FOREWORD

UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS' CONSTRUCTION, OFFSITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA

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.rtcnv.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.
NOTE: FUTURE CONSTRUCTION ITEMS ON PLANS SHALL BE INDICATED BY A DASHED LINE AND APPROPRIATE NOTE.
MISCELLANEOUS ELECTRICAL SYMBOLS

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

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**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**ABBREVIATIONS**

**SPECIFICATION REFERENCE**

**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

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**DWG. NO.** 105

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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-COLLAPSIBLE 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.

**SPECIFICATION REFERENCE**

| 401 | PLANTMIX BITUMINOUS PAVEMENTS |

**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**PAVEMENT STRUCTURE DESIGN GUIDELINE CHART FOR MINOR COLLECTOR AND RESIDENTIAL ROADWAYS**

**AGENCY APPROVED**

**B**  **C**  **H**  **L**  **M**  **N**

**DATE 11-10-04 | DWG. NO. 200.1**

Effective as of 08/09/2018
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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. A TRAFFIC STUDY MAY BE REQUIRED IF TI > 9.5.

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

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

5. AC DEPTHS SHOWN ARE MINIMUMS AND "*" MINIMUM TYPE II IS REQUIRED; OTHER COMBINATIONS THAT MEET OR EXCEED THE STRUCTURAL NUMBER REQUIREMENTS ARE ACCEPTABLE.

**AGENCY APPROVED**

**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**SPECIFICATION REFERENCE**

| 401 PLANTMIX BITUMINOUS PAVEMENTS |

**PAVEMENT STRUCTURE DESIGN GUIDELINE CHART FOR MAJOR COLLECTOR AND ARTERIAL ROADWAYS**

**DATE 11-10-04 DWG. NO. 200**
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 FT. ACQUISITION) NECESSARY FOR INTERSECTION
ADDITIONAL RIGHT-OF-WAY NECESSARY FOR EXCLUSIVE RIGHT TURN LANE AT INTERSECTION

100' OR MORE

5'

15'

5'

5'

5'

54' RADIUS

54' RADIUS

5'

15'

60'

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

ADDITIONAL RIGHT-OF-WAY REQUIRED AT MAJOR INTERSECTIONS

DATE 7-10-03  DWG. NO. 201.1
### General Notes

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

2. No walls, fences, shrubs, utility apparatuses or any other object, other than traffic control devices, fire hydrants, trees, and street light poles, may be constructed or installed within the sight visibility zone unless said object is maintained at less than 24 inches in height, measured from the 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. This restriction extends along the sight visibility line through landscaped medians.

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. At "T" intersections, the terminating leg will always be the major 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 here 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 (offset from back of curb) shall be added to the sight visibility zone at each corner of every intersection, except for 80' x 80' intersections or greater.

7. Trees with a mature single trunk diameter less than 10 inches, a canopy height greater than 6 feet, a minimum spacing greater than one half the roadway width (back of curb to back of curb), and a minimum of 30 feet from the nearest curb return will be allowed in the sight visibility zone, subject to the approval of the entity having jurisdiction.

### Basis for Analysis

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

- AASHTO PUBLICATION OF "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS", 2011 EDITION, CHAPTER IX, USING THE MOST RESTRICTIVE SIGHT LINE DERIVED FROM EACH OF THE THREE POSSIBLE CROSSING MANEUVERS (STOPPED CONDITION):

#### Case B3 - Crossing Maneuver

Case B1 - Left Turn Maneuver

Case B2 - Right Turn Maneuver

The analysis used a design speed equal to the posted speed divided by 0.85 (rounded to the nearest 5 mph increment.)

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

---

### Specification Reference

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<tr>
<th>AGENCY APPROVED</th>
<th>B</th>
<th>C</th>
<th>H</th>
<th>L</th>
<th>M</th>
<th>N</th>
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### Uniform Standard Drawings

**Sight Visibility Zones at Intersections**

**Date: 01-01-13**  **Dwg. No.: 201.2**  **Sheet 2 of 8**
TYPICAL SIGHT VISIBILITY ZONES FOR 48-FT RIGHT-OF-WAY ROADWAY APPROACHES

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

SIGHT VISIBILITY ZONES
AT INTERSECTIONS

DATE 01-01-13  DWG. NO. 201.2  SHEET 4 OF 8
TYPICAL SIGHT VISIBILITY ZONES FOR 51-FT RIGHT-OF-WAY ROADWAY APPROACHES
TYPICAL SIGHT VISIBILITY ZONES FOR 60-FT RIGHT-OF-WAY ROADWAY APPROACHES

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SIGHT VISIBILITY ZONES AT INTERSECTIONS

DATE 01-01-13 | DWG. NO. 201.2 | SHEET 6 OF 8
TYPICAL SIGHT VISIBILITY ZONES FOR 100-FT RIGHT-OF-WAY ROADWAY APPROACHES

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SIGHT VISIBILITY ZONES
AT INTERSECTIONS

DATE 01-01-13  DWG. NO. 201.2  SHEET 8 OF 8
### BACK OF CURB LINE RADII

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<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>
<td></td>
</tr>
<tr>
<td>80'</td>
<td>25'</td>
<td>30'</td>
<td>30'</td>
<td></td>
</tr>
<tr>
<td>100' OR MORE</td>
<td>30'</td>
<td>30'</td>
<td>30'</td>
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### NOTES

* A traffic chord easement will be required at this corner.

### PROPERTY LINE RADII

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<th>&quot;B&quot;</th>
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<th>60' OR LESS</th>
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<tr>
<td>80'</td>
<td>25'</td>
<td>*35'</td>
<td>*35'</td>
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<tr>
<td>100' OR MORE</td>
<td>30'</td>
<td>*35'</td>
<td>*35'</td>
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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.
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. THE FINAL A.C. PAVEMENT SURFACE MATERIAL REQUIREMENTS ARE:

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<th>JURISDICTION</th>
<th>A.C. PAVEMENT SURFACE MATERIAL</th>
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<td>1-INCH UTACS</td>
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<tr>
<td>CC, MES, BC</td>
<td>FOG SEAL</td>
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<tr>
<td>NLV, HEN</td>
<td>FOG SEAL AND/OR OPEN GRADE</td>
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4. PRIME COAT IS NOT REQUIRED IN LAS VEGAS, HENDERSON, MESQUITE, AND BOULDER CITY WHEN A.C. THICKNESS IS >=5 IN.

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

ARterial URBAN AREA STREET SECTIONS

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<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS</th>
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<tr>
<td>403 OPEN GRADE</td>
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<tr>
<td>413 BITUMINOUS GAP GRADED PAVEMENT</td>
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<td>501 CONCRETE</td>
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DATE 07-01-14    DWG. NO. 202
NOTES:

1. FINAL A.C. PAVEMENT SURFACE (INCLUDING UTACS OR 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 SHALL BE PLACED IN A UTILITY CORRIDOR UNDER THE SIDEWALK.

6. OVERLAY 1" UTACS UNLESS OTHERWISE REQUIRED BY THE ENTITY.

<table>
<thead>
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<th>SPECIFICATION REFERENCE</th>
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<td>403 OPEN GRADE</td>
<td>COMPLETE STREET ALTERNATIVE</td>
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<td>501 CONCRETE</td>
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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 NO. 200.

3. THE FINAL A.C. PAVEMENT SURFACE MATERIAL REQUIREMENTS ARE:

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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 ROADWAY FOR AN 8 LANE CROSS SECTION.

7. PRIME COAT IS NOT REQUIRED IN LAS VEGAS, HENDERSON, MESQUITE, AND BOULDER CITY WHEN A.C. THICKNESS IS >=5 IN.
NOTES:
1. A.C. PAVEMENT TO BE 1-2" MAXIMUM ABOVE LIP OF GUTTER AFTER COMPACTION. PAVEMENT
   SHALL BE FLUSH WITH LIP AT SIDEWALK RAMP.
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 NO. 200 AND 200.1.
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. THE FINAL A.C. PAVEMENT SURFACE MATERIAL REQUIREMENTS ARE:

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<td>NLV, HEN</td>
<td>FOG SEAL AND/OR OPEN GRADE</td>
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7. PRIME COAT IS NOT REQUIRED IN LAS VEGAS, HENDERSON, MESQUITE, OR BOULDER CITY WHEN A.C. THICKNESS >=5 IN.
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 NO. 200 AND 200.1.
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. OVERLAY UTACS UNLESS OTHERWISE REQUIRED BY THE ENTITY.

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AGENCY APPROVED

DATE 07-01/12

DWG. NO. 205.2.S1
MINOR 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 RAPMS.
2. THE GRADE BREAK OCCURING 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 200.1.
4. THIS STANDARD IS COMPLETE STREET 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 SHALL BE PLACED IN A UTILITY CORRIDOR UNDER THE SIDEWALK.

SPECIFICATION REFERENCE

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<td></td>
<td>MINOR COLLECTOR</td>
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<td>COMPLETE STREET ALTERNATIVE</td>
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| DATE 07-01-12 | DWG. NO. 205.3.S1 |
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 200-1.
4. PRIME COAT IS NOT REQUIRED IN LAS VEGAS, HENDERSON, MESQUITE OR BOULDER CITY WHEN A.C. THICKNESS >= 5 IN.
5. 4 INCH MINIMUM THICKNESS REQUIRED IN HENDERSON, MESQUITE AND BOULDER CITY.
6. THE FINAL A.C. PAVEMENT SURFACE MATERIAL REQUIREMENTS ARE:

JURISDICTION   A.C. PAVEMENT SURFACE MATERIAL
CLV            1-INCH UTACS (80-Ft OR GREATER)
CC, MES, BC    FOG SEAL
NLV, HEN       FOG SEAL AND/OR OPEN GRADE

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<td>401 BITUMINOUS PAVEMENT</td>
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<td>407 FOG SEAL</td>
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<td>413 BITUMINOUS GAP GRADED PAVEMENT</td>
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<td>501 CONCRETE</td>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

COLLECTOR
URBAN AREA STREET SECTIONS
WITH CURBSIDE SIDEWALK

DATE 07-01-14  DWG. NO. 205
RESIDENTIAL TWO-WAY LOCAL OR CUL-DE-SAC (LOTS 40' WIDE OR LESS)

RESIDENTIAL TWO-WAY LOCAL OR CUL-DE-SAC (LOTS GREATER THAN 40' WIDE - SEE NOTE 3)

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. 200.1.
3. HOMES ADJACENT TO THIS STREET SECTION MAY REQUIRE SPRINKLERS PER ENTITY FIRE CODE.

SPECIFICATION REFERENCE

| 302 | AGGREGATE BASE |
| 401 | BITUMINOUS PAVEMENT |
| 406 | PRIME COAT |
| 407 | FOG SEAL |
| 501 | CONCRETE |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING
LOCAL RESIDENTIAL

COMPLETE STREET ALTERNATIVES

DATE 07-01-12
DWG. NO. 206.1.S1
NOTES:

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

2. STRUCTURAL SECTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 401 AND STANDARD DRAWING NO. 200.1.
NOTES:
1. A.C. PAVEMENT AND BASE THICKNESS SHALL BE IN ACCORDANCE TO STANDARD DRAWINGS NUMBER 202 THROUGH 206. S2. WHICHEVER IS APPLICABLE.

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

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

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.

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<td>302 AGGREGATE BASE</td>
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<td>401 BITUMINOUS PAVEMENT</td>
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<td>406 PRIME COAT</td>
<td>(FOR USE IN PM-10 COMPLIANT AREAS)</td>
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<tr>
<td>407 FOG SEAL</td>
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AGENCY APPROVED B C H L M N

DATE 12-14-00 DWG. NO. 209.1
NOTES:

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

2. COMPACTION 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 PAVING 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.
GRAVEL

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

PAVED

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 PREPAREDATION 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.
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 STD. DWG. NO. 200.1.
3. RESIDENTIAL ONE-WAY STREET SHALL NOT EXCEED ONE THOUSAND FEET OR TWENTY RESIDENTIAL LOTS IN LENGTH
   WHICHEVER IS LESS.

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1. BCR
\[ \triangle_1 > 75^\circ = 30' \text{MINIMUM} \]
65° TO 75° = 35' MINIMUM
45° TO 65° = 45' MINIMUM
\[ \triangle_1 < 45^\circ = C \text{ RADIUS} = 150' \text{MINIMUM} \]

2. BCR = 50' MINIMUM

3. BCR = W + 10' MINIMUM
\[ \triangle_3 = \triangle_1 + 2 \triangle_2 \]

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.
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.
NOTE:
IF BLOCK LENGTH IS 150' OR LESS, HAMMERHEAD IS NOT REQUIRED.

INSTALL "NO PARKING BEYOND THIS POINT" SIGN BOTH SIDES OF STREET.

END SIDEWALK ON 48' R/W STREET (OPTIONAL ONE SIDE ONLY)

NOTE:
USE OF THE HAMMERHEAD WILL BE ALLOWED IN SINGLE FAMILY RESIDENTIAL DWELLING AREAS ONLY.

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

HAMMERHEAD

DATE 11-10-04   DWG. NO. 212.1S1
1. ONLY 51’ R/W AND PRIVATE STREET CUL-DE-SAC WILL BE ALLOWED IN THE CITY OF LAS VEGAS.

SURVEY MONUMENT

END SIDEWALK HERE ON 48 FOOT R/W STREET. (OPTIONAL ONE SIDE ONLY)

CITIES OF NORTH LAS VEGAS AND MESQUITE ONLY

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<th>W</th>
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<td>45.0</td>
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<td>19.0</td>
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<tr>
<td>51”</td>
<td>51.23</td>
<td>M/N</td>
<td>50.5</td>
<td>M/N</td>
<td>19.0</td>
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<tr>
<td>60”</td>
<td>50’</td>
<td>47.38</td>
<td>50.5</td>
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<td>PRIVATE STREET</td>
<td>50’</td>
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<td>M/N</td>
<td>45.0</td>
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<td>19.0</td>
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ALL OTHER ENTITIES (CC, CLV, HEN, BC)

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<th>R/W WIDTH</th>
<th>W</th>
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<th>R</th>
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<td>50’</td>
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<td>M/N</td>
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AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CUL-DE-SAC

DATE 6-8-00 DWG. NO. 212
SECTION B-B

1-1/2" INVERTED CROWN

6" CONC. PAVT

8" TYPE II AGGREGATE BASE

10'

NO. 4 BARS AT 12' O.C. BOTH WAYS

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

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

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

SECTION A-A

1/4' R

1/2'

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.

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<tr>
<td>505 REINFORCING STEEL</td>
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<tr>
<td>707 JOINT MATERIAL</td>
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DATE 12-14-00  DWG. NO. 215.S1
NOTES:
1. 1" BATTER ON GUTTER FACE OPTIONAL.
BACK OF CURB

FLOWLINE

WEAKENED PLAN JOINTS
SEE STANDARD DRAWING NUMBER 234

NOTES:
1. 1" BATTER ON GUTTER FACE OPTIONAL.
2. WHERE LONGITUDINAL SLOPE IS LESS THAN 0.4%, THE FLOW LINE SHALL BE WATER TESTED.

1/2" EXPANSION JOINT AT ALL COLD JOINTS. AT BEGINNING AND END OF RETURN AND AT 300' MAX. INTERVALS FOR EXTRUDED CURB AND 30' MAX. INTERVALS FOR FORMED CURB.
FOR JOINT DETAIL SEE STANDARD DRAWING NUMBER 234

CONCRETE

SEE NOTE 1

1/2" R

1"

1/4"

12"

1-1/2"

25"

4-1/2"

6"

4-12"

"L" TYPE CURB AND GUTTER

SPECIFICATION REFERENCE
501 CONCRETE
502 CONCRETE STRUCTURES
707 JOINT MATERIAL

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

AGENCY APPROVED
B C H L M N

DATE 12-14-00

DWG. NO. 216
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. ALL CURB FLOW LINES SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW
   SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE PERMITTING AGENCY
   AT THE SOLE EXPENSE OF THE CONTRACTOR.
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. NO UTILITY BOXES AND COVERS ADJACENT TO 30 INCH MODIFIED ROLL CURB AND GUTTER
   RESIDENTIAL AREA SHALL BE ALLOWED AT DRIVEWAY LOCATIONS.
7. BOULDER CITY ENGINEER APPROVAL REQUIRED FOR USE OF 30 INCH MODIFIED CURB AND GUTTER
   RESIDENTIAL AREA.
8. IF ROLL CURB IS APPROVED FOR OTHER LOCATIONS THAT ARE SUBJECTED TO REGULAR TRAFFIC,
   THEN UTILITY BOXES AND COVERS ADJACENT TO ROLL CURB SHALL MEET H20-44 FOR STEEL BOXES
   AND ANS/ISOCOE 77-2007 (TIER-22) FOR FIBERGLASS POLYMER CONCRETE BOXES RATED "TRAFFIC
   BEARING" TYPE.
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. NO UTILITY BOXES AND COVERS ADJACENT TO 30 INCH MODIFIED ROLL CURB AND GUTTER RESIDENTIAL AREA SHALL BE ALLOWED AT DRIVEWAY LOCATIONS.
9. IF ROLL CURB IS APPROVED FOR OTHER LOCATIONS THAT ARE SUBJECTED TO REGULAR TRAFFIC, THEN UTILITY BOXES AND COVERS ADJACENT TO ROLL CURB SHALL MEET H20-44 FOR STEEL BOXES AND ANSI/SCTE 77-2007 (TIER-2) FOR FIBERGLASS POLYMER CONCRETE BOXES RATED "TRAFFIC BEARING" TYPE.
NOTES:

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

2. 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.

3. ONE INCH BATTER AT GUTTER FACE IS OPTIONAL.

4. NO UTILITY BOXES AND COVERS ADJACENT TO R-TYPE CURB SHALL BE ALLOWED AT DRIVEWAY LOCATIONS.

5. IF R-TYPE CURB IS APPROVED FOR OTHER LOCATIONS THAT ARE SUBJECTED TO REGULAR TRAFFIC, THEN UTILITY BOXES AND COVERS ADJACENT TO R-TYPE CURB SHALL MEET H20-44 FOR STEEL BOXES AND ANSI/SC17-2007 (TIER-22) FOR FIBERGLASS POLYMER CONCRETE BOXES RATED "TRAFFIC BEARING" TYPE.

6. FOR NEW CONSTRUCTION ON RESIDENTIAL SUBDIVISION STREETS ONLY.
FOG SEAL COAT

1-1/2' A.C. PAVEMENT

4' TYPE II AGGREGATE BASE COMPACTED TO 95%

"A" TYPE CURB, SEE STANDARD DRAWING NUMBER 219

VARIES

6' MIN. TYPE I OR TYPE II AGGREGATE BASE UNDER CURB AND GUTTER

AC MEDIAN

4' CONCRETE SLAB SEE NOTE 1

4' TYPE II AGGREGATE BASE COMPACTED TO 95%

"A" TYPE CURB, SEE STANDARD DRAWING NUMBER 219

VARIES

6' MIN. TYPE I OR TYPE II AGGREGATE BASE UNDER CURB AND GUTTER

PCC MEDIAN

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. "L"-TYPE CURB AND GUTTER PER STANDARD DRAWING NUMBER 219 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.

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

MEDIAN ISLAND TYPICAL SECTION

DATE 12-14-00  DWG. NO. 218
"L" CURB SECTION

HOLDING GUTTER WHERE REQUIRED FOR DRAINAGE

"A" CURB SECTION

FLOWLINE

WEAKENED
PLANE JOINTS
SEE STANDARD DRAWING NUMBER 234

TYPICAL PLAN

1/2" EXPANSION JOINT AT ALL COLD JOINTS, AT BEGINNING AND END OF RETURN AND AT 30' MAX. INTERVALS FOR EXTRUDED CURB AND 30' MAX. INTERVALS FOR FORMED CURB. FOR JOINT DETAIL SEE STANDARD DRAWING NUMBER 234

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

SPECIFICATION REFERENCE

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

"A" AND "L" TYPE
ISLAND CURB

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

CONCRETE

VARIES

SURFACE TREATMENT VARIES

EXISTING A.C. PAVEMENT

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

NO. 4 BAR CONTINUOUS
EXCEPT THROUGH
EXPANSION JOINT

WEAKENED
PLANE JOINT

10' (TYP)

3'-4" TYP

3"

2" (TYP)

DIRECTION
OF TRAFFIC

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

NO. 4 BAR

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

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 ENGINEERING 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.

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<tr>
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<tbody>
<tr>
<td>501 CONCRETE</td>
<td>CLARK COUNTY AREA</td>
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<tr>
<td>505 REINFORCING STEEL</td>
<td>TACK - ON ISLAND CURB</td>
</tr>
<tr>
<td>707 JOINT MATERIAL</td>
<td>DATE 01-13-05</td>
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AGENCY APPROVED: B C H L M N

DWG. NO. 220
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.

### DIMENSIONS

<table>
<thead>
<tr>
<th>W</th>
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<tr>
<td>12' minimum for one-way driveways</td>
<td>48 minimum</td>
<td>25' minimum &amp; 35' maximum</td>
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<tr>
<td>32' minimum for two-way driveways</td>
<td>75' minimum for parking lots 51 to 100 parking spaces</td>
<td>50' minimum for parking lots &gt; 50 parking spaces</td>
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<tr>
<td>40' maximum</td>
<td>100' minimum for parking lots 101 to 200 parking spaces</td>
<td>75' minimum for parking lots 51 to 100 parking spaces</td>
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<tr>
<td>R1 = 15' minimum &amp; 35' maximum</td>
<td>150' minimum for parking lots &gt; 201 parking spaces</td>
<td>150' minimum for parking lots &gt; 201 parking spaces</td>
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<tr>
<td>R2 = 22' minimum &amp; 35' maximum</td>
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### NOTES:

1. Commercial and multi-family driveways shall be constructed in accordance with standard drawing numbers 224, 225, 228, 235 and 235.1.

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8. When a property line falls in a median opening a joint driveway agreement shall be required or no driveway will be allowed.
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

D. ISLAND: LENGTH-20' MINIMUM
    WIDTH- 4' MINIMUM
G. 15' MINIMUM
E. 48' MINIMUM
H. 8' MINIMUM & 15' MAXIMUM

DETAIL FOR SECURITY GATE CONTROLLED DRIVEWAYS

LOOP DETECTOR

CALL BOX

THROAT DEPTH

AGENCY APPROVED

DATE 02-09-06   DWG. NO. 222.1   SHEET 2 OF 2
"UTILITY FEATURE"  
SEE NOTE 4

"12' MIN. - CLARK COUNTY"

W = WIDTH OF DRIVEWAY = 12' MIN.
16' MAX. FOR 1 OR 2 CAR GARAGE, OR
28' MAX. FOR 3+ GARAGE

NOTES:
1. ALL RESIDENTIAL PROPERTIES MAY HAVE ONLY ONE CURB CUT EXCEPT CIRCULAR DRIVEWAYS AS SHOWN.
2. LOCAL ORDINANCES MAY APPLY AND SHALL HAVE PREFERENCE.
3. NO DRIVEWAY SHALL BE LOCATED WHOLLY OR PARTIALLY, ON OR OVER A UTILITY EASEMENT WHICH RUNS PERPENDICULAR TO THE CURB LINE.
4. NO DRIVEWAY SHALL BE LOCATED WITHIN 6 FEET OF A LIGHT POLE (UNLESS ACCEPTED BY THE ENTITY TRAFFIC ENGINEER), FIRE HYDRANT, MAIL BOX, ABOVE-GROUND ELECTRICAL TRANSFER BOX, BLOCK WALL HIGHER THAN 2 FEET, OR THE CURB RETURN AT A STREET INTERSECTION OR ALLEY.
5. COMMON DRIVEWAY CONSTRUCTION MAY BE PERMITTED AT ANY TWO RESIDENTIAL PROPERTIES OF 60 FEET IN WIDTH OR LESS. THE WIDTH OF THE JOINT DRIVEWAY SHALL BE A MAXIMUM OF 24 FEET. A JOINT DRIVEWAY AGREEMENT SHALL BE REQUIRED. (EXCEPT CLARK COUNTY)
6. GEOMETRICS APPLY TO NEW CONSTRUCTION ONLY, AND MAY VARY IN EXISTING SUBDIVISIONS SUBJECT TO APPROVAL OF THE ENGINEER.
7. MULTI-FAMILY RESIDENTIAL AND ALL NON-RESIDENTIAL DRIVEWAYS SHALL CONFORM TO THE COMMERCIAL DRIVEWAY STANDARDS.
8. ALL DRIVEWAY LOCATIONS SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER.
9. FOR CURB DEPRESSION AND DRIVEWAY APRON DETAIL, SEE STD. DWG. NO. 223.
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.
3. STANDARD DRAWING 223.1 SHALL NOT BE ALLOWED WHEN SIDEWALK IS ATTACHED TO CURB.
4. THE "DUSTPAN" DRIVEWAY CANNOT BE A PART OF THE PEDESTRIAN ACCESS ROUTE SINCE THE DEPRESSED AREA IS NOT COMPLIANT WITH ADAAG.

SPECIFICATION REFERENCE

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<tr>
<td>502 CONCRETE STRUCTURES</td>
<td>WITHOUT ADJACENT SIDEWALK</td>
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<td>707 JOINT MATERIAL</td>
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AGENCY APPROVED  B C H L  M  N
RESIDENTIAL DRIVEWAY
WITHOUT ADJACENT SIDEWALK

DATE 07-01-16  DWG. NO. 223.1
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.

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DATE 07-01-15   DWG. NO. 223
NOTES:

NOTE: ELEVATIONS SHOWN ARE TYPICAL

1. NO. 4 BARS 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.
5. NO UTILITY BOXES AND COVERS ADJACENT TO R-TYPE CURB SHALL BE ALLOWED AT DRIVEWAY LOCATIONS.
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 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.

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

6. SPECIAL DESIGNS SUBJECT TO APPROVAL OF THE ENGINEER.
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.

SPECIFICATION REFERENCE

| 302 | AGGREGATE BASE |
| 501 | CONCRETE |
| 502 | CONCRETE STRUCTURES |
| 505 | REINFORCING STEEL |
| 707 | EXPANSION JOINT MATERIAL |
| TT-S-00153A CLASS A SEALANT |

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

HEAVY DUTY COMMERCIAL
DRIVEWAY

(SERVICE STATIONS, INDUSTRIAL, LOADING DOCKS, ETC.)

DATE 12-14-00  DWG. NO. 226.S3
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.

1/2" EXPANSION JOINT

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

SEALANT DETAIL

NO. 4 BARS @ 12" CENTERS, BOTH WAYS SUPPORTED BY NON-FERROUS CHAIRS APPROVED BY THE ENGINEER

SECTION A-A

PROPOSED STREET

TYPICAL PROFILE AT LOCAL RESIDENTIAL STREET INTERSECTIONS

AGENCY APPROVED | B | C | H | L | M | N

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
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

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DATE DWG. NO.

AGENCY APPROVED

B  C  H  L  M  N

229
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.
TYPE "A" EXPANSION JOINT DETAIL

**BOXOUT**

1/8" RADIUS

SILICONE JOINT SEALANT

BOND BREAKER MATERIAL (OR)
1" BACKING ROD

EXPANSION JOINT FILLER

NOTE: "D" IS THE SLAB THICKNESS

TYPE "C" WEAKENED PLANE JOINT DETAIL

**SINGLE SAW-CUT**

NOTE: "D" IS THE SLAB THICKNESS

TYPE "C" WEAKENED PLANE JOINT DETAIL

**DOUBLE SAW-CUT**

TYPE "B" CONSTRUCTION JOINT DETAIL

**KEYWAY**

DEFORMED TIE BARS NO. 4 x 30" @ 24" O.C.

SILICONE JOINT SEALANT

SEE TYPE "B" CONSTRUCTION JOINT DETAIL

SEE TYPE "B" CONSTRUCTION JOINT DETAIL FOR KEYWAY DIMENSIONS

CONSTRUCTION JOINT SEAL DETAIL

TYPE "D" TIED CONSTRUCTION JOINT DETAIL

CONCRETE PAVEMENT JOINT DETAILS

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| UNIFORM STANDARD DRAWINGS                     |                 |
| CLARK COUNTY AREA                             |                 |

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<th>CONCRETE PAVEMENT JOINT DETAILS</th>
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<tr>
<td>DWG. NO.</td>
<td>233</td>
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1. CONCRETE BUS PAD SHALL BE MONOLITHIC. TRANSVERSE WEAKENED PLANE JOINTS SHALL BE INSTALLED AT 10' INTERVALS AND AS DETAILED IN STANDARD DRAWING NO. 233, TYPE "C".

2. A MINIMUM OF ONE SET OF PAVEMENT MARKINGS CONTAINING THE "BUSES ONLY" SYMBOL SHALL BE PLACED IN THE TURN-OUT AREA. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.

3. ADDITIONAL STORAGE AREA WILL BE REQUIRED WHEN MORE THAN ONE BUS IS EXPECTED TO OCCUPY THE TURN-OUT AT THE SAME TIME.

4. ALTERNATE STORAGE AREA CAN BE PART OF THE TURN-OUT BASE. IT SHALL BE SUPPORTED IN ACCORDANCE WITH ENGINEERING ANALYSIS AND APPROVED BY THE ENGINEER.

5. TURN-OUT SURFACE SHALL BE TEXTURED IN ACCORDANCE WITH UNIFORM STANDARD SPECIFICATION NO. 409:03:08. FLOW LINE SHALL NOT BE TEXTURED, BUT SHALL BE A TROWELED SURFACE.
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. BUS SHELTER PAD CONNECTION TO DETACHED SIDEWALK CONDITION SHALL BE DETERMINED BY THE ENTITIES.

4. "A" = 10', "B" = 15' UNLESS BUS TURNOUT IS CONSTRUCTED PER STANDARD DRAWINGS 234.1 OR 234.4, THEN "A" = 5', "B" = 10'.

5. A 5' x 25' BUS SHELTER PAD BEHIND THE SIDEWALK WHERE NECESSARY MAY BE ALLOWED AS APPROVED BY THE RTC.
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. BUS SHELTER PAD CONNECTION TO DETACHED SIDEWALK CONDITION SHALL BE DETERMINED BY THE ENTITIES.

4. "A" = 10', "B" = 15' UNLESS BUS TURNOUT IS CONSTRUCTED PER STANDARD DRAWINGS 234.1 OR 234.4, THEN "A" = 5', "B" = 10'.

