COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL – PAVEMENT MARKINGS AND SIGNING STANDARDS
PUBLICATION 111M
TC–8600 AND TC–8700 SERIES

BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

MAY 2007
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</tr>
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LANE REDUCTION TRANSITION ARROW

NOTE:

1. Locate LRA in center of lane.
2. Place LRs in groups of three when conditions permit.
3. Follow WSDOT Rumble Strip Guidelines for Placement of LANE REDUCTION ARROW in advance of TAPER.
4. Place additional LANE REDUCTION ARROWS at 100 ft (30 m) interval.

PAVEMENT MARKINGS

NOTE:

1. All dimensions are in millimeters unless otherwise noted. English units in parentheses ( ).
2. Either all metric or all English units must be used on plans. Metric and English units shown may not be used.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

LEGENDS AND SYMBOLS

RECOMMENDED MAY 25, 2007

TC-8600
STANDARD ALPHABET

STANDARD NUMERALS

NOTES:
1. STANDARD CHARACTERS ARE 12 GRID UNITS HIGH AND 4 UNITS WIDE (EXCEPT LETTER “I” AND THE NUMBER “1” WHICH ARE 1 UNIT WIDE).
2. VERTICAL STROKES ARE 1 UNIT WIDE, HORIZONTAL STROKES ARE 4 UNITS HIGH.
3. SPACE 1 UNIT WIDE BETWEEN CHARACTERS OR AS OTHERWISE SHOWN (OPTICAL SPACING MAY BE USED).
4. STANDARD CHARACTER HEIGHTS ARE 2.4 mm (1/16") EXCEPT FOR THE 1.8 mm (1/10") RAILROAD "T" SYMBOL.
5. FOR 2.4 mm (1/16") HIGH CHARACTERS, THE WIDTH IS 400 mm (16") USE 100 mm (1/4") FOR EACH GRID SQUARE.
6. FOR 3.0 mm (1/8") HIGH CHARACTERS, THE WIDTH IS 500 mm (20") USE 125 mm (1") FOR EACH GRID SQUARE.
7. FOR 1.8 mm (1/10") HIGH CHARACTERS, THE WIDTH IS 300 mm (12") USE 75 mm (3/4") FOR EACH GRID SQUARE.
1. LOCATION:
A. LIMITED THROUGHWAY ROADS - DO NOT PLACE DELINERATORS ON THE THROUGH ROADWAY. LANE INTERSECTIONS WERE FIXED SOURCE LIGHTING IS INSTALLED UNLESS OTHERWISE SPECIFIED.

B. UNLIMITED THROUGHWAY ROADS - ON ROADWAYS WITHOUT FIXED SOURCE LIGHTING, CONTINUOUSLY INSTALL THE DELINERATOR ALONG THE EDGE LINE OF THE THROUGH ROADWAY. PLACE DELINERATORS ON THE LEFT SIDE OF THROUGH ROADWAYS AT THE FOLLOWING LOCATIONS:
   I. WHERE RAILING OR CONCRETE BARRIER IS LOCATED ON THE LEFT SIDE OF THE ROADWAY.
   II. ALONG THE LEFT-HAND CURVES WITH A RADIUS OF 600 M (2000') OR LESS.
   III. ALONG THE transition of the SCORCHER AND RIGHT-HAND CURVES WITH A RADIUS LESS THAN 600 M (2000').
   IV. ON THE Approach AND THROUGHPOINT LEFT LANE DROPS OR PAVEMENT WIDTH TRANSITIONS.
   V. WITHIN THE LIMITS OF MEDIUM CROSSES AS SHOWN ON SHEET 3 OF 4.
   VI. WITHIN THE LIMITS OF PARALLEL MEDIUM CROSSING AS SHOWN ON SHEET 3 OF 4.
   VII. ALONG PAVED MEDIUMS W/ CURVED CURVING.


D. Pediatrics, Roadways.

E. Special Purpose - Location - Place Object and Clearance Markers (180 Series) Along Right-Hand Edge and Within the Intersection Area as Specified in Addition to the Above Specified Delinierators.

F. Maintenance Markers - Place One Red Flexible Delinerator Post Adjacent to Road Edge With Yellow Reflective Sheeting Color With the Nearest Pavement Markers Edge Line Color.

G. Nearest Pavement Markers (1).

2. LONGITUDINAL SPACING:
A. Single Side of Throughways - Install Delinierators at 60 M (200') EXCEPT IN INTERSECTION AREAS W/ RIGHT-HAND Ramps, Acceleration or Deceleration LANES AND ALONG HORIZONTAL CURVES.

B. Left Side of Throughways - When Required, Install Delinierators at 60 M (200') ALONG INTERSECTION AREAS W/ LEFT-HAND Ramps, Acceleration on Deceleration LANES ON MEDIUM CROSSING AREAS AND ALONG HORIZONTAL CURVES.

C. Intersection Areas - Space Delinierators in Intersection Area at 40 M (130').

D. Horizontal Crossings - Space Delinierators as Indicated in the Table.

3. VERTICAL PLACEMENT:
Install Delinierators that the tops are approximately 1.5 M (4') ABOVE THE GROUND. Install on Concrete Barriers on Guide Rail As Indicated on Sheet 2 of 4.

4. LATERAL PLACEMENT:
A. NO GUIDE RAILS - INSTALL DELINERATORS 0.6 M (2') TO 2.4 M (8') BEHIND THE OUTER EDGE OF THE THROUGH ROADWAY AS SPECIFIED.


C. GUIDE IN PLACE - INSTALL PC TERMINALS IMPEACHY REAR VIEW PROVIDING PLACE WILL NOT NECESSARILY BE AT THE OUTER EDGE OF THE ROADWAY, BUT AT LEAST 2.4 M (8') FROM THE OUTER EDGE OF THE ROADWAY. INSTALL DELINERATORS AS SPECIFIED IN NOTE 4.

