIN.

NOTES

1. USE NORMAL SECTION FROM INNER CURB TO CENTER LINE.
2. FROM CROWN LINE TO OUTER CURB, THE STANDARD SLOPE IS 2%.
3. SUPERELEVATION PERCENTAGES SHOWN ARE A STRAIGHT GRADE FROM CENTER LINE TO CROWN LINE.
4. ELEVATIONS ARE REQUIRED WHERE CIRCLES ( ) ARE SHOWN.
5. KNUCKLES ARE NOT ALLOWED ON MAJOR COLLECTOR OR ARTERIAL STREETS.
1. **BCR**
   - $\triangle_1 > 75^\circ = 30'$ MINIMUM
   - $65^\circ \text{ TO } 75^\circ = 35'$ MINIMUM
   - $45^\circ \text{ TO } 65^\circ = 45'$ MINIMUM
   - $\triangle_1 < 45^\circ = C_L$ RADIUS $= 150'$ MINIMUM

2. **BCR = 50' MINIMUM**

3. **BCR = W + 10' MINIMUM**

   $\triangle_3 = \triangle_1 + 2 \cdot \triangle_2$

**NOTES:**

1. USE 2% SLOPE FROM INNER CURB TO CROWN LINE.
2. FROM CROWN LINE TO OUTER CURB, THE STANDARD SLOPE IS 0.90% (MIN).
3. ELEVATIONS REQUIRED ALONG CURBS (3) AND CROWN EVERY 1/4 (MIN).
4. KNUCKLES ARE ALLOWED ON RESIDENTIAL STREETS ONLY.
5. MINIMUM SLOPE ALONG THE BACK OF CURB OF CURVES (2) AND (3) SHALL BE 0.60% (MIN).
6. SPECIAL KNUCKLE DESIGNS INCLUDING LANDSCAPED MEDIAN ISLAND MAY BE PERMITTED, IF APPROVED BY THE COUNTY ENGINEER.
NOTE:
1. ONLY 51' R/W AND PRIVATE STREET CUL-DE-SACS WILL BE ALLOWED IN THE CITY OF LAS VEGAS.

CITIES OF NORTH LAS VEGAS AND MESQUITE ONLY

<table>
<thead>
<tr>
<th>R/W WIDTH</th>
<th>W</th>
<th>A</th>
<th>R</th>
<th>R-1</th>
<th>R-2</th>
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<tr>
<td>48'</td>
<td>41'</td>
<td>51.23' MIN.</td>
<td>49' MIN.</td>
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<td>19.5' MIN.</td>
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<tr>
<td>51'</td>
<td>41'</td>
<td>51.23' MIN.</td>
<td>50.5' MIN.</td>
<td>45.5' MIN.</td>
<td>19.5' MIN.</td>
<td>14.5' MIN.</td>
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<tr>
<td>60'</td>
<td>50'</td>
<td>47.38' MIN.</td>
<td>50.5' MIN.</td>
<td>45.5' MIN.</td>
<td>19.5' MIN.</td>
<td>14.5' MIN.</td>
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<tr>
<td>PRIVATE STREET</td>
<td>40'</td>
<td>51.82' MIN.</td>
<td>45.5' MIN.</td>
<td>19.5' MIN.</td>
<td>19.5' MIN.</td>
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ALL OTHER ENTITIES (CC, CLV, HEN, BC)

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<tr>
<th>R/W WIDTH</th>
<th>W</th>
<th>A</th>
<th>R</th>
<th>R-1</th>
<th>R-2</th>
<th>R-3</th>
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</thead>
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<tr>
<td>48'</td>
<td>41'</td>
<td>44.72' MIN.</td>
<td>44' MIN.</td>
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<td>16' MIN.</td>
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<tr>
<td>51'</td>
<td>41'</td>
<td>44.72' MIN.</td>
<td>45.5' MIN.</td>
<td>40.5' MIN.</td>
<td>19.5' MIN.</td>
<td>14.5' MIN.</td>
</tr>
<tr>
<td>60'</td>
<td>50'</td>
<td>40.25' MIN.</td>
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<td>14.5' MIN.</td>
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<tr>
<td>PRIVATE STREET</td>
<td>40'</td>
<td>45.18' MIN.</td>
<td>40.5' MIN.</td>
<td>19.5' MIN.</td>
<td>19.5' MIN.</td>
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</table>
NOTE:
USE OF THE HAMMERHEAD WILL BE ALLOWED IN SINGLE FAMILY RESIDENTIAL DWELLING AREAS ONLY.

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CLARK COUNTY ONLY
HAMMERHEAD

DATE 11-10-04  DWG. NO. 213  PAGE NO. 19
SECTION A-A

SECTION B-B

SPECIFICATION REFERENCE

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<tr>
<td>501</td>
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<tr>
<td>505</td>
<td>REINFORCING STEEL</td>
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<tr>
<td>707</td>
<td>JOINT MATERIAL</td>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

EXCEPT CLARK COUNTY ALLEY

DATE 12-14-00  DWG. NO. 214  PAGE NO. 20
1-1/2" INVERTED CROWN

6" CONC. PAVT

8" TYPE II AGGREGATE BASE

NO. 4 BARS TO DISCONTINUE WITHIN 2" OF JOINT MATERIAL

WEAKENED PLANE JOINTS 1/4" MAX. WIDTH BY 2" DEPTH SAWCUT

BUILDING OR CURB LINE

1/2" PREMOLD EXPANSION JOINT FILLER

1'-0"

IF NO BUILDING OR CURBS EXISTS THICKEN EDGE TO 8" TOTAL DEPTH

SECTION B-B

1/2" PREMOLD EXPANSION JOINT FILLER, JOINTS EVERY 30'

1/4" R

3" 3" 12" MIN 2" CLEAR

NO. 4 BARS 12" O.C. BOTH WAYS

STANDARD 1/2" GALVANIZED PIPE WITH END PLUG. GREASE REINFORCING STEEL PRIOR TO PIPE INSTALLATION.

SECTION A-A

SPECIFICATION REFERENCE

<table>
<thead>
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<tr>
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<td>JOINT MATERIAL</td>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

EXCEPT CLARK COUNTY ALLEY, CONCRETE

DATE 12-14-00 DWG. NO. 215 PAGE NO. 21
NOTES:
1. 1" BATTER ON GUTTER FACE OPTIONAL.
2. WHERE LONGITUDINAL SLOPE IS LESS THAN 0.4%, THE FLOW LINE SHALL BE WATER TESTED.
NOTES:

1. USE OF ROLL CURB MAY BE RESTRICTED BY SURFACE DRAINAGE CONSIDERATIONS.

2. SIDEWALK CONSTRUCTED CONTIGUOUS TO ROLL CURB SHALL BE 5 INCHES THICK (MIN).

3. WHERE LONGITUDINAL SLOPE IS LESS THAN 0.4% THE FLOW LINE SHALL BE WATER TESTED.

4. CONSTRUCT 1/2" EXPANSION JOINT AT ALL COLD JOINTS, AT BEGINNING AND END OF CURB RETURNS, AND AT 300 FT. MAX. INTERVALS FOR EXTRUDED CURB AND 30 FT. MAX. INTERVALS FOR FORMED CURB. WEAKENED PLANE JOINTS SHALL BE FORMED AT THE REMAINING 15 FT. INTERVALS. SEE STD. DWG. NO. 234 FOR JOINT DETAILS.

5. ONE INCH BATTER AT CURB FACE IS OPTIONAL.

6. CITY OF LAS VEGAS COUNCIL APPROVAL REQUIRED FOR USE OF 30" ROLL CURB IN THE CITY OF LAS VEGAS.

7. IN NORTH LAS VEGAS, ROLL CURBS ARE PROHIBITED IN AREAS WHERE FLOW LINE GRADIENT IS LESS THAN 0.8% UNLESS OTHERWISE APPROVED BY CITY ENGINEER.

8. ALL UTILITY BOXES AND COVERS ADJACENT TO ROLL CURB SHALL BE HS-20 RATED "TRAFFIC BEARING" TYPE

<table>
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<tr>
<td>320 AGGREGATE BASE</td>
<td>30&quot; ROLL CURB</td>
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<tr>
<td>501 CONCRETE</td>
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<td>707 JOINT MATERIAL</td>
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</table>

DATE: 11-10-04   DWG. NO. 217A   PAGE NO. 23A
NOTES:

1. CONSTRUCT WEAKENED PLANE JOINT IN CURB AND SLAB AT SAME LOCATION EVERY 10'; CONSTRUCT EXPANSION JOINTS EVERY 300' FOR CONCRETE SLAB TO MATCH CURB JOINTS. FOR JOINT DETAILS SEE STANDARD DRAWING NUMBER 234.

2. "A" -TYPE CURB AND GUTTER PER STANDARD DRAWING NUMBER 221 IS REQUIRED IN THE CITY OF HENDERSON AND MAY BE REQUIRED FOR DRAINAGE CONSIDERATIONS.

3. WHEN CURB MACHINE IS USED TO PLACE CURB, A 2" MINIMUM LEVELING COURSE OF TYPE II AGGREGATE BASE IS REQUIRED.
**TYPICAL PLAN**

1. CONTINUOUS NO. 4 BAR REQUIRED IN NOSE OF MEDIAN ONLY.
2. 1" BATTER ON GUTTER FACE OPTIONAL.

**SPECIFICATION REFERENCE**

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**UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA**

"A" AND "L" TYPE ISLAND CURB

**DATE 12-14-00** **DWG. NO. 219** **PAGE NO. 25**
1/2" RADIUS ROUNDED EDGE ON ALL EXPOSED CORNERS

CONCRETE

SURFACE TREATMENT VARIES

EXISTING A.C. PAVEMENT

NO. 4 BARS AT 3'-4" CENTERS 18" LONG

NO. 4 BAR CONTINUOUS EXCEPT THROUGH EXPANSION JOINT

SECTION

EXPANSION JOINT AT ALL COLD JOINTS, AT BEGINNING AND END OF RETURN AND 300' MAX INTERVALS FOR EXTRUDED CURB AND 30' MAX INTERVALS FOR FORMED CURB

WEAKENED PLANE JOINT

10' (TYP)

3'-4" TYP

3"

DIRECTION OF TRAFFIC

NO. 4 BARS AT 3'-4" CENTERS 18" LONG

NO. 4 BAR

SIDE VIEW

NOTES:
1. FOR EXPANSION JOINT AND WEAKENED PLANE JOINT DETAIL, SEE STANDARD DRAWING NO. 234.
2. WEAKENED PLANE JOINTS EVERY 10' STAGGER WITH NO. 4 BARS.
3. ALL REINFORCING STEEL SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE SHOWN.
4. WHEN APPROVED BY THE ENGINEER/ENTITY, STRUCTURAL EPOXY ADHESIVE MAY BE USED IN LIEU OF NUMBER 4 DOWEL BAR EXCEPT AT CURB NOSE AND WITHIN 2 FEET OF ANY POINT OF CURVATURE.

SPECIFICATION REFERENCE

501 CONCRETE

505 REINFORCING STEEL

707 JOINT MATERIAL

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

TACK ON ISLAND CURB

DATE 01-13-05 DWG. NO. 220 PAGE NO. 26
1/2" RADIUS ROUNDED EDGE ON ALL EXPOSED CORNERS

CONCRETE

VARIES

1"

EXISTING A.C. PAVEMENT

NO. 4 BARS AT 3'-4" CENTERS 18" LONG

NO. 4 BAR CONTINUOUS

3" (TYP.)

WEAKENED PLANE JOINT

10' (TYP.)

10' (TYP.)

NO. 4 BAR CONTINUOUS

DIRECTION OF TRAFFIC

2" (TYP.)

3"

NO. 4 BARS 18" LONG AT 10' CENTERS STAGGER WITH EXPANSION JOINTS

SECTION

SIDE VIEW

NOTES:

1. FOR EXPANSION JOINT AND WEAKENED PLANE JOINT DETAIL, SEE STANDARD DRAWING NO. 234.

2. WHEN APPROVED BY THE ENGINEER/ENTITY, STRUCTURAL EPOXY ADHESIVE MAY BE USED IN LIEU OF NUMBER 4 DOWEL BAR EXCEPT AT CURB NOSE AND WITHIN 2 FEET OF ANY POINT OF CURVATURE.

SPECIFICATION REFERENCE

| UNIFORM STANDARD DRAWINGS |
| CLARK COUNTY AREA |
| EXCEPT CITY OF HENDERSON |
| TACK ON ISLAND |

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<td>707</td>
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</table>

DATE 01-13-05   DWG. NO. 221   PAGE NO. 27
1. Use 2% slope from inner curb to crown line.
2. From crown line to outer curb, the standard slope is 0.90% (min).
3. Elevations required along curbs (3) and crown every 1/4 (min).
4. Knuckles are allowed on residential streets only.
5. Minimum slope along the back of curb of curves (2) and (3) shall be 0.60% (min).
6. Special knuckle designs including landscaped median island may be permitted, if approved by the county engineer.
1. COMMERCIAL AND MULTI-FAMILY DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DRAWING NUMBERS 224, 225, 228, 235 AND 235.1.

2. LOCAL ORDINANCES AND POLICIES MAY APPLY AND SHALL HAVE PRECEDENCE. SEE NDOT ACCESS POLICY FOR STATE ROADWAYS.

3. THE TOTAL WIDTH "W" OF DRIVEWAY CURB OPENINGS SHALL NOT EXCEED 65% OF FRONT FOOTAGE.

4. NO DRIVEWAY SHALL BE LOCATED WITHIN 6 FEET OF A LIGHT POLE (UNLESS APPROVED BY THE ENTITY TRAFFIC ENGINEER), FIRE HYDRANT, MAIL BOX, ABOVE-GROUND ELECTRICAL TRANSFER BOX, OR BLOCK WALL HIGHER THAN 2 FEET.

5. THE CENTERLINES OF THE DRIVEWAYS ON OPPOSITE SIDES OF THE STREET AT A MEDIAN OPENING SHOULD BE WITHIN 10' FROM EACH OTHER AT THE MEDIAN OPENING.

6. GEOMETRICS APPLY TO NEW CONSTRUCTION ONLY, AND EXCEPTIONS MAY BE GRANTED BY THE APPROVAL OF THE AGENCY TRAFFIC ENGINEER BASED ON SITE CONSTRAINTS.

7. HANDICAPPED ACCESSIBLE SIDEWALKS SHALL BE PROVIDED ADJACENT TO DRIVEWAYS TO THE P.C. OF THE ONSITE CURB RETURN, MINIMUM, OR AT AN ALTERNATE LOCATION.

8. WHEN A PROPERTY LINE FALLS IN A MEDIAN OPENING A JOINT DRIVEWAY AGREEMENT SHALL BE REQUIRED OR NO DRIVEWAY WILL BE ALLOWED.

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COMMERCIAL AND MULTI-FAMILY DRIVEWAY GEOMETRICS

DATE 02-09-06    DWG. NO. 222A    SHEET 1 OF 2
### DIMENSIONS

**J. THROAT DEPTH FOR SECURITY GATE**
50' MINIMUM FOR 1 TO 49 HOMES OR APT. UNITS TO VISITOR CALL BOX.
100' MINIMUM FOR 50 TO 100 HOMES OR APT. UNITS TO VISITOR CALL BOX.
GREATER THAN 100 HOMES OR APT. UNITS REQUIRE TRAFFIC STUDY

### DIMENSIONS FOR SECURITY GATE
**CONTROLLED DRIVEWAY DETAIL**

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<tr>
<td>D. ISLAND : LENGTH-20' MINIMUM</td>
<td>WIDTH- 4' MINIMUM</td>
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<tr>
<td>G. 15' MINIMUM</td>
<td>E. 48' MINIMUM</td>
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<tr>
<td>H. 8' MINIMUM &amp; 15' MAXIMUM</td>
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**DETAIL FOR SECURITY GATE**
**CONTROLLED DRIVEWAYS**

- LOOP DETECTOR
- CALL BOX
- THROAT DEPTH

---

### SPECIFICATION REFERENCE

| UNIFORM STANDARD DRAWINGS |
| CLARK COUNTY AREA |
| COMMERICAL AND MULTI-FAMILY |
| SECURITY GATE GEOMETRICS |

| DATE 02-09-06 | DWG. NO. 222A | SHEET 2 OF 2 |
NOTES:

1. WHEN CONSTRUCTING DRIVEWAY WHERE CURB AND GUTTER EXISTS, COMPLETELY REMOVE INTERFERING PORTIONS OF EXISTING CURB AND GUTTER. DRIVEWAYS MAY BE MONOLITHIC TO A.C. LINE.

2. WEAKENED PLANE JOINTS SHALL BE UNIFORMLY PLACED BETWEEN 5' AND 7' INTERVALS, SEE STANDARD DRAWING NO. 234.

SPECIFICATION REFERENCE

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DATE 12-14-00  DWG. NO. 223  PAGE NO. 29
1. NO. 4Bars at 16" O.C. BOTH WAYS EXTENDING INTO GUTTER. NO. 4 BARS SHALL BE PLACED 3" ABOVE BOTTOM OF CONCRETE SUPPORTED BY NON-FERROUS CHAIRS APPROVED BY THE ENGINEER.

2. WHEN CONSTRUCTING DRIVEWAY WHERE CURB AND GUTTER EXISTS, COMPLETELY REMOVE INTERFERING PORTIONS OF EXISTING CURB AND GUTTER. DRIVEWAY SHALL BE MONOLITHIC TO A.C. LINE.

3. DRIVEWAY THICKNESS FOR INDUSTRIAL USE SHALL BE 8" MIN.

4. WEAKENED PLANE JOINTS SHALL BE EQUALLY SPACED AT 15" MAX. INTERVALS, SEE STANDARD DRAWING NO. 234.
NOTES:
1. SEPARATION OF PEDESTRIAN AND VEHICLE TRAFFIC MUST BE MAINTAINED ON SITE.
2. FOR GRADE CHANGES GREATER THAN 3%, VERTICAL CURVES OF AT LEAST 10 FEET MUST BE USED.
3. WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN THE CURB RETURN IN ACCORDANCE WITH STANDARD DRAWING NO. 235.
1. NO. 4 BARS AT 18" O.C. BOTH WAYS EXTENDING INTO GUTTER. NO. 4 BARS SHALL BE PLACED 3" ABOVE BOTTOM OF CONCRETE SUPPORTED BY NON-FERROUS CHAIRS APPROVED BY THE ENGINEER.

2. WHEN CONSTRUCTING DRIVEWAY WHERE CURB AND GUTTER EXISTS, COMPLETELY REMOVE INTERFERING PORTIONS OF EXISTING CURB AND GUTTER. DRIVEWAY SHALL BE MONOLITHIC TO A.C. LINE.

3. DRIVEWAY THICKNESS FOR INDUSTRIAL USE SHALL BE 8" MIN.

4. WEAKENED PLANE JOINTS SHALL BE EQUALLY SPACED AT 15' MAX. INTERVALS.

5. THIS DRIVEWAY DESIGN SHALL ALSO BE USED FOR ALLEY INTERSECTIONS, 8" MIN. THICKNESS.

6. SPECIAL DESIGNS SUBJECT TO APPROVAL OF THE ENGINEER.

WHEELCHAIR RAMP CURB FACE PROFILE

SPECIFICATION REFERENCE

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

(ALLOWABLE IN NORTH LAS VEGAS ONLY)

COMMERCIAL AND INDUSTRIAL DRIVEWAY (OPTION C)

DATE 12-14-00  DWG. NO.  226  PAGE NO.  32
NOTES:
1. FINISHED ASPHALT CONCRETE SURFACE TO BE FLUSH WITH CROSS GUTTER LIP.
2. ADJACENT SPANDREL SHALL BE 6" THICK P.C.C.
NOTES:
1. FINISHED ASPHALT CONCRETE SURFACE TO BE FLUSH WITH CROSS GUTTER LIP.
2. ADJACENT SPANDREL SHALL BE 9" THICK P.C.C.

SECTION A-A

SPECIFICATION REFERENCE

<table>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA
(HENDERSON ONLY)

HEAVY DUTY COMMERCIAL
DRIVEWAY
(SERVICE STATIONS, INDUSTRIAL, LOADING DOCKS, ETC.)

DATE 12-14-00  DWG. NO. 226.2  PAGE 32.2
NOTES:

1. NO. 4 BARS AT 16" O.C. BOTH WAYS CONTINUOUS THROUGH GUTTER. NO. 4 BARS SHALL BE PLACED 3" ABOVE BOTTOM OF CONCRETE.

2. WHEN CONSTRUCTING DRIVEWAY WHERE CURB AND GUTTER EXISTS, COMPLETELY REMOVE INTERFERING PORTIONS OF EXISTING CURB AND GUTTER. DRIVEWAY SHALL BE MONOLITHIC TO A.C. LINE.

3. DRIVEWAY THICKNESS SHALL BE 8" MIN.
NOTES:

1. FINISHED ASPHALT CONCRETE SURFACE TO BE FLUSH WITH CROSS GUTTER LIP.
2. CONSTRUCTION OF CROSS GUTTER IS NOT ALLOWED ACROSS MAJOR COLLECTOR OR ARTERIAL STREETS.
3. ADJACENT SPANDREL SHALL BE 9” THICK P.C.C.

SPECIFICATION REFERENCE

| 302 | AGGREGATE BASE |
| 501 | CONCRETE |
| 502 | CONCRETE STRUCTURES |
| 505 | REINFORCING STEEL |
| 707 | EXPANSION JOINT MATERIAL |

TT-S-00153A CLASS A SEALANT

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CROSS GUTTER

DATE 12-14-00  DWG. NO. 228  PAGE NO. 34
FOR DETAIL CONSTRUCTION SEE CROSS GUTTER STANDARD DRAWING NO. 228

PLAN

A.C. PAVEMENT, TYPE I & TYPE II AGGREGATE BASE TO CONFORM TO HALF STREET CONSTRUCTION

SECTION A-A

1/2" EXPANSION JOINT WITH SILICONE SEALANT SEE STANDARD DRAWING NO. 233

WHEN SECOND HALF OF CROSS GUTTER CONSTRUCTED, DRILL EXISTING CONCRETE AND EPOXY FIVE EQUALLY SPACED 1/2" MIN. DIAMETER CORROSION RESISTANT RODS (EPOXY OR GALVANIZED).

DETAIL FOR FUTURE CONSTRUCTION

SPECIFICATION REFERENCE

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HALF STREET CROSS GUTTER

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

DATE | DWG. NO. | PAGE NO.
-----|----------|--------
      | 229      | 35     
NOTE:

CONCRETE AND BASE THICKNESS TO BE DETERMINED BY ENGINEERING ANALYSIS BASED ON TRAFFIC CONDITIONS, SUBGRADE STRENGTH, QUALITY OF BASE, AND FLEXURAL STRENGTH OF CONCRETE.
1/2" EXPANSION JOINT AT 30' INTERVALS, AT COLD JOINTS AND AT BEGINNING AND END OF RETURN.
EXPANSION JOINTS TO MATCH LOCATION MATCH LOCATION OF CURB AND GUTTER EXPANSION JOINT.

1/2" R
SLOPE 1/4" PER FOOT
4" CONCRETE
6" MIN. TYPE I OR TYPE II AGGREGATE BASE
TYPE II AGGREGATE BASE AT 90% COMPACTION SEE NOTE 2

1/2" R
VARIES
1/2" R
6" MIN.

