

TRANSMITTAL LETTER

PUBLICATION:

Publication 111M May 2007 Edition Change 3

DATE:

July 7, 2009

SUBJECT:

Publication 111M Traffic Control – Pavement Markings and Signing Standards TC-8600 and TC-8700 Series

INFORMATION AND SPECIAL INSTRUCTIONS:

The attached Standard Drawings shall be used by Department personnel and consultants whenever applicable for the design, details, and installation of traffic control Pavement Markings and Signs.

The following is a summary of the major changes that have been incorporated into this edition.

TC-8600 - Railroad Marking moved to page 7 and crosswalk markings move to new pages 5 & 6; new decorative crosswalks added page 6; sheets have been renumbered

TC-8602 - Multi-Lane detail added page 1; legend changes on all pages; note 4 changed on page 2

TC-8604 - note added on page 1 and 2 for types of approved sheeting; nomenclature change in note 4

TC-8700 - Revised headings for Upper/Lower Case (5W) spacing charts; Lower Case Clearview Highway 5W spacing charts Upper/Lower Case Clearview Highway 5WR spacing charts to clearify sizes.

TC-8701A - General Motorist Service Signs added to Sign Details Freeway and Expressway Guide Signs

TC-8716 - Change 300 (12") to 500 (20") Type III Baricade in note 5

TC-8717 - Change 300 (12") to 500 (20") Temporary Portable Sign Posts "H" Base and "X" Base in note 3

CANCEL AND DESTROY THE FOLLOWING:

The following standards are replaced:

Index Page

TC-8600 Pages - 7, 5, 6, 8, 9, 10, 11

TC-8602 Pages - 1, 3, 4

TC-8604 Pages - 1, 2, 3, 4

TC-8700 Pages - 8, 9, 10, 11

TC-8701A Page - 7

TC-8716 Page - 1

TC-8717 Page - 1

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Allen D. Biehler, P.E. Secretary of Transportation By:

Glenn C. Rowe, P.E.

Acting Director, Bureau of Highway Safety and Traffic Engineering

OS-299(2-05)



TRANSMITTAL LETTER

Publication 111M May 2007 Edition Change 2

DATE: July 25, 2008

SUBJECT: Publication 111M Traffic Control - Pavement Markings and Signing Standards TC-8600 and TC-8700 Series

INFORMATION AND SPECIAL INSTRUCTIONS:

The attached Standard Drawings shall be used by Department personnel and consultants whenever applicable for the design, details, and installation of traffic control Pavement Markings and Signs. The previous Publication 111M, issued May 2007, and any changes thereto shall be replaced by this new edition.

The following is a summary of the major changes that have been incorporated into this edition.

General:

Added following standards as part of this publication:
 TC-8717 – Temporary Portable Sign Post, "H" Base and "X" Base

TC-8701S:

• 2 – Added new detail for Extruded Aluminum Stiffeners for use on Flat Sheeting Aluminum Signs

TC-8716:

• Made changes to conform to the MUTCD

TC-8717:

 This is a new standard drawing for a portable sign post for PENNDOT that was approved by FHWA.

CANCEL AND DESTROY THE FOLLOWING: The following standards are replaced:	REQUEST ADDITIONAL COPIES FROM:
Index Sheet	Distribution Services Unit P.O. Box 2028
TC-8701S dated May 25, 2007	Harrisburg, PA 17105
TC-8716 dated May 25, 2007	Tolombono: (747) 707 6746
	Telephone: (717) 787-6746
	APPROVED FOR ISSUANCE BY:
	Allen D. Biehler, P.E. Secretary of Transportation By:
	Daryl R. St. Clair, P.E. Acting Director, Bureau of Highway Safety and Traffic Engineering

08-299 (2-05)



TRANSMITTAL LETTER

Publication 111M May 2007 Edition Change 1

DATE: March 18, 2008

SUBJECT: Publication 111M Traffic Control - Pavement Markings and Signing Standards TC-8600 and TC-8700 Series

INFORMATION AND SPECIAL INSTRUCTIONS:

This change involves making corrections to clarify the use of Clearview Font for upper case/lower case font on guide signs and correct a metric dimension for when sign lighting is required for overhead guide signs.

CANCEL AND DESTROY THE FOLLOWING:

THE FOLLOWING STANDARDS ARE REPLACED: TC-8701A and TC-8701D dated May 25, 2007

REQUEST ADDITIONAL COPIES FROM:

Distribution Services Unit P.O. Box 2028 Harrisburg, PA 17105

Telephone: (717) 787-6746

APPROVED FOR ISSUANCE BY:

Allen D. Biehler, P.E. Secretary of Transportation BY:

Daryl St. Clair, P.E.

Acting Director, Bureau of Highway Safety and Traffic Engineering

OS-299(2-05)



TRANSMITTAL LETTER

Publication 111M

DATE: May 25, 2007

SUBJECT: Publication 111M Traffic Control - Pavement Markings and Signing Standards TC-8600 and TC-8700 Series

INFORMATION AND SPECIAL INSTRUCTIONS:

The attached Standard Drawings shall be used by Department personnel and consultants whenever applicable for the design, details, and installation of traffic control Pavement Markings and Signs. The previous Publication 111M, issued August 1997, and any changes thereto shall be replaced by this new edition.

The following is a summary of the major changes that have been incorporated into this edition.

General:

Added following standards as part of this publication:

TC-8600 - Pavement Markings

TC-8602 - Snowplowable Raised Pavement Markings

TC-8604 - Delineation

- Standards shown in dual units, metric and English
- Standards developed in conformance with 2001 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals and the 2002 Interim revisions.

TC-8700:

- 8 thru 11 Added English unit spacing charts for clearview highway fonts 5W & 5WR
- 12 thru 17 Added English unit spacing charts

TC-8701A:

• 1 of 7 – Note 3 under signing plans revised to indicate if 800' min. clear tangent sight distance is not available, sign lighting is required.

TC-8701D:

- 4 of 9 Added new diagrammatic sign standard
- 5 of 9 Added two new alternate designs for gore signs in restricted lateral clearance areas
- 9 of 9 Revised color specifications for Turnpike shields

TC-8701E:

1 of 2 – Added 6" sections at top & bottom of extruded aluminum channel sign

TC-8701R:

1 & 2 – Added "Next Rest Area" supplemental plaque detail

TC-8701S:

• 1 of 3 – Removed medium flanged section detail

TC-8702A:

- 2, 3 & 4 of 8 Added W18X35 & W18X40 post sizes to post selection charts
- 7 of 8 Added W18 bracket selection table
 - Deleted W310 bracket selection table
- 8 of 8 Added W18 to footing selection table
 - Added soil properties note

TC-8702B:

- General Deleted steel square posts (System B)
- 5 of 9 Deleted universal spacer detail
- 8 of 9 Added socket system for concrete installations

TC-8702D:

• 1 of 2 – New anchor detail and parapet attachment method

TC-8702E:

- General Removed composite post selection tables and erection details
- 1 of 5 Added "one post" selection table

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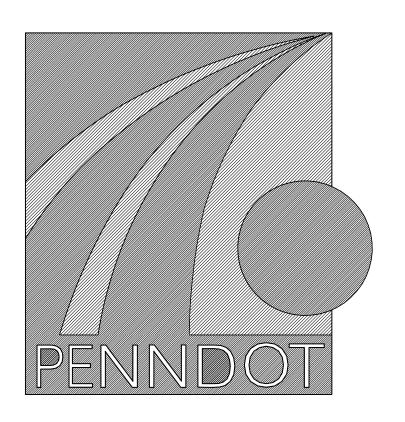
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APPROVED FOR ISSUANCE BY:

Allen D. Biehler, P.E. Secretary of Transportation By:

M. G. Patel, P.E.
Chief Engineer, Highway Administration

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION



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

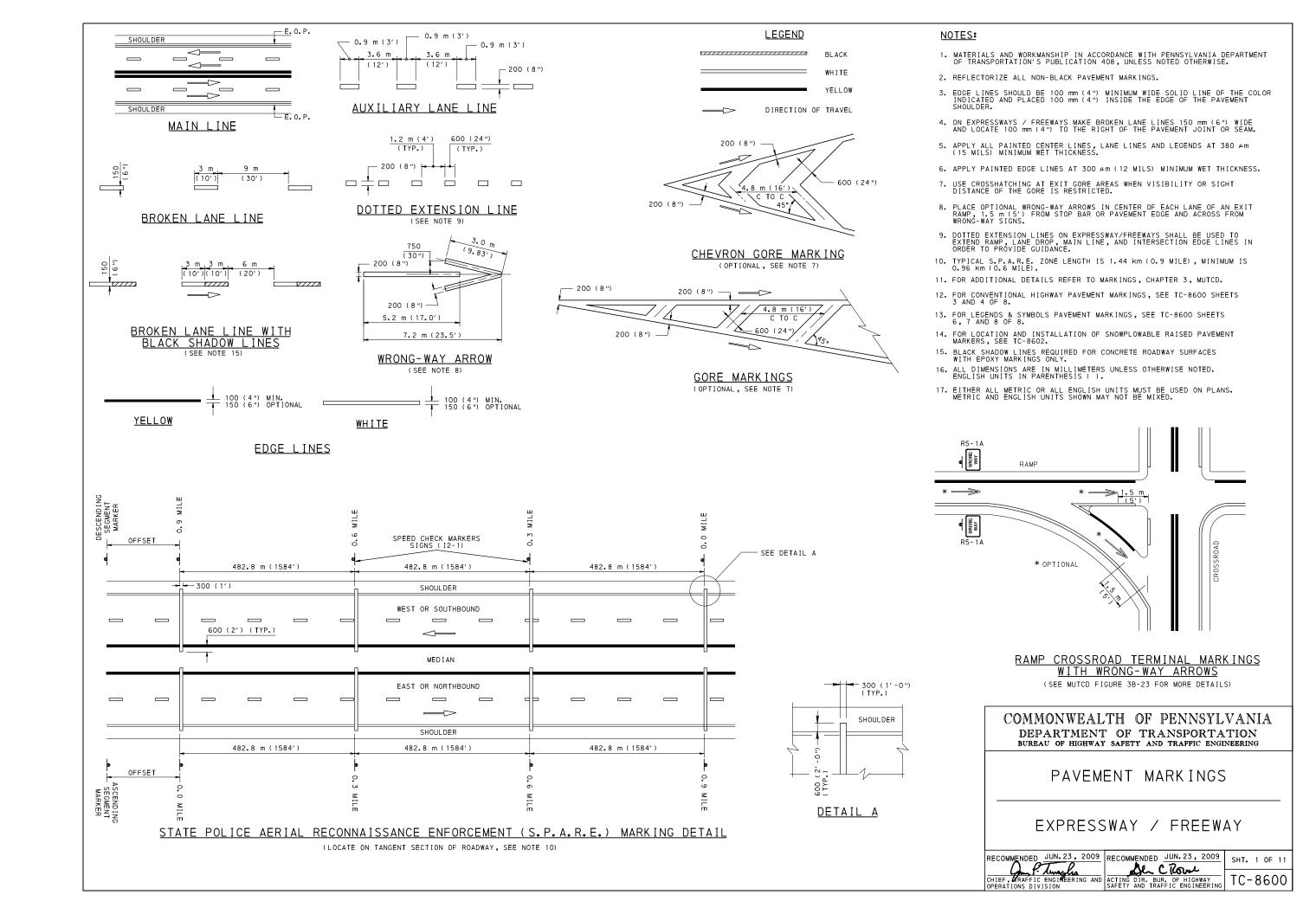
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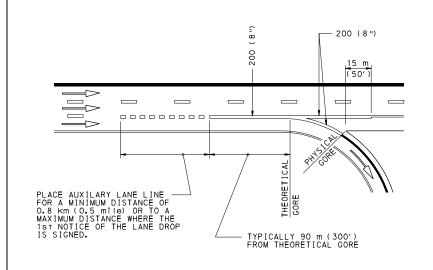
MAY 2007

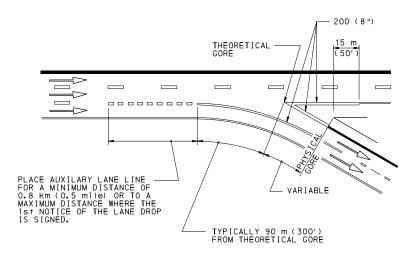
INDEX OF TRAFFIC CONTROL - PAVEMENT MARKINGS AND SIGNING STANDARDS

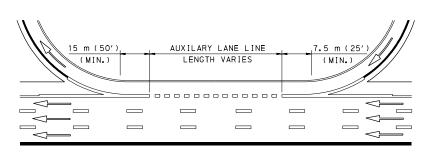
STANDARD DRAWING NO.	DATE	DESCRIPTION
* TC-8600 (11 SHEETS)	JUN.23, 2009	PAVEMENT MARKINGS (EXPESSWAY / FREEWAY, CONVENTIONAL, LEGENDS & SYMBOLS)
* TC-8602 (4 SHEETS)	JUN.23, 2009	SNOWPLOWABLE RAISED PAVEMENT MARKERS
* TC-8604 (4 SHEETS)	JUN.23, 2009	DELINEATION
* TC-8700C (18 SHEETS)	JUN.23, 2009	SPACING CHARTS / DIRECT APPLIED LETTERS, NUMERALS & ARROWS
* TC-8701A (7 SHEETS)	JUN.23, 2009	ADVANCE SIGNING FOR INTERCHANGES
TC-8701D (9 SHEETS)	MAR.18, 2008	SIGN DETAILS / FREEWAY & EXPRESSWAY GUIDE SIGNS
TC-8701E (2 SHEETS)	MAY 25, 2007	EXTRUDED ALUMINUM CHANNEL SIGNS
TC-8701P (2 SHEETS)	MAY 25, 2007	FREEWAY & EXPRESSWAY ADVANCE SIGNING FOR PARKING AREAS
TC-8701R (2 SHEETS)	MAY 25, 2007	FREEWAY & EXPRESSWAY ADVANCE SIGNING FOR REST AREAS
TC-8701S (4 SHEETS)	JUL.18, 2008	FLAT SHEET ALUMINUM SIGNS WITH EXTRUDED ALUMINUM STIFFENERS
TC-8701W (2 SHEETS)	MAY 25, 2007	FREEWAY & EXPRESSWAY ADVANCE SIGNING FOR WELCOME CENTERS
TC-8702A (8 SHEETS)	MAY 25, 2007	POST-MOUNTED SIGNS, TYPE A
TC-8702B (9 SHEETS)	MAY 25, 2007	POST-MOUNTED SIGNS, TYPE B
TC-8702C (2 SHEETS)	MAY 25, 2007	POST-MOUNTED SIGNS, TYPE C
TC-8702D (2 SHEETS)	MAY 25, 2007	POST-MOUNTED SIGNS, TYPE D
TC-8702E (5 SHEETS)	MAY 25, 2007	POST-MOUNTED SIGNS, TYPE E
TC-8710 (1 SHEET)	MAY 25, 2007	DISTANCE MARKERS
TC-8715 (5 SHEETS)	MAY 25, 2007	SIGN LIGHTING
* TC-8716 (1 SHEET)	JUN. 23, 2009	TYPE III BARRICADE
* TC-8717 (1 SHEET)	JUN.23, 2009	TEMPORARY PORTABLE SIGN POST, "H" BASE AND "X" BASE

SEE CHANGE #1 FOR MAR.18, 2008 STANDARD REVISIONS SEE CHANGE #2 FOR JUL.18, 2008 STANDARD REVISIONS ** SEE CHANGE #3 FOR JUN.23, 2009 STANDARD REVISIONS



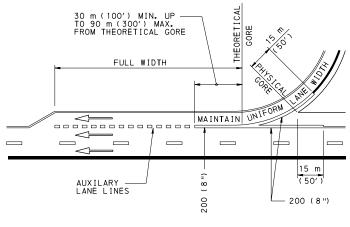




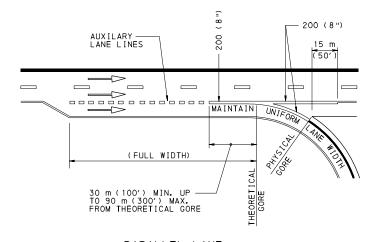


MULTIPLE EXIT LANES

CLOVERLEAF INTERCHANGE



EXIT ONLY LANE DROP

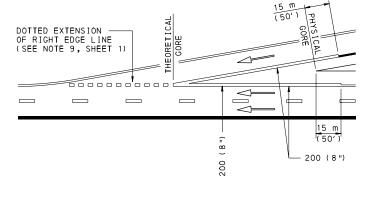


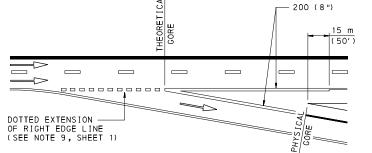


PARALLEL LANE

PARALLEL LANE

NOTE:





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

PAVEMENT MARKINGS

EXPRESSWAY / FREEWAY

RECOMMENDED JUN. 23, 2009

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN. 23, 2009

CROWNENDED JUN. 23, 2009

ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING TC-8600

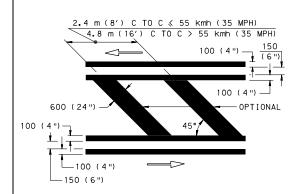
TAPERED LANE ACCELERATION LANE

DECELERATION LANE

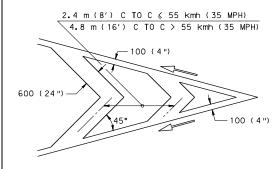
TAPERED LANE

NOTES: LANE, EDGE AND CENTERLINES 1. MAKE ALL LANE LINES, EITHER SOLID OR BROKEN WHITE, 100 mm (4") MINIMUM WIDE ON TWO-LANE, TWO-WAY HIGHWAYS AND 150 mm (6") WIDE ON MULTI-LANE HIGHWAYS. 2. LANE LINES ON AN APPROACH TO A SIGNALIZED INTERSECTION SHALL BE SOLID WHITE FOR A DISTANCE OF 45 m (150') MEASURED FROM THE STOP BAR. کے (13) 3. LANE LINES THAT DELINEATE THE EDGE OF A TURNING LANE ARE TO BE SOLID WHITE LINES WITH A LENGTH EQUAL 2X/3, BUT NOT LESS THAN 1/3 THE LENGTH OF THE TURN LANE, MEASURED FROM THE STOP BAR. (4) (1) 2 4. MAKE EDGE LINES SOLID WHITE LINES 100 mm (4") WIDE, EXCEPT USE SOLID YELLOW LINES WHEN ADJACENT TO A MEDIAN WHICH SEPARATES OPPOSING DIRECTIONS OF VEHICULAR TRAFFIC FLOW. 5. ON TWO-LANE, TWO-WAY HIGHWAYS, THE CENTER LINES ARE YELLOW, 100 mm (4") WIDE EITHER SOLID, BROKEN OR A COMBINATION THEREOF. A SOLID BARRIER LINE SHALL PRECEDE ALL CONTROLLED INTERSECTIONS BY THE MINIMUM DISTANCE NOTED IN TABLE A. ***** €* ****** L/2 L/6 (9) _ X ⇒_ 6. ON FOUR OR MORE LANE UNDIVIDED HIGHWAYS, FOR CENTER LINES USE THE TWO-WAY BARRIER LINES. * 🥌 * 5 (14) **___(MIN.)_ 業員 (14) * 🗇 * 🖺 (14) 7. "CENTER LANE LEFT TURN ONLY" MARKINGS ARE TWO (2) SETS OF ONE-WAY BARRIER LINES WITH BROKEN YELLOW LINES INSIDE OF THE SOLID YELLOW LINES. SIGNAL TZED 8. EXTEND THE LANE LINES, EDGE LINES AND/OR CENTER LINES A DISTANCE OF 45 m (150') FROM THE STOP BAR ON MINOR APPROACHES, WHERE CONDITIONS PERMIT. * 2X/3 DESIRABLE X/3 MINIMUM 9. STOP LINES ARE SOLID WHITE LINES THAT COMPLETELY TRAVERSE EACH TRAFFIC LANE. AT AN INTERSECTION WITH A STOP SIGN, THE STOP LINE SHOULD BE PLACED AT A LOCATION NO LESS THAN 1.2 m (4'), OR MORE THAN 9 m (30') FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY TO ENSURE MAXIMUM SIGHT DISTANCE TO VEHICLES ON THE CROSSING ROUTE. WHEN USED ON MULTI-LANE APPROACH TO A SIGNALIZED INTERSECTION, THE STOP LINE MAY BE STAGGERED TO ASSIST TURNING VEHICLES AND TO IMPROVE SIGHT DISTANCE FOR MOTORIST DESIRING TO MAKE A TURN ON RED. ** OPTIONAL *** REQUIRED WHERE THROUGH LANE BECOMES MANDATORY TURN LANE <u>PL AN</u> 10. LOCATE STOP LINES AT A MINIMUM OF 1.2 m (4') IN ADVANCE OF AND PARALLEL TO THE CROSSWALK LINES UNLESS OTHERWISE NOTED. YIELD LINE (FOR DETAILS SEE SHEET 5 OF 8) METRIC UNITS **ENGLISH UNITS** 11. YIELD LINES ARE TO CONSIST OF A ROW OF SOLID WHITE ISOSCELES TRIANGLES POINTING TOWARD APPROACHING VEHICLES EXTENDING ACROSS APPROACH LANES TO INDICATE THE POINT AT WHICH THE YIELD IS INTENDED OR REQUIRED TO BE MADE. FOR CONVENTIONAL ROADWAYS WHERE THE 85TH PERCENTILE FOR CONVENTIONAL ROADWAYS WHERE THE 85TH PERCENTILE 155 SPEED IS 65 km/h OR LESS SPEED IS 40 MPH OR LESS MEDIAN MARKINGS 12. TRANSVERSE MEDIAN MARKINGS ARE 600 mm (24") WIDE YELLOW LINES SPACED AS INDICATED ON SHEET 4, WITHIN TWO (2) SETS OF TWO-WAY BARRIER LINES. USE TRANSVERSE LINES ONLY WHEN REQUIRED TO PROVIDE EMPHASIS IF THE SIGHT DISTANCE OR VISIBILITY IS RESTRICTED. FOR CONVENTIONAL ROADWAYS WHERE THE 85TH PERCENTILE FOR CONVENTIONAL ROADWAYS WHERE THE 85TH PERCENTILE SPEED IS 70 km/h OR GREATER AND FOR ALL FREEWAYS SPEED IS 45 MPH OR GREATER AND FOR ALL FREEWAYS AND EXPRESSWAYS AND EXPRESSWAYS S = 85TH PERCENTILE SPEED (MPH) S = 85TH PERCENTILE SPEED (KMH) WHERE: WHERE: GORE MARKINGS 13. EDGE LINES ARE 100 mm (4") SOLID WHITE LINES. USE TRANSVERSE OR DIAGONAL LINES ONLY WHEN REQUIRED TO PROVIDE ADDITIONAL EMPHASIS IF THE SIGHT DISTANCE OR VISIBILITY OF GORE IS RESTRICTED. X = 7.5 m PER 30 TURNING V.P.H. THE MINIMUM IS 22.5 m X = 25' PER 30 TURNING V.P.H. THE MINIMUM IS 75' PAVEMENT LEGENDS 14. WORD AND SYMBOL MARKINGS SHOULD NOT EXCEED THREE LINES OF INFORMATION. IF A PAVEMENT MARKING WORD MESSAGE CONSISTS OF MORE THAN ONE LINE OF INFORMATION, IT SHOULD READ IN THE DIRECTION OF TRAVEL. THE FIRST WORD OF THE MESSAGE SHOULD BE NEAREST TO THE ROAD USER. THE LONGITUDINAL SPACE BETWEEN WORD OR SYMBOL MESSAGE MARKINGS, INCLUDING ARROW MARKINGS, SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTERS FOR LOW-SPEED ROADS, BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTERS UNDER ANY CONDITIONS. ON ALL APPROACHES, CENTER THE LEGENDS WITHIN THE LANE. SPEED LIMIT OR 85TH PERCENTILE SPEED km/h (MPH) DISTANCE m (FT) 60 (35) OR LESS 65 (40) 105 (350 70 (45) 120 (400 80 (50) 15. ALIGN THE LEGENDS TRANSVERSELY ACROSS EACH PAVEMENT. THE MINIMUM DISTANCE BETWEEN THE ARROW SYMBOL AND STOP BAR IS 6 m (20'). 90 (55) 150 (500) TABLE A **DOTTED EXTENSION LINES** 100 (4")-(30′) (10') (30′) (SEE NOTE 5) 16. DOTTED EXTENSION LINES MAY BE USED TO DELINEATE TRAVEL PATHS FOR TURNING TRAFFIC MOVEMENTS AT OFFSET, SKEWED OR COMPLEX INTERSECTIONS AND FOR MULTIPLE TURN LANES. 300 (12") MIN. **YELLOW** 600 (24") OPTIONAL SEE NOTE 1 LANE REDUCTION ARROW (LRA) 17. FOR DETAILS SEE SHEET 10. GENERAL (30') (10') (30′) STOP LINE 18. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS (). SOLID LANE LINE 19. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED. <u>WHITE</u> - 0.9 m (3') — 0.9 m (3') ___ 0.9 m (3') 3.6 m 3.6 m BROKEN LANE LINE (12') (12') __ 150 (6") _ 100 (4") (10') (30′) (6") 100 (4") — COMMONWEALTH OF PENNSYLVANIA **LEGEND** DEPARTMENT OF TRANSPORTATION AUXILIARY LANE LINE BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING WHITE ONE-WAY BARRIER LINES YELLOW (SEE NOTE 5) PAVEMENT MARKINGS DIRECTION OF TRAVEL 1.2 m (4') 600 (24") 150 ______ 100 (4") (TYP.) (3) NOTE REFERENCE NUMBER 100 (4") — CONVENTIONAL DOTTED EXTENSION LINE TWO-WAY BARRIER LINES RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 (SEE NOTE 5) CHIEF, KRAFFIC ENGINEERING AND SAFETY AND TRAFFIC ENGINEERING

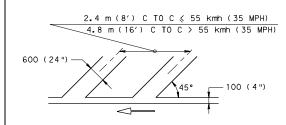
TC-8600



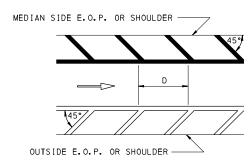
TRANSVERSE MEDIAN MARKING



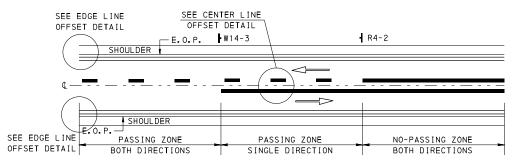
CHEVRON GORE MARKING (OPTIONAL)



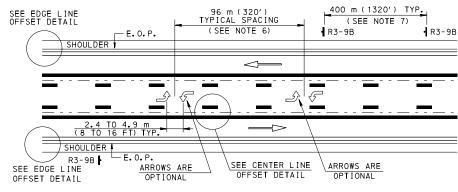
ONE-WAY BARRIER GORE MARKING (OPTIONAL)



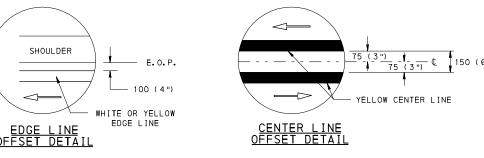
SPACING OF DIAGONAL LINES (TYPICALLY EQUAL IN FEET TO THE POSTED SPEED LIMIT). INCREASE SPACING OF DIAGONALS TO 60 m (200') OR MORE ON INTERSTATE ROADWAYS.



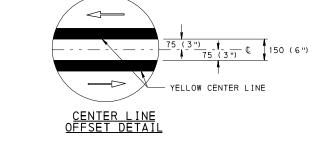
TWO-LANE, TWO-WAY UNDIVIDED ROADWAY

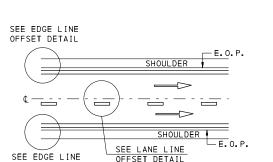


TWO-LANE, TWO-WAY UNDIVIDED ROADWAY WITH TWO-WAY LEFT TURN LANE



OFFSET DETAIL





MULTI-LANE ROADWAY

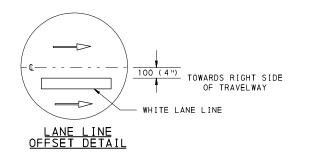
EDGE OF PAVEMENT OR SHOULDER ISLAND

NOTES:

- 1. OFFSET PAVEMENT MARKING LINES 100 mm (4") FROM LONGITUDINAL PAVEMENT CONSTRUCTION JOINTS, AS DETERMINED BY THE ENGINEER OR AS INDICATED BELOW:

 YELLOW SKIP LINES ON TWO-LANE, TWO-WAY ROADWAYS (WHERE PASSING IS ALLOWED IN BOTH DIRECTIONS) CAN BE OFFSET 75 mm (3") FROM THE CENTER LINE TO ALLOW FOR FUTURE REPAINTING OF THE LINES WITH COMPATIBLE DEPARTMENT EQUIPMENT.

 OFFSET DOUBLE YELLOW CENTER LINES 75 mm (3") ON EACH SIDE OF THE CENTER LINE TO ALLOW FOR PLACEMENT OF PAVEMENT MARKERS (PRESENT OR FUTURE PLACEMENT).
- 2. PASSING NO PASSING ZONES WILL BE DETERMINED BY THE ENGINEER.
- 3. EDGE LINES ARE NOT REQUIRED ALONG CURB AND GUTTER LOCATIONS.
- 4. DO NOT CONTINUE EDGE LINES THRU INTERSECTIONS, AND DO NOT BREAK EDGE LINES AT DRIVEWAYS.
- 5. PLACE EDGE LINES AT RAISED ISLAND LOCATIONS, OUTLINING THE SHAPE OF THE RAISED ISLAND.
- 6. 96 m (320') TYPICAL SPACING BETWEEN SETS OF ARROW SYMBOLS CAN BE INCREASED OR DECREASED AS DETERMINED BY THE ENGINEER.
- 7. 400 m (1320') TYPICAL DISTANCE BETWEEN CENTER LANE LEFT TURN ONLY SIGNS (R3-9B) CAN BE INCREASED OR DECREASED AS DETERMINED BY THE ENGINEER.
- 8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.





LEGEND

WHITE YELLOW

DIRECTION OF TRAVEL

PAVEMENT MARKINGS

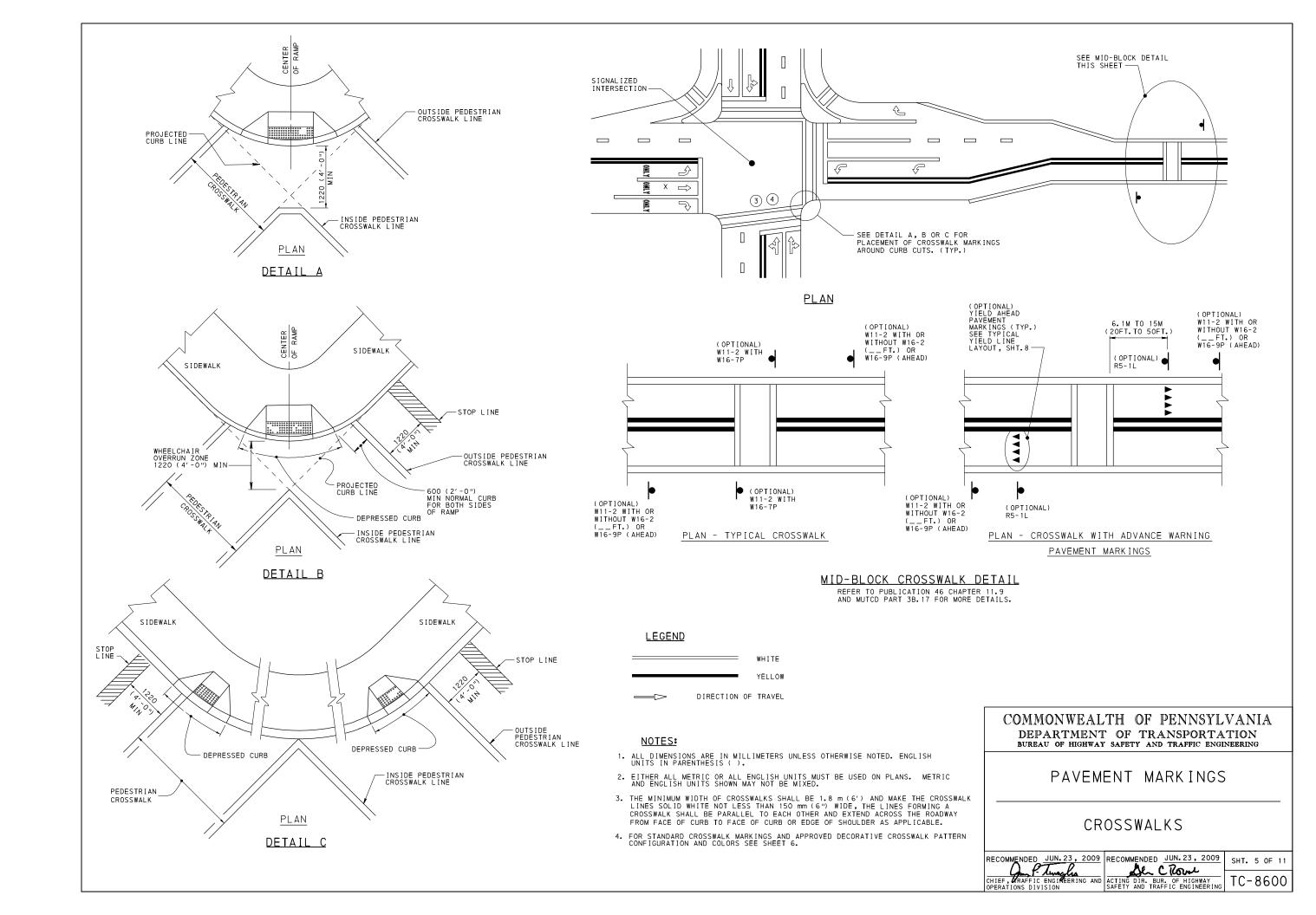
CONVENTIONAL

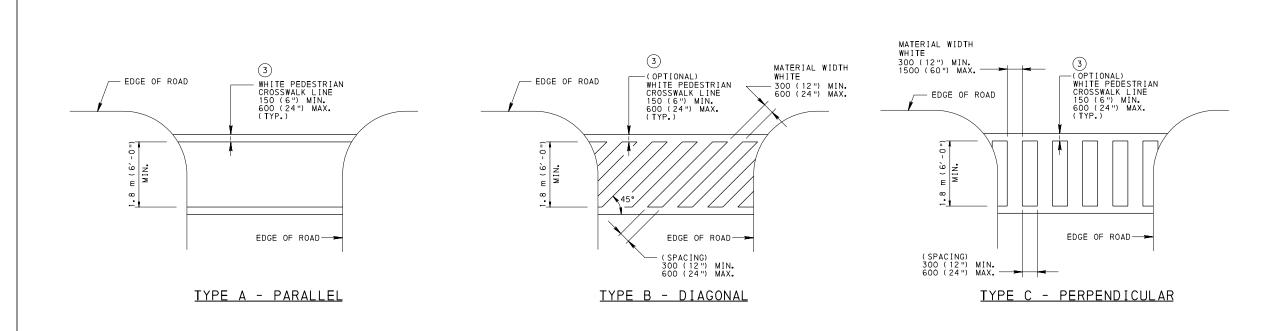
RECOMMENDED JUN. 23, 2009

CHIEF, MRAFFIC ENGINEERING AND OPERATIONS DIVISION

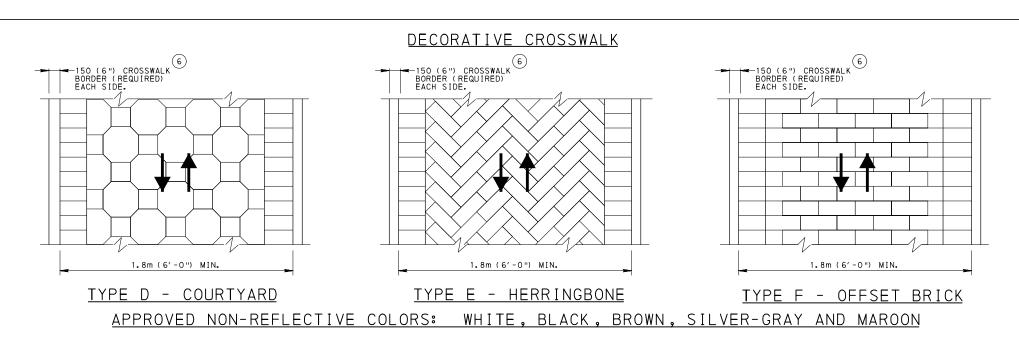
RECOMMENDED JUN. 23, 2009

ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING TC-8600



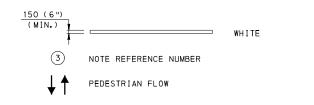


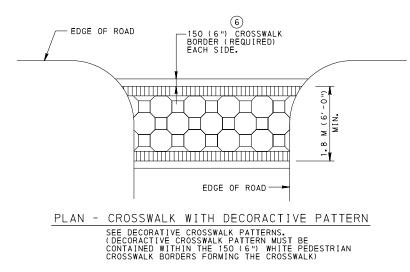
STANDARD CROSSWALK MARKINGS



- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 2. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.
- 3. MAKE THE CROSSWALK LINES SOLID WHITE, NOT LESS THAN 150 (6") WIDE.
- 4. EXTEND THE CROSSWALK ACROSS THE ROADWAY FROM FACE OF CURB TO FACE OF CURB OR EDGE OF SHOULDER AS APPLICABLE.
- 5. THE MINIMUM WIDTH OF CROSSWALKS SHALL BE 1.8 m (6').
- 6. A WHITE BORDER, 150 (6") WIDE, IS REQUIRED ALONG EACH SIDE OF THE DECORATIVE CROSSWALK, THE BORDERS ARE TO BE PARALLEL USING A PENNDOT APPROVED PAVEMENT MARKING MATERIAL AND EXTENDS FROM FACE OF CURB TO FACE OF CURB OR SHOULDER.