5. A 5' x 50' BUS SHELTER PAD BEHIND THE SIDEWALK WHERE NECESSARY MAY BE ALLOWED AS APPROVED BY THE RTC.

AGENCY APPROVED  B  C  H  L  M  N

SPECIFICATION REFERENCE  UNIFORM STANDARD DRAWINGS
302  AGGREGATE BASE  CLARK COUNTY AREA
501  CONCRETE  TYPICAL DOUBLE BUS STOP PASSENGER
502  CONCRETE STRUCTURES  LOADING WITH SHELTER PADS

DATE 07-01-16  DWG. NO. 234.3
NOTES:

1. PARTICIPATING BUSES ARE EXPECTED TO SERVICE BUS STOP DISTANCE FROM END OF STOP TAPER TO 20 FT. AND THE RIGHT LANE OF THE BUS STOP SHALL BE INCREASED TO 12 FT. MIN.

2. STORAGE LANE LENGTH SHALL BE APPROVED TYPE I PAVEMENT MARKING FILM, OR IF APPROVED BY THE ENGINEER, RAISED PAVEMENT MARKERS MAY BE USED.

3. STORAGE LANE LINE SHALL BE APPROVED TYPE I PAVEMENT MARKING FILM, OR IF APPROVED BY THE ENGINEER, RAISED PAVEMENT MARKERS MAY BE USED.

4. REVERSE CURVE TRANSITION MAY BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

AGENT APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

BUS STOP PLACEMENT WITHIN EXCLUSIVE RIGHT TURN LANE FOR COMMERCIAL PROPERTIES

SPECIFICATION REFERENCE

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DATE 07-01-16  DWG. NO.  234.4
BUS SHELTER PAD, 8" CONCRETE SLAB ON GRADE

#4 TRANSVERSE AT 18" O.C. TOP AND BOTTOM

#4 LONGITUDINAL TOP AND BOTTOM AT 13" O.C.

1-1/2" CLEAR (MIN.)

3" CLEAR (MIN.)

SECTION A-A

TYPE II AGG. BASE

NOTES:
1. MINIMUM 28 DAY CONCRETE STRENGTH = 4500 PSI.
2. LAP SPlices OF REINFORCING STEEL SHALL BE 24". STAGGER LAP SPlices A MINIMUM OF ONE LAP LENGTH.
3. L & W PER PLAN

6" CURB, SIDE AND BACK OF BUS SHELTER PAD

8" CONCRETE SLAB ON GRADE

AGENCY APPROVED

SPECIFICATION REFERENCE
302 AGGREGATE BASE
501 CONCRETE
502 CONCRETE STRUCTURES

CLARK COUNTY AREA

BUS SHELTER PAD DETAILS AND NOTES

DATE 07-01-16  DWG. NO. 234.5
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.

TYPICAL SECTION

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.
OFFSET "T"

ISOLATED "T"

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 UNOBSTRUCTED 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 RAMP'S SHALL BE LOCATED WITHIN THE MARKED CROSSWALKS AS APPROVED BY THE ENGINEER.
RAMP IN CURB RETURN

30' OR MORE RADIUS BACK OF CURB

PAIRED RAMP IN CURB RETURN

FOR TRANSITION LENGTHS, SEE SHEET 4 TABLES 1 & 2

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 RAMPS 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 EXISTS AND AS APPROVED BY THE ENGINEER.
"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.

**RAMP IN CURB RETURN**

(No back of walk depression)

**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.

**CASE II** shall be used where R/W and field conditions permit.

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**SPECIFICATION REFERENCE**

- 302 AGGREGATE BASE
- 501 CONCRETE
- 502 CONCRETE STRUCTURES

**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**SIDEWALK RAMP**

**CASE II**

**DATE 11-10-04**

**DWG. NO. 235**

**SHEET 2 OF 4**
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 RAMP 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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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SIDEWALK RAMP
CASE III

DATE 11-10-04 DWG. NO. 235 SHEET 3 OF 4
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).
NO. 4 REINFORCING BARS CONTINUOUS

LEAVE SURFACE ROUGH IF Poured SEPARATELY

JOINT SEALER

PAVEMENT

BARRIER END ANCHOR

1"x8" STEEL DOWEL AT 2'-0" CENTER (IF NEEDED) (SEE NOTE 2)

TYPE A

PROFILE AT TOP OF VERTICAL RADIUS

(BARRIER END ANCHOR)

TRANSITION OF END OF BARRIER

TO BE USED ONLY IF END IS FLARED

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.

TRANSITION DETAIL

CONCRETE BARRIER RAIL

FLARE RATES

<table>
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<tr>
<th>OPERATING SPEED</th>
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<tr>
<td>60</td>
<td>17:1 MAX</td>
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<td>50</td>
<td>14:1</td>
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<td>40</td>
<td>11:1</td>
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NOTES:
CONCRETE

NOTES:
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

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<td>505 REINFORCING STEEL</td>
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CLARK COUNTY AREA

PRECAST BUMPER BLOCK

DATE 12-14-00 DWG. NO. 238
PLAN

11" DIA. CAST IRON TRAFFIC COVER

CONCRETE

11" MIN. 11-1/2" MIN. 9" MIN. 10-3/8" MIN. 6" MIN.

6" MIN.

2" MIN.

3/4" SIZE DRAIN BACKFILL

NON-FERROUS CAP
(SEE DETAIL STANDARD DRAWING NO. 242)
(NOT TO BE MARKED BY CONTRACTOR)

6" DIA x 12" MIN. LENGTH
CLASS "D" CONCRETE MONUMENT.
(SEE DETAIL STANDARD DRAWING NO. 240).

SECTION A-A

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

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

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPE I MONUMENT

AGENCY APPROVED

B C H L M N

UNIFORM

DATE 12-14-00 DWG. NO. 239
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

PLAN

A.C. PAVEMENT

SECTION A-A

TYPE II-A

UNPAVED STREET

6" 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.

CONCRETE

SECTION A-A

TYPE II-B

PAVED STREET

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPE II MONUMENT

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

1. TYPE III MONUMENTS TO BE SET AT ALL CENTERLINE CONTROL POINTS NOT OTHERWISE IDENTIFIED BY A TYPE I ORTYPE II MONUMENT, INCLUDING STREET 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.

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

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

---

TYPE III MONUMENT

---

SPECIFICATION REFERENCE  | UNIFORM STANDARD DRAWINGS  
| CLARK COUNTY AREA  
|  
| 621 MONUMENTS  |  
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DATE | DWG. NO.
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|  | 241
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".

CONCRETE

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

TYPE IV-B MONUMENT
NO CURB & GUTTER

TYPE IV-A MONUMENT
EXISTING CURB & GUTTER

NON-FERROUS CAP (SEE DETAIL) INSET IN TOP OF CURB, BONDED SECURELY WITH EPOXY.
(A.S.T.M. C881 - '78 SPECS.)

NON-FERROUS CAP (SEE DETAIL)

DETAIL
STANDARD CAP

2 1/2"
DIA. FOR SHAFT

5/8" MIN.
5/8" 0/MIN.
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 & 244.1.
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.

AGENCY APPROVED

SPECIFICATION REFERENCE

628 PAINTING TRAFFIC STRIPING
633 PAVEMENT MARKERS

TYPICAL DELINEATION FOR ROADWAYS
100 FT. OR GREATER RIGHT-OF-WAY
WITH CURBSTONE SIDEWALK

DATE 7-10-03  DWG. NO. 244.2
NOTES:
1. LANE LINE DELINEATION SHALL COMPLY WITH STANDARD DRAWING NO. 244 & 244.1.
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.
NOTES:
1. LANE LINE DELINEATION SHALL COMPLY WITH STANDARD DRAWING NOS. 244 & 244.1.
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. SIDWALK 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.

* 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.
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 NO. 244 & 244.1.
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 & 244.1.
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 LINES 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 & 244.1.
2. BIKE LAKES 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.
NOTES:
1. LANE LINE DELINEATION SHALL COMPLY WITH STANDARD DRAWING NO. 244 & 244.1.
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 LINES ARE MEASURED TO LIP OF GUTTER OR EDGE OF PAVEMENT IF CURB AND GUTTER DO NOT EXIST.

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<td>CLARK COUNTY AREA</td>
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<tr>
<td>633</td>
<td>TYPICAL DELINEATION FOR BIKE FACILITIES</td>
</tr>
<tr>
<td></td>
<td>60 FT. RIGHT-OF-WAY</td>
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<td>(PARKING ON BOTH SIDES)</td>
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DATE  6-8-95  DWG. NO.  244.7
NOTES:
1. LANE LINE DELINEATION SHALL COMPLY WITH STANDARD DRAWING NO. 244 & 244.1.
2. BIKE LANES MUST BE A 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 LANES 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. 244.9 FOR BIKE LANE SIGNAGE DETAILS.
BIKE LANE DELINEATION AND LEGEND

NOTES:
1. BIKE LANE LEGENDS SHALL BE APPROVED TYPE I 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 LANE S 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 5 FEET IS PREFERRED.
4. BIKE LANE DELINEATION, LEGEND, AND SIGNING SHALL CONFORM TO THE MUTCD, LATEST EDITION.
5. SIGN SIZE AND PLACEMENT SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD, LATEST EDITION.
6. THE BIKE LANE SIGNAGE SHALL BE TYPE XI SHEETING.
BIKE LANE DELINEATION AND LEGEND

NOTES:
1. BIKE LANE LEGENDS SHALL BE APPROVED TYPE I 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 5 feet is preferred.
4. BICYCLE LANE DELINEATION, LEGEND, AND SIGNING SHALL CONFORM TO THE MUTCD LATEST EDITION.
5. SIGN SIZE AND PLACEMENT SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD, LATEST EDITION.
6. THE BIKE LANE SIGNAGE SHALL BE TYPE XI SHEETING.
7. A CONTINUOUS 6" WHITE LINE SHALL EXTEND 20' ON EACH SIDE OF THE DROP INLET.
8. INSTALL "DO NOT RIDE IN GUTTER" SIGN IN THE CITY OF LAS VEGAS, SIGN WIDTH TO MATCH R3-17.
9. THE WIDTH OF THE BICYCLE LANE SHALL EXCLUDE THE GUTTER PAN.

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

BICYCLE LANE DELINEATION, LEGEND, AND SIGNAGE

DATE 01-01-16  DWG. NO. 244.9.S1
**Typical Lane Configuration for Major Street Intersections and Median Detail**

**Case I - With Curbside Sidewalk**

- **Agency Approved:**
  - B: [ ]
  - C: [ ]
  - H: [ ]
  - L: [ ]
  - M: [ ]
  - N: [ ]

- **Uniform Standard Drawings Clark County Area**

- **Date:** 7-10-03
- **DWG. No.:** 245.1
- **Sheet:** 1 of 2

---

300 typ. storage

605'

660' Q to Q typ.

300 typ. storage

3' offset

100'' radius

62.45 typ. for reverse curve taper

100'' radius

**Symmetrical reverse curve**

(staight line taper may be substituted as approved by engineer)

**Exclusive Right Turn Lane**

Additional 15' right-of-way dedication required for exclusive right turn lane

**225 typ. transition**

**99.5 typ. taper**

**250' radius**

**Symmetrical reverse curves**

*For roadways with dedicated bike lane, reduce median width to 2 ft. and outside travel lanes to 11 ft.*
300' TYP. STORAGE

100" RADIUS
FOR REVERSE CURVE TAPER

62.45" TYP.

225° TYP.
TRANSITION

50° TYP.

605'

EXCLUSIVE RIGHT TURN LANE
ADDITIONAL 1' RIGHT-OF-WAY DEDICATION REQUIRED FOR EXCLUSIVE RIGHT TURN LANE

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

* 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.

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<tr>
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<td>UNIFORM STANDARD DRAWINGS</td>
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<td></td>
<td>TYPICAL LANE CONFIGURATION FOR MAJOR STREET INTERSECTIONS AND MEDIAN DETAIL</td>
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<td></td>
<td>CASE II - WITH CURBSIDE SIDEWALK</td>
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<td></td>
<td>DATE 7-10-03</td>
<td>DWG. NO. 245.1</td>
<td>SHEET 2 OF 2</td>
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FORM ENTIRE ISLAND USING RAISED PAVEMENT MARKER PATTERN FOR TRANSITION AREA

\[ T \text{ OR } L = \left( \frac{W \text{ OR } X}{S} \right)^2 \left( \frac{60}{40 \text{ MPH OR LESS}} \right) \]
\[ = \left( \frac{W \text{ OR } X}{S} \right) \left( \frac{60}{45 \text{ MPH OR GREATER}} \right) \]

NOTE:
SEE SHEET 3 THIS DRAWING NUMBER IF PATTERN IS TO BE USED AT A GORE POINT TO DIVIDE TRAFFIC MOVING IN SAME DIRECTION.

SPECIFICATION REFERENCE
628 PAINTING TRAFFIC STRIPING
633 PAVEMENT MARKERS

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPICAL LANE DELINEATION IN TRANSITION SECTIONS

DATE 6-11-93 DWG. NO. 245 SHEET 1 OF 3
NOTE:
PAINT MAY BE USED IN LIEU OF TAPE AND/OR RAISED PAVEMENT MARKERS
AT THE DISCRETION OF THE ENGINEER.
NOTES:

1. STORAGE LENGTH TO BE DETERMINED BY TRAFFIC ENGINEER.
2. SEE DRAWING NO. 244.9 FOR BIKE LANE LEGEND AND SIGNAGE.
3. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE TRAFFIC ENGINEER, INSTALL R3-7R SIGN AND ARROW 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. 246 NOTE 1 FOR STANDARD PAVEMENT MARKERS ADDED TURN LANE.

SPECIFICATION REFERENCE

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<td>PAVEMENT MARKERS</td>
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<tr>
<td>BICYCLE LANE APPROACH TO</td>
<td>INTERSECTION WITH EXCLUSIVE</td>
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<tr>
<td>RIGHT TURN LANE</td>
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</table>

DATE 06-09-11  DWG. NO. 246 1
RIGHT LANE
ONLY
EXCEPT RIGHT TURNS

SIGN NUMBER: SP-1
WIDTH: 30"
HEIGHT: 42"
BORDER WIDTH: 0.75"
BORDER RADII: 1.875"
BACKGROUND COLOR: WHITE
LEGEND & BORDER COLOR: BLACK

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

EXCLUSIVE BUS/BIKE LANE
SPECIAL SIGN DETAIL

SPECIFICATION REFERENCE
716 SIGN MATERIALS

DATE: 01-01-18   DWG. NO.: 246.10
NOTES:
1. STORAGE LENGTH TO BE DETERMINED BY TRAFFIC ENGINEER.
2. SEE DRAWING NUMBER 244.9 FOR BIKE LANE LEGEND AND SIGNAGE.
3. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, INSTALL R3-7R SIGN AND ARROW SYMBOL PAVEMENT MARKINGS FOR THE LENGTH OF THE STORAGE LINE. 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.
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. 244.9 FOR BIKE LANE DELINEATION, LEGEND, AND SIGNAGE DETAILS.
3. SEE DRAWING NO. 246.6 FOR DETAILS ON THE FORCED TURN LANE.

SPECIFICATION REFERENCE

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<th>AGENCY APPROVED</th>
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</table>

| BICYCLE LANE AT A RIGHT TURN DROP LANE |
| DATE 7-10-03 | DWG. NO. 246.3 |
NOTES:
1. A SOLID BICYCLE LANE STRIPE SHOULD CONTINUE ACROSS DRIVEWAY ACCESS POINTS.
2. SEE DRAWING NO. 244.9 FOR BIKE LANE LEGEND AND SIGNAGE DETAILS.
NOTES:
1. SEE DRAWING NUMBER 244.9 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.
TYP. DROP LINE LENGTHS

<table>
<thead>
<tr>
<th>POSTED SPEED (MPH)</th>
<th>LENGTH (FT)</th>
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<tr>
<td>25</td>
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<tr>
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<tr>
<td>50</td>
<td>640</td>
</tr>
<tr>
<td>55</td>
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</table>

FORCED LEFT TURN LANE

FORCED RIGHT TURN LANE

NOTES:
1. THE MINIMUM LENGTH OF STORAGE LINE IS 250 FT. ON ARTERIALS AND 150 FT. ON ALL OTHERS.
2. A MINIMUM OF 2@ R3-7R OR R3-7L SIGNS SHALL BE INSTALLED IN ADVANCE OF THE INTERSECTION AT DISTANCES APPROVED BY THE ENGINEER. RECOMMENDED LOCATIONS ARE SHOWN ABOVE.
3. ONE SET OF PAVEMENT MARKINGS CONTAINING ONE ARROW SYMBOL AND ONE "ONLY" SYMBOL SHALL BE PLACED AT THE BEGINNING OF THE DROP LANE.
4. WHERE ADDITIONAL MOTORIST GUIDANCE IS DEEMED NECESSARY BY THE ENGINEER, ADDITIONAL ARROW AND "ONLY" SYMBOL PAVEMENT MARKINGS AND OVERHEAD MOUNTED R6-5 SIGNS MAY BE INSTALLED. SYMBOLS SHALL BE APPROVED TYPE II PAVEMENT MARKING FILM.
5. APPROVED TYPE I PAVEMENT MARKING FILM OR RAISED PAVEMENT MARKERS MAY BE USED FOR ADDITIONAL GUIDANCE AT THE DISCRETION OF THE ENGINEER.
6. STORAGE LANE LINE AND SKIP LINES SHALL BE APPROVED TYPE I PAVEMENT MARKING FILM OR IF APPROVED BY THE ENGINEER, RAISED PAVEMENT MARKERS MAY BE USED.

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<tbody>
<tr>
<td>633</td>
<td>PAVEMENT MARKERS</td>
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<tr>
<td>628</td>
<td>PAINTING TRAFFIC STRIPING, PAVEMENT MARKINGS</td>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STANDARD PAVEMENT MARKERS
FORCED TURN LANE

DATE 07-01-16 DWG. NO. 246.6
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 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. THE MINIMUM LENGTH OF DOTTED LINES IS 150' FT. ON MAJOR/MAJOR INTERSECTION.
2. A MINIMUM OF 1 @ R3-7R AND R3-BE: 1 @ USD 246.10 SIGNS SHALL BE INSTALLED IN ADVANCE OF THE INTERSECTION AT DISTANCES APPROVED BY THE ENGINEER. RECOMMENDED LOCATIONS ARE SHOWN ABOVE.
3. DOTTED WHITE LINES SHALL NOT BE RAISED PAVEMENT MARKERS.

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<tr>
<th>AGENCY APPROVED</th>
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<td>SIGN MATERIALS</td>
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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

EXCLUSIVE BUS/BIKE LANE MAJOR/MAJOR INTERSECTION SIGN INSTALLATION AND PAVEMENT MARKING DETAIL

DATE 07-01-18 | DWG. NO. 246.8
NOTES:

1. THE MINIMUM LENGTH OF DOTTED LINES TO BE 100 FT.

2. A MINIMUM OF 1@ R3-7R AND R3-8E; 1@ USD 246.10 SIGNS SHALL BE INSTALLED IN ADVANCE OF THE INTERSECTION AT DISTANCES APPROVED BY THE ENGINEER. RECOMMENDED LOCATIONS ARE SHOWN.

3. DOTTED WHITE LINES SHALL NOT BE RAISED PAVEMENT MARKERS.
ADDED LEFT TURN LANE

TYPICAL LEFT TURN MEDIAN DETAIL

ADDED RIGHT TURN LANE

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 AND ARROW SYMBOL PAVEMENT MARKINGS
   FOR THE LENGTH OF THE STORAGE LINE. SYMBOLS SHALL BE APPROVED TYPE II
   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 LINE LENGTH SHALL BE APPROVED TYPE I PAVEMENT MARKING FILM OR IF
   APPROVED BY THE ENGINEER, RAISED PAVEMENT MARKERS MAY BE USED.

SPECIFICATION REFERENCE
633  PAVEMENT MARKERS
628  PAINTING TRAFFIC STRIPING,
     PAVEMENT MARKINGS...

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STANDARD PAVEMENT MARKERS
ADDED TURN LANE

DATE 06-09-11  DWG. NO. 246
LANE MARKER SCHEDULE

TYPE A ● CIRCULAR WHITE CERAMIC MARKER

TYPE B ○ CIRCULAR YELLOW CERAMIC MARKER

TYPE C ■ TWO WAY YELLOW REFLECTOR

TYPE D □ ONE WAY YELLOW REFLECTOR, YELLOW TOWARD ONCOMING TRAFFIC

TYPE E □ ONE WAY WHITE REFLECTOR, WHITE TOWARD ONCOMING TRAFFIC

TYPE F ■ TWO WAY WHITE AND RED REFLECTOR, WHITE TOWARD ONCOMING TRAFFIC

SPECIFICATION REFERENCE

633 PAVEMENT MARKERS

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

MARKER DETAILS AND LANE MARKER SCHEDULE

DATE 5-13-99 DWG. NO. 247
**SPACING TABLE**

<table>
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<tr>
<th>&quot;W&quot;</th>
<th>NUMBER OR REFLECTORS PER MEDIAN NOSE</th>
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<tbody>
<tr>
<td>1.0' TO 2.0'</td>
<td>3</td>
</tr>
<tr>
<td>2.0' TO 3.0'</td>
<td>4</td>
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<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>
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**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.

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**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**MEDIAN NOSE MARKINGS**

**DATE** 6-11-93   **DWG. NO.** 248
URBAN INSTALLATIONS
SEE NOTE 9

RURAL INSTALLATIONS
(NO LANDSCAPING)

NOTE:
ATTACH SIGNS TO POST WITH 3/8" DIA. DRIVE RIVETS AND WASHERS.
SEE NOTES 6 & 8.

2" SIGN POST
(1-3/4" ACCEPTABLE FOR SIGNS SMALLER THAN 30' x 30")

TOP OF SIDEWALK OR 24"x24"x4" CONCRETE PAD

DO NOT SET SIGN ANCHORS IN CONCRETE - CONCRETE SIDEWALK/PAD IS TO BE DRILLED WITH HOLE REMAINING OPEN AROUND THE ANCHOR

TOP OF ANCHOR AND SLEEVE

2-1/2"x18" SLEEVE
(2-1/4" FOR 1-3/4" POST)

2-1/4"x30" ANCHOR
(2" FOR 1-3/4" POST)

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.

SPECIFICATION REFERENCE
631 STREET NAME SIGNS

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SIGN INSTALLATION DETAIL

DATE 11-10-04 DWG. NO. 249.1

AGENCY APPROVED B C H L M N
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. 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 TYPE XI.
3. PRIMARY COPY FOR 9" AND 12" SIGNS SHALL BE 6" 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 1/2" WHITE BORDER AT THE EDGE.
7. SIGN BLANKS SHALL HAVE ROUNDED CORNERS.
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 SIGN BLANK.

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.
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 PRESED 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

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>MIN. SIZE</th>
<th>MIN. WEIGHT</th>
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<tbody>
<tr>
<td>END, CORNER &amp; PULL</td>
<td>2.351 O.D.</td>
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<tr>
<td>LINE</td>
<td>2.00 O.D.</td>
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<td>BRACES</td>
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<tr>
<td>TOP RAIL</td>
<td>1.630 O.D.</td>
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**CHAIN LINK FENCE (72 INCH HIGH OR LESS)**
TYPICAL MARKING CURB RAMP IN MIDDLE OF CURB RETURN

CURB LINE PROJECTED (TYP.)

3' MIN.

48" MIN.

OPTIONAL DETAIL

NOTE:

USE MARKING PER OPTIONAL DETAIL IF NECESSARY TO OBTAIN 3 MINIMUM CLEARANCE BETWEEN CROSSWALK AND CURB LINE PROJECTED.

TYPICAL MARKING CURB RAMP ADJOINING CURB RETURN

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

CROSSWALK MARKINGS - TYPE II

AGENCY APPROVED

B

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N

DATE 8-12-99  DWG. NO. 254.1.S1
TYPICAL CROSSWALK STRIPING DETAIL

MEDIAN ISLAND (AS APPLICABLE)

5' TYP

2' TYP

10' TYP

2' WIDE BARS TO BE CENTERED BETWEEN LANE LINES AND ON LANE LINES (TYP)

4' MIN

LANE LINES

3' MIN
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, ASHTO 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.
NOTES:
1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE DRAWING NO. 235, CASE III, FOR SIDEWALK RAMP DETAILS.
# SIGN SIZES FOR SHARED-USE PATHS

<table>
<thead>
<tr>
<th>MUTCD CODE</th>
<th>SIGN</th>
<th>MINIMUM SIGN SIZE (IN)</th>
</tr>
</thead>
<tbody>
<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 X 24</td>
</tr>
<tr>
<td>R3-16, 16A, 17, 17A</td>
<td>BICYCLE LANE</td>
<td>24 X 30</td>
</tr>
<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>
</tr>
<tr>
<td>R7-9, 9A</td>
<td>NO PARKING BIKE LANE</td>
<td>12 X 18</td>
</tr>
<tr>
<td>R9-3A</td>
<td>PEDESTRIANS PROHIBITED</td>
<td>18 X 18</td>
</tr>
<tr>
<td>R9-5, 6</td>
<td>BICYCLE REGULATORY</td>
<td>12 X 18</td>
</tr>
<tr>
<td>R9-7</td>
<td>SHARED-USE PATH RESTRICTION</td>
<td>12 X 18</td>
</tr>
<tr>
<td>R15-1</td>
<td>RAILROAD CROSSBUCK</td>
<td>24 X 4.5</td>
</tr>
<tr>
<td>W1-1, 2, 3, 4, 5</td>
<td>TURN AND CURVE WARNING</td>
<td>18 X 18</td>
</tr>
<tr>
<td>W1-6, 7</td>
<td>ARROW WARNING</td>
<td>24 X 12</td>
</tr>
<tr>
<td>W2-1, 2, 3, 4, 5</td>
<td>INTERSECTION WARNING</td>
<td>18 X 18</td>
</tr>
<tr>
<td>W3-1A, 2A, 3</td>
<td>STOP, YIELD, SIGNAL AHEAD</td>
<td>18 X 18</td>
</tr>
<tr>
<td>W5-2A</td>
<td>ROAD NARROWS</td>
<td>18 X 18</td>
</tr>
<tr>
<td>W5-4</td>
<td>BIKEWAY NARROWS</td>
<td>18 X 18</td>
</tr>
<tr>
<td>W7-5</td>
<td>HILL SIGN</td>
<td>18 X 18</td>
</tr>
<tr>
<td>W8-1, 2</td>
<td>BUMP OR DIP</td>
<td>18 X 18</td>
</tr>
<tr>
<td>W8-10</td>
<td>BICYCLE SURFACE CONDITION</td>
<td>18 X 18</td>
</tr>
<tr>
<td>W10-1</td>
<td>ADVANCE GRADE CROSSING</td>
<td>18 DIA</td>
</tr>
<tr>
<td>W11-1</td>
<td>BICYCLE CROSSING</td>
<td>18 X 18</td>
</tr>
<tr>
<td>W12-2</td>
<td>LOW CLEARANCE</td>
<td>18 X 18</td>
</tr>
<tr>
<td>W16-1</td>
<td>SHARE THE ROAD PLAQUE</td>
<td>24 X 30</td>
</tr>
<tr>
<td>D1-1</td>
<td>SUPPLEMENTAL BIKE ROUTE PLAQUE</td>
<td>24 X 6</td>
</tr>
<tr>
<td>D4-3</td>
<td>BICYCLE PARKING</td>
<td>12 X 18</td>
</tr>
<tr>
<td>D11-1</td>
<td>BIKE ROUTE</td>
<td>24 X 18</td>
</tr>
<tr>
<td>M1-8</td>
<td>BIKE ROUTE MARKER</td>
<td>12 X 18</td>
</tr>
<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.
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.
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>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>628 PAINTING TRAFFIC STRIPING</td>
<td>CLARK COUNTY AREA</td>
</tr>
<tr>
<td>633 PAVEMENT MARKERS</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AGENCY APPROVED</th>
<th>B</th>
<th>C</th>
<th>H</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
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<tbody>
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</tr>
</tbody>
</table>

DATE 7-10-03  DWG. NO. 255
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.

SPECIFICATION REFERENCE

| 628 | PAINTING TRAFFIC STRIPING |
| 633 | PAVEMENT MARKERS |

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPICAL SIGNAGE FOR SHARED USE PATH AT INTERSECTION

DATE  7-10-03  DWG. NO.  256.1
NOTES:
1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE DRAWING NO. 218, 246, 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 RAMP'S (USE 12 FEET INSTEAD 5 FEET).
5. SEE DRAWING NO. 254 AND 254.1S1 FOR CROSSWALKS.
6. SEE DRAWING NO. 255.3 FOR SIGN SIZES FOR SHARED USE PATHS.
7. SEE DRAWING NO. 245 (2 OF 3) FOR DELINEATION IN TRANSITION SECTIONS.
8. SEE MUTCD FOR ADVANCE PLACEMENT OF WARNING SIGNS.
9. SEE AASHTO HIGHWAYS AND STREETS FOR SIGHT VISABILITY 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 W11-1 SIGN.

SPECIFICATION REFERENCE

<table>
<thead>
<tr>
<th>AGENCY APPROVED</th>
<th>B</th>
<th>C</th>
<th>H</th>
<th>L</th>
<th>M</th>
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<tbody>
<tr>
<td>CLARK COUNTY AREA</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SHARED USE PATH CROSSING</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOUR LANE ROADWAY</td>
</tr>
</tbody>
</table>

| DATE 7-10-03 | DWG. NO. 256.3 |
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 RAMP(S) USE 12 FEET INSTEAD OF 5 FEET.
5. SEE DRAWING NO. 234 AND 254.1.51 FOR CROSSWALKS.
6. SEE DRAWING NO. 255.3 FOR SIGN SIZES FOR SHARED USE PATHS.
7. SEE DRAWING NO. 245 (2 OF 3) FOR DELINEATION IN TRANSITION SECTIONS.
8. SEE MUTCD FOR ADVANCE PLACEMENT OF WARNING SIGNS.
9. SEE AASHO HIGHWAYS AND STREETS 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 W1-1 (BICYCLE) SIGN IN PLACE OF THE W11-1 SIGN.

* L = SPEED LIMIT

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

628 PAINTING TRAFFIC STRIPING
633 PAVEMENT MARKERS

SHARED USE PATH CROSSING
SIX LANE ROADWAY

DATE 7-12-07 DWG. NO. 256.4

AGENCY APPROVED
B C H L M N
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 5 FEET 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.

