



**DISTRICT ONE  
SIGNING DESIGN GUIDELINES**



**MARCH 2013**

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# **ARTICLE 1 PLAN PREPARATION PROCEDURES**

## **1.1 DESIGN PREQUALIFICATION**

The firm supplying signing plans to IDOT District 1 (District) must be prequalified with the Illinois Department of Transportation (Department) in Highways, either Freeways or Roads and Streets (as appropriate for the type of project) and its sign design staff shall be familiar with the latest signing design procedures used by the District. The design of overhead sign trusses, cantilever sign trusses, and bridge mounted signs must be completed by firms that are prequalified in Highway Bridge – Simple.

Interaction between a signing design firm and the District must be on a shared benefit basis. If, in the opinion of the District, the firm is attempting to design plans beyond the level of competence of its staff, the District shall refuse further review until qualified assistance is acquired and approved. The District does not intend to be a teaching agency.

The designer is expected to provide interpretive assistance and corrections to their work up to and through the construction phase of the project. Article 2.26 of the IDOT “Standard Agreement Provisions for Consultants Services” shall be strictly adhered to.

## **1.2 PROJECT REVIEWS AND SUBMITTALS**

Sign panel design work shall be performed in a comprehensive manner. Sign panel design plans shall be developed in sufficient detail to allow for a comprehensive review by the District. If, in the opinion of the District, the plans do not include sufficient information to allow for a comprehensive and meaningful review, they shall be returned to the designer without comments. No further plan reviews shall be conducted by the District until the designer demonstrates that the sign panel design plans have been developed to a sufficient level of detail.

A written disposition of comments and the return of all marked plans/specifications/estimates from ALL previous District review comments supplied to the designer shall accompany each subsequent submittal. Specific dates may be established for the plan submittals. The Department will not be responsible for changes resulting from the failure to follow the process as noted above.

### 1.3 PLAN FORMAT

Contract plans shall meet the requirements of the District as required in chapter 57 & 63 of the Bureau of Design and Environment Manual. A signing schedule shall be included in the plans. Sign panel detail sheets shall be included in the plans for all proposed sign panels. Signs should be dimensioned and all text and dimension on the sign detail sheets shall be legible at 11" x 17".

See Appendix A for an example plan set

*NOTE: Sign panels on the included plan sheets might not follow current department standards. The intent of these sheets is to show general layout and the information required on the plan sheets.*

#### 1.3.1 Preliminary Submittal

The designer shall submit for approval by Bureau of Traffic Operations a strip map which includes the following:

- Project Stationing and mile posts (if applicable)
- North Arrow
- Scale
- Roadway Geometrics with Pavement Markings
- Sign Location
- Sign Mounting Type
- Color graphical representation of all proposed sign panels

#### 1.3.2 Pre-Final Submittal

At the pre-final stage of plan development, the designer shall submit the following for approval:

- 11" x 17" Plan Set
- Special Provisions

The plan set shall include the following:

- Signing Schedules
- Signing Plans (which include roadway outline with stationing, signs shown graphically, proposed station/offset of signs, sign designation, sign sequence code/legend etc.)
- Sign Detail Sheets (which show all the different fonts, sizes, dimensions, spacing, sheeting types, etc.)
- Overhead sign structure detail sheets (if applicable)
- Detail Sheets (if applicable)

### 1.3.3 Final Submittal

Upon final plan approval by the district and Bureau of Traffic Operations, the following shall be submitted:

- A written disposition of comments
- Return of all marked up plans from **ALL** previous reviews
- 11" x 17" Plan Set (1 set)
- Special Provisions (1 set)
- Electronic files in Microstation format of the signing design plans (NOTE: The Microstation electronic files must be accepted by the District and the CADD unit)
- Electronic files in PDF format
- Electronic files in SignCAD or Guidsign of all sign detail sheets

### 1.3.4 Shop Drawing Review

Sign panel layout drawings with dimensions, letter sizing, font type, colors and materials shall be submitted for review and approval by the District.

The following specification should be added to all contracts that involve signing:

#### ***SIGN DESIGN SHOP DRAWING SUBMITTALS***

Effective: January 1, 2013

*Per article 105.04 of the Standard Specifications, shop drawings will be required for all Arterials/Expressway signs except standards/highway signs covered in the MUTCD, shop drawings shall be submitted to the Engineer for review and approval prior to fabrication. The shop drawings shall include dimensions, letter sizing, font type, colors and materials.*

## ARTICLE 2 DESIGN GUIDELINES FOR SIGN PANELS

Design of sign panels shall follow chapter 2E of the Manual on Uniform Traffic Control Devices (MUTCD) and as amended below:

### 2.1 SIGN SIZES, BORDERS, AND RADII

#### 2.1.1 Sign Panel Sizes

- All guide sign panels shall be designed in 6 inch increments in both the vertical and horizontal direction.
- Sign panel sizes are always listed with the horizontal dimension first; e.g., a 16' x 7' sign is 16' wide by 7' high.
- Guide sign panel sizes are determined by the components of the sign and do not have fixed dimensions.

#### 2.1.2 Sign Panel Border Widths (MUTCD 2E.16)

The following criteria shall be used to properly size the width of the border on the sign panel:

Border Width (IN)	Sign Dimension (FT)
1.25	< 10' x 6'
2	≥10' x 6'
3	Unusually large, coordinate with District

- A light border on a dark background shall extend to the edge of the panel (no margin).
- A dark border on a light background shall be set in from the edge, creating a margin between the border and panel edge. A 2 inch border shall use a 1.5 inch border set 0.5 inches in from the edge of the panel. See Figure 2A and Figure 2B for examples.

**Figure 2A – Light borders on dark backgrounds shall have a 2 inch wide border**



**Figure 2B – Dark borders on light backgrounds shall have a 1.5 inch wide border offset from the edge of the panel by 0.5"**





### 2.1.3 Corner Radii (MUTCD 2E.16)

The following table summarizes the radii that shall be used on guide sign borders according to the dimensions of the proposed sign. On guide signs, corner radii of sign borders should be approximately 1/8 of the lesser side dimension.

Minimum Sign Dimension (FT)	Radii (IN)
≥ 8	12
6 to 7.5	9
<5.5	6

- Generally, guide sign panels do not have rounded corners. The corner of the sign border shall be rounded, but the panel shall not be.
- Unless specifically stated otherwise, each sign shall have a border of the same color as the legend.

## 2.2 COLORS (MUTCD 1A.12)

The following is a guide for the application of colors that shall be used on guide signs:

**Black-** Used as legend color for signs with orange, white or yellow backgrounds. Black is also used as the background color for some regulatory signs.

**Blue-** Indicates services available to road users. It is used as the background color in information signs, interstate route markers, and auxiliary route markers.

**Brown-** Indicates recreational and cultural facilities. It is used only as the background color in recreational and cultural interest signs and is not used as a legend color.

**Green-** Indicates movement permitted or gives directional guidance. It is used as the background color in guide signs.

**Orange-** Warns of temporary traffic conditions with a higher than normal potential hazard level. It is used as the background color in temporary traffic control signs and is most commonly seen in construction zones.

**Purple-** Used on signs for lanes restricted by to use only by vehicles with registered electronic toll collection (ETC) accounts.

**Red-** Indicates right-of-way control, prohibition or exclusion. It is used as the background color for STOP, DO NOT ENTER, WRONG WAY, and interstate route marker signs and as the legend color for YIELD, parking prohibition and prohibitory (circular with slash) signs.

**White-** White either indicates a law, regulation or legal requirement in effect at or near the sign or provides directional guidance. It is used as the background color for regulatory signs, route markers and route marker auxiliaries. It also is used as the legend color for signs with a black, blue, brown, green or red background.

**Yellow-** Warns of a typical potential hazard. It is used as the background color for warning signs and TOLL plaques.

**Fluorescent-Yellow Green-** Designated for use as background color for SCHOOL CROSSING, PEDESTRIAN CROSSING and BICYCLE CROSSING and their auxiliary plaques. SCHOOL plaque is also included.

**Fluorescent Pink-** Designated for use for incident command signing.

**Coral & Light Blue-** Unassigned at this time, reserved for future applications that will be determined only by FHWA after consultation with the States, engineering community, and the general public.

## 2.3 SIGN PANEL SHEETING

Local agencies have the prerogative to determine what sign sheeting material is appropriate as long as it conforms to the minimum retroreflectivity requirements in the Manual on Uniform Traffic Control Devices. Sign panel sheeting should follow section 1091.03 of the latest edition of the Standard Specifications for Road and Bridge Construction.

For IDOT roadways, the department uses three types of sign sheeting:

### 2.3.1 Type AP Sheeting

- Used for almost all standard traffic signs except those fabricated using fluorescent yellow or fluorescent yellow-green.
- Defined as a high intensity cube-cornered prismatic sheeting used as a good all purpose traffic sign sheeting.

#### IDOT Type AP Sheeting - 3M Equivalent

Equivalent 3M High Intensity Prismatic (HIP)	
Code #	Color
3981	Fluorescent Yellow
3983	Fluorescent Yellow Green
3990	White
3991	Yellow
3992	Red
3995	Blue
3997	Green

### 2.3.2 Type AZ Sheeting

- Used for those signs using fluorescent yellow or fluorescent yellow-green.
- Defined as a very high intensity prismatic sheeting used as an all purpose traffic sheeting.

#### IDOT Type AZ Sheeting - 3M Equivalent

Equivalent 3M Diamond Grade Visual Impact Performance (VIP)	
Code #	Color
3981	Fluorescent Yellow
3983	Fluorescent Yellow Green
3990	White
3991	Yellow
3992	Red
3995	Blue
3997	Green

### 2.3.3 Type ZZ Sheeting

- Used for freeway guide signs and other overhead sign installations.
- Defined as an extremely high intensity sheeting that provides good retroreflectivity values at both long and short distance as well as with high observation angles.

#### IDOT Type AZ Sheeting - 3M Equivalent

Equivalent 3M Diamond Grade Cubed (DG <sup>3</sup> )	
Code #	Color
4081	Fluorescent Yellow
4083	Fluorescent Yellow Green
4084	Fluorescent Orange
4090	White
4091	Yellow
4092	Red
4095	Blue
4097	Green

**Figure 2C – Sheeting Types For Freeways & Expressways & Ramps**

<b>FREEWAY &amp; EXPRESSWAY &amp; RAMPS</b>		
<b>GUIDE SIGNS</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
Green	ZZ @ 0 ***	Legend, Border, Background, Symbols & Route Shields mounted on sign
Yellow	ZZ @ 0 ***	Legend, Border, Background, & Symbols
Blue	AP	Type AP - Background with Type ZZ - Legend & Border
Brown	AP	Type AP - Background with Type ZZ - Legend & Border
		Guide Signs Include Specific Service Signs, Recreational/Cultural Interest Area Signs, Emergency Management Signing, and Traffic Generators ( park and ride, colleges, Metra stations, etc.) Guide Signs will use Clearview 5W Font for legend. Clearview 5W-R font may be used to retrofit existing signs where 5W does not fit
<b>WARNING SIGNS &amp; OBJECT MARKERS</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
Flourescent Yellow	AZ @ 0 *** ZZ @ 0 ***	Background with silk screened or vinyl border & legend (symbol) -Signal Ahead, Stop Ahead, & Speed Zone Ahead signs shall be fabricated using reflective sheeting for red, green, & white portions of the sign -W12-2p Vertical Clearance warning signs mounted to overhead structures
Flourescent Yellow-Green	AZ @ 0 ***	Background with silk screened or vinyl border & legend (symbol) (All "W" series signs including their associated supplemental plaques and arrows that may be fabricated with FYG sheeting as an option in the MUTCD shall be fabriacated using FYG sheeting)
<b>REGULATORY SIGNS</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
White	AP	Background with silk screened or vinyl border & legend (symbol)
Red	AP	White background with reversed silk screen or vinyl border & legend (symbol) (R1-1 "STOP", R1-2 "YIELD", R5-1 "DO NOT ENTER", & R5-1a "WRONG WAY" signs shall be Type ZZ sheeting @0* orientation including the R1-4 plaque)
<b>SCHOOL SIGNS</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
White	AP	Background with silk screened or vinyl border & legend (symbol)
Flourescent Yellow-Green	AZ @ 0 ***	Background with silk screened or vinyl border & legend (symbol) (All "S" series signs including their associated supplemental plaques and arrows that may be fabricated with FYG sheeting as an option in the MUTCD shall be fabricated using FYG sheeting, including the S4-5 sign)
<b>ROUTE SHEILD &amp; MILE MARKERS</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
White	AP	Background with silk screened or vinyl border & legend (symbol)
Green	AP	Background with reversed silk screen or vinyl border & legend (symbol)
Blue	AP	Background with reversed silk screen or vinyl border & legend (symbol)
<b>STREET NAME &amp; RIVER CROSSING</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
Green	AP	Background with reversed silk screen or vinyl border & legend (symbol)

\*\*\* @ 0 - means sheeting is oriented at 0 degrees to the vertical on the sign blank to obtain the highest retroreflectivity values

NOTE: All supplemental plaques shall be fabricated using the same color as the sign it is supplementing