D. Obstruction Markers - Install Obstruction Marker Delinierators Adjacent to Edge of the Obstruction.

E. Maintenance Markers - Install Markers Adjacent to NEAR EDGE OF THE APPURtenANCE THROW PINS, AND MISC. INSERT, ETC.

5. TYPES OF DELINERATOR:
A. Reflective Delinierators - Place on Right Side of Throughways, Along Right-Hand Acceleration, Conventional Wide Ramps, AND ON COUNTERFLOW DISTRIBUTION LANES WHERE TRAFFIC IN THE SAME DIRECTION MAY CONTINUE ON BOTH SIDES OF THE ISLAND.

B. Delinierators - Place on Left Side of Throughways, Ramps and on Channelizing of Delinierators Having Traffic in the Same Direction To the Right of the Island and Along Left-Hand Acceleration, Conventional Wide Ramps, AND ON COUNTERFLOW DISTRIBUTION LANES AND ON THE SIDE OF MEDIAN ROADWAY FOLLOWING THE MEDIAN ROADWAY TO THE POINT WHERE GUIDE DELINERATOR BEGINS TANGENT TO THE ROADWAY.

C. DISPLACEMENTS - Place on Right, Center, Or Both Sides of Ramps OR TO INDICATE TRAFFIC ROUTE TO THE RIGHT OF THE ISLAND AND ALONG LEFT-Hand Acceleration, Conventional Wide Ramps, AND CHAINALIANIZING DIRECTION OF TRAFFIC ON THE MEDIAN ROADWAY. PLACE POST WITH YELLOW REFLECTIVE SHEETING ON LEFT SIDE OF THROUGH HIGHWAY.

NOTES:
1. Maintenance Markers are Red Flexible Delinerator Posts Installed to Call Out the Locations and Typical Values in the Diabetes To Maintain the Location and Typical Values For the Diabetes. Post Number Shall Be Attended at the Intersection Points Only. Delinerator Posts Shall Be Removable, Mid-Field Or MEDIAN ROADWAY, OR GUNKO.
2. Either All Metrics Or All English Units Shall Be Used on Plans. Metric and English Units Shown May Not Be Mixed.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING
DELINEATION AND MARKERS

LOCATION / PLACEMENT NOTES

RECOMMENDED MAY 3, 2000
RECOMMENDED MAY 31, 2000
DATE OF PREPARED
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

TC-8604
HOW TO USE THE SPACING CHARTS ON THE FOLLOWING SHEETS:

1. Select the proper chart from sheets 2 through 17. Letter and numeral sizes were a spacing chart does not have prescribed. Use one of the charts to determine the proper spacing. For each letter and numeral in the charts, a ratio is given for the height of the letter or numeral to width of the letter or numeral. Simply multiply the size of the letter or numeral by the ratio given in the charts to determine the size of the letter or numeral. For example, if a letter is 1.0 and the ratio is 1.4, the letter will be 1.4 inches wide. 1.0 is the ratio shown for 220 mm (8.67") letters & numerals.

2. In the left-hand vertical column, locate the first letter of the word being spaced.

3. Locate the next letter of the word being spaced in the top horizontal column.

4. The figures at the intersection of the two columns is the total width of letters & numerals of the first letter plus the space to the left of the second letter. For example, if the letter widths are given in the bottom left-hand corner of each chart.

5. The minimum spacing between words in the same line should be the height of the upper case letter used in that line.

SIZE AND SPACING OF FRACTIONS (except see sheets 9 & 10 for fractions on signs with upper case key legend)

SIZE AND SPACING OF DASHES

SIZE AND SPACING OF LETTERS & NUMERALS

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

SPACING CHARTS
DIRECT APPLIED LETTERS & NUMERALS

GENERAL INFORMATION

RECOMMENDED MAY 23, 2001
RECOMMENDED MAY 23, 2001
SCT. 7 OF 10

TC-87000
## Metric Units

### Spacing Charts: Direct Applied Letters & Numerals

**Upper Case & Lower Case Series E Modified (Metric)**

<table>
<thead>
<tr>
<th>330 mm Digit to 330 mm Digit</th>
<th>265 mm Digit to 265 mm Digit</th>
<th>200 mm Digit to 200 mm Digit</th>
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<td><strong>265</strong></td>
<td><strong>200</strong></td>
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<td><strong>390</strong></td>
<td><strong>330</strong></td>
<td><strong>270</strong></td>
</tr>
</tbody>
</table>

**Note:**
All dimensions are in millimeters unless otherwise noted. For applied letters, the spacing is through G for corresponding line unit.
### ENGLISH UNITS

**COMMONWEALTH OF PENNSYLVANIA**
**DEPARTMENT OF TRANSPORTATION**
**BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING**

**SPACING CHARTS**
**DIRECT APPLIED LETTERS & NUMERALS**

**LOWER CASE**
**CLEARVIEW HIGHWAY 5W**

**NOTE:**
All dimensions are in inches.
### ENGLISH UNITS

#### COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

#### SPACING CHARTS
DIRECT APPLIED LETTERS & NUMERALS

#### UPPER CASE & LOWER CASE
SERIES E MODIFIED (ENGLISH)

#### NOTES:
- All dimensions are in inches unless otherwise noted. Refer to page 2 through 7 for corresponding metric data.

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**24" UPPER CASE to 18" lower case**

<table>
<thead>
<tr>
<th>18</th>
<th>15</th>
<th>12</th>
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<tbody>
<tr>
<td>24</td>
<td>20</td>
<td>16</td>
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**20" UPPER CASE to 15" lower case**

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**16" UPPER CASE to 12" lower case**

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<td>16</td>
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**18" lower case to 15" lower case**

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<td>12</td>
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**15" lower case to 12" lower case**

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**24" DIGIT to 24" DIGIT**

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**20" DIGIT to 20" DIGIT**

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**16" DIGIT to 16" DIGIT**

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**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

**SPACING CHARTS**
DIRECT APPLIED LETTERS & NUMERALS

**UPPER CASE & LOWER CASE**
SERIES E MODIFIED (ENGLISH)

**NOTES:**
- All dimensions are in inches unless otherwise noted. Refer to page 2 through 7 for corresponding metric data.