<table>
<thead>
<tr>
<th>AGENCY APPROVED</th>
<th>B</th>
<th>C</th>
<th>H</th>
<th>L</th>
<th>M</th>
<th>N</th>
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<tbody>
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<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS</th>
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<tr>
<td>628 PAINTING TRAFFIC STRIPING</td>
<td>CLARK COUNTY AREA</td>
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<tr>
<td>633 PAVEMENT MARKERS</td>
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<thead>
<tr>
<th>DATE</th>
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</thead>
<tbody>
<tr>
<td>7-10-03</td>
<td>256.5</td>
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</tbody>
</table>
NOTES:

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

1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. SEE DRAWING NO. 254 AND 254.1.S1 FOR CROSSWALKS.
3. SEE MUTCD FOR ADVANCED PLACEMENT OF WARNING SIGNS.
4. SEE DRAWING NO. 255.5 FOR BOLLARDS AND CENTERLINE STRIPING.
5. SEE DRAWING NO. 256.2 - 256.4 FOR ADDITIONAL CROSSING DETAILS.

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
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</thead>
<tbody>
<tr>
<td>628 PAINTING TRAFFIC STRIPING</td>
<td>CLARK COUNTY AREA</td>
</tr>
<tr>
<td>633 PAVEMENT MARKERS</td>
<td>TYPICAL DELINEATION FOR SHARED</td>
</tr>
<tr>
<td></td>
<td>USE PATH PARALLEL TO RAILROAD</td>
</tr>
<tr>
<td></td>
<td>CROSSING A ROADWAY</td>
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</tbody>
</table>

AGENCY APPROVED | B | C | H | L | M | N

DATE 7-10-03 | DWG. NO. 256.7
NOTES:

1. USE ENGINEERING JUDGEMENT TO APPLY THIS DETAIL TO SIMILAR SCENARIOS.
2. CONTACT AGENCY'S TRAFFIC ENGINEER TO VERIFY IF AGENCY PREFERS TO USE A W11-1 (BICYCLE) SIGN IN PLACE OF THE W11-2 SIGN.
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>LUMINAIRE (H.P.S.)</th>
<th>AVG. IES LIGHTING LEVEL</th>
<th>IES UNIFORMITY AVG/MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTERIAL 100' OR MORE</td>
<td>250W</td>
<td>1.58 FC</td>
<td>3:1</td>
<td></td>
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<tr>
<td>MAJOR COLLECTOR 80'</td>
<td>150W</td>
<td>0.84 FC</td>
<td>4:1</td>
<td></td>
</tr>
<tr>
<td>MINOR COLLECTOR 60'</td>
<td>150W</td>
<td>0.38 FC</td>
<td>6:1</td>
<td></td>
</tr>
<tr>
<td>RESIDENTIAL 51' OR LESS</td>
<td>100W</td>
<td>0.38 FC</td>
<td>6:1</td>
<td></td>
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</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.
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 IN FOOTCANDLES MEASURED HORIZONTALLY AT THE SURFACE.

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>RW</th>
<th>LUMINAIRE (INDUCTION)</th>
<th>AVG PHOTOPICTUM ILLUMINANCE</th>
<th>UNIFORMITY AVG/Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIGNALIZED INTERSECTIONS</td>
<td>ALL</td>
<td>250W 5000K CCT</td>
<td>1.80 FC</td>
<td>3:1</td>
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<tr>
<td>ARTERIAL</td>
<td>100’ OR MORE</td>
<td>150W 5000K CCT</td>
<td>1.24 FC</td>
<td>3:1</td>
</tr>
<tr>
<td>MAJOR COLLECTOR</td>
<td>80’</td>
<td>150W 5000K CCT</td>
<td>0.49 FC</td>
<td>4:1</td>
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<tr>
<td>MINOR COLLECTOR</td>
<td>60’</td>
<td>55W 850K CCT</td>
<td>0.17 FC</td>
<td>6:1</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>51’ OR LESS</td>
<td>55W 850K CCT</td>
<td>0.17 FC</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.

7. LUMINAIRE SPECIFICATIONS (MINIMUM VALUES)
   - 80% LIGHT OUTPUT @ 80,000 HR LIFE
   - SCOTOPIC/PHOTOPIC RATIO OF LIGHT SOURCE 1.8
   - HIGH COLOR RENDITIONS 80 CRI
   - 10 YEAR WARRANTY ON LUMINAIRE AND BALLAST
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, THE RESPECTIVE LIGHTING LEVELS, AND STREETLIGHT STANDARD APPLICATION IS LISTED IN TABLE 1 BELOW. ACTUAL LUMINARE 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. FOR LED FIXTURES, AVERAGE LEVELS ARE MAINTAINED LEVELS AT A 0.92 MAINTENANCE FACTOR IN FOOTCANDLES MEASURED HORIZONTALLY AT GROUND LEVEL.

3. NEW STREETLIGHT STANDARDS INSTALLED ADJACENT TO OR OPPOSITE FROM EXISTING STREET LIGHTS SHALL MATCH THE EXISTING LOCATION, SPACING, POLE AND LUMINARE 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.

7. FOR A SPECIFIC FIXTURE TO BE APPROVED, AN INDEPENDENT EVALUATION WITH THE AGI32 LIGHTING MODELING SOFTWARE PROGRAM (OR OTHER SOFTWARE APPROVED BY THE AGENCY) SHALL BE SUBMITTED FOR REVIEW BY THE AGENCY. THE IES PHOTOMETRIC FILE SHALL BE LOADED INTO THE MODEL AND ALL REQUISITE INPUTS SHALL CONFORM TO THE LOCATION, HEIGHT, AND OTHER ASSOCIATED FACTORS DESIGNATED IN DRAWINGS 301 THROUGH 310 IN ACCORDANCE WITH THE APPROPRIATE RIGHT-OF-WAY.

### Table 1

<table>
<thead>
<tr>
<th>ROADWAY CLASS</th>
<th>R.O.W. WIDTHS</th>
<th>ROADWAY LIGHTING ILLUMINANCE LEVELS</th>
<th>SIDEWALK / WALKWAY ILLUMINANCE LIGHTING LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MIN. AVG.</td>
<td>UNIFORMITY AVG./MIN.</td>
<td>MIN. ILLUMINANCE</td>
</tr>
<tr>
<td>ARTERIAL</td>
<td>100' OR GREATER</td>
<td>1.58 FC</td>
<td>3:1</td>
</tr>
<tr>
<td>MAJOR COLLECTOR</td>
<td>80' TO 99'</td>
<td>0.84 FC</td>
<td>4:1</td>
</tr>
<tr>
<td>MINOR COLLECTOR</td>
<td>60' TO 79'</td>
<td>0.38 FC</td>
<td>6:1</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>51' OR LESS</td>
<td>0.38 FC</td>
<td>6:1</td>
</tr>
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</table>

### Specification Reference

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS</th>
<th>CLARK COUNTY AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>623 TRAFFIC SIGNALS &amp; STREETLIGHTING</td>
<td>SUPPLEMENTAL DRAWING</td>
<td></td>
</tr>
<tr>
<td>STREETLIGHT LOCATION</td>
<td>L.E.D. LIGHTING STANDARDS AND GENERAL NOTES</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DATE</th>
<th>DWG. NO.</th>
<th>SHEET</th>
</tr>
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<tbody>
<tr>
<td>07-01-14</td>
<td>300.S3</td>
<td>1 OF 2</td>
</tr>
</tbody>
</table>
8. FOR EACH FIXTURE ASSESSED, UPON DEMONSTRATION OF THE ADEQUATE ILLUMINATION CAPABILITY THROUGH THE COMPUTER MODEL ON THE SPECIFIC ROADWAY TYPE, THE VENDOR SHALL DELIVER THE REQUESTED NUMBER OF LUMINAIRES OF THAT TYPE FOR FURTHER AGENCY EVALUATION. THEY WILL BE EVALUATED ON THE CRITERIA NOTED IN THE FOLLOWING SECTION, THOUGH THE AGENCY MAY INCLUDE ADDITIONAL REQUIREMENTS. FINAL APPROVAL AND ACCEPTANCE OF THE RESPECTIVE LUMINAIRES FOR A SPECIFIC APPLICATION SHALL BE AT THE SOLE DISCRETION OF THE PURCHASING AGENCY.

9. THE FOLLOWING LIST REPRESENTS THE CRITERIA UPON WHICH EACH LUMINARIARE SHALL BE EVALUATED. THE AGENCY MAY INCLUDE ADDITIONAL ITEMS FOR EVALUATION AT ITS SOLE DISCRETION.

- COLOR RENDERING INDEX
- ENERGY EFFICIENCY
- AESTHETICS
- QUALITY OF CONSTRUCTION
- WEATHERPROOFING
- IP65 RATING
- DURABILITY
- EASE OF MAINTENANCE
- EASE OF INSTALLATION
- WEIGHT
- POWER CONSUMPTION
- COLOR TEMPERATURE (CCT)
- LIFE OF FIXTURE AND INDIVIDUAL COMPONENTS
- LENGTH OF WARRANTY LUMINAIRE FIXTURE, LED'S, AND BALLAST
- INITIAL COST
- LIFE CYCLE COST
- LM 79, LM 80
- BUG RATING (BACKLITNING, UPLIGHTING, GLARE)
- TRANSIENT VOLTAGE SURGE SUPPRESSION - SPD (SURGE PROTECTION DEVICE)

### TABLE 2

**REQUIRED ILLUMINANCE VALUES FOR SIGNALIZED INTERSECTIONS**

<table>
<thead>
<tr>
<th>ROADWAY CLASS</th>
<th>R.O.W. WIDTHS</th>
<th>MIN. AVE. ILLUMINANCE BY PEDESTRIAN AREA CLASSIFICATION</th>
<th>SIDEWALK / WALKWAY LIGHTING LEVELS</th>
<th>AGENCY APPROVED</th>
<th>B</th>
<th>C</th>
<th>H</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>HIGH</td>
<td>MEDIUM</td>
<td>LOW</td>
<td>MIN. AVG. ILLUMINANCE</td>
<td>MIN. ILLUMINANCE</td>
<td>UNIFORMITY AVG./ MIN.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTERIAL / ARTERIAL</td>
<td>100' OR GREATER BY 100' OR GREATER BY</td>
<td>3.4 FC</td>
<td>2.6 FC</td>
<td>1.8 FC</td>
<td>2.0 FC</td>
<td>1.0 FC</td>
<td>4:1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTERIAL / MAJOR COLLECTOR</td>
<td>100' OR GREATER BY 80' OR GREATER BY</td>
<td>2.9 FC</td>
<td>2.2 FC</td>
<td>1.5 FC</td>
<td>2.0 FC</td>
<td>1.0 FC</td>
<td>4:1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTERIAL / MINOR COLLECTOR - RESIDENTIAL</td>
<td>100' OR GREATER BY 79' OR LESS</td>
<td>2.6 FC</td>
<td>2.0 FC</td>
<td>1.3 FC</td>
<td>2.0 FC</td>
<td>1.0 FC</td>
<td>4:1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAJOR COLLECTOR / MAJOR COLLECTOR</td>
<td>80' - 99' BY 80' - 99'</td>
<td>2.4 FC</td>
<td>1.8 FC</td>
<td>1.2 FC</td>
<td>2.0 FC</td>
<td>1.0 FC</td>
<td>4:1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAJOR COLLECTOR / RESIDENTIAL</td>
<td>80' - 99' BY 79' OR LESS</td>
<td>2.1 FC</td>
<td>1.6 FC</td>
<td>1.0 FC</td>
<td>2.0 FC</td>
<td>1.0 FC</td>
<td>4:1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SPECIFICATION REFERENCE**

623 TRAFFIC SIGNALS & STREETLIGHTING

**UNIFORM STANDARD DRAWINGS**

CLARK COUNTY AREA

**SUPPLEMENTAL DRAWING**

STREETLIGHT LOCATION
L.E.D. LIGHTING STANDARDS
AND GENERAL NOTES

**DATE** 07-01-14  **DWG. NO.** 300.S3  **SHEET 2 OF 2**

Effective as of 08/09/2018
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.S2. 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>CLV</th>
<th>NLV</th>
<th>MES</th>
<th>BC</th>
<th>HND</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>160'</td>
<td></td>
<td></td>
<td></td>
<td>140'</td>
</tr>
<tr>
<td>2</td>
<td>80'</td>
<td></td>
<td></td>
<td></td>
<td>70'</td>
</tr>
<tr>
<td>3</td>
<td>(SEE DRAWING NO. 320)</td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>

INTERSECTION LUMINAIRE TYPE
400W HPS 150W IND.

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

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

DATE 07-01-13 DWG. NO. 301.S1 PAGE NO.
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 LUMINAIHERE MOUNTING PLATE MAY BE FIELD WELDED BY A CERTIFIED WELDER.
4. ALL LUMINAIHERE MAST ARMS FOR 400W FIXTURES SHALL BE 15 FT. LONG AND INSTALLED PER STANDARD DRAWING NO. 808 UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.

POLE LOCATION TABLE

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

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

STREETLIGHT LOCATIONS AT INTERSECTIONS 100 FT. OR GREATER/100 FT. OR GREATER RIGHT-OF-WAY

DATE  07-01-13  DWG. NO. 301.S2
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>KEYED NOTE</th>
<th>ENTRY</th>
<th>CLV</th>
<th>NVL</th>
<th>MIES</th>
<th>BC</th>
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<td>80</td>
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<td></td>
<td></td>
<td>70</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>(SEE DRAWING NO. 320)</td>
<td>(SEE DRAWING NO. 320)</td>
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</tr>
<tr>
<td>4</td>
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<td>5</td>
<td></td>
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<td></td>
<td></td>
<td>70</td>
</tr>
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</table>

INTERSECTION LUMINAIRE TYPE
400W HPS  150W IND
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. 808 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

POLE LOCATION TABLE

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

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREETLIGHTING

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

STREETLIGHT LOCATIONS AT INTERSECTIONS
100' OR GREATER/80' RIGHT-OF-WAY

DATE 07-01-13 DWG. NO. 302.S2 PAGE NO.
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>ENTRY</th>
<th>CLV</th>
<th>NLV</th>
<th>MHS</th>
<th>BC</th>
<th>HND</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td>160’</td>
<td></td>
<td></td>
<td></td>
<td>140’</td>
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<td></td>
<td>80’</td>
<td></td>
<td></td>
<td></td>
<td>70’</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>12’</td>
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<td>12’</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>180’</td>
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<td>170’</td>
</tr>
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INTERSECTION LUMINAIRE TYPE

- 250W HPS
- 150W IND

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

STREETLIGHT LOCATIONS AT INTERSECTIONS
100’ OR GREATER/60’ RIGHT-OF-WAY

DATE 07-01-13  DWG. NO. 303.S1
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 LUMINAIRES 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.S2.

POLE LOCATION TABLE

<table>
<thead>
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<tr>
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</tr>
<tr>
<td>3</td>
<td>12°</td>
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</tr>
<tr>
<td>4</td>
<td>(SEE DRAWING NO. 320)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>170°</td>
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<tr>
<td>6</td>
<td>170°</td>
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AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

STREETLIGHT LOCATIONS AT INTERSECTIONS

100' OR GREATER/60' RIGHT-OF-WAY

DATE 07-01-13 DWG. NO. 303.S2
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. CITY OF HENDERSON AND BOULDER CITY REQUIRE STREETLIGHTING IN THE MEDIAN FOR RIGHTS-OF-WAY 100 FEET OR GREATER. SEE STANDARD DRAWING NO. 312.S2. 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>BC</th>
<th>HND</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>160'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>140'</td>
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<td>2</td>
<td>80'</td>
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<td></td>
<td>70'</td>
</tr>
<tr>
<td>3</td>
<td>12'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12'</td>
</tr>
<tr>
<td>4</td>
<td>(SEE DRAWING NO. 320)</td>
<td>(SEE DRAWING NO. 320)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>170'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>170'</td>
</tr>
<tr>
<td>6</td>
<td>85'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>170'</td>
</tr>
<tr>
<td>INTERSECTION LUMINAIRE TYPE</td>
<td>250W HPS</td>
<td>150W IND</td>
<td></td>
<td></td>
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<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. If intersection is signalized, 400 watt luminaires 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.S2.

<table>
<thead>
<tr>
<th>POLE LOCATION TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEYED NOTE</td>
</tr>
<tr>
<td>1</td>
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<tr>
<td>2</td>
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<tr>
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<tr>
<td>4</td>
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<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

**Designation:**

- **Agency Approved:** C
- **Uniform Standard Drawings**
  - Clark County Area
- **Supplemental Drawing**
- **Streetlight Locations at Intersections**
  - 100' or Greater/51' or Less
  - Right-of-Way

**Specification Reference**

- 623 Traffic Signals & Streetlighting

- **Date:** 07-01-13
- **Drawing No.:** 304.S2
NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

<table>
<thead>
<tr>
<th>POLE LOCATION TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEYED NOTE</td>
</tr>
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</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>INTERSECTION LUMINAIRE TYPE</td>
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</tbody>
</table>
NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

POLE LOCATION TABLE

<table>
<thead>
<tr>
<th>KEYED NOTE</th>
<th>ENTITY</th>
<th>CLARK COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>170’</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>85’</td>
</tr>
<tr>
<td>3</td>
<td>(SEE DRAWING NO. 320)</td>
<td></td>
</tr>
</tbody>
</table>
NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

<table>
<thead>
<tr>
<th>POLE LOCATION TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KEYED NOTE</strong></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

INTERSECTION LUMINAIRE TYPE
150W HPS
150W IND

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

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

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREETLIGHTING

DATE 07-01-13 DWG. NO. 306.S1
**POLE LOCATION TABLE**

<table>
<thead>
<tr>
<th>KEYED NOTE</th>
<th>ENTITY</th>
<th>CLARK COUNTY</th>
</tr>
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<tbody>
<tr>
<td>1</td>
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<td>170'</td>
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<tr>
<td>2</td>
<td></td>
<td>85'</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>12'</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>(SEE DRAWING NO. 320)</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>170'</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>85'</td>
</tr>
</tbody>
</table>

**NOTE:**

1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. IF THE INTERSECTION IS SIGNALIZED, 400 WATT LUMINAIRES SHALL BE INSTALLED ON ALL CORNERS.
NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

<table>
<thead>
<tr>
<th>POLE LOCATION TABLE</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3</td>
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<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>INTERSECTION LUMINAIRE TYPE</td>
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</table>

SPECIFICATION REFERENCE
623 TRAFFIC SIGNALS & STREETLIGHTING

AGENCY APPROVED B H L M N

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

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

DATE 07-01-13 DWG. NO. 307.S1
POLE LOCATION TABLE

<table>
<thead>
<tr>
<th>KEYED NOTE</th>
<th>ENTITY</th>
<th>CLARK COUNTY</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>170'</td>
</tr>
<tr>
<td>2</td>
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<td>85'</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>12'</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>(SEE DRAWING NO. 320)</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>170'</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>85'</td>
</tr>
</tbody>
</table>

NOTE:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. IF INTERSECTION IS SIGNALIZED, 400 WATT LUMINAIRES SHALL BE INSTALLED ON ALL CORNERS.
POLE LOCATION TABLE

<table>
<thead>
<tr>
<th>KEYED NOTE</th>
<th>BC</th>
<th>CLV</th>
<th>MEST</th>
<th>NLV</th>
<th>CC</th>
<th>HND</th>
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<tr>
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<td>180'</td>
<td></td>
<td></td>
<td></td>
<td>170'</td>
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<td>2</td>
<td>90'</td>
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<td></td>
<td>86'</td>
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</tr>
<tr>
<td>3</td>
<td>12&quot;</td>
<td></td>
<td></td>
<td></td>
<td>12&quot;</td>
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</tr>
<tr>
<td>4</td>
<td>(SEE DWG NO. 320)</td>
<td>(SEE DWG NO. 320)</td>
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<td>90'</td>
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<td></td>
<td></td>
<td>86'</td>
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NOTE: SEE STANDARD DRAWING NO. 300 FOR LUMINAIRE TYPE.

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

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

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREETLIGHTING

DATE 07-01-13 DWG. NO. 308
NOTE:
SEE STANDARD DRAWING NO. 300 FOR LUMINAIRE TYPE.
POLE LOCATION TABLE

<table>
<thead>
<tr>
<th>KEYED NOTE</th>
<th>ENTITY</th>
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<tbody>
<tr>
<td>1</td>
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<tr>
<td>3</td>
<td>12'</td>
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<td>4</td>
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<td>(SEE DRAWING NO. 320)</td>
</tr>
<tr>
<td>5</td>
<td>85'</td>
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NOTE:
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE
AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STREETLIGHT LOCATION AT INTERSECTIONS
51 FT. OR LESS/51 FT. OR LESS
RIGHT-OF-WAY

SPECIFICATION REFERENCE

TRAFFIC SIGNALS & STREETLIGHTING

DATE 2-08-07   DWG. NO. 310
POLE LOCATION TABLE

<table>
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<th>ENTITY</th>
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<tr>
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NOTES:
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POLE LOCATION TABLE

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NOTES:
1. SEE STANDARD DRAWING NO. 300 FOR LUMINAIRE TYPE.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300, IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.
NOTES:
1. SEE STANDARD DRAWING NO. 300 FOR LUMINAIRE TYPE.
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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<td>120'</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10'</td>
<td>10' (MIN.)</td>
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<td>80'</td>
<td>120'</td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

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

AGENCY APPROVED

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

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

DATE 07-01-13 DWG. NO. 312.S1 PAGE NO.
NOTES:
1. SEE STANDARD DRAWING NO. 300 FOR LUMINAIRE TYPE.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300, IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.
3. STREET LIGHTING IN THE MEDIAN IS ALLOWED FOR MEDIAN WIDTHS OF 10 FEET OR GREATER.

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

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

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

STREETLIGHT STANDARD
GENERAL NOTES

<table>
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<th>DWG. NO. 313</th>
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<td>Steel Structures</td>
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<tr>
<td>623</td>
<td>Traffic Signals &amp; Streetlighting</td>
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<tr>
<td>715</td>
<td>Galvanizing</td>
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# 2. UNIFORM STANDARD DRAWINGS

**CLARK COUNTY AREA**

**Streetlight Standard with 2 Inch Pipe Arm**

# 3. NOTES:

1. See General Notes Standard Drawing No. 313.
2. See Standard Drawing No. 319 for detail of pole base.

---

**AGENCY APPROVED**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>H</th>
<th>L</th>
<th>M</th>
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**DATE 12-12-96**

**DWG. NO.** 314
NOTES:
1. SEE GENERAL NOTES STANDARD DRAWING NO. 313.
2. SEE STANDARD DRAWING NO. 318 FOR DETAIL OF POLE BASE.
3. SEE STANDARD DRAWING NO. 318 FOR DETAIL OF POLE CAP.
POLE/ARM SCHEDULE

<table>
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<tr>
<th>POLE GA.</th>
<th>SINGLE ARM</th>
<th>DOUBLE ARM</th>
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<th>2</th>
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<tr>
<td>11</td>
<td>11</td>
<td>8'-0&quot;</td>
<td>32'-0&quot;</td>
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</tr>
<tr>
<td>11</td>
<td>11</td>
<td>10'-0&quot;</td>
<td>32'-10&quot;</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>12'-0&quot;</td>
<td>33'-9&quot;</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>7</td>
<td>15'-0&quot;</td>
<td>34'-3&quot;</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>18'-0&quot;</td>
<td>35'-3&quot;</td>
<td></td>
</tr>
</tbody>
</table>

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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<td>623</td>
<td>TRAFFIC SIGNALS &amp; STREETLIGHTING</td>
</tr>
<tr>
<td>715</td>
<td>GALVANIZING</td>
</tr>
</tbody>
</table>

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

STREETLIGHT STANDARD WITH TAPERED MAST ARM

| DATE 12-12-96 | DWG. NO. | 316 |

Effective as of 08/09/2018
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.
NOTES:

1. SEE GENERAL NOTES STANDARD DRAWING NO. 313
2. HANDHOLE SHALL FACE AWAY FROM ONCOMING TRAFFIC.
3. HANDHOLE SIZE FOR CC AND CLV FOR STREET LIGHT POLES SHALL BE 4" X 6" I.D.
POLE BASE COVERS SHALL BE FURNISHED AND INSTALLED FOR ALL POLES PER THE STANDARD SPECIFICATIONS AND DRAWINGS.

NOTE:

ELEVATION

PLAN

SIDEWALK

3'-0" MIN. (TYP.)

HANDHOLE TO FACE AWAY FROM ONCOMING TRAFFIC

1'-6" MIN.

BACK OF SIDEWALK

3'-0" MIN. (TYP.)

3'-0" MIN. (TYP.)

AGENCY APPROVED

B C H L M N

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

LIGHTING STANDARD SETBACK FROM BLOCK WALL

DATE 5-13-99 DWG. NO. 320.1
BEHIND CURB SIDEWALK
(EASEMENT MAY BE REQUIRED)
(SEE USD 320.1)

NOTES:
1. FOUNDATIONS SHALL BE LOCATED OUTSIDE OF THE SIDEWALK WHENEVER FEASIBLE. A CLEARANCE OF 48" SHALL BE MAINTAINED ON SIDEWALK TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.
2. FOUNDATION CAP SHALL BE CONCRETE OR GROUT AS DESIGNATED BY THE ENTITY ENGINEER.

BACK PORTION OF CURB SIDEWALK (NOT FOR NEW CONSTRUCTION)
(EASEMENT MAY BE REQUIRED)
(SEE USD 320.1)

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

OPEN AREA OR BETWEEN CURB AND SIDEWALK

SPECIFICATION REFERENCE
501 PORTLAND CEMENT CONCRETE
623 TRAFFIC SIGNALS & STREETLIGHTING

LIGHTING STANDARD SETBACK

AGENCY APPROVED	B	C	H	L	M	N

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

DATE 07-01-15 DWG. NO. 320
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.
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.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

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
2" HOT-DIP GALV. ANCHOR BOLTS WITH TWO HOT-DIP GALV. HEX. HD. NUTS & WASHERS PER BOLT (4 REOQ.).

1/4" X 4" GUSSETS - 4 REQUIRED

1-3/16" HOLE, 4 REOQ.
1 3/16" HOT-DIP GALV. ANCHOR BOLTS WITH TWO HOT-DIP GALV. HEX. HD. NUTS & WASHERS PER BOLT (4 REQUIRED).

1 1/2" X 4" GUSSETS - 4 REQUIRED

4.506" + .003 HOLE DIA.

13/16" HOLE, 4 REQD.
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.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

<table>
<thead>
<tr>
<th>SPECIFICATION REFERENCE</th>
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<tbody>
<tr>
<td>623 TRADE SIGNS &amp; STREETLIGHTING</td>
<td>CLARK COUNTY AREA</td>
</tr>
</tbody>
</table>

PULL BOX COVER

PULL BOX COVER - TOP VIEW

- 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

PULL BOX COVER - SIDE VIEW

- COVER MOUNTING BOLT, TYP.
- GROUNDED CAST IRON OR NON-CONDUCTIVE COVER (PER ENTITY)
- PROVIDE 18" MINIMUM FROM EDGE OF BOX
- BRONZE SPLIT-BOLT CONNECTOR WATERPROOF WITH RUBBER AND ELECTRICAL TAPE (COMPRESSION CONNECTOR SHALL BE USED IN CLARK COUNTY)
- PVC CONDUIT

(TYPICAL CAST IRON LID SHOWN)


date 12-12-96  DWG. NO. 323
KEYED NOTE:

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

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

BYPASS SWITCH BRACKET
FOR POLE MOUNTED
STREET LIGHTING SERVICE

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREETLIGHTING

DATE 4-13-00 DWG. NO. 324.S1

M
CAST IRON OR NON-CONDUCTIVE COVER FOR PEDESTRIAN AREAS

BRASS "L" BOLT AND NUT

PULL BOX

<table>
<thead>
<tr>
<th>SIZE (COMMERCIAL DESIGNATION)</th>
<th>3-1/2</th>
<th>5</th>
<th>7</th>
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<tbody>
<tr>
<td>A</td>
<td>15</td>
<td>21-3/4</td>
<td>30-5/8</td>
</tr>
<tr>
<td>B</td>
<td>10</td>
<td>11-3/4</td>
<td>17-5/8</td>
</tr>
<tr>
<td>C</td>
<td>3/4</td>
<td>2</td>
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<tr>
<td>D</td>
<td>19-3/8</td>
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<tr>
<td>G</td>
<td>NA</td>
<td>10-1/4</td>
<td>11-1/2</td>
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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.
ACCESS HOLE TO PULL BOX "L" BOLTS

BEAD WELD INSRIPTION

STEEL FLOOR PLATE, 3/8" THICK, ROUND CORNERS TO MATCH EDGES OF PULL BOX

COVER

FINISHED GRADE

SIDE

MOUNTING BRACKET, WELDED TO COVER, TYP. LOCATE TO MATCH PULL BOX "L" BOLTS

1/4" TYP.
15-1/4"

3/8" x 16 COARSE THREAD TAP, CENTERED BETWEEN RIBS. FOR COVER GROUND CONNECTION SEE STANDARD DRAWING NO. 323

BOTTOM

30-1/2"
2-1/4" TYP.
2-1/2"
1/4"
8-5/8" 17-1/4"

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.

<table>
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<tr>
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<tbody>
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<td>506 STEEL STRUCTURES</td>
<td>CLARK COUNTY AREA</td>
</tr>
<tr>
<td>623 TRAFFIC SIGNALS &amp; STREETLIGHTING</td>
<td></td>
</tr>
</tbody>
</table>
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 DRAWINGS IS NOT INTENDED TO LIMIT THE NUMBER OF BOXES BETWEEN DRIVEWAYS TO TWO.

2. FOR WATER SERVICE BOXES, REFER TO UDACS PLATE 1-7.
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.
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.

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PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

SERVICE PEDESTAL
FOUNDATION

SPECIFICATION REFERENCE

501 PORTLAND CEMENT CONCRETE

623 TRAFFIC SIGNALS & STREETLIGHTING

DATE 2-10-00 DWG. NO. 332.S2
TO UTILITY SINGLE PHASE, 3 WIRE, 120/240 VAC SERVICE. LEAVE A MINIMUM OF 10 FEET SLACK IN EACH CONDUCTOR.