**Figure 2D – Sheeting Types For Conventional Roadways**

<b>ALL OTHER STATE JURISDICTION ROADWAYS / CONVENTIONAL HIGHWAYS, FRONTAGE ROADS, &amp; RAMPS TO ARTERIAL TO ARTERIAL</b>		
<b>**GUIDE SIGNS</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
Green	AP	AP-Background & AP-Legend & Border
	ZZ @ 0 ***	Legend, Border, & Background (Mast arm mounted street name signs/overhead guide signs)
Yellow	AP	AP - Background & AP - Legend & Border
Blue	AP	AP - Background & vinyl - Legend & Border
Brown	AP	AP - Background & vinyl - Legend & Border
<b>WARNING SIGNS &amp; OBJECT MARKERS</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
Flourescent Yellow	AZ @ 0 ***	Background with silk screened or vinyl border & legend (symbol) -Signal Ahead, Stop Ahead, & Speed Zone Ahead signs shall be fabricated using reflective sheeting for red, green, & white portions of the sign
	ZZ @ 0 ***	-W12-2p Vertical Clearance warning signs mounted to overhead structures
Red	AP	Background with silk screened or vinyl border & legend (symbol)
Flourescent Yellow-Green	AZ @ 0 ***	Background with silk screened or vinyl border & legend (symbol) (All "W" series signs including their associated supplemental plaques and arrows that may be fabricated with FYG sheeting as an option in the MUTCD shall be fabricated using FYG sheeting)
<b>REGULATORY SIGNS</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
White	AP	Background with silk screened or vinyl border & legend (symbol)
Red	AP	White background with reversed silk screen or vinyl border & legend (symbol) (R1-1 "STOP", R1-2 "YIELD", R5-1 "DO NOT ENTER", & R5-1a "WRONG WAY" signs shall be Type ZZ sheeting @0* orientation including the R1-4 plaque)
<b>SCHOOL SIGNS</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
White	AP	Background with silk screened or vinyl border & legend (symbol)
Flourescent Yellow-Green	AZ @ 0 ***	Background with silk screened or vinyl border & legend (symbol) (All "S" series signs including their associated supplemental plaques and arrows that may be fabricated with FYG sheeting as an option in the MUTCD shall be fabricated using FYG sheeting, including the S4-5 sign)
<b>ROUTE SHEILD &amp; MILE MARKERS</b>	<b>SHEETING TYPE</b>	<b>COMMENTS</b>
White	AP	Background with silk screened or vinyl border & legend (symbol)
Green	AP	Background with reversed silk screen or vinyl border & legend (symbol)
Blue	AP	Background with reversed silk screen or vinyl border & legend (symbol)

\*\* Includes TODS, Recreational/Cultural Interest Area signs and Emergency Management Signing  
Guide Signs will use standard FHWA alphabets

\*\*\* @ 0 - means sheeting is oriented at 0 degrees to the vertical on the sign blank to obtain the highest retroreflectivity values

NOTE: All supplemental plaques shall be fabricated using the same color as the sign it is supplementing

## 2.4 SIGN PANEL FONT USAGE

The following restrictions shall be followed for the use of the Clearview Font. It shall be typical for guide sign designs to display both Clearview and FHWA Series E Modified fonts. (Note: FHWA series fonts are also referred to as “Highway Gothic.”) Below is a listing of requirements for the use of Clearview 5W font:

- Clearview 5W font shall only be used on freeway/expressway guide signs & ramp signs.
- Clearview 5W font shall only be used for the positive contrast portion of signs (meaning white lettering on a green, brown, or blue background).
- Clearview 5W font shall only be used for mixed-case lettering (places, names and destinations) and shall not be used for any text that is all upper-case or for any numbers or special characters.
- See section 2.16 for requirements if retrofitting an existing sign panel and the use of Clearview 5WR font.

The standard highway fonts for all other signs shall remain in accordance with the Federal Highway Administration’s Standard Highway Signs Manual and Illinois standard highway sign designs. The following figures show the various fonts used on guide signs and the proper use of those fonts.

Figure 2E - Fonts that are used on Sign Panels

Series B	abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ	1234567890
* Series C	abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ	1234567890
* Series D	abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ	1234567890
Series E	abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ	1234567890
Series E(Mod)	abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ	1234567890
CView 5W	abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ	1234567890
**CView 5WR	abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ	1234567890

\* MAST ARM MOUNTED STREET NAME SIGN SHOULD USE SERIES C OR D ONLY

\*\* CLEARVIEW 5WR IS ONLY USED TO RETROFIT SIGN PANELS ON EXISTING MOUNTS AND SHOULD NOT BE USED WHEN DESIGNING NEW SIGN PANELS



Figure 2F – Proper Use of Clearview Fonts



\* CLEARVIEW FONT IS USED ON FREEWAYS/EXPRESSWAYS AND CORRESPONDING RAMPS. ARTERIAL ROADS SHOULD FOLLOW RECOMMENDED FHWA SERIES FONTS.

## 2.5 ABBREVIATIONS (MUTCD 1A.15)

The following list shows common approved abbreviations that are allowed on guide signs. For the complete list refer to table 1A-1 of the MUTCD.

Full Word	Abbreviation	Full Word	Abbreviation
Alternate	ALT	Lane	Ln
Avenue	Ave	Mile	MI
Boulevard	Blvd	North	N
Center	Cntr	Parkway	Pkwy
Circle	Cir	Pedestrian	PED
Court	Ct	Place	Pl
Drive	Dr	Road	Rd
East	E	South	S
Expressway	Expwy	Square	Sq
Feet	FT	Street	St
Freeway	Fwy	Trail	Tr
Highway	Hwy	University	Univ
Junction	JCT	West	W
Illinois	IL	-	-

## 2.6 LETTER SIZES FOR GUIDE SIGNS

Minimum sizes of letters and numbers for all guide signs shall be according to Table 2E-4 (Minimum Letter and Numeral Sizes for Freeway Guide Signs According to Interchange Classification) and Table 2E-5 (Minimum Letter and Numeral Sizes for Freeway Guide Signs According to Sign Type) of the MUTCD.

### 2.6.1 Expressway/Freeway Signing

#### Ground Mounted

For ground mounted signs, the department requires the following when selecting the type of sign:

- Any freeway to freeway interchange is classified as a “Major(a)” interchange.
- All other interchanges are to be classified as “Intermediate”.
- No interchanges are to be classified as “Major(b)” or as “Minor”.

Overhead

The department requires all overhead signing to follow the text sizing of the “overhead” column of Table 2E-4.

**Figure 2H – Minimum Letter and Numeral Sizes for Expressway/Freeway Guide Signs according to Interchange Classification (MUTCD Table 2E-4)**

Type of Sign	Type of Interchange (see Section 2E.32)				Overhead
	Major		Intermediate	Minor	
	Category a	Category b			
<b>A. Advance Guide, Exit Direction, and Overhead Guide Signs</b>					
Exit Number Plaques					
Words	10	10	10	10	10
Numerals & Letters	15	15	15	15	15
Interstate Route Signs					
Numerals	24/18	—	—	—	18
1- or 2-Digit Shields	48 x 48/ 36 x 36	—	—	—	36 x 36
3-Digit Shields	60 x 48/ 45 x 36	—	—	—	45 x 36
U.S. or State Route Signs					
Numerals	24/18	18	18	12	18
1- or 2-Digit Shields	48 x 48/ 36 x 36	36 x 36	36 x 36	24 x 24	36 x 36
3-Digit Shields	60 x 48/ 45 x 36	45 x 36	45 x 36	30 x 24	45 x 36
U.S. or State Route Text Identification (Example: US 56)					
Numerals & Letters	18	18/15	15	12	15
Cardinal Directions					
First Letters	18	15	15	10	15
Rest of Words	15	12	12	8	12
Auxiliary and Alternative Route Legends (Examples: JCT, TO, ALT, BUSINESS)					
Words	15	12	12	8	12
Names of Destinations					
Upper-Case Letters	20	20	16	13.33	16
Lower-Case Letters	15	15	12	10	12
Distance Numbers	18	18/15	15	12	15
Distance Fraction Numerals	12	12/10	10	8	10
Distance Words	12	12/10	10	8	10
Action Message Words	12	12/10	10	8	10
<b>B. Gore Signs</b>					
Words	12	12	12	8	—
Numerals & Letters	18	18	18	12	—

Notes: 1. Sizes are shown in inches and where applicable are shown as width x height  
 2. Slanted line (/) signifies separation of desirable and minimum sizes

## 2.6.2 Arterial Roadway Signing

Guide Signs for arterial roadways shall be designed using the posted speed limit to properly size fonts on the sign panel. See figure 21.

See Appendix C for Standard Sign Panel Sizing for Arterial Roadways

**Figure 21 – Minimum Letter and Numeral Sizes for Arterial Roadway Guide Signs by Sign Type**

Type of Sign	Posted Speed Limit	
	≥ 40 MPH & Overhead Signs	< 40 MPH
<b>A. Advance Guide, Exit Direction, and Overhead Guide Signs</b>		
Exit Number plaques		
Words	10	8
Numerals & Letters	15	12
Interstate Route Signs		
Numerals	18	18
1- or 2-Digit Shields	36 x 36	36 x 36
3-Digit Shields	45 x 36	45 x 36
U.S. or State Route Signs		
Numerals	18	12
1- or 2-Digit Shields	36 x 36	24 x 24
3-Digit Shields	45 x 36	30 x 24
U.S. or State Route Text Identification (Example: US 56)		
Numerals & Letters	15	12
Cardinal Directions		
First Letters	12	10
Rest of Words	10	8
Auxiliary and Alternative Route Legends (Examples: JCT, TO, ALT, BUSINESS)		
Words	10	8
Names of Destinations		
Upper-Case Letters	13.33	10.67
Lower-Case Letters	10	8
Distance Numbers	12	10
Distance Fraction Numerals	10	8
Distance Words	10	8
Action Message Words	10	8
<b>B. Gore Signs</b>		
Words	10	8
Numerals & Letters	12	10

### **2.6.3 Destination Text Sizes**

Clearview font shall be used for all destination text. The lower case loop height for Clearview fonts shall be 84% of the corresponding upper case letter height as opposed to 75% for other standard fonts. The department requires the following text sizes for freeway/expressway guide signs in order to comply with FHWA rules for the Clearview font.

**Figure 2J – Minimum Letter and Numeral Sizes for Guide Signs (expressway/freeway) using Clearview Font by Sign Type**

Type of Sign	Minimum Size
<b>A. Pull-Through Signs</b>	
Destinations — Upper-Case Letters	16
* Destinations — Lower-Case Letters	13.5
Route Signs	
1- or 2-Digit Shields	36 x 36
3-Digit Shields	45 x 36
Cardinal Directions — First Letter	15
Cardinal Directions — Rest of Word	12
<b>B. Supplemental Guide Signs</b>	
Exit Number Words	10
Exit Number Numerals and Letters	15
Place Names — Upper-Case Letters	13.33
* Place Names — Lower-Case Letters	11.25
Action Messages	8
Route Signs	
Numerals	12
1- or 2-Digit Shield	24 x 24
3-Digit Shield	30 x 24
<b>C. Interchange Sequence or Community Interchanges Identification Signs</b>	
Words — Upper-Case Letters	13.33
* Words — Lower-Case Letters	11.25
Numerals	13.33
Fraction Numerals	10
Route Signs	
Numerals	12
1- or 2-Digit Shield	24 x 24
3-Digit Shield	30 x 24
<b>D. Next XX Exits Sign</b>	
Place Names — Upper-Case Letters	13.33
* Place Names — Lower-Case Letters	11.25
NEXT XX EXITS — Words	10
NEXT XX EXITS — Number	15
<b>E. Distance Signs</b>	
Words — Upper-Case Letters	8
* Words — Lower-Case Letters	6.75
Numerals	8
Route Signs	
Numerals	9
1- or 2-Digit Shield	18 x 18
3-Digit Shield	22.5 x 18
<b>F. General Services Signs (see Chapter 2I)</b>	
Exit Number Words	10
Exit Number Numerals and Letters	15
Services	10

Type of Sign	Minimum Size
<b>G. Rest Area, Scenic Area, and Roadside Area Signs (see Chapter 2I)</b>	
Words	12
Distance Numerals	15
Distance Fraction Numerals	10
Distance Words	10
Action Message Words	12
<b>H. Reference Location Signs (see Chapter 2H)</b>	
Words	4
Numerals	10
<b>I. Boundary and Orientation Signs (see Chapter 2H)</b>	
Words — Upper-Case Letters	8
* Words — Lower-Case Letters	6.75
<b>J. Next Exit and Next Services Signs</b>	
Words and Numerals	8
<b>K. Exit Only Signs</b>	
Words	12
<b>L. Overhead Arrow-Per-Lane Signs</b>	
Arrowhead (Type D Directional Arrow)	21.625
Arrow Shaft Width	8
Arrow Height	
Through	72
Left Only	48
Right Only	48
Optional-Diverge (Through with Left or Right)	72
Optional-Split (Left and Right)	66
Vertical Separator Width	2
Vertical Space between Vertical Separator and Top of Nearest Arrow	8
Horizontal Space between Vertical Separator and Top of Nearest Through Arrow	15
Horizontal Space between Arrow Shaft and EXIT and ONLY plaques	10
EXIT and ONLY Panels	60 x 18
<b>M. Diagrammatic Signs</b>	
Arrowhead (Type D Directional Arrow)	13.5*
Lane Widths	5
Lane Line Segments	1 x 6
Spacing between Lane Line Segments	6
Stem Height to Upper Point of Departure	30
Horizontal Space between Arrowhead and Route Shield or Destination	12

\* The size shown is the arrowhead width per lane depicted on the corresponding arrow shaft

Note: Sizes are shown in inches and where applicable are shown as width x height

## 2.7 SIGN LAYOUT

The following design elements shall be followed when laying out a sign:

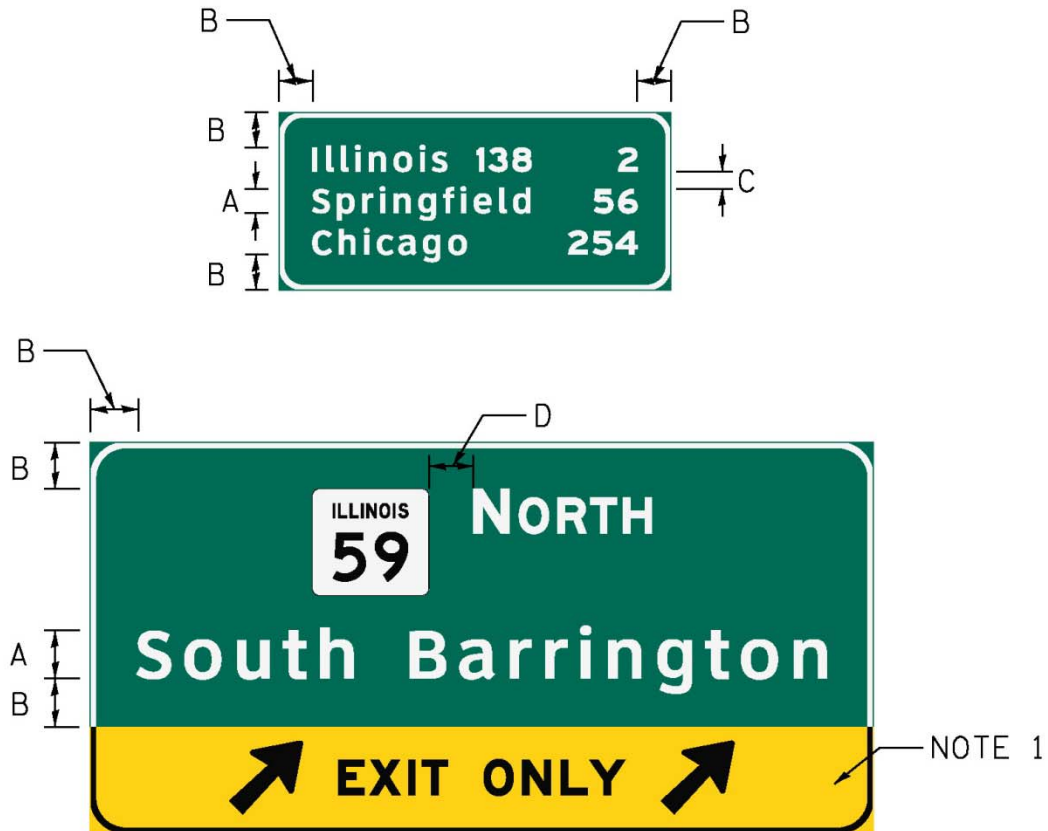
### 2.7.1 Sign Legend Elements

- Route signs and symbols shall be sized per the appropriate section of the MUTCD, section 2D for arterials and section 2E for expressway/freeway.
- No more than 2 destinations shall be used on a given sign.
- If two destinations are used, they shall be stacked vertically to improve readability and to minimize the required sign panel width.

### 2.7.2 Sign Legend Spacing

- The space to the top and bottom borders should be approximately equal to the average of the letter height of the adjacent line of letters.
- The lateral spacing to the vertical borders should be essentially the same as the height of the largest letter.
- Interline spacing should be approximately *three-fourths*\* the average of capital or uppercase letter heights in adjacent lines of letters (\*Clearview fonts should be approximately 84% instead of three-fourths.)
- Spacing between words, words and arrow, a letter and arrow, or a word and number in a line copy should be approximately 1 to 1.5 times the uppercase letter height used in that line.
- Spacing dimensions should be rounded up to the nearest inch whenever possible.

**Figure 2K – Proper design of Sign Layouts**



- A = UPPERCASE LETTER HEIGHT BASED ON FONT/SIGN TYPE
- B = SAME AS UPPERCASE FONT HEIGHT, 8" MINIMUM
- C = LOWERCASE LETTER HEIGHT BASED ON FONT/SIGN TYPE
- D = FOLLOW STANDARD DESIGN SHOWN IN MUTCD STANDARD HIGHWAY SIGNS 2004 AND 2012 SUPPLEMENT

NOTE 1 - SEE SECTION 2.9 AND FIGURE 2P-PROPER DESIGN OF EXIT ONLY PLAQUES.



## 2.8 EXIT NUMBER PLAQUE LAYOUT

The following design elements shall be followed when laying out an “EXIT” number plaque:

- The sign panel and exit number portion of the sign panel shall be combined onto one sign panel if the main sign panel is less than 12’ in width.
- Sign panels wider than 12’ should follow Standard Highway Signs for the MUTCD, 2004 and 2012 Supplement.
- Font type shall be Series E (MOD) for all text on the exit portion of the sign.
- All other design requirements should follow Standard Highway Signs for the MUTCD, 2004 and 2012 Supplement.

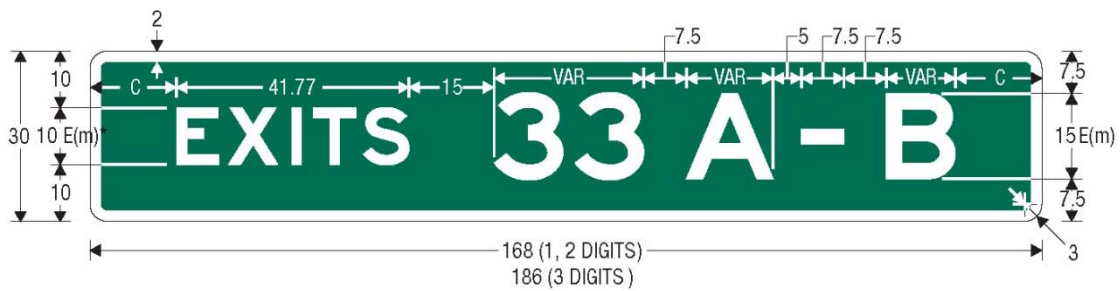
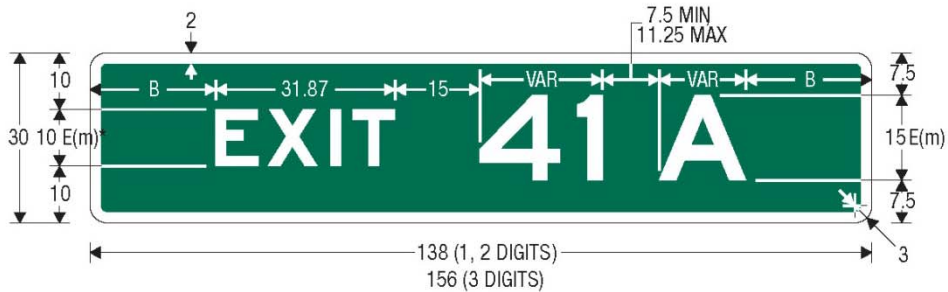
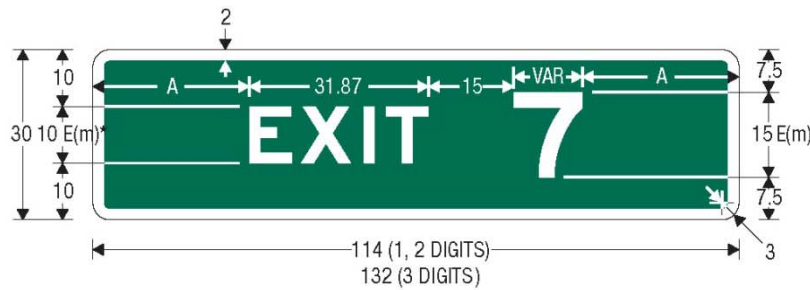
**Figure 2L – Design of Right Exit Number Plaques for Sign Panels ≤ 12’ Wide**



**Figure 2M – Design of Left Exit Number Plaques for Sign Panels ≤ 12’ Wide**

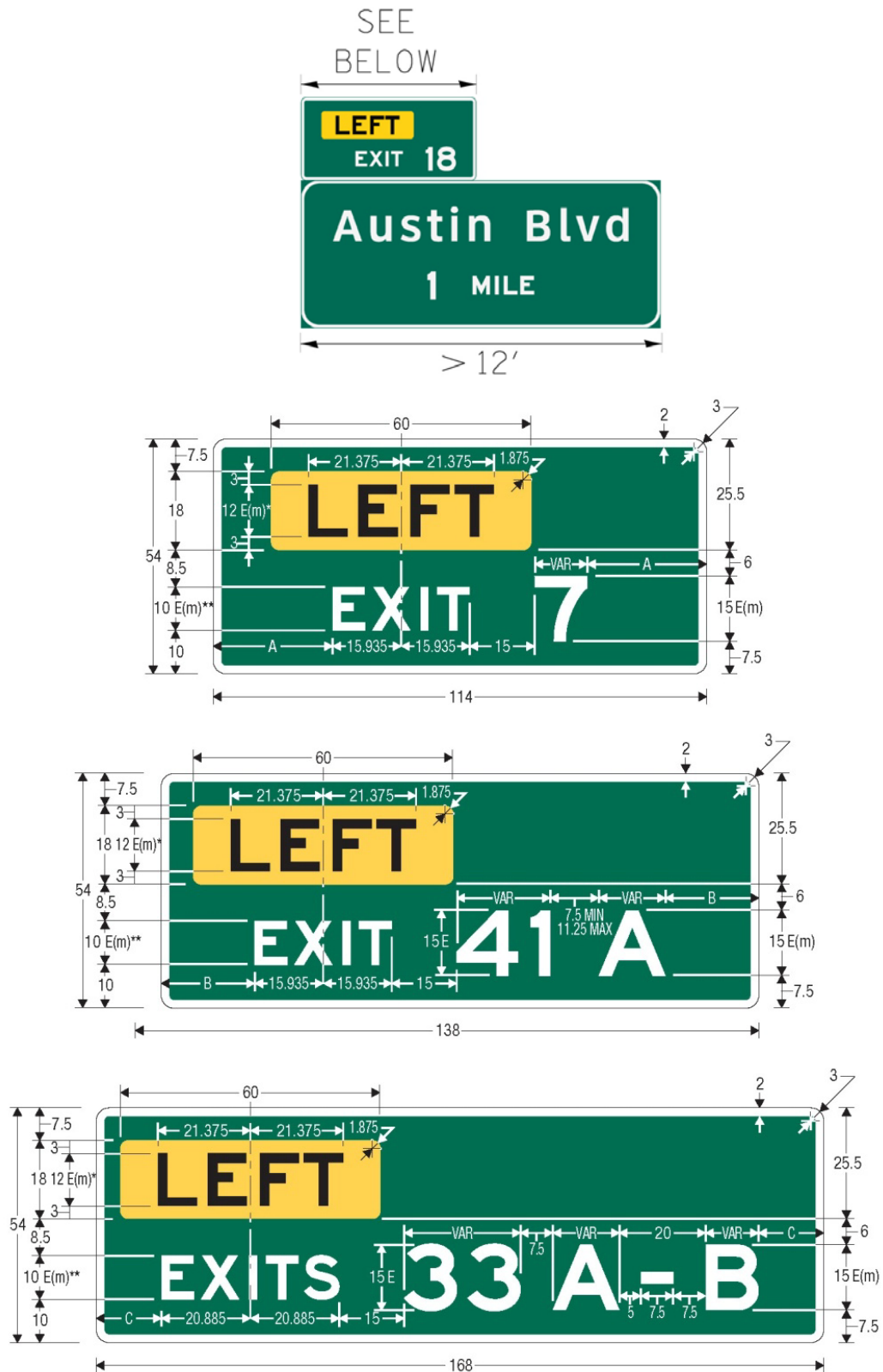


**Figure 2N – Design of Right Exit Number Plaques for Sign Panels > 12' Wide**



**\*Increase Character spacing 20%**

**Figure 20 – Design of Left Exit Number Plaques for Sign Panels > 12' Wide**



**\*Increase Character spacing 25%**

**\*\*Increase Character spacing 20%**

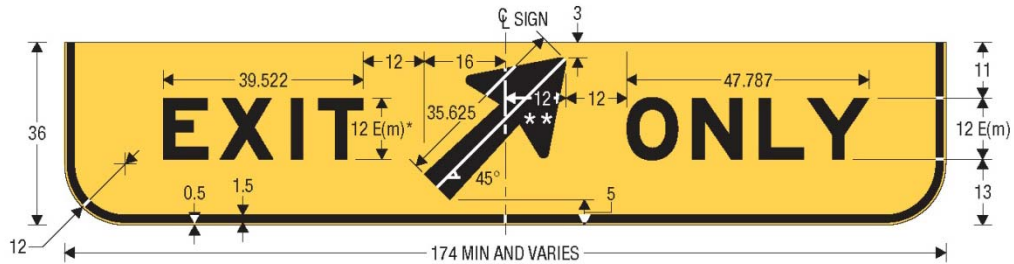
## 2.9 EXIT ONLY PLAQUE

The following design elements shall be followed when laying out an “EXIT ONLY” plaque:

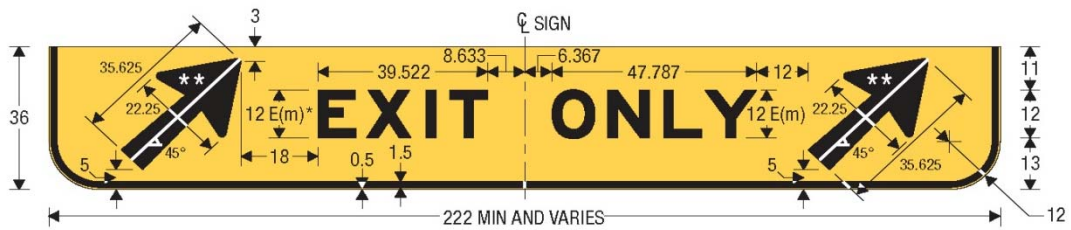
- “EXIT ONLY” plaques should follow Standard Highway Signs for the MUTCD, 2012 Supplement.
- Designers should note that sign panel widths may have to be adjusted to meet the minimum width required by the type of “EXIT ONLY” plaques being used (174” or 222” minimum as shown in the following figure).