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**TC-8700C**
### ENGLISH UNITS

**COMMONWEALTH OF PENNSYLVANIA**  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING  

**SPACING CHARTS**  
DIRECT APPLIED LETTERS & NUMERALS  
UPPER CASE & LOWER CASE  
SERIES E MODIFIED (ENGLISH)

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**NOTE:**  
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.  
STANDARD TOLERANCES ARE +.005 IN.  
FOR CORRESPONDING METRIC DATA, SEE:

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**1.3" UPPER CASE to 1.3" lower case**  
**10.6" UPPER CASE to 8" lower case**  
**8" UPPER CASE to 6" lower case**

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<td>1.3</td>
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**10" lower case to 10" lower case**  
**8" lower case to 8" lower case**  
**6" lower case to 6" lower case**

<table>
<thead>
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**13.3" DIGIT to 13.3" DIGIT**  
**10.6" DIGIT to 10.6" DIGIT**  
**8" DIGIT to 8" DIGIT**

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**ENGLISH UNITS**  

**COMMONWEALTH OF PENNSYLVANIA**  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING  

**SPACING CHARTS**  
DIRECT APPLIED LETTERS & NUMERALS  
UPPER CASE & LOWER CASE  
SERIES E MODIFIED (ENGLISH)

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**NOTE:**  
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.  
STANDARD TOLERANCES ARE +.005 IN.  
FOR CORRESPONDING METRIC DATA, SEE:

---
## ENGLISH UNITS

### COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

### SPACING CHARTS
DIRECT APPLIED LETTERS & NUMERALS

### UPPER CASE
SERIES D (ENGLISH)

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**NOTE:**
All dimensions are in inches unless otherwise noted. See chart 2 through 7 for corresponding metric data.
## English Units

### Spacing Charts

**Upper Case Series C (English)**

### Spacing Charts

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### Spacing Charts

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### Spacing Charts

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<th>6&quot; Digit to 6&quot; Digit</th>
<th>4&quot; Upper Case to 4&quot; Upper Case</th>
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### Notes

- All dimensions are in inches unless otherwise noted. Use系列2 through 7 for corresponding metric data.

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**Commonwealth of Pennsylvania**
**Department of Transportation**
**Bureau of Highway Safety and Traffic Engineering**

**Spacing Charts**
**Direct Applied Letters & Numerals**

**Upper Case Series C (English)**

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**TC-87000**
DESTINATION SIGN ARROWS (100 mm (4") LEGEND)

TYPE P

TYPE Q

TYPE R

FOR DETAIL OF ARROW, SEE TYPE P

FOR DETAIL OF ARROW, SEE TYPE Q

FOR DETAIL OF ARROW, SEE TYPE R

DESTINATION SIGN ARROWS (115 mm (6") LEGEND)

TYPE S

TYPE T

TYPE U

FOR DETAIL OF ARROW, SEE TYPE S

FOR DETAIL OF ARROW, SEE TYPE T

FOR DETAIL OF ARROW, SEE TYPE U

FREeways / EXPRESsWAY RAMP SIGNING

TYPE V

TYPE W

TYPE X

FOR DETAIL OF ARROW, SEE TYPE V

FOR DETAIL OF ARROW, SEE TYPE W

FOR DETAIL OF ARROW, SEE TYPE X

NOTES:
1. ARROW TYPES A, B, C, D, E, F, G, H, I, and J are for use on Freeways and Expressways.
2. Arrow Types L, M, and N are for use on Freeways and Expressways.
3. Arrow Types P, Q, and R are for use on Freeways and Expressways.
4. Arrow Types S, T, and U are for use on Freeways and Expressways.
5. All dimensions are in 5/8" unless otherwise noted. English Units in parentheses ( ).
6. Unless all metric or all English units are used, metric and English units shown may need to be used.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

SPACING CHARTS
DIRECT APPLIED

ARROWS

RECOMMENDED BY: MTT, 2007
RECOMMENDED BY: MTT, 2007
SYNCHRONIZED DESIGNER
SIGNING PLANS
1. The signing plans should be drawn to a scale of 1" = 1000 ft. (1:100). A plan view of the site should be depicted at the appropriate locations and small sectional drawings of the sign faces should be included in the plans. The type of post and support, a number shall be assigned to each sign not included in the department’s publication Z-29 and cross-referenced to the sign fabrication details. All signs shall be designed in accordance with the layout details included in traffic signs.

DESCRIPTION OF SIGNS
1. Major guide signs provide motorists advance information on the principal destinations served by the interchange. Two or more major guide signs should be used, with typical placement being 2.5 to 5.0 miles along the right side of the roadway. In advance of the exit, the following information should be displayed on major guide signs, beginning from the top of the sign:
   a. An exit panel when the exit is numbered, the panel should be on the right side for right-hand exits, and on the left side for left-hand exits.
   b. A shield for each numbered traffic route assigned to the crossing route or routes which are very close to the interchange. A cardinal direction should be associated with each route where traffic can only go in one direction.
   c. The word "exit" should be used above the shield of routes which are close to the interchange.
   d. The name of the two nearest communities as identified on the official transportation map. One to the right and one to the left, unless alternate destinations are approved in accordance with department policy.
   e. Alternate destinations are approved in accordance with department policy. At single exit interchanges, the community name to the left should be above the community name to the right at double exit interchanges, the top name should be above the other name in the right direction.
   f. Alternate destinations are approved in accordance with department policy.
   g. Alternate destinations are approved in accordance with department policy.

2. A supplemental guide sign may include one or two destinations.

3. Service signs are intended to identify gas, food, lodging, camping, visitor information, hospital, diesel, and state police, with the exception of state police, general service signs installed on new panels shall be the symbol typically illustrated in traffic standards to Sts-1.

4. As an alternative to general motorist service signs, log signs may be installed on selected interstate highways and other routes in accordance with department policy. When signs are installed, all general motorist service signs shall have a defined signal, unless a specific signal is not represented in the plan.

5. Exit direction signs should include the same traffic routes and destinations as included on the major guide signs, as appropriate, plus any approaches to the interchange.