SERVICE ENTRANCE WEATHERHEAD

2" RIGID GALVANIZED STEEL CONDUIT

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

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.

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

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.

2-HOLE PIPE STRAPS SPACED 5 FEET APART

RIGID GALVANIZED STEEL CONDUIT

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

PVC CONDUIT TO FIRST STREETLIGHT SEE NOTE 1

PVC TO STEEL CONDUIT ADAPTOR

NOTES:
1. ALL WIRES TO BE COPPER; SEE PLANS FOR QUANTITY AND TYPES.
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.

125 AMP SERVICE: 2" CONDUIT, 2 #1/0 THW AND 1 #4 WHITE THW
200 AMP SERVICE: 2" CONDUIT, 2 250 KCML THW AND 1 #1/0 WHITE THW
(0.82 DERATE HAS BEEN APPLIED FOR AMBIENT TEMPERATURE)
NOTES
1. ADDITIONAL SPECIFICATIONS PER POLE MANUFACTURER.
2. 8" ARMS SHALL BE USED FOR ROADSIDE INSTALLATIONS ON STREETS WITH LESS THAN 100' RIGHT-OF-WAY, UNLESS OTHERWISE DIRECTED.
3. 10' ARMS SHALL BE USED FOR MEDIAN INSTALLATIONS AND ON ROADSIDES WITH 100' OR GREATER RIGHT-OF-WAY, UNLESS OTHERWISE DIRECTED.
4. PAINT ARMS AND ATTACHMENT HARDWARE SEMIGLOSS BLACK.
5. BANNER ARMS ONLY WHEN SPECIFIED ON THE PLANS.
6. CONSTRUCT FOUNDATION PER USD 343.
7. DESIGN PROFESSIONAL AND CONTRACTOR SHALL VERIFY CITY'S LATEST LED FIXTURE SPECIFICATIONS AND APPROVED FIXTURES PER CLV WEBSITE PRIOR TO ORDERING MATERIALS. APPROVED FIXTURE LIST IS LOCATED ON CLV WEBSITE, UNDER BUILDING AND SAFETY FORMS.
8. CITY ENGINEER MAY APPROVE EQUAL FIXTURES THAT MEET AESTHETIC AND LIGHT LEVEL REQUIREMENT PER USD 390:33. LIGHTING STUDY REQUIRED.

CONCRETE POLE (AMERON 6B1-26 OR STRESSCRETE KMH06-G-E11-FBP-AG). SEE NOTES PER 342.1. (OR APPROVED EQUAL MANUFACTURED PER ASTM C-1089-97 SPECIFICATIONS)
POLE SHALL BE BLACK, EXPOSED AGGREGATE FINISH WITH FULL LENGTH ANTI-GRAFFITI COATING.

HANDHOLE OPENING W/ GROUNDED ALUMINUM COVER PAINTED BLACK SEMIGLOSS (4" X 5-3/8" X 10-1/2" FOR STRESSCRETE POLES; 3-1/2" X 5" X 9-1/2" FOR AMERON POLES). COVERS MUST FACE STREET OR SIDEWALK AND MUST BE (2) SCREW TYPE; (4) SCREW TYPE COVERS WILL NOT BE ACCEPTED.

AGENCY APPROVED

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<th>SPECIFICATION REFERENCE</th>
<th>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</th>
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<tr>
<td>623 TRAFFIC SIGNALS &amp; STREET LIGHTING</td>
<td>CITY OF LAS VEGAS 26' STREET LIGHT POLE FOR TOWN CENTER AREA</td>
</tr>
</tbody>
</table>

DATE 08-09-18 DWG. NO. 341
## AMERON NOTES AND SPECIFICATIONS:

<table>
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<tr>
<th>POLE DESIGNATION</th>
<th>POLE HEIGHT ABOVE GROUND</th>
<th>OVERALL POLE LENGTH</th>
<th>BOLT CIRCLE</th>
<th>BASE O.D.</th>
<th>ULTIMATE G1 MOMENT</th>
<th>POLE DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>6B121</td>
<td>201-7/8&quot;</td>
<td>211-1/4&quot;</td>
<td>2-1/4&quot;</td>
<td>18&quot;</td>
<td>18,400</td>
<td>1,285</td>
</tr>
</tbody>
</table>

- **POLES REQUIRED**: EACH WITH 4 & 8 DOUBLE ALUMINUM LUMAS
- **SINGLE BELL RECEPTACLE**: PIN T.B.D. & TAMPER
- **PROOF WRENCH**: PIN 4515B

### NOTES:

1. **MIX (125):** BLACK, EXPOSED AGGREGATE FINISH WITH AMERON HELD ANTI-GRAFFITI COATING.
2. **FINISH:** SIX JONES BLACK ANTI-GRAFFITI COATING.
3. **POLAR NO. 1 @ 28 DAYS = 6,000 PSI USING SPUN CYLINDER TEST.**
4. **POLAR NO. 2 @ 60 DAYS = 6,000 PSI USING ASTM C-31 CYLINDER TEST.**
5. **BASEPLATE ASTM A36 FULLY PRESTRESSED WITH (8) 5/8" DIA. A-416 WIRES (7-STRAND CARDED).**
6. **PROTECTIVE COAT EXPOSED P.C. WIRES AT POLE ENDS.**
7. **LUMA IS DESIGNED TO ROTATE TO ANY OCTAGONAL PLANTS PER CUSTOMER'S REQUIREMENTS.**
8. **POLE SHOWN IS SUITABLE FOR CAPPED BASE PLATE (ENCASED IN CONCRETE).**
9. **THE 8" DOUBLE TOP MOUNT ALUMINUM DECORATIVE 5-ARMS PIER LUMA ASSEMBLY (NOT TO EXCEED 1-7/64" O.D. ETA. 12 LBS PER SIDE) DEPICTED ON THIS DRAWING IS DESIGNED TO WITHSTAND THE LOADS IMPARTED BY THE 10 KWH LANGUAGE FIGURES, THE POLE IS DESIGNED TO ROTATE TO ANY OCTAGONAL PLATES PER CUSTOMER'S REQUIREMENTS.

### STRESSSCRETE NOTES AND SPECIFICATIONS:

<table>
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<tr>
<th>POLE SPECIFICATIONS:</th>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATALOGUE No.:</td>
<td>KM241-C-E11-FBP C/W 1/4-25/55</td>
</tr>
<tr>
<td>SECTION: OCTAGONAL</td>
<td>1. <strong>MIX ECLIPSE BLACK, EXPOSED AGGREGATE FINISH.</strong> FINISH INT'L JONES BLACK ANTI-GRAFFITI COATING.</td>
</tr>
<tr>
<td>FINISH: ECLIPSE</td>
<td>2. <strong>FINISH INT'L JONES BLACK ANTI-GRAFFITI COATING.</strong></td>
</tr>
<tr>
<td>POLE LENGTH: 21-7/8&quot;</td>
<td>3. <strong>POLES MANUFACTURED PER ASTM C-1088-06 SPECIFICATIONS.</strong></td>
</tr>
<tr>
<td>POLE TOP: 7-3/4&quot; F.L.</td>
<td>4. <strong>BASEPLATE ASTM A-46 WELDED BY CERTIFIED WELDER.</strong></td>
</tr>
<tr>
<td>POLE BUTT: 18&quot; F.F.L.</td>
<td>5. <strong>PROJECTING COAT EXPOSED P.C. WIRES AT POLE ENDS.</strong></td>
</tr>
<tr>
<td>APPROX. WGT.: 1,840 LBS</td>
<td>6. <strong>LUMA IS DESIGNED TO ROTATE TO ANY OCTAGONAL PLATES PER CUSTOMER'S REQUIREMENTS.</strong></td>
</tr>
<tr>
<td>QUANTITY: MIN. RACIWAY: 1.5 X 10</td>
<td>7. <strong>POLE SHOWN IS SUPPLIED WITH GALV. STEEL BASEPLATE FOR CAPPED OR NON-CAPPED INSTALLATION.</strong></td>
</tr>
<tr>
<td>ARM SPECIFICATIONS:</td>
<td>8. <strong>THE 8&quot; DOUBLE TOP MOUNT ALUMINUM DECORATIVE 5-ARMS PIER LUMA ASSEMBLY (NOT TO RIGID UP TO 1-7/64&quot; O.D. ETA. 12 LBS PER SIDE) DEPICTED ON THIS DRAWING IS DESIGNED TO WITHSTAND THE LOADS IMPARTED BY THE 10 KWH LANGUAGE FIGURES; THE POLE IS DESIGNED TO ROTATE TO ANY OCTAGONAL PLATES PER CUSTOMER'S REQUIREMENTS.</strong></td>
</tr>
<tr>
<td>CATALOGUE No.: 5A33-T-1481-2</td>
<td>9. <strong>STRESSSCRETE POLYESTER, LIFETIME.</strong></td>
</tr>
<tr>
<td>QUANTITY: ALUMINUM</td>
<td></td>
</tr>
<tr>
<td>MATERIAL: SEAMLESS BLACK</td>
<td></td>
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<tr>
<td>COATINGS REQUIRED: 1 COAT ANTI-GRAFFITI</td>
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</tr>
</tbody>
</table>

### AMERON BASE PLATE DETAIL:

- **STEEL**: GALV. STEEL N.7.5

### STRESSSCRETE BASE PLATE DETAIL:

- **STEEL**: GALV. STEEL N.7.5

### AGENCY APPROVED:

- **L**

### SPECIFICATION REFERENCE:

- **501** PORTLAND CEMENT CONCRETE
- **623** TRAFFIC SIGNALS & STREET LIGHTING

### CITY OF LAS VEGAS STREET LIGHT NOTES AND SPECIFICATIONS (AMERON AND STRESSSCRETE):

### DATE 08-09-18

### DWG. NO. 342.1

---

Effective as of 08/09/2018
OPTION A: 8' + 8' ARMS (FOR 15' SIDEWALKS OR FOR MEANDERING SIDEWALKS)

OPTION B: 6' + 8' ARMS (FOR 15' SIDEWALKS, INCLUDING AMENITY ZONE)

OPTION C: 4' + 8' ARMS (FOR 10' SIDEWALKS, INCLUDING AMENITY ZONE)

OPTION D: SINGLE 8' ARM (FOR OBSTRUCTED SIDEWALKS)

---

DECORATIVE DOUBLE ARM ASSEMBLY PAINTED SEMIGLOSS BLACK WITH (OPTIONAL) **SCROLL AND ATTACHMENT HARDWARE AS SPECIFIED ON PLAN

6" OCT, TOP WITH CAST ALUMINUM BALL TOP MOUNT AND SPIRE FINIAL CAP AND ATTACHMENT HARDWARE PAINTED SEMIGLOSS BLACK

125V, 15A DUPLEX GFI RECEPTACLE ON PEDESTRIAN SIDE, WIRING TO THE 120 VAC CIRCUIT WITH DIE-CAST ALUMINUM WEATHERPROOF COVER PAINTED SEMIGLOSS BLACK (INTERMATIC WP*010M/HD COVER OR APPROVED EQUIVALENT).

FOR STRESSCRETE POLES, RECEPTACLE INSET SHALL BE FORMED DURING POLE MANUFACTURE.

FOR AMERON POLES; JUNCTION BOX TO BE MOUNTED AFTER POLE MANUFACTURE (DRILL 1-1/4" HOLE INTO POLE AND INSTALL WEATHER PROOF DEVICE BOX (RED DOT H3.2-LM OR APPROVED EQUIVALENT).

CONCRETE POLE (AMERON 881-21 OR STRESSCRETE KMH21-G-E11-FBP-AQ), SEE NOTES PER 342.1. (FOR APPROVED EQUIAL MANUFACTURED PER ASTM C-10849-97 SPECIFICATIONS)

POLE SHALL BE BLACK, EXPOSED AGGREGATE FINISH WITH FULL LENGTH ANTI-GRAFFITI COATING.

HANDHOLE OPENING W/GROUND ALUMINUM COVER PAINTED BLACK SEMIGLOSS (4" X 5-3/8" X 10.5" FOR STRESSCRETE POLES; 3-1/2" X 5" X 10-1/2" FOR AMERON POLES) COVERS MUST FACE STREET OR SIDEWALK AND MUST BE (2) SCREW TYPE; (4) SCREW TYPE COVERS WILL NOT BE ACCEPTED.

NOTES:
1. ADDITIONAL SPECIFICATIONS PER POLE MANUFACTURER.
2. CONSTRUCT FOUNDATION PER USD 343.
3. BANNER ARMS ONLY WHEN SPECIFIED ON THE PLANS.
4. DESIGN PROFESSIONAL AND CONTRACTOR SHALL VERIFY CITY'S LATEST LED FIXTURE SPECIFICATIONS AND APPROVED FIXTURES PER CLV WEB SITE, PRIOR TO ORDERING MATERIALS. APPROVED FIXTURE LIST IS LOCATED ON CLV WEBSITE UNDER BUILDING AND SAFETY FORMS.
5. CITY ENGINEER MAY APPROVE EQUAL FIXTURES THAT MEET AESTHETIC AND LIGHT LEVEL REQUIREMENT PER USD 300.53, LIGHTING STUDY REQUIRED.

AGENCY APPROVED

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREET LIGHTING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CITY OF LAS VEGAS
21' STREET LIGHT POLE
FOR DOWNTOWN CENTENNIAL POLE AREA

DATE 08-09-18 | DWG. NO. 342

Effective as of 08/09/2018
BASE OF STREET LIGHT POLE SET 3" BELOW GRADE

TOP OF BOLT TO BE 1.5" BELOW GRADE IN SIDEWALK AREAS. BOLTS SHALL HAVE 1.5" OF CONCRETE COVER IN LANDSCAPE AREAS. GROOVE BASE AND BOLTS PRIOR TO POURING CAP.

CRASH CAP - 4" MIN. 32" SQ. IN SIDEWALK AREAS, 36" SQ. IN LANDSCAPED AREAS. SLOPE CONCRETE AWAY FROM POLE IN LANDSCAPE AREAS.

(2) #4 TIES IN TOP 6" AND AT 9° O.C. (fy=60 KSI)

BONZE ANCHOR BOLT GROUNDING CONNECTORS, UL LISTED FOR UNDERGROUND USE (ONE PER BOLT). 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.

2" CONDUIT & WIRING PER PLANS (TYP.)

(4) 1" X 36" ANCHOR BOLTS PER POLE PER POLE MANUFACTURER SPECIFICATIONS W/ (2) NUTS & WASHERS (ALL HARDWARE SHALL BE GALVANIZED)

(9) #6 VERTS DISTRIBUTED EVENLY AROUND PERIMETER (fy=60 KSI)

4500 PSI CONCRETE FOUNDATION

15# FELT (2 LAYERS)

3" CLEAR

GROUNDS PLATE PER NEC 250-83

2'-6" DIAMETER

BASE DIAGRAM
BASE PLATES SHALL BE PER POLE MANUFACTURER SPECIFICATIONS

FOUNDATION DEPTH

<table>
<thead>
<tr>
<th>POLE &amp; ARM CONFIGURATION</th>
<th>SAND/GRAVEL (ω=30', γ=110pcf)</th>
<th>STIFF CLAY (C=1.0)</th>
<th>MEDIUM CLAY (C=0.66)</th>
<th>SOFT CLAY (C=0.25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21&quot; TALL WITH 1 OR 2 ARMS UP TO 10' EACH</td>
<td>5'-3&quot;</td>
<td>6'-6&quot;</td>
<td>7'-4&quot;</td>
<td>9'-6&quot;</td>
</tr>
<tr>
<td>26&quot; TALL WITH 1 ARM UP TO 12&quot;</td>
<td>5'-9&quot;</td>
<td>6'-9&quot;</td>
<td>7'-8&quot;</td>
<td>8'-6&quot;</td>
</tr>
<tr>
<td>26&quot; TALL WITH 2 ARMS UP TO 12&quot; EACH</td>
<td>6'-3&quot;</td>
<td>7'-3&quot;</td>
<td>8'-4&quot;</td>
<td>10'-0&quot;</td>
</tr>
</tbody>
</table>

NOTES:
1. C = COHESION MEASURED IN KIPS PER SQUARE FOOT.
2. CONTRACTOR SHALL DETERMINE SOIL TYPE BY TAKING UNDISTURBED SAMPLES AS REQUIRED BY THE CITY ENGINEER.
3. ANALYSIS BY PROFESSIONAL STRUCTURAL ENGINEER ON FILE WITH CITY ENGINEER.

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CITY OF LAS VEGAS
STREET LIGHT POLE FOUNDATION
FOR DOWNTOWN CENTENNIAL AND TOWN CENTER AREAS

SPECIFICATION REFERENCE
501 PORTLAND CEMENT CONCRETE
623 TRAFFIC SIGNALS & STREET LIGHTING

DATE 08-09-18 | DWG. NO. 343
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.

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<td>501 CONCRETE</td>
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</tr>
<tr>
<td>609 CATCH BASINS, MANHOLES &amp; INLETS</td>
<td>STORM DRAIN MANHOLES GENERAL NOTES</td>
</tr>
</tbody>
</table>

AGENCY APPROVED B C H L M N

DATE 2-9-06 DWG. NO. 401 SHEET 2 OF 2
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 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.
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.
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.
NOTE:
1. PIPE SECTION LENGTHS ARRANGED TO FIT DEPTH.

<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>
</tr>
<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>
</tr>
<tr>
<td>E</td>
<td>3&quot; SECTION REIN. CONC. PIPE</td>
</tr>
<tr>
<td>F</td>
<td>BASE</td>
</tr>
</tbody>
</table>
NOTES:

1. STEPS SHALL BE INSTALLED ON THE SIDE WALL OF THE MANHOLE.
2. W = I.D. + 12-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.
NOTES:
1. ALL BARS SHALL BE DEFORMED BARS CONFORMING TO ASTM A-706 GRADE 60.

2. CONCRETE SHALL BE MADE WITH TYPE V CEMENT IN ACCORDANCE WITH ASTM C-150. MINIMUM COMpressive 28 DAY STRENGTH = 4000 psi, MAX. SLUMP = 4".

3. CLEARANCE TO REINFORCING BARS TO BE 2 1/2" UNLESS NOTED OTHERWISE.

4. FOR PRECAST RCB, THE REINFORCING SHALL BE IN ACCORDANCE WITH MANUFACTURER DESIGN, AS APPROVED BY THE ENGINEER.

TYPE II-SD MANHOLE - RCB
PLAN - NO SIDE DRAIN
POSITION MANHOLE ON EITHER SIDE

PLAN - SINGLE SIDE DRAIN
POSITION MANHOLE ON OPPOSITE SIDE FROM THE DRAIN

SECTION A-A

NOTES:
1. ALL BARS SHALL BE DEFORMED BARS CONFORMING TO ASTM-A706 GRADE 60.
2. CONCRETE SHALL BE MADE WITH TYPE V CEMENT IN ACCORDANCE WITH ASTM C-150,
MINIMUM COMPRESSIVE 28 DAY STRENGTH = 4000 psi, MAX. SLUMP = 4 "
3. CLEARANCE TO REINFORCING BARS TO BE 2 1/2" UNLESS NOTED OTHERWISE.
4. THIS DESIGN IS FOR PIPE SIZES 36" INCH TO 72" INCH. LARGER PIPE SIZES REQUIRES SPECIAL DESIGN.

TYPE II-SD MANHOLE - PIPE
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.
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.
NOTE:

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

AGENCY APPROVED

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<td>501 CONCRETE</td>
<td>CONCRETE COLLAR AROUND MANHOLES</td>
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<tr>
<td>505 REINFORCING STEEL</td>
<td>30 INCH RING AND COVER</td>
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DATE 11/10/05  DWG. NO. 408.1
NOTES:
1. CONCRETE COLLAR, FRAME, AND COVER SHALL BE CONSTRUCTED 1/8" BELOW THE ADJACENT SURFACE, ±1/16".
2. CONCRETE COLLAR NOT REQUIRED IN UNINCORPORATED CLARK COUNTY RESIDENTIAL STREETS LESS THAN 80' R/W WIDTH.
3. IF MANHOLE IS MORE THAN 1-1/2" ABOVE OR BELOW THE ADJACENT ROADWAY SURFACE, MANHOLE SHALL BE ADJUSTED TO GRADE BY UTILITY OWNER.
4. IF MANHOLE IS MORE THAN 1/4" ABOVE OR BELOW THE ADJACENT ROADWAY SURFACE IN A BICYCLE LANE, MANHOLE SHALL BE ADJUSTED TO GRADE BY UTILITY OWNER.
5. THE USE OF 30" RING AND COVER SHALL BE APPROVED BY THE ENTITY ENGINEER.

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

CONCRETE COLLAR AROUND MANHOLES
30 INCH RING AND COVER

DATE 01-01-16  DWG. NO  408.1.S1
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, FRAME, AND COVER SHALL BE CONSTRUCTED 1/8" BELOW THE ADJACENT SURFACE, ±1/16".
2. CONCRETE COLLAR NOT REQUIRED IN UNINCORPORATED CLARK COUNTY RESIDENTIAL STREETS LESS THAN 80' R/W WIDTH.
3. IF MANHOLE IS MORE THAN 1-1/2" ABOVE OR BELOW THE ADJACENT ROADWAY SURFACE, MANHOLE SHALL BE ADJUSTED TO GRADE BY UTILITY OWNER.
4. IF MANHOLE IS MORE THAN 1/4" ABOVE OR BELOW THE ADJACENT ROADWAY SURFACE IN A BICYCLE LANE, MANHOLE SHALL BE ADJUSTED TO GRADE BY UTILITY OWNER.

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DATE 01-01-16  DWG. NO. 408.S1
1. FRAME AND COVER TO BE ALHAMBRA FOUNDRY COMPANY TYPE A1310 IN ACCORDANCE WITH ASTM A48, 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.
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-T5).

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 18".

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

MANHOLE STEPS
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.

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

DROP INLET TYPE "D"
SECTION B-B

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<td>2'-0&quot; TO 8'-0&quot;</td>
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<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.

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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).

FRAME & GRATE INSTALLATION

AGENCY APPROVED
UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SPECIFICATION REFERENCE
712 MISCELLANEOUS METAL
714 PAINT
715 GALVANIZING

DROP INLET
FRAME AND GRATE

DATE 10-14-99  DWG. NO. 417
STEEL PLATE ANCHORAGE
SECTION A-A

BOLT HOLE AND BAR SPACING DETAIL

NOTE:
FOR STEEL PLATE AND PROTECTION BAR DETAILS, SEE
STANDARD DRAWING NO. 419.

AGENCY APPROVED

SPECIFICATION REFERENCE

710 STRUCTURAL STEEL
713 REINFORCEMENT STEEL
715 GALVANIZING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

DROP INLET
STEEL PLATE ANCHORAGE

DATE DWG. NO. 418

B C H L M N
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'-0" 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.

NOTES:

AGENCY APPROVED

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. 419
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.
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.

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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.
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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DATE 12-09-10  DWG. NO. 421  SHEET 3 OF 3
ONE PERCENT MINIMUM SLOPE THROUGH DRAINAGE SLAB IS REQUIRED. WHERE A STORM DRAIN LINE IS AVAILABLE IN THE EXTERIOR STREET, A STORM DRAIN INLET AT THE BEGINNING OF THE EASEMENT AND AN 18-INCH MINIMUM STORM DRAIN PIPE IS REQUIRED TO CONVEY SURFACE WATER THROUGH THE EASEMENT.

NOTE #1: 20' STANDARD WIDTH, DIFFERENT WIDTHS TO BE DESIGNED ACCORDINGLY AND IN CONFORMANCE WITH THE CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL.

GENERAL NOTE: GATE AND FENCE CONSTRUCTION IS INTENDED TO PREVENT STORAGE OF MATERIALS AND VEHICLES WITHIN CHANNEL. PREVENTION OF PEDESTRIAN USE MAY BE IMPAIRED, BUT THE DESIGN IS NOT INTENDED TO PREVENT PEDESTRIAN TRAFFIC.

ROLLARDS MAY BE USED IN LIEU OF GATE IF PEDESTRIAN ACCESS IS DESIRED.

NOT FOR USE IN EMERGENCY ACCESS

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SUPPLEMENTAL DRAWING

THROUGH-LOT DRAIN

DATE 07-01-14  DWG. NO. 425.S1  SHEET 1 OF 3
ONE PERCENT MINIMUM SLOPE THROUGH DRAINAGE SLAB IS REQUIRED. WHERE A STORM DRAIN LINE IS AVAILABLE IN THE EXTERIOR STREET, A STORM DRAIN INLET AT THE BEGINNING OF THE EASEMENT AND AN 18-INCH MINIMUM STORM DRAIN PIPE IS REQUIRED TO CONVEY NUISANCE WATER THROUGH THE EASEMENT.

NOTE #1: 20" STANDARD WIDTH, DIFFERENT WIDTHS TO BE DESIGNED ACCORDINGLY.
MILL AND OVERLAY 1" UTACS UNLESS OTHERWISE REQUIRED BY THE ENTITY. REMOVE AND REPLACE ASPHALT PAVEMENT IF EXISTING ASPHALT PAVEMENT IS 2" THICK OR LESS.

ASPHALT PATCH TO MATCH CONTIGUOUS SECTION AND SHALL BE NO LESS THAN 2".

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. 500.1 SHEET 2 OF 2

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

0 TO 5 YEARS
PAVEMENT RESTORATION
LONGITUDINAL CUT

DATE 6-12-08 | DWG. NO. 500.1 | SHEET 1 OF 2

AGENCY APPROVED

B | C | H | L | M | N
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. 500.1 SHEET 2 OF 2

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

0 TO 5 YEARS
PAVEMENT RESTORATION
LONGITUDINAL CUT

DATE 6-12-08 DWG. NO. 500.1 SHEET 1 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.
STREET WIDTH (R/W)

EX. C & G
LANE LINE
MILL AND OVERLAY 1" UTACS UNLESS OTHERWISE REQUIRED BY THE ENTITY. REMOVE AND REPLACE ASPHALT PAVEMENT IF EXISTING PAVEMENT IS 2" THICK OR LESS.

LANE LINE
ASPHALT PATCH TO MATCH CONTIGUOUS SECTION AND SHALL BE NO LESS THAN 2"

PIPE

PATCH TO THE NEXT LANE LINE UNLESS OTHERWISE DETERMINED BY ENTITY PLAN CHECK, WITH FINAL LIMIT'S SET BY FIELD INSPECTOR.

TRANSVERSE CUT RESTORATION

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

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

AGENCY APPROVED

UNIVERSITY OF MARYLAND COLLEGE PARK

DATE 6-12-08
DWG. NO. 500.2
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.
LONGITUDINAL CUT RESTORATION

1. **If trench edge is 5-ft or less from lip of gutter, then replace 8-ft (min.) of asphalt.**

2. **If trench edge is between 5-ft & 9-ft from lip of gutter, then replace 11-ft (min.) of asphalt.**
   - Exception: For residential streets 51-ft or less, replace full half street.

3. **If trench edge is between 10-ft & 14-ft from centerline, then replace 16-ft (min.) of asphalt.**
   - Exception: For residential streets 51-ft or less, replace full half street.

4. **If trench edge is between 2-ft & 10-ft from centerline, then replace 12-ft (min.) of asphalt.**

**Notes:**
1. If cut is within a marked lane, pavement restoration must extend to the marked lane line.
2. The entity's requirements take precedence over any minimum requirements shown hereon.
3. Minimum asphalt replacement width shall not be less than the limits of the paving machinery used.

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**PLAN VIEW**

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**OVER 5 YEARS**

**PAVEMENT RESTORATION**

**LONGITUDINAL CUT - 60' R/W OR LESS**

**DATE 6-12-08**

**DWG. NO. 500.4**
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.
NOTES:

1. STORM/SANITARY SEWER AND GAS MAY BE LOCATED ON OTHER SIDE OF CENTERLINE AS TERRAIN AND/OR SEPARATIONS 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 20.8.
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.
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.

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<th>AGENCY APPROVED</th>
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<td>208 TRENCH EXCAVATION &amp; BACKFILL</td>
<td>METHOD A FOR FLEXIBLE PIPE TRENCH BACKFILL - PAVED AREAS</td>
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DATE 01-01-12 DWG. NO. 503.1
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

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

MINIMUM TRENCH WIDTH IS RELATED TO DESIGN REQUIREMENTS AND SHALL BE INDICATED ON THE PLAN DRAWINGS. 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

DEPTH OF COVER IS RELATED TO DESIGN REQUIREMENTS AND SHALL BE INDICATED ON THE PLAN DRAWINGS. SEE SECTION 208- TRENCH EXCAVATION AND BACKFILL

PIPE ZONE

PIPE BEDDING SEE NOTE 3

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.

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<td>CLARK COUNTY AREA</td>
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| METHOD A FOR RIGID PIPE |
| TRENCH BACKFILL - PAVED AREAS |

DATE 01-01-12  DWG. NO. 503.2
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.
NORMAL BEDDING

CONCRETE CRADLE  
CONCRETE CAP  
CONCRETE ENCASEMENT

TABLE 1

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<thead>
<tr>
<th>PIPE SIZE</th>
<th>PIPE B</th>
<th>PIPE A</th>
<th>PIPE SIZE</th>
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<tbody>
<tr>
<td>6&quot;</td>
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<td>24&quot;</td>
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<td>5&quot;</td>
<td>42&quot;</td>
<td>10&quot;</td>
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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
208 TRENCH EXCAVATION & BACKFILL
302 AGGREGATE BASE COURSES
501 CONCRETE
505 REINFORCEMENT STEEL

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

PIPE TRENCH BEDDING METHODS

AGENCY APPROVED  B  C  H  L  M  N

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<td>11-9-06</td>
<td>505</td>
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**TYPE B - KEYHOLE REPAIR**

**REQUIRED FOR ROW WIDTH GREATER THAN 60'**

**OPTIONAL FOR ROW WIDTH 60' OR LESS**

**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. IF PLUG IS DAMAGED OR IS LESS THAN 4" THICK, REPLACE PLUG WITH A "FARMED" ASPHALT Plug FROM AN APPROVED SITE. FARMED PLUGS SHALL BE AT LEAST 4" THICK AND AT LEAST ONE INCH THICKER THAN EXISTING ASPHALT.

2. BONDING MATERIAL SHALL BE A SINGLE COMPONENT CEMENTITIOUS RAPID HARDENING, HIGH STRENGTH, WATERPROOF BONDING AGENT THAT ALLOWS THE CORE TO SUPPORT AT LEAST THREE 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.