NOTES:
1. ON ALL CURB RETURNS A 1/2" EXPANSION JOINT SHALL BE CONSTRUCTED BETWEEN THE BACK OF CURB AND THE SIDEWALK FOR THE ENTIRE LENGTH OF THE RETURN.
2. THE TYPE II AGGREGATE BASE THICKNESS IS SHOWN ON THE TYPICAL SECTION DRAWINGS 202 - 207.
3. LONGITUDINAL WEAKENED PLANE JOINT REQUIRED AT MIDPOINT OF SIDEWALK 10' OR WIDER.
NOTES:

1. SIDEWALK RAMP MAY BE REQUIRED TO BE CONSTRUCTED IN THOSE LOCATIONS WHERE THE BUS STOP WOULD OTHERWISE BE INACCESSIBLE AS DEFINED BY THE AMERICANS WITH DISABILITIES ACT. SEE DRAWING NO. 235, SHEET 4 OF 4 FOR SIDEWALK RAMP DETAILS.

2. ADDITIONAL RIGHT-OF-WAY OR EASEMENT IS REQUIRED FOR BUS SHelter PAD AND VARIABLE HEIGHT CURB AT BACK OF SIDEWALK RAMP AND SHALL BE DE legATED TO THE LOCAL ENTITY.

3. CONCRETE FOR BUS SHelter PAD SHALL BE 5 INCHES THICK SLAB WITH 6X6 - W2.9 X W2.9 WELDED WIRE FABRIC AT MID-POINT AND TYPE II AGGREGATE BASE SHALL BE 6 INCHES THICK.

4. BUS SHelter PAD CONNECTION TO DETACHED SIDEWALK CONDITION SHALL BE DETERMINED BY THE ENTITIES.

5. "A" = 10', "B" = 15' UNLESS BUS TURNOVER IS CONSTRUCTED PER STANDARD DRAWINGS 234.1 OR 234.3, THEN "A" = 5', "B" = 10'.

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<td>501 CONCRETE</td>
<td>TYPICAL BUS STOP PASSENGER</td>
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<td>502 CONCRETE STRUCTURES</td>
<td>LOADING AND SHelter PADS</td>
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DATE 8-10-10          DWG. NO. 234.2
NOTES:

1. SIDEWALK RAMP MAY BE REQUIRED TO BE CONSTRUCTED IN THOSE LOCATIONS WHERE THE BUS STOP WOULD OTHERWISE BE INACCESSIBLE AS DEFINED BY THE AMERICANS WITH DISABILITIES ACT. SEE DRAWING NO. 235, SHEET 4 OF 4 FOR SIDEWALK RAMP DETAILS.

2. ADDITIONAL RIGHT-OF-WAY OR EASEMENT IS REQUIRED FOR BUS SHELTER PAD AND VARIABLE HEIGHT CURB AT BACK OF SIDEWALK RAMP AND SHALL BE DEDICATED TO THE LOCAL ENTITY.

3. CONCRETE FOR BUS SHELTER PAD SHALL BE 5 INCHES THICK SLAB WITH 6X6 - W2.9 X W2.9 WELDED WIRE FABRIC AT MID-POINT AND TYPE II AGGREGATE BASE SHALL BE 8 INCHES THICK.

4. BUS SHELTER PAD CONNECTION TO DETACHED SIDEWALK CONDITION SHALL BE DETERMINED BY THE ENTITIES.

5. *A* = 10', *B* = 15' UNLESS BUS TURNOUT IS CONSTRUCTED PER STANDARD DRAWINGS 234.1 OR 234.3, THEN *A* = 6', *B* = 10'.

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<td>302 AGGREGATE BASE</td>
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DATE 6-10-10  DWG. NO. 234.2A
Effective 01/01/11 - 06/30/11

COMMERCIAL DRIVEWAY INTO PROPERTY

SPECIFICATION REFERENCE
302 AGGREGATE BASE
501 CONCRETE
502 CONCRETE STRUCTURES
628 PAINTING TRAFFIC STRIPING,
   PAVEMENT MARKINGS...

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA
BUS STOP PLACEMENT WITHIN
EXCLUSIVE RIGHT TURN LANE
FOR COMMERCIAL PROPERTIES

DATE 12-08-09 DWG. NO. 234.3

NOTES:
1. IF ARTICULATED BUSES ARE EXPECTED TO SERVICE BUS STOP, DISTANCE FROM END OF ENTRY TAPER TO THE END OF THE BUS STOP LANE WILL BE INCREASED TO 120 FT.
2. STORAGE LANE LENGTH SHALL BE INCREASED TO 70 FT.
3. STORAGE LANE SHALL BE APPROVED BY THE ENGINEER, RAISED PAVEMENT MARKERS MAY BE USED.
4. REVERSE CURVE TRANSITION MAY BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
**RAMP IN CURB RETURN**

**RAMP OUTSIDE CURB RETURN**

**PROFILE**

**EXISTING OR PROPOSED WALK**

"A" AND "B" ARE EQUAL TO 8' WHEN FLOW LINE GRADE IS BETWEEN -2% AND +2%. FOR "A" AND "B" AT OTHER FLOW LINE GRADES, SEE TABLE 1 SHEET 4 THIS DRAWING NO.

"A" MIN. - "B" MIN. - 1' MIN. - 4' MIN. - 1' MIN. - 24" MIN. - 24" MIN.

**VARIABLE HEIGHT MONOLITHIC CURB (SEE NOTE 5)**

**SECTION C-C**

**NOTES:**

1. SIDEWALK RAMPS OUTSIDE OF THE CURB RETURN SHALL BE LOCATED ADJACENT TO THE RETURN UNLESS OTHERWISE APPROVED.
2. RAMPS SHALL BE CONSTRUCTED WITH A ROUGH BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP.
3. WHEN CONSTRUCTING RAMP WHERE CURB & GUTTER EXISTS, COMPLETELY REMOVE INTERFERING PORTIONS OF EXISTING CURB & GUTTER.
4. DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES WHICH COMPLY WITH DETAILS ON SHEET 4 OF THIS DRAWING NO. AND CONTRASTING VISUALLY WITH ADJOINING SURFACES SHALL BE PLACED ON BOTTOM PORTION OF RAMP EXTENDING THE FULL WIDTH OF THE RAMP AND TO A MINIMUM DEPTH OF 24 INCHES. PAVER BLOCKS PERMITTED ONLY IN THE CITY OF BOULDER CITY FOR DETECTABLE WARNING AREAS.
5. CURB MAY BE PLACED AND IS PREFERRED BEHIND BACK OF WALK IF SUFFICIENT RIGHT-OF-WAY OR EASEMENTS EXIST AND AS APPROVED BY THE ENGINEER.

**PROFILE**

**SPECIFICATION REFERENCE**

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<td>502</td>
<td>CONCRETE STRUCTURES</td>
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**UNIT WALLS STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**SIDEWALK RAMP**

**CASE 1**

**DATE 11-8-07**

**DWG. NO. 235**
RAMP IN CURB RETURN
(NO BACK OF WALK DEPRESSION)

BACK OF WALK AREA

"X" VARIES
4" MIN.

"A" AND "B" ARE EQUAL TO 6.5' WHEN FLOW LINE GRADE IS BETWEEN -2% AND +2%. FOR "A" AND "B" AT OTHER FLOW LINE GRADES, SEE TABLE 2 SHEET 4 THIS DRAWING NO. FOR ALL "A" AND "B" MAX. SIDE SLOPE IS EQUAL TO 1:10.

SECTION C-C

NOTES:
1. SIDEWALK RAMP WITHIN CURB RETURN SHALL BE LOCATED AT THE MIDPOINT OF CURB RETURN UNLESS OTHERWISE APPROVED.
2. RAMPS SHALL BE CONSTRUCTED WITH A ROUGH BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP.
3. WHEN CONSTRUCTING RAMP WHERE CURB & GUTTER EXISTS, COMPLETELY REMOVE INTERFERING PORTIONS OF EXISTING CURB & GUTTER.
4. DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES WHICH COMPLY WITH DETAILS ON SHEET 4 OF THIS DRAWING NO. AND CONTRASTING VISUALLY WITH ADJOINING SURFACES SHALL BE PLACED ON BOTTOM PORTION OF RAMP EXTENDING THE FULL WIDTH OF THE RAMP AND TO A MINIMUM DEPTH OF 24 INCHES. PAVER BLOCKS PERMITTED ONLY IN THE CITY OF BOULDER CITY FOR DETECTABLE WARNING AREAS.

PROFILE

CASE II SHALL BE USED WHERE R/W AND FIELD CONDITIONS PERMIT.

SPECIFICATION REFERENCE

<table>
<thead>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SIDEWALK RAMP
CASE II

DATE 11-10-04  DWG. NO. 235  (2 OF 4)  PAGE 41A
RAMP IN CURB RETURN

RAMP OUTSIDE CURB RETURN

PROFILE

CASE III TO BE USED FOR AREAS WHERE OBSTRUCTION (I.E. BLOCK WALL) EXISTS AT BACK OF WALK ONLY WHEN APPROVED BY THE ENGINEER.

NOTES:
1. SIDEWALK RAMP WITHIN CURB RETURN SHALL BE LOCATED AT THE MIDPOINT OF CURB RETURN UNLESS OTHERWISE APPROVED.
2. SIDEWALK RAMPS OUTSIDE OF THE CURB RETURN SHALL BE LOCATED ADJACENT TO THE RETURN UNLESS OTHERWISE APPROVED.
3. RAMPS SHALL BE CONSTRUCTED WITH A ROUGH BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP.
4. WHEN CONSTRUCTING RAMP WHERE CURB & GUTTER EXISTS, COMPLETELY REMOVE INTERFERING PORTIONS OF EXISTING CURB & GUTTER.
5. DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES WHICH COMPLY WITH DETAILS ON SHEET 4 OF THIS DRAWING NO. AND CONTRASTING VISUALLY WITH ADJOINING SURFACES SHALL BE PLACED ON BOTTOM PORTION OF RAMP EXTENDING THE FULL WIDTH OF THE RAMP AND TO A MINIMUM DEPTH OF 24 INCHES. PAVER BLOCKS PERMITTED ONLY IN THE CITY OF BOULDER CITY FOR DETECTABLE WARNING AREAS.

SPECIFICATION REFERENCE

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SIDEWALK RAMP

CASE III

DATE 11-10-04 DWG. NO. 235 (3 OF 4) PAGE 41B
Effective 01/01/11 - 06/30/11

**DOME SECTION**

- **BASE DIAMETER**: 0.9" - 1.4"
- **0.65" MIN.**
- **50%-65% OF THE BASE DIAMETER**
- **1.6" - 2.4"**
- **0.2"**

**DETECTABLE WARNING DETAILS (TRUNCATED DOMES)**

<table>
<thead>
<tr>
<th>GRADE (%)</th>
<th>&quot;A&quot; (FT) MIN</th>
<th>&quot;B&quot; (FT) MIN</th>
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<td>4.5</td>
<td>21.5</td>
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<td>-5 TO -4.01</td>
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<td>15.0</td>
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<td>-4 TO -3.01</td>
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<td>-3 TO -2.01</td>
<td>4.5</td>
<td>9.5</td>
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<td>-2 TO 2</td>
<td>8.0</td>
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<tr>
<td>2.01 TO 3</td>
<td>9.5</td>
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<td>3.01 TO 4</td>
<td>12.0</td>
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<td>4.01 TO 5</td>
<td>15.0</td>
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</tr>
<tr>
<td>5.01 TO 6</td>
<td>21.5</td>
<td>4.5</td>
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**TABLE 1. TRANSITION LENGTHS FOR 1:12 SIDE SLOPES**

<table>
<thead>
<tr>
<th>GRADE (%)</th>
<th>&quot;A&quot; (FT) MIN</th>
<th>&quot;B&quot; (FT) MIN</th>
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<td>2.01 TO 3</td>
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<td>3.01 TO 4</td>
<td>8.5</td>
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<td>4.01 TO 5</td>
<td>10.0</td>
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<tr>
<td>5.01 TO 6</td>
<td>12.5</td>
<td>4.0</td>
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**TABLE 2. TRANSITION LENGTHS FOR 1:10 SIDE SLOPES**

**NOTE:**
CHARTS APPLY TO CURB WITH 6" CURB FACE.
IF CURB HAS GREATER THAN A 6" CURB FACE,
A SPECIAL DESIGN IS REQUIRED.

---

**SPECIFICATION REFERENCE**

- 302 AGGREGATE BASE
- 501 CONCRETE
- 502 CONCRETE STRUCTURES

**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**SIDEWALK RAMP DETAILS**

**DATE 6-8-06**
**DWG. NO. 235**
**(4 OF 4)**
**PAGE 41C**
NOTES:

1. THE TYPICAL LOCATIONS OF SIDEWALK RAMPS SHOWN ABOVE ARE INTENDED TO MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA). AT LEAST ONE SIDEWALK RAMP SHALL BE CONSTRUCTED OPPOSITE THE INTERSECTING ROADWAY. ADDITIONAL SIDEWALK RAMPS MAY BE REQUIRED BY THE ENGINEER TO PROVIDE A CONTINUOUS UNOBSSTRUCTED PEDESTRIAN CIRCULATION PATH AS DEFINED BY THE ADA.

2. SIDEWALK RAMP LOCATIONS SHOWN ARE FOR INTERSECTIONS WITH UNMARKED CROSSWALKS. IF A PEDESTRIAN CROSSING AREA IS MARKED, SIDEWALK RAMPS SHALL BE LOCATED WITHIN THE MARKED CROSSWALKS AS APPROVED BY THE ENGINEER.
NOTES:

1. IF WIDTH OF PLATE IS GREATER THAN 24", A SPECIAL DESIGN IS REQUIRED.

2. ALL EXPOSED METAL PARTS SHALL BE GALVANIZED AND ALL GALVANIZING DAMAGED BY FABRICATION OR INSTALLATION SHALL RECEIVE TWO COATS OF ALUMINUM PAINT (GALVONOX OR EQUAL).
NOTES:

1. TRANSVERSE JOINTS WITH 1" PREMOLDED EXPANSION JOINT FILLER OR 1" OPEN TRANSVERSE JOINTS SHALL BE PLACED AT STRUCTURES. JOINTS IN BARRIER RAIL OVER A STRUCTURE SHALL BE AT THE SAME LOCATION AND OF THE SAME DIMENSION AS THOSE IN THE STRUCTURE.

2. BITUMINOUS PAVING REQUIRED: PAVING SHALL BUTT AGAINST THE BARRIER RAIL END ANCHOR SECTION AND SHALL EXTEND FULL WIDTH UNDER THE NORMAL BARRIER RAIL SECTION PLUS 6" MINIMUM 6-INCH DEEP BARRIER, END ANCHORS SHALL BE CONSTRUCTED IN THE FIRST AND LAST 10 LINEAR FEET OF THE FULL HEIGHT BARRIER RAIL RUN. IF TRANSITIONS ARE USED, THE ANCHOR SHALL BE EXTENDED UNDER THE TRANSITION.
1. PRECAST BUMPER BLOCK TO BE USED IN PARKING LOTS ONLY.

2. GROUT HOLE BEFORE DRIVING SPIKE. AFTER DRIVING SPIKE, FILL HOLE WITH CONCRETE MORTAR AND FINISH FLUSH WITH TOP.

STEEL WIRE BRIDGE SPIKE

1/2" DEFORMED BAR TO STAY 1" MIN. INSIDE CONCRETE

TOP VIEW

HOLE DETAIL

SIDE VIEW

END VIEW

SPECIFICATION REFERENCE

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<tr>
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<td>REINFORCING STEEL</td>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

PRECAST BUMPER BLOCK

DATE 12-14-00  DWG. NO. 238  PAGE NO. 44
NOTE:
TYPE I MONUMENTS TO BE SET AT ALL SECTION CORNERS AND 1/4 SECTION CORNERS WHICH FALL WITHIN IMPROVED STREET SECTIONS, AND MARKED IN ACCORDANCE WITH THE 1973 B.L.M. MANUAL OF SURVEYING INSTRUCTIONS.

SPECIFICATION REFERENCE

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<th>Code</th>
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<td>621</td>
<td>MONUMENTS</td>
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<td>704</td>
<td>BASE AGGREGATE</td>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPE I MONUMENT
NOTES:

1. TYPE II-A MONUMENTS TO BE SET AT ALL SECTION CORNERS, 1/4 SECTION CORNERS AND 1/16 SECTION CORNERS WHICH FALL WITHIN UNIMPROVED STREET SECTIONS.

2. TYPE II-B MONUMENTS TO BE SET AT ALL 1/16 SECTION CORNERS WHICH FALL WITHIN IMPROVED STREET SECTIONS.

3. ALL TYPE II MONUMENTS ARE TO BE MARKED IN ACCORDANCE WITH THE 1973 B.L.M. MANUAL OF SURVEYING INSTRUCTIONS.

4. 6" x 6" SQUARE MONUMENTS ARE ALSO ACCEPTABLE.

5. IF MONUMENTS ARE TO BE "PRECAST" THEY ARE TO BE EMBEDDED IN FRESH CONCRETE TO PREVENT MOVEMENT.

6. THE COUNTY/CITY SURVEYOR MAY REQUIRE TYPE II MONUMENTS IN ADDITIONAL LOCATIONS.

---

SURFACE OF UNPAVED STREET

---

4" MIN.
18" MAX.

---

BRONZE OR BRASS CAP
(SEE DETAIL STANDARD DRAWING NO. 242, NOT TO BE MARKED BY CONTRACTOR).

5/8" MIN. DIA. REBAR
SET A MIN. OF 4" BELOW TOP OF CONCRETE AT APPROXIMATE CENTER.

---

SECTION A-A

TYPE II-A

UNPAVED STREET

---

SECTION A-A

TYPE II-B

PAVED STREET

---

SPECIFICATION REFERENCE

| 501 | CONCRETE |
| 621 | MONUMENTS |

---

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

---

TYPE II MONUMENT

---

DATE 12-14-00 DWG. NO. 240 PAGE NO. 46
NOTES:

1. TYPE III MONUMENTS TO BE SET AT ALL CENTERLINE CONTROL POINTS NOT OTHERWISE IDENTIFIED BY A TYPE I OR TYPE II MONUMENT, INCLUDING STREETS INTERSECTIONS, POINTS OF CURVATURE, POINTS OF TANGENCY, POINTS OF INTERSECTION AND CENTERS OF HAMMERHEAD TURNAROUNDS OR CIRCULAR CUL-DE-SACs.

2. THE REGISTERED LAND SURVEYOR'S NUMBER, AND A PUNCH MARK ARE TO APPEAR ON THE SURFACE OF THE CAP.

CAP TO BE SECURED WITH PLASTIC INSERT OR EPOXY CONFORMING TO A.S.T.M. C881-78 SPECIFICATIONS.

5/8" MIN. DIA. REBAR OF SUFFICIENT LENGTH TO RESIST REMOVAL

NOTE:
(MINIMUM 1" DIA.
NON-FERROUS CAP TO BE SET BY REGISTERED LAND SURVEYOR.)
NOTES:

1. FOUR (4) TYPE IV REFERENCE MONUMENTS TO BE SET WITHIN A RADIUS OF TWENTY (20) TO ONE HUNDRED (100) FEET FROM ALL TYPE I, II, AND III MONUMENTS.

2. THE TIE DISTANCE AND THE INITIALS R.M. ARE TO BE STAMPED ON THE CAP, FOR TYPE IV MONUMENTS.

3. NON-FERROUS CAP TO BE MADE FROM CAST VIRGIN METAL IN ONE PIECE, FREE FROM CASTING IMPERFECTIONS, WITH CORRUGATED SHAFT.

4. TYPE III AND TYPE IV MONUMENT CAP DIAMETER MAY BE REDUCED TO 1".

MINIMUM 5/8" DIA. REBAR SET A MINIMUM OF 4" BELOW TOP OF CONCRETE AT APPROX. CENTER.

NON-FERROUS CAP (SEE DETAIL)
INSET IN TOP OF CURB, BONDED SECURELY WITH EPOXY,
(A.S.T.M. C681 - 78 SPECS.)

PUNCH MARK
SEE NOTE 2

R.M.

P.L.S. NO. ___

2"
DIAMETER CAP
(SEE NOTE 4)

5/8" 0/MIN.
DIA. FOR SHAFT

2-1/2"

DETAIL
STANDARD CAP

TYPE IV-A MONUMENT
EXISTING CURB & GUTTER

TYPE IV-B MONUMENT
NO CURB & GUTTER

SPECIFICATION REFERENCE

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<td>CLARK COUNTY AREA</td>
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<tr>
<td>621 MONUMENTS</td>
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</table>

TYPE IV MONUMENT

DATE 12-14-00   DWG. NO. 242   PAGE NO. 48
LEGEND

P.C. - POINT OF CURVE
P.R.C. - POINT OF REVERSE CURVE
P.T. - POINT OF TANGENCY
C - CENTERLINE
B.C. - BACK OF CURB
P.I. - POINT OF INTERSECTION
R/W - RIGHT-OF-WAY

● - TYPE I, II, OR III MONUMENT
○ - TYPE III MONUMENT
○ - TYPE IV A OR IV B REFERENCE MONUMENT

TYPE IV - A MONUMENT NEAR LIMITS OF CURB RETURN

TYPE IV - B MONUMENT BURIED IN P.I. OF R/W WHERE CURBING DOES NOT EXIST

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPICAL MONUMENT LOCATION

DATE | DWG. NO. | PAGE NO.
-----|----------|--------

Effective 01/01/11 - 06/30/11
TYPE 4 LANE LINE
(DIVIDED, UNDIVIDED OR ONE-WAY ROADWAY)
120 FT. STREET WITH BIKE LANE (WITHOUT PARKING)

100 FT. STREET WITH BIKE LANE (WITH PARKING/EMERGENCY LANE)

120 FT. STREET WITH BIKE LANE (WITHOUT PARKING)

100 FT. STREET WITH SHARED BIKE/VEHICLE LANE (WITHOUT PARKING)

* THE WIDTH OF TRAVEL LANES ADJACENT TO BIKE LANES MAY VARY FROM 12 FT. TO 16 FT.
WIDTHS OF INTERIOR TRAVEL LANES MAY VARY FROM 11 FT. TO 13 FT.

NOTES:
1. LANE LINE DELINEATION SHALL COMPLY WITH STANDARD DRAWING NOS. 244 & 244A.
2. IN SOME CASES, A MEDIAN WILL EXIST INSTEAD OF TWO-WAY LEFT TURN LANE.
3. BIKE LANES MUST BE A MINIMUM OF 4 FT. AND NO GREATER THAN 8 FT. WIDE;
   HOWEVER, A WIDTH OF 5 FT. IS PREFERRED.
4. WHERE 6 FT. SIDEWALK EXISTS, WIDTH OF MEDIAN MAY BE REDUCED BY 2 FT. OR
   TRAVEL LANES MAY BE REDUCED TO 11 FT.
5. ALL CURB LANES ARE MEASURED TO LIP OF GUTTER OR EDGE OF PAVEMENT
   IF CURB AND GUTTER DO NOT EXIST.