LEGEND





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

PAVEMENT MARKINGS

CROSSWALKS

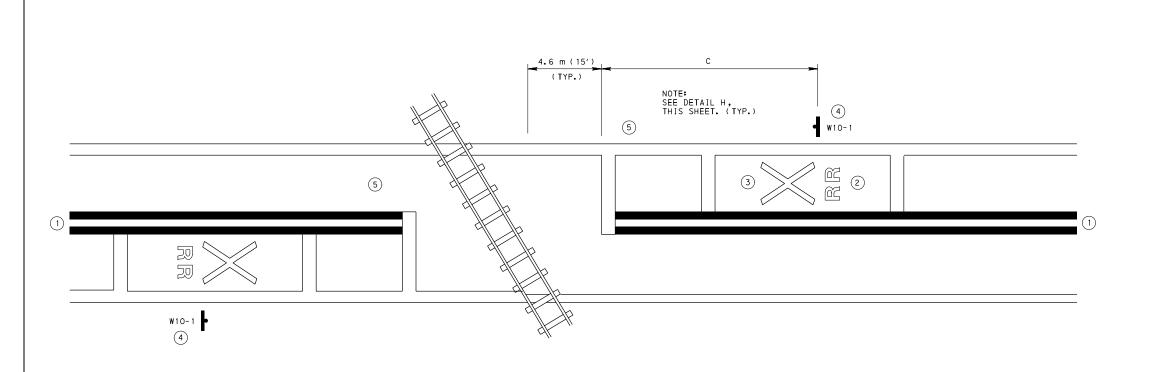
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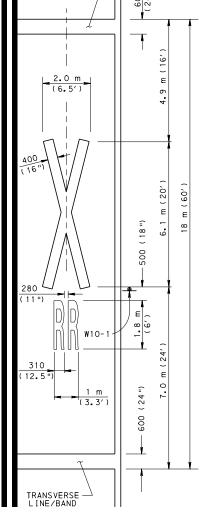
ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

TC-8600



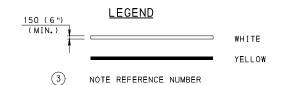
RAILROAD CROSSING <u>MARK ING</u>

(SEE MUTCD FIG. 8B-6 AND 8B-7 FOR MORE DETAILS)



TRANSVERSE LINE/BAND

DETAIL H



<u>NOTES</u>

- 1. ON TWO-LANE, TWO-WAY HIGHWAYS, THE CENTER LINES ARE YELLOW, 100 mm (4") WIDE EITHER SOLID, BROKEN OR A COMBINATION THEREOF. A SOLID BARRIER LINE SHALL PRECEDE ALL CONTROLLED INTERSECTIONS BY THE MINIMUM DISTANCE NOTED IN TABLE A.
- 2. CENTER THE RAILROAD SYMBOLS WITHIN EACH LANE ON ALL PAVED APPROACHES TO HIGHWAY-RAIL GRADE CROSSINGS. IN THOSE SITUATIONS WHERE THERE IS INADEQUATE SPACE FOR THE PAVEMENT MARKINGS OR WHERE THE INSTALLATION WOULD CREATE OPERATIONAL PROBLEMS WITH TURNING LANES OR OTHER SPECIAL CONDITIONS, PAVEMENT MARKINGS ARE NOT REQUIRED PROVIDING AN ENGINEERING STUDY INDICATES THAT OTHER TRAFFIC CONTROL DEVICES PROVIDE SUITABLE WARNING AND CONTROL.
- 3. ON MULTI-LANE ROADS EXTEND THE TRANSVERSE LINES ACROSS ALL TRAFFIC LANES ON EACH APPROACH AND USE INDIVIDUAL SYMBOLS IN EACH APPROACH LANE.
- 4. LOCATE A PORTION OF RAILROAD PAVEMENT MARKING SYMBOL DIRECTLY OPPOSITE THE ADVANCE WARNING SIGN W10-1. USE DIMENSION "C" FOR PLACEMENT OF ADVANCE WARNING SIGN W10-1.
- 5. LOCATE STOP LINES 2.4 m (8') FROM THE GATE (IF PRESENT) , BUT NO CLOSER THAN 4.6 m (15') FROM THE NEAREST RAIL.
- 6. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 7. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.

SPEED LIMIT OR 85 TH PERCENTILE SPEED Km/h (MPH)	DISTANCE m (FT)
60 (35) OR LESS	90 (300)
65 (40)	105 (350)
70 (45)	120 (400)
80 (50)	135 (450)
90 (55)	150 (500)

TABLE A SEE NOTE 1

POSTED OR 85 TH PERCENTILE SPEED km/h (MPH)	C m (FT)
30 (20)	30 (100)
40 (25)	30 (100)
50 (30)	30 (100)
60 (35)	45 (150)
65 (40)	70 (225)
70 (45)	90 (300)
80 (50)	115 (375)
90 (55)	137 (450)
100 (60)	168 (550)
105 (65)	198 (650)

LOCATION OF RAILROAD CROSSING SIGN SEE NOTE 4

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

PAVEMENT MARKINGS

RAILROAD CROSSING

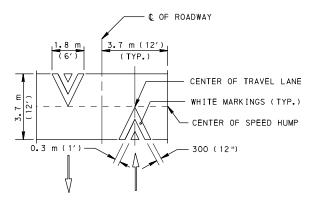
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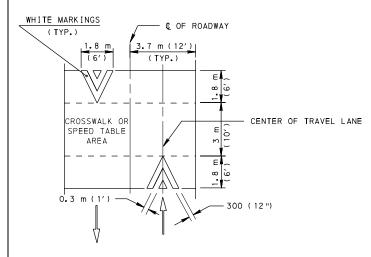
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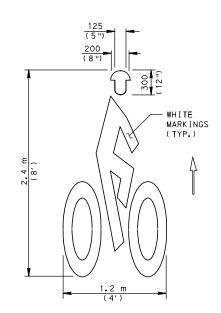
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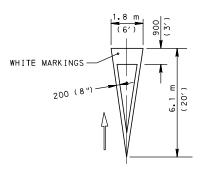
TYPICAL PAVEMENT MARKINGS FOR SPEED HUMPS



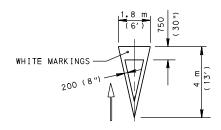
TYPICAL PAVEMENT MARKINGS FOR SPEED TABLES OR SPEED HUMPS WITH CROSSWALKS



BICYCLE WITH RIDER SYMBOL



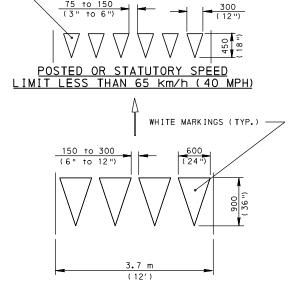
POSTED OR STATUTORY SPEED
LIMIT 70 km/h (45 MPH) OR GREATER
(SEE NOTE 3)



POSTED OR STATUTORY SPEED
LIMIT LESS THAN 70 km/h (45 MPH)
(SEE NOTE 3)

TYPICAL YIELD AHEAD TRIANGLE SYMBOLS

WHITE MARKINGS (TYP.)



ANY SPEED LIMIT

TYPICAL YIELD LINE LAYOUT



NOTES:

- YIELD LINES MAY BE USED TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO YIELD IN COMPLIANCE WITH A YIELD SIGN.
- YIELD LINES AND BICYCLE RIDER SYMBOL MAY BE SMALLER THAN SUGGESTED WHEN INSTALLED ON MUCH NARROWER, SLOW-SPEED FACILITIES SUCH AS SHARED-USE PATHS.
- 3. USE MUTCD CHAPTER 2C, TABLE 2C-4, CONDITION "B" FOR ADVANCE PLACEMENT DISTANCE OF YIELD AHEAD TRIANGLE SYMBOL.
- 4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().

 5. 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

PAVEMENT MARKINGS

CONVENTIONAL SPEED HUMPS, YEILD AND BICYCLE

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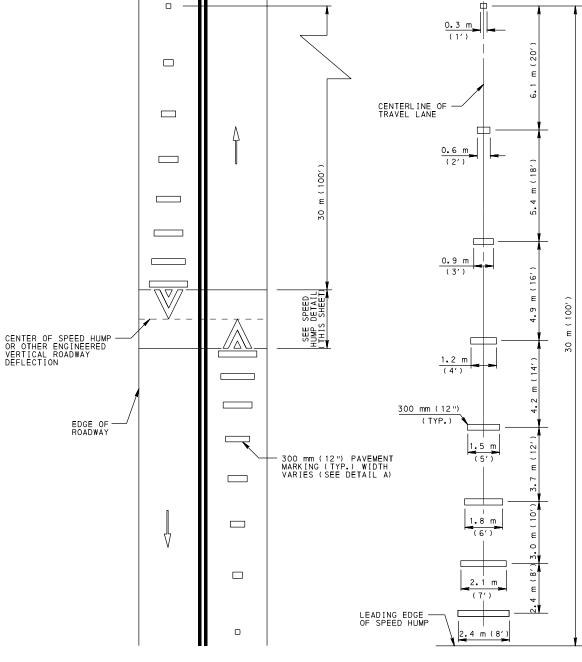
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SHT. 8 OF 11

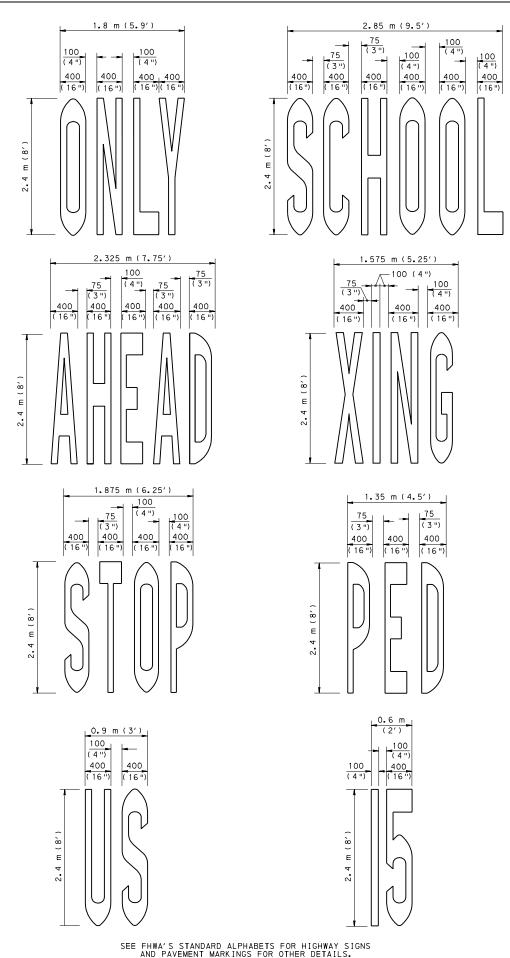
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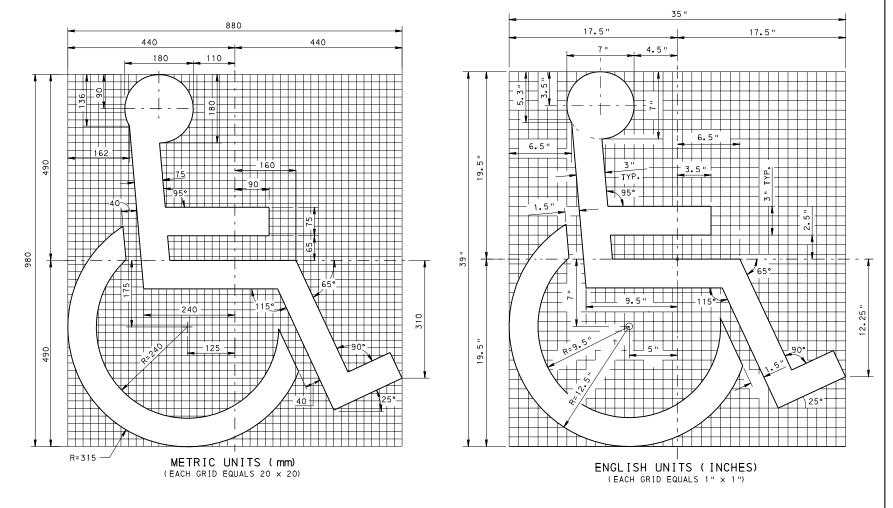
TC-8600



<u>DETAIL A</u>

TYPICAL ADVANCE WARNING MARKING FOR SPEED HUMPS OR OTHER ENGINEERED VERTICAL ROADWAY DEFLECTIONS





HANDICAPPED MARKING

NOTES:

- 1. HANDICAPPED SYMBOL SHALL BE WHITE. IT MAY BE INSTALLED ALONE OR WITH A BLUE BACKGROUND WHICH EXTENDS A MINIMUM OF 75 mm (3") BEYOND THE SYMBOL. IF MATERIAL THICKNESS OF SYMBOL IS GREATER THAN 500 \(\mu\) (20 MILS) THE BLUE BACKGROUND MUST BE USED. ANY REDUCTION IN DIMENSIONS MUST BE APPROVED BY THE DEPARTMENT.
- 2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 3. 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

PAVEMENT MARKINGS

LEGENDS AND SYMBOLS

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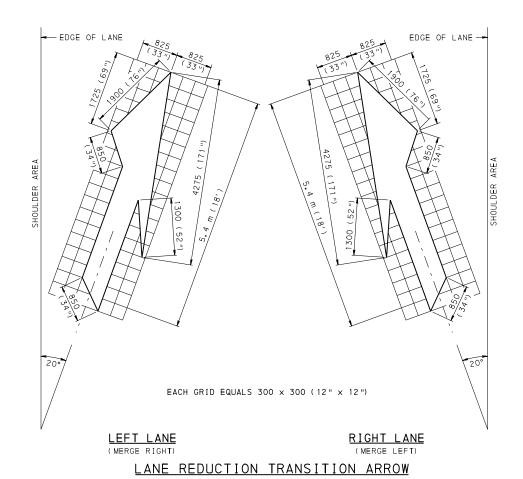
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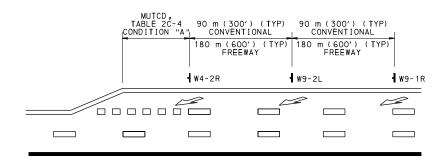
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TC-8600

LEGENDS





- 1. LOCATE LRA IN CENTER OF LANE.
- 2. PLACE LRAS IN GROUPS OF THREE WHEN CONDITIONS PERMIT.
- 3. FOLLOW MUTCD TABLE 2C-4 (CONDITION A) FOR PLACEMENT OF FIRST LANE REDUCTION ARROW IN ADVANCE OF TAPER.

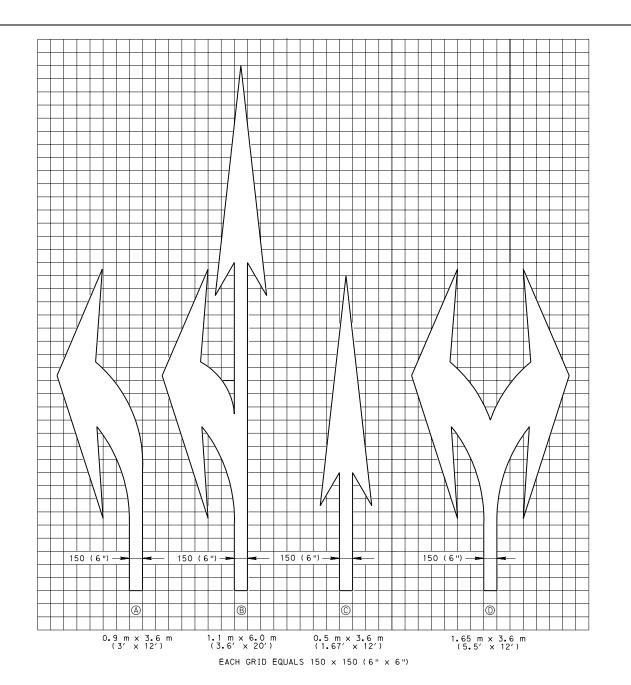
INTERSTATE - EXPRESSWAY/FREEWAY

4. PLACE ADDITIONAL LANE REDUCTION ARROWS AT 180 m (600') INTERVALS.

CONVENTIONAL ROADWAYS

5. PLACE ADDITIONAL LANE REDUCTION ARROWS AT 90 m (300') INTERVALS.

LANE REDUCTION ARROW PLACEMENT



ARROW	QUANTITY FOR PAVEMENT MARKING REMOVAL
A	1.11 m ² (20 FT ²)
B	2.04 m ² (32 FT ²)
0	0.84 m ² (13 FT ²)
0	1.95 m ² (32 FT ²)

MARKING ARROWS

- 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 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

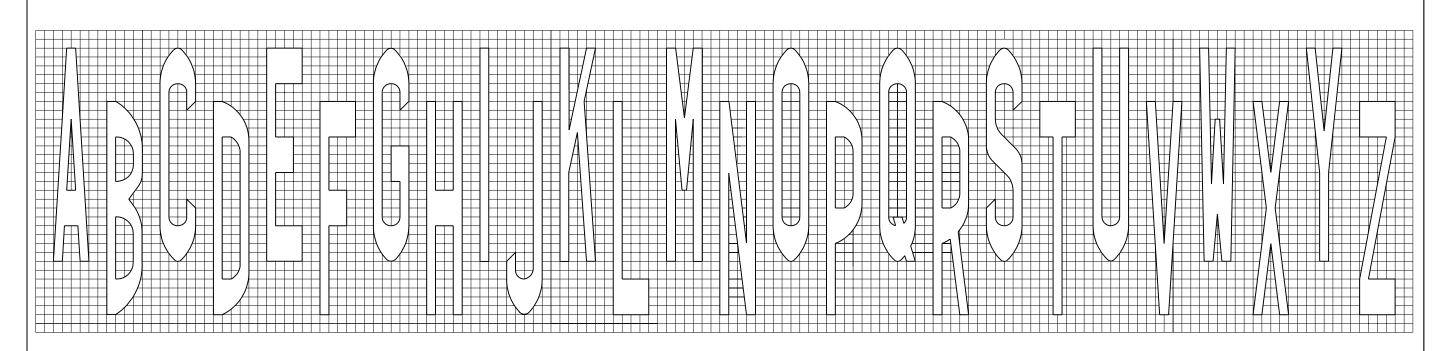
PAVEMENT MARKINGS

LEGENDS AND SYMBOLS

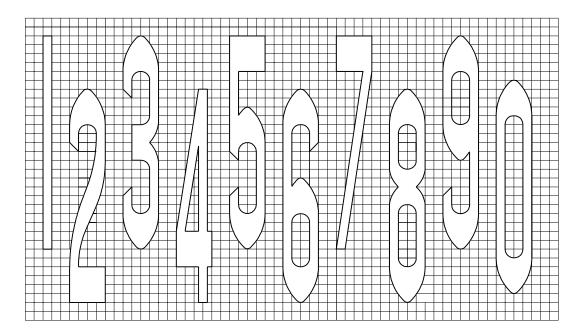
RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 SHT. 10 OF 11

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CTION OF THE SHOP OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING TC - 8600



STANDARD ALPHABET



STANDARD NUMERALS

NOTES:

- STANDARD CHARACTERS ARE 24 GRID UNITS HIGH AND 4 UNITS WIDE (EXCEPT LETTER "I' AND THE NUMBER "I" WHICH ARE 1 UNIT WIDE).
- 2. VERTICAL STROKES ARE 1 UNIT WIDE, HORIZONTAL STROKES ARE 4 UNITS HIGH.
- 3. SPACE 1 UNIT (MIN.) BETWEEN CHARACTERS OR AS OTHERWISE SHOWN (OPTICAL SPACING MAY BE USED).
- 4. STANDARD CHARACTER HEIGHTS ARE 2.4 m (8'), EXCEPT FOR THE 1.8 m (6') RAILROAD "R" SYMBOL.
- 5. FOR 2.4 m (8') HIGH CHARACTERS, THE WIDTH IS 400 mm (16") (USE 100 mm (4") FOR EACH GRID SQUARE).
- 6. FOR 3.0 m (10') HIGH CHARACTERS, THE WIDTH IS 500 mm (20") (USE 125 mm (5") FOR EACH GRID SQUARE).
- 7. FOR 1.8 m (6') HIGH CHARACTERS, THE WIDTH IS 300 mm (12") (USE 75 mm (3") FOR EACH GRID SQUARE).

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

PAVEMENT MARKINGS

LEGEND AND SYMBOLS
STANDARD ALPHABET & NUMERALS)

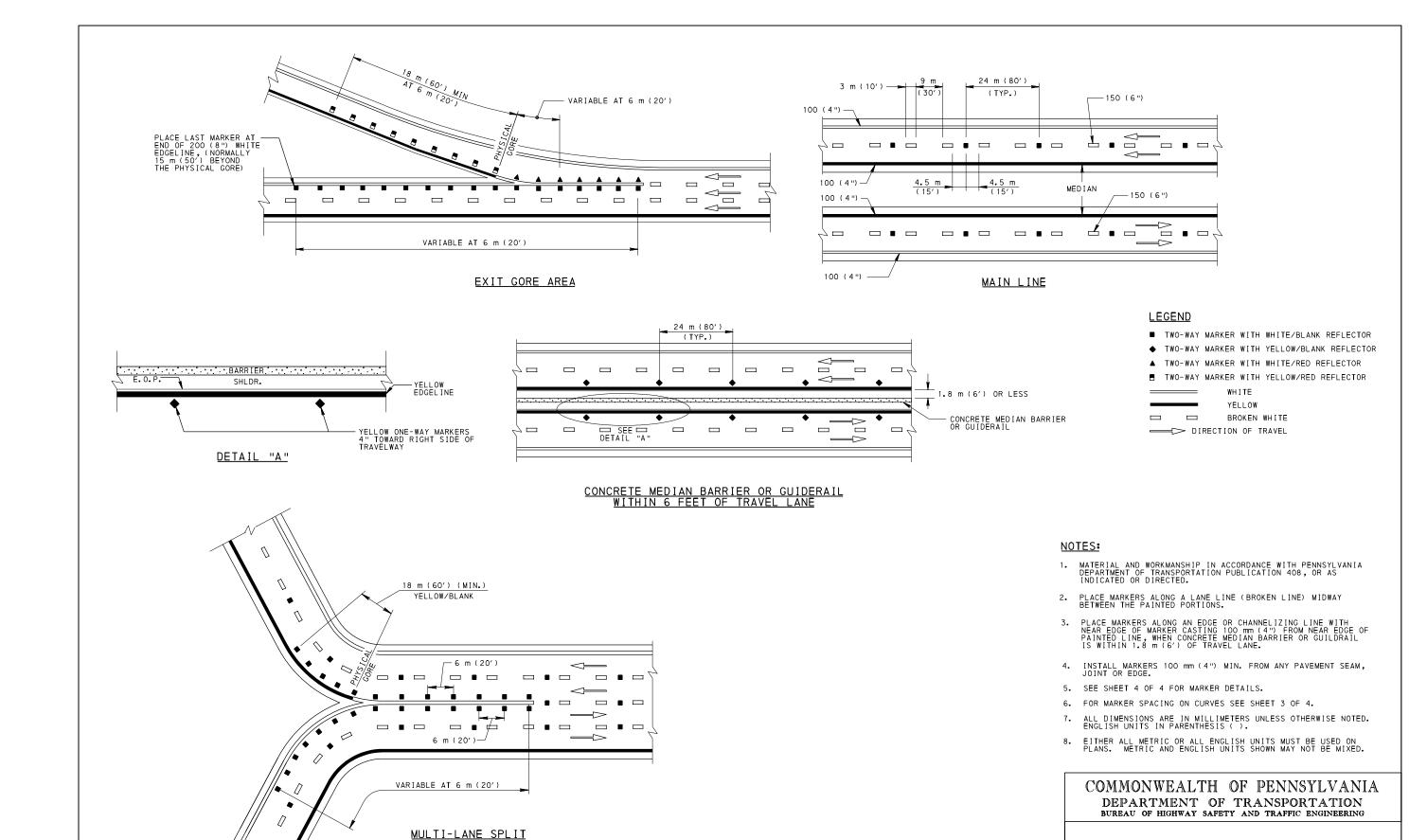
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TC-8600



SNOWPLOWABLE RAISED PAVEMENT MARKERS

SHT. 1 OF 4

TC-8602

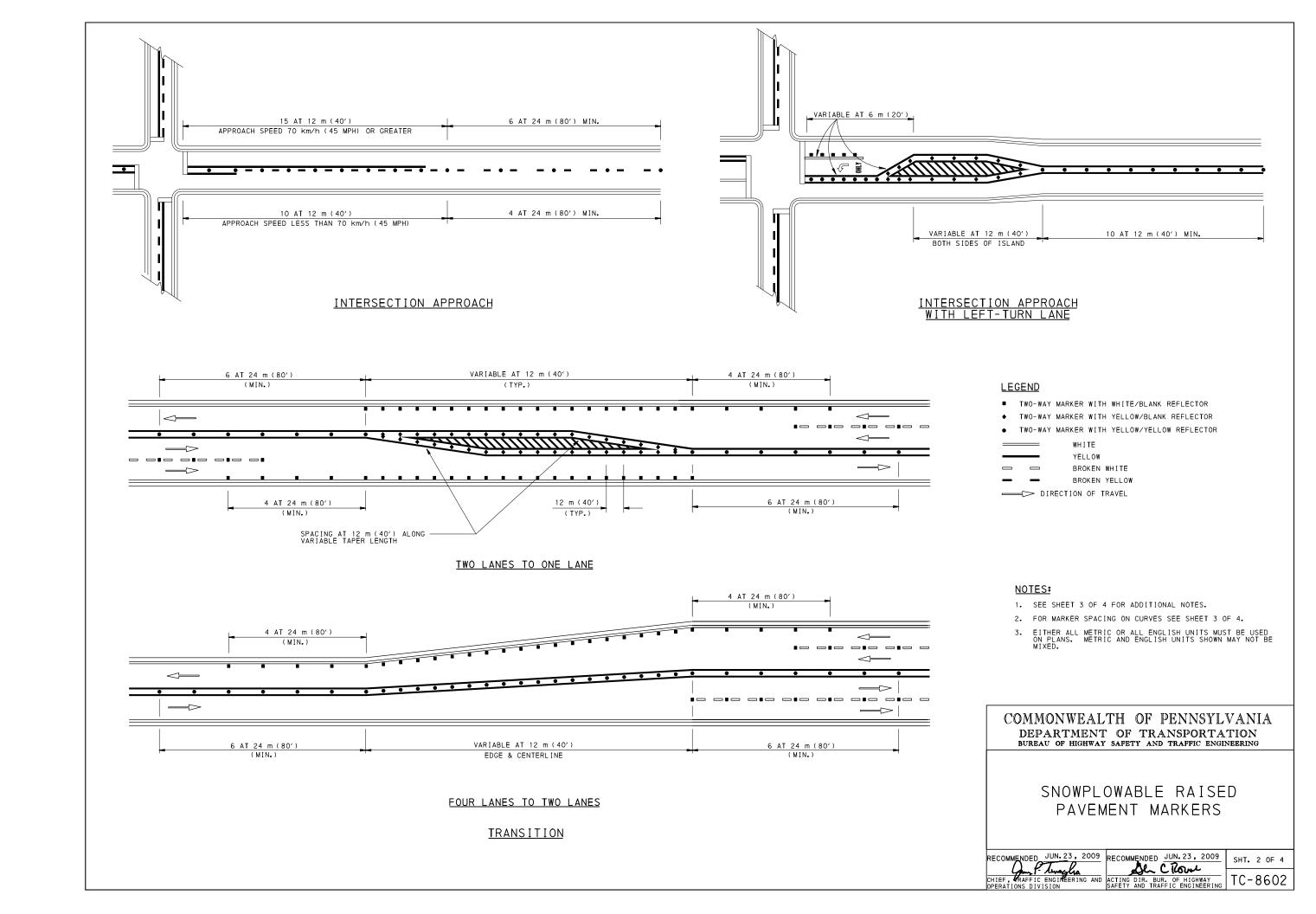
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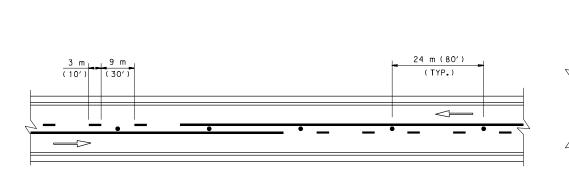
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ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

INSTALLATION PATTERNS - FREEWAYS & EXPRESSWAYS



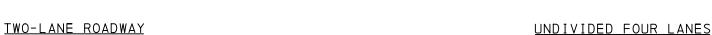


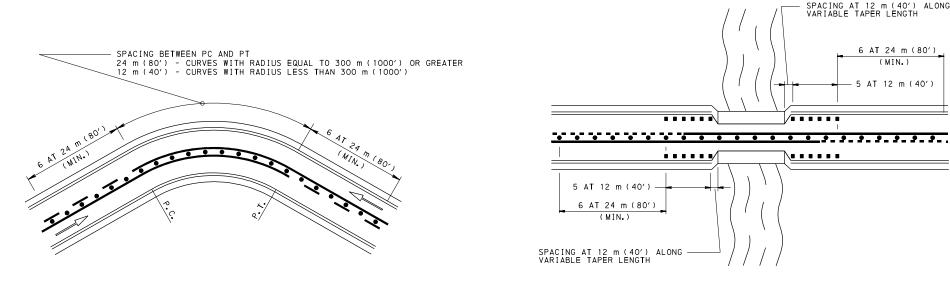
CURVES

24 m (80′)

(TYP.)

CENTER LANE LEFT-TURN ONLY





NARROW BRIDGE

24 m (80′) (TYP.)

ACROSS STRUCTURE USE BARRIER-MOUNT DELINEATORS

NOTES:

- MARKERS INSTALLED AT THE DOUBLE YELLOW CENTER LINE SHALL BE PLACED BETWEEN THE TWO PAINTED LINES. MARKERS SHALL NOT BE PLACED WITHIN THE LIMITS OF THE PAINTED LINES EXCEPT WHERE LINES DEVIATE VISIBLY FROM THEIR CORRECT ALIGNMENT,
- 2. PLACE MARKERS INSTALLED ALONG A LANE LINE (BROKEN LINE) MIDWAY BETWEEN THE PAINTED PORTION.
- 3. PLACE MARKERS ALONG AN EDGE OR CHANNELIZING LINE WITH THE NEAR EDGE OF THE MARKER CASTING 25 mm (1") MAXIMUM FROM THE NEAR EDGE OF THE PAINTED LINE.
- 4. SPACE MARKERS INSTALLED AT THE CENTERLINE AT 24 m (80') UNLESS OTHERWISE SHOWN ON THE DRAWINGS. (AT LOCATIONS IDENTIFIED AS FOG AREAS OR AREAS WITH A HIGH INCIDENCE OF HEAD-ON OR SIDESWIPE CRASHES, SPACE THE CENTERLINE MARKERS AT 12 m (40')).
- 5. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.

LEGEND

■ TWO-WAY MARKER WITH WHITE/BLANK REFLECTOR

.....

TWO-WAY MARKER WITH YELLOW/YELLOW REFLECTOR

SPACING AT 12 m (40') ALONG VARIABLE TAPER LENGTH

6 AT 24 m (80')

(MIN.) - 5 AT 12 m (40')

YELLOW

BROKEN WHITE BROKEN YELLOW

DIRECTION OF TRAVEL

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

> SNOWPLOWABLE RAISED PAVEMENT MARKERS

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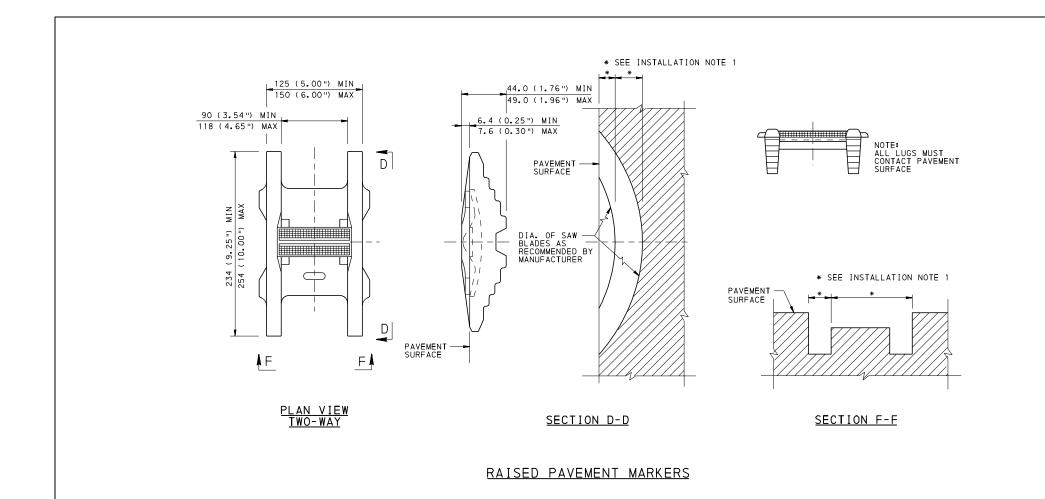
RECOMMENDED JUN. 23, 2009

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ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

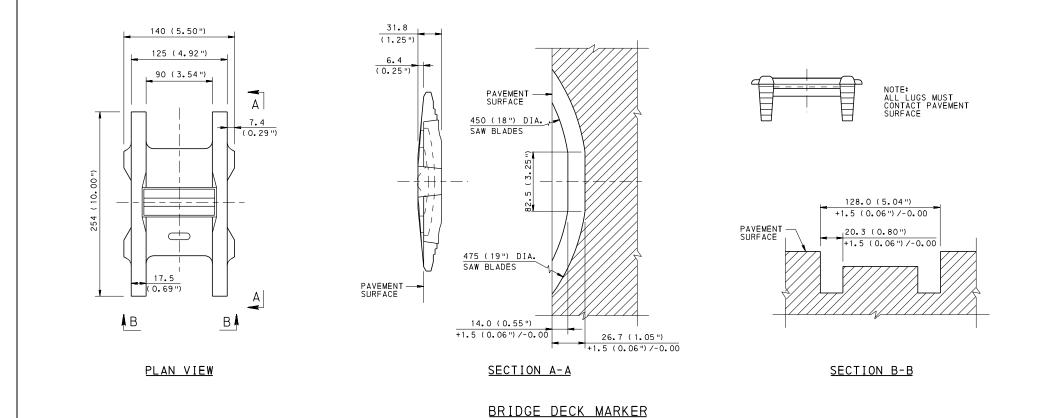
TC-8602

SHT. 3 OF 4



INSTALLATION NOTES:

- 1. SAW CUT TO DIMENSIONS RECOMMENDED BY MANUFACTURER.
- 2. INSPECT SAW CUT FOR PROPER FIT OF THE MARKER.
- -PROVIDE APPROXIMATELY 3.2 mm (0.125") CLEARANCE (SIDE-TO-SIDE MOVEMENT) FOR THE CASTING WHEN INSERTED INTO THE CUT.
- -INSTALL MARKER WITH ALL LEVELING LUGS IN CONTACT WITH THE PAVEMENT.
- -INSURE THE LEADING EDGES OF THE CASTING LIE BELOW THE PAVEMENT SURFACE.
- 3. SAW CUT AREAS TO BE DRY AND FREE OF MATERIAL THAT ADVERSELY AFFECTS THE ADHESIVE BOND.
- 4. INSTALL THE MARKERS WITH TWO-COMPONENT EPOXY ADHESIVE THAT MEETS AASHTO STANDARD SPECIFICATION M237 AND CLASSIFIED AS TYPE IV, BY FIRST FILLING THE SAW CUT TO WITHIN APPROXIMATELY 10 mm (0.375") OF PAVEMENT SURFACE AND THEN PLACING THE MARKER BY HAND INTO THE EPOXY FILLED SAW CUT. AFTER PLACEMENT OF MARKER, MAKE THE EPOXY FLUSH OR SLIGHTLY BELOW PAVEMENT SURFACE. NO EPOXY SHOULD OBSCURE OR BLOCK THE LENS.



NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 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

> SNOWPLOWABLE RAISED PAVEMENT MARKERS

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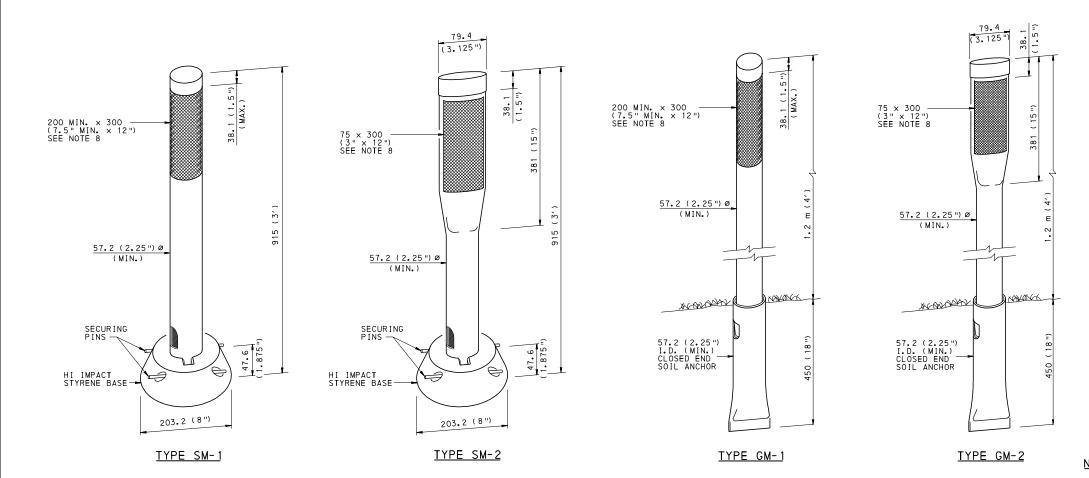
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ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

SHT. 4 OF 4

TC-8602

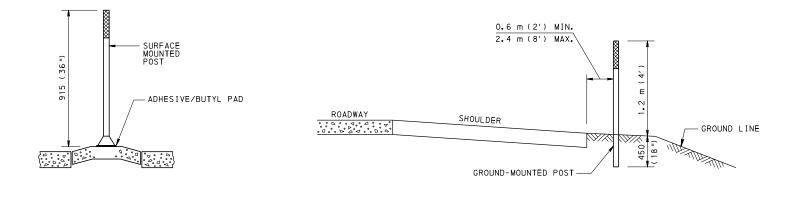


SURFACE-MOUNTED POSTS

CONCRETE MEDIAN/TRAFFIC ISLAND

TYPICAL SECTION

GROUND-MOUNTED POSTS



TYPICAL SECTION

PLACEMENT

NOTES:

- 1. USE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH PUBLICATION 408.
- GALVANIZED METAL SOIL ANCHOR, AFTER FABRICATION, IN ACCORDANCE WITH ASTM A 123.
- 3. FOR GUIDE RAIL AND BARRIER DELINEATORS, SEE SHEET 2 OF 4.
- 4. FOR INTERCHANGE AREAS LOCATION DETAILS, SEE SHEET 3 OF 4.
- 5. FOR LOCATION/PLACEMENT NOTES, SEE SHEET 4 OF 4.
- 6. FOR DELINEATOR SPACING ON CURVES, SEE SHEET 3 OF 4.
- 7. USE TYPE SM-1 AND GM-1 POSTS IN AREAS WHERE TRAFFIC MOVEMENTS NEED MULTI-DIRECTION DELINEATION, SUCH AS ISLANDS, RADII AT INTERSECTIONS AND THE ENDS OF MEDIANS.
- 8. ASTM TYPE III, IV, V, VII, VIII, IX OR X RETROREFLECTIVE SHEETING.
- 9. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 10. 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

DELINEATION

FLEXIBLE POSTS DETAILS

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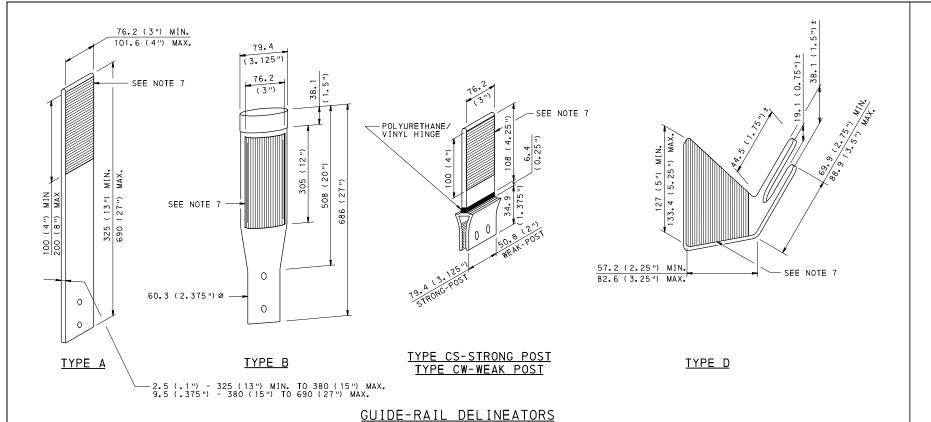
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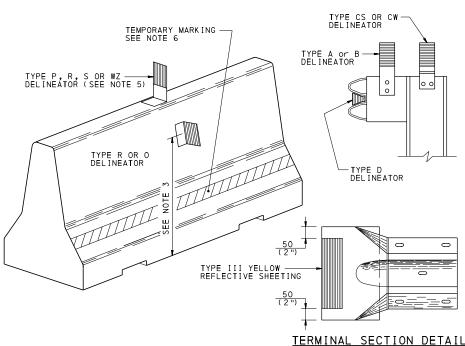
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ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

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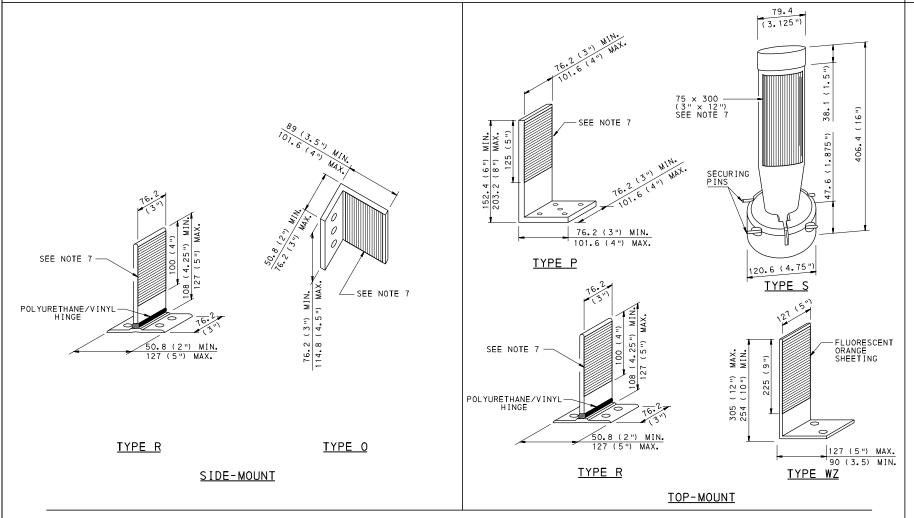
SHT. 1 OF 4





DELINEATOR PLACEMENT

- 1. SEE PUB. 72M, RC-52M & RC-53M FOR GUIDE RAIL DETAILS.
- 2. SEE PUB. 72M, RC-57M FOR CONCRETE MEDIAN BARRIER DETAILS.



