

**UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA  
VOLUME I**

**REVISION SET II  
1997 Release**

<b><u>DRAWING NUMBER AND TITLE</u></b>	<b><u>PAGE NUMBER(S)</u></b>	<b><u>NATURE OF CHANGE</u></b>	<b><u>APPROVAL DATE</u></b>
235 Sidewalk Ramp (4 Sheets)	41-41C	Changed transition transverse slopes and ramp slope to 2%. Increased ramp width to 5 feet. Revised Case I to place curb at back of ramp/walk. Case IV incorporated into Case I.	6/13/96
235.1 Sidewalk Ramp Location "T" Intersections	41.1	New Drawing.	"
104 Symbols 300 - 340 Street Lighting Section	4 60 - 100	Entire Streetlighting Section revised based on electrical engineering review.	12/12/96
601 - 626 Traffic Control Plans for Highway Work Zone	140 - 165	New Section containing traffic control plans.	1/9/97
249 Standard Street Name Sign Post Installation	55	Increased post size to 2" and height to sign bottom to 10'.	6/12/97
250 Street Name Signs Face Copy (1 of 2)	56	Revised sign heights, sign lengths, sign materials and lettering size.	"
250 Street Name Signs Letter Spacing (2 of 2)	56A	New drawing. Provides guidelines for legends on street name signs.	"
251 Street Name Sign Blanks	57	Sign blank heights, lengths and thicknesses revised. 5052-H38 material allowed.	"
502 Trench Backfill Unpaved Areas	122	Note 3 deleted. All references to slurry cement backfill revised to flowable backfill. Flowable backfill and crushed rock allowed in pipe zone.	"

<b><u>DRAWING NUMBER AND TITLE</u></b>	<b><u>PAGE NUMBER</u></b>	<b><u>NATURE OF CHANGE</u></b>	<b><u>APPROVAL DATE</u></b>
503 Trench Backfill Paved Areas (Street with 60' or Less R/W)	123	All references to slurry cement backfill revised to flowable backfill. Flowable backfill and crushed rock allowed in pipe zone. Word "Granular" removed from title block.	6/12/97
504 Trench Backfill with Flowable Backfill Paved Areas (Streets greater than 60' R/W)	124	All references to slurry cement backfill revised to flowable backfill. Flowable backfill and crushed rock allowed in pipe zone	"

Released June 1997

**FOREWORD**

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

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

**CITY OF LAS VEGAS**

Adopted by City Council action ..... November 4, 1987

**CITY OF HENDERSON**

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

**CITY OF NORTH LAS VEGAS**

Adopted by City Council action ..... November 4, 1987

**CITY OF BOULDER CITY**

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

**CITY OF MESQUITE**

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

**CLARK COUNTY**

Not Adopted ..... See Clark County Improvement Standards

**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. **This volume contains revisions made through June 1997.**

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, 301 East Clark Avenue, Suite 300, Las Vegas, Nevada, 89101.

1919 SOUTH JONES BLVD.  
SUITE B  
LAS VEGAS, NV 89102  
(702) 871-3621

T J K R O B C O N S U L T I N G E N G I N E E R S

April 4, 1997

Regional Transportation Commission  
301 East Clark Avenue, #300  
Las Vegas, Nevada 89101

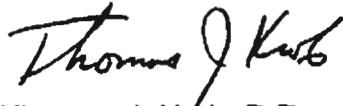
Attention: Kurt Weinrich, P.E., Director

Reference: Uniform Standard Drawings and Specifications Pertaining to  
Streetlighting

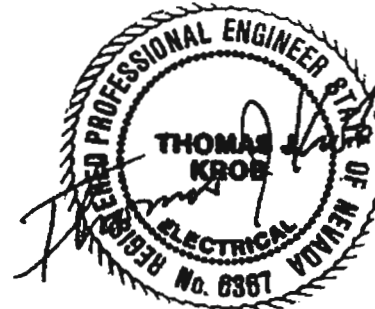
Dear Kurt:

I have reviewed the electrical portions of Volume I, Volume II, and Specification Section 623 of the Uniform Standard Drawings and Specifications. The drawings and specifications meet with my approval and are ready for distribution. I have affixed my stamp and signature on those drawings that are electrical in content. In addition, I have reviewed the electrical grounding portion of foundation detail drawing standards 321, 325 & 404.261, 202, 203, 205, 206, 207, 208, 209, 211, 213. These details also meet my approval.

Sincerely,  
T J Krob Consulting Engineers, Inc.



Thomas J. Krob, P.E.  
TJK/dm



4-4-97

**UNIFORM STANDARD DRAWINGS, CLARK COUNTY AREA**

**TABLE OF CONTENTS**

**VOLUME I**

**SECTION 100**

**SYMBOLS AND ABBREVIATIONS**

<b><u>DRAWING NUMBER</u></b>		<b><u>PAGE NUMBER</u></b>
101-104	Symbols	1-4
105-106	Abbreviations	5-6

**SECTION 200**

**STREET IMPROVEMENTS**

201	Minimum Back of Curb Radius	7
201.1	Additional Right-of-way Required at Major Intersections	7.1
202	Arterial Urban Area Street Sections (Clark County, City of Henderson, City of Boulder City and City of Mesquite)	8
203	Arterial Urban Area Street Sections (Cities of Las Vegas and North Las Vegas)	9
204	Collector Urban Area Street Sections (Clark County, City of Henderson, City of Boulder City and City of Mesquite)	10
205	Collector Urban Area Street Sections (Cities of Las Vegas and North Las Vegas)	11
206	Local Residential Urban Area Streets Sections (Clark County, City of Henderson, City of Boulder City and City of Mesquite)	12
207	Local Residential Urban Area Street Sections (Cities of Las Vegas and North Las Vegas)	13
208	Half Street Construction Sections	14
209	Access Roads	15
210	Private Street Sections	16
211	Knuckle	17
212	Cul-De-Sac	18
213	Hammerhead (Clark County and City of Mesquite Only)	19
214	Alley (Except Clark County)	20
215	Alley, Concrete (Except Clark County)	21
216	"L" Type Curb and Gutter	22
217	Roll Type Curb and Gutter Residential Area	23
217A	30" Roll Curb Residential Area	23A
218	Median Island Typical Section	24
219	"A" and "L" Type Island Curb	25
220	Tack on Island Curb	26

**SECTION 200**  
**STREET IMPROVEMENTS**  
**CONTINUED**

<b><u>DRAWING NUMBER</u></b>		<b><u>PAGE NUMBER</u></b>
221	Tack on Island (Except City of Henderson)	27
222	Residential Driveway Geometrics	28
222A	Commercial and Multi-Family Driveway Geometrics	28A
223	Residential Driveway	29
224	Commercial and Industrial Driveway (Option A)	30
225	Commercial and Industrial Driveway (Option B) or Private Street Access	31
226	Commercial and Industrial Driveway (Option B) (North Las Vegas)	32
227	Depressed Alley Driveway (City of Las Vegas)	33
228	Cross Gutter	34
229	Half Street Cross Gutter	35
230	Concrete Pavement Intersection Typical Layout	36
231	Concrete Pavement Typical Roadway Section	37
232	Concrete Pavement Construction Details	38
233	Concrete Pavement Joint Details	39
234	Sidewalk	40
234.1	Typical Bus Turnout	40.1
234.2	Bus Stop Loading Pad and Optional Sidewalk Ramp	40.2
235	Sidewalk Ramp	41-41C
235.1	Sidewalk Ramp Location - "T" Intersections	41.1
236	Sidewalk Drain	42
237	Concrete Barrier Rail	43
238	Precast Bumper Block	44
239	Type I Monument	45
240	Type II Monument	46
241	Type III Monument	47
242	Type IV Monument	48
243	Typical Monument Location	49
244	Typical Centerline Delineation	50
244A	Typical Lane Line Delineation	50A
244.1	Typical Delineation for Bike Facilities 100 Ft. or Greater Right-of-way	50.1
244.1A	Typical Delineation for Bike Facilities 100 Ft. Right-of-way	50.1A
244.2	Typical Delineation for Bike Facilities 80 Ft. Right-of-way	50.2
244.2A	Typical Delineation for Bike Facilities 80 Ft. Right-of-way	50.2A
244.3	Typical Delineation for Bike Facilities 60 Ft. Right-of-way (Parking on Both Sides)	50.3

**SECTION 200**  
**STREET IMPROVEMENTS**  
**CONTINUED**

<b><u>DRAWING NUMBER</u></b>		<b><u>PAGE NUMBER</u></b>
245	Typical Lane Delineation in Transition Sections	51
	Details for Typical Lane Delineation in Transition Sections	51A
	Typical Lane Delineation in Transition Sections Where Traffic Flow in Same Direction	51B
245.1	Typical Lane Configuration for Major Street Intersections and Median Detail	51.1-51.1A
246	Standard Pavement Markers-Added Turn Lane	52
246.1	Bike Lane Signing & Striping Intersection with Exclusive Right-Turn Lane	52.1
246A	Standard Pavement Markers - Forced Turn Lane	52A
247	Marker Details and Lane Marker Schedule	53
248	Median Nose Markings	54
249	Standard Street Name Sign Post Installation	55
250 (SH1)	Street Name Signs Face Copy	56
250 (SH2)	Street Name Signs Letter Spacing	56A
251	Street Name Sign Blanks	57
252	Chain Link Fence (72" High or Less)	58
253	Chain Link Gates	59
254	Crosswalk Markings	59A

**SECTION 300**  
**STREET LIGHTING**

300	Streetlight Locations General Notes	60
301	Streetlight Locations at Intersections - 100' or Greater/100' or Greater Right-of-Way	61
302	Streetlight Locations at Intersections - 100' or Greater/80' Right-of-Way	62
303	Streetlight Locations at Intersections - 100' or Greater/60' Right-of-Way	63
304	Streetlight Locations at Intersections - 100' or Greater/51' or Less Right-of-Way	64
305	Streetlight Locations at Intersections - 80'/80' Right-of-Way	65
306	Streetlight Locations at Intersections - 80'/60' Right-of-Way	66
307	Streetlight Locations at Intersections - 80'/51' or Less Right-of-Way	67
308	Streetlight Locations at Intersections - 60'/60' Right-of-Way	68
309	Streetlight Locations at Intersections - 60'/51' or Less Right-of-Way	69

**SECTION 300**  
**STREET LIGHTING**  
**CONTINUED**

<b><u>DRAWING NUMBER</u></b>		<b><u>PAGE NUMBER</u></b>
310	Streetlight Locations at Intersections - 51' or Less/51' or Less Right-of-Way	70
311	Streetlight Standards Maximum Spacing (80 Ft. or Greater Right-of-Way)	71
311A	Streetlight Standards Maximum Spacing (60 Ft. or Less Right-of-Way)	71A
312	Streetlight Locations on Traffic Islands - 100' or Greater Right-of-Way	72
313	Streetlight Standard General Notes (80 Ft. or Greater Right-of-Way)	73
314	Streetlight Standard with 2" Pipe Arm	74
315	Streetlight Standard with Double 2" Pipe Arm	75
316	Streetlight Standard with Tapered Mast Arm	76
317	Streetlight Standard with Double Tapered Mast Arm	77
318	Pole Top and Arm Mounting Details	78
319	Lower Pole Details for Pipe and Mast Arm Poles	79
320	Lighting Standard Setback	80
320A	Lighting Standard Setback from Block Wall	80A
321	Lighting Standard Foundation	81
322	Base Adaptor Plate for 16-1/2" Bolt Circle Foundation	82
322A	Base Adaptor Plate for 19" Bolt Circle Foundation	82A
323	Pull Box Cover Bonding Detail	83
324	Bypass Switch Bracket for Pole Mounted Streetlighting Service (Except City of Henderson)	84
325	Modified Existing Streetlight Foundation for Installation of Underground Conduit (City of Las Vegas and Clark County Only)	85
326	Precast Reinforced Concrete Pull Box	86
327	Pull Box Street Cover	87
328	Utility Pull Box Locations - Sidewalk and Between Driveways	88
329	Concrete Around Pull Boxes in Undeveloped Areas	89
330	Single Meter Service Pedestal	90
331	Service Pedestal Setback	91
332	Service Pedestal Foundation	92
333	Streetlighting Service Point Located on Streetlight Standard	93
334	120/240 VAC Service on Wood Pole - Overhead Service	94
335	Streetlight Circuit One Line Diagram	95
336	System Grounding Plan with Pedestal Service	96

**SECTION 300**  
**STREET LIGHTING**  
**CONTINUED**

<b><u>DRAWING NUMBER</u></b>		<b><u>PAGE NUMBER</u></b>
337	System Grounding Plan with Pole Mounted Service	97
338	Lighting Standard Wiring Diagram, 240 Volt, 2 Wire	98
339	Twin Lighting Standard Wiring Diagram, 240 Volt, 2 Wire	99
340	Lighting Standard Wiring Diagram, 120 Volt, 1 Phase, 3 Wire	100

**SECTION 400**  
**DRAINAGE IMPROVEMENTS**

401-402	Storm Drain Manholes General Notes	101-102
403	Type I Manhole	103
404	Type IA Manhole	104
405	Type II Manhole	105
406	Type III Manhole	106
407	Precast Manhole Tees	107
408	Concrete Collar Around Manholes	108
409	Standard Manhole Cover and Ring	109
410	Standard Manhole Steps	110
411	Drop Inlet Type "A"	111
412	Drop Inlet Type "B" (Except Clark County)	112
413	Drop Inlet Type "C"	113
414	Drop Inlet Type "D"	114
415	Drop Inlet Types "A" and "B" Special Design	115
416	Beehive Drop Inlet	116
417	Drop Inlet Frame and Grate	117
418	Drop Inlet Steel Plate Anchorage	118
419	Drop Inlet Steel Plate and Protection Bar	119
420	Typical Open Channel	120

**SECTION 500**  
**UTILITIES AND MISCELLANEOUS IMPROVEMENTS**

501	Typical Underground Utility Locations in Street	121
502	Trench Backfill Unpaved Areas	122
503	Trench Backfill Paved Areas (Streets with 60' or Less R/W)	123
504	Trench Backfill With Flowable Backfill Paved Areas (Streets Greater than 60' R/W)	124
505	Pipe Trench Bedding Methods	125
506	Service Installation, 5/8", 3/4", and 1" Meter Sizes-Improved Area	126

**SECTION 500**  
**UTILITIES AND MISCELLANEOUS IMPROVEMENTS**  
**CONTINUED**

<b><u>DRAWING NUMBER</u></b>		<b><u>PAGE NUMBER</u></b>
507	Service Installation, 5/8", 3/4", and 1" Meter Sizes-Unimproved Area	127
508	Service Installation, Dual 5/8", 3/4", and 1" Meter Sizes-Improved Area	128
509	Service Installation, Dual 5/8", 3/4", and 1" Meter Sizes-Unimproved Area	129
510	Service Installation, 1-1/2" and 2" Meter Sizes-Improved Area	130
511	Service Installation, 1-1/2" and 2" Meter Sizes-Unimproved Area	131
512	Thrust Block Details	132
513	Anchor Block Details Reducer or Valve	133
514	Blow - Off Assembly Locations	134
515	Blow - Off Assembly 4", 6", 8", and 10" Mains	135
516	Fire Hydrant Installation	136
517	Valve Box Installation and Adjustment	137
518	Chlorination Requirements	138
	No Drawing Assigned	139

**SECTION 600**  
**TRAFFIC CONTROL PLANS FOR HIGHWAY WORK ZONE**

601	Barricades & Flagger Traffic Control Sign Standard Designs (2 Sheets)	140-140A
602	Portable Concrete Barrier Rail (2 Sheets)	141-141A
603	Short Time, Day or Night Operations	142
604	Rural Moving Day Operations Where Activities Encroach on the Shoulder	143
605	Rural Moving Day Operations Where Activities Encroach on the Pavement	144
606	2-Lane, 2-Way Rural Day or Night Operations Where Activities Are More Than 15 Ft. from Edge of Pavement	145
607	2-Lane, 2-Way Rural Day or Night Operations Where Activities Will Encroach Between 15 Ft. & 2 Ft. Outside of Pavement Edge	146
608	2-Lane, 2-Way Rural Day Operations Where Activities Will Encroach Between Centerline And 2 Ft. Outside of Pavement Edge	147
609	2-Lane, 2-Way Rural Night Operations Where Activities Will Encroach Between Centerline & 2 Ft. Outside of Pavement Edge	148

**SECTION 600**  
**TRAFFIC CONTROL PLANS FOR HIGHWAY WORK ZONE**  
**CONTINUED**

<b><u>DRAWING NUMBER</u></b>		<b><u>PAGE NUMBER</u></b>
610	2-Lane, 2-Way Rural Day or Night Operations Where Activities Will Encroach Between Centerline & 2 Ft. Outside of Pavement Edge	149
611	2-Lane, 2-Way, Rural or Suburban, Day or Night Pavement Widening	150
612 (SH1)	2-Lane, 2-Way, Rural or Suburban, Day or Night Temporary <u>Paved</u> Bypass	151
612 (SH2)	2-Lane, 2-Way, Rural or Suburban, Day or Night Temporary <u>Unpaved</u> Bypass	151A
613	2-Lane, 2-Way Rural Day or Night Operations With One Lane Closed	152
614	Multilane, Divided or Undivided, Rural or Suburban, Day or Night Operations Where Activities Are More Than 15 Ft From Edge of Pavement	153
615	Multilane, Divided or Undivided, Rural or Suburban, Day or Night Operations Where Activities Will Encroach Between 15 Ft. & 2 Ft. Outside Pavement Edge	154
616	Multilane, Divided, Rural or Suburban, Day Operations Where Operation Moves Between 1 and 15 MPH	155
617	Multilane, Divided or Undivided, Rural or Suburban, Day Operations Where Activities Will Encroach on Lane Abutting Shoulder or on the Shoulder within 2 Ft. Outside the Pavement Edge	156
618	Multilane, Divided or Undivided, Rural or Suburban, Day and Night Operations Where Activities Will Encroach on Lane Abutting Shoulder or on the Shoulder within 2 Ft. Outside the Pavement Edge	157
619	Multilane, Undivided, Rural or Suburban, Day/Night Operations with a Work Area in the Left Lane, Allowing Work Access from Adjacent Lane	158
620	Multilane, 1-Way or Divided, Rural or Suburban, Day/Night Operations Where Center Lane(s) Are Closed	159
621	Multilane, Divided, Rural or Suburban, Day or Night Where Activities Require Closing 2 Adjacent Lanes & an Opposing Lane is Used for a Temporary Crossover	160
622	Work Areas within or near Suburban Intersections	161

**SECTION 600**  
**TRAFFIC CONTROL PLANS FOR HIGHWAY WORK ZONE**  
**CONTINUED**

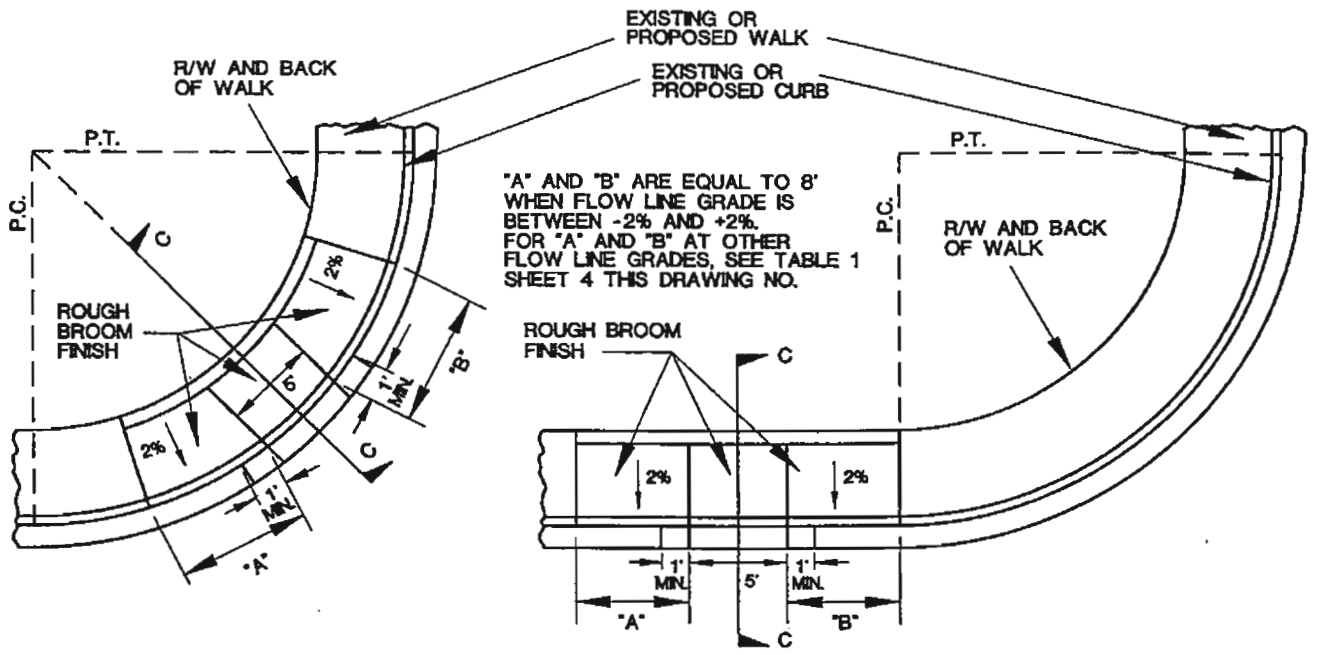
<b><u>DRAWING NUMBER</u></b>		<b><u>PAGE NUMBER</u></b>
623	2-Lane, 2-Way, Rural or Suburban, Day or Night Road Closure	162
624	Controlling Pedestrian Traffic	163
625	Slow Moving or Short Duration Stopping <u>IN</u> a Marked Travel Lane on Non-Local Streets	164
626	Placement of "No Parking" Signs for Short-Term Street Rehabilitation Projects	165

Released June 1997

**MISCELLANEOUS ELECTRICAL SYMBOLS**

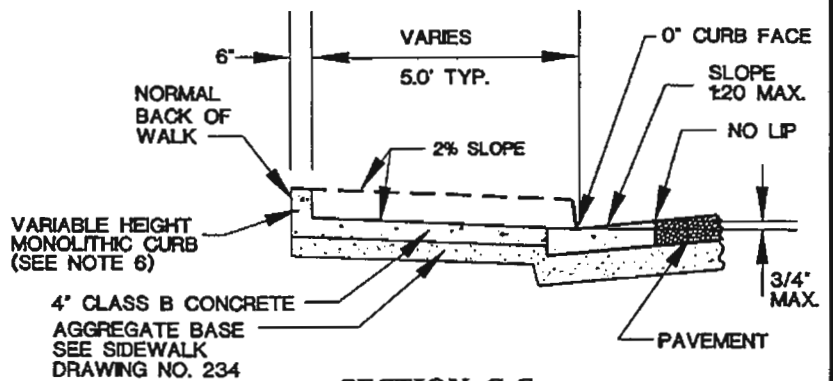
<u>PLAN ONLY</u>	<u>EXISTING</u>	<u>PROPOSED CONSTRUCTION</u>
TRAFFIC SIGNAL CONTROLLER		
PULL BOX (INITIALS INDICATE OWNERSHIP AND NUMBER INDICATES SIZE)	SL 	SL-SIZE 
TRAFFIC SIGNAL WITH LUMINAIRE		
TRAFFIC SIGNAL DETECTOR LOOP		
SERVICE POINT, PAD MOUNTED		
7 GAGE LIGHTING STANDARD		
11 GAGE LIGHTING STANDARD		
100 W LUMINAIRE		
150 W LUMINAIRE		
200 W LUMINAIRE		
250 W LUMINAIRE		
400 W LUMINAIRE		
750 W LUMINAIRE		
TRAFFIC SIGNAL POLE		
SCHOOL FLASHER		

<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>		
		<b>SYMBOLS</b>		
		DATE 12-12-96	DWG. NO. 104	PAGE NO. 4

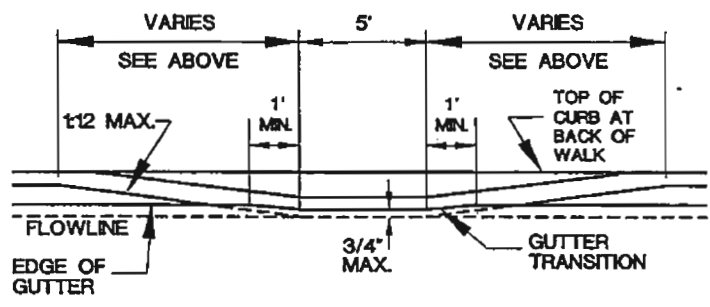


**RAMP IN CURB RETURN**

**RAMP OUTSIDE CURB RETURN**



**SECTION C-C**

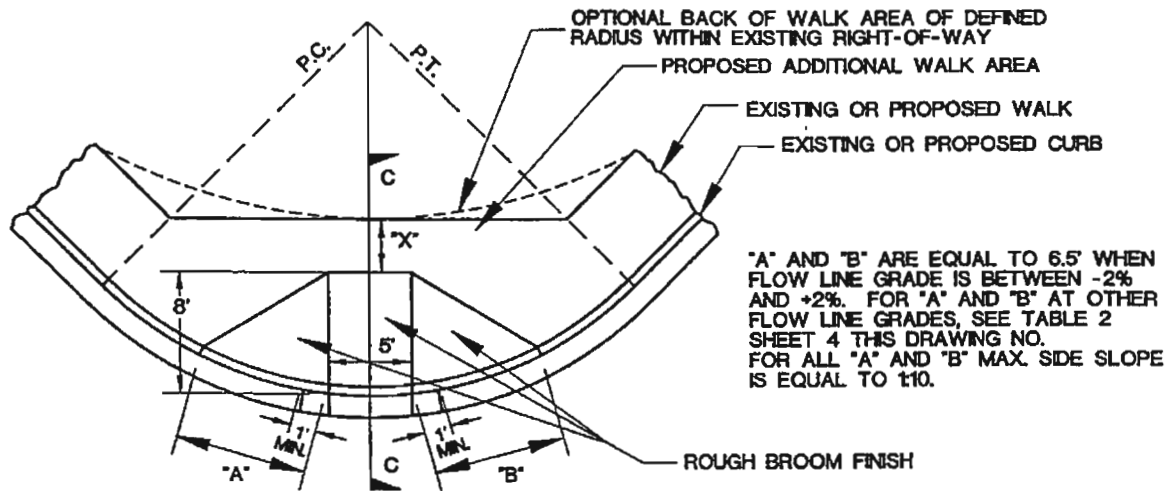


**PROFILE**

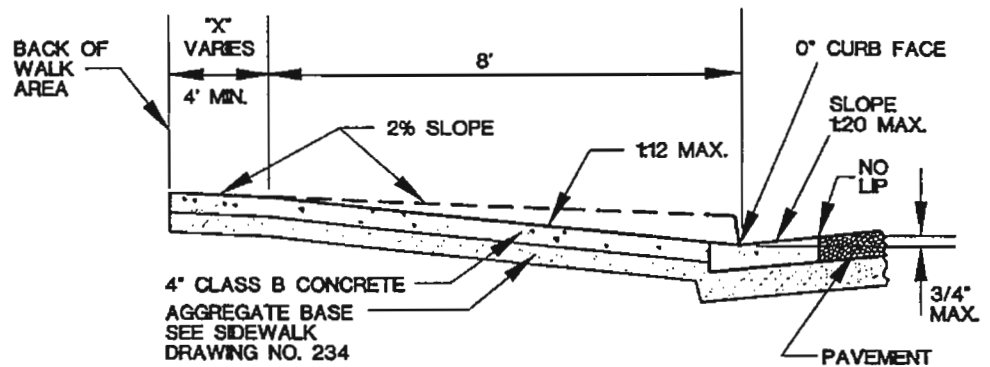
**NOTES:**

1. SIDEWALK RAMP WITHIN CURB RETURN SHALL BE LOCATED AT THE MIDPOINT OF CURB RETURN UNLESS OTHERWISE APPROVED.
2. SIDEWALK RAMPS OUTSIDE OF THE CURB RETURN SHALL BE LOCATED ADJACENT TO THE RETURN UNLESS OTHERWISE APPROVED.
3. RAMPS SHALL BE CONSTRUCTED WITH A ROUGH BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP.
4. WHEN CONSTRUCTING RAMP WHERE CURB & GUTTER EXISTS, COMPLETELY REMOVE INTERFERING PORTIONS OF EXISTING CURB & GUTTER.
5. DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 IN., A HEIGHT OF NOMINAL 0.2 IN. AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN. AND CONTRASTING VISUALLY WITH ADJOINING SURFACES MAY BE PLACED ON RAMP EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP.
6. CURB MAY BE PLACED AND IS PREFERRED BEHIND BACK OF WALK IF SUFFICIENT RIGHT-OF-WAY OR EASEMENTS EXIST AND AS APPROVED BY THE ENGINEER.

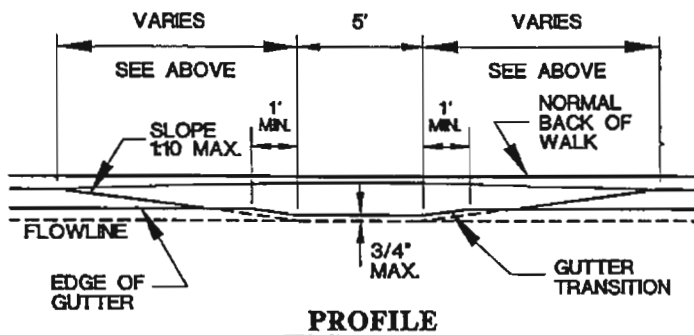
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
302	AGGREGATE BASE	<b>SIDEWALK RAMP CASE I</b>		
501	CONCRETE			
502	CONCRETE STRUCTURES			
		DATE 6-13-96	DWG. NO. 235 (1 OF 4)	PAGE 41



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



**SECTION C-C**



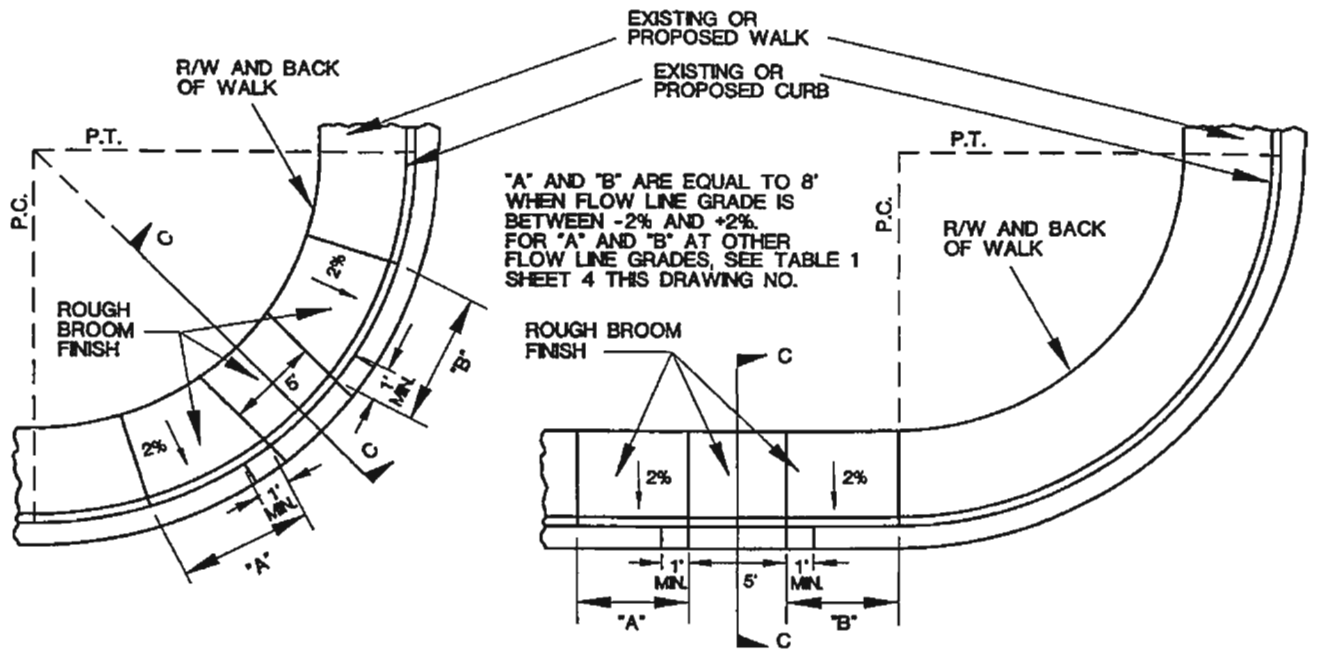
**PROFILE**

**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 WITH A DIAMETER OF NOMINAL 0.9 IN., A HEIGHT OF NOMINAL 0.2 IN. AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN. AND CONTRASTING VISUALLY WITH ADJOINING SURFACES MAY BE PLACED ON RAMP EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP.

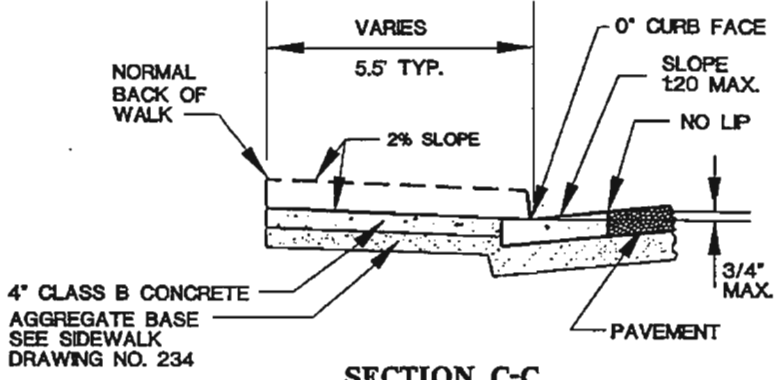
CASE II SHALL BE USED WHERE R/W AND FIELD CONDITIONS PERMIT.

<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>		
302	AGGREGATE BASE			
501	CONCRETE	<b>SIDEWALK RAMP CASE II</b>		
502	CONCRETE STRUCTURES			
		DATE 6-13-96	DWG. NO. 235 (2 OF 4)	PAGE 41A

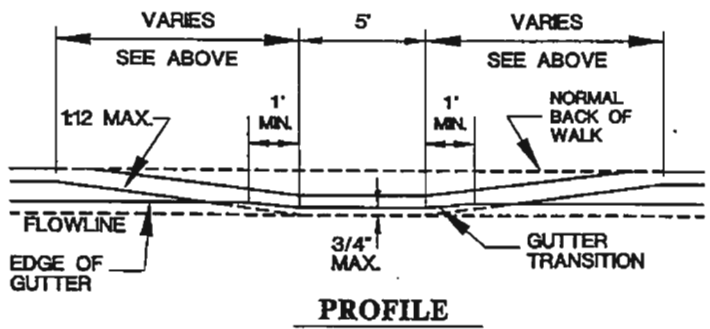


**RAMP IN CURB RETURN**

**RAMP OUTSIDE CURB RETURN**



**SECTION C-C**



**PROFILE**

**NOTES:**

1. SIDEWALK RAMP WITHIN CURB RETURN SHALL BE LOCATED AT THE MIDPOINT OF CURB RETURN UNLESS OTHERWISE APPROVED.
2. SIDEWALK RAMPS OUTSIDE OF THE CURB RETURN SHALL BE LOCATED ADJACENT TO THE RETURN UNLESS OTHERWISE APPROVED.
3. RAMPS SHALL BE CONSTRUCTED WITH A ROUGH BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP.
4. WHEN CONSTRUCTING RAMP WHERE CURB & GUTTER EXISTS, COMPLETELY REMOVE INTERFERING PORTIONS OF EXISTING CURB & GUTTER.
5. DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 IN., A HEIGHT OF NOMINAL 0.2 IN. AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN. AND CONTRASTING VISUALLY WITH ADJOINING SURFACES MAY BE PLACED ON RAMP EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP.

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

<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>	
302	AGGREGATE BASE	<b>SIDEWALK RAMP CASE III</b>	
501	CONCRETE		
502	CONCRETE STRUCTURES		
		DATE 6-13-96	DWG. NO. 235 (3 OF 4) PAGE 41B

GRADE (%) "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
-6 TO -5.01	4.5	21.5
-5 TO -4.01	4.5	15.0
-4 TO -3.01	4.5	12.0
-3 TO -2.01	4.5	9.5
-2 TO 2	8.0	8.0
2.01 TO 3	9.5	4.5
3.01 TO 4	12.0	4.5
4.01 TO 5	15.0	4.5
5.01 TO 6	21.5	4.5

**TABLE 1. TRANSITION LENGTHS FOR 1:12 SIDE SLOPES**

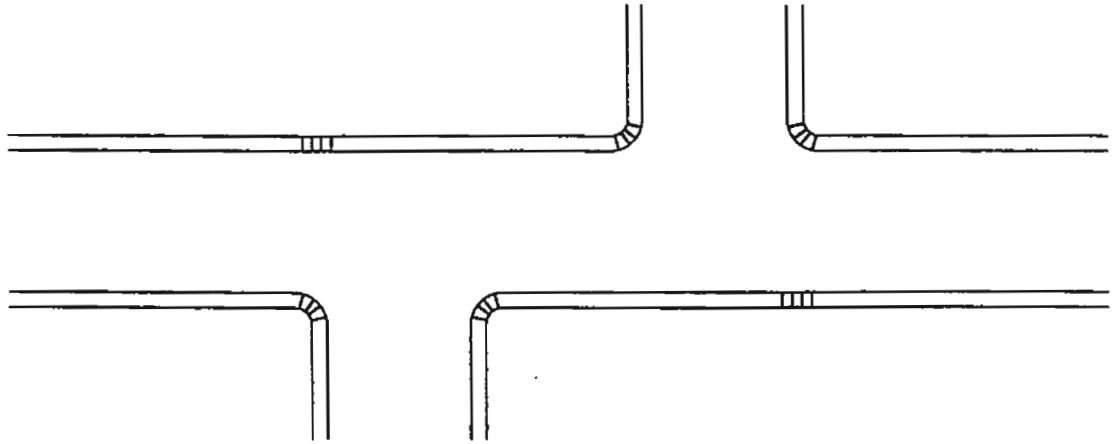
GRADE (%) "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
-6 TO -5.01	4.0	12.5
-5 TO -4.01	4.0	10.0
-4 TO -3.01	4.0	8.5
-3 TO -2.01	4.0	7.5
-2 TO 2	6.5	6.5
2.01 TO 3	7.5	4.0
3.01 TO 4	8.5	4.0
4.01 TO 5	10.0	4.0
5.01 TO 6	12.5	4.0

**TABLE 2. TRANSITION LENGTHS FOR 1:10 SIDE SLOPES**

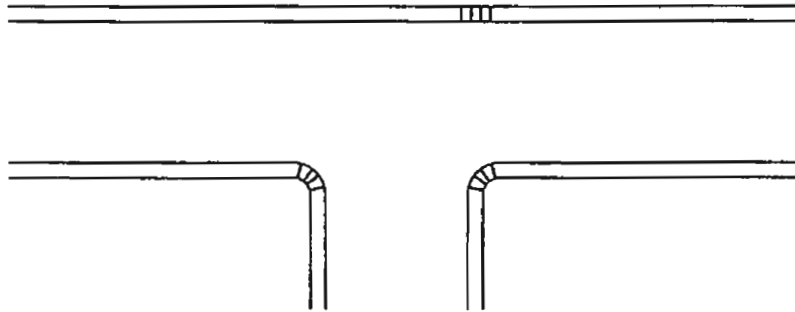
**NOTE:**

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

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
302	AGGREGATE BASE	SIDEWALK RAMP	
501	CONCRETE		
502	CONCRETE STRUCTURES		
		DATE 6-13-96	DWG. NO. 235 (4 OF 4) PAGE 41C



OFFSET "T"

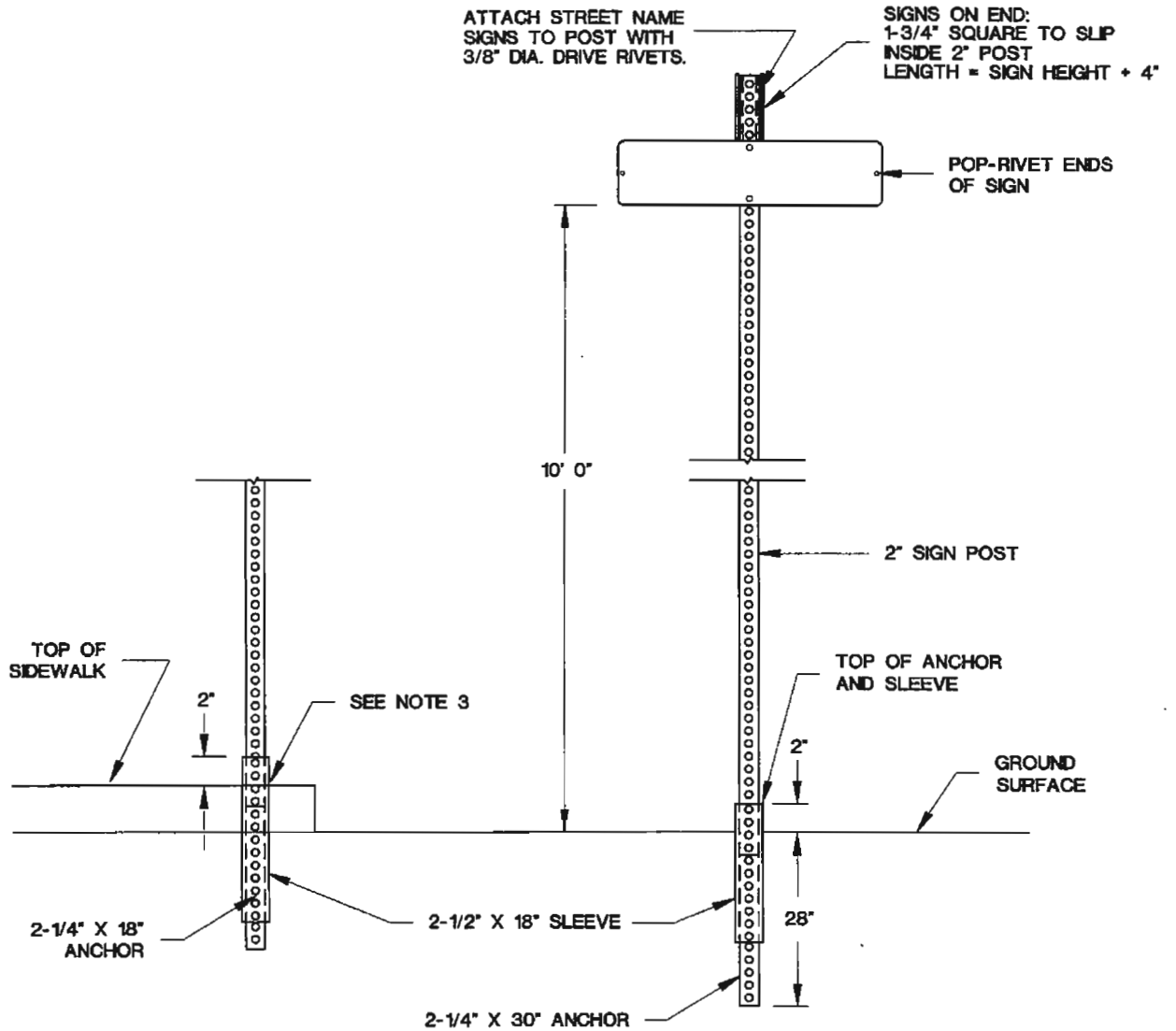


ISOLATED "T"

**NOTES:**

1. THE TYPICAL LOCATIONS OF SIDEWALK RAMP 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 RAMP 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 SHALL BE LOCATED WITHIN THE MARKED CROSSWALKS AS APPROVED BY THE ENGINEER.

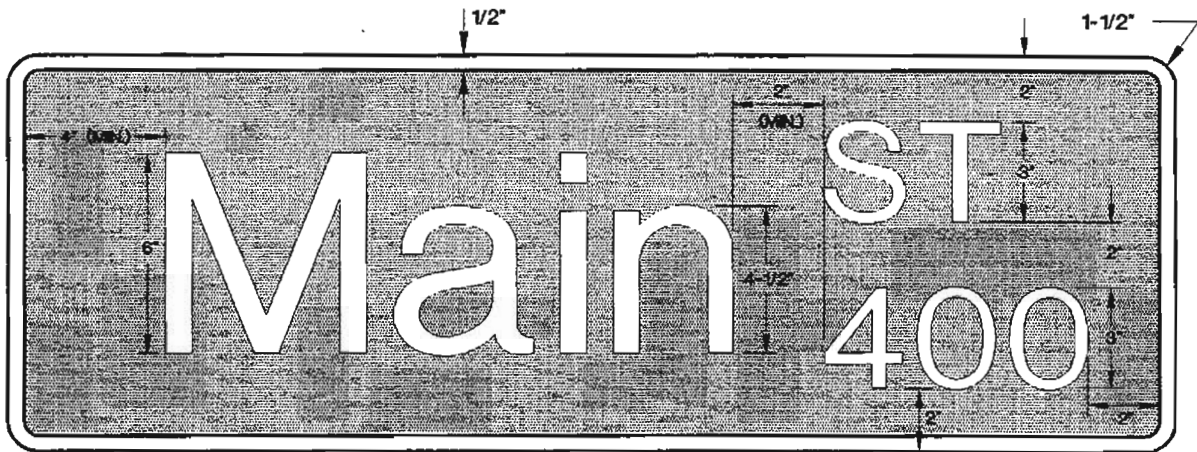
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
		SIDEWALK RAMP LOCATION "T" INTERSECTIONS	
		DATE 6-13-96	DWG. NO. 235.1
		PAGE	41.1



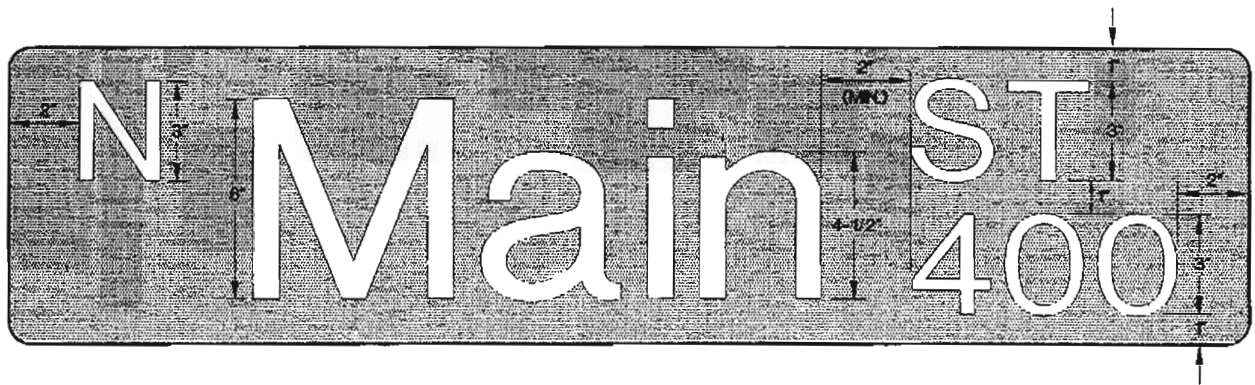
**NOTES:**

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.

<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>	
631	STREET NAME SIGNS	<b>STANDARD STREET NAME SIGN POST INSTALLATION</b>	
DATE 6-12-97		DWG. NO. 249	PAGE NO. 55



**12" (MAJOR STREETS)**



**9" (MINOR STREETS)**

**NOTES:**

1. SIGN SHALL BE WHITE LETTERS AND NUMBERS ON GREEN BACKGROUND. (THE CITY OF NORTH LAS VEGAS BACKGROUND IS BLUE.) CUT-OUT LETTERS AND NUMBERS ARE NOT ACCEPTABLE (EXCEPT FOR THE BLOCK NUMBER).
2. REFLECTIVE SHEETING MATERIAL SHALL BE CLASS 6.
3. PRIMARY COPY FOR 9' AND 12' SIGNS SHALL BE 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 1/2" WHITE BORDER AT THE EDGE.
7. SIGN BLANKS SHALL HAVE ROUNDED CORNERS.

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
631	STREET NAME SIGNS	STREET NAME SIGNS FACE COPY	
716	SIGN MATERIALS		
		DATE 6-12-97	DWG. NO. 250 (1 OF 2)   PAGE NO. 56

## SPACING OF STREET NAME SIGN LEGENDS

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

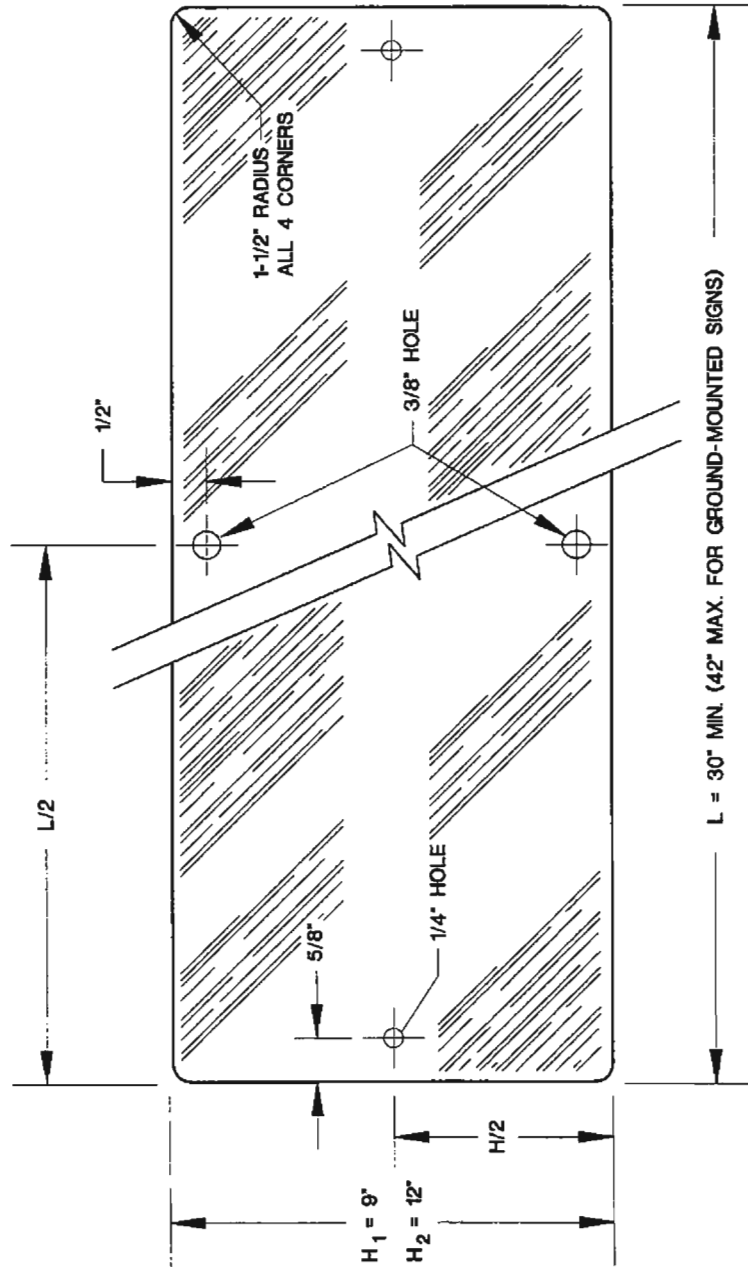
1. SIGN LAYOUT COMPUTER SOFTWARE SHALL BE EVALUATED TO DETERMINE THE "CORRECTION FACTOR" NECESSARY FOR LAYOUT SOFTWARE LETTER SPACING TO BE APPROXIMATELY EQUAL TO THE FHWA STANDARD SPACING FOR UPPERCASE LETTERS.
2. CORRECTION FACTOR SHALL BE USED TO ADJUST THE SPACING FOR THE LOWERCASE LETTERS.
3. SPACING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

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

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

- A. REDUCE THE FONT TO 5 1/2" SERIES 'C'.
- B. REDUCE THE SPACING TO 100% OF THE 'FEDERAL STANDARD'.
- C. REDUCE THE FONT TO 5 1/2" SERIES 'B'.
- D. CONSIDER ABBREVIATING ANY LEGEND WORDS WHICH ARE EXTREMELY COMMON (IE, '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.

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA			
631	STREET NAME SIGNS	STREET NAME SIGNS LETTER SPACING			
716	SIGN MATERIALS				
		DATE 6-12-97	DWG. NO. 250 (2 OF 2)	PAGE	56A



**ALUMINUM BLANK**

6052-H38 OR 6061-T6, HEAT-TREATED, HIGH TENSILE, DEGREASED AND ALODINE 1200 FINISH. THICKNESS TO BE 0.080" FOR SIGNS LESS THAN 36" AND 0.100" FOR SIGNS 36" AND LONGER.

**NOTE:**

FOR SIGN FACE SPECIFICATIONS SEE STANDARD DRAWING NO. 250.

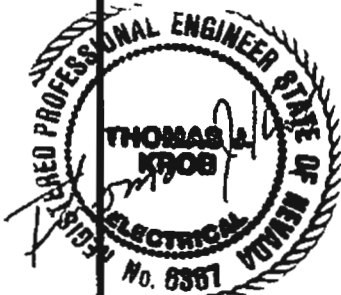
<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>		
631	STREET NAME SIGNS			
716	SIGN MATERIALS	<b>STREET NAME SIGN BLANKS</b>		
		DATE 6-12-97	DWG. NO. 251	PAGE 57

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 1

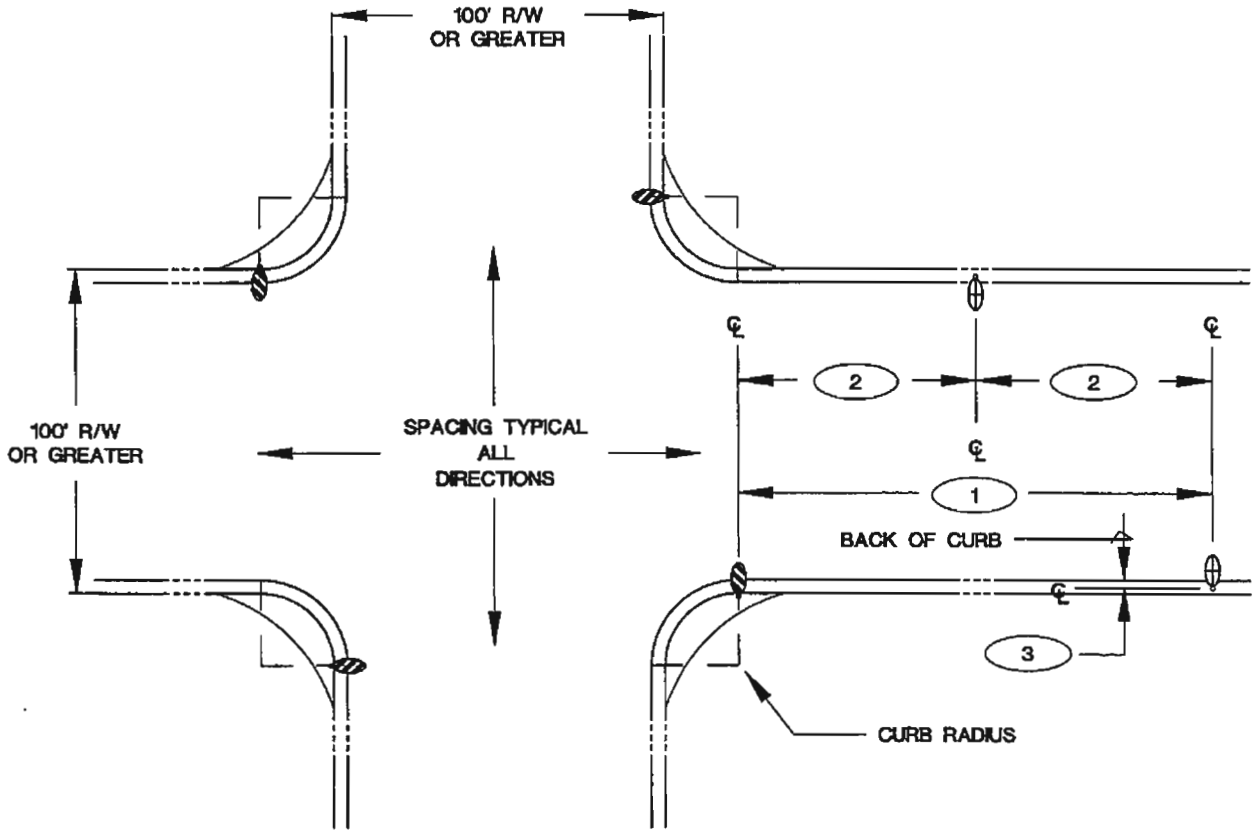
<u>CLASSIFICATION</u>	<u>R/W</u>	<u>DWG</u>	<u>LUMINAIRE</u>	<u>AVERAGE IES LIGHTING LEVEL</u>	<u>IES UNIFORMITY AVG./MIN</u>
MAJOR ARTERIAL	100' OR MORE	---	250W HPS	158 FC	3:1
INTERMEDIATE COLLECTOR	80'	---	150W HPS	0.84 FC	4:1
LOCAL	60'	---	150W HPS	0.38 FC	6:1
RESIDENTIAL	5T OR LESS	---	100W HPS	0.38 FC	6:1

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.