**Figure 2P - Proper design of Exit Only Plaques**

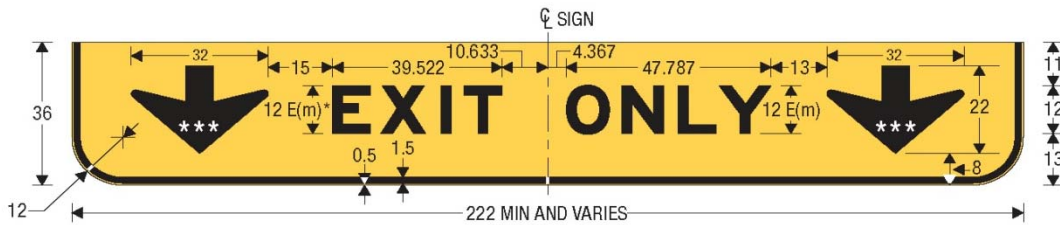
**(Figure E11-1d through Figure E11-f, Standard Highway Signs, 2012 Supplement)**



**E11-1d**  
EXIT ONLY (EXIT DIRECTION)



**E11-1e**  
EXIT ONLY (EXIT DIRECTION)



**E11-1f**  
EXIT ONLY (2 DOWN ARROWS)

- \* Increase character spacing 40%
- \*\* Type A arrow, See section 2.11 for arrow design
- \*\*\* Down arrow, See section 2.11 for arrow design

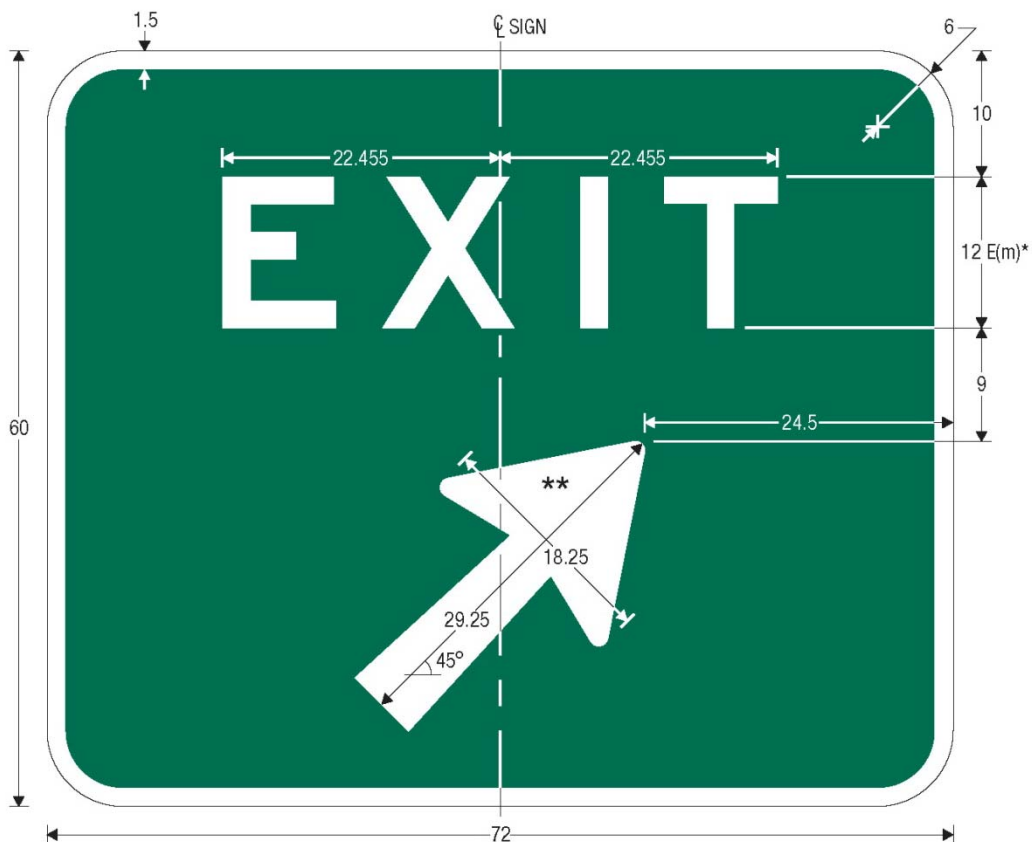
**NOTE: Dark border on light background shall require a 1.5 inch thick border with a 0.5 inch offset**

## 2.10 GORE EXIT SIGNS

The following design elements shall be followed when laying out an “EXIT” gore sign panel:

- Exit signs placed in the gore area of on exit ramp shall follow Table 2E-4 and section 2E.37 of the MUTCD.
- Exit gore signs shall have 12 inch “EXIT” over 18 inch numbers and/or letters (Table 2E-4 MUTCD).
- The Series E (mod) font shall always be used.
- Intercharacter spacing of the word “EXIT” shall be increased as shown in figure 2Q.

**Figure 2Q – Gore EXIT sign for Freeways**



\* Increase character spacing 225%

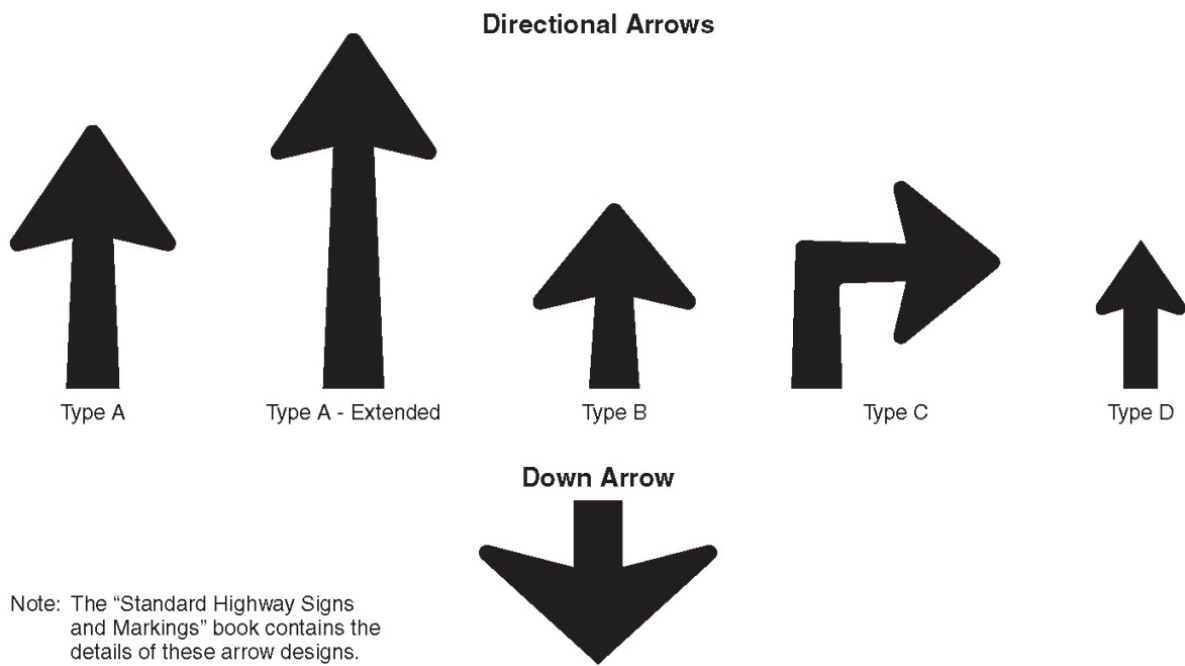
\*\* See section 2.11 for arrow design



## 2.11 ARROWS (MUTCD 2D.08)

Arrows are used for lane assignment and to indicate the direction toward designated routes or destinations. All arrows follow the following basic principles:

- Used on guide signs on freeways, expressways, and conventional roads.
- Arrows should indicate the direction to a specific destination or group of destinations.
- Various standard arrows for guide signs are divided into several types:



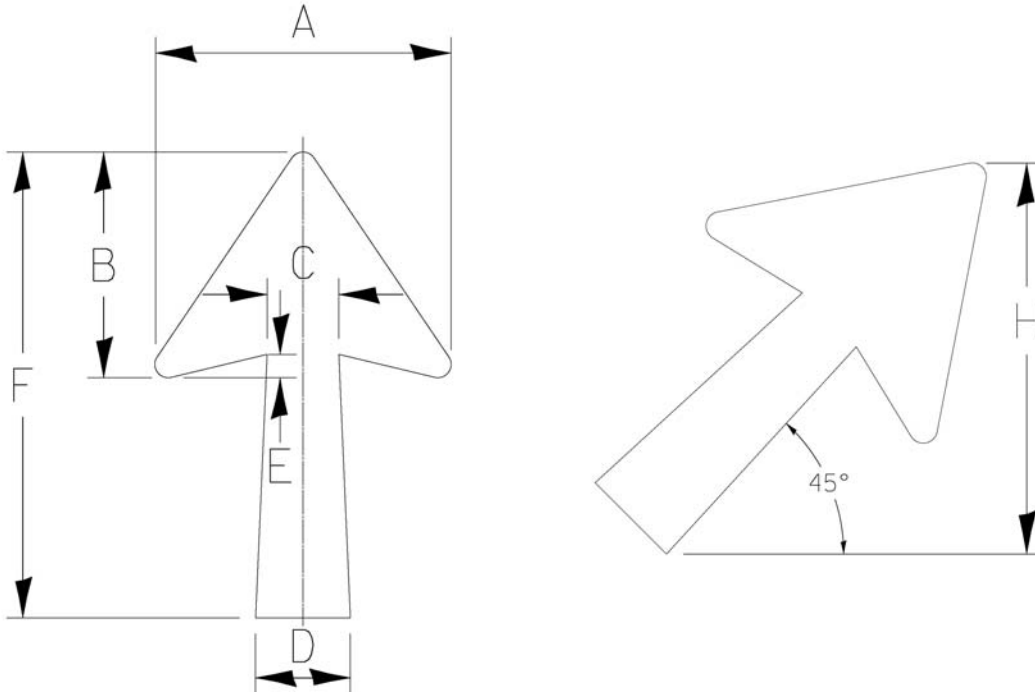


### 2.11.1 Type A and Type A Extended

- Used on guide signs on freeways, expressways, and conventional roads to indicate the direction to a specific destination or group of destinations.
- Should be used in a vertical, upward-pointing orientation placed to the side of a group of destinations to indicate through movement.
- Type A-Extended directional arrow may be used on guide signs where additional emphasis regarding the direction is needed relative to the amount of legend on the sign

**Figure 2R – Type A Dimensions**

TEXT SIZE	ARROW SYMBOL	A	B	C	D	E	F	R	H
16	35-5/8 x 22-1/4	22-1/4	17	5-3/8	7-1/8	1-3/4	35-5/8	1	25-3/16
13.3	29-1/4 x 18-1/4	18-1/4	14	4-1/2	6	1-1/2	29-1/4	3/4	20-11/16
10.67	24-1/4 x 15-1/8	15-1/8	11-9/16	3-3/4	5	1-5/16	24-1/4	13/16	17-3/16
8	18-1/4 x 11-1/4	11-1/4	8-3/4	3-1/8	3-7/8	1-1/4	18-1/4	13/16	12-7/8

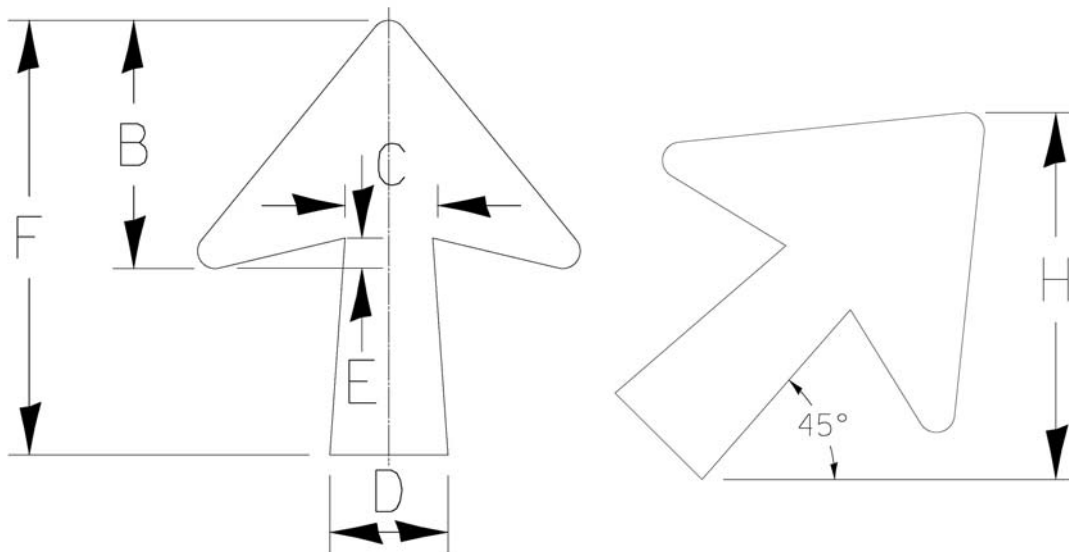


### 2.11.2 Type B

- Used on guide signs on freeways, expressways, and conventional roads in a vertical, upward-pointing orientation placed to the side of a single destination or group of destinations.
- Used on guide signs for conventional roads when placing arrow at any angle to the side of a single destination or when placed in a horizontal orientation to the side of a group of destinations.