NOTES:

- 1. USE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH PUBLICATION 408.
- 2. INSTALL DELINEATORS ON GUIDE RAIL AT 11.43 m (37.5') SPACING ON HORIZONTAL CURVES WITH A RADIUS LESS THAN OR EQUAL TO 305 m (1000') AND AT 22.86 m (75') SPACING ON HORIZONTAL CURVES WITH A RADIUS GREATER THAN 305 m (1000') AND TANGENTS. INSTALL 0.09% (1 FT') MINIMUM OF TYPE III YELLOW REFLECTIVE SHEETING ON TERMINAL SECTION END TREATMENTS.
- 3. SIDE-MOUNTED DELINEATORS TYPE "R" OR TYPE "O" SHALL BE LOCATED 660 mm (26") FROM THE PAVEMENT TO THE CENTER OF THE DELINEATOR. AN ADDITIONAL SIDE-MOUNTED DELINEATOR MAY BE LOCATED ON THE LOWER SLOPE OF THE BARRIER WHEN JUSTIFIED BY ENGINEERING JUDGEMENT.
- 4. MOUNT DELINEATORS ON THE TOP AND/OR SIDE OF BARRIERS OR BRIDGE PARAPETS AS SPECIFIED AT A MAXIMUM LONGITUDINAL SPACING OF 24 m (80') FOR TANGENT SECTIONS AND 12 m (40') FOR CURVE SECTIONS WITH A RADIUS LESS THAN 305 m (1,000').
- 5. IN WORK ZONES, INSTALL TYPE WZ DELINEATORS ON THE TOP OF ALL TEMPORARY BARRIERS THAT ARE ADJACENT TO TRAVEL LANES AT MAXIMUM 12 m (40') SPACING. USE FLUORESCENT ORANGE SHEETING. USE SHEETING ON BOTH SIDES OF DELINEATOR WHEN USED BETWEEN TRAFFIC TRAVELING IN OPPOSITE DIRECTIONS. TYPE WZ DELINEATORS MAY BE MADE OF ANY LIGHTWEIGHT MATERIALS THAT MAINTAIN A VERTICAL ORIENTATION (±10 DEGREES) AND DO NOT NEED TO BE OF AN APPROVED TYPE LISTED IN BULLETIN 15.
- 6. IN AN EFFORT TO MINIMIZE ERADICATION IN WORK ZONES, CONTINUOUS WHITE OR YELLOW 150 mm (6") WIDE PAVEMENT MARKINGS MAY BE INSTALLED AS SHOWN ON TEMPORARY BARRIER INSTEAD OF BEING PLACED ON THE ROAD SURFACE. THE LINE MAY BE ANY APPROVED PAINT OR PAVEMENT MARKING TAPE THAT SATISFIES THE MINIMUM RETROREFLECTIVITY REQUIREMENTS.
- 7. USE ASTM TYPE III, IV, V, VI, VII, VIII, IX OR X RETROREFLECTIVE SHEETING.
- 8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 9. 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

DELINEATION

GUIDE RAIL AND BARRIER DETAILS

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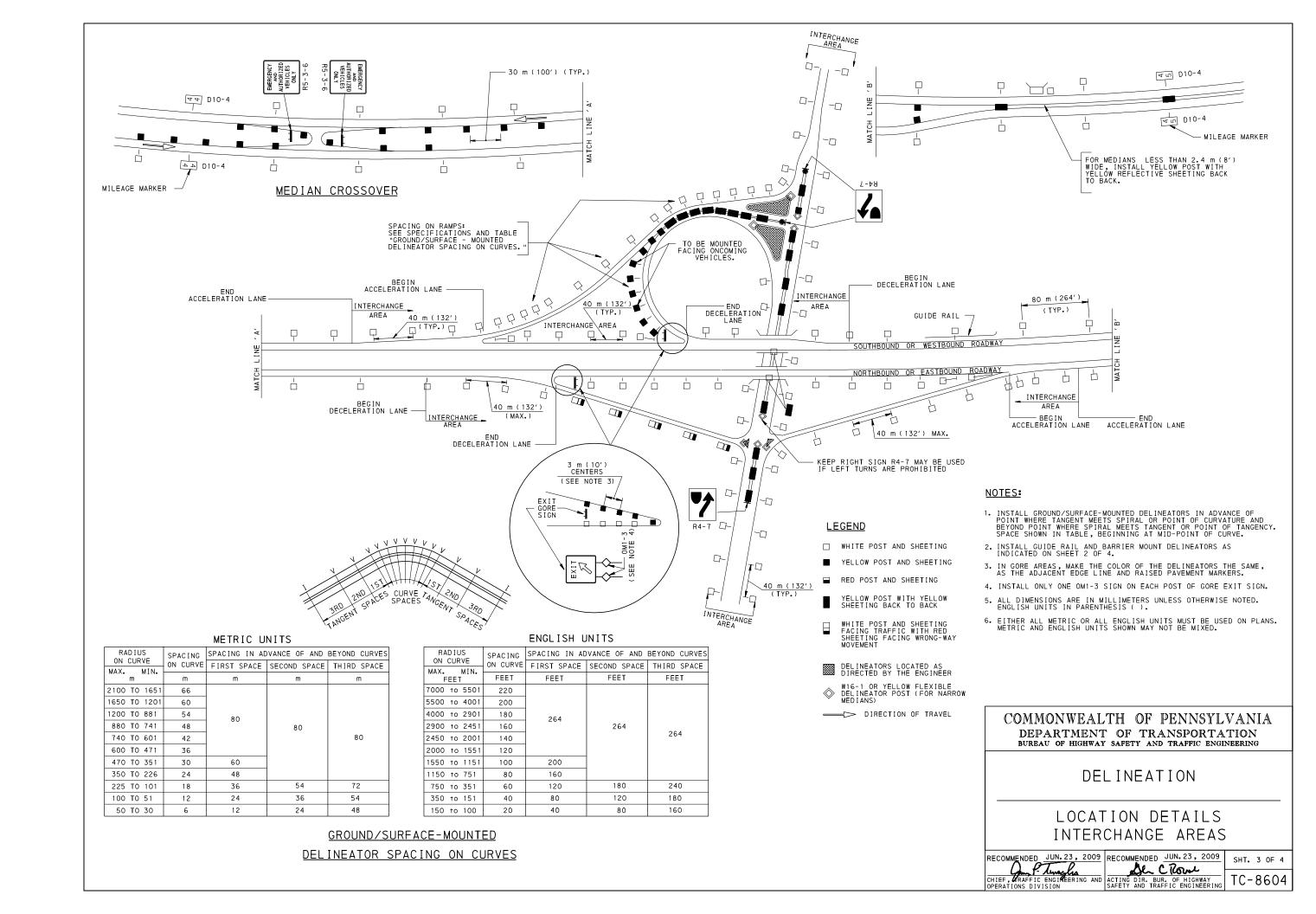
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ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

SHT. 2 OF 4 TC-8604

BARRIER DELINEATORS



1. LOCATION:

- LIGHTED THROUGH ROADWAYS DO NOT PLACE DELINEATORS ON THE THROUGH ROADWAY BETWEEN INTERCHANGES WHERE FIXED SOURCE LIGHTING IS INSTALLED UNLESS OTHERWISE SPECIFIED.
- UNLIGHTED THROUGH ROADWAYS ON ROADWAYS WITHOUT FIXED SOURCE LIGHTING, CONTINUOUSLY PLACE DELINEATORS ALONG THE RIGHT SIDE OF THE THROUGH ROADWAYS. PLACE DELINEATORS ON THE LEFT SIDE OF THROUGH ROADWAYS AT THE FOLLOWING LOCATIONS:
 - I. WHERE GUIDE RAIL OR CONCRETE BARRIER IS LOCATED ON THE LEFT WITHIN 1.8 m (6') OF THE EDGE OF SHOULDER.
 - II. ALONG RIGHT-HAND HORIZONTAL CURVES WITH A RADIUS OF 600 m (2000') OR LESS.
 - III. ALONG COMBINATIONS OF OVER-VERTICALS AND RIGHT-HAND HORIZONTAL CURVES WITH A RADIUS LESS THAN 880 m (2900').
 - IV. ON THE APPROACH AND THROUGHOUT LEFT LANE DROPS OR PAVEMENT WIDTH TRANSITIONS. V. WITHIN THE LIMITS OF MEDIAN CROSSOVERS (AS SHOWN ON SHEET 3 OF 4).
 - VI. WITHIN THE LIMITS OF VARIABLE MEDIAN WIDTHS (AS SHOWN ON SHEET 3 OF 4).
 - VII. ALONG PAVED MEDIANS WITH CURBING.
- C. <u>INTERCHANGE AREAS</u> PLACE DELINEATORS ALONG THE RIGHT SIDE IN ALL INTERCHANGE AREAS AND ALONG THE LEFT SIDE WITHIN THE LIMITS OF ALL LEFT-HAND RAMPS. PLACE DELINEATORS ALONG ACCELERATION, DECELERATION AND SPEED CHANGE LANES; ALONG THE RIGHT SIDE OF THE THROUGH ROADWAY AND ALONG THE OUTSIDE OR BOTH SIDES AS SPECIFIED ON ALL RAMPS.
- D. <u>BRIDGE PARAPETS</u> PLACE DELINEATORS ON PARAPETS OF ALL BRIDGES WHERE RPMs ARE USED ON APPROACH ROADWAY.
- E. <u>SPECIAL PURPOSE DELINEATION</u> PLACE OBJECT AND CLEARANCE MARKER GROUP (W16 SERIES) ALONG THE THROUGH ROADWAY AND WITHIN THE INTERCHANGE AREA AS SPECIFIED IN ADDITION TO THE ABOVE SPECIFIED DELINEATORS.
- F. MAINTENANCE MARKERS PLACE ONE RED FLEXIBLE DELINEATOR POST ADJACENT TO NEAR EDGE OF MAINTENANCE APPURTENANCE (END PIPE, END WALL, INLET, ETC....). MATCH REFLECTIVE SHEETING COLOR WITH THE NEAREST PAVEMENT MARKING EDGE LINE COLOR.

2. LONGITUDINAL SPACING:

- A. RIGHT SIDE OF THROUGH ROADWAYS INSTALL DELINEATORS AT 80 m (264') EXCEPT IN INTERCHANGE AREAS WITH RIGHT-HAND RAMPS, ACCELERATION OR DECELERATION LANES AND
- LEFT SIDE OF THROUGH ROADWAYS WHEN REQUIRED, INSTALL DELINEATORS AT 80 m (264')
 EXCEPT IN INTERCHANGE AREAS WITH LEFT-HAND RAMPS, ACCELERATION OR DECELERATION LANES,
 ON MEDIAN BARRIERS AND ALONG HORIZONTAL CURVES.
- C. INTERCHANGE AREAS SPACE DELINEATORS IN INTERCHANGE AREA AT 40 m (132').
- D. HORIZONTAL CURVES SPACE DELINEATORS AS INDICATED IN THE TABLE "GROUND/SURFACE-MOUNTED DELINEATOR SPACING ON CURVES," SEE SHEET 3 OF 4.
- E. EXIT GORES, CHANNELIZING ISLANDS AND RAMP TERMINALS THE DESIGN VARIES SUFFICIENTLY AT THESE LOCATIONS MAKING TYPICAL SPACING UNAVAILABLE FOR EVERY SITUATION. DETERMINE DELINEATOR SPACING AND APPLICATION ON SITE AND AS DIRECTED BY THE ENGINEER. HOWEVER, USE A MINIMUM SPACING OF 6 m (20') EXCEPT AS INDICATED.
- F. <u>SPECIAL PURPOSE DELINEATION</u> PLACE SPECIAL PURPOSE DELINEATION (W16 SERIES) ALONG THE ROADWAY WITHOUT REGARD TO LONGITUDINAL SPACING. SPACE DELINEATION ON MEDIAN BARRIERS IN ACCORDANCE WITH NOTE 4 ON SHEET 2 OF 4.
- G. MEDIAN CROSSOVERS PLACE DELINEATORS AT 30 m (100') SPACING AS INDICATED ON SHEET 3 OF 4 WITH A MINIMUM OF FIVE DELINEATORS ON THE APPROACH TO THE CROSSOVER AND THREE DELINEATORS BEYOND THE CROSSOVER.
- H. MAINTENANCE MARKERS PLACE MAINTENANCE MARKERS ALONG THE ROADWAY WITHOUT RECARD TO LONGITUDINAL SPACING.

3. <u>VERTICAL PLACEMENT</u>:

INSTALL DELINEATORS THAT THE TOPS ARE APPROXIMATELY 1.2 m (4') ABOVE THE GROUND. INSTALL ON CONCRETE BARRIERS OR GUIDE RAIL AS INDICATED ON SHEET 2 OF 4.

4. LATERAL PLACEMENT:

- A. NO GUIDE RAIL INSTALL DELINEATORS 0.6 m (2') TO 2.4 m (8') BEHIND THE OUTER EDGE OF THE SHOULDER, OR AS DIRECTED.
- GUIDE RAIL INSTALL DELINEATORS IN THE WEB OF GUIDE RAIL OR ON GUIDE RAIL POSTS, AS INDICATED ON SHEET 2 OF 4, IF THE GUIDE RAIL IS LESS THAN 2.4 m (8') FROM THE OUTER EDGE OF SHOULDER. DO NOT USE GROUND-MOUNTED DELINEATORS IN AREAS WITH GUIDE RAIL. IF THE GUIDE RAIL IS MORE THAN 2.4 m (8') FROM THE OUTER EDGE OF THE SHOULDER, INSTALL DELINEATORS AS SPECIFIED IN NOTE 4.A.
- C. CURB IN PLACE INSTALL DELINEATORS IMMEDIATELY BEHIND CURB PROVIDED PLACEMENT WILL NOT EXCEED 2.4 m (8') BEHIND THE EDGE OF SHOULDER. IF THE CURB IS MORE THAN 2.4 m (8') FROM THE EDGE OF SHOULDER, INSTALL DELINEATORS AS SPECIFIED IN NOTE 4.A.
- D. <u>OBSTRUCTION MARKERS</u> INSTALL OBSTRUCTION MARKER DELINEATORS ADJACENT TO NEAR EDGE OF THE OBSTRUCTION.
- E. MAINTENANCE MARKERS INSTALL MARKERS ADJACENT TO NEAR EDGE OF THE APPURTENANCE (END PIPE, END WALL, INLET, ETC....).

5. TYPES OF DELINEATOR:

- WHITE DELINEATORS PLACE ON RIGHT SIDE OF THROUGH ROADWAYS, ALONG RIGHT-HAND ACCELERATION, DECELERATION AND SPEED-CHANGE LANES, RAMPS AND ON CHANNELIZING OR DIVISIONAL ISLANDS WHERE TRAFFIC IN THE SAME DIRECTION MAY PROCEED ON BOTH SIDES OF THE ISLAND.
- YELLOW DELINEATORS PLACE ON LEFT SIDE OF THROUGH ROADWAYS, RAMPS AND ON CHANNELIZING OR DIVISONAL ISLANDS WHERE TRAFFIC IN THE SAME DIRECTION TRAVELS TO THE RIGHT OF THE ISLAND AND ALONG LEFT-HAND ACCELERATION, DECELERATION AND SPEED CHANGE LANES AND ON FAR SIDE OF MEDIAN CROSSOVERS. ALSO AT EDGEO OF OBSTRUCTIONS ADJACENT TO THE ROADWAY AND AT POINT WHERE GUIDE RAIL BECOMES TANGENT TO THE ROADWAY.
- C. <u>RED DELINEATORS</u> PLACE ON RIGHT, LEFT, OR BOTH SIDES OF ROADWAYS OR RAMPS TO INDICATE WRONG-WAY MOVEMENT. ALSO PLACE ON BOTH SIDES OF RUN-AWAY TRUCK ESCAPE RAMPS.
- D. SPECIAL PURPOSE DELINEATOR (W16-1) MARKERS PLACE MARKERS AT LOCATIONS SHOWN ON SHEET 3 OF 4.
- E. MAINTENANCE MARKERS PLACE RED POST WITH WHITE REFLECTIVE SHEETING ON RIGHT SIDE OF THROUGH HIGHWAY. PLACE RED POST WITH YELLOW REFLECTIVE SHEETING ON LEFT SIDE OF THROUGH HIGHWAY.

NOTES:

- 1. MAINTENANCE MARKERS ARE RED FLEXIBLE DELINEATOR POSTS INSTALLED TO CALL OUT THE LOCATION OF END PIPES, END WALLS, INLETS, ETC... FOR MAINTENANCE PURPOSES ONLY. ANY MAINTENANCE APPURTENANCE WITHIN OR ADJACENT TO THE ROADWAY THAT IS DEEMED A HAZARD SHOULD BE REMOVED, MODIFIED OR DELINEATED AS SUCH.
- 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

DELINEATION AND MARKERS

LOCATION / PLACEMENT NOTES

RECOMMENDED JUN. 23, 2009

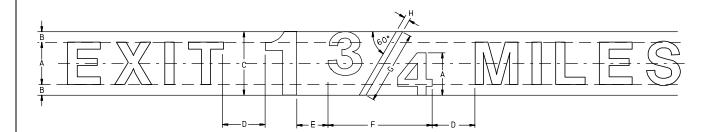
CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN. 23, 2009

ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

TC-8604

SHT. 4 OF 4



NOTES:

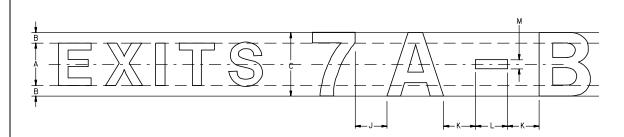
- 1. DIAGONAL OF FRACTION TO BE CENTERED OPTICALLY.
- 2. WHEN THE NUMERATOR OF A FRACTION IS 1 (ONE) , USE 2.2 \times A. FOR ALL OTHER NUMERATORS, USE 2.5 \times A.

SYMBOL	TITLE	RATIO TO HEIGHT OF UPPER CASE
А	LETTER HEIGHT	1.0 × UPPER CASE
В	SPACE TO TOP OR BOTTOM OF RECTANGLE	0.25 × A
С	HEIGHT OF RECTANGLE	1.5 × A
D	SPACE TO NEXT CHARACTER	1.5 × A
ш	SPACE FROM WHOLE NUMBER TO A FRACTION OR DECIMAL POINT	0.75 × A
F	WIDTH OF RECTANGLE	SEE NOTE 2
G	LENGTH OF DIAGONAL	1.7 × A
Н	THICKNESS OF DIAGONAL	LETTER STROKE WIDTH

SIZE OF THE FRACTION RECTANGLE IS DETERMINED AS FOLLOWS:

SIZE AND SPACING OF FRACTIONS

(EXCEPT SEE SHEET 5 OF 8 OF TC-8701D FOR FRACTIONS ON LINES WITH UPPER/LOWER CASE LEGEND)



NOTE:

THE DASH IS TO BE CENTERED OPTICALLY.

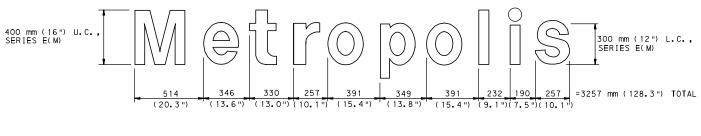
SIZE AND SPACING OF DASHES ARE DETERMINED AS FOLLOWS:

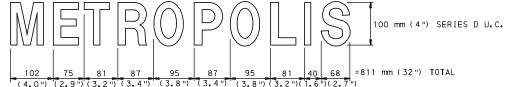
SYMBOL	TITLE	RATIO TO HEIGHT OF UPPER CASE
Α	LETTER HEIGHT	1.0 × UPPER CASE
В	SPACE TO TOP OR BOTTOM OF RECTANGLE	0.25 × A
С	HEIGHT OF RECTANGLE	1.5 × A
J	SPACE FROM NUMBER TO A CHARACTER	0.75 × A
К	SPACE FROM DASH TO A CHARACTER	0.75 × A
L	LENGTH OF DASH	0.75 × A
М	THICKNESS OF DASH	STROKE WIDTH

SIZE AND SPACING OF DASHES

HOW TO USE THE SPACING CHARTS ON THE FOLLOWING SHEETS:

- SELECT THE PROPER CHART FROM SHEETS 2 THROUGH 17. (FOR LETTER AND NUMERAL SIZES WHERE A SPACING CHART HAS NOT BEEN PROVIDED, USE ONE OR MORE OF THE EXISTING CHARTS TO DETERMINE PROPER SPACING. FOR EXAMPLE, FOR 375 mm (15") SERIES E NUMERALS, USE 1.5 TIMES THE VALUES SHOWN FOR 250 mm (10") SERIES E NUMERALS.)
- IN THE LEFT-HAND VERTICAL COLUMN, LOCATE THE FIRST LETTER OF THE WORD
- LOCATE THE NEXT LETTER OF THE WORD BEING SPACED IN THE TOP HORIZONTAL COLUMN.
- THE FIGURE AT THE INTERSECTION OF THE TWO COLUMNS IS THE TOTAL WIDTH IN MILLIMETERS (INCHES) OF THE FIRST LETTER PLUS THE SPACE TO THE LEFT EDGE OF THE NEXT LETTER.
- TO COMPUTE THE LENGTH OF A WORD, ADD THE FIGURES OBTAINED BY REPEATING STEPS q, b, c AND d FOR EACH SUCCESSIVE LETTER PLUS THE LETTER WIDTH ONLY OF THE LAST LETTER. SEE EXAMPLES. (THE LETTER WIDTHS ARE GIVEN IN THE EXTREME LEFT-HAND COLUMN OF EACH CHART.)
- THE MINIMUM SPACING BETWEEN WORDS IN THE SAME LINE SHOULD BE THE HEIGHT OF THE UPPER CASE LETTER USED IN THAT LINE.





EXAMPLES

NOTES:

- 1. SEE TC-8701D FOR SIGN LAYOUT DETAILS FOR FREEWAY AND EXPRESSWAY SIGNS.
- TO DETERMINE THE PROPER SIZE, SERIES AND TYPE OF LEGEND TO BE USED, SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND TC-8701D.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 4. 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

SPACING CHARTS DIRECT APPLIED LETTERS & NUMERALS

GENERAL INFORMATION

RECOMMENDED JUN-23, 2009

CHIEF, MRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN-23, 2009

CHIEF HIGHWAY ENGINEER

CHIEF HIGHWAY ENGINEER

TC-8700C

SHT. 1 OF 18

600 mm UPPER CASE to 450 mm lower case																					
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486	С		646					68	4				63	35	593		6.	31		638	654
486	D		642					69	1				63	38	584			31		638	646
446	Ε		606					64					59	95	553		5			598	614
446	F		523					59	18				54	12	523		53	30		537	560
486	G		646					68					63	35	593		6.	31		638	654
486	H		696					73					68	34	646		68	30		691	700
120	I		330			367								18	280	314				325	334
456	J		661			673								50	612	638				647	666
494	K		616					67					60	08	566	604				612	627
446	L		568					62	8				56	60	518	556				564	579
562	М		772					80	9				760		722			756		767	776
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504	Q		660					70					65		602			49		656	664
486	R		642			691						63		584	631			638	646		
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405	С		538						70				52		494		52			532	545
405	D		535						76				53		487		52			532	538
372	Е		505						37				49		461			93		499	512
372	F		436						99				45		436			42		448	467
405	G		538						70				52		494		52			532	545
405	Н		580						11				57		538		56			576	583
100	I		275						06				26		233			62		271	278
380	J		551						61				54		510	532				539	555
412	K		514						64				50		472	504				510	523
372	L		474						24				46		432			64		470	483
468	М		643						74				633		601	630				639	646
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420	0		550						91				54		502		5			547	553
405	Р		529						48				51		469		5(516	526
420	Q		550						91				54		502		5			547	553
405	R		535						76				53		487		52			532	538
405	S		526						67				51		485		5			519	529
372	T		467						24				46		442		46			474	483
405	U		576						86				56		535		55			564	580
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324	С		432				4	57				42	22	394		4			426	435
324	D		429				4	61				42		391			19		426	432
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298	F		349					00				36		349		35			358	374
324	G		432				4:	57				42	22	394		4 .	19		426	435
324	H		464				48	39				45		432		45	54		461	467
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304	J		441					50				43	34	409	425				431	444
330	K		412					51				4(378	403				410	419
298	L		380					19				37	74	346	371				378	387
374	М		514				5.	39				50	70	482	504				511	517
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336	Q		441					73				43		403			3 1		438	444
324	R		429					61				42		391			19		426	432
324	S		419					54				4		388		4 1			416	422
298	T		374					19				36		355		3			380	387
324	U		461					70				45		429			45		451	464
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426	W		521					34				5 '		486	50		49		502	524
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389 n 576 622 564 522 561 571 580 400 o 533 587 522 480 518 530 537 389 P 522 576 511 469 507 519 526 389 Q 576 622 564 522 561 571 580 298 r 389 443 382 336 375 382 394 385 s 518 572 507 465 503 515 522 305 f 442 496 435 389 427 438 450 389 u 576 622 564 522 561 571 580 389 u 576 622 564 522 561 571 580 454 v 572 626 564 522 561 571 580																						
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389 P 522 576 511 469 507 519 526 389 9 576 622 564 522 561 571 580 298 r 389 443 382 336 375 382 394 385 s 518 572 507 465 503 515 522 305 f 442 496 435 389 427 438 450 389 u 576 622 564 522 561 571 580 454 v 572 626 564 522 561 571 580 602 w 724 774 716 674 712 720 732 473 x 603 648 591 550 587 595 606 492 y 610 664 602 560 599 606 614																						
389 9 576 622 564 522 561 571 580 298 r 389 443 382 336 375 382 394 385 s 518 572 507 465 503 515 522 305 f 442 496 435 389 427 438 450 389 u 576 622 564 522 561 571 580 454 v 572 626 564 522 561 571 580 454 v 572 626 564 522 561 576 580 576 602 w 724 774 716 674 712 720 732 473 x 603 648 591 550 587 595 606 492 y 610 664 602 560 599 606																						
298 r 389 443 382 336 375 382 394 385 s 518 572 507 465 503 515 522 305 f 442 496 435 389 427 438 450 389 u 576 622 564 522 561 571 580 454 v 572 626 564 522 561 568 576 602 w 724 774 716 674 712 720 732 473 x 603 648 591 550 587 595 606 492 y 610 664 602 560 599 606 614																						
385 s 518 572 507 465 503 515 522 305 t 442 496 435 389 427 438 450 389 U 576 622 564 522 561 571 580 454 V 572 626 564 522 561 568 576 602 w 724 774 716 674 712 720 732 473 x 603 648 591 550 587 595 606 492 y 610 664 602 560 599 606 614																						
305 f 442 496 435 389 427 438 450 389 U 576 622 564 522 561 571 580 454 V 572 626 564 522 561 568 576 602 W 724 774 716 674 712 720 732 473 X 603 648 591 550 587 595 606 492 Y 610 664 602 560 599 606 614																						
389 U 576 622 564 522 561 571 580 454 V 572 626 564 522 561 568 576 602 W 724 774 716 674 712 720 732 473 X 603 648 591 550 587 595 606 492 Y 610 664 602 560 599 606 614																						
454 V 572 626 564 522 561 568 576 602 W 724 774 716 674 712 720 732 473 X 603 648 591 550 587 595 606 492 Y 610 664 602 560 599 606 614																						
602 w 724 774 716 674 712 720 732 473 × 603 648 591 550 587 595 606 492 y 610 664 602 560 599 606 614																						
473 × 603 648 591 550 587 595 606 492 y 610 664 602 560 599 606 614																						
492 y 610 664 602 560 599 606 614																						
400 Z 537 591 530 484 522 533 545																						
	400	Z		537			591							5.	30	484	522				533	545

		375 mm lo	ower case to 3º	75 m	m lo	wer case		
37	5	321	324 95 95 95 95 536 248 324	206	178	321 254 378 410	394	333
		a c d e g o q	bhiklmnpru	f w	j	s t v y	×	z
321	а	477	515	467	432	464	473	480
324	Ь	435	480	426	391	422	432	438
321	С	442	480	432	397	429	435	445
324	d	480	518	470	435	467	476	483
324	Ф	445	483	435	400	432	438	448
206	f	317	362	308	273	304	314	320
324	O)	480	518	470	435	467	476	483
324	h	480	518	470	435	467	476	483
95	•	251	289	241	206	238	247	254
178	j	334	372	324	289	321	330	337
321	k	432	477	423	388	419	429	435
95		251	289	241	206	238	247	254
536	m	692	730	682	647	679	688	695
324	n	480	518	470	435	467	476	483
333	0	444	489	435	400	431	441	447
324	Р	435	480	426	391	422	432	438
324	ď	480	518	470	435	467	476	483
248	٢	324	369	318	280	312	318	328
321	s	432	477	423	388	419	429	435
254	†	368	413	362	324	356	365	375
324	u	480	518	470	435	467	476	483
378	٧	476	521	470	435	467	473	480
502	w	604	645	597	562	594	600	610
394	×	502	540	492	458	489	496	505
410	У	508	553	502	467	499	505	512
333	Z	447	492	441	403	435	444	454

		300 mm l	ower case to 3	00 m	m lo	wer case		
30	o	257 260 267	260 76 257 76 429 260 197	165	143	257 203 302 327	314	267
		a c d e g o c	bhiklmnpru	f w	j	s t v y	×	z
257	а	381	413	375	346	371	378	384
260	Ь	349	384	342	314	340	346	352
257	С	352	384	346	317	343	349	355
260	d	384	416	378	349	374	381	387
260	е	355	387	349	320	346	352	358
165	f	254	289	247	219	245	251	257
260	g	384	416	378	349	374	381	387
260	h	384	416	378	349	374	381	387
76	i	200	232	194	165	190	197	203
143	j	267	299	261	232	257	264	270
257	k	346	381	339	311	337	343	349
76		200	232	194	165	190	197	203
429	m	553	585	547	518	543	550	556
260	n	384	416	378	349	374	381	387
267	0	356	391	349	321	347	353	359
260	Р	349	384	342	314	340	346	352
260	q	384	416	378	349	374	381	387
197	r	257	292	254	222	248	254	261
257	s	346	381	339	311	337	343	349
203	Ť	295	330	289	260	285	292	298
260	u	384	416	378	349	374	381	387
302	٧	382	416	375	346	372	378	384
400	w	483	514	476	448	473	480	486
314	×	400	432	394	365	390	396	403
327	У	407	441	400	371	397	403	409
267	Z	359	394	353	324	349	356	362

6	00	mm	DΙ	GIT	† † ¢	60	00	mm	DIC	FIT	
60	0	504			486			192	486	562	486
		0	2	3	6	8	9	1	5	4	7
504	0			63	30			66	60	63	30
192	1			34	48			34	48	3	18
486	2			6	12			64	12	6	12
486	3			6	12			64	12	6	12
562	4			68	38			68	38	60)4
486	5			6	12			64	12	6	12
486	6			6	12		64	42	6	12	
486	7				12				12	52	
486	8			6	12			64	12	6	12
486	9			6	12			64	42	6	12

53	00	mm	DΙ	GIT	† † ¢	50	00	mm	DIG	ΙT				
50	0	420			405			160	405	468	405			
		0	9	1	5	4	7							
420	0			55	50	52	25							
160	1			29	30		29	30	20	35				
405	2			5 '	10			53	35	5	10			
405	3			5 '	10			53	35	5	О			
468	4			5	73			5	73	50	20			
405	5			5 '	10			53	35	5	10			
405	6	510 535												
405	7	510 510 44												
405	8		510 535 510											
405	9			5 '	10			53	35	5	0			

4	00	mm	DΙ	GIT	tc	4(00	mm	DIG	TI				
40	0	336			324			120	324	374	324			
		0	2	3	1	5	4	7						
336	0		420 440 420											
120	1	224 224 204												
324	2			40	08			42	28	40	38			
324	3			4(08			42	28	4(D8			
374	4			45	58			45	58	4()2			
324	5			40	08			42	28	40	38			
324	6	408 428 408												
324	7	408 408 352												
324	8	408 428 408												
324	9			40	08			42	28	40	38			

NOTE:

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. SEE SHEETS 12 THROUGH 17 FOR CORRESPONDING ENGLISH UNITS.

METRIC 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 (METRIC)

RECOMMENDED JUN. 23, 2009

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN. 23, 2009

CHIEF HIGHWAY ENGINEER

TC-8700C

		33	30 mr	n Ul	PPE	R	СА	SE	. †	0	2	50	m	m lo	we	r	ca	se		
	50	213	216	219	216	64	213	359	216	165	216	140	333	117	213	168	254	273	264	219
330		a	d e g	o q	bh	i	kΙ	m	np	r	u	f	w	j	s	t	V	У	×	z
338	Α		418				4	27				4	11	389	41	02	39	92	402	420
270	В		365				3	91				35	59	334	3:	59	34	43	343	368
270	С		359				3	81				35		327			50		356	362
270	D		359					84				35		327			50		356	359
248	ш		337					59				33		305			28		334	340
248	F		289					<u>34</u>				30		289			96		299	312
270	G		359					8 1				35		327			50		356	362
270	Н		388					07				38		359			78		384	391
66	I		184					03				17	• •	155			74		180	187
253	J		367					74				30		342			55		358	371
275	K		345					77				33		316			35		342	348
248	L		318					50				_	12	289			38		315	321
312	М		430					49					23	401			20		426	433
270	N		388					07				38		359			78		384	391
280	0		369					94				36		337			50		366	369
270	Р		352					65				34		311			40		343	350
280	Q		369					94				36		337			60		366	369
270	R	_	359					84				35		327			50		356	359
270	S		350					78				34		324			43		346	352
248	. 1	-	312					50				30		296	-		12		318	321
270	U	_	384					91				3		359	<u> </u>		72		375	388
307	٧	-	364					02				3		358	_		30	20	383	389
355	W	-	435			444 381						42		406		19	40		419	437
292	X	-	372									36		343	3:	56	34	46	356	374
338		-	379		-			24				39		376	-		79		386	408
270	Z		375					97				_ 5	72	343			72		375	381

		265 mm U	PPER CASE to 20	m 0C	m lo	wer case		
2	00	71	51 171 171 51 58 286 171 171	11	5	171 136 203 219	0	.8
/ /	00	12	51 17 17 17 13	11 27	5	13	21	17
265`		acdegoa	bhikimnpru	f w	j	s t v y	×	z
271	A	334	343	330	311	322 314	322	336
216	В	292	313	288	267	286 275	275	295
216	c	288	305	281	263	279	284	290
216	D	286	307	284	261	279	284	288
199	Е	271	288	264	246	262	267	273
199	F	233	267	242	233	237	239	250
216	G	288	305	281	263	279	284	290
216	Н	309	326	305	288	303	307	311
53	Ī	146	163	142	125	140	144	148
203	J	294	300	290	273	284	288	296
220	K	275	301	271	252	269	273	279
199	L	254	280	250	231	248	252	258
249	М	342	359	338	321	336	340	344
216	N	309	326	305	288	303	307	311
224	0	294	315	292	269	287	292	296
216	Р	281	292	277	250	271	275	279
224	Q	294	315	292	269	287	292	296
216	R	286	307	284	261	279	284	288
216	S	279	303	275	259	273	277	281
199	T	250	280	246	237	250	254	258
216	U	307	313	303	286	297	301	309
245	٧	292	321	296	285	302	306	310
284	W	347	356	343	324	335 327	335	349
233	Х	296	305	292	273	284 276	284	298
271	Υ	305	339	314	300	303	309	326
216	Z	301	317	299	275	297	301	305

		20	00 mr	n U	PPE	R	СА	SE	†()	15	50	mr	n lo	we	r -	ca	se		
\	50	129	130	134	130	38	129	215	130	99	130	83	200	72	129	102	151	164	157	134
200		ас	d e g	0 9	bh	ī	kΙ	m	пp	r	u	f	w	j	s	t	٧	У	х	z
203	Α		250				2	57				24	17	233	2.	41	2:	35	241	252
162	В		219				2	35				21	16	200	2	15	20	06	206	221
162	С		216				2	29				2	1 1	197		20	59		213	218
162	D		215				2	30				2 .		196		20)9		213	216
149	Е		203				2	16				19	86	184		19	96		200	205
149	F		175					00					3 1	175			78		179	187
162	G		216					29				2	11	197		20)9		213	218
162	Ξ		232					45				22		216		22	27		230	233
40	I		110					23					70	94		1 ()5		108	111
152	J		220					25				2		205		2 .			216	222
165	K		206				2	26				20		189		20			205	209
149	L		190					10					37	173			36		189	193
187	М		257					70				25		241		25			255	258
162	N		232					45				22	29	216		22			230	233
168	0		221				2	36				'n	19	202		2	15		219	222
162	Р		211					19				2		188		20			206	209
168	Q		221					36				2.		202		2			219	222
162	R		215					30				2		196		20			213	216
162	S		209					27				20		194		20			208	211
149	T		187					10					34	178	_		37		190	193
162	U		230					35				22		215		22			226	232
184	٧		219					41				22		214		22			230	233
213	W		260					67				25		243		51	24		251	262
175	Х		222					29				2		205	2	13	20	7	213	224
203	Υ		229					54				23		225		22			232	244
162	Z		226				2	38				22	24	206		22	23		226	229

		050						$\overline{}$
		250 mm lo	ower case to 25	50 mr	m lo	wer case		
25	0	213	216 64 64 64 359 359 216 165 216	140 333	117	213 168 254 273	264	219
		acdegoq	bhiklmnpru	f w	j	s t v y	×	z
213	а	315	343	311	286	308	315	318
216	Ь	289	318	286	260	283	289	292
213	O	293	318	286	264	286	289	295
216	d	318	346	314	289	311	318	321
216	е	296	321	289	267	289	292	298
140	f	213	242	210	184	207	213	216
216	g	318	346	314	289	311	318	321
216	h	318	346	314	289	311	318	321
64	i	166	194	162	137	159	166	169
117	j	219	247	215	190	212	219	222
213	k	286	315	283	257	280	286	289
64		166	194	162	137	159	166	169
359	m	461	489	457	432	454	461	464
216	n	318	346	314	289	311	318	321
219	0	292	321	289	263	286	292	295
216	Р	289	318	286	260	283	289	292
216	q	318	346	314	289	311	318	321
165	r	216	245	213	187	206	213	219
213	s	286	315	283	257	280	286	289
168	t	244	273	241	216	238	241	248
216	u	318	346	314	289	311	318	321
254	٧	321	349	314	292	311	318	324
333	w	403	428	397	374	393	400	406
264	×	337	362	331	305	328	334	337
273	У	340	368	333	311	330	337	343
219	Z	295	324	292	267	289	292	299