4-2-97

<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>				
623	TRAFFIC SIGNALS & STREETLIGHTING					
		<b>STREETLIGHT LOCATION GENERAL NOTES</b>				
		DATE 12-12-96	DWG. NO.	300	PAGE NO.	60



**NOTES:**

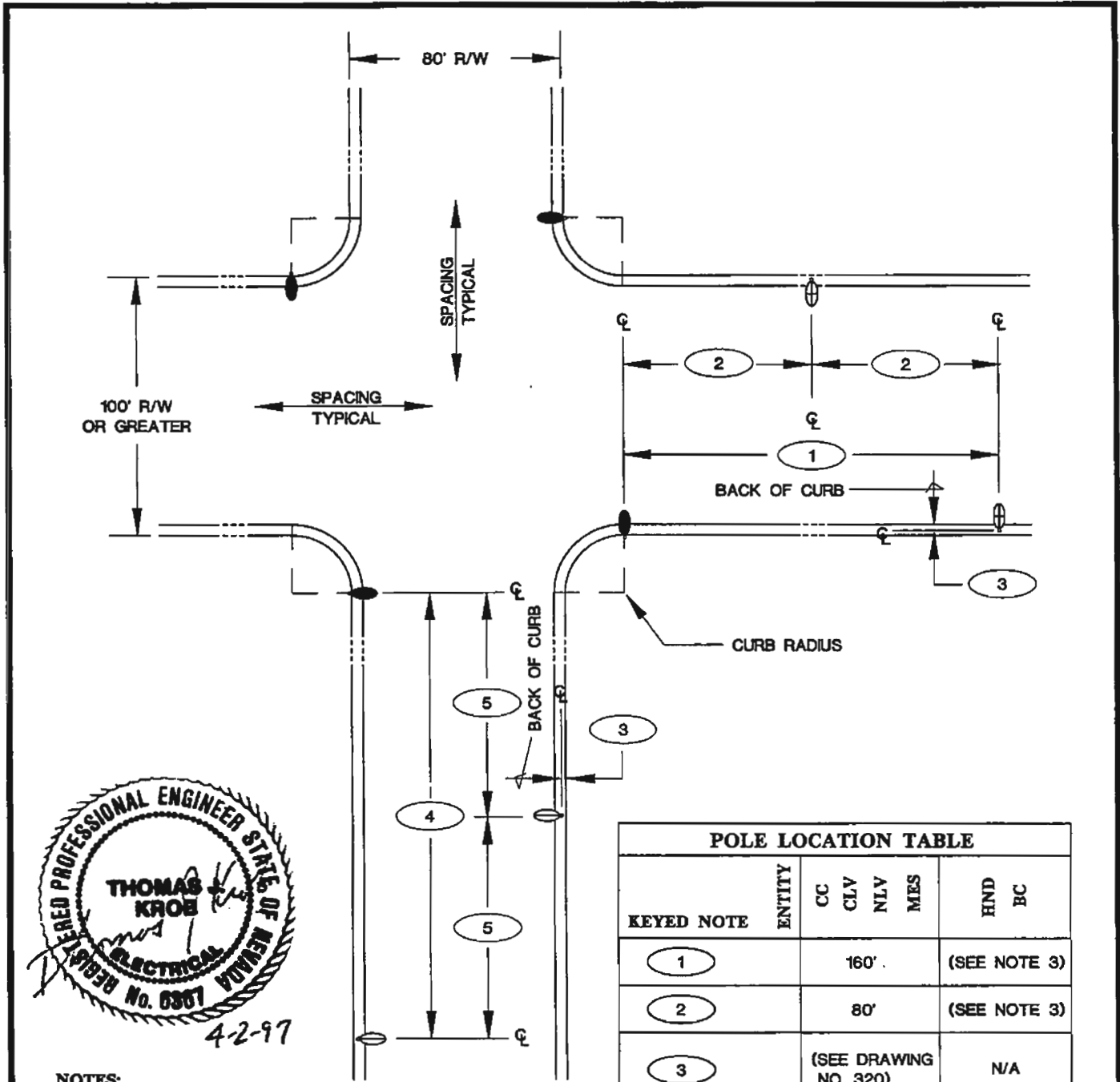
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300 IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.
3. CITY OF HENDERSON AND BOULDER CITY REQUIRE STREETLIGHTING IN THE MEDIAN FOR RIGHTS-OF-WAY 100 FEET OR GREATER. SEE STANDARD DRAWING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



4-2-97

POLE LOCATION TABLE							
KEYED NOTE	ENTITY					END	BC
		CC	CLV	NLV	MES		
1			160'			(SEE NOTE 3)	
2			80'			(SEE NOTE 3)	
3		(SEE DRAWING NO. 320)				N/A	

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT LOCATIONS AT INTERSECTIONS 100' OR GREATER/100' OR GREATER RIGHT-OF-WAY	
DATE 12-12-96		DWG. NO. 301	PAGE NO. 61

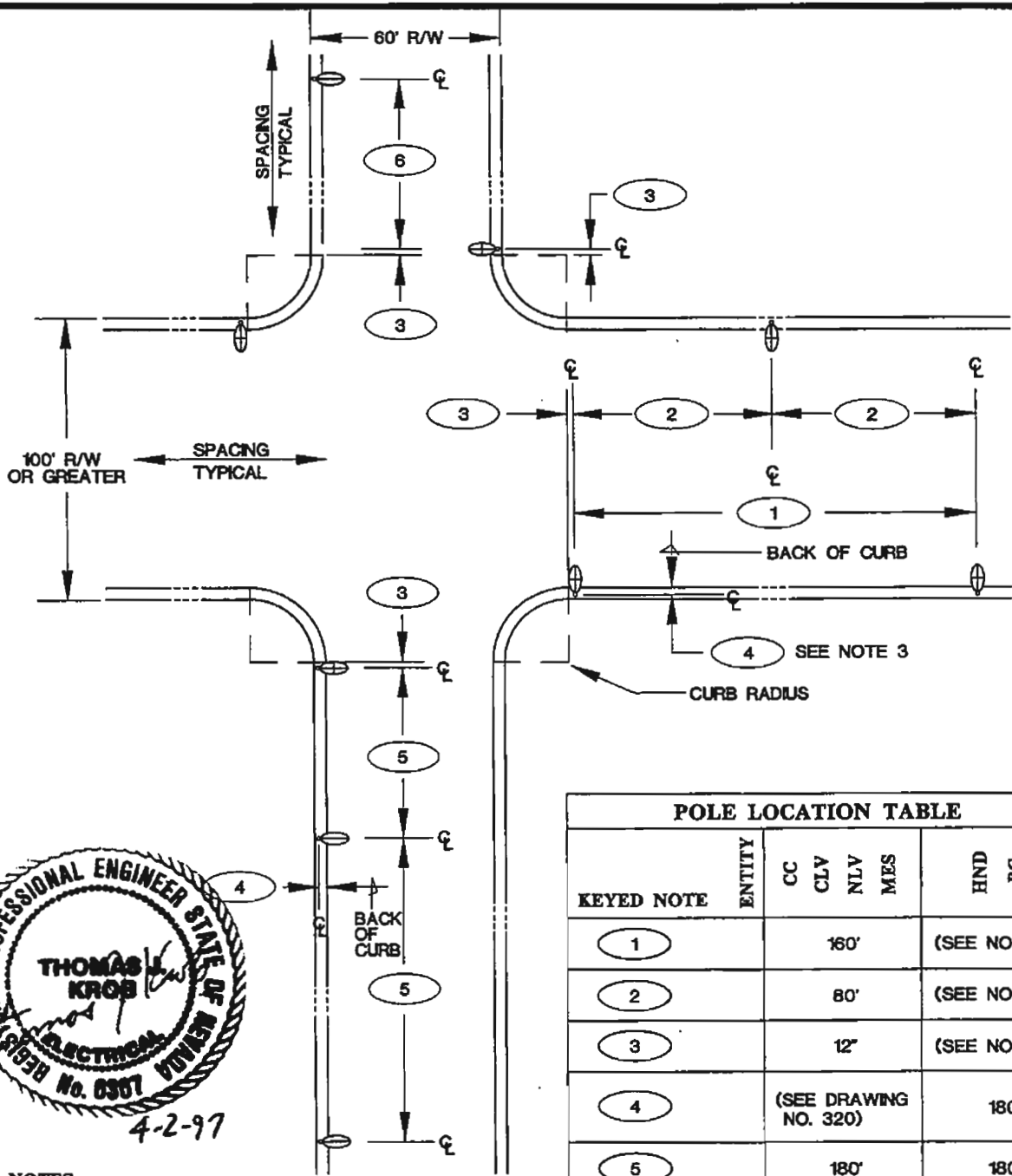


**NOTES:**

1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300, IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.
3. 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.

KEYED NOTE	ENTITY	CC CLV NLV MES	RND BC
1		160'	(SEE NOTE 3)
2		80'	(SEE NOTE 3)
3		(SEE DRAWING NO. 320)	N/A
4		170'	170'
5		85'	85'

<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>	
623	TRAFFIC SIGNALS & STREETLIGHTING	<b>STREETLIGHT LOCATIONS AT INTERSECTIONS 100' OR GREATER/80' RIGHT-OF-WAY</b>	
		DATE 12-12-96	DWG. NO. 302
		PAGE NO.	62



**NOTES:**

1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300 IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.
3. 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.

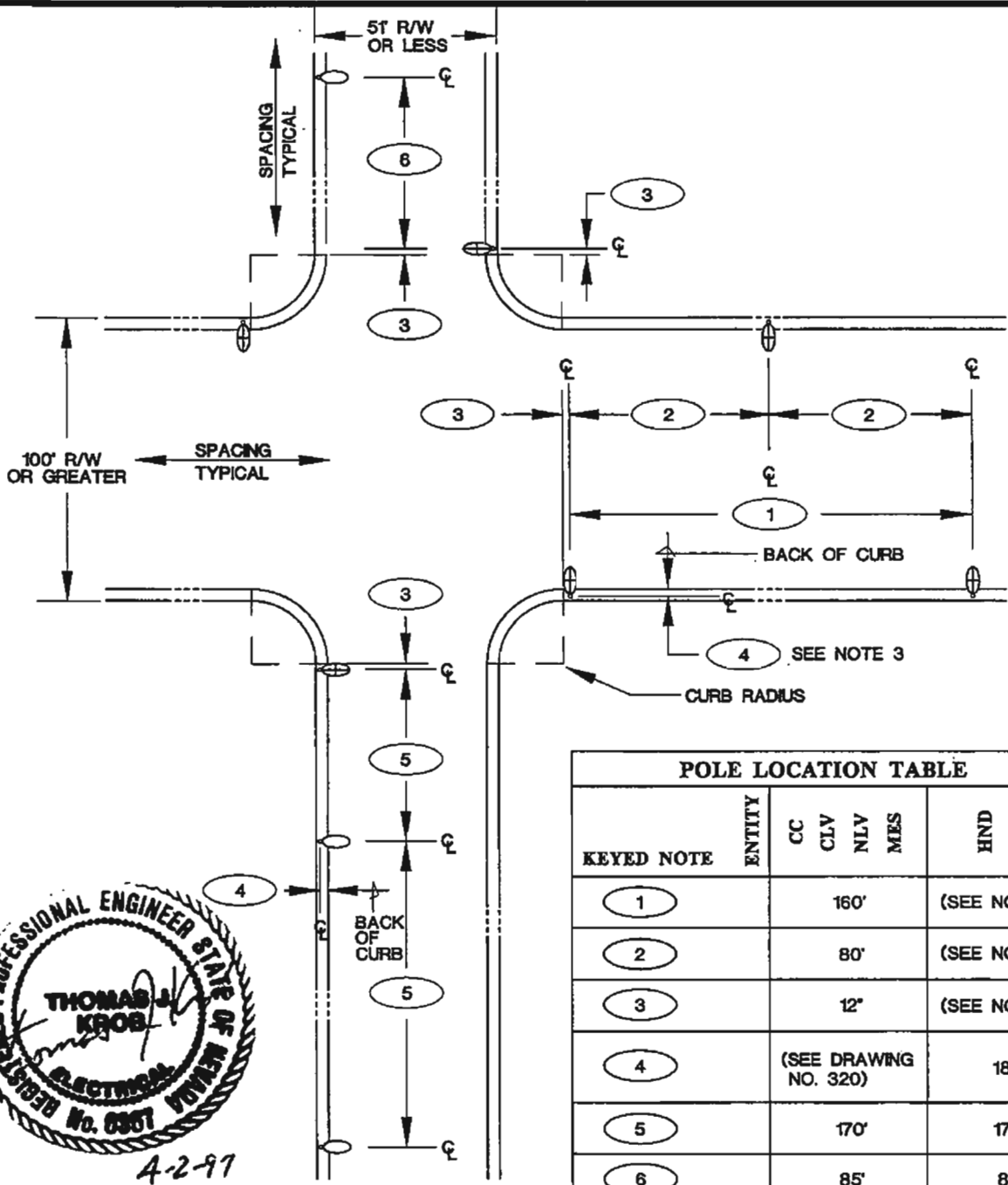
POLE LOCATION TABLE							
KEYED NOTE	ENTITY	CC	CLV	NLV	MES	HND	BC
1			160'			(SEE NOTE 3)	
2			80'			(SEE NOTE 3)	
3			12'			(SEE NOTE 3)	
4		(SEE DRAWING NO. 320)				180'	
5			180'			180'	
6			90'			90'	

**SPECIFICATION REFERENCE**

623	TRAFFIC SIGNALS & STREETLIGHTING

**UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA**

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

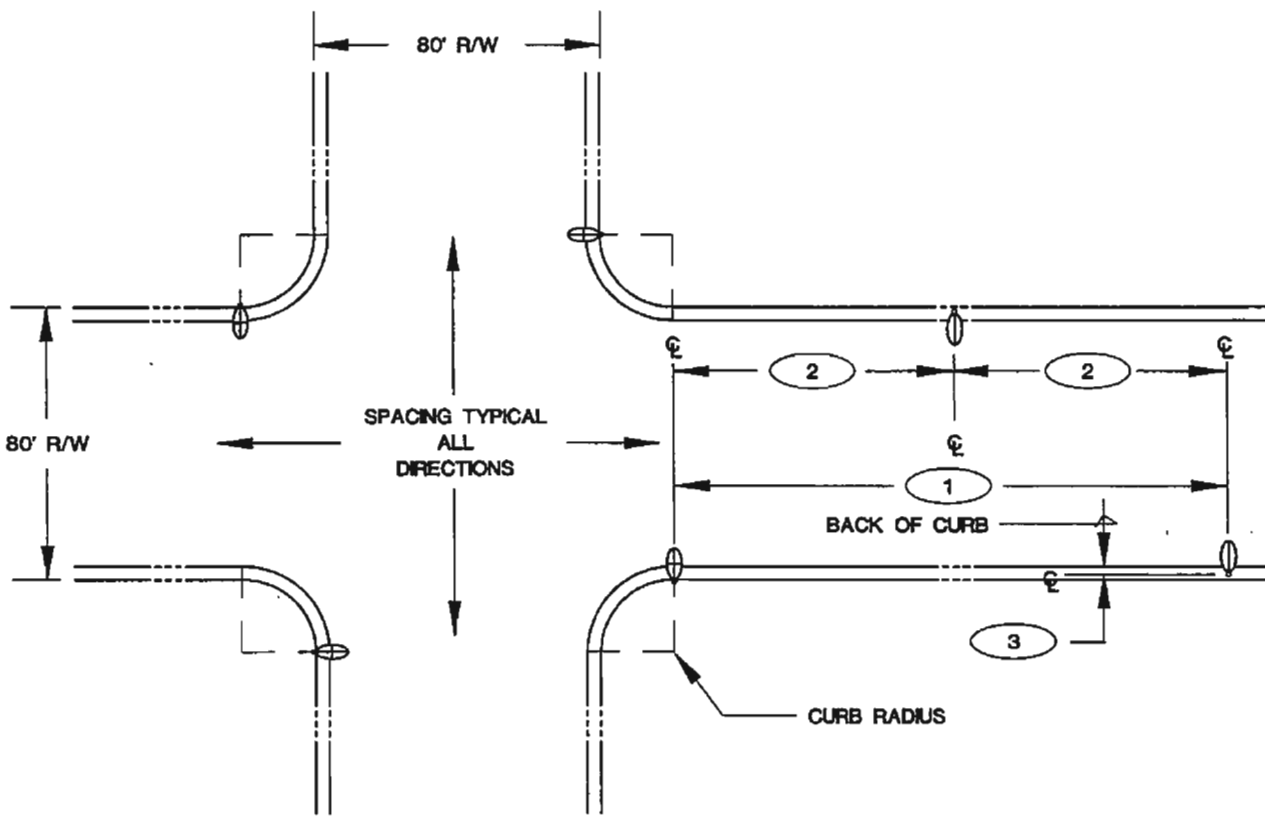


POLE LOCATION TABLE							
KEYED NOTE	ENTITY	CC	CLV	NLV	MES	HND	BC
1				160'		(SEE NOTE 3)	
2				80'		(SEE NOTE 3)	
3				12"		(SEE NOTE 3)	
4		(SEE DRAWING NO. 320)				180'	
5				170'		170'	
6				85'		85'	

**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. IN THE ABSENCE OF A MEDIAN, STREETLIGHT LOCATION SHALL BE THE SAME AS THE OTHER ENTITIES.

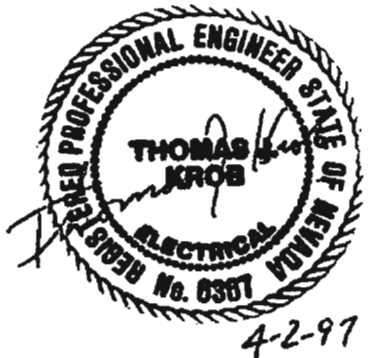
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT LOCATIONS AT INTERSECTIONS 100' OR GREATER/51' OR LESS RIGHT-OF-WAY	
DATE 12-12-96		DWG. NO. 304	PAGE NO. 64



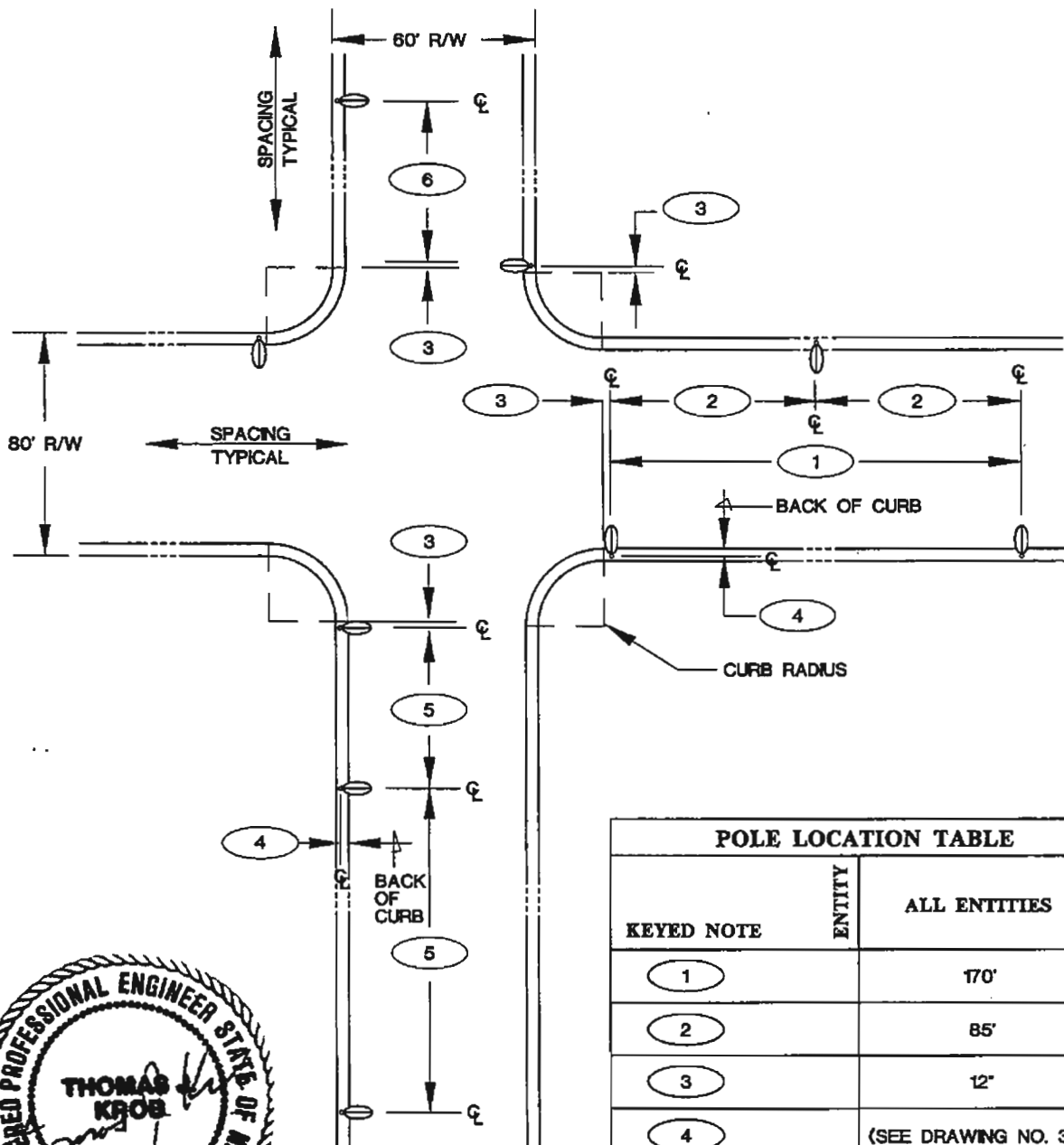
**NOTE:**

SEE GENERAL NOTES STANDARD DRAWING NO. 300.

POLE LOCATION TABLE		
KEYED NOTE	ENTITY	ALL ENTITIES
1		170'
2		85'
3		(SEE DRAWING NO. 320)



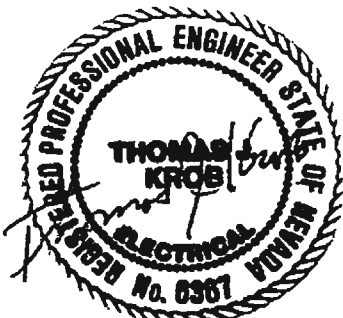
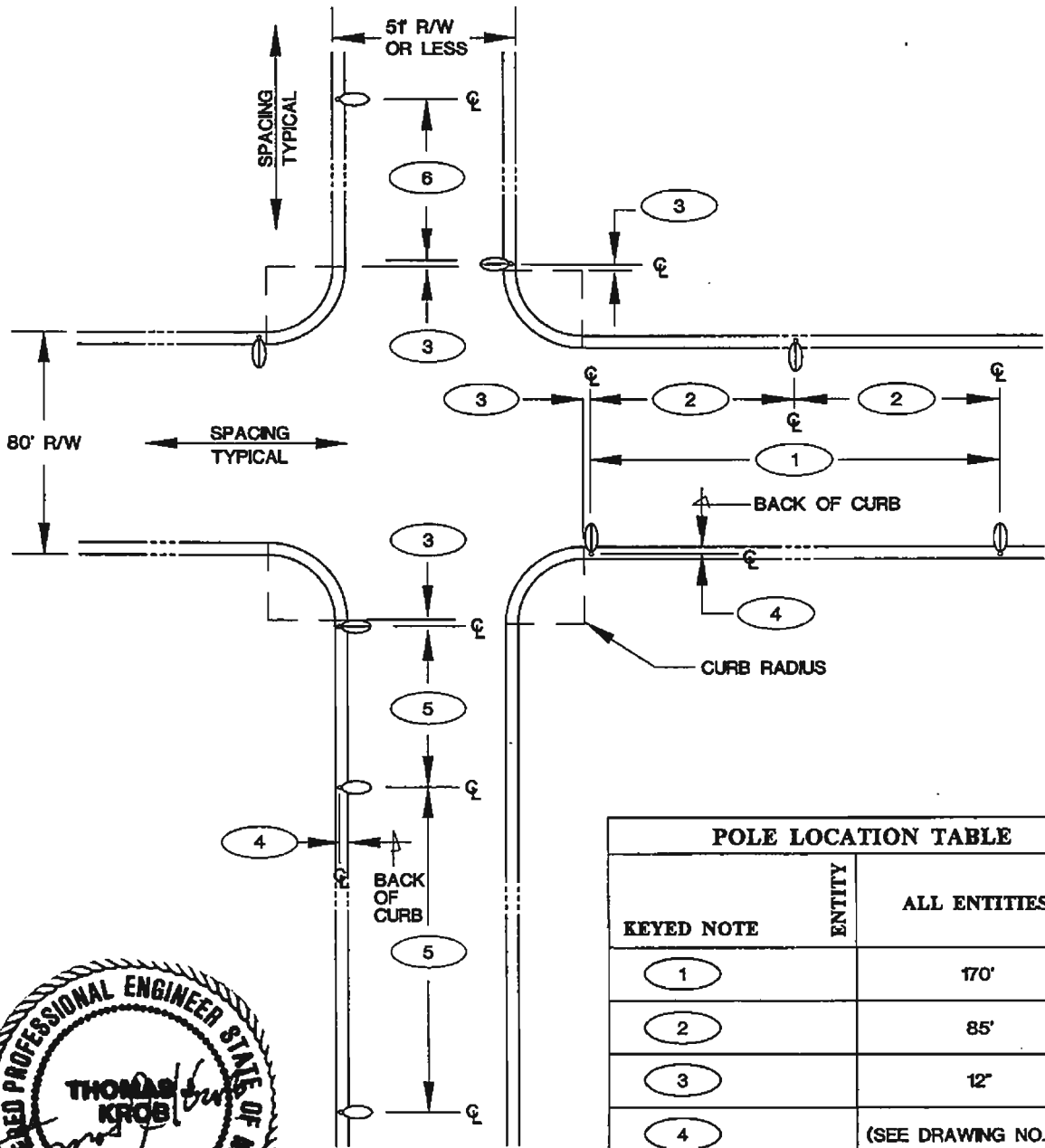
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT LOCATIONS AT INTERSECTIONS 80'/80' RIGHT-OF-WAY		
		DATE 12-12-96	DWG. NO. 305	PAGE NO. 65



**NOTE:**  
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

POLE LOCATION TABLE		
KEYED NOTE	ENTITY	ALL ENTITIES
1		170'
2		85'
3		12'
4		(SEE DRAWING NO. 320)
5		180'
6		90'

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT LOCATIONS AT INTERSECTIONS 80'/60' RIGHT-OF-WAY		
		DATE 12-12-96	DWG. NO. 306	PAGE NO. 66

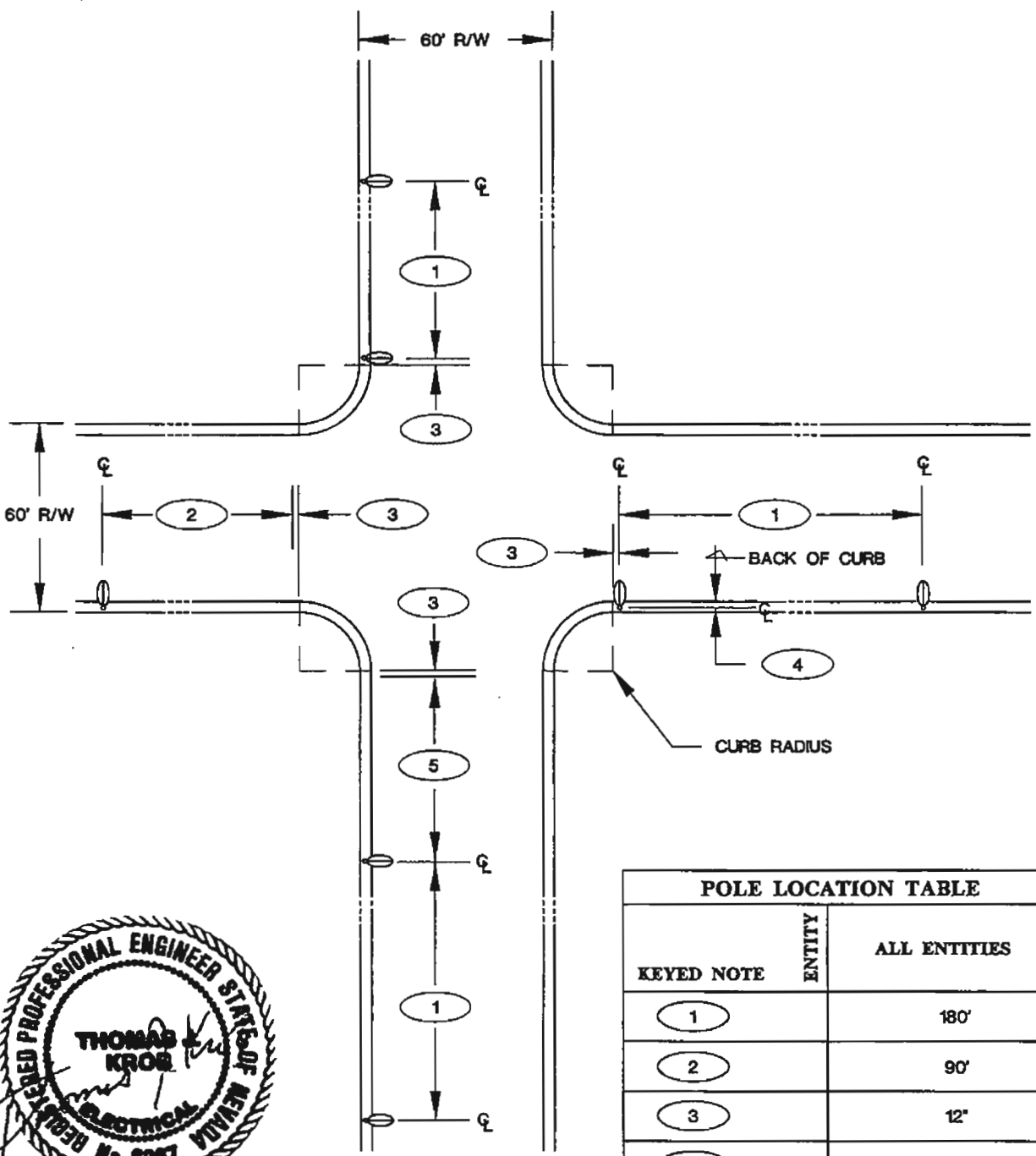


4-2-97

**NOTE:**  
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

POLE LOCATION TABLE		
KEYED NOTE	ENTITY	ALL ENTITIES
1		170'
2		85'
3		12'
4		(SEE DRAWING NO. 320)
5		170'
6		85'

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
623	TRAFFIC SIGNALS & STREETLIGHTING	<b>STREETLIGHT LOCATIONS AT INTERSECTIONS 80'/51' OR LESS RIGHT-OF-WAY</b>		
		DATE 12-12-96	DWG. NO. 307	PAGE NO. 67

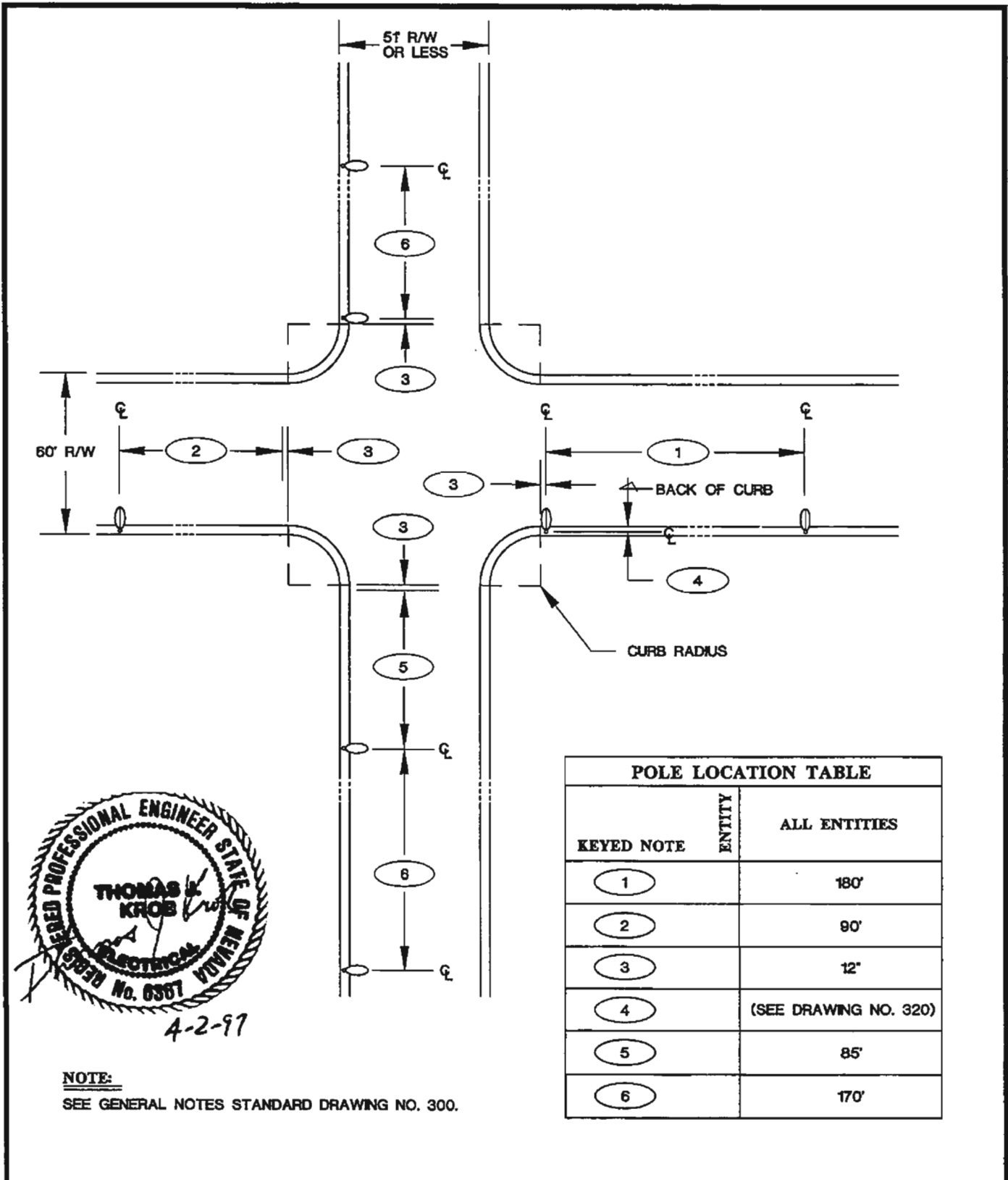


4-2-97

**NOTE:**  
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

POLE LOCATION TABLE	
KEYED NOTE	ENTITY
1	ALL ENTITIES
1	180'
2	90'
3	12'
4	(SEE DRAWING NO. 320)
5	90'

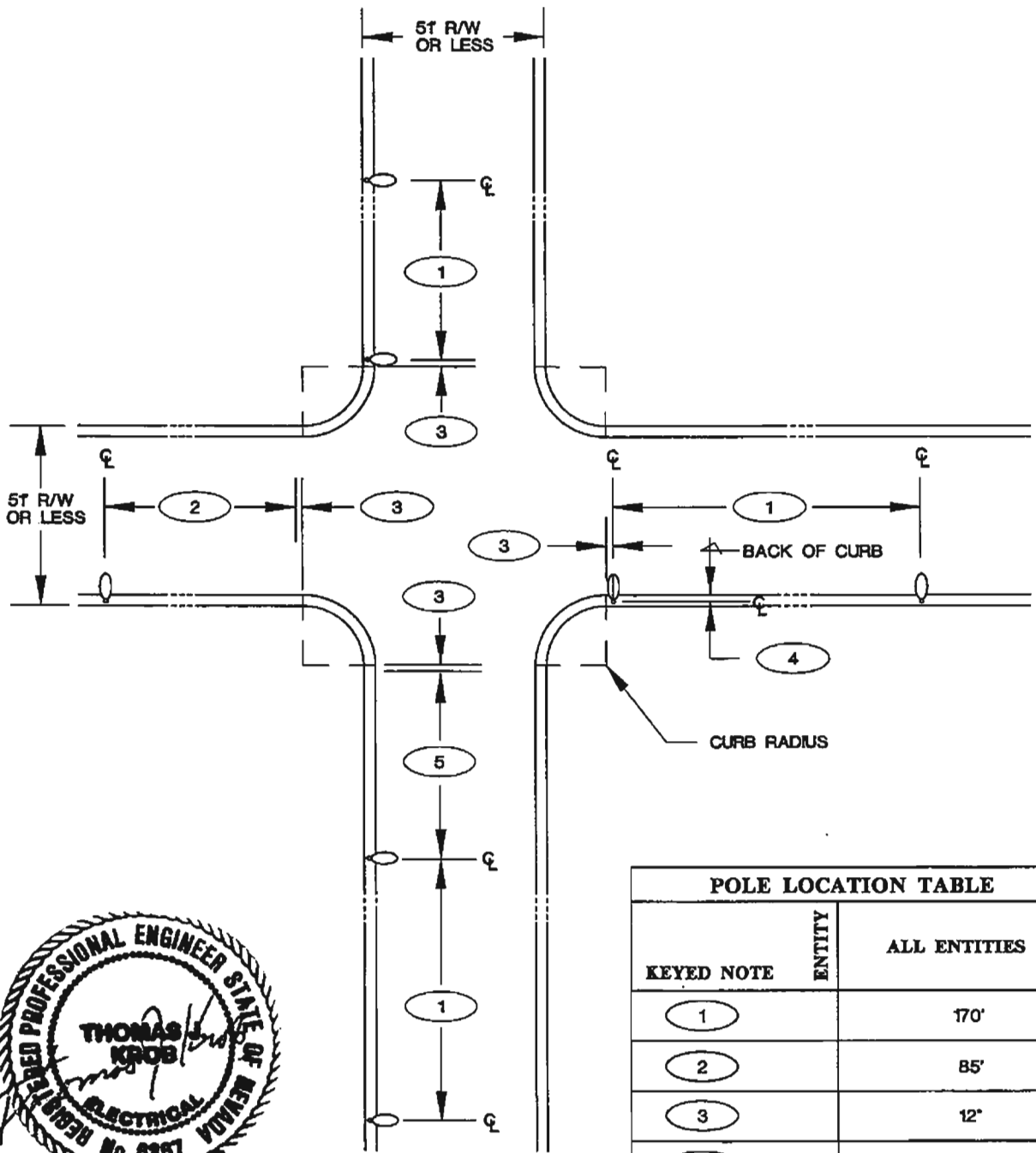
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT LOCATIONS AT INTERSECTIONS 60'/60' RIGHT-OF-WAY	
DATE 12-12-96		DWG. NO. 308	PAGE NO. 68



**NOTE:**  
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

POLE LOCATION TABLE	
KEYED NOTE	ENTITY
1	180'
2	90'
3	12'
4	(SEE DRAWING NO. 320)
5	85'
6	170'

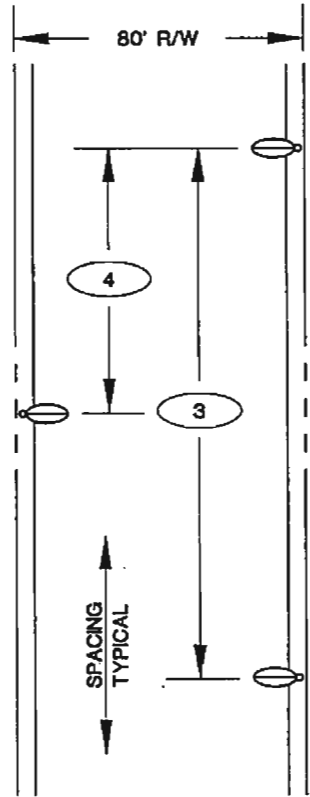
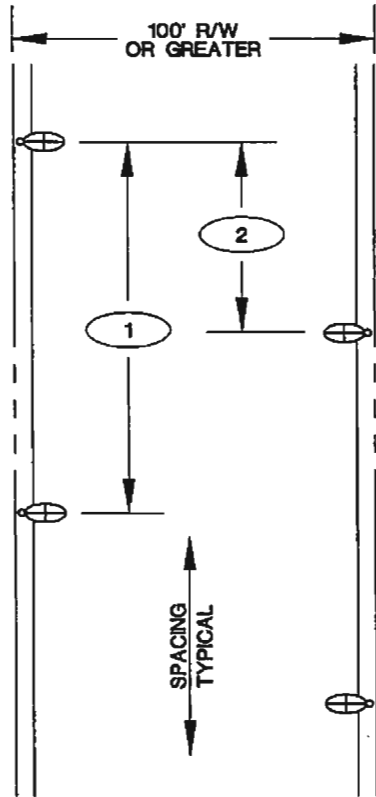
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT LOCATIONS AT INTERSECTIONS 60'/51' OR LESS RIGHT-OF-WAY		
		DATE 12-12-96	DWG. NO. 309	PAGE NO. 69



KEYED NOTE	ENTITY	ALL ENTITIES
1		170'
2		85'
3		12'
4		(SEE DRAWING NO. 320)
5		85'

**NOTE:**  
SEE GENERAL NOTES STANDARD DRAWING NO. 300.

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT LOCATIONS AT INTERSECTIONS 51' OR LESS/51' OR LESS RIGHT-OF-WAY		
		DATE 12-12-96	DWG. NO. 310	PAGE NO. 70



**NOTES:**

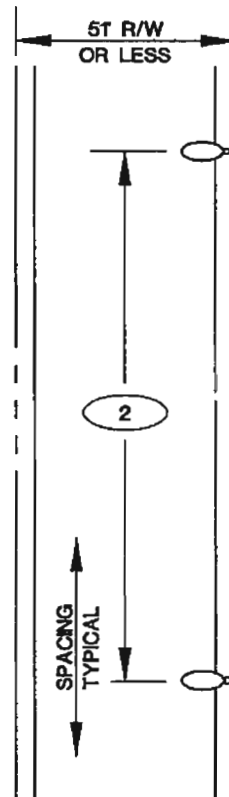
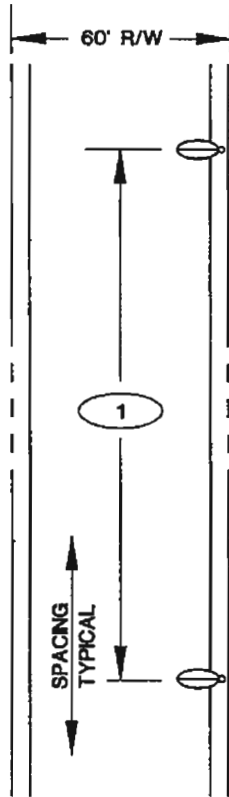
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.
2. AN APPROVED LIGHTING STUDY PER NOTE 2, STANDARD DRAWING NO. 300 IS REQUIRED FOR RIGHT-OF-WAY GREATER THAN 100 FEET.



4-2-97

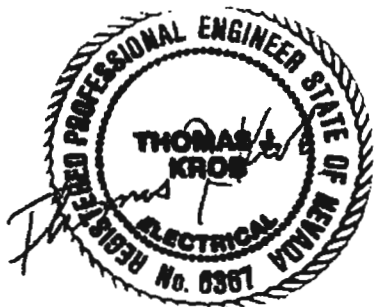
POLE LOCATION TABLE		
KEYED NOTE	ENTITY	ALL ENTITIES
1		160'
2		80'
3		170'
4		85'

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT STANDARDS MAXIMUM SPACING (80 FT. OR GREATER RIGHT-OF-WAY)	
DATE 12-12-96		DWG. NO. 311	PAGE NO. 71



**NOTES:**

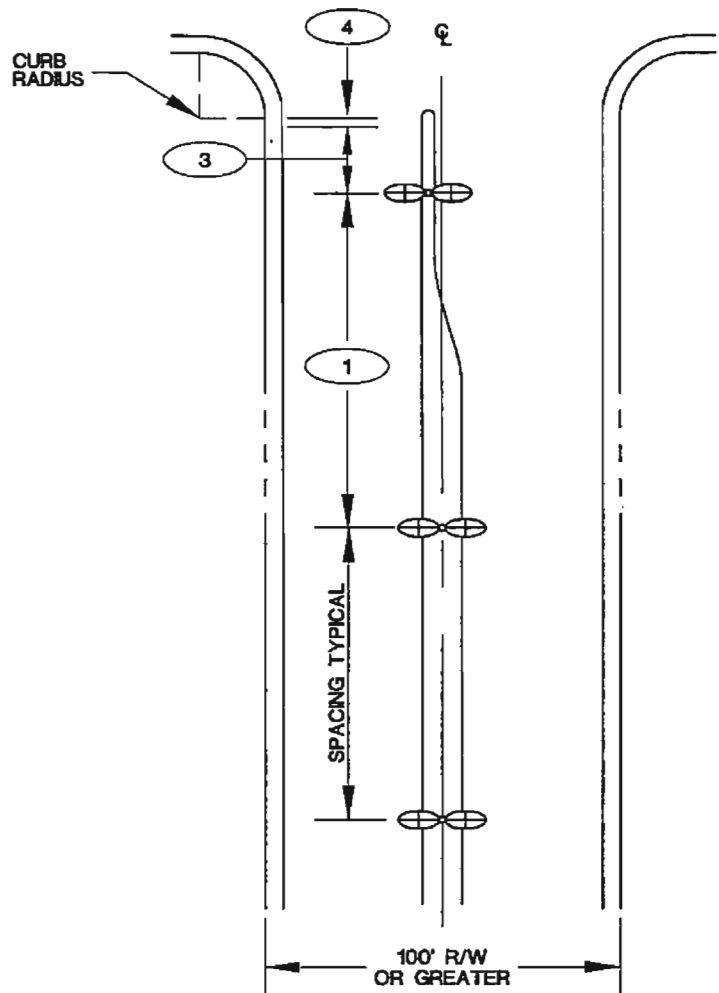
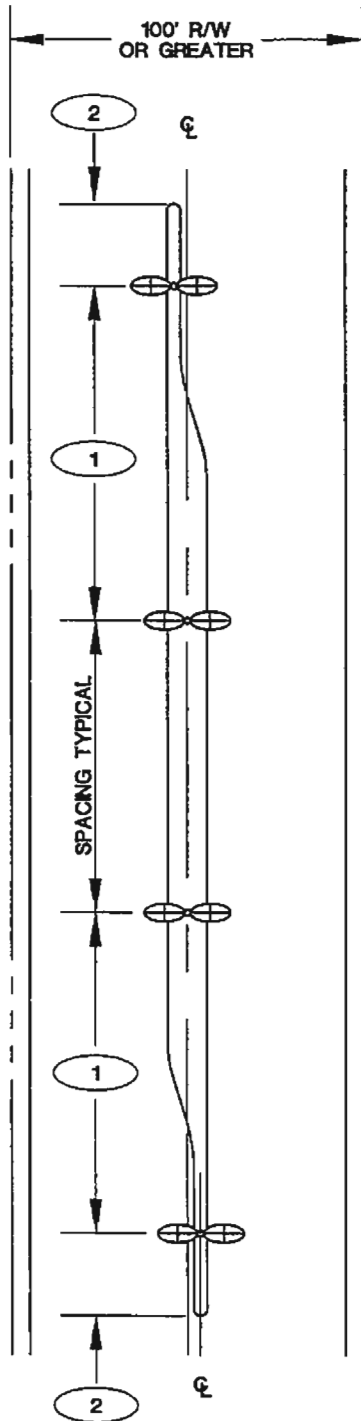
1. SEE GENERAL NOTES STANDARD DRAWING NO. 300.



4-2-97

POLE LOCATION TABLE		
KEYED NOTE	ENTITY	ALL ENTITIES
1		180'
2		170'

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT STANDARDS MAXIMUM SPACING (60 FT. OR LESS RIGHT-OF-WAY)		
		DATE 12-12-96	DWG. NO. 311A	PAGE NO. 71A



SPACING FOR SIGNALIZED INTERSECTIONS



4297

**NOTES:**

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

POLE LOCATION TABLE		
KEYED NOTE	ENTITY	ALL ENTITIES
* (1)		160'
(2)		10'
(3)		80'
(4)		12'

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

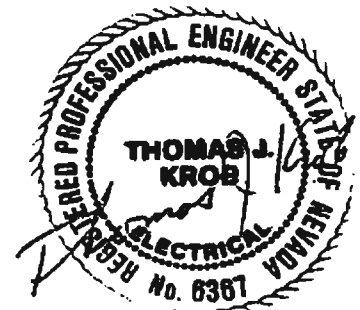
SPECIFICATION REFERENCE	
623	TRAFFIC SIGNALS & STREETLIGHTING

**UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA**

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

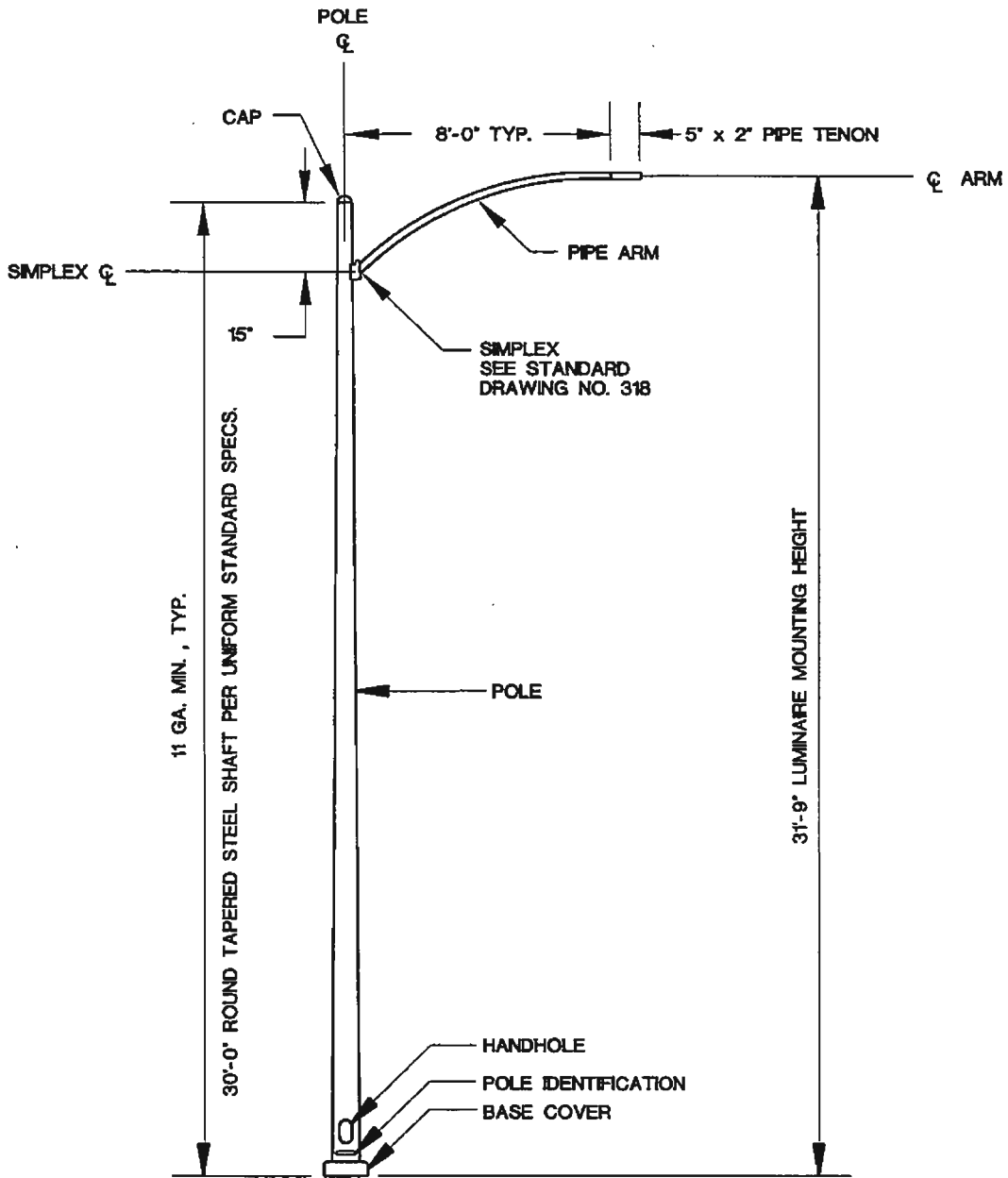
DATE 12-12-96	DWG. NO. 312	PAGE NO. 72
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1. ALL STREETLIGHT STANDARDS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF THE STANDARD SPECIFICATIONS AND AS INDICATED ON THESE DRAWINGS.
  
2. ALL COMPONENTS OF THE STREETLIGHT STANDARD INCLUDING 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 CONCRETE CAP. 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.



4-2-97

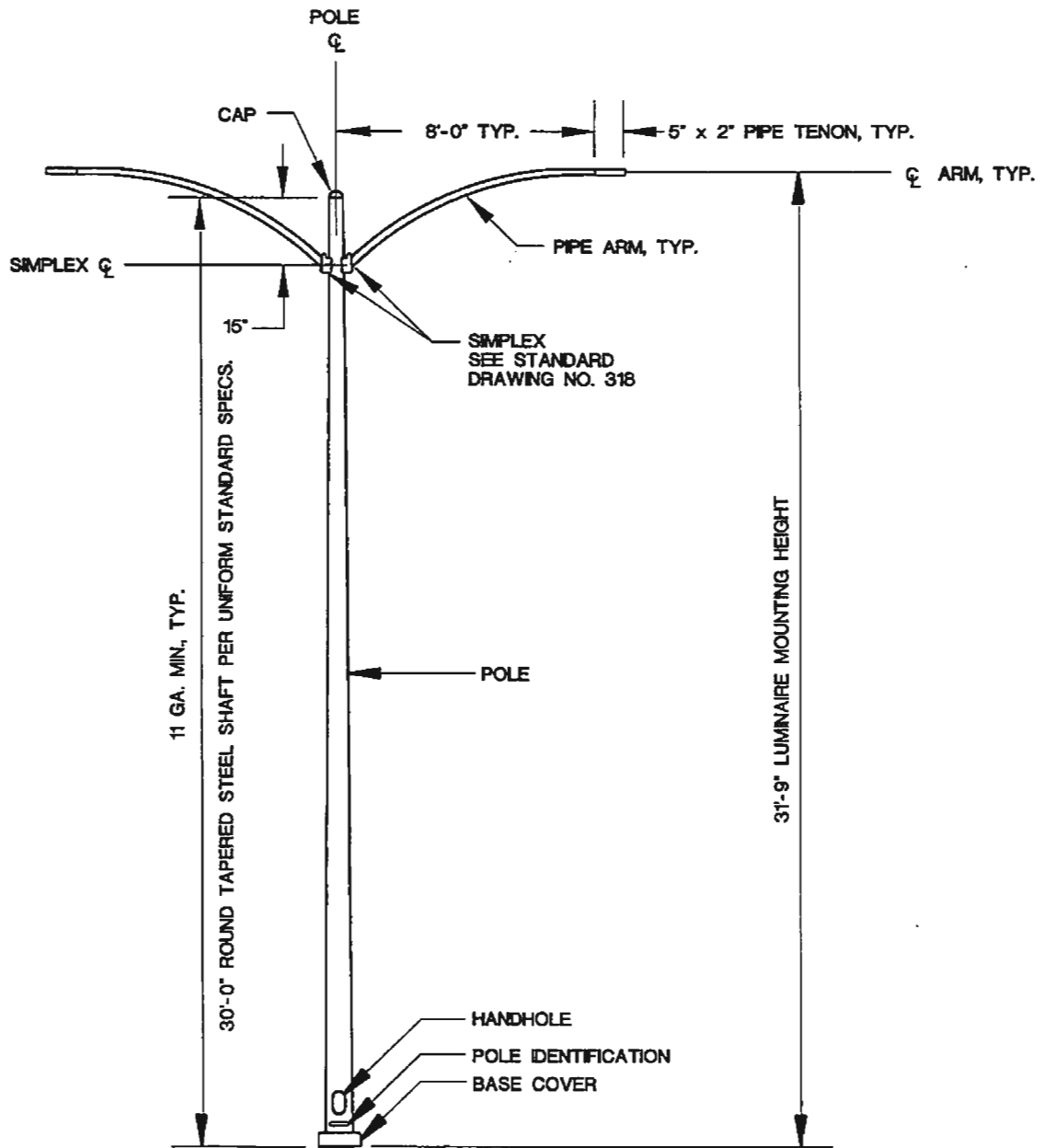
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT STANDARD GENERAL NOTES		
		DATE 12-12-96	DWG. NO. 313	PAGE NO. 73



**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.

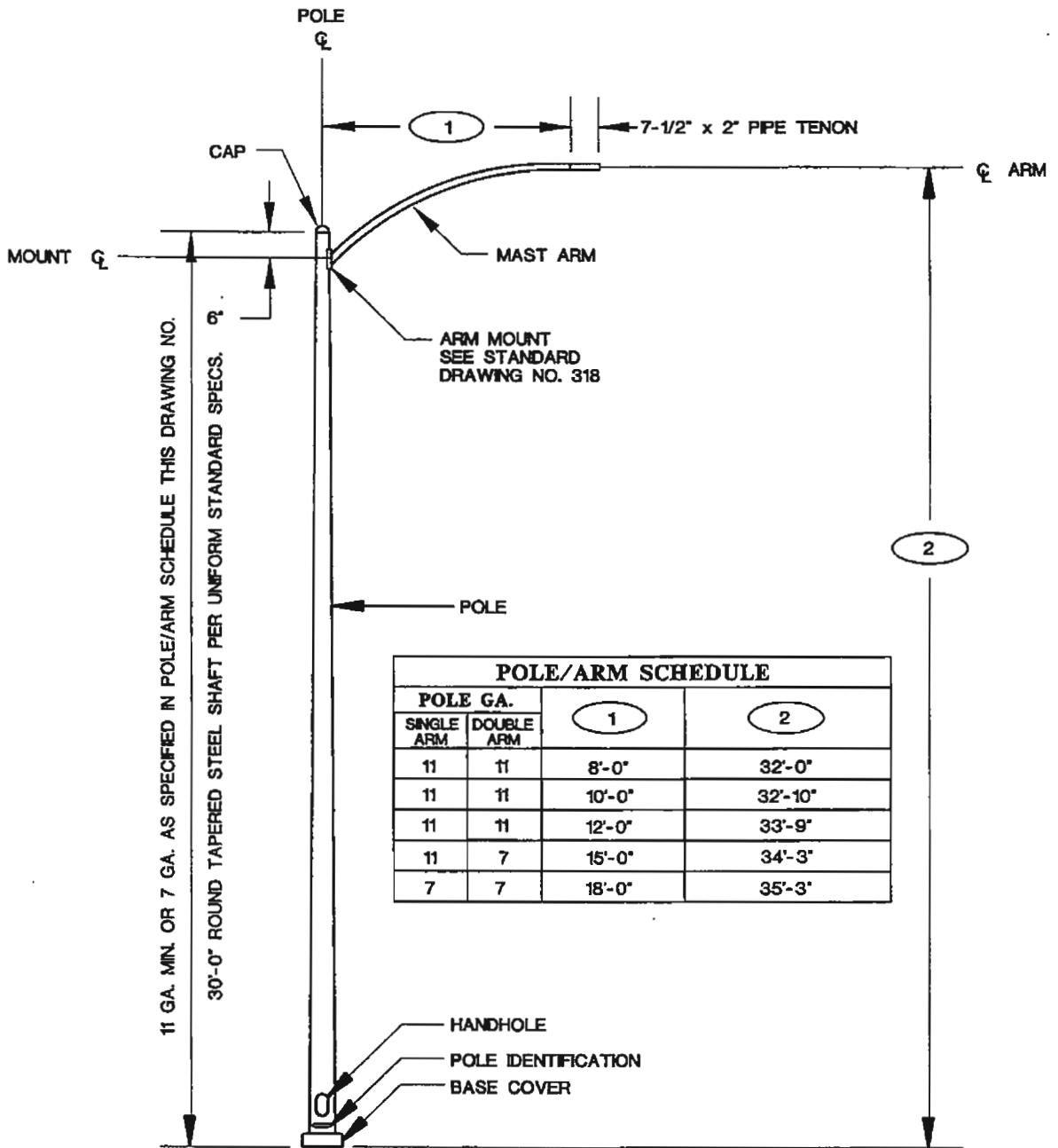
<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>		
506	STEEL STRUCTURES	<b>STREETLIGHT STANDARD WITH 2" PIPE ARM</b>		
623	TRAFFIC SIGNALS & STREETLIGHTING			
715	GALVANIZING			
		DATE 12-12-96	DWG. NO. 314	PAGE NO. 74



**NOTES:**

1. SEE GENERAL NOTES STANDARD DRAWING NO. 313.
2. SEE STANDARD DRAWING NO. 319 FOR DETAIL OF POLE BASE.
3. SEE STANDARD DRAWING NO. 318 FOR DETAIL OF POLE CAP.