5. PRIOR AGENCY APPROVAL IS REQUIRED FOR multiple KEYHOLE REPAIRS WITHIN A GIVEN ROADWAY SEGMENT.

6. A 5 YEAR WARRANTY IS REQUIRED ON ALL REPAIRS.

---

**TYPE A - CUT & PATCH REPAIR**

**OPTIONAL FOR ROW WIDTH 60' OR LESS**

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

**POTHOLE PLAN VIEW**

(NOMINAL DIMENSIONS)

**POTHOLE PROFILE**

AGENCY APPROVED ASPHALT CONCRETE PLACED IN 2" LIFTS. 6" MIN. THICKNESS OR MATCH EXISTING.
NOTES:
1. CALL AND SCHEDULE INSPECTION TO OBSERVE CONCRETE PLUG AFTER PLACEMENT.
2. PERMIT TYPICALLY VALID FOR 30 DAYS - EXTENSION OF PERMIT IS REQUIRED PRIOR TO EXPIRATION IF WORK IS NOT COMPLETE.
3. FOR BORINGS GREATER THAN 12-INCHES IN DIAMETER, SUBMIT PERMANENT PATCHING PLAN WITH PERMIT APPLICATION.
4. IF GROUNDWATER IS ENCOUNTERED FOLLOW APPROPRIATE AGENCY REQUIREMENTS.
5. THE CONNECTION OF THE PIPE AND FLAT PLATE SHALL BE CONTINUOUSLY WELDED ALL OF THE WAY AROUND. THE SIZE OF THE WIRE SHALL BE 0.35 WIRE (ER70S-6) OR 7018 ROD, AND THE WELDER SHALL HAVE A W.S. CERTIFICATION IN FLAT PLATE.

| SPECIFICATION REFERENCE | UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA
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<tr>
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<td>SUPPLEMENTAL DRAWING</td>
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<tr>
<td>TRENCH EXCAVATION AND BACKFILL</td>
<td>METHOD FOR GEOTECHNICAL BORING AND MONITORING WELL BACKFILL AND PATCH FOR BORINGS 12-INCHES OR LESS IN DIAMETER</td>
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AGENCY APPROVED  C  

DATE 07-01-14  DWG. NO. 507.S1
GENERAL NOTES:

1. LONGITUDINAL JOINTS ARE NOT ALLOWED WITHIN A BICYCLE LANE/AREA.
2. PAVEMENT PATCHES WITHIN A BICYCLE LANE SHALL NOT BE WITHIN 100' OF ANOTHER PAVEMENT PATCH (EXISTING OR PROPOSED). IF A PAVEMENT PATCH IS WITHIN 100', THE PAVEMENT BETWEEN PATCHES SHALL BE REMOVED AND REPLACED WITH ONE CONTINUOUS PATCH.
3. NO PATCHES WITHIN A BICYCLE LANE/AREA SHALL BE LESS THAN 10' IN LENGTH.
4. TEMPORARY PATCHES SHALL BE ASPHALT.
5. THE CONTRACTORS NAME AND DATE OF CONSTRUCTION SHALL BE SPRAY PAINTED ON THE TEMPORARY PATCH BY THE CONTRACTOR.
6. TEMPORARY PATCHES SHALL BE COMPACTED, MAINTAINED, AND FLUSH WITH THE ADJACENT PAVEMENT AT ALL TIMES.
7. TEMPORARY PATCHES SHALL BE REMOVED AND REPLACED WITHIN 60 CALENDAR DAYS.
8. A RING TOP DELINEATOR POST SHALL BE PLACED WITHIN THE GUTTER TO ALERT BICYCLISTS OF THE TEMPORARY PATCH CONDITION IF THE BICYCLE LANE IS ADJACENT TO CURB AND GUTTER OR EDGE OF PAVEMENT.
9. CONTRACTOR SHALL INSTALL ROUGH ROAD WARNING SIGNS TO WARN BICYCLISTS OF THE TEMPORARY PATCH CONDITION.
10. ASPHALT DESIGN GRADATION SHALL BE CONTINUOUS WITH ADJACENT ROADWAY.
11. SEE 500 SERIES STANDARD DRAWINGS FOR BACKFILL REQUIREMENTS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES DUE TO NON-COMPLIANCE WITH THESE REQUIREMENTS AND ALL APPLICABLE CODES AND REGULATIONS.
13. CONTRACTOR SHALL HAVE PERMIT ON-SITE WHEN PRESENT. CONTRACTOR WILL BE ASSESSED A $300 FINE IF PERMIT IS NOT ON-SITE.
14. ALL PATCHES SHALL BE MACHINE LAID.

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<tr>
<th>BICYCLE LANE PERMANENT PAVEMENT PATCH</th>
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| DATE 01-01-16 | DWG. NO. 508.S1 | SHEET 2 OF 2 |
GENERAL NOTES:

1. ADDITIONAL ASSISTANT PLYWOOD MAY BE NEEDED TO SUPPORT THE WOOD MATERIALS.
2. CONSTRUCTION PERMITS MAY BE REQUIRED FOR THE USE OF WOOD MATERIALS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH THE REQUIRED PERMITS.
3. A PROPERLY DESIGNATED LIGHT SHEDDING SHED IS RECOMMENDED.
4. HARDWARE SHOULD BE OF CAPABILITY TO SUPPORT THE WOOD MATERIALS.
5. IF THE AREA IS TO BE USED AS A WORK ZONE, THE SHEDS MUST BE USED TO SUPPORT THE WOOD MATERIALS.
6. SPECIAL ATTENTION SHOULD BE GIVEN TO THE EXPOSURE OF THE WOOD MATERIALS TO THE ELEMENTS.
7. THE SHEDS SHOULD BE DESIGNED TO WITHSTAND THE WEIGHT OF THE WOOD MATERIALS.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE WOOD MATERIALS IN GOOD CONDITION.
9. THE SHEDS SHOULD BE DESIGNED TO RESIST ELEMENTS SUCH AS WIND AND RAIN.
10. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE WOOD MATERIALS AT THE END OF THE PROJECT.

TRAFFIC CONTROL PLAN FOR HIGHWAY WORK ZONE SPECIFICATION REFERENCE TYPICAL APPLICATION FOR CONTROLLING PEDESTRIAN TRAFFIC UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

DATE: DATE

SWG NO. SWG NO.
STANDARD PROCEDURE & CONDITIONS WHICH, WHEN MET, ELIMINATE THE NEED FOR INDIVIDUAL TRAFFIC CONTROL PLAN AND/OR PERMIT

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<tr>
<th>DEVICE OR PARAMETER</th>
<th>SITUATION/CASE #</th>
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<tr>
<td>A. Minimum 80 in. wide flasher bar atop vehicle, with greater than 4 light elements visible to approaching traffic</td>
<td>✓ ✓ ✓ ✓</td>
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<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>✓ ✓ ✓ NOT REQUIRED</td>
</tr>
<tr>
<td>D. All personnel wear orange vests or shirts when outside of vehicle</td>
<td>ALWAYS ALWAYS ALWAYS</td>
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<tr>
<td>E. O.K., for nighttime deployment?</td>
<td>NO ONLY WHEN SPEED LIMIT ≥ 35 MPH O.K., BUT USE REFLECTIVE VESTS O.K., BUT USE REFLECTIVE VESTS</td>
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<td>F. Water-filled crash cushion, or equivalent; trunk or trailer-mounted impact attenuators</td>
<td>RECOMMENDED, BUT MANDATORY WHEN SPEED UNIT EXCEEDS 40 MPH NO NO</td>
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<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 NA - ON STRAIGHT- AWAY NOT REQUIRED DESIRED, BUT NOT REQUIRED</td>
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<td>H. O.K., to set up during peak travel hours: 7:00 AM - 4:00 PM</td>
<td>YES, BUT O.K. FOR EMERGENCY-TYPE REPAIR ACTIVITY O.K. NOT RECOMMENDED</td>
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NOTE: TYPICAL APPLICATION IS FOR LANDSCAPE OR UTILITY ACTIVITIES.
PROPOSED EXISTING

STREET NAME SIGN INTERNALLY ILLUMINATED

CURB FLASHER

VEHICLE MOVEMENT (STOPPED)

VEHICLE MOVEMENT (MOVING)

CONDUIT RUN NUMBER

PEDESTRIAN MOVEMENT

TRAFFIC SIGNAL ON MAST ARM

TRAFFIC SIGNAL AND LUMINAIRE ON MAST ARMS

PEDESTRIAN PUSH BUTTON INDICATING DIRECTION OF CONTROL

TRAFFIC SIGNAL WITH ALL COLORS LOUVERED

SCHOOL FLASHER

5 SECTION SIGNAL HEAD WITH DIRECTIONAL ARROW AND BACKPLATE

PRIORITY VEHICLE PREEMPTION OPTICAL DETECTOR (OPTICOM OR APPROVED EQUAL)
QUADRANT
ARM OR SIGNAL LOCATION
(TOP VIEW)

NOTE: QUADRANT IS IN RELATION WITH SHEET - NOT WITH NORTH ARROW
CAST IRON SIDEWALK COVER
MARKED "TRAFFIC SIGNAL"

PRECAST REINFORCED
CONCRETE BODY

NOTES:
1. THIS PULL BOX SHALL NOT BE USED
   IN TRAFFIC OR PARKING LANES.
2. ALL DIMENSIONS ARE NOMINAL.

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

NO. 3 1/2 PULL BOX
PLASTIC MORTAR REINFORCED SIDEWALK COVER MARKED "TRAFFIC SIGNAL"

REINFORCED PLASTIC MORTAR EXTENSION.

NOTES:
1. THIS PULL BOX SHALL NOT BE USED IN VEHICLE TRAVEL AREAS.
2. PULL BOX TO BE USED IN CONCRETE SIDEWALKS ONLY.

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

REINFORCED PLASTIC MORTAR SERVICE BOX ASSEMBLY NO. 5

AGENCY APPROVED

B C H L M N

DATE DWG. NO. 706.1
CAST IRON SIDEWALK COVER MARKED "TRAFFIC SIGNAL"

PRECAST REINFORCED CONCRETE BODY

PRECAST REINFORCED CONCRETE EXTENSION. (MUST NOT BE USED UNLESS SPECIFIED.)

NOTES:
1. CAST IRON COVER SHALL BE USED IN SIDEWALK ONLY.
2. SEE DRAWING NO. 709 FOR COVER TO BE USED IN STREET AND UNDEVELOPED AREAS.
3. ALL DIMENSIONS ARE NOMINAL.

Effective as of 08/09/2018
PLASTIC MORTAR REINFORCED SIDEWALK COVER MARKED "TRAFFIC SIGNAL"

REINFORCED PLASTIC MORTAR BODY.

REINFORCED PLASTIC MORTAR EXTENSION.

NOTES:
1. THIS PULL BOX SHALL NOT BE USED IN VEHICLE TRAVEL AREAS.
2. PULL BOX TO BE USED IN CONCRETE SIDEWALKS ONLY.
CAST IRON SIDEWALK COVER
MARKED "TRAFFIC SIGNAL"
STEEL PULL BOX COVER,
DRAWING NO. 709 IS
PREFERRED FOR ALL USES,
THIS PULL BOX ONLY.

PRECAST REINFORCED
CONCRETE BODY.

PRECAST REINFORCED CONCRETE
EXTENSION. (MUST NOT BE
USED UNLESS SPECIFIED.)

NOTES:
1. THIS PULL BOX SHALL NOT BE
USED IN TRAFFIC OR PARKING LANE.
2. SEE DRAWING NO. 709 FOR
ALTERNATE COVER.

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<td>DATE</td>
<td>DWG. NO. 707</td>
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NOTE:
1. THIS PULL BOX SHALL BE USED IN VEHICLE TRAVEL AREAS.

AVAILABLE IN #3, #5, & #7 SIZES
(3 GAUGE STEEL)
ACCESS HOLE TO PULL BOX "L" BOLTS

BEAD WELD INSRIPTION

STEEL FLOOR PLATE, 3/8" THICK, ROUND CORNERS TO MATCH EDGES OF PULL BOX

COVER

FINISHED GRADE

SIDE

MOUNTING BRACKET, WELDED TO COVER, TYP. LOCATE TO MATCH PULL BOX "L" BOLTS

3/8" x 16 COARSE THREAD TAP. CENTERED BETWEEN RIBS. FOR COVER GROUND CONNECTION SEE SHEET 2 OF THIS DRAWING NO.

BOTTOM

NOTES:
1. THIS COVER TO BE USED IN STREET AREAS AND UNDEVELOPED AREAS 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.
4. GROUNDING OF STEEL PULL BOX COVERS IS NOT NECESSARY FOR PULL BOXES CONTAINING LOW VOLTAGE, POWER-LIMITED CONNECTIONS.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SPECIFICATION REFERENCE

506 STEEL STRUCTURES

623 TRAFFIC SIGNALS & STREETLIGHTING

PULL BOX STREET COVER

DATE 12-12-96 | DWG. NO. 709 | SHEET 1 OF 2
NOTES:
1. THIS COVER TO BE USED IN STREET AREAS AND UNDEVELOPED AREAS 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 H20 RATED.
4. GROUNDING OF STEEL PULL BOX COVERS IS NOT NECESSARY FOR PULL BOXES CONTAINING LOW VOLTAGE, POWER-LIMITED CONNECTIONS.
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 SHEET 1 OF THIS DRAWING NO.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

AGENCY APPROVED

SPECIFICATION REFERENCE

623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

PULL BOX COVER
BONDING DETAIL

DATE 12-12-96 DWG. NO. 709 SHEET 2 OF 2
PULL BOX CONCRETE COLLAR IN UNDEVELOPED AREAS

NOTES:

1. P30 PULL BOXES SHALL BE INSTALLED FOR THE SIGNAL ITS COMMUNICATIONS PER APPLICABLE STANDARDS.
2. PULL BOX COVER SHALL BE INSCRIBED "FIBER OPTIC".
3. LOCATIONS OF THE PROPOSED P30 ITS COMMUNICATION PULL BOXES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING THE LOCATIONS IN THE FIELD AT APPROXIMATELY 500 FEET INTERVALS. THESE LOCATIONS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER BEFORE INSTALLATION.
4. DETAIL SHOWS METHOD OF INSTALLATION WHEN FIBER OPTIC CABLE IS REQUIRED.
5. CONDUIT SIZES SHALL BE PER UNIFORM STANDARD SPECIFICATIONS, SECTION 623.
6. ALL CONDUITS SHALL HAVE A CONTINUOUS RUN OF 6 PAIR PE39 #22 AWG INTERCONNECT CABLE.
7. UNDERGROUND ORANGE MARKING TAPE SHALL BE PLACED 12 INCHES ABOVE THE INSTALLED CONDUIT AND MARKED WITH THE LEGEND "FIBER OPTIC".

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SPECIFICATION REFERENCE | UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

PULL BOX CONCRETE COLLAR IN UNDEVELOPED AREAS

DATE 3-13-08 | DWG. NO. 711
2" CONDUIT

24" DIA. CONCRETE BASE OR 18" SQ. CONCRETE BASE

USE TEMPLATE PROVIDED BY MFR.

NO. 4 AWG SEVEN (7) STRAND BARE COPPER CONNECT GROUNDING WIRE TO GROUNDING POINT.

CONDUIT TO EXTEND 6" ABOVE TOP OF THE ANCHOR BOLTS

BASE OF POLE

1" NON-SHRINK GROUT BETWEEN POLE BASE AND SIDEWALK

58" X 12" HOT-DIP GALVANIZED ANCHOR BOLTS

BASE COVER

48" MIN.

2% MAX. SLOPE

BRONZE GROUNDING CONNECTOR UL LISTED FOR UNDERGROUND USE (ONE PER BOLT) SEE NOTE 1

4" CAP

15# FELT (2 LAYERS)

STANDARD GROUNDING PLATE PER NEC 250.52 & 250.53

24" DIA. OR 18" SQ.

2" CONDUIT

NOTE:

1. CONTINUOUS BARE COPPER GROUNDING WIRE SHALL BE LOOPED AROUND ANCHOR BOLTS ONE TIME AND CONNECTED TO EACH ANCHOR BOLT BEFORE CONTINUING DOWN TO THE GROUNDING PLATE.
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NOTES:
1. ANCHOR BOLTS SHALL BE HOT-DIP GALVANIZED STEEL WITH NUT AND WASHER.
2. CONTINUOUS BARE COPPER GROUNDING WIRE SHALL BE LOOPED AROUND ANCHOR BOLTS ONE TIME AND CONNECTED TO EACH ANCHOR BOLT BEFORE CONTINUING DOWN TO THE GROUNDING PLATE.

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<th>POLE GA</th>
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<td>1-1/8&quot; X 40&quot;X 4&quot;</td>
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<td>1-1/4&quot; X 44&quot; X 4&quot;</td>
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BRONZE GROUNDING CONNECTOR
UL LISTED FOR UNDERGROUND USE (ONE PER BOLT)
SEE NOTE 2

USE TEMPLATE PROVIDED BY MFR.

NO. 4 AWG SEVEN (7) STRAND BARE FOUNDATION, CONNECT GROUNDING WIRE TO GROUNDING POINT.

CONDUIT TO EXTEND 6" ABOVE TOP OF THE ANCHOR BOLTS

BASE OF POLE

1" NON-SHRINK GROUT BETWEEN POLE BASE AND SIDEWALK

4" MIN.-6" MAX. CONCRETE CAP

2" CONDUIT

2" CONDUIT

BASE COVER

48" MIN.

2% MAX SLOPE

6"X6" WIRE MESH 10 GA

36" DIA. CONCRETE BASE

15# FELT (2 LAYERS)

STD. GROUNDING PLATE PER NEC 250.52 & 250.53

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

SPECIFICATION REFERENCE
501 PORTLAND CEMENT CONCRETE
623 TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPE "E" FOUNDATION

AGENCY APPROVED
B C H L M N

DATE 07-01-15 DWG. NO. 718

Effective as of 08/09/2018
NOTES:

1. ANCHOR BOLTS SHALL BE HOT-DIP GALVANIZED STEEL WITH NUT AND WASHER.

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

3. VERTICAL ADJUSTMENT REQUIRED FOR POLES INSIDE ACCESS RAMPS.

BEGIN DRAWING

ANCHOR BOLTS

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BRONZE GROUNDING CONNECTOR
UL LISTED FOR UNDERGROUND USE (ONE PER BOLT)
SEE NOTE 2

NO. 4 AWG SEVEN (7) STRAND BARE COPPER GROUNDING WIRE 3' ABOVE FOUNDATION. CONNECT GROUNDING WIRE TO GROUNDING POINT.
CONDUIT TO EXTEND 6' ABOVE TOP OF THE ANCHOR BOLTS BASE OF POLE
1" NON-SHRINK GROUT BETWEEN POLE BASE AND SIDEWALK
4" MIN-6" MAX. CONCRETE CAP

BASE COVER
48" MIN.

FINISH GRADE
SEE NOTE 3

2% MAX SLOPE

6"X6" WIRE MESH 10 GA.

6" DIAM. CONCRETE BASE

15# FELT (2 LAYERS)

STD. GROUNDING PLATE PER NEC 250.52 & 250.53

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE
AGENCY APPROVED

SPECIFICATION REFERENCE

| UNIFORM STANDARD DRAWINGS |
| CLARK COUNTY AREA |
| TYPE "F" FOUNDATION |

| 501 | PORTLAND CEMENT CONCRETE |
| 623 | TRAFFIC SIGNALS & STREETLIGHTING |

DATE 07-01-15  DWG. NO.  719
NOTES:

1. ANCHOR BOLTS SHALL BE HOT-DIP GALVANIZED STEEL WITH NUT AND WASHER.

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

3. VERTICAL ADJUSTMENT REQUIRED FOR POLES INSIDE ACCESS RAMPS.

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BRONZE GROUNDING CONNECTOR UL LISTED FOR UNDERGROUND USE (ONE PER BOLT) SEE NOTE 2

2" CONDUIT

USE TEMPLATE PROVIDED BY MFR.

NO. 4 AWG SEVEN (7) STRAND BARE FOUNDATION. CONNECT GROUNDING WIRE TO GROUNDING POINT.

CONDUIT TO EXTEND 6" ABOVE TOP OF THE ANCHOR BOLTS

BASE OF POLE

1" NON-SHRINK GROUT BETWEEN POLE BASE AND SIDEWALK

4" MIN., 6" MAX. CONCRETE CAP

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

SPECIFICATION REFERENCE

501 PORTLAND CEMENT CONCRETE

623 TRAFFIC SIGNALS & STREETLIGHTING

TYPE "G" FOUNDATION

DATE 07-01-15 DWG. NO. 720
NOTES:

1. ANCHOR BOLTS SHALL BE HOT-DIP GALVANIZED STEEL WITH NUT AND WASHER.

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

3. VERTICAL ADJUSTMENT REQUIRED FOR POLES INSIDE ACCESS RAMPS.

USE TEMPLATE PROVIDED BY MFR.

NO. 4 AWG SEVEN (7) STRAND BARE COPPER GROUNDING WIRE 3" ABove FOUNDATION. CONNECT GROUNDING WIRE TO GROUNDING POINT.

CONDUIT TO EXTEND 6" ABOVE TOP OF THE ANCHOR BOLTS

1 3/4" X 60" X 6" BOLTS

BASE OF POLE

1" NON-SHRINK GROUT BETWEEN POLE BASE AND SIDEWALK

4" MIN.-6" MAX. CONCRETE CAP
NOTES:
1. ANCHOR BOLTS SHALL BE HOT-DIP GALVANIZED STEEL WITH NUT AND WASHER.
2. ANCHOR BOLT MINIMUM YIELD STRENGTH Fy = 50 KSI.
3. SURROUNDING SOIL MUST HAVE SOIL-BEARING PRESSURE S1 OF 1500 PSF.
4. WRAP 20' OF #4 AWG BARE COPPER GROUNDING WIRE AROUND ENTIRE CAGE. GROUNDING WIRE SHALL BE CONNECTED TO ONE ANCHOR BOLT NEAR TOP OF FOUNDATION AND CONTINUE DOWN AROUND CAGE AND CONNECT TO GROUNDING PLATE AT BOTTOM OF FOUNDATION.
5. STEEL WIRE SHALL BE USED TO TIE ALL BARS AND WIRE MESH FIRMLY TOGETHER.
6. VERTICAL ADJUSTMENT REQUIRED FOR POLES INSIDE ACCESS RAMPS.

BASE COVER

48" MIN.

FINISH GRADE

SEE NOTE 6

2% MAX SLOPE

BRONZE GROUNDING CONNECTOR UL LISTED FOR UNDERGROUND USE

NO. 4 AWG SEVEN (7) STRAND BARE COPPER CONNECT GROUNDING WIRE TO GROUNDING POINT. (SEE NOTE 4)

CONDUIT TO EXTEND 6" ABOVE TOP OF THE ANCHOR BOLTS

2" X 6" X 6" BOLTS BASE OF POLE

1" NON-SHRINK GROUT BETWEEN POLE BASE AND SIDEWALK

4" MIN.-6" MAX. CONCRETE CAP

10" MESH HEIGHT

10 GA. 6"X6" WIRE MESH OR #4 BAR 6"X6" SPACING

STD. GROUNDING PLATE PER NEC 250.52 & 250.53

36" DIA. CONCRETE BASE

15# FELT (2 LAYERS)

12 - #7 BARS 11'-6" LONG EQUALLY SPACED

USE TEMPLATE PROVIDED BY MFR.

2" CONDUIT

2" CLR. (TYP.)

#4 BAR 2"X2" SPACING TOP 14" MIN.
NOTES:
1. ANCHOR BOLTS SHALL BE HOT-DIP GALVANIZED STEEL WITH NUT AND WASHER.
2. WRAP 20 OF #4 AWG BARE COPPER GROUNDING WIRE AROUND ENTIRE CAGE. GROUNDING WIRE SHALL BE CONNECTED TO ONE ANCHOR BOLT NEAR TOP OF FOUNDATION AND CONTINUE DOWN AROUND CAGE AND CONNECT TO GROUNDING PLATE AT BOTTOM OF FOUNDATION.
3. STEEL WIRE SHALL BE USED TO TIE ALL BARS AND SPIRAL FIRMLY TOGETHER.
4. 28 DAY STRENGTH - 4000 PSI MIN.
   ALL REINFORCING STEEL SHALL BE ASTM A615 GR 60.
5. MAXIMUM ALLOWABLE OVERTURNING MOMENT IS 180 FT-KIPS.
6. MAXIMUM ALLOWABLE TORSION IS 220 FT-KIPS.
7. THE FOUNDATION DESIGN SHOWN ASSUMES A NON-COHESIVE SOIL WITH A MINIMUM INTERNAL FRICTION ANGLE OF 30 DEGREES. IF ACTUAL SOIL CONDITIONS ARE LESSER QUALITY, THE FOUNDATION SHOULD BE DESIGNED FOR THE SPECIFIC SITE CONDITIONS.
8. VERTICAL ADJUSTMENT REQUIRED FOR POLES INSIDE ACCESS RAMPS.

NO. 4 AWG SINGLE-STRAND BARE COPPER GROUNDING WIRE 3" ABOVE FOUNDATION. CONNECT GROUNDING WIRE TO GROUNDING POINT. (SEE NOTE 4)

CONDUIT TO EXTEND 6" ABOVE TOP OF THE ANCHOR BOLTS
2-1/4" X 93" X 93" A307 GRADE B BOLTS
BASE OF POLE
1" NON-SHRINK GROUT BETWEEN POLE BASE AND SIDEWALK
4" MIN-6" MAX. CONCRETE CAP

BASE COVER
FINISH GRADE SEE NOTE 8
2% MAX SLOPE
48" MIN.

1/2" SPIRAL AT 3" PITCH (STEEL WIRE)

FOR TYPE XX-B SIGNAL AND LUMINAR
POLES, SEE STANDARD DRAWING NO. 810.
8" X 8" HOLLOW CORE. DEPTH VARIES. USE AROUND EXISTING PIPE PEDESTAL WHEN APPLICABLE.

6' OF #4 AWG SEVEN (7) STRAND BARE COPPER GROUNDING WIRE ABOVE FOUNDATION CONNECT GROUNDING WIRE TO GROUNDING POINT.

2" PVC CONDUIT TO BE ADDED IN EVERY FOUNDATION FOR FUTURE USE. POINT TOWARD INTERSECTION.

NOTES:
1. FOR CONDUIT SIZE, LOCATION AND QUANTITY, SEE PLANS.
2. ANCHOR BOLTS 3/4" X 18" X 3" SHALL BE HOT-DIP GALVANIZED COMMERCIAL GRADE STEEL WITH NUT AND WASHER.
3. ANCHOR BOLT PROJECTION ABOVE FOUNDATION SHALL BE 3-1/2" MIN., 4-1/2" MAX.
4. CONDUIT PROJECTION ABOVE FOUNDATION SHALL BE 2" MIN., 4" MAX.
5. CONTINUOUS BARE COPPER GROUNDING WIRE SHALL BE LOOPED AROUND ANCHOR BOLTS ONE TIME AND CONNECTED TO EACH ANCHOR BOLT BEFORE CONTINUING DOWN TO THE GROUNDING PLATE.
NOTES:

1. 3" OR 4" FIBER OR INTERCONNECT FROM TYPE 200 OR P-30 PULL BOX. REFER TO PLANS FOR INTERCONNECT/FIBER CONDUIT SIZE.
2. 2" CONDUIT FROM SERVICE PEDESTAL.
3. 3" CONDUITS FROM #7 TRAFFIC SIGNAL PULL BOX FOR SIGNAL POLES.
4. #4 SINGLE STRAND BARE COPPER WIRE SEE DRAWING 725 FOR DETAILS.
5. INSTALL CONDUITS 1" FRONT OF CENTER LINE.
6. REFER TO PLANS FOR ANY ADDITIONAL CONDUITS.
2" PVC Cond. to be added in every FDN. for future use. Point towards intersection.

Bronze grounding connector UL listed for underground use (one per bolt) see note 6

6' of #4 AWG single strand bare copper grounding wire above foundation. Connect grounding wire to grounding point.

60" min. (easement may be necessary)

15# felt (2 layers) std. grounding plate per NEC 250-83

Notes:
1. For conduit size, location, and quantity see plans refer to conduit layout drawing #725.1 for details.
2. 3/4" x 18" x 3" hot-dip galvanized anchor bolts. Locate with template.
3. Anchor bolt projection above foundation shall be 3-1/2" min., 4-1/2" max.
4. Conduit projection above foundation shall be 1" min., 4" max.
5. Location of foundation must be approved by engineer in field.
6. Continuous bare copper grounding wire shall be connected to each anchor bolt with bronze grounding connector before continuing down to the grounding plate.
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 RW 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.
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 BUSBING, SPACE FOR A MINIMUM OF TEN FULL SIZE (1") GE 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.

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<td>506 STEEL STRUCTURES</td>
<td>CLARK COUNTY DRAWINGS</td>
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<tr>
<td>623 TRAFFIC SIGNALS &amp; STREETLIGHTING</td>
<td>SINGLE METER SERVICE PEDESTAL</td>
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| DATE 8-12-99 | DWG. NO. 730 |

| EFFECTIVE AS OF 08/09/2018 |
SERVICE ENTRANCE WEATHERHEAD

2" RIGID GALVANIZED STEEL CONDUIT

2-HOLE PIPE STRAPS SPACED 5 FEET APART

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

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 NAINS AMPERE RATING, AND/OR CIRCUIT BREAKER
RATINGS, NUMBER OF POLES AND QUANTITY, SEE PLANS.

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

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

2" PVC CONDUIT TO TRAFFIC
SIGNAL CONTROLLER CABINET
(SEE PLANS FOR WIRE QUANTITY
AND GAGES)

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.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SPECIFICATION REFERENCE

120/240 VAC SERVICE
ON WOOD POLE
OVERHEAD SERVICE

DATE 12-12-96  DWG. NO. 731
OPEN TRENCH

LIP OF GUTTER

PULL BOX (SIZE SPECIFIED ON PLANS)

END OF CONDUIT SHALL BE FITTED WITH BUSHINGS

36" MIN. RADIUS - USE ONLY 20 MIL OR THICKER PVC COATED RIGID IRON CONDUIT FOR BEND AREA. SEE SPECIFICATIONS.