		200 mm l	ower case to 20	00 m	m lo	wer case		
20	0	171	51 171 51 51 286 171 171	111	95	171 136 203 219	210	178
		a c d e g o q	bhiklmnpru	f w	j	s t v y	×	z
171	а	254	275	250	230	247	252	256
171	Ь	230	254	226	207	224	228	232
171	С	234	256	230	211	228	232	236
171	d	254	275	250	230	247	252	256
171	Ф	234	256	230	211	228	232	236
111	f	170	194	166	147	164	168	172
171	g	254	275	250	230	247	252	256
171	Ţ	254	275	250	230	247	252	256
51	•	134	155	130	110	127	132	136
95	j	178	199	174	154	171	176	180
171	×	230	254	226	207	224	228	232
51	_	134	155	130	110	127	132	136
286	E	369	390	365	345	362	367	371
171	n	254	275	250	230	247	252	256
178	0	237	261	233	214	231	235	239
171	Ρ	230	254	226	207	224	228	232
171	σ	254	275	250	230	247	252	256
133	L	173	196	171	150	167	171	176
171	S	230	254	226	207	224	228	232
136	†	197	221	193	174	191	195	199
171	J	254	275	250	230	247	252	256
203	>	256	279	252	232	250	254	258
270	W	325	346	321	302	319	323	327
210	×	267	289	263	244	261	265	269
219	У	272	295	268	248	266	270	274
178	Z	239	263	235	216	233	237	241

		15	50 m	nm	Ιc	owe	r	Ca	se	+	0	1:	50	mı	m lo	we	r	ca	se		
15	0	129	130	134		130	38	129	215	130	00	130	83	200	72	129	102	151	164	157	134
		a c	Reserve Rese			bh	ī	ΚI	m	ηþ	r	- u	f	w	j	s	t	٧	У	×	z
129	а		191					2	07				18	88	173		1 8	36		190	193
130	σ								92					71	157			70		173	176
129	C								93					73	159			72		175	178
130	d								08					89	174			37		191	194
130	е								94					74	160			73		176	179
83	f							45					24	110			23		126	129	
130	g								08					39	174			37		191	194
130	h							08					39	174			37		191	194	
38	i								16				9		82			5		99	102
72	j							50					31	116			29		133	136	
129	k							91					70	156			<u> </u>		172	175	
38				1					16				9		82			5		99	102
215	m								93					74	259			72		276	279
130	n								08					89	174			37		191	194
134	0								96					75	161			74		177	180
130	J								92					71	157	_		70		173	176
130	q								08					39	174	_		37		191	194
99	r								46					28	112	-		25		128	131
129	S								91					70	156			<u> </u>		172	175
102	t								66					45	131	_		43		146	149
130	u								08					39	174	-		37		191	194
151	٧	-	191				2							88	173	_		36		189	192
200	W	-	241				257 216							38	224	├		37		240	243
157	X		200				216 221							97	183	├-		95		198	201
164	У	-	204											01	186	\vdash		99		202	205
134	Z	<u> </u>	180	1				1	98					77	163		_1_	75		178	181

3	330	mm	DΙ	GIT	to	33	30	mm	DIO	TI	
33	0	280			270			100	270	312	270
		0	2	3	6	8	9	1	5	4	7
280	0			35	50			30	57	35	50
100	1			1 8	37			18	37	1.	70
270	2			34	10			3!	57	34	10
270	3			34	10			3:	57	34	0
312	4			38	32			38		3.	35
270	5			34	10			3!	57	34	10
270	9			34	10			3:	57	34	0
270	7			34	10			34	10	29	33
270	8			34	10		3!	57	34	10	
270	9			34	10			3.	57	34	10

2	65	mm	DΙ	GIT	· †c	26	ŝ5	mm	DIG	TI	
26	5	224			216			80	216	249	216
		0	2	3	6	8	9	1	5	4	7
224	0			28	30			29	93	28	30
80	1			14	49			1 -	49	1.	36
216	2			2	72			21	35	2.	72
216	3			2	72			28	35	2.	72
249	4			30)5			30	05	20	ŝ8
216	5			2	72			21	35		72
216	6			2	72			28	35		72
216	7				72				72		35
216	8			2	72			21	35		72
216	9			2	72			21	35	2.	72

2	200	mm	DΙ	GIT	to	20	00	mm	DIC	FIT	
20	0	168			162			09	162	187	162
		0	2	3	6	8	9	1	5	4	7
168	0			2 1	10			22	20	2	10
60	1			1 '	12			1	12	10)2
162	2			20	24			2	14	20	24
162	3			20) 4			2	14	20	04
187	4			22	29			22	29	2	01
162	5			20	04			2	14	20	04
162	6			20	24			2	14	20)4
162	7			20	24			20)4	1	76
162	8			20	24			2	14	20	04
162	9			20	24			2	14	20)4

NOTE:

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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 (METRIC)

RECOMMENDED JUN. 23, 2009

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN. 23, 2009

CHIEF HIGHWAY ENGINEER

TC-8700C

45	50	mm	۱ ۱	UF	P	Εf	₹	CA	48	E	†(о О	4	5 C)	mm	1	UF	P	ΈF	₹	(2Δ	S	Е		٦
45	0	▶ 457	∠ 342	→ 335	< 414	₹ 479	≺ 457	а 365	_	335	± 365	╀	+	7335	₹ 421	N	P	R 365	_	С	G	⊢	378	+	200	+	N 365
457	Α		_	48	39	_		一			_	_	55	2	_		_			_		_	55	2	_	_	Ħ
365	В				50								48										46				┪
365	С				28								46										46				П
365	D				60								48										46				П
335	E				98								43	0									43	0			П
335	F				98								43										43				
365	G				60								48										46				
365	Н				60								48										48				
79	I				74								19							19							
342	J				37								45														
371	K				34								46										46				
335	L				37								43										43				
421	М				16								53										53				
365	N				<u> </u>								48										48				
378	0	_			73								49										47				
365	Р				60								48										46				
378	Q	╙			73								49										47				_
365	R	╙			60								48										46				_
365	S	⊩			50								48										46				
335	T	₩_	_		57	_	_	_					43		_				_				43		_		4
365	U	₩_			30			-					48				_				_		48			_	_
414	٧	₩-			16			-					50								_		50				_
479	W	₩-		5				\vdash					57				_		_		_		57			_	4
394	X	₩_			57			_					48										48				_
457	Y	₩-			39			-					55								_		55				_
365	Z	428										46	υ									46	U				

4	50	mm	DΙ	GIT	† c	45	50	mm	DIG	ΙT	
45	0	378			365			135	365	421	365
		0	2	3	6	8	9	1	5	4	7
378	0			4	73			49	95	4	73
135	1			25	52			25	52	23	30
365	2			46	50			48	32	46	50
365	Ŋ			46	60			48	32	46	30
421	4			5	16			5	16	45	53
365	5			46	50			48	32	46	50
365	Ø			46	60			48	32	46	30
365	7			46	60			46	30	39	97
365	œ			46	50			48	32	46	50 T
365	9			46	60			48	32	46	30

30	00	mm	U	PF	ER		CA:	SE	†0)	30	0	١	mm	Į	JP	Ρ	ER	С	Α	SI	=	
30	0	\vdash	-	_	319	-	243	224	+	-	248	-	_			243	_		252	7	-	262	-
		Α	J 1		11	Υ	ВD	EF	- H	I		_	М	N F	<u> </u>	RΙ	ᅬ	CG	0	_	_	Х	Z
305	Α			26		_					68						_			6			
243	В			06		\perp				- 3	321						4		3	0	6_		
243	С		2	85		4					306						4		_ 3	0	6_		
243	D			06							321						\perp			0			
224	Е			66		_					287						_			8			
224	F			66		\perp					287						_			8			
243	G			06						3	321						\perp		3	0	6		
243	Η			06		_					321						_			32			
52	I			15		_					30						_		3				
229	J			92							307						\perp		0				
248	K			90		_					311						_			3 1			
224	L			45		_					287						_		2	8	7		
281	М			44							359						\perp			55			
243	N		3	06		\perp					321						┙			32			
252	0			15							330	1								11			
243	Р			06							321								3	0	6		
252	Ø			15		_[330	_	_				_			11:			
243	R			06		_					321						_			0			
243	S			06							321						_			0			
224	T			45		_					87									8			
243	U			06		\perp					321									32			
276	٧			97		_					339						_			3			
319	W			40		_[882		_							8			
262	Х		- 3	04							325									2			
305	Υ	L	3	26		Ι					68						J			6			
243	Z		2	85		Т				- 3	306						T		3	0	6		

3	00	mm	υI	GII	† c	3 ()()	mm	DIG	511	
30	0	252			243			06	243	281	243
		0	2	3	6	8	9	1	5	4	7
252	0			3 '	15			33	30	3	15
90	1			16	68			16	8	15	53
243	2			30	06			32	21	30	06
243	3			30)6			37	21	30)6
281	4			34	44			34	14	30)2
243	5			3(06			37	21	30	06
243	6			30)6			37	21	30) 6
243	7			30)6			30)6	20	54
243	8			3(06			32	21	30	06
243	9			30)6			32	21	30) 6

150	
121 B 153 160 185 121 C 142 153 153 121 D 153 160 153 112 E 133 144 144 112 F 133 144 144 121 G 153 160 153 121 H 153 160 160 26 I 58 65 65 114 J 146 153 153 124 K 145 156 156	Ш
121 B 153 160 185 121 C 142 153 153 121 D 153 160 153 112 E 133 144 144 112 F 133 144 144 121 G 153 160 153 121 H 153 160 160 26 I 58 65 65 114 J 146 153 153 124 K 145 156 156	
121 C 142 153 153 121 D 153 160 153 112 E 133 144 144 112 F 133 144 144 121 G 153 160 153 121 H 153 160 160 26 I 58 65 65 114 J 146 153 153 124 K 145 156 156	
112 E 133 144 144 112 F 133 144 144 121 G 153 160 153 121 H 153 160 160 26 I 58 65 65 114 J 146 153 153 124 K 145 156 156	
112 F 133 144 144 121 G 153 160 153 121 H 153 160 160 26 I 58 65 65 114 J 146 153 153 124 K 145 156 156	
121 G 153 160 153 121 H 153 160 160 26 I 58 65 65 114 J 146 153 153 124 K 145 156 156	
121 H 153 160 160 26 I 58 65 65 114 J 146 153 153 124 K 145 156 156	
26 I 58 65 65 114 J 146 153 153 124 K 145 156 156	
114 J 146 153 153 124 K 145 156 156	
124 K 145 156 156	
124 K 145 156 156	
112 L 122 144 144	
140 M 172 179 179	
121 N 153 160 160	
126 0 158 165 158	
121 P 153 160 153	
126 Q 158 165 158	
121 R 153 160 153	
121 S 153 160 153	
112 T 122 144 144	
121 U 153 160 160	
138 V 148 170 170	
160 W 170 192 192	
131 X 152 163 163	
152 Y 162 184 184	
121 Z 142 153 153	

1	50	mm	DΙ	GIT	† † ¢	1 !	50	mm	DIG	ΙT	
15	0	126			121			45	121	140	121
		0	2	3	6	8	9	1	5	4	7
126	0			1 !	58			16	55	15	58
45	1			8	4			8	4	7	7
121	2			1 !	53			16	60	15	53
121	3			13	53			16	50	15	53
140	4			1	72			1	72	15	50
121	5			1 !	53			16	60	15	53
121	6			15	53			16	30	15	53
121	7			1 !	53			15	53	13	3 1
121	8			1 !	53			16	50	15	53
121	9			15	53			16	60	15	53

25	50	mn	۱ ۱	UF	P	Εſ	₹	СА	SE	:	†0)	25	5 C)	mr	n	L	JΡ	PI	ΕI	₹	(Ά	SI	E		7
25	0	▶ 254	190 ح	186	< 230	≥ 266	≺ 254	202 1	+	98 F	≖ 202	1 44	> 20€	186	\vdash	N	Р	_	202	J I	С	G	_	017	\vdash	+	202	-
254	Α			2	7 1							_	306	ŝ				_		T				30	6			٦
202	В			25	54							- 2	268	3						T				25	4			٦
202	С	Г			37							2	254	4						T				25				٦
202	D				54								268							Τ				25				7
186	Е				21								238							Ι				23]
186	F			22	2 1								238							Ι				23				
202	G				54								268							\perp				25				╛
202	Н	╙			54								268							1				26				╛
44	I				6								110							1				1 1				╛
190	J				42								256							1				25				4
206	K	╙			41								258							4				25				4
186	L	_			3								238							4				23				4
234	М	╙			36								300							4				30				4
202	N	┡			54		_						268					_		+				26				4
210	0 P	_			62		_						270							+			-	26	2			4
202		-			54								268							+				25				4
210	Q R	⊩			62 54		_		_				276 268			_		_		+				26 25				4
202	S	╟			54 54		_						268							+				<u>25</u> 25				┨
186	T	-			34 33		_						238							+				<u>23</u> 23				\dashv
202	ΰ	┢	_		54	_				_	_		268		_		_	_	_	$^{+}$				26		_	_	┥
230	V	\vdash			47								282							+				28				┨
266	w	\vdash			33								318							+				3 1				┨
218	X	\vdash			53								270							+				27				٦
254	Ŷ			2	71								300							+				30	6			┪
202	Z				37								254							Ť				25				٦

2	50	mm	DΙ	GIT	†c	25	50	mm	DIG	ΙT	
25	0	210			202			75	202	234	202
		0	2	3	6	8	9	1	5	4	7
210	0			26	52			2	76	26	62
75	1			14	41			1 •	4 1	12	27
202	2			25	54			26	8	25	54
202	3			25	54			26	38	25	54
234	4			28	36			28	36	25	5 1
202	5			25	54			26	58	25	54
202	6			25	54			26	68	25	54
202	7			25	54			25	54	2	19
202	8				54			26	86		54
202	9			25	54			26	86	25	54

20	00 1	mn	1	UF	P	Εſ	7	CA:	SE		† C)	2()()	mn	n	Ul	P F	È	R	(CA	SE		
20	0	≥ 203	-	-	< 184	€ 213	_	_	1,40	_	Ľ	л 35		149	187	Ь,	_	_	701	<u>-</u>	G	┖	168	╄	x 175	Ш
		А	J	_		W	1	ВD	=	٢	н		K		М	N	<u>۲</u>	ĸ	U	С	b	_		_	^	싵
203	Α				17								4										24			_
162	В				24								11							L			20			_
162	С				90								0.										20			_
162	D			20	24								11										20			_
149	E				77								9										19			_
149	F	╙			77								9							L			19			_
162	G				24								11										20	4		_
162	Н				24								1 -										21			_
35	I				7								87										8			_
152	J				94								0										20			_
165	K			15	93								0.										20			_
149	L				63								9										19			_
187	М				29								39										23			_
162	N	┡			24								11							L			21	4		_
168	0				10								20										21			_
162	Ь				24								1 4										20			_
168	Q	┡			10								20)						L			21			_
162	R				24								1 -										20			_
162	S				24								11										20			_
149	T	⊢			<u> </u>			_					9							L			19			_
162	U	┡			24							_ 2	1 4	4_						L			21	4		_
184	٧	⊢			98								20							L			22			_
213	W	⊢			27								5.5							L			25			_
175	X	┡			23								1							L			21			_
203	1	⊢			17								4							L			24			_
162	Z			1 9	90							_ 2	0	4									20	4		

2	00	mm	DΙ	GIT	· †c	20	00	mm	DIG	TI	
20	0	168			162			9	162	187	162
		0	2	3	6	8	9	1	5	4	7
168	0			2	10			22	20	2	10
60	1			1	12			1	12	10)2
162	2			20	04			2	14	20)4
162	3			20	24			2	14	20)4
187	4			27	29			22	29	2	21
162	7			20	04			2	14	20	04
162	9			20	24			2	14	20)4
162	7			20	04			20)4	1	76
162	8			20	04			2	14	20	04
162	9			20	24			2	14	20)4

100 mm DIGIT to 100 mm DIGIT

0 2 3 6 8 9 1 5 4 7

100

	1 C	0	mm	1	UF	P	Εſ	₹	С	ΑS	ŝΕ	† ()	10	00		mn	n	U	PF	P [ΕR	(CA	S	E	
	10	0	Ľ	⊢	T 75	< 92	≈ 106	≺ 102	<u>ام</u>	2	T 75	= н		83 83	- 75		NI.	_	_		T,	210	L	N 84	2	Ľ	╄
<u> </u>			Α	J	_	_	W	ı	В	υ		<u> </u>	<u> </u>		ᆫ	M	IN	_	K	ļυ	1	CG	ĮΨ	_	_	X	14
10		Α	╙			9								123							╀			12			
8		В	╙		102 95									107							╀			10			
8		С	╙		95									102							┸			10			
8		D	╙			20								107							╀			10	2		
7		E	╙			9								96							1			96			
7		F	╙			9								96							┸			96			
8		G	╙			20								107							╀			10	2		
8		H	╙			2								107	_						╀			10	7		
1		I	╙			9								44							╀			44			
7		J	╙			7								102							╀			10			
8		K	╙			7								104	1						╀			10			
7		L	╙			2								96							╀			96			
9		М	┞			15								20							╀			12			
8		N	╙			2								107							╀			10			
8		0	╙			25								10							╀			10			
8		Р	┞			22								107							╀			10			
8		Q	┞			25								110							╀			10			
8		R	⊩			20								107							╀			10			
8		S	╙			20								107							+			10	2		
7			⊩			2								96							╀			96			
8		V	⊩			<u>)2</u>								107							+			10			
9		W	⊩			9 13								113 127				_			+			11			
10		X	⊩			01 01		_						108							╀			12 10			
10		X Y	⊩			<u>) </u>)9												_			+			12			
8		<u> </u>	⊩	_		<u>5</u>	_			_				123		_	_	_	_	_	+		_	10		_	
_ 8	1		Щ		3	<u>၁</u>								ı Uz	-						L			10	_		

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

SPACING CHARTS DIRECT APPLIED LETTERS & NUMERALS

> UPPER CASE SERIES E (METRIC)

RECOMMENDED JUN. 23, 2009

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN. 23, 2009

CHIEF HIGHWAY ENGINEER SHT. 4 OF 18 TC-8700C

NOTE:

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. SEE SHEETS 12 THROUGH 17 FOR CORRESPONDING ENGLISH UNITS.

45	50 1	mm UPPER	CASE to 450 mm UPP	ER CASE
45	0	X X X 401 X X 401 X 385	 	2 8 8 C G O Q S X Z
383	Α	412	469	469
308	В	394	416	394
308	С	364	394	394
308	D	394	416	394
279	Е	335	365	365
279	F	335	365	365
308	G	394	416	394
308	Τ	394	416	416
72	I	158	180	180
286	ے	372	394	394
315	Κ	371	401	401
279	L	308	365	365
353	М	439	461	461
308	N	394	416	416
322	0	408	430	408
308	Ъ	394	416	394
322	Ø	408	430	408
308	R	394	416	394
308	S	394	416	394
279	Т	308	365	365
308		394	416	416
342	×	371	428	428
401	W	430	487	487
308	Х	364	394	394
385	Y	414	471	471
308	Z	364	394	394

4	50	mm	DΙ	GIT	† † ¢	45	50	mm	DIC	FIT	
45	0	322			308			110	308	335	308
		0	2	3	6	8	9	1	5	4	7
322	0			4(08			43	30	40	08
110	1			2	18			2	18	19	96
308	2			39	94			4	16	39	94
308	3			39	94			4	16	39	94
335	4			42	21			4:	21	36	54
308	5			39	94			4	16	39	94
308	6			39	94			4	16	39	94
308	7			39	94			39	34	33	37
308	8			39	94			4	16	39	94
308	9			39	94			4	16	39	94

30	0	⊢			229	_	257	200	_	_	90	205	48	210	186	-		1.		7 205		1.	-	7		205
		Α	J	T	٧	W	Υ	В	D	E	F	Н	I	K	L	М	١	I P	R	U	C	G	_	_	S	XZ
255	Α				74									31:							Γ		Ţ	31:	2	
205	В			26	62									271							L		2	26	2_	
205	С			24	43								- 2	26:	2_						L		- 2	26	2_	
205	D			26	32								2	271	ô						L		- 2	26:	2_	
186	Е				24									24:	<u>3</u>						L		- 2	24:	3_	
186	F			22	24								- 2	24:	3						L			24		
205	G				ŝ2									271							L			26:		
205	Н			26	62									271							L		- 2	27	<u>6</u>	
48	I)5									11:							L			11'		
190	J				47									26							L			26		
210	K				48									26							L			26		
186	L			20)5								- 2	24:	<u> 3</u>						L		- 2	24:	<u>3</u>	
236	М				93									30							L			30		
205	N				<u> </u>									271							L			27		
214	0				7 1								- 2	28	5_						L			27		
205	Р			26	62									271							L		2	26	2_	
214	Q				7 1									28							L			27		
205	R			26	ŝ2									27							L			26		
205	S			26	ŝ2								2	271	6						L		- 2	26	2_	
186)5									24:							L			24:		
205	U			26	ŝ2									271							L		- 2	27	6_	
229	٧				48									28							L		- 2	28	6_	
267	W			28	36								_ ;	32	4						L			32	4_	
205	Х				43									26							L			26		
257	Υ				76									31.							L			31		
205	Z			24	43								2	26	2_								- 2	26	2_	

300 mm UPPER CASE to 300 mm UPPER CASE

3	00	mm	DΙ	GIT	† † ¢	30	00	mm	DIG	ΙT	
30	0	214			205			74	205	224	205
		0	2	3	6	8	9	1	5	4	7
214	0			2.	71			28	35	2	71
74	1			14	45			14	15	1.	3 1
205	2			26	62			2	76	20	62
205	3			26	ŝ2			2	76	20	ŝ2
224	4			28	B 1			28	3 1	24	43
205	5			26	62			2	76	20	62
205	6			26	ŝ2			2	76	20	ŝ2
205	7			26	62			26	52	22	24
205	8			26	62			2	76	20	62
205	9			26	62			2	76	20	62

15	50 i	mm	1	UF	P	Εf	₹	CAS	SΕ		† c)	1 5	5 C)	mm	1	Uf	PF	PEF	2	CA	15	ŝΕ	
15	0	128	92	93	114	133	128	102	50	2	102	24	105	93	118			102	70-			107		,	701
		Α	J	T	٧	W	Υ	B D	Е	F	Η	I	ĸ	L	М	N	Р	R	U	C	;	0 6	Į	s :	ΧZ
128	Α			13	38							1	56	5								15	6	,	
102	В			13	30								38									13			
102	С				21								30									13			
102	О			13	30							1	38	3								13	C)	
93	Е			1	12								2									12			
93	F				12								2 '									12			
102	O				30								38									13			
102	Н			13	30								38	3								13			
24	I				2								0									6			
95	J				23								3									13			
105	K				24							1	33	3								13			
93	L			1 ()3							1	2 .	1								12	2 1		
118	М			14	16								54									15			
102	N			13	30								38									13			
107	0			13	35								43									13			
102	Р	╙		13	30								38									13			
107	Q				35								43									13			
102	R			13	30								38									13			
102	S	_			30								38									13			
93	T	_		10	23							_1	2	<u> </u>								12	<u> </u>		
102	U				30			_					38								_	13			
114	£ <	-			24								42				_			_	_	14			
133	W	-			43								6							\vdash		16			
102	ίX	-			21								30									13			
128	Y	⊢			38			_					56				_			_	_	15			
102	L Z			12	2 1			l					30)							_	13	C	,	

1	50	mm	DΙ	GIT	† † ¢	15	50	mm	DIG	ΙT	
15	0	107			102			37	102	112	102
		0	2	3	6	8	9	1	5	4	7
107	0			1.	35			14	13	13	35
37	1			7	3			7	3	6	5
102	2			10	30			13	38	13	30
102	3			1.	30			13	38	13	30
112	4			1 -	40			14	10	12	22
102	5			1.	30			13	38	13	30
102	6			1.	30			13	38	13	30
102	7			1.	30			13	30	1	12
102	8			10	30			1.3	38	1.3	30
102	9			1.	30			13	38	13	30

	25	50	mm UPPER	CASE to 250 mm UPP	ER CASE
	25	0	A A A 190 A 222 A 222 A 222	171 171 171 171 171 175 171 175 171 175 175	6
1	212	Α	228	260	260
ı	171	В	219	230	219
1	171	C	203	219	219
ı	171	D	219	230	219
ı	155	Е	219 187	203	203
ı	155	F	187	203	203
	171	G	219	230	219
	171	Η	219	230	230
	40	I	88	99	99
	159	J	207	218	218
	175	K	207	223	223
١	155	L	171	203	203
١	196	М	244	255	255
	171	N	219	230	230
ı	179	0	227	238	227
	171	Р	219	230	219
1	179 171	QR	227 219	238 230	227 219
	171	S	219	230	219
1	155	T	171	203	203
1	171	Ü	219	230	230
1	190	٧	206	238	238
ı	222	w	238	270	270
ı	171	X	203	219	219
ı	214	Y	230	262	262
	171	7	203	219	219

2	50	mm	DΙ	GIT	† c	25	50	mm	DIG	TI	
25	0	179			171			61	171	186	171
		0	2	3	6	8	9	1	5	4	7
179	0			22	27			23	38	22	27
61	1			12	20			12	20	10)9
171	2			2	19			23	30	2 .	19
171	3			2	19			23	30	2.	
186	4			23	34			23	34	20)2
171	5			2	19			23	30	2 .	9
171	6			2	19			23	30	2.	9
171	7			2	19			2	19	18	37
171	8			2	19			23	30	2.	19
171	9			2	19			23	30	2.	9

20	00	mm UPPER		ER CASE
20	0	A A A 170 A A 152 A A 178 A A 178	В П 134 137 140 171 184 187 171 184 187 187 187 187 187 187 187 187 187 187	C G O Q S X Z
170	Α	183	208	208
137	В	175	185	175
137	С	162	175	175
137	D	175	185	175
124	Ε	149	162	162
124	F	149	162 185	162
137	G	175	185	175
137	Н	175	185	185
32	I	70	80	80
127	J	165	175	175
140	K	165	178	178
124	L	137	162	162
157	М	195	205	205
137	N	175	185	185
143	0	181	191	181
137	Р	175	185	175
143	Q R	181 175	191 185	181 175
137	S	175	185	175
124	T	137	162	162
137	Ü	175	185	185
152	V	165	190	190
178	w	191	216	216
137	X	162	175	175
171	Ŷ	184	209	209
137	ż	162	175	175
137	<u> Z</u>	162	175	1 / 5

2	00	mm	DΙ	GIT	† † C	20	00	mm	DIG	ΙT	
20	0	143			137			50	137	149	137
		0	2	3	6	8	9	1	5	4	7
143	0			18	3 1			1:	91	18	3 1
50	1			9	8			9	8	8	8
137	2			1	75			18	35	11	75
137	3			1	75			18	35	1	75
149	4			18	37			18	37	1.6	52
137	5			1	75			18	35	1	75
137	6			1	75				35	1	75
137	7			1	75			1	75	15	50
137	8			1	75			18	35	1	75
137	9			1	75			18	35	1	75

100 mm DIGIT to 100 mm DIGIT

0 2 3 6 8 9 1 5 4 7

100

10	00	mn	n l	UF	P	ΕF	₹	C A	15	ŝΕ	† 0)	10	0		mn	n	U	PF	> E	ΕR	(CA	SE	
10	0	85	64	62	92	89	86	89		62	89	16	70	62	78				89				71		89
		Α	J	Т	٧	W	Υ	В	D	E F	Н	I	K	L	М	Ν	Ρ	R	U	C	G	С	Q	S	ΧZ
85	Α			9	1								04	-						Т			10		
68	В	Г		8	7								92							Т			87	,	
68	С	Г	81 87										87							Т			87		
68	D		87										92							Т			87	,	
62	Е	Г	75										81							Т			8 1		
62	F			7									81							Γ			8 1		
68	G			8									92							Γ			87		
68	Τ			8									92										92		
16	I			3									40										40		
64	J			8									88							L			88		
70	Κ			8									89										89		
62	J			6									81										81		
78	М			9									02							L			10		
68	Ν			8									92										92		
71	0			9									95										90		
68	Ρ			8									92							L			87		
71	Q			9									95							L			90		
68	R			8									92										87		
68	S			8									92							\perp			87		
62	T			6									81										8 1		
68	U			8									92										92		
76	٧	╙		8									95							\perp			95		
89	W	╚		9									80										10		
68	Χ			8									87										87		
86	Υ	╙		9									05	_						\perp			10		
68	Z			8	1								87										87	, –	

METRIC UNITS COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING SPACING CHARTS

> UPPER CASE SERIES D (METRIC)

DIRECT APPLIED LETTERS & NUMERALS

RECOMMENDED JUN. 23, 2009

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN. 23, 2009

CHIEF HIGHWAY ENGINEER

SHT. 5 OF 18 TC-8700C

NOTE:

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. SEE SHEETS 12 THROUGH 17 FOR CORRESPONDING ENGLISH UNITS.

45	50	mm UPPER CASE to 450 mm UPPER C	ASE
45	0	1	Q S X Z
286	Α	312 364 3	64
250	В	328 346 3	28
250	С		28
250	D	328 346 3	328
230	Е		808
230	F		808
250	G		328
250	Н		46
63	I		59
230	J		26
250	K		28
230	L		808
297	М		93
250	N	328 346 3	46
263	0		341
250	Р		28
263	Q		341
250	R		28
250	S		28
230		256 308 3	808
250	U		146
279	W		557
342	X		20
268	Y		346 364
286 250	Z		
250		301 328 3	128

4	50	mm	DΙ	GIT	†c	45	50	mm	DIC	ΙT	
45	0	263			250			92	250	279	250
		0	2	3	6	9	1	5	4	7	
263	0			3.	4 1		35	59	3.	41	
92	1			1.8	38		18	38	1.	70	
250	2			32	28			34	46	32	28
250	W			32	28			34	46	32	28
279	4			35	57			35	57	3)5
250	7			32	28			34	46	32	28
250	9			32	28			34	46	32	28
250	7			32	28			32	28	2	76
250	8			32	28			34	46	32	28
250	9			3:	28			34	46	32	28

			0.1		_		_						_			_				Π.	٦	Л.
30	n	190	152	186	229	190	167	152	167	43	167	152	198			167			176	į	16/	
		Α	JT	٧	W	Υ	ВD	ΕF	Н	I	к	L	М	N	7	R	U	CG	0 0	2	s >	<
190	Α		20	07						-	242	_							2.	42		=
167	В		2	19						- 2	231						\neg		2	19		_
167	С			01						2	219	}					T		2	19		_
167	D			19							231									19		Ξ
152	Е		18	86							204									24		
152	F			86							204									04		
167	G			19							231									19		
167	Η			19							231									3 1		
43	I			5							107									27		
152	7			04							216								2	16		
167	K		21	01							219									19		
152	L			69						2	204						_			24		
198	М			50							262									62		
167	Ν			19							231									3 1		
176	0		22	28						2	24C)					_			28		
167	Р			19							231						_			19		
176	Q			28							24C									28		
167	R			19						- 2	231	_					_		_2	19		
167	S	_		19							231						_			19		
152	Ť	L		69							204						_			24		
167	U			19							231						4			31		
186	٧	L		03							238						4			38		
229	W	L		46	_						281		_		_		4			8 1		
179	X	₩	2	13							231						4			31		
190	Y	\vdash		07							242						4			42		
167	Z		20	01						2	219	,							- 2	19		

3	00	mm	DΙ	GIT	† C	30	00	mm	DIG	TI	
30	0	176			167			62	167	186	167
		0	2	3	6	8	9	1	5	4	7
176	0			22	28			24	10	22	28
62	1			12		12	26	1	14		
167	2			2 '	19			2.	3 1	2	19
167	3			2 .	19			2:		2	9
186	4			23	38			23	38	20	23
167	5			2 .	19			2.	31	2	9
167	6			2 .	19			23	31	2	9
167	7			2 .	19			2	19	18	34
167	8			2 .	19			2.	31	2	9
167	9			2	19			2:	3 1	2	19

15	50 i	mn	n Uf	P	Εf	₹	CAS	ŝΕ		t c	1	50)	m	m	U	PF	P E	₽R	С	Α	SE	:	
15	0	≥ 95	97 T	> 93	114	≺ 95	83 D	<u>™</u> 76	_	∓ 83	1 K	_	_	╙	Р		ç Lii	Ī	c G	0	g Q	w 83	89 X	Ш
		A		_	W	_	טום		_	П	_	_	IVI	ΙN	F	η,	U	۲	- 0		_		^	ഥ
95	A	_		04							12							╀			2			_
83	В	_		09							11							╀			0			_
83	C			00							10	9						L			0			_
83	О	╙		09							11							L			0			_
76	Е			3							10							L			0			
76	F			3							10							L			0			
83	G			09							11										0			
83	Н		1	09							11							L			1			
21	I			17							5							L			53			
76	J			02							10							L			0			
83	K			00							10							L			0			
76	L			35							10	2						L		1	0	2		
99	М			25							13							L			3			
83	N			09							11										1			
88	0			14							12										1.			
83	J			09							11										0			
88	Ø		1	14							12	0								1	1.	4		
83	R			09							11										0			
83	S			09							11							Г		1	0	9		
76	Т		8	35							1 C	2									0			
83	C			09							11	5									1			
93	٧			02							11	9						L			1			
114	W			23							14	0						Γ			4			
89	Χ		1	06							11	5									1			
95	Υ			04							12	1						Γ		1	12	1		
83	Z		1.	00							1 C	9								1	0	9		

1	50	mm	DΙ	GIT	† † ¢	15	50	mm	DIG	ΙT	
15	0	88			83		31	83	93	83	
		0	2	3	6	9	1	5	4	7	
88	0			1	14		12	20	1	14	
31	1			6	3		6	3	5	7	
83	2			10)9			1	15	10)9
83	3			10)9			1	15	10)9
93	4			1	19			1	19	10)2
83	5			10)9			1	15	10)9
83	9			10	9			1	15	10	6
83	7			10)9			10)9	9	2
83	8			10)9			1	15	10	9
83	9			10	9			1	15	10	9
-											

25	50	mm UPPER	CASE to 250 mm UPF	ER CASE
25	0	A M 159 A 155 A 155 A 155 A 159	B D E F H 13 W N D B M 139	Z X S D O D D D D D D D D D D D D D D D D D
159	Α	173	202	202
139	В	182	193	182
139	С	167	182	182
139	D	182	193	182
127	Е	155	170	170
127	щ	155	170	170
139	G	182	193	182
139	Η	182	193	193
36	I	79	90	90
127	J	170	181	181
139	K	167	182	182
127	L	141	170	170
165	М	208	219	219
139	N	182	193	193
147	0	190	201	190
139	P	182	193	182
147	QR	190	201	190
139	S	182	193	182
127		182 141	193 170	182 170
139	_	182	193	193
155	V	169	193	198
190	W	204	233	233
149	X	177	192	192
159	Ŷ	173	202	202
139	Ż	167	182	182

2	50	mm	DΙ	GIT	tc	25	50	mm	DIG	TI	
25	0	147		52	139	155	139				
		0	2	3	6	9	1	5	4	7	
147	0			19	90		21	01	19	90	
52	1)6	9	5					
139	2			18	32			19	93	18	32
139	3			18	32			19	93	18	32
155	4			19	98			19	98	10	59
139	5			18	32			19	93	18	32
139	6			18	32			19	93	18	32
139	7			18	32			18	32	15	53
139	8			18	32				93		32
139	9			18	32			19	93	18	32

20	0	127	102	124	152	127	11	5	701	111	28	111	102	132			111	-			117		=	119	=
		Α	JT	٧	W	Υ	ВD	E	F	Н	I	K	┙	М	N	Р	R	U	С	G	0 0)	s	Х	Z
127	Α		1	38							1	6	1								1	ŝ 1			
111	В		1	45							1	54	4									45			
111	С		1	34							1	45	5									45			
111	D		1	45							_ 1	5	4									45			
102	Ε		1	25							1	36	ô_									36			
102	F		1	25							1	36	<u>6</u>								13	36			
111	G			45							1	5	4									45			
111	Н			45							1	54	4									54			
28	I		- 6	32								7 1						_				1			
102	J		1	36							1	45	5_					_				45			
111	K			34							1	45	5_					_				15			
102	L			13							_1	36	<u> </u>					_			1.	36			
132	М		1_	66							1	75	5_					_				75			
111	N		1_	45								54 60	4_					_			1:	54			
117	0			51							_1	60	<u>) </u>					_				51			
111	Р			45							_1	5	4_					_				45			
117	Q R			51							_1	60	<u>)</u>					4				51			_
111	S			45							_	54	4_					-				45			
	5 T		_	45							_	2/	4_					-				45			
102	U	\vdash		13 45		_	-		_		-	36 54	<u>-</u>	_		_	_	\dashv	_	_		36 54	_	_	_
124	٧	-	1	4 D			_				_	58	<u>+</u>					-				58			
152	W	\vdash	-	35 63							-	86	2					-				36			
119	X	\vdash		63 42		_			_	_	-	5	7	_		_	_	\dashv	_	_		53		_	
127	Ŷ	\vdash		38							-	6	ر 1					\dashv			1.	61			
111	Ż	\vdash		3 4								45						\dashv				45			_

2	00	mm	DΙ	GIT	· †c	20	00	mm	DIG	IT				
20	0	0 2 3 6 8 9 1 5 4												
		0	2	3	6	9	1	5	4	7				
117	0		60	15	51									
41	1	84 84 7												
111	2			1.	45			15	54	14	45			
111	3			1.	45			15	54	14	45			
124	4			1 !	58			15	58	17	35			
111	7			1.	45			15	54	14	45			
111	9			1	45			15	54	14	45			
111	7			1.	45			14	15	12	22			
111	8				45				54		45			
111	9			1.	45			15	54	14	45			

100 mm DIGIT to 100 mm DIGIT

0 2 3 6 8 9 1 5 4 7

100

1 (00	mn	n UF	P	Εf	₹	C۵	S	ŝΕ	† c)	10	0		mn	n	U	PF	> E	ER	(CA	SE	=	
10	0	64	- 51	62			- 56		51	_	L	26	51				_	26			1	- 59	2		2
		Α	JT	٧	W	Υ	В	기	EF	Н	I	K	L	М	N	Ρ	R	U	10	CG	0	Q	S	Х	Z
64	Α	ı	7	0								81							T			8 1			
56	В	П		3								77							Γ			73			
56	С	П		7								73							Γ			73			
56	D			3								77							Γ			73	3		
51	E			2								68	_			_			ſ			68	3_		
51	F		6	2								68							Γ			68	3		
56	G			3								77							L			73			
56	Н			3								77							L			77			
14	I			31								35							L			35	5		
51	J	╙		8								72							L			72			
56	K			7								73							L			73			
51	L	╙		7								68							L			68	3		
66	М	╙		3								87							L			87			
56	N			<u>'3</u>								77							L			77			
59	0	╙		6								80							L			76			
56	Р	╙		3								77							Ļ			73			
59	Q	╙		6								80							Ļ			76	<u> </u>		
56	R	╙		3								77							Ļ			73	<u> </u>		
56	S	₩		3								77							Ļ			73			
51	T	₩		7								68							Ļ			68	<u>. </u>		
56	U	╨		3								77							╀			77			
62	٧	╙		8		_		_				79							╀			79			
76	W	╙		2								93							╀			93			
59	X	╙		0				_				76							╀			76			
64	Y	╙		0				_				81	_			_			1			81			
56	Z		6	7								73							L			73)		

METRIC UNITS COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING SPACING CHARTS DIRECT APPLIED LETTERS & NUMERALS

> UPPER CASE SERIES C (METRIC)

RECOMMENDED JUN. 23, 2009

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN. 23, 2009

CHIEF HIGHWAY ENGINEER

SHT. 6 OF 18 TC-8700C

NOTE:

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. SEE SHEETS 12 THROUGH 17 FOR CORRESPONDING ENGLISH UNITS.