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
506	STEEL STRUCTURES	STREETLIGHT STANDARD WITH DOUBLE 2" PIPE ARM		
623	TRAFFIC SIGNALS & STREETLIGHTING			
715	GALVANIZING			
		DATE 12-12-96	DWG. NO. 315	PAGE NO. 75

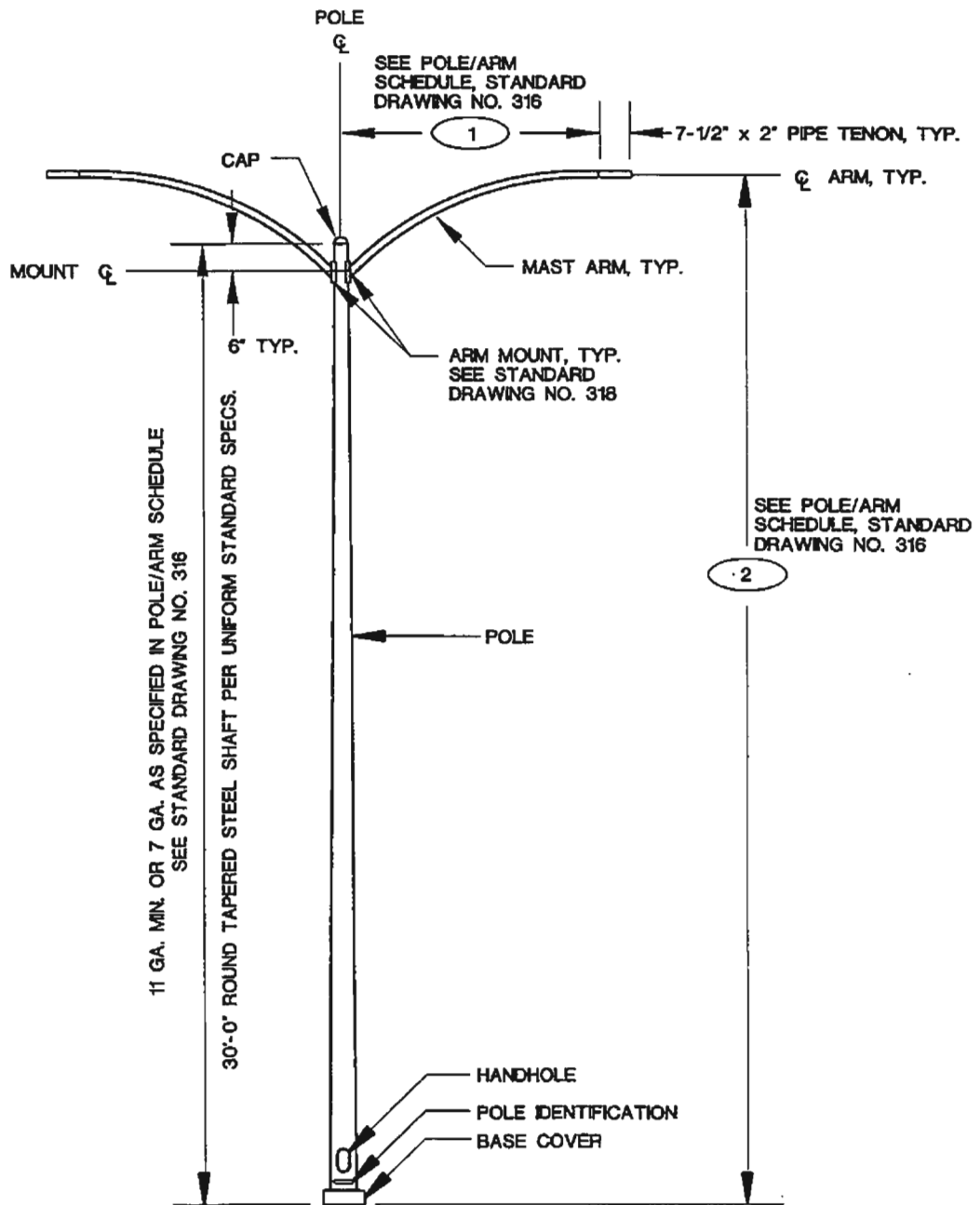


POLE/ARM SCHEDULE			
POLE GA.		1	2
SINGLE ARM	DOUBLE ARM		
11	11	8'-0"	32'-0"
11	11	10'-0"	32'-10"
11	11	12'-0"	33'-9"
11	7	15'-0"	34'-3"
7	7	18'-0"	35'-3"

**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.

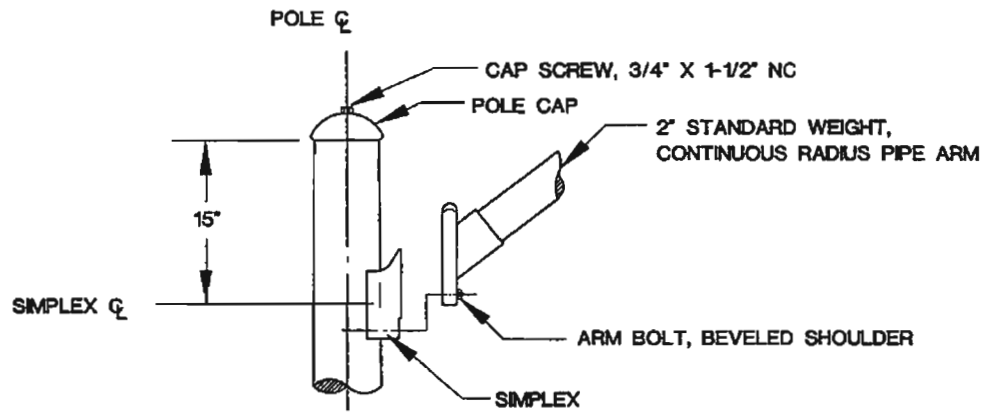
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
506	STEEL STRUCTURES	STREETLIGHT STANDARD WITH TAPERED MAST ARM		
623	TRAFFIC SIGNALS & STREETLIGHTING			
715	GALVANIZING			
		DATE 12-12-96	DWG. NO. 316	PAGE NO. 76



**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.

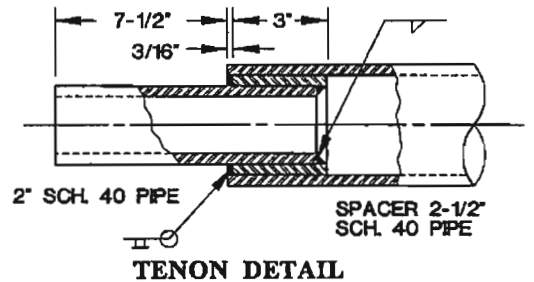
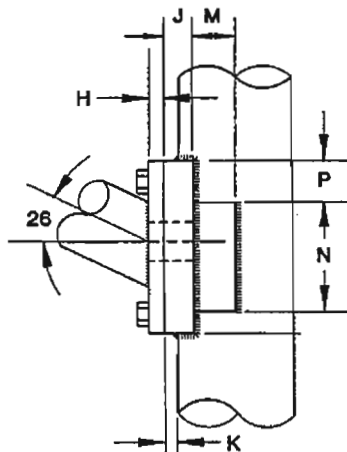
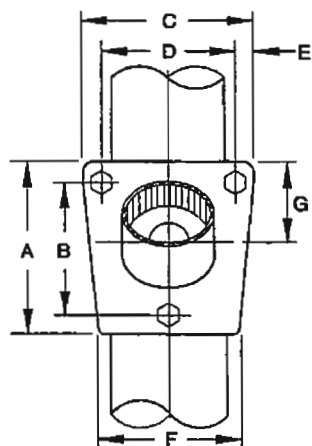
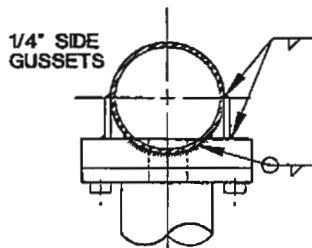
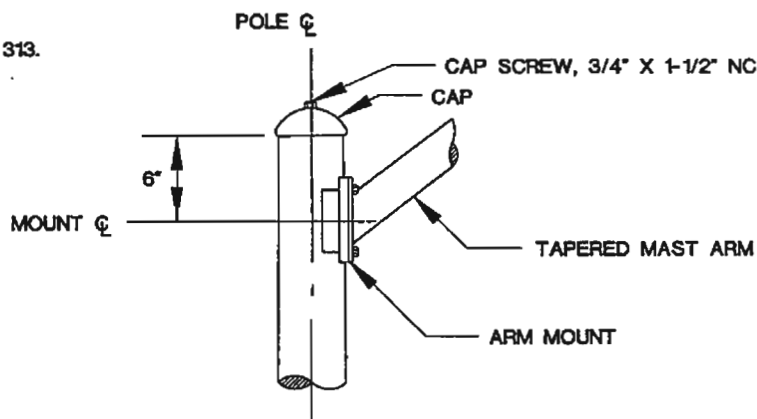
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
506	STEEL STRUCTURES	STREETLIGHT STANDARD WITH DOUBLE TAPERED MAST ARM		
623	TRAFFIC SIGNALS & STREETLIGHTING			
715	GALVANIZING			
		DATE 12-12-96	DWG. NO. 317	PAGE NO. 77



**PIPE ARM**

**NOTE:**

SEE GENERAL NOTES  
STANDARD DRAWING NO. 313.



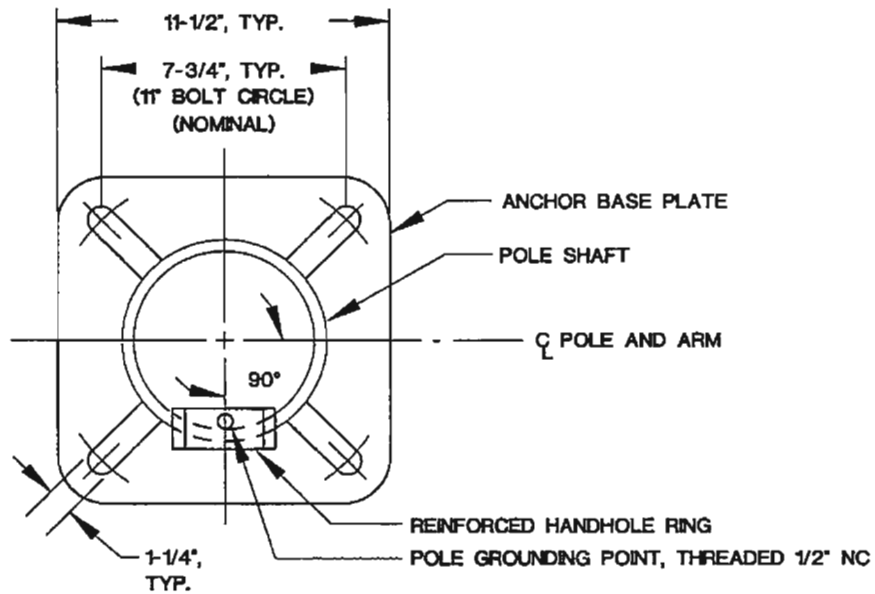
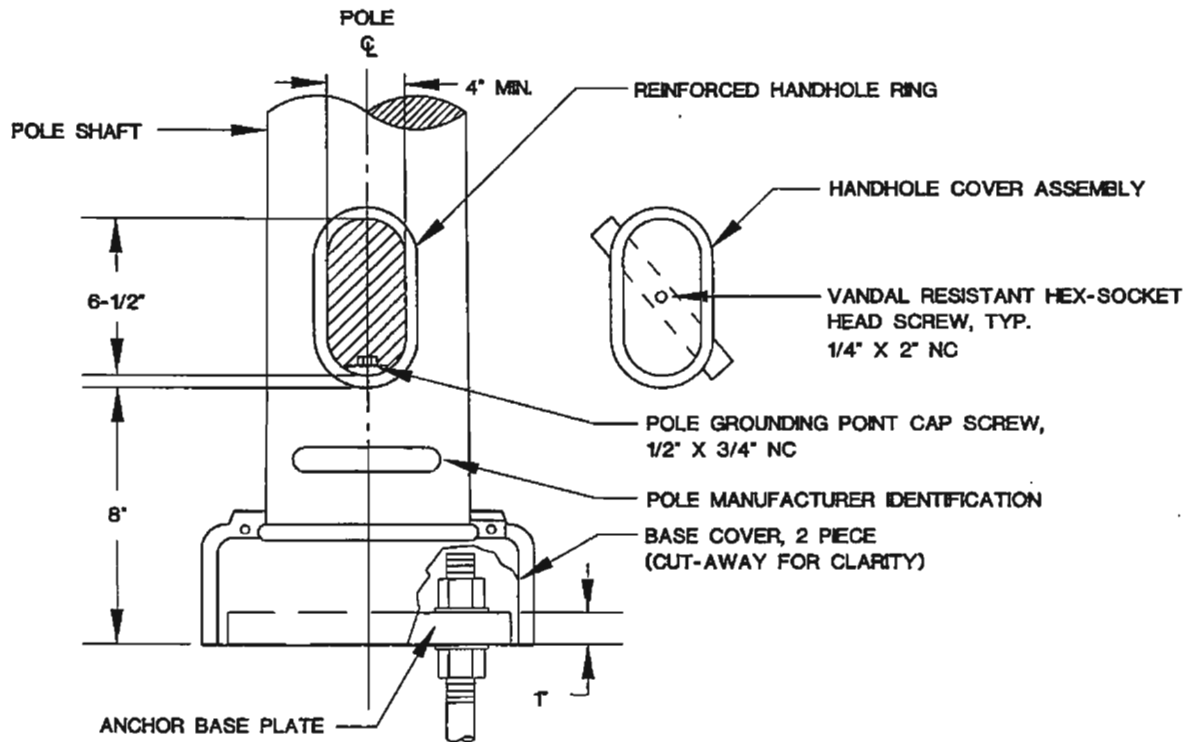
MAST ARM	A	B	C	D	E	F	G
8'-15" INCL.	7-1/2"	5-3/4"	6-3/8"	4-5/8"	7/8"	5"	3-3/8"
15'-18" INCL.	9"	7"	8"	6"	1"	6"	4"

MAST ARM	H	J	K	L	M	N	P
8'-15" INCL.	1/2"	1"	5/16"	5/8"-10X1-1/2"	1-1/2"	5"	1-5/8"
15'-18" INCL.	3/4"	1"	5/16"	3/4"-10X1-3/4"	2"	5"	1-3/4"

**MAST ARM AND DETAILS**

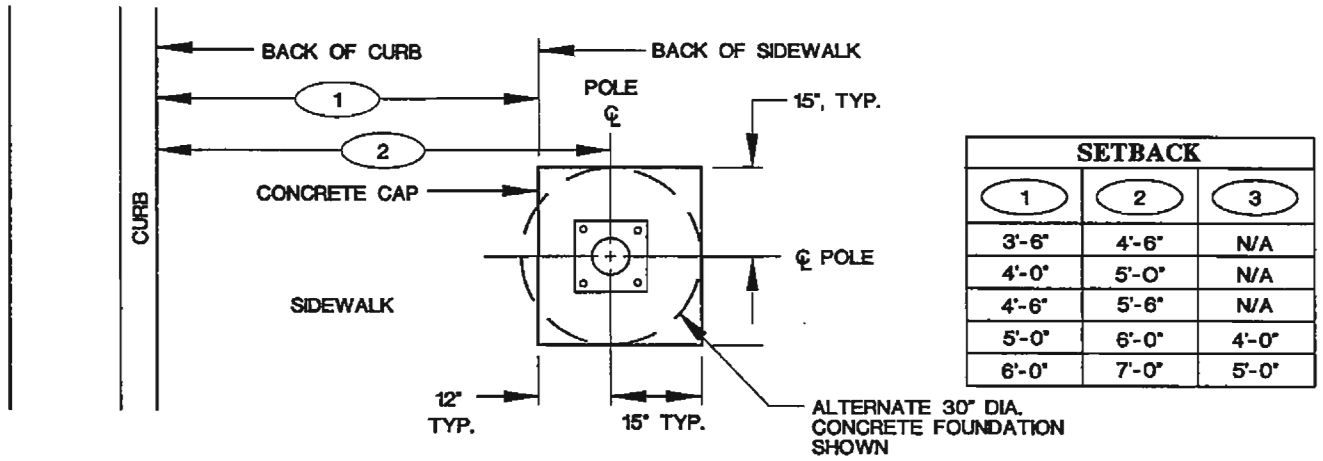
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
506	STEEL STRUCTURES	POLE TOP AND ARM MOUNTING DETAILS	
623	TRAFFIC SIGNALS & STREETLIGHTING		
715	GALVANIZING		
		DATE 12-12-96	DWG. NO. 318
		PAGE NO. 78	



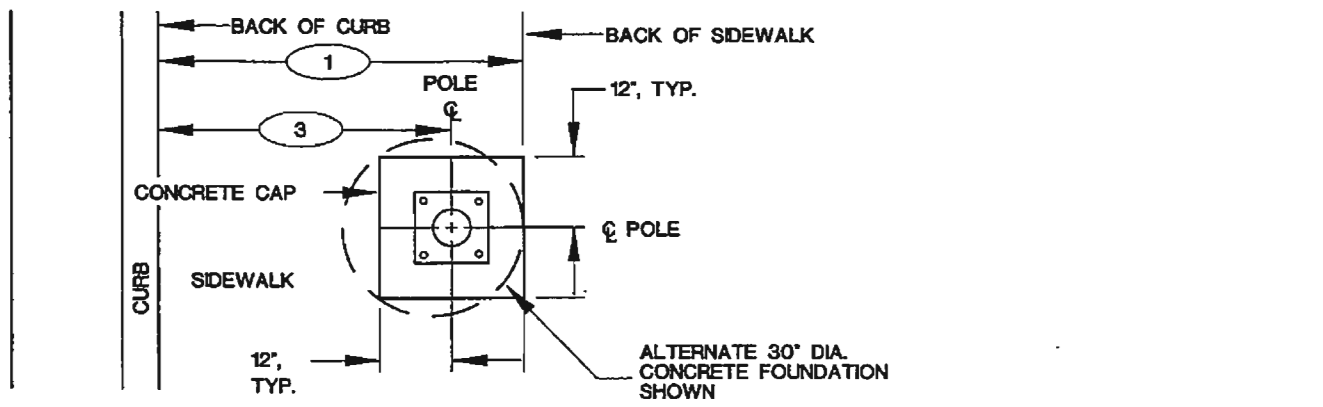
**NOTES:**

1. SEE GENERAL NOTES STANDARD DRAWING NO. 313
2. HANDHOLE SHALL FACE AWAY FROM ONCOMING TRAFFIC.

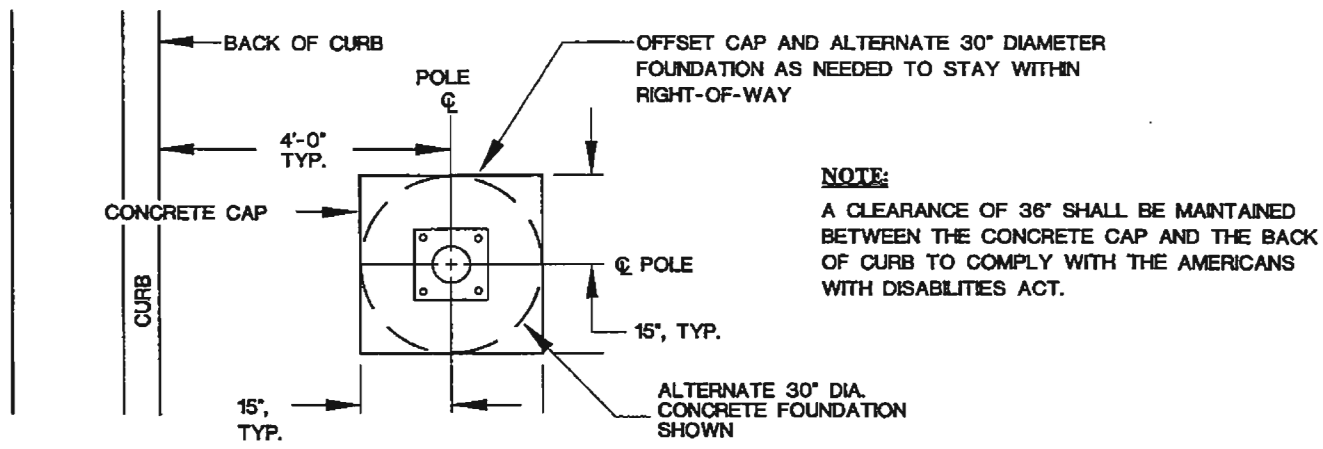
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
506	STEEL STRUCTURES	<b>LOWER POLE DETAILS FOR PIPE AND MAST ARM POLES</b>		
623	TRAFFIC SIGNALS & STREETLIGHTING			
715	GALVANIZING			
		DATE 12-12-96	DWG. NO. 319	PAGE NO. 79



**BEHIND SIDEWALK**



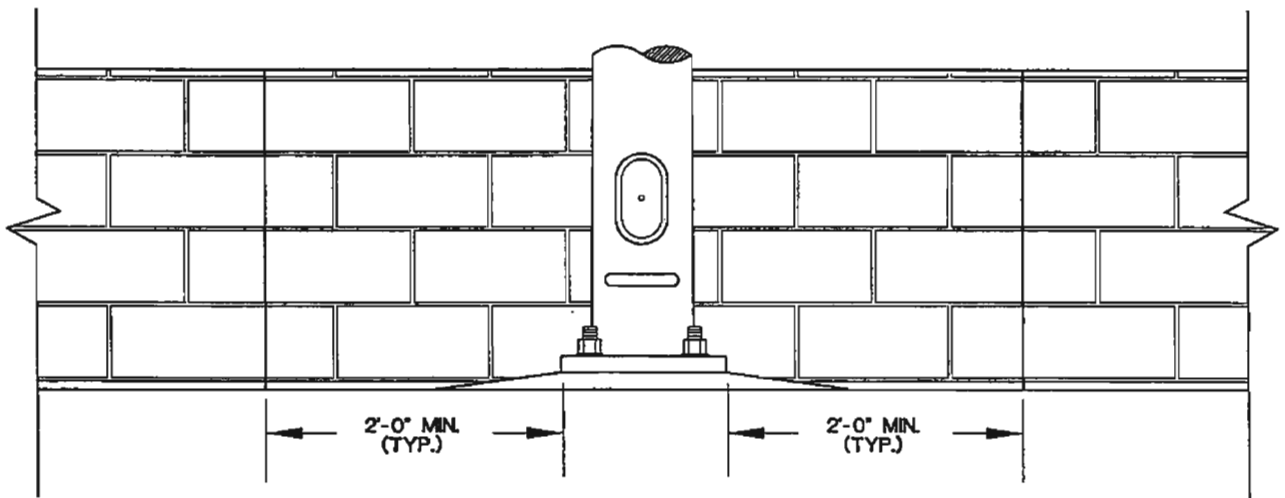
**BACK PORTION OF SIDEWALK**



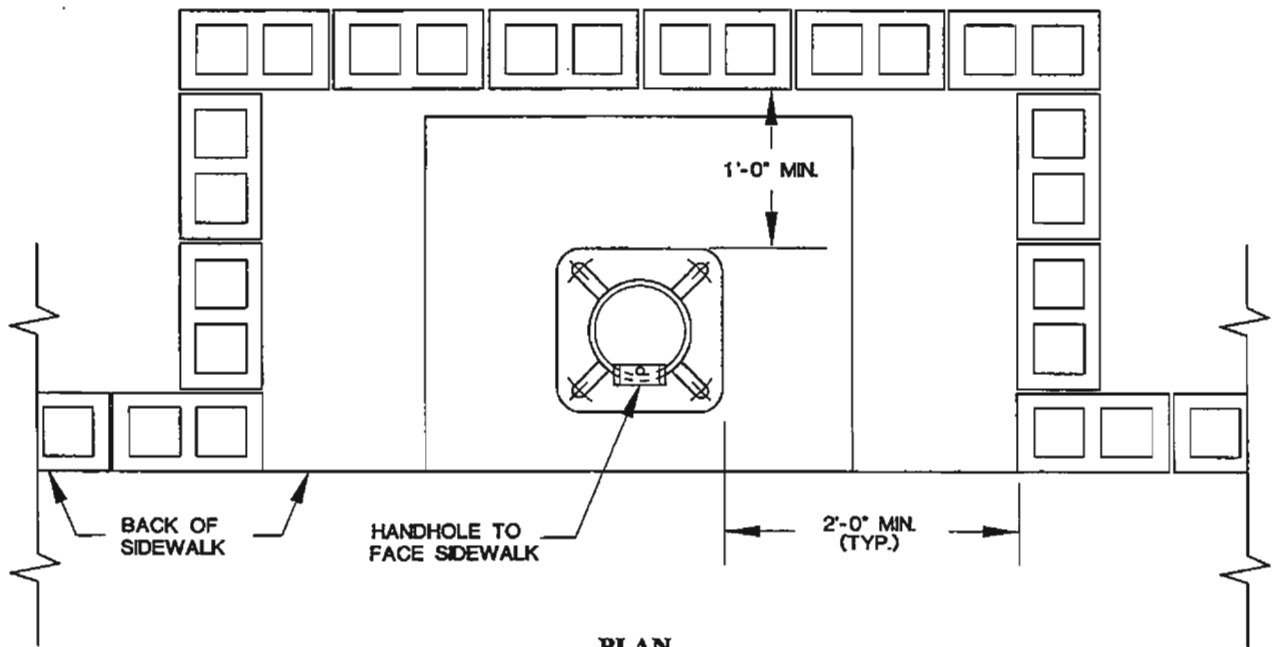
**OPEN AREA**

**NOTE:**  
A CLEARANCE OF 36" SHALL BE MAINTAINED BETWEEN THE CONCRETE CAP AND THE BACK OF CURB TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
501	PORTLAND CEMENT CONCRETE	LIGHTING STANDARD SETBACK		
623	TRAFFIC SIGNALS & STREETLIGHTING			
		DATE 12-12-96	DWG. NO. 320	PAGE NO. 80



**ELAVATION**

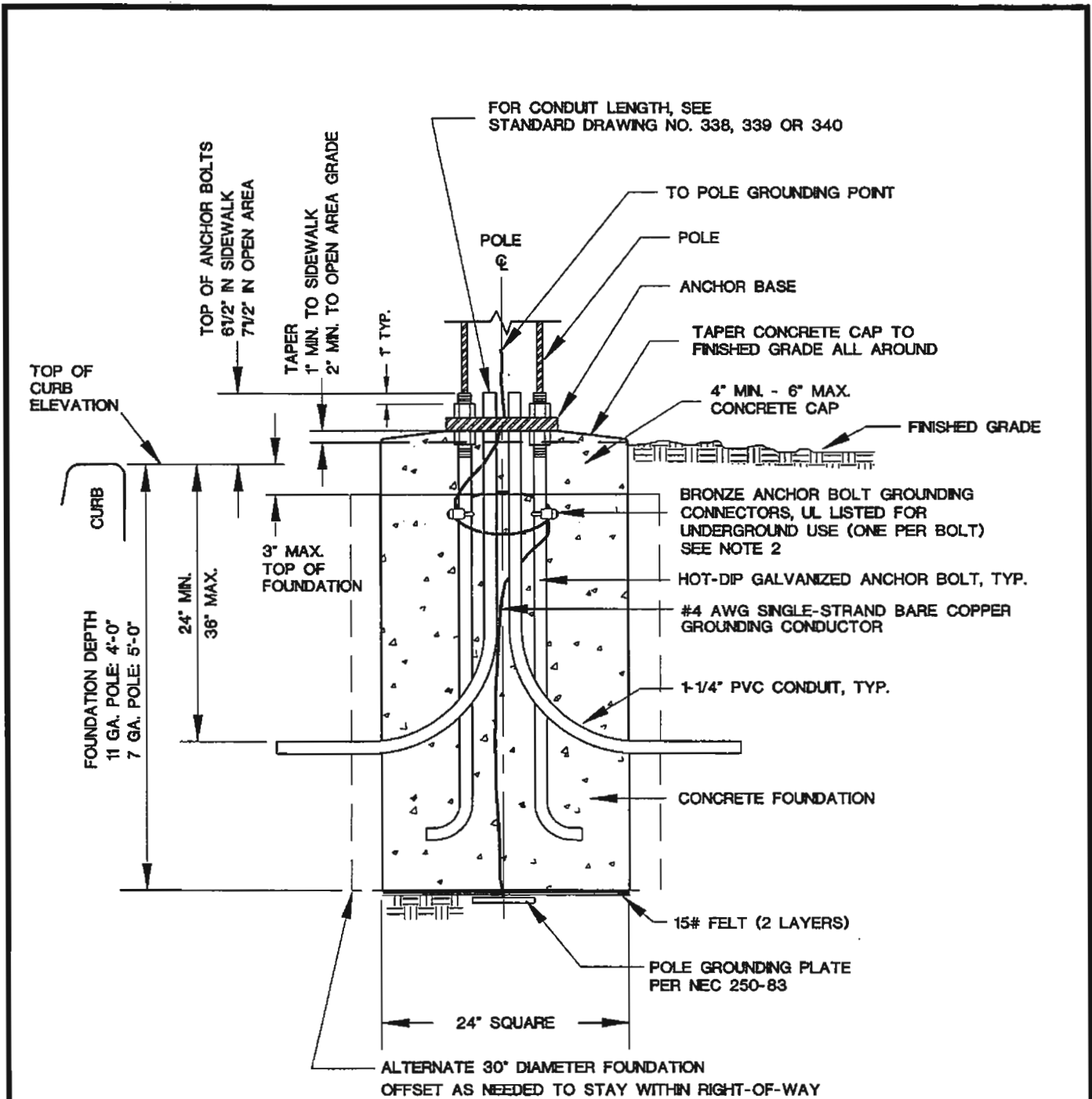


**PLAN**

**NOTE:**

POLE BASE COVERS SHALL BE FURNISHED AND INSTALLED FOR ALL POLES PER THE STANDARD SPECIFICATIONS AND DRAWINGS.

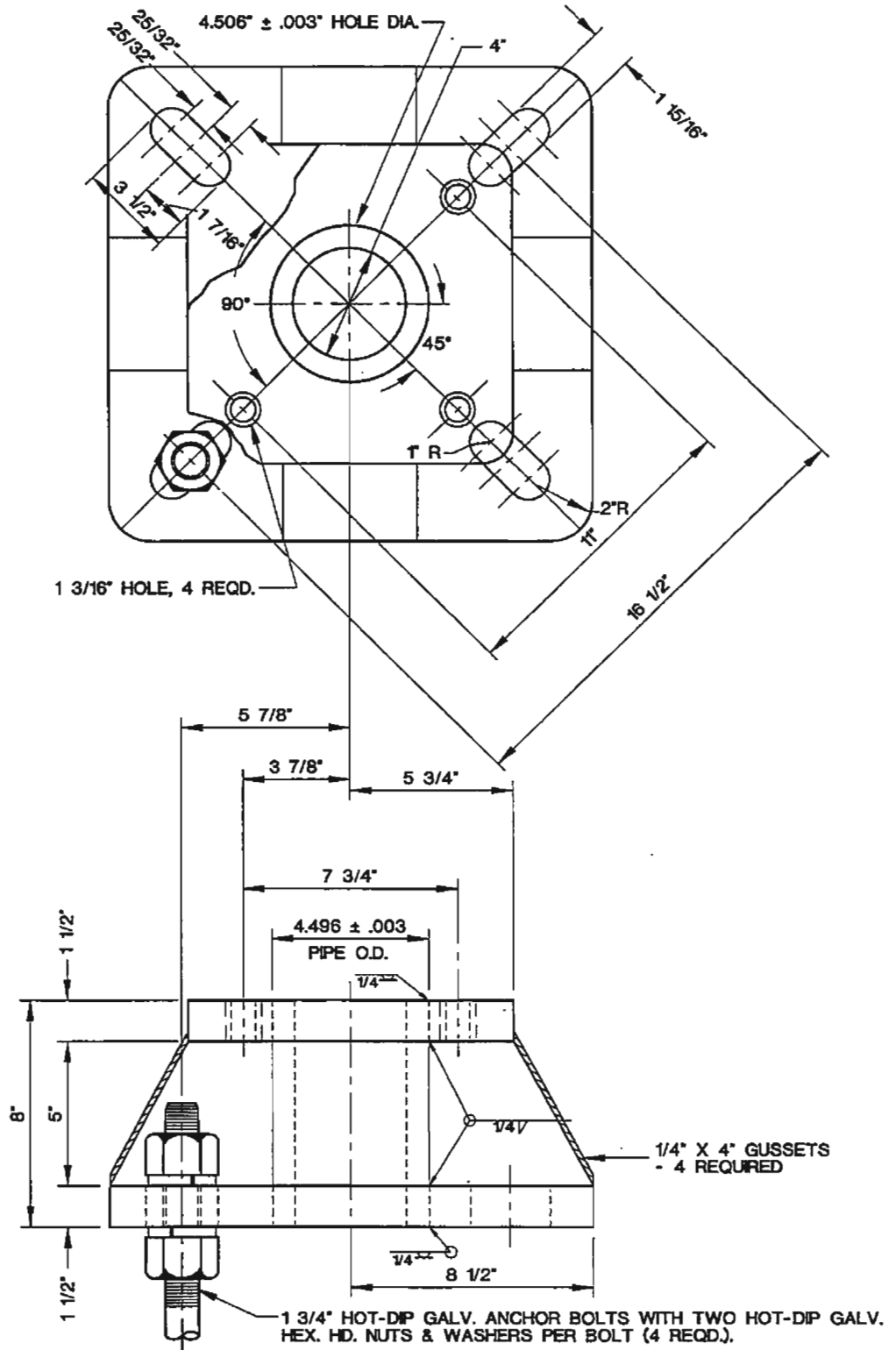
<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>	
623	TRAFFIC SIGNALS & STREETLIGHTING	<b>LIGHTING STANDARD SETBACK FROM BLOCK WALL</b>	
DATE 12-12-96		DWG. NO. 320A	PAGE NO. 80A



**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.

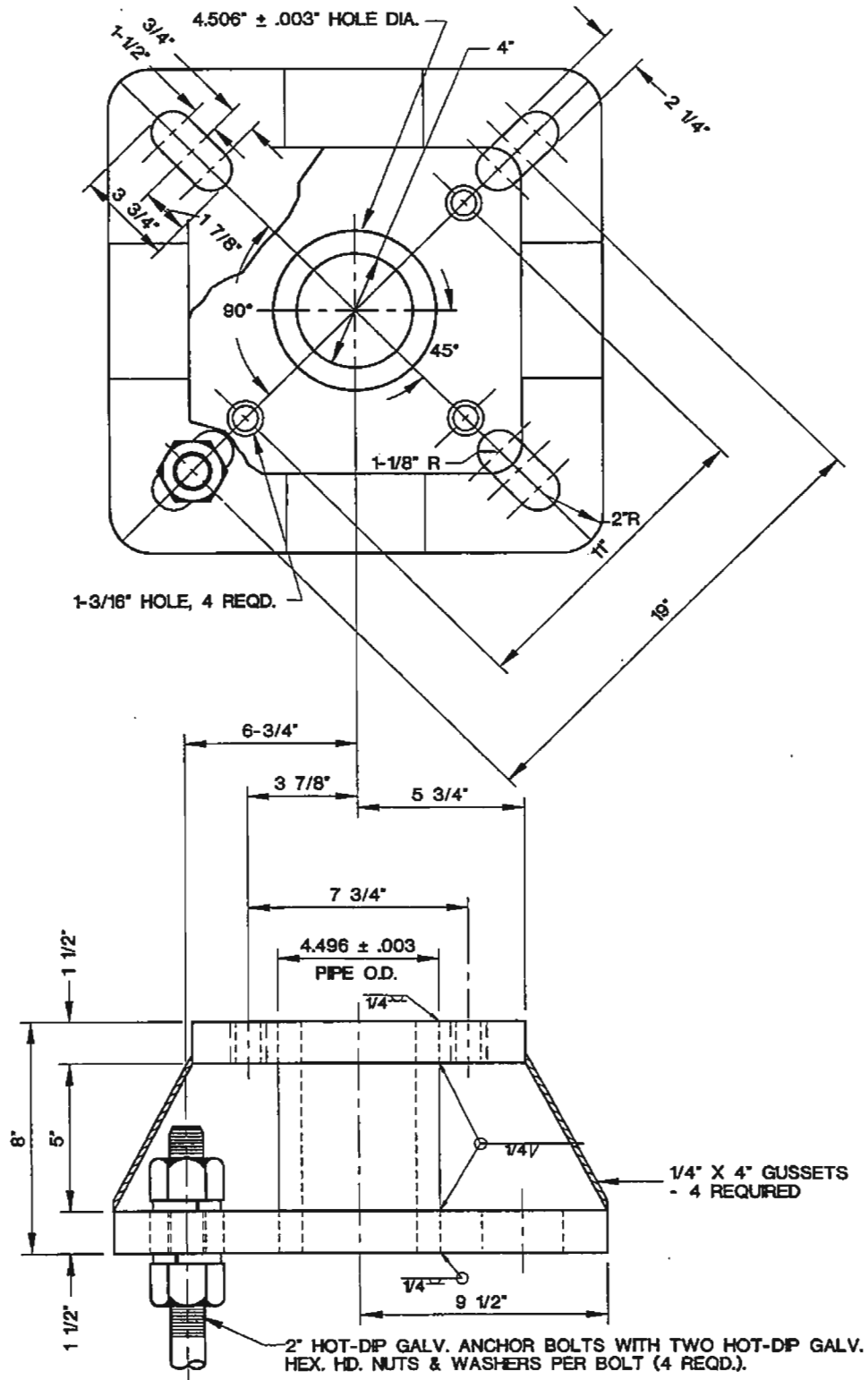
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
501	PORTLAND CEMENT CONCRETE	<b>LIGHTING STANDARD FOUNDATION</b>		
623	TRAFFIC SIGNALS & STREETLIGHTING			
		DATE 12-12-96	DWG. NO. 321	PAGE NO. 81



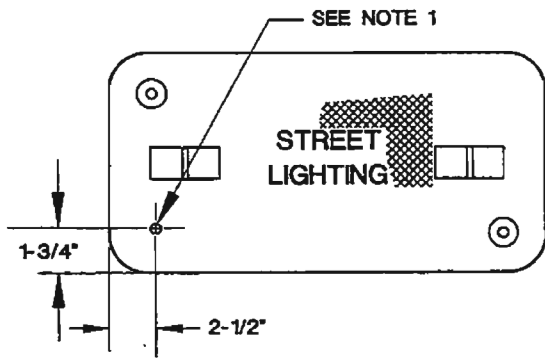
SPECIFICATION REFERENCE	

**UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA**

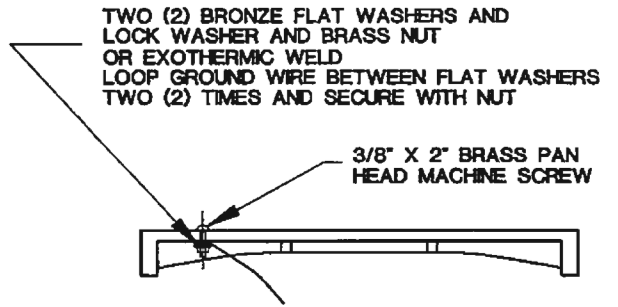
**BASE ADAPTOR PLATE  
FOR 16-1/2" BOLT CIRCLE FOUNDATION**



SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
		<b>BASE ADAPTOR PLATE FOR 19" BOLT CIRCLE FOUNDATION</b>		
		DATE 12-12-96	DWG. NO. 322A	PAGE NO. 82A

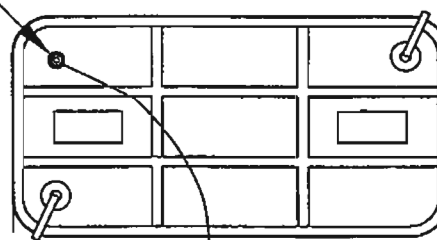


**PULL BOX COVER - TOP VIEW**



**PULL BOX COVER - SIDE 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



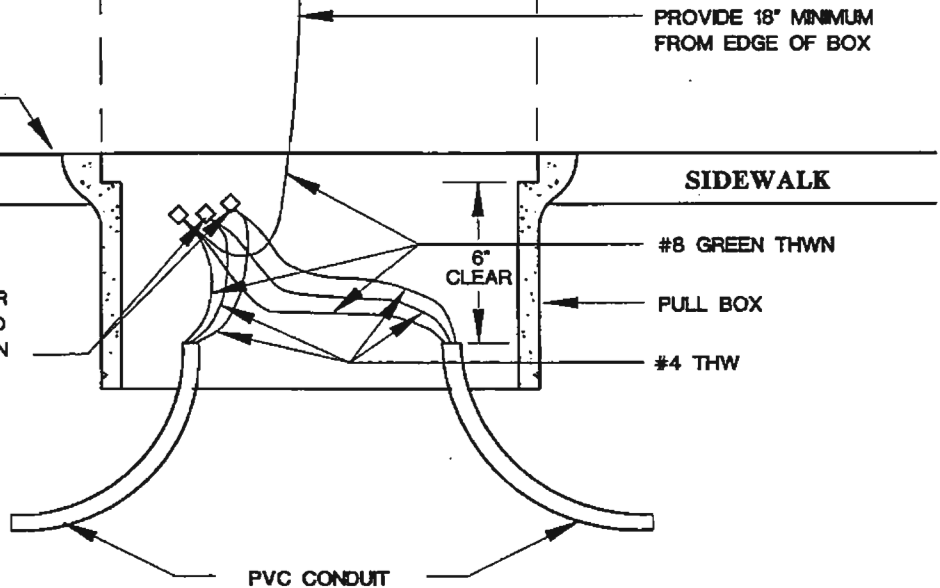
COVER MOUNTING BOLT, TYP.

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

PROVIDE 18" MINIMUM FROM EDGE OF BOX

FINISHED GRADE

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



SIDEWALK

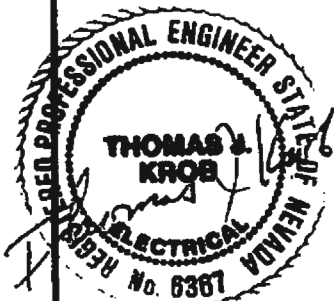
#8 GREEN THWN

PULL BOX

#4 THW

PVC CONDUIT

(TYPICAL CAST IRON LID SHOWN)



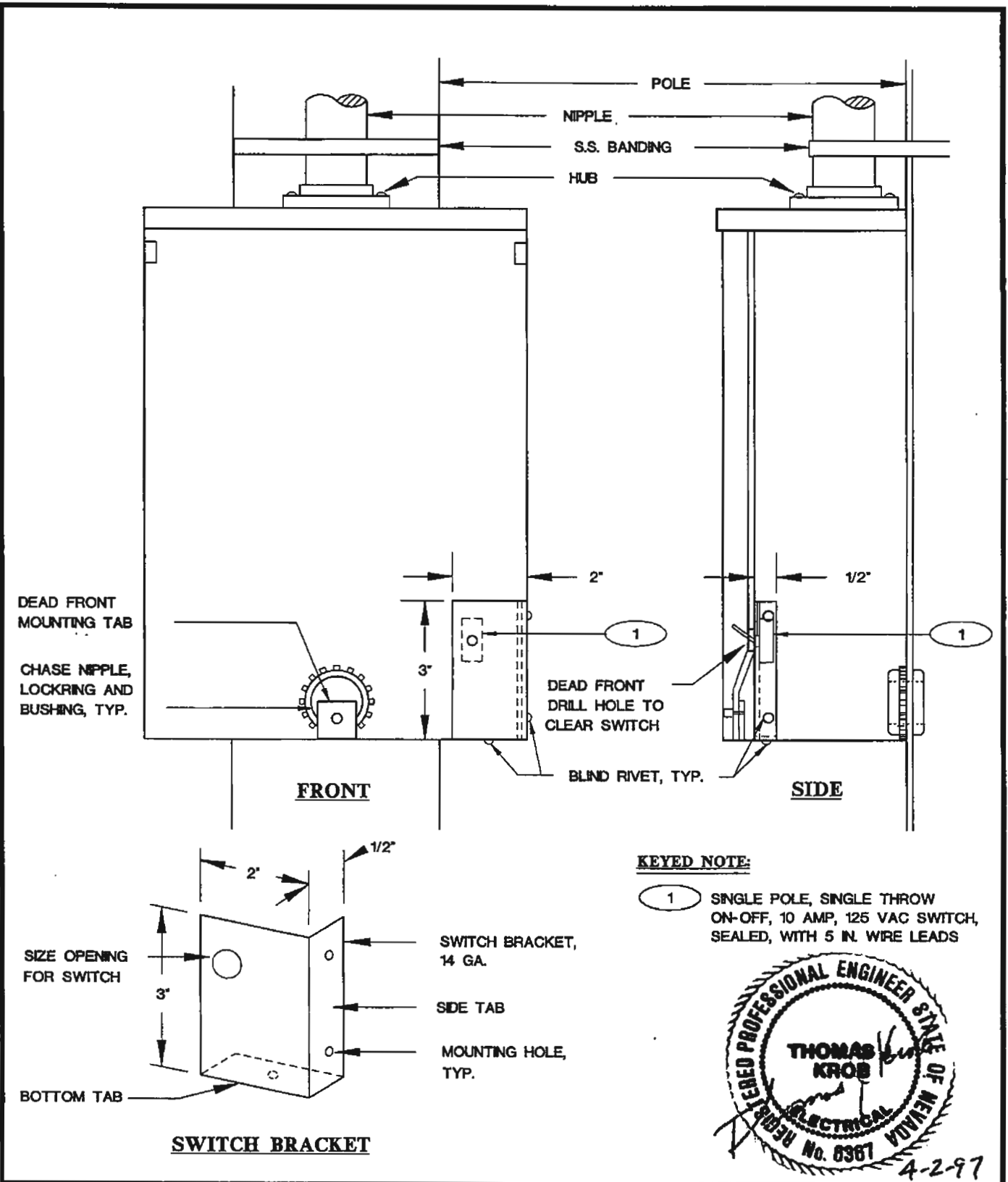
4-2-97

**NOTES:**

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

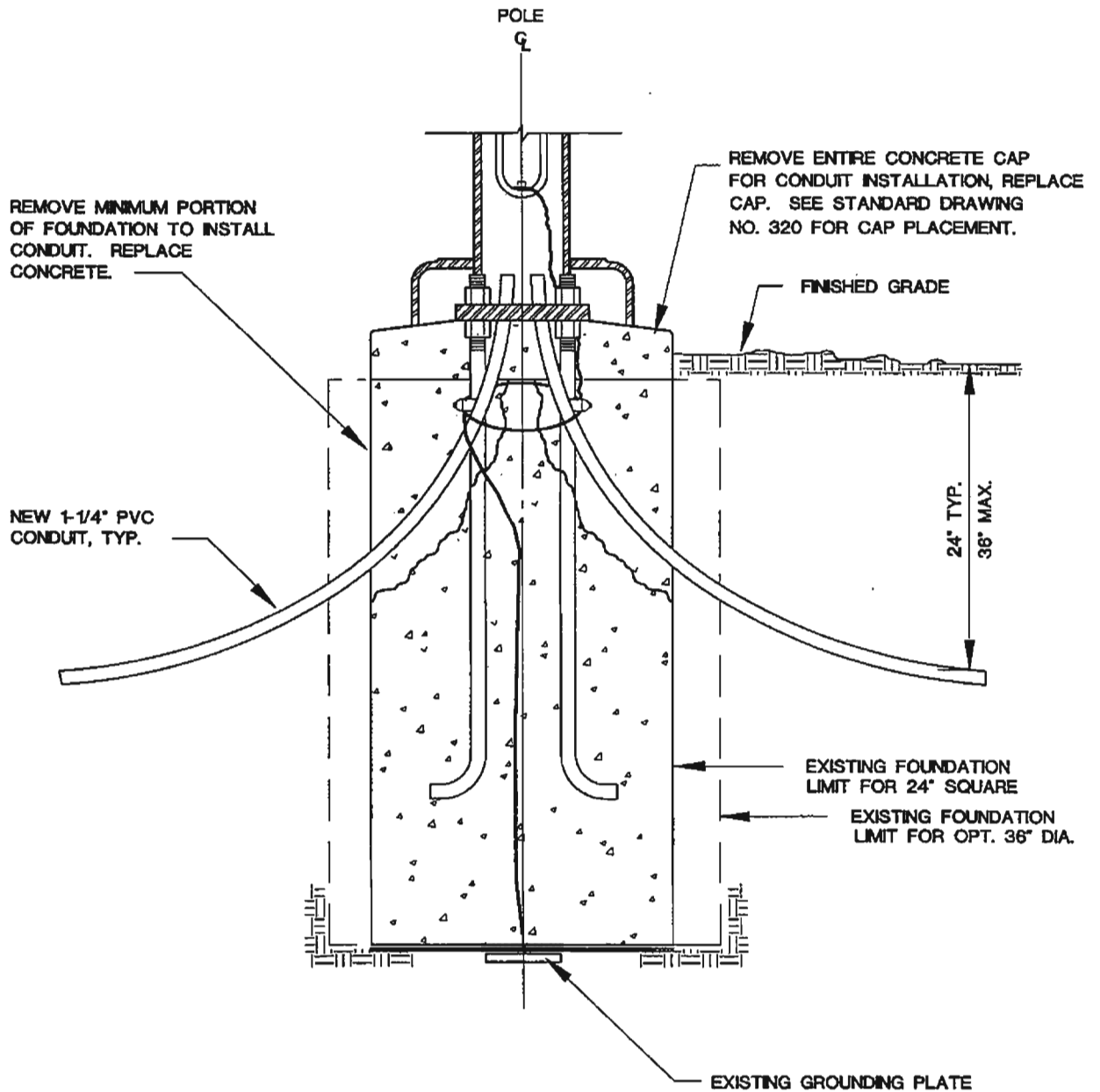
SPECIFICATION REFERENCE	
623	TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA			
PULL BOX COVER BONDING DETAIL			
DATE 12-12-96	DWG. NO.	323	PAGE NO. 83



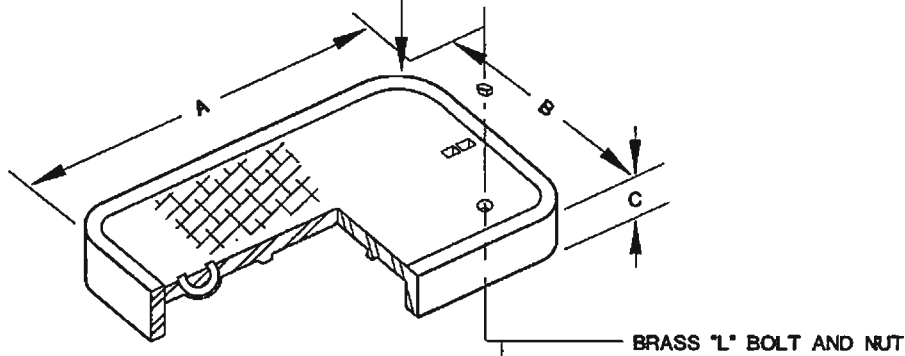
SPECIFICATION REFERENCE	
623	TRAFFIC SIGNALS & STREETLIGHTING

<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>	
<b>BYPASS SWITCH BRACKET FOR POLE MOUNTED STREETLIGHTING SERVICE (EXCEPT CITY OF HENDERSON)</b>	
DATE 12-12-96	DWG. NO. 324
PAGE NO. 84	

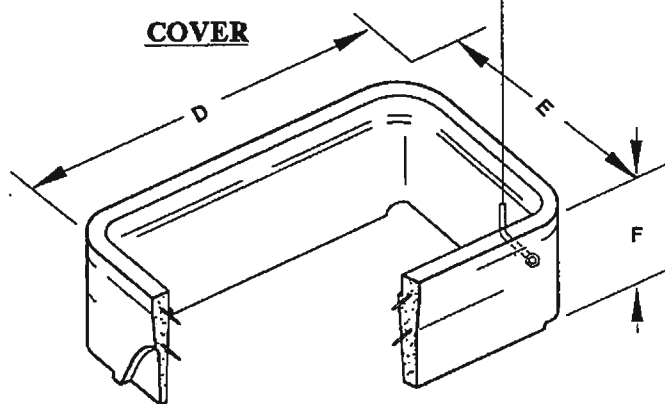


SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
501	PORTLAND CEMENT CONCRETE	MODIFIED EXISTING STREETLIGHT FOUNDATION FOR INSTALLATION OF UNDERGROUND CONDUIT (CITY OF LAS VEGAS AND CLARK COUNTY ONLY)		
623	TRAFFIC SIGNALS & STREETLIGHTING			
		DATE 12-12-96	DWG. NO. 325	PAGE NO. 85

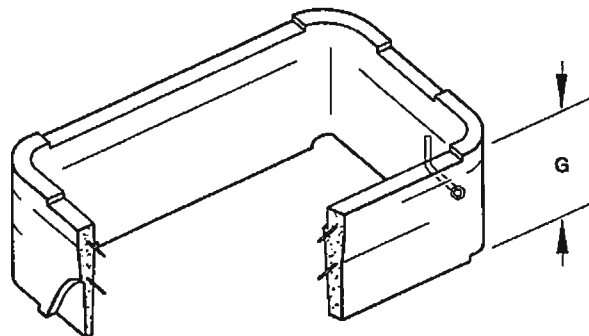
CAST IRON OR NON-CONDUCTIVE  
COVER FOR PEDESTRIAN AREAS



**COVER**



**BODY**



**EXTENSION**

AS SPECIFIED BY THE ENGINEER

PULL BOX			
	SIZE (COMMERCIAL DESIGNATION)		
	3-1/2	5	7
A	15	21-3/4	30-5/8
B	10	11-3/4	17-5/8
C	3/4	2	2
D	19-3/8	25	34-3/4
E	14-3/8	15	21-3/4
F	12	12	12
G	N/A	10-1/4	11-1/2

NOMINAL DIMENSION IN INCHES

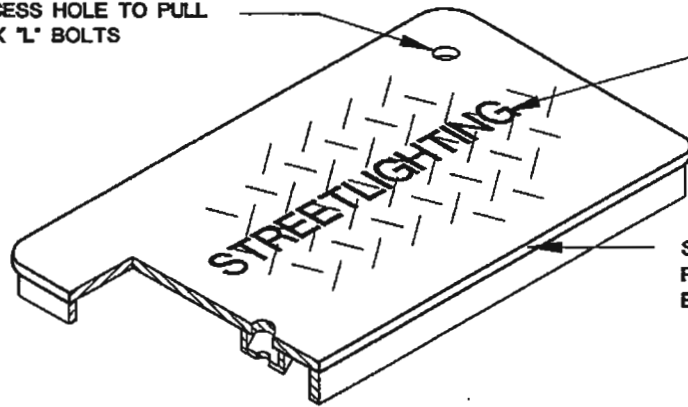
**NOTES:**

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

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
503	PRECAST PRESTRESSED CONCRETE MEMBERS	PRECAST REINFORCED CONCRETE PULL BOX	
623	TRAFFIC SIGNALS & STREETLIGHTING		
DATE 12-12-96	DWG. NO. 326	PAGE NO. 86	

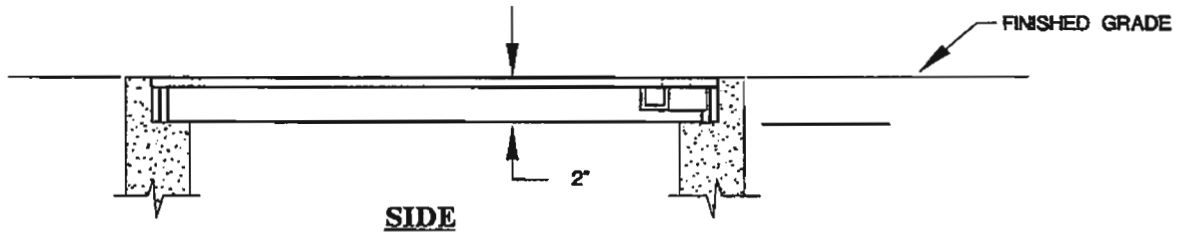
ACCESS HOLE TO PULL  
BOX 'L' BOLTS

BEAD WELD INSCRIPTION



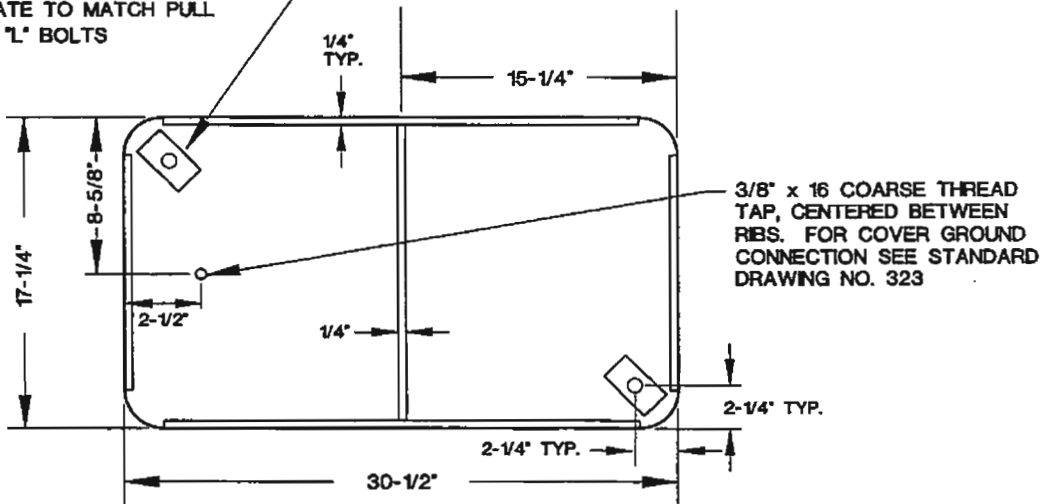
STEEL FLOOR PLATE, 3/8" THICK,  
ROUND CORNERS TO MATCH  
EDGES OF PULL BOX

**COVER**



**SIDE**

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



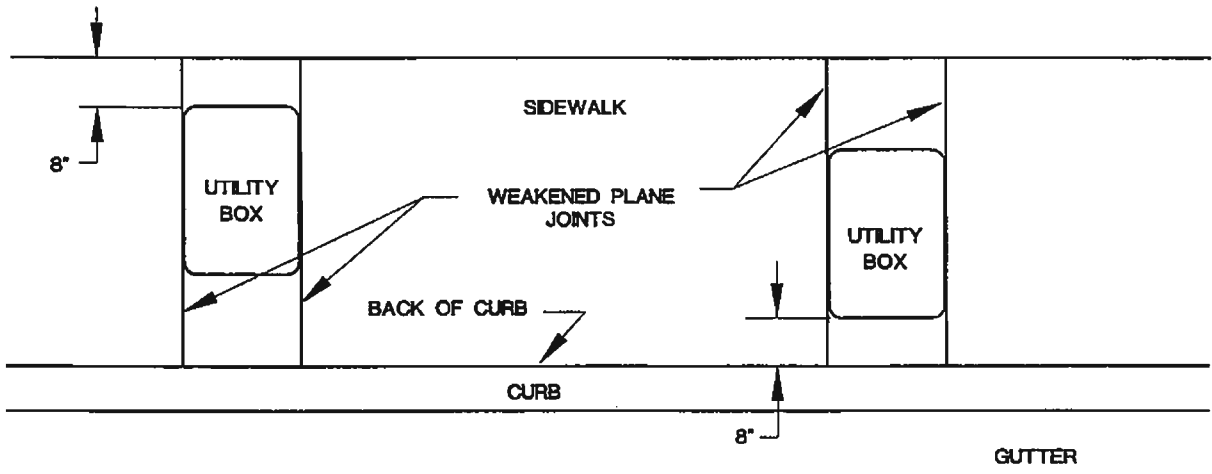
**BOTTOM**

**NOTES:**

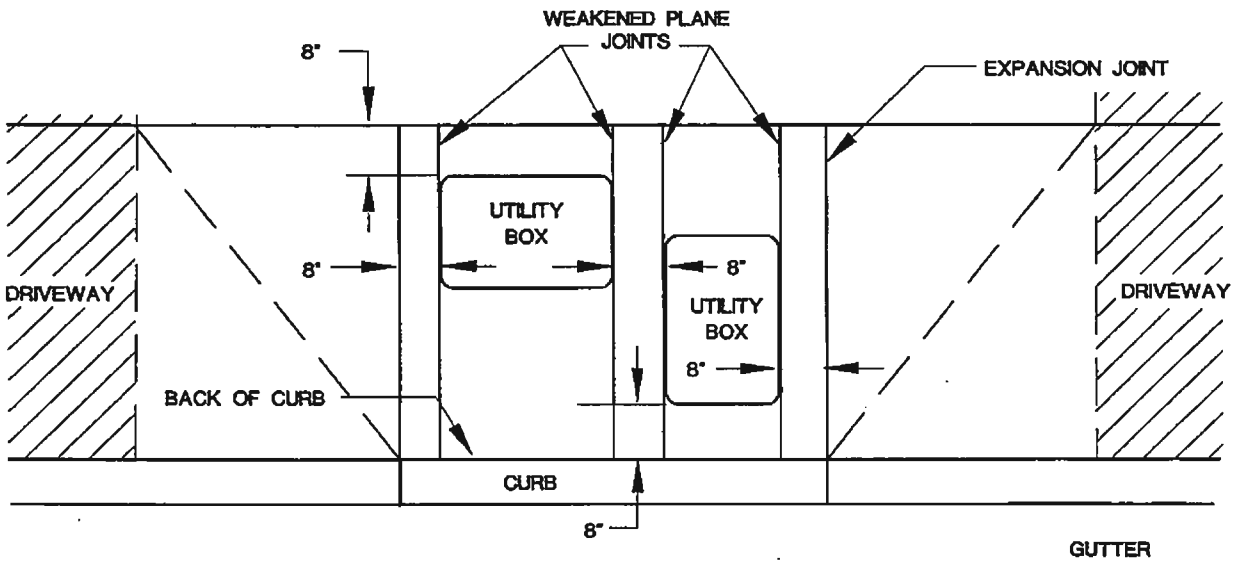
1. COVER USED IN TRAFFIC AND OPEN AREAS ACCESSIBLE TO TRAFFIC ONLY.
2. TYPICAL NO. 7 PULL BOX COVER SHOWN. SUBMIT OTHERS TO THE ENGINEER FOR APPROVAL.
3. ALL TRAFFIC AND OPEN AREA COVERS SHALL BE H 20 RATED.