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<tr>
<td>628 PAINTING TRAFFIC STRIPING</td>
<td>TYPICAL DELINEATION FOR ROADWAYS 100 FT. OR GREATER RIGHT-OF-WAY WITH CURB SIDEWALK</td>
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<td>633 PAVEMENT MARKERS</td>
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DATE 7-10-03  DWG. NO. 244.1  PAGE NO. 50.1
NOTES:
1. LANE LINE DELINEATION SHALL COMPLY WITH STANDARD DRAWING NO. 244 & 244A.
2. BIKE LANES TO BE PROVIDED IF SEGMENT CONNECTS TO OTHER BIKE LANES OR IF ROADWAY SEGMENT IS 1 MILE OR GREATER. IF BIKE LANE IS NOT PROVIDED, TRAVEL LANES SHOULD REMAIN AT DIMENSIONS SHOWN SO A BICYCLE LANE COULD BE PROVIDED IN THE FUTURE. SEE DRAWING NUMBER 246.1 FOR BIKE LANE SIGNING AND STRIPING DETAILS.
3. ALL CURB LANES ARE MEASURED TO LIP OF GUTTER OR EDGE OF PAVEMENT IF CURB AND GUTTER DO NOT EXIST.
4. CONTACT THE LOCAL JURISDICTIONAL FOR DEVELOPMENT REQUIREMENTS FOR THE AREA BETWEEN THE CURB AND SIDEWALK.

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TYPICAL DELINEATION FOR ALTERNATE ROADWAYS WITH OFFSET SIDEWALK

DATE 7-10-03  DWG. NO. 244.1 ALT  PAGE NO. 50.1ALT
80 FT. STREET WITH BIKE LANE
(WITHOUT PARKING/EMERGENCY LANE)

80 FT. STREET WITH BIKE LANE
(WITH PARKING ON ONE SIDE)

80 FT. STREET WITH BIKE LANE
(WITH PARKING ON BOTH SIDES)

NOTES:
1. LANE LINE DELINEATION SHALL COMPLY WITH STANDARD DRAWING NOS. 244 & 244A.
2. BIKE LANES MUST BE A MINIMUM OF 4 FT. AND NO GREATER THAN 8 FT. WIDE; HOWEVER, A WIDTH OF 5 FT. IS PREFERRED.
3. WHERE 6 FT. SIDEWALK EXISTS, WIDTH OF MEDIAN MAY BE REDUCED BY 2 FT. OR TRAVEL LANES MAY BE REDUCED TO 11 FT.
4. ALL CURB LANES ARE MEASURED TO LIP OF GUTTER OR EDGE OF PAVEMENT IF CURB AND GUTTER DO NOT EXIST.
**NOTES:**

1. LANE LINE DELINEATION SHALL COMPLY WITH STANDARD DRAWING NO. 244 & 244A.
2. BIKE LAKES MUST BE A MINIMUM OF 4 FT. AND NO GREATER THAN 8 FT. WIDE; HOWEVER, A WIDTH OF 5 FT. IS PREFERRED.
3. WHERE 6 FT. SIDEWALK EXISTS, WIDTH OF MEDIAN MAY BE REDUCED BY 2 FT. OR TRAVEL LAKES MAY BE REDUCED TO 11 FT.
4. ALL CURB LAKES ARE MEASURED TO LIP OF GUTTER OR EDGE OF PAVEMENT IF CURB AND GUTTER DO NOT EXIST.

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<td>TYPICAL DELINEATION FOR ROADWAYS 80 FT. RIGHT-OF-WAY WITH CURBSIDE SIDEWALK</td>
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</table>

DATE  7-10-03  DWG. NO. 244.2A  PAGE NO. 50.2A
ALT. A

BIKE LANE

6" SOLID WHITE LINE 
(TAPE OR PAINT)

PARKING LANE

ALT. B

BIKE LANE

6" SOLID WHITE LINE 
(TAPE OR PAINT)

PARKING LANE

ALT. C

BIKE LANE

6" SOLID WHITE LINE 
(TAPE OR PAINT)

PARKING LANE

NOTES:

1. LANE LINE DELINEATION SHALL COMPLY WITH STANDARD DRAWING NO. 244 & 244A.

2. BIKE LANES MUST BE A MINIMUM OF 4 FT. AND NO GREATER THAN 8 FT. WIDE; HOWEVER, A WIDTH OF 5 FT. IS PREFERRED.

3. ALL CURB LANES ARE MEASURED TO LIP OF GUTTER OR EDGE OF PAVEMENT IF CURB AND GUTTER DO NOT EXIST.

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPICAL DELINEATION FOR BIKE FACILITIES
60 FT. RIGHT-OF-WAY
(PARKING ON BOTH SIDES)

DATE 6-8-95 DWG. NO. 244.3 PAGE NO. 50.3
NOTES:
1. LANE LINE DELINEATION SHALL COMPLY WITH STANDARD DRAWING NO. 244 & 244A.
2. BIKE LANE MUST BE MINIMUM OF 5 FEET WHERE ADJACENT TO A PARKING LANE, 4 FEET MINIMUM IN OTHER CASES AND NO GREATER THAN 8 FEET WIDE.
3. ALL CURB LACES ARE MEASURED TO THE EDGE OF PAVEMENT. THE TOP OF PAVEMENT SHALL BE FLUSH WITH GUTTER.
4. BICYCLE LANE SHALL BE ON RIGHT SIDE OF ONE-WAY ROADWAYS, EXCEPT IN LIMITED SITUATIONS, SUCH AS WHEN THERE ARE SIGNIFICANTLY LESS POTENTIAL CONFLICTS ALONG THE LEFT SIDE OF THE ROADWAY OR WHEN SIGNIFICANT BICYCLE TRIP GENERATION ARE ALONG THE LEFT SIDE OF THE ROADWAY.
5. SEE DRAWING NO. 244.5 FOR BIKE LANE SIGNAGE DETAILS.

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BICYCLE LANE DELINEATION ON ONE-WAY STREET

DATE 7-10-03  DWG. NO. 244.4  PAGE NO. 50.4
BIKE LANE Delineation and Legend

Notes:
1. Bike lane legends shall be approved type II pavement marking film and shall be slip resistant.
2. Bike lane lines shall be approved type II pavement marking film and shall be slip resistant.
3. Bike lanes must be a minimum of 5 feet when adjacent to a parking lane, 4 feet minimum in other cases and no greater than 8 ft wide; however, a width of 6 feet is preferred.
5. Per the MUTCD latest edition, bicycle lane signs shall be used in advance of the beginning of a marked bicycle lane.
6. The bike lane signage shall be Class B sheeting.

<table>
<thead>
<tr>
<th>Specification Reference</th>
<th>Uniform Standard Drawings Clark County Area</th>
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<td>Bicycle lane delineation, legend, and signage</td>
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Date 12-08-09  Dwg. No.  244.5
FORM ENTIRE ISLAND USING RAISED PAVEMENT MARKER PATTERN FOR TRANSITION AREA

\[ T \text{ OR } L = \frac{(W \text{ OR } X)^2}{60} \quad (\text{DESIGN SPEED 40 MPH OR LESS}) \]
\[ = (W \text{ OR } X) \quad (\text{DESIGN SPEED 45 MPH OR GREATER}) \]

NOTE:
SEE SHEET 3 THIS DRAWING NUMBER IF PATTERN IS TO BE USED AT A GORE POINT TO DIVIDE TRAFFIC MOVING IN SAME DIRECTION.
NOTE:
PAINT MAY BE USED IN LIEU OF TAPE AND/OR RAISED PAVEMENT MARKERS
AT THE DISCRETION OF THE ENGINEER.

SPECIFICATION REFERENCE

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<tr>
<td>633</td>
<td>PAVEMENT MARKERS</td>
</tr>
</tbody>
</table>

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

DETAILS FOR
TYPICAL LANE DELINEATION IN
TRANSITION SECTIONS

DATE 6-11-93  DWG. NO. 245 (2 OF 3)  PAGE NO. 51A
**Effective 01/01/11 - 06/30/11**

**300' TYP. STORAGE**

**62.45' TYP. FOR REVERSE CURVE TAPER**

**100'**

**RADIUS**

**EXCLUSIVE RIGHT TURN LANE**

**ADDITIONAL 10' RIGHT-OF-WAY DEDICATION REQUIRED FOR EXCLUSIVE RIGHT TURN LANE**

**SYMMETRICAL REVERSE CURVE**

**(STRAIGHT LINE TAPER MAY BE SUBSTITUTED AS APPROVED BY ENGINEER)**

**225' TYP. TRANSITION**

**50' TYP.**

**FOR ROADWAYS WITH DEDICATED BIKE LANE, REDUCE TWO-WAY LEFT LANE TO 12 FT., MEDIAN ISLAND TO 2 FT., AND OUTSIDE TRAVEL LANES TO 11 FT.**

---

**SPECIFICATION REFERENCE**

**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**TYPICAL LANE CONFIGURATION FOR MAJOR STREET INTERSECTIONS AND MEDIAN DETAIL**

**CASE II - WITH CURBSIDE SIDEWALK**

**DATE** 7-10-03  **DWG. NO.** 245.1 (2 OF 2)  **PAGE NO.** 51.1A
**NOTES:**

1. SIDEWALK SHOULD BE OFFSET THROUGH THE INTERSECTION WITH A CURB RAMP CONNECTING THE SIDEWALK TO THE CROSSWALK. NO ABOVE-GROUND OBJECTS SHALL BE PLACED WITHIN THE SIDEWALK. CONTACT THE LOCAL JURISDICTION FOR DEVELOPMENT REQUIREMENTS FOR THE AREA BETWEEN THE CURB AND SIDEWALK.
NOTES:
1. LENGTH OF STORAGE LINE IS TWO THIRDS OF THE ADDED TURN BAY. (MIN. 100')
2. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, INSTALL R3-7R SIGN; ARROW SYMBOL AND "ONLY" SYMBOL PAVEMENT MARKINGS FOR THE LENGTH OF THE STORAGE LINE. SYMBOLS SHALL BE APPROVED TYPE I PAVEMENT MARKING FILM.
3. APPROVED TYPE II PAVEMENT MARKING FILM OR RAISED PAVEMENT MARKERS MAY BE USED FOR ADDITIONAL GUIDANCE AT THE DISCRETION OF THE ENGINEER.
4. STORAGE LANE LINE SHALL BE APPROVED TYPE II PAVEMENT MARKING FILM OR IF APPROVED BY THE ENGINEER, RAISED PAVEMENT MARKERS MAY BE USED.

SPECIFICATION REFERENCE

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<tr>
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<td>PAINTING TRAFFIC STRIPING, PAVEMENT MARKINGS...</td>
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</table>

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STANDARD PAVEMENT MARKERS
ADDED TURN LANE

DATE 4-8-99  DWG. NO. 246  PAGE NO. 52
REVERSE CURVE TRANSITION

STRAIGHT TRANSITION

NOTES:
1. LENGTH OF STORAGE LANE LINE IS TWO THIRDS OF THE TURN LANE STORAGE LENGTH.
2. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, INSTALL ARROW AND "ONLY" SYMBOL PAVEMENT MARKINGS FOR THE LENGTH OF THE STORAGE LINE.
3. PAVEMENT MARKINGS SHALL BE TYPE I TAPE OR PAINT AS DIRECTED BY THE ENGINEER.
4. INSTALL "NO PARKING" SIGNS FOR ENTIRE LENGTH OF TURN LANE. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, INSTALL R3-7R SIGNS.
NOTES:
1. STORAGE LENGTH TO BE DETERMINED BY TRAFFIC ENGINEER.
2. SEE DRAWING NO. 244.5 FOR BIKE LANE LEGEND AND SIGNAGE.
3. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE TRAFFIC ENGINEER, INSTALL R3-7R SIGN, ARROW SYMBOL AND "ONLY" SYMBOL PAVEMENT MARKINGS FOR THE LENGTH OF THE STORAGE LINE. APPROVED TYPE II PAVEMENT MARKING FILM SHALL BE USED FOR SYMBOL MARKINGS.
4. SEE DRAWING NO. 248 NOTE 1 FOR STANDARD PAVEMENT MARKERS ADDED TURN LANE.
WITH EXCLUSIVE RIGHT-TURN LANE

NOTES:
1. STORAGE LENGTH TO BE DETERMINED BY TRAFFIC ENGINEER.
2. SEE DRAWING NUMBER 244.5 FOR BIKE LANE LEGEND AND SIGNAGE.
3. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, INSTALL R3-7R SIGN, ARROW SYMBOL AND "ONLY" SYMBOL PAVEMENT MARKINGS FOR THE LENGTH OF THE STORAGE LANE. APPROVED TYPE II PAVEMENT MARKING FILM SHALL BE USED FOR SYMBOL MARKINGS.
4. SEE DWG. 246 NOTE 1 FOR STANDARD PAVEMENT MARKERS ADDED TURN LANE.
5. THE ABOVE DETAIL SHOULD BE FOLLOWED IN SITUATIONS WHERE THERE IS NOT ADEQUATE SPACE TO PROVIDE A SEPARATE BICYCLE LANE.

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

BICYCLE LANE TRANSITION TO SHARED LANE AT INTERSECTION

SPECIFICATION REFERENCE

628 PAINTING TRAFFIC STRIPING
633 PAVEMENT MARKERS

DATE 12-08-08 DWG. NO. 246.2
NOTES:
1. FORCED RIGHT-TURN LANES AND LONG RIGHT TURN POCKETS ARE NOT DESIRABLE FOR BICYCLISTS AND SHOULD
   BE AVOIDED WHEN POSSIBLE.
2. SEE DRAWING NO. 244.5 FOR BIKE_LANE DELINEATION, LEGEND, AND SIGNAGE DETAILS.
3. SEE DRAWING NO. 246A FOR DETAILS ON THE FORCED TURN LANE.

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<td>BICYCLE_LANE_AT_A_RIGHT_TURN_DROP_LANE</td>
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<td>633 PAVEMENT MARKERS</td>
<td></td>
</tr>
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</table>

DATE 7-10-03  DWG. NO. 246.3  PAGE NO. 52.3
NOTES:
1. A SOLID BICYCLE LANE STRIPE SHOULD CONTINUE ACROSS DRIVEWAY ACCESS POINTS.
2. SEE DRAWING NO. 244.5 FOR BIKE LANE LEGEND AND SIGNAGE DETAILS.
NOTES:
1. SEE DRAWING NUMBER 244.5 FOR BIKE LANE LEGEND AND SIGNAGE DETAILS.
2. USE 2 FOOT LONG SKIP LINE, 8 FEET ON CENTER, FOR LOCATIONS WITH BUS STOPS. FOR TYPICAL BUS STOP, TRANSITION FROM SOLID LINE TO SKIP LINE FOR 150 FEET CENTERED ON BUS STOP.
### SPACING TABLE

<table>
<thead>
<tr>
<th>&quot;W&quot;</th>
<th>NUMBER OR REFLECTORS PER MEDIAN NOSE *</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0' TO 2.0'</td>
<td>3</td>
</tr>
<tr>
<td>2.0' TO 3.0'</td>
<td>4</td>
</tr>
<tr>
<td>3.0' TO 4.0'</td>
<td>5</td>
</tr>
<tr>
<td>4.0' &amp; GREATER</td>
<td>1 EACH FOR EVERY 1.0' OF CURB LENGTH</td>
</tr>
</tbody>
</table>


### NOTES:

1. ENTIRE MEDIAN SHALL BE PAINTED WITH REFLECTIVE PAINT, OF SAME COLOR AS REFLECTIVE MARKERS, FROM THE MEDIAN NOSE BACK 5 FEET OR TO THE P.C., WHICHEVER IS GREATER.
2. REFLECTIVE PAVEMENT MARKERS USED ON MEDIAN SHALL CONFORM TO STANDARD DRAWING NO. 247.
3. ORIENTATION OF THE REFLECTIVE MARKERS FACES SHALL BE MADE IN THE FIELD TO ENSURE THAT MARKERS ARE AIMED AT APPROACHING VEHICLES TO BEST ADVANTAGE, ESPECIALLY IN HORIZONTALLY CURVED ROAD SECTIONS.
NOTES:

1. ALL COMPONENTS SHALL BE SQUARE POST, PERFORATED ON ALL FOUR SIDES.

2. ATTACH ANCHOR AND SLEEVE TOGETHER PRIOR TO DRIVING INTO GROUND. LEAVE AT LEAST ONE HOLE, BUT NO MORE THAN TWO, ABOVE GROUND OR ABOVE SIDEWALK.

3. FOR SIDEWALK INSTALLATION, DRILL SIDEWALK WITH A 3" HOLE, THE CENTER TO BE 6" FROM BACK OF SIDEWALK.

4. ATTACH POST TO ANCHORING SYSTEM BY USING AT LEAST TWO 3/8" DIA. DRIVE RIVETS.

5. PROVIDE 4" MINIMUM LAP BETWEEN POST AND THE ANCHOR/SLEEVE ASSEMBLY.

6. ALL STREET NAME SIGNS SHALL BE 9 INCH STANDARD IN THE CITY OF MESQUITE ONLY.
NOTES:

1. ALL COMPONENTS SHALL BE MINIMUM 12 GA. SQUARE POST WITH 7/16" PUNCHED THRU HOLES @ 1" ON CENTER, ON ALL FOUR SIDES. ANCHORS SHALL BE TWO PIECE BREAKAWAY ANCHORS.

2. ATTACH ANCHOR AND SLEEVE TOGETHER PRIOR TO DRIVING INTO GROUND. LEAVE AT LEAST TWO HOLES, BUT NO MORE THAN THREE HOLES ABOVE GROUND OR ABOVE SIDEWALK.

3. FOR SIDEWALK INSTALLATION, DRILL SIDEWALK AND CONCRETE PAD INSTALLATION, DRILL A 3" TO 4" DIA. HOLE (DEPENDENT UPON ANCHOR SIZE), THE CENTER TO BE 6" FROM THE BACK OF SIDEWALK.

4. ATTACH POST TO ANCHORING SYSTEM BY USING AT LEAST TWO 3/8" DIA. DRIVE RIVETS.

5. PROVIDE 4" MINIMUM LAP BETWEEN BOTTOM OF POST AND THE BOTTOM OF THE ANCHOR/SLEEVE ASSEMBLY.

6. SIGNS LARGER THAN 24"x30" REQUIRE 3/8" x 1-1/2" FENDER WASHERS UNDER DRIVE RIVETS.

7. "U-CHANNEL" POSTS ARE NOT ACCEPTABLE.

8. BOLTS IN LIEU OF DRIVE RIVETS ARE NOT ACCEPTABLE.

9. ALL URBAN SIGN INSTALLATIONS ARE TO BE INSTALLED IN A CONCRETE SIDEWALK, OR IN A CONCRETE PAD (24"x24"x4") WHEN NO SIDEWALK EXISTS.

10. INSTALLATION OF SIGNS SHALL MEET LATEST ADA REQUIREMENTS.

11. SIGNS SHALL HAVE A STICKER AT THE BACK WITH THE NAME OF THE CONTRACTOR AND THE DATE OF INSTALLATION.
Effective 01/01/11 - 06/30/11

12" (MAJOR STREETS)

9" (MINOR STREETS)

NOTES:

1. SIGN SHALL BE WHITE LETTERS AND NUMBERS ON GREEN BACKGROUND. (THE CITY OF NORTH LAS VEGAS BACKGROUND IS BLUE.) CUT-OUT LETTERS AND NUMBERS ARE NOT ACCEPTABLE (EXCEPT FOR THE BLOCK NUMBER).

2. REFLECTIVE SHEETING MATERIAL SHALL BE CLASS 6.

3. PRIMARY COPY FOR 9" AND 12" SIGNS SHALL BE 8" SERIES 'C' UPPERCASE WITH 4 1/2" SERIES 'C' LOWERCASE; HOWEVER, WHEN DESCENDERS ARE REQUIRED ON 9" SIGNS, PRIMARY COPY SHALL BE 5 1/2".
ORDINAL, SUFFIX AND BLOCK NUMBER SHALL BE 3" SERIES 'C' UPPERCASE. (ORDINAL MAY BE OMITTED FROM 12" SIGNS, EXCEPT IN CLARK COUNTY.) SPACING BETWEEN LETTERS SHALL BE AS ON SHEET 2 OF THIS DRAWING.

4. THE SIGN SHALL HAVE A MINIMUM LENGTH OF 30". WHERE EXTRA LENGTH IS REQUIRED, IT SHALL BE PROVIDED IN 6" INCREMENTS. GROUND MOUNTED SIGNS SHALL HAVE A MAXIMUM LENGTH OF 42".

5. BOTH SIGNS PLACED ON MAJOR STREETS WITH RIGHTS-OF-WAY 80' OR GREATER SHALL HAVE A HEIGHT OF 12"; SIGNS PLACED ON MINOR STREETS WITH RIGHTS-OF-WAY OF LESS THAN 80' SHALL HAVE A HEIGHT OF 9".

6. 12" SIGNS SHALL HAVE A 1/2" WHITE BORDER AT THE EDGE.

7. SIGN BLANKS SHALL HAVE ROUNDED CORNERS.

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SPECIFICATION REFERENCE

<table>
<thead>
<tr>
<th>631</th>
<th>STREET NAME SIGNS</th>
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<tbody>
<tr>
<td>716</td>
<td>SIGN MATERIALS</td>
</tr>
</tbody>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STREET NAME SIGNS
FACE COPY

DATE 6-8-06  DWG. NO. 250 (1 OF 2)  PAGE NO. 56
SPACING OF STREET NAME SIGN LEGENDS

SPACING FOR STREET NAME SIGN LEGENDS SHALL BE OBTAINED BY MODIFICATION TO THE REQUIREMENTS OF THE FHWA STANDARD SPACING CHART FOR 6" UPPERCASE LETTERS. THE FOLLOWING STEPS SHALL BE USED TO DETERMINE REQUIRED SPACING:

1. SIGN LAYOUT COMPUTER SOFTWARE SHALL BE EVALUATED TO DETERMINE THE "CORRECTION FACTOR" NECESSARY FOR LAYOUT SOFTWARE LETTER SPACING TO BE APPROXIMATELY EQUAL TO THE FHWA STANDARD SPACING FOR UPPERCASE LETTERS.
2. CORRECTION FACTOR SHALL BE USED TO ADJUST THE SPACING FOR THE LOWERCASE LETTERS.
3. SPACING FOR STREET NAME SIGN LEGENDS SHALL BE EQUAL TO 110% OF THE "CORRECTED" LAYOUT SOFTWARE LETTER SPACING.

(SAME STEPS ARE TO BE FOLLOWED WHEN FONT SIZE OF LEGEND IS REDUCED IN ORDER NOT TO EXCEED THE MAXIMUM LENGTH LIMITATIONS.)

IF LEGEND SPACED ACCORDING TO RECOMMENDED PROCEDURE ABOVE EXCEEDS THE MAXIMUM ALLOWABLE SIGN LENGTH (42" FOR GROUND-MOUNTED), THE FOLLOWING ACTIONS, LISTED IN PRIORITY ORDER, SHALL BE TAKEN TO REDUCE LENGTH OF THE SIGNBLANK.