6. Core signs shall be located in the area between the main roadway and the ramp at all exits. The signs shall have the word "exit" and an arrow pointing to the exit if number. The number of number and letter should also be included.

7. Off-ramp directional signs are used on all diamond interchange off-ramps.

8. On-ramp directional signs are used on all diamond interchange on-ramps. The on-ramp directional signs shall be placed in the median of the road.

9. Post-destination distance signs should be used in rural areas where the use of such signs is desirable. The distance is the distance to the center of the exit number is approximately two miles. The distance should be on the right side of the roadway when the ramp is used for exit.

10. Next exit and area signs may be used in advance of more than three interchanges serving an urban area or in which the next exit or area is more than 20 miles.

11. Lane assignment signs may be used to indicate the use of a lane.

12. A supplemental guide sign may include one or two destinations.

NOTE: All metric or English units may be used on plan. Metric and English units shown may not be used.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

INTERCHANGE ADVANCE SIGNING
GENERAL NOTES

INTERCHANGE
ADVANCE
SIGNING

RECOMMENDED DATE
MAY 25, 1972

RECOMMENDED DATE
MAY 25, 1972

DATE
6/1/72

DATE
6/1/72

TC-8701A
1. The graphic legend shall be of a plan view showing a simplified off-ramp arrangement.
2. Only one destination may be shown for each arrowhead, with a maximum of two destinations per sign.
3. The graphics should not depict deceleration lanes. A black on yellow text only panel should be used to supplement a lane drop graphic.
4. The arrow for the exit ramp movement should be shorter than, but not separated from, the through movement graphic.
5. Arrow shafts should contain lane lines where appropriate and route shields shall not be used as a substitute for arrowheads.
6. The direction of the arrow should be closely related to the arrowhead. The arrowhead should point towards the route shield for the exit movement.
7. The cardinal direction should generally be placed adjacent to the route shield and the destination should be placed below and justified with the route shield.
8. Exit number panels should be located toward the top left edge of the sign for a left exit and toward the top right edge for a right exit.
9. Specific design standards for graphic components and other recommendations are shown in this standard.
10. See sheet 8 of this standard for shield and cardinal details.

1.1. See TC-1502A sheet 6 for advance placement of sign.
11. All dimensions are in millimeters unless otherwise noted. English units in parenthesis.
12. Either all metric or all English units must be used on plans. Metric and English units shown may not be mixed.
See S-service sign for service symbol dimensions.

3-service sign

See S-service sign for service symbol dimensions.

4-service sign

Notes:
1. All service signs shall have a blue reflective background and white reflective symbols, legends, and borders. Unless noted otherwise, the use of reflective sheeting shall comply with Department Publication 408.
2. All white/eine service signs shall have a 50 mm (2") border with 225 mm (9") corner radii.
3. The standard mainline service sign shall be a 1500 mm (60") high by 1200 mm (48") wide sign, with the layout and dimensions indicated. If more than four symbols are required, a 3000 mm (120") high by 48") wide panel shall be used.
4. When the exit is numbered, the exit number shall be used instead of the right or second right.
5. The standard layout of ramp signs is 1500 mm (60") high by 3000 mm (120") wide. The layout and dimensions indicated. If more than four symbols are required, 3000 mm (120") high by 48") wide panel shall be used.
6. Normal sequence should be gas (diesel), food, lodging, and then others.
7. All dimensions are in millimeters unless otherwise noted. English units in parentheses ( ).
8. Either all metric or all English units must be used on plans, metric and English units shown may not be mixed.

Commonwealth of Pennsylvania
Department of Transportation
Bureau of Highway Safety and Traffic Engineering
Sign Details
Freeway and Expressway Guide Signs
General Motorist Service Signs

Recommended: May 26, 2014
Draft: 3 of 3

TC-8701D
NOTES:
1. ALL SIGNS ON THIS SHEET SHALL HAVE A .50 MM (.020") BORDER WITH .35 MM (.014") CORNER radius, UNLESS OTHERWISE NOTED.
2. REFER TO TC-3010 FOR ARROW DETAILS. TYPE 1, TYPE 2, OR TYPE 3 ARROWS SHALL BE USED FOR ALL RAMP DESTINATION SIGNS.
4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESES IF.
5. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE WELDED.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING
SIGN DETAILS
FREeways AND EXPRESSWAY
GUIDE SIGNS
RAMP DESTINATION
AND BOUNDARY SIGNS

* INDICATES MINIMUM SPACING
EXTRUDED ALUMINUM CHANNEL SIGN

SECTION A-A

EXTRUDED ALUMINUM CHANNEL WITH REFLECTIVE SHEETING

STITCH BOLT #10 X 1.5 X 2D

POST CLIP AND BOLT

OVERALL LENGTH

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING
EXTRUDED ALUMINUM CHANNEL SIGN

NOTES:
1. IF 2.75 X 2.75 SECTION IS REQUIRED, IT SHOULD BE PLACED AT THE TOP AMONG THE BOTTOM OF THE SIGN.
2. STITCH BOLTS TO BE USED AT 300 (1' 0") CENTS THROUGHOUT THE SIGN PANEL.
3. A DOUBLE POST CLIP ENTER IS REQUIRED FOR ALL OVERHEAD SIGNS.
4. A LOCK NUT AND M5 X 0.8 WASHES MAY BE USED IN LEU OF LOCK WASHER AND STANDARD NUT FOR POST CLIPS.
5. SEE TC-8702E FOR INSTALLATION ON NON POSTS.
6. ALL DIMENSIONS ARE IN MILLIERS UNLESS OTHERWISE NOTED.
7. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE WORN.
152 (6") Extruded Aluminum Channel

Rein View

WASS = 1.889 kg/ft (1.175 lbs. per foot)

Approved Alternate
Corner Detail

Dimensions not shown are the same as end view

305 (12") Extruded Aluminum Channel

Rein View

WASS = 4.238 kg/ft (2.485 lbs. per foot)

Standard Section

WASS = 3.588 kg/ft (2.276 lbs. per foot)