SPECIFICATION REFERENCE	
506	STEEL STRUCTURES
623	TRAFFIC SIGNALS & STREETLIGHTING

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
PULL BOX STREET COVER		
DATE 12-12-96	DWG. NO. 327	PAGE NO. 87



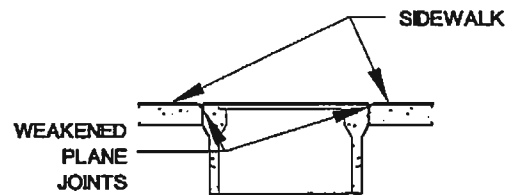
**UTILITY BOXES IN SIDEWALK**



**UTILITY BOXES BETWEEN DRIVEWAYS**

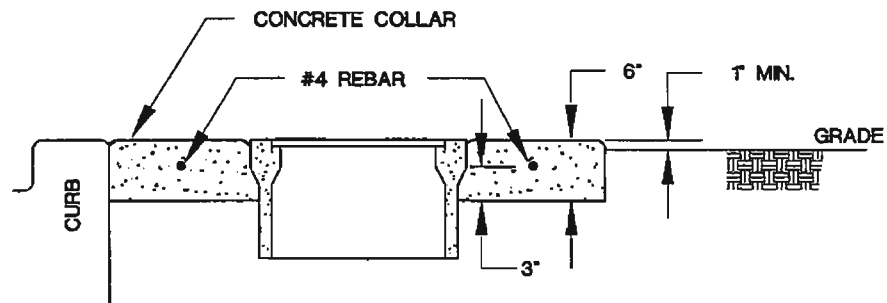
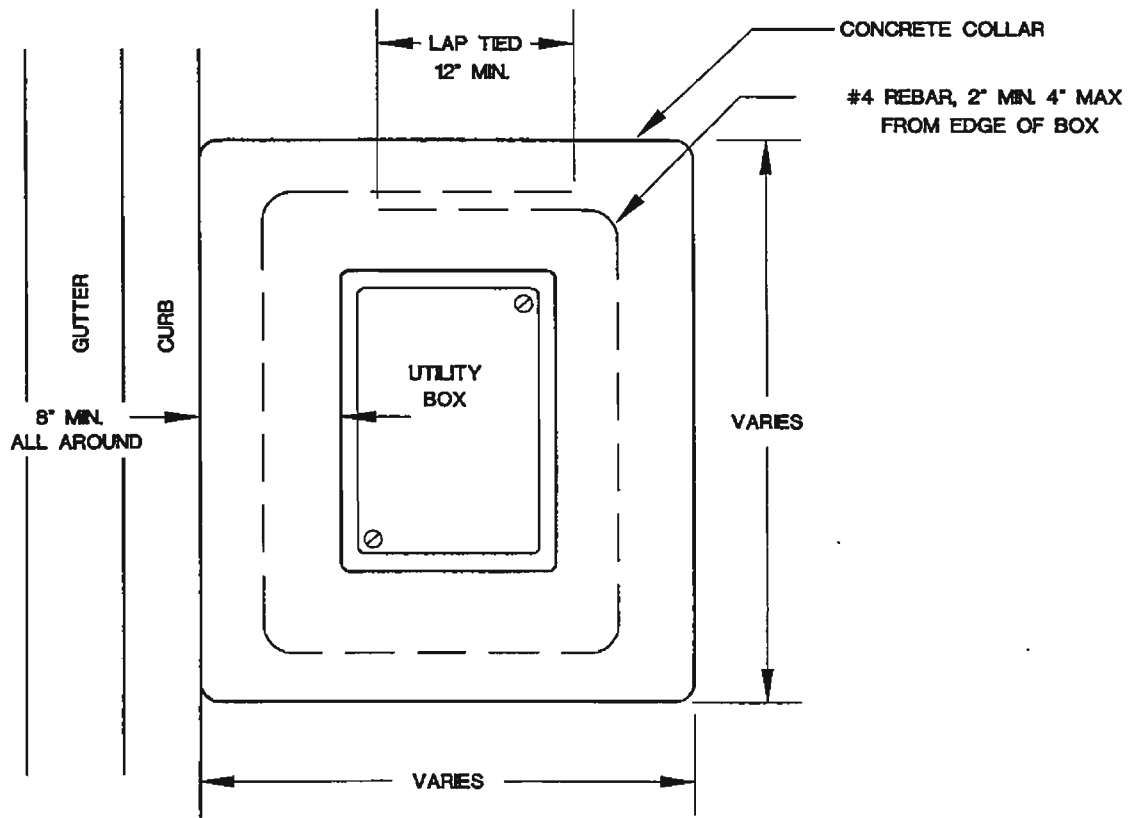
**NOTE:**

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.



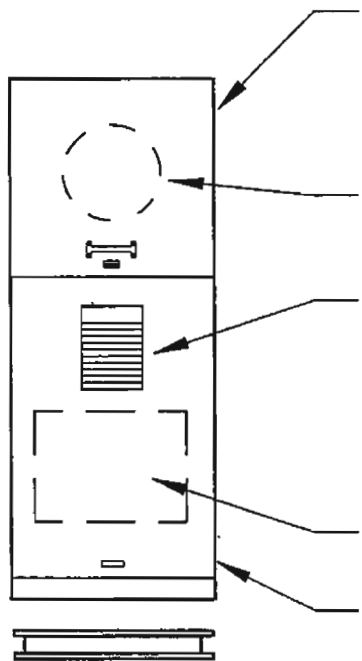
**TYPICAL SECTION**

<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>		
505	REINFORCING STEEL			
623	TRAFFIC SIGNALS & STREETLIGHTING	<b>UTILITY PULL BOX LOCATIONS SIDEWALK AND BETWEEN DRIVEWAYS</b>		
		DATE 12-12-96	DWG. NO. 328	PAGE NO. 88



**TYPICAL SECTION**

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
501	PORTLAND CEMENT CONCRETE	<b>CONCRETE AROUND PULL BOXES IN UNDEVELOPED AREAS</b>	
505	REINFORCING STEEL		
623	TRAFFIC SIGNALS & STREETLIGHTING		
		DATE 12-12-96	DWG. NO. 329
		PAGE NO. 89	



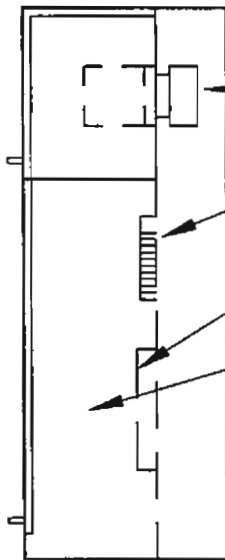
SERVICE PEDESTAL ENCLOSURE, 12 GA. SHEET METAL BODY AND EQUIPMENT MOUNTING PANEL, 14 GA. FRONT COVER(S) AND 16 GA. MIN. FOR ALL OTHER PANELS. ALL SHEET METAL SHALL BE FINISHED WITH ZINC CHROMATE PRIMER AND GREEN BAKED ENAMEL OR POWDER COAT FINISH. METERING SECTION PER P.U.E.S.E.R. STANDARDS.

UTILITY METER SECTION, 100, 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, 100, 125 OR 200 AMP AS NEEDED, 120/240 VOLT, 1 PHASE, 3 WIRE. THE SECTION SHALL BE COMPLETE WITH SEPARATE DEAD FRONT, COPPER BUSSING, SPACE FOR A MINIMUM OF TEN FULL SIZE (T) 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.



UTILITY METER SECTION

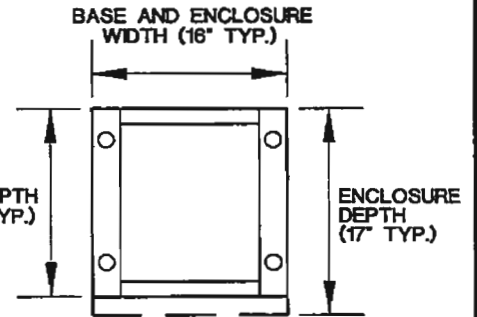
CIRCUIT BREAKER DISTRIBUTION SECTION

EQUIPMENT MOUNTING PANEL

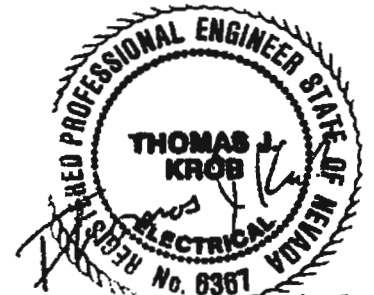
UTILITY SERVICE ENTRANCE CONDUCTOR PULL SPACE PER SERVING UTILITY REQUIREMENTS.

PULL SPACE ACCESS DOOR WITH HANDLE, PER SERVING UTILITY

SEPARATE PEDESTAL ENCLOSURE MOUNTING BASE (OPTIONAL)

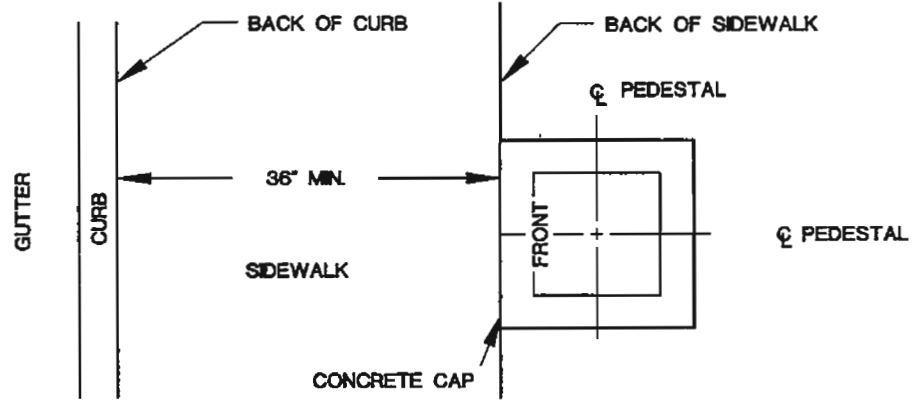


**TYPICAL MOUNTING BASE DETAIL**  
(DIMENSIONS MAY VARY DEPENDING ON MANUFACTURER)

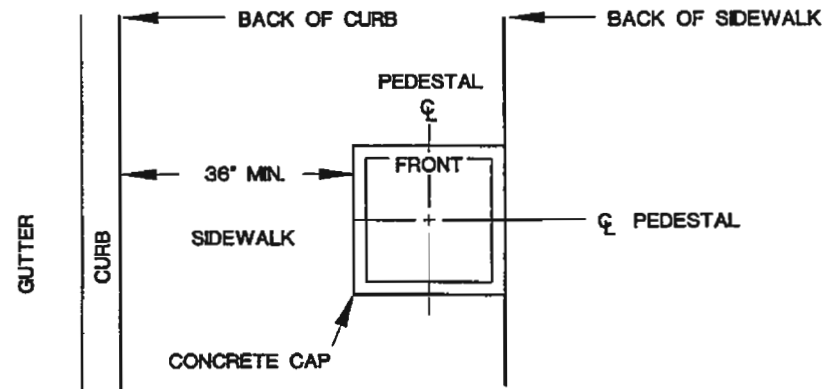


SPECIFICATION REFERENCE	
506	STEEL STRUCTURES
623	TRAFFIC SIGNALS & STREETLIGHTING

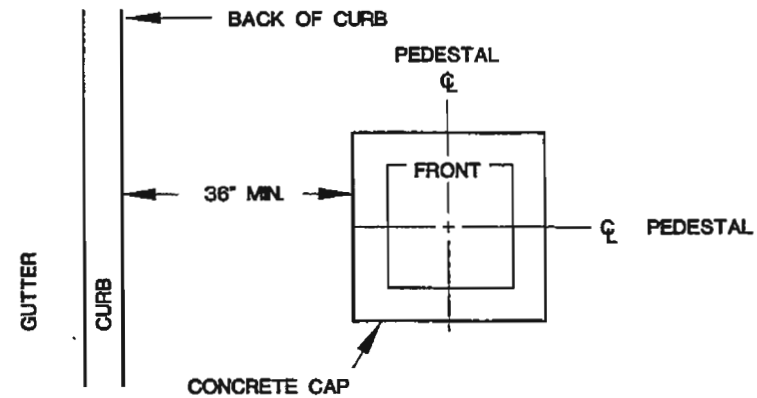
UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
SINGLE METER SERVICE PEDESTAL		
DATE 12-12-96	DWG. NO. 330	PAGE NO. 90



**BEHIND SIDEWALK (FOR WIDTHS LESS THAN 5 FT.)**

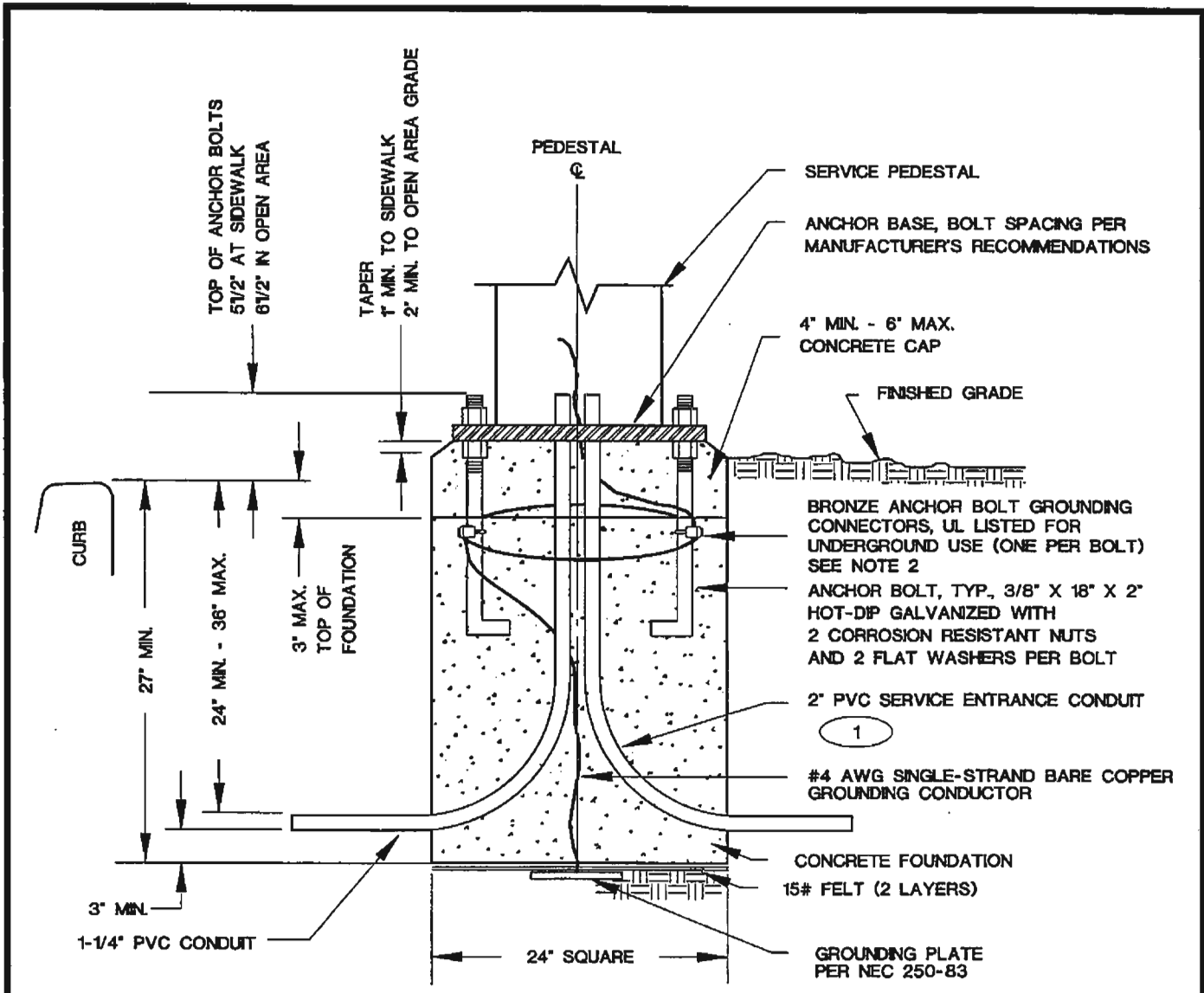


**BACK PORTION OF SIDEWALK (FOR WIDTHS OF 5 FT. OR GREATER)**



**OPEN AREA**

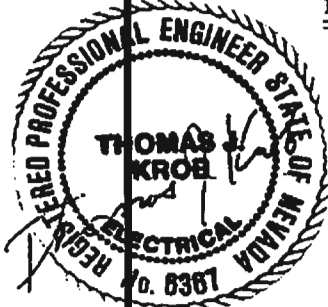
<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>		
501	PORTLAND CEMENT CONCRETE			
623	TRAFFIC SIGNALS & STREETLIGHTING	<b>SERVICE PEDESTAL SETBACK</b>		
		DATE 12-12-96	DWG. NO. 331	PAGE NO. 91



- 1 100 AMP SERVICE: 2" CONDUIT, 2 #3 THW AND 1 #6 WHITE THW
- 125 AMP SERVICE: 2" CONDUIT, 2 #1 THW AND 1 #6 WHITE THW
- 200 AMP SERVICE: 2" CONDUIT, 2 #3/0 THW AND 1 #2 WHITE THW

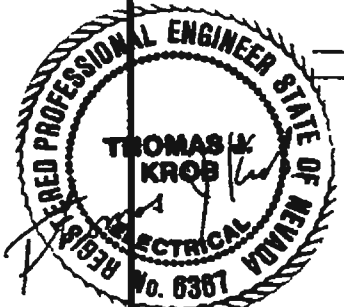
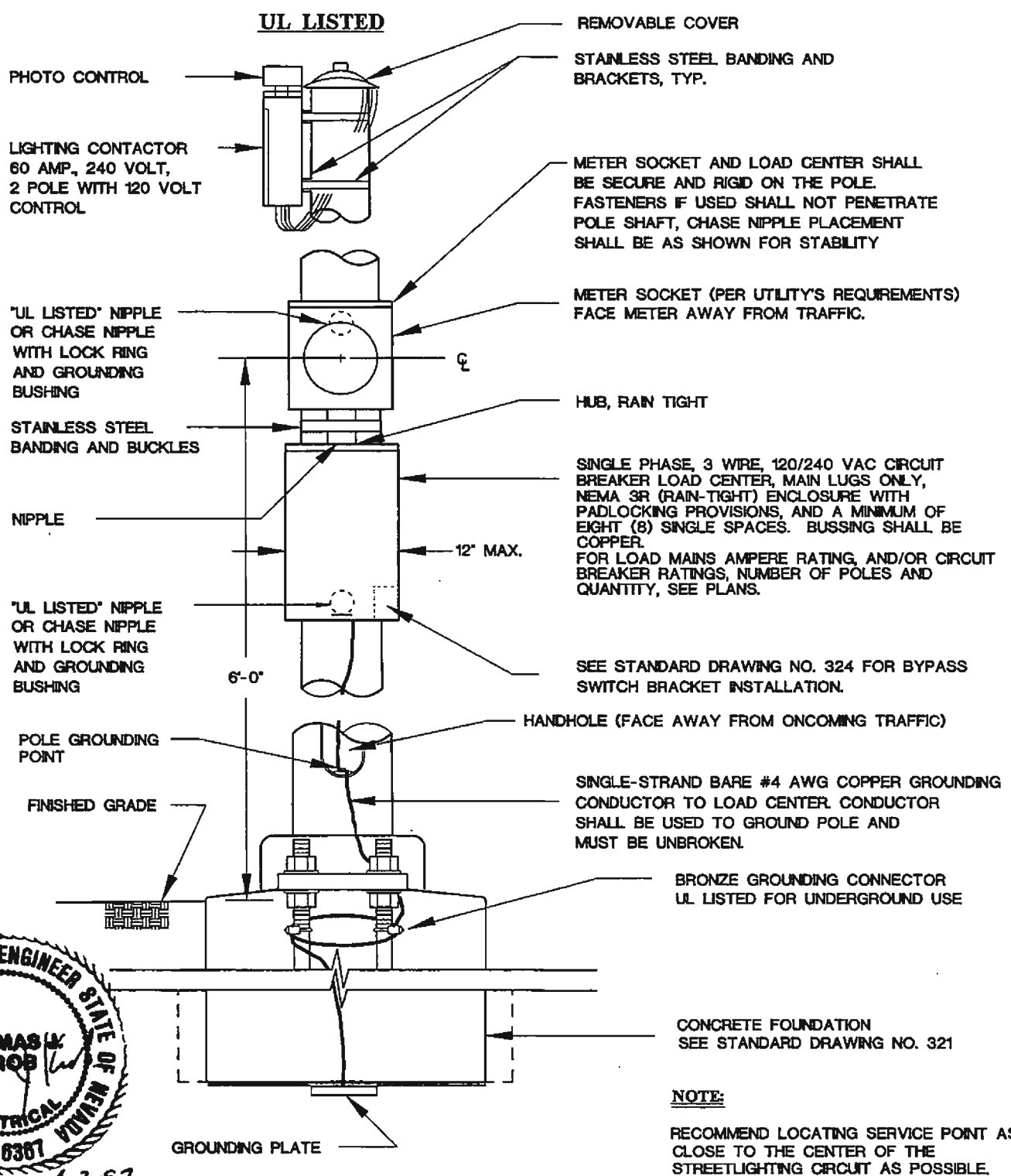
**NOTES:**

1. SEE STANDARD DRAWING NO. 336 FOR ELECTRICAL REQUIREMENTS.
2. 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.
3. CABINET COVERS SHALL BE PARALLEL WITH CURB.
4. IN AREAS WHERE R/W PERMITS, THE CONCRETE BASE SHALL BE PLACED AT THE BACK EDGE OF THE SIDEWALK.
5. 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.
6. WIRE SIZES ARE BASED ON UNDERGROUND FEED.
7. WIRE SIZES SHALL BE INCREASED FOR VOLTAGE DROP LIMITATION WHEN RUN IS LONG.

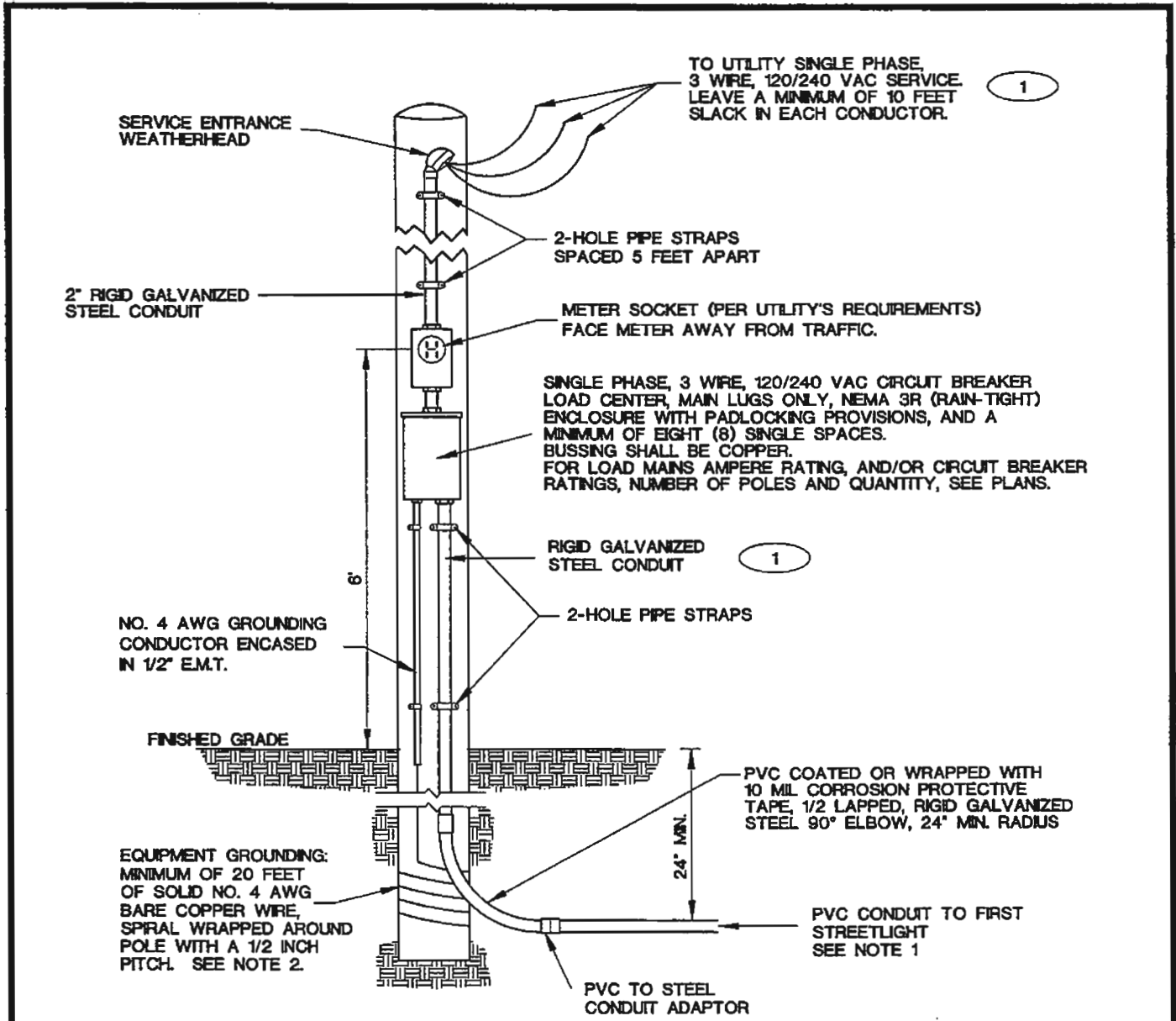


4-2-97

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
501	PORTLAND CEMENT CONCRETE	SERVICE PEDESTAL FOUNDATION		
623	TRAFFIC SIGNALS & STREETLIGHTING			
		DATE 12-12-96	DWG. NO. 332	PAGE NO. 92



SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHTING SERVICE POINT LOCATED ON STREETLIGHT STANDARD		
		DATE 12-12-96	DWG. NO. 333	PAGE NO. 93



TO UTILITY SINGLE PHASE, 3 WIRE, 120/240 VAC SERVICE. LEAVE A MINIMUM OF 10 FEET SLACK IN EACH CONDUCTOR. (1)

SERVICE ENTRANCE WEATHERHEAD

2-HOLE PIPE STRAPS SPACED 5 FEET APART

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. BUSSING SHALL BE COPPER. FOR LOAD MAINS AMPERE RATING, AND/OR CIRCUIT BREAKER RATINGS, NUMBER OF POLES AND QUANTITY, SEE PLANS.

RIGID GALVANIZED STEEL CONDUIT (1)

2-HOLE PIPE STRAPS

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

24" MIN.

PVC CONDUIT TO FIRST STREETLIGHT SEE NOTE 1

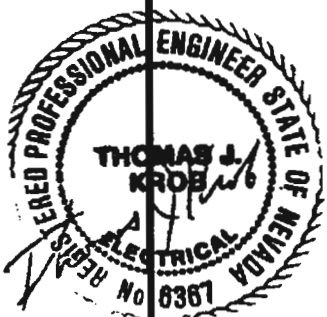
PVC TO STEEL CONDUIT ADAPTOR

(1)

100 AMP SERVICE: 2" CONDUIT, 2 #1 THW AND 1 #4 WHITE THW  
 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)

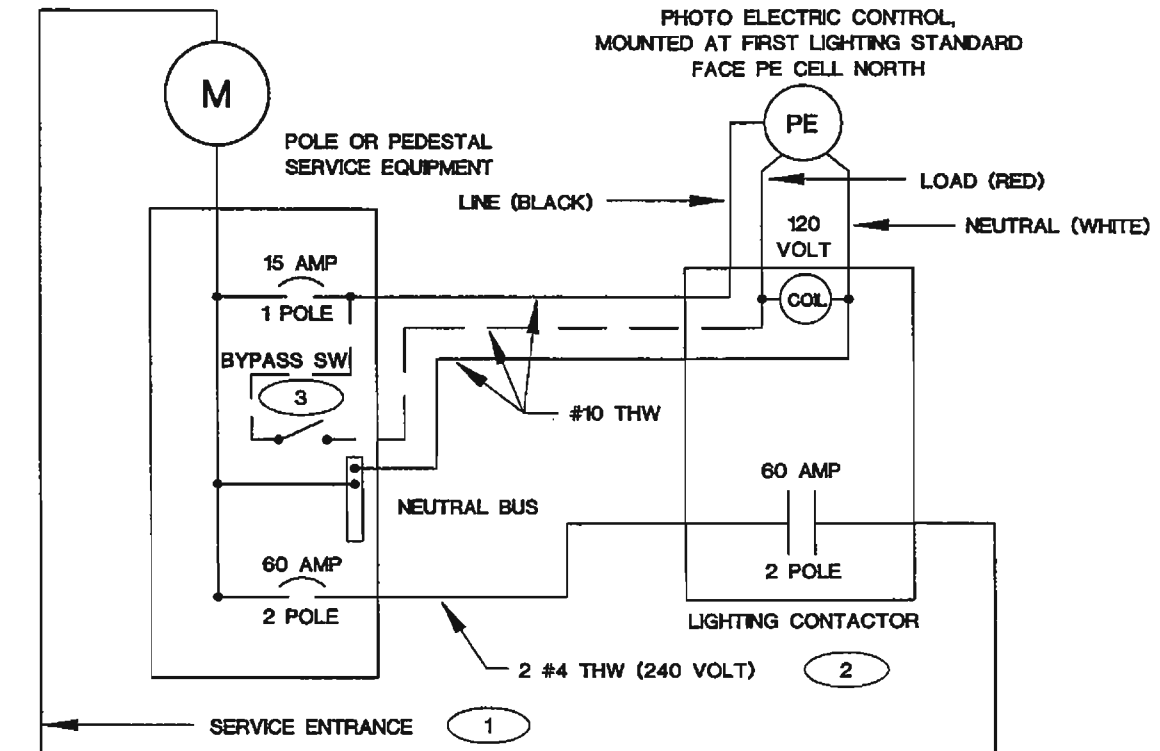
**NOTES:**

1. 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.

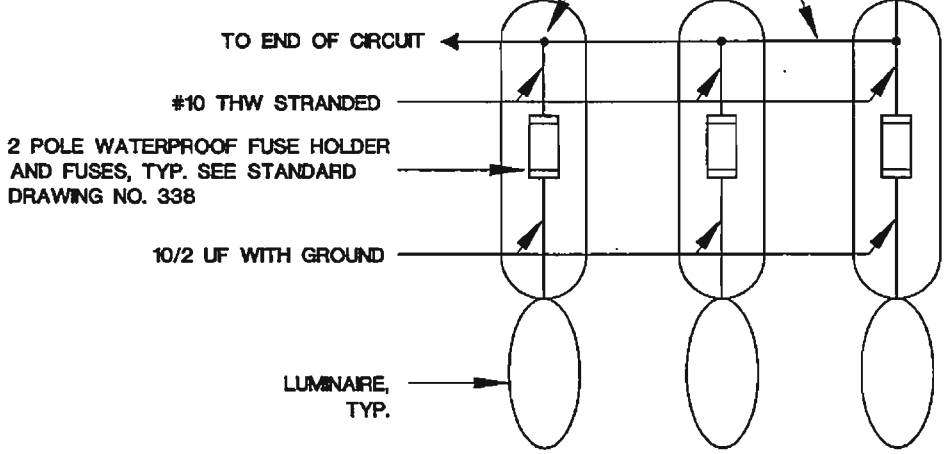


4-2-97

SPECIFICATION REFERENCE	UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA
	120/240 VAC SERVICE ON WOOD POLE OVERHEAD SERVICE
	DATE 12-12-96   DWG. NO. 334   PAGE 94

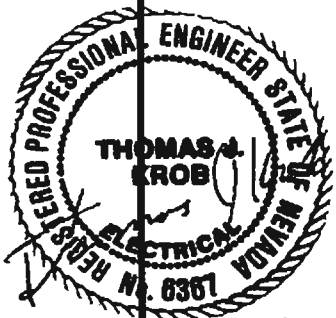


BRONZE SPLIT-BOLT CONNECTOR,  
TAPE TO INSULATE TO THE DIELECTRIC  
STRENGTH OF THE CONDUCTOR INSULATION



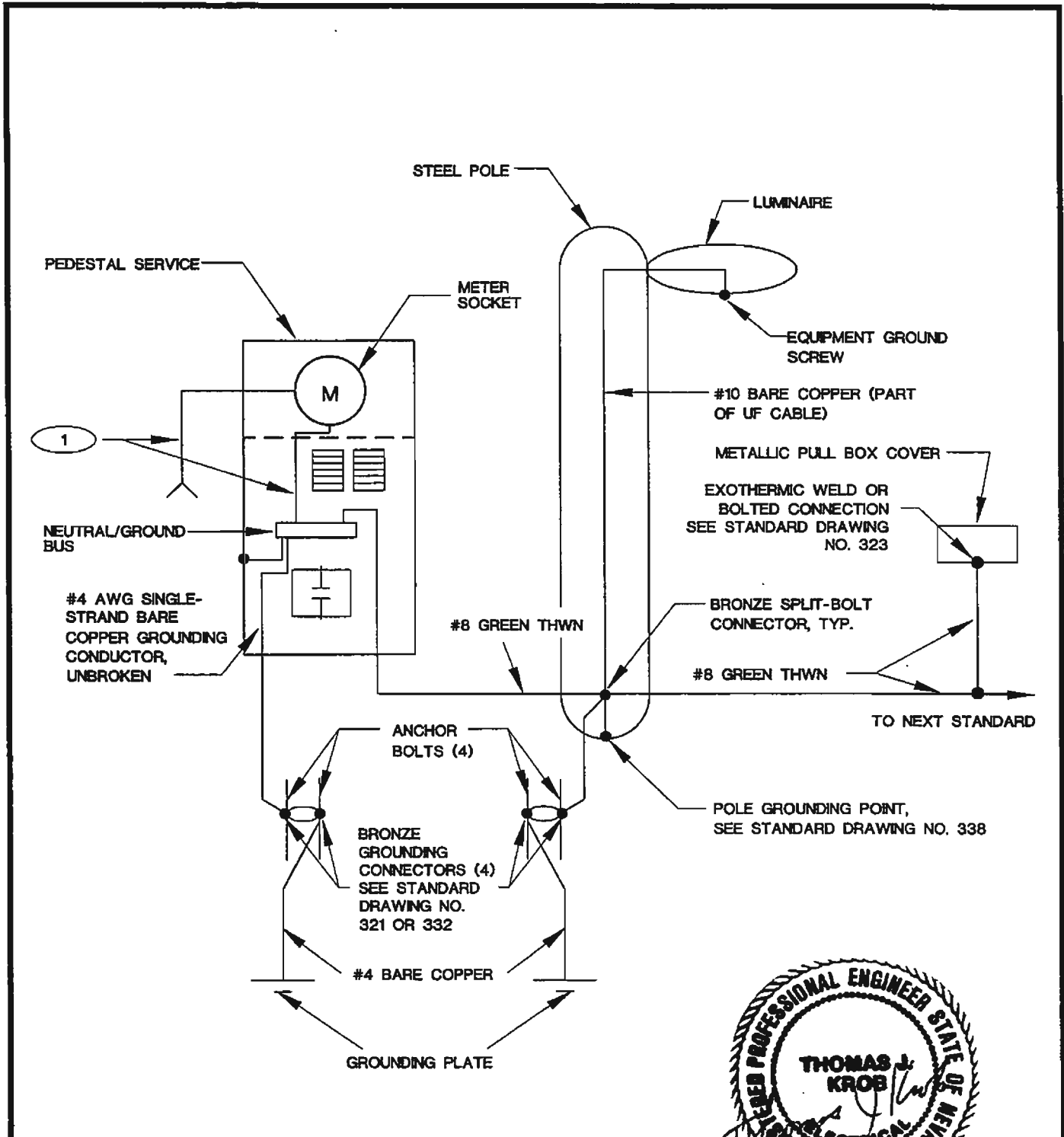
100 AMP SERVICE: 2" CONDUIT, 2 #3 THW AND 1 #6 WHITE THW  
 125 AMP SERVICE: 2" CONDUIT, 2 #1 THW AND 1 #6 WHITE THW  
 200 AMP SERVICE: 2" CONDUIT, 2 #3/0 THW AND 1 #2 WHITE THW  
 FOR POLE SERVICE, WIRE SIZES SHALL BE TEMPERATURE DERATED.

- 1
  - 2
  - 3
- GROUNDING AND BONDING CONDUCTORS OMITTED FOR CLARITY,  
SEE STANDARD DRAWING NOS. 336 AND 337.
- SINGLE POLE, SINGLE THROW, ON-OFF, 10 AMP, 125 VAC SWITCH, SEALED, WITH 5 IN. LEADS

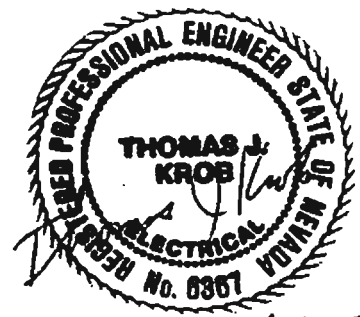


4-2-97

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
623	TRAFFIC SIGNALS & STREETLIGHTING	STREETLIGHT CIRCUIT ONE LINE DIAGRAM	
DATE 12-12-96		DWG. NO. 335	PAGE NO. 95

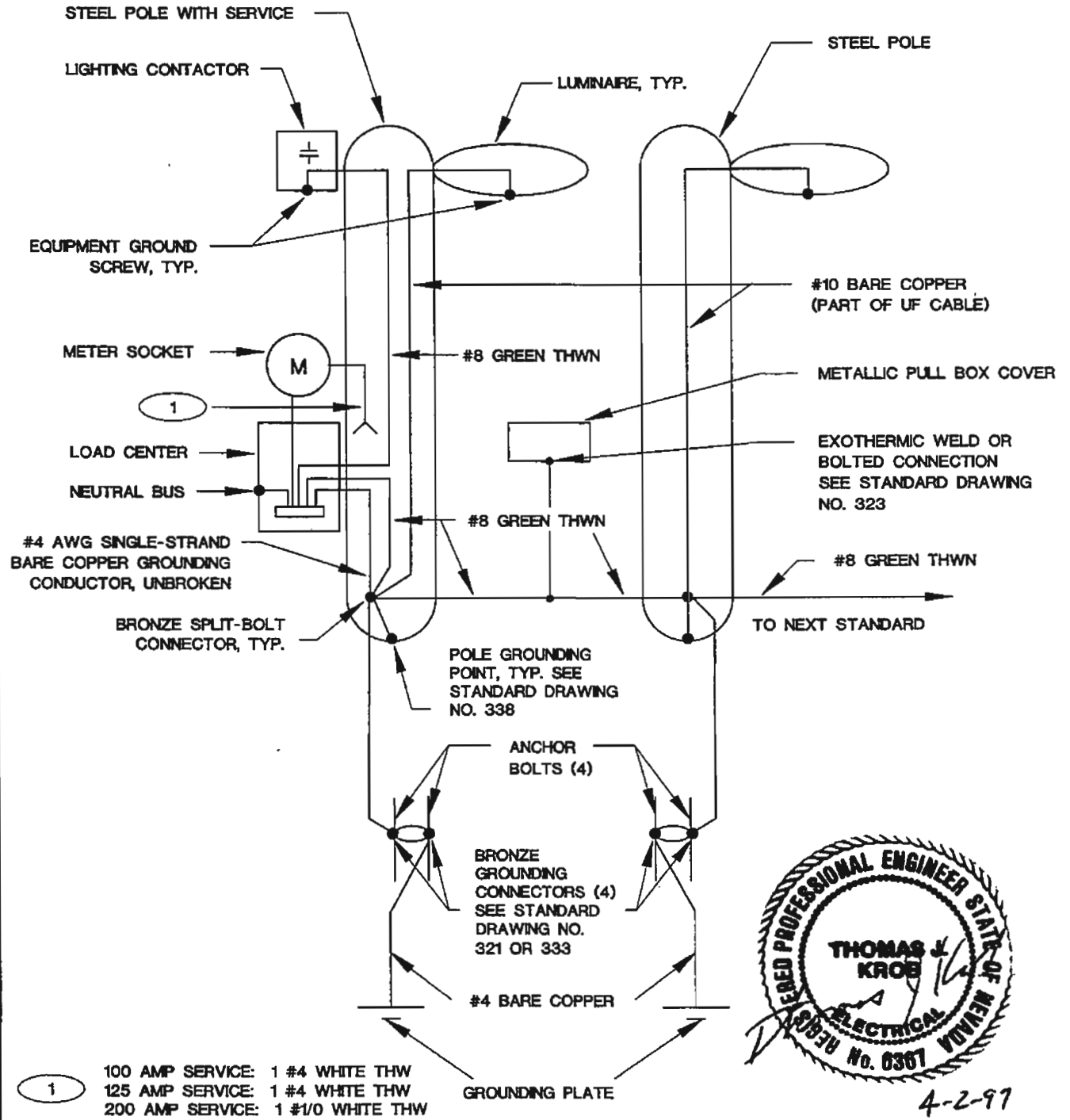


1 100 AMP SERVICE: 1 #6 WHITE THW  
 125 AMP SERVICE: 1 #6 WHITE THW  
 200 AMP SERVICE: 1 #2 WHITE THW

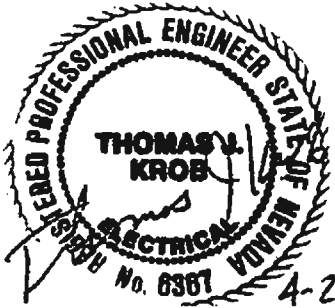
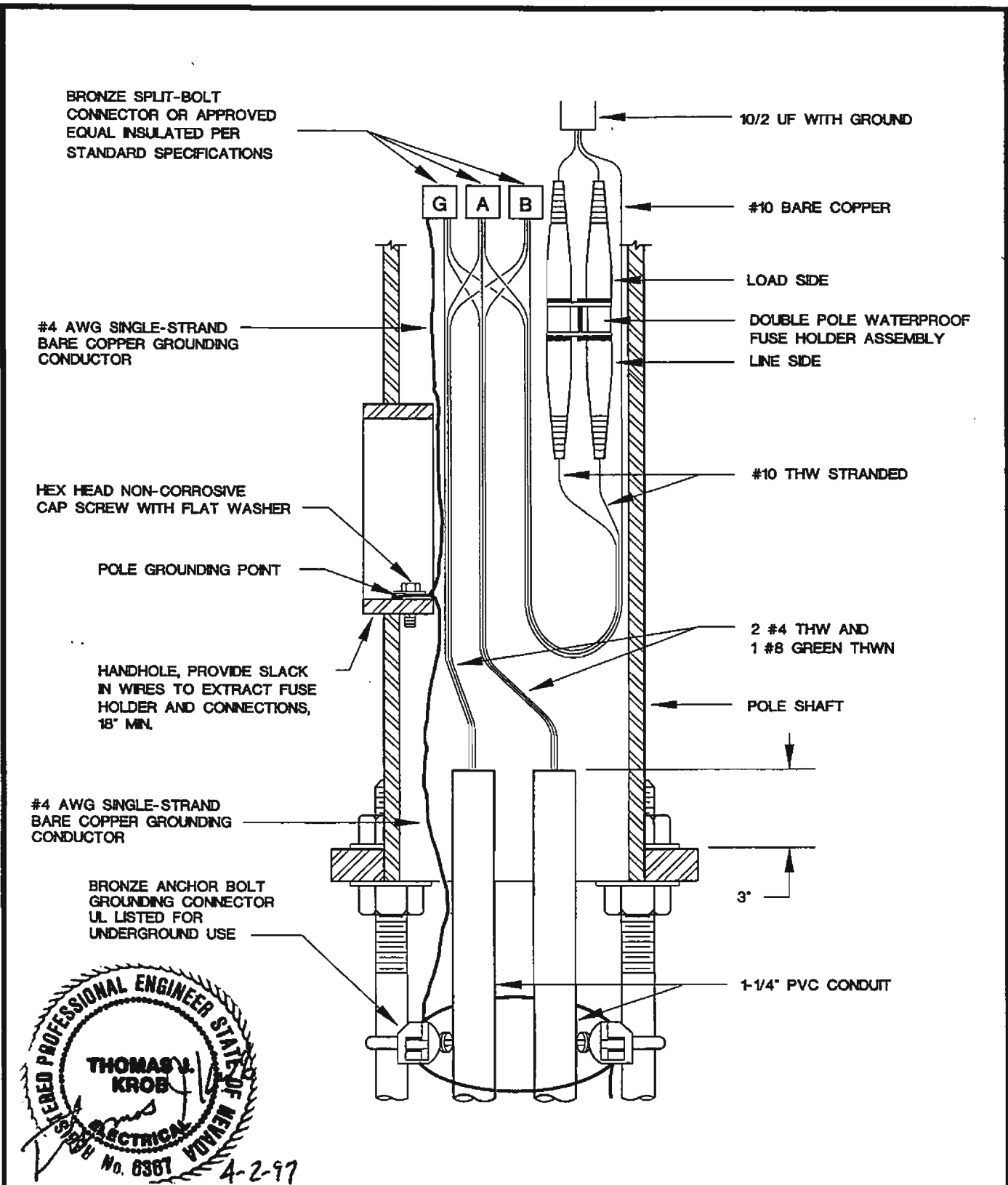


4-2-97

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
623	TRAFFIC SIGNALS & STREETLIGHTING	SYSTEM GROUNDING PLAN WITH PEDESTAL SERVICE		
		DATE 12-12-96	DWG. NO. 336	PAGE NO. 96

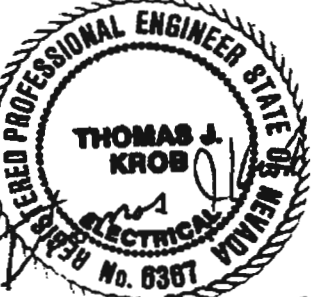
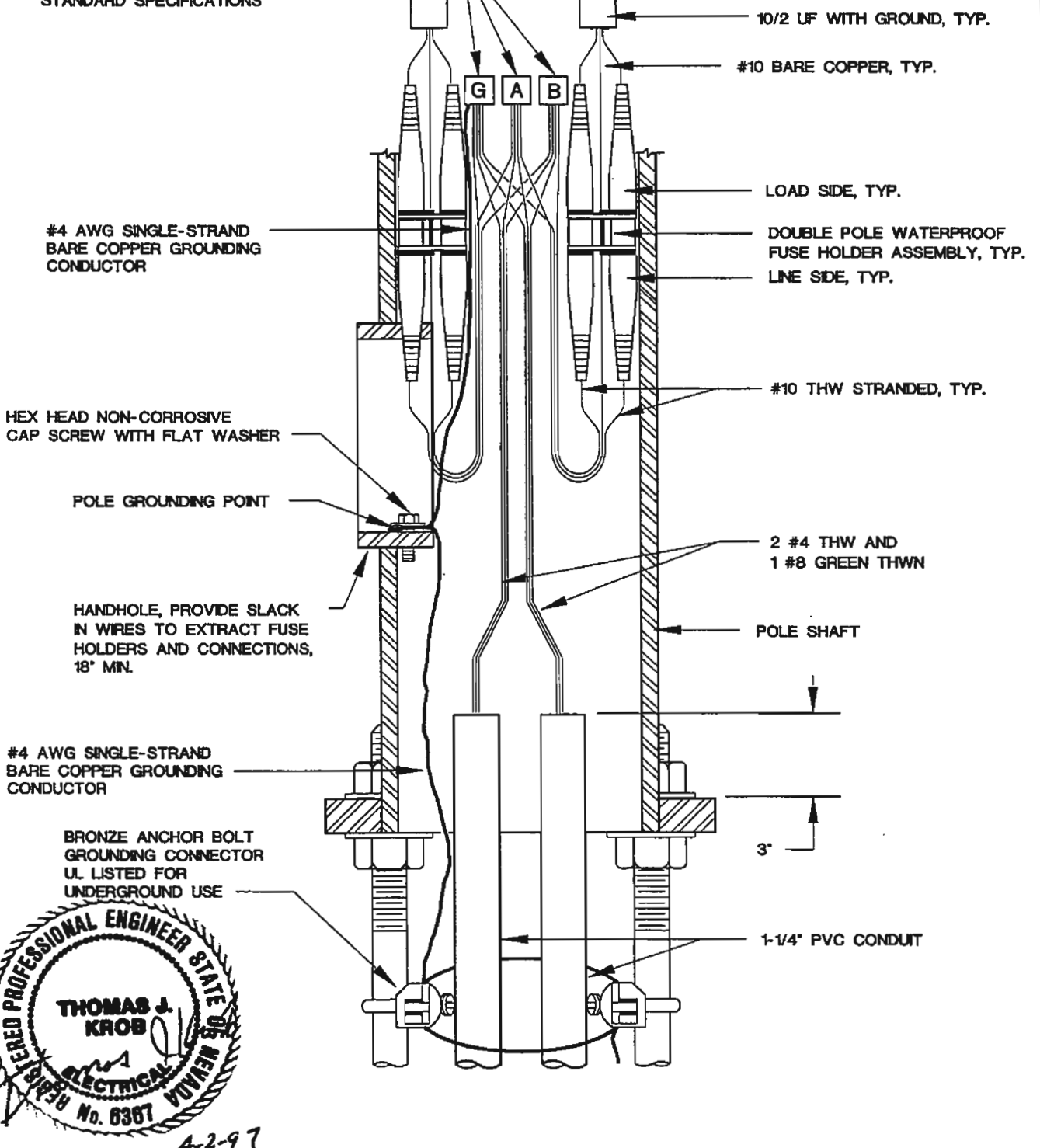


SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
623	TRAFFIC SIGNALS & STREETLIGHTING	SYSTEM GROUNDING PLAN WITH POLE MOUNTED SERVICE	
		DATE 12-12-96	DWG. NO. 337
			PAGE NO. 97



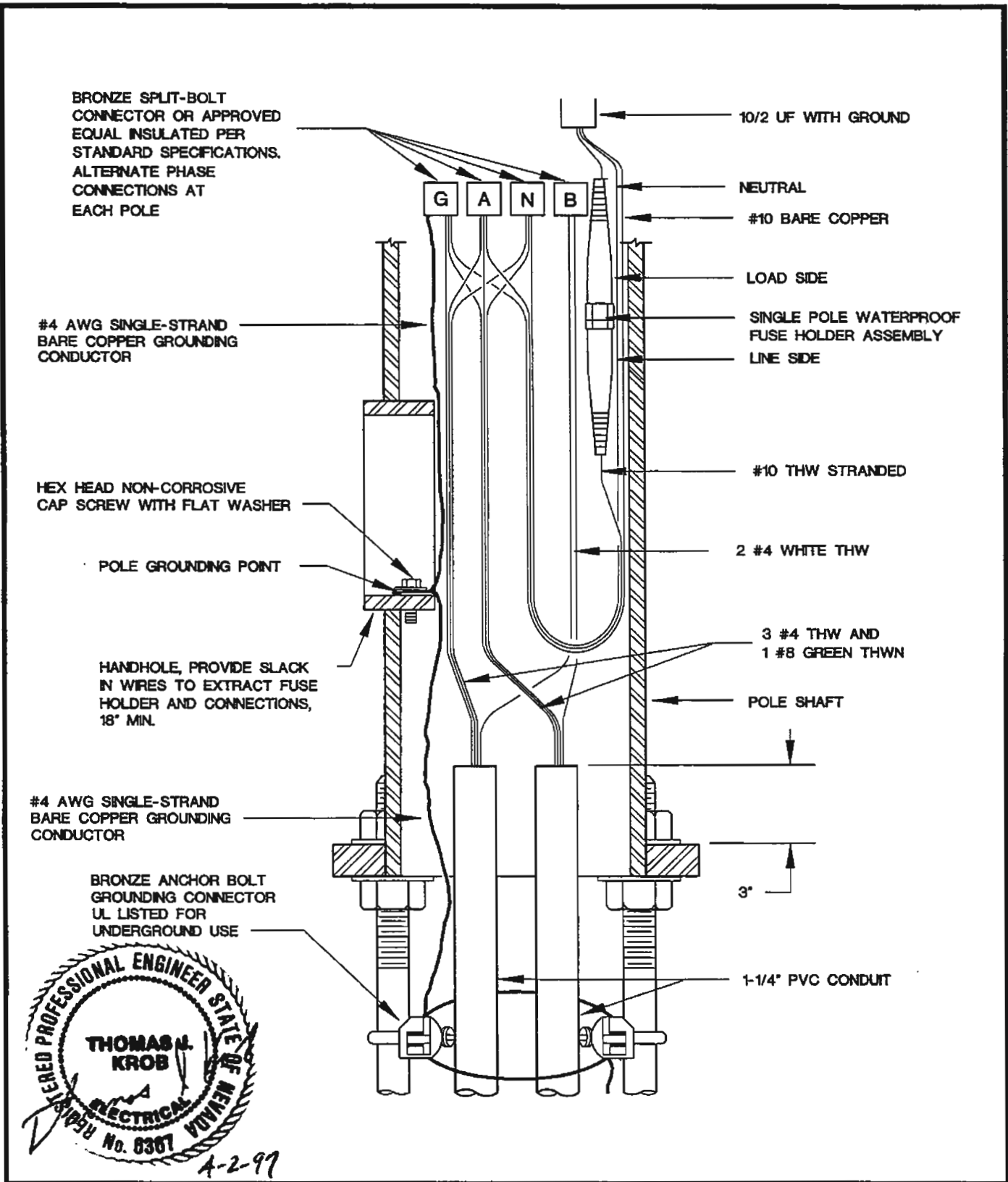
SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
623	TRAFFIC SIGNALS & STREETLIGHTING	LIGHTING STANDARD WIRING DIAGRAM, 240 VOLT, 2 WIRE	
		DATE 12-12-96	DWG. NO. 338
			PAGE NO. 98