A. REDUCE THE FONT TO 5 1/2" SERIES 'C'.
B. REDUCE THE SPACING TO 100% OF THE "FEDERAL STANDARD".
C. REDUCE THE FONT TO 5 1/2" SERIES "B".
D. CONSIDER ABBREVIATING ANY LEGEND WORDS WHICH ARE EXTREMELY COMMON (I.E., "MTN" FOR "MOUNTAIN") SUCH ABBREVIATIONS MUST BE APPROVED BY THE TRAFFIC ENGINEER AND THE FIRE DEPARTMENT.
E. REDUCE THE LEADING AND TRAILING BLANK GREEN SPACE BY 50%.
F. CONSTRUCT THE SIGN ACCORDING TO THE STANDARD SPACING WHICH WILL BE GREATER THAN 42" IN LENGTH, AND MOUNT ON A STREETLIGHT POLE OR OTHER ELEVATED MOUNT AS APPROVED BY THE TRAFFIC ENGINEER WITH APPROPRIATE SIGN BRACING AND MOUNTING HARDWARE.

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<tr>
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<td>631 STREE NAME SIGNS</td>
<td>STREE NAME SIGNS LETTER SPACING</td>
</tr>
<tr>
<td>716 SIGN MATERIALS</td>
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</tr>
</tbody>
</table>

DATE 6-12-97  DWG. NO. 250 (2 OF 2) PAGE 56A
ALUMINUM BLANK

5052-H38 OR 6061-T6, HEAT-TREATED, HIGH TENSILE, DEGREASED AND ALODINE 1200 FINISH.
THICKNESS TO BE 0.080" FOR SIGNS LESS THAN 36" AND 0.100" FOR SIGNS 36" AND LONGER.

NOTE:
1. FOR SIGN FACE SPECIFICATIONS SEE STANDARD DRAWING NO. 250.
NOTES:

1. FENCING SHALL BE CHAIN LINK AND SHALL CONSIST OF GALVANIZED CHAIN LINK FABRIC ON STEEL POSTS.

   (A) ALL POSTS TOPS SHALL BE FITTED WITH SUITABLE FINIALS.

   (B) BRACES SHALL BE SPACED APPROXIMATELY 12" BELOW TOP OF TERMINAL POSTS AND SHALL EXTEND FROM END, GATE, OR CORNER POSTS TO FIRST ADJACENT LINE POST.

   (C) ALL FITTINGS SHALL BE HOT-DIPPED GALVANIZED MALLEABLE, CAST IRON, OR PRESSURED STEEL.

   (D) TOP AND BOTTOM SELVAGES OF THE FENCE SHALL HAVE A TWISTED AND BARBED FINISH.

2. BARBED WIRE, EXTENSION ARMS, AND TOP HORIZONTAL RAILS SHALL BE INSTALLED ONLY WHEN SHOWN ON THE PLANS AND/OR CALLED FOR IN THE SPECIAL PROVISIONS.

**TABLE I**

FOR CHAIN LINK FENCE 72" AND LESS

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>MIN. SIZE</th>
<th>MIN. WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>END, CORNER &amp; PULL</td>
<td>2.351 O.D.</td>
<td>3.10</td>
</tr>
<tr>
<td>LINE</td>
<td>2.00 O.D.</td>
<td>2.72</td>
</tr>
<tr>
<td>BRACES</td>
<td>1.630 O.D.</td>
<td>2.27</td>
</tr>
<tr>
<td>TOP RAIL</td>
<td>1.630 O.D.</td>
<td>2.27</td>
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SPECIFICATION REFERENCE

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<tr>
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<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>501</td>
<td>CONCRETE</td>
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<tr>
<td>616</td>
<td>FENCING</td>
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UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

CHAIN LINK FENCE

(72" HIGH OR LESS)

DATE 12-14-00  DWG. NO. 252  PAGE NO. 58
NOTE:
USE MARKING PER OPTIONAL DETAIL IF NECESSARY TO OBTAIN 3" MINIMUM CLEARANCE BETWEEN CROSSWALK AND CURB LINE PROJECTED.

TYPICAL MARKING CURB RAMP IN MIDDLE OF CURB RETURN

CURB LINE PROJECTED (TYP.)

3" MIN.

48" MIN.

TYPICAL MARKING CURB RAMP ADJOINING CURB RETURN
SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CROSSWALK MARKINGS

DATE 11-12-08  DWG. NO. 254A
NOTES:
1. 12 FOOT WIDTH IS RECOMMENDED. 10 FOOT WIDTH IS ALLOWABLE ALONG A PATH PARALLEL TO A ROADWAY OR WHERE SPACE IS LIMITED. PAVEMENT AND BASE DEPTH WILL VARY BASED ON SOIL CONDITIONS. PORTLAND CEMENT CONCRETE MAY BE USED INSTEAD OF ASPHALT.
2. SEE DRAWING NUMBER 255.1 FOR SHARED USE PATH ALONG A ROADWAY.
3. SEE THE GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, AASHTO 1999, AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ADDITIONAL GUIDELINES AND STANDARDS.
4. SEE LOCAL JURISDICTIONS FOR LANDSCAPING REQUIREMENTS.

<table>
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<th>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</th>
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<td>SHARED USE PATH</td>
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<td>633</td>
<td></td>
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</table>

DATE 7-10-03  DWG. NO. 255  PAGE NO. 59.2
NOTES:
1. 12 FOOT WIDTH IS RECOMMENDED. 10 FOOT WIDTH IS ALLOWABLE ALONG A PATH PARALLEL TO A ROADWAY OR WHERE SPACE IS LIMITED. PAVEMENT AND BASE DEPTH WILL VARY BASED ON SOIL CONDITIONS. PORTLAND CEMENT CONCRETE (PCC) MAY BE USED INSTEAD OF ASPHALT AND PCC MAY BE REQUIRED BY THE LOCAL JURISDICTION.
2. SEE DRAWING NUMBER 255 FOR SHARED USE PATH NOT ALONG A ROADWAY.
3. SEE THE GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, ASSHTO 1999, AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ADDITIONAL GUIDELINES AND STANDARDS.
4. SEE LOCAL JURISDICTIONS FOR LANDSCAPING REQUIREMENTS.
5. 3 FOOT LATERAL CLEARANCE RECOMMENDED BETWEEN EDGE OF PATH AND A FIXED OBJECT, 2 FOOT MINIMUM.
6. IF 16 FEET IS NOT AVAILABLE FROM THE BACK OF CURB TO THE RIGHT-OF-WAY LINE, A BICYCLE LANE/ROUTE AND THE SIDEWALK WILL SUBSTITUTE FOR THE PATH. PLACE A PATH ENDS SIGN (W9) 25 FEET IN ADVANCE OF THE PATH ENDING.

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</table>

SHARED USE PATH ALONG A ROADWAY

DATE 7-10-03 DWG. NO. 255.1 PAGE NO. 59.3
NOTES:

1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE DRAWING NO. 235, CASE III, FOR SIDEWALK RAMP DETAILS.

SPECIFICATION REFERENCE

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPICAL TRANSITION SECTION
FROM SHARED USE PATH ALONG
ROADWAY TO SIDEWALK

DATE 7-10-03  DWG. NO. 255.2  PAGE NO. 59.4
### SIGN SIZES FOR SHARED-USE PATHS

<table>
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<th>SIGN</th>
<th>MINIMUM SIGN SIZE (IN)</th>
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<tr>
<td>R1-1</td>
<td>STOP</td>
<td>18 X 18</td>
</tr>
<tr>
<td>R1-2</td>
<td>YIELD</td>
<td>24 X 24</td>
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<tr>
<td>R3-16, 16A, 17, 17A</td>
<td>BICYCLE LANE</td>
<td>24 X 30</td>
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<tr>
<td>R4-1, 2, 3, 7</td>
<td>MOVEMENT RESTRICTION</td>
<td>12 X 18</td>
</tr>
<tr>
<td>R4-4</td>
<td>BEGIN RIGHT TURN LANE YIELD TO BIKES</td>
<td>36 X 30</td>
</tr>
<tr>
<td>R5-3</td>
<td>NO MOTOR VEHICLES</td>
<td>24 X 24</td>
</tr>
<tr>
<td>R5-6</td>
<td>BICYCLE PROHIBITION</td>
<td>24 X 24</td>
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<tr>
<td>R7-9, 9A</td>
<td>NO PARKING BIKE LANE</td>
<td>12 X 18</td>
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<td>R9-3A</td>
<td>PEDESTRIANS PROHIBITED</td>
<td>18 X 18</td>
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<td>R9-5, 6</td>
<td>BICYCLE REGULATORY</td>
<td>12 X 18</td>
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<td>R9-7</td>
<td>SHARED-USE PATH RESTRICTION</td>
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<td>RAILROAD CROSSBUCK</td>
<td>24 X 4.5</td>
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<td>TURN AND CURVE WARNING</td>
<td>18 X 18</td>
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<td>W1-6, 7</td>
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<td>24 X 12</td>
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<td>18 X 18</td>
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<td>STOP, YIELD, SIGNAL AHEAD</td>
<td>18 X 18</td>
</tr>
<tr>
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<td>ROAD NARROWS</td>
<td>18 X 18</td>
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<tr>
<td>W5-4</td>
<td>BIKEWAY NARROWS</td>
<td>18 X 18</td>
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<td>W7-5</td>
<td>HILL SIGN</td>
<td>18 X 18</td>
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<td>W8-1, 2</td>
<td>BUMP OR DIP</td>
<td>18 X 18</td>
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<tr>
<td>W8-10</td>
<td>BICYCLE SURFACE CONDITION</td>
<td>18 X 18</td>
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<td>W10-1</td>
<td>ADVANCE GRADE CROSSING</td>
<td>18 DIA.</td>
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<td>LOW CLEARANCE</td>
<td>18 X 18</td>
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<td>SHARE THE ROAD PLAQUE</td>
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<td>SUPPLEMENTAL BIKE ROUTE PLAQUE</td>
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<td>BIKE ROUTE</td>
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<tr>
<td>M1-9</td>
<td>BIKE ROUTE MARKER</td>
<td>18 X 24</td>
</tr>
<tr>
<td>M4-11, 12, 13</td>
<td>SUPPLEMENTAL BICYCLE ROUTE GUIDE</td>
<td>12 X 4</td>
</tr>
<tr>
<td>M7-1, 2, 3, 4, 5, 6, 7</td>
<td>ROUTE MARKER SUPPLEMENTAL PLAQUES</td>
<td>12 X 9</td>
</tr>
</tbody>
</table>

### NOTES:
1. SIGN TABLE INSERTED FROM MUTCD FOR REFERENCE. SEE CURRENT MUTCD FOR UPDATED INFORMATION.
2. SIGNS R3-16(A), R3-17(A), R4-4, W5-2A, AND W16-1 NOT USED FOR SHARED USE PATHS.
Effective 01/01/11 - 06/30/11

**CENTERLINE DELINEATION**

**PASSING PERMITTED**
(SEE NOTE 3)

**CENTERLINE DELINEATION**

**PASSING PROHIBITED**
(SEE NOTE 3)

**TYPICAL CENTERLINE DELINEATION AROUND OBSTRUCTION**

**TYPICAL CENTERLINE DELINEATION AT THE BEGINNING AND END OF A SHARED USE PATH**

**NOTES:**

1. USE BOLLARDS ONLY AT LOCATIONS WHERE UNAUTHORIZED ACCESS IS ANTICIPATED. INSTALL EITHER 1 OR 3 (5 FOOT SPACING DESIRABLE) SIX-INCH DIAMETER BY 3 FT. TALL REFLECTORIZED BOLLARDS WHEN NECESSARY. CENTERLINE DELINEATION SHOULD BE PROVIDED AT APPROACH TO INTERSECTION EVEN WHEN BOLLARD IS NOT PROVIDED.

2. ANY OBSTRUCTION IN PATH SHOULD BE REMOVED. IF OBSTRUCTION CANNOT BE REMOVED, OBSTRUCTION MUST BE REFLECTORIZED.

3. USE CENTERLINE DELINEATION AT APPROACHES TO INTERSECTIONS AND AROUND OBSTRUCTIONS IN ALL CASES. ONLY USE CENTERLINE DELINEATION IN OTHER CASES WHERE CONFLICTS BETWEEN USERS TRAVELING IN OPPOSITE DIRECTIONS ARE ANTICIPATED.

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>628 PAINTING TRAFFIC STRIPING</td>
<td>DELINEATION AND BOLLARED USAGE ON SHARED USE PATH</td>
</tr>
<tr>
<td>633 PAVEMENT MARKERS</td>
<td></td>
</tr>
</tbody>
</table>

DATE 7-10-03  DWG. NO. 255.4  PAGE NO. 59.6
NOTES:

1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. CONTACT AGENCY'S TRAFFIC ENGINEER TO VERIFY IF AGENCY PREFERENCES TO USE A W11-1 (BICYCLE) SIGN IN PLACE OF THE W11-2 SIGN.
**NOTES:**

1. USE ENGINEERING JUDGMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE MUTCD TABLE 2C-4 FOR ADVANCED WARNING PLACEMENT.
3. INSTALL BOLLARDS ONLY AT LOCATIONS WHERE UNAUTHORIZED ACCESS IS ANTICIPATED. INSTALL EITHER 1 OR 3 SIX INCH DIAMETER BY 3 FEET TALL BOLLARDS WHEN REQUIRED.
4. SEE DRAWING NO. 201.2 FOR SIGHT VISIBILITY ZONES AT INTERSECTIONS.
5. CONTACT AGENCY'S TRAFFIC ENGINEER TO VERIFY IF AGENCY PREFERENCES TO USE A W11-1 (BICYCLE) SIGN IN PLACE OF THE W11-2 SIGN.

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>628 PAINTING TRAFFIC STRIPING</td>
<td>TYPICAL SIGNAGE FOR SHARED USE PATH AT INTERSECTION</td>
</tr>
<tr>
<td>633 PAVEMENT MARKERS</td>
<td></td>
</tr>
</tbody>
</table>

**DATE** 7-10-03  **DWG. NO.** 256.1  **PAGE NO.** 59.8
Effective 01/01/11 - 06/30/11

L = \sqrt[2]{V/80}, WHERE \ V \leq 45\text{MPH}
L = \sqrt{V}, WHERE \ V > 45\text{MPH}

W (OFFSET) = Y/2
X = LENGTH OF ISLAND SHOULD BE 6 FT OR GREATER
Y = WIDTH OF REFUGE:
6 FT = POOR
8 FT = SATISFACTORY
10 FT = GOOD

S = SPEED LIMIT
IF SPEED LIMIT = 25 MPH, S = 25 FEET

NOTES:
1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE DRAWING NO. 218, 248 FOR MEDIAN ISLAND. A 15 DEGREE SKEW ANGLING IN DIRECTION OF ONCOMING TRAFFIC IS DESIRABLE.
3. SEE DRAWING NO. 255.4 FOR BOLLARDS AND CENTERLINE DELINEATION.
4. SEE DRAWING NO. 235, CASE III, FOR SIDEWALK RAMPS (USE PATH WIDTH FEET INSTEAD 5 FEET).
5. SEE DRAWING NO. 254 AND 254A FOR CROSSWALKS.
6. SEE DRAWING NO. 255.3 FOR SIGN SIZES FOR SHARED USE PATHS.
7. SEE DRAWING NO. 345 (2 OF 3) FOR DELINEATION IN TRANSITION SECTIONS.
8. SEE TABLE 2C-4 IN MUTCD 2000 FOR ADVANCE PLACEMENT OF WARNING SIGNS.
9. SEE PAGE 654 TO 680 IN AASHTO HIGHWAYS AND STREETS 2001 FOR SIGHT VISIBILITY ZONES (SIGHT TRIANGLES).
10. SEE STREET LIGHTING SECTION.
11. CONTACT AGENCY'S TRAFFIC ENGINEER TO VERIFY IF AGENCY PREFERENCES TO USE A W11-1 (BICYCLE) SIGN IN PLACE OF THE W11-2 SIGN.

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>CLARK COUNTY AREA</td>
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<tr>
<td>628 PAINTING TRAFFIC STRIPING</td>
<td></td>
</tr>
<tr>
<td>633 PAVEMENT MARKERS</td>
<td></td>
</tr>
</tbody>
</table>

| SHARED USE PATH CROSSING |
| TWO LANE ROADWAY         |

DATE  7-10-03  DWG. NO. 256.2  PAGE NO. 59.9
NOTES:
1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE DRAWING NO. 218, 248, AND 256.2 FOR MEDIAN ISLAND.
3. SEE DRAWING NO. 254.4 FOR BOLLARDS AND CENTERLINE STRIPING.
4. SEE DRAWING NO. 235, CASE III, FOR SIDEWALK RAMPS (USE 12 FEET INSTEAD OF 5 FEET).
5. SEE DRAWING NO. 254 AND 254A FOR CROSSWALKS.
6. SEE DRAWING NO. 255.3 FOR SIGN SIZES FOR SHARED USE PATHS.
7. SEE DRAWING NO. 345 (2 OF 3) FOR DELINEATION IN TRANSITION SECTIONS.
8. SEE TABLE 2C-4 IN MUTCD 2000 FOR ADVANCE PLACEMENT OF WARNING SIGNS.
9. SEE PAGE 654 TO 680 IN AASHTO HIGHWAYS AND STREETS 2001 FOR SIGHT VISIBILITY ZONES (SIGHT TRIANGLES).
10. SEE STREET LIGHTING SECTION.
11. CONTACT AGENCY'S TRAFFIC ENGINEER TO VERIFY IF AGENCY PREFERENCES TO USE A W11-1 (BICYCLE) SIGN IN PLACE OF THE W11-1 SIGN.
NOTES:
1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE DRAWING NO. 218, 248, AND 256.2 FOR MEDIAN ISLAND.
3. SEE DRAWING NO. 255.4 FOR BOLLARDS AND CENTERLINE STRIPING.
4. SEE DRAWING NO. 235, CASE III, FOR SIDEWALK RAMPS (USE 12 FEET INSTEAD 5 FEET).
5. SEE DRAWING NO. 254 AND 254A FOR CROSSWALKS.
6. SEE DRAWING NO. 255.3 FOR SIGN SIZES FOR SHARED USE PATHS.
7. SEE DRAWING NO. 345 (2 OF 3) FOR DELINEATION IN TRANSITION SECTIONS.
8. SEE TABLE 2C-4 IN MUTCD 2000 FOR ADVANCE PLACEMENT OF WARNING SIGNS.
9. SEE PAGE 654 TO 680 IN AASHTO HIGHWAYS AND STREETS 2001 FOR SIGHT VISIBILITY ZONES (SIGHT TRIANGLES).
10. SEE STREET LIGHTING SECTION.
11. CONTACT AGENCY'S TRAFFIC ENGINEER TO VERIFY IF AGENCY PREFERS TO USE A W11-1 (BICYCLE) SIGN IN PLACE OF THE W11-2 SIGN.

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
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</tr>
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<tbody>
<tr>
<td>628</td>
<td>P A I N T I N G T R A F F I C S T R I P I N G</td>
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<tr>
<td>633</td>
<td>P A V E M E N T M A R K E R S</td>
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</tbody>
</table>

SHARED USE PATH CROSSING
6 LANE ROADWAY

DATE 7-12-07  DWG. NO. 256.4  PAGE NO. 59.25
NOTES:
1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE DRAWING NO. 255.4 FOR BOLLARDS AND CENTERLINE STRIPING.
3. SEE DRAWING NO. 235, CASE III, FOR SIDEWALK RAMPS (USE 12 FEET INSTEAD OF CENTER SECTION OF SIDEWALK).
4. SEE DRAWING NO. 255.3 FOR SIGN SIZES FOR SHARED USE PATHS.
5. SEE TABLE 2C-4 IN MUTCD FOR ADVANCE PLACEMENT OF WARNING SIGNS.
6. SEE DRAWING NO. 256.4 FOR THE AN MID-BLOCK AT-GRADE CROSSING DESIGN.
7. A MINIMUM 8 FOOT CLEARANCE IS REQUIRED FOR THE UNDER CROSSING. GRADES GREATER THAN 5 PERCENT ARE UNDESIRABLE. SEE THE 1999, OR CURRENT EDITION, AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES FOR GRADE RESTRICTIONS IF A 5 PERCENT GRADE IS EXCEEDED.
NOTES:

1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE MUTCD 2000 FOR GUIDELINES REFERENCED IN FIGURE.

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
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</thead>
<tbody>
<tr>
<td>628 PAINTING TRAFFIC STRIPING</td>
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<tr>
<td>633 PAVEMENT MARKERS</td>
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</tr>
</tbody>
</table>

**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**SHARE USE PATH**

**CROSSING RAILROAD**

DATE 7-10-03  DWG. NO. 256.6  PAGE NO. 59.45
### NOTES:
1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE DRAWING NO. 1-5 FOR CROSSWALK STRIPING GUIDELINES.
3. SEE MUTCD 2000 FOR ADVANCED PLACEMENT OF WARNING SIGNS IN TABLE 2C-4.
4. SEE DRAWING NO. 255.5 FOR BOLLARDS AND CENTERLINE STRIPING.
5. SEE DRAWING NO. 256.2 - 256.4 FOR ADDITIONAL CROSSING DETAILS.

### SPECIFICATION REFERENCE

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<thead>
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<td>PAINTING TRAFFIC STRIPING</td>
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<tr>
<td>633</td>
<td>PAVEMENT MARKERS</td>
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### UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

TYPICAL DELINEATION FOR SHARED USE PATH PARALLEL TO RAILROAD CROSSING A ROADWAY

<table>
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<tr>
<th>DATE</th>
<th>DWG. NO.</th>
<th>PAGE NO.</th>
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<tbody>
<tr>
<td>7-10-03</td>
<td>256.7</td>
<td>59.55</td>
</tr>
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</table>
1. INSTALL STREETLIGHT STANDARDS AT INTERSECTIONS INCLUDING "L" AND "T" TYPES, PER STANDARD DRAWINGS 301 THROUGH 310 IN ACCORDANCE WITH THE APPROPRIATE RIGHT-OF-WAY.

2. STREET CLASSIFICATION AND STREETLIGHT STANDARD APPLICATION SHALL BE AS LISTED IN TABLE 1 BELOW. ACTUAL LUMINAIRE WATTAGE AND/OR STREETLIGHT STANDARD SPACING MAY BE VARIED BY THE ENGINEER, WHEN SUPPORTED BY AN APPROVED LIGHTING STUDY IN ACCORDANCE WITH THE IES RECOMMENDED PRACTICE FOR ROADWAY LIGHTING IN ORDER TO MEET CURRENT AND FUTURE TRAFFIC CONTROL NEEDS AND APPROVED BY THE RESPECTIVE AGENCY. AVERAGE LEVELS ARE MAINTAINED LEVELS AT A 0.8 MAINTENANCE FACTOR (0.82 FOR CLARK COUNTY) IN FOOTCANDLES MEASURED HORIZONTALLY AT THE SURFACE.