**Figure 2S – Type B Dimensions**

TEXT SIZE	ARROW SYMBOL	A	B	C	D	E	F	R	H
16	25 x 21-7/8	21-7/8	14-1/4	5	6-3/4	1-3/4	25	1	17-11/16
13.3	20-1/4 x 17-1/4	17-1/4	11-3/4	4-3/8	5-5/8	1-1/2	20-1/4	15/16	14-5/16
10.67	17-1/4 x 14-1/4	14-1/4	9-13/16	3-3/8	4-1/2	15/16	17-1/4	3/4	12-3/16
8	9-9/16 x 8-7/16	8-7/16	5-7/16	2-5/16	2-15/16	3/4	9-9/16	1/2	6-3/4

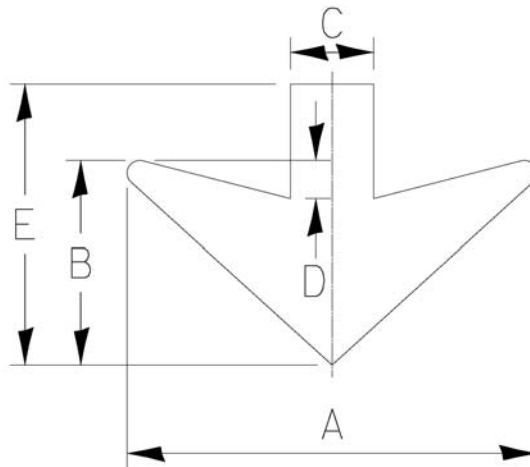


### 2.11.3 Down Arrow

- Used on overhead signs to indicate a lane to be followed.
- Arrows should be placed approximately over the center of the traveled lane and point vertically downward.
- Down arrows can also be installed at different angles.
- More than one down arrow per lane should never be used.

**Figure 2T – Down Arrow Dimensions**

TEXT SIZE	ARROW SYMBOL	A	B	C	D	E	R
>16	22 x 32	32	16	6-1/2	3	22	1
≤16	16-1/2 x 24	24	12	5	1-1/2	16-1/2	3/4



#### **2.11.4 Type C**

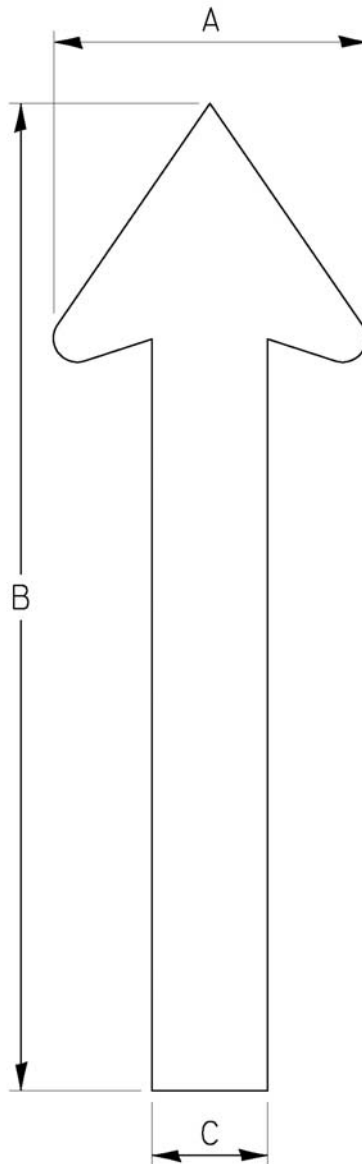
- Used on conventional road guide signs placed in advance of an intersection where a turn must be made to reach a posted destination or destinations.
- May be used to the side of the legend of an overhead guide sign to accentuate a sharp turn exit maneuver from a mainline roadway.
- May be used beneath the legend of an overhead guide sign to indicate the fact that a turn must be made from a mandatory movement lane over which the sign is placed to reach the destination or destinations displayed on the sign.

#### **2.11.5 Type D**

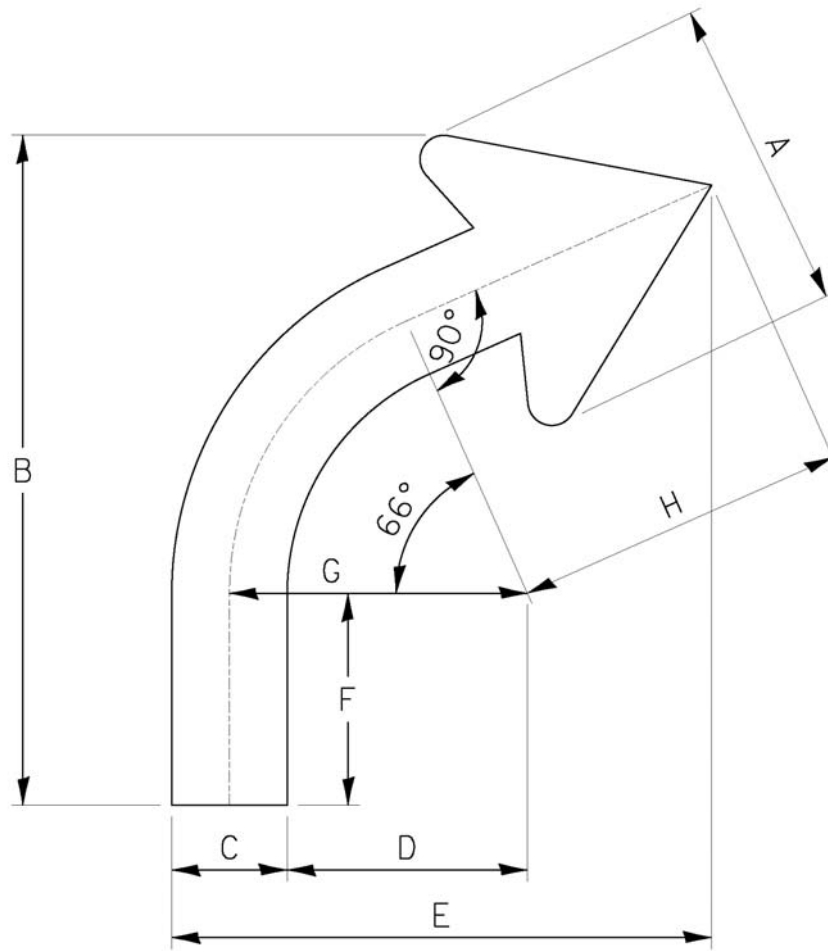
- Used primarily for sign applications other than guide signs.
- May be used on post-mounted guide signs on conventional roads with lower operating speeds if the height of the text on the sign is 8 inches or less.

### 2.11.6 Arrow Per Lane Dimensions (Thru Lane Arrow)

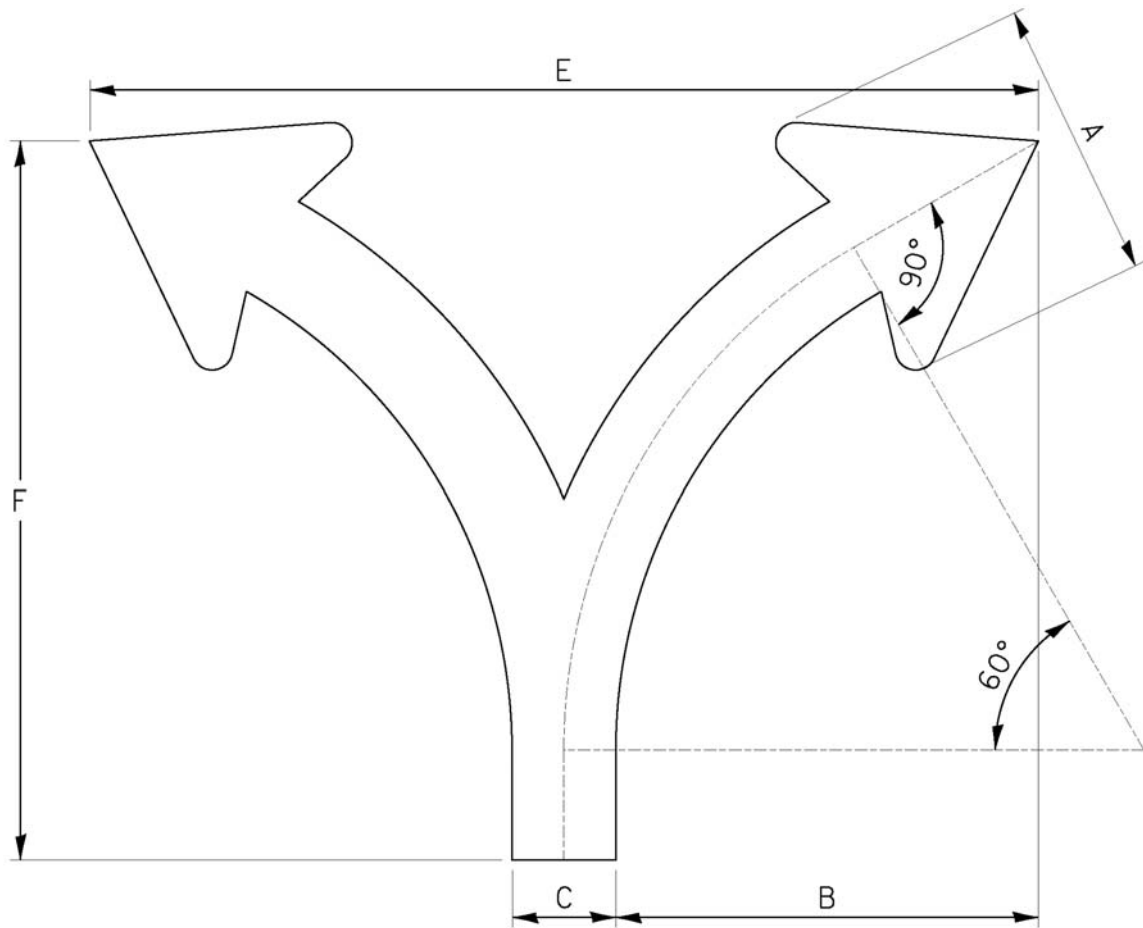
Arrow Type	A	B	C	D	E	F	G	H
Thru	21	66	7-3/4	--	--	--	--	--
Left/Right Only	21	45	7-3/4	16-1/8	36-1/4	14-1/4	20	22-7/16
Split	21	31-1/2	7-3/4	43-1/4	70-3/4	55	--	--
Thru Left/Right	21	66	7-3/4	28	31-7/8	56	27-9/16	21



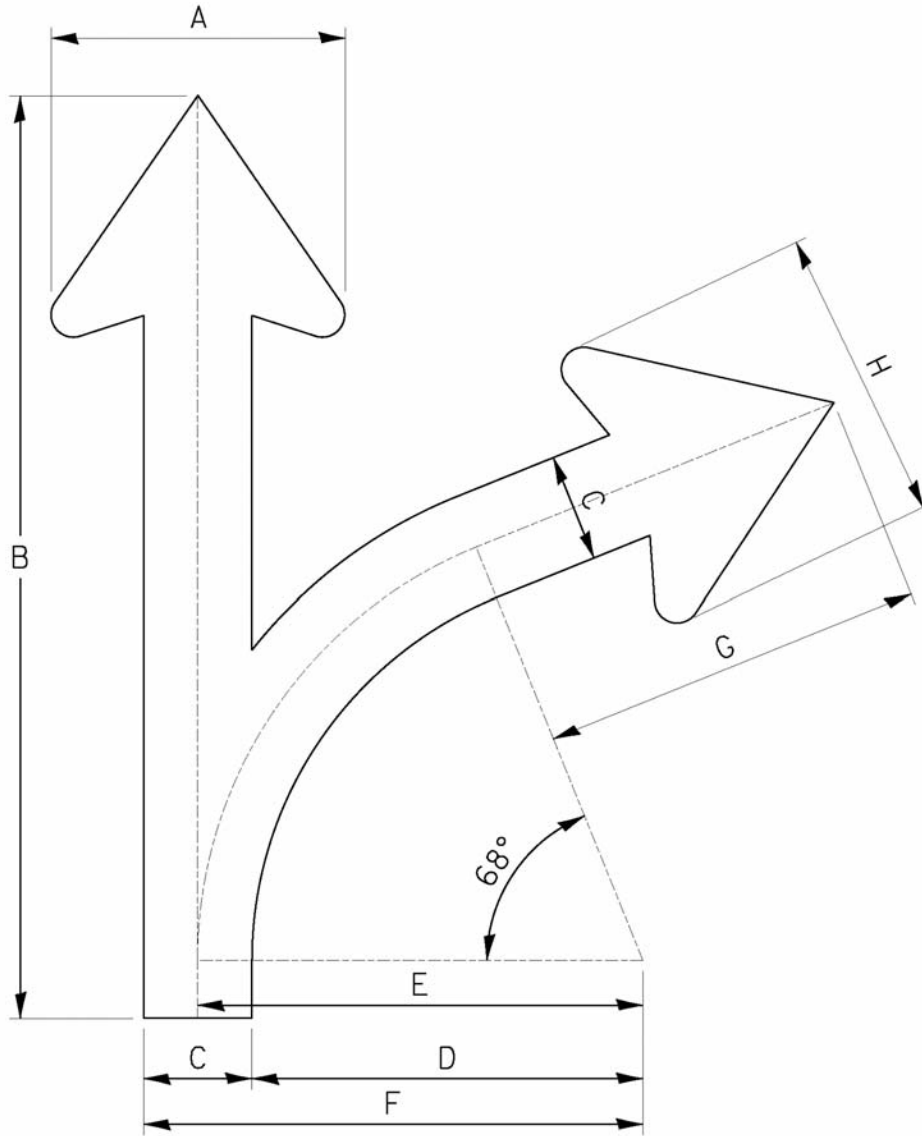
### 2.11.7 Arrow Per Lane Dimensions (Right Only Lane Arrow)



### 2.11.8 Arrow Per Lane Dimensions (Split Lane Arrow)



### 2.11.9 Arrow Per Lane Dimensions (Thru Right Lane Arrow)





## 2.12 TOLL SIGNS

When guide signs direct motorists to routes that charge a toll, the word “TOLL” shall be placed on a supplemental plaque conforming to the following:

- The supplemental plaque shall be black text on yellow legend
- Series E (mod) text shall be used.
- The “Toll” plaque shall not have a border.
- The plaque size and corresponding font size of the TOLL sign shall depend on the text size of the destination on the sign, as shown below:

DESTINATION TEXT SIZE	TOLL PLAQUE			
	W (IN)	H (IN)	T (IN)	R (IN)
16 or 20	48	18	12	1.875
13.33	42	15	10	1.5
10.67	36	12	8	1.5

*Figure 2U – Supplemental “TOLL” sign plaque for guide signs*

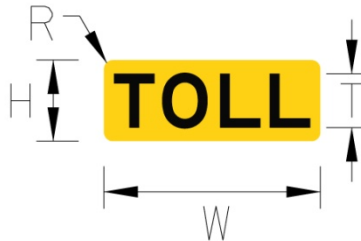


Figure 2V – Acceptable placement of supplemental “TOLL” plaque



## **2.13 GENERAL SERVICE SIGNS (MUTCD 2I)**

General Service signs are used to direct motorists to specific services along roadways, including rest areas, Oasis, telephones, hospitals, camping, gas, food, etc. General Service signs may be used where such services are infrequent and are found only on an intersecting highway or crossroad. All general service signs and supplemental sign panels should follow these basic principles:

- White letters, symbols, arrows, and borders
- Blue background
- Type AP sheeting (see section 2.3)

### **2.13.1 Freeways and Expressways (MUTCD 2I.03)**

- Generally not appropriate at major interchanges or in urban areas
- Letter and number sizes should follow MUTCD tables 2E-2 through 2E-5
- Symbols and word messages should not be intermixed.
- Services not visible from the ramp of a single-exit interchange shall be repeated in smaller size at the intersection of the exit ramp and the crossroad.
- Signs shall use arrows to indicate the direction to the services.
- Distance to services should be displayed on General Service signs where distances are more than 1 mile.