25	50	mn	1	UF	P	ΕF	₹	СА	S	Ε	†()	25	5 C)	mr	n	U	PΕ	P [ΕR	(CΑ	SE	=	
25	0	▶ 135	111	35 T	< 117	≈ 159	× 135	107	0 1	96 E F	T 107	32		L 95	₹ 123	N	P) 	To	c G	_	ς [α	2 107	X 117	Z 107
135	Α	Н	_	14	48	_		_	_		_	_	17:	3	_			_	_	t		_	17	3	_	_
107	В	▮			45								15							t			14			
107	С			13	32								145							T			14	5		
107	D			14	45								15	5						T			14			
95	Е				20							•	13:	3						T			13			
95	F			12	20								13:							Τ			13			
107	G				45								155							Ι			14			
107	Н				45								155							Ι			15			
32	I				0								80										80			
111	٦				49								159										15			
111	K				36								149							L			14			
95	┙				38								13:							L			13			
123	М				61								17							L			17			
107	N	L			45								155	5_						L			15			
115	0	<u> </u>			53							_	16:	3						L			15			
107	Р	<u> </u>		14	45								15							L			14			
115	Q	_			53								16							L			15	<u>3</u>		
107	R	<u> </u>			45								155							L			14			
107	S	_			45								155	5_						L			14			
95		Щ			80								13:							Ļ			13			
107		Щ			45								15							L			15	5_		
117	٧	L		13	30								15	5_						╀			15	5_		
159	W	L		1	72								19							╀			19			
117	Х	⊩			42								155							1			15			
135	Υ	—			48								17:							1			17			
107	Z	_		13	32								145	2						L			14	5_		

2	50	mm	DΙ	GIT	† † ¢	25	50	mm	DIO	ΙT	
25	0	115			107			52	107	123	107
		0	2	3	6	8	9	1	5	4	7
115	0			15	53		16	33	15	53	
52	1			1 (00			1 (00	9	0
107	2			14	45			15	55	1 -	45
107	3			14	45			15	55	1 -	45
123	4			10	61			10	61	1.	36
107	5			14	45			15	55	1 -	45
107	6			14	45			15	55	14	45
107	7			14	45			14	45	12	20
107	8			14	45			15	55	1 -	45
107	9			14	45			15	55	1 4	45

20	00	116 106 116 96 96 116 116 55 119 109 86 129 116 122 116 122 116 116 116 117 118				?	C A	\S	Ε	†0)	20	0	1	mm	1	UF	PF	PER		C A	S	Ε		
20	0	⊩	_			\Box		98 B I		9 <u>2</u> E F	┖	т 25	89 K		99	N	Р	E I	_	cle		35	4	98	98 Z Z
108	۱ ۸	No. No.					Ė	٠,١			1		138	_		''1	<u> </u>	'''	Ĕ	1010	<u> </u>		8	<u> </u>	1-
86		╟											124							-		11			
86		⊬					_						116							-		11			
86		⊩	_				_		_				124		_		_	_	_	-	_	11			
76	Ē	\vdash	_				_						106									10			
76	F	\vdash	_				_						106								_	10			
86	G	\vdash	_	116 116 55 119					_				124		_		_	_	_	_	_	11			
86	H		_	116 55 119									124									12			
25			_	116 55 119 109									63							†		6			
89	Ĵ		_	55 119 109									12									12			
89	К		_	55 119 109									119									11			
76	L			119 109 86									106	ò								10			
99	М												137									13			
86	N												124									12			
92	0												130									12			
86	Р												124									11			
92	Q												130									12			
86	R												124									11			
86	S												124									11			
76		<u> </u>											106									10			
86	U	<u> </u>											124									12			
94	٧	<u> </u>											124							_		12			
127	W	<u> </u>											15							_		15			
94	X	\vdash											124							_		12			
108	Y	⊩											138							-		13			
86	Z	Щ_		Dec Dec								_	116	_							_	11	ь		

2	200	mm	DΙ	GIT	tc	20	00	mm	DIG	; I T	
20	0	95			98			41	98	66	98
		0	2	3	6	8	9	1	5	4	7
92	0			12	22			13	30	12	22
41	1			7	9		7	9	7	1	
86	2			1.	16			12	24	1	16
86	3			1 '	16			12	24	1	16
99	4			12	29			12	29	10)9
86	5			1 '	16			12	24	1	16
86	6			1	16			12	24	1	16
86	7			1	16			1	16	9	6
86	8				16			12	24	1	16
86	9			1.	16			12	24	1	16

10	00	mm UPPER	CASE to 100 mm UPP	ER CASE
10	0	A A A A A A A A A A A A A A A A A A A	B D E E H 1 K F W N B B G B 4 38 8 4 4 4 38 8 4 4 4 38 8 4 4 4 38 8 4 4 4 38 8 4 4 4 38 8 4 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 38 8 4 4 4 38 8 4 4 4 4	C C O O C X
54	Α	59	69	69
43	В	58	62	58
43	С	53	58	58
43	D	58	62	58
38	E	48	53	53
38	F	48	53	53
43	G	58	62	58
43	Н	58	62 32 63	62
13	I	28	32	32 63
44	J	59	63	63
44	K	54	59	59
38	L	43	53	53 68
49	М	64	68	68
43	N	58	62	62
46	0	61	65	61
43	Р	58	62 65	58
46	Q	61		61
43	R	58	62	58
43	S	58	62 53	58
38	Т	43	53	53 62
43	U	58	62	62
47	٧	52	62	62
64	W	69	79	79
47	Χ	57	62	62
54	Υ	59	69	69
43	Z	53	58	58

1	00	mm	DΙ	GIT	† † ¢	10	00	mm	DIC	I T	
10	0	46			43			21	43	49	43
		0	2	3	6	8	9	1	5	4	7
46	0			6	51			6	5	6	1
21	1			4	0			4	0	3	6
43	2			5	8			6	2	5	8
43	3			5	8			6	2	5	8
49	4			6	4			6	4	5	4
43	73			5	8			6	2	5	8
43	6				8				2	5	8
43	7			5	8			5	8	4	8
43	8			5	8			6	2	5	
43	9			5	8			6	2	5	8

15	50	mn	า	UF	P	ΕF	?	CAS	ŝΕ	†	0	15	50		mm	l	JPF	PΕ	R	(CA	S	Е		٦
15	0	8 A	99	– 57	< 70	№		В D	<u>т</u> 57	L	1 F		- 57		N F	, I	64	l۲	G	Ľ	69 Q	L		2 3 x Z	
81	Α	Ť	٥	8		"	_	סוט	١٠١٠	<u>'</u>	1 -	10·	ш	IVI	יןאי		١١٥	Ĕ	0	<u> </u>	10	느	<u>' '</u>	^ 2	╡
64	В	╟		8						_		93						+			87				4
64	C	⊢		7			_			-		87		_		_		+		_	8		_		H
64	D	⊢	_	- 8		_				_		93						\vdash	_		8			_	+
57	Ē	┢		7								80						\vdash			80				4
57	F	\vdash		7						_		80						+			80		_		┨
64	G	\vdash	_	- 8			_			_		93		_		_		+	_	_	87		_		┨
64	H	╟		8								93						\vdash			93				┨
19	Ï	Н		4						-		48						\vdash			48				┨
66	j			8								95									95				┪
66	K			- 8								89						t			89	7			┪
57	È			6								80						Т			80				1
74	М			9								10:						T			10				1
64	N			8	7							93						T			93	3			1
69	0			9	2							98						Т			92				٦
64	Р			8								93									87	7			٦
69	Q			9								98									92	2			٦
64	R			8	7							93						Γ			87				٦
64	S			8								93						L			87]
57	T			6								80									80]
64	U			8								93									93				1
70	<			7								93									93				1
95	W			1(1 1 8						_			11				╛
70	Х			8								93									93				╛
81	Υ			8								10						L			10				1
64	Z			7	9							87						L			87	7_			╛

1	50	mm	DΙ	GIT	† † ¢	15	50	mm	DIO	ΙT	
15	0	69			64			31	64	7.4	64
		0	2	3	6	8	9	1	5	4	7
69	1 1 60							9	8	9	2
31	1	60						6	0	5	4
64	2			8	7			9	3	8	7
64	N			8	7			9	3	8	7
74	4			9	7			9	7	8	2
64	5			8	7			9	3	8	7
64	9			8	7			9	3	8	
64	7			8	7			8	7	7	2
64	8			8	7			9	3	8	7
64	9			8	7			9	3	8	7

NOTES:

- USE OF SERIES B ALPHABET IS RESTRICTED TO STREET NAME SIGNS, PARKING SIGNS AND OTHER SIMILAR SIGNS WHERE LIMITED BREADTH AND STROKE WIDTHS ARE REQUIRED FOR DESIGN PURPOSES.
- 2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. SEE SHEETS 12 THROUGH 17 FOR CORRESPONDING ENGLISH UNITS.

METRIC UNITS

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

SPACING CHARTS DIRECT APPLIED LETTERS & NUMERALS

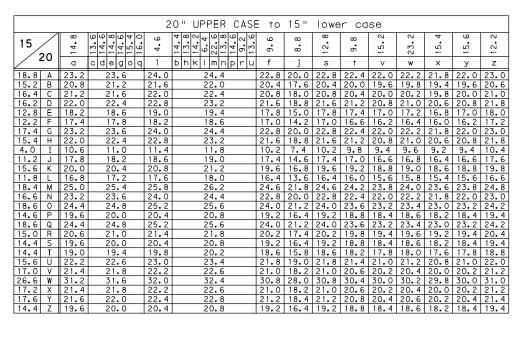
> UPPER CASE SERIES B (METRIC)

RECOMMENDED JUN. 23, 2009

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN. 23, 2009

CHIEF HIGHWAY ENGINEER SHT. 7 OF 18 TC-8700C



10.1 B 13.8 14.1 14.4 14.6 13.6 11.7 13.6 13.3 13.0 13.2 12.9 13.0 13.7				13.3	3" UPPER CASE	to	10"	lower	cas	е				
13.3	10	· 00	0 - 8 - 2 9	-	9248026	4	6	5	2	-	6	2	4	-
13.3	10/	6	666600	ň	999459999	9	5.	8.	ٷ				10.	
10.1 B 13.8 14.1 14.4 14.6 13.6 11.7 13.6 13.3 13.0 13.2 12.9 13.0 13.7	13.3	а		ī			j	s	t	٧	w	×	У	z
10.1 B 13.8 14.1 14.4 14.6 13.6 11.7 13.6 13.3 13.0 13.2 12.9 13.0 13.7	12.5 A	15.4	15.7	16.0	16.2	15.2	13.3	15.2	14.9	14.6	14.8	14.5	14.6	15.3
10.8 D 14.6 14.9 15.2 15.4 14.4 12.5 14.4 14.1 13.8 14.0 13.7 13.8 14.5		13.8	14.1	14.4	14.6	13.6	11.7	13.6	13.3	13.0	13.2	12.9	13.0	13.7
8.5 E 12.1 12.4 12.6 12.9 11.8 10.0 11.8 11.6 11.3 11.4 11.2 11.3 12.0 8.1 F 11.6 11.8 12.1 12.4 11.3 9.4 11.3 11.0 10.8 10.9 10.6 10.8 11.3 12.0 11.6 6 15.4 15.7 16.0 16.2 15.2 13.3 15.2 14.4 14.9 14.6 14.5 14.6 15.2 13.3 15.2 14.4 14.1 13.8 14.0 13.7 13.8 14.5 2.7 I 7.0 7.3 7.6 7.8 6.8 4.9 6.8 6.5 6.3 6.4 6.1 6.3 6.9 7.4 J 11.8 12.1 12.4 12.6 11.6 9.7 11.6 11.0 11.2 11.0 11.2 10.9 11.0 11.2 10.9 11.0 11.2 11.0 1	10.9 C	14.1	14.4	14.6	14.9	13.8	12.0	13.8	13.6	13.3	13.4	13.2	13.3	14.0
8.1 F 11.6 11.8 12.1 12.4 11.3 9.4 11.3 11.0 10.8 10.9 10.6 10.8 11.4 11.6 G 15.4 15.7 16.0 16.2 15.2 13.3 15.2 14.9 14.6 14.8 14.5 14.6 15.2 10.2 H 14.6 14.9 15.2 15.4 14.4 12.5 14.4 14.1 13.8 14.0 13.7 13.8 14.5 2.7 I 7.0 7.3 7.6 7.8 6.8 4.9 6.8 6.5 6.3 6.4 6.1 6.9 7.4 J 11.8 12.1 12.4 12.6 11.6 9.7 11.6 11.3 11.0 11.2 10.9 10.0 10.9 10.0 11.0 11.2 10.9 11.0 11.2 10.9 11.0 11.2 10.9 11.0 11.2 10.9 10.9 10.9 10.6 10.4	10.8 D	14.6	14.9	15.2	15.4	14.4	12.5	14.4	14.1	13.8	14.0	13.7	13.8	14.5
11.6 G 15.4 15.7 16.0 16.2 15.2 13.3 15.2 14.9 14.6 14.8 14.5 14.6 15.3	8.5 E	12.1	12.4	12.6	12.9	11.8	10.0	11.8	11.6	11.3	11.4	11.2	11.3	12.0
10.2 H 14.6 14.9 15.2 15.4 14.4 12.5 14.4 14.1 13.8 14.0 13.7 13.8 14.5	8.1 F	11.6	11.8	12.1	12.4	11.3	9.4	11.3	11.0	10.8	10.9	10.6	10.8	11.4
2.7 I 7.0 7.3 7.6 7.8 6.8 4.9 6.8 6.5 6.3 6.4 6.1 6.9 7.4 J 11.8 12.1 12.4 12.6 11.6 9.7 11.6 11.3 11.0 11.2 10.9 11.0 11.2 10.9 11.0 11.2 10.9 12.8 12.5 12.6 12.4 12.5 13.2 13.0 12.8 12.5 12.6 12.4 12.5 13.2 13.0 12.8 12.5 12.6 12.4 12.5 13.2 13.0 12.8 12.5 12.6 12.4 12.5 13.2 13.0 13.0 13.6 12.4 12.5 13.0 13.6 14.1 13.0 13.6 14.5 16.4 16.1 15.8 16.0 15.7 15.8 16.5 16.8 17.0 16.0 14.1 16.0 15.7 15.8 16.5 16.8 17.0 16.0 14.1 16.0 15.7 1	11.6 G	15.4	15.7	16.0	16.2	15.2	13.3	15.2	14.9	14.6	14.8	14.5	14.6	15.3
7.4 J 11.8 12.1 12.4 12.6 11.6 9.7 11.6 11.3 11.0 11.2 10.9 11.0 11.7 10.4 K 13.3 13.6 13.8 14.1 13.0 11.2 13.0 12.8 12.5 12.6 12.4 12.5 13.2 7.8 L 11.2 11.4 11.7 12.0 10.9 9.0 10.6 10.4 10.5 10.2 10.4 11.0 12.2 M 16.6 16.9 17.2 17.4 16.4 14.5 16.4 16.1 15.8 16.0 15.7 15.0 16.2 15.2 13.3 15.2 14.9 14.6 14.8 14.5 14.6 15.7 15.4 16.0 16.1 15.8 16.0 15.2 13.3 15.2 14.9 14.6 14.8 14.5 14.6 15.3 15.4 16.5 16.5 16.8 17.0 16.0 14.1 16.0 15	10.2 H	14.6		15.2	15.4	14.4	12.5	14.4	14.1	13.8	14.0	13.7	13.8	14.5
10.4 K 13.3 13.6 13.8 14.1 13.0 11.2 13.0 12.8 12.5 12.6 12.4 12.5 13.2 7.8 L 11.2 11.4 11.7 12.0 10.9 9.0 10.9 10.6 10.4 10.5 10.2 10.4 11.0 12.2 M 16.6 16.9 17.2 17.4 16.4 14.5 16.4 16.1 15.8 16.0 15.7 15.8 16.5 11.0 N 15.4 15.7 16.0 16.2 15.2 13.3 15.2 14.9 14.6 14.8 14.5 14.6 15.3 12.4 0 16.2 16.5 16.8 17.0 16.0 14.1 16.0 15.7 15.4 15.6 15.3 15.4 16.1 9.7 P 13.0 13.3 13.6 13.8 12.8 10.9 12.8 12.5 12.2 12.4 12.1 12.2 12.9 12.4 Q 16.2 16.5 16.8 17.0 16.0 14.1 16.0 15.7 15.4 15.6 15.3 15.4 16.1 10.0 R 13.7 14.0 14.2 14.5 13.4 11.6 13.4 13.2 12.9 13.0 12.8 12.9 13.6 9.6 S 13.0 13.3 13.6 13.8 12.8 10.9 12.8 12.5 12.2 12.4 12.1 12.2 12.9 9.6 T 12.6 12.9 13.2 13.4 12.4 10.5 12.4 12.1 11.8 12.0 11.7 11.8 12.5 10.4 U 14.8 15.0 15.3 15.6 14.5 12.6 14.5 14.2 14.0 14.1 13.8 14.0 14.6 11.3 V 14.2 14.5 14.8 15.0 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 17.7 W 20.7 21.0 21.3 21.5 20.5 18.6 20.5 20.2 20.0 20.1 19.8 20.0 20.6 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 17.7 W 20.7 21.0 21.3 21.5 20.5 18.6 20.5 20.2 20.0 20.1 19.8 20.0 20.6 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 17.7 W 20.7 21.0 21.3 21.5 20.5 18.6 20.5 20.2 20.0 20.1 19.8 20.0 20.6 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 17.8 17	2.7 I	7.0	7.3	7.6	7.8	6.8	4.9	6.8	6.5	6.3	6.4	6.1	6.3	6.9
7.8 L 11.2 11.4 11.7 12.0 10.9 9.0 10.9 10.6 10.4 10.5 10.2 10.4 11.0 12.2 M 16.6 16.9 17.2 17.4 16.4 14.5 16.4 16.1 15.8 16.0 15.7 15.8 16.5 16.8 16.2 15.2 13.3 15.2 14.9 14.6 14.8 14.5 14.6 15.7 15.4 15.6 15.3 15.4 16.1 15.2 13.3 15.2 14.9 14.6 14.8 14.5 14.4 14.9 14.6 14.8 14.5 14.6 15.7 15.4 15.6 15.3 15.4 16.1 15.2 12.3 13.0 13.3 13.3 13.6 13.8 12.8 10.9 12.8 12.5 12.2 12.4 12.1 12.2 12.9 12.4 0 16.2 16.5 16.8 17.0 16.0 14.1 16.0 15.7	7.4 J	11.8	12.1	12.4	12.6	11.6	9.7	11.6	11.3	11.0	11.2	10.9	11.0	11.7
12.2 M 16.6 16.9 17.2 17.4 16.4 14.5 16.4 16.1 15.8 16.0 15.7 15.8 16.5 11.0 N 15.4 15.7 16.0 16.2 15.2 13.3 15.2 14.9 14.6 14.8 14.5 14.6 15.3 15.4 16.1 15.7 15.4 15.6 15.3 15.4 16.1 15.7 15.4 15.6 15.3 15.4 16.1 15.7 15.4 15.6 15.3 15.4 16.1 15.7 15.4 15.6 15.3 15.4 16.1 15.7 15.4 15.6 15.3 15.4 16.1 15.7 15.4 15.6 15.3 15.4 16.1 16.0 14.1 16.0 15.7 15.4 15.6 15.3 15.4 16.1 16.1 16.1 16.1 16.1 16.1 16.1 16.1 16.1 16.1 16.1 16.1 16.1 16.1 16.1 16.1 <td></td> <td></td> <td>13.6</td> <td>13.8</td> <td></td> <td></td> <td>11.2</td> <td></td> <td></td> <td>12.5</td> <td></td> <td></td> <td>12.5</td> <td>13.2</td>			13.6	13.8			11.2			12.5			12.5	13.2
11.0 N 15.4 15.7 16.0 16.2 15.2 13.3 15.2 14.9 14.6 14.8 14.5 14.6 15.3 12.4 0 16.2 16.5 16.8 17.0 16.0 14.1 16.0 15.7 15.4 15.6 15.3 15.4 16.1 9.7 P 13.0 13.3 13.6 13.8 12.8 10.9 12.8 12.2 12.4 12.1 12.2 12.9 12.4 Q 16.2 16.5 16.8 17.0 16.0 14.1 16.0 15.7 15.4 15.6 15.3 15.4 16.1 10.0 R 13.7 14.0 14.2 14.5 13.4 11.6 15.7 15.4 15.6 15.3 15.4 16.1 10.0 R 13.7 14.0 14.2 14.5 13.4 11.6 13.4 13.2 12.9 13.0 12.8 12.9 13.6	7.8 L	11.2	11.4	11.7	12.0	10.9	9.0	10.9	10.6	10.4	10.5	10.2	10.4	11.0
12.4 0 16.2 16.5 16.8 17.0 16.0 14.1 16.0 15.7 15.4 15.6 15.3 15.4 16.1 9.7 P 13.0 13.3 13.6 13.8 12.8 10.9 12.8 12.5 12.2 12.4 12.1 12.2 12.9 12.4 Q 16.2 16.5 16.8 17.0 16.0 14.1 16.0 15.7 15.4 15.6 15.3 15.4 16.1 10.0 R 13.7 14.0 14.2 14.5 13.4 11.6 13.4 13.2 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.0 <td< td=""><td>12.2 M</td><td></td><td></td><td>17.2</td><td>17.4</td><td>16.4</td><td>14.5</td><td>16.4</td><td>16.1</td><td>15.8</td><td>16.0</td><td>15.7</td><td>15.8</td><td>16.5</td></td<>	12.2 M			17.2	17.4	16.4	14.5	16.4	16.1	15.8	16.0	15.7	15.8	16.5
9.7 P 13.0 13.3 13.6 13.8 12.8 10.9 12.8 12.5 12.2 12.4 12.1 12.2 12.9 12.4 Q 16.2 16.5 16.8 17.0 16.0 14.1 16.0 15.7 15.4 15.6 15.3 15.4 16.1 10.0 R 13.7 14.0 14.2 14.5 13.4 11.6 13.4 13.2 12.9 13.0 12.8 12.9 13.6 13.8 12.8 10.9 12.8 12.5 12.2 12.4 12.1 12.2 12.9 9.6 T 12.6 12.9 13.2 13.4 12.4 10.5 12.4 12.1 11.8 12.0 11.7 11.8 12.5 10.4 U 14.8 15.0 15.3 15.6 14.5 12.6 14.5 14.2 14.0 14.1 13.8 14.0 14.6 17.7 W 20.7 21.0 21.3 21.5 20.5 18.6 20.5 20.2 20.0 20.1 19.8 20.0 20.6 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 14.1 13.8 14.0 14.1 13.8 14.0 14.1 13.8 14.0 14.1 13.8 14.0 14.1 13.8 14.0 14.1 13.8 14.1 1	11.0 N	15.4	15.7	16.0	16.2	15.2	13.3	15.2	14.9	14.6		14.5	14.6	15.3
12.4 Q 16.2 16.5 16.8 17.0 16.0 14.1 16.0 15.7 15.4 15.6 15.3 15.4 16.1 10.0 R 13.7 14.0 14.2 14.5 13.4 11.6 13.2 12.9 13.0 12.8 12.9 13.0 12.8 12.9 13.2 13.4 12.8 10.9 12.8 12.2 12.4 12.1 12.2 12.9 13.2 13.4 12.4 10.5 12.4 12.1 11.8 12.0 11.7 11.8 12.5 12.2 12.4 12.1 12.2 12.9 13.2 13.4 12.4 10.5 12.4 12.1 11.8 12.0 11.7 11.8 12.5 12.2 12.4 12.1 11.8 12.0 11.7 11.8 12.5 12.2 12.4 12.1 12.1 12.2 12.2 12.4 12.1 12.1 12.2 12.2 12.2 12.4 12.1 12.1 14.0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>14.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							14.1							
10.0 R 13.7 14.0 14.2 14.5 13.4 11.6 13.4 13.2 12.9 13.0 12.8 12.9 13.0 12.1 12.1 11.8 12.0 11.7 11.8 12.2 12.1 14.0 14.1 13.8 14.0 14.6 14.6 14.6 14.6 14.5 14.6 14.6 14.6 14.5 14.1 14.1 13.8 14.0 14.1 13.8 14.0 14.1 13.7 13.4 14.1 13.8														
9.6 S 13.0 13.3 13.6 13.8 12.8 10.9 12.8 12.5 12.2 12.4 12.1 12.2 12.9 9.6 T 12.6 12.9 13.2 13.4 12.4 10.5 12.4 12.1 11.8 12.0 11.7 11.8 12.5 10.4 U 14.8 15.0 15.3 15.6 14.5 12.6 14.5 14.2 14.0 14.1 13.8 14.0 14.6 11.3 V 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 17.7 W 20.7 21.0 21.3 21.5 20.5 18.6 20.5 20.2 20.0 20.1 19.8 20.0 20.6 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1	12.4 Q	16.2	16.5	16.8	17.0		14.1	16.0	15.7	15.4	15.6	15.3	15.4	16.1
9.6 T 12.6 12.9 13.2 13.4 12.4 10.5 12.4 12.1 11.8 12.0 11.7 11.8 12.5 10.4 U 14.8 15.0 15.3 15.6 14.5 12.6 14.5 14.2 14.0 14.1 13.8 14.0 14.6 11.3 V 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.6 17.7 W 20.7 21.0 21.3 21.5 20.5 18.6 20.5 20.2 20.0 20.1 19.8 20.0 20.6 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1			14.0	14.2										
10.4 U 14.8 15.0 15.3 15.6 14.5 12.6 14.5 14.2 14.0 14.1 13.8 14.0 14.6 11.3 V 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 17.7 W 20.7 21.0 21.3 21.5 20.5 18.6 20.5 20.2 20.0 20.1 19.8 20.0 20.6 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1														
11.3 V 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1 17.7 W 20.7 21.0 21.3 21.5 20.5 18.6 20.5 20.2 20.0 20.1 19.8 20.0 20.6 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1														
17.7 W 20.7 21.0 21.3 21.5 20.5 18.6 20.5 20.2 20.0 20.1 19.8 20.0 20.6 11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1	10.4 U		15.0			14.5		14.5						14.6
11.4 X 14.2 14.5 14.8 15.0 14.0 12.1 14.0 13.7 13.4 13.6 13.3 13.4 14.1	1.00													
. 11. 7 Y 14. 4 14. 6 14. 9 15. 2 14. 1 12. 2 14. 1 13. 8 13. 6 13. 7 13. 4 13. 6 14. 2														
	11.7 Y	14.4	14.6	14.9	15.2	14.1	12.2	14.1	13.8	13.6	13.7	13.4	13.6	14.2
9.6 Z 13.0 13.3 13.6 13.8 12.8 10.9 12.8 12.5 12.2 12.4 12.1 12.2 12.9	9.6 Z	13.0	13.3	13.6	13.8	12.8	10.9	12.8	12.5	12.2	12.4	12.1	12.2	12.9

				8 '	UPPER CASE	to 6	" lo	wer d	eapo					
6		5.9	5.4 5.8 5.9 6.2 6.4	1.8	5.8 5.7 2.6 9.0 9.0 5.8 3.7	3.8	3.5	5. 1	3.9	6. 1	9.3	6.2	6.2	4.9
	8	а	c d e g o q	i	bhklmnpru	f	j	s	t	٧	w	×	У	z
7.5	Α	9.3	9.4	9.6	9.8	9.1	8.0	9.1	9.0	8.8	8.9	8.7	8.8	9.2
6.1	В	8.3	8.5	8.6	8.8	8.2	7.0	8.2	8.0	7.8	7.9	7.8	7.8	8.2
6.6	С	8.5	8.6	8.8	9.0	8.3	7.2	8.3	8.2	8.0	8.1	7.9	8.0	8.4
6.5	D	8.8	9.0	9.1	9.3	8.6	7.5	8.6	8.5	8.3	8.4	8.2	8.3	8.7
5.1	E	7.3	7.4	7.6	7.8	7.1	6.0	7.1	7.0	6.8	6.9	6.7	6.8	7.2
4.9	F	7.0	7.1	7.3	7.4	6.8	5.7	6.8	6.6	6.5	6.6	6.4	6.5	6.9
7.0	G	9.3	9.4	9.6	9.8	9.1	8.0	9.1	9.0	8.8	8.9	8.7	8.8	9.2
6.2	Н	8.8	9.0	9.1	9.3	8.6	7.5	8.6	8.5	8.3	8.4	8.2	8.3	8.7
1.6	I	4.2	4.4	4.6	4.7	4.1	3.0	4.1	3.9	3.8	3.8	3.7	3.8	4.2
4.5	J	7.1	7.3	7.4	7.6	7.0	5.8	7.0	6.8	6.6	6.7	6.6	6.6	7.0
6.2	K	8.0	8.2	8.3	8.5	7.8	6.7	7.8	7.7	7.5	7.6	7.4	7.5	7.9
4.7	L	6.7	6.9	7.0	7.2	6.6	5.4	6.6	6.4	6.2	6.3	6.2	6.2	6.6
7.4	М	10.0	10.2	10.3	10.5	9.8	8.7	9.8	9.7	9.5	9.6	9.4	9.5	9.9
6.6	N	9.3	9.4	9.6	9.8	9.1	8.0	9.1	9.0	8.8	8.9	8.7	8.8	9.2
7.4	0	9.8	9.9	10.1	10.2	9.6	8.5	9.6	9.4	9.3	9.4	9.2	9.3	9.7
5.8	Р	7.8	8.0	8.2	8.3	7.7	6.6	7.7	7.5	7.4	7.4	7.3	7.4	7.8
7.4	Q	9.8	9.9	10.1	10.2	9.6	8.5	9.6	9.4	9.3	9.4	9.2	9.3	9.7
6.0	R	8.2	8.4	8.6	8.7	8.1	7.0	8.1	7.9	7.8	7.8	7.7	7.8	8.2
5.8	S	7.8	8.0	8.2	8.3	7.7	6.6	7.7	7.5	7.4	7.4	7.3	7.4	7.8
5.8	1	7.6	7.8	7.9	8.1	7.4	6.3	7.4	7.3	7.1	7.2	7.0	7.1	7.5
6.2	U	8.9	9.0	9.2	9.4	8.7	7.6	8.7	8.6	8.4	8.5	8.3	8.4	8.8
6.8	V	8.6	8.7	8.9	9.0	8.4	7.3	8.4	8.2	8.1	8.2	8.0	8.1	8.5
10.6	W X	12.5	12.6	12.8	13.0	12.3	11.2	12.3	12.2	12.0	12.1	11.9	12.0	12.4
6.9 7.0	Ŷ	8.6	8.7 8.8	8.9 9.0	9.0 9.1	8.4	7.3	8.4	8.2	8.1	8.2	8.0	8.1	8.5
5.8	Z	7.8	8.0	8.2	8.3	7.7	6.6	7.7	7.5	7.4	7.4	8.1 7.3	7.4	7.8
J. 6	۷	1.0	0.0	0.2	0.3	1.1	0.0	1.1	1.0	1.4	1.4	1.3	1.4	1.8

			16"	UPPER CASE to	12'	low	er c	ase					
12	1.8	10.9 11.8 11.8 11.3 12.3	•	11.5 11.0 11.4 5.1 18.1 11.0 11.0	7.7	7.0	0.2	7.8	2.2	8.6	2.3	2.5	9.8
/ 16	a	c d e g o q	i	b h k l m n p r u	f	j	s	Ť	^	w	×	У	z
15.0 A	18.6	18.9	19.2	19.5	18.2	16.0	18.2	17.9	17.6	17.8	17.4	17.6	18.4
12.2 B	16.6	17.0	17.3	17.6	16.3	14.1	16.3	16.0	15.7	15.8	15.5	15.7	16.5
13.1 C	17.0	17.3	17.6	17.9	16.6	14.4	16.6	16.3	16.0	16.2	15.8	16.0	16.8
13.0 D	17.6	17.9	18.2	18.6	17.3	15.0	17.3	17.0	16.6	16.8	16.5	16.6	17.4
10.2 E	14.6	14.9	15.2	15.5	14.2	12.0	14.2	13.9	13.6	13.8	13.4	13.6	14.4
9.8 F	13.9	14.2	14.6	14.9	13.6	11.4	13.6	13.3	13.0	13.1	12.8	13.0	
13.9 G	18.6	18.9	19.2	19.5	18.2	16.0	18.2	17.9	17.6	17.8	17.4	17.6	18.4
12.3 H	17.6	17.9	18.2	18.6	17.3	15.0	17.3	17.0	16.6	16.8	16.5	16.6	
3.2 I	8.5	8.8	9.1	9.4	8.2	5.9	8.2	7.8	7.5	7.7	7.4	7.5	8.3
9.0 J	14.2	14.6	14.9	15.2	13.9	11.7	13.9	13.6	13.3	13.4	13.1	13.3	14.1
12.5 K	16.0	16.3	16.6	17.0	15.7	13.4	15.7	15.4	15.0	15.2	14.9	15.0	15.8
9.4 L	13.4	13.8	14.1	14.4	13.1	10.9	13.1	12.8	12.5	12.6	12.3	12.5	13.3
14.7 M	20.0	20.3	20.6	21.0	19.7	17.4	19.7	19.4	19.0	19.2	18.9	19.0	19.8
13.3 N	18.6	18.9	19.2	19.5	18.2	16.0	18.2	17.9	17.6	17.8	17.4	17.6	18.4
14.9 0	19.5	19.8	20.2	20.5	19.2	17.0	19.2	18.9	18.6	18.7	18.4	18.6	
11.7 P	15.7	16.0	16.3	16.6	15.4	13.1	15.4	15.0	14.7	14.9	14.6	14.7	15.5
14.9 Q	19.5	19.8	20.2	20.5	19.2	17.0	19.2	18.9	18.6	18.7	18.4	18.6	
12.0 R	16.5	16.8	17.1	17.4	16.2	13.9	16.2	15.8	15.5	15.7	15.4	15.5	16.3
11.5 S	15.7	16.0	16.3	16.6	15.4	13.1	15.4	15.0	14.7	14.9	14.6	14.7	15.5
11.5 T	15.2	15.5	15.8	16.2	14.9	12.6	14.9	14.6	14.2	14.4	14.1	14.2	
12.5 U	17.8	18.1	18.4	18.7	17.4	15.2	17.4	17.1	16.8	17.0	16.6	16.8	
13.6 V	17.1	17.4	17.8	18.1	16.8	14.6	16.8	16.5	16.2	16.3	16.0	16.2	17.0
21.3 W	25.0	25.3	25.6	25.9	24.6	22.4	24.6	24.3	24.0	24.2	23.8	24.0	
13.8 X	17.1	17.4	17.8	18.1	16.8	14.6	16.8	16.5	16.2	16.3	16.0	16.2	17.0
14.1 Y	17.3	17.6	17.9	18.2	17.0	14.7	17.0	16.6	16.3	16.5	16.2	16.3	17.1
11.5 Z	15.7	16.0	16.3	16.6	15.4	13.1	15.4	15.0	14.7	14.9	14.6	14.7	15.5

			10.	6" UPPER CASE	to	8 '' I	ower	cas	е				
8	7.8	7.7 7.7 7.8 7.7 8.5 8.5	2.4	7.6 7.5 7.5 3.4 7.3 7.7 7.7 7.7	5. 1	4.7	6.8	5.2	8.1	12.3	8.2	8.3	6.5
10.6	а	c d e g o q	ī	b h k l m n p r u	f	j	s	t	٧	w	×	У	z
10.0 A	12.3	12.5	12.7	12.9	12.1	10.6	12.1	11.9	11.7	11.8	11.6	11.7	12.2
8.1 B	11.0	11.2	11.4	11.7	10.8	9.3	10.8	10.6	10.4	10.5	10.3	10.4	10.9
8.7 C	11.2	11.4	11.7	11.9	11.0	9.5	11.0	10.8	10.6	10.7	10.5	10.6	11.1
8.6 D	11.7	11.9	12.1	12.3	11.4	10.0	11.4	11.2	11.0	11.1	10.9	11.0	11.6
6.8 E	9.6	9.9	10.1	10.3	9.4	8.0	9.4	9.2	9.0	9.1	8.9	9.0	9.5
6.5 F	9.2	9.4	9.6	9.9	9.0	7.5	9.0	8.8	8.6	8.7	8.5	8.6	9.1
9.2 G	12.3	12.5	12.7	12.9	12.1	10.6	12.1	11.9	11.7	11.8	11.6	11.7	12.2
8.2 H	11.7	11.9	12.1	12.3	11.4	10.0	11.4	11.2	11.0	11.1	10.9	11.0	11.6
2.1 I	5.6	5.8	6.0	6.3	5.4	3.9	5.4	5.2	5.0	5.1	4.9	5.0	5.5
5.9 J	9.4	9.6	9.9	10.1	9.2	7.7	9.2	9.0	8.8	8.9	8.7	8.8	9.3
8.3 K	10.6	10.8	11.0	11.2	10.4	8.9	10.4	10.2	10.0	10.1	9.9	10.0	10.5
6.3 L	8.9	9.1	9.3	9.5	8.7	7.2	8.7	8.5	8.3	8.4	8.2	8.3	8.8
9.8 M	13.3	13.5	13.7	13.9	13.0	11.6	13.0	12.8	12.6	12.7	12.5	12.6	13.1
8.8 N	12.3	12.5	12.7	12.9	12.1	10.6	12.1	11.9	11.7	11.8	11.6	11.7	12.2
9.9 0	12.9	13.1	13.4	13.6	12.7	11.2	12.7	12.5	12.3	12.4	12.2	12.3	12.8
7.7 P	10.4	10.6	10.8	11.0	10.2	8.7	10.2	10.0	9.8	9.9	9.6	9.8	10.3
9.9 Q	12.9	13.1	13.4	13.6	12.7	11.2	12.7	12.5	12.3	12.4	12.2	12.3	12.8
8.0 R	10.9	11.1	11.3	11.6	10.7	9.2	10.7	10.5	10.3	10.4	10.2	10.3	10.8
7.6 S	10.4	10.6	10.8	11.0	10.2	8.7	10.2	10.0	9.8	9.9	9.6	9.8	10.3
7.6 T	10.1	10.3	10.5	10.7	9.9	8.4	9.	9.6	9.4	9.5	9.3	9.4	10.0
8.3 U	11.8	12.0	12.2	12.4	11.6	10.1	11.6	11.3	11.1	11.2	11.0	11.1	11.7
9.0 V	11.3	11.6	11.8	12.0	11.1	9.6	11.1	10.9	10.7	10.8	10.6	10.7	11.2
14.1 W	16.5	16.7	17.0	17.2	16.3	14.8	16.3	16.1	15.9	16.0	15.8	15.9	16.4
9.1 X	11.3	11.6	11.8	12.0	11.1	9.6	11.1	10.9	10.7	10.8	10.6	10.7	11.2
9.3 Y	11.4	11.7	11.9	12.1	11.2	9.8	11.2	11.0	10.8	10.9		10.8	11.3
7.6 Z	10.4	10.6	10.8	11.0	10.2	8.7	10.2	10.0	9.8	9.9	9.6	9.8	10.3

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 CLEARVIEW HIGHWAY 5W

RECOMMENDED JUN. 23, 2009

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN. 23, 2009

CHIEF HIGHWAY ENGINEER

SHT. 8 OF 18 TC-8700C

NOTE:

ALL DIMENSIONS ARE IN INCHES.