Light Section

Notes:
1. Use either the standard section (2800D) or the light section (2400E),
2. For details A, B, and C use 0.060" t. R. on all outside corners unless otherwise noted.
3. All dimensions are in millimeters unless otherwise noted.
4. Either all metric or all English units must be used on plans. Metric and English units shown may not be wired.
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESES ("').
2. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MATCHED.
NOTES:

1. MAINTENANCE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION FOR UNEARTHED SIGN PANELS.

2. PERIMETER CURB IS ALWAYS ADJACENT TO RADIUS, WHETHER SIGN IS LOCATED ON CURB OR STREET.

3. AT LOCATIONS WITH HORIZONTAL CURVES, GUIDE RAIL, OR EXISTING TRANSIT DIVIDED ROADWAY, PLACE THE OUTER EDGE OF THE CURB AT LEAST 0.5 M (1 FT) BEHIND THE CURB RAIL. IDEALLY, THE CURB RAIL SHOULD BE LOCATED IN THE設計 (1 FT) BEHIND THE CURB RAIL. IDEALLY, THE CURB RAIL SHOULD BE LOCATED AT A DISTANCE FROM THE CENTER OF THE GUIDE RAIL OR EXISTING TRANSIT DIVIDED ROADWAY. PRIOR TO FABRICATION, DETERMINE ACTUAL LATERAL PLACEMENT IN THE FIELD WITH THE APPROVAL OF THE ENGINEER.

4. LOCATE SIGNS TO AVOID PLACING SUPPORTS IN DRAINAGE DITCHES.

5. MOUNT ALL SIGN PANELS ABOVE POST HINGES.

6. FOR SELECTION OF POSTS, REFER TO POST SELECTION TABLES ON SHEET 2 THROUGH 4.

7. FOR POST BASE AND HINGE DETAILS, REFER TO SHEET 5.

8. FOR SELECTION OF FENCING SIZE AND DETAIL, REFER TO FENCING SELECTION TABLE ON SHEET 4.

9. FOR DETAILS OF SIGN PANELS AND ATTACHMENT HARDWARE, SEE TRAFFIC STANDARD TC-8701 OR TC-8702.

10. ALL SPANNINGS ARE IN MILLIONN UNITS UNLESS OTHERWISE SPECIFIED. UNITS ON SHEET 2 THROUGH 4.

11. EITHER METRIC OR ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE INTERCHANGEABLE.
### POST SELECTION TABLE - TWO POSTS

<table>
<thead>
<tr>
<th>W (m)</th>
<th>H (m)</th>
<th>$L_p$ (m)</th>
<th>$L_s$ (m)</th>
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</thead>
<tbody>
<tr>
<td>1.8</td>
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<td>4.5</td>
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</tr>
</tbody>
</table>

**LEGEND**
- P: $P_1 = 100 \times 18$ ($W \times H$)
- P2: $P_2 = 100 \times 18$ ($W \times H$)
- P3: $P_3 = 100 \times 24$ ($W \times H$)
- P4: $P_4 = 100 \times 35$ ($W \times H$)
- P5: $P_5 = 100 \times 40$ ($W \times H$)
- P6: $P_6 = 100 \times 40$ ($W \times H$)
- P7: $P_7 = 100 \times 40$ ($W \times H$)
- P8: $P_8 = 100 \times 40$ ($W \times H$)
- P9: $P_9 = 100 \times 40$ ($W \times H$)

**GROUND LINE**

**TOP OF POSTING**

**SEE NOTE 6**

**SIGN ON TWO POSTS**

**SKETCH A**

**POST SELECTION EXAMPLE**

**FOR A SIGN WHERE**
- $W = 1.8\ m \times 18'\ 1"$
- $H = 3.1\ m \times 18'\ 1"
- $L_p = 2.5\ m \times 17'\ 1"

**TWO POSTS $P_2 = 100 \times 18$ ($W \times H$) STEEL POSTS ARE REQUIRED.**

**SIGN POST SELECTION NOTES**

1. **DETERMINE VALUES OF W, H, AND $L_p$ AS INDICATED IN SKETCHES (1A) OR (1B).**

2. **FOR SELECTION OF POSTS ENTER TABLES WITH VALUES OF W, H, AND $L_p$.**

3. **FOR A SIGN SIZE BETWEEN THESE VALUES OF W, H, AND $L_p$, USE NEXT HIGHEST ENTRY VALUE.**

4. **ALL POSTS ARE ASTM-A 36 STEEL, GRADE 30 (GRADE B STEEL).**

5. **USE THE LOWEST POST TO SELECT ALL POST SIZES.**

6. **POSTS IN THE SELECTION TABLE WITH AN "X" MUST HAVE A MINIMUM 5" DEPTH UNDER THE GROUND LINE AND MUST STOP 1.5" FROM THE GROUND LINE TO THE OVERHAND.**

7. **THERE IS NO NEED TO CHECK THE HEAVE CRITERIA FOR POSTS DETERMINED USING THIS POST SELECTION TABLE. ALL POSTS MUST BE ERECTED IN ACCORDANCE WITH THE POST BASES SPECIFIED IN THE BUREAU OF HIGHWAY ENGINEERING DESIGNATION SHEET.**

8. **SEE SHEET 4 FOR THREE-POST INSTALLATION.**

**NOTES**

1. **ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESES ( ).**

2. **EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.**

---

**COMMONWEALTH OF PENNSYLVANIA**

**DEPARTMENT OF TRANSPORTATION**

**BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING**

**POST-MOUNTED SIGNS, TYPE A**

**POST SELECTION TABLE**

**RECOMMENDED MAY 25, 2007**

**DATE: 2 OF 4 SHEETS**

**TC-8702A**
<table>
<thead>
<tr>
<th>Height (ft)</th>
<th>Posts</th>
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</table>

**Legend:**
- P1 = WD0 x 14 (W) x 5
- P2 = WD0 x 15 (W) x 12
- P3 = WD0 x 22 (W) x 15
- P4 = WD1 x 17 (W) x 21
- P5 = WD0 x 31 (W) x 21
- P6 = WD0 x 35 (W) x 22
- P7 = WD0 x 59 (W) x 29
- P8 = WD0 x 65 (W) x 32
- P9 = WD0 x 60 (W) x 40

**Notes:**
1. See sheet 2 for sign post selection notes and sheet 4 for signs on frame posts.
2. All dimensions are in millimeters unless otherwise noted. English units in parentheses.
3. Either all metric or all English units must be used on plans. Metric and English units shown may not be used.