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>R/W</th>
<th>DWG</th>
<th>LUMINAIRE</th>
<th>LEVEL</th>
<th>AVERAGE IES LIGHTING</th>
<th>IES UNIFORMITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAJOR ARTERIAL</td>
<td>100'</td>
<td>--</td>
<td>250W HPS</td>
<td>1.58 FC</td>
<td></td>
<td>3:1</td>
</tr>
<tr>
<td>OR MORE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERMEDIATE COLLECTOR</td>
<td>80'</td>
<td>--</td>
<td>150W HPS</td>
<td>0.84 FC</td>
<td></td>
<td>4:1</td>
</tr>
<tr>
<td>LOCAL</td>
<td>60'</td>
<td>--</td>
<td>150W HPS (CLARK COUNTY &amp; COH ONLY)</td>
<td>0.38 FC</td>
<td></td>
<td>6:1</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>51'</td>
<td>--</td>
<td>100W HPS (CLARK COUNTY &amp; COH ONLY)</td>
<td>0.38 FC</td>
<td></td>
<td>6:1</td>
</tr>
</tbody>
</table>

3. NEW STREETLIGHT STANDARDS INSTALLED ADJACENT TO OR OPPOSITE FROM EXISTING STREETLIGHTS SHALL MATCH THE EXISTING LOCATION, SPACING, POLE AND LUMINAIRE TYPES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

4. STREETLIGHT STANDARDS INSTALLED ON 60' OR LESS RIGHT-OF-WAYS MAY BE INSTALLED ON EITHER SIDE OF ROADWAY AS DIRECTED BY THE ENGINEER.

5. TRAFFIC SIGNAL FOUNDATIONS AND ADAPTOR PLATES MAY BE REQUIRED AT INTERSECTIONS AS DIRECTED BY THE ENGINEER.

6. AT LEAST ONE STREETLIGHT SHALL BE REQUIRED IN THE BULB SECTION OF A CUL-DE-SAC OR HAMMERHEAD. LOCATION SHALL BE AS REQUIRED BY THE ENGINEER.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.

| SPECIFICATION REFERENCE | UNIFORM STANDARD DRAWINGS
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>623 TRAFFIC SIGNALS &amp; STREETLIGHTING</td>
<td>CLARK COUNTY AREA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STREETLIGHT LOCATION GENERAL NOTES</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DATE</th>
<th>DWG. NO.</th>
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<tbody>
<tr>
<td>2-08-07</td>
<td>300</td>
</tr>
</tbody>
</table>
NOTES:

1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.

2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300, IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.

3. CITY OF HENDERSON AND BOULDER CITY REQUIRE STREETLIGHTING IN THE MEDIAN FOR RIGHTS-OF-WAY 100 FEET OR GREATER. SEE STANDARD DRAWING NO. 312. IN THE ABSENCE OF A MEDIAN, STREETLIGHT LOCATION SHALL BE THE SAME AS THE OTHER ENTITIES.

<table>
<thead>
<tr>
<th>POLE LOCATION TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEYED NOTE</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

SPECIFICATION REFERENCE

| 623 | TRAFFIC SIGNALS & STREETLIGHTING |

UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

STREETLIGHT LOCATIONS AT INTERSECTIONS

100' OR GREATER/100' OR GREATER

RIGHT-OF-WAY

(EXCEPT CLARK COUNTY)

DATE 8-12-99  DWG. NO. 301  PAGE NO. 61
NOTES:

1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300, IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.
3. WITH THE ENGINEER'S APPROVAL, A SECOND LUMINAIRE MOUNTING PLATE MAY BE FIELD WELDED BY A CERTIFIED WELDER.
4. ALL LUMINAIRE MAST ARMS FOR 400W FIXTURES SHALL BE 15 FT. LONG AND INSTALLED PER STANDARD DRAWING NO. 404.406 UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.

**POLE LOCATION TABLE**

<table>
<thead>
<tr>
<th>KEYED NOTE</th>
<th>ENTITY</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>120'</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>60'</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>(SEE DRAWING NO. 320)</td>
<td></td>
</tr>
</tbody>
</table>

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE*
NOTES:

1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300, IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.
3. CITY OF HENDERSON AND BOULDER CITY REQUIRE STREETLIGHTING IN THE MEDIAN FOR RIGHTS-OF-WAY 100 FEET OR GREATER. SEE STANDARD DRAWING NO. 312. IN THE ABSENCE OF A MEDIAN, STREETLIGHT LOCATION SHALL BE THE SAME AS THE OTHER ENTITIES.

POLE LOCATION TABLE

<table>
<thead>
<tr>
<th>KEYED NOTE</th>
<th>ENTITY</th>
<th>CLV</th>
<th>NLV</th>
<th>MES</th>
<th>HND</th>
<th>BC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>160'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>80'</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>(SEE DRAWING NO. 320)</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>170'</td>
<td></td>
<td></td>
<td>170'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>85'</td>
<td></td>
<td></td>
<td>85'</td>
<td></td>
<td></td>
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</tbody>
</table>

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STREETLIGHT LOCATIONS AT INTERSECTIONS
100' OR GREATER/80' RIGHT-OF-WAY
(EXCEPT CLARK COUNTY)

SPECIFICATION REFERENCE
623 TRAFFIC SIGNALS & STREETLIGHTING

DATE 8-12-99   DWG. NO. 302   PAGE NO. 62
NOTES:

1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.

2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300, IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.

3. ALL LUMINAIRE MAST ARMS FOR 400W FIXTURES SHALL BE 15 FT. LONG AND INSTALLED PER STANDARD DRAWING NO. 404.406 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

POLE LOCATION TABLE

<table>
<thead>
<tr>
<th>KEYED NOTE</th>
<th>ENTITY</th>
<th>O</th>
<th>O</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>120'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>60'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>(SEE DRAWING NO. 320)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>170'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>85'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NOTES:

1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2,
   STANDARD DRAWING NO. 300 IS REQUIRED
   FOR RIGHT-OF-WAY GREATER THAN 100 FEET.
3. CITY OF HENDERSON AND BOULDER CITY REQUIRE
   STREETLIGHTING IN THE MIDDLE FOR RIGHTS-OF-WAY
   100 FEET OR GREATER. SEE STANDARD DRAWING NO. 312.
   IN THE ABSENCE OF A MIDDLE, STREETLIGHT LOCATION
   SHALL BE THE SAME AS THE OTHER ENTITIES.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.
NOTES:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300 IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.
3. IF INTERSECTION IS SIGNALIZED, 400 WATT LUMINAIRE SHAPE VS INSTALLATIVE ON ALL CORNERS AND DUAL ARM CONFIGURATION SHALL BE USED FOR 100 FT. RIGHT-OF-WAY SIMILAR TO STANDARD DRAWING NO. 302.1 IN CLARK COUNTY. USE SIGLE ARM CONFIGURATION PER DRAWING 302 IN HENDERSON.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</th>
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</thead>
<tbody>
<tr>
<td>623 TRAFFIC SIGNALS &amp; STREETLIGHTING</td>
<td>CLARK COUNTY &amp; HENDERSON ONLY</td>
</tr>
<tr>
<td></td>
<td>STREETLIGHT LOCATIONS AT INTERSECTIONS 100' OR GREATER/60' RIGHT-OF-WAY</td>
</tr>
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<table>
<thead>
<tr>
<th>DRAWING NO.</th>
<th>DATE 2-08-07</th>
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<tbody>
<tr>
<td>303.1</td>
<td></td>
</tr>
</tbody>
</table>
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.

2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300 IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET. ADEQUATE INTERSECTION LIGHTING SHALL ALSO BE ADDRESSED IN THE LIGHTING STUDY.

3. CITY OF HENDERSON AND BOULDER CITY REQUIRE STREETLIGHTING IN THE MEDIAN FOR RIGHTS-OF-WAY 100 FEET OR GREATER. SEE STANDARD DRAWING NO. 312. IN THE ABSENCE OF A MEDIAN, STREETLIGHT LOCATION SHALL BE THE SAME AS THE OTHER ENTITIES.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.

### POLE LOCATION TABLE

<table>
<thead>
<tr>
<th>KEYED NOTE</th>
<th>ENTITY</th>
<th>CLV</th>
<th>NVL</th>
<th>MES</th>
<th>HND</th>
<th>BC</th>
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<tbody>
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<td>160'</td>
<td></td>
<td></td>
<td></td>
<td>(SEE NOTE 3)</td>
</tr>
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<td>2</td>
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<td>80'</td>
<td></td>
<td></td>
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<td>(SEE NOTE 3)</td>
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<tr>
<td>3</td>
<td></td>
<td>12&quot;</td>
<td></td>
<td></td>
<td></td>
<td>(SEE NOTE 3)</td>
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### SPECIFICATION REFERENCE

| 623 | TRAFFIC SIGNALS & STREETLIGHTING |

### UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

STREETLIGHT LOCATIONS AT INTERSECTIONS 100' OR GREATER/51' OR LESS RIGHT-OF-WAY

(Except Clark County & Henderson)

DATE 2-08-07 DWG. NO. 304
NOTES:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300 IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET. ADEQUATE INTERSECTION LIGHTING SHALL ALSO BE ADDRESSED IN THE LIGHTING STUDY.
3. IF INTERSECTION IS SIGNALIZED, 400 WATT LUMINAIRE SHALL BE INSTALLED ON ALL CORNERS AND DUAL ARM CONFIGURATION SHALL BE USED FOR 100 FT. RIGHT-OF-WAY SIMILAR TO STANDARD DRAWING NO. 302.1 IN CLARK COUNTY. USE SINGLE ARM CONFIGURATION PER DRAWING 302 IN HENDERSON.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.

<table>
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SPECIFICATION REFERENCE

| 623 | TRAFFIC SIGNALS & STREETLIGHTING |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CLARK COUNTY & HENDERSON ONLY

STREETLIGHT LOCATIONS AT INTERSECTIONS
100' OR GREATER/51' OR LESS RIGHT-OF-WAY

DATE 2-08-07  DWG. NO. 304.1
NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

POLE LOCATION TABLE

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SPECIFICATION REFERENCE

| 623 | TRAFFIC SIGNALS & STREETLIGHTING |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STREETLIGHT LOCATIONS AT INTERSECTIONS
80'/80' RIGHT-OF-WAY
(EXCEPT CLARK COUNTY)

DATE 8-12-99  DWG. NO. 305  PAGE NO. 65
NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

POLE LOCATION TABLE

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NOTE:
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* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.
Effective 01/01/11 - 06/30/11

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<td>(SEE DRAWING NO. 320)</td>
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NOTE:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. IF THE INTERSECTION IS SIGNALIZED, 400 WATT LUMINAIREs SHALL BE INSTALLED ON ALL CORNERS.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

CLARK COUNTY & HENDERSON ONLY

STREETLIGHT LOCATIONS AT INTERSECTIONS
80’/60’ RIGHT-OF-WAY

DATE 2-08-07   DWG. NO. 306.1
NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.

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SPECIFICATION REFERENCE

| 623 | TRAFFIC SIGNALS & STREETLIGHTING |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STREETLIGHT LOCATIONS AT INTERSECTIONS
80'-51' OR LESS RIGHT-OF-WAY
(EXCEPT CLARK COUNTY & HENDERSON)

DATE 2-08-07  DWG. NO. 307
NOTE:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. IF INTERSECTION IS SIGNALIZED, 400 WATT LUMINAIRES SHALL BE INSTALLED ON ALL CORNERS.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CLARK COUNTY & HENDERSON ONLY

STREETLIGHT LOCATIONS AT INTERSECTIONS
80'/51' OR LESS RIGHT-OF-WAY

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DATE 2-08-07  DWG. NO. 307.1
NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.
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**NOTE:**
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.

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**SPECIFICATION REFERENCE**

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**STREETLIGHT LOCATIONS AT INTERSECTIONS 60'/60' RIGHT-OF-WAY**

**DATE** 2-08-07  **DWG. NO.** 308.1
NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.

<table>
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<th>KEYED NOTE</th>
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NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.

POLE LOCATION TABLE

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SPECIFICATION REFERENCE

| 623 | TRAFFIC SIGNALS & STREETLIGHTING |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CLARK COUNTY & HENDERSON ONLY

STREETLIGHT LOCATIONS AT INTERSECTIONS
60'/51' OR LESS RIGHT-OF-WAY

DATE 2-08-07    DWG. NO. 309.1
NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

* PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE.
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.

2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300, IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.

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SPECIFICATION REFERENCE

| 623 | TRAFFIC SIGNALS & STREETLIGHTING |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STREETLIGHT STANDARDS
MAXIMUM SPACING
(80 FT. OR GREATER RIGHT-OF-WAY)
(EXCEPT CLARK COUNTY)

DATE 8-12-99
DWG. NO. 311
PAGE NO. 71
NOTES:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300, IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.

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SPECIFICATION REFERENCE

| 623 | TRAFFIC SIGNALS & STREETLIGHTING |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CLARK COUNTY ONLY

STREETLIGHT STANDARDS
MAXIMUM SPACING
(80 FT. OR GREATER RIGHT-OF-WAY)

DATE  8-12-99  DWG. NO.  311.1  PAGE NO.  71.1
NOTES:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.

POLE LOCATION TABLE

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STREETLIGHT STANDARDS MAXIMUM SPACING
(60 FT. OR LESS RIGHT-OF-WAY)
(EXCEPT CLARK COUNTY & HENDERSON)

DATE 2-08-07 DWG. NO. 311A
NOTES:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.

POLE LOCATION TABLE

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CLARK COUNTY & HENDERSON ONLY

STREETLIGHT STANDARDS
MAXIMUM SPACING
(60 FT. OR LESS RIGHT-OF-WAY)

DATE 2-08-07  DWG. NO. 311.1A
NOTES:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300, IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.

POLE LOCATION TABLE

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* DISTANCE LISTED INDICATES MAXIMUM SPACING. LIGHTING STANDARDS SHALL BE EQUIDISTANT AFTER LOCATING THE END OF ISLAND POLES.

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STREETLIGHT LOCATIONS ON
TRAFFIC ISLANDS
100' OR GREATER RIGHT-OF-WAY

DATE 8-12-99
DWG. NO. 312
PAGE NO. 72
1. ALL STREETLIGHT STANDARDS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF THE STANDARD SPECIFICATIONS AND AS INDICATED ON THESE DRAWINGS.

2. ALL COMPONENTS OF THE STREETLIGHT STANDARD INCLUDING THE POLE, ARM, HANDHOLE COVER, BASE COVER AND THE POLE CAP SHALL BE FERROUS METAL AND HOT-DIP GALVANIZED AFTER CONSTRUCTION IN ACCORDANCE WITH ASTM A123; ALUMINUM OR ALUMINUM ALLOY IS NOT ACCEPTABLE. FLAWS IN THE APPEARANCE OF THESE GALVANIZED COMPONENTS (i.e. "TIGER-STRIPED", "ZEBRA-STRIPED"), SHALL BE CAUSE FOR REJECTION. NON-METALLIC TYPE BASE COVERS MAY BE ACCEPTABLE AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. CONCRETE POLES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

3. ALL FASTENING HARDWARE SHALL BE NON-CORROSION RESISTANT, CADMIUM-PLATED, OR EQUAL, APPROVED BY THE ENGINEER. FASTENERS SHALL BE OF THE SIZE AND CONFIGURATION NOTED ON THE DRAWINGS.

4. CONCRETE POLE FOUNDATIONS SHOULD BE Poured AGAINST UNDISTURBED, NATURAL SOIL OR IF FORMING MATERIAL IS USED IT SHALL BE STRIPPED AWAY FROM THE FOUNDATION AT LEAST ONE (1) FOOT BELOW FINISHED GRADE.

5. POLES SHALL BE INSTALLED ON CONCRETE FOUNDATIONS WITH ANCHOR BOLTS. EACH BOLT SHALL BE INSTALLED WITH TWO (2) HEX NUTS AND TWO (2) FLAT WASHERS. EXCEPT FOR "H" AND "L" FOUNDATIONS, THE ANCHOR BOLTS SHALL BE 1" X 36" X 4" FOR ELEVEN (11) GAGE POLES AND 1 1/8" X 40" X 4" FOR SEVEN (7) GAGE POLES. THE ANCHOR BOLTS, NUTS AND WASHERS SHALL BE HOT-DIP GALVANIZED. THE POLE SHALL BE PLUMBED PRIOR TO PLACING THE GROUT OR CONCRETE CAP. USE OF GROUT OR CONCRETE FOR CAP SHALL BE DESIGNATED BY ENTITY ENGINEER. SHIMS OR WEDGES OF ANY KIND ARE NOT ACCEPTABLE TO PLUMB THE POLE AFTER THE CAP HAS BEEN PLACED.

6. ALL UNDERGROUND CONDUIT INSTALLED SHALL HAVE RED, CONTINUOUS MARKING TAPE INSTALLED IN THE TRENCH AT 12" BELOW FINISHED GRADE.

7. WHERE SIGNALS AND STANDARDS ARE INSTALLED UNDER OVERHEAD POWER LINES, CLEARANCES SHALL BE PER NATIONAL ELECTRICAL SAFETY CODE SECTION 234 REQUIREMENTS. INSTALL STRAIGHT ARM STREETLIGHT ASSEMBLIES WHERE ADDITIONAL CLEARANCE IS REQUIRED.

<table>
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<th>UNIFORM STANDARD DRAWINGS</th>
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| DATE | 7-8-04 | DWG. NO. | 313 | PAGE NO. | 73 |
1. See General Notes Standard Drawing No. 313.
2. See Standard Drawing No. 319 for detail of pole base.

### Specification Reference

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<td>Traffic Signals &amp; Streetlighting</td>
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<tr>
<td>715</td>
<td>Galvanizing</td>
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### Uniform Standard Drawings

**Clark County Area**

**Streetlight Standard with 2" Pipe Arm**

**Date**: 12-12-96  **Drawing No.**: 314  **Page No.**: 74
NOTES:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 313.
2. SEE STANDARD DRAWING NO. 319 FOR DETAIL OF POLE BASE.
3. SEE STANDARD DRAWING NO. 318 FOR DETAIL OF POLE CAP.

SPECIFICATION REFERENCE

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STREETLIGHT STANDARD
WITH DOUBLE 2" PIPE ARM

DATE 12-12-96  DWG. NO. 315  PAGE NO. 75
NOTES:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 313.
2. SEE STANDARD DRAWING NO. 319 FOR DETAIL OF POLE BASE.
3. SEE STANDARD DRAWING NO. 318 FOR DETAIL OF POLE CAP.

---

**SPECIFICATION REFERENCE**

| 506 | STEEL STRUCTURES  |
| 623 | TRAFFIC SIGNALS & STREETLIGHTING |
| 715 | GALVANIZING  |

---

**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**STREETLIGHT STANDARD WITH TAPERED MAST ARM**

**DATE** 12-12-96  **DWG. NO.** 316  **PAGE NO.** 76
NOTE:
SEE GENERAL NOTES
STANDARD DRAWING NO. 313.
NOTES:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 313
2. HANDHOLE SHALL FACE AWAY FROM ONCOMING TRAFFIC.

SPECIFICATION REFERENCE

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

LOWER POLE DETAILS
FOR PIPE AND MAST ARM
POLES
BEHIND CURBSIDE SIDEWALK

BACK PORTION OF CURBSIDE SIDEWALK (NOT FOR NEW CONSTRUCTION)

OPEN AREA OR BETWEEN CURB AND SIDEWALK

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<td>501 PORTLAND CEMENT CONCRETE</td>
<td>LIGHTING STANDARD SETBACK</td>
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DATE 7-8-04    DWG. NO. 320    PAGE NO. 80
NOTE:
POLE BASE COVERS SHALL BE FURNISHED AND INSTALLED FOR ALL POLES PER THE STANDARD SPECIFICATIONS AND DRAWINGS.
FOR CONDUIT LENGTH, SEE STANDARD DRAWING NO. 338, 339 OR 340

TO POLE GROUNDING POINT

POLE

POLE

ANCHOR BASE

TAPER CONCRETE CAP TO FINISHED GRADE ALL AROUND

4" MIN. - 6" MAX. CONCRETE CAP

FINISHED GRADE

BRONZE ANCHOR BOLT GROUNDING CONNECTORS, UL LISTED FOR UNDERGROUND USE (ONE PER BOLT) SEE NOTE 2

HOT-DIP GALVANIZED ANCHOR BOLT, TYP.

#4 AWG SINGLE-STRAND BARE COPPER GROUNDING CONDUCTOR

1-1/4" PVC CONDUIT, TYP.

CONCRETE FOUNDATION

15# FELT (2 LAYERS)

POLE GROUNDING PLATE PER NEC 250-83

24" SQUARE

ALTERNATE 30" DIAMETER FOUNDATION OFFSET AS NEEDED TO STAY WITHIN RIGHT-OF-WAY

NOTES:

1. SEE GENERAL NOTES STANDARD DRAWING NO. 313

2. CONTINUOUS BARE COPPER GROUNDING CONDUCTOR SHALL BE LOOPED AROUND ANCHOR BOLTS ONE TIME AND CONNECTED TO EACH ANCHOR BOLT BEFORE CONTINUING DOWN TO THE POLE GROUNDING PLATE

3. FOUNDATION CAP SHALL BE CONCRETE OR GROUT AS DESIGNATED BY THE ENTITY ENGINEER.

SPECIFICATION REFERENCE

501 PORTLAND CEMENT CONCRETE

623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

LIGHTING STANDARD FOUNDATION

DATE 7-8-04   DWG. NO. 321   PAGE NO. 81
1 3/16" HOLE, 4 REQD.

4.506" +.003" HOLE DIA.

5 7/8"
3 7/8"
5 3/4"
7 3/4"

4.496 +.003
PIPE O.D.

1/4"
1/4"

1 3/4" HOT-DIP GALV. ANCHOR BOLTS WITH TWO HOT-DIP GALV. HEX. HD. NUTS & WASHERS PER BOLT (4 REQD.).

1/4" X 4" GUSSETS - 4 REQUIRED
1-3/16" HOLE, 4 REQD.

6-3/4"
3 7/8"
5 3/4"
7 3/4"

4.496 ± .003
PIPE O.D.

1/4" X 4" GUSSETS - 4 REQUIRED

2" HOT-DIP GALV. ANCHOR BOLTS WITH TWO HOT-DIP GALV. HEX. HD. NUTS & WASHERS PER BOLT (4 REQD.).
TWO (2) BRONZE FLAT WASHERS AND LOCK WASHER AND BRASS NUT OR EXOTHERMIC WELD LOOP GROUND WIRE BETWEEN FLAT WASHERS TWO (2) TIMES AND SECURE WITH NUT

COVER MOUNTING BOLT, TYP.

GROUNDED CAST IRON OR NON-CONDUCTIVE COVER (PER ENTITY)

PROVIDE 18" MINIMUM FROM EDGE OF BOX

FINISHED GRADE

BRONZE SPLIT-BOLT CONNECTOR WATERPROOF WITH RUBBER AND ELECTRICAL TAPE (COMPRESSION CONNECTOR SHALL BE USED IN CLARK COUNTY)

#8 GREEN THWN

#4 THW

PULL BOX

PVC CONDUIT

(TYPICAL CAST IRON LID SHOWN)

NOTES:
1. PULL BOX LID SHOULD BE TAPPED WITH A 3/8" X 16 COURSE THREAD TAP.
2. FOR TYPICAL NO. 7 PULL BOX COVER GROUNDING, SEE STANDARD DRAWING NO. 327.

SPECIFICATION REFERENCE
623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

PULL BOX COVER
BONDING DETAIL

DATE 12-12-96 DWG. NO. 323 PAGE NO. 83
DEAD FRONT MOUNTING TAB

CHASE NIPPLE, LOCKRING AND BUSHING, TYP.

POLE

NIPPLE

S.S. BANDING

HUB

FRONT

1

DEAD FRONT DRILL HOLE TO CLEAR SWITCH

1/2"

SIDE

1

BLIND RIVET, TYP.