				1	5" lower case	e to	15"	lowe	r ca	se				
15	14.8	13.6 14.8 14.6 15.4 16.0	14.6	4.6	13.8 13.8 6.4 6.4 13.8 13.8 13.8	9.6	8.8	12.8	9.8	15.2	23.2	15.4	15.6	12.2
	а	c e g o q	d	·	bhklmnpru	f	j	s	Ť	٧	w	×	У	Z
14.8 a	20.0	20.4	20.4	20.8	21.2	19.6	16.8	19.6	19.2	18.8	19.0	18.6	18.8	19.8
14.4 b	20.0	20.4	20.4	20.8	21.2	19.6	16.8	19.6	19.2	18.8	19.0	18.6	18.8	19.8
13.6 c	18.2	18.6	18.6	19.0	19.4	17.8	15.0	17.8	17.4	17.0	17.2	16.8	17.0	18.0
14.6 d	21.0	21.4	21.4	21.8	22.2	20.6	17.8	20.6	20.2	19.8	20.0	19.6	19.8	20.8
14.8 e	20.4	20.8	20.8	21.2	21.6	20.0	17.2	20.0	19.6	19.2	19.4	19.0	19.2	20.2
9.6 f	14.2	14.6	14.6	15.0	15.4	13.8	11.0	13.8	13.4	13.0	13.2	12.8	13.0	14.0
14.6 g	21.0	21.4	21.4	21.8	22.2	20.6	17.8	20.6	20.2	19.8	20.0	19.6	19.8	20.8
13.8 h	20.2	20.6	20.6	21.0	21.4	19.8	17.0	19.8	19.4	19.0	19.2	18.8	19.0	20.0
4.6 i	10.6	11.0	11.0	11.4	11.8	10.2	7.4	10.2	9.8	9.4	9.6	9.2	9.4	10.4
8.8 j	14.8	15.2	15.2	15.6	16.0	14.4	11.6	14.4	14.0	13.6	13.8	13.4	13.6	14.6
14.2 k	18.2	18.6	18.6	19.0	19.4	17.8	15.0	17.8	17.4	17.0	17.2	16.8	17.0	18.0
6.4 I	11.2	11.6	11.6	12.0	12.4	10.8	8.0	10.8	10.4	10.0	10.2	9.8	10.0	11.0
22.6 m	29.0	29.4	29.4	29.8	30.2	28.6	25.8	28.6	28.2	27.8	28.0	27.6	27.8	28.8
13.8 n	20.2	20.6	20.6	21.0	21.4	19.8	17.0	19.8	19.4	19.0	19.2	18.8	19.0	20.0
15.4 o	21.0	21.4	21.4	21.8	22.2	20.6	17.8	20.6	20.2	19.8	20.0	19.6	19.8	20.8
14.6 p	20.2	20.6	20.6	21.0	21.4	19.8	17.0	19.8	19.4	19.0	19.2	18.8	19.0	20.0
16.0 q	21.0	21.4	21.4	21.8	22.2	20.6	17.8	20.6	20.2	19.8	20.0	19.6	19.8	20.8
9.2 r	13.8	14.2	14.2	14.6	15.0	13.4	10.6	13.4	13.0	12.6	12.8	12.4	12.6	13.6
12.8 s	18.0	18.4	18.4	18.8	19.2	17.6	14.8	17.6	17.2	16.8	17.0	16.6	16.8	17.8
9.8 t	14.6	15.0	15.0	15.4	15.8	14.2	11.4	14.2	13.8	13.4	13.6	13.2	13.4	14.4
13.6 u	20.0	20.4	20.4	20.8	21.2	19.6	16.8	19.6	19.2	18.8	19.0	18.6	18.8	19.8
15.2 v	19.2	19.6	19.6	20.0	20.4	18.8	16.0	18.8	18.4	18.0	18.2	17.8	18.0	19.0
23.2 w	27.4	27.8	27.8	28.2	28.6	27.0	24.2	27.0	26.6	26.2	26.4	26.0	26.2	27.2
15.4 x	19.2	19.6	19.6	20.0	20.4	18.8	16.0	18.8	18.4	18.0	18.2	17.8	18.0	19.0
15.6 y	19.6	20.0	20.0	20.4	20.8	19.2	16.4	19.2	18.8	18.4	18.6	18.2	18.4	19.4
12.2 z	17.2	17.6	17.6	18.0	18.4	16.8	14.0	16.8	16.4	16.0	16.2	15.8	16.0	17.0

	12" lower case to 12" lower case													
12	11.8	10.9 11.8 11.7 12.3	11.7	3.7	11.5 11.4 5.1 18.1 11.0 11.0 7.4 7.4	7.7	7.0	10.2	7.8	12.2	18.6	12.3	12.5	9.8
	а	седод	d	i	bhklmnpru	f	j	s	t	٧	w	×	У	Z
11.8 a	16.0	16.3	16.3	16.6	17.0	15.7	13.4	15.7	15.4	15.0	15.2	14.9	15.0	15.8
11.5 b	16.0	16.3	16.3	16.6	17.0	15.7	13.4	15.7	15.4	15.0	15.2	14.9	15.0	15.8
10.9 c	14.6	14.9	14.9	15.2	15.5	14.2	12.0	14.2	13.9	13.6	13.8	13.4	13.6	14.4
11.7 d	16.8	17.1	17.1	17.4	17.8	16.5	14.2	16.5	16.2	15.8	16.0	15.7	15.8	16.6
11.8 e	16.3	16.6	16.6	17.0	17.3	16.0	13.8	16.0	15.7	15.4	15.5	15.2	15.4	16.2
7.7 f	11.4	11.7	11.7	12.0	12.3	11.0	8.8	11.0	10.7	10.4	10.6	10.2	10.4	11.2
11.7 g	16.8	17.1	17.1	17.4	17.8	16.5	14.2	16.5	16.2	15.8	16.0	15.7	15.8	16.6
11.0 h	16.2	16.5	16.5	16.8	17.1	15.8	13.6	15.8	15.5	15.2	15.4	15.0	15.2	16.0
3.7 i	8.5	8.8	8.8	9.1	9.4	8.2	5.9	8.2	7.8	7.5	7.7	7.4	7.5	8.3
7.0 j	11.8	12.2	12.2	12.5	12.8	11.5	9.3	11.5	11.2	10.9	11.0	10.7	10.9	11.7
11.4 K	14.6	14.9	14.9	15.2	15.5	14.2	12.0	14.2	13.9	13.6		13.4	13.6	14.4
5.1 I	9.0	9.3	9.3	9.6	9.9	8.6	6.4	8.6	8.3	8.0	8.2	7.8	8.0	8.8
18.1 m	23.2	23.5	23.5	23.8	24.2	22.9	20.6	22.9		22.2		22.1	22.2	23.0
11.0 n	16.2	16.5	16.5	16.8	17.1	15.8	13.6	15.8	15.5	15.2	15.4	15.0	15.2	16.0
12.3 0	16.8	17.1	17.1	17.4	17.8 17.1	16.5	14.2	16.5	16.2	15.8	16.0	15.7	15.8	16.6
11.7 p	16.2	16.5	16.5	16.8	17.8	15.8	13.6	15.8	15.5	15.2	15.4	15.0	15.2	16.0
12.8 q	16.8	17.1	17.1	17.4	12.0	16.5	14.2	16.5	16.2	15.8	16.0	15.7	15.8	16.6
7.4 r	11.0	11.4	11.4	11.7	15.4	10.7	8.5	10.7	10.4	10.1	10.2	9.9	10.1	10.5
10.2 s	14.4	14.7	14.7	15.0	12.6	14.1	11.8 9.1	14.1	13.8	13.4	13.6	13.3	13.4	14.2
	11.7	16.3	16.3	16.6	17.0	15.7	13.4	15.7	15.4	15.0	10.9	14.9	15.0	15.8
10.9 u	15.4	15.7	15.7	16.0	16.3	15.0	12.8	15.7	14.7	14.4	14.6	14.9	14.4	15.2
18.6 w	21.9	22.2	22.2	22.6	22.9	21.6	19.4	21.6	21.3	21.0	21.1	20.8	21.0	21.8
12.3 x	15.4	15.7	15.7	16.0	16.3	15.0	12.8	15.0	14.7	14.4	14.6	14.2	14.4	15.2
	15.7	16.0	16.0	16.3	16.6	15.4	13.1	15.4	15.0	14.7	14.9	14.6	14.7	15.5
9.8 z		14.1	14.1	14.4	14.7	13.4	11.2	13.4	13.1	12.8	13.0	12.6	12.8	13.6
3,0 2	13.0	11101				13.1	11.2	13.1	13.1	12.0	13.0	12.0	12.0	13.0
					8" lower case	e to	8 "	lower	cas	е				
	ω.	28-25	٠.	4	9 2 3 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		. 7	8.	. 2	~. -	2.3	. 2	м.	5 . 5

				1	0" lower case	e to	10"	lowe	r ca	se				
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10	6	9.600	9.	ů.	9 9 9 4 7 9 9 9	ڧ	r,	· .	ا ف	o <u>.</u>	ູນ	Ö	•	ஓ
'						f	-				-	-		
	а	cegoq	d	i	b h k I m n p r u		J	S	t	V	w	×	У	Z
9.8 a	13.3	13.6	13.6	13.8	14.1	13.0	11.2	13.0	12.8	12.5	12.6	12.4	12.5	13.2
9.6 b	13.3	13.6	13.6	13.8	14.1	13.0	11.2	13.0	12.8	12.5	12.6	12.4	12.5	13.2
9.0 c	12.1	12.4	12.4	12.6	12.9	11.8	10.0	11.8	11.6	11.3	11.4	11.2	11.3	12.0
9.7 d	14.0	14.2	14.2	14.5	14.8	13.7	11.8	13.7	13.4	13.2	13.3	13.0	13.2	13.8
9.8 e	13.6	13.8	13.8	14.1	14.4	13.3	11.4	13.3	13.0	12.8	12.9	12.6	12.8	13.4
6.4 f	9.4	9.7	9.7	10.0	10.2	9.2	7.3	9.2	8.9	8.6	8.8	8.5	8.6	9.3
9.7 g	14.0	14.2	14.2	14.5	14.8	13.7	11.8	13.7	13.4	13.2	13.3	13.0	13.2	13.8
9.2 h	13.4	13.7	13.7	14.0	14.2	13.2	11.3	13.2	12.9	12.6	12.8	12.5	12.6	13.3
3.1 i	7.0	7.3	7.3	7.6	7.8	6.8	4.9	6.8	6.5	6.3	6.4	6.1	6.3	6.9
5.9 j	9.8	10.1	10.1	10.4	10.6	9.6	7.7	9.6	9.3	9.0	9.2	8.9	9.0	9.7
9.4 K	12.1	12.4	12.4	12.6	12.9	11.8	10.0	11.8	11.6	11.3	11.4	11.2	11.3	12.0
4.3 I	7.4	7.7	7.7	8.0	8.2	7.2	5.3	7.2	6.9	6.7	6.8	6.5	6.7	7.3
15.0 m	19.3	19.6	19.6	19.8	20.1	19.0	17.2	19.0	18.8	18.5	18.6	18.4	18.5	19.2
9.2 n	13.4	13.7	13.7	14.0	14.2	13.2	11.3	13.2	12.9	12.6	12.8	12.5	12.6	13.3
10.2 0	14.0	14.2	14.2	14.5	14.8	13.7	11.8	13.7	13.4	13.2	13.3	13.0	13.2	13.8
9.7 p	13.4	13.7	13.7	14.0	14.2	13.2	11.3	13.2	12.9	12.6	12.8	12.5	12.6	13.3
10.6 q	14.0	14.2	14.2	14.5	14.8	13.7	11.8	13.7	13.4	13.2	13.3	13.0	13.2	13.8
6.1 r	9.2	9.4	9.4	9.7	10.0	8.9	7.0	8.9	8.6	8.4	8.5	8.2	8.4	9.0
8.5 s	12.0	12.2	12.2	12.5	12.8	11.7	9.8	11.7	11.4	11.2	11.3	11.0	11.2	11.8
6.5 t	9.7	10.0	10.0	10.2	10.5	9.4	7.6	9.4	9.2	8.9	9.0	8.8	8.9	9.6
9.0 u	13.3	13.6	13.6	13.8	14.1	13.0	11.2	13.0	12.8	12.5	12.6	12.4	12.5	13.2
10.1 V	12.8	13.0	13.0	13.3	13.6	12.5	10.6	12.5	12.2	12.0	12.1	11.8	12.0	12.6
15.4 w	18.2	18.5	18.5	18.8	19.0	18.0	16.1	18.0	17.7	17.4	17.6	17.3	17.4	18.1
10.2 ×	12.8	13.0	13.0	13.3	13.6	12.5	10.6	12.5	12.2	12.0	12.1	11.8	12.0	12.6
10.4 y	13.0	13.3	13.3	13.6	13.8	12.8	10.9	12.8	12.5	12.2	12.4	12.1	12.2	12.9
8.1 z	11.4	11.7	11.7	12.0	12.2	11.2	9.3	11.2	10.9	10.6	10.8	10.5	10.6	11.3

					8" lower case	e to	8 '' I	lower	cas	е				
	00	202700	7	4	9 2 4 0 2 6 2	-	7	00	~	-	٠.	2	m	5
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	а	c e g o q	d	i	b h k l m n p r u	f	j	S	t	٧	w	×	У	z
7.8 a	10.6	10.8	10.8	10.9	11.2	10.4	8.9	10.4	10.2	10.0	10.1	9.9	10.0	10.5
7.6 b	10.6	10.8	10.8	10.9	11.2	10.4	8.9	10.4	10.2	10.0	10.1	9.9	10.0	10.5
7.2 c	9.6	9.9	9.9	10.0	10.3	9.4	8.0	9.4	9.2	9.0	9.1	8.9	9.0	9.5
7.7 d	11.1	11.3	11.3	11.4	11.8	10.9	9.4	10.9	10.7	10.5	10.6	10.4	10.5	11.0
7.8 e	10.8	11.0	11.0	11.1	11.4	10.6	9.1	10.6	10.4	10.2	10.3	10.1	10.2	10.7
5.1 f	7.5	7.7	7.7	7.9	8.2	7.3	5.8	7.3	7.1	6.9	7.0	6.8	6.9	7.4
7.7 g	11.1	11.3	11.3	11.4	11.8	10.9	9.4	10.9	10.7	10.5	10.6	10.4	10.5	11.0
7.3 h	10.7	10.9	10.9	11.0	11.3	10.5	9.0	10.5	10.3	10.1	10.2	10.0	10.1	10.6
2.4 i	5.6	5.8	5.8	6.0	6.3	5.4	3.9	5.4	5.2	5.0	5.1	4.9	5.0	5.5
4.7 j	7.8	8.1	8.1	8.2	8.5	7.6	6.1	7.6	7.4	7.2	7.3	7.1	7.2	7.7
7.5 k	9.6	9.9	9.9	10.0	10.3	9.4	8.0	9.4	9.2	9.0	9.1	8.9	9.0	9.5
3.4 I	5.9	6.1	6.1	6.3	6.6	5.7	4.2	5.7	5.5	5.3	5.4	5.2	5.3	5.8
12.0 m	15.4	15.6	15.6	15.6	16.0	15.2	13.7	15.2	14.9	14.7	14.8	14.6	14.7	15.3
7.3 n	10.7	10.9	10.9	11.0	11.3	10.5	9.0	10.5	10.3	10.1	10.2	10.0	10.1	10.6
8.2 o	11.1	11.3	11.3	11.4	11.8	10.9	9.4	10.9	10.7	10.5	10.6	10.4	10.5	11.0
7.7 p	10.7	10.9	10.9	11.0	11.3	10.5	9.0	10.5	10.3	10.1	10.2	10.0	10.1	10.6
8.5 q	11.1	11.3	11.3	11.4	11.8	10.9	9.4	10.9	10.7	10.5	10.6	10.4	10.5	11.0
4.9 r	7.3	7.5	7.5	7.7	8.0	7.1	5.6	7.1	6.9	6.7	6.8	6.6	6.7	7.2
6.8 s	9.5	9.8	9.8	9.9	10.2	9.3	7.8	9.3	9.1	8.9	9.0	8.8	8.9	9.4
5.2 t	7.7	8.0	8.0	8.1	8.4	7.5	6.0	7.5	7.3	7.1	7.2	7.0	7.1	7.6
7.2 u	10.6	10.8	10.8	10.9	11.2	10.4	8.9	10.4	10.2	10.0	10.1	9.9	10.0	10.5
8.1 v	10.2	10.4	10.4	10.5	10.8	10.0	8.5	10.0	9.8	9.5	9.6	9.4	9.5	10.1
12.3 w	14.5	14.7	14.7	14.8	15.2	14.3	12.8	14.3	14.1	13.9	14.0	13.8	13.9	14.4
8.2 ×	10.2	10.4	10.4	10.5	10.8	10.0	8.5	10.0	9.8	9.5	9.6	9.4	9.5	10.1
8.3 y	10.4	10.6	10.6	10.7	11.0	10.2	8.7	10.2	10.0	9.8	9.9	9.6	9.8	10.3
6.5 z	9.1	9.3	9.3	9.4	9.8	8.9	7.4	8.9	8.7	8.5	8.6	8.4	8.5	9.0

						6" lower case	e to	6"	ower	cas	е				
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6		က်	00000	5.	_ :	2 2 2 2 2 2 2 2	ς.	ž.	5.	ω,	ن	တ်	ٷ	ٷ	4.
		а	cegoq	d	i	bhklmnpru	f	j	S	Ť	٧	w	×	У	z
5.9	а	8.0	8.2	8.2	8.3	8.5	7.8	6.7	7.8	7.7	7.5	7.6	7.4	7.5	7.9
5.8	Ь	8.0	8.2	8.2	8.3	8.5	7.8	6.7	7.8	7.7	7.5	7.6	7.4	7.5	7.9
5.4	С	7.3	7.4	7.4	7.6	7.8	7.1	6.0	7.1	7.0	6.8	6.9	6.7	6.8	7.2
5.8	d	8.4	8.6	8.6	8.7	8.9	8.2	7.1	8.2	8.1	7.9	8.0	7.8	7.9	8.3
5.9	е	8.2	8.3	8.3	8.5	8.6	8.0	6.9	8.0	7.8	7.7	7.8	7.6	7.7	8.1
3.8	f	5.7	5.8	5.8	6.0	6.2	5.5	4.4	5.5	5.4	5.2	5.3	5.1	5.2	5.6
5.8	g	8.4	8.6	8.6	8.7	8.9	8.2	7.1	8.2	8.1	7.9	8.0	7.8	7.9	8.3
5.5	h	8.1	8.2	8.2	8.4	8.6	7.9	6.8	7.9	7.8	7.6	7.7	7.5	7.6	8.0
1.8	i	4.2	4.4	4.4	4.6	4.7	4.1	3.0	4.1	3.9	3.8	3.8	3.7	3.8	4.2
3.5	j	5.9	6.1	6.1	6.2	6.4	5.8	4.6	5.8	5.6	5.4	5.5	5.4	5.4	5.8
5.7	K	7.3	7.4	7.4	7.6	7.8	7.1	6.0	7.1	7.0	6.8	6.9	6.7	6.8	7.2
2.6		4.5	4.6	4.6	4.8	5.0	4.3	3.2	4.3	4.2	4.0	4.1	3.9	4.0	4.4
9.0	m	11.6	11.8	11.8	11.9	12.1	11.4	10.3	11.4	11.3	11.1	11.2	11.0	11.1	11.5
5.5	n	8.1	8.2	8.2	8.4	8.6	7.9	6.8	7.9	7.8	7.6	7.7	7.5	7.6	8.0
6.2	0	8.4	8.6	8.6	8.7	8.9	8.2	7.1	8.2	8.1	7.9	8.0	7.8	7.9	8.3
5.8	P	8.1	8.2	8.2	8.4	8.6	7.9	6.8	7.9	7.8	7.6	7.7	7.5	7.6	8.0
6.4	q	8.4	8.6	8.6	8.7	8.9	8.2	7.1	8.2	8.1	7.9	8.0	7.8	7.9	8.3
3.7	r	5.5	5.7	5.7	5.8	6.0	5.4	4.2	5.4	5.2	5.0	5.1	5.0	5.0	5.4
5.1	S	7.2	7.4	7.4	7.5	7.7	7.0	5.9	7.0	6.9	6.7	6.8	6.6	6.7	7.1
3.9	†	5.8	6.0	6.0	6.2	6.3	5.7	4.6	5.7	5.5	5.4	5.4	5.3	5.4	5.8
5.4	u	8.0	8.2	8.2	8.3	8.5	7.8	6.7	7.8	7.7	7.5	7.6	7.4	7.5	7.9
6.1	V	7.7	7.8	7.8	8.0	8.2	7.5	6.4	7.5	7.4	7.2	7.3	7.1	7.2 10.5	7.6
9.3	W	11.0			11.3	11.4		9.7	10.8	10.6	10.5	10.6	10.4		10.9
6.2	X	7.7	7.8 8.0	7.8 8.0	8.0		7.5	6.4	7.5	7.4	7.2	7.3	7.1	7.2	7.6
6.2 4.9	Y Z	7.8	7.0	7.0	8.2 7.2	8.3 7.4	6.7	5.6	6.7	6.6	6.4	6.5	6.3	7.4 6.4	7.8 6.8
4.9	Z	0.9	1.0	1.0	1.2	1.4	0.1	5.6	0.1	0.0	0.4	0.5	0.3	0.4	8.0

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

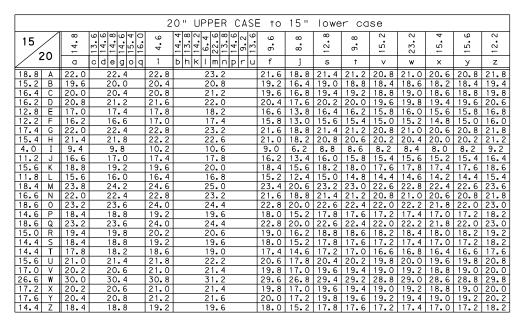
RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 SHT. 9 OF 18

CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER

TC-8700C TC-8700C

NOTE:

ALL DIMENSIONS ARE IN INCHES.



			13.3	" UPPER CASE	to	10"	lower	cas	e				
10	9.8	9.0 9.7 9.7 10.2	3.1	9.6 9.2 14.3 15.0 9.7 6.1	6.4	5.9	8.5	6.5	10.1	15.9	10.2	10.4	. 1
13.3	а	cdegoq	i	bhklmnpru	f	j	s	t	٧	w	×	У	z
12.5 A	14.6	14.9	15.2	15.4	14.4	12.5	14.2	14.1	13.8	14.0	13.7	13.8	14.5
10.1 B	13.0	13.3	13.6	13.8	12.8	10.9	12.6	12.5	12.2	12.4	12.1	12.2	12.9
10.9 C	13.3	13.6	13.8	14.1	13.0	11.2	12.9	12.8	12.5	12.6	12.4	12.5	13.2
10.8 D	13.8	14.1	14.4	14.6	13.6	11.7	13.4	13.3	13.0	13.2	12.9	13.0	13.7
	11.3	11.6	11.8	12.1	11.0	9.2	10.9	10.8	10.5	10.6	10.4	10.5	11.2
	10.8	11.0	11.3	11.6	10.5	8.6	10.4	10.2	10.0	10.1	9.8	10.0	10.6
11.6 G	14.6	14.9	15.2	15.4	14.4	12.5	14.2	14.1	13.8	14.0	13.7	13.8	14.5
10.2 H	14.2	14.5	14.8	15.0	14.0	12.1	13.8	13.7	13.4	13.6	13.3	13.4	14.1
2.7 I	6.3	6.5	6.8	7.0	6.0	4.1	5.9	5.7	5.5	5.6	5.3	5.5	6.1
	11.0	11.3	11.6	11.8	10.8	8.9	10.6	10.5	10.2	10.4	10.1	10.2	10.9
10.4 K	12.5	12.8	13.0	13.3	12.2	10.4	12.1	12.0	11.7	11.8	11.6	11.7	12.4
7.8 L	10.4	10.6	10.9	11.2	10.1	8.2	10.0	9.8	9.6	9.7	9.4	9.6	10.2
	15.8	16.1	16.4	16.6	15.6	13.7	15.4	15.3	15.0	15.2	14.9	15.0	15.7
	14.6	14.9	15.2	15.4	14.4	12.5	14.2	14.1	13.8	14.0	13.7	13.8	14.5
12.4 0	15.4	15.7	16.0	16.2	15.2	13.3	15.0	14.9	14.6	14.8	14.5	14.6	15.3
9.7 P	12.2	12.5	12.8	13.0	12.0	10.1	11.8	11.7	11.4	11.6	11.3	11.4	12.1
	15.4	15.7	16.0	16.2	15.2	13.3	15.0	14.9	14.6	14.8	14.5	14.6	15.3
10.0 R	12.9	13.2	13.4	13.7	12.6	10.8	12.5	12.4	12.1	12.2	12.0	12.1	12.8
9.6 S	12.2	12.5	12.8	13.0	12.0	10.1	11.8	11.7	11.4	11.6	11.3	11.4	12.1
	11.8	12.1	12.4	12.6	11.6	9.7	11.4	11.3	11.0	11.2	10.9	11.0	11.7
	14.0	14.2	14.5	14.8	13.7	11.8	13.6	13.4	13.2	13.3	13.0	13.2	13.8
	13.4	13.7	14.0	14.2	13.2	11.3	13.0	12.9	12.6	12.8	12.5	12.6	13.3
	20.0	20.2	20.5	20.7	19.7	17.8	19.6	19.4	19.2	19.3	19.0	19.2	19.8
	13.4	13.7	14.0	14.2	13.2	11.3	13.0	12.9	12.6	12.8	12.5	12.6	13.3
	13.6	13.8	14.1	14.4	13.3	11.4	13.2	13.0	12.8	12.9	12.6	12.8	13.4
9.6 Z	12.2	12.5	12.8	13.0	12.0	10.1	11.8	11.7	11.4	11.6	11.3	11.4	12.1

			8 '	" UPPER CASE	to 6	" lo	wer o	ase					
_ /	6	486824	- oo	8220878	®	2	-	6	-	м	2	2	6
6		000000	-:	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	33	3.	5.	3.	9	9.	9		4.
8	а	c d e g o q	i	bhklmnpru	f	j	s	t	٧	w	×	У	z
7.5 A	8.8	9.0	9.1	9.3	8.6	7.5	8.6	8.5	8.3	8.4	8.2	8.3	8.7
6.1 B	7.8	8.0	8.2	8.3	7.7	6.6	7.6	7.5	7.4	7.4	7.3	7.4	7.8
6.6 C	8.0	8.2	8.3	8.5	7.8	6.7	7.8	7.7	7.5	7.6	7.4	7.5	7.9
6.5 D	8.3	8.5	8.6	8.8	8.2	7.0	8.1	8.0	7.8	7.9	7.8	7.8	8.2
5.1 E	6.8	7.0	7.1	7.3	6.6	5.5	6.6	6.5	6.3	6.4	6.2	6.3	6.7
4.9 F	6.5	6.6	6.8	7.0	6.3	5.2	6.2	6.2	6.0	6.1	5.9	6.0	6.4
7.0 G	8.8	9.0	9.1	9.3	8.6	7.5	8.6	8.5	8.3	8.4	8.2	8.3	8.7
6.2 H	8.6	8.7	8.9	9.0	8.4	7.3	8.3	8.2	8.1	8.2	8.0	8.1	8.5
1.6 I	3.8	3.9	4.1	4.2	3.6	2.5	3.5	3.4	3.3	3.4	3.2	3.3	3.7
4.5 J	6.6	6.8	7.0	7.1	6.5	5.4	6.4	6.3	6.2	6.2	6.1	6.2	6.6
6.2 K	7.5	7.7	7.8	8.0	7.4	6.2	7.3	7.2	7.0	7.1	7.0	7.0	7.4
4.7 L	6.2	6.4	6.6	6.7	6.1	5.0	6.0	5.9	5.8	5.8	5.7	5.8	6.2
7.4 M	9.5	9.7	9.8	10.0	9.4	8.2	9.3	9.2	9.0	9.1	9.0	9.0	9.4
6.6 N	8.8	9.0	9.1	9.3	8.6	7.5	8.6	8.5	8.3	8.4	8.2	8.3	8.7
7.4 0	9.3	9.4	9.6	9.8	9.1	8.0	9.0	9.0	8.8	8.9	8.7	8.8	9.2
5.8 P	7.4	7.5	7.7	7.8	7.2	6.1	7.1	7.0	6.9	7.0	6.8	6.9	7.3
7.4 Q	9.3	9.4	9.6	9.8	9.1	8.0	9.0	9.0	8.8	8.9	8.7	8.8	9.2
6.0 R	7.8	7.9	8.1	8.2	7.6	6.5	7.5	7.4	7.3	7.4	7.2	7.3	7.7
5.8 S	7.4	7.5	7.7	7.8	7.2	6.1	7.1	7.0	6.9	7.0	6.8	6.9	7.3
5.8 T	7.1	7.3	7.4	7.6	7.0	5.8	6.9	6.8	6.6	6.7	6.6	6.6	7.0
6.2 U	8.4	8.6	8.7	8.9	8.2	7.1	8.2	8.1	7.9	8.0	7.8	7.9	8.3
6.8 V	8.1	8.2	8.4	8.6	7.9	6.8	7.8	7.8	7.6	7.7	7.5	7.6	8.0
10.6 W	12.0	12.2	12.3	12.5	11.8	10.7	11.8	11.7	11.5	11.6	11.4	11.5	11.9
6.9 X	8.1	8.2	8.4	8.6	7.9	6.8	7.8	7.8	7.6	7.7	7.5	7.6	8.0
7.0 Y	8.2	8.3	8.5	8.6	8.0	6.9	7.9	7.8	7.7	7.8	7.6	7.7	8.1
5.8 Z	7.4	7.5	7.7	7.8	7.2	6.1	7.1	7.0	6.9	7.0	6.8	6.9	7.3

	16" UPPER CASE to 12" lower case													
1.0	œ	9 - 8 - E 8	7	0040-40	7	0	2	∞	. 2	9	М	5	œ	
12 /	-	0-1-1-22	ň	10.7	7.	7.	0	7.	2.	8.	2	2	6	
/ 16			,		f	•		1				-	_	
	а	cdegoq				J	s		V	w	×	У	Z	
15.0 A	17.6	17.9	18.2	18.6	17.3	15.0	17.1	17.0	16.6	16.8	16.5	16.6	17.4	
12.2 B	15.7	16.0	16.3	16.6	15.4	13.1	15.2	15.0	14.7	14.9	14.6	14.7	15.5	
13.1 C	16.0	16.3	16.6	17.0	15.7	13.4	15.5	15.4	15.0	15.2	14.9	15.0	15.8	
13.0 D	16.6	17.0	17.3	17.6	16.3	14.1	16.2	16.0	15.7	15.8	15.5	15.7	16.5	
10.2 E	13.6	13.9	14.2	14.6	13.3	11.0	13.1	13.0	12.6	12.8	12.5	12.6	13.4	
9.8 F	13.0	13.3	13.6	13.9	12.6	10.4	12.5	12.3	12.0	12.2	11.8	12.0	12.8	
13.9 G	17.6	17.9	18.2	18.6	17.3	15.0	17.1	17.0	16.6	16.8	16.5	16.6	17.4	
12.3 H	17.1	17.4	17.8	18.1	16.8	14.6	16.6	16.5	16.2	16.3	16.0	16.2	17.0	
3.2 I	7.5	7.8	8.2	8.5	7.2	5.0	7.0	6.9	6.6	6.7	6.4	6.6	7.4	
9.0 J	13.3	13.6	13.9	14.2	13.0	10.7	12.8	12.6	12.3	12.5	12.2	12.3	13.1	
12.5 K	15.0	15.4	15.7	16.0	14.7	12.5	14.6	14.4	14.1	14.2	13.9	14.1	14.9	
9.4 L	12.5	12.8	13.1	13.4	12.2	9.9	12.0	11.8	11.5	11.7	11.4	11.5	12.3	
14.7 M	19.0	19.4	19.7	20.0	18.7	16.5	18.6	18.4	18.1	18.2	17.9	18.1	18.9	
1000	17.6	17.9	18.2	18.6	17.3	15.0	17.1	17.0	16.6	16.8	16.5	16.6	17.4	
14.9 0	18.6	18.9	19.2	19.5	18.2	16.0	18.1	17.9	17.6	17.8	17.4	17.6	18.4	
11.7 P	14.7	15.0	15.4	15.7	14.4	12.2	14.2	14.1	13.8	13.9	13.6	13.8	14.6	
14.9 Q	18.6	18.9	19.2	19.5 16.5	18.2	16.0	18.1	17.9	17.6	17.8	17.4	17.6	18.4	
12.0 R	14.7	15.8 15.0	15.4	15.7	14.4	12.2	14.2	14. 1	13.8	14.7	14.4	14.6	15.4	
11.5 T	14.2	14.6	14.9	15. 2	13.9	11 7	13.8	13.6	13.3	13.4	13.1	13.3	14. 1	
12.5 U	16.8	17.1	17.4	17.8	16.5	14.2	16.3	16.2	15.8	16.0	15.7	15.8	16.6	
13.6 V	16.2	16.5	16.8	17.1	15.8	13.6	15.7	15.5	15. 2	15.4	15.0	15.2	16.0	
21.3 W	24.0	24.3	24.6	25.0	23.7	21.4	23.5	23.4	23.0	23.2	22.9	23.0	23.8	
13.8 X	16.2	16.5	16.8	17.1	15.8	13.6	15.7	15.5	15.2	15.4	15.0	15.2	16.0	
14.1 Y	16.3	16.6	17.0	17.3	16.0	13.8	15.8	15.7	15.4	15.5	15.2	15.4	16.2	
11.5 Z	14.7	15.0	15.4	15.7	14.4	12.2	14.2	14.1	13.8	13.9	13.6	13.8		
I I • J Z	17.1	13.0	10.4	10.1	17.4	14.4	17.4	17.1	10.0	10.5	10.0	10.0	17.0	

			10.	6" UPPER CASE	ŧ to	8 '' I	ower	cas	е				
8	7.8	7.7	2.4	7.6 7.5 7.5 7.3 7.3 7.7 7.7	5.1	4.7	6.8	5.2	8.1	12.3	8.2	8.3	6,5
10.6	а	cdegoq	ī	bhklmnpru	f	j	s	t	٧	w	×	У	z
10.0 A	11.7	11.9	12.1	12.3	11.4	10.0	11.3	11.2	11.0	11.1	10.9	11.0	11.6
8.1 B	10.4	10.6	10.8	11.0	10.2	8.7	10.1	10.0	9.8	9.9	9.6	9.8	10.3
8.7 C	10.6	10.8	11.0	11.2	10.4	8.9	10.3	10.2	10.0	10.1	9.9	10.0	10.5
8.6 D	11.0	11.2	11.4	11.7	10.8	9.3	10.7	10.6	10.4	10.5	10.3	10.4	10.9
6.8 E	9.0	9.2	9.4	9.6	8.8	7.3	8.7	8.6	8.4	8.5	8.3	8.4	8.9
6.5 F	8.6	8.8	9.0	9.2	8.4	6.9	8.3	8.2	8.0	8.1	7.8	8.0	8.5
9.2 G	11.7	11.9	12.1	12.3	11.4	10.0	11.3	11.2	11.0	11.1	10.9	11.0	11.6
8.2 H	11.3	11.6	11.8	12.0	11.1	9.6	11.0	10.9	10.7	10.8	10.6	10.7	11.2
2.1 I	5.0	5.2	5.4	5.6	4.8	3.3	4.7	4.6	4.3	4.5	4.2	4.3	4.9
5.9 J	8.8	9.0	9.2	9.4	8.6	7.1	8.5	8.4	8.2	8.3	8.1	8.2	8.7
8.3 K	10.0	10.2	10.4	10.6	9.8	8.3	9.6	9.5	9.3	9.4	9.2	9.3	9.9
6.3 L	8.3	8.5	8.7	8.9	8.1	6.6	8.0	7.8	7.6	7.7	7.5	7.6	8.2
9.8 M	12.6	12.8	13.0	13.3	12.4	10.9	12.3	12.2	12.0	12.1	11.9	12.0	12.5
8.8 N	11.7	11.9	12.1	12.3	11.4	10.0	11.3	11.2	11.0	11.1	10.9	11.0	11.6
9.9 0	12.3	12.5	12.7	12.9	12.1	10.6	12.0	11.9	11.7	11.8	11.6	11.7	12.2
7.7 P	9.8	10.0	10.2	10.4	9.5	8.1	9.4	9.3	9.1	9.2	9.0	9.1	9.6
9.9 Q	12.3		12.7	12.9	12.1	10.6	12.0	11.9	11.7	11.8	11.6	11.7	12.2
8.0 R	10.3	10.5	10.7	10.9	10.1	8.6	10.0	9.9	9.6	9.8	9.5	9.6	10.2
7.6 S	9.8	10.0	10.2	10.4	9.5	8.1	9.4	9.3	9.1	9.2	9.0	9.1	9.6
7.6 T	9.4	9.6	9.9	10.1	9.2	7.7	9.1	9.0	8.8	8.9	8.7	8.8	9.3
8.3 U	11.1	11.3	11.6	11.8	10.9	9.4	10.8	10.7	10.5	10.6	10.4	10.5	11.0
9.0 V	10.7	10.9	11.1	11.3	10.5	9.0	10.4	10.3	10.1	10.2	10.0	10.1	10.6
14.1 W	15.9	16.1	16.3	16.5	15.7	14.2	15.6	15.5	15.3	15.4	15.2	15.3	
9.1 X	10.7	10.9	11.1	11.3	10.5	9.0	10.4	10.3	10.1	10.2	10.0	10.1	10.6
	10.8	11.0	11.2	11.4	10.6	9.1	10.5	10.4	10.2	10.3	10.1	10.2	
7.6 Z	9.8	10.0	10.2	10.4	9.5	8.1	9.4	9.3	9.1	9.2	9.0	9.1	9.6

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 CLEARVIEW HIGHWAY 5WR

RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 SHT. 10 OF 18

CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER

TC - 8700C

NOTE:

ALL DIMENSIONS ARE IN INCHES.