### **2.13.2 Conventional Roads (MUTCD 2I.02)**

On conventional roads, commercial services such as gas, food, and lodging generally are within sight and are available to the road user at reasonably frequent intervals along the route. Consequently, on this class of road there usually is no need for special signs calling attention to these services. Moreover, General Service signing is usually not required in urban areas except for hospitals, law enforcement assistance, tourist information centers, and camping.

General Service signs may be used where such services are infrequent and are found only on an intersecting highway or crossroad.

*Figure 2W – Examples of General Service Signs for Expressways*



## **2.14 SIGN PANEL LIGHTING**

As a result of the significant increase in retroreflectivity of the type ZZ sign sheeting used on overhead freeway guide signs, lighting on overhead sign trusses is not required. Therefore lighting equipment shall not be installed on new overhead sign trusses, unless through engineering judgment, specific circumstances indicate that appropriate visibility shall not be obtained. As signs are upgraded on existing overhead sign structures, the sign lighting shall be turned off but the fixtures do not have to be removed. The lighting fixtures shall be removed the next time the structure is repaired or replaced.

## **2.15 SIGN PANEL DESIGN SOFTWARE**

Design software shall be used when designing sign panels. The electronic design files shall be Microstation based. Acceptable software shall be Sign CAD by SignCAD Systems, Inc. or GuidSIGN by Transoft Solutions. Design files must be submitted with final plans in both Microstation format and any corresponding sign panel design files.

## **2.16 RETROFITTING EXISTING SIGN PANELS**

Any sign panel being replaced shall ideally be designed to the same standards as set forth for new signs. When a sign panel cannot meet the design standards set forth above, the following exceptions shall be allowed by the department. These exceptions shall only be allowed for overlaying an existing sign or replacement of a sign panel on existing posts or an existing sign structure that cannot support a larger sign panel.

### **2.16.1 Panel Sizing**

In most cases, replacement panels shall not differ greatly in dimension from the existing panel being replaced. With Vierendeel trusses, increasing a panel's height can be difficult for the installer and requires special mounting.

### **2.16.2 Font**

Clearview 5-W-R provides for reduced letter spacing only in those limited situations where an existing sign support structure does not have the design capacity to accommodate the increase in sign area necessitated by the use of Clearview 5-W with its standard letter spacing.

## **ARTICLE 3 SIGN STRUCTURE SUPPORT DESIGN AND LAYOUT**

Sign structures shall be designed in accordance with the Department's Sign Structures Manual. This manual provides a basis for traffic engineers or technicians to select standard sign structures and prepare sign structure plan sheets without the involvement of a structural engineer. Should special cases arise where the standard sign structures cannot be used, then a licensed structural engineer must design and seal the plans for a custom structure.

Sign panels shall be placed according to the Department's Roadside Design Guide. Designers shall pay special attention to clear zone values to not create a hazard for motorists. Proper protection of sign trusses or steel sign posts might require concrete barrier wall, guard rail, or both.

## REFERENCES

*Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 Edition*

*Standard Highway Signs for use with the MUTCD, 2004*

*Standard Highway Signs for use with the MUTCD, 2012 Supplement*

*Bureau of Design and Environment Manual, April 2012*

*Roadside Design Guide*

## **APPENDIX A**

### *Example Plan Set*

#### **NOTE:**

***SIGN PANELS ON THE INCLUDED PLAN SHEETS MIGHT NOT FOLLOW CURRENT DEPARTMENT STANDARDS. THE INTENT OF THESE SHEETS IS TO SHOW GENERAL LAYOUT AND THE INFORMATION REQUIRED ON THE PLAN SHEETS.***



**SIGNING SCHEDULE**

SIGN NAME	STATION	SIGN DESCRIPTION	EXISTING PANEL DIMENSIONS		PROPOSED PANEL DIMENSIONS		REMOVE SIGN PANEL TYPE 1	REMOVE SIGN PANEL TYPE 2	REMOVE SIGN PANEL TYPE 3	REMOVE SIGN PANEL ASSEMBLY TYPE A	REMOVE SIGN PANEL ASSEMBLY TYPE B (SPECIAL)	RELOCATE SIGN PANEL TYPE 1	SIGN PANEL - TYPE 1 (SPECIAL)	SIGN PANEL - TYPE 2 (SPECIAL)	SIGN PANEL - TYPE 3 (SPECIAL)	WOOD SIGN SUPPORT	TELESCOPING STEEL SIGN SUPPORT	REMOVAL OF LIGHTING UNIT, NO SALVAGE	REMOVE OVERHEAD SIGN STRUCTURE - WALKWAY
			WIDTH (FT)	HEIGHT (FT)	WIDTH (FT)	HEIGHT (FT)	(SQ FT)	(SQ FT)	(SQ FT)	(EACH)	(EACH)	(SQ FT)	(SQ FT)	(SQ FT)	(SQ FT)	(SQ FT)	(SQ FT)	(FT)	(FT)
NEB-WP-1106	356+57	REC. & CULT. -- SCHAUMBURG CONVENTION CENTER NEXT RIGHT	8.0	5.5	8.0	5.5									44.0	36			
SWB-TR-1107A	356+99	GUIDE -- WOODFIELD RD TO IL 58 GOLF RD 3/4 MILE	18.0	12.0	18.0	12.0			216.0			1			216.0			6	
SWB-TR-1107B	356+99	GUIDE -- I90 CHICAGO 1/4 MILE	17.0	12.0	17.0	12.0			204.0						204.0				
SWB-TR-1107C	356+99	GUIDE -- I90 ROCKFORD EXIT	16.0	12.0	16.0	12.0			192.0						192.0				
NEB-TR-1108A	362+24	GUIDE -- KIRCHOFF RD 1 MILE	15.5	10.0	15.5	10.0			155.0						155.0			6	
NEB-TR-1108B	362+24	GUIDE -- ALGONQUIN RD EXIT	21.0	10.0	21.0	10.0			210.0						210.0				
NEB-PM-1108C	362+24	W13-7 -- 25 MPH	4.0	7.0	4.0	7.0			28.0						28.0				
NEB-WP-1109	363+78	E5-1 -- EXIT	6.0	5.0	6.0	5.0					1				30.0	36			
NEB-WP-1110	366+02	W4-2R -- LANE ENDS	4.0	4.0	4.0	4.0					1			16.0	18				
SWB-WP-1111	367+18	W4-3R -- ADDED LANE	4.0	4.0	4.0	4.0					1			16.0	18				
NEB-WP-1112	369+94	W4-1R -- MERGE	4.0	4.0	4.0	4.0					1			16.0	18				
SWB-WP-1113	372+42	E5-1 -- EXIT	6.0	5.0	6.0	5.0					1				30.0	36			
SWB-PM-1114	373+11	W13-3 -- 30 MPH	4.0	5.0	4.0	5.0		20.0						20.0	30.0				
SWB-TR-1115A	377+29	GUIDE -- I90 ROCKFORD 1/4 MILE	13.0	12.0	13.0	12.0			156.0						156.0			5	
SWB-TR-1115B	377+29	GUIDE -- ALGONQUIN RD EXIT	21.0	12.0	21.0	12.0			252.0						252.0				
NEB-PM-1116	381+65	W4-1R -- MERGE	4.0	4.0	4.0	4.0		16.0						16.0	18				
SWB-TR-1117A	385+93	GUIDE -- I90 ROCKFORD CHICAGO 1/2 MILE	13.0	13.0	13.0	13.0			169.0						169.0			4	
SWB-TR-1117B	385+93	GUIDE -- ALGONQUIN RD 1/4 MILE	18.5	13.0	18.5	13.0			240.5						240.5				
SWB-WP-1118	387+83	W12-1 -- DOUBLE ARROW	3.0	3.0	3.0	3.0					1		9.0		36				
NEB-WP-1119	393+47	REGULATORY -- MOVE OVER SLOW DOWN	13.5	6.5	-	-					1								
SWB-PM-1120A	396+03	M3-3 -- WHITE BACKGROUND	3.0	1.5	3.0	1.5	4.5						4.5						
SWB-PM-1120B	396+03	M1-I100 -- IL 53	3.0	3.0	3.0	3.0	9.0						9.0						
SWB-TR-1121A	397+49	GUIDE -- 290 EAST CHICAGO	27.5	13.0	27.5	13.0			357.5						357.5			6	
SWB-TR-1121B	397+49	GUIDE -- 90 ROCKFORD CHICAGO	17.0	13.0	17.0	13.0			221.0						221.0				
NEB-WP-1122A	397+79	M3-1 -- WHITE BACKGROUND	3.0	1.5	3.0	1.5					1		4.5			18			
NEB-WP-1122B	397+79	M1-I100 -- IL 53	3.0	3.0	3.0	3.0							9.0						
SWB-WP-1123	400+09	REC. & CULT. -- SCHAUMBURG CONVENTION CENTER NEXT RIGHT	8.0	5.5	8.0	5.5					1				44.0	36			
NEB-TR-1124A	402+12	GUIDE -- EUCLID AVE 3/4 MILE	14.5	10.0	14.5	10.0			145.0						145.0			5	
NEB-TR-1124B	402+12	GUIDE -- KIRCHOFF RD 1/4 MILE EXIT ONLY	15.0	10.0	15.0	10.0			150.0						150.0				
NEB-PM-1124C	402+12	R2-1 -- 55 MPH	4.0	5.0	4.0	5.0		20.0						20.0					
NEB-PM-1124D	402+12	R2-1 -- 55 MPH	4.0	5.0	4.0	5.0		20.0						20.0					
SWB-CL-1125	407+00	GUIDE -- ALGONQUIN RD HIGGINS RD WOODFIELD RD RIGHT LANES	24.0	15.0	24.0	15.0			360.0						360.0			3	
SWB-GM-1126	410+74	REGULATORY -- EXPRESS LANES EXIT TO HIGGINS RD PROHIBITED	13.5	8.5	-	-			114.8										
SWB-TR-1127A	414+89	GUIDE -- 290 EAST CHICAGO LEFT LANES	27.5	13.0	27.5	13.0			357.5						357.5			6	
SWB-TR-1127B	414+89	GUIDE -- 90 ROCKFORD CHICAGO RIGHT LANES	13.0	13.0	13.0	13.0			169.0						169.0				
SWB-PM-1127C	414+89	R2-1 -- 55 MPH	4.0	5.0	4.0	5.0		20.0						20.0					
NEB-TR-1128A	417+60	GUIDE -- EAST EUCLID AVE 1/2 MILE	14.5	10.0	14.5	10.0			145.0						145.0			5	
NEB-TR-1128B	417+60	GUIDE -- KIRCHOFF RD EXIT ONLY	15.5	10.0	15.5	10.0			155.0						155.0				
NEB-PM-1128C	417+60	W13-3 -- 30 MPH	4.0	5.0	4.0	5.0		20.0						20.0					
NEB-WP-1129	425+96	E5-1 -- EXIT	6.0	5.0	6.0	5.0					1				30.0	18			
SWB-WP-1130	428+29	W4-3R -- ADDED LANE	4.0	4.0	4.0	4.0					1			16.0	18				
NEB-WP-1131	430+86	REC. & CULT. -- ARLINGTON PARK RACECOURSE NEXT RIGHT	9.5	4.5	9.5	4.5			42.8						42.8	36			
SWB-WP-1132	434+91	D3-1 -- KIRCHOFF RD	7.5	1.5	7.5	1.5					1			11.3	36				
NEB-WP-1133	435+41	GUIDE -- THIRD DISTRICT COURT NEXT RIGHT	8.5	4.5	8.5	4.5					1				38.3	36			
SWB-WP-1134A	435+57	M3-3 -- WHITE BACKGROUND	3.0	1.5	3.0	1.5					1		4.5		18				
SWB-WP-1134B	435+57	M1-I100 -- IL 53	3.0	3.0	3.0	3.0							9.0						
SWB-CL-1135	436+86	GUIDE -- ALGONQUIN RD HIGGINS RD WOODFIELD RD RIGHT 3/4 MILE	24.0	15.0	24.0	15.0			360.0						360.0			3	
NEB-TR-1136A	441+08	GUIDE -- NORTHWEST HWY 1 1/2 MILE	20.0	12.0	20.0	12.0			240.0						240.0			8	
NEB-TR-1136B	441+08	GUIDE -- WEST EUCLID AVE 1/4 MILE	14.5	12.0	14.5	12.0			174.0						174.0				
NEB-TR-1136C	441+08	GUIDE -- EAST EUCLID AVE EXIT	18.0	12.0	18.0	12.0			216.0						216.0				
NEB-PM-1136D	441+08	W13-3 -- 30 MPH	4.0	5.0	4.0	5.0		20.0						20.0					
SWB-WP-1137	441+77	GUIDE -- SHARE THE DRIVE	10.0	5.0	10.0	5.0					1				50.0	36			
NEB-WP-1138	445+56	E5-1 -- EXIT	6.0	5.0	6.0	5.0					1				30.0	36			
SWB-WP-1139	447+27	W4-1R -- MERGE	4.0	4.0	4.0	4.0					1			16.0	18				
SWB-WP-1140	450+67	E5-1 -- EXIT	6.0	5.0	6.0	5.0					1				30.0	36			
NEB-WP-1141	452+21	W4-1R -- MERGE	4.0	4.0	4.0	4.0					1			16.0	18				
SWB-WP-1142	452+67	W13-7 -- 25 MPH	4.0	7.0	4.0	7.0					1				28.0	18			
NEB-BR-1143	454+79	GUIDE -- WEST EUCLID AVE EXIT	18.0	6.5	18.0	6.5			117.0						117.0			2	20
SWB-BR-1144	455+58	GUIDE -- EAST EUCLID AVE EXIT	18.0	6.5	18.0	6.5			117.0						117.0			2	20
SWB-WP-1145	458+34	W4-1R -- MERGE	4.0	5.0	4.0	5.0					1			20.0	18				