**Commonwealth of Pennsylvania**
**Department of Transportation**
**Bureau of Highways Safety and Traffic Engineering**

**Post-Mounted Signs, Type A**

**Post Selection Table**

**Recommended: May 7, 2007**
**Revised: May 7, 2007**
**Rev. 5 of 8**

**Drawn and Checked:**

**Printing and Distribution:**
### POST SELECTION TABLE - THREE POSTS

#### Height (ft) - Height (m) [m (FT) - m (FT)]

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</table>

#### LEGEND

- 11 x 14 in.
- 18 x 24 in.
- 22 x 25 in.
- 24 x 30 in.
- 30 x 40 in.
- 35 x 47 in.
- 45 x 60 in.
- 48 x 64 in.
- 60 x 80 in.
- 64 x 96 in.
- 72 x 96 in.

#### SIGN ON THREE POSTS

**SKETCH B**

---

### COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

### POST-MOUNTED SIGNS, TYPE A

### POST SELECTION TABLE

---

1. See sheets 2 and 3 for sign post selection notes and signs on two posts.

2. All dimensions are in millimeters unless otherwise noted. English units in parentheses.

3. Either all metric or all English units must be used on plans. Metric and English units shown may not be used.

---

**DATE:**

**SIGNING AUTHORITY:**

**APPROVAL:**

---

**TC-8702A**
NOTE: Do not place torque across neck portion of coupling.
INSTALLATION INSTRUCTIONS:
1. Use the proper size and number of sign posts from the appropriate graph on Sheet A or B.
2. Punch out appropriate knockouts and attach the sign.
3. Determine the proper size anchor-post from the square stalk posts table on this sheet.
4. Drive the anchor post into the ground using the appropriate size drive cap unit. On the lower hole, embed the ground of finished elevation of the sign post attachment.
5. Punch out the sixth knockouts from the bottom of the sign post.
6. Drive a minimum of 150 mm (6") of the sign post into the anchor post.
7. Attach the sign post to the anchor post with one 1/4" (6.4) long anchor bolt and nut on alternate holes with 1/4" bolt and nut through the top hole of the anchor post.
8. Tighten the bolt and nut by turn of 1/2" metric, turning nut to a snug condition to hold that all parts are fixed together and will be in contact with each other.

INSTALLATION IN CONCRETE:
Install as Notes Shown, but place a 450 mm (18") long anchor sleeve into the anchor post. The anchor post is cut to the proper depth. Anchor post and anchor sleeve are fully, select the proper size splice sleeve from the square steel post table on this sheet.

NOTES:
1. Materials and workmanship shall be in accordance with F.A.A., A.A.S.H.O. Standards.
2. Sign Posts and Splice sleeves shall have 1-1/2 mm (.06") tolerances plus or minus on 36.4 mm (1-3/8") centers on all four sides. Anchor Posts and Anchor sleeves shall have 1-1/2 mm (.06") tolerances plus or minus on 36.4 mm (1-3/8") centers on all four sides.
3. Bolts and nuts shall be ASTM A 325, grade B.
4. Drive rivets may be used to fasten sign blanks to the sign post.
5. All dimensions are in millimeters unless otherwise noted. English units in parentheses ( ).
6. Either metric or english units must be used on plans. Metric and English units shown may not be mixed.
INSTALLATION INSTRUCTIONS:
1. DETERMINE THE PROPER SIZE AND NUMBER OF SIGN POSTS FROM THE APPROPRIATE SHEET ON SHEET A OF 5.
2. DETERMINE THE PROPER SIZE ANCHOR POST AND ANCHOR SLEEVE FROM THE SQUARE STEEL POSTS TABLE ON THIS SHEET.
4. SLIDE A MINIMUM OF 150 MM (6") OF THE ANCHOR POST INTO THE ANCHOR POST.
5. ATTACH THE ANCHOR POST TO THE ANCHOR SLEEVE WITH ONE (1) #8 DRAIN BOLT AND NUT. 
6. SELECT THE BOLT AND NUTS FOR THE SIGN-TO-SLEEVE METHOD. PLACE AND CLAMP THE SPlice SLEEPER TO THE TOP OF THE ANCHOR POST AND SLEEVE.
7. SELECT THE BOLT AND NUTS FOR THE SWING-TO-SLEEVE METHOD. PLACE AND CLAMP THE SPlice SLEEPER TO THE TOP OF THE ANCHOR POST AND SLEEVE.
8. INSTALL AN ADDITIONAL 1/2" BOLT TO INSTALL A STANDARD SIGN SLEEVE FOR THE SIGN-TO-SLEEVE METHOD. PLACE AND CLAMP THE SPlice SLEEPER TO THE TOP OF THE ANCHOR POST AND SLEEVE.
9. INSTALL THE BOLT AND NUT WITH THE SWING-TO-SLEEVE METHOD. PLACE AND CLAMP THE SPlice SLEEPER TO THE TOP OF THE ANCHOR POST AND SLEEVE.
10. INSTALL THE BOLT AND NUT WITH THE SWING-TO-SLEEVE METHOD. PLACE AND CLAMP THE SPlice SLEEPER TO THE TOP OF THE ANCHOR POST AND SLEEVE.