BRONZE SPLIT-BOLT  
CONNECTOR OR APPROVED  
EQUAL INSULATED PER  
STANDARD SPECIFICATIONS



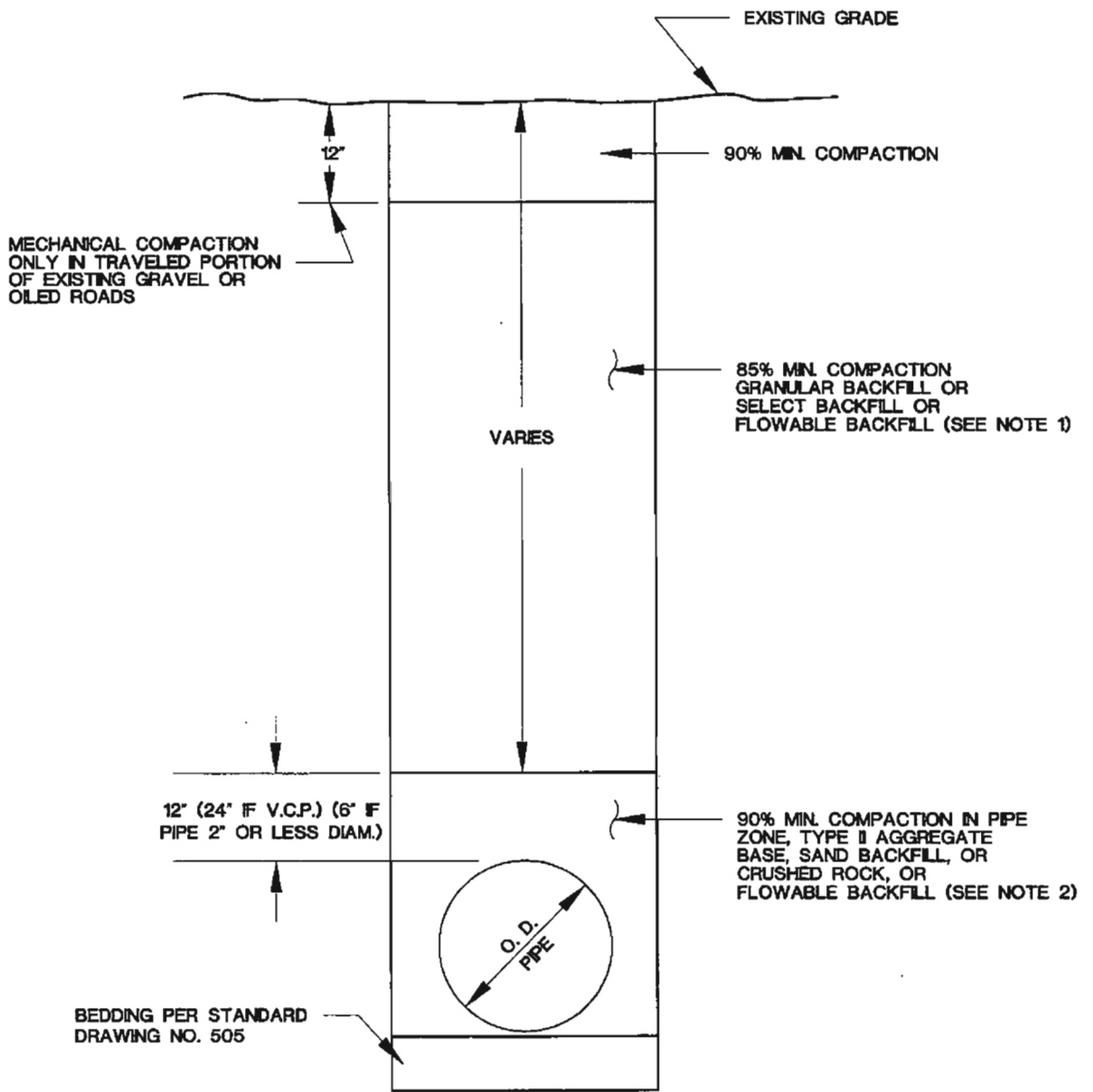
4-2-97

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
623	TRAFFIC SIGNALS & STREETLIGHTING			
		TWIN LIGHTING STANDARD WIRING DIAGRAM, 240 VOLT, 2 WIRE		
		DATE 12-12-96	DWG. NO. 339	PAGE NO. 99



SPECIFICATION REFERENCE	
623	TRAFFIC SIGNALS & STREETLIGHTING

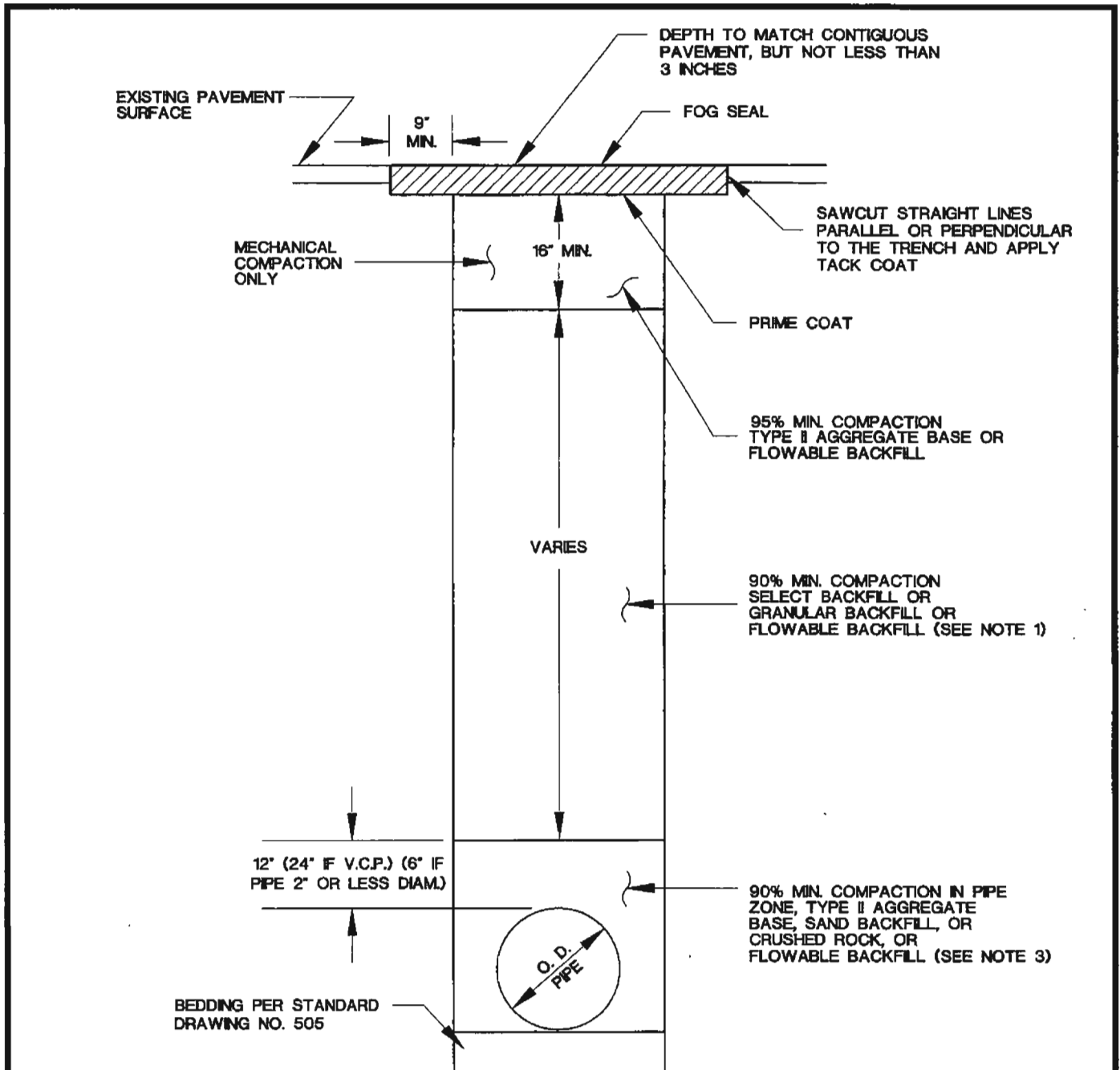
UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
LIGHTING STANDARD WIRING DIAGRAM 120 VOLT, 1 PHASE, 3 WIRE		
DATE 12-12-96	DWG. NO. 340	PAGE NO. 100



**NOTES:**

1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE AGENCY REQUIREMENTS.

<b>SPECIFICATION REFERENCE</b>		<b>UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA</b>		
208	TRENCH EXCAVATION & BACKFILL	<b>TRENCH BACKFILL UNPAVED AREAS</b>		
302	AGGREGATE BASE COURSES			
		DATE 6-12-97	DWG. NO. 502	PAGE 122



**NOTES:**

1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. IF SAWCUT IS WITHIN THREE FEET OF EDGE OF EXISTING ASPHALT CONCRETE SURFACE OR OTHER PATCH, REMOVE EXISTING PAVEMENT TO THAT EDGE AND REPLACE ENTIRE SECTION.
3. TRENCH WIDTH, BEDDING, AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE AGENCY REQUIREMENTS.

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
207	BACKFILL	<b>TRENCH BACKFILL PAVED AREAS (STREETS WITH 60' OR LESS R/W)</b>		
208	TRENCH EXCAVATION & BACKFILL			
302	AGGREGATE BASE COURSES			
401	BITUMINOUS PAVEMENT			
406	PRIME COAT			
407	FOG SEAL			
		DATE 6-12-97	DWG. NO. 503	PAGE 123

12' MIN. OR LANE WIDTH FOR TRENCHES LONGITUDINAL WITH STREET. (SEE NOTE 3)

DEPTH TO MATCH CONTIGUOUS PAVEMENT, BUT NOT LESS THAN 4 INCHES

EXISTING PAVEMENT SURFACE

9" MIN.

FOG SEAL

PRIME COAT

24" MIN. OR TO PIPE ZONE

SAWCUT STRAIGHT LINES PARALLEL OR PERPENDICULAR TO THE TRENCH AND APPLY TACK COAT

FLOWABLE BACKFILL

VARIES

90% MIN. COMPACTION GRANULAR BACKFILL OR SELECT BACKFILL OR FLOWABLE BACKFILL (SEE NOTE 1)

12" (24" IF V.C.P.) (6" IF PIPE 2" OR LESS DIAM.)

90% MIN. COMPACTION IN PIPE ZONE, TYPE II AGGREGATE BASE, SAND BACKFILL, OR CRUSHED ROCK, OR FLOWABLE BACKFILL (SEE NOTE 4)

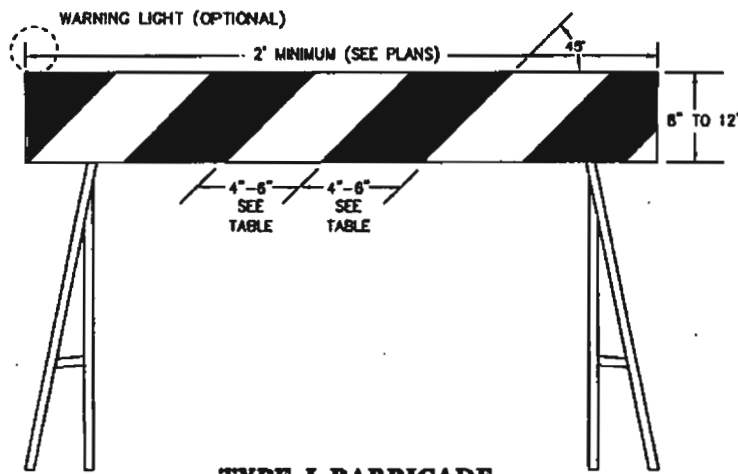
BEDDING PER STANDARD DRAWING NO. 505



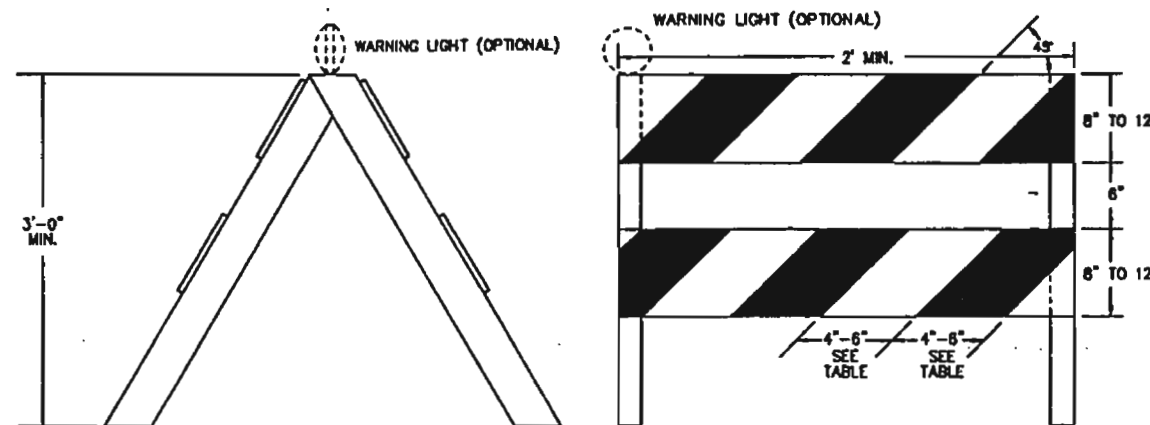
**NOTES:**

1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. IF SAWCUT IS WITHIN THREE FEET OF EDGE OF EXISTING ASPHALT CONCRETE SURFACE OR OTHER PATCH, REMOVE EXISTING PAVEMENT TO THAT EDGE AND REPLACE ENTIRE SECTION.
3. WHEN SAWCUT EDGES FOR LONGITUDINAL TRENCHES FALL WITHIN TRAVEL LANE, THE SAWCUT SHALL BE MADE AT THE EDGE OF THE TRAVEL LANE. NO LONGITUDINAL SAWCUT LINES SHALL FALL WITHIN THE TRAVEL LANE.
4. TRENCH WIDTH, BEDDING, AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE AGENCY REQUIREMENTS.

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA		
207	BACKFILL	TRENCH BACKFILL WITH FLOWABLE BACKFILL PAVED AREAS (STREETS GREATER THAN 60' R/W)		
208	TRENCH EXCAVATION & BACKFILL			
302	AGGREGATE BASE COURSES			
401	BITUMINOUS PAVEMENT			
406	PRIME COAT			
407	FOG SEAL	DATE 6-12-97	DWG. NO. 504	PAGE 124

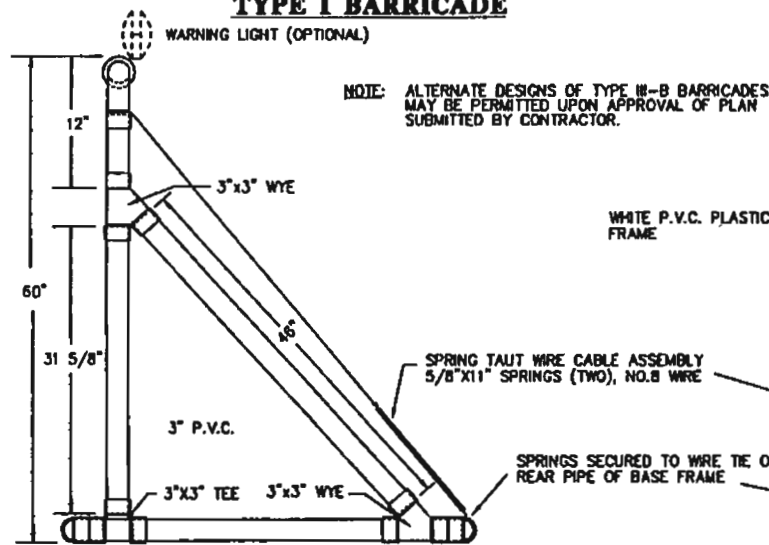


**TYPE I BARRICADE**

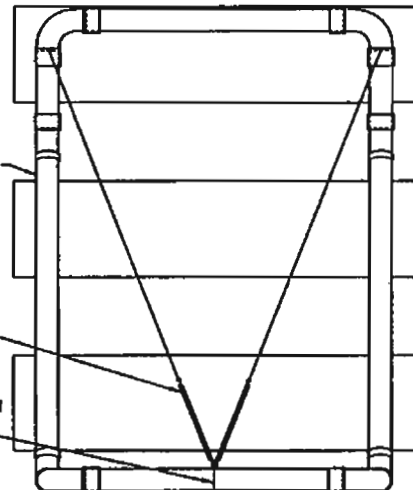


**TYPE II BARRICADE**  
(FRAMEWORK TO BE WHITE OR ORANGE)

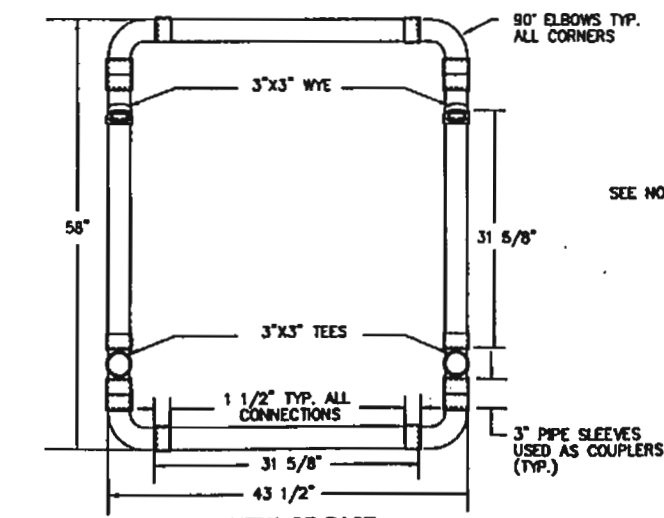
- BARRICADE NOTES**
1. ALL REFLECTIVE SHEETING ON BARRICADES, VERTICAL PANELS & VERTICAL PANEL POST HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SUBSECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
  2. BARRICADES MAY BE WEIGHTED WITH SANDBAGS, BUT SUCH SANDBAGS SHALL NOT BE PLACED SO AS TO OBSCURE ANY RETRO REFLECTIVE SURFACE, NOR SHALL THEY BE LOCATED HIGHER THAN 24" ABOVE THE PAVEMENT.
  3. WARNING LIGHTS MAY BE PLACED ON ALL BARRICADES WHEN USED DURING NIGHTTIME HOURS.
  4. NAME & PHONE NUMBER OF OWNER MAY BE SHOWN ON NON-REFLECTIVE SURFACE; MUST BE OF ONE COLOR, NON-REFLECTIVE, WITH MAXIMUM 1" LETTERS ON THE FACE.
  5. THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE SURFACE.



**SIDE VIEW**

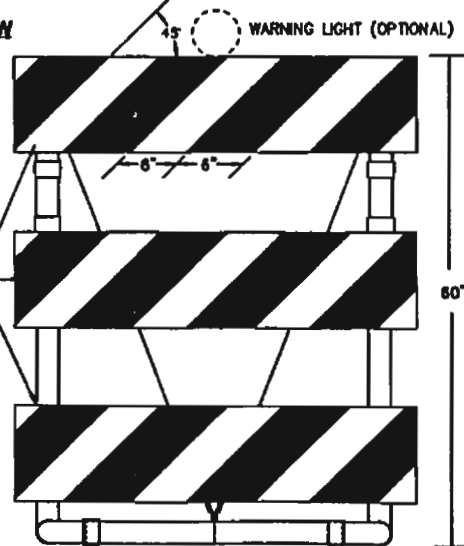


**BACK VIEW**



**TOP VIEW OF BASE**

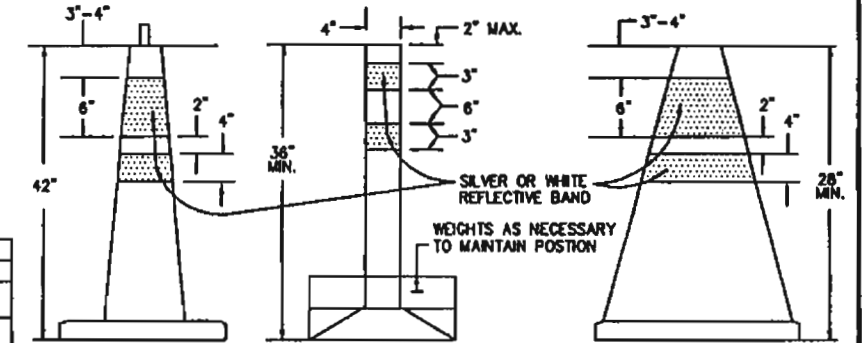
**TYPE III-B BARRICADE**  
(BARRICADE TO BE WEIGHTED DOWN WITH SANDBAGS)



**FRONT VIEW**

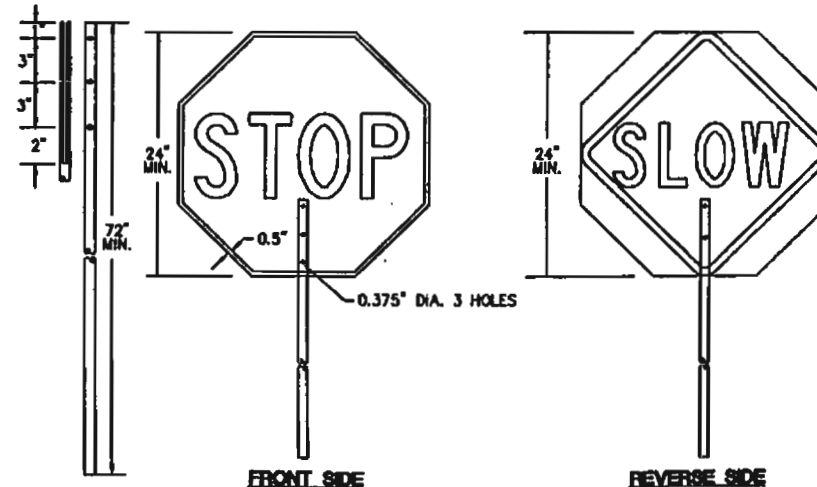
NOTE: 9"x18" BARRICADE HAZARD PANELS ORANGE AND WHITE RIGHT OR LEFT. (0.025 ANODIZED ALUMINUM OR 3/4" WOOD) PANELS ATTACHED WITH 1" NO.14 PAN HEAD METAL SCREW.

BARRICADE CHARACTERISTICS			
TYPE	I	II	III-B
WIDTH OF RAIL	8" TO 12"	8" TO 12"	8" TO 12"
LENGTH OF RAIL	2' MIN.	2' MIN.	4' MIN.
WIDTH OF STRIPES	RAIL LENGTH < 3'-4" RAIL LENGTH ≥ 3'-6"	RAIL LENGTH < 3'-4" RAIL LENGTH ≥ 3'-6"	6"
HEIGHT	3' MIN.	3' MIN.	5' MIN.
NUMBER OF REFLECTORIZED RAIL FACES	2 (ONE EACH DIRECTION)	4 (TWO EACH DIRECTION)	3 IF FACING TRAFFIC IN ONE DIRECTION. 6 IF FACING TRAFFIC IN TWO DIRECTIONS



**TRAFFIC CONES**

1. CONES TO BE PREDOMINATELY ORANGE.
2. CONES TO BE USED DURING HOURS OF DARKNESS SHALL BE REFLECTORIZED AS SHOWN ABOVE.
3. CONES, DRUMS AND VERTICAL PANEL POST SHALL HAVE WEIGHTED BASES; HOWEVER IF THE CONTRACTOR WISHES IN LIEU OF WEIGHTED BASES, THE DEVICES MAY BE NAILED OR EPOXIED IN PLACE. DO NOT NAIL OR EPOXY TO FINAL PAVEMENT.

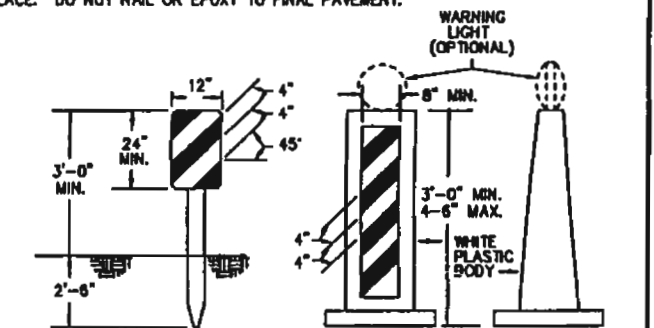


**FRONT SIDE**

**REVERSE SIDE**

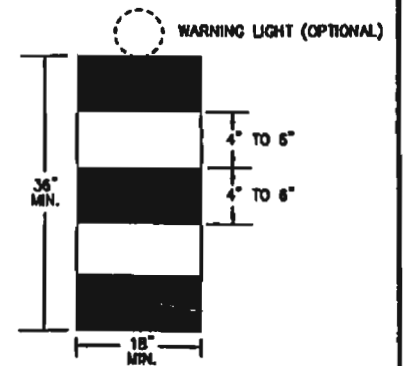
**FLAGGER SIGN**

1. THE STOP FACE SHALL CONSIST OF WHITE LETTERS AND BORDER ON A RED REFLECTORIZED BACKGROUND.
2. THE SLOW FACE SHALL CONSIST OF BLACK LETTERS AND BORDER ON AN ORANGE REFLECTORIZED BACKGROUND.
3. BOTH FACES SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
4. AREAS OUTSIDE SIGN BORDERS SHALL BE BLACK.
5. THE SIGN BLANK SHALL BE OCTAGONAL.
6. THE PORTION OF THE STAFF WITHIN THE SIGN FACE SHALL MATCH THE SIGN COLORS.
7. ALL COLORS AND LETTERS SHALL MEET APPLICABLE FEDERAL STANDARDS.
8. THE STAFF SHALL CONSIST OF TWO SECTIONS JOINED BY A COUPLING LOCATED 60 IN. FROM THE BOTTOM OF THE STAFF. ALTERNATE DESIGNS MAY BE USED WHEN APPROVED BY THE TRAFFIC ENGINEER. ALL MATERIALS SHALL BE SUBSTANTIAL AND DURABLE.
9. THIS SIGN SHALL BE FURNISHED BY THE CONTRACTOR AND SHALL BE USED BY THE FLAGGER IN LIEU OF FLAGS OR OTHER SIGNALING DEVICES.
10. STOP - SIX (6) INCH SERIES C LETTERS.  
SLOW - SIX (6) INCH SERIES B LETTERS.
11. PADDLES SHALL CONFORM TO SECTION 8E-4 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
12. THE PADDLE MAY BE SUPPLEMENTED BY ONE OR TWO SYMMETRICALLY POSITIONED ALTERNATELY FLASHING WHITE HIGH INTENSITY LAMPS ON EACH SIDE.



**VERTICAL PANEL**

**VERTICAL PANEL POST**



**TRAFFIC DRUM**

TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE

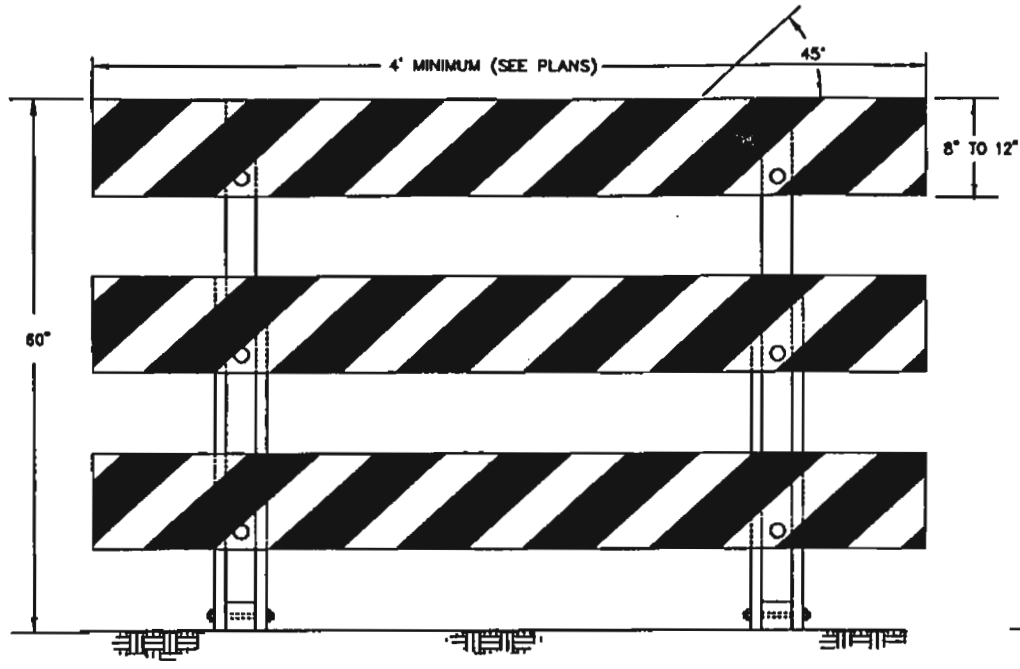
SPECIFICATION REFERENCE

TYPICAL APPLICATION FOR  
BARRICADES & FLAGGER TRAFFIC CONTROL SIGN STANDARD DESIGNS

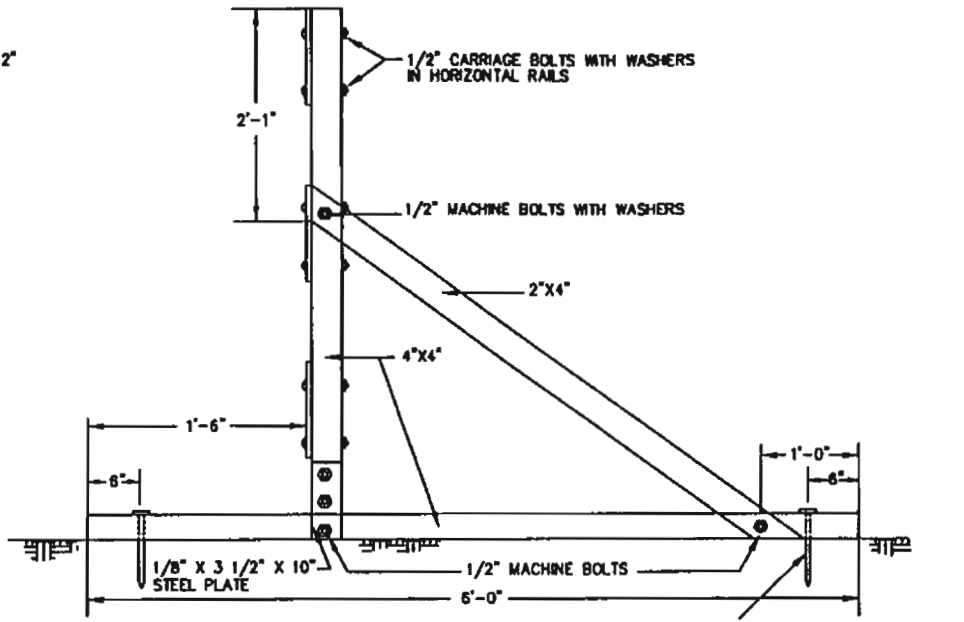
UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA

DATE 1-9-97 DWG NO. 801 (1 OF 2) PAGE 140

**TYPE IIIA BARRICADE**  
N.T.S.



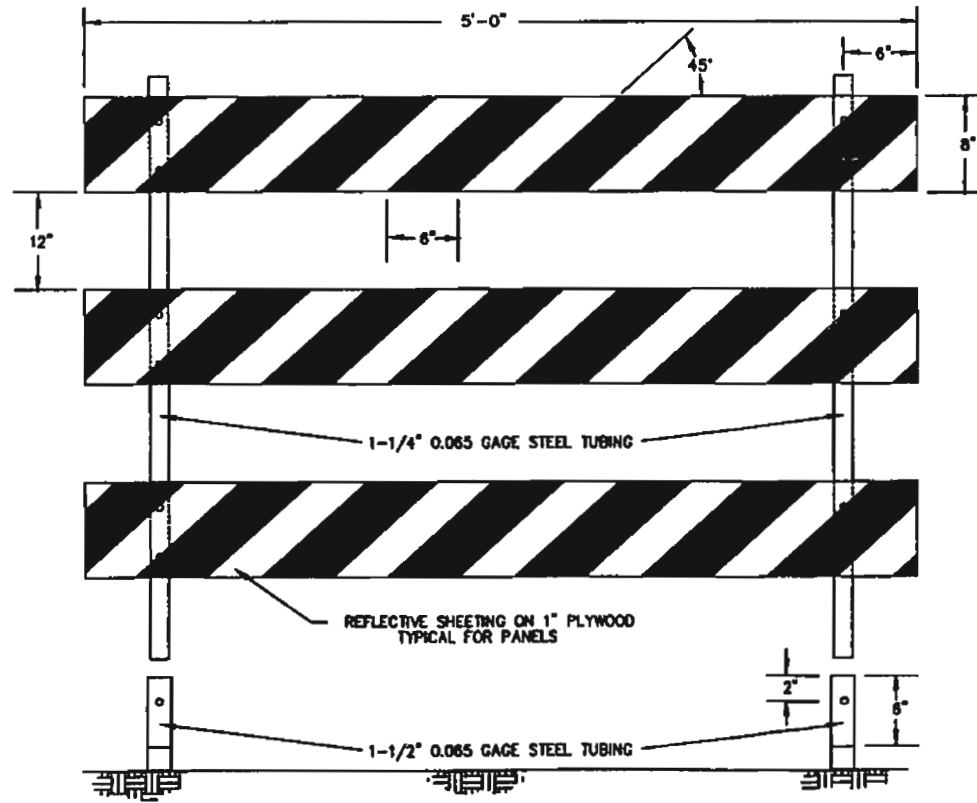
FRONT VIEW



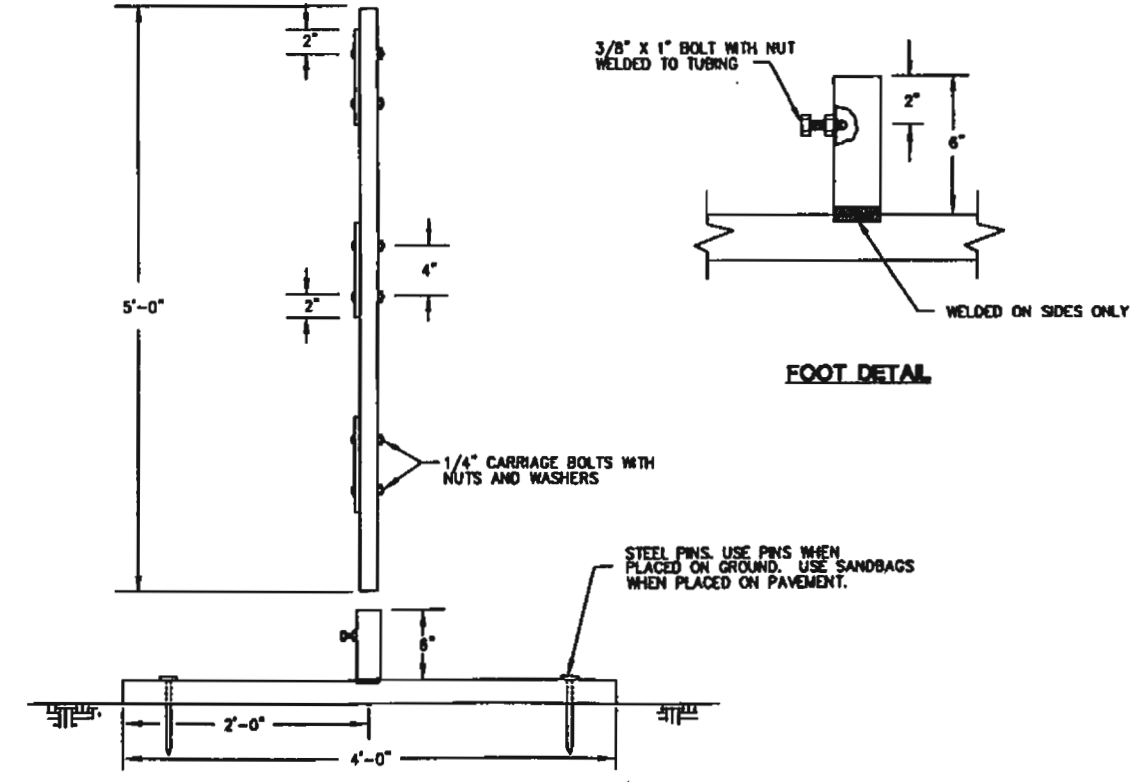
SIDE VIEW

1" x 18" STEEL PINS USE PINS WHEN PLACED ON GROUND. USE SANDBAGS WHEN PLACED ON PAVEMENT.

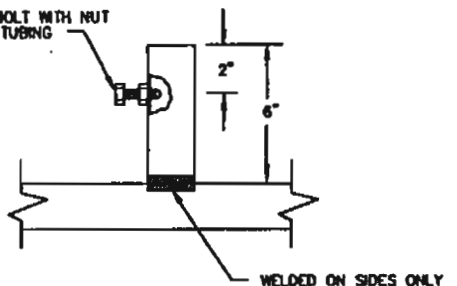
**PORTABLE TYPE IIIA BARRICADE**  
N.T.S.



FRONT VIEW



SIDE VIEW



FOOT DETAIL

STEEL PINS. USE PINS WHEN PLACED ON GROUND. USE SANDBAGS WHEN PLACED ON PAVEMENT.

TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE

SPECIFICATION REFERENCE


TYPICAL APPLICATION FOR  
BARRICADES & FLAGGER TRAFFIC CONTROL SIGN STANDARD DESIGNS

UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA

DATE 1-8-97 DWG NO. 601 (2 OF 2) PAGE 140A

PORTABLE CONCRETE BARRIER RAIL SHALL BE USED TO PROTECT ANY WORK AREA IN WHICH IS ESTABLISHED A CONDITION SHOWN IN FIGURES A & B OR TABLES 1,2 & 3 (BELOW) WARRANTING A BARRIER

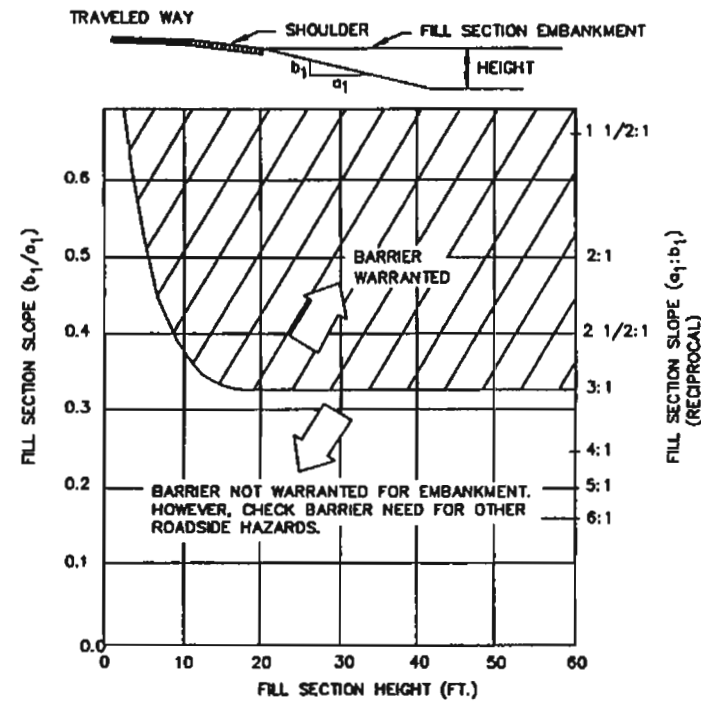


FIGURE A. WARRANTS FOR FILL SECTION EMBANKMENTS

THE TABLES AND FIGURES SHOWN ABOVE ARE TAKEN IN THEIR ENTIRETY FROM THE ROADSIDE DESIGN GUIDE, AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS (AASHTO), WASHINGTON, D.C. 1989 AND USED TO ESTIMATE CLEAR ZONE DIMENSION. REFER TO ROADSIDE DESIGN GUIDE FOR ADDITIONAL INFORMATION AND GUIDELINES WHICH SHOULD BE CONSIDERED.

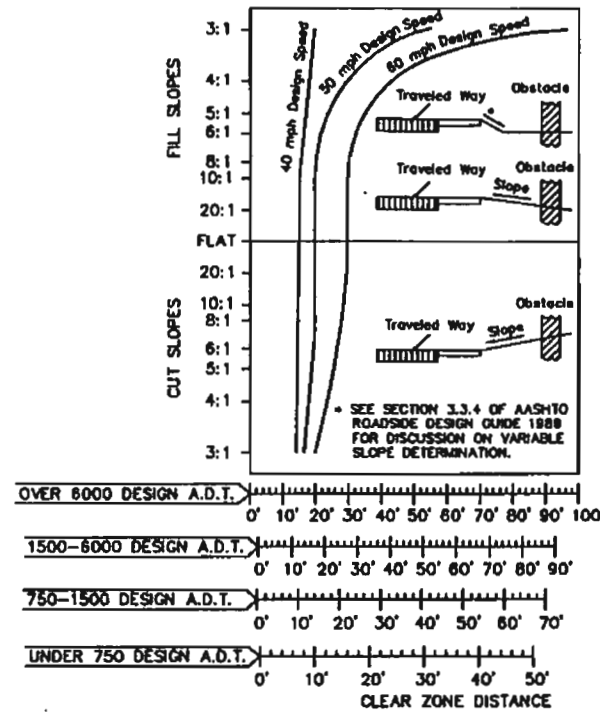


FIGURE B. CLEAR ZONE DISTANCE CURVES

(FOR SLOPES GREATER THAN 4:1 CONSULT AASHTO ROADSIDE DESIGN GUIDE 1989)

TABLE 1. CLEAR ZONE DISTANCES (IN FEET FROM EDGE OF DRIVING LANE)

DESIGN SPEED	DESIGN ADT	FILL SLOPES			CUT SLOPES		
		6:1 OR FLATTER	5:1 TO 4:1	3:1	3:1	5:1 TO 4:1	6:1 OR FLATTER
40 MPH OR LESS	UNDER 750	7-10	7-10	**	7-10	7-10	7-10
	750-1500	10-12	12-14	**	10-12	10-12	10-12
	1500-6000	12-14	14-16	**	12-14	12-14	12-14
	OVER 6000	14-16	16-18	**	14-16	14-16	14-16
45-50 MPH	UNDER 750	10-12	12-14	**	8-10	8-10	10-12
	750-1500	12-14	16-20	**	10-12	12-14	14-16
	1500-6000	16-18	20-26	**	12-14	14-16	16-18
	OVER 6000	18-20	24-28	**	14-16	18-20	20-22
55 MPH	UNDER 750	12-14	14-18	**	8-10	10-12	10-12
	750-1500	16-18	20-24	**	10-12	14-16	16-18
	1500-8000	20-22	24-30	**	14-16	18-18	20-22
	OVER 6000	22-24	26-32*	**	16-18	20-22	22-24
60 MPH	UNDER 750	16-18	20-24	**	10-12	12-14	14-16
	750-1500	20-24	26-32*	**	12-14	16-18	20-22
	1500-8000	28-30	32-40*	**	14-18	18-22	24-26
	OVER 6000	30-32*	38-44*	**	20-22	24-26	26-28
65-70 MPH	UNDER 750	18-20	20-26	**	10-12	14-16	14-16
	750-1500	24-26	28-36*	**	12-16	16-20	20-22
	1500-8000	28-32*	34-42*	**	16-20	22-24	26-28
	OVER 6000	30-34*	38-46*	**	22-24	26-30	28-30

\* MAY BE LIMITED TO 30 FEET BASED ON SITE SPECIFIC INVESTIGATION. SEE ROADSIDE DESIGN GUIDE FOR FURTHER DISCUSSION.

\*\* FIXED OBJECTS SHOULD NOT BE PRESENT IN THE VICINITY OF THE TOE OF THESE SLOPES. RECOVERY OF HIGH SPEED VEHICLES THAT ENCROACH BEYOND THE EDGE OF SHOULDER MAY BE EXPECTED TO OCCUR BEYOND THE TOE OF THE SLOPE. SEE ROADSIDE DESIGN GUIDE FOR FURTHER DISCUSSION.

TABLE 2. TYPICAL WARRANTS FOR NONTRAVERSABLE AND FIXED OBJECT HAZARDS

BRIDGE PIERS, ABUTMENTS AND RAILING ENDINGS	SHIELDING GENERALLY REQUIRED
BOULDERS	A JUDGEMENT DECISION BASED ON NATURE OF HAZARD AND LIKELIHOOD OF IMPACT
CULVERTS, PIPES, HEADWALLS	A JUDGEMENT DECISION BASED ON SIZE, SHAPE AND LOCATION OF HAZARD
CUT SLOPES (SMOOTH)	SHIELDING NOT GENERALLY REQUIRED
CUT SLOPES (ROUGH)	A JUDGEMENT DECISION BASED ON LIKELIHOOD OF IMPACT
DITCHES (PARALLEL)	REFER TO ROADSIDE DESIGN GUIDE SECTION 3.2.4
DITCHES (TRANSVERSE)	SHIELDING GENERALLY REQUIRED IF LIKELIHOOD OF HEAD-ON IMPACT IS HIGH
EMBANKMENT	A JUDGEMENT DECISION BASED ON FILL HEIGHT AND SLOPE (SEE FIGURE A)
RETAINING WALLS	A JUDGEMENT DECISION BASED ON RELATIVE SMOOTHNESS OF WALL AND ANTICIPATED MAXIMUM ANGLE OF IMPACT
SIGN/LUMINAIRE SUPPORTS <sup>3</sup>	SHIELDING GENERALLY REQUIRED FOR NON-BREAKAWAY SUPPORTS
TRAFFIC SIGNAL SUPPORTS <sup>4</sup>	ISOLATED TRAFFIC SIGNALS WITHIN CLEAR ZONE ON HIGH-SPEED RURAL FACILITIES MAY WARRANT SHIELDING
TREES	A JUDGEMENT DECISION BASED ON SITE SPECIFIC CIRCUMSTANCES
UTILITY POLES	SHIELDING MAY BE WARRANTED ON A CASE-BY-CASE BASIS
PERMANENT BODIES OF WATER	A JUDGEMENT DECISION BASED ON LOCATION AND DEPTH OF WATER AND LIKELIHOOD OF ENCROACHMENT

- SHIELDING A NON-TRAVERSABLE OR FIXED OBJECT HAZARD IS USUALLY WARRANTED ONLY WHEN THE HAZARD IS WITHIN THE CLEAR ZONE AND CANNOT PRACTICALLY OR ECONOMICALLY BE REMOVED, RELOCATED OR MADE BREAKAWAY, AND IT IS DETERMINED THAT THE BARRIER IS A LESSER HAZARD THAN THE UNSHIELDED CONDITION.
- MARGINAL SITUATIONS, WITH RESPECT TO PLACEMENT OR OMISSION OF A BARRIER, WILL USUALLY BE DECIDED BY ACCIDENT EXPERIENCE, EITHER AT THE SITE OR AT A COMPARABLE SITE.
- WHERE FEASIBLE, ALL SIGN AND LUMINAIRE SUPPORTS SHOULD BE A BREAKAWAY DESIGN REGARDLESS OF THEIR DISTANCE FROM THE ROADWAY IF THERE IS A REASONABLE LIKELIHOOD OF THEIR BEING HIT BY AN ERRANT MOTORIST.
- IN PRACTICE, RELATIVELY FEW TRAFFIC SIGNAL SUPPORTS, INCLUDING FLASHING LIGHT SIGNALS AND GATES USED AT RAILROAD CROSSING, ARE SHIELDED. IF SHIELDING IS DEEMED UNNECESSARY, HOWEVER, CRASH CUSHIONS ARE SOMETIMES USED IN LIEU OF A LONGITUDINAL BARRIER INSTALLATION.

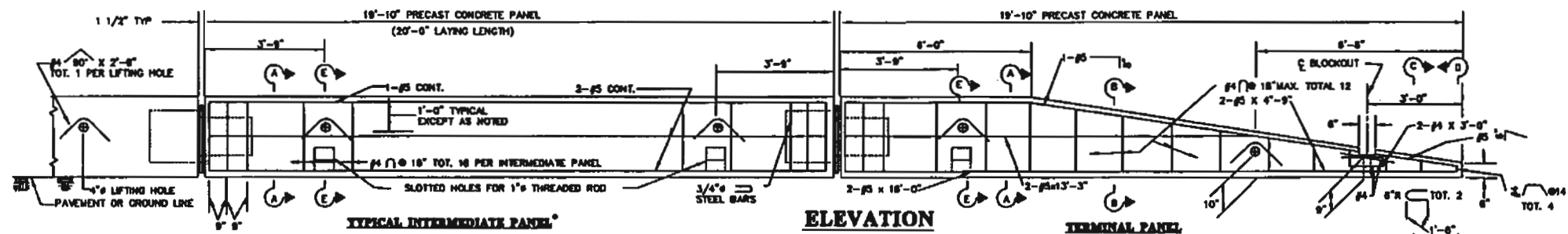
TABLE 3. HORIZONTAL CURVE ADJUSTMENTS

DEGREE OF CURVE	K <sub>CZ</sub> (CURVE CORRECTION FACTOR)						
	DESIGN SPEED						
	40	45	50	55	60	65	70
2.0	1.08	1.10	1.12	1.15	1.19	1.22	1.27
2.5	1.10	1.12	1.15	1.19	1.23	1.26	1.33
3.0	1.11	1.15	1.18	1.23	1.28	1.33	1.40
3.5	1.13	1.17	1.22	1.26	1.32	1.39	1.46
4.0	1.15	1.19	1.25	1.30	1.37	1.44	
4.5	1.17	1.22	1.28	1.34	1.41	1.49	
5.0	1.19	1.24	1.31	1.37	1.46		
6.0	1.23	1.29	1.36	1.45	1.54		
7.0	1.26	1.34	1.42	1.52			
8.0	1.30	1.38	1.48				
9.0	1.34	1.43	1.53				
10.0	1.37	1.47					
15.0	1.54						

$$CZ_c = (L_c)(K_{CZ})$$

WHERE: CZ<sub>c</sub> = CLEAR ZONE ON OUTSIDE OF CURVATURE, FT.  
L<sub>c</sub> = CLEAR ZONE DISTANCE, FT., FIGURE B.  
K<sub>CZ</sub> = CURVE CORRECTION FACTOR

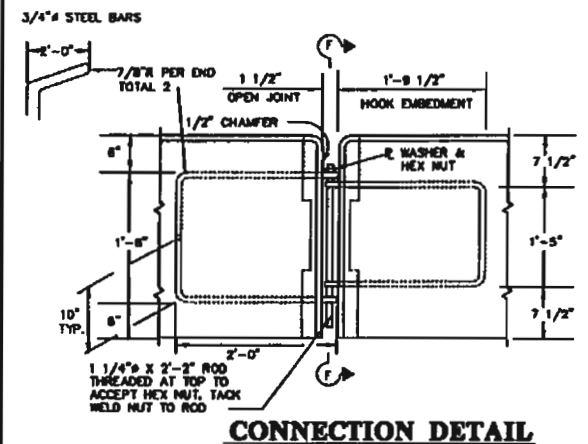
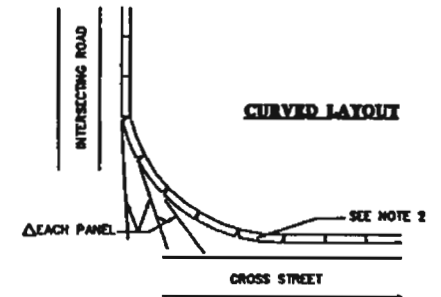
NOTE: CLEAR ZONE CORRECTION FACTOR IS APPLIED TO OUTSIDE CURVES ONLY. CURVES FLATTER THAN 2° DO NOT REQUIRE AN ADJUSTED CLEAR ZONE.



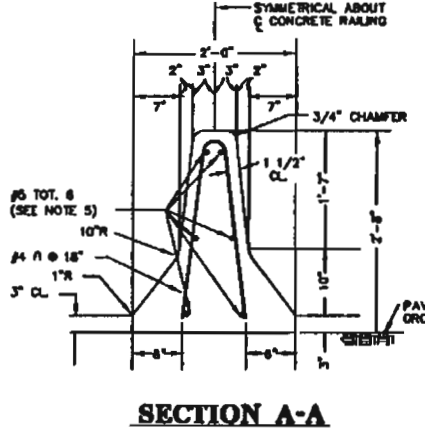
**TYPICAL INTERMEDIATE PANEL\***  
 CONCRETE: 1.53 C.Y. PER PANEL  
 REINFORCING: 166 LBS. PER PANEL  
 WEIGHT: 3.9 TONS PER PANEL  
 \*ALTERNATE LENGTHS MAY BE USED IF APPROVED BY THE ENGINEER.

**TERMINAL PANEL**  
 CONCRETE: 1.55 C.Y. PER PANEL  
 REINFORCING: 144 LBS. PER PANEL  
 WEIGHT: 3.1 TONS PER PANEL

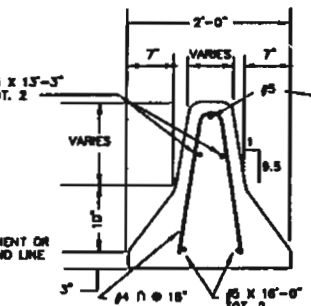
NOTE: #4 @ 18" AND #4 @ 14" MAY BE REPLACED BY WELDED WIRE FABRIC OF EQUIVALENT CROSS-SECTIONAL AREA. FOR DETAILS NOT SHOWN IN SECTIONS B-B, C-C, & D-D, SEE SECTION A-A.



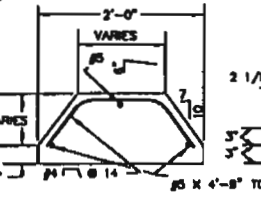
**CONNECTION DETAIL**



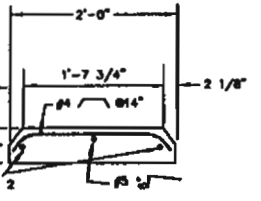
**SECTION A-A**



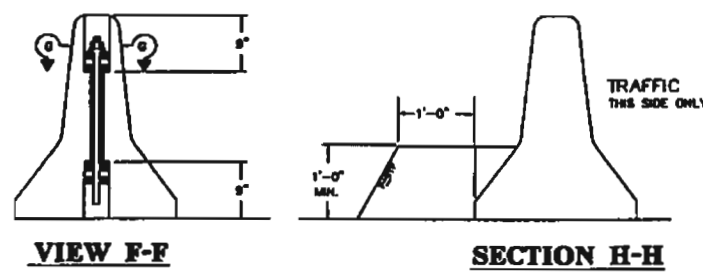
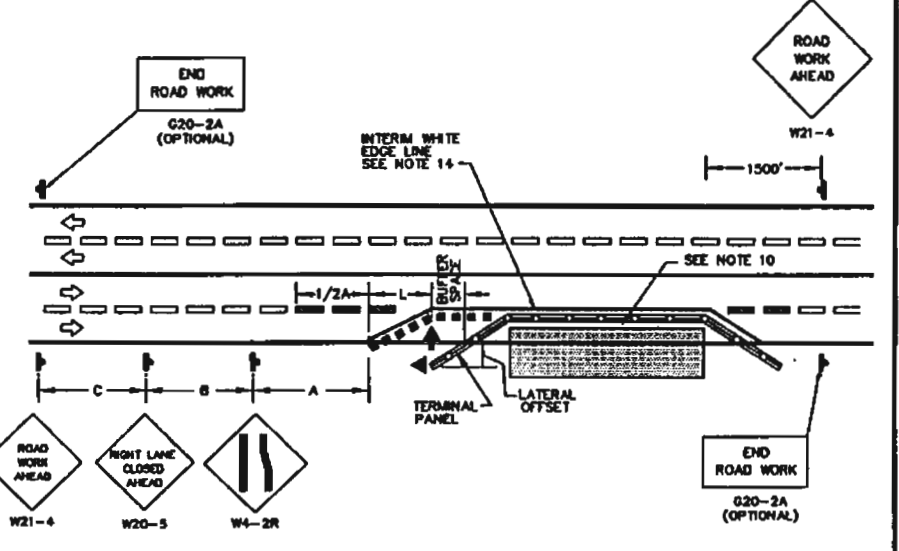
**SECTION B-B**



**SECTION C-C**

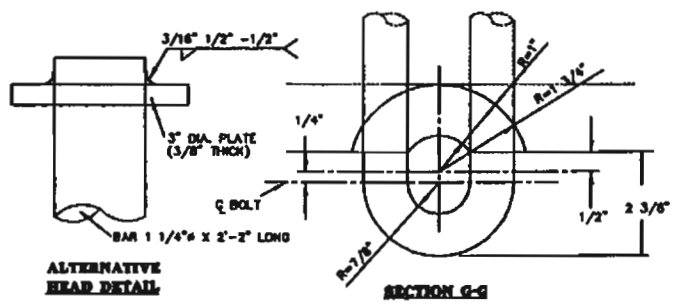


**SECTION D-D**



**VIEW F-F**

**SECTION H-H**



**ALTERNATIVE HEAD DETAIL**

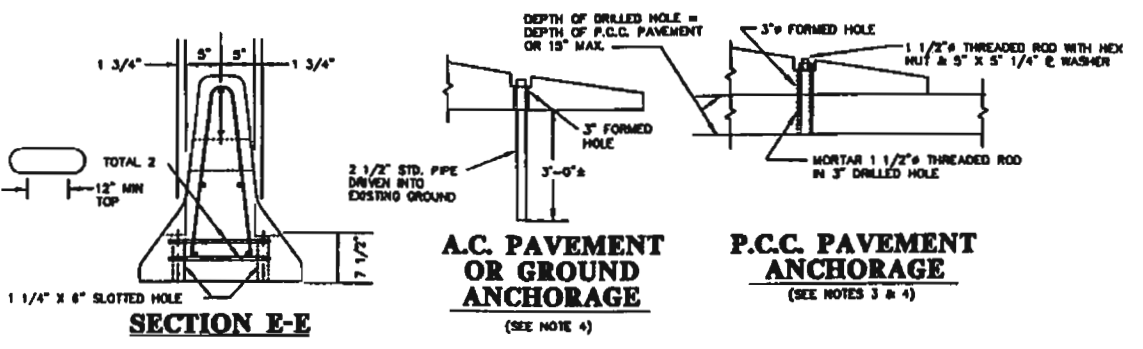
**SECTION G-G**

SPEED MILES PER HOUR OR M.P.H.	TAPER LENGTH LANE WIDTH IN FEET			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
	10	11	12		
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	450	485	540	13	45
50	500	500	600	13	50
55	550	605	660	13	55
60	600	680	720	13	60
65	650	75	780	13	65
70	700	770	840	13	70

SPEED* (M.P.H.)	BUFFER SPACE (FT.)
70	565
65	465
60	415
55	335
50	280
45	220
40	170
35	120
30	85
25	55
20	35

SPEED (M.P.H.)	MAXIMUM TAPER	MINIMUM LATERAL OFFSET (FT.)
70	15:1	10.0
65	14:1	9.0
60	13:1	8.0
55	12:1	7.25
50	11:1	6.5
45	10:1	5.75
40	9:1	5.0
35	8:1	4.25
30	7:1	3.5
25	6:1	2.75
20	5:1	2.0

\* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR THE ANTICIPATED OPERATING SPEED.