KEYED NOTE:

1

SINGLE POLE, SINGLE THROW ON-OFF, 10 AMP, 125 VAC SWITCH, SEALED, WITH 5 IN. WIRE LEADS

SIZE OPENING FOR SWITCH

2"

3"

1/2"

SWITCH BRACKET, 14 GA.

SIDE TAB

MOUNTING HOLE, TYP.

BOTTOM TAB

SWITCH BRACKET

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

623 TRAFFIC SIGNALS & STREETLIGHTING

BYPASS SWITCH BRACKET
FOR POLE MOUNTED
STREETLIGHTING SERVICE
(CITY OF MESQUITE ONLY)

DATE 4-13-00
DWG. NO. 324
PAGE NO. 84
REM OVE MINIMUM PORTION OF FOUNDATION TO INSTALL CONDUIT. REPLACE CONCRETE.

NEW 1-1/4" PVC CONDUIT, TYP.

POLE

REMOVE ENTIRE FOUNDATION CAP FOR CONDUIT INSTALLATION, REPLACE CAP. SEE NOTE 3
SEE STANDARD DRAWING NO. 320 FOR CAP PLACEMENT.

FINISHED GRADE

EXISTING FOUNDATION LIMIT FOR 24" SQUARE
EXISTING FOUNDATION LIMIT FOR OPT. 36" DIA.

EXISTING GROUNDING PLATE

24" TYP.
36" MAX.

NOTES:

1. WHEN NO GROUNDING ELECTRODE EXISTS, 5/8 IN. DIA. SOLID COPPER GROUNDING ROD,
8 FT. IN LENGTH, SHALL BE INSTALLED.

2. ANCHOR BOLTS SHALL BE CONTINUOUS AND HAVE A MINIMUM 1 IN. FREE THREAD.

3. FOUNDATION CAP SHALL BE CONCRETE OR GROUT AS DESIGNATED BY ENTITY ENGINEER.
CAST IRON OR NON-CONDUCTIVE COVER FOR PEDESTRIAN AREAS

COVER

BRASS "L" BOLT AND NUT

BODY

EXTENSION
AS SPECIFIED BY THE ENGINEER

<table>
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<th>SIZE</th>
<th>(COMMERCIAL DESIGNATION)</th>
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<tr>
<td>3-1/2</td>
<td>5</td>
</tr>
<tr>
<td>A</td>
<td>15</td>
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<tr>
<td>B</td>
<td>10</td>
</tr>
<tr>
<td>C</td>
<td>3/4</td>
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<tr>
<td>D</td>
<td>19-3/8</td>
</tr>
<tr>
<td>E</td>
<td>14-3/8</td>
</tr>
<tr>
<td>F</td>
<td>12</td>
</tr>
<tr>
<td>G</td>
<td>N/A</td>
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</tbody>
</table>

NOMINAL DIMENSION IN INCHES

NOTES:
1. COVERS INSTALLED IN TRAFFIC AND OPEN AREAS ACCESSIBLE TO TRAFFIC SHALL BE PER STANDARD DRAWING NO. 327.
2. SEE STANDARD DRAWING NO. 323 FOR COVER GROUNDING.

SPECIFICATION REFERENCE
503 PRECAST PRESTRESSED CONCRETE MEMBERS
623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

PRECAST REINFORCED CONCRETE PULL BOX

DATE 12-12-96 DWG. NO. 326 PAGE NO. 86
NOTES:
1. COVER USED IN TRAFFIC AND OPEN AREAS ACCESSIBLE TO TRAFFIC ONLY.
2. TYPICAL NO. 7 PULL BOX COVER SHOWN. SUBMIT OTHERS TO THE ENGINEER FOR APPROVAL.
3. ALL TRAFFIC AND OPEN AREA COVERS SHALL BE H 20 RATED.

SPECIFICATION REFERENCE
- 506 STEEL STRUCTURES
- 623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

PULL BOX STREET COVER

DATE 12-12-96 DWG. NO. 327 PAGE NO. 87
NOTE:

1. PROVIDE A MINIMUM OF 8" AROUND ALL BOXES. ANY BOX SHALL NOT BE PLACED WITHIN 3'-3" OF FIRE HYDRANTS IN DRIVEWAYS OR DRIVEWAY APRONS. THIS DRAWING IS NOT INTENDED TO LIMIT THE NUMBER OF BOXES BETWEEN DRIVEWAYS TO TWO.

2. FOR WATER SERVICE BOXES, REFER TO UDACS PLATE 1A-10.

SPECIFICATION REFERENCE

<table>
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<th>Specification</th>
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<td>REINFORCING STEEL</td>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

UTILITY PULL BOX LOCATIONS
SIDEWALK AND BETWEEN DRIVEWAYS

DATE 04-12-07   DWG. NO. 328
CONCRETE COLLAR

8" MIN. ALL AROUND

LAP TIED 12" MIN.

#4 REBAR, 2" MIN. 4" MAX FROM EDGE OF BOX

VARIES

GUTTER CURB

UTILITY BOX

VARIES

CURB

GRADE

TYPICAL SECTION

CONCRETE COLLAR

#4 REBAR

6"

1" MIN.

3"

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

PORTLAND CEMENT CONCRETE
501

REINFORCING STEEL
505

TRAFFIC SIGNALS & STREETLIGHTING
623

CONCRETE AROUND PULL BOXES
IN UNDEVELOPED AREAS

DATE 12-12-96   DWG. NO. 329   PAGE NO. 89
SERVICE PEDESTAL ENCLOSURE, 12 GA. SHEET METAL BODY AND EQUIPMENT MOUNTING PANEL, 14 GA. FRONT COVER(S) AND 16 GA. MIN. FOR ALL OTHER PANELS. ALL SHEET METAL SHALL BE FINISHED WITH ZINC CHROMATE PRIMER AND GREEN BAKED ENAMEL OR POWDER COAT FINISH. METERING SECTION PER P.U.E.S.E.R. STANDARDS.

UTILITY METER SECTION, 125 OR 200 AMP AS NEEDED, 120/240 VOLT, 1 PHASE, 3 WIRE. THE SECTION SHALL HAVE A HINGED COVER WITH PADLOCK TAB.

CIRCUIT BREAKER DISTRIBUTION SECTION, 125 OR 200 AMP AS NEEDED, 120/240 VOLT, 1 PHASE, 3 WIRE. THE SECTION SHALL BE COMPLETE WITH SEPARATE DEAD FRONT, COPPER BUSING, SPACE FOR A MINIMUM OF TEN FULL SIZE ("E") TYPE PLUG-IN CIRCUIT BREAKERS (EXCLUDING MAIN BREAKER), COPPER NEUTRAL/GROUNDING BUS AND MAIN BREAKER AS SPECIFIED BY THE ENGINEER. THE SECTION SHALL BE FACTORY WIRED TO THE METER SECTION WITH THE APPROPRIATE SIZE COPPER CONDUCTORS.

EQUIPMENT MOUNTING PANEL, 10" H X 12" W MIN., OPEN OR ENCLOSED, FOR LIGHTING CONTACTORS AS NEEDED.

DISTRIBUTION AND EQUIPMENT SECTION COVER WITH PADLOCK TAB.

BASE AND ENCLOSURE WIDTH (16" TYP.)
BASE DEPTH (16" TYP.)
ENCLOSURE DEPTH (17" TYP.)

TYPICAL MOUNTING BASE DETAIL
(DIMENSIONS MAY VARY DEPENDING ON MANUFACTURER)

PULL SPACE ACCESS DOOR WITH HANDLE, PER SERVING UTILITY

SEPARATE PEDESTAL ENCLOSURE MOUNTING BASE (OPTIONAL)
Effective 01/01/11 - 06/30/11

BEHIND SIDEWALK (FOR WIDTHS LESS THAN 5 FT.)

BACK PORTION OF SIDEWALK (FOR WIDTHS OF 5 FT. OR GREATER)

OPEN AREA

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SERVICE PEDESTAL SETBACK

DATE 12-12-96   DWG. NO. 331   PAGE NO. 91
125 AMP SERVICE: 2" CONDUIT, 2 #1 THW AND 1 #6 WHITE THW
200 AMP SERVICE: 2" CONDUIT, 2 #3/0 THW AND 1 #2 WHITE THW

NOTES:

1. BARE COPPER GROUNDING CONDUCTOR SHALL BE LOOPED AROUND ANCHOR BOLTS ONE TIME AND CONNECTED TO EACH ANCHOR BOLT BEFORE CONTINUING DOWN TO THE GROUNDING PLATE.

2. CABINET COVERS SHALL BE PARALLEL WITH CURB.

3. IN AREAS WHERE R/W PERMITS, THE CONCRETE BASE SHALL BE PLACED AT THE BACK EDGE OF THE SIDEWALK.

4. CABINET COVERS SHALL OPEN TOWARDS THE STREET WHEN CABINETS ARE LOCATED AT BACK OF WALK. CABINET COVERS SHALL OPEN PARALLEL TO THE SIDEWALK FACING THE DIRECTION OF TRAFFIC WHEN LOCATED WITHIN THE SIDEWALK.

5. WIRE SIZES ARE BASED ON UNDERGROUND FEED.

6. WIRE SIZES SHALL BE INCREASED FOR VOLTAGE DROP LIMITATION WHEN RUN IS LONG.
1. BARE COPPER GROUNDING CONDUCTOR SHALL BE LOOPED AROUND ANCHOR BOLTS ONE TIME AND CONNECTED TO EACH ANCHOR BOLT BEFORE CONTINUING DOWN TO THE GROUNDING PLATE.
2. CABINET COVERS SHALL BE PARALLEL WITH CURB.
3. IN AREAS WHERE R/W PERMITS, THE CONCRETE BASE SHALL BE PLACED AT THE BACK EDGE OF THE SIDEWALK.
4. CABINET COVERS SHALL OPEN TOWARDS THE STREET WHEN CABINETS ARE LOCATED AT SACK OF WALK. CABINET COVERS SHALL OPEN PARALLEL TO THE SIDEWALK FACING THE DIRECTION OF TRAFFIC WHEN LOCATED WITHIN THE SIDEWALK.
5. WIRE SIZES ARE BASED ON UNDERGROUND FEED.
6. WIRE SIZES SHALL BE INCREASED FOR VOLTAGE DROP LIMITATION WHEN RUN IS LONG.
Effective 01/01/11 - 06/30/11

UL LISTED

PHOTO CONTROL

LIGHTING CONTACTOR
60 AMP., 240 VOLT,
2 POLE WITH 120 VOLT
CONTROL

REMovable COVER

Stainless steel banding and
brackets, typ.

Meter socket and load center shall
be secure and rigid on the pole.
Fasteners if used shall not penetrate
pole shaft, chase nipple placement
shall be as shown for stability

Meter socket (per utility's requirements)
face meter away from traffic.

Hub, rain tight

Single phase, 3 wire, 120/240 vac circuit
breaker load center, main lugs only,
NEMA 3R (rain-tight) enclosure with
padlocking provisions, and a minimum of
eight (8) single spaces. Bussing shall be
copper.
For load mains ampere rating, and/or circuit
breaker ratings, number of poles and
quantity, see plans.

See standard drawing no. 324 for bypass
switch bracket installation.

Handhole (face away from oncoming traffic)

Single-strand bare #4 awg copper grounding
conductor to load center, conductor
shall be used to ground pole and
must be unbroken.

Bronze grounding connector
UL listed for underground use

Concrete foundation
See standard drawing no. 321

Note:
Recommend locating service point as
close to the center of the
streetlighting circuit as possible.

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<td>STREETLIGHTING SERVICE</td>
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<tr>
<td></td>
<td>POINT LOCATED ON</td>
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<td></td>
<td>STREETLIGHT STANDARD</td>
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DATE 4-13-00
DWG. NO. 333
PAGE NO. 93
TO UTILITY SINGLE PHASE, 3 WIRE, 120/240 VAC SERVICE. LEAVE A MINIMUM OF 10 FEET SLACK IN EACH CONDUCTOR.

SINGLE PHASE, 3 WIRE, 120/240 VAC CIRCUIT BREAKER LOAD CENTER, MAIN LUGS ONLY. NEMA 3R (RAIN-TIGHT) ENCLOSURE WITH PADLOCKING PROVISIONS, AND A MINIMUM OF EIGHT (8) SINGLE SPACES. BUSING SHALL BE COPPER. FOR LOAD MAINS AMPERE RATING, AND/OR CIRCUIT BREAKER RATINGS, NUMBER OF POLES AND QUANTITY, SEE PLANS.

RIGID GALVANIZED STEEL CONDUIT

2" RIGID GALVANIZED STEEL CONDUIT

NO. 4 AWG GROUNDING CONDUCTOR ENCASED IN 1/2" E.M.T.

2-HOLE PIPE STRAPS SPACED 5 FEET APART

METER SOCKET (PER UTILITY'S REQUIREMENTS) FACE METER AWAY FROM TRAFFIC.

2-HOLE PIPE STRAPS

PVC COATED OR WRAPPED WITH 10 MIL CORROSION PROTECTIVE TAPE, 1/2 LAPPED, RIGID GALVANIZED STEEL 90° ELBOW, 24" MIN. RADIUS

FINISHED GRADE

EQUIPMENT GROUNDING: MINIMUM OF 20 FEET OF SOLID NO. 4 AWG BARE COPPER WIRE, SPIRAL WRAPPED AROUND POLE WITH A 1/2 INCH PITCH. SEE NOTE 2.

PVC TO STEEL CONDUIT ADAPTOR

PVC CONDUIT TO FIRST STREETLIGHT SEE NOTE 1

1 125 AMP SERVICE: 2" CONDUIT, 2 #1/0 THW AND 1 #4 WHITE THW
200 AMP SERVICE: 2" CONDUIT, 2 250 KCMIL THW AND 1 #1/0 WHITE THW
(0.82 DERATE HAS BEEN APPLIED FOR AMBIENT TEMPERATURE)

NOTES:
1. ALL WIRES TO BE COPPER; SEE PLANS FOR QUANTITY AND GAGES.
2. WITH ENGINEER'S APPROVAL, AN 8 FT. BY 5/8 IN. COPPER-CLAD GROUNDING ROD MAY BE USED.
3. ALL CONDUIT FITTINGS TO BE WATER-TIGHT.

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TEMPORARY APPLICATION
120/240 VAC SERVICE
ON WOOD POLE
OVERHEAD SERVICE

DATE  8-12-99  DWG. NO. 334  PAGE 94
PHOTO ELECTRIC CONTROL, MOUNTED AT FIRST LIGHTING STANDARD FACE PE CELL NORTH

POLE OR PEDESTAL SERVICE EQUIPMENT

LINE (BLACK)

LOAD (RED)

NEUTRAL (WHITE)

120 VOLT

COIL

15 AMP

1 POLE

BYPASS SW

3

60 AMP

2 POLE

NEUTRAL BUS

2 #4 THW (240 VOLT)

2 POLE LIGHTING CONTACTOR

SERVICE ENTRANCE

2 #4 THW, TYP.

BRONZE SPLIT-BOLT CONNECTOR, TAPE TO INSULATE TO THE DIELECTRIC STRENGTH OF THE CONDUCTOR INSULATION

TO END OF CIRCUIT

#10 THW STRANDED

2 POLE WATERPROOF FUSE HOLDER AND FUSES, TYP. SEE STANDARD DRAWING NO. 338

10/2 UF WITH GROUND

LUMINAIRE TYP.

125 AMP SERVICE: 2" CONDUIT, 2 #1 THW AND 1 #6 WHITE THW
200 AMP SERVICE: 2" CONDUIT, 2 #3/0 THW AND 1 #2 WHITE THW
FOR POLE SERVICE, WIRE SIZES SHALL BE TEMPERATURE DERATED.

GROUNDING AND BONDING CONDUCTORS OMITTED FOR CLARITY, SEE STANDARD DRAWING NOS. 336 AND 337.

SINGLE POLE, SINGLE THROW, ON-OFF, 10 AMP, 125 VAC SWITCH, SEALED, WITH 5 IN. LEADS
FOR CONDUIT SIZE AND WIRING REQUIREMENTS FOR STREET LIGHT SERVICE, SEE STANDARD DRAWING NO. 332.1 FOR LAS VEGAS AND CLARK COUNTY ONLY AND 332 FOR ALL OTHER ENTITIES.
STEEL POLE WITH SERVICE
LIGHTING CONTACTOR
EQUIPMENT GROUND SCREW, TYP.
METER SOCKET
LOAD CENTER
NEUTRAL BUS
#4 AWG SINGLE-STRAND BARE COPPER GROUNDING CONDUCTOR, UNBROKEN
BRONZE SPLIT-BOLT CONNECTOR, TYP.

#10 BARE COPPER (PART OF UF CABLE)
METALLIC PULL BOX COVER
EXOTHERMIC WELD OR BOLTED CONNECTION SEE STANDARD DRAWING NO. 323

#8 GREEN THWN

POLE GROUNDING POINT, TYP. SEE STANDARD DRAWING NO. 338
ANCHOR BOLTS (4)
BRONZE GROUNDING CONNECTORS (4) SEE STANDARD DRAWING NO. 321 OR 333
#4 BARE COPPER
GROUNDING PLATE

1 125 AMP SERVICE: 1 #4 WHITE THW
200 AMP SERVICE: 1 #1/0 WHITE THW

SPECIFICATION REFERENCE
623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SYSTEM GROUNDING PLAN
WITH POLE MOUNTED SERVICE

DATE 8-12-99  DWG. NO. 337  PAGE NO. 97
MANHOLE NOTES:

1. MANHOLE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 609, "CATCH BASINS, MANHOLES AND INLETS" OF THE "STANDARD SPECIFICATIONS".

2. REINFORCING STEEL SHALL BE AS SHOWN, WIRED TIGHTLY AT ALL INTERSECTIONS AND EMBEDDED AT LEAST ONE (1) INCH CLEAR UNLESS OTHERWISE NOTED.

3. EXCAVATION SHALL BE AS NEARLY VERTICAL AS POSSIBLE (SHEET AND SHORE, IF SOIL CONDITIONS REQUIRE), IN EXISTING STREET SECTIONS, ALLEY SECTIONS AND CONFINED AREAS SUCH AS LIMITED EASEMENTS OR ADJACENT TO STRUCTURES. NATURAL ANGLE OF REPOSE WILL ALLOW IN ALL OTHER AREAS.

4. MANHOLE DESIGN FOR PIPE LARGER THAN SIXTY (60) INCHES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

5. MANHOLE DESIGN FOR DEPTHS EXCEEDING EIGHTEEN (18) FEET SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

6. TYPE AND SIZE OF MANHOLE TO BE CONSTRUCTED IN A PARTICULAR LOCATION SHALL BE DETERMINED BY THE PIPE SIZE, ALIGNMENT AND GRADE AS FOLLOWS:

TYPE I

FORTY-EIGHT (48) INCH SIZE
   A. ALL CASES FOR PIPE EIGHTEEN (18) INCHES AND SMALLER.
   B. TWENTY-FOUR (24) INCHES AND SMALLER PIPE ON TANGENT LINE AND GRADE.

SIXTY (60) INCH SIZE
   A. TWENTY-SEVEN (27) INCH THROUGH THIRTY-SIX (36) INCH PIPE ON TANGENT LINE AND GRADE.
   B. TWENTY-ONE (21) INCH THROUGH TWENTY-SEVEN (27) INCH PIPE AT ANGLE POINTS AND CHANGES IN GRADE OR PIPE SIZE.

TYPE I-A

USED IN PLACE OF TYPE I WHEN COVER ABOVE CONDUIT IS LIMITED, AND WHEN APPROVED BY THE ENGINEER.

TYPE II

FORTY-EIGHT (48) INCH SIZE
   A. THIRTY (30) INCH THROUGH SIXTY (60) INCH PIPE ON TANGENT LINE WITH A CHANGE IN GRADE OR PIPE SIZE.
MANHOLE NOTES (CONTINUED):

TYPE III

TANGENT
SIXTY (60) INCH SIZE
   A. THIRTY-NINE (39) INCH THROUGH SIXTY (60) INCH PIPE ON TANGENT LINE AND
      GRADE WITH NO CHANGE IN PIPE SIZE.

ANGLE POINT
SIXTY (60) INCH SIZE
   A. THIRTY (30) INCH THROUGH SIXTY (60) INCH PIPE AT THE ANGLE POINT IN LINE.

7. PRECAST MANHOLE COMPONENTS SHALL CONFORM TO ASTM C-478.

8. DISTANCE BETWEEN THE TOP OF MANHOLE AND FIRST STEP SHALL BE A MAXIMUM OF SIXTEEN (16)
   INCHES. MANHOLE STEPS SHALL BE GROUTED IN PLACE.

9. (CLARK COUNTY ONLY) DISTANCE BETWEEN MANHOLES SHALL BE A MAXIMUM OF FOUR HUNDRED (400)
   FEET.

10. MANHOLE SPACING SHALL BE REFERRED TO THE WASTE WATER COLLECTION STANDARDS.
DROP INLET NOTES:

1. ALL DROP INLETS, REGARDLESS OF TYPE, SHALL BE LOCATED SUCH THAT THE CURB OPENING (OR GRATE) IS A MINIMUM OF TEN (10) FEET FROM THE NEAREST P.C. OR P.T. OF THE CURRENT OR FUTURE CURB RETURN.


3. IF DRIVEWAYS OR UTILITIES EXIST, THE ENTITY ENGINEER SHALL APPROVE THE LOCATION OF THE DROP INLET.
NOTES:

1. IN UNIMPROVED NON-TRAFFIC AREAS, TOP OF MANHOLE SHALL BE 6" TO 9" ABOVE GRADE.
2. PIPES SHALL NOT PROTRUDE MORE THAN 3" INSIDE OF MANHOLE SECTION. CONSTRUCT WATER TIGHT CONNECTION TO MANHOLE.
3. PIPE SECTION LENGTHS ARRANGED TO FIT DEPTH.
4. AN OPTIONAL TWO PIECE 24" TO 48" AND 48" TO 60" CONE MAY BE USED.
NOTES:

1. IN UNIMPROVED NON-TRAFFIC AREAS, TOP OF MANHOLE SHALL BE 6" TO 9" ABOVE GRADE.

2. PIPES SHALL NOT PROTRUDE MORE THAN 3" INSIDE OF MANHOLE SECTION. CONSTRUCT WATER TIGHT CONNECTION TO MANHOLE.

3. PIPE SECTION LENGTHS ARRANGED TO FIT DEPTH.

4. AN OPTIONAL TWO PIECE 30" TO 48" AND 48" TO 60" CONE MAY BE USED.

5. THE USE OF A 30" RING AND COVER SHALL BE APPROVED BY THE ENTITY ENGINEER.
NOTE:
1. PIPE SECTION LENGTHS ARRANGED TO FIT DEPTH.

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<tr>
<td>A</td>
<td>RING &amp; COVER</td>
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<tr>
<td>B</td>
<td>GRADE ADJUSTING RING</td>
</tr>
<tr>
<td>C</td>
<td>1' SECTION REIN. CONC. PIPE</td>
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<tr>
<td>D</td>
<td>2' SECTION REIN. CONC. PIPE</td>
</tr>
<tr>
<td>E</td>
<td>3' SECTION REIN. CONC. PIPE</td>
</tr>
<tr>
<td>F</td>
<td>BASE</td>
</tr>
</tbody>
</table>
NOTE:
1. PIPE SECTION LENGTHS ARRANGED TO FIT DEPTH.
2. THE USE OF A 30" RING AND COVER SHALL BE APPROVED BY THE ENTITY ENGINEER.