INSTALLATION IN CONCRETE:
INSTALL AS NOTED ABOVE.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

POST-MOUNTED SIGNS, TYPE B
STEEL SQUARE POSTS (SYSTEM C)
ERECTION DETAILS

RECOMMENDED MAY 25, 2007
RECOMMENDED MAY 25, 2007
DATE 5 OF 6

METRIC UNITS

SIGN POST
ANCHOR POST
ANCHOR SLEEVE
SPICE SLEEVE

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<th>SIZE</th>
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ENGLISH UNITS

SIGN POST
ANCHOR POST
ANCHOR SLEEVE
SPICE SLEEVE

<table>
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NOTES:
1. MATERIALS AND WORKMENSHIP SHALL BE IN ACCORDANCE WITH PUB. 300.
2. SIGN POSTS AND SPICE SLEEVE SHALL HAVE 11.1 MM (0.4") HOLES OR THE SLEEVE.HOLE OILS IN 25.4 MM (1") CENTERS ON ALL FOUR SIDES. ANCHOR POST AND ANCHOR SLEEVE SHAPE 0.95 J/S" OF 0.4" X 0.4" HOLES IN 25.4 MM (1") CENTERS ON ALL FOUR SIDES.
3. BOLTS AND NUTS SHALL BE ASTM A 307, GRADE B.
4. USE SIGNED BOLTS AND NUTS TO FASTEN SIGNED BOLTS TO SIGNS.
5. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESES ( ).
6. EITHER ALL METRIC OR ENGLISH UNITS MAY BE USED IN PLACED HOLE, METRIC AND ENGLISH UNITS SHOWN MAY NOT BE USED.

METRIC UNITS

ENGLISH UNITS

M10 X 1.5 " - 16 UNC
ANCHOR BOLTS & NUTS

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M8 X 1.25 " - 18 UNC
ANCHOR BOLTS & NUTS

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10 (¾") DRIVE RIVET

25 (¾") DRILL RIVET

10 (¾") DRILL RIVET

10 (¾") DRILL RIVET

10 (¾") DRIVE RIVET
ANCHOR SPLICE INSTALLATION INSTRUCTIONS:
1. Determine the proper size sign post and anchor post from the appropriate graph on sheet 4-9. Use 3.11 in. or 4.26 in. as the sign post.
   (1.1 in. or 1.5 in. with 4.0 LBF/ft.)
2. Remove a shovel of soil at the post location to allow for final attachment of the sign post to the anchor post.
3. Drive anchor post with a drive cap to within approximately 200 mm (8 in.) of the ground. Remove anchor post from the ground, place washers to the side, and drive washer over anchor post.
4. Drive anchor post to 100 mm (4 in.) above ground level. Place remaining washer and anchor bolt in post and bolt end of post. Securely tighten washer and bolt.
5. Drive top sign post over批准 anchor post bolts through post and washer. Tighten washer and bolt by turning nut clockwise.
6. Place a locknut on each bolt. (A standard lockwasher and nut may be used in lieu of the locknut). Tighten locknut and washers by turning nut clockwise.
7. Restore soil around the anchor post.

INSTALLATION IN SOIL:
1. Use the anchor plate in areas with soft soil. Drill the anchor post hole using a 1 in. diameter drill bit. Use the anchor bolt to bolt, 6 to 7 holes from the end of the anchor post.

POST EXTENSION SPLICE NOTES:
1. To extend the height of a sign post, a maximum of one splice may be used.
2. Anchor bolts will be replaced with new bolts, lockwashers and nuts.

SECTION A-A
SECTION B-B
SECTION C-C

ANCHOR BOLT, WASHER, SPACER AND LOCKNUT
ANCHOR BOLT TO BE 11/16" SQUARE X 3/8" HEX HEAD.
SECTION THROUGH BRIDGE

SINGLE RECTANGULAR SIGN

NOTE:

EDGE OF ROADWAY ON BRIDGE IS THE PROJECTION OF ROADWAY ON STANDARD BRIDGE SECTION AS INDICATED BY THE SIDE WORKER.

ANCHORS (SEE DETAILS)

PL 120 x 25 x 300 1-1/4" x 1-1/8"

BASE DEAIL

PIECE COAT 6 PARAPET

SECTION B-B

SECTION THROUGH BRIDGE

PIPE BASE DETAILS

SECTION C-C

BASE STIFFENER DETAILS

MOUNTING BRACKET DETAILS

NOTES:

1. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, UNLESS OTHERWISE NOTED.
2. ALL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH SPECIFICATION 400AL.
3. ALL STEEL FABRICATED STRUCTURAL STEEL AND MOUNTING BRACKETS SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE AIA SPECIFICATION AND SHALL BE SUITABLE FOR ITS INTENDED USE.
4. ALL STEEL SHALL BE A36 STEEL UNLESS OTHERWISE NOTED.
5. ALL STRUCTURAL STEELS TO BE RUSTED OR BLACK OIL FINISH.
6. ALL DISCONNECTING WELDS TO BE MADE.
7. PLATE STEEL TO BE 1/4" THICK.
8. BASE PLATE TO BE 3/8" THICK.
9. TRAFFIC SIGN PANELS AND ATTACHMENT HARDWARE TO BE IN CONFORMITY WITH THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION AND LOCAL REGULATIONS.
10. ALL MEASUREMENTS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
11. OTHER ALL METERS OR ALL ENGLISH UNITS MUST BE USED ON PLANS.
12. ERECTION DETAILS (STRUCTURE CONNECTIONS) TECHNICAL SPECIFICATIONS: TC-8702D

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

POST-MOUNTED SIGNS,
TYPE D

ERECCTION DETAILS
(STRUCTURE CONNECTIONS)
### Post Selection Example

<table>
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<tr>
<th>Post Type</th>
<th>Post Height (m)</th>
<th>Post Length (m)</th>
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<td>Post 4</td>
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### Notes:

1. Posts in the selection table with an "N" must have a minimum 0.160 ft (4.83 mm) post diameter and be distributed uniformly to the structure.
2. See sheet 1 for additional notes.
3. See sheet 5 for sections and erection details.
4. All dimensions are in millimeters unless otherwise noted. English units in parenthesis.
5. Either all metric or all English units must be used within a project. Metric and English units shown may not be valid.