**SECTION E-E**

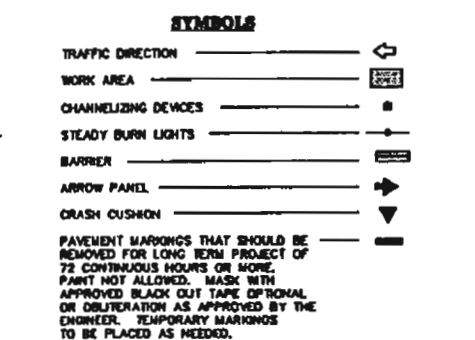
**A.C. PAVEMENT OR GROUND ANCHORAGE**  
(SEE NOTE 4)

**P.C.C. PAVEMENT ANCHORAGE**  
(SEE NOTES 3 & 4)

- NOTES**
1. THE MINIMUM LENGTH OF PORTABLE BARRIER SYSTEM SHOULD BE 100 FT. IN ACCORDANCE WITH CURRENT EDITION AASHTO ROADSIDE DESIGN GUIDE.
  2. WHERE BARRIERS ARE PLACED ON CURVES AND ROADS THAT ARE TOO SEVERE TO MATCH UP JOINTS, BARRIERS ARE TO BE BACKED CONTINUOUSLY WITH EARTH FILL. SEE SECTION H-H.
  3. BOLT UNITS TO DECK SLABS WHEN REQUIRED BY BRIDGE PLANS.
  4. ATTACH UNITS TO PAVEMENT WHEN REQUIRED IN THE PLANS.
  5. THE TWO #5 BARS SHALL BE EQUALLY SPACED FROM THE VERTEX OF THE STRAP BARS. ONE #5 BAR SHALL BE TIGHTLY WELDED TO THE STRAP BARS AND THE SECOND #5 BAR SHALL BE TACK WELDED TO THE STRAP BARS. EACH PROCESS SHALL BE CONTINUOUS FOR EACH #5 BAR.
  6. THE USE OF A BARRIER SHALL BE BASED ON THE NEED DETERMINED IN SHEET 1 OF THIS DRAWING, IN CONJUNCTION WITH THE ROADSIDE DESIGN GUIDE, CURRENT EDITION, OR WHEN CALLED FOR ON THE PLANS.
  7. BARRIERS SHALL BE FLAGGED BEYOND THE SHOULDER OR HAVE A CRASH CUSHION TO PROTECT TRAFFIC FROM THE END OF THE BARRIER. TERMINAL PANELS MAY BE USED AT ENDS ON PORTABLE BARRIER SYSTEM WHICH FACE ONCOMING TRAFFIC FOR SPEEDS LESS THAN 40 MPH.
  8. ALTERNATE STRUCTURAL DETAILS MAY BE PERMITTED IF DOCUMENTED WITH DRAWINGS SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE TRAFFIC ENGINEER.
  9. EVERY PRECAST CONCRETE PANEL SHALL BE JOINED WITH EACH PANEL ADJACENT TO IT. THE CONNECTION DETAILS TO CONFORM WITH THOSE SHOWN ABOVE, OR CONFORMING WITH ALTERNATE DETAIL DESIGN SUBMITTED BY THE CONTRACTOR & APPROVED BY THE TRAFFIC ENGINEER. OPENINGS IN BARRIER SHOULD BE AVOIDED.
  10. PROVIDE AT LEAST 3 FT. BETWEEN THE BARRIER AND THE WORK AREA.

11. IF LESS THAN 3 FT., BARRIER SHALL BE ANCHORED IN ACCORDANCE WITH CURRENT EDITION OF AASHTO ROADSIDE DESIGN GUIDE.
12. CORNERS OF BARRIERS MAY BE REVEALED TO ALLOW PLACEMENT ON CURVES AND SHOULD BE FREE FROM JAGGED EDGES TO AVOID SHAGGING OF VEHICLES.
13. WHEN TEMPORARY BARRIERS ARE INSTALLED ON BOTH SIDES OF TRAFFIC, BEGINNINGS OF BARRIERS SHOULD BE STAGGERED.
14. FOR BETTER NIGHT VISIBILITY, STEADY BURN LIGHTS MAY BE MOUNTED ALONG BARRIER.
15. AN INTERIM WHITE REFLECTORIZED EDGE LINE, 6" WIDE MINIMUM SHOULD BE INSTALLED FROM THE START OF THE TAPER TO A POINT BEYOND THE WORK AREA, REJOINING THE PERMANENT EDGE LINE. THE EDGE LINE SHALL BE REMOVABLE, NON-FOL TAPE.
16. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE CITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.
17. WATER-FILLED BARRIER RAIL MAY BE USED ON SHORT TERM MOVING OPERATIONS WHEN APPROVED BY THE TRAFFIC ENGINEER.
18. TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREWAY	1000	1600	2600

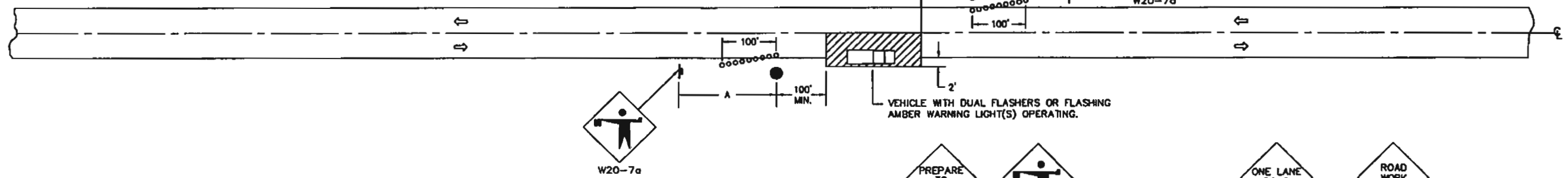


TRAFFIC CONTROL PLAN FOR HIGHWAY WORK ZONE

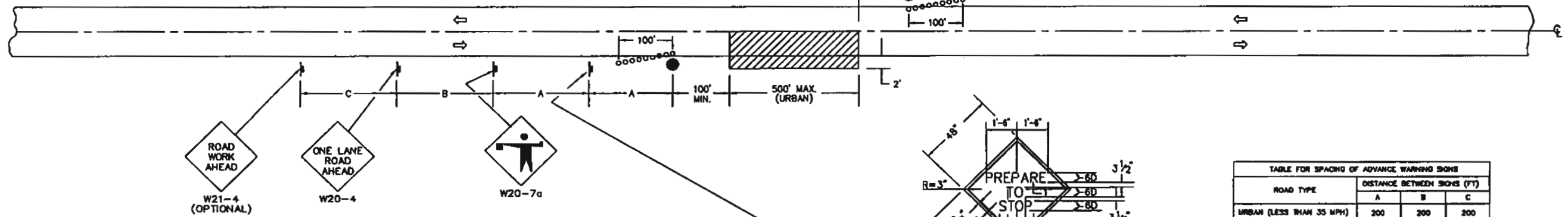

TYPICAL APPLICATION FOR PORTABLE CONCRETE BARRIER RAIL

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA  
 DATE 1-8-97 DWG NO. 802 (2 OF 2) PAGE 141A

A. FOR ANY OPERATION THAT ENCRACHES IN THE AREA BETWEEN THE CENTERLINE AND A LINE 2 FT. OUTSIDE THE EDGE OF THE PAVEMENT FOR A PERIOD OF LESS THAN 15 MINUTES.



B. FOR ANY OPERATION THAT ENCRACHES IN THE AREA BETWEEN THE CENTERLINE AND A LINE 2 FT. OUTSIDE THE EDGE OF THE PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES BUT LESS THAN 60 MINUTES.

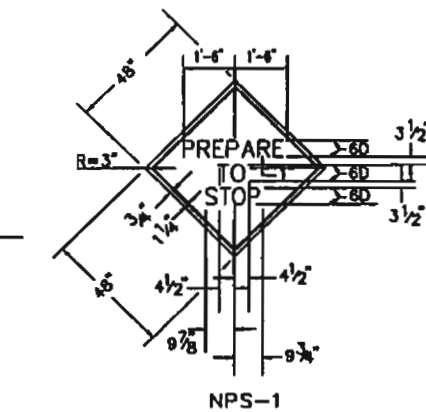


C. FOR ANY OPERATION THAT IS MORE THAN 2 FT. OUTSIDE THE EDGE OF THE PAVEMENT FOR A PERIOD OF LESS THAN 60 MINUTES.



TO BE PROVIDED ONLY WHEN ONE-WAY TRAFFIC OPERATION IS INVOLVED.

VEHICLE WITH DUAL FLASHERS OR FLASHING AMBER WARNING LIGHT(S) OPERATING.



ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2800

**GENERAL NOTES**

- CONSTRUCTION OPERATIONS SHALL BE CONFINED TO ONE TRAFFIC LANE. ON TWO-LANE ROADS, AT LEAST 500 FT. OF BOTH TRAFFIC LANES SHALL BE AVAILABLE FOR TRAFFIC MOVEMENT AT INTERVALS NOT GREATER THAN 1,000 FT. AND A COMPLETE TRAFFIC CONTROL PLAN MUST BE APPROVED FOR ANY PROJECT EXPECTED TO EXCEED 1,000 FT. IN LENGTH.
- THE FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
- ALL SIGNS ARE TO BE REMOVED AT COMPLETION OF EACH OPERATION.
- FOR THREE LANE ROADWAYS, THE FLAGGER SHOWN FOR TRAFFIC APPROACHING FROM THE OPPOSITE DIRECTION MAY BE DELETED, IF ONE LANE IS MAINTAINED IN EACH DIRECTION, AS DIRECTED BY THE TRAFFIC ENGINEER, THE ADVANCE WARNING SIGN FOR TRAFFIC APPROACHING FROM THE OPPOSITE DIRECTION OMITTED, AND THE "ONE LANE ROAD AHEAD" SIGN CHANGED TO "RIGHT (LEFT) LANE CLOSED AHEAD". FOR MULTILANE ROADWAYS WITH TWO LANES IN EACH DIRECTION, THE FLAGGER MAY BE DELETED IF DEEMED UNNECESSARY BY THE TRAFFIC ENGINEER.

- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER. THE LATERAL PLACEMENT OF THE FLAGGERS MAY BE VARIED FROM THAT SHOWN.
- ALL VEHICLES, EQUIPMENT, WORKERS (EXCEPT FLAGGERS) AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
- IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6811 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.

BOULDER CITY 293-9200	LAS VEGAS 229-6331
CLARK COUNTY 455-6100	MESQUITE 346-5295
HENDERSON 565-2140	NORTH LAS VEGAS 642-2482

VEHICLE WITH DUAL FLASHERS OR FLASHING AMBER WARNING LIGHT(S) OPERATING.

- IF THE WORK PLACE IS IN THE MEDIAN OF A DIVIDED HIGHWAY, AN ADVANCE WARNING SIGN SHOULD ALSO BE PLACED ON THE LEFT SIDE OF THE DIRECTIONAL ROADWAY.
- ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.
- FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
- TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION FOR USE DURING HOURS OF DARKNESS.

**SYMBOLS**

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- TRAFFIC CONES
- TRAFFIC DIRECTION

**TYPICAL APPLICATIONS**

- MARKING PATCHES
- FIELD SURVEY
- STRING LINE
- UTILITY OPERATION
- CLEANING UP DEBRIS ON PAVEMENT

TRAFFIC CONTROL PLAN FOR HIGHWAY WORK ZONE

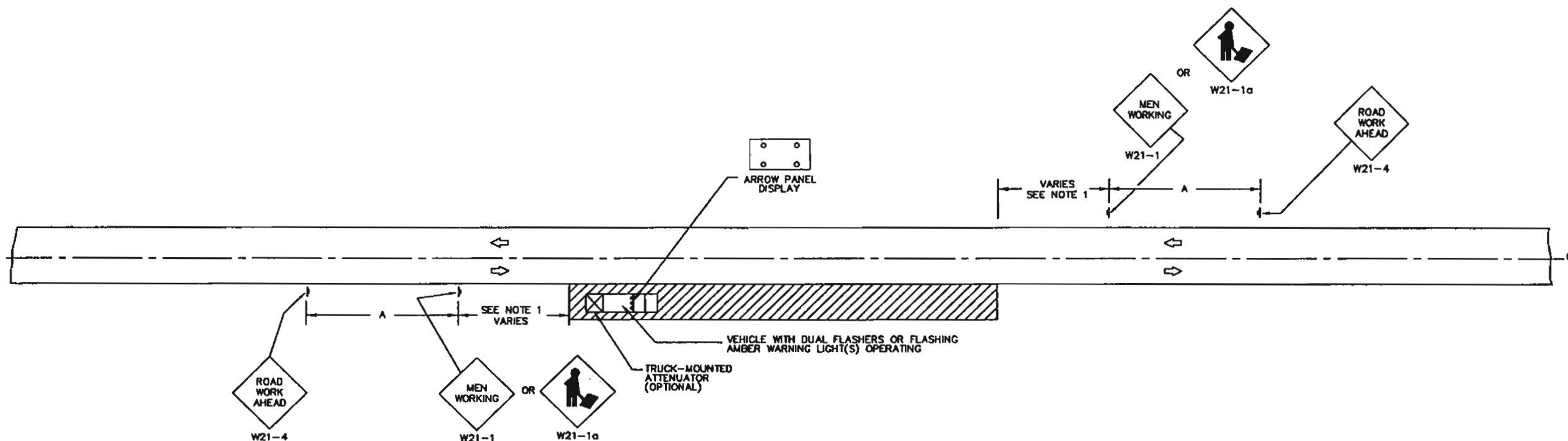
**SPECIFICATION REFERENCE**


**TYPICAL APPLICATION FOR**

SHORT TIME, DAY OR NIGHT OPERATIONS

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA

DATE 1-9-97 DWG NO. 603 (1 OF 1) PAGE 142



**GENERAL NOTES**

1. MINIMUM DISTANCE IS 200 FT. MAXIMUM DISTANCE TO BE DETERMINED BY THE TRAFFIC ENGINEER BUT SHOULD NOT EXCEED 1/2 THE LENGTH REQUIRED FOR ONE NORMAL WORKING DAY'S OPERATION. IN SITUATIONS WHERE MULTIPLE WORK LOCATIONS IN A LIMITED DISTANCE MAKE IT PRACTICABLE TO PLACE STATIONARY SIGNS, THE MAXIMUM SPACING FOR THE ADVANCE WARNING SIGN IS 5 MILES IN ADVANCE OF THE WORK.
2. IF THE WORK OPERATION DOES NOT EXCEED 60 MINUTES, TRAFFIC CONTROL MAY BE IN CONFORMANCE WITH STANDARD DRAWING NO. 603.
3. ALL SIGNS ARE TO BE REMOVED AT COMPLETION OF THE DAY'S OPERATION.
4. FOR DIVIDED ROADWAYS THE REQUIRED ADVANCE WARNING SIGNS SHALL BE POSTED ON BOTH THE RIGHT AND MEDIAN SIDE OF THE AFFECTED APPROACH.
5. FOR MULTILANE ROADWAYS THE ADVANCE WARNING SIGNS MAY BE REQUIRED FOR TRAFFIC APPROACHING FROM THE OPPOSITE DIRECTION.
6. WORKER SIGNS ARE TO BE REMOVED WHEN NO WORK IS BEING PERFORMED. ANY UNATTENDED OBSTACLE OR EXCAVATION IN THE WORK AREA, WHICH IN THE OPINION OF THE TRAFFIC ENGINEER CONSTITUTES A HAZARD, SHALL BE PROTECTED BY BARRICADES WITH FLASHING LIGHTS AT NIGHT AT THE POINTS OF HAZARD. STEADY BURNING LIGHTS SHALL BE USED FOR DELINEATION AND LONG LINE GUIDANCE. BARRICADES SHALL BE PLACED ACCORDING TO MAXIMUM SPACING VALUES LISTED IN THE TABLE BELOW.

7. IF THE WORK OPERATION REQUIRES ANY WORK VEHICLE TO ENTER OR LEAVE THE THROUGH TRAFFIC LANES A FLAGGER SHALL BE PROVIDED AND THE FLAGGER SIGN SHALL BE SUBSTITUTED FOR THE WORKER SIGN. A 100 FT. CONE TAPER SHALL BE PROVIDED PRIOR TO STATION TO PROTECT THE FLAGGER. FLAGGER IS NOT REQUIRED FOR 25 MPH OR LESS RESIDENTIAL STREETS.
8. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER.
9. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
10. ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 718.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.

13. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

11. TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	300	200	300
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2600

12. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-8611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.

BOULDER CITY	293-9200	MESQUITE	348-5295
CLARK COUNTY	455-6100	NORTH LAS VEGAS	642-2482
HENDERSON	565-2140		
LAS VEGAS	229-6331		

**TYPICAL APPLICATIONS**

SHOULDER WORK  
MOWING  
UTILITY OPERATIONS

**SYMBOLS**

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TRAFFIC DIRECTION

SPEED MILES PER HOUR 85th PERCENTILE	TAPER LENGTH LANE WIDTH IN FEET			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
	10	11	12		
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	350	385	420	10	45
50	450	495	540	11	50
55	570	625	680	12	55
60	720	785	840	13	60
65	890	965	1040	14	65
70	1080	1165	1240	15	70

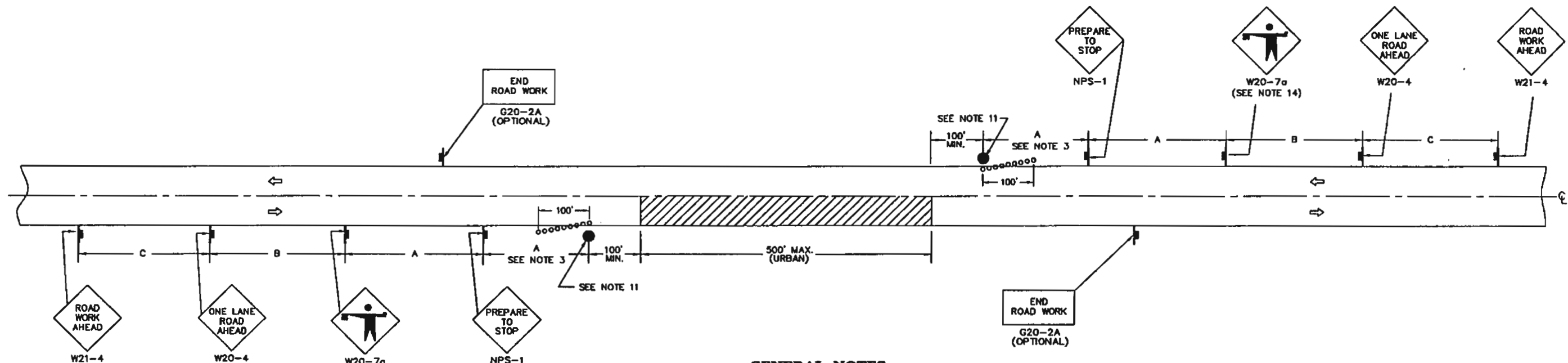
TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE

**SPECIFICATION REFERENCE**

**TYPICAL APPLICATION FOR**

RURAL MOVING DAY OPERATIONS WHERE ACTIVITIES ENCROACH ON THE SHOULDER

UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA



**GENERAL NOTES**

SHALL BE USED WHEN PRIME COAT IS APPLIED TO PAVEMENT AND SHALL REMAIN UNTIL NO TRACKING. INSTALL A MINIMUM OF 500 FT. PRECEDING START OF PRIME.



- CONSTRUCTION OPERATIONS SHALL BE CONFINED TO ONE TRAFFIC LANE, LEAVING THE OPPOSITE LANE OPEN TO TRAFFIC. AT LEAST 500FT. OF BOTH TRAFFIC LANES SHALL BE AVAILABLE FOR TRAFFIC MOVEMENT AT INTERVALS NOT GREATER THAN 1,000 FT. A SPECIAL TRAFFIC CONTROL DETAIL MUST BE APPROVED FOR ANY PROJECT EXPECTED TO EXCEED 1,000 FT. IN LENGTH.
- THE FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIME.
- MAXIMUM DISTANCE TO BE DETERMINED BY THE TRAFFIC ENGINEER BUT SHOULD NOT EXCEED 1/2 THE LENGTH REQUIRED FOR ONE NORMAL WORKING DAY'S OPERATION OR 1,000 FT., WHICHEVER IS LESS.
- IF THE WORK OPERATION DOES NOT EXCEED 60 MINUTES, TRAFFIC CONTROL WILL BE IN CONFORMANCE WITH STANDARD DRAWING NO. 603.
- ALL SIGNS ARE TO BE REMOVED AT COMPLETION OF THE DAY'S OPERATIONS.
- FOR DIVIDED ROADWAYS THE REQUIRED ADVANCE WARNING SIGNS SHALL BE POSTED ON BOTH THE RIGHT AND LEFT SIDE OF THE AFFECTED APPROACH.
- FOR MULTILANE ROADWAYS, THE FLAGGER AND THE ADVANCE WARNING SIGNS SHOWN MAY BE REQUIRED FOR TRAFFIC APPROACHING FROM THE OPPOSITE DIRECTION. "RIGHT LANE CLOSED AHEAD" SIGNS SHALL BE SUBSTITUTED FOR THE "ONE LANE ROAD AHEAD" SIGNS.
- THIS CASE ALSO APPLIES WHEN WORK IS BEING PERFORMED IN LANES ADJACENT TO THE CENTERLINE OF AN UNDIVIDED MULTILANE HIGHWAY OR ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY. UNDER THESE CONDITIONS, "LEFT LANE CLOSED AHEAD" SIGNS SHALL BE SUBSTITUTED FOR "RIGHT LANE CLOSED AHEAD" SIGNS.
- THIS CASE DOES NOT APPLY WHEN WORK IS BEING PERFORMED IN THE MIDDLE LANE(S) OF A SIX OR MORE LANE HIGHWAY. SPECIAL TRAFFIC CONTROL DETAILS APPROVED BY THE TRAFFIC ENGINEER WILL BE REQUIRED.

- "ONE LANE ROAD AHEAD" AND FLAGGER SIGNS SHALL BE REMOVED OR COVERED WHEN NO WORK IS BEING PERFORMED.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER. THE LATERAL PLACEMENT OF THE FLAGGERS MAY BE VARIED FROM THAT SHOWN. IF A CURVED SECTION OF ROADWAY IS INVOLVED FLAGGER SHOULD BE PLACED AT THE BEGINNING OF CURVE (P.C.).
- ALL VEHICLES, EQUIPMENT, WORKERS (EXCEPT FLAGGERS) AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 718.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
- IN MULTILANE SITUATIONS, THE FLAGGER AND FLAGGER WARNING SIGNS ON THE SIDE OPPOSITE TO THE WORK AREA ARE REQUIRED ONLY WHEN TRAFFIC IN ANY DIRECTION IS MADE TO CROSS THE ROAD CENTER LINE.
- TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2600

- IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

BOULDER CITY	293-9200	LAS VEGAS	229-6331
CLARK COUNTY	455-6100	MESQUITE	346-5295
HENDERSON	565-2140	NORTH LAS VEGAS	642-2462

- ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

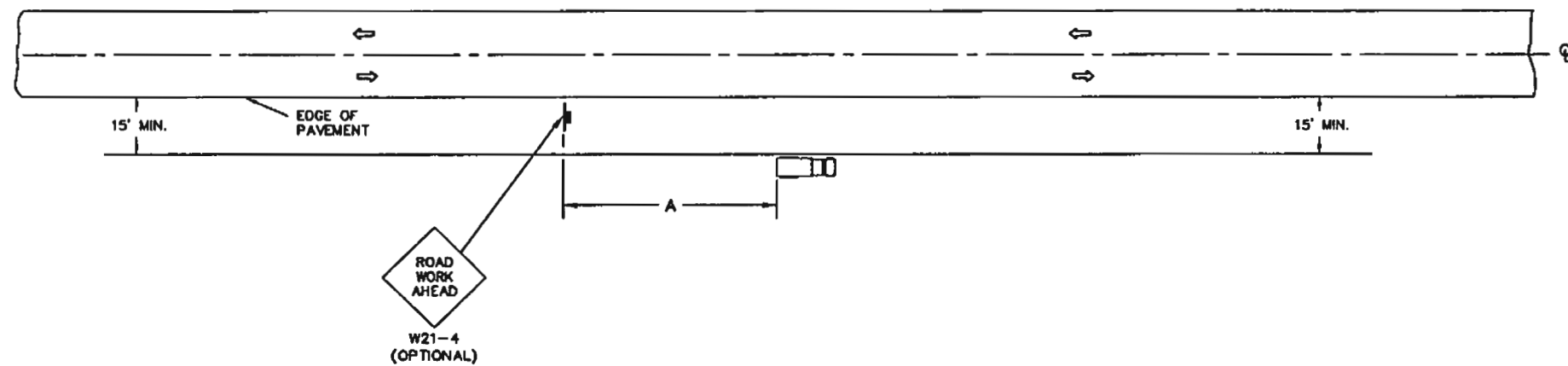
**SYMBOLS**

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- TRAFFIC CONE
- TRAFFIC DIRECTION

**TRAFFIC CONTROL PLAN FOR HIGHWAY WORK ZONE**

SPECIFICATION REFERENCE	

**TYPICAL APPLICATION FOR RURAL MOVING DAY OPERATIONS WHERE ACTIVITIES ENCR OACH ON THE PAVEMENT**



**TYPICAL APPLICATIONS**

- LANDSCAPING WORK
- UTILITY WORK
- FENCING CONTRACTS AND MAINTENANCE
- CLEANING CULVERTS

**GENERAL NOTES**

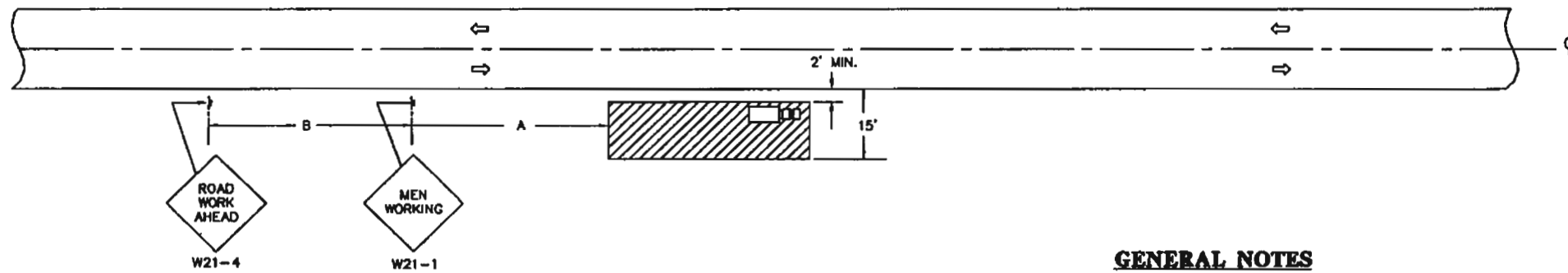
1. NO SPECIAL SIGNING IS REQUIRED.
2. IF THE WORK OPERATION REQUIRES ANY WORK VEHICLES TO CROSS THE 15 FT. CLEAR ZONE, TRAFFIC CONTROL SHALL CONFORM WITH STANDARD DRAWING NO. 607.
3. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

BOULDER CITY	293-9200	MESQUITE	348-5295
CLARK COUNTY	455-6100	NORTH LAS VEGAS	642-2482
HENDERSON	585-2140		
LAS VEGAS	229-6331		
4. TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.

**SYMBOLS**

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TRAFFIC DIRECTION

TABLE FOR SPACING OF ADVANCE WARNING SIGNS			
ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2600



**TYPICAL APPLICATIONS**

- UTILITY OPERATION
- CULVERT EXTENSIONS
- SIDE SLOPE CHANGES
- GUARD RAIL INSTALLATION AND MAINTENANCE
- DELINEATOR INSTALLATION AND MAINTENANCE
- LANDSCAPING OPERATIONS
- CLEANING DITCHES AND DRAINAGE STRUCTURES
- SIGN INSTALLATION AND MAINTENANCE
- SHOULDER REPAIR

**SYMBOLS**

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TRAFFIC DIRECTION

**GENERAL NOTES**

1. IF THE WORK OPERATION DOES NOT EXCEED 60 MINUTES, TRAFFIC CONTROL MAY BE IN CONFORMANCE WITH STANDARD DRAWING NO. 603.
  2. WORKER SIGNS ARE TO BE REMOVED WHEN NO WORK IS BEING PERFORMED. ANY UNATTENDED OBSTACLE OR EXCAVATION IN THE WORK AREA WHICH IN THE OPINION OF THE TRAFFIC ENGINEER CONSTITUTES A HAZARD SHALL BE PROTECTED BY BARRICADES WITH FLASHING LIGHTS AT NIGHT AT THE POINTS OF HAZARD. STEADY BURNING LIGHTS SHALL BE USED FOR DELINEATION AND LONG LINE GUIDANCE. BARRICADES SHALL BE PLACED ACCORDING TO MAXIMUM SPACING VALUES LISTED IN THE TABLE BELOW.
- | TAPER LENGTHS FOR LANE CLOSURES - DISTANCE L |                                    |     |     |  |   |
|--|------------------------------------|-----|-----|--|---|
| SPEED<br>MILES PER HOUR<br>85th PERCENTILE   | TAPER LENGTH<br>LANE WIDTH IN FEET |     |     | NUMBER OF<br>CHANNELIZING<br>DEVICES FOR TAPER | MAX. SPACING OF<br>DEVICES ALONG<br>TAPER IN FEET |
|  | 10                                 | 11  | 12  |  |   |
| 20   | 70                                 | 75  | 80  | 5  | 20  |
| 25   | 105                                | 115 | 125 | 6  | 25  |
| 30   | 150                                | 165 | 180 | 7  | 30  |
| 35   | 205                                | 225 | 245 | 8  | 35  |
| 40   | 270                                | 295 | 320 | 9  | 40  |
| 45   | 450                                | 485 | 540 | 13   | 45  |
| 50   | 500                                | 550 | 600 | 13   | 50  |
| 55   | 550                                | 605 | 660 | 13   | 55  |
| 60   | 600                                | 660 | 720 | 13   | 60  |
| 65   | 650                                | 715 | 780 | 13   | 65  |
| 70   | 700                                | 770 | 840 | 13   | 70  |
3. TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
  4. IF THE WORK OPERATION REQUIRES ANY WORK VEHICLES TO ENTER OR LEAVE THROUGH TRAFFIC LANES, A FLAGGER SHALL BE PROVIDED AND A FLAGGER SIGN SHALL BE SUBSTITUTED FOR THE WORKER SIGN. A 100 FT. CONE TAPER SHALL BE PROVIDED PRIOR TO STATION TO PROTECT THE FLAGGER. FLAGGER IS NOT REQUIRED FOR 25 MPH OR LESS RESIDENTIAL STREETS.
  5. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER.
  6. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.

7. ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.

8. TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1800	2800

9. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

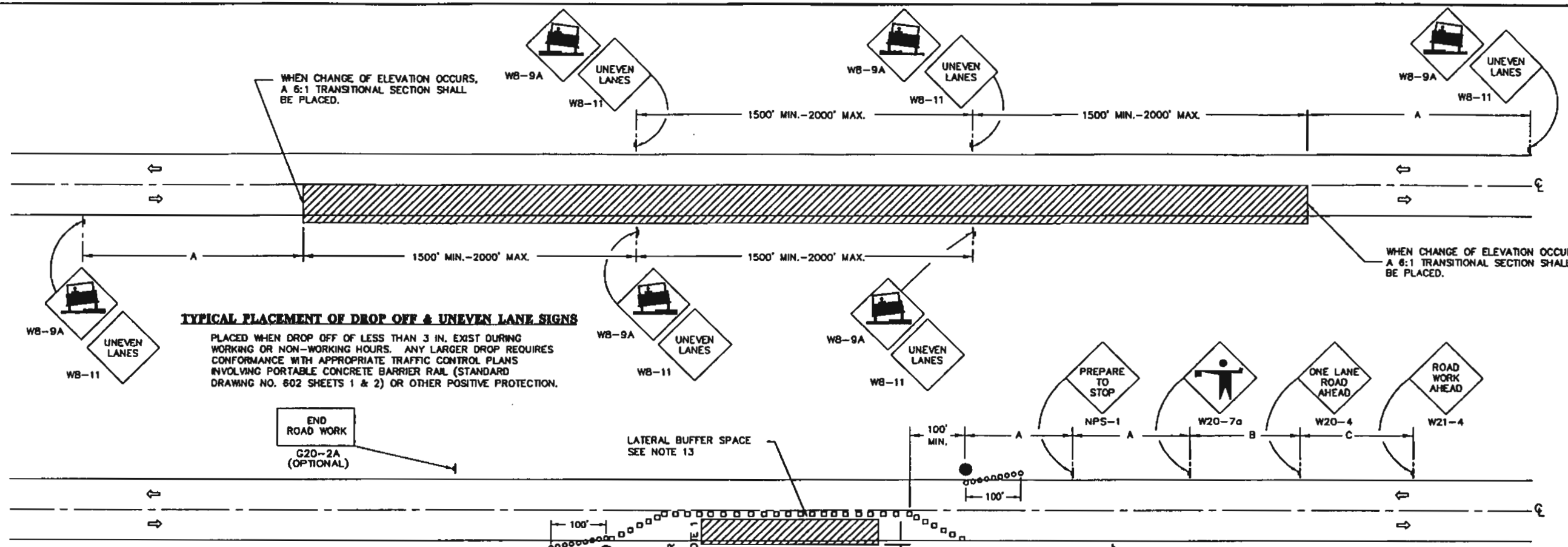
BOULDER CITY	293-9200	LAS VEGAS	229-6331
CLARK COUNTY	455-6100	MESQUITE	346-5295
HENDERSON	565-2140	NORTH LAS VEGAS	642-2462
10. FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
11. IF WORKSPACE IS IN THE MEDIAN OF A DIVIDED HIGHWAY, AN ADVANCE WARNING SIGN SHOULD ALSO BE PLACED ON THE LEFT SIDE OF THE DIRECTIONAL ROADWAY.
12. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE

SPECIFICATION REFERENCE	

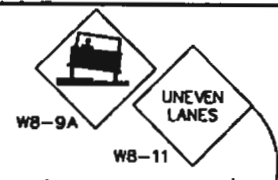
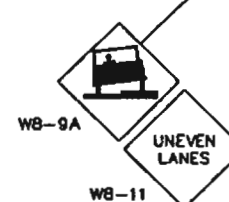
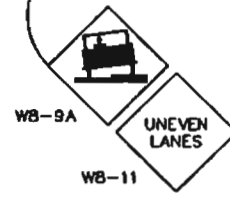
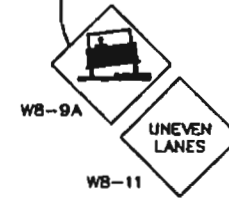
TYPICAL APPLICATION FOR  
2-LANE, 2-WAY, RURAL DAY OR NIGHT OPERATIONS WHERE ACTIVITIES  
WILL ENCROACH BETWEEN 15 FT. & 2 FT. OUTSIDE OF PAVEMENT EDGE

UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA  
DATE 1-9-97 DWG NO. 607 (1 OF 1) PAGE 146

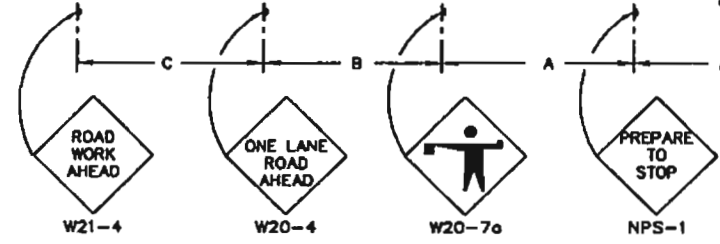
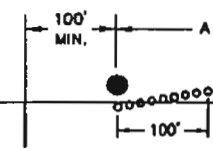


**TYPICAL PLACEMENT OF DROP OFF & UNEVEN LANE SIGNS**

PLACED WHEN DROP OFF OF LESS THAN 3 IN. EXIST DURING WORKING OR NON-WORKING HOURS. ANY LARGER DROP REQUIRES CONFORMANCE WITH APPROPRIATE TRAFFIC CONTROL PLANS INVOLVING PORTABLE CONCRETE BARRIER RAIL (STANDARD DRAWING NO. 602 SHEETS 1 & 2) OR OTHER POSITIVE PROTECTION.



LATERAL BUFFER SPACE SEE NOTE 13



DEVICES SPACED IN ACCORDANCE WITH NOTES 1 & 2. IF CONES ARE USED, DOUBLE THE NUMBER OF DEVICES.

SPEED * (M.P.H.)	BUFFER SPACE (FT.)
70	585
65	485
60	415
55	335
50	280
45	220
40	170
35	120
30	85
25	55
20	35

\* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR THE ANTICIPATED OPERATING SPEED.

SPEED MILES PER HOUR 85TH PERCENTILE	TAPER LENGTH			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
	10	11	12		
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	285	320	9	40
45	450	485	540	13	45
50	500	550	600	13	50
55	550	605	680	13	55
60	600	660	720	13	60
65	650	715	780	13	65
70	700	770	840	13	70

2. ALL DEVICES ESTABLISHING A TAPER OR A TANGENT LINE SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED BY TYPE.

**GENERAL NOTES**

- CONSTRUCTION OPERATIONS SHALL BE CONFINED TO ONE TRAFFIC LANE, LEAVING THE OPPOSITE LANE OPEN TO TRAFFIC. AT LEAST 500 FT. OF BOTH TRAFFIC LANES SHALL BE AVAILABLE FOR TRAFFIC MOVEMENT AT INTERVALS NOT GREATER THAN 1000 FT.
- IF THE WORK OPERATION DOES NOT EXCEED 60 MINUTES, TRAFFIC CONTROL MAY BE IN CONFORMANCE WITH STANDARD DRAWING NO. 603.
- THE FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
- WHEN NO WORK IS BEING PERFORMED, THE FLAGGERS WILL NOT BE REQUIRED. IF THE FLAGGERS ARE NOT PRESENT, THE FLAGGER SIGNS SHALL BE REMOVED OR COVERED.
- ALL SIGNS, CONES, BARRICADES, AND DRUMS SHALL BE REMOVED AT COMPLETION OF OPERATIONS DURING DAYLIGHT AND THE WORK AREA OPEN TO TRAFFIC.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER. THE LATERAL PLACEMENT OF THE FLAGGER MAY BE VARIED FROM SHOWN.
- ALL VEHICLES, EQUIPMENT, WORKERS (EXCEPT FLAGGERS), AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.

**11. TABLE FOR SPACING OF ADVANCE WARNING SIGNS**

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1800	2800

12. IF WORKING AT OR NEAR A TRAFFIC SIGNAL CONTACT LVACTS AT 229-8611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.

BOULDER CITY	293-9200
CLARK COUNTY	455-6100
HENDERSON	565-2140
LAS VEGAS	229-6331
MESQUITE	346-5295
NORTH LAS VEGAS	642-2462

13. A LATERAL BUFFER SPACE MAY BE REQUIRED TO SEPARATE WORK SPACE FROM TRAFFIC SPACE. THE WIDTH SHALL BE DETERMINED BY THE TRAFFIC ENGINEER.

14. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

**TYPICAL APPLICATIONS**

UTILITY OPERATIONS  
PAVEMENT PATCH

**SYMBOLS**

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- CONE, BARRICADE OR DRUM
- TRAFFIC CONE
- TRAFFIC DIRECTION

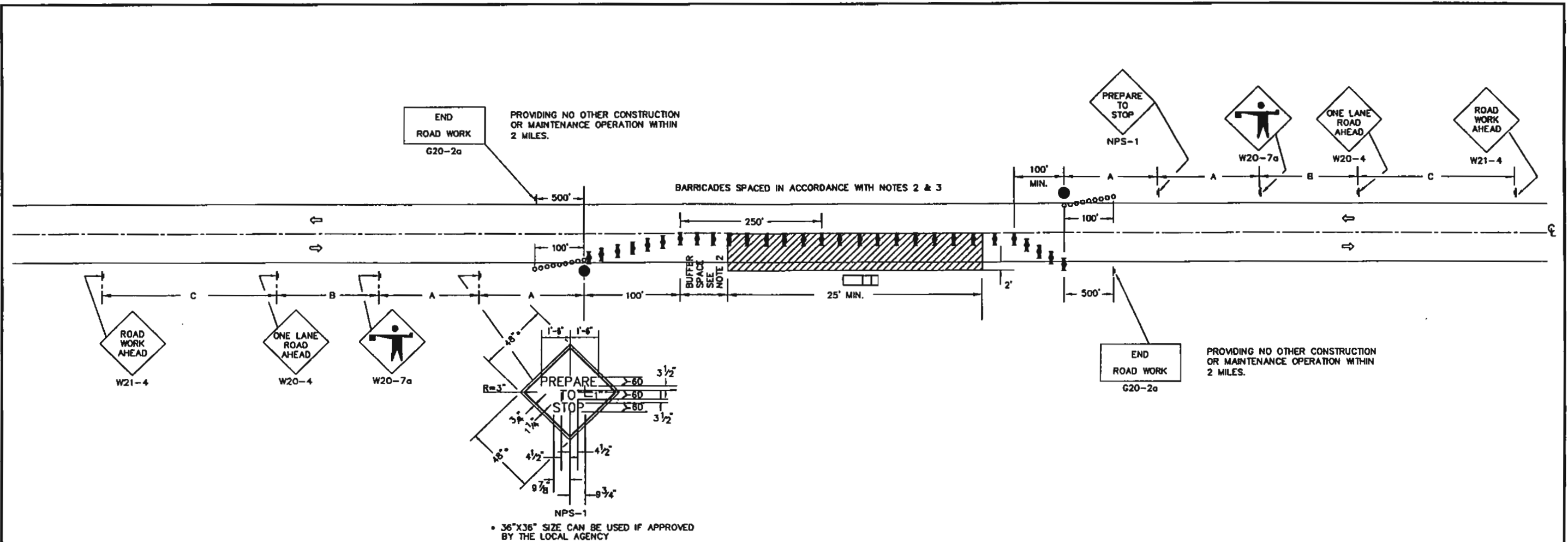
**TRAFFIC CONTROL PLAN FOR HIGHWAY WORK ZONE**

**SPECIFICATION REFERENCE**

**TYPICAL APPLICATION FOR**

**2-LANE, 2-WAY, RURAL DAY OPERATIONS WHERE ACTIVITIES WILL ENCROACH BETWEEN CENTERLINE AND 2 FT. OUTSIDE OF PAVEMENT EDGE**

**UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA**



**TYPICAL APPLICATIONS**

ISOLATED PATCH  
 INSTALLATION OF DRAINAGE STRUCTURE  
 UTILITY OPERATIONS

**SYMBOLS**

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- TRAFFIC CONE
- TRAFFIC DIRECTION
- BARRICADE OR DRUM WITH STEADY BURNING LIGHT

1. CONSTRUCTION OPERATIONS SHALL BE CONFINED TO ONE TRAFFIC LANE, LEAVING THE OPPOSITE LANE OPEN TO TRAFFIC.
- 2.

BUFFER SPACE	
SPEED * (M.P.H.)	BUFFER SPACE (FT.)
70	565
65	485
60	415
55	335
50	280
45	220
40	170
35	120
30	85
25	55
20	35

\* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR THE ANTICIPATED OPERATING SPEED.

TAPER LENGTHS FOR LANE CLOSURES - DISTANCE L					
SPEED MILES PER HOUR 85TH PERCENTILE	TAPER LENGTH LANE WIDTH IN FEET			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
	10	11	12		
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	450	485	540	13	45
50	500	550	600	13	50
55	550	605	660	13	55
60	600	660	720	13	60
65	650	715	780	13	65
70	700	770	840	13	70

**GENERAL NOTES**

3. ALL DEVICES ESTABLISHING A TAPER OR TANGENT LINE SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED BY TYPE.
4. THE FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
5. FLAGGERS SHALL BE REQUIRED AT ALL ENTRY POINTS INTO THE WORK AREA.
6. ALL SIGNS SHALL BE GROUND-MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS AND AS REQUIRED BY SECTION 625 OF THE UNIFORM STANDARD SPECIFICATIONS.
7. TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
8. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER. THE LATERAL PLACEMENT OF THE FLAGGERS MAY BE VARIED FROM THAT SHOWN.
9. ALL VEHICLES, EQUIPMENT, WORKERS (EXCEPT FLAGGERS) AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
10. ALL BARRICADE LIGHTS SHALL BE BIDIRECTIONAL, EXCEPT LIGHTS ON TAPER BARRICADES, WHICH SHALL BE MONODIRECTIONAL.
11. ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AN BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.

**12. TABLE FOR SPACING OF ADVANCE WARNING SIGNS**

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2800

13. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

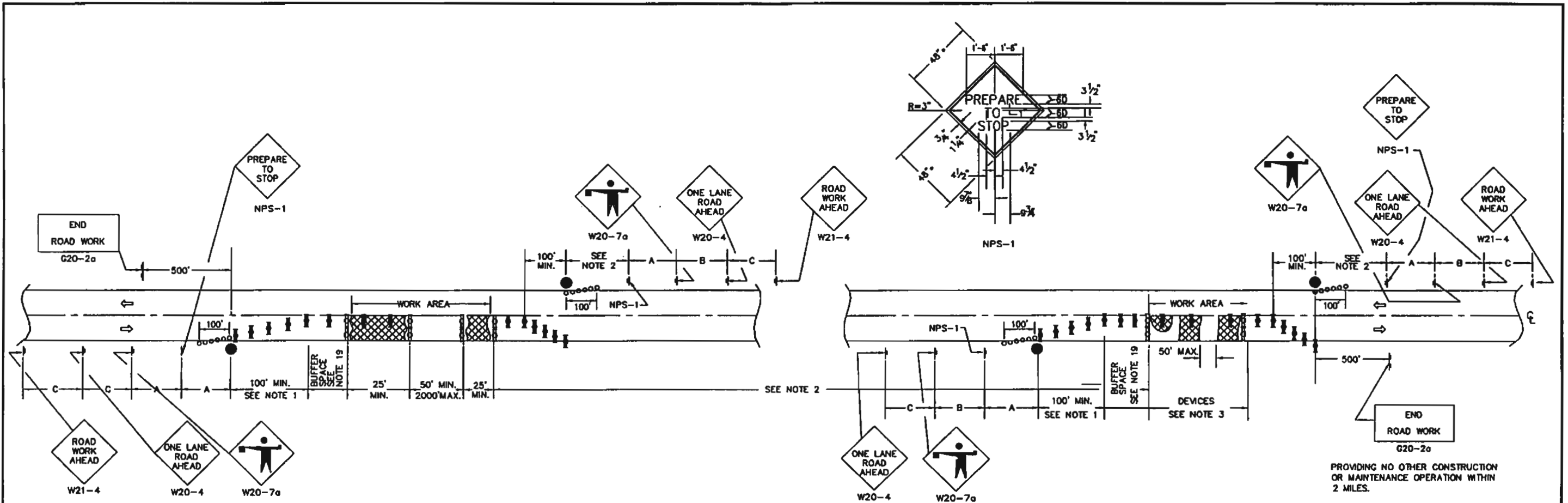
BOULDER CITY	293-9200	MESQUITE	348-5295
CLARK COUNTY	455-6100	NORTH LAS VEGAS	642-2482
HENDERSON	565-2140		
LAS VEGAS	228-6331		
14. FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
15. A LATERAL BUFFER SPACE MAY BE REQUIRED TO SEPARATE WORK SPACE FROM TRAFFIC SPACE. THE WIDTH SHALL BE DETERMINED BY THE TRAFFIC ENGINEER.
16. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

TRAFFIC CONTROL PLAN  
 FOR  
 HIGHWAY WORK ZONE

**SPECIFICATION REFERENCE**


TYPICAL APPLICATION FOR  
 2-LANE, 2-WAY, RURAL NIGHT OPERATIONS WHERE ACTIVITIES WILL ENCROACH  
 BETWEEN CENTERLINE & 2 FT. OUTSIDE OF PAVEMENT EDGE

UNIFORM STANDARD DRAWINGS  
 CLARK COUNTY AREA



**GENERAL NOTES**

- ALL DEVICES ESTABLISHING A TAPER OR TANGENT LINE SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED BY TYPE.
- WHEN THE DISTANCE BETWEEN SUCCESSIVE PATCHES IS LESS THAN 2,000 FT., THE ENTIRE OPERATION MAY BE CONSIDERED AS ONE WORK AREA FOR SIGNING PURPOSES. WHEN SINGLE-SIGNING SET-UP IS USED FOR WORK SITES UP TO 2,000 FT. APART, LANE CLOSURE SHOULD BE CONTINUED THROUGH ENTIRE WORK. WHEN THE DISTANCE BETWEEN SUCCESSIVE PATCHES EXCEEDS 2,000 FT., ADDITIONAL WARNING SIGNS AND TAPER SHALL BE PLACED AS REQUIRED FOR DISTANCES LESS THAN 2,000 FT. AT THE DISCRETION OF THE TRAFFIC ENGINEER.
- WHERE SUCCESSIVE PATCHES ARE MORE THAN 50 FT. BUT LESS THAN 2,000 FT. APART, BARRICADES WITH FLASHING LIGHTS SHALL BE PLACED ON THE PAVEMENT BEYOND AND IN ADVANCE OF THE WORK AREAS. ALL BARRICADES WILL HAVE THE REFLECTIVE SURFACE FACING TRAFFIC AT NIGHT.
- THE FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIME AND SHALL BE POSITIONED TO PROTECT THE WORKERS. THE FIRST FLAGGER SHALL BE A MINIMUM OF 200 FT. AND A MAXIMUM DISTANCE OF 1/2 DAY'S NORMAL OPERATION BEYOND THE FLAGGER SIGN AND A MINIMUM OF 100 FT. IN ADVANCE OF THE WORK PARTY.
- FLAGGERS SHALL BE REQUIRED AT ALL ENTRY POINTS INTO THE WORK AREA.
- WHEN NO WORK IS BEING PERFORMED, THE FLAGGERS WILL NOT BE REQUIRED. IF THE FLAGGERS ARE NOT PRESENT, THE FLAGGER SIGNS SHALL BE REMOVED OR COVERED, AND ALL BARRICADES OR CONES SHALL BE REMOVED.
- LIGHTS WILL NOT BE REQUIRED ON BARRICADES FOR DAY OPERATIONS.
- WHEN THE DISTANCE BETWEEN PATCHES IS LESS THAN 500 FT., THE BARRICADE ADJACENT TO THE EDGE OF PAVEMENT ON THE FAR SIDE OF THE PATCH MAY BE OMITTED.
- ALL SIGNS SHALL BE GROUND-MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS AND AS REQUIRED BY SECTION 825 OF THE UNIFORM STANDARD SPECIFICATIONS.
- TYPE "B" HIGH INTENSITY FLASHING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER. THE LATERAL PLACEMENT OF THE FLAGGERS MAY BE VARIED FROM THAT SHOWN.
- ALL VEHICLES, EQUIPMENT, WORKERS (EXCEPT FLAGGERS) AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
- ALL BARRICADE LIGHTS SHALL BE BIDIRECTIONAL, EXCEPT LIGHTS ON TAPER BARRICADES, WHICH SHALL BE MONODIRECTIONAL.
- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 718.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
- CONSTRUCTION OPERATIONS SHALL BE CONFINED TO ONE TRAFFIC LANE, LEAVING THE OPPOSITE LANE OPEN TO TRAFFIC. AT LEAST 500 FT. OF BOTH TRAFFIC LANES SHALL BE AVAILABLE FOR TRAFFIC MOVEMENT AT INTERVALS NOT GREATER THAN 1000 FT. TWO FLAGGERS SHALL BE REQUIRED FOR EACH SEPARATE CONSTRUCTION OPERATION. ALL WORK AREAS SHALL BE PROTECTED DURING PERIODS WHEN WORKERS ARE PRESENT BY CONES OR BARRICADES ALONG THE CENTER LINE.
- DURING DAYTIME OPERATIONS, CONES MAY BE SUBSTITUTED FOR BARRICADES AT HALF THE BARRICADE SPACING.

**TYPICAL APPLICATIONS**

CABLE LAYING  
OVERHEAD STRINGING OF CABLE  
PATCHING

**SYMBOLS**

- PATCH
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- BARRICADE OR DRUM WITH OPTIONAL FLASHING LIGHT
- BARRICADE OR DRUM WITH STEADY BURNING LIGHT
- TRAFFIC CONES
- TRAFFIC DIRECTION

**17. TABLE FOR SPACING OF ADVANCE WARNING SIGNS**

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2800

18. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING WORK.

BOULDER CITY	293-9200
CLARK COUNTY	455-8100
HENDERSON	585-2140
LAS VEGAS	229-6331
MESQUITE	348-5295
NORTH LAS VEGAS	642-2482

19.

BUFFER SPACE	
SPEED * (M.P.H.)	BUFFER SPACE (FT.)
70	585
85	485
85	415
55	335
50	280
45	220
40	170
35	120
30	85
25	65
20	35

\* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR THE ANTICIPATED OPERATING SPEED.

20. A LATERAL BUFFER SPACE MAY BE REQUIRED TO SEPARATE WORK SPACE FROM TRAFFIC SPACE. THE WIDTH SHALL BE DETERMINED BY THE TRAFFIC ENGINEER.