\*F.A.I. 290 (INTERSTATE 290)  
\*F.A.U. 342 (IL ROUTE 53)

USER NAME = 231ukb	DESIGNED = DJS	REVISED =	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SCHEDULE OF QUANTITIES</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN = UKB	REVISIONS =	*			2011-024-SG	DUPAGE/COOK	132	6	
PLOT SCALE = 1/8" = 1' in.	CHECKED = RWL	REVISED =			CONTRACT NO. 60P24				
PLOT DATE = 3/7/2012	DATE = 12-13-11	REVISED =			FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT				
				SCALE:	SHEET NO. OF SHEETS STA.		TO STA.		

**GUIDE SIGN SEQUENCE**

**NUMBERING CODE**

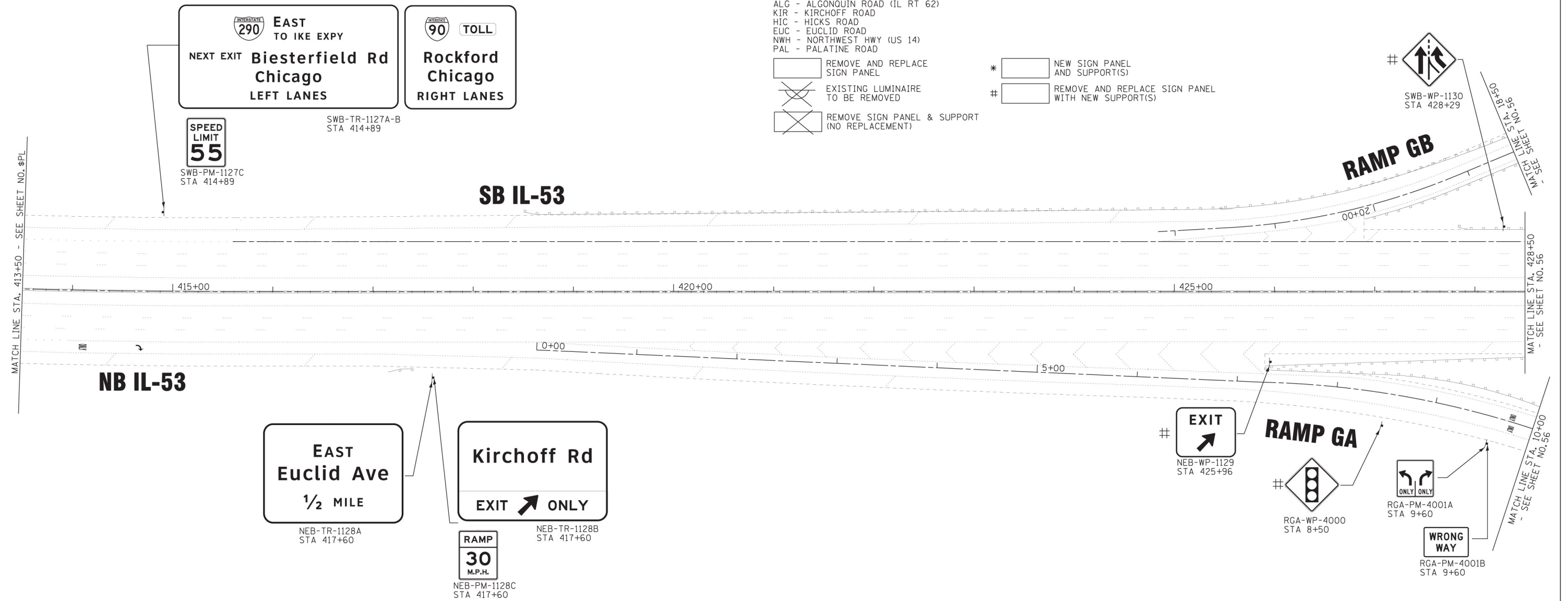
**EXAMPLE**

DIRECTION OF TRAFFIC  
 NB - NORTHBOUND I-290 (I-53)  
 SB - SOUTHBOUND I-290 (I-53)  
 R\*\* - RAMP AA - JH  
 THR - THORNDALE AVENUE  
 ROH - ROHLWING ROAD  
 BIE - BIESTERFIELD ROAD  
 HIG - HIGGINS ROAD (IL RT 72)  
 EFR - E FRONTAGE ROAD  
 WOD - WOODFIELD ROAD  
 WFR - W FRONTAGE ROAD  
 GLF - GOLF ROAD (IL RT 58)  
 ALG - ALGONQUIN ROAD (IL RT 62)  
 KIR - KIRCHOFF ROAD  
 HIC - HICKS ROAD  
 EUC - EUCLID ROAD  
 NWH - NORTHWEST HWY (US 14)  
 PAL - PALATINE ROAD

SIGN PANEL NUMBER  
 MOUNTING TYPE  
 TR - TRUSS  
 CL - CANTILEVER  
 TS - TELESCOPING STEEL POST  
 WP - WOOD POST  
 MP - METAL POST  
 PM - POLE MOUNTED  
 GM - GROUND MOUNTED

REMOVE AND REPLACE SIGN PANEL  
 EXISTING LUMINAIRE TO BE REMOVED  
 REMOVE SIGN PANEL & SUPPORT (NO REPLACEMENT)

NEW SIGN PANEL AND SUPPORT(S)  
 REMOVE AND REPLACE SIGN PANEL WITH NEW SUPPORT(S)



\*F.A.I. 290 (INTERSTATE 290)  
 \*F.A.U. 342 (IL ROUTE 53)

USER NAME = 23lukb	DESIGNED - DJS	REVISED -
	DRAWN - UKB	REVISED -
PLOT SCALE = 50.0000' / 1" = 1'	CHECKED - RWL	REVISED -
PLOT DATE = 3/7/2012	DATE - 12-13-11	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**I-290 (IL-53)  
 THORNDALE ROAD TO US 12 (RAND ROAD)**

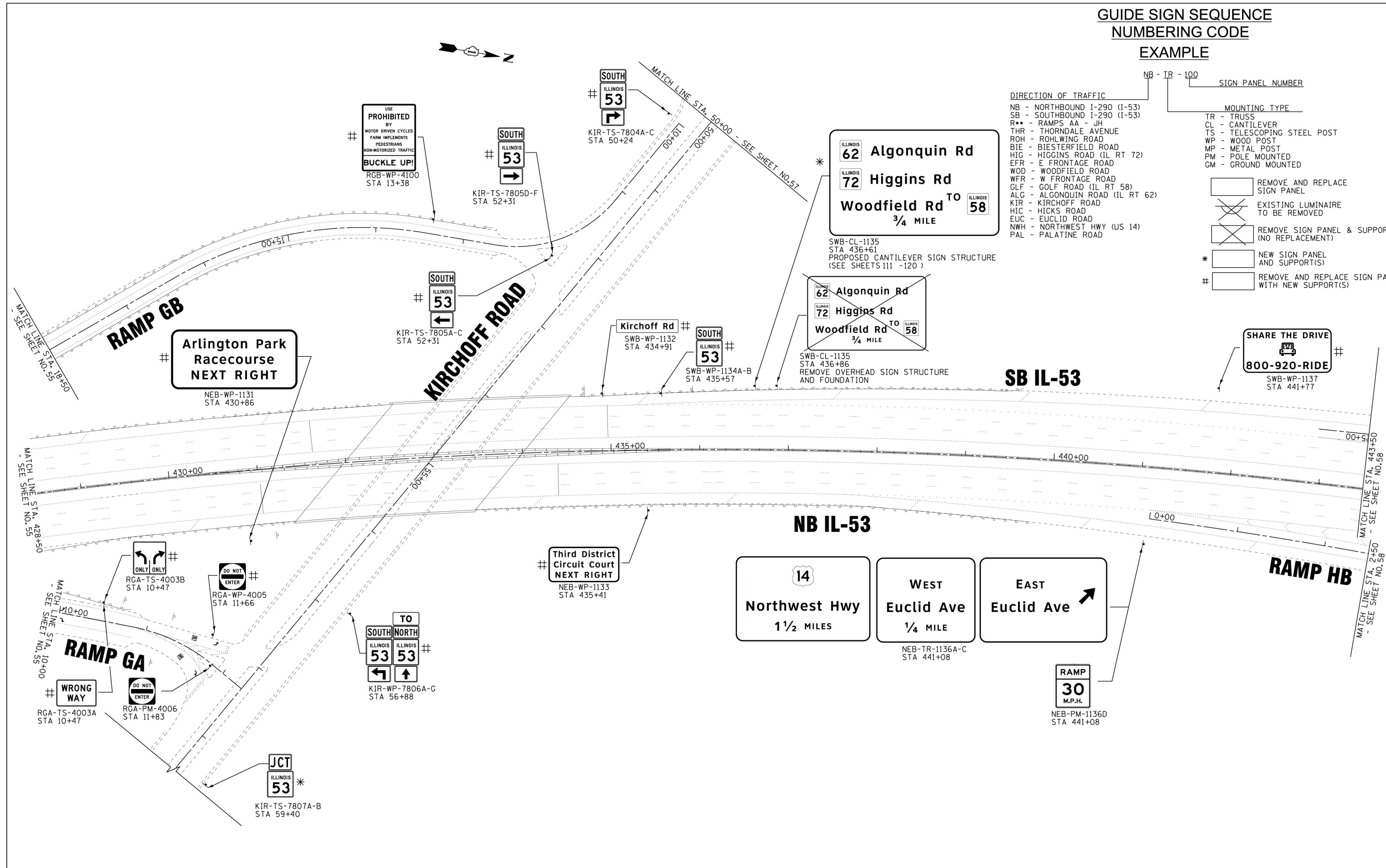
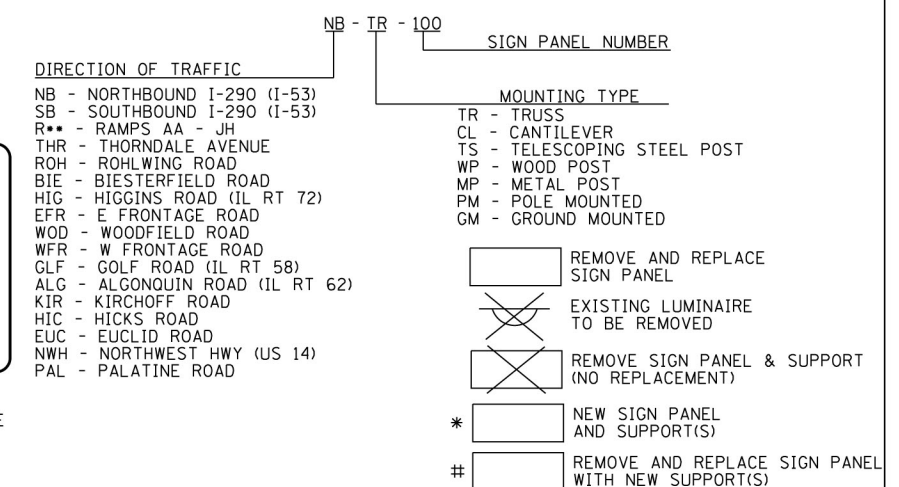
SCALE: 1" = 50' SHEET NO. OF SHEETS STA. 413+50 TO STA. 428+50

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	2011-024-SG	COOK/DuPAGE	132	55
				CONTRACT NO. 60P24
ILLINOIS FED. AID PROJECT				

**GUIDE SIGN SEQUENCE**

**NUMBERING CODE**

**EXAMPLE**



\*F.A.I. 290 (INTERSTATE 290)  
 \*F.A.U. 342 (IL ROUTE 53)

USER NAME = 231ukb	DESIGNED - DJS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>I-290 (IL-53) THORNDALE ROAD TO US 12 (RAND ROAD)</b>		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 50.0000' / 1"	CHECKED - RWL	REVISED -		SCALE: 1" = 50'	SHEET NO.	OF SHEETS	STA. 428+50	TO STA. 443+50	COOK/DuPAGE	132	56
PLOT DATE = 2/6/2012	DATE - 12-13-11	REVISED -		CONTRACT NO. 60P24							
ILLINOIS FED. AID PROJECT											