---

### Common Selection Table - Two Posts

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<th>Post Height (m)</th>
<th>Post Length (m)</th>
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<tr>
<td>Post 4</td>
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### Plan View

- **Plan View**
- **Sign Elevation**
- **End View**

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### Metric Units

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<td>Height</td>
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### English Units

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<th>Value</th>
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<tr>
<td>Height</td>
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### Table for Hole Spacing

- **Table for Hole Spacing**
- **Commonwealth of Pennsylvania**
- **Department of Transportation**
- **Pennsylvania DOT**
- **Post-Mounted Signs, Type E**
- **Wood Posts**
- **Selection Tables**
- **Erection Details**

---

**Recommended:** May 22, 2007

**Recommended:** May 22, 2007

**Date:** 2 of 6

**TC-8702E**
### POST SELECTION EXAMPLE

For a sign where

- $H = 5.2 \text{ m} (17')$
- $M = 0.40 \text{ m} (2/3')$
- $L_a = 4.5 \text{ m} (15')$

Three $3 = \frac{1.60}{4} \times 4 (6 \times 4')$ wood posts are required.

### TABLE FOR HOLE SPACING

<table>
<thead>
<tr>
<th>METRIC UNITS</th>
<th>ENGLISH UNITS</th>
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<tr>
<td>ANGLE CONNECTION SPACING</td>
<td>ANGLE CONNECTION SPACING</td>
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<tr>
<td>4.8 mm (0.19&quot;)</td>
<td>3/32&quot;</td>
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<tr>
<td>5.6 mm (0.22&quot;)</td>
<td>1/16&quot;</td>
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<tr>
<td>6.4 mm (0.25&quot;)</td>
<td>3/32&quot;</td>
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### NOTES

1. Posts in the selection table with an "X" must have a minimum clearance of 2.1 m (7') between posts with "X" should be equably distributed to avoid wind-loading.
2. See Sheet 1 for additional notes.
3. See Sheet 4 for sections and erection details.
4. All dimensions are in millimeters unless otherwise noted. English units in parentheses. ("").
5. Either all metric or all English units must be used, not mixed. Metric and English units shown may not be a fraction.
ATTACHMENT OF DISTANCE MARKER ASSEMBLY TO DOUBLE TUBE RAILING

NOTES:
1. IT SHALL BE THE RESPONSIBILITY OF THE ENGINEER TO ACCURATELY ESTABLISH THE LOCATION OF EACH DISTANCE MARKER.
2. MEASUREMENTS TO ACCURATELY ESTABLISH THE LOCATION OF DISTANCE MARKERS IN INCREMENTS OF 100, 150, 200, 300, 400, and 500 FEET WILL BE TAKEN ALONG THE OUTLINE EDGE OF THE PAVEMENT OF EASTBOUND OR WESTBOUND HIGHWAY ONLY. DISTANCE MARKERS ON EASTBOUND OR WESTBOUND HIGHWAY SHALL BE ERECTED ADJOINT TO THE DISTANCE MARKER LOCATIONS ESTABLISHED ON THE NORTHBOUND OR SOUTHBOUND HIGHWAY.

TYPICAL LOCATION OF DISTANCE MARKERS

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

DISTANCE MARKERS

NOTE:
1. ALL MATERIAL SHALL BE ALUMINUM ALLOY, UNLESS OTHERWISE NOTED, AND SHALL CONFORM TO THE APPROPRIATE BTA DESIGNATION AND TEMPER AS SPECIFIED IN PUBLICATION 40B.
2. ALL STAINLESS STEEL STRAPS AND CLAMPS SHALL CONFORM TO ASTM A240.
3. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH PUBLICATION 40B.
4. DISTANCE MARKERS WHICH ARE NOT ON BRIDGES SHALL BE INSTALLED ON TYPE B SIGN POSTS A 1.2 M (4 FT) HEIGHT.
5. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS SHOWN IN PARENTHESES ( ).
6. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.
NOTES:
1. DIAMOND, RECTANGULAR, OCTAGON AND TRIANGULAR SIGNS ARE
   FORMED IN WOOD OR METAL. MAXIMUM SIZE IS 12" X 12". MAXIMUM
   HEIGHT OF THE SIGN MAY NOT EXCEED 11.8" (300mm). 
2. MAXIMUM MOUNTING HEIGHT TO TOP OF ALL SIGNS IS 3250 mm (128"").
3. SUPPLEMENTAL PLACARD TO BE MOUNTED AS SHOWN.
4. BATTERY CASE MUST BE PLACED AT GROUND LEVEL AND FASTENED TO
   THE UNDERSIDE OF BASE CAS.
5. SIGN SUBSTRATE MAY BE WOOD, ALUMINUM, FLEXIBLE (POLY-VINYL)
   CLETT, ALUMINUM, PLASTIC LAMINATE, COMPOUND (POLYPROPYLENE
   OR POLYSTYRENE).
6. SANDING BARRIERS MAY BE PLACED ON THE BASE.
7. SIGNS AND RAILS ARE TO BE ATTACHED WITH BOLTS AND NUTS.
8. SIGNS THAT ARE INAPPROPRIATE OR NOT APPLICABLE SHOULD BE
   REMOVED, TIPPED UP OR COVERED. CONCRETE BLOCKS MAY BE
   ELECTRIC, TYPICAL ARE PLASTIC OR SIMILAR MATERIALS.
9. BATTERY CASE PLACEMENT ABOVE ENTRANCE TO THE BASE MUST BE \**
   ALLOWED TO THE SIGN AND NOT PLACED ON THE SIDE OR ANSI THE
   BARRIERS.
10. MOUNTING BAR WALL LIGHT EXCEPT FOR ROAD CLOSED SIGN WHERE
    TWO ARE ALLOWED.
11. NOVEMBER TO APRIL. BATTERY CASE MAY BE ATTACHED TO VERTICAL
    LEG ABOVE PAYMENT SURFACE. RECOMMEND UNDER MOUNT RAIL,
    BUT IN NO CASE MOUNT ABOVE TYPICAL PASSERIER OR DRIVER.
12. ALL DIMENSIONS ARE IN MILLI. METERS UNLESS OTHERWISE NOTED.
    ENGLISH UNITS SHOWN IN PARANETHESIS. 
13. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS.
    MERTIC AND ENGLISH UNITS SHOWN MAY NOT BE WISE.