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

22. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF IF RE-ROUTING NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

TAPER LENGTHS FOR LANE CLOSURES - DISTANCE L					
SPEED MILES PER HOUR ASD PERCENTILE	TAPER LENGTH LANE WIDTH IN FEET			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
	10	11	12		
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	450	485	540	13	45
50	500	550	600	13	50
55	550	605	660	13	55
60	600	660	720	13	60
65	650	710	780	13	65
70	700	770	840	13	70

**TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE**

**SPECIFICATION REFERENCE**


**TYPICAL APPLICATION FOR**

**2-LANE, 2-WAY, RURAL DAY OR NIGHT OPERATIONS WHERE ACTIVITIES WILL  
ENCROACH BETWEEN CENTERLINE & 2 FT. OUTSIDE OF PAVEMENT EDGE**

**UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA**

DATE 1-8-97 DWG NO. 610 (1 OF 1) PAGE 149

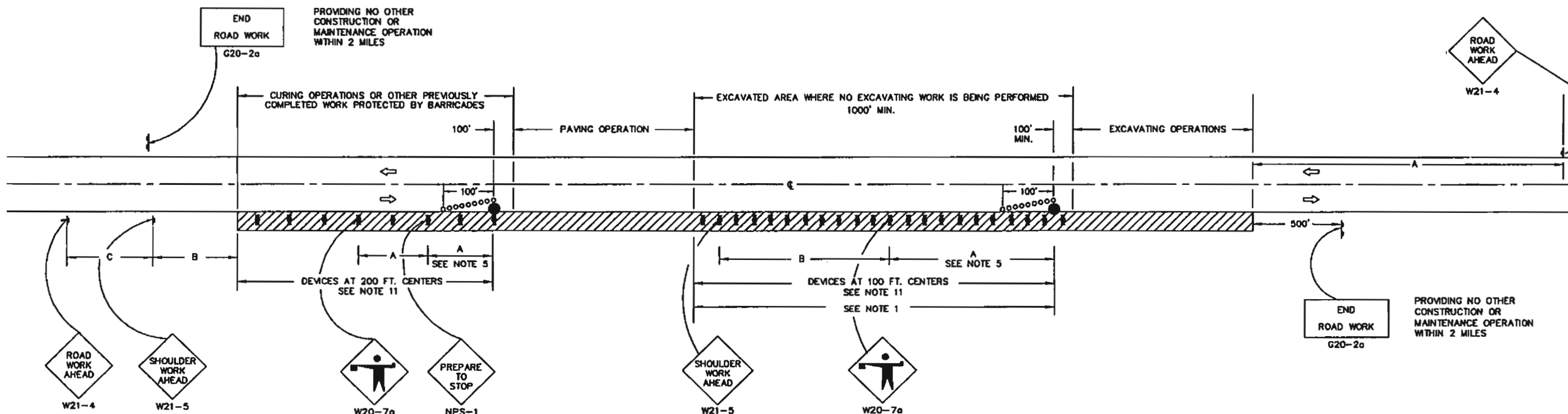


TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1800	2800

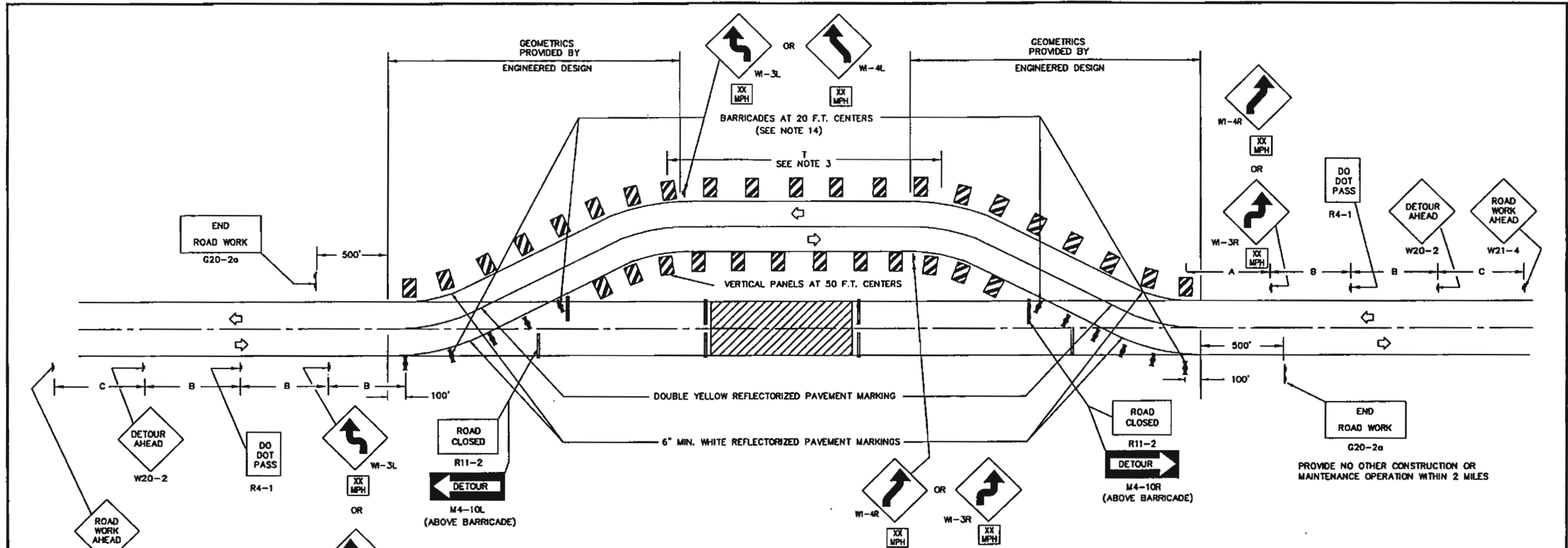
- WHERE THE DISTANCE BETWEEN PAVING AND EXCAVATING OPERATIONS IS LESS THAN 2,000 FT. THE ENTIRE OPERATION MAY BE CONSIDERED AS ONE WORK AREA FOR SIGNING PURPOSES. WHEN THE DISTANCE BETWEEN OPERATIONS EXCEEDS 2,000 FT. ADDITIONAL WARNING SIGNS SHALL BE PLACED AS SHOWN. UNDER RESTRICTED SIGHT DISTANCE CONDITIONS, SUCH ADDITIONAL DEVICES MAY ALSO BE REQUIRED FOR DISTANCES LESS THAN 2,000 FT. AT THE DISCRETION OF THE TRAFFIC ENGINEER.
- ONE FLAGGER SHALL BE REQUIRED FOR EACH SEPARATE CONSTRUCTION OPERATION. FOR RESIDENTIAL STREETS 25 MPH OR LESS, FLAGGERS MAY BE REQUIRED AS DIRECTED BY THE TRAFFIC ENGINEER.
- THE FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
- NO PAVING OR EXCAVATING OPERATIONS SHALL BE PERFORMED AT NIGHT UNLESS AUTHORIZED BY THE TRAFFIC ENGINEER.
- MAXIMUM DISTANCE TO BE DETERMINED BY THE TRAFFIC ENGINEER BUT IN NO CASE TO EXCEED THE LENGTH OF 1/2 DAY'S NORMAL OPERATION.
- ALL SIGNS SHALL BE GROUND-MOUNTED IF THE WORKING TIME EXCEEDS FOUR DAYS AND AS REQUIRED BY SECTION 625 OF THE UNIFORM STANDARD SPECIFICATIONS.

**GENERAL NOTES**

- TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER. THE LATERAL PLACEMENT OF THE FLAGGER MAY BE VARIED FROM THAT SHOWN.
- ALL VEHICLES, EQUIPMENT, WORKERS, FLAGGERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE ROADWAY UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
- ALL DEVICES ESTABLISHING A TAPER OR TANGENT LINE SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED BY TYPE.
- IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.

BOULDER CITY	293-9200	LAS VEGAS	229-6331
CLARK COUNTY	455-6100	MESQUITE	346-5295
HENDERSON	565-2140	NORTH LAS VEGAS	642-2482

- SYMBOLS**
- WORK AREA
  - SIGN ON PORTABLE OR PERMANENT SUPPORT
  - FLAGGER WITH TRAFFIC CONTROL SIGN
  - BARRICADE OR DRUM WITH STEADY BURNING LIGHT
  - TRAFFIC CONE
  - TRAFFIC DIRECTION
- FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
  - ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.



**GENERAL NOTES**

- ALL TEMPORARY BYPASSES SHALL BE PAVED WHEN DURATION EXCEEDS TIME LIMITS ESTABLISHED BY THE ENTITY. GRADED & COMPACTED GRAVEL ACCEPTABLE FOR DURATIONS ESTABLISHED BY THE ENTITY. SEE SHEET 2 OF THIS DRAWING FOR UNPAVED TEMPORARY BYPASS.
- ON PAVED BYPASSES, REFLECTIVE EDGE LINES AND A CENTER LINE SHALL BE USED. REFLECTORIZED, REMOVABLE, NON-FOIL PAVEMENT MARKING TAPE SHALL BE USED FOR MARKING THE EDGE LINES AND CENTER LINE ON EXISTING PAVEMENT. (REFLECTORIZED PAVEMENT MARKING PAINT MAY BE USED FOR MARKINGS ON THE PAVED BYPASSES.) RAISED REFLECTIVE PAVEMENT MARKERS CONFORMING TO CLARK COUNTY STANDARDS MAY BE USED IN LIEU OF TAPE OR PAINT WHERE THE PAVEMENT MARKING IS TO BE PLACED ADJACENT TO BARRICADES OR VERTICAL PANELS. ALL EXISTING PAVEMENT MARKING WHICH CONFLICT WITH THE REVISED TRAFFIC PATTERN SHALL BE REMOVED. IF STRIPING IS TO BE PLACED ON FINAL PAVEMENT ONLY REMOVABLE, NON-FOIL TAPE SHALL BE USED. EDGE LINE MARKINGS SHALL BE A MINIMUM OF 6 IN. WIDE.
- WHEN (T) IS GREATER THAN 800 FEET, 4 FOOT LENGTHS OF SINGLE YELLOW REFLECTORIZED, REMOVABLE, NON-FOIL PAVEMENT MARKING TAPE AT 40 FOOT CENTERS MAY BE USED WITHIN THE TANGENT SECTION (ONLY IF PASSING ZONES CAN BE SAFELY ALLOWED IN ACCORDANCE WITH MUTCD SECTS. 3B-3 THRU. 3B-5).
- A CURVE SIGN WILL BE REQUIRED AT EXIT END OF THE BYPASS IF (T) IS EQUAL TO OR GREATER THAN 1,000 FEET.
- THE ADVISORY SAFE SPEED TO BE SHOWN BELOW THE REVERSE CURVE (TURN) SIGNS SHALL BE DETERMINED AT THE SITE AND APPROVED BY THE TRAFFIC ENGINEER.
- STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES FOR DAY OPERATIONS.
- CONES MAY BE SUBSTITUTED FOR BARRICADES AT HALF THE SPACING DURING DAY OPERATIONS.
- ALL SIGNS SHALL BE GROUND-MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS AND AS REQUIRED BY SECTION 625 OF THE UNIFORM STANDARD SPECIFICATIONS.
- TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER.
- ALL BARRICADE LIGHTS SHALL BE BIDIRECTIONAL.
- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
- TABLE FOR SPACING OF ADVANCE WARNING SIGNS
- ALL DEVICES INDICATED SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED.
- IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-8811 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.  
BOULDER CITY 293-9200 MESQUITE 346-5295  
CLARK COUNTY 455-6100 NORTH LAS VEGAS 642-2462  
HENDERSON 565-2140  
LAS VEGAS 229-6331
- WHERE THE TEMPORARY PAVEMENT AND OLD PAVEMENT ARE DIFFERENT COLORS, THE TEMPORARY PAVEMENT SHOULD START ON THE TANGENT OF THE EXISTING PAVEMENT AND END ON THE TANGENT OF THE EXISTING PAVEMENT.
- ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.
- IF THE DETOUR IS SHORT AND HAS SHARP CURVES (30 MPH OR LESS), REVERSE TURN (W1-3) SIGN SHOULD BE USED.
- PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE SHALL BE MASKED WITH APPROVED BLACKOUT TAPE OR OBLITERATED AS APPROVED BY THE TRAFFIC ENGINEER.

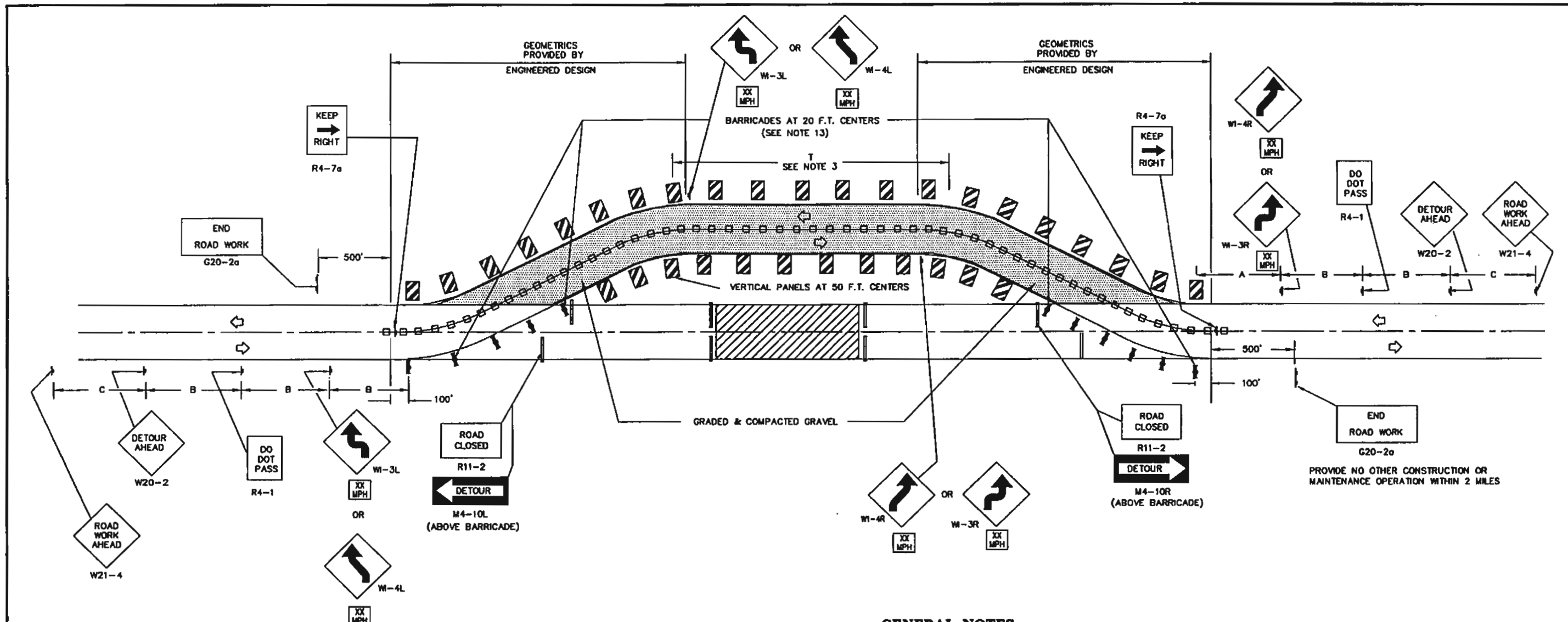
ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2800

**TYPICAL APPLICATIONS**

BRIDGE CONSTRUCTION  
CULVERT CONSTRUCTION

**SYMBOLS**

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- BARRICADE OR DRUM WITH STEADY BURNING LIGHT
- VERTICAL PANEL (SEE STANDARD DRAWING NO. 801 SHEET 1)
- TYPE III BARRICADE
- TRAFFIC DIRECTION



**TYPICAL APPLICATIONS**

BRIDGE CONSTRUCTION  
CULVERT CONSTRUCTION

**SYMBOLS**

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- BARRICADE OR DRUM WITH STEADY BURNING LIGHT
- VERTICAL PANEL (SEE STANDARD DRAWING NO. 601 SHEET 1)
- TYPE III BARRICADE
- TRAFFIC DIRECTION
- TRAFFIC CONE OR VERTICAL PANEL (SEE NOTE 2)

1. TEMPORARY UNPAVED BYPASSES SHALL BE GRADED AND COMPACTED GRAVEL AND ARE ACCEPTABLE FOR TIME LIMITS ESTABLISHED BY THE ENTITY.
2. REFLECTORIZED 28 IN. MIN. TRAFFIC CONES OR VERTICAL PANELS SHALL BE USED FOR CENTERLINE DELINEATION FOR SHORT-TERM PROJECTS. FOR LONG TERM PROJECTS OF 72 CONTINUOUS HOURS OR MORE AND PROJECTS PERFORMED AT NIGHT, VERTICAL PANELS SHALL BE USED. SEE STANDARD DRAWING 601 SHEET 1 FOR DETAILS OF CONES AND PANELS.
3. A CURVE SIGN WILL BE REQUIRED AT EXIT END OF THE BYPASS IF (T) IS EQUAL TO OR GREATER THAN 1,000 FEET.
4. THE ADVISORY SAFE SPEED TO BE SHOWN BELOW THE REVERSE CURVE (TURN) SIGNS SHALL BE DETERMINED AT THE SITE AND APPROVED BY THE TRAFFIC ENGINEER.
5. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES FOR DAY OPERATIONS.
6. CONES MAY BE SUBSTITUTED FOR BARRICADES AT HALF THE SPACING DURING DAY OPERATIONS.
7. ALL SIGNS SHALL BE GROUND-MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS AND AS REQUIRED BY SECTION 625 OF THE UNIFORM STANDARD SPECIFICATIONS.

**GENERAL NOTES**

8. TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
9. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER.
10. ALL BARRICADE LIGHTS SHALL BE BIDIRECTIONAL.
11. ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 718.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.

**12. TABLE FOR SPACING OF ADVANCE WARNING SIGNS**

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1800	2000

13. ALL DEVICES INDICATED SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED.
14. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

BOULDER CITY	293-9200	MESQUITE	346-5295
CLARK COUNTY	455-6100	NORTH LAS VEGAS	642-2462
HENDERSON	565-2140		
LAS VEGAS	229-6331		
15. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.
16. IF THE DETOUR IS SHORT AND HAS SHARP CURVES (30 MPH OR LESS), REVERSE TURN (W1-3) SIGN SHOULD BE USED.
17. PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE SHALL BE MASKED WITH APPROVED BLACKOUT TAPE OR OBLITERATED AS APPROVED BY THE TRAFFIC ENGINEER.

**TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE**

**SPECIFICATION REFERENCE**

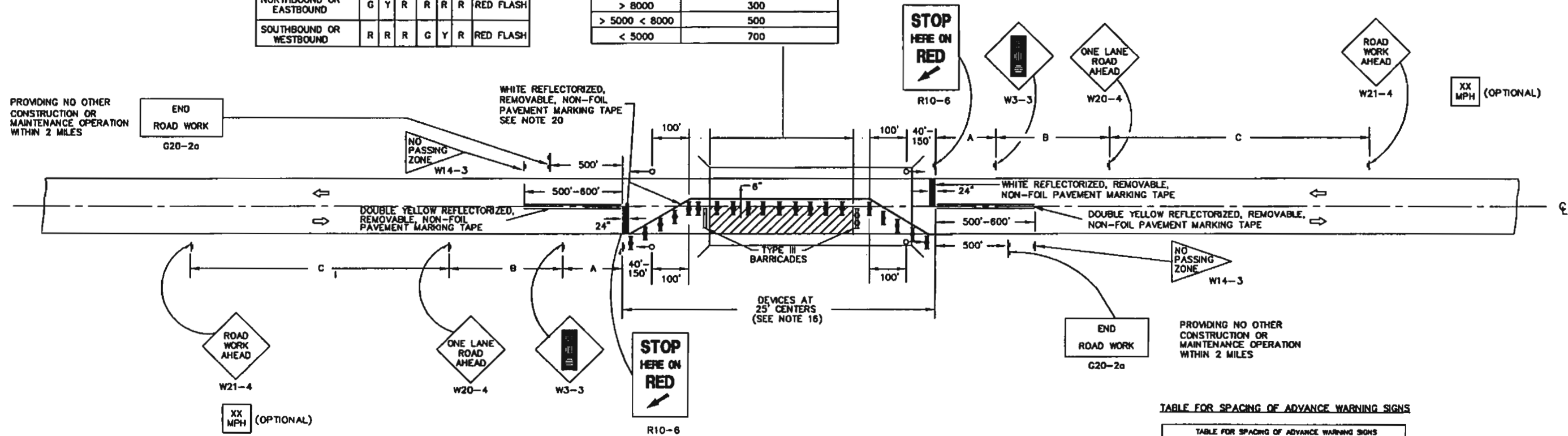

**TYPICAL APPLICATION FOR  
2-LANE, 2-WAY, RURAL OR SUBURBAN, DAY OR  
NIGHT TEMPORARY UNPAVED BYPASS**

**UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA**

SEQUENCE OF OPERATIONS							
PHASE	A			B			CONFLICT
INTERVAL	1	2	3	4	5	6	
NORTHBOUND OR EASTBOUND	G	Y	R	R	R	R	RED FLASH
SOUTHBOUND OR WESTBOUND	R	R	R	G	Y	R	RED FLASH

IF A.D.T. IS	MAXIMUM DISTANCE (FT.)
> 8000	300
> 5000 < 8000	500
< 5000	700

PROVIDING NO OTHER CONSTRUCTION OR MAINTENANCE OPERATION WITHIN 2 MILES



**TYPICAL APPLICATIONS**

BRIDGE DECK REPAIR  
ONE-HALF ROAD CONSTRUCTION

**SYMBOLS**

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- BARRICADE OR DRUM WITH FLASHING LIGHT
- BARRICADE OR DRUM WITH STEADY BURNING LIGHT
- BARRICADE OR DRUM
- TRAFFIC SIGNAL
- TRAFFIC DIRECTION

- THE TRAFFIC ENGINEER MUST BE NOTIFIED AT LEAST 72 HOURS PRIOR TO PLACING THE TEMPORARY SIGNALS IN OPERATION SO THAT ARRANGEMENTS CAN BE MADE TO INSPECT THE INSTALLATION AND SET THE TIMING OF THE SIGNALS.
- AT ANY TIME THAT THE SIGNALS ARE NOT OPERATING THE SIGNAL HEAD SHALL BE HOODED AND THE SIGNAL AHEAD SIGN COVERED OR REMOVED.
- THE LEFT SIGNAL HEAD SHALL NORMALLY BE MOUNTED AT A HEIGHT OF 10 FEET ABOVE THE ROAD SURFACE MEASURED TO THE BOTTOM OF THE SIGNAL HEAD. THE RIGHT HEAD SHALL NORMALLY BE MOUNTED AT A HEIGHT OF 14 FEET ABOVE THE ROAD SURFACE. BAFFLE OR BACK PLATES WILL BE REQUIRED ON ALL SIGNALS. A MAST ARM SIGNAL SHOULD BE USED ON THE RIGHT SIDE WHEN EVER POSSIBLE.
- ALL LENSES SHALL BE 12 INCH NOMINAL DIAMETER. THE RIGHT SIGNAL HEAD SHALL BE AIMED SO THE CENTERS OF THE LIGHT BEAMS OF THE INDICATIONS ARE DIRECTED TOWARD A POINT IN THE CENTER OF THE APPROACH LANE 500 FEET IN ADVANCE OF THE SIGNAL. THE LEFT INDICATION SHALL BE AIMED AT A POINT IN THE CENTER OF THE APPROACH LANE 100 FEET IN ADVANCE OF THE STOP LINE.
- EACH SIGNAL SHALL BE WIRED TO ALLOW FOR FLASH RED.
- IF FLAGGERS ARE USED INSTEAD OF TRAFFIC SIGNALS, THE TRAFFIC CONTROL DEVICES SHALL CONFORM TO STANDARD DRAWING NO. 601. A 100 FT. CONE TAPER SHALL BE PROVIDED PRIOR TO FLAGGER STATION TO PROTECT THE FLAGGER. FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
- DURING DAYTIME OPERATIONS CONES MAY BE SUBSTITUTED FOR BARRICADES WITH STEADY BURNING LIGHTS AT HALF THE BARRICADE SPACING.
- STEADY BURNING LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.

**GENERAL NOTES**

- BIDIRECTIONAL LIGHTS SHALL BE USED AT NIGHT ALONG THE CENTER LINE WHETHER THE WORK AREA IS SEPARATED FROM THE TRAVELLED LANE USING BARRICADES OR BY USING OTHER DEVICES. MONODIRECTIONAL LIGHTS SHALL BE USED AT NIGHT ON ALL OTHER BARRICADES.
- ALL SIGNS SHALL BE GROUND-MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS AND AS REQUIRED BY SECTION 625 OF THE UNIFORM STANDARD SPECIFICATIONS.
- TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER.
- ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
- IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-5611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

BOULDER CITY	293-9200	LAS VEGAS	229-6331
CLARK COUNTY	455-6100	MESQUITE	348-5295
HENDERSON	565-2140	NORTH LAS VEGAS	642-2462

TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	300	200	200
URBAN (35 MPH OR GREATER)	350	350	330
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2900

- ALL DEVICES ESTABLISHING A TAPER OR TANGENT LINE SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED BY TYPE.
- ADEQUATE AREA ILLUMINATION TO CLEARLY IDENTIFY BOTH ENDS OF THE WORK SPACE AT NIGHT FOR LONG-TERM OPERATIONS OF 72 CONTINUOUS HOURS OR MORE SHOULD BE PROVIDED.
- A LATERAL BUFFER SPACE MAY BE REQUIRED TO SEPARATE WORK SPACE FROM TRAFFIC SPACE. THE WIDTH SHALL BE DETERMINED BY THE TRAFFIC ENGINEER.
- ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.
- EDGE LINE SHALL BE A MINIMUM OF 6 IN. WIDE AND SHOULD BE INSTALLED FROM THE START OF THE TAPER TO A POINT BEYOND THE WORK AREA REJOINING THE PERMANENT EDGE LINE.
- FOR LONG TERM PROJECTS OF 72 CONTINUOUS HOURS OR MORE, CONFLICTING PAVEMENT MARKINGS BETWEEN ACTIVITY AREA AND STOP LINE SHALL BE REMOVED.

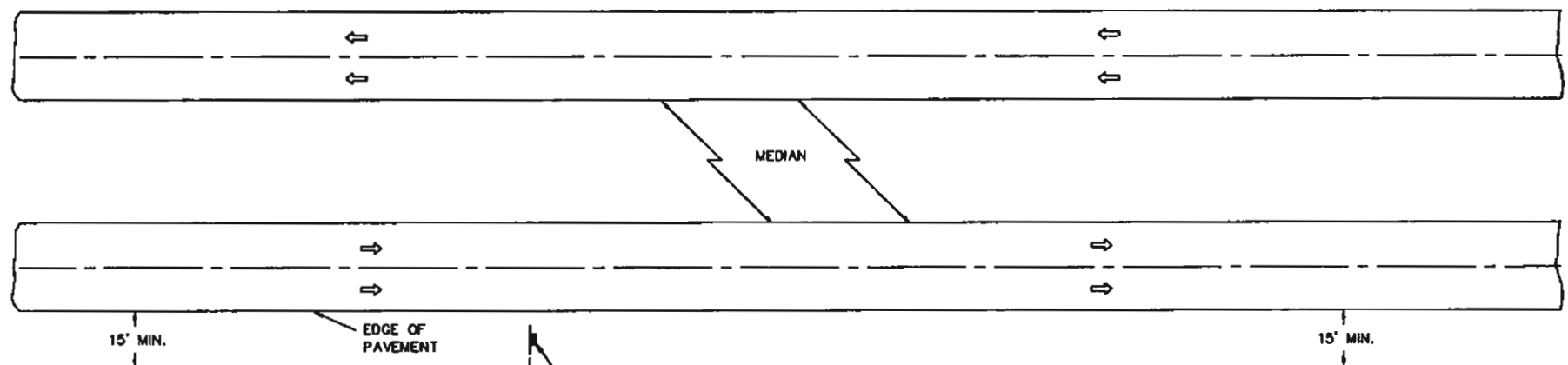
TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE

**SPECIFICATION REFERENCE**


**TYPICAL APPLICATION FOR**

2-LANE, 2-WAY, RURAL DAY OR NIGHT OPERATIONS WITH ONE LANE CLOSED

**UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA**



ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2500

**TYPICAL APPLICATIONS**

- LANDSCAPING WORK
- UTILITY WORK
- FENCING CONTRACTS AND MAINTENANCE
- CLEANING CULVERTS

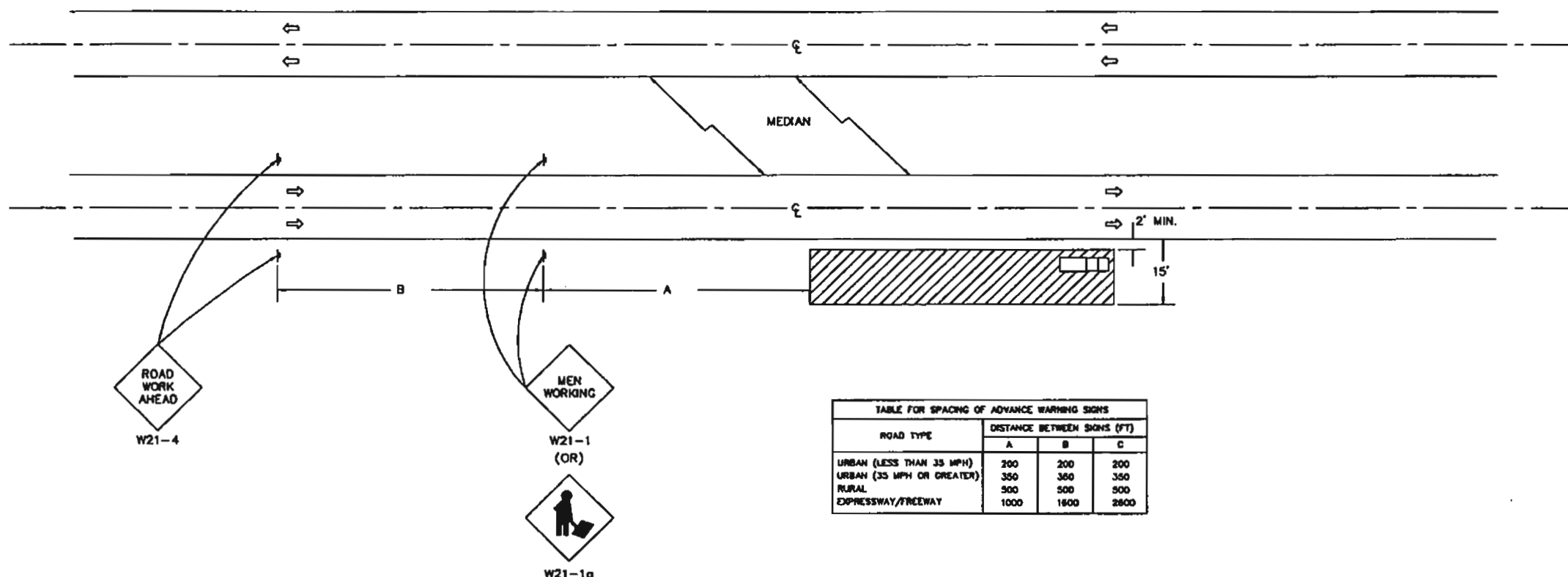
**GENERAL NOTES**

1. NO SPECIAL SIGNING IS REQUIRED.
2. IF THE WORK OPERATION REQUIRES TWO OR MORE WORK VEHICLES CROSS THE 15 FT. CLEAR ZONE IN ANY ONE HOUR TRAFFIC CONTROL WILL BE IN CONFORMANCE WITH STANDARD DRAWING NO. 615.
3. THIS CASE ALSO APPLIES TO WORK PERFORMED IN THE MEDIAN MORE THAN 15 FT. FROM EITHER PAVEMENT.
4. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-5611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

BOULDER CITY	293-9200	MESQUITE	346-5295
CLARK COUNTY	455-6100	NORTH LAS VEGAS	642-2462
HENDERSON	565-2140		
LAS VEGAS	229-8331		
5. TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.

**SYMBOLS**

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TRAFFIC DIRECTION



ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	300	300	300
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2800

- SYMBOLS**
- WORK AREA
  - SIGN ON PORTABLE OR PERMANENT SUPPORT
  - SIGN ON PORTABLE OR PERMANENT SUPPORT

- TYPICAL APPLICATIONS**
- UTILITY OPERATIONS
  - CULVERT EXTENSIONS
  - SIDE SLOPE CHANGES
  - GUARD RAIL INSTALLATION AND MAINTENANCE
  - DELINEATOR INSTALLATION AND MAINTENANCE
  - LANDSCAPING OPERATIONS
  - CLEANING DITCHES AND DRAINAGE STRUCTURES
  - SIGN INSTALLATION AND MAINTENANCE
  - SHOULDER REPAIR

- WORKER SIGNS ARE TO BE REMOVED WHEN NO WORK IS BEING PERFORMED. ANY UNATTENDED OBSTACLE OR EXCAVATION IN THE WORK AREA WHICH IN THE OPINION OF THE TRAFFIC ENGINEER CONSTITUTES A HAZARD SHALL BE PROTECTED BY BARRICADES WITH FLASHING LIGHTS AT NIGHT AT THE POINTS OF HAZARD. STEADY BURNING LIGHTS SHALL BE USED FOR DELINEATION AND LONG LINE GUIDANCE. BARRICADE SHALL BE PLACED ACCORDING TO MAXIMUM SPACING VALUES LISTED IN THE TABLE BELOW.

SPEED MILES PER HOUR AS A PERCENTILE	TAPER LENGTH LANE WIDTH IN FEET			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
	10	11	12		
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	285	320	9	40
45	450	485	540	13	45
50	500	550	600	13	50
55	550	605	660	13	55
60	600	660	720	13	60
65	650	715	780	13	65
70	700	770	840	13	70

**GENERAL NOTES**

- IF THE WORK OPERATION REQUIRES THAT FOUR OR MORE WORK VEHICLES ENTER THROUGH TRAFFIC LANES IN A ONE HOUR PERIOD, A FLAGGER SHALL BE SUBSTITUTED FOR THE WORKER SIGN. A 100 FT. CONE TAPER SHALL BE PROVIDED PRIOR TO FLAGGER STATION TO PROTECT THE FLAGGER. FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
- THIS CASE ALSO APPLIES WHEN WORK IS BEING PERFORMED ON A MULTILANE UNDIVIDED HIGHWAY. UNDER THESE CONDITIONS THE SIGNS NORMALLY MOUNTED IN THE MEDIAN SHALL BE OMITTED.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER.
- ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
- TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
- REQUIRED PROTECTION FOR OPEN EXCAVATIONS DURING NON-WORKING HOURS:  
OPEN TRENCHES SHALL BE COMPLETELY FENCED (ALL FENCES TO BE SIX(6) FOOT HIGH, NON-CLIMBABLE FENCE), BACKFILLED OR PLATED IN ANY AREA OF THE CITY OF LAS VEGAS THAT ARE WITHIN 300 FT. OF ANY BUILDING OR ROADWAY, AFTER WORKING HOURS.  
BEYOND 300', TRENCH MAY BE PROTECTED BY A THREE (3) FOOT MOUND OF EARTH COMPLETELY AROUND THE TRENCH AND TYPE II BARRICADES WITH FLASHERS SPOTTED AROUND THE TOP AFTER WORKING HOURS.
- IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.  
BOULDER CITY 293-9200 MESQUITE 346-5295  
CLARK COUNTY 455-6100 NORTH LAS VEGAS 842-2482  
HENDERSON 565-2140  
LAS VEGAS 229-8331
- IF THE WORK SPACE IS IN THE MEDIAN OF A DIVIDED HIGHWAY, AN ADVANCE WARNING SIGN SHOULD ALSO BE PLACED ON THE LEFT SIDE OF THE DIRECTIONAL ROADWAY.
- ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE

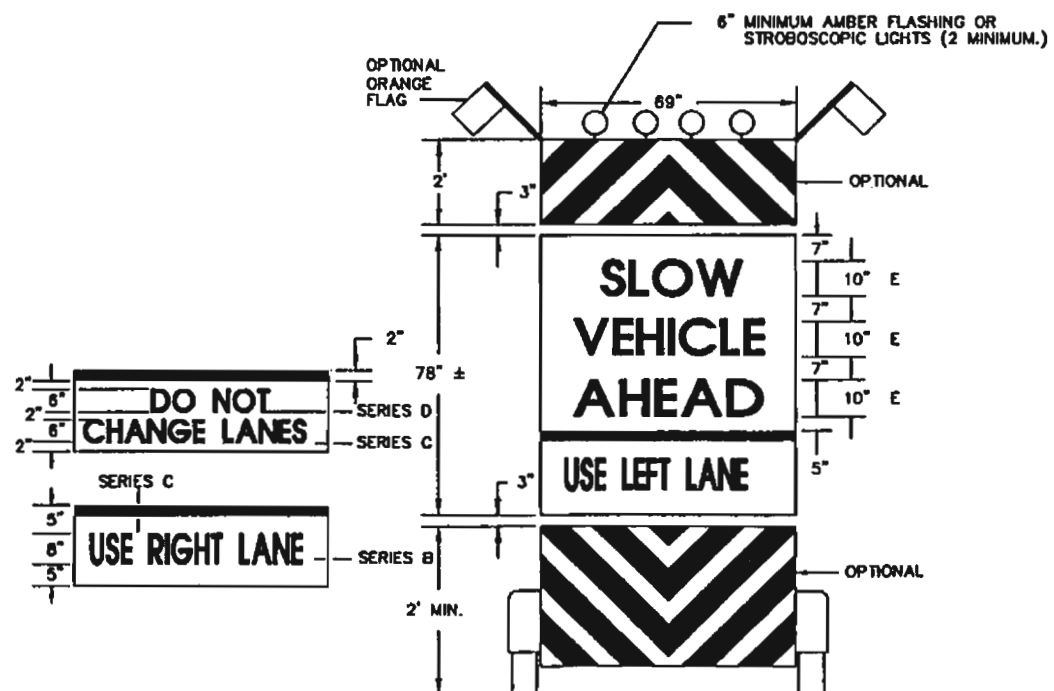
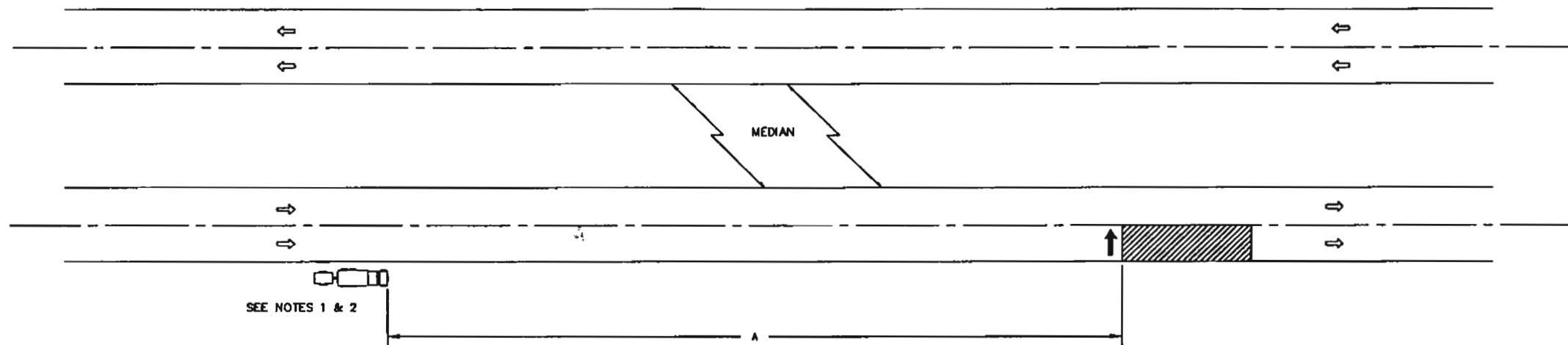
SPECIFICATION REFERENCE

TYPICAL APPLICATION FOR

MULTILANE, DIVIDED OR UNDIVIDED, RURAL OR SUBURBAN, DAY OR NIGHT OPERATIONS  
WHERE ACTIVITIES WILL ENCR OACH BETWEEN 15 FT. & 2 FT. OUTSIDE PAVEMENT EDGE

UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA

DATE 1-9-97 DWG NO. 615 (1 OF 1) PAGE 154



**GENERAL NOTES**

- IF WORK IS BEING PERFORMED IN THE LEFT LANE OF A DIVIDED HIGHWAY, THE PROTECTION VEHICLE SHALL FOLLOW ON THE LEFT SHOULDER AND THE BOTTOM LINE SHALL READ "USE RIGHT LANE".
- IF WORK IS BEING PERFORMED ON THE CENTER LANE OF THE ROADWAY, TRAFFIC SHALL BE DIVERTED TO EITHER LEFT OR RIGHT LANE. AT NO TIME IS TRAFFIC PERMITTED TO PASS ON BOTH SIDES OF MOVING OPERATION. CENTER LANE OPERATIONS SHALL NOT BE PERFORMED DURING PEAK TRAVEL TIMES.
- THE LIGHTS ON THE TRAILER SHALL FLASH IN PAIRS ALTERNATING BETWEEN THE TWO OUTSIDE LIGHTS AND THE TWO INSIDE LIGHTS OR SEQUENTIAL FLASHING.
- ALL STRIPING SHALL HAVE ALTERNATING WHITE AND ORANGE STRIPES AT 45° FROM THE VERTICAL. ALL STRIPES SHALL BE 6" IN WIDTH.
- THE SIGN PANELS SHALL HAVE THE MINIMUM DIMENSIONS SHOWN AND HAVE BLACK LEGEND ON AN ORANGE REFLECTORIZED BACKGROUND CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
- PAVEMENT STRIPING AND CONE PICKUP WILL BE CONSIDERED AS TWO SEPARATE OPERATIONS.
- WHERE WORK OPERATIONS ARE MORE THAN 2 FT. FROM THE EDGE OF THE PAVEMENT, PROTECTION VEHICLES MAY BE OMITTED.
- THIS CASE DOES NOT APPLY WHEN WORK IS BEING PERFORMED IN THE MIDDLE LANE(S) OF A SIX OR MORE LANE HIGHWAY. SPECIAL PLANS APPROVED BY THE TRAFFIC ENGINEER ARE REQUIRED.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER.
- ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
- ALL WARNING SIGNS HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.

**12. TABLE FOR SPACING OF FOLLOWING VEHICLE**

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2800

- IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-8611 AND LOCAL ENTRY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.

BOULDER CITY	293-9200
CLARK COUNTY	455-8100
HENDERSON	565-2140
LAS VEGAS	228-8331
MESQUITE	346-5285
NORTH LAS VEGAS	642-2462

- ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

**SYMBOLS**

- WORK AREA
- VEHICLE MOUNTED ARROW PANEL
- TRAFFIC DIRECTION

**TYPICAL APPLICATIONS**

- PAVEMENT STRIPING
- WEED SPRAYING
- ROADMETER MEASUREMENTS

TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE

SPECIFICATION REFERENCE

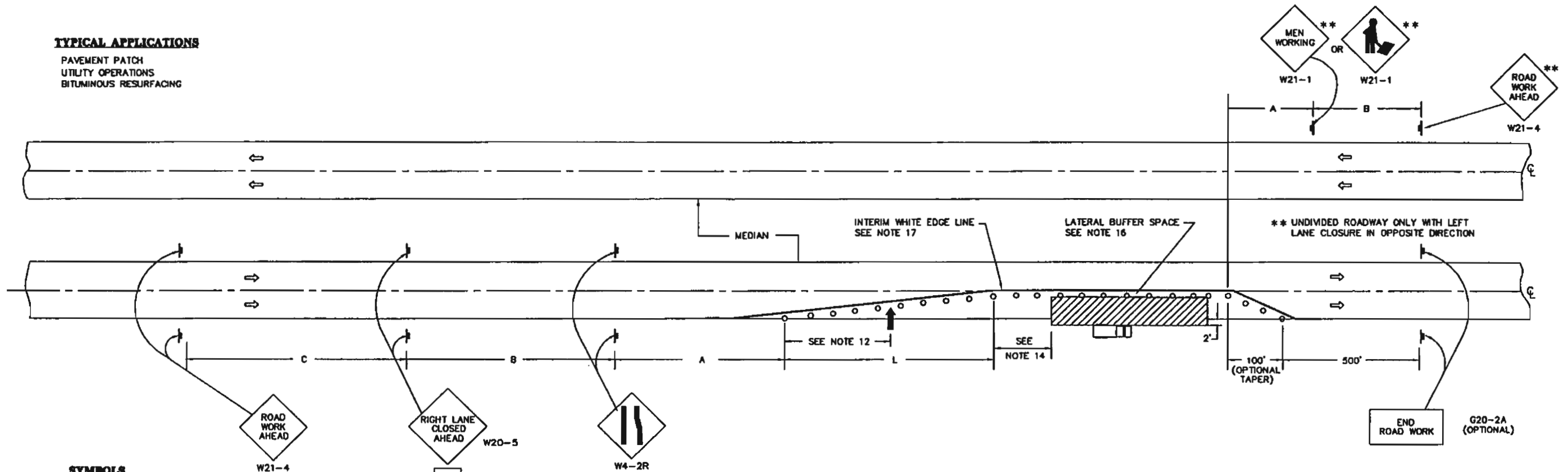
TYPICAL APPLICATION FOR  
MULTILANE, DIVIDED, RURAL OR SUBURBAN, DAY OPERATIONS  
WHERE OPERATION MOVES BETWEEN 1 AND 15 MPH

UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA

DATE 1-9-97 DWG NO. 616 (1 OF 1) PAGE 155

**TYPICAL APPLICATIONS**

PAVEMENT PATCH  
UTILITY OPERATIONS  
BITUMINOUS RESURFACING



**SYMBOLS**

- ↑ ARROW BOARD
- ▨ WORK AREA
- CONE, DRUM OR BARRICADE
- ⌋ SIGN ON PORTABLE OR PERMANENT SUPPORT
- ⇄ TRAFFIC DIRECTION

1. THE "L" DISTANCE EQUALS:

**FORMULAS FOR TAPER LENGTH**

SPEED	FORMULA
40 M.P.H. OR UNDER	$L = WS^2/60$
40 M.P.H. OR OVER	$L = WS$

WHERE:

- L = TAPER LENGTH
- W = WIDTH OF LANE OR OFFSET
- S = POSTED SPEED, OR OFF-PEAK 85TH PERCENTILE PRIOR TO WORK STARTING OR ANTICIPATED OPERATING SPEED

SPEED MILES PER HOUR 85th PERCENTILE	TAPER LENGTH FOR LANE CLOSURES - DISTANCE L			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
	LANE WIDTH IN FEET 10	11	12		
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	350	395	440	10	45
50	450	510	560	11	50
55	570	645	710	12	55
60	720	810	890	13	60
65	890	1005	1100	14	65
70	1080	1240	1360	15	70

2. WHEN EQUIPMENT ENTERS OR EXITS THE WORK AREA DIRECTLY FROM THE ADJOINING LANE CARRYING TRAFFIC, A FLAGGER WILL BE REQUIRED. IF THE FLAGGER IS PRESENT, THE FLAGGER SIGN SHALL BE PLACED AT DISTANCE "A" PRIOR TO THE FLAGGER AND "PREPARE TO STOP" SIGN (NPS-1) SHALL BE PLACED AT DISTANCE "A" PRIOR TO FLAGGER SIGN. FLAGGERS SHALL NOT BE REQUIRED FOR SPEEDS OF 25 MPH OR LESS. A 100 FT. CONE TAPER SHALL BE PROVIDED PRIOR TO FLAGGER STATION TO PROTECT THE FLAGGER. FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
3. THIS CASE ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE LEFT LANE. UNDER THESE CONDITIONS, LEFT LANE CLOSED SIGNS SHALL BE SUBSTITUTED FOR RIGHT LANE CLOSED SIGNS. ON INDIVIDUAL HIGHWAYS, SIGNS SHALL BE ADDED IN THE OPPOSITE DIRECTION AS SHOWN AND CONES SHALL BE PLACED ALONG THE CENTERLINE THROUGHOUT THE TAPER AND WORK AREA.
4. ALL SIGNS, CONES, BARRICADES AND DRUMS ARE TO BE REMOVED AT COMPLETION OF THE DAY'S OPERATIONS AND THE WORK AREA OPENED TO TRAFFIC.
5. THIS CASE DOES NOT APPLY WHEN WORK IS BEING PERFORMED IN THE MIDDLE LANE(S) OF A SIX OR MORE LANE HIGHWAY. SPECIAL PLANS APPROVED BY THE TRAFFIC ENGINEER WILL BE REQUIRED.
6. CONES SHALL BE A MINIMUM OF 28 IN. IN HEIGHT.
7. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER. THE LATERAL PLACEMENT OF THE FLAGGERS, IF NECESSARY, MAY BE VARIED.

**GENERAL NOTES**

8. ALL VEHICLES, EQUIPMENT, WORKERS (EXCEPT FLAGGERS) AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
9. ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 718.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
10. ALL DEVICES ESTABLISHING A TAPER OR TANGENT LINE SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED BY TYPE.
11. **TABLE FOR SPACING OF ADVANCE WARNING SIGNS**

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1000	2000
12. ARROWBOARD PANELS SHALL BE USED ON HIGH SPEED ROADWAYS WITH SPEED LIMITS OVER 35 MPH OR AS DIRECTED BY THE TRAFFIC ENGINEER. ARROWBOARD SHOULD BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE, AS SOON AS THERE IS ADEQUATE SPACE.
13. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTRY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

BOULDER CITY	293-9200	LAS VEGAS	229-6331
CLARK COUNTY	455-6100	MESQUITE	348-5295
HENDERSON	565-2140	NORTH LAS VEGAS	642-2462

14. BUFFER SPACE SHALL BE:

BUFFER SPACE	
SPEED * (M.P.H.)	BUFFER SPACE (FT.)
70	585
65	485
60	415
55	335
50	280
45	220
40	170
35	120
30	85
25	65
20	35

\* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR THE ANTICIPATED OPERATING SPEED.

15. WHEN A SIDE ROAD INTERSECTS THE HIGHWAY WITHIN THE TEMPORARY TRAFFIC CONTROL ZONE, ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE ERRECTED, AS NEEDED.
16. A LATERAL BUFFER SPACE MAY BE REQUIRED TO SEPARATE WORK SPACE FROM TRAFFIC SPACE. THE WIDTH SHALL BE DETERMINED BY THE TRAFFIC ENGINEER.
17. FOR LONG TERM PROJECTS OF 72 CONTINUOUS HOURS OR MORE, A 8 IN. WIDE INTERIM WHITE EDGE LINE SHOULD BE INSTALLED FROM THE START OF THE TAPER TO A POINT BEYOND THE WORK AREA, REJOINING THE PERMANENT EDGE LINE. INTERIM EDGE LINE SHALL BE REMOVABLE, NON-FOL PAVEMENT MARKING TAPE. FOR LEFT LANE CLOSURE, THE EDGE LINE SHALL BE YELLOW. PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE SHALL BE MASKED WITH APPROVED BLACKOUT TAPE OR OBLITERATED AS APPROVED BY THE TRAFFIC ENGINEER FROM THE END OF THE ENTRANCE TAPER TO A POINT LOCATED 1/2A FROM THE TAPER BEGINNING.
18. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

**TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE**

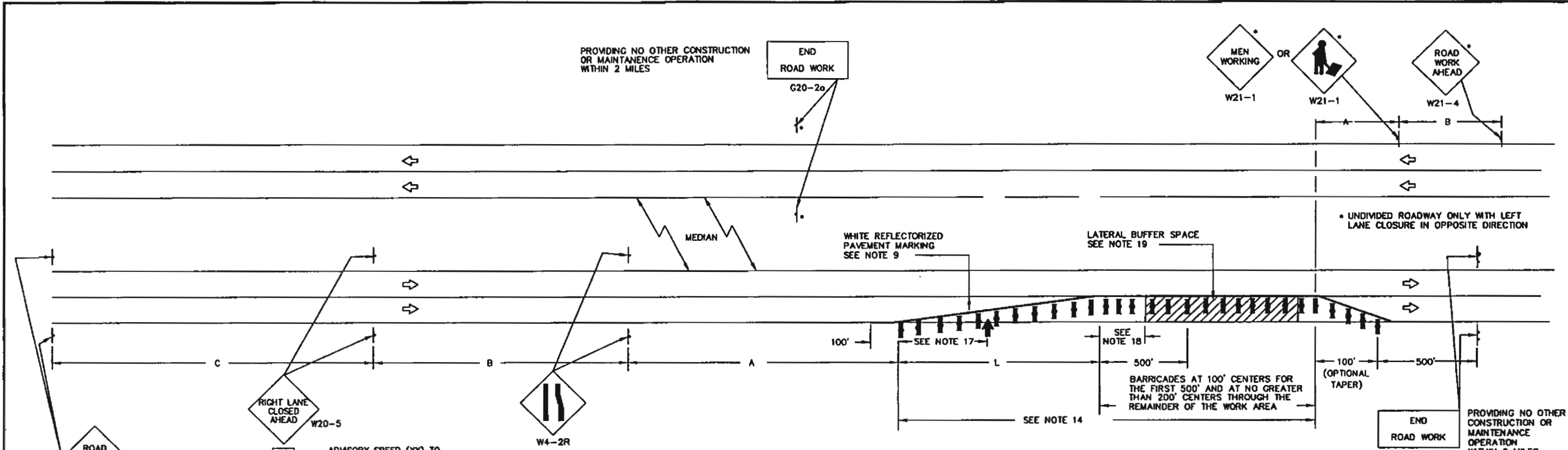
**SPECIFICATION REFERENCE**

**TYPICAL APPLICATION FOR**

MULTILANE, DIVIDED OR UNDIVIDED, RURAL OR SUBURBAN, DAY OPERATIONS WHERE ACTIVITIES WILL ENCROACH ON LANE ABUTTING SHOULDER OR ON THE SHOULDER WITHIN 2 FT. OUTSIDE THE PAVEMENT EDGE

**UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA**

DATE 1-9-97 DWG NO. 617 (1 OF 1) PAGE 156



**GENERAL NOTES**

- SYMBOLS**
- WORK AREA
  - ARROW BOARD (IN LINE OF LANE)
  - SIGN ON PORTABLE OR PERMANENT SUPPORT
  - TRAFFIC DIRECTION
  - BARRICADE OR DRUM WITH STEADY BURNING LIGHT

1. FORMULAS FOR TAPER LENGTH

SPEED                      FORMULA  
 40 M.P.H. OR UNDER       $L = WS^2/60$   
 40 M.P.H. OR OVER         $L = WS$

WHERE:  
 L = TAPER LENGTH  
 W = WIDTH OF LANE OR OFFSET  
 S = POSTED SPEED, OR OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR ANTICIPATED OPERATING SPEED

SPEED MILES PER HOUR AS AN 85TH PERCENTILE	TAPER LENGTH LANE WIDTH IN FEET			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
	10	11	12		
20	70	75	80	5	20
25	103	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	450	495	540	13	45
50	500	550	600	13	50
55	550	605	660	13	55
60	600	660	720	13	60
65	650	715	780	13	65
70	700	770	840	13	70

2. WHEN EQUIPMENT ENTERS OR EXITS THE WORK AREA DIRECTLY FROM THE ADJOINING LANE CARRYING TRAFFIC, A FLAGGER WILL BE REQUIRED. IF THE FLAGGER IS PRESENT, THE FLAGGER SIGN SHALL BE PLACED AT DISTANCE "A" PRIOR TO THE FLAGGER AND "PREPARE TO STOP" SIGN (NPS-1) SHALL BE PLACED AT DISTANCE "A" PRIOR TO THE FLAGGER SIGN. FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED. A 100 FT. CONE TAPER SHALL BE PROVIDED PRIOR TO STATION TO PROTECT THE FLAGGER. FLAGGERS SHALL NOT BE REQUIRED FOR SPEEDS OF 25 MPH OR LESS.
3. THIS CASE ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE LEFT LANE. UNDER THESE CONDITIONS, LEFT LANE CLOSED SIGNS SHALL BE SUBSTITUTED FOR RIGHT LANE CLOSED SIGNS. ON UNDIVIDED HIGHWAYS, SIGNS SHALL BE ADDED IN OPPOSITE DIRECTION AS SHOWN.
4. THIS CASE DOES NOT APPLY WHEN WORK IS BEING PERFORMED IN THE MIDDLE LANE(S) OF A SIX OR MORE LANE HIGHWAY. SPECIAL PLANS APPROVED BY THE TRAFFIC ENGINEER WILL BE REQUIRED.
5. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS CONES SHALL BE A MINIMUM OF 28" IN HEIGHT.
6. STEADY BURNING LIGHTS SHALL NOT BE REQUIRED ON BARRICADES FOR DAY OPERATIONS.
7. ALL SIGNS SHALL BE GROUND-MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS AND AS REQUIRED BY SECTION 625 OF THE UNIFORM STANDARD SPECIFICATIONS.
8. TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
9. FOR LONG TERM PROJECTS OF 72 CONTINUOUS HOURS OR MORE, A 6 IN. WIDE INTERIM WHITE EDGE LINE SHOULD BE INSTALLED FROM THE START OF THE TAPER TO A POINT BEYOND THE WORK AREA, REJOINING THE PERMANENT EDGE LINE. INTERIM EDGE LINE SHALL BE REMOVABLE, NON-FOIL PAVEMENT MARKING TAPE. FOR LEFT LANE CLOSURE, THE EDGE LINE SHALL BE YELLOW. PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE SHALL BE MASKED WITH APPROVED BLACKOUT TAPE OR OBLITERATED AS APPROVED BY THE TRAFFIC ENGINEER FROM THE END OF THE ENTRANCE TAPER TO A POINT LOCATED 1/2A FROM THE TAPER BEGINNING.

10. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER. THE LATERAL PLACEMENT OF THE FLAGGER, IF NECESSARY, MAY BE VARIED.
11. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE TRAFFIC ENGINEER.
12. ALL BARRICADE LIGHTS SHALL BE MONODIRECTIONAL IF THE ROADWAY IS UNDIVIDED.
13. ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
14. ALL DEVICES ESTABLISHING A TAPER OR TANGENT LINE SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED BY TYPE.
15. TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2800

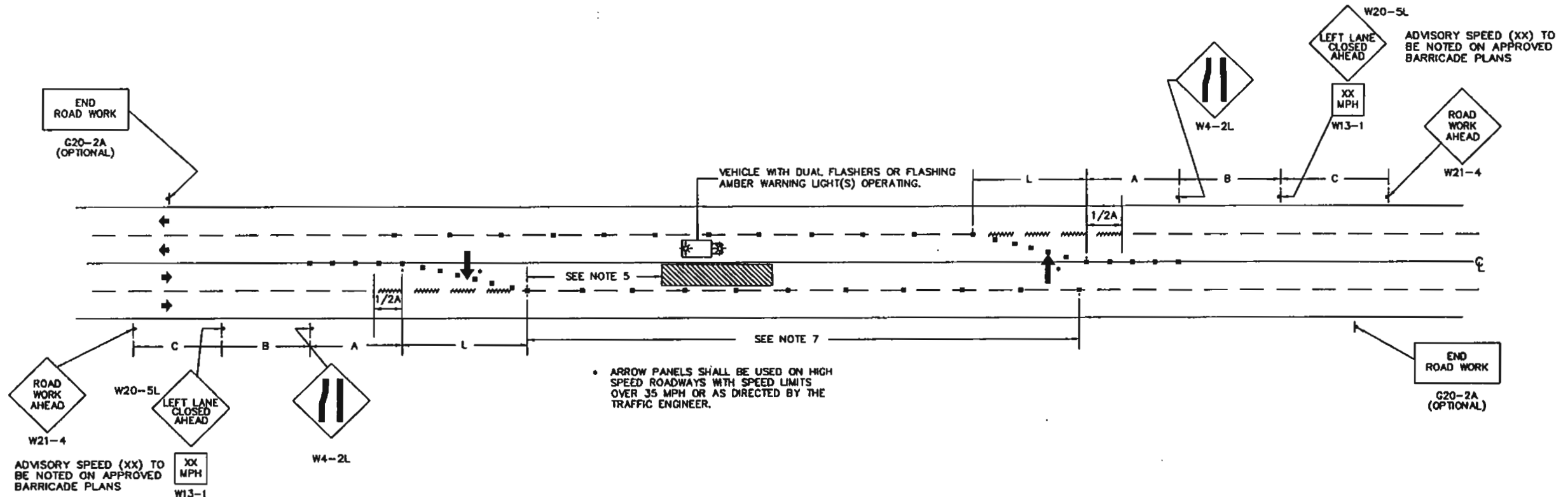
17. ARROWBOARD PANELS SHALL BE USED ON HIGH SPEED ROADWAYS WITH SPEED LIMITS OVER 35 MPH OR AS DIRECTED BY THE TRAFFIC ENGINEER. ARROWBOARD SHOULD BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE, AS SOON AS THERE IS ADEQUATE SPACE.
18. BUFFER SPACE SHALL BE:

SPEED * (M.P.H.)	BUFFER SPACE (FT.)
70	585
65	485
60	415
55	335
50	280
45	220
40	170
35	120
30	85
25	55
20	35

\* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR THE ANTICIPATED OPERATING SPEED.