<table>
<thead>
<tr>
<th>SYM.</th>
<th>ITEM</th>
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<tbody>
<tr>
<td>A</td>
<td>RING &amp; COVER</td>
</tr>
<tr>
<td>B</td>
<td>GRADE ADJUSTING RING</td>
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<tr>
<td>C</td>
<td>1&quot; SECTION REIN. CONC. PIPE</td>
</tr>
<tr>
<td>D</td>
<td>2&quot; SECTION REIN. CONC. PIPE</td>
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<tr>
<td>E</td>
<td>3&quot; SECTION REIN. CONC. PIPE</td>
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<tr>
<td>F</td>
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SPECIFICATION REFERENCE

| 501  | CONCRETE & MORTAR                        |
| 609  | CATCH BASINS, MANHOLES & INLETS          |
NOTES:

1. STEPS SHALL BE INSTALLED ON THE UPSTREAM WALL OF THE MANHOLE.

2. W = I.D. + 12-INCHES MIN. BUT IN NO CASE SHALL W BE LESS THAN 60-INCHES.
NOTES:

1. STEPS SHALL BE INSTALLED ON THE SIDE WALL OF THE MANHOLE.
2. \( W = I.D. + 12 \text{-INCHES MIN.} \) BUT IN NO CASE SHALL \( W \) BE LESS THAN 60- INCHES.
3. THE USE OF A 30" RING AND COVER SHALL BE APPROVED BY THE ENTITY ENGINEER.

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<tr>
<td>505</td>
<td>TYPE II MANHOLE</td>
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<tr>
<td>609</td>
<td>30&quot; RING AND COVER</td>
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</table>

DATE 11/10/05   DWG. NO. 405A   PAGE NO. 105A
**SECTION A-A**  
**TANGENT**

**NOTE:**
1. STEPS SHALL BE INSTALLED ON THE UPSTREAM WALL OF THE MANHOLE.

**SECTION B-B**  
**ANGLE POINT**

**SPECIFICATION REFERENCE**

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**UNIFORM STANDARD DRAWINGS**  
**CLARK COUNTY AREA**

**TYPE III MANHOLE**

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<td>406</td>
<td>106</td>
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Effective 01/01/11 - 06/30/11

NOTE:
1. STEPS SHALL BE INSTALLED ON THE UPSTREAM WALL OF THE MANHOLE.
2. THE USE OF A 30" RING AND COVER SHALL BE APPROVED BY THE ENTITY ENGINEER.

SECTION A-A
TANGENT

SECTION B-B
ANGLE POINT

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPE III MANHOLE
30" RING AND COVER

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</tr>
<tr>
<td>609</td>
<td>CATCH BASINS, MANHOLES &amp; INLETS</td>
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</table>

DATE 11-10-05   DWG. NO. 406A   PAGE NO. 106A
NOTE:

1. THE USE OF A 30" RING AND COVER SHALL BE APPROVED BY THE ENTITY ENGINEER.
NOTES:

1. CONCRETE COLLAR TO BE CONSTRUCTED 1/8" BELOW SURFACE OF DENSE GRADE WHERE OPEN GRADE IS NOT USED.

2. CONCRETE COLLAR NOT REQUIRED IN UNINCORPORATED CLARK COUNTY RESIDENTIAL STREETS LESS THAN 80' R/W WIDTH.
NOTES:
1. CONCRETE COLLAR TO BE CONSTRUCTED 1/8" BELOW SURFACE OF DENSE GRADE WHERE OPEN GRADE IS NOT USED.
2. CONCRETE COLLAR NOT REQUIRED IN UNINCORPORATED CLARK COUNTY RESIDENTIAL STREETS LESS THAN 80' R/W WIDTH.
3. THE USE OF 30" RING AND COVER SHALL BE APPROVED BY THE ENTITY ENGINEER.

SPECIFICATION REFERENCE

| 501 | CONCRETE |
| 505 | REINFORCING STEEL |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CONCRETE COLLAR AROUND MANHOLES
30" RING AND COVER

DATE 11/10/05  DWG. NO. 408A  PAGE NO. 108A
NOTES:

1. FRAME AND COVER TO BE ALHAMBRA FOUNDRY COMPANY TYPE A1310 IN ACCORDANCE WITH ASTM A-48, CLASS 30, OR APPROVED EQUAL.

2. CAST IRON SHALL HAVE MINIMUM TENSILE STRENGTH OF 30,000 P.S.I.

3. FRAME AND COVER MACHINED TO FIT.

4. WEIGHT OF FRAME AND COVER 330 LBS. MINIMUM.
NOTES:
1. FRAME AND COVER TO BE ALHAMBRA FOUNDRY COMPANY TYPE A1310 IN ACCORDANCE WITH ASTM A-48, CLASS 30, OR APPROVED EQUAL.
2. CAST IRON SHALL HAVE MINIMUM TENSILE STRENGTH OF 30,000 P.S.I.
3. FRAME AND COVER MACHINED TO FIT.
4. WEIGHT OF FRAME AND COVER 330 LBS. MINIMUM.
5. THE USE OF A 30" RING AND COVER SHALL BE APPROVED BY THE ENTITY ENGINEER.

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<td>712 MISCELLANEOUS METALS</td>
<td>CLARK COUNTY AREA</td>
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STANDARD MANHOLE
30" COVER AND RING

DATE 11/10/05  DWG. NO. 409A  PAGE NO. 109A
NOTES:

1. MANHOLE STEP SHALL CONFORM TO A.S.T.M. C-478 AND C-497.

2. ALUMINUM STEPS SHALL BE SOLID, MADE FROM MATERIAL IN CONFORMANCE WITH A.S.T.M. B221 (ALLOY 6005-TS).

3. REINFORCED PLASTIC STEPS SHALL BE POLYPROPYLENE PLASTIC, WITH NO. 3 (MIN.) DEFORMED STEEL ROD (GRADE 60/A.S.T.M. A-615).

4. STEPS SHALL BE EVENLY SPACED FROM 12" TO 16".

5. ALL STEPS MUST BE EPOXIRED IN PLACE DURING THE INSTALLATION PROCESS.

MANHOLE STEPS

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STANDARD
MANHOLE STEPS

DATE 3-11-04  DWG. NO. 410  PAGE NO. 110
**Effective 01/01/11 - 06/30/11**

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<tr>
<td>8'-1&quot; TO 20'-0&quot;</td>
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**Notes:**

1. Depth "D" to be shown on plans.
2. Outlet pipe size to be shown on plans.
3. Outlet pipe shall be trimmed flush with inside face of inlet.
4. Section B-B is optional for inlets where L = 7'-0" or greater, and D = 5'-0" or greater, see standard drawing No. 415.

### Section A-A

**Uniform Standard Drawings**

**Clark County Area**

**Drop Inlet**

**Type "A"**

**Specification Reference**

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<td>502</td>
<td>CONCRETE STRUCTURES</td>
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<tr>
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**Date** 4-11-02  **DWG. No.** 411  **Page No.** 111
Effective 01/01/11 - 06/30/11

**Specifications**

- **Effective Date:** 01/01/11 - 06/30/11

---

**Diagram Description**

- **ALL VERTICAL REINFORCEMENT #4 BARS AT 12" O.C. MAX.**
- **ALL HORIZONTAL REINFORCEMENT #4 BARS AT 12" O.C. MAXIMUM**
- **ALHAMBRA FOUNDRY TYPE A1530 FRAME & COVER (WITH 22" DIAMETER CLEAR OPENING) IN ACCORDANCE WITH ASTM A-48, CLASS 30, OR APPROVED EQUAL. COVER TO BE SECURED WITH 2 5/8" DIAMETER STAINLESS STEEL BOLTS.**

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<tr>
<td>8'-1&quot; TO 20'-0&quot;</td>
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**Notes:**

1. DEPTH "D" TO BE SHOWN ON PLANS.
2. OUTLET PIPE SIZE TO BE SHOWN ON PLANS.
3. CONCRETE SHALL BE CLASS "D" OR "DA".
4. OUTLET PIPE SHALL BE TRIMMED FLUSH WITH INSIDE FACE OF INLET.
5. FOR GRATE DETAIL SEE STANDARD DRAWING NO. 417

---

**Specification Reference**

- **UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA**
- **DROP INLET TYPE "B"**

**Table**

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**Date:** 4-11-02  **DWG. No.:** 412  **Page:** 112
NOTES:
1. DEPTH "D" TO BE SHOWN ON PLANS.
2. OUTLET PIPE SIZE TO BE SHOWN ON PLANS.
3. WHEN LENGTH "L" EXCEEDS 4'-0" SUPPORT BOLTS REQUIRED, SEE STANDARD DRAWING NO. 418.
4. FOR GRATE DETAIL SEE STANDARD DRAWING NO. 417.
5. SECTION B-B IS OPTIONAL FOR INLETS WHERE L > 7'-0" AND D > 5'-0", SEE STANDARD DRAWING NO. 415.
NOTES:
1. DROP INLET TYPE "D" TO BE USED WHEN CONFLICTING UTILITIES ARE LOCATED IN THE SIDEWALK AREA.
2. DEPTH "D" AND DISTANCE "Y" TO BE SHOWN ON PLANS.
3. OUTLET PIPE SIZE TO BE SHOWN ON PLANS.
4. WHEN LENGTH "L" EXCEEDS 4'-0" SUPPORT BOLTS REQUIRED, SEE STANDARD DRAWING NO. 418.
5. FOR GRATE DETAIL SEE STANDARD DRAWING NO. 417.
6. SECTION B-B IS OPTIONAL FOR INLETS WHERE L > 7'-0" AND D > 5'-0", SEE STANDARD DRAWING NO. 415.
SECTION B-B

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<tr>
<td>8'-1&quot; TO 20'-0&quot;</td>
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NOTES:

1. DEPTH "D" TO BE SHOWN ON PLANS.
2. OUTLET PIPE SIZE TO BE SHOWN ON PLANS.
3. SECTION APPEARS AS SECTION B-B FOR DROP INLET TYPE "A", STANDARD DRAWING NO. 411 AND FOR DROP INLET TYPE "C" STANDARD DRAWING NO. 413.

SPECIFICATION REFERENCE

<table>
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UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

DROP INLET TYPES "A" AND "B" SPECIAL DESIGN

DATE  DWG. NO.  PAGE NO.
415   115
NOTE:
BEEHIVE DROP INLETS SHALL BE USED AT LOCATIONS APPROVED BY THE ENGINEER.
NOTE:
ALL EXPOSED METAL PARTS SHALL BE GALVANIZED AND ALL GALVANIZING DAMAGED BY FABRICATION OR INSTALLATION SHALL RECEIVE TWO COATS OF ALUMINUM PAINT (GALVONOX OR EQUAL).

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<td>712 MISCELLANEOUS METAL</td>
<td>DROP INLET FRAME AND GRATE</td>
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<td>714 PAINT</td>
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<td>715 GALVANIZING</td>
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DATE 10-14-99 DWG. NO. 417 PAGE 117
FOR STEEL PLATE AND PROTECTION BAR DETAILS, SEE STANDARD DRAWING NO. 419.
ADJUSTING NUTS TO BE TIGHTENED & SECURED IN PLACE WHEN PLATE IS IN PROPER POSITION.

1" Ø PROTECTION BAR SHALL BE EMBEDDED 5" AT EACH END. (SEE NOTE 1)

1" x (CURB FACE + 6") SUPPORT BOLT.

NOTES:
1. PROTECTION BAR SHALL BE REQUIRED ON ALL INLETS AND SHALL BE PLACED PARALLEL TO THE STEEL FACE PLATE.
2. SUPPORT BOLTS SHALL BE EQUALLY SPACED AT NOT MORE THAN 2'-0" O.C. AND NOT LESS THAN 1'-6" O.C.
3. ALL EXPOSED METAL PARTS SHALL BE GALVANIZED AND GALVANIZING DAMAGED BY FABRICATION OR INSTALLATION SHALL RECEIVE TWO COATS OF ALUMINUM PAINT (GALVONOX OR EQUAL).
4. FOR STEEL PLATE ANCHORAGE, SEE STANDARD DRAWING NO. 418.
5. #4 BARS x (L+6") SHALL BE IN ADDITION TO REINFORCING STEEL PER APPLICABLE DROP INLET STANDARD PLAN.

SPECIFICATION REFERENCE

| 713  | REINFORCEMENT PLATES |
| 714  | PAINT |
| 715  | GALVANIZING |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

DROP INLET
STEEL PLATE AND PROTECTION BAR

DATE DWG. NO. PAGE NO. 419 119
NOTES:

1. CONSTRUCT 14-FOOT WIDE CHAIN LINK GATE AT ALL STREET ACCESS POINTS, FOR ACCESS ONTO 12-FOOT ACCESS ROADS.

2. CONSTRUCT 3-FOOT WIDE CHAIN LINK GATE AT ALL STREET ACCESS POINTS FOR ACCESS ON THE 5-FOOT WIDTH ACCESS SIDE.

3. CONSTRUCT SECOND ACCESS ROAD (12-FOOT MINIMUM WIDTH WITH 6-INCH MIN. TYPE II AGGREGATE BASE) IF B EXCEEDS 30'.

4. FOR UNLINED CHANNELS H ≥ 2.

5. "V" DITCH SHALL BE CONSTRUCTED TO PREVENT OVERLAND RUNOFF FROM ERODING SIDES OF BANK. AN ADEQUATE NUMBER OF INLETS ALONG THE "V" DITCH SHALL BE DESIGNED WITH A MINIMUM 12-INCH CMP LATERAL DISCHARGING INTO THE CHANNEL. APPROPRIATE BANK PROTECTION FOR LATERAL PIPE DISCHARGE SHALL BE PROVIDED. OTHER METHODS OF OVERLAND RUNOFF CONTROL MAY BE ACCEPTABLE IF APPROVED BY THE ENGINEER.
NOTES:

1. MESSAGE OR SYMBOL SHALL BE AS SHOWN ON THE DRAWING OR ON THE VERTICAL CURB NEXT TO THE DROP INLET OR AS APPROVED BY THE APPROPRIATE CITY OR COUNTY ENGINEER.

2. LETTERS SHALL BE 1-7/16" IN HEIGHT. THE MESSAGE SHALL BE CENTERED ON THE BACK OF THE INLET OR ON THE TOP OF CURB.

3. CONCRETE SHALL BE STAMPED IN SUCH A WAY AS TO PROVIDE FOR A CLEAR AND LEGIBLE IMAGE. (APPROXIMATE DEPTH OF 1/4").

4. ALL STAMPS SHALL BE APPROVED BY THE CITY OR COUNTY ENGINEER BEFORE BEING USED.

5. STAMP MAY BE PERMANENTLY CAST INTO CAST IRON FRAME OR PRE-CAST CONCRETE PORTIONS OF INLET.

6. WHERE RETROFITTING IS REQUIRED, AN EPOXIED PLACARD BEARING THE MESSAGE AND SYMBOL APPROVED BY THE APPROPRIATE CITY OR COUNTY ENGINEER SHALL BE PERMANENTLY AFFIXED ON THE TOP OF THE ADJACENT CURB.

7. THIS STANDARD IS REQUIRED IN THE LAS VEGAS VALLEY IN WHICH AREA WATER DRAINS TO LAKE MEAD.
**STAMP MESSAGES AND SYMBOLS**

16.5" MAXIMUM

DON'T POLLUTE!

5" MAX.

DRAINS

TO LAKE MEAD!

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<td>STAMP AND SIGN DETAIL</td>
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</table>

DATE 12-09-10  DWG. NO. 421  SHEET 2 OF 3
4" PLACARD - COLORS = BLUE AND GREEN

THIS EPOXY PLACARD MESSAGE AND SYMBOL HAS BEEN APPROVED BY THE APPROPRIATE CITY OR COUNTY ENGINEER. ANY OTHER EQUIVALENT MESSAGE AND SYMBOL DESIGNS WILL REQUIRE PRIOR APPROVAL OF THE APPROPRIATE CITY OR COUNTY BEFORE INSTALLATION. THE PLACARD MATERIAL SHALL BE EITHER POLYCARBONATE OR METAL AND THE FINISH SHALL BE UV AND ABRASION RESISTANT.

STORM DRAIN MARKER

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STORM WATER QUALITY MANAGEMENT
STAMP AND SIGN DETAIL

DATE 12-09-10 | DWG. NO. 421 | SHEET 3 OF 3
LONGITUDINAL CUT RESTORATION

MIN. RESTORATION LIMITS UNLESS OTHERWISE DETERMINED BY ENTITY PLAN CHECK, WITH FINAL LIMITS SET BY FIELD INSPECTOR.

TRENCH LIMITS

NOTES:

SEE DWG. 500AL SHEET 2 OF 2
NOTES:

1. IF THERE IS A MEDIAN, RESTORATION MAY BE LIMITED TO THE AREA BETWEEN C & G AND THE MEDIAN CURB.
2. WHEN EXISTING PAVEMENT IS 2" THICK OR LESS, PAVEMENT WITHIN THE RESTORATION AREA SHALL BE REMOVED AND REPLACED IN KIND AS REQUIRED BY THE ENTITY.
3. IF SAWCUT LINE IS WITHIN FIVE FEET OF EDGE OF EXISTING ASPHALT CONCRETE SURFACE OR EXISTING SAWCUT LINE, MILL AND OVERLAY OR REPLACE TO THAT EDGE.
4. PAVEMENT RESTORATION AREA SAWCUT LINES SHALL NOT FALL WITHIN STREET INTERSECTION.
5. IF CUT IS WITHIN A LANE, PAVEMENT RESTORATION MUST EXTEND TO THE NEXT LANE LINE.
6. THE ENTITY’S REQUIREMENTS TAKE PRECEDENCE OVER ANY MINIMUM REQUIREMENTS SHOWN HEREON.

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<td>LONGITUDINAL CUT</td>
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<td>DATE 6-12-08</td>
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<tr>
<td>406</td>
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<tr>
<td>407</td>
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<tr>
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NOTES:

1. IF THERE IS MEDIAN, RESTORATION MAY BE LIMITED TO THE AREA BETWEEN C&G TO CURB OF MEDIAN.
2. IF SAWCUT LINE IS WITHIN FIVE FEET OF EDGE OF EXISTING ASPHALT CONCRETE SURFACE OR EXISTING SAWCUT LINE, MILL AND OVERLAY OR REPLACE TO THAT EDGE.
3. WHEN EXISTING PAVEMENT IS LESS 2" THICK OR LESS, PAVEMENT WITHIN THE RESTORATION AREA SHALL BE REMOVED AND REPLACED IN KIND AS REQUIRED BY THE ENTITY.
4. PAVEMENT RESTORATION AREA SAWCUT LINES SHALL NOT FALL WITHIN STREET INTERSECTION.
5. IF CUT IS WITHIN A LANE, PAVEMENT RESTORATION MUST EXTEND TO THE NEXT LANE LINE.
6. THE ENTITY'S REQUIREMENTS TAKE PRECEDENCE OVER ANY MINIMUM REQUIREMENTS SHOWN HEREON.

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

0 TO 5 YEARS
PAVEMENT RESTORATION
TRANSVERSE CUT

DATE 6-12-08  DWG. NO. 500 AT
NOTES:

1. IF CUT IS WITHIN A LANE, PAVEMENT RESTORATION MUST EXTEND TO THE NEXT LANE LINE.
2. THE ENTITY’S REQUIREMENTS TAKE PRECEDENCE OVER ANY MINIMUM REQUIREMENTS SHOWN HEREON.
Effective 01/01/11 - 06/30/11

LONGITUDINAL CUT RESTORATION

NOTES:

1. IF CUT IS WITHIN A LANE, PAVEMENT RESTORATION MUST EXTEND TO THE NEXT LANE LINE.
2. THE ENTITY'S REQUIREMENTS TAKE PRECEDENCE OVER ANY MINIMUM REQUIREMENTS SHOWN HEREON.

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<td>406 PRIME COAT</td>
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<td>407 FOG SEAL</td>
<td>LONGITUDINAL CUT - 60' R/W</td>
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DATE 6-12-08   DWG. NO. 500BL2
NOTES:

1. IF CUT IS WITHIN A LANE, PAVEMENT RESTORATION MUST EXTEND TO THE NEXT LANE LINE.
2. THE ENTITY'S REQUIREMENTS TAKE PRECEDENCE OVER ANY MINIMUM REQUIREMENTS SHOWN HEREON.

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DATE 6-12-08   DWG. NO. 500BT
A. STREETLIGHT CONDUIT
B. POWER COMPANY SECONDARY
C. POWER COMPANY PRIMARY
D. TELEPHONE CONDUITS
E. CABLE T.V. CONDUIT
F. TRAFFIC SIGNAL CONDUIT
G. OTHER COMMUNICATIONS CONDUIT
H. POWER MARKING TAPE
J. TELEPHONE MARKING TAPE

NOTES:
1. SEWER MAY BE LOCATED ON OTHER SIDE OF CENTERLINE AS TERRAIN DICTATES.
2. STREETLIGHT FOUNDATIONS SHALL BE LOCATED BEHIND SIDEWALK FOR SIDEWALK WIDTHS LESS THAN 5 FEET PER STANDARD DRAWING NO. 320.
3. SEPARATION DISTANCE SHALL CONFORM TO UTILITY STANDARDS ADOPTED BY THE GOVERNING AGENCY FOR SEWER AND WATER FACILITIES.
4. STREET CONSTRUCTION SHALL CONFORM TO THE DESIGNED PLANS.
5. UTILITY CONSTRUCTION BACKFILL SHALL CONFORM TO SECTION 208.
6. UTILITY LINES SHALL BE RE-Routed IF DROP INLET IS IN CONFLICT.
7. WATER TRANSMISSION MAIN SEPARATION SHALL BE REFERRED TO WATER PURVEYOR GUIDELINES.
MILL AND OVERLAY RESTORATION LIMITS TO BE DETERMINED BY ENTITY PLAN CHECK, WITH FINAL LIMITS SET BY FIELD INSPECTOR. REFER TO DRAWINGS 500 SERIES.

EXISTING AGGREGATE BASE

2' MIN.

PRIME COAT PER SECTION 408-PRIME COAT

CLSM MINIMUM DEPTH
12" FOR MINOR COLLECTOR ROADWAYS (>OR=60', <80')
24" FOR COLLECTOR AND ARTERIAL ROADWAYS (>OR=80')
(NOT REQUIRED FOR TRENCH WIDTHS GREATER THAN 3-FT.)

* CLSM NOT REQUIRED FOR RESIDENTIAL STREETS.

INSTALLATION REQUIREMENTS INCLUDING CONTRACTOR TESTING AND FILL LIFTS SEE SECTION 208-TRENCH EXCAVATION AND BACKFILL

GRANULAR BACKFILL OR SELECT BACKFILL OR BACKFILL WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) OR AS APPROVED BY THE ENGINEER
SEE NOTE 1

COMPACTION PERCENTAGE PER GEOTECH ENG REQUIREMENTS OR MINIMUM OF 90%

REFER TO SECTION 208 REQUIREMENTS

SEE SUBSECTION 208.03.14 FOR DEPTH OF PIPE COVER

90% MIN. COMPACTION IN PIPE ZONE, TYPE II OR TYPE III AGGREGATE BASE
SEE NOTE 2

PIPE OR BOX CULVERT

NOTES:

1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.