EXCAVATE UNDER EXISTING CURB & GUTTER
DO NOT REMOVE C & G.

CONNECTOR

CONTINUE CONDUIT RUN WITH A MINIMUM OF 5 FT. OF PVC COATED R.I.C.
SEE CLARK COUNTY AREA SPECS.

FILL WITH SAND AND COMPACT AS REQUIRED BY FIELD ENGINEER

NOTE!
-do not make compound bends in conduit

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<tr>
<td>INSTALLATION OF CONDUIT INTO PULL BOX FROM LIP OF GUTTER TRENCH</td>
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DATE: 732

Effective as of 08/09/2018
The contractor shall use PVC coated rigid iron conduit conforming to specifications.

Typical Conduit Locations

Trench

Curb & Gutter

6" Max

Lip of Gutter for A/C Pavement

Back of Curb for Sidewalk

Sidewalk or A/C Pavement

Backfill with Controlled Low Strength Material (CLSM)

Sand Backfill

Conduit Sand Bedding

New Construction

Notes (Retrofit):

1. Depth to match existing A/C pavement, but not less than 4", placed in multiple lifts of equal thickness.
2. Patch width shall be sufficient to accommodate mechanical placement using agency approved spreader box or paving machine, rolling and compaction per Uniform Standard Specification Section 491.03.11.
3. If sawcut is within 3 feet of edge of existing asphalt concrete surface or other patch, remove existing pavement to that edge and replace entire section.
4. If 24" cover is not possible, then red concrete encasement min. 4" above conduit required.
5. Controlled low strength material (CLSM) may be installed to final grade for temporary patching.
6. Permanent patch mix design shall be as required by Engineer.

Agency Approved  B  C  H  L  M  N

Specification Reference

Uniform Standard Drawings
Clark County Area

Installation of Conduit

Date  5-17-01  DWG No.  733
NOTES:

1. CONSTRUCT FROM MINIMUM 12-GUAGE STEEL.

2. THE TIMER SHALL BE RTC-AP21 OR EQUIVALENT.
NOTES:
1. ALL WIRING INSIDE THE CABINET SHALL BE #14 THW.
2. ALL FIELD WIRE TO THE SIGNAL SHALL BE #14 SOLID COPPER.
3. THE SERVICE WIRE SHALL BE 2-#4 THW & 1-#6 THW.
   PROVIDE #10 PIGTAIL FOR CONNECTION TO BREAKER.
4. THE TIMER SHALL BE RTC-AP21 OR EQUIVALENT.
5. TWO POLE SOLID STATE FLASHER.
6. THERE SHALL BE A 1" MINIMUM CLEARANCE BETWEEN INDIVIDUAL COMPONENTS.
7. ALL SERVICE POINTS SHALL BE AS FOR STREET LIGHTING.
8. FLASHING PATTERN OF LIGHTS TO BE SPECIFIED BY THE ENTITY.
LUMINAIRE PIPE TENON AS REQUIRED

THIS ARM DESIGN FOR 35' MTG. HEIGHT ONLY

15 ARM LENGTH

11 GA. ROUND TAPERED ARM

REMOVABLE POLE TOP

PROVIDE WIRE GUIDE INTO SHAFT

LENGTH "L" SEE NOTES ON SIGNAL PLANS OR CONTRACT

4-1/2" X 7" (MIN. INSIDE DIM.)
HANDBOKE AND COVER
(LOCATED 180°OPPOSITE
MAST ARM)

90° OR 95°
AS PER
SPECIFICATION

SEE NOTE 4

NOTES:

1. ALL POLES TO BE HOT-DIP GALVANIZED BY MANUFACTURER
OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED
BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED
BY THE ENTITY.

2. LOW BIDDER MUST SUPPLY SHOP DRAWING FOR
DESIGN APPROVAL BEFORE CONTRACT CAN BE
AWARDED.

3. FOR OTHER DETAILS SEE DRAWING
NO. 808 SHTS. 2 & 6.

4. INSTALL A BACKFACING LIGHT ON BACK OF
OUTERMOST LIGHT, INDICATING THE SPEED
LIMIT MESSAGE IS IN OPERATION.

5. HANDBOKE COVERS SHALL BE MOUNTED WITH
TAMPER-RESISTANT SCREWS.

6. MULTI-SIDED POLE AND MAST ARM WITH A MINIMUM OF 16
SIDES MAY BE USED IF DIRECTED BY THE ENTITY ENGINEER.

FOR "F" TYPE FOUNDATION SEE
DRAWING NO. 808

4-1/2" X 7" (MIN. INSIDE DIM.)
HANDBOKE AND COVER
(SHALL FACE AWAY FROM
ONCOMING TRAFFIC)

BASE COVER

BACK VIEW OF SIGN

17" MIN.

18.6"

3 GA. 36" ROUND TAPERED STEEL SHAFT

AGENCY APPROVED

B C H L M N

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SCHOOL FLASHING SIGN ON
POLE WITH LUMINAIRE

DATE 9-14-06 DWG. NO. 743 SHEET 1 OF 2
NOTES:

1. ALL POLES TO BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.

2. INSTALL A BACKFACING LIGHT ON BACK OF OUTERMOST LIGHT, INDICATING THE SPEED LIMIT MESSAGE IS IN OPERATION.
(8) WELDED STEEL COUPLING

(8) 8" SIGNAL HEADS SHOULD EXTEND TO TOP & BOTTOM OF SIGN AS SHOWN

PLAN OF BASE

4" X 6-1/2" (INSIDE DIM.)
HANDHOLE AND COVER
(SHALL FACE AWAY FROM ONCOMING TRAFFIC)

3/8" STEEL PLATE
BASE THICKNESS

HEAVY SQ. NUTS
FOR PLUMBING

NOTES:
1. DRILL 1" HOLES IN STEEL PIPE WHERE 1-1/2" STEEL COUPLINGS ARE TO BE.
2. POLE TO BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.
3. HANDHOLE COVERS SHALL BE MOUNTED WITH TAMPER-RESISTANT SCREWS.

FOR TYPE "G" FOUNDATION SEE DRAWING NO. 720

BASE COVER

4" MIN. GROUT AFTER POLE IS SET AND PLUMB
NOTES:

1. ALL POLES TO BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.

2. FOR MAST ARM TENON MOUNTING AND SPACING AND ADDITIONAL INFORMATION REFER TO STANDARD DRAWING NO. 746

3. MULTI-SIDED POLE AND MAST ARM WITH A MINIMUM OF 16 SIDES MAY BE USED IF DIRECTED BY THE ENTITY ENGINEER.

FOR OTHER DETAILS SEE DRAWING NUMBER 808 SHT 2 & 6

FOR "H" TYPE FOUNDATION SEE DRAWING NO. 721

IN THE CITY OF NORTH LAS VEGAS, USE ONLY XX-A POLE DWG. 808 SHT 3 & 6
FOR "L" FOUNDATION SEE DWG. 722

30"X 7" (INSIDE DIM.) HANDHOLE AND COVER (SHALL FACE AWAY FROM ONCOMING TRAFFIC)

BASE COVER
LUMINAIRE PIPE TENON AS REQUIRED

15' ARM LENGTH MAX
(SSEE PLANS)

11 GA. ROUND TAPERED ARM

REMOVABLE POLE TOP

REMOVABLE MAST ARM END CAP

LENGTH "L" SEE NOTES ON SIGNAL PLANS OR CONTRACT

TENON 'A'

TENON 'B'

6'

54'

6' MFG. RISE

15'

30' ROUND TYPE XX-A TAPERED STEEL SHAFT
SAME AS DWG. 808 (SHEET 1 OF 6)

4-1/2' X 7' (MIN.
INSIDE DIM.)

HANDHOLE AND COVER (LOCATED
180 DEG. OPPOSITE MAST ARM)

4' X 7' (INSIDE DIM.)
HANDHOLE AND COVER
(SHALL FACE AWAY FROM
ONCOMING TRAFFIC)

BASE COVER

SCHOOL SPEED LIMIT
WHEN FLASHING

* SPEED LIMIT TO BE INDICATED ON PLANS

NOTES:

1. LOW BIDDER MUST SUPPLY SHOP DRAWING FOR
DESIGN APPROVAL BEFORE CONTRACT CAN BE
AWARDED.

2. ALL POLES TO BE HOT-DIP GALVANIZED BY MANUFACTURER
OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED
BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED
BY THE ENTITY.

3. FOR OTHER DETAILS SEE DRAWING NO. 808 SHTS. 2 & 6.

4. HANDHOLE COVERS SHALL BE MOUNTED WITH
TAMPER-RESISTANT SCREWS.

5. SCHOOL SIGN SHALL BE MOUNTED AS SHOWN IN
STANDARD DRAWING NO. 745

6. REFER TO DRAWING NO. 812 SHEET 1 OF 2
IF XX-20 POLE IS REQUIRED.

7. MULTI-SIDED POLE AND MAST ARM WITH A MINIMUM OF 16
SIDES MAY BE USED IF DIRECTED BY THE ENTITY ENGINEER.

FOR "H" TYPE FOUNDATION
DRAWING NO. 721

IN THE CITY OF NORTH LAS VEGAS, USE ONLY XX-A POLE DWG.808 SHT 3 & 6
FOR "L" FOUNDATION SEE DWG.722

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SCHOOL SIGN POLE
TYPE XX-A

SPECIFICATION REFERENCE

DATE 04-12-07 DWG. NO. 746
NOTE:

1. ALL INDICATIONS ARE TO BE YELLOW LED BALL.
2. ALL M-2A INDICATIONS ARE 12" NOMINAL.
3. CIRCULAR VISORS TO BE INSTALLED ON ALL HEADS.
4. SEE SIGNAL PLANS FOR MAST ARM TENON LOCATIONS.
5. THIS HEAD ASSEMBLY SHALL BE USED ONLY ON THE END OF THE MAST ARM.

AGENCY APPROVED

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<th>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</th>
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<tr>
<td></td>
<td>SCHOOL FLASHER MAST ARM SIGNAL ASSEMBLIES M-2A</td>
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</table>

DATE 3-10-05  DWG. NO. 747  SHEET 1 OF 2
NOTES:

1. ALL INDICATIONS ARE TO BE YELLOW LED BALLS.
2. ALL M-2B INDICATIONS ARE 12" NOMINAL.
3. CIRCULAR VISORS TO BE INSTALLED ON ALL HEADS.
4. SEE SIGNAL PLANS FOR MAST ARM TENON LOCATIONS.
NOTES:
1. THIS PULL BOX SHALL NOT BE USED IN TRAVEL OR PARKING LANES
2. TAPERED SIDE WALLS ARE ALLOWED.
ADJUSTABLE TORSION SPRING ASSISTED STEEL COVER MARKED "FIBER OPTIC"

CABLE RACK

GROUNDING RIBBON

PRECAST CONCRETE MATERIAL

NOTES:

1. DESIGN LOAD: H-20 WHEEL LOADINGS.
2. SUITABLE FOR USE IN OFF STREET LOCATIONS WHERE NOT SUBJECT TO HIGH DENSITY TRAFFIC. IT SHALL NOT BE USED IN TRAVEL OR PARKING LANES.
3. INSIDE DIMENSIONS - 30"X48"X36"
4. FOR USE AT FIBER OPTIC SPLICE POINTS.

TYPE 200 VAULT
NOTES:
1 P30 PULL BOX SHALL BE INSTALLED FOR THE TRAFFIC SIGNAL ITS COMMUNICATIONS PER APPLICABLE STANDARDS.
2 PULL BOX COVER SHALL BE INSCRIBED "FIBER OPTICS".
3 APPROXIMATE LOCATIONS OF THE PROPOSED P30 ITS COMMUNICATION PULL BOXES ARE SHOWN ON THE PLANS.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING THE LOCATIONS OF THE PROPOSED ITS COMMUNICATION
PULL BOXES IN THE FIELD PER STANDARD SPECIFICATION INTERVALS AND THESE LOCATIONS SHALL BE
SUBJECT TO APPROVAL OF THE ENGINEER BEFORE INSTALLATION.
4 DETAIL SHOWS METHOD OF INSTALLATION WHEN FIBER OPTIC CABLE IS REQUIRED.

FIBER OPTIC CABLE

PULL BOX MAY ALSO BE PLACED
NEAR THE BACK OF CURB WITH
A MIN. 8" CLEARANCE

BACK OF
SIDEWALK

CONDUIT ENDS MAY ENTER
THE BOTTOM OF THE
PULLBOX IF NECESSARY

4" MINIMUM CLEARANCE

1/2" DRAIN ROCK
12" DEPTH

FLOWABLE BACKFILL

FIBER OPTIC CABLE

DETH AS
REQUIRED

32 1/4"
8"MIN

5"

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

ITS COMMUNICATION CONDUIT
AND PULL BOX DETAIL
(FOR EXISTING CURB & GUTTER)

DATE 3-13-08  DWG. NO. 763  SHEET 2 OF 2

AGENCY APPROVED  B  C  H  L  M  N

Effective as of 08/09/2018
NEW CONCRETE SIDEWALK

FIBER OPTIC CABLE

INTERCONNECT CABLE

PVC CONDUIT

P30 ITS COMMUNICATION PULL BOX
SEE NOTES - DRAWING NO. 711

DEPTH AS REQUIRED

CAP

FIBER OPTIC CABLE

EXTEND CONDUIT 3" INTO THE BOX

4" MIN. CLEARANCE

TYPE 2 GRAVEL 12" DEPTH

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

ITS COMMUNICATION CONDUIT
AND PULL BOX DETAIL
INSTALLED UNDER NEW SIDEWALK

DATE 3-13-08  DWG. NO. 764
NOTES:

1. ALL ITS CONDUITS SHALL HAVE A 6-PAIR, REA-PE39 #22 AWG TWISTED WIRE PAIR CABLE INSTALLED.
2. ANY EXISTING ITS CONDUITS FROM THE OPPOSING SIDE OF THE STREET SHALL BE CONNECTED TO PROPOSED CONDUITS USING THE SAME SIZE CONDUIT. IF UNDERGROUNDS DO NOT EXIST, THEN PROPOSED CONDUITS SHALL BE EXTENDED 5' PAST THE EXISTING OR PROPOSED EDGE OF PAVEMENT TO A #3-1/2 PULL BOX MARKED "FIBER OPTIC".
3. FIBER OPTIC CONDUIT SHALL BE INSTALLED WITH P30 PULL BOXES PLACED AT A MAXIMUM SPACING OF 1000', BUT SHALL NOT BE INSTALLED WITHIN 5' OF THE POINT OF CURVATURE (PC) OF THE R/W RADIUS, IN SIDEWALK RAMPS OR DRIVEWAYS. THE ITS CONDUITS SHALL BE CONNECTED TO THE EXISTING ITS CONDUITS OR, IF NOT EXISTING, AN ADDITIONAL P30 PULL BOX SHALL BE INSTALLED AT THE PROPOSED DEVELOPMENT'S PROPERTY LINE.
4. ALL CONDUIT BENDS SHALL BE PVC COATED RIGID w/ A MINIMUM RADIUS OF 36 INCHES.
5. ALL ITS PULL BOXES SHALL HAVE A POLYMER COMPOSITE BODY w/ RESIN POLYMER REINFORCED NON-CONDUCTIVE COVER MARKED "FIBER OPTIC".
6. UNDERGROUND ORANGE MARKING TAPE SHALL BE PLACED 12 INCHES ABOVE THE INSTALLED CONDUIT AND MARKED WITH THE LEGEND "FIBER OPTIC".
7. IF TRAFFIC SIGNAL CABINET EXISTS OR IS BEING INSTALLED ON CORNER, INSTALL TYPE 200 VAULT PER 762 AND 889 WITH ITS CONDUIT INTO TRAFFIC SIGNAL CABINET. IF TRAFFIC SIGNAL CABINET DOES NOT EXIST OR IS NOT BEING INSTALLED IN CORNER, INSTALL P30 PULL BOX.
NOTE:

1. IF PULLING CCTV CABLE IN EXISTING SIGNAL CONDUIT, AGENCY APPROVAL REQUIRED FOR METHOD OF INSTALLATION.
CAMERA ADAPTER STAND
(REQUIRED FOR POLE CAP MOUNTING)

CABLE AND CONNECTOR
PART OF CAMERA ACCESSORY

POLE CAP

1/2" S.S. ALL THREAD w/SINGLE S.S. FLAT WASHER
AND DOUBLE S.S. NUTS (EACH SIDE) TO EXTEND
COMPLETELY THROUGH POLE AND CAP (2 ALL-
THREAD BOLTS REQUIRED PER POLE WITH EACH
OFFSET TO EXTEND THROUGH POLE).

TRAFFIC SIGNAL POLE

.250 TYP

3.0+/-0.1

WELD COMPLETELY
AROUND CIRCUM

Ø 0.600 THRU

Ø 1.750 THRU

375 x .750 THRU SLOT
EQUAL SPACED ON 4.750 BC
BOTH SIDES

NOTE:
CAMERA STAND TO BE USED ONLY TO AVOID CONFLICT WITH
OVERHEAD POWER LINES. AGENCY APPROVAL REQUIRED.

MATL (FLANGE): 1018 STEEL OR EQUIV.
MATL (TUBE): Ø 3.5 x 1/8 WALL 1018 STEEL OR EQUIV.
3. ALL POLE AND CAP MATERIALS TO BE GALVANIZED STEEL.
4. REMOVE ALL BURRS AND SHARP EDGES 0.015 MAX

SPECIFICATION REFERENCE

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

CLOSED CIRCUIT TELEVISION CAMERA
ADAPTOR STAND

DATE 04-08-10 DWG. NO. 766 SHEET 3 OF 4
CAMERA EXTENSION POLE
(REQUIRED FOR POLE CAP MOUNTING)

POLE DATA

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<th>COMPONENT</th>
<th>ASTM DESIGNATION</th>
<th>MIN. YIELD (KSI)</th>
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<tr>
<td>POLE TUBE</td>
<td>S109</td>
<td>36</td>
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<td>PLATES</td>
<td>A36</td>
<td>36</td>
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<tr>
<td>GALVANIZING-HARDWARE</td>
<td>A153</td>
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<td>GALVANIZING-STRUCTURE</td>
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MATERIAL DATA

POLE EXTENSION CAP DETAIL 3

TOP PLATE DETAIL 1

SEE DETAIL 1

SEE POLE DATA

POLE EXTENSION CAP DETAIL 3

POLE BASE DETAIL 2

POLE Tube

BASE DIA. (IN) | LENGTH (FT) | GAUGE OR THICKNESS (IN)
3.50          | 11.35        | 0.216

CONTRACTOR TO FIELD MEASURE TOP OF EXISTING OR PROPOSED TRAFFIC SIGNAL POLE SHAFT BEFORE FABRICATION OF CAP.
NOTE:
AN ADDITIONAL 120V OUTLET TO BE INSTALLED ON SIDE RAIL, NEAR TOP, FOR IT'S EQUIPMENT ON EITHER SIDE OF CABINET. LOCATION TO BE APPROVED BY AGENCY ENGINEER BEFORE INSTALLATION. MAXIMUM OF FOUR OUTLETS PER CABINET.
MOTOR: 1/125 HP
3000 RPM NEMA CLASS
B INS. 0.65 AMPS AT
115 VAC.

VENT FAN SPECIFICATION:
134 C.F.M. RATING AT .160"
OF WATER STATIC PRESSURE.

POLICE PANEL

PLAN AT BASE

"M" CABINET

NOTES:
1. MATERIAL - 14 GA. SHEET STEEL,
OR ALUMINUM EQUIVALENT.
2. PAINT OUTSIDE TWO COATS AND INSIDE
TWO COATS WHITE ENAMEL OR AS
APPROPRIATE.
3. DOOR SHALL LOCK AT THREE POINTS.
4. FOR FOUNDATION DETAILS AND ANCHOR
BOLT LOCATION SEE DRAWING NO. 724.
5. INCLUDE 3/4" x 18" x 3" HOT-DIP GALVANIZED
ANCHOR BOLTS WITH EACH CABINET.
"P" CABINET

NOTES:
1. MATERIAL - 14 GA. SHEET STEEL, OR ALUMINUM EQUIVALENT.
2. PAINT OUTSIDE TWO COATS AND INSIDE TWO COATS WHITE ENAMEL OR AS APPROPRIATE.
3. SHELVES SHALL BE REMOVABLE AND ADJUSTABLE FOR VERTICAL SPACING.
4. DOOR SHALL LOCK AT THREE POINTS.
5. FOR FOUNDATION DETAILS AND ANCHOR BOLT LOCATION SEE DRAWING NO. 725.
6. INCLUDE 3/4" X 18" X 3" HOT-DIP GALVANIZED ANCHOR BOLTS WITH EACH CABINET.

AGENTY APPROVED

SPECIFICATION REFERENCE
UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

DATE 12-12-96 DWG. NO. 802

TYPE VI CABINET
NOTES:
1. MATERIAL = 14 GA. SHEET STEEL, OR ALUMINUM EQUIVALENT.
2. PAINT OUTSIDE TWO COATS AND INSIDE TWO COATS WHITE ENAMEL OR AS APPROPRIATE.
3. FOR FOUNDATION DETAILS AND ANCHOR BOLT LOCATION SEE DRAWING NO. 725.
4. INCLUDE 3/4" X 18" X 3" HOT-DIP GALVANIZED ANCHOR BOLTS WITH EACH CABINET.

VENT FAN SPECIFICATION:
SEE STANDARD DRAWING NO. 801

"R" CABINET

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPE VIII
CABINET

AGENCY APPROVED

B C H L M N

DATE 12-12-96 | DWG. NO. 803
NOTES:

1. MATERIAL - 14 GA. SHEET STEEL, OR ALUMINUM EQUIVALENT.

2. PAINT OUTSIDE TWO COATS AND INSIDE TWO COATS WHITE ENAMEL OR AS APPROPRIATE.

3. FOUNDATION DETAILS SHALL BE SPECIFIED ON THE SIGNAL CONSTRUCTION PLANS.

4. INCLUDE 3/4" x 18" x 3" HOT-DIP GALVANIZED ANCHOR BOLTS WITH EACH CABINET.

VENT FAN SPECIFICATION:
SEE STANDARD DRAWING NO. 801

"RR" CABINET

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AGENCY APPROVED | B | C | H | L | M | N

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPE IX
CABINET

DATE 12-12-96  DWG. NO. 804
NOTES:

1. PEDESTRIAN PUSH BUTTON SHALL NOT BE LOCATED MORE THAN 24" FROM THE BACK OF WALK. IF DISTANCE FROM BACK OF WALK TO PUSH BUTTON IS 20" TO 24", THE BUTTON SHALL BE LOCATED AT A MAXIMUM HEIGHT OF 44" FROM THE SURFACE OF THE WALK; OTHERWISE, THE MAXIMUM HEIGHT SHALL BE 48".

2. THE FORCE REQUIRED TO ACTIVATE CONTROL SHALL BE NO GREATER THAN 5 LB.

3. POST SHALL BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.

FOR TYPE "A" FOUNDATION SEE DRAWING NO. 715
PEDESTRIAN PUSH BUTTON
FOR 2 1/2" POSTTOP MOUNTING

PLAN OF BASE

NOTES:
1. PEDESTRIAN PUSH BUTTON SHALL NOT BE LOCATED MORE THAN 24" FROM THE BACK OF WALK. IF DISTANCE FROM BACK OF WALK TO PUSH BUTTON IS 20" TO 24", THE BUTTON SHALL BE LOCATED AT A MAXIMUM HEIGHT OF 44" FROM THE SURFACE OF THE WALK. OTHERWISE, THE MAXIMUM HEIGHT SHALL BE 48".

2. THE FORCE REQUIRED TO ACTIVATE CONTROL SHALL BE NO GREATER THAN 5 LB.

3. POST SHALL BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.

FOR TYPE "A" FOUNDATION SEE DRAWING NO.715

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<td>CLARK COUNTY AREA</td>
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<table>
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<tr>
<th>PEDESTRIAN PUSH BUTTON POST FOR 2 1/2 INCHES POSTTOP MOUNTING</th>
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</table>

DATE 08-09-18 | DWG. NO. 805 | SHEET 2 OF 2
1. ALL POLES TO BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.

2. HANDHOLE COVERS SHALL BE MOUNTED WITH TAMPER-RESISTANT SCREWS.
NOTES:

1. ALL POLES TO BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH BY PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.

2. HANDHOLE COVERS SHALL BE MOUNTED WITH TAMPER-RESISTANT SCREWS.

FOR TYPE "C" FOUNDATION SEE DRAWING NO. 717.
1. Contractor must supply shop drawing for design approval.
2. All poles to be hot-dip galvanized by manufacturer or prime painted by manufacturer and finish painted by contractor per specifications and as required by the entity.
3. Handhole covers shall be mounted with tamper-resistant screws.
4. Where signals and standards are installed below overhead power lines, clearances shall be per National Electric Safety Code Section 234 requirements. Install straight arm streetlight assemblies where additional clearance is required.
5. Multi-sided pole and mast arm with a minimum of 16 sides may be used if directed by the entity engineer.

**NOTES:**

**LUMINAIRE ARM CONNECTION DETAIL**

**POLE MOUNTING DETAIL**

**CAP END OF MAST ARM**

**BOLTS 4-EA, 1-1/2" x 4" A325-X**

**BOLTS 3-EA, 3/4" x 1-3/4" A325-X**

**2" SCH. 40 PIPE TENON (2.375 O.D.)**

**7/16" DIA. THRU HOLE**

**1/4" THK. TOP BOTTOM & SIDE GUSSETS**

**6" X 9" I.D. HANDHOLE AND COVER LOCATED 180° OPPOSITE MAST ARM**

**2" SCH. 40 PIPE WIRE ENTRY (EDGES DEBURRED) 3" HOLE IN SHAFT.**

**HOT-DIP GALV. HEX NUTS W/2 HOT-DIP GALV. WASHERS PER BOLT.**

**SQUARE NUT FOR GROUND**

**BASE COVER**

**1-3/4" x 6" x 6" BOLT**

**NOTES:**

**SPECIFICATION REFERENCE**

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**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**TYPE XX - 30 FT. SIGNAL & LUMINAIRE POLE DETAILS**

<table>
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<tr>
<th>DATE 07-01-17</th>
<th>DWG. NO. 808</th>
<th>SHEET 2 OF 6</th>
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Effective as of 08/09/2018
NOTES:
1. CONTRACTOR MUST SUPPLY SHOP DRAWING FOR DESIGN APPROVAL.
2. ALL POLES TO BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.
3. HANDBOLE COVERS SHALL BE MOUNTED WITH TAMPERS-RESISTANT SCREWS.
4. WHERE SIGNALS AND STANDARDS ARE INSTALLED BELOW OVERHEAD POWER LINES, CLEARANCES SHALL BE PER NATIONAL ELECTRIC SAFETY CODE SECTION 234 ADDITIONAL CLEARANCE IS REQUIRED.
5. MULTI-SIDED POLE AND MAST ARM WITH A MINIMUM OF 16 SIDES MAY BE USED IF DIRECTED BY THE ENTITY ENGINEER.

LUMINAIRE ARM CONNECTION DETAIL

POLE PLATE
0.75" DIA.
HOLE

ARM PLATE
1.75"

BOLTS 4-EA. 1-1/2"x4-1/2"
A325-X

MAST ARM CONNECTION DETAIL

ARM PLATE
0.50" DIA. KEY

BOLTS 4-EA. 1-1/2"x4-1/2"
A325-X

POLE MOUNTING DETAIL

6" X 9" I.D. HANDBOLE AND COVER (SHALL FACE)

HOT-DIP GALV. ANCHOR BOLTS W/2 HOT-DIP GALV. HEX NUTS & WASHERS PER BOLT.

BASE COVER

1" X 1 1/2" BOLT

19" DIA. BOLT CIRCLE

1/2" N.C. SQUARE NUT FOR GROUND

2" X 66" X 6" BOLT

AGENCY APPROVED
B
C
H
L
M
N

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPE XX - A - 30 FT.
(50 FT. THRU 60 FT. MAST ARMS)
SIGNAL & LUMINAIRE POLE DETAILS

DATE 07-01-17

DWG. NO 808

SHEET 4 OF 6
LOADING INFORMATION

DEVICE | DESCRIPTION | PROJ. AREA (FT²) | WEIGHT (LBS)
---|---|---|---
(A) SIGNAL | 12". 3 SEC. W/ BACKPLATES (M-2) | 9.80 | 40
(B) SIGNAL | R3-5 24" X 30" | 5.00 | 15
(C) SIGNAL | R3-4 24" X 24" | 4.00 | 10
(D) SIGNAL | 12". 4 OR 5 SEC. W/ BACKPLATES (M-4 OR M-5) | 13.68 | 80
(E) SIGNAL | R10-12 OR R10-12F 30" X 30" | 11.25 | 30
(F) SIGNAL | STREET NAME-FREE SWINGING-1.68" X 8" | 13.44 | 100
(G) SIGNAL | DUAL-12". 3 SEC. W BACKPLATES | 17.34 | 80
(H) SIGNAL | DUAL-PEDESTRIAN | 8.00 | 60

DESIGN CRITERIA:

AASHTO STANDARD SPECIFICATIONS
FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.
(FATIGUE LOADS SPECIFIED IN CHAPTER 11 NOT REQUIRED.)

MAXIMUM DESIGN MINIMUM YIELD STRENGTH FOR TUBULAR MEMBERS SHALL BE LIMITED TO 40,000 PSI FOR COLD WORKED MATERIALS AND 50,000 PSI FOR NON-COLD WORKED MATERIALS.