19. A LATERAL BUFFER SPACE MAY BE REQUIRED TO SEPARATE WORK SPACE FROM TRAFFIC SPACE. THE WIDTH SHALL BE DETERMINED BY THE TRAFFIC ENGINEER.
20. WHEN A SIDE ROAD INTERSECTS THE HIGHWAY WITHIN THE TEMPORARY TRAFFIC CONTROL ZONE, ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE ERECTED, AS NEEDED.
21. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

16. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
- |              |          |                 |          |
|--------------|----------|-----------------|----------|
| BOULDER CITY | 293-9200 | MESQUITE        | 346-5295 |
| CLARK COUNTY | 455-6100 | NORTH LAS VEGAS | 642-2462 |
| HENDERSON    | 565-2140 |                 |          |
| LAS VEGAS    | 228-6331 |                 |          |



**GENERAL NOTES**

- TAPER FORMULA:  $L = S \times W$  FOR SPEEDS OF 45 MPH OR MORE  
 $L = \frac{WS^2}{60}$  FOR SPEEDS OF 40 MPH OR LESS

WHERE: L = MINIMUM LENGTH OF TAPER  
 S = POSTED SPEED, 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR ANTICIPATED OPERATING SPEED  
 W = WIDTH OF OFFSET

SPEED MILES PER HOUR 85th PERCENTILE	TAPER LENGTH LANE WIDTH IN FEET			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
	10	11	12		
20	70	75	80	5	20
25	108	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	350	395	440	10	45
50	450	500	560	11	50
55	570	625	700	12	55
60	720	795	880	13	60
65	890	985	1080	14	65
70	1080	1195	1300	15	70

- THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHALL BE AS SPECIFIED IN TABLE IN NOTE 1.
- TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.

- A BUFFER SPACE SHOULD BE REQUIRED AS FOLLOWS:

SPEED * (M.P.H.)	BUFFER SPACE (FT.)
70	565
65	485
60	415
55	335
50	260
45	220
40	170
35	120
30	85
25	55
20	35

\* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR THE ANTICIPATED OPERATING SPEED.

- TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1000	2000

- ALL DEVICES ESTABLISHING A TAPER OR TANGENT LINE SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED BY TYPE.
- IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.  
 BOULDER CITY 293-9200 MESQUITE 348-5295  
 CLARK COUNTY 455-8100 NORTH LAS VEGAS 642-2462  
 HENDERSON 565-2140  
 LAS VEGAS 229-8331
- ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.
- DURING HOURS OF DARKNESS, STEADY BURNING WARNING LIGHTS SHALL BE USED ON ALL CHANNELIZING DEVICES.

**SYMBOLS**

- ARROW PANEL
- \* FLASHING VEHICLE LIGHT
- ~~~~~ PAVEMENT MARKINGS THAT SHOULD BE REMOVED FOR A LONG TERM PROJECT OF 72 CONTINUOUS HOURS OR MORE. PAINT NOT ALLOWED. MASK WITH APPROVED BLACK OUT TAPE OPTIONAL OR OBLITERATED AS APPROVED BY THE TRAFFIC ENGINEER.
- TEMPORARY MARKINGS TO BE PLACED AS NEEDED.
- BARRICADE, DRUM, VERTICAL PANEL OR CONE.
- ↑ SIGN ON PORTABLE OR PERMANENT SUPPORT
- ← TRAFFIC DIRECTION
- ▨ WORK AREA

TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE

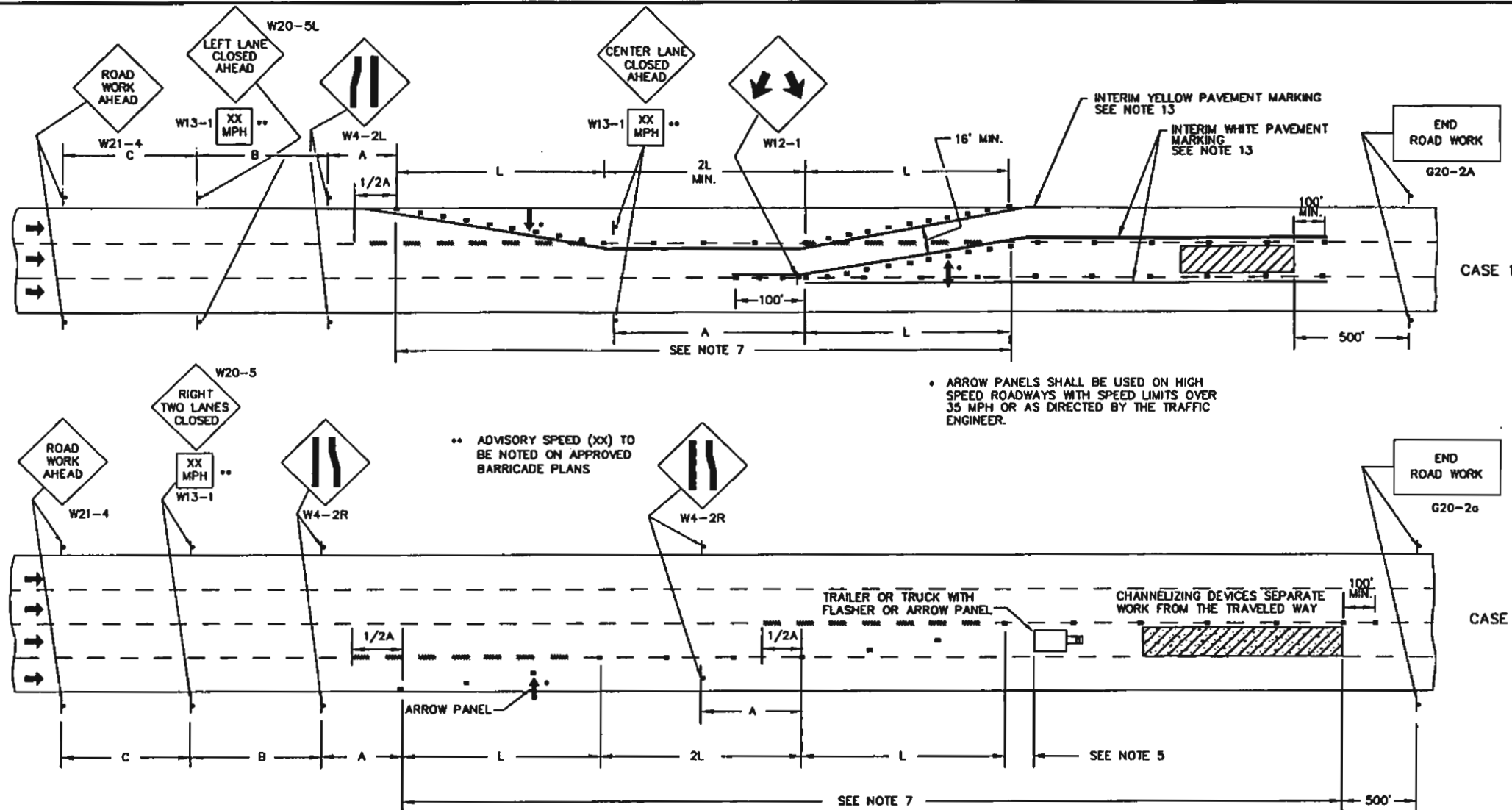
**SPECIFICATION REFERENCE**

**TYPICAL APPLICATION FOR**

MULTILANE, UNDIVIDED, RURAL OR SUBURBAN, DAY/NIGHT OPERATIONS WITH A WORK AREA IN THE LEFT LANE, ALLOWING WORK ACCESS FROM ADJACENT LANE

UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA

- SYMBOLS**
- WORK AREA
  - SIGN ON PORTABLE OR PERMANENT SUPPORT
  - ARROW BOARD
  - BARRICADE DRUM, VERTICAL PANEL OR CONE
  - PAVEMENT MARKINGS THAT SHOULD BE REMOVED FOR A LONG TERM PROJECT OF 72 CONTINUOUS HOURS OR MORE. PAINT NOT ALLOWED. MASK WITH APPROVED BLACK OUT TAPE OPTIONAL OR OBLITERATED AS APPROVED BY THE TRAFFIC ENGINEER.
  - TEMPORARY MARKINGS TO BE PLACED AS NEEDED.
  - TRAFFIC DIRECTION



• ARROW PANELS SHALL BE USED ON HIGH SPEED ROADWAYS WITH SPEED LIMITS OVER 35 MPH OR AS DIRECTED BY THE TRAFFIC ENGINEER.

\*\* ADVISORY SPEED (XX) TO BE NOTED ON APPROVED BARRICADE PLANS

**GENERAL NOTES**

- TAPER FORMULA:  $L = S \times W$  FOR SPEEDS OF 45 MPH OR MORE  
 $L = \frac{WS^2}{60}$  FOR SPEEDS OF 40 MPH OR LESS  
 WHERE: L = MINIMUM LENGTH OF TAPER  
 S = POSTED SPEED, 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR ANTICIPATED OPERATING SPEED  
 W = WIDTH OF OFFSET

SPEED MILES PER HOUR 85TH PERCENTILE	TAPER LENGTH LANE WIDTH IN FEET			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
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25	105	115	125	6	25
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45	450	485	540	13	45
50	500	550	600	13	50
55	550	605	660	13	55
60	600	660	720	13	60
65	650	715	780	13	65
70	700	770	840	13	70

- TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
- A BUFFER SPACE SHOULD BE REQUIRED AS FOLLOWS:

BUFFER SPACE	
SPEED * (M.P.H.)	BUFFER SPACE (FT.)
70	585
65	485
60	415
55	335
50	280
45	220
40	170
35	120
30	85
25	55
20	35

\* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR THE ANTICIPATED OPERATING SPEED.

- DURING HOURS OF DARKNESS, STEADY BURNING WARNING LIGHTS SHALL BE REQUIRED ON ALL CHANNELIZING DEVICES.
- ALL DEVICES ESTABLISHING A TAPER OR TANGENT LINE SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED BY TYPE.
- TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
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URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREWAY	1000	1000	2000

- IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
- |              |          |                 |          |
|--------------|----------|-----------------|----------|
| BOULDER CITY | 293-9200 | MESQUITE        | 346-5295 |
| CLARK COUNTY | 435-6100 | NORTH LAS VEGAS | 642-2462 |
| HENDERSON    | 565-2140 |                 |          |
| LAS VEGAS    | 229-6331 |                 |          |

- FOR CASE 1, A BUFFER SPACE SHOULD BE USED AT THE UPSTREAM END OF THE CLOSED INTERIOR LANE. FOR LONG-TERM OPERATIONS OF 72 CONTINUOUS HOURS OR MORE, A BARRIER SHOULD BE USED TO PROTECT THE OPERATION IN THE CLOSED INTERIOR LANE.
- WHEN A SIDE ROAD INTERSECTS THE HIGHWAY WITHIN THE TEMPORARY TRAFFIC CONTROL ZONE, ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE ERRECTED, AS NEEDED.
- ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.
- INTERIM PAVEMENT MARKINGS SHALL BE REFLECTORIZED, REMOVABLE, NON-FOIL TAPE AND A MINIMUM OF 6 IN. WIDE AND SHOULD BE REQUIRED FOR OPERATIONS OF 72 CONTINUOUS HOURS OR MORE.

**TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE**

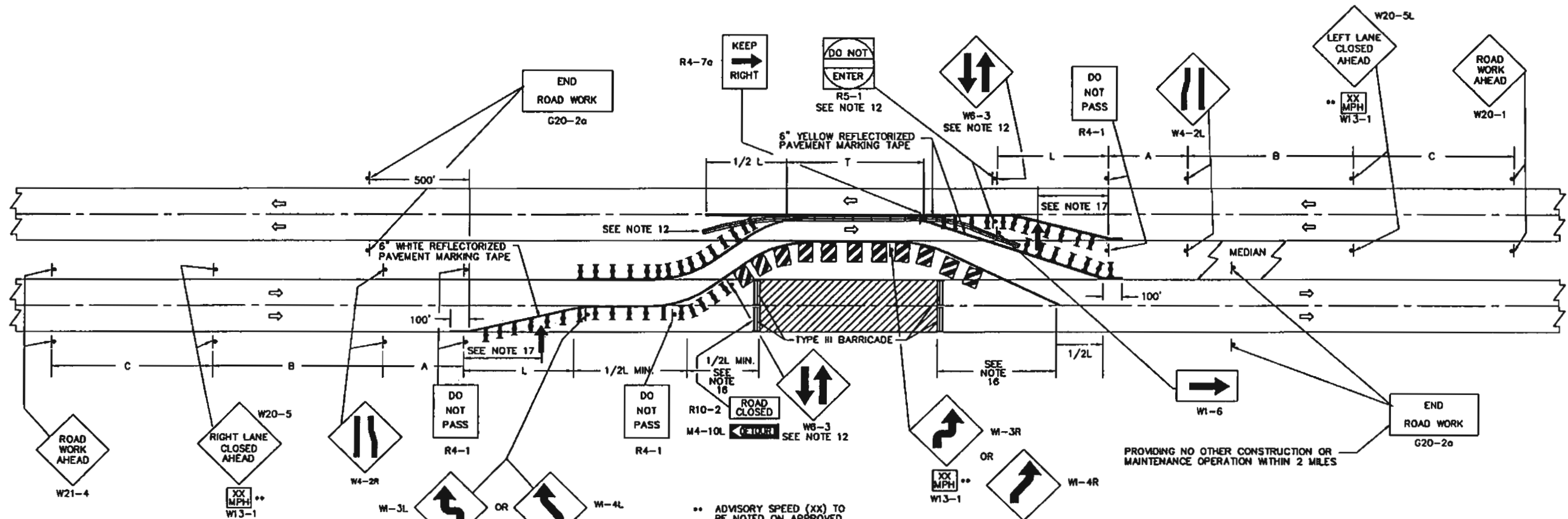
**SPECIFICATION REFERENCE**

**TYPICAL APPLICATION FOR**

**MULTILANE, 1-WAY OR DIVIDED, RURAL OR SUBURBAN, DAY/NIGHT  
OPERATIONS WHERE CENTER LANE(S) ARE CLOSED**

**UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA**

DATE 1-9-97 DWG NO. 620 (1 OF 1) PAGE 159



\*\* ADVISORY SPEED (XX) TO BE NOTED ON APPROVED BARRICADE PLAN

**GENERAL NOTES**

- THE "L" DISTANCE EQUALS:  
 FORMULAS FOR TAPER LENGTH  
 SPEED FORMULA  
 40 M.P.H. OR UNDER  $L = WS^2/60$   
 40 M.P.H. OR OVER  $L = WS$   
 WHERE:  
 L = TAPER LENGTH  
 W = WIDTH OF LANE OR OFFSET  
 S = POSTED SPEED, 85TH PERCENTILE SPEED PRIOR TO WORK STARTING OR ANTICIPATED OPERATING SPEED

SPEED MILES PER HOUR AND PERCENTILE	TAPER LENGTH LANE WIDTH IN FEET			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
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45	450	495	540	13	45
50	500	550	600	13	50
55	550	605	660	13	55
60	600	660	720	13	60
65	650	715	780	13	65
70	700	770	840	13	70

- TWO WAY TRAFFIC SIGN(S) SHALL BE REPEATED EVERY ONE-QUARTER MILE IN EACH DIRECTION THROUGH THE TANGENT DISTANCE.
- WHEN (T) IS GREATER THAN 500 FT., 4-FOOT LENGTHS OF DOUBLE YELLOW REFLECTORIZED, REMOVABLE, NON-FOIL PAVEMENT MARKING TAPE AT 40 FOOT CENTERS MAY BE USED.

- A CURVE SIGN SHALL BE REQUIRED AT THE EXIT END OF THE BYPASS IF (T) IS EQUAL TO OR GREATER THAN 1,000 FEET.
- ON PAVED CROSSOVERS, REFLECTIVE EDGE LINES AND A CENTERLINE SHALL BE USED WHEN THE CLOSURE TIME IS 72 CONTINUOUS HOURS OR MORE OR WHEN THE NORMAL POSTED SPEED OUTSIDE THE AREA OF OPERATIONS EXCEEDS 50 M.P.H. REFLECTORIZED, REMOVABLE, NON-FOIL PAVEMENT MARKING TAPE SHALL BE USED FOR MARKING THE EDGE LINES AND CENTER LINE ON THE EXISTING PAVEMENT. REFLECTORIZED PAVEMENT MARKING TAPE MAY BE USED FOR MARKINGS ON PAVED CROSSOVERS. RAISED REFLECTIVE PAVEMENT MARKERS CONFORMING TO UNIFORM STANDARD SPECS. & DRAWINGS MAY BE USED IN LIEU OF TAPE OR PAINT WHERE THE PAVEMENT MARKING IS TO BE PLACED ADJACENT TO BARRICADES OR VERTICAL PANELS. ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THE REVISED TRAFFIC PATTERN SHALL BE REMOVED. IF STRIPING IS TO BE PLACED ON FINAL PAVEMENT ONLY REMOVABLE, NON-FOIL TAPE SHALL BE USED.
- CONES MAY BE SUBSTITUTED FOR BARRICADES AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 IN. IN HEIGHT.
- STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES FOR DAY OPERATIONS.
- ALL SIGNS SHALL BE GROUND-MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS AND AS REQUIRED BY SECTION 625 OF THE UNIFORM STANDARD SPECIFICATIONS.
- TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS BY THE TRAFFIC ENGINEER.
- ALL BARRICADE LIGHTS SHALL BE MONODIRECTIONAL.
- PORTABLE CONCRETE BARRIER RAIL SHOULD BE REQUIRED FOR LONG-TERM PROJECTS OF 72 CONTINUOUS HOURS OR MORE, SHALL CONFORM WITH STANDARD DRAWING NO. 602, AND BE USED WHEN CALLED UPON THEREIN. WHEN PORTABLE CONCRETE BARRIER RAIL IS REQUIRED, THE W6-3 & R5-1 SIGNS MAY BE OMITTED THROUGH THE TANGENT DISTANCE (T).

- ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
- ALL DEVICES ESTABLISHING A TAPER OR TANGENT LINE SHALL BE OF ONE TYPE; DEVICES SHALL NOT BE MIXED BY TYPE.
- TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2800

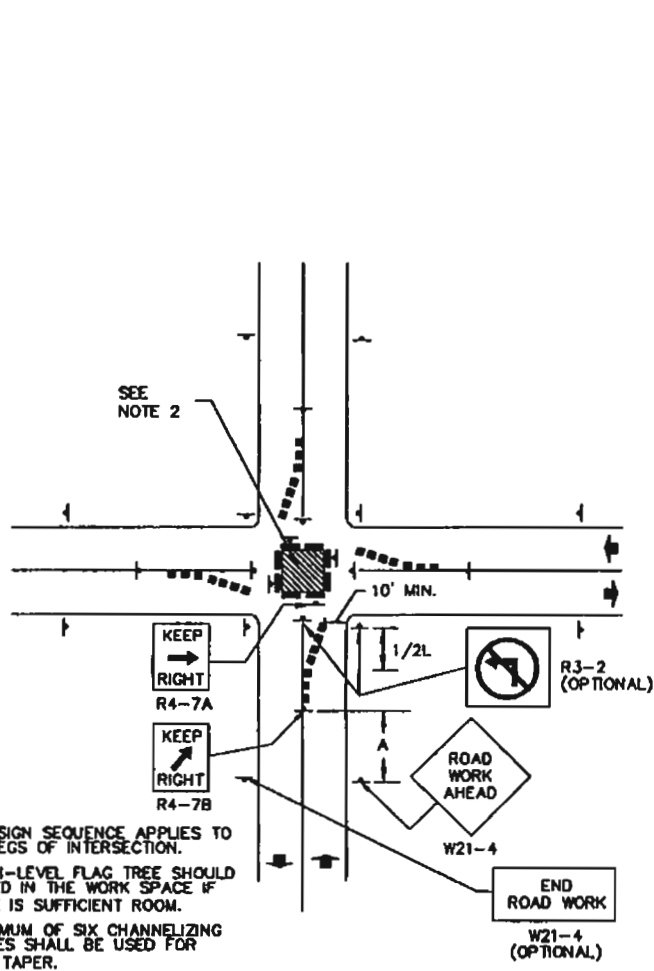
- ENGINEERED GEOMETRIC DESIGN TO BE PROVIDED BY ENGINEER.
- ARROW BOARD SHOULD BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE, AS SOON AS THERE IS ADEQUATE SPACE.
- IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-8611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.  
 BOULDER CITY 293-9200 LAS VEGAS 229-6331  
 CLARK COUNTY 455-6100 MESQUITE 348-5295  
 HENDERSON 585-2140 NORTH LAS VEGAS 642-2462
- WHEN A SIDE ROAD INTERSECTS THE HIGHWAY WITHIN THE TEMPORARY TRAFFIC CONTROL ZONE, ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE ERRECTED, AS NEEDED.
- ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE

SPECIFICATION REFERENCE	

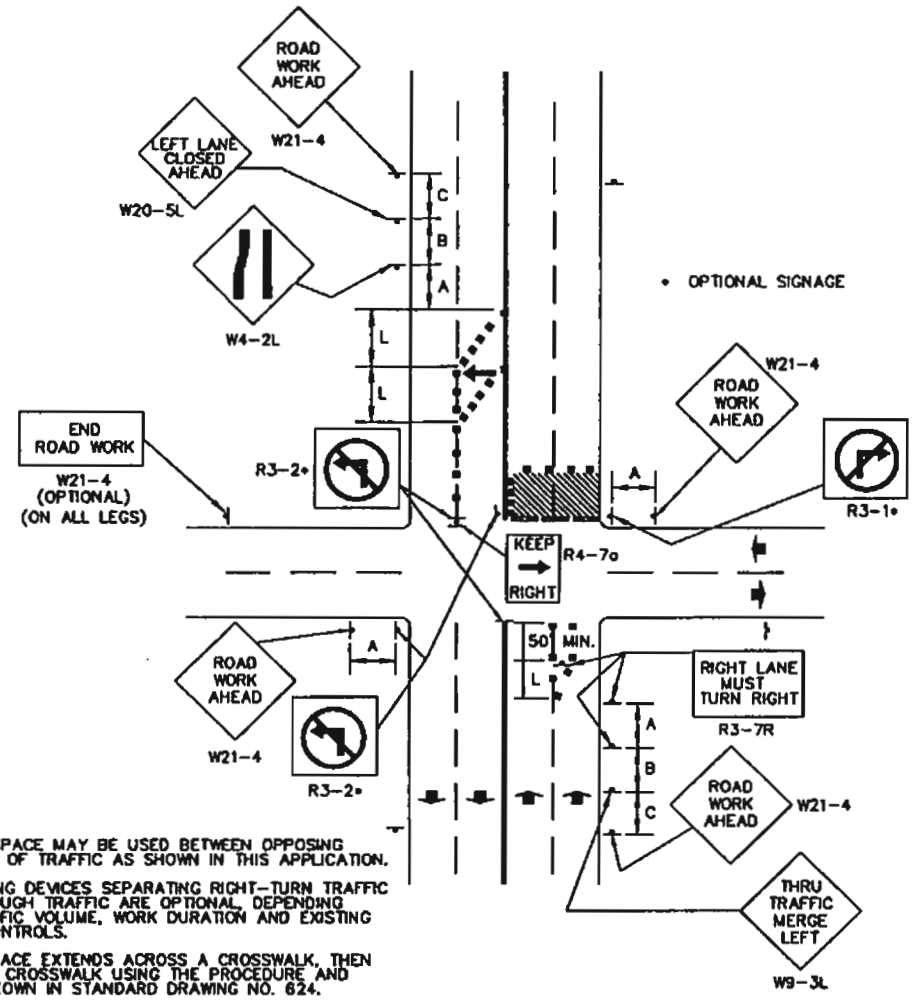
TYPICAL APPLICATION FOR  
MULTILANE, DIVIDED, RURAL OR SUBURBAN, DAY OR NIGHT OPERATIONS WHERE ACTIVITIES REQUIRE  
CLOSING 2 ADJACENT LANES & AN OPPOSING LANE IS USED FOR A TEMPORARY CROSSOVER

UNIFORM STANDARD DRAWINGS  
CLARK COUNTY AREA  
DATE 1-9-97 DWG NO. 621 (1 OF 1) PAGE 160



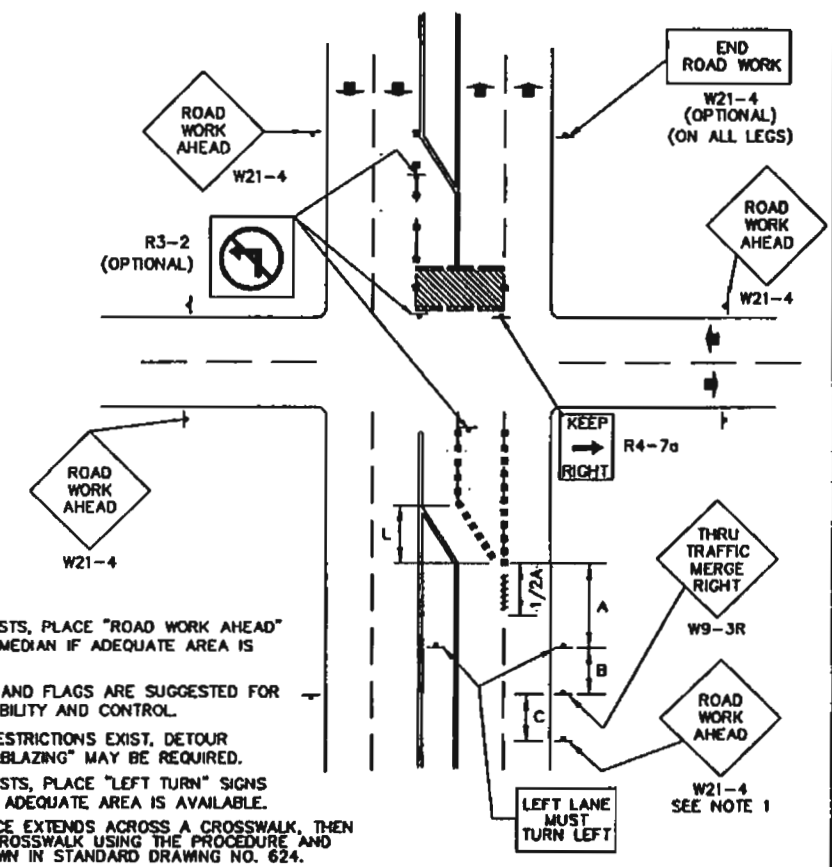
- NOTE**
1. SAME SIGN SEQUENCE APPLIES TO ALL LEGS OF INTERSECTION.
  2. A HIGH-LEVEL FLAG TREE SHOULD BE PLACED IN THE WORK SPACE IF THERE IS SUFFICIENT ROOM.
  3. A MINIMUM OF SIX CHANNELIZING DEVICES SHALL BE USED FOR EACH TAPER.

A. WORK AREA IS IN THE CENTER OF AN INTERSECTION



- NOTE**
1. A BUFFER SPACE MAY BE USED BETWEEN OPPOSING DIRECTIONS OF TRAFFIC AS SHOWN IN THIS APPLICATION.
  2. CHANNELIZING DEVICES SEPARATING RIGHT-TURN TRAFFIC FROM THROUGH TRAFFIC ARE OPTIONAL, DEPENDING UPON TRAFFIC VOLUME, WORK DURATION AND EXISTING TRAFFIC CONTROLS.
  3. IF WORK SPACE EXTENDS ACROSS A CROSSWALK, THEN CLOSE THE CROSSWALK USING THE PROCEDURE AND DEVICES SHOWN IN STANDARD DRAWING NO. 624.

B. WORK AREA NEAR AN INTERSECTION, ALLOWING RIGHT TURNS.



- NOTES**
1. IF MEDIAN EXISTS, PLACE "ROAD WORK AHEAD" SIGN IN THE MEDIAN IF ADEQUATE AREA IS AVAILABLE.
  2. LARGE SIGNS AND FLAGS ARE SUGGESTED FOR MAXIMUM VISIBILITY AND CONTROL.
  3. IF TURNING RESTRICTIONS EXIST, DETOUR ROUTE "TRAILBLAZING" MAY BE REQUIRED.
  4. IF MEDIAN EXISTS, PLACE "LEFT TURN" SIGNS IN MEDIAN IF ADEQUATE AREA IS AVAILABLE.
  5. IF WORK SPACE EXTENDS ACROSS A CROSSWALK, THEN CLOSE THE CROSSWALK USING THE PROCEDURE AND DEVICES SHOWN IN STANDARD DRAWING NO. 624.

C. WORK AREA NEAR AN INTERSECTION, PROVIDING ACCESS TO LEFT-TURN LANE.

**GENERAL NOTES**

1. FORMULAS FOR TAPER LENGTH

SPEED	FORMULA
40 M.P.H. OR UNDER	$L = WS^2/60$
40 M.P.H. OR OVER	$L = WS$

WHERE:  
 L = TAPER LENGTH  
 W = WIDTH OF LANE OR OFFSET  
 S = POSTED SPEED, 85TH PERCENTILE SPEED PRIOR TO STARTING WORK OR ANTICIPATED OPERATING SPEED

SPEED MILES PER HOUR AND PERCENTILE	TAPER LENGTH FOR LANE CLOSURES - DISTANCE L			NUMBER OF CHANNELIZING DEVICES FOR TAPER	MAX. SPACING OF DEVICES ALONG TAPER IN FEET
	10	11	12		
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	450	485	540	13	45
50	500	550	600	13	50
55	550	605	660	13	55
60	600	660	720	13	60
65	650	715	780	13	65
70	700	770	840	13	70

2. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY
3. PROHIBIT TURNS AS REQUIRED BY TRAFFIC CONDITIONS

4. TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1600	2800

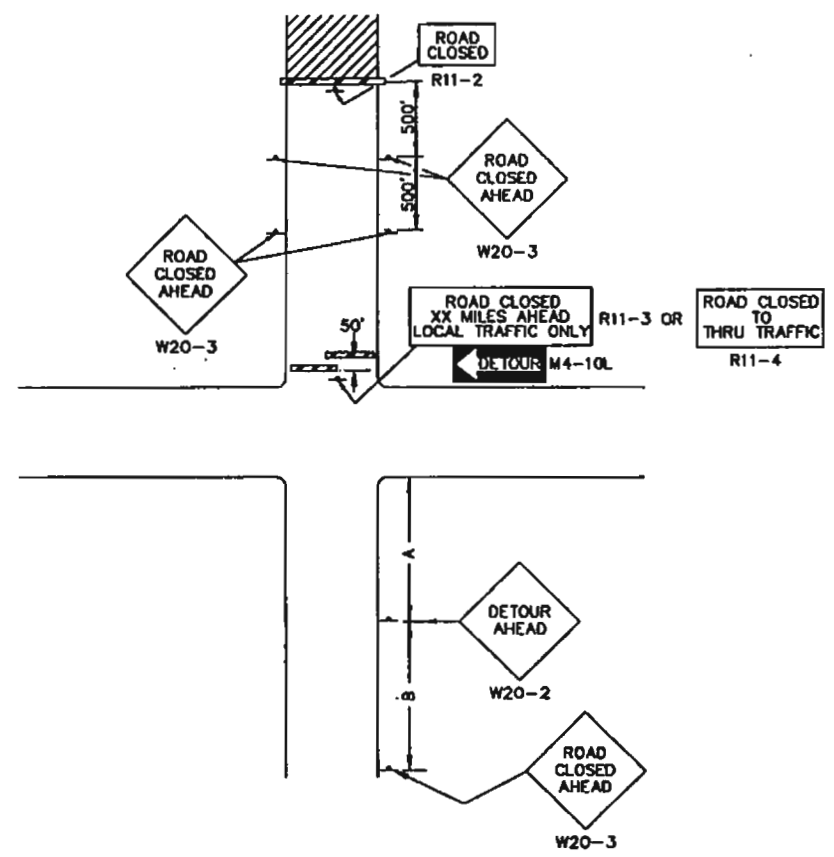
5. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

5. ALL DEVICES ESTABLISHING A TAPER OF TANGENT LINE SHALL BE OF ONE TYPE, DEVICES SHALL NOT BE MIXED BY TYPE.
6. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

BOULDER CITY	293-9200	LAS VEGAS	229-6331
CLARK COUNTY	455-6100	MESQUITE	346-5295
HENDERSON	565-2140	NORTH LAS VEGAS	642-2462
7. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE ADVANCE WARNING SIGNS.

**SYMBOLS**

- CHANNELIZING DEVICES
- ▨ PAVEMENT MARKINGS THAT SHOULD BE REMOVED FOR A LONG TERM PROJECT OF 72 CONTINUOUS HOURS OR MORE. PAINT NOT ALLOWED. MASK WITH APPROVED BLACK OUT TAPE OPTIONAL OR OBLITERATED AS APPROVED BY THE TRAFFIC ENGINEER. TEMPORARY MARKINGS TO BE PLACED AS NEEDED.
- ➔ TRAFFIC DIRECTION
- ▩ TYPE III BARRICADE
- ▨ WORK AREA






A. TYPICAL APPLICATION—ROADWAY CLOSED BEYOND DETOUR POINT.

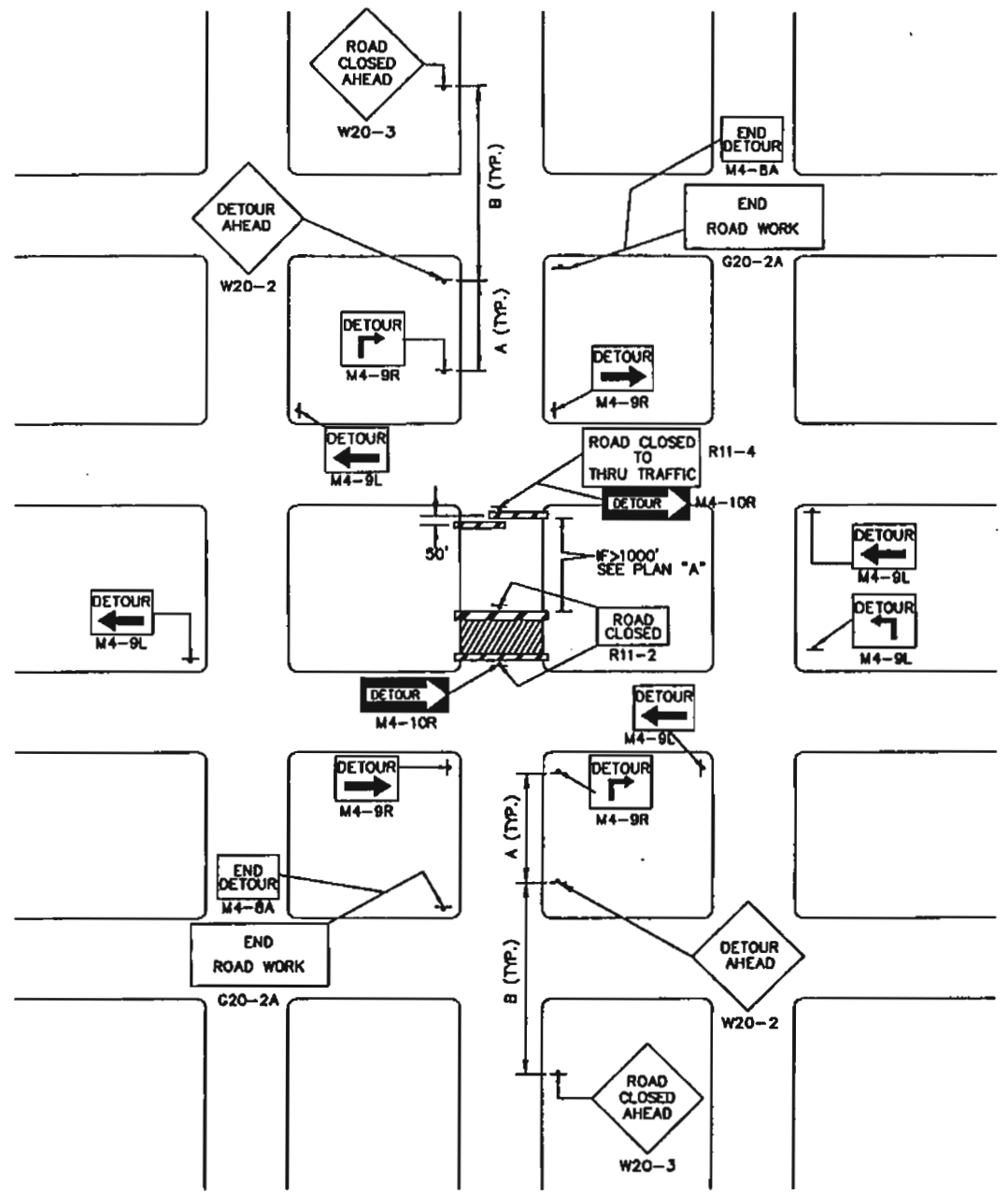
**GENERAL NOTES**

1. ANY ROAD CLOSURE MUST BE EXPRESSLY PERMITTED IN WRITING BY THE ADMINISTERING ENTITY'S TRAFFIC MANAGEMENT DIVISION MANAGER OR THE DIRECTOR OF ITS PUBLIC WORKS DEPARTMENT.
2. ALL WARNING SIGNS SHALL HAVE BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND. ALL SIGNS HAVING AN ORANGE COLOR SHALL BE MADE OF MATERIALS CONFORMING TO SECTION 716.03.01 OF THE UNIFORM STANDARD SPECIFICATIONS.
3. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
4. WARNING LIGHTS MAY BE USED TO MARK BARRICADES AT NIGHT AS NEEDED.
5. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC. LETTERS USED FOR STREET NAMES SHALL A MINIMUM OF 8" IN HEIGHT.
6. IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-5611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

BOULDER CITY	293-9200	MESQUITE	346-5295
CLARK COUNTY	455-6100	NORTH LAS VEGAS	642-2462
HENDERSON	565-2140		
LAS VEGAS	229-8331		
7. TYPE "B" HIGH INTENSITY FLASHING WARNING LIGHTS MAY BE INSTALLED ABOVE EACH WORK ZONE CONSTRUCTION SIGN FOR USE DURING HOURS OF DARKNESS.

**SYMBOLS**

-  WORK AREA
-  TYPE III BARRICADES, PLACED END-TO-END FOR WIDTH OF ROADWAY DEPICTED.
-  SIGN ON PORTABLE OR PERMANENT SUPPORT



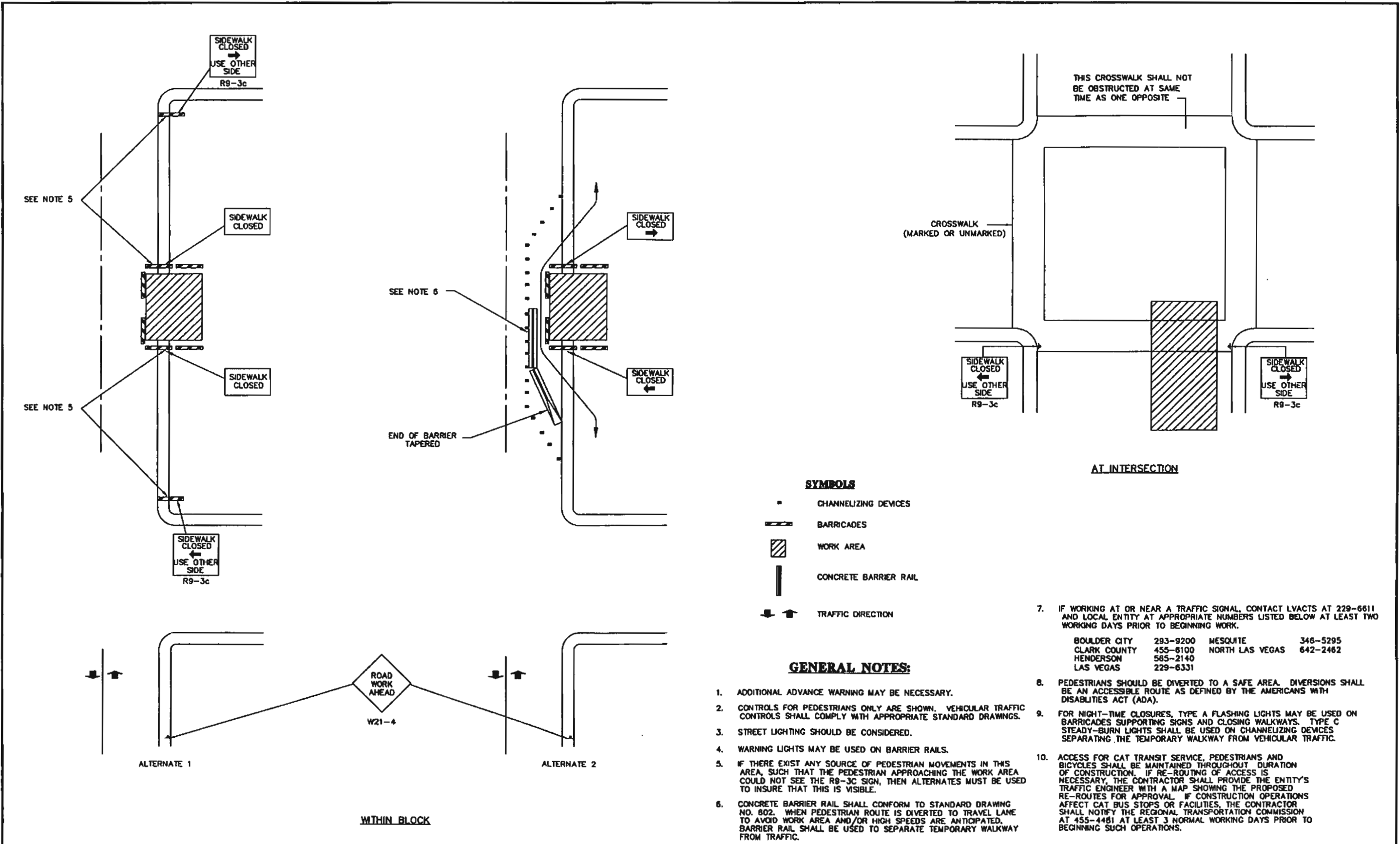
B. TYPICAL APPLICATION—DETOUR SIGNING FOR ROAD CONSTRUCTION PROJECT IN A STREET GRID.

8. M4-9 DETOUR SIGNS MAY BE LOCATED ON THE FAR SIDE OF THE INTERSECTIONS.

9. TABLE FOR SPACING OF ADVANCE WARNING SIGNS

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
URBAN (LESS THAN 35 MPH)	200	200	200
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1800	2800

10. ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.



**TRAFFIC CONTROL PLAN  
FOR  
HIGHWAY WORK ZONE**

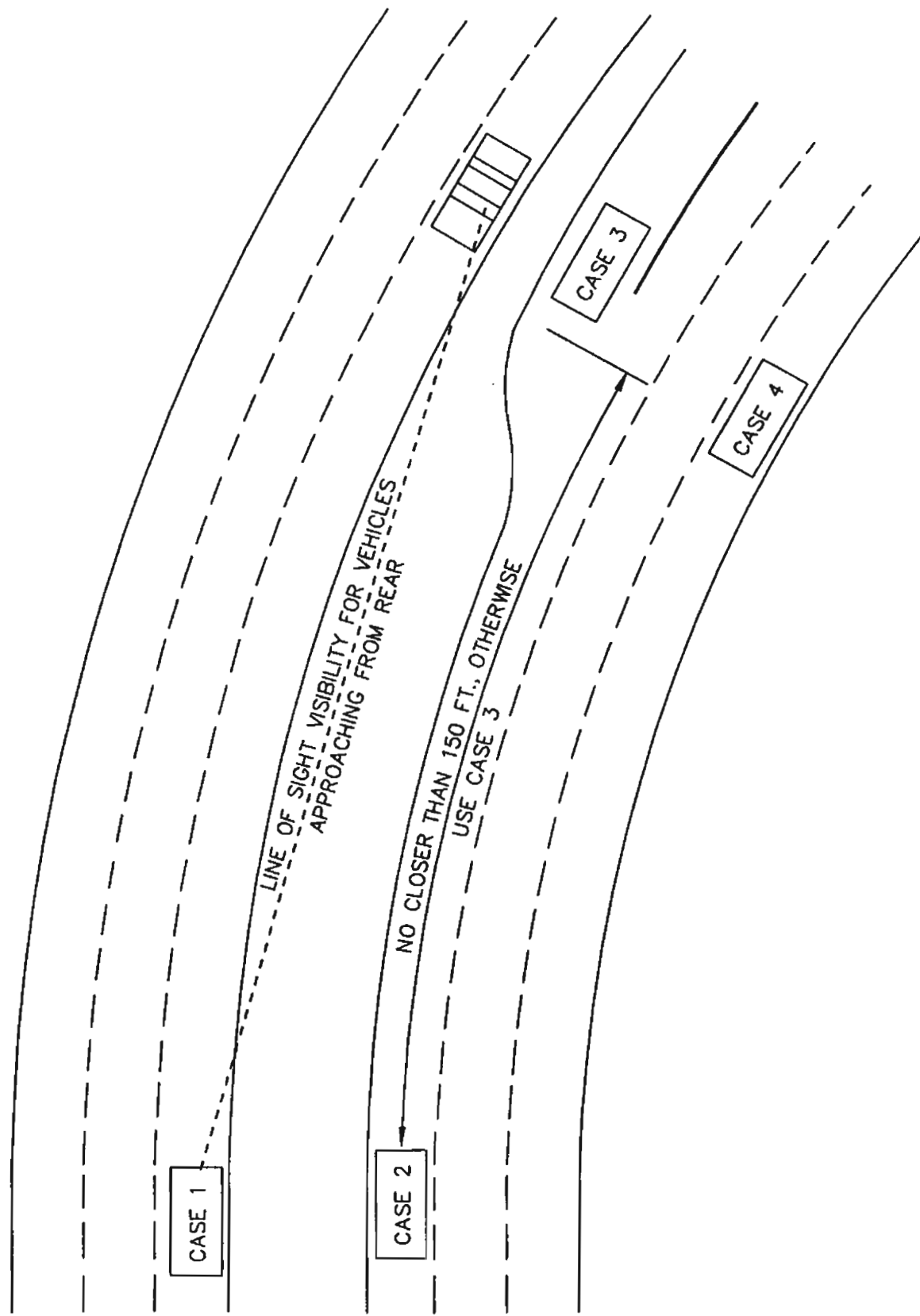
SPECIFICATION REFERENCE	

**TYPICAL APPLICATION FOR  
CONTROLLING PEDESTRIAN TRAFFIC**

- SYMBOLS**
- CHANNELIZING DEVICES
  - ▬ BARRICADES
  - ▨ WORK AREA
  - ▬ CONCRETE BARRIER RAIL
  - ↔ TRAFFIC DIRECTION
- GENERAL NOTES:**
- ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
  - CONTROLS FOR PEDESTRIANS ONLY ARE SHOWN. VEHICULAR TRAFFIC CONTROLS SHALL COMPLY WITH APPROPRIATE STANDARD DRAWINGS.
  - STREET LIGHTING SHOULD BE CONSIDERED.
  - WARNING LIGHTS MAY BE USED ON BARRIER RAILS.
  - IF THERE EXIST ANY SOURCE OF PEDESTRIAN MOVEMENTS IN THIS AREA, SUCH THAT THE PEDESTRIAN APPROACHING THE WORK AREA COULD NOT SEE THE R9-3C SIGN, THEN ALTERNATES MUST BE USED TO INSURE THAT THIS IS VISIBLE.
  - CONCRETE BARRIER RAIL SHALL CONFORM TO STANDARD DRAWING NO. 802. WHEN PEDESTRIAN ROUTE IS DIVERTED TO TRAVEL LANE TO AVOID WORK AREA AND/OR HIGH SPEEDS ARE ANTICIPATED, BARRIER RAIL SHALL BE USED TO SEPARATE TEMPORARY WALKWAY FROM TRAFFIC.
  - IF WORKING AT OR NEAR A TRAFFIC SIGNAL, CONTACT LVACTS AT 229-6611 AND LOCAL ENTITY AT APPROPRIATE NUMBERS LISTED BELOW AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK.
 

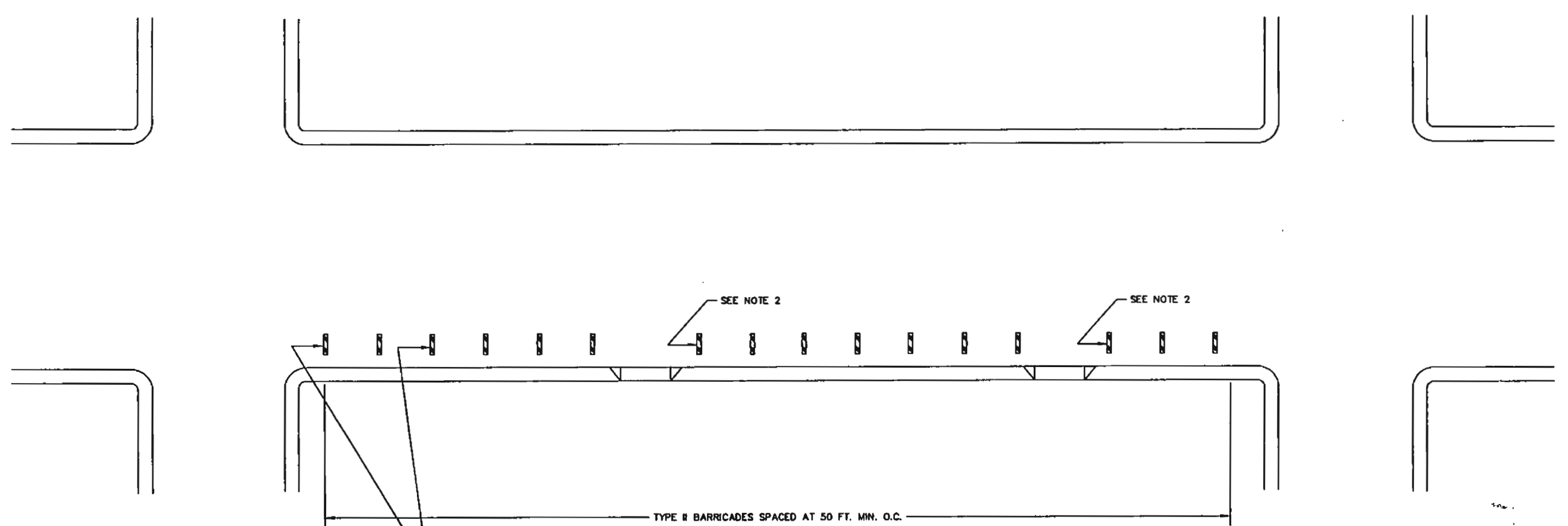
BOULDER CITY	293-9200	MESQUITE	346-5295
CLARK COUNTY	455-6100	NORTH LAS VEGAS	642-2462
HENDERSON	585-2140		
LAS VEGAS	229-6331		
  - PEDESTRIANS SHOULD BE DIVERTED TO A SAFE AREA. DIVERSIONS SHALL BE AN ACCESSIBLE ROUTE AS DEFINED BY THE AMERICANS WITH DISABILITIES ACT (ADA).
  - FOR NIGHT-TIME CLOSURES, TYPE A FLASHING LIGHTS MAY BE USED ON BARRICADES SUPPORTING SIGNS AND CLOSING WALKWAYS. TYPE C STEADY-BURN LIGHTS SHALL BE USED ON CHANNELIZING DEVICES SEPARATING THE TEMPORARY WALKWAY FROM VEHICULAR TRAFFIC.
  - ACCESS FOR CAT TRANSIT SERVICE, PEDESTRIANS AND BICYCLES SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION. IF RE-ROUTING OF ACCESS IS NECESSARY, THE CONTRACTOR SHALL PROVIDE THE ENTITY'S TRAFFIC ENGINEER WITH A MAP SHOWING THE PROPOSED RE-ROUTES FOR APPROVAL. IF CONSTRUCTION OPERATIONS AFFECT CAT BUS STOPS OR FACILITIES, THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRANSPORTATION COMMISSION AT 455-4481 AT LEAST 3 NORMAL WORKING DAYS PRIOR TO BEGINNING SUCH OPERATIONS.

**STANDARD PROCEDURE & CONDITIONS WHICH, WHEN MET, ELIMINATE THE NEED FOR INDIVIDUAL TRAFFIC CONTROL PLAN AND/OR PERMIT**

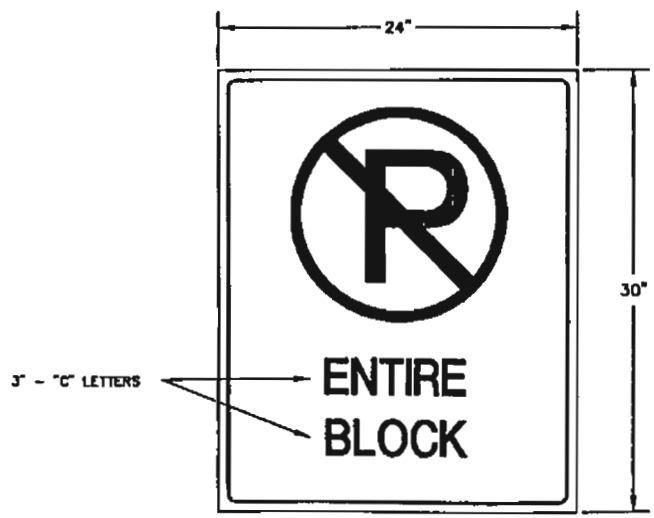


DEVICE OR PARAMETER	SITUATION/CASE #			
	1	2	3	4
A. MINIMUM 60 IN. WIDE FLASHER BAR ATOP VEHICLE, WITH GREATER THAN 4 LIGHT ELEMENTS VISIBLE TO APPROACHING TRAFFIC	✓	✓	✓	✓
B. CONES SET OUT BEHIND VEHICLE	3, ACROSS BLOCKED LANE	3, ACROSS BLOCKED LANE	5, ACROSS BLOCKED LANE	NONE
C. TURN ON VEHICLE'S EMERGENCY HAZARD FLASHERS	✓	✓	✓	NOT REQUIRED
D. ALL PERSONNEL WEAR ORANGE VESTS OR SHIRTS WHEN OUTSIDE OF VEHICLE	ALWAYS	ALWAYS	ALWAYS	ALWAYS
E. O.K. FOR NIGHTTIME DEPLOYMENT?	NO	ONLY WHEN SPEED LIMIT ≤ 35 MPH	O.K., BUT USE REFLECTIVE VESTS	O.K., BUT USE REFLECTIVE VESTS
F. WATER-FILLED CRASH CUSHION, OR EQUIVALENT; TRUNK OR TRAILER-MOUNTED IMPACT ATTENUATORS	RECOMMENDED, BUT MANDATORY WHEN SPEED LIMIT EXCEEDS 45 MPH		NO	NO
G. NO STOPPING UNLESS STOPPED VEHICLE IS VISIBLE TO APPROACHING TRAFFIC GREATER THAN 10 SECONDS AT SPEED LIMIT	YES, APPLY THIS RULE	N/A - ON STRAIGHT-AWAY	NOT REQUIRED	DESIRED, BUT NOT REQUIRED
H. O.K. TO SET UP DURING PEAK TRAVEL HOURS: 7-9 AM, 4-6 PM	YES, BUT ONLY FOR EMERGENCY-TYPE REPAIR ACTIVITIES		O.K.	NOT RECOMMENDED

NOTE: TYPICAL APPLICATION IS FOR LANDSCAPE OR UTILITY ACTIVITIES.



 SPECIAL  
"NO PARKING" SIGN  
SEE DETAIL & NOTE 1



"NO PARKING" SIGN DETAIL

**GENERAL NOTES:**

1. SPECIAL "NO PARKING" SIGN SHALL BE PLACED ON FIRST BARRICADE AND ON EVERY OTHER BARRICADE THEREAFTER.
2. BARRICADES SHALL NOT BLOCK DRIVEWAYS OR ACCESSES PRIOR TO MAINTENANCE OPERATION. SPECIAL "NO PARKING" SIGN SHALL BE PLACED ON FIRST BARRICADE FOLLOWING SPACE PROVIDED FOR ACCESS.
3. BARRICADES MAY BE PLACED ON PAVEMENT OR ON SIDEWALK AT THE DISCRETION OF THE ENGINEER. "NO PARKING" SIGNS PLACED ON SIDEWALK SHALL NOT BE SET AT AN ANGLE NO GREATER THAN 30 DEGREES WITH THE LINE OF TRAFFIC FLOW TO BE VISIBLE TO APPROACHING TRAFFIC. A MINIMUM OF 36" CLEAR SPACE ON SIDEWALK SHALL BE MAINTAINED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT WHEN BARRICADES ARE PLACED ON SIDEWALKS.
4. "NO PARKING" SIGNS AND BARRICADES SHOULD BE PLACED IN AREA OF REHABILITATION AT LEAST 72 HOURS IN ADVANCE OF WORK BEGINNING. NOTIFICATION OF PERSONS AFFECTED BY STREET WORK SHALL BE PERFORMED AS REQUIRED BY RESPECTIVE ENTITY AND NEVADA REVISED STATUTES.
5. ALL BARRICADES AND "NO PARKING" SIGNS SHALL BE REMOVED AS SOON AS IMPROVED SURFACE IS READY FOR TRAFFIC AS DETERMINED BY THE ENGINEER.

**SYMBOLS:**

 BARRICADE