				1	5" lower case		15 "	lowe	r ca	se				
15	14.8	13.6 14.8 14.6 15.4	14.6	4.6	14.4 13.8 14.2 6.4 22.6 13.8 14.6 9.2	9.6	8.8	12.8	9.8	15.2	23.2	15.4	15.6	12.2
	а	cegoq	d	i	bhklmnpru	f	j	s	t	٧	W	×	У	z
14.8 a	18.8	19.2	19.2	19.6	20.0	18.4	15.6	18.2	18.0	17.6	17.8	17.4	17.6	18.6
14.4 b	18.8	19.2	19.2	19.6	20.0	18.4	15.6	18.2	18.0	17.6	17.8	17.4	17.6	18.6
13.6 c	17.0	17.4	17.4	17.8	18.2	16.6	13.8	16.4	16.2	15.8	16.0	15.6	15.8	16.8
14.6 d	19.8	20.2	20.2	20.6	21.0	19.4	16.6	19.2	19.0	18.6	18.8	18.4	18.6	19.6
14.8 e	19.2	19.6	19.6	20.0	20.4	18.8	16.0	18.6	18.4	18.0	18.2	17.8	18.0	19.0
9.6 f	13.0	13.4	13.4	13.8	14.2	12.6	9.8	12.4	12.2	11.8	12.0	11.6	11.8	12.8
14.6 g	19.8	20.2	20.2	20.6	21.0	19.4	16.6	19.2	19.0	18.6	18.8	18.4	18.6	19.6
13.8 h	19.0	19.4	19.4	19.8	20.2	18.6	15.8	18.4	18.2	17.8	18.0	17.6	17.8	18.8
4.6 i	9.4	9.8	9.8	10.2	10.6	9.0	6.2	8.8	8.6	8.2	8.4	8.0	8.2	9.2
8.8 j	13.6	14.0	14.0	14.4	14.8	13.2	10.4	13.0	12.8	12.4	12.6	12.2	12.4	13.4
14.2 k	17.0	17.4	17.4	17.8	18.2	16.6	13.8	16.4	16.2	15.8	16.0	15.6	15.8	16.8
6.4 I	10.0	10.4	10.4	10.8	11.2	9.6	6.8	9.4	9.2	8.8	9.0	8.6	8.8	9.8
22.6 m	27.8	28.2	28.2	28.6	29.0	27.4	24.6	27.2	27.0	26.6	26.8	26.4	26.6	27.6
13.8 n	19.0	19.4	19.4	19.8	20.2	18.6	15.8	18.4	18.2	17.8	18.0	17.6	17.8	18.8
15.4 o	19.8	20.2	20.2	20.6	21.0	19.4	16.6	19.2	19.0	18.6	18.8	18.4	18.6	19.6
14.6 p	19.0	19.4	19.4	19.8	20.2	18.6	15.8	18.4	18.2	17.8	18.0	17.6	17.8	18.8
16.0 q	19.8	20.2	20.2	20.6	21.0	19.4	16.6	19.2	19.0	18.6	18.8	18.4	18.6	19.6
9.2 r	12.6	13.0	13.0	13.4	13.8	12.2	9.4	12.0	11.8	11.4	11.6	11.2	11.4	12.4
12.8 s	16.8	17.2	17.2	17.6	18.0	16.4	13.6	16.2	16.0	15.6	15.8	15.4	15.6	16.6
9.8 t	13.6	14.0	14.0	14.4	14.8	13.2	10.4	13.0	12.8	12.4	12.6	12.2	12.4	13.4
13.6 u	18.8	19.2	19.2	19.6	20.0	18.4	15.6	18.2	18.0	17.6	17.8	17.4	17.6	18.6
15.2 v	18.0	18.4	18.4	18.8	19.2	17.6	14.8	17.4	17.2	16.8	17.0	16.6	16.8	17.8
23.2 w	26.2	26.6	26.6	27.0	27.4	25.8	23.0	25.6	25.4	25.0	25.2	24.8	25.0	26.0
15.4 ×	18.0	18.4	18.4	18.8	19.2	17.6	14.8	17.4	17.2	16.8	17.0	16.6	16.8	17.8
15.6 y	18.4	18.8	18.8	19.2	19.6	18.0	15.2	17.8	17.6	17.2	17.4	17.0	17.2	18.2
12.2 z	16.0	16.4	16.4	16.8	17.2	15.6	12.8	15.4	15.2	14.8	15.0	14.6	14.8	15.8

				1	2" lower case	e to	12"	lowe	r ca	se				
	- œ	0 8 K M 8	-	_	₹ 004		0	~	00	~	9	m	-CJ	80
4.0	<u>-</u>	10.9 11.7 12.3 12.8	<u>-</u>		1			ं		2.	*	;	5	
12		= - - -	-	ω.	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	_	7	-	7		18		=	6
	a	cegoq	d	i	b h k m n p r u	f	j	s	t	V	W	×	У	Z
11.8 a	15.0	15.4	15.4	15.7	16.0	14.7	12.5	14.6	14.4	14.1	14.2	13.9	14.1	14.9
11.5 b	15.0	15.4	15.4	15.7	16.0	14.7	12.5	14.6	14.4	14.1	14.2	13.9	14.1	14.9
10.9 c	13.6	13.9	13.9	14.2	14.6	13.3	11.0	13.1	13.0	12.6	12.8	12.5	12.6	13.4
11.7 d	15.8	16.2	16.2	16.5	16.8	15.5	13.3	15.4	15.2	14.9	15.0	14.7	14.9	15.7
11.8 e	15.4	15.7	15.7	16.0	16.3	15.0	12.8	14.9	14.7	14.4	14.6	14.2	14.4	15.2
7.7 f	10.4	10.7	10.7	11.0	11.4	10.1	7.8	9.9	9.8	9.4	9.6	9.3	9.4	10.2
11.7 g	15.8	16.2	16.2	16.5	16.8	15.5	13.3	15.4	15.2	14.9	15.0	14.7	14.9	15.7
11.0 h	15.2	15.5	15.5	15.8	16.2	14.9	12.6	14.7	14.6	14.2	14.4	14.1	14.2	15.0
3.7 i	7.5	7.8	7.8	8.2	8.5	7.2	5.0	7.0	6.9	6.6	6.7	6.4	6.6	7.4
7.0 j	10.9	11.2	11.2	11.5	11.8	10.6	8.3	10.4	10.2	9.9	10.1	9.8	9.9	10.7
11.4 k	13.6	13.9	13.9	14.2	14.6	13.3	11.0	13.1	13.0	12.6	12.8	12.5	12.6	13.4
5.1 I	8.0	8.3	8.3	8.6	9.0	7.7	5.4	7.5	7.4	7.0	7.2	6.9	7.0	7.8
18.1 m	22.2	22.6	22.6	22.9	23.2	21.9	19.7	21.8	21.6	21.3	21.4	21.1	21.3	22.1
11.0 n	15.2	15.5	15.5	15.8	16.2	14.9	12.6	14.7	14.6	14.2	14.4	14.1	14.2	15.0
12.3 o	15.8	16.2	16.2	16.5	16.8	15.5	13.3	15.4	15.2	14.9	15.0	14.7	14.9	15.7
11.7 p	15.2	15.5	15.5	15.8	16.2	14.9	12.6	14.7	14.6	14.2	14.4	14.1	14.2	15.0
12.8 q	15.8	16.2	16.2	16.5	16.8	15.5	13.3	15.4	15.2	14.9	15.0	14.7	14.9	15.7
7.4 r	10.1	10.4	10.4	10.7	11.0	9.8	7.5	9.6	9.4	9.1	9.3	9.0	9.1	9.9
10.2 s	13.4	13.8	13.8	14.1	14.4	13.1	10.9	13.0	12.8	12.5	12.6	12.3	12.5	13.3
7.8 t	10.9	11.2	11.2	11.5	11.8	10.6	8.3	10.4	10.2	9.9	10.1	9.8	9.9	10.7
10.9 u	15.0	15.4	15.4	15.7	16.0	14.7	12.5	14.6	14.4	14.1	14.2	13.9	14.1	14.9
12.2 v	14.4	14.7	14.7	15.0	15.4	14.1	11.8	13.9	13.8	13.4	13.6	13.3	13.4	14.2
18.6 w	21.0	21.3	21.3	21.6	21.9	20.6	18.4	20.5	20.3	20.0	20.2	19.8	20.0	20.8
12.3 x	14.4	14.7	14.7	15.0	15.4	14.1	11.8	13.9	13.8	13.4	13.6	13.3	13.4	14.2
12.5 y	14.7	15.0		15.4	15.7	14.4	12.2	14.2	14.1	13.8	13.9	13.6	13.8	14.6
9.8 z	12.8	13.1	13.1	13.4	13.8	12.5	10.2	12.3	12.2	11.8	12.0	11.7	11.8	12.6
					8" lower case	e to	8 "	ower	cas	е				
8	7.8	7.2		2.4	7.6 7.5 3.4 12.0 7.3 7.3 7.7	5.1	4.7	6.8	5.2	8.1	12.3	8.2	8.3	6.5

				1	0" lower case	e to	10"	lowe	r ca	se				
10	9.8	9.0 9.8 9.7 10.2	9.7	3.1	9.6 9.2 9.4 4.3 15.0 9.7 6.1	6.4	5.9	8.5	6.5	10.1	15.4	10.2	10.4	8.1
	а	cegoq	d	i	bhklmnpru	f	j	s	Ť	٧	w	×	У	z
9.8 a	12.5	12.8	12.8	13.0	13.3	12.2	10.4	12.1	12.0	11.7	11.8	11.6	11.7	12.4
9.6 b	12.5	12.8	12.8	13.0	13.3	12.2	10.4	12.1	12.0	11.7	11.8	11.6	11.7	12.4
9.0 c	11.3	11.6	11.6	11.8	12.1	11.0	9.2	10.9	10.8	10.5	10.6	10.4	10.5	11.2
9.7 d	13.2	13.4	13.4	13.7	14.0	12.9	11.0	12.8	12.6	12.4	12.5	12.2	12.4	13.0
9.8 e	12.8	13.0	13.0	13.3	13.6	12.5	10.6	12.4	12.2	12.0	12.1	11.8	12.0	12.6
6.4 f	8.6	8.9	8.9	9.2	9.4	8.4	6.5	8.2	8.1	7.8	8.0	7.7	7.8	8.5
9.7 g	13.2	13.4	13.4	13.7	14.0	12.9	11.0	12.8	12.6	12.4	12.5	12.2	12.4	13.0
9.2 h	12.6	12.9	12.9	13.2	13.4	12.4	10.5	12.2	12.1	11.8	12.0	11.7	11.8	12.5
3.1 i	6.3	6.5	6.5	6.8	7.0	6.0	4.1	5.9	5.7	5.5	5.6	5.3	5.5	6.1
5.9 j	9.0	9.3	9.3	9.6	9.8	8.8	6.9	8.6	8.5	8.2	8.4	8.1	8.2	8.9
9.4 K	11.3	11.6	11.6	11.8	12.1	11.0	9.2	10.9	10.8	10.5	10.6	10.4	10.5	11.2
4.3 I	6.7	6.9	6.9	7.2	7.4	6.4	4.5	6.3	6.1	5.9	6.0	5.7	5.9	6.5
15.0 m	18.5	18.8	18.8	19.0	19.3	18.2	16.4	18.1	18.0	17.7	17.8	17.6	17.7	18.4
9.2 n	12.6	12.9	12.9	13.2	13.4	12.4	10.5	12.2	12.1	11.8	12.0	11.7	11.8	12.5
10.2 0	13.2	13.4	13.4	13.7	14.0	12.9	11.0	12.8	12.6	12.4	12.5	12.2	12.4	13.0
9.7 p	12.6	12.9	12.9	13.2	13.4	12.4	10.5	12.2	12.1	11.8	12.0	11.7	11.8	12.5
10.6 q	13.2	13.4	13.4	13.7	14.0	12.9	11.0	12.8	12.6	12.4	12.5	12.2	12.4	13.0
6.1 r	8.4	8.6	8.6	8.9	9.2	8.1	6.3	8.0	7.8	7.6	7.7	7.4	7.6	8.2
8.5 s	11.2	11.4	11.4	11.7	12.0	10.9	9.0	10.8	10.6	10.4	10.5	10.2	10.4	11.0
6.5 t	9.0	9.3	9.3	9.6	9.8	8.8	6.9	8.6	8.5	8.2	8.4	8.1	8.2	8.9
9.0 u	12.5	12.8	12.8	13.0	13.3	12.2	10.4	12.1	12.0	11.7	11.8	11.6	11.7	12.4
10.1 v	12.0	12.2	12.2	12.5	12.8	11.7	9.8	11.6	11.4	11.2	11.3	11.0	11.2	11.8
15.4 w	17.4	17.7	17.7	18.0	18.2	17.2	15.3	17.0	16.9	16.6	16.8	16.5	16.6	17.3
10.2 ×	12.0	12.2	12.2	12.5	12.8	11.7	9.8	11.6	11.4	11.2	11.3	11.0	11.2	11.8
10.4 y	12.2	12.5	12.5	12.8	13.0	12.0	10.1	11.8	11.7	11.4	11.6	11.3	11.4	12.1
8.1 z	10.6	10.9	10.9	11.2	11.4	10.4	8.5	10.2	10.1	9.8	10.0	9.7	9.8	10.5

					8" lower case	e to	8 '' I	lower	cas	е				
	- w	28-25	_	4	9 m 5 4 0 m L 6 N	-	7	œ	2	-	۳.	2	М	5
8	۲.	 - 	۲.	~•	<u> </u>	Š.	4.	9	5.	8.	12	8.	œ.	ė
	а	cegoq	d	i	b h k l m n p r u	f	j	S	t	>	w	×	У	z
7.8 a	10.0	10.2	10.2	10.3	10.6	9.8	8.3	9.6	9.5	9.3	9.4	9.2	9.3	9.9
7.6 b	10.0	10.2	10.2	10.3	10.6	9.8	8.3	9.6	9.5	9.3	9.4	9.2	9.3	9.9
7.2 c	9.0	9.2	9.2	9.3	9.6	8.8	7.3	8.7	8.6	8.4	8.5	8.3	8.4	8.9
7.7 d	10.5	10.7	10.7	10.8	11.1	10.3	8.8	10.2	10.1	9.9	10.0	9.8	9.9	10.4
7.8 e	10.2	10.4	10.4	10.5	10.8	10.0	8.5	9.9	9.8	9.5	9.6	9.4	9.5	10.1
5.1 f	6.9	7.1	7.1	7.2	7.5	6.7	5.2	6.6	6.5	6.3	6.4	6.1	6.3	6.8
7.7 g	10.5	10.7	10.7	10.8	11.1	10.3	8.8	10.2	10.1	9.9	10.0	9.8	9.9	10.4
7.3 h	10.1	10.3	10.3	10.4	10.7	9.9	8.4	9.8	9.6	9.4	9.5	9.3	9.4	10.0
2.4 i	5.0	5.2	5.2	5.3	5.6	4.8	3.3	4.7	4.6	4.3	4.5	4.2	4.3	4.9
4.7 j	7.2	7.4	7.4	7.5	7.8	7.0	5.5	6.9	6.8	6.6	6.7	6.5	6.6	7.1
7.5 k	9.0	9.2	9.2	9.3	9.6	8.8	7.3	8.7	8.6	8.4	8.5	8.3	8.4	8.9
3.4	5.3	5.5	5.5	5.7	5.9	5.1	3.6	5.0	4.9	4.7	4.8	4.6	4.7	5.2
12.0 m	14.7	14.9	14.9	15.0	15.4	14.5	13.0	14.4	14.3	14.1	14.2	14.0	14.1	14.6
7.3 n	10.1		10.3	10.4	10.7	9.9	8.4	9.8	9.6	9.4	9.5	9.3	9.4	10.0
8.2 0	10.5		10.7	10.8	11.1	10.3	8.8	10.2	10.1	9.9	10.0	9.8	9.9	10.4
7.7 p	10.1		10.3	10.4	10.7	9.9	8.4	9.8	9.6	9.4	9.5	9.3	9.4	10.0
8.5 q	10.5		10.7	10.8	11.1	10.3	8.8	10.2	10.1	9.9	10.0	9.8	9.9	10.4
4.9 r	6.7	6.9	6.9	7.0	7.3	6.5	5.0	6.4	6.3	6.0	6.1	5.9	6.0	6.6
6.8 s	8.9	9.1	9.1	9.2	9.5	8.7	7.2	8.6	8.5	8.3	8.4	8.2	8.3	8.8
5.2 t	7.2	7.4	7.4	7.5	7.8	7.0	5.5	6.9	6.8	6.6	6.7	6.5	6.6	7.1
7.2 u	10.0	10.2	10.2	10.3	10.6	9.8	8.3	9.6	9.5	9.3	9.4	9.2	9.3	9.9
8.1 v	9.5	9.8	9.8	9.9	10.2	9.3	7.8	9.2	9.1	8.9	9.0	8.8	8.9	9.4
12.3 w	13.9		14.1	14.1	14.5	13.7	12.2	13.6	13.5	13.3	13.4	13.1	13.3	13.8
8.2 ×	9.5	9.8	9.8	9.9	10.2	9.3	7.8	9.2	9.1	8.9	9.0	8.8	8.9	9.4
8.3 y	9.8	10.0	10.0	10.1	10.4	9.5	8.1	9.4	9.3	9.1	9.2	9.0	9.1	9.6
6.5 z	8.5	8.7	8.7	8.8	9.1	8.3	6.8	8.2	8.1	7.8	8.0	7.7	7.8	8.4

						6" lower case	e to	6" I	lower	cas	е				
		6	4 6 8 2 4	00	80	8279978	00	2	-	9	-	3	2	2	6
6		ည်	00000	ů.	-	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	ň	κ,	5.	3.	ف ا	တ်	ٷ	ٷ	4.
_		а	cegoq	d	i	b h k l m n p r u	f	j	s	t	V	w	×	У	z
5.9	а	7.5	7.7	7.7	7.8	8.0	7.4	6.2	7.3	7.2	7.0	7.1	7.0	7.0	7.4
5.8	Ь	7.5	7.7	7.7	7.8	8.0	7.4	6.2	7.3	7.2	7.0	7.1	7.0	7.0	7.4
5.4	υ	6.8	7.0	7.0	7.1	7.3	6.6	5.5	6.6	6.5	6.3	6.4	6.2	6.3	6.7
5.8	d	7.9	8.1	8.1	8.2	8.4	7.8	6.6	7.7	7.6	7.4	7.5	7.4	7.4	7.8
5.9	е	7.7	7.8	7.8	8.0	8.2	7.5	6.4	7.4	7.4	7.2	7.3	7.1	7.2	7.6
3.8	f	5.2	5.4	5.4	5.5	5.7	5.0	3.9	5.0	4.9	4.7	4.8	4.6	4.7	5.1
5.8	g	7.9	8.1	8.1	8.2	8.4	7.8	6.6	7.7	7.6	7.4	7.5	7.4	7.4	7.8
5.5	h	7.6	7.8	7.8	7.9	8.1	7.4	6.3	7.4	7.3	7.1	7.2	7.0	7.1	7.5
1.8	Ī	3.8	3.9	3.9	4.1	4.2	3.6	2.5	3.5	3.4	3.3	3.4	3.2	3.3	3.7
3.5	j	5.4	5.6	5.6	5.8	5.9	5.3	4.2	5.2	5.1	5.0	5.0	4.9	5.0	5.4
5.7	K	6.8	7.0	7.0	7.1	7.3	6.6	5.5	6.6	6.5	6.3	6.4	6.2	6.3	6.7
2.6		4.0	4.2	4.2	4.3	4.5	3.8	2.7	3.8	3.7	3.5	3.6	3.4	3.5	3.9
9.0	m	11.1	11.3	11.3	11.4	11.6	11.0	9.8	10.9	10.8	10.6	10.7	10.6	10.6	11.0
5.5	n	7.6	7.8	7.8	7.9	8.1	7.4	6.3	7.4	7.3	7.1	7.2	7.0	7.1	7.5
6.2	0	7.9	8.1	8.1	8.2	8.4	7.8	6.6	7.7	7.6	7.4	7.5	7.4	7.4	7.8
5.8	_P_	7.6	7.8	7.8	7.9	8.1	7.4	6.3	7.4	7.3	7.1	7.2	7.0	7.1	7.5
6.4	q	7.9	8.1	8.1	8.2	8.4	7.8	6.6	7.7	7.6	7.4	7.5	7.4	7.4	7.8
3.7	r	5.0	5.2	5.2	5.4	5.5	4.9	3.8	4.8	4.7	4.6	4.6	4.5	4.6	5.0
5.1	S	6.7	6.9	6.9	7.0	7.2	6.6	5.4	6.5	6.4	6.2	6.3	6.2	6.2	6.6
3.9	†	5.4	5.6	5.6	5.8	5.9	5.3	4.2	5.2	5.1	5.0	5.0	4.9	5.0	5.4
5.4	u	7.5	7.7	7.7	7.8	8.0	7.4	6.2	7.3	7.2	7.0	7.1	7.0	7.0 6.7	7.4
6.1 9.3	V	7.2	7.4 10.6	7.4	7.5 10.8	7.7	7.0	5.9 9.2	7.0	6.9 10.2	10.0	6.8 10.1	9.9	10.0	7.1
6.2	W	10.5 7.2	7.4	7.4	7.5	11.0	7.0	5.9		6.9		6.8			10.4 7.1
6.2	×	7.4	7.5	7.5	7.7	7.8	7.0	6.1	7.0 7.1	7.0	6.7	7.0	6.8	6.7	7.3
4.9	y z	6.4	6.6	6.6	6.7	6.9	6.2	5.1	6.2	6.1	5.9	6.0	5.8	5.9	6.3
4.9		0.4	0.0	0.0	0. /	0.9	0.2	ا • د	0.2	0. 1	5.9	0.0	0.0	5.9	0.3

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 5WR

RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 SHT. 11 OF 18

CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER

TC-8700C

NOTE:

ALL DIMENSIONS ARE IN INCHES.

		24" U	PPER CASE to 18	3 "	ower	case		
1	8	15.2	4.5 15.3 15.2 4.5 25.4 15.3 11.7	9.8	8.4	15.2 12.0 17.9 19.4	18.6	15.8
24`		a c d e g o q		f w	j	s t v y	×	z
24.0	Α	29.6	30.4	29.3	27.5	28.5 27.8	28.5	29.8
19.1	В	25.8	27.7	25.4	23.6	25.2 24.3	24.3	25.9
19.1	С	25.4	26.9	24.8	23.2	24.7	25.1	25.6
19.1	D	25.2	27.1	25.1	22.9	24.7	25.1	25.4
17.7	Ε	24.1	25.6	23.5	21.8	23.3	23.7	24.2
17.6	F	20.6	23.6	21.3	20.6	20.9	21.1	22.1
19.2	G	25.6	27.1	25.0	23.3	24.8	25.2	25.7
19.2	Τ	27.5	29.0	27.1	25.6	26.8	27.2	27.6
4.8	I	13.1	14.6	12.7	11.2	12.4	12.8	13.2
18.2	J	26.2	26.8	25.8	24.3	25.3	25.7	26.4
19.7	K	24.5	26.8	24.2	22.4	23.9	24.3	
17.7	L	22.6	24.8	22.2	20.5	22.0	22.3	23.0
22.2	М	30.5	32.0	30.1	28.6	29.8	30.2	30.6
19.2	N	27.5	29.0	27.1	25.6	26.8	27.2	27.6
20.0	0	26.1	28.0	26.0	23.8	25.6	26.0	
19.2	Р	25.0	26.0	24.6	22.2	24.1	24.5	24.8
20.0	Q	26.1	28.0	26.0	23.8	25.6	26.0	26.3
19.2	R	25.3	27.2	25.2	23.1	24.8	25.2	
19.2	S	24.8	26.8	24.5		24.2	24.6	
17.7	T	22.2	24.8	21.8	21.1	22.2	22.6	23.0
19.2	U	27.2	27.8	26.8	25.3	26.3	26.7	27.5
21.9	٧	26.0	28.7	26.4	25.4	26.9	27.3	
25.4	W	31.0	31.7	30.6	28.9	29.9 29.1	29.9	31.1
20.7	Х	26.3	27.1	26.0	24.2	25.2 24.5	25.2	26.5
24.0	Y	27.0	30.0	27.8	26.6	26.9	27.4	28.9
19.2	Z	26.7	28.2	26.5	24.5	26.3	26.7	27.1

		20 " UF	PPER CASE to 15	5 '' I	ower	case		
	15	2.8	3.8 3.8 3.8 3.8 3.8 12.8 12.8	19.8	0.2	12.6 10.0 14.9 16.1	5.5	3.1
20			bh i k l mnpru	f w	j	s t v y	×	z
20.0	Α	24.8	25.3	24.4	23.0	23.8 23.1	23.8	24.9
15.9	В	21.5	23.0	21.1	19.6	21.0 20.3	20.3	21.6
15.9	С	21.1	22.4	20.8	19.4	20.6	20.9	21.4
15.9	D	21.0	22.6	20.9	19.1	20.6	20.9	21.1
14.8	Е	20.0	21.3	19.6	18.3	19.5	19.8	20.3
14.6	F	17.1	19.6	17.8	17.1	17.4	17.6	18.4
16.0	G	21.3	22.5	20.9	19.5	20.8	21.0	21.5
16.0	Н	22.9	24.1	22.5	21.3	22.4	22.8	23.0
4.0	I	10.9	12.1	10.5	9.3	10.4	10.8	11.0
15.1	7	21.9	22.3	21.5	20.3	21.1	21.4	22.0
16.4	K	20.4	22.4	20.1	18.8	20.0	20.3	20.8
14.8	L	18.8	20.8	18.5	17.1	18.4	18.6	19.1
18.5	М	25.4	26.6	25.0	23.8	24.9	25.3	25.5
16.0	Ν	22.9	24.1	22.5	21.3	22.4	22.8	23.0
16.6	0	21.8	23.4	21.6	19.9	21.4	21.6	21.9
16.0	Р	20.9	21.6	20.5	18.5	20.0	20.4	20.8
16.6	Q	21.8	23.4	21.6	19.9	21.4	21.6	21.9
16.0	R	21.1	22.8	21.0	19.3	20.8	21.0	21.3
16.0	S	20.8	22.4	20.4	19.1	20.3	20.5	20.9
14.8	T	18.5	20.8	18.3	17.5	18.5	18.8	19.1
16.0	U:	22.8	23.1	22.4	21.1	22.0	22.3	22.9
18.3	٧	21.8	23.9	22.0	21.3	22.5	22.8	23.1
21.1	W	25.9	26.4	25.5	24.1	24.9 24.3	24.9	26.0
17.3	Х	22.0	22.5	21.6	20.3	21.0 20.4	21.0	22.1
20.0	Y	22.5	25.0	23.1	22.3	22.4	22.8	24.0
16.0	Z	22.3	23.5	22.1	20.4	22.0	22.3	22.5

	16" UF	PPER CASE to 1	2 " 1	011105	0.000		
L				ower			
12	0.3		2 8	ဖ		4	. 2
$ $	0 0 0	0.5 10 10 10 10 10 10 10 1	6.	ů.	0 8 2 2	12	10.
16	acdegoq	bhiklmnpru	f w	j	s t v y	×	z
16.0 A	19.8	20.3	19.5	18.4	19.0 18.5	19.0	19.9
12.8 B	17.3	18.5	17.0	15.8	16.9 16.3	16.3	17.4
12.8 C	17.0	18.0	16.6	15.5	16.5	16.8	17.1
12.8 D	16.9	18.1	16.8	15.4	16.5	16.8	17.0
11.9 E	16.1	17.1	15.8	14.6	15.6	15.9	16.3
11.8 F	13.8	15.8	14.3	13.8	14.0	14.1	14.8
12.8 G	17.0	18.0	16.6	15.5	16.5	16.8	17.1
12.8 H	18.3	19.3	18.0	17.0	17.9	18.1	18.4
3.3 I	8.8	9.8	8.5	7.5	8.4	8.6	8.9
12.1 J	17.5	17.9	17.3	16.3	16.9	17.1	17.6
13.0 K	16.3	17.8	16.0	14.9	15.9	16.1	16.5
11.9 L	15.1	16.6	14.9	13.8	14.8	15.0	15.4
14.8 M	20.3	21.3	20.0	19.0	19.9	20.1	
12.8 N	18.3	19.3	18.0	17.0	17.9	18.1	18.4
13.4 0	17.5	18.8	17.4	16.0	17.1	17.4	17.6
12.8 P	16.6	17.3	16.4	14.8	16.0	16.3	16.5
13.4 Q	17.5	18.8	17.4	16.0	17.1	17.4	
12.8 R	16.9	18.1	16.8	15.4	16.5	16.8	17.0
12.8 S	16.5	17.9	16.3	15.3	16.1	16.4	16.6
11.9 T	14.9	16.6	14.6	14.1	14.9	15.1	15.4
12.8 U	18.1	18.5	17.9	16.9	17.5	17.8	18.3
14.6 V	17.4	19.1	17.6	17.0	18.0	18.3	18.5
16.9 W	20.6	21.1	20.4	19.3	19.9 19.4	19.9	20.8
13.9 X	17.6	18.1	17.4	16.3	16.9 16.4	16.9	17.8
16.0 Y	18.0	20.0	18.5	17.8	17.9	18.3	19.3
12.8 Z	17.8	18.8	17.6	16.3	17.5	17.8	18.0

											_								
			18	"	O W E	er	Са	se	†	o 1	8 "	- 1	ower	C	as	е			
18		15.2	15.3	15.8	15,3		15.2		15.3	11.7	9.8	23.7	8.4	15.2	12.0	17.9	19.4	18.6	15.8
		a c	d e ç	300	Ьľ	ı i	kΙ	m	пp	r u	f	w	j	s	t	٧	У	×	z
15.2	а		22.4				24	4.3			22	. 0	20.4		21	. 9		22.3	22.7
15.3	Ф		20.6					2.6				. 2				. 9		20.3	20.7
15.2	С		20.8					2.7				. 4				. 2		20.5	20.9
15.3	d		22.6					4.4				. 2				. 1		22.4	22.8
15.3	е		20.9					2.8				. 6				. 3		20.7	21.1
9.8	f		15.0					7.0				. 6				. 4		14.8	15.1
15.3	g		22.6					4.4				. 2				. 1		22.4	
15.3	h		22.6		_			4.4				. 2	20.6			. 1		22.4	22.8
4.5	į.		11.8	<u> </u>				3.6				<u>. 4</u>				. 3		11.6	12.0
8.4	J		15.7		-			7.5				. 3				. 2		15.5	15.9
15.2	k		20.4		-			2.4				. 0				. 8		20.2	20.5
4.5			11.8		-			3.6				. 4				. 3		11.6	12.0
25.4	m		32.6		-		34	4.5				. 2	30.6			. 1		32.5	32.9
15.3	n		22.6		-			4.4				. 2	20.6			. 1		22.4	
15.8	0		21.0		-			3.0					18.9			. 4		20.8	
15.3	Р		20.6		-			2.6				. 2				. 9		20.3	20.7
15.3	ماد		22.6		-			4.4 7.3				. 2				. 1		22.4	22.8 15.5
11.7	s		20.4		-			<u>(. 3</u> 2. 4					13.2			. 7		15.1	
12.0	†		17.4		-							• 0	15.4					17.3	
15.3	u		22.6		+			9.5 4.4				.2	20.6			. 9		22.4	22.8
17.9	v	-	22.5		+			4.4 4.6				<u>. 2</u>				• 0		22.4	22.7
23.7	w		28.6		1			7. b				• 2	26.5			.0		28.3	28.7
18.6	×		23.6		1			5.5					21.6			. 1		23.5	23.9
19.4	ŷ		24.0		1			6. 1					22.0			. 5		23.9	24.2
15.8	Z		21.1		\vdash			3.3				. 8				. 6		21.0	21.4
[13.0]	-		ا ۱۰ ا					J. J			120	• 0	13.1		20	. 0		121.0	21.7

	15 " I	ower case to 1!	5 " I	ower	case	
15	12.8	3.8 3.8 3.8 3.8 3.8 12.8 9.8	8.1	7.0	12.6 10.0 14.9	15.5
	acdegoq		f w	j	s t v y	x z
12.6 a	18.8	20.3	18.4	17.0	18.3	18.6 18.9
12.8 b	17.1	18.9	16.8	15.4	16.6	17.0 17.3
12.6 C	17.4	18.9	17.0	15.6	16.9	17.1 17.5
12.8 d	18.9	20.4	18.5	17.1	18.4	18.8 19.0
12.8 e	17.5	19.0	17.1	15.8	17.0	17.3 17.6
8.1 f	12.5	14.3	12.1	10.8	12.0	12.4 12.6
12.8 g	18.9	20.4	18.5	17.1	18.4	18.8 19.0
12.8 h	18.9	20.4	18.5	17.1	18.4	18.8 19.0
3.8 i	9.9	11.4	9.5	8.1	9.4	9.8 10.0
7.0 j	13.1	14.6	12.8	11.4	12.6	13.0 13.3
12.6 k	17.0	18.8	16.6	15.3	16.5	16.9 17.1
3.8 I	9.9	11.4	9.5	8.1	9.4	9.8 10.0
21.1 m	27.3	28.8	26.9	25.5	26.8	27.1 27.4
12.8 n	18.9	20.4	18.5	17.1	18.4	18.8 19.0
13.1 0	17.5	19.3	17.1	15.8	17.0	17.4 17.6
12.8 P	17.1	18.9	16.8	15.4	16.6	17.0 17.3
12.8 9	18.9	20.4	18.5	17.1	18.4	18.8 19.0
9.8 r	12.8	14.5	12.5	11.0	12.3	12.5 12.9
12.6 s	17.0	18.8	16.6	15.3	16.5	16.9 17.1
10.0 †	14.5	16.3	14.3	12.8	14.0	14.4 14.8
12.8 u	18.9	20.4	18.5	17.1	18.4	18.8 19.0
14.9 V	18.8	20.5	18.5	17.1	18.4	18.6 18.9
19.8 W	23.8	25.4	23.5	22.1	23.4	23.6 24.0
15.5 ×	19.8	21.3	19.4	18.0	19.3	19.5 19.9
16.1 y	20.0	21.8	19.8	18.4	19.6	19.9 20.1
13.1 Z	17.6	19.4	17.4	15.9	17.1	17.5 17.9

			12'	' I	owe	r	ca.	se	† (o 1	2 '	1	l	ower	C	as	е			
12	2		10.3	10.5	10.3	3.0	3.0	16.9	10.3	7.8	2 0	:ار	15.8	5,6	10, 1	8.0	11.9	12.9	12.4	10.5
		a c d	e g	o q	bh	ī	kΙ	m	пp	rι	J f	١ ا	w	j	S	t	٧	У	×	z
10.1	а	15	5.0				16	. 3			1	4.	8	13.6		14	. 6		14.9	15.1
10.3	Ь	1:	3.8				15	i . 1			1	3.	5	12.4		13	. 4		13.6	13.9
10.1	С	1.	3.9				15	5. 1			1	3.	6	12.5			• 5		13.8	
10.3	σ		5.1					. 4				4.		13.8			. 8		15.0	15.3
10.3	Ф		4.0					. 3				3.		12.6		13	. 6		13.9	14.1
6.5	f		0.0					. 4				9.8		8.6			6		9.9	10.1
10.3	g		5.1					. 4				4.		13.8			. 8		15.0	15.3
10.3	h		5.1					. 4				4.		13.8			. 8		15.0	15.3
3.0	į	7	. 9					. 1			1	7.6	6	6.5		7.	. 5		7.8	8.0
5.6	j		0.5					. 8				0.		9.1			. 1		10.4	
10.1	k		3.6					. 0			1	3.	4	12.3		13	<u>.</u> 3		13.5	13.8
3.0		7	. 9					. 1			1	7.6	6	6.5			. 5		7.8	8.0
16.9	m	2	1.8					. 0			2	1.	5	20.4			. 4		21.6	21.9
10.3	n		5.1					. 4			11	4.	9	13.8			. 8		15.0	15.3
10.5	0		4.0					. 4				3.		12.6			. 6		13.9	
10.3	PС		3.8					. 1				3.		12.4			. 4		13.6	
10.3	ماد		5.1 0.1					. 4				4. 0.		13.8		14	. 8 . 8		15.0	15.3
10.1	S							. 5				<u>3.</u>		12.3			. 8 . 3		10.0	10.3
8.0	†		3.6 1.6					. 0				1.		10.3			<u>. 3</u>		11.5	11.8
10.3	u		5.1					. 4				4.		13.8			.8		15.0	15.3
11.9	٠		5.0					5. 4				4.		13.6			.6		14.9	15.1
15.8	w		9.0). 3				8.		17.6			.6		18.9	19.1
12.4	×		5.8					. 0				5.	5	14.4			. 4		15.6	15.9
12.9	ý		6.0					· 4				5.		14.6			.6		15.9	
10.5	Z		4. 1					. 5				3.		12.8			.8		14.0	14.3
10.0		'			_		- 1 -	• 0				<u>.</u>				, ,	• •			1110

	2	24"	DΙ	GIT	† c	24	1 ''	DIG	ΙT				
24	,	19.8			19. 1			8.0	19.1	22.2	19.1		
		0	2	3	6	8	9	1	5	4	7		
19.8	0												
8.0	1			14	. 1			14	. 1	12	. 9		
19.1	2			24	. 0			25	. 2	24	. 0		
19.1	3			24	. 0			25	. 2	24	. 0		
22.2	4			27	• 2			27	. 2	23	• 9		
19.1	5			24	.0			25	. 2	24	. 0		
19.1	6			24	.0			25		24			
19.1	7			24	. 0			24	• 0	20	. 7		
19.1	8			24	. 0			25	. 2	24	. 0		
19.1	9			24	.0			25	. 2	24	. 0		

	2	20"	DΙ	GIT	†c	20) ''	DIG	ΙT		
20	,	16.5			15.9			9.9	15.9	18.5	15.9
		0	2	3	6	8	9	1	5	4	7
6.5	0			20	. 6			21	. 6	20	. 6
6.6	1			11	. 8			11	. 8	10	.8
5.9	2			20	. 0			21	. 0	20	.0
5.9	3			20	.0			21	.0	20	
8.5	4			22	. 6			22	. 6	19	. 9
5.9	5			20	. 0			21	. 0	20	.0
5.9	6			20	. 0			21	.0	20	
5.9	7			20	. 0			20	. 0	17	. 3
5.9	8			20	. 0			21	. 0	20	. 0
5.9	9			20	. 0			21	. 0	20	.0

			16"	DΙ	GIT	tc	1 (S "	DIG	ΙT		
	16	,	13.4			12.8			5,3	12.8	14.9	12.8
			0	2	3	6	8	9	1	5	4	7
13	3.4	0			16	. 7			17	• 5	16	. 7
5	. 3	1			9.	. 4			9.	. 4	8.	. 6
12	2.8	2			16	. 1			16	. 9	16	. 1
12	2.8	3			16	. 1			16	. 9	16	. 1
14	4.9	4			18	. 2			18	. 2	16	.0
12	2.8	5			16	. 1			16	. 9	16	. 1
12	2.8	6			16	. 1			16	. 9	16	. 1
12	2.8	7			16	. 1			16	. 1	13	. 9
12	2.8	8			16				16	. 9	16	. 1
12	2.8	9			16	. 1			16	• 9	16	. 1

NOTE:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED. SEE SHEETS 2 THROUGH 7 FOR CORRESPONDING METRIC UNITS.