2. TRENCH WIDTH, BEDDING, SUBGRADE AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE ENTITY REQUIREMENTS.

3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY. SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.

4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.

SPECIFICATION REFERENCE

<table>
<thead>
<tr>
<th>208</th>
<th>TRENCH EXCAVATION &amp; BACKFILL</th>
</tr>
</thead>
<tbody>
<tr>
<td>302</td>
<td>AGGREGATE BASE COURSES</td>
</tr>
</tbody>
</table>

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

METHOD B FOR RIGID AND FLEXIBLE PIPE TRENCH BACKFILL - PAVED AREAS

DATE 06-11-09 DWG. NO. 503B
MILL AND OVERLAY RESTORATION LIMITS TO BE DETERMINED BY ENTITY PLAN CHECK, WITH FINAL LIMITS SET BY FIELD INSPECTOR. REFER TO DRAWINGS 500 SERIES.

EXISTING AGGREGATE BASE

PRIME COAT PER SECTION 408-PRIME COAT

CLSM MINIMUM DEPTH
12" FOR MINOR COLLECTOR ROADWAYS (>OR=60', <80')
24" FOR COLLECTOR AND ARTERIAL ROADWAYS (>OR=80')
(NOT REQUIRED FOR TRENCH WIDTHS GREATER THAN 3-FT.)

CLSM NOT REQUIRED FOR RESIDENTIAL STREETS.

INSTALLATION REQUIREMENTS INCLUDING CONTRACTOR TESTING AND FILL LIFTS SEE SECTION 208-TRENCH EXCAVATION AND BACKFILL

GRANULAR BACKFILL OR SELECT BACKFILL OR BACKFILL WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) OR AS APPROVED BY THE ENGINEER SEE NOTE 1

COMPACTION PERCENTAGE PER GEOTECH ENG REQUIREMENTS OR MINIMUM OF 90%

REFER TO SECTION 208 REQUIREMENTS

SEE SUBSECTION 208.03.14 FOR DEPTH OF PIPE COVER

BACKFILL WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) INSTALL AS PER SECTION 208 SEE NOTE 2

STABLE SUBGRADE

NOTES:

1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, SUBGRADE AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE ENTITY REQUIREMENTS.
3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY, SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.

SPECIFICATION REFERENCE

<table>
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<th>TRENCH EXCAVATION &amp; BACKFILL</th>
</tr>
</thead>
<tbody>
<tr>
<td>302</td>
<td>AGGREGATE BASE COURSES</td>
</tr>
</tbody>
</table>

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

METHOD A FOR FLEXIBLE PIPE TRENCH BACKFILL - PAVED AREAS

DATE 06-11-09  DWG. NO. 503AF
NOTES:

1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, SUBGRADE AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE ENTITY REQUIREMENTS.
3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY. SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.

SPECIFICATION REFERENCE

| 208 | TRENCH EXCAVATION & BACKFILL |
| 302 | AGGREGATE BASE COURSES |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

METHOD A FOR RIGID PIPE
TRENCH BACKFILL - PAVED AREAS

DATE 06-11-09 | DWG. NO. 503AR
Effective 01/01/11 - 06/30/11

NORMAL BEDDING

CONCRETE CRADLE

CONCRETE CAP

CONCRETE ENCASEMENT

TABLE 1

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>PIPE B</th>
<th>PIPE A</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
</tr>
<tr>
<td>12&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
</tr>
<tr>
<td>15&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>5&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>21&quot;</td>
<td>5&quot;</td>
<td>5&quot;</td>
</tr>
</tbody>
</table>

D = OUTSIDE DIAMETER OF PIPE
W = OUTSIDE DIAMETER OF PIPE + 24" MAXIMUM

NOTES:

1. PIPE BEDDING TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY. SUBGRADE SHALL CONFORM TO RESPECTIVE ENTITY REQUIREMENTS.
2. INDICATED THICKNESS OF BEDDING MATERIAL TO BE CONSTRUCTED UNDER THE BARREL. SUBGRADE TO BE EXCAVATED TO PROVIDE 2" CLEARANCE UNDER THE BELL.
3. OTHER BEDDING METHODS MAY BE SPECIFIED OR APPROVED.
4. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY.

SPECIFICATION REFERENCE

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>208</td>
<td>PIPE TRENCH BEDDING METHODS</td>
</tr>
<tr>
<td>302</td>
<td></td>
</tr>
<tr>
<td>501</td>
<td></td>
</tr>
<tr>
<td>505</td>
<td></td>
</tr>
</tbody>
</table>

DATE 11-9-06 DWG. NO. 505 PAGE NO. 125
TYPE B - KEYHOLE REPAIR
FOR ROW WIDTH GREATER THAN 60'

NOTES:
1. CUT AND REMOVE PAVEMENT PLUG WITH AN APPROVED KEYHOLE CORING DEVICE. PAVEMENT TO BE CORED SHALL CONTAIN NO CRACKS AND SHALL BE AT LEAST 4" THICK.
2. BONDING MATERIAL SHALL BE A SINGLE COMPONENT CEMENTITIOUS RAPID HARDENING, HIGH STRENGTH, WATERPROOF BONDING AGENT THAT ALLOWS THE CORE TO SUPPORT AT LEAST TWO TIMES AASHTO H-25 LOADING WITHIN 30 MINUTES OF APPLICATION. BOND AGENT MUST SHOW A MINIMUM 20 PSI BOND STRENGTH (ASTM C882) AND A MINIMUM 200 PSI COMPRESSIVE STRENGTH (ASTM C109) IN 30 MINUTES.
3. AGENCY-APPROVED BACKFILL BELOW REPAIR SHALL BE PER SECTION 215.
4. FILL KEYHOLE WITH BONDING MATERIAL DURING REPAIR.

SECTION A-A

TYPE A - CUT & PATCH REPAIR
FOR ROW WIDTH 60' OR LESS

NOTE: EDGES SHALL BE CUT TO A NEAT VERTICAL FACE.

AGENCY APPROVED ASPHALT CONCRETE PLACED IN 2" LIFTS. 6" MIN. THICKNESS OR MATCH EXISTING.

PVOTHEOLE PROFILE

A

18" - 24"

1-1/2" DIAMETER DRILLED/CORED PILOT HOLE

POTHOLE PLAN VIEW
(NOMINAL DIMENSIONS)

TACK EDGES

POTHOLE PROFILE

1-1/2" TO 2" COMPACTED CRUSHED GRAVEL (ASTM C33 #8)

BONDING MATERIAL

PAVEMENT PLUG

POTHOLE PLAN VIEW
(NOMINAL DIMENSIONS)
GENERAL NOTES

1. NO SPECIAL SIGNING IS REQUIRED.

2. IF THE WORK OPERATION REQUIRES ANY WORK VEHICLES TO CROSS THE 12 FT. CLEAR ZONE, TRAFFIC CONTROL SHALL CONFORM TO STANDARD DRAWING NO. 807.

3. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT VIACCT AT 722-4677 AND LOCAL ENTRY AT APPLICABLE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.

   BOULDER CITY 465-2263  MESQUITE  702-650-3688
   CLARK COUNTY 465-2263  NORTH LAS VEGAS 702-453-4682
   HENDERSON  966-4492  LAS VEGAS  702-434-8311

4. TYPE “F” HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.

<table>
<thead>
<tr>
<th>ROAD TYPE</th>
<th>100 FT</th>
<th>200 FT</th>
<th>300 FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN, 2 Laneway</td>
<td>238</td>
<td>260</td>
<td>280</td>
</tr>
<tr>
<td>URBAN, 2 Laneway (Mid-day)</td>
<td>252</td>
<td>280</td>
<td>300</td>
</tr>
<tr>
<td>RURAL</td>
<td>250</td>
<td>280</td>
<td>300</td>
</tr>
</tbody>
</table>

SYMBOLS

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Sign on portable or permanent support</td>
</tr>
<tr>
<td>KD</td>
<td>Traffic direction</td>
</tr>
</tbody>
</table>

TRAFFIC CONTROL PLAN
FOR
HIGHWAY WORK ZONE

SPECIFICATION REFERENCE

TYPICAL APPLICATION FOR
2-LANE, 2-WAY, RURAL DAY OR NIGHT OPERATIONS WHERE ACTIVITIES ARE MORE THAN 15 FT. FROM EDGE OF PAVEMENT

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

DATE 1-9-97  DWG NO. 608 (1 OF 1)  PAGE 145
TABLE FOR SPACING OF ADVANCE WARNING SIGNS

<table>
<thead>
<tr>
<th>ROAD TYPE</th>
<th>SPACING BETWEEN SIGNS (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREEWAY</td>
<td>400 300 200</td>
</tr>
<tr>
<td>MAJOR</td>
<td>300 200 100</td>
</tr>
<tr>
<td>MINOR</td>
<td>200 100 50</td>
</tr>
<tr>
<td>ACCESS</td>
<td>100 50 25</td>
</tr>
</tbody>
</table>

1. WHERE THE DISTANCE BETWEEN PAYING AND EXCAVATING OPERATIONS IS LESS THAN 2,000 FT, THE PAYING OPERATION MAY BE CONSIDERED AS ONE WORK AREA FOR WORKING PURPOSES. WHEN THE DISTANCE BETWEEN OPERATIONS EXCEEDS 2,000 FT, ADDITIONAL PAYING SIGNS SHALL BE PLACED AS SHOWN. UNDER RESTRICTED SIGHT DISTANCE CONDITIONS, SUCH ADDITIONAL PAYING SIGNS MAY ALSO BE REQUIRED FOR DISTANCES LESS THAN 2,000 FT, AT THE DISCRETION OF THE TRAFFIC ENGINEER.

2. ONE FLASHER SHALL BE REQUIRED FOR EACH SEPARATE CONSTRUCTION OPERATION. FOR RESIDENTIAL STREETS 25 MPH OR LESS, FLASHERS MAY BE REQUIRED AS DIRECTED BY THE TRAFFIC ENGINEER.

3. THE FLASHER SHELL BE IN A BAY OR ON THE END OF EACH OTHER TAGS OR IN INDIRECT COMMUNICATION AT ALL TIMES.

4. NO PAYING OR EXCAVATING OPERATIONS SHALL BE PERFORMING AT NIGHT UNLESS AUTHORIZED BY THE TRAFFIC ENGINEER.

5. MAXIMUM DISTANCE TO BE DETERMINED BY THE TRAFFIC ENGINEER BUT MUST NOT EXCEED THE LENGTH OF 12 DAYS NORMAL OPERATION.

6. ALL SIGNS SHALL BE EMERGENCY LIGHTED IF THE WORKING TIME EXCEEDS FOUR DAYS AND AS REQUIRED BY SECTION 252 OF THE UNIFORM STANDARD SPECIFICATIONS.

13. FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.

14. ACCESS FOR CAT TRAFFIC SERVICE, PEDESTRIANS AND VEHICLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RELIABILITY OF ACCESS IS NEEDED, THE CONTRACTION SHELL PROVIDE THE EXTENT'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED LOCATION FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT SERVICE STOP OR FACILITIES, THE CONSTRUCTION SHELL NOTIFY THE LOCAL TRANSPORTATION FOR COMPLIANCE AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING RUSH OPERATIONS.

GENERAL NOTES

1. TYPE ’B’ HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORKING ZONE CONSTRUCTION ZONE FOR USE DURING HOURS OF DARKNESS.

2. CONSTRUCTION OPERATIONS MAY BE ADJUSTED TO MEET CONSIDERATIONS BY THE TRAFFIC ENGINEER. THE LATERAL PLACEMENT OF THE FLAGGER MAY BE ADJUSTED FROM THAT SHOWN.

3. ALL WORKER EQUIPMENT, WORKERS, INJURIES AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE ROADWAY UNLESS AUTHORIZED BY THE TRAFFIC ENGINEER.

4. ALL WORKER SIGNS SHALL HAVE BLACK LEGEND AND BACKGROUND ON AN ORANGE BACKGROUND. ALL SIGNS-HAVING AN ORANGE BACKGROUND SHALL BE MADE OF MATERIAL TO CONFORM TO SECTION 252 OF THE UNIFORM STANDARD SPECIFICATIONS.

5. ALL DECALS DETAILING A TIME OR TACTICAL LUGN SHALL BE OF ONE TYPE DEVICES SHALL NOT BE VARYING BY TYPE.

6. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT UATjSSS AT CLARK COUNTY AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEING RUSH OPERATIONS.

BOULDER CITY 720-2500 LAS VEGAS 334-5331 CLARK COUNTY 720-2500 HENDERSON 720-2500

7. VS 15 VS 15

TYPICAL APPLICATION FOR
2-LANE, 2-WAY, RURAL OR SUBURBAN, DAY OR NIGHT PAVEMENT WIDENING

TRAFFIC CONTROL PLAN
FOR
HIGHWAY WORK ZONE

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

DATE 1-1-97
DWG NO. 611 (1 OF 1) PAGE 150
TOTAL (OPTIONAL)

TYPICAL APPLICATION:
LANDSCAPING WORK
UTILITY WORK
FENCING CONTRACTS AND MAINTENANCE
CIVIL ENGINEERING

GENERAL NOTES
1. NO SPECIAL SIGNING IS REQUIRED.
2. IF THE WORK OPERATION REQUIRES TWO OR MORE WORK VEHICLES CROSSING THE 15 FT. CLEAR ZONE, IN ANY ONE HOUR, TRAFFIC CONTROL WILL BE IN CONFORMANCE WITH STI-0001 WORKING DRAWINGS.
3. THIS CASE ALSO APPLIES TO WORK PERFORMED IN THE MEDIAN MORE THAN 15 FT. FROM EITHER PAVEMENT.
4. IF TURNBOULCER OR MEDIAN A TRAFFIC TRENCH CONTACT LIMITS AT DEMARK AND LOCAL ENTITIES APPROXIMATELY WIDER THAN OR AT LEAST TWO TURNBOULCER DISTANCES PRIOR TO TURNBOULCER WORKS.
BOULDER CITY 929-0269 309-1030
CLARK COUNTY 456-4510 NORTH LAS VEGAS 042-4402
HENDERSON 565-0789 LAS VEGAS 229-0400
5. TYPE "E" HIGH INTENSITY FLASHING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.

SYMBOLS

SKIN ON PORTABLE OR PERMANENT SUPPORT

TRAFFIC DIRECTION

15 FT.
10 FT.
A. TYPICAL APPLICATION: ROADWAY CLOSED BEYOND DETOUR POINT.

GENERAL NOTES

1. ANY ROAD CLOSURE MUST BE EXPRESSLY PERMITTED IN WRITING BY THE ADMINISTRATOR OF THE TRAFFIC MANAGEMENT / Work Zone Manager OR THE DIRECTOR OF THE PUBLIC WORKS DEPARTMENT.

2. ALL WARNING SIGNS SHALL HAVE BLACK LETTERING AND BORDER ON A OPAQUE BACKGROUND. ALL MESSAGES SHALL BE WRITTEN IN COLORS ELECTRICAL MANSFIELD.. MEET TYPICAL OF THE UNIFORM STANDARD SPECIFICATIONS.

3. REGULATORY TRAFFIC CONTROLS DEVICES TO BE USED AS NECESSARY FOR THE SAFETY OF THE TRAFFIC.

4. WARNING LIGHTS MAY BE USED TO MARK BARREN OF THE INTERSECTION AS NECESSARY.

5. STREET SIGNS MAY BE USED WHEN DESIGNED FOR DIRECTING TRAFFIC AND DECORATING USES FOR STREET NAME SIGNS.

6. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LAWN AT 226-6111 OR LOCAL ENTITY AT APPROPRIATE NUMBER LISTED BELOW. AT ONE TWO WORKING DAYS PRIOR TO BEGINNING WORK.

7. TYPE "A" HIGH INTENSITY FLASHER WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.

B. TYPICAL APPLICATION: DETOUR SIGNING FOR ROAD CONSTRUCTION PROJECT IN A STREET GRID.

8. ALL DETOUR WORK MAY BE LOCATED ON THE FAR SIDE OF THE INTERSECTION.

9. ACCESS FOR EMERGENCY ARMED TRAFFIC ENGINERS TO ENTER THE WORK ZONE WITH THE SERVICE PLOW OR TRASH ENGAGEMENT IS REQUIRED. DETOUR SIGNS MOUNTED ON SUPPORTS SHALL BE APPROPRIATE FOR THE CONSTRUCTION PROJECT AT 3954G41 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO WORKING SUCH OPERATIONS.
Effective 01/01/11 - 06/30/11

TRAFFIC CONTROL PLAN FOR HIGHWAY WORK ZONE

GENERAL NOTES:
1. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
2. CONTROLS FOR PEDESTRIANS ONLY ARE SHOWN. VEHICULAR TRAFFIC CONTROLS SHALL COMPLY WITH APPROPRIATE STANDARD DRAWINGS.
3. STREET LIGHTING SHOULD BE CONSIDERED.
4. WARNING LIGHTS MAY BE USED ON BARRIERS.
5. IF THERE IS ANY SOURCE OF PEDESTRIAN MOVEMENTS IN THE AREA, SUCH THAT THE PEDESTRIAN APPROACHING THE WORK AREA COULD NOT SEE THE RED SIGNAL, THEN ALTERNATE MUST BE USED TO ENSURE THAT TRAFFIC IS VISIBLE.
6. BARRIER RAIL SHALL CONFORM TO STANDARD DRAWINGS AND BE USED TO SEPARATE TEMPORARY WORK AREA FROM TRAFFIC.

TRAFFIC CONTROL PLAN FOR HIGHWAY WORK ZONE

SPECIFICATION REFERENCE

TYPICAL APPLICATION FOR CONTROLLING PEDESTRIAN TRAFFIC

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA
DATE 1-3-97 DWG NO. 524 (1 OF 1) PAGE 153
STANDARD PROCEDURE & CONDITIONS WHICH, WHEN MET, ELIMINATE THE NEED FOR INDIVIDUAL TRAFFIC CONTROL PLAN AND/OR PERMIT

<table>
<thead>
<tr>
<th>DEVICE OR PARAMETER</th>
<th>SITUATION/CASE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. MINIMUM 60 IN. WIDE FLASHER BAR AT TOP VEHICLE, WITH GREATER THAN 4 LIGHT ELEMENTS VISIBLE TO APPROACHING TRAFFIC</td>
<td>✓</td>
</tr>
<tr>
<td>B. CONES SET OUT BEHIND VEHICLE</td>
<td>3, ACROSS BLOCKED LANE</td>
</tr>
<tr>
<td>C. TURN ON VEHICLE’S EMERGENCY HAZARD FLASHERS</td>
<td>✓</td>
</tr>
<tr>
<td>D. ALL PERSONNEL WEAR ORANGE VESTS OR SHIRTS WHEN OUTSIDE OF VEHICLE</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>E. O.K. FOR NIGHTTIME DEPLOYMENT?</td>
<td>NO</td>
</tr>
<tr>
<td>F. WATER-FILLED CRASH CUSHION, OR EQUIVALENT; TRUNK OR TRAILER-MOUNTED IMPACT ATTENUATORS</td>
<td>RECOMMENDED, BUT MANDATORY WHEN SPEED LIMIT EXCEEDS 45 MPH</td>
</tr>
<tr>
<td>G. NO STOPPING UNLESS STOPPED VEHICLE IS VISIBLE TO APPROACHING TRAFFIC GREATER THAN 10 SECONDS AT SPEED LIMIT</td>
<td>YES, APPLY THIS RULE</td>
</tr>
<tr>
<td>H. O.K. TO SET UP DURING PEAK TRAVEL HOURS: 7-9 AM, 4-6 PM</td>
<td>YES, BUT ONLY FOR EMERGENCY-TYPE REPAIR ACTIVITIES</td>
</tr>
</tbody>
</table>

NOTE: TYPICAL APPLICATION IS FOR LANDSCAPE OR UTILITY ACTIVITIES.
GENERAL NOTES:

1. SPECIAL "NO PARKING" SIGNS SHALL BE PLACED ON FIRST BARRIERS AND ON EVERY OTHER BARRIERS THEREAFTER.

2. BARRIERS SHALL NOT BLOCK DRIVEWAYS OR ACCESSITS PRIOR TO MAINTENANCE OPERATIONS.

3. "NO PARKING" SIGNS SHALL BE PLACED ON FIRST BARRIER FOLLOWING SPACE PROVIDED FOR ACCESS.

4. BARRIERS MAY BE PLACED ON PAVEMENT OR ON SIDEWALK AT THE DISCRETION OF THE CONTRACTOR. NO PARKING SIGNS PLACED ON SIDEWALK SHALL NOT BE SET AT AN ANGLE NO GREATER THAN 30 DEGREES WITH THE LINE OF TRAFFIC FLOW TO BE VISIBLE TO APPROACHING TRAFFIC. A MINIMUM OF 3 FT OF CLEAR SPACE ON SIDEWALK SHALL BE LEFT FOR PEDESTRIANS TO WALK IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT WHEN BARRIERS ARE PLACED ON SIDEWALK.

5. "NO PARKING" SIGNS AND BARRIERS SHOULD BE PLACED IN AREA OF MAINTENANCE AT LEAST 3 HOURS IN ADVANCE OF WORK BEGINNING. NOTIFICATION OF PERSONS AFFECTED BY STREET WORK SHALL BE PERFORMED AS REQUIRED BY RESPECTIVE SAFETY AND WORKER'S RIGHTS REGULATIONS.

6. ALL BARRIERS AND "NO PARKING" SIGNS SHALL BE REMOVED AS SOON AS IMPROVED SURFACE IS READY FOR TRAFFIC AS DETERMINED BY THE ENGINEER.

SYMBOLS:

BARREAU
BEGIN WORK ZONE

END WORK ZONE

SPEED LIMIT

""" (IN.)

LETTERING

"SPEED LIMIT" SIGN

LETTERING

"BEGIN WORK ZONE" SIGN

SIGN AND LETTERING SIZE TABLE

35 MPH OR LESS

18

4 INCH SERIES "C"

4 INCH SERIES "O"

GREATER THAN 35 MPH

20

4 INCH SERIES "C"

4 INCH SERIES "O"

GENERAL NOTES:

1. REFLECTIVE SIGN SHEETING SHALL COMPLY WITH SUBSECTION 4.7.16.1, LATEST REVISION, OF THE UNIFORM STANDARD SPECIFICATIONS.

2. SIGN LEGENDS AND BORDERS SHALL COMPLY WITH THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

3. SIGNS SHALL BE MOUNTED IN SAME MANNER AS OTHER CONSTRUCTION SIGNS IN THE WORK ZONE.

4. "BEGIN WORK ZONE" AND "SPEED PENALTIES DOUBLED" SIGNS SHALL BE MOUNTED TOGETHER ON SAME DEVICE OR POST AND SHALL BE LOCATED AFTER THE FIRST SIGN IN THE CONSTRUCTION SIGN SERIES, TYPICALLY THE "ROAD WORK AHEAD" SIGN, OR AS DIRECTED BY THE TRAFFIC ENGINEER.

5. "END ROAD WORK" SIGN SHALL BE MOUNTED AT THE END OF THE WORK ZONE WITH THE "END ROAD WORK" SIGN, IF APPLICABLE, ON THE SAME DEVICE OR POST, OR AS DIRECTED BY THE TRAFFIC ENGINEER.