**APPENDIX B**  
**Sign Panel Example**





























## **APPENDIX C**

### **Sign Panel Sizing for Arterial Roadways**

<b>POSTED SPEED LIMIT</b>	<b>2-LANE</b>	<b>MULTILANE</b>	<b>3 OR MORE THRU LANES</b>
35 mph and below	B	C	D
40 mph - 50mph	C	C	D
55 mph	C	D	D

REGULATORY SIGN AND PLAQUE SIZES					
SIGN OR PLAQUE	SIGN DESIGNATION	MUTCD SECTION	B	C	D
Stop	R1-1	2B.05	30 X 30 <sup>1</sup>	36 x 36	36 x 36
Yield	R1-2	2B.08	36 x 36	48 x 48	48 x 48
All Way (plaque)	R1-3P	2B.05	18 x 6	18 x 6	18 x 6
Stop Here for Peds	R1-5b	2B.11	36 x 36	36 x 36	36 x 36
In-Street Ped Crossing	R1-6a	2B.12	12 x 36	12 x 36	12 x 36
Except Right Turn (plaque)	R1-10P	2B.05	24 x 18	24 x 18	24 x 18
Speed Limit	R2-1	2B.13	24 X 30	30 x 36	36 x 48
Movement Prohibition	R3-1,2,3,4,18,27	2B.18	24 X 24	36 x 36	36 x 36
Mandatory Movement	R3-5, 5a	2B.20	30 X 36 <sup>2</sup>	30 X 36 <sup>2</sup>	30 X 36 <sup>2</sup>
Left Lane/Right Lane Plaque	R3-5bP R3-5fP	2B.20	30 x 12	30 x 12	30 x 12
Center Lane (plaque)	R3-5eP	2B.20	30 x 12	30 x 12	30 x 12
Optional Movement	R3-6	2B.21	30 x 36	30 x 36	30 x 36
Right (Left) Lane Must Turn Right (Left)	R3-7	2B.20	30 X 30	36 x 36	36 X 36
Advance Intersection Lane Control	R3-8, 8a, 8b	2B.22	Varies x 30	Varies x 30	Varies x 30
Two Way Left Turn Only (Overhead)	R3-9a	2B.24	30 x 36	30 x 36	30 x 36
Two Way Left Turn Only (post mounted)	R3-9b	2B.24	24 x 36	24 x 36	24 x 36
Begin Right (Left) Turn Lane	R3-20	2B.20	24 x 36	24 x 36	24 x 36
Trucks Use Right Lane	R4-5	2B.31	24 x 30	36 X 48	36 x 48
Keep Right	R4-7	2B.32	24 x 30 <sup>3</sup>	24 x 30 <sup>3</sup>	24 x 30 <sup>3</sup>
Do Not Drive on Shoulder	R4-17	2B.36	24 x 30	24 x 30	36 x 48
Do Not Enter	R5-1	2B.37	30 X 30	36 x 36	36 x 36
Wrong Way	R5-1a	2B.38	36 x 24	42 X 30	42 X 30
Authorized Vehicles Only	R5-11	2B.39	30 x 24	30 x 24	30 x 24
One Way	R6-1	2B.40	36 x 12	54 x 18	54 x 18
One Way	R6-2	2B.40	24 x 30	30 x 36	30 x 36
Divided Highway Crossing	R6-3, 3a	2B. 42	30 x 24	30 x 24	30 x 24
Roundabout Directional (2 chevrons)	R6-4	2B.43	30 x 24	30 x 24	30 x 24

REGULATORY SIGN AND PLAQUE SIZES (CONT'D)					
SIGN OR PLAQUE	SIGN DESIGNATION	MUTCD SECTION	B	C	D
Roundabout Directional (3 chevrons)	R6-4a	2B.43	48 x 24	48 x 24	48 x 24
Roundabout Circulation (plaque)	R6-5P	2B.44	30 x 30	30 x 30	30 x 30
Begin One Way	R6-6	2B.40	24 x 30	30 x 36	30 x 36
End One Way	R6-7	2B.40	24 x 30	30 x 36	30 x 36
Parking Restrictions	R7-1 thru R7-8 R-7-21, thru R7-23, R7-107, R7-108	2B.46	12 x 18	12 x 18	12 x 18
Do Not Stop on Tracks	R-8-8	8B.09	24 x 30	24 x 30	30 x 36
Left on Green Arrow Only	R10-5	2B.53	30 x 36	30 x 36	30 x 36
Stop Here on Red	R10-6a	2B.53	24 x 30	24 x 30	24 x 30
Do Not Block Intersection	R10-7	2B.53	24 x 30	24 x 30	24 x 30
No Turn on Red	R10-11b	2B.54	36 x 36	36 x 36	36 x 36
No Turn on Red Except From Right Lane	R10-11c	2B.54	30 x 42	30 x 42	30 x 42
Left Turn Yield on Green	R10-12	2B.53	30 x 36	30 x 36	30 x 36
U-Turn Yield to Right Turn	R10-16	2B.53	30 x 36	30 x 36	30 x 36
Red Light Photo Enforced	R15-I106				
Right Turn on Red Must Yield to U-turn	R10-30	2B.54	30 x 36	30 x 36	30 x 36
Road Closed	R11-2	2B.58	48 x 30	48 x 30	48 x 30
Weight Limit	R12-1, 2	2B.59	24 x 30	24 x 30	36 x 48
Weight Limit	R12-4	2B.59	36 x 24	36 x 24	36 x 24
Weigh Station	R13-1	2B.60	72 x 54	72 x 54	72 x 54

<sup>1</sup> When side roads intersect a multi-lane highway that has a speed limit of 45mph or higher, the minimum size of the STOP signs facing the side road approaches, even if the side road only has one approach lane, shall be 36 x 36 inches.

<sup>2</sup> When the Mandatory Movement Lane Control sign for a left-turn lane is installed back-to-back with a Keep Right (R4-7) sign, the dimensions of the Mandatory Movement Lane Control (R3-5) sign may be the same as the Keep Right sign.

<sup>3</sup> If a median width is too narrow to accommodate the 24 x 30 inch sign, the size may be reduced to 18 x 24 inch.

<b>WARNING SIGN AND PLAQUE SIZES</b>					
<b>SIGN OR PLAQUE</b>	<b>SIGN DESIGNATION</b>	<b>MUTCD SECTION</b>	<b>B</b>	<b>C</b>	<b>D</b>
Horizontal Alignment	W1-1,2,3,4,5	2C.07	30 x 30	36 x 36	48 x 48
Combination Horizontal Alignment/Advisory Speed	W1-1a,2a	2C.10	36 x 36	36 x 36	48 x 48
One-Direction Large Arrow	W1-6	2C.12	48 x 24	48 x 24	60 x 30
Two-Direction Large Arrow	W1-7	2C.47	48 x 24	48 x 24	60 x 30
Chevron Alignment	W1-8	2C.09	18 x 24	24 x 30	30 x 36
Combination Horizontal Alignment/Intersection	W1-10,10a,10b,10c,10d,10e	2C.11	36 x 36	36 x 36	48 x 48
Hairpin Curve	W1-11	2C.07	30 x 30	36 x 36	48 x 48
Truck Rollover	W1-13	2C.13	36 x 36	36 x 36	48 x 48
270-degree Loop	W1-15	2C.07	30 x 30	36 x 36	48 x 48
Intersection Warning	W2-1,2,3,4,5,6,7,8	2C.46	30 x 30	36 x 36	48 x 48
Advance Intersection Control	W3-1, 2, 3	2C.36	30 x 30	36 x 36	48 x 48
Be Prepared to Stop	W3-4	2C.36	36 x 36	36 x 36	48 x 48
Reduced Speed Limit Ahead	W3-5	2C.38	36 x 36 <sup>1</sup>	36 x 36 <sup>1</sup>	48 x 48 <sup>1</sup>
Merge	W14-1	2C.40	36 x 36	36 x 36	48 x 48
Lane Ends	W4-2	2C.42	36 x 36	36 x 36	48 x 48
Added Lane	W4-3	2C.41	36 x 36	36 x 36	48 x 48
xxxx Traffic Does Not Stop (plaque)	W4-4P, 4aP, 4bP	2C.59	24 x 12	30 x 18	36 x 18
Entering Roadway Merge	W4-5	2C.40	36 x 36	36 x 36	48 x 48
No Merge Area (plaque)	W4-5P	2C.40	18 x 24	24 x 30	24 x 30
Entering Roadway Added Lane	W4-6	2C.41	36 x 36	36 x 36	48 x 48
Road Narrows	W5-1	2C.19	36 x 36	36 x 36	48 x 48
Narrow Bridge	W5-2	2C.20	36 x 36	36 x 36	48 x 48
Divided Highway	W6-1, W6-2	2C.22, 2C.23	36 x 36	36 x 36	48 x 48
Two-Way Traffic	W6-3	2C.44	36 x 36	36 x 36	48 x 48
Hill	W7-1	2C.16	30 x 30	36 x 36	48 x 48
Hill With Grade	W7-1a	2C.16	30 x 30	36 x 36	48 x 48
Various Diamond Shaped Warning Signs	W8-1 thru W8-25	2C.30,31,32,33,34,35,49	36 x 36	36 x 36	48 x 48

WARNING SIGN AND PLAQUE SIZES					
SIGN OR PLAQUE	SIGN DESIGNATION	MUTCD SECTION	B	C	D
Lane Ends Merge Left (Right)	W9-2	2C.42	36 x 36	36 x 36	48 x 48
Grade Crossing Advance	W10-1	8B.06	36 Dia.	36 Dia.	48 Dia.
Shared Use Warning Signs	W11-1 thru W11-22	2C.49, 2C.50	36 x 36	36 x 36	48 x 48
Double Arrow	W12-1	2C.25	30 x 30	36 x 36	48 x 48
Low Clearance (With Arrows)	W12-2	2C.27	36 x 36	36 x 36	48 x 48
Low Clearance	W12-2a	2C.27	78 x 24	78 x 24	78 x 24
Advisory Speed plaque	W13-1P	2C.08	18 x 18	18 x 18	24 x 24
Advisory Exit or Ramp Speed	W13-2, W13,3	2C.14	24 x 30	30 x 36	36 x 48
No Passing Zone Pennant	W14-3	2C.45	48 x 36	64 x 48	64 x 48
x x Feet	W16-2P	2C.55	24 x 18	24 x 18	30 x 18
x x Miles (2 line)	W16-3P	2C.55	30 x 24	30 x 24	30 x 23
Next x x Feet	W16-4P	2C.55	30 x 24	30 x 24	30 x 24
Supplemental Arrow (plaque)	W16-5P, 6P	2C.56	24 x 18	24 x 18	24 x 18
Downward Diagonal Arrow (plaque)	W16-7P	2C.5	24 x 12	24 x 12	24 x 12
Advance Street Name (1- line plaque)	W16-8P	2C.58	Varies x 8 <sup>2</sup>	Varies x 8 <sup>2</sup>	Varies x 8 <sup>2</sup>
Advance Street Name (2 line plaque)	W16-8aP	2C.58	Varies x 15 <sup>2</sup>	Varies x 15 <sup>2</sup>	Varies x 15 <sup>2</sup>

<sup>1</sup> The sign designation should be based on the preceding speed limit.

<sup>2</sup> All name plates shall consist of both upper case and lower case letters. The letter height shall be 4" upper case with 3" lower case when supplementing a 30" or 36" sign and 6" upper case with 4.5" lower case letter heights when supplementing a 48" sign.

ROUTE MARKER SIGN AND PLAQUE SIZES					
SIGN OR PLAQUE	SIGN DESIGNATION	MUTCD SECTION	B	C	D
Interstate, U.S. and State Route signs (1 or 2 digits)	M1-1,2,3,4,5,	2D.11	24 x 24 <sup>1</sup>	24 x 24 <sup>1</sup>	24 x 24 <sup>1</sup>
Interstate, U.S. and State Route signs (3 digits)	M1-1,2,3,4,5,	2D.11	30 x 24 <sup>1</sup>	30 x 24 <sup>1</sup>	30 x 24 <sup>1</sup>
Junction	M2-1	2D.13	21 x 15	21 x 15	21 x 15
Cardinal Direction (2 digits)	M3-1,2,3,4	2D.15	24 x 12	24 x 12	24 x 12
Cardinal Direction (3 digits)	M3-1,2,3,4	2D.15	30 x 15	30 x 15	30 x 15 <sup>2</sup>
TO, END, BEGIN (2 digits)	M4-5,6,14	2D.21,22,23	24 x 12	24 x 12	36 x 18
TO, END, BEGIN (3 digits)	M4-5,6,14	2D.21,22,23	30 x 15	30 x 15	36 x 18
Advance Turn Arrow	M5-1,2,3	2D.28	21 x 15	21 x 15	30 x 18
Lane Designation (2 digits)	M5-4,5,6	2D.33	24 x 18	24 x 18	36 x 18
Lane Designation (3 digits)	M5-4,5,6	2D.33	30 x 18	30 x 18	36 x 18
Directional Arrow (2 digits)	M6-1,2,2a,3,4,5,6,7	2D.29	21 x 15	21 x 15	21 x 15 <sup>3</sup>
Directional Arrow (3 digits)	M6-1,2,2a,3,4,5,6,7	2D.29	21 x 15	21 x 15	21 x 15 <sup>3</sup>

<sup>1</sup> The 36 x 36 inch Route Marker should be used when in conjunction with the M2-1 (JCT) or the M5-1, M5-2, M5-3 Advance turn arrows

<sup>2</sup> The 36 x 18 cardinal direction plaque should be used when in conjunction with the larger 36 x 36

<sup>3</sup> The 30 x 21 Direction Arrow should be used when in conjunction with the larger 36 x 36 Route Marker.