WIND VELOCITY:

90 MPH ISOTACH.
NOTE:

EACH CONDUCTOR SHALL HAVE A MINIMUM OF 18 INCHES OF SLACK

BRONZE GROUNDING CONNECTOR (UL LISTED FOR UNDERGROUND USE) FOR NO.4 WIRE

SPLIT-BOLT CONNECTOR

HEX HEAD NON-CORROSIVE CAP SCREW WITH FLAT WASHER WITH A SINGLE-STRAND BARE NO. 4 AWG COPPER GROUNDING CONDUCTOR

#6 GREEN THWN BONDING CONDUCTOR CONNECTED TO POLE GROUND WITH SPLIT BOLT CONNECTOR

CONTINUOUS BARE COPPER GROUNDING WIRE SHALL BE LOOPED AROUND ANCHOR BOLTS ONE TIME AND CONNECTED TO EACH ANCHOR BOLT BEFORE CONTINUING DOWN TO THE GROUNDING PLATE. (GROUNDING CONFIGURATION DIFFERS FOR TYPE "L" FOUNDATION. SEE STANDARD DRAWING NO. 722)
1/4" NON-THREADED WITH LOCK NUT WASHER
WITH DOUBLE HEX HEAD NUTS
(HOLES FOR NON-THREADED SHALL BE FIELD DRILLED)

REMOVABLE MAST ARM
RAIN CAP

1/2"
LUMINAIRE ARM DATA

<table>
<thead>
<tr>
<th>ARM SPAN &quot;L&quot; (FT)</th>
<th>FIXED END DIA. (IN)</th>
<th>FREE END DIA. (IN)</th>
<th>GAUGE</th>
<th>LUMINAIRE MOUNTING HEIGHT</th>
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<tbody>
<tr>
<td>6</td>
<td>3.42</td>
<td>2.38</td>
<td>11</td>
<td>32'-0&quot;</td>
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<tr>
<td>8</td>
<td>3.75</td>
<td>2.38</td>
<td>11</td>
<td>33'-3&quot;</td>
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<tr>
<td>10</td>
<td>4.16</td>
<td>2.38</td>
<td>11</td>
<td>35'-0&quot;</td>
</tr>
<tr>
<td>12</td>
<td>4.52</td>
<td>2.38</td>
<td>11</td>
<td>36'-6&quot;</td>
</tr>
<tr>
<td>15</td>
<td>4.96</td>
<td>2.38</td>
<td>11</td>
<td>37'-0&quot;</td>
</tr>
</tbody>
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NOTES:

1. CONTRACTOR MUST SUPPLY SHOP DRAWING FOR DESIGN APPROVAL.
2. ALL POLES TO BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.
3. HANDHOLE COVERS SHALL BE ATTACHED VIA TWO SCREWS INTO PLATES MOUNTED INSIDE THE HANDHOLE.
4. WHERE SIGNALS AND STANDARDS ARE INSTALLED BELOW OVERHEAD POWER LINES, CLEARANCES SHALL BE PER NATIONAL ELECTRIC SAFETY CODE SECTION 234 REQUIREMENTS. INSTALLATION OF STRAIGHT ARM STREETLIGHT ASSEMBLIES WHERE ADDITIONAL CLEARANCE IS REQUIRED SHALL BE APPROVED BY THE ENGINEER.
5. IF DUAL LUMINAIRE ARMS ARE NOT SPECIFIED IN THE PLANS, THE SECOND CONNECTION POINT SHALL BE COVERED BY A COVER PLATE UNTIL SUCH TIME AS A SECOND ARM MIGHT BE ADDED.

POLES DESIGNED PER SPECIFICATION OF A.A.S.H.T.O. 90 MPH WINDS. (SEE DRAWING NO. 810 SHEET 3 OF 3 FOR LOADING INFORMATION)

FOR "M" TYPE FOUNDATION SEE DRAWING NO. 723

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

DATE 07-01-17 | DWG. NO. 810 | SHEET 1 OF 3

TYPE XX - B - 30 FT.
SIGNAL & LUMINAIRE POLE
(65 FT. THRU 85 FT. MAST ARMS)
NOTE:
TYPE XX-B POLE
SHALL ALSO SUPPORT
THE ALTERNATE LOADING
SHOWN ABOVE.

ALTERNATE SIGN INSTALLATION

65' THRU 85'
SPANS
ALTERNATE LOADING

3.3 FT. 2
60 LB.

15' MAX.
37' MAX.

ALTERNATE SIGN INSTALLATION

MAX. 85' SPAN

TYPE XX-B

<table>
<thead>
<tr>
<th>DEVICE</th>
<th>DESCRIPTION</th>
<th>PROJECT AREA (FT²)</th>
<th>WEIGHT (LBS)</th>
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<tr>
<td>A</td>
<td>SIGNAL 12'-3 SEC. W/ BACKPLATES (M-2)</td>
<td>9.80</td>
<td>40</td>
</tr>
<tr>
<td>B</td>
<td>SIGN R3-5 24&quot; X 30&quot;</td>
<td>5.00</td>
<td>15</td>
</tr>
<tr>
<td>C</td>
<td>SIGN R3-4 24&quot; X 24&quot;</td>
<td>4.00</td>
<td>10</td>
</tr>
<tr>
<td>D</td>
<td>SIGNAL 12'-4 OR 5 SEC. W/ BACKPLATES (M-4 OR M-5)</td>
<td>13.68</td>
<td>80</td>
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<tr>
<td>E</td>
<td>SIGN R10-12 OR R10-12F 30° X 36&quot;</td>
<td>6.00</td>
<td>15</td>
</tr>
<tr>
<td>F</td>
<td>SIGN STREET NAME-FREE SWINGING-1.68' X 8'</td>
<td>13.44</td>
<td>100</td>
</tr>
<tr>
<td>G</td>
<td>SIGNAL DUAL-12'-3 SEC. W BACKPLATES</td>
<td>17.34</td>
<td>80</td>
</tr>
<tr>
<td>H</td>
<td>SIGNAL DUAL-PEDESTRIAN</td>
<td>8.00</td>
<td>60</td>
</tr>
</tbody>
</table>

DESIGN CRITERIA:
AASHTO STANDARD SPECIFICATIONS
FOR STRUCTURAL SUPPORTS FOR HIGHWAY
SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.
(FATIGUE LOADS SPECIFIED IN CHAPTER 11 NOT REQUIRED.)

DESIGN MINIMUM YIELD STRENGTH FOR
TUBULAR MEMBERS SHALL BE LIMITED
TO 48,000 PSI FOR COLD WORKED
MATERIALS AND 50,000 PSI FOR NON-COLD
WORKED MATERIALS.

WIND VELOCITY:
90 MPH ISOTACH.
NOTES:
1. CONTRACTOR TO INSTALL RED LIGHT RUNNING INDICATORS, McCaIN MODELS M61365 (RED) & M61446 (BLUE), OR APPROVED EQUAL AS INDICATED BY THE TRAFFIC ENGINEER.
2. RED (THRU) INDICATOR SHALL BE MOUNTED 16' ABOVE POLE BASE PLATE AND BLUE (LEFT) INDICATOR SHALL BE MOUNTED 17' ABOVE POLE BASE PLATE AND SHALL FACE AWAY FROM ONCOMING TRAFFIC.
3. RED LIGHT RUNNING INDICATOR L.E.D. HOUSING SHALL BE FIELD ADJUSTED. PLEASE CONTACT THE TRAFFIC ENGINEER FOR COORDINATION.
4. CONTRACTOR SHALL WIRE INDICATORS DIRECTLY TO BUSS IN "J" BOX PER CALL OUT PHASING IN POLE SCHEDULE ON TRAFFIC SIGNAL PLANS.
NOTES:

1. CONTRACTOR MUST SUPPLY SHOP DRAWING FOR DESIGN APPROVAL.

2. ALL POLES TO BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.

3. HANDHOLE COVERS SHALL BE MOUNTED WITH TAMPER-RESISTANT SCREWS.

4. PHOTOEYE MAY NEED TO BE AFFIXED TO POLE CAP FOR STREET NAME SIGN ACTIVATION.

5. MULTI-SIDED POLE AND MAST ARM WITH A MINIMUM OF 16 SIDES MAY BE USED IF DIRECTED BY THE ENTITY ENGINEER.

POLES DESIGNED PER SPECIFICATION OF A.A.S.H.T.O., 90 MPH WINDS.
(SEE DRAWING NO. 808 SHEET 5 FOR LOADING INFORMATION)

FOR OTHER DETAILS SEE DRAWING NO. 808 SHTS. 2 & 6.
FOR "H" TYPE FOUNDATION SEE DRAWING NO. 721.
DETAIL A-A

NOTES:

1. CONTRACTOR MUST SUPPLY SHOP DRAWING FOR DESIGN APPROVAL.
2. ALL POLES TO BE HOT-DIP GALVANIZED BY MANUFACTURER OR PRIME PAINTED BY MANUFACTURER AND FINISH PAINTED BY CONTRACTOR PER SPECIFICATIONS AND AS REQUIRED BY THE ENTITY.
3. HANDHOLE COVERS SHALL BE MOUNTED WITH TAMPER-RESISTANT SCREWS.
4. PHOTOCYE MAY NEED TO BE AFFIXED TO POLE CAP FOR STREET NAME SIGN ACTIVATION.
5. MULTI-SIDED POLE MAST ARM WITH A MINIMUM OF 16 SIDES MAY BE USED IF DIRECTED BY THE ENTITY ENGINEER.

POLES DESIGNED PER SPECIFICATION OF A.A.S.H.T.O., 90 MPH WINDS.
(SEE DRAWING NO. 808 SHEET 5 FOR LOADING INFORMATION)
FOR OTHER DETAILS SEE DRAWING NO. 808 SHTS. 4 & 6.
FOR "L" TYPE FOUNDATION SEE DRAWING NO.722.
NOTES:

1. COMPLETE BACK BRACE ASSEMBLY SHALL BE HOT-DIP GALVANIZED OR PRIME-PAINTED AS REQUIRED BY THE ENTITY.

2. COMPLETE BRACE ASSEMBLY SIMILAR TO PUMCO PART NO. 769-6, AND SHALL HAVE (4) FOUR BOLTS.

3. BRACE ASSEMBLY TO BE USED ON 30' POLES ONLY. TO BE MOUNTED 20' FROM POLE BASE.

4. WHEN VOLTAGE EXCEEDS 120V, A STEP-DOWN TRANSFORMER SHALL BE SUPPLIED.

5. STREET NAME SIGN WIRING TO RUN THROUGH TWO (2) SEAL-TITE 90° FITTINGS WITH LIQUID-TIGHT FLEXIBLE CONDUIT. USE A DRIP LOOP SUFFICIENT ENOUGH TO ALLOW SIGN TO SWING FREELY.

STREETLIGHT POLE WITH ILLUMINATED STREET NAME SIGN
SEE DRAWING NO. 818 FOR STREET NAME SIGN DETAILS.

SEE DETAIL A FOR PIPE LENGTH.

SEE DETAIL A

2-1/2" SCH. 40 PIPE (LENGTH 10'-0').

2-1/2" SCH. 40 PIPE (LENGTH 10'-0').

ANGLE BRACE

5/8" x 1-1/4" SQ. HD. CUP POINT SET SCREW.

3/4" CLEARANCE HOLE

BACK BRACE ASSEMBLY

DETAIL A

NOTES:
1. COMPLETE BACK BRACE ASSEMBLY SHALL BE HOT-DIP GALVANIZED OR PRIME-PAINTED AS REQUIRED BY THE ENTITY.
2. COMPLETE BRACE ASSEMBLY SIMILAR TO PUMCO PART NO. 769-6, AND SHALL HAVE (4) FOUR BOLTS.
3. BRACE ASSEMBLY TO BE USED ON 30'-POLES ONLY. TO BE MOUNTED 24'-FROM POLE BASE.
4. STREET NAME SIGN WIRING TO RUN THROUGH TWO (2) SEAL-TITE 90° FITTINGS WITH LIQUID-TIGHT FLEXIBLE CONDUIT. USE A DRIP LOOP SUFFICIENT ENOUGH TO ALLOW SIGN TO SWING FREELY.

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPE III POLE WITH ILLUMINATED STREET NAME SIGN

SPECIFICATION REFERENCE

UNIVERSAL STANDARD DRAWINGS
CLARK COUNTY AREA

DATE 12-12-96

DWG. NO. 815
NOTES:

1. FOR TYPE XX POLE SPECIFICATIONS SEE DRAWING NO. 808.

2. STREET NAME SIGN WIRING TO RUN THROUGH TWO (2) SEAL-TITE 90° FITTINGS WITH LIQUID-TIGHT FLEXIBLE CONDUIT. USE A DRIP LOOP SUFFICIENT ENOUGH TO ALLOW SIGN TO SWING FREELY.

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

TYPE XX POLE WITH ILLUMINATED STREET NAME SIGN

DATE 4-9-98  DWG. NO. 816
NOTES:

1. OVERHEAD UTILITY LINES SHALL BE CLEAR OF HIGHEST BACK PLATE ON ANY GIVEN SIGNAL ARM AND LOWEST PLATE OF STREET NAME SIGN.
2. ANY UTILITY CABLE BEING INSTALLED WITHIN THE CLEARANCE ZONE SHALL NEED PRIOR APPROVAL FROM THE TRAFFIC ENGINEERING DIVISION WHO CONTROLS THE RIGHT OF WAY.
3. PARTIES SHALL COORDINATE AND CONCUR ON CABLE AND SIGNAL INSTALLATIONS TO AVOID CREATION OF CROSSING CONFLICTS WITHIN THIS CLEARANCE ZONE.
NOTES:

1. SIGN SHALL BE DOUBLE FACED.
2. ALUMINUM EXTRUSION CABINET 12" DEEP - MILL FINISH WITH ALL ALUMINUM INTERNAL STRUCTURE.
3. TOP-HINGED RETAINER SYSTEM WITH PROP ROD FOR ACCESS AND SERVICE.
4. T12 800MA CW HO FLUORESCENT ILLUMINATION INTERNALLY.
5. SIGN PANEL SHALL BE WHITE WIDE-ANGLE PRISMATIC TRANSLUCENT REFLECTIVE SHEETING, EITHER REVERSE-SCREENED WITH MANUFACTURER'S RECOMMENDED GREEN INK AND CLEAR COATING OR OVERLAYED WITH GREEN ELECTRONIC CUTTABLE TRANSPARENT OVERLAY FILM, APPLIED TO A POLYCARBONATE CLEAR SUBSTRATE, 0.177" THICK.
6. LETTERS SHALL BE 8" SERIES E AND UNLESS OTHERWISE SPECIFIED BY THE TRAFFIC ENGINEER, SHALL BE ALL UPPERCASE WITH NO STREET NAME SUFFIX. IF NECESSARY TO MAKE SPACING FIT, REDUCE TO 8" SERIES D. SPACING BETWEEN LETTERS MAY BE INCREASED BY UP TO 25% (MAX) TO ACHIEVE 4" END SPACES.
7. STEEL BRACKETS SHALL BE USED FOR FLAG MOUNT POLE ATTACHMENT.
8. THE USE OF THE POLE MOUNTED STREET NAME SIGN SHALL BE APPROVED BY THE ENTITY ENGINEER.
INSTALLATION INSTRUCTIONS

* ATTACH BRACKETS ① TO CABINET END AT TOP AND BOTTOM WITH BOLTS PROVIDED LOOSELY TIGHTEN BOLTS (SNUG).

* LIFT CABINET WITH BRACKETS TO POLE AT FINISHED HEIGHT USING A NYLON LIFTING SNAP NEAR THE BRACKETS (WHERE BALANCED).

* ATTACH BRACKET HALVES ② TOGETHER AROUND POLE WITH PROVIDED HARDWARE AS SHOWN.

* MOVE LIFTING STRIP TO CENTER OF CABINET & LEVEL THEN TIGHTEN BOLTS INTO CABINET.

* ATTACH SET SCREWS ③ THROUGH BRACKET INTO POLE AS SHOWN.

* HOOK UP ELECTRICAL CONNECTION (SEE PAGE 2 FOR AN EXAMPLE).

WIRING RECOMMENDATIONS

* LOCATE & DRILL A 3/4" DIA. HOLE ④ THRU POLE. THREAD HOLE WITH 1/2" PIPE THREAD TAP.

* PULL WIRES FROM GROUND THRU TAPPED HOLE GUIDE WIRES TO AVOID SCRAPING INSULATION.

* ASSEMBLE LIQUID TIGHT 1/2" CONDUIT ⑤ & FITTING ⑥ TO CONNECT POLE TO CABINET.

* FEED WIRES THRU CONDUIT & INTO CABINET. USE A 2X4 HANDY BOX INSIDE OF CABINET TO FACILITATE WIRE PULLING.

* AFTER FEEDING WIRES, THEN THREAD FITTINGS INTO THREADED HOLE IN POLE & CABINET.

* WIRE BALLAST INSIDE CABINET AS REQUIRED.

NOTE: THE STREET NAME SIGN SHALL BE MOUNTED 18" ABOVE THE MAST ARM
FRONT VIEW

SIDE VIEW

NOTES:

1. SIGN SHALL BE DOUBLE FACED.

2. SIGN PANELS SHALL BE FABRICATED OF CLEAR, IMPACT RESISTANT, ACRYLIC SHEETING WITH ALUMINUM FRAMING.

3. SIGN PANEL SHALL BE COVERED WITH WHITE, WIDE-ANGLE, TRANSLUCENT PRISMATIC TYPE XI REFLECTIVE SIGN FACE SHEETING, AND EITHER REVERSE-SCREENED WITH MANUFACTURER'S RECOMMENDED GREEN INK AND CLEAR COATING OR OVERLAID WITH GREEN ELECTRONIC CUTTABLE TRANSPARENT OVERLAY FILM.

4. SHEETING SHALL BE APPLIED IN A VERTICAL ORIENTATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.

5. SIGN PANEL SHALL BE CAPABLE OF WITHSTANDING WINDS OF 90 MPH OR GREATER WITHOUT DAMAGE OR SEPARATION FROM THE SIGN ENCLOSURE.

6. LETTERS FOR STREET NAMES SHALL BE 12" SERIES D, UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, AND SHALL BE UPPER AND LOWERCASE. IF NECESSARY TO MAKE SPACING FIT, 12" SERIES C LETTERS MAY BE USED. LOWER CASE LETTERS SHALL BE 9" IN HEIGHT. LETTERS FOR CARDINAL DIRECTION, STREET NAME SUFFIX, AND BLOCK NUMBER SHALL BE 5" SERIES C, AND SHALL BE IN ALL UPPER CASE.

7. APPROVAL OF SHOP DRAWING OF SIGNS FACE LAYOUT BY THE ENGINEER IS REQUIRED PRIOR TO FABRICATION OF SIGN PANELS.

<table>
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<tr>
<th>AGENCY APPROVED</th>
<th>B</th>
<th>C</th>
<th>H</th>
<th>L</th>
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<td>DWG. NO.</td>
<td>818.S1</td>
<td>SHEET 4 OF 5</td>
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"L" BRACKET

BANDABLE MOUNTING BRACKET
NOTES:

1. N. E. S. OR W REQUIRED ON ALL BLOCK NUMBER SIGNS WITH A SPACE BETWEEN THE LETTER AND THE NUMBERS. (I.E. W 6900)

2. STREET NAME SIGN WIRING TO RUN THROUGH TWO (2) SEAL-TITE 90° FITTINGS WITH LIQUID-TIGHT FLEXIBLE CONDUIT. USE A DRIP LOOP SUFFICIENT ENOUGH TO ALLOW SIGN TO SWING FREELY.
NOTES:

1. COMPLETE ASSEMBLY SHALL BE HOT-DIP GALVANIZED OR PRIME-PAINTED AS REQUIRED BY THE ENTITY.
2. COMPLETE ASSEMBLY SIMILAR TO PUMCO PART NO. 207-769-6.
3. THIS ASSEMBLY TO BE USED ON EXISTING 30' POLES ONLY.
CLAMP RANGE
3 3/4" TO 4" O.D.

8" SPAN (NOM.)

4 *

12" STRAIGHT

6' 3" RISE

21' 7/8" R.

2" STD. PIPE
(2.375" O.D.)

CLAMP RANGE
3 3/4" TO 4" O.D.

EXISTING ROUND STEEL POLE
W/ SIMPLEX ATTACHMENT

EXISTING ARM ATTACHMENT
(ONE BOLT SIMPLEX)
USE FOR WIRING ENTRANCE

BRACKET RATING

MAX. LUMINAIRE AREA = 2.7 FT²
MAX. LUMINAIRE WT. = 57 LBS.
(4) 1/2" - 13 N.C. X 2" HEX HEAD MACH. BOLTS W/(4) 1/2" - 13 N.C. HEX. NUTS (GALVANIZED)

CLAMP RANGE
3 3/4" TO 4" O.D.

EXISTING ROUND STEEL POLE W/ SIMPLEX ATTACHMENT

EXISTING ARM ATTACHMENT (ONE BOLT SIMPLEX) USE FOR WIRING ENTRANCE

BRACKET RATING
MAX. LUMINAIRE AREA = 2.7 FT²
MAX. LUMINAIRE WT. = 57 LBS.

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

RETROFIT STREETLIGHT MAST ARM
SPECIAL NOTE: POLE SHALL NOT BE DRILLED FOR CLAMSHELL UNTIL AFTER INSTALLATION OF POLE.

NOTES:
1. DRILLING OF POLE TO BE ORIENTED ACCORDING TO POLE LAYOUT, SPECIFICATIONS, AND ENGINEER.
2. DIMENSIONS ARE FROM CURB LEVEL.
3. DIMENSIONS ARE TO WIRE INLET HOLE ONLY. USE MANUFACTURER’S TEMPLATE TO LOCATE ALL OTHER HOLES.
4. ALL HOLES ARE TO CONFORM TO MANUFACTURER’S RECOMMENDATIONS.
NOTE:

FOR POLE LOCATION ON RIGHT TURN ISLAND SEE DRAWING NO. 887.
OVERLAP ALL CUTS TO MAINTAIN FULL SLOT DEPTH FOR WIRES

3/8" X 2" MIN.

DETECTOR SEALANT (FLUSH W/ SURFACE)

A-A

A-A (AFTER INSTALLATION)
NOTE:
PATCH SLOT AND HOLE WITH EPOXY, REMOVE OVERFLOW BEFORE IT HARDENS.
NOTE:
1. 4 TURNS OF WIRE SHOWN. ALWAYS INSTALL 4 TURNS OF CABLE IN DUCT UNLESS OTHERWISE SPECIFIED ON THE PLANS. WINDING DIRECTION SHALL BE INDICATED ON WIRE.

SEE DRAWING NO. 827 FOR METHOD OF INSTALLING PULL BOX.

DEPTH TO ALLOW 3/4" FROM TOP WIRE TO SURFACE

3/8"

WIRING DIAGRAM

SECTION A-A

SECTION B-B

SAWCUT DIAGRAM

SEE DRAWING NO. 826 FOR SAWCUT DETAILS.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

AGENCY APPROVED

B C H L M N

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

ONE INDUCTION LOOP

FOR ONE TRAVEL LANE

DATE

DWG. NO. 828
NOTE:
2 TURNS OF WIRE SHOWN. ALWAYS INSTALL 2 TURNS OF CABLE INDUCT UNLESS OTHERWISE SPECIFIED ON PLANS. WINDING DIRECTION SHALL BE INDICATED ON WIRE.

SEE DRAWING NO. 827 FOR METHOD OF INSTALLING PULL BOX.

WIRING DIAGRAM

DIRECTION OF TRAVEL

DEPTH TO ALLOW 3/4" FROM TOP WIRE TO SURFACE 3/8"

A-A

SAWCUT DIAGRAM

SEE DRAWING NO. 826 FOR SAWCUT DETAILS.
NOTE:
2 TURNS OF WIRE SHOWN. ALWAYS INSTALL 2 TURNS OF CABLE IN DUCT UNLESS OTHERWISE SPECIFIED ON PLANS. WINDING DIRECTION SHALL BE INDICATED ON WIRE.

WIRING DIAGRAM

SEE DRAWING NO. 827 FOR METHOD OF INSTALLING PULL BOX

A-A

SAWCUT DIAGRAM

SEE DRAWING NO. 826 FOR SAWCUT DETAILS.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

SPECIFICATION REFERENCE

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

TWO INDUCTION LOOPS

FOR TWO TRAVEL LANES

DATE  DWG. NO.  829  SHEET  2 OF 2
NOTE:
2 Turns of wire shown. Always install 2 turns of cable in duct unless otherwise specified on plans. Winding direction shall be indicated on wire.

WIRING DIAGRAM

SEE PLANS

DIRECTION OF TRAVEL

DEPTH TO ALLOW 3/4" FROM TOP WIRE TO SURFACE.

3/8"

SAWCUT DIAGRAM

SEE DRAWING NO. 826 FOR SAWCUT DETAILS.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

ONE INDUCTION LOOP
FOR THREE TRAVEL LANES

DATE DWG. NO. 830 SHEET 1 OF 2
NOTE:

2 TURNS OF WIRE SHOWN. ALWAYS INSTALL 2 TURNS OF CABLE IN DUCT UNLESS OTHERWISE SPECIFIED ON PLANS. WINDING DIRECTION SHALL BE INDICATED ON WIRE.
NOTE:
2 TURNS OF WIRE SHOWN. ALWAYS INSTALL 2 TURNS OF CABLE IN DUCT UNLESS OTHERWISE SPECIFIED ON PLANS. WINDING DIRECTION SHALL BE INDICATED ON WIRE.

SEE DRAWING NO. 827 FOR METHOD OF INSTALLING PULL BOX.

DIRECTION OF TRAVEL

SEE PLANS 48" MAX

WINDING DIRECTION

DEPTH TO ALLOW 3/4" FROM TOP WIRE TO SURFACE.

3/8"

A-A

SAWCUT DIAGRAM

SEE DRAWING NO. 826 FOR SAWCUT DETAILS.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

AGENCY APPROVED  B  C  H  L  M  N

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

ONE INDUCTION LOOP
FOR FOUR TRAVEL LANES

DATE  DWG. NO. 831  SHEET 1 OF 2
NOTE:
2 Turner of wire shown. Always install 2 turns of cable in duct unless otherwise specified on plans. Winding direction shall be indicated on wire.

WINDING DIRECTION

SEE DRAWING NO. 827 FOR METHOD OF INSTALLING PULL BOX

DEPTH TO ALLOW 3/4" FROM TOP WIRE TO SURFACE

6"

SAW CUT DIAGRAM

SEE DRAWING NO. 826 FOR SAWCUT DETAILS.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

SPECIFICATION REFERENCE

AGENCY APPROVED

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

FOUR INDUCTION LOOPS
FOR FOUR TRAVEL LAKES

DATE
DWG. NO. 831
SHEET 2 OF 2
NOTES:
1. 4 TURNS OF WIRE SHOWN. ALWAYS INSTALL 4 TURNS OF CABLE IN DUCT UNLESS OTHERWISE SPECIFIED ON THE PLANS. WINDING DIRECTION SHALL BE INDICATED ON WIRE.
2. TRAFFIC ENGINEER SHALL ESTABLISH LATERAL LOCATIONS ON ROADS WITHOUT MARKED LANES.

WIRING DIAGRAM

DIRECTION OF TRAVEL

OMIT THIS LOOP WHEN 2 LOOPS ARE SHOWN ON THE PLANS.

SAWCUT DIAGRAM

DEPTH TO ALLOW 3/4" FROM TOP WIRE TO SURFACE.

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

THREE INDUCTION LOOPS
FOR THREE TRAVEL LANES

DATE DWG. NO. 832
NOTES:
1. FRONT OF THE LOOP MUST EXTEND INTO THE CROSSWALK 2' TO 4'.
2. INSULATION TEST FOR EACH LOOP TO GROUND MUST NOT READ LESS THAN 50 MEG OHMS TO INFINITY. (USING MEGGER)
3. USE COLOR CODED 4 TURN CABLE IN DUCT AS SHOWN.
4. SEE DRAWING NO. 836 FOR WIRING CONNECTIONS.

SEE DRAWING NO. 827 FOR METHOD OF INSTALLING PULL BOX ALL WIRES INTO PULL BOX MUST BE TAGGED AND WINDING DIRECTION SHALL BE MARKED.

SEE DRAWING NO. 836 FOR WIRE CONNECTIONS.
SEE DRAWING NO. 826 FOR SAWCUT DETAILS.

WIRING DIAGRAM

PROFESSIONAL ELECTRICAL ENGINEER STAMP ON FILE

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<tr>
<td></td>
<td>MULTIPLE LOOP SYSTEM FOR</td>
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| DATE 12-12-96 | DWG. NO. 833 |
NOTES:

1. FRONT OF THE LOOP MUST EXTEND IN THE CROSSWALK 2' TO 4'.

2. INSULATION TEST FOR EACH LOOP TO GROUND MUST NOT READ LESS THAN 50 MEG OHMS TO INFINITY. (USING MEGGER)

3. USE COLOR CODED 4 TURN CABLE IN DUCT AS SHOWN.

SEE DRAWING NO. 827 FOR METHOD OF INSTALLING PULL BOX ALL WIRES INTO PULL BOX MUST BE TAGGED AND WINDING DIRECTION SHALL BE MARKED.

SEE DRAWING NO. 836 FOR WIRE CONNECTIONS.
SEE DRAWING NO. 826 FOR SAWCUT DETAILS.

WIRING DIAGRAM

MULTIPLE LOOP SYSTEM FOR LEFT TURN POCKET
TYPE "QUADRUPOLE" LOOP INSTALLATION

WIRING DIAGRAM

WHENEVER MORE THAN ONE LOOP TERMINATES IN A PULL BOX, ALL LEADS MUST BE TAGGED AND IDENTIFIED.

NOTES:
1. FOR ALL LOOPS, TWO TURNS ARE REQUIRED.
2. FRONT OF LOOP MUST EXTEND IN THE CROSSWALK 2' TO 4".

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

TYPE "QUADRUPOLE" LOOP INSTALLATION

DATE

DWG. NO. 835
NOTES:

1. INSULATION FOR EACH LOOP MUST NOT READ LESS THAN 50 MEG OHMS TO INFINITY. (USING MEGGER)
2. USE COLOR CODED 4 TURN CABLE IN DUCT AS SHOWN.
3. FRONT OF LOOP MUST EXTEND IN THE CROSSWALK 2' TO 4'.

SAWCUT DIAGRAM

WIRING DIAGRAM

SEE DRAWING NO. 827 FOR METHOD OF INSTALLING PULL BOX. ALL WIRES TO PULL BOX MUST BE TAGGED AND WINDING DIRECTION SHALL BE MARKED.
NOTES:
1. CAST ALUMINUM HOUSING.
2. PAINT COLOR SHALL MATCH SIGNAL HOUSING.

NOTES:
1. AT LOCATIONS WHERE "WALK" "DON'T WALK" SIGNALS ARE PROVIDED, PROVIDE BLACK LETTERING ON A WHITE BACKGROUND ON PORCELAIN SIGNS.
2. AT LOCATIONS WHERE "SYMBOLIC" SIGNALS ARE PROVIDED, PROVIDE WHITE FIGURES ON A BLACK BACKGROUND.
3. MOUNTING SURFACE FOR THE SIGNS SHALL BE 9" X 12".

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

PEDESTRIAN PUSH BUTTON DETECTORS

DATE 08-09-18 | DWG. NO. 838
NOTES:

1. All traffic signal backplates shall have a 2-inch retroreflective adhesive sheeting border on the entire outer perimeter of the front side of the backplate.
2. Retroreflective sheeting shall be fluorescent yellow, ASTM D4955-13 Type X or better.
3. The retroreflective sheeting border shall have a minimum of 0.5" clearance from all louvers. No retroreflective sheeting shall be placed over any louvered area.
4. Retroreflective sheeting border shall be installed by the manufacturer, and modifications shall not be made by the contractor.
5. The back plate with retroreflective sheeting border shall be from the same manufacturer as the signal head assembly. The complete head assembly, including the backplate, shall be capable of withstanding winds of 90 MPH without damage or separation of any parts from the signal head assembly.
3-SECTION ASSEMBLY

NOTES:

1. ALL TRAFFIC SIGNAL BACKPLATES SHALL HAVE A 2-INCH RETROREFLECTIVE ADHESIVE SHEETING BORDER ON THE ENTIRE OUTER PERIMETER OF THE FRONT SIDE OF THE BACKPLATE.
2. RETROREFLECTIVE SHEETING SHALL BE FLUORESCENT YELLOW, ASTM D4955-13 TYPE XI OR BETTER.
3. THE RETROREFLECTIVE SHEETING BORDER SHALL HAVE A MINIMUM OF 0.5" CLEARANCE FROM ALL LOUVERS. NO RETROREFLECTIVE SHEETING SHALL BE PLACED OVER ANY LOUVERED AREA.
4. RETROREFLECTIVE SHEETING BORDER SHALL BE INSTALLED BY THE MANUFACTURER, AND MODIFICATIONS SHALL NOT BE MADE BY THE CONTRACTOR.
5. THE BACK PLATE WITH RETROREFLECTIVE SHEETING BORDER SHALL BE FROM THE SAME MANUFACTURER AS THE SIGNAL HEAD ASSEMBLY. THE COMPLETE HEAD ASSEMBLY, INCLUDING THE BACKPLATE, SHALL BE CAPABLE OF WITHSTANDING WINDS OF 90 MPH WITHOUT DAMAGE OR SEPARATION OF ANY PARTS FROM THE SIGNAL HEAD ASSEMBLY.

4-SECTION ASSEMBLY
NOTES:

1. ALL TRAFFIC SIGNAL BACKPLATES SHALL HAVE A 2-INCH RETROREFLECTIVE ADHESIVE SHEETING BORDER ON THE ENTIRE OUTER PERIMETER OF THE FRONT SIDE OF THE BACKPLATE.
2. RETROREFLECTIVE SHEETING SHALL BE FLUORESCENT YELLOW, ASTM D495-13 TYPE XI OR BETTER.
3. THE RETROREFLECTIVE SHEETING BORDER SHALL HAVE A MINIMUM OF 0.5" CLEARANCE FROM ALL LOUVERS. NO RETROREFLECTIVE SHEETING SHALL BE PLACED OVER ANY LOUVERED AREA.
4. RETROREFLECTIVE SHEETING BORDER SHALL BE INSTALLED BY THE MANUFACTURER, AND MODIFICATIONS SHALL NOT BE MADE BY THE CONTRACTOR.
5. THE BACKPLATE WITH RETROREFLECTIVE SHEETING BORDER SHALL BE FROM THE SAME MANUFACTURER AS THE SIGNAL HEAD ASSEMBLY. THE COMPLETE HEAD ASSEMBLY, INCLUDING THE BACKPLATE, SHALL BE CAPABLE OF WITHSTANDING WINDS OF 80 MPH WITHOUT DAMAGE OR SEPARATION OF ANY PARTS FROM THE SIGNAL HEAD ASSEMBLY.
PAINT: FLAT BLACK
SHOWN 5 SECTION, 12" SIGNAL HEAD BACKPLATE WITH ELEVATOR PLUMBIZER
REFER TO DRAWING NO. 863
NOTES:
1. ALL SIGNALS ARE 12" NOMINAL.
2. FOR ITEMIZED PARTS, SEE DRAWING NO. 845.
3. FOR ARROW LENS SEE DRAWING NO. 890.
NOTES:
1. ALL SIGNALS ARE 12" NOMINAL.
2. FOR ITEMIZED PARTS, SEE DRAWING NO. 845.
3. FOR ARROW LENS SEE DRAWING NO. 890.

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<td>ELEVATOR PLUMBIZER</td>
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<td>3.</td>
<td>POLE PLATE WITH WIRE GUIDE</td>
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<td>SIDE BRACKET MOUNTED ADAPTER WITH TERMINAL COMPT.</td>
<td>880</td>
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<tr>
<td>18.</td>
<td>POST TOP MOUNTED ADAPTER WITH TERMINAL COMPT.</td>
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<td>19.</td>
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<td>POLE PLATE</td>
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<td>24.</td>
<td>1-1/2&quot; MENERALLAC STRAP OR APPROVED EQUAL</td>
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NOTES:
1. ALL SIGNALS ARE 12" NOMINAL (GLASS).
2. FOR ITEMIZED PARTS, SEE DRAWING NO. 845.

<table>
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NOTES:
1. ALL SIGNALS ARE 12" NOMINAL (GLASS).
2. FOR ITEMIZED PARTS, SEE DRAWING NO. 845.
NOTES:

1. ON LOWER ASSEMBLY, ALL INDICATIONS ARE 12" NOMINAL (GLASS).

2. SEE DRAWING NO. 890 FOR ARROW LENS.

3. ON TOP ASSEMBLY, USE M-3 WITH BACKPLATE.

4. SEE STANDARD SPECIFICATIONS FOR PROGRAMMED VISIBILITY HEAD.

5. SEE DRAWING NO. 845 FOR ITEMIZED PARTS.

6. SEE SIGNAL PLANS FOR R OR RED ARROW INDICATION.
NOTES:
1. PROVIDE BACKPLATE ON A-8T.
2. ALL INDICATIONS ARE 12" NOMINAL (GLASS).
3. SEE DRAWING NO. 890 OR ARROW LENS.
4. SEE DRAWING NO. 845 FOR ITEMIZED PARTS.
5. SEE SIGNAL PLANS FOR R OR RED ARROW INDICATION.
NOTES:

1. FOR ITEMIZED PARTS SEE DRAWING NO. 845.
2. FOR ARROW LENS SEE DRAWING NO. 890.
3. PROVIDE BACKPLATE ON A-13T ONLY.
4. ALL SIGNALS ARE 12" NOMINAL (GLASS).
NOTES:
1. ALL SIGNALS ARE 12” NOMINAL (GLASS).
2. FOR ITEMIZED PARTS, SEE DRAWING NO. 845.
3. FOR ARROW LENS SEE DRAWING NO. 890.
4. SEE PLANS FOR BACKPLATE REQUIREMENTS.

SPECIFICATION REFERENCE

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DATE

DWG. NO.

852
NOTES:

1. ALL SIGNALS ARE 12' NOMINAL (GLASS).
2. FOR ITEMIZED PARTS SEE DRAWING NO. 845.
3. FOR ARROW LENS SEE DRAWING NO. 890.
4. SEE PLANS FOR BACKPLATE REQUIREMENTS.
5. OPTIONAL 3° CUT-OFF LOUVERS ON RED, YELLOW AND GREEN BALL INDICATIONS MAY BE PROVIDED AS DIRECTED BY THE TRAFFIC ENGINEER.
NOTES:

1. FOR ITEMIZED PARTS SEE DRAWING NO. 845.
2. FOR ARROW LENS SEE DRAWING NO. 890.
3. SEE PLANS FOR BACKPLATE REQUIREMENTS.
4. ALL SIGNALS ARE 12" NOMINAL (GLASS).

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NOTES:
1. ALL SIGNALS ARE 12" NOMINAL (GLASS)
2. FOR ITEMIZED PARTS, SEE DRAWING 845.
NOTES:

1. SEE STANDARD SPECIFICATIONS FOR PROGRAMMED VISIBILITY HEAD.
2. ALL M-2 INDICATIONS ARE 12" NOMINAL (GLASS).
3. SEE DRAWING NO. 845 FOR ITEMIZED PARTS.
4. SEE SIGNAL PLANS FOR BALL OR ARROW INDICATIONS.

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NOTES:

1. ALL SIGNALS ARE 12" NOMINAL.
2. FOR ITEMIZED PARTS, SEE DRAWING 845.

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

PROTECTED PERMISSIVE
MAST ARM SIGNAL ASSEMBLY
TYPE M-4

DATE 07-01-14  DWG. NO. 857
NOTES:
1. SEE DRAWING NO. 845 FOR ITEMIZED PARTS.
2. SEE DRAWING NO. 890 FOR ARROW LENS.
3. ALL INDICATIONS ARE 12" NOMINAL. SEE SUB-SECTION 623 T.02.08 FOR SPECIFICATIONS.
4. SEE SIGNAL PLANS FOR BACKPLATE REQUIREMENTS.
5. SEE SIGNAL PLANS FOR R OR RED ARROW INDICATION.
6. ALL BOTTOM NIPPLES ARE 18" AND TOP NIPPLES ARE 18 1/2".

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UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SIGNAL ASSEMBLIES
B-1T, B-2T, B-3T

DATE: 10-9-08  DWG. NO. 858
NOTES:
1. SEE DRAWING NO. 845 FOR ITEMIZED PARTS.
2. SEE DRAWING NO. 890 FOR ARROW LENS.
3. ALL INDICATIONS ARE 12" NOMINAL (GLASS).
4. SEE SIGNAL PLANS FOR BACKPLATE REQUIREMENTS.
5. SEE SIGNAL PLANS FOR R OR RED ARROW INDICATION.
6. ALL BOTTOM NIPPLES ARE 18" AND TOP NIPPLES ARE 18 1/2".
NOTES:

1. SEE DRAWING NO. 845 FOR ITEMIZED PARTS.

2. SEE STANDARD SPECIFICATIONS FOR PROGRAMMED VISIBILITY HEADS.

3. SEE SIGNAL PLANS FOR BACKPLATE REQUIREMENTS.

4. SEE SIGNAL PLANS FOR R OR RED ARROW INDICATION.

5. ALL BOTTOM NIPPLES ARE 18" AND TOP NIPPLES ARE 18 1/2".
NOTES:
1. FOR ITEMIZED PARTS SEE DRAWING NO. 845.
2. FOR ARROW LENS SEE DRAWING NO. 890.
3. SEE PLANS FOR BACKPLATE REQUIREMENTS.
4. ALL SIGNALS ARE 12" NOMINAL. SEE SUB-SECTION 623 T.02.08 FOR SPECIFICATIONS.
5. OPTIONAL 3" CUTOFF LOUVERS ON RED, YELLOW AND GREEN BALL INDICATIONS ON 5-SECTION HEADS MAY BE PROVIDED AS DIRECTED BY THE TRAFFIC ENGINEER.

AGENCY APPROVED

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SIGNAL ASSEMBLIES
B-14T

DATE: 10-9-08      DWG. NO. 863
NOTES:
1. ALL SIGNALS ARE 12" NOMINAL (GLASS).
2. FOR ITEMIZED PARTS SEE DRAWING 845.
3. FOR ARROW LENS SEE DRAWING 890.
4. SEE PLANS FOR BACKPLATE REQUIREMENTS.
5. OPTIONAL 3" CUTOFF LOUVERS ON RED, YELLOW AND GREEN BALL INDICATIONS ON 5-SECTION HEADS MAY BE PROVIDED AS DIRECTED BY THE TRAFFIC ENGINEER.
NOTES:
1. ALL BACKPLATES SHALL BE LOUVERED.
2. ALL LENSES SHALL BE GLASS.
3. OPTIONAL 3° CUTOFF LOUVERS ON RED, YELLOW AND GREEN BALL INDICATIONS MAY BE PROVIDED AS DIRECTED BY THE TRAFFIC ENGINEER.

LEFT TURN YIELD ON GREEN

R10-12
24" X 30" MIN.

optional cutoff louvers
see note 3

POST MOUNTING

SIDE VIEW

PLUMBIZER

backs

backplate

12' pole

agency approved

specification reference

uniform standard drawings
clark county area

protected / permissive
m-5 signal heads

05-12-94 865 1 of 4
NOTES:
1. ALL BACKPLATES SHALL BE LOUVERED.
2. ALL LENSES SHALL BE GLASS.
3. OPTIONAL CUTOFF LOUVERS ON RED, YELLOW AND GREEN BALL INDICATIONS MAY BE PROVIDED AS DIRECTED BY THE TRAFFIC ENGINEER.

MAST ARM MOUNTING

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AGENCY APPROVED

DATE 5-12-94  DWG. NO. 865  SHEET 2 OF 4
## FW 2933 AND SIGNAL ASSEMBLY

**FRAMEWORK -- CLUSTER MOUNTING**
1 WAY, 5 COL., 12" ALUMINUM SIGNAL
WITH ELEVATOR PLUMIFIER

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## specification reference

**UNIFORM STANDARD DRAWINGS**
CLARK COUNTY AREA

**TYPE: M-5 ASSEMBLIES AND PARTS LIST**

**AGENCY APPROVED**

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<td>4 OF 4</td>
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NOTE: TAMPER-PROOF SCREWS TO BE USED.

PECDESTRIAN PUSH BUTTON SIGN DETAIL
NOTES:

1. ALL BACKPLATES SHALL BE LOUVERED.
2. ALL LENSES SHALL BE GLASS.
3. OPTIONAL 3° CUTOFF LOUVERS ON RED, YELLOW AND GREEN BALL INDICATIONS MAY BE PROVIDED AS DIRECTED BY THE TRAFFIC ENGINEER.
STANDARD FULL CIRCLE VISOR

STANDARD ANGLE VISOR

VISORS (FOR 8" HEADS)
PAINT: FLAT BLACK ON INSIDE, OUTSIDE PAINT COLOR SHALL MATCH SIGNAL HOUSING.
STANDARD FULL CIRCLE VISOR

STANDARD ANGLE VISOR

SECTION A-A

SECTION B-B

6 VANE 3° CUTOFF
PAINT: FLAT BLACK

3 VANE 7° CUTOFF

VISORS ( FOR 12" HEADS )
PAINT: FLAT BLACK ON INSIDE,
OUTSIDE PAINT COLOR SHALL MATCH SIGNAL HOUSING.

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

LOUVERS AND VISORS
FOR 12 INCH SIGNALS

DATE DWG. NO. SHEET
870 2 OF 3
NOTE:
ALL BOLTS, NUTS AND WASHERS SHALL BE BRASS OR STAINLESS STEEL.

انون
BOLT LOCK WASHER
LOCK NUT

SECTION A-A
FERROUS SPECIAL TEE
PAINT COLOR SHALL MATCH SIGNAL HOUSING

72 TEETH - 1/16" HIGH ALL AROUND
1-1/2" PIPE THREAD

FERROUS SPECIAL ELBOW
PAINT COLOR SHALL MATCH SIGNAL HOUSING

72 TEETH - 1/16" HIGH ALL AROUND
1-1/2" PIPE THREAD

POST TOP MOUNTED BRACKET WITH SERRATED OFFSET MOUNT.
(USE FOR ALL POST TOP MOUNTINGS NOT REQUIRING SIDE PORTS)

MATERIAL: BRONZE
PAINT COLOR SHALL MATCH SIGNAL HOUSING

6-3/8" X 5/8" SQ. HD. SET SCREW (CADMIUM PLATED STEEL)

1-1/2" PIPE THREAD

4-1/2" INSIDE
4-5/8"
1. MATERIAL-BRONZE
2. PAINT COLOR SHALL MATCH SIGNAL HOUSING
3. PROVIDE WASHERS SHOWN AND 1/2" PLATED BOLTS, LENGTH FOR STEEL POLE MOUNTING.

NOTES: DO NOT PROVIDE UNLESS SPECIFIED ON THE PLANS.
NOTES:
1. MATERIAL - BRONZE
2. PAINT COLOR SHALL MATCH SIGNAL HOUSING

ELEVATOR PLUMBIZER

SLOTTED HOLE FOR 3/8" THRU BOLT BOTH SIDES

2" DIA

CADMIUM PLATED STEEL
3-3/8" X 3/4" SQ. HD.
SET SCREWS

2.3/4"
NOTES:

1. MATERIAL-BRONZE
2. PAINT COLOR SHALL MATCH SIGNAL HOUSING.
3. PROVIDE WASHERS SHOWN AND 1/2" PLATED BOLTS, LENGTH FOR STEEL POLE MOUNTING.

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

POLE PLATE
WITH WIRE GUIDE DETAILS

AGENCY APPROVED

| B | C | H | L | M | N |
---|---|---|---|---|---|

DATE DWG. NO. 876
**LIST OF MATERIALS**

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<tr>
<th>ITEM</th>
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<th>DESCRIPTION</th>
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<tr>
<td>1.</td>
<td>2</td>
<td>1/4&quot; - 20 UNC-2A X 3/8&quot; SOCKET, CUP SET SCREW</td>
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<td>2.</td>
<td>1</td>
<td>CORK GASKET TO MATCH COVER</td>
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<td>3.</td>
<td>1</td>
<td>3/32&quot; STEEL COVER WITH 2 BOLT HOLES OPPOSITE</td>
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<td>4.</td>
<td>2</td>
<td>STANDARD LOCK WASHER</td>
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<td>5.</td>
<td>5</td>
<td>3/8&quot; - 16 UNC-2A X 1&quot; BRASS HEX. HD CAP SCREW 2 REQ.</td>
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**NOTES:**

1. PAINT COLOR AND FINISHING SHALL MATCH SIGNAL HOUSING
2. MATERIAL: HIGH STRENGTH CAST ALUMINUM ALLOY

---

**SPECIFICATION REFERENCE**

**UNIFORM STANDARD DRAWINGS**

**CLARK COUNTY AREA**

**4 WAY CENTER HUB**
NOTES:

1. REAM FOR 1-1/2" IPS. PROVIDE SET SCREW.
2. ALL OTHER OPENINGS SHALL BE THREADED.
3. PAINT COLOR SHALL MATCH SIGNAL HOUSING.
NOTES:
1. MATERIAL - ALUMINUM
2. PAINT COLOR SHALL MATCH SIGNAL HOUSING
3. PROVIDE 12 POSITION PRESSURE TYPE TERMINAL BLOCK MOUNTED INSIDE COMPARTMENT

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

POST TOP MOUNTED ADAPTER
WITH TERMINAL COMPARTMENT
NOTES:

1. MATERIAL - ALUMINUM
2. PAINT COLOR SHALL MATCH SIGNAL HOUSING
3. PROVIDE 12 POSITION PRESSURE TYPE TERMINAL BLOCK MOUNTED INSIDE COMPARTMENT

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<td>SIDE BRACKET MOUNTED</td>
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<td>ADAPTER WITH WIRE GUIDE</td>
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DATE | DWG. NO. 880
NOTES:

1. THE DEVICES WILL BE CONSTRUCTED OR CAST IN ACCORDANCE WITH SPECIAL PATENTED DEVICES, MATERIALS, AND PROCESSES.

2. SIGNAL HEAD MOUNT AND FLANGE ADAPTER WILL BE OF HIGH STRENGTH CAST ALUMINUM.

3. SIGNAL HEAD MOUNT SHALL BE FASTENED TO FLANGE ADAPTER BY MEANS OF FOUR COMMON STRUCTURAL STEEL BOLTS PER SPEC. EACH WITH TWO FLAT WASHERS.

4. ALL BOLTS, NUTS, AND WASHERS REQUIRED SHALL BE AS REGULARLY SUPPLIED BY THE MANUFACTURER.

5. ONE WAY MOUNT SHALL BE USED WHEN PLANS OR SPECIAL PROVISIONS CALL FOR ONE-WAY SIGNAL MAST ARM.

6. TWO WAY MOUNT SHALL BE USED WHEN PLANS OR SPECIAL PROVISIONS CALL FOR TWO-WAY SIGNAL MOUNTED ON SIGNAL MAST ARM.

7. TWO SIGNAL INDICATIONS SHALL BE MOUNTED BELOW THE MOUNT AND ALL REMAINING SIGNAL INDICATIONS MOUNTED ABOVE.

TAPERED ALUMINUM PLUMBING ADJUSTMENT WASHERS

(2 1/2" I.D. - 4" O.D. - MINIMUM THICKNESS TOGETHER APPROX. 1 1/8")

FOUR 7/8" DIA. EQUALLY SPACED HOLES CENTERED ON A 4 3/4" DIA. CIRCLE.

APPROX. 3/4" O.D.

APPROX. 3/4" I.D.

SEE DETAIL "A".

ONE WAY MOUNT

AGENCY APPROVED

B

C

H

L

M

N

SPECIFICATION REFERENCE

UNIFORM STANDARD DRAWINGS

CLARK COUNTY AREA

ONE WAY MOUNT

DATE

DWG. NO.

881
NOTES:

1. THE DEVICES WILL BE CONSTRUCTED OR CAST IN ACCORDANCE WITH SPECIAL PATENTED DEVICES, MATERIALS, AND PROCESSES.

2. SIGNAL HEAD MOUNT AND FLANGE ADAPTER WILL BE OF HIGH STRENGTH CAST ALUMINUM.

3. SIGNAL HEAD MOUNT SHALL BE FASTENED TO FLANGE ADAPTER BY MEANS OF FOUR COMMON STRUCTURAL STEEL BOLTS PER SPEC. EACH WITH TWO FLAT WASHERS, LOCK WASHER AND NUT.

4. ALL BOLTS, NUTS, AND WASHERS REQUIRED SHALL BE AS REGULARLY SUPPLIED BY THE MANUFACTURER.

5. ONE-WAY MOUNT SHALL BE USED WHEN PLANS OR SPECIAL PROVISIONS CALL FOR ONE-WAY SIGNAL MOUNTED ON SIGNAL MAST ARM.

6. TWO-WAY MOUNT SHALL BE USED WHEN PLANS OR SPECIAL PROVISIONS CALL FOR TWO-WAY SIGNAL MOUNTED ON SIGNAL MAST ARM.

7. TWO SIGNAL INDICATIONS SHALL BE MOUNTED BELOW THE MOUNT AND ALL REMAINING SIGNAL INDICATIONS MOUNTED ABOVE.

ONE-WAY MOUNT FOR 3M SIGNALS

32H
FLANGE TO BE WELDED TO MAST ARM SLIPFITTER 4" FROM THE END.

FLANGE DETAIL 2" WELDED TYPE ADAPTER

FLAT WASHER (FOUR)
3/4 x 3/8" DIA. BOLT AND NUT (FOUR)

MAST ARM

TAPERED ALUMINUM PLUMBING ADJUSTMENT WASHERS (TWO)
FLANGE WELDED TO MAST ARM OR FLANGE ADAPTOR (SEE DETAIL)

ASSEMBLY DETAIL

NOTE:

SIGNAL HEAD MOUNT

LOCK WASHER (FOUR)

FLAT WASHER (FOUR)
COUPLING FLANGE

SECTION THROUGH ONE-WAY MOUNT

FLANGE DETAIL 2" CLAMP TYPE ADAPTER

2-3/4" DIA. HOLE
5-3/4" DIA. 1/4" THK. MINIMUM
FOUR 7/16" DIA. HOLES EQ. SPACED ON A 4-3/4" DIA. BOLT CIRCLE

FLAT WASHER (FOUR)

FOUR 1/16" PROTRUSIONS FOR SIGNAL HEAD DEPRESSIONS ON BOTH EXTERIOR SIDES.

FILLET WELD

2-3/8" O.D.

SAFETY CHAIN HOLE

14 B STEEL - 1/4"
14 B ALUMINUM - 3/8"
1. ALTERNATE LOCATIONS FOR THE POLES MAY BE APPROVED BY THE AGENCY'S TRAFFIC ENGINEER.
NOTE:

1. ALTERNATE LOCATIONS FOR THE SIGNAL POLE MAY BE APPROVED BY THE AGENCY'S TRAFFIC ENGINEER.
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NOTE:
1. ALTERNATE LOCATIONS FOR THE SIGNAL POLE MAY BE APPROVED BY THE AGENCY'S TRAFFIC ENGINEER.
NOTE:
SIDEWALK RAMP S IN ACCORDANCE WITH DRAWING NO. 235 SHALL BE CONSTRUCTED. HANDICAPPED ACCESS MUST BE IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).

PEC. PUSH BUTTONS. SEE DWG NO. 808 FOR DRILLING DETAILS.

MOUNT SIGNAL ASSEMBLIES ON SIDE OF POLE, 180°OPPOSITE OF CURB LINE AS SHOWN. SEE DWG. 823 FOR DRILLING DETAILS.

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POLE LOCATION AND SIGNALS MOUNTING ON RIGHT TURN ISLANDS

DATE 12-12-96 DWG. NO. 887
NOTES:

1. THE AREA SHALL REMAIN ACCESSIBLE FOR THESE FOUNDATIONS.

2. TRAFFIC SIGNAL POLES SHALL REMAIN AT THE MIDDLE OF THE RETURN BEHIND THE SIDEWALK SO THAT THE OUTSIDE SIGNAL HEAD IS DIRECTLY ABOVE THE LEFT TURN LANE.

3. A TYPE "H" OR "L" FOUNDATION IS REQUIRED FOR MAST ARMS 45' OR LESS. SEE DRAWING NO. 721.

4. A TYPE "L" FOUNDATION IS REQUIRED FOR MAST ARMS LONGER THAN 45'. SEE DRAWING NO. 722.

5. A MINIMUM OF 48" SHALL BE MAINTAINED BETWEEN TRAFFIC SIGNAL POLE FOUNDATION "CRASH CAP" AND THE BACK OF THE CURB FOR WHEELCHAIR CLEARANCE.

6. THE TRAFFIC ENGINEER WILL MAKE THE FINAL DETERMINATION FOR THE LOCATION OF TRAFFIC SIGNAL POLES.
NOTE:
1. SEE PLANS FOR FOUNDATION TYPE.
### Table

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<tr>
<th></th>
<th>&lt; OR = 80 FT. ROW*</th>
<th>80 FT. TO 100 FT. ROW**</th>
<th>100 FT. OR GREATER ROW***</th>
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<tbody>
<tr>
<td>FOUNDATION</td>
<td>TYPE &quot;H&quot;</td>
<td>TYPE &quot;L&quot;</td>
<td>TYPE &quot;M&quot;</td>
</tr>
<tr>
<td>POLE</td>
<td>XX-30'</td>
<td>XX-A-30'</td>
<td>XX-B-30'</td>
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<tr>
<td>LUM. ARM</td>
<td>15'</td>
<td>15'</td>
<td>15'</td>
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<tr>
<td>LUMINAIRE</td>
<td>400v/120v</td>
<td>400v/120v</td>
<td>400v/120v</td>
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<tr>
<td>LVACTS COMM.</td>
<td>3'</td>
<td>3' (80 FT.)</td>
<td>4' (100 FT.)</td>
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* USE FOR 80 FT. R/W WHEN SINGLE LEFT TURN LANE IS REQUIRED.
** USE FOR 80 FT. R/W WHEN MULTIPLE TURN LANES ARE REQUIRED.
*** USE ONLY WHEN DIRECTED BY THE ENGINEER.

### Notes:

1. ALL TRAFFIC SIGNAL POLES SHALL BE GALVANIZED PER ASTMA-123.
2. ELECTRIC UTILITY TO SHOW FEEDER TO SERVICE PEDESTAL.
3. FOR POLE, POLE FOUNDATION, SERVICE PEDESTAL AND SERVICE PEDESTAL FOUNDATION DETAILS, SEE CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS.
4. EXTEND THE 2-2' PVC, THE 2-3' AND THE 1-PER TABLE PVC SCHEDULE 40, 5 FEET PAST EDGE OF PAVEMENT STUB AND CAP OR CONNECT TO THE EXISTING TRAFFIC SIGNAL CONDUIT.
5. ALL EMPTY CONDUIT WILL CONTAIN A SINGLE No. 8 AWG THW OR BARE COPPER WIRE FOR THE PURPOSE OF LOCATING THE CONDUIT.
NOTES:

1. ALL TRAFFIC SIGNAL POLES SHALL BE GALVANIZED PER ASTM A 123.

2. ELECTRIC UTILITY TO SHOW FEEDER TO SERVICE PEDESTAL.

3. FOR POLE, POLE FOUNDATION, SERVICE PEDESTAL AND SERVICE PEDESTAL FOUNDATION DETAILS, SEE CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS.

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** USE FOR 80 FT. R/W WHEN MULTIPLE TURN LANES ARE REQUIRED.
*** USE ONLY WHEN DIRECTED BY THE ENGINEER.
Specifications:

The arrow lens shall be glass and conform to the specifications as set forth in Technical Report No. 1, Revised 1986, by the Institute of Traffic Engineers and approved as a standard by the United States of America Standard Institute. Any future revisions acceptable and adopted by the U.S.A.S.I. shall automatically be part of this drawing specification.

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Uniform Standard Drawings
Clark County Area

12 Inch Arrow Lens

Date

DWG. No. 890
NOTE:
THERMOSTAT, FAN WIRING, AND TERMINAL BLOCK CONNECTIONS NOT SHOWN.

1. MAIN SWITCH.
2. 30 AMP CIRCUIT BREAKERS.
3. SIGNAL FLASH SWITCH INSIDE CABINET.
4. AUXILIARY DOOR SIGNAL FLASH SWITCH.
5. NEMA STD. PLUG RECEPTACLE WITH GROUNDING CONTACT.
6. RADIO FREQUENCY INTERFERENCE SUPPRESSOR.
7. SOLID STATE SIGNAL FLASHER (CABINET MFR. TO DETERMINE POLES AND CAPACITY, UNLESS OTHERWISE SPECIFIED)
8. SIGNAL FLASHING CONTROL RELAYS.

AC+ FOR CONTROLLER, AUX. EQUIPMENT TIMING DEVICES AND DETECTOR AMPLIFIERS.

AC+ LIGHTS

125 V, AC 60 Hz. SERVICE

SPECIFICATION REFERENCE: UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

AUXILIARY CABINET EQUIPMENT WIRING

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<td>AUXILIARY CABINET EQUIPMENT WIRING</td>
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Effective as of 08/09/2018