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)

RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 SHT. 12 OF 18

CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER

TC-8700C

	13.3" L	JPPER CASE to	10"	lowe	r case		
10	8.5	8.5 8.5 8.5 8.5 8.5		4.6	8.5 6.7 10.0 10.8	10. 4	8.6
13.3	acdegoq	bhiklmnpru	f w	j	s t v y	×	z
13.4 A	16.5	16.9	16.3	15.4	15.9 15.5	15.9	16.6
10.5 B	14.3	15.3	14.0	13.0	14.0 13.4	13.4	14.4
10.6 C	14.1	15.0	13.9	12.9	13.8	14.0	14.3
10.6 D	14.1	15.1	14.0	12.9	13.8	14.0	14.1
9.9 E	13.4	14.3	13.1	12.1	13.0	13.3	13.5
9.9 F	11.5	13.3	12.0	11.5	11.8	11.9	12.4
10.6 G	14.1	15.0	13.9	12.9	13.8	14.0	14.3
10.8 H	15.4	16.1	15.1	14.3	15.0	15.3	15.5
2.6 I	7.3	8.0	7.0	6.1	6.9	7.1	7.4
10.1 J	14.6	14.9	14.4	13.6	14.1	14.3	14.8
10.9 K	13.6	14.9	13.4	12.5	13.3	13.5	13.8
9.8 L	12.5	13.8	12.3		12.1	12.4	12.6
12.3 M	16.9	17.6	16.6	15.8	16.5	16.8	17.0
10.6 N	15.3	16.0	15.0	14.1	14.9	15.1	15.4
11.1 0	14.6	15.6	14.5	13.4	14.3	14.5	14.6
10.6 P	13.9	14.4	13.6	12.3	13.4	13.5	13.8
11.1 Q	14.6	15.6	14.5	13.4	14.3	14.5	14.6
10.6 R	14.1	15.1	14.0	12.9	13.8	14.0	14.1
10.6 S	13.8	14.9	13.5		13.5	13.6	13.9
9.9 T	12.4	13.9	12.1	11.8	12.4	12.6	12.8
10.7 U	15.2	15.4	14.9	14.2	14.7	14.8	15.3
12.1 V	14.4	15.9	14.6	14.1	15.0	15.1	15.4
14.0 W	17.1	17.5	16.9	16.0	16.5 16.1	16.5	17.3
11.6 X	14.8	15.1	14.5	13.6	14.1 13.8	14.1	14.9
13.4 Y	15.0	16.8	15.5	14.9	15.0	15.3	16.1
10.6 Z	14.8	15.6	14.6	13.5	14.6	14.8	15.0

							_								
		10.6	UPPE	ER CA	SE	10	8	"	ower	- 0	SDS	se_			
	8	& O	ω (00	m 0			œ	œ	4	0	9	3	0
$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	Ŭ	6 -	ہ و	2.0 2.0 11.3	ٷ	ry o	4	: 0	w.	ۏ	r,	8	œ̈́	ω .	7
10.6		acdego	q b h i	i k I m	np	rι	ı f	· w	j	s	t	~	У	×	z
10.8	Α	13.2		13.6	6		1	3.1	12.3	12	. 8	12	. 5	12.8	13.3
8.5	В	11.5		12.	3		1	1.3	10.5	11	. 3	10	. 8	10.8	11.6
8.5	С	11.3		12.0)		1	1.1	10.4		11	. 0		11.2	11.4
8.5	D	11.3		12.				1.2	10.3			. 0		11.2	11.3
7.9	Е	10.7		11.				0.4	9.7			. 4		10.6	10.8
7.9	F	9.2		10.6				9.6	9.2			. 4		9.5	9.9
8.5	G	11.3		12.0				1.1	10.4			.0		11.2	11.4
8.6	Н	12.3		13.0				2.1	11.5		12	. 1		12.2	12.4
2.3	I	5.9		6.6				5.8	5.1			. 7		5.8	6.0
8.1	J	11.7		12.0				1.6	10.9			. 3		11.5	11.8
8.8	K	10.9		11.5				0.8	10.0			. 7		10.8	11.1
7.9	L	10.0	_	11.				9.9	9.1			. 8_		10.0	10.2
10.0	М	13.7		14.				3.5	12.8			. 4		13.6	13.7
8.5	N	12.2		12.8				2.0	11.3			. 9		12.1	12.2
8.9	0 P	11.6		12.				1.6	10.7			<u>. 4</u>		11.6	11.7
8.5		11.1		11.5				0.9	9.8			. 7		10.8	11.0
8.9	Q R	11.6		12.5			1		10.7			. 4		11.6	11.7
8.5	S	11.0		12.			1	1.2 0.8	10.3			.0 .7	_	11.2	11.1
7.9	5 T	9.9	-	11.				9.7	9.4			9		10.9	10.2
8.5	Ü	12.1		12.				1.9	11.3			. 7	_	11.9	12.2
9.8	V	11.6	+	12.			H		11.3			• 0	_	12.2	12.3
11.3	w	13.7	+	14.			<u> </u>	3.6	12.8	13		13.	0	13.3	13.8
9.3	X	11.7	+	12.			Η'n		10.8			11.		11.3	11.8
10.8	Ŷ	12.1		13.			÷	2.4	11.9	- ' '		• 0	• •	12.3	12.9
8.5	ż	11.9		12.				1.8	10.8			.7		11.9	12.0
	-			12.			٠,					• '		• 5	

		8 " Uf	PPER CASE to 6	" lo	wer	case		
	6	- E	- 0-04-0-	m 6	00	-004	, –	М
	0	ب ب م	5 - 5 - 8 5 5 5	ا	2.	7 4 6	9	5.
8		acdegoq	bhiklmnpru	f w	j	s t v y	×	z
8.0	ΙΑ	9.9	10.1	9.8	9.2	9.5 9.3	9.5	9.9
6.4	В	8.6	9.3	8.5	7.9	8.4 8.1	8.1	8.7
6.4	С	8.5	9.0	8.3	7.8	8.3	8.4	8.6
6.4	D	8.4	9.1	8.4	7.7	8.3	8.4	8.5
5.9	Е	8.0	8.5	7.8	7.3	7.8	7.9	8.1
5.9	F	6.9	7.9	7.1	6.9	7.0	7.1	7.4
6.4	G	8.5	9.0	8.3	7.8	8.3	8.4	8.6
6.4	Н	9.1	9.6	9.0	8.5	8.9	9.1	9.2
1.6	I	4.4	4.9	4.2	3.7	4.2	4.3	4.4
6.0	J	8.7	8.9	8.6	8.1	8.4	8.5	8.8
6.5	K	8.1	8.9	8.0	7.4	7.9	8.1	8.3
5.9	L	7.5	8.3	7.4	6.8	7.3	7.4	7.6
7.4	М	10.1	10.6	10.0	9.5	9.9	10.1	10.2
6.4	N	9.1	9.6	9.0	8.5	8.9	9.1	9.2
6.6	0	8.7	9.3	8.6	7.9	8.5	8.6	8.8
6.4	Р	8.3	8.6	8.2	7.4	8.0	8.1	8.3
6.6	Ø	8.7	9.3	8.6	7.9	8.5	8.6	8.8
6.4	R	8.4	9.1	8.4	7.7	8.3	8.4	8.5
6.4	S	8.3	8.9	8.1	7.6	8.1	8.2	8.3
5.9	T	7.4	8.3	7.3	7.0	7.4	7.5	7.6
6.4	U	9.1	9.3	8.9	8.4	8.8	8.9	9.1
7.3	٧	8.6	9.5	8.8	8.4	8.9	9.1	9.2
8.4	W	10.3	10.5	10.1	9.6	9.9 9.6	9.9	10.3
6.9	X	8.8	9.0	8.6	8.1	8.4 8.1	8.4	8.8
8.0	Υ	9.0	10.0	9.3	8.9	8.9	9.1	9.6
6.4	Z	8.9	9.4	8.8	8.1	8.8	8.9	9.0

			10) ''	To) W	er	C	as	se	†	— Э	1 () "	T	ower	С	as	e			
10)	8.4	8.5	α		8.5		8.4			8.5	6,5			13.1	4.6	8.5	6.7	10.0	10.8	10. 4	8.6
		a c	d e	gc	P	Ы	n i	k	1	m	np	r	u	f	w	j	s	t	٧	У	×	z
8.4	а		12.	4				1	١3،	. 5					. 3			12	. 1		12.4	12.5
8.5	Ь		11.					1		. 5					. 3				. 1		11.4	11.5
8.4	С		11.						12.						. 3			11	. 3		11.4	11.6
8.5	d		12.						١3،					12		11.4			. 3		12.5	12.6
8.5	е		11.						١2.						. 4				. 4		11.5	11.8
5.5	f		8.4						9.						. 3	7.3			. 1		8.4	8.5
8.5	g		12.						١3،						. 4				. 3		12.5	12.6
8.5	h		12.						١3.						. 4				. 3		12.5	12.6
2.5	i		6.5	,					7.						. 4	5.4		6.			6.5	6.6
4.6	j		8.6						9.					8.		7.5		8.			8.6	8.8
8.4	k		11.						12.						. 1				٠0		11.3	11.4
2.5			6.5						7.				_		. 4	5.4			. 3		6.5	6.6
14.1	m		18.						19.						.0	17.0			. 9		18.1	18.3
8.5	n		12.	5					١3,						. 4	11.4		12	. 3		12.5	12.6
8.6	0		11.						12.				_		. 4				. 3		11.5	11.6
8.5	Р		11.						12.						. 3				<u>. 1</u>		11.4	11.5
8.5	q		12.						13.							11.4			<u>. 3</u>		12.5	12.6
6.5	r		8.5						9.				_		. 4	7.4			. 1		8.4	8.6
8.5	s		11.						12.	<u>. 5</u>			_		. 3				. 1		11.4	11.5
6.7	Ť		9.7						10.				_	9.		8.6		9.			9.6	9.8
8.5	u		12.						13.				4		. 4	11.4			. 3		12.5	12.6
10.0	٧		12.						13.				_		. 4				. 3		12.5	12.8
13.1	W		15.			_			16.				_		. 6				<u>. 5</u>		15.8	16.0
10.4	×		13.			_			14.				4		. 0				. 9		13.1	13.3
10.8	У	-	13.			_			14.				_		. 1				.0		13.3	13.5
8.6	Z		11.	b					12.	<u>. 8</u>				11	• 5	10.5		11	<u>. 4</u>		11.5	11.8

		8	3 " T C	ower	-			†()	8	11	l٥١	wer	Са	se				
		- ∞	0	80	이	∞ О	М,	œ	3	8	4	, 6	œ	8	4	0	9	3	0
8		نو	~	ف ا	4	نہاف		ė	5	ė,	4.	10,	m,	ٷ	5.	8.	œ.	· &	7.
"		acde	goq	bh	7	κII	m	np	-	u	f	w	i	s	t	V	У	×	z
L				וייןט	<u>'</u>			ייוף	•	u	_		,	3	<u> </u>		У		
6.8	a	10.					. 8				9.		9.1			. 7		9.9	10.1
6.8	Ь	9.1					. 0			_	8.		8.2			. 8		9.0	9.2
6.8	С	9.2) <u>. 1</u>				9.		8.3			0		9.2	9.3
6.8	d	10.0					. 8				9.		9.1			. 7		9.9	10.1
6.8	е	9.2) <u>. 1</u>				9.		8.3	_		0		9.2	9.3
4.4	f	6.7					. 7				6.		5.8	_		. 5		6.6	6.8
6.8	g	10.0					. 8				9.		9.1			. 7		9.9	10.1
6.8	h	10.					. 8			_	9.		9.1			. 7		9.9	10.1
2.0	+	5.3					. 1				5.		4.3			0		5.2	5.4
3.8	J	7.0					. 8			_	6.		6.1			. 7		6.9	7.1
6.8	k	9.1					. 0			_	8.		8.2			. 8		9.0	9.2
2.0		5.3					. 1				5.		4.3			0		5.2	5.4
11.3	m	14.	5			15	. 3			_		. 4	13.6		14	. 2		14.4	14.6
6.8	n	10.0					. 8				9.		9.1			. 7		9.9	10.1
7.0	0	9.3					. 3				9.		8.4			. 1		9.2	9.4
6.8	Р	9.1					.0			_	8.		8.2			. 8		9.0	9.2
6.8	q	10.0				10	. 8				9.		9.1			. 7		9.9	10.1
5.3	r	6.8					. 7				6.		5.9			. 6		6.8	6.9
6.8	S	9.1					.0				8.		8.2	<u> </u>		. 8		9.0	9.2
5.4	†	7.8				8.						6	6.9	_		. 5		7.7	7.9
6.8	u	10.0					. 8			_	9.		9.1	_		. 7		9.9	10.1
8.0	٧	10.					. 0				9.		9.1			. 9		10.0	10.2
10.6	W	12.					. 6					. 6	11.9	_		. 6		12.7	12.9
8.3	X	10.					<u>. 4</u>					. 3	9.6			. 3		10.4	10.6
8.6	У	10.					. 6					. 6	9.8			. 5		10.6	10.8
7.0	z	9.4				10	. 4				9.	2	8.5		9.	. 2		9.3	9.5

		6 ''	'	owe	r	cas	se	† (6	П	ΙО	wer	Са	se				
		1	3	-	2	5		-	9	· M	6	00	-	0	0	2	1	3
6		5.	5.	5.	-	<u>.</u> ائ	ಪ	'n	m, n	, W	۲.	2	,	4.	9	ف ا	6.	5.
"		acdeg		bh	7	kΙ	_	пp	rι	f	w	i	s	+	V	У	×	z
	_		9	0111	וים		_	1111	' '	_	_	_	Ĕ		_	,		
5.1	<u>a</u>	7.6					. 2				. 4	6.9	-		4		7.5	7.6
5.1	Ь	6.9					6				. 8	6.2	_		7		6.8	6.9
5.1	С	7.0					6				. 9	6.3	_		. 8		6.9	7.1
5.1	d	7.6					2				. 4	6.9	-		. 4		7.5	7.6
5.1 3.3	e f	7.0		_			. 6 . 7				. 9 . 9	6.3	-		. 8		6.9 4.9	7. 1 5. 1
5.1	g	5.0 7.6		_			. 2				<u>. 9</u> . 4	4.3 6.9	├		. 8		7.5	7.6
5.1	Э h	7.6					. 2				<u>. 4</u> . 4	6.9	-		. 4		7.5	7.6
1.5		3.9					6				. 8	3.3	\vdash		. 8		3.9	4.0
2.8	\dashv	5.2		-			. 8				<u>. 0</u>	4.5	\vdash		0		5.1	5.3
5.1	K	6.9					6				. 8	6.2	-		7		6.8	6.9
1.5		3.9					6				. 8	3.3	1		8		3.9	4.0
8.4	m	10.8					. 4). 7	10.1	 		. 6		10.8	10.9
5.1	n	7.6				- ' '	2				. 4	6.9			. 4		7.5	7.6
5.3	0	7.0				7.	7				. 9	6.3	-		. 8		6.9	7. 1
5.1	P	6.9					6				. 8	6.2	1		. 7		6.8	6.9
5.1	ġ	7.6					2				. 4	6.9	t		. 4		7.5	7.6
3.9	r	5.1				5.	. 8				. 0	4.4	T		9		5.0	5.1
5.1	s	6.9				7.	6				. 8	6.2		6.	. 7		6.8	6.9
4.0	†	5.8				6.	. 5			5	. 7	5.1		5.	6		5.8	5.9
5.1	u	7.6				8.	. 2			7	. 4	6.9			. 4		7.5	7.6
6.0	>	7.6					. 3			7	. 4	6.9		7.	. 4		7.5	7.6
7.9	¥	9.5				10	. 1			9	. 4	8.8			. 3		9.4	9.6
6.1	×	7.8					. 4				. 7	7.1		7.	6		7.8	7.9
6.5	У	8.1					. 8				. 9	7.4			9		8.0	8.1
5.3	Z	7.1				7.	. 8			6	. 9	6.4		6.	. 9		7.0	7.1

	13.	3 "	DΙ	GIT	· †c	1.	3.3	'' D	IGI	Т	
13.	3	11.1			10.6			4.4	10.6	12.4	10.6
		0	2	3	6	8	9	1	5	4	7
11.1	0			13	. 9			14	• 5	13	. 9
4.4	1			7.	. 8			7.	. 8	7.	. 1
10.6	2			13	. 4			14	.0	13	. 4
10.6	2			13	. 4			14	• 0	13	. 4
12.4	4			15	. 1			15	. 1	13	. 3
10.6	5			13	. 4			14	. 0	13	. 4
10.6	9			13	. 4			14	.0	13	. 4
10.6	7			13	. 4			13	. 4	11	• 5
10.6	8			13	. 4			14	.0	13	. 4
10.6	9			13	. 4			14	.0	13	. 4

	10.	6"	DΙ	GIT	. †(o 10	0.6	'' D	IGI	T	
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3.5	1			6.	. 2			6.	. 2	5.	. 7
8.5	2			10	7			11	. 2	10	. 7
8.5	3			10	. 7			11	. 2	10	. 7
9.9	4			12	. 1			12	. 1	10	. 6
8.5	5			10	7			11	. 2	10	. 7
8.5	6			10	. 7			11	. 2	10	. 7
8.5	7			10	. 7			10	. 7	9.	. 2
8.5	8			10	. 7			11	. 2	10	. 7
8.5	9			10	. 7			11	• 2	10	. 7

		8 "	DΙ	GIT	† † ¢	8 ('' D	I G I	Т							
8		9.9			6.4			2.6	6.4	7.4	6.4					
		0	8.3 8.7													
6.6	0															
2.6	1		4.7 4.7 4.3													
6.4	2		8.0 8.4 8.0													
6.4	3			8.	. 0			8.	. 4	8.	. 0					
7.4	4			9.	. 0			9.	0	7.	. 9					
6.4	5			8.	. 0			8.	. 4	8.	. 0					
6.4	6			8.	. 0			8.	. 4	8.	. 0					
6.4	7			8.	. 0			8.	0	6.	. 9					
6.4	8			8.	. 0			8.	. 4	8.	. 0					
6.4	9			8.	. 0			8.	. 4	8.	. 0					

NOTE:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED. SEE SHEETS 2 THROUGH 7 FOR CORRESPONDING METRIC UNITS.

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)

RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 SHT. 13 OF 18

CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER

TC-8700C

1	8" UPPER	CASE to 18" UPPER	CASE
18	A A A L G S S S S S S S S S S S S S S S S S S	В П Н Н Н Н Н Н Н Н Н Н Н Н Н Н Н Н Н Н	C C O O S X Z 4.9 9 4.9 9 8.1 5.1 5.1 5.1 5.1 5.1 5.1 5.1 5.1 5.1 5
18.0 A	19.2	21.7	21.7
14.3 B	18.1	19.0	18.1
14.3 C	16.8	18.1	18.1
14.3 D	18.1	19.0	18.1
14.3 D 13.2 E 13.2 F	15.7	16.9	16.9
	15.7	16.9	16.9
14.3 G	18.1	19.0	18.1
14.3 H	18.1	19.0 7.7	19.0
3.1 I	6.8	7. 7	7.7
13.5 J	17.2	18. 1	18.1
14.6 K	17.1	18.3	18.3
13.2 L	14.5	16.9	16.9
16.6 M	20.3	21.2	21.2
14.3 N 14.9 O	18.1 18.6	19.0 19.6	19.0 18.6
14.9 U	18.1	19.0	18.1
	18.6	19.6	18.6
14.9 Q 14.3 R	18.1	19.0	18.1
14.3 S	18.1	19.0	18.1
14.3 S 13.2 T	14.5	16.9	16.9
14.3 U	14.5 18.1	19.0	19.0
16.3 V	17.6	20.0	20.0
18.8 W	20.1	22.6	22.6
15.5 X	17.9	19.2	19.2
18.0 Y	19.2	21.7	21.7
14.3 Z	16.8	18.1	18.1

		18"	DΙ	GIT	† (18	3 ''	DIG	ΙT			
18	3	14.9			14.3			5,3	14.3	16.6	14.3	
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14.9	0			18	. 6			19	. 6	18	. 6	
5.3	1		10.0 10.0 9.1								. 1	
14.3	2			18	. 1			19	. 0	18.1		
14.3	3			18	. 1			19	.0	18	.1	
16.6	4			20	. 3			20	. 3	17.8		
14.3	5			18	. 1			19	• 0	18	.1	
14.3	6	18.1					19	. 0	18	. 1		
14.3	7		18.1 18							15	. 6	
14.3	8		18.1 19.0 18.1									
14.3	9			18	. 1			19	.0	18	. 1	

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4.4	Е		5.	2								- 5	· ·	7						Т			5.	7		
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4.8	G		6.	0								6	ò. :	3									6.	0		
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6" UPPER CASE to 6" UPPER CASE

	1:	2" UPPER	CASE to 12" UPPER	CASE
12	2	A A A A A A A A A A A A A A A A A A A	6 8 9 - 8 8 - 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	C G O Q S X Z
12.0	Α	12.8	14.5	14.5
9.6	В	12.0	12.7	12.0
9.6	С	11.2	12.0	12.0
9.6	۵	12.0	12.7	12.0
8.8	E	10.5	11.3	11.3
8.8		10.5	11.3	11.3
9.6	G	12.0	12.7	12.0
9.6	Ι	12.0 4.5	12.7 5.2	12.7 5.2
2.1	I	4.5	5.2	5.2
9.0	٦	11.5	12.1	12.1
9.8	K	11.4	12.2	12.2
8.8	L	9.6	11.3	11.3
11.1	М	13.5	14.2	14.2
9.6	N	12.0	12.7	12.7
9.9	0	12.4	13.0	12.4
9.6	Р	12.0	12.7	12.0
9.9	Q	12.4	13.0	12.4
9.6	R	12.0	12.7	12.0
9.6	S	12.0	12. 7	12.0
8.8	T	9.6	11.3	11.3
9.6	U	12.0	12.7	12.7
10.9	٧	11.7	13.4	13.4
12.6	W	13.4	15.0	15.0
10.3	X	12.0	12.8	12.8
12.0	Υ	12.8	14.5	14.5
9.6	Z	11.2	12.0	12.0

		12 "	DΙ	GIT	† † ¢	12	2 "	DIG	ΙT											
12		9.9			9.6			3.6	9.6	11.1	9.6									
		0	2	3	6	8	9	1	5	4	7									
9.9	0		12.4 13.0 12.4																	
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9.6	2			12	.0			12	. 7	12	.0									
9.6	3			12	.0			12	. 7	12	.0									
11.1	4			13	• 5			13	• 5	11	. 9									
9.6	5			12	.0			12	. 7	12	.0									
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9.6	7		12.0 12.0 10.4																	
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			6 "	DΙ	GIT	† † ¢	6	'' D	I G I	T		
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	1	O" UPPER	CASE to 10" UPPER	CASE
10)	A M A 10.0 10.0 10.0 10.0	8 D E F H I K L M N P R U	E G O Q S X Z
10.0	Α	10.7	12.1	12.1
8.0	В	10.0	10.6	10.0
8.0	С	9.3 10.0	10.0	10.0
8.0	D E F	10.0	10.6	10.0
7.3	Е	8.7 8.7	9.4	9.4
7.3	F	8.7	9.4 10.6	9.4
8.0	G	10.0	10.6	10.0
8.0 1.7	Н	10.0	10.6 4.3	10.6 4.3
1.7	I	3.8	4.3	4.3
7.5	J K	9.6	10.1	10.1
8.1		3.8 9.6 9.5 8.0	10.2	10.2
7.3	L	8.0	9.4 11.8	9.4 11.8
9.2	М	11.3	11.8	11.8
8.0	N	10.0 10.3	10.6 10.9	10.6
8.0	0	10.3	10.9	10.3
18.0	Р	10.0	10.6	10.0
8.3	Q	10.3	10.9 10.6	10.3
8.0	Q R S	10.0	10.6	10.0
8.0	S	10.0	10.6	10.0
7.3 8.0		8.0	9.4	9.4
8.0	U	10.0	10.6	10.6
9.1	٧	9.7	11.1	11.1
10.5	W	11.2	12.5	12.5
8.6	Χ	10.0	10.7	10.7
10.0	Υ	10.7	12.1	12.1
8.0	Z	9.3	10.0	10.0

		10"	DΙ	GIT	† † ¢	10) "	DIG	ΙT			
10)	8.3			8.0			3.0	8.0	9.2	8.0	
		0	2	3	6	8	9	1	5	4	7	
8.3	0		10.3 10.9 10.									
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8.0	2			10	.0			10	. 6	10		
8.0	3			10	.0			10	• 6	10		
9.2	4			11	. 3			11	. 3	9.	9	
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8.0	6			10	.0			10	• 6	10		
8.0	7		10.0 10.0 8.7									
8.0	8		10.0 10.6 10.0									
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	5.9	E			7.	0							7	. 5	5								7
	5.9	F			7.	0							7	. 5	5								7
	6.4	G			8.	0							8	. 4	4								-8
	6.4	Н			8.	0							8	. 4	4								-8
	1.4	I	Г		3.	0							3	. 4	4								-3
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		8 ''	DΙ	GIT	· †c	8	" D	I G I	T			
8		6.6			6.4			2.4	6.4	7.4	6.4	
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6.6	0		8.3 8.7 8.								. 3	
2.4	1		4.4 4.4 4.0									
6.4	2			8.	. 0			8.	. 4	8.	0	
6.4	3		8.0 8.4				8.	0				
7.4	4		9.0 9.0						. 0	7.9		
6.4	5			8.	. 0			8.	. 4	8.	0	
6.4	6			8.	0			8.	. 4	8.	0	
6.4	7		8.0 8.0 6.9									
6.4	8			8.	. 0			8.	. 4	8.	0	
6.4	9			8.	. 0			8.	. 4	8.	0	

		4" UPPER	CASE to 4" UPPER C	ASE
4		3.0		3.2
		A J T V W Y	BDEFHIKLMNPRU	c G O Q S X Z
4.0	Α	4.3	4.8	4.8
3.2 3.2	В	4.0 3.7	4.2	4.0
3.2	С	3.7	4.0	4.0
3.2	D	4.0 3.5	4.2	4.0
2.9	Е	3.5	3.8	3.8
2.9	F	3.5	3.8	3.8
3.2	G	4.0	4.2 4.2 1.7	4.0
3.2	Н	4.0	4.2	4.2
0.7	I	1.5	1.7	1.7
3.0	J	3.8	4.0	4.0
3.3	K	3.8	4.1	4.1
2.9	L	3.2	3.8	3.8
3.7	М	4.5	4.7	4.7
3.2	N	4.0	4.2 4.3	4.2
3.3	0	4. 1	4.3	4. 1
3. 2 3. 3 3. 2 3. 3 3. 2	Р	4.0	4.2	4.0
3.3	Q	4.1	4.3	4.1
3.2	R	4.0	4.2	4.0
3.2	S	4.0	4.2	4.0
2.9		3.2	3.8	3.8
3.2	U	4.0	4.2	4.2
3.6	W	3.9	4.4	4.4
4.2 3.4	X	4.5 4.0	5.0 4.3	5.0 4.3
4.0	Y	4.0		4.8
3.2	Z	3.7	4.8 4.0	4.0
J. Z		J. /	4.0	4.0

NOTE:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED. SEE SHEETS 2 THROUGH 7 FOR CORRESPONDING METRIC UNITS.

		4 "	DΙ	GIT	tc	4	" D	I G I	Т			
4		3, 3			3.2			1.2	3.2	3, 7	3,2	
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1.2	1			2.	2.	. 2	2.	0				
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3.2	3			4.	0			4.	. 2	4.	0	
3.7	4			4.	. 5			4.	5	4.0		
3.2	5			4.	0			4.	. 2	4.	0	
3.2	6			4.					. 2	4.		
3.2	7		4.0 4.0 3.5									
3.2	8	4.0 4.2 4.0										
3.2	9			4.	0			4.	. 2	4.	0	

ENGLISH UNITS

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

SPACING CHARTS DIRECT APPLIED LETTERS & NUMERALS

> UPPER CASE SERIES E (ENGLISH)

RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 SHT. 14 OF 18

CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER

TC-8700C

1	8" UPPER		CASE
18	A A A L L L S. 1 L L S. 1 L L S. 2 L L L L L S. 2 L L L L L L L L L L L L L L L L L L	B D E E H 1 1 . 0 . 1 . 1 . 2 . 8 . 1 . 2 . 8 . 1 . 2 . 8 . 1 . 2 . 8 . 1 . 2 . 8 . 1 . 2 . 1 . 2 . 8 . 1 . 2	C G O G S X Z
15.1 A	16.2	18.4	18.4
12.1 B	15.5	16.3	15.5 15.5
12.1 C	15.5 14.3 15.5	16.3 15.5 16.3	15.5
12.1 D 11.0 E	15.5	16.3	15.5
11.0 E	13.2	14.4	14.4
11.0 F	13.2 13.2 15.5	14.4	14.4
12.1 G	15.5	16.3	15.5
12.1 H	15.5	16.3	16.3
2.8 I 11.3 J	6.2 14.6	7.0 15.5	7.0 15.5
11.3 J	14.6	15.5	15.5
12.4 K	14.6	15.8	15.8
11.0 L	12.1 17.3	14.4	14.4
13.9 M	17.3	18.2	18.2
12.1 N	15.5	16.3	16.3
12.1 N 12.7 O 12.1 P	15.5 16.0 15.5	16.9	16.0
12.1 P	15.5	16.3	15.5
12.7 Q	16.0	16.9	16.0
12.1 R 12.1 S	15.5	16.3	15.5
12.1 S	15.5	16.3	15.5
11.0 T	12.1	14.4	14.4
12.1 U	15.5 14.6	16.3	16.3
13.5 V	14.6	16.9	16.9
15.8 W	16.9	19.1	19.1
12.1 X	14.3	15.5	15.5
15.2 Y	16.3	18.6	18.6
12.1 Z	14.3	15.5	15.5

		18"	DΙ	GIT	to	18	3 "	DIG	ΙT		
18	,	12.7			12.1			4.4	12.1	13.2	12.1
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13.2	4			16	. 6			16	. 6	14	. 3
12.1	5			15	• 5			16	. 3	15	•5
12.1	6			15	• 5			16	• 3	15	• 5
12.1	7			15	• 5			15	• 5	13	. 2
12.1	8			15	• 5			16	• 3	15	•5
12.1	9			15	• 5			16	. 3	15	• 5

		6 '	<u>'</u>	UF	P	Εf	₹	CA	S	E	†0)	6	11	U	PF	È	R	(S	E				
6		5	3.8	3,	4.	5.	5, 1			3.7	-	0.9	-	3.	4.6			_	4.0			Ŀ	4.2		4.0	
		Α	J	T	٧	W	Υ	В	<u>기</u>	E F	Н	I	K	L	М	Ν	Ρ	R	U	С	G	0	Q	S	Х	Z
5.0	Α			5.	. 4							(ŝ.	1									6.	1		
4.0	В			5.	. 2							Ę	5	4						Г			5. 5.	2		
4.0	С			4.	. 8								5. 3							Г			5.:	2		
4.0	пП			5.	. 2							į	5.	4									5.	2		
3.7	E			4.	. 4							4	4. 8	3						Г			4.	В		
4.0 4.0 3.7 3.7 4.0 4.0				4.	4 8 2 4 4 2 2							-	4. 8	3						Г			4.	В		
4.0	G			5.	. 2							į	5.	4									5.:	2		
4.0	H			5.	2							ŗ	5.	4									5.	4		
0.9 3.8 4.1				2.	. 1							2	5.	4									5. 5. 2.	4		
3.8	_			4.	9							Ę	5. 3	2									5.	2		
4.1	K			4.	. 9							Ę	5. ;	2									5.:	2		
3.7	L			4.	0							4	4.8	3									4.	В		
4.6	М			5.	8 2 3 2 3 2							- (ŝ.	1									6.	1		
4.0	N			5.	. 2							Ę	5.	4									5 .	4		
4. 2 4. 0 4. 2	0			5.	. 3							Ę	5. (ŝ									5.	3		
4.0	Р			5.	. 2								ō. '										5.: 5.:	2_		
4.2	Q			5.	. 3							Ę	5. (ŝ									5.	3		
4.0	R			5.	. 2							į	5.	4									5. 5.	2		
4.0	S			5.	. 2							Ę	ō. '	4									5.	2		
3.7 4.0 4.5	Т			4.	. 0							4	4. 8	3						L			4.	<u>8</u>		
4.0	U			5.	. 2								ō. '	4						L			5.	4_		
14.5	V	1		4.	9							c	5. 6	ີ						1			5. (ລ		

	1.	UDDED	0ACE 10# HDDED	0.4.6.5
	ه ا	2" UPPER	CASE to 12" UPPER	CASE
				4 -
12	:		8 - 8 - 6 8	8 8
		A J T V W Y	BDEFHIKLMNPRU	CGOQSXZ
10.0	Α	10.8	12.3	12.3
8.1	В	10.3	10.9	10.3
8.1	С	9.6	10.3	10.3
8.1	D	10.3	10.9	10.3
7.3	Е	8.8	9.6	9.6
7.3	F	8.8 10.3	9.6 10.9	9.6 10.3
8.1	G	10.3	10.9	10.3
8.1	Н	10.3	10.9	10.9
1.9	I	4.1	4.7	4.7
7.5 8.3 7.3	J	9.8 9.8	10.3	10.3
8.3	K	9.8	10.5	10.5
7.3	L	8.1	9.6	9.6
9.3	М	11.5	12.1	12.1
8.1	N	10.3	10.9	10.9
8.4	0	10.7	11.3	10.7
8.1	Р	10.3	10.9	10.3
8.4	Q	10.7	11.3	10.7
8.1	R	10.3	10.9	10.3
8.1	S T	10.3	10.9	10.3
7.3		8.1	9.6	9.6
8.1	U	10.3	10.9	10.9
9.0	٧	9.8	11.3	11.3
10.5	W	11.3	12.8	12.8
8.1	X	9.6	10.3	10.3
10.1	Y	10.9	12. 4	12.4
8.1	Z	9.6	10.3	10.3

	•	12"	DΙ	GIT	†c	12	2 "	DIG	ΙT		
12	2	8.4						2.9	8.1	8.8	8.1
		0	2	3	6	8	9	1	5	4	7
8.4	0			10	. 7			11	• 3	10	. 7
2.9	1			5.	. 7			5.	. 7	5.	. 2
8.1	2			10	. 3			10	. 9	10	. 3
8.1	3			10	• 3			10	. 9	10	. 3
8.8	4			11	. 1			11	. 1	9.	. 6
8.1	5			10	. 3			10	. 9	10	. 3
8.1	6			10	• 3			10	• 9	10	. 3
8.1	7			10	• 3			10	. 3	8.	. 8
8.1	8			10	. 3			10	. 9	10	. 3
8.1	9			10	. 3			10	. 9	10	. 3
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1.5	1			2.	9			2.	. 9	2.	. 6
4.0	2			5.	. 2			5.	. 4	5.	. 2
4.0	3			5.					. 4	5.	2
4.4	4			5.					. 5		. 8
4.0	5			5.	. 2			5.	. 4	5.	. 2
4.0	6			5.				5.			2
4.0	7			5.	. 2				. 2	4.	4
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		ΔJ		٧	$\overline{}$		ВD	E	F	Η	I	ĊΙ	-	М	N	PF	ι	J	G	C	Q	S	Х	Z
8.4	Α		9.	0							10	. 2	_					\top			10.	2		
6.7	В		8.	6							9	. 1						Т			8.	6		
6.7	B C D E F		8.	0							8	6									8. 8.	6		
6.7	D		8.	6							9	. 1									8.	6		
6.1	E		7.	3							8	0						\perp			8.	0		
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1.6	I		8. 3. 8.	4							3	. 9						1			3.	9		
6.3	J		8.	. 1								6						4			8.	6		
6.9	K		8.	. 1		_					8	. 8						4			8.	8		
	L		6.	7		4						0	_					+			8.	0		
7.7	М		9.	6		_						١. '	_					+			10.	<u>. 1</u>		
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6.7	<u> </u>		8.	6		4					9	.						+			8.	6		
7.0 6.7	Q		9. 8. 8. 8. 8.	7		+					9	4 1 4	_					+			8.	9		
6.7	R		8.	6		+					9	<u>. </u>	_					+			8.	6		
6.1	S T		8.	7		+					9	0						+			8.	<u>6</u>		
	υ		8.	-		+					-0	. 1	-					+			9.	1		
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8.8	w I		9.			+					1.0	. 6	_					+		-	10.	౼		
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	1	0"	D	Ι	G I	T	†()	1 (יי כ		Ι	G	ΙŢ	Γ									
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10" UPPER CASE to 10" UPPER CASE

	•	10"	DΙ	GIT	† † ¢) 10) ''	DIG	ΙT		
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10	ן י	_			6		(3		-		
		0	2	3	9	1	5	4	7		
7.0	0			8.	. 9			9.	4	8.	9
2.4	1			4.	. 8			4.	8	4.	. 3
6.7	2			8.	. 6			9.	. 1	8.	
6.7	3				. 6			9.		8.	
7.3	4			9.	. 2			9.	2	8.	0
6.7	5			8.				9.	. 1	8.	
6.7	6				. 6			9.		8.	
6.7	7				. 6			8.			. 3
6.7	8			8.	. 6			9.	. 1	8.	
6.7	9			8.	. 6			9.	. 1	8.	6

			ΑJ	ΤV	w W	ΥE	D	E	F	Η	Ι	K L	М	N	PR	U	С	G	0 0	S	Х	Z
	6.7	Α		7.2	2	\top					8	3.2							8.	2		
	5.4	В		6.5	7	T					7	· 3							6.	9		
	5.4	С		6. 4 6. 9	1	Т					6	. 9							6.	9		П
	5.4	D		6.9	}	Т					7	. 3							6.	9		
	4.9	D E F		5.9	9						6	. 4							6	4		
	4.9			5. 9 6. 9 6. 9 6. 9 6. 9 7. 7	9						6	3. 2 7. 3 5. 9 7. 3 5. 4 7. 3 7. 3 3. 1							6. 6. 7. 3.	4		
	5.4	G		6. 9	9						7	. 3							6.	9		
	5. 4 1. 3 5. 0	Н		6.5	9	\perp					7	<u>. 3</u>							7.	3		
	1.3	I		2.8	3	\perp					3	3.1							3.	1		
	5.0	J		6.5	5	\perp					6	. 9							6.	9		
	5.5	K		6.5	5	\perp					7	. 0							7.	0		
	4.9	Г		5.4	1	\perp					6	. 4							6.	4		
	6.2	М		7.	7	\perp					8	3 . 1							8. 7.	1		
	5.4 5.6	N		6. S)	4					_7	<u>. 3</u>							7.	3_		
	5.6	0		7.	<u> </u>	\perp					7	. 5							7.	1		
	5.4 5.6	Р		6. 9 7.	3	\perp					_7	. 3							6. 7.	9		
	5.6	Q		7.	1	4					_7	. 5							7.	1		
	5.4 5.4	R		6. 9	<u> </u>	4						• 3							6.	9		
	5.4	R S T		6. 9 6. 9	<u> </u>	4					_7	• 3							6. 6.	9		
	4.9			5.4	1	+					_6	3. 1 3. 3 3. 5 3. 3 3. 4 3. 5 3. 5							<u>6.</u>	4		
	5.4	U		6. 9 6. 5 7. 5	1	+						. 3					_		7.	<u>3</u>		
	6.0	٧		6.5		+						. 5							(.	5		_
	7.0	W		(. :		+					_ {	5.5							8.	5		_
	5.4	X		6.4	!	+						· 9							6.	9		
	6.8	1		7.3		+					_ {	3.3							8.	3		_
	5.4	Z		6.4	1	\perp					- 6	. 9		_					6.	9		
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			8 ''	D I	GI	Τ	†()	8 '	"	D	I G I	T									
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	_		0	2	3	Т	6	Τ	8	ç)	1	5	_	4	r	7	1				

8" UPPER CASE to 8" UPPER CASE

		8"	וטו	GII	† c	8	U	IGI	'		
8		5.6			5.4			1.9	5.4	5.9	5.4
		0	2	3	6	9	1	5	4	7	
5.6	0			7.	. 1			7.	5	7.	. 1
1.9	1			3.	. 8			3.	8	3.	. 4
5.4	2			6.	. 9			7.	3		. 9
5.4	Ŋ				. 9				3		. 9
5.9	4			7.	. 4			7.	4	6.	. 4
5.4	IJ			6.	. 9			7.	3	6.	. 9
5.4	9			6.	. 9			7.			. 9
5.4	7			6.	. 9			6.	9	5.	. 9
5.4	œ			6.	. 9			7.	3		. 9
5.4	9			6.	. 9			7.	3	6.	. 9

4" DIGIT to 4" DIGIT

0 2 3 6 8 9 1 5 4 7

		4 ۱		UF	P	Εf	7	С	AS	SI	E	†0)	4	11	U	PF	PE	R	(CAS	E		
4			2,5					,	٠,		2.4			2.8		3.1				7.			۷.۵	2.7
		Α	J	Т	٧	W	Υ	В	D	E	F			K			N	Ρ	R	U	CG	0	Q	SXZ
3.3	Α			3.	6									۹.									4.	
2.7	В	Г		3.	. 4								- ;	3. (ŝ								3.	
2.7	C			3.	2									3. ·	4							- 3	3.	4
2.7	D			3.	4								,	3. (ŝ							, ,	3.	4
2.4	Е			2.	9								- 7	3. 2	2							,	3.:	2
2.4	F			2.	9								- ;	3. 2	2							- 3	3. 3	2
2.7	G			3.	. 4								3	3.6	ŝ								3 . ·	4
2.7	Τ				. 4								- 3	3. (ŝ							- 3	3. (5
0.6	I	╙		1.	. 4									. (ŝ								۱. (5
2.5	J	╙		3.	3									3. 5	4_								3. ·	4
2.8	K	╙		3.	<u>3</u>									. :	5_								3. !	5
2.4	L	╙		2.	. 7 . 8 . 4									3. 2	2_						1	- 3	3. :	2
3.1	М	-		<u> 3.</u>	8									. (<u>)</u>						<u> </u>		4. ()
2.7	N	╙		<u> 3.</u>	4									3. (2						-		3. (5
2.8	0	┡		3.	6									3.8	<u> </u>						-	_	3. (<u> </u>
2.7	Р	⊩		<u>5.</u>	4		_	_		_			_	. (2_			_			\vdash) • ·	4
2.8 2.7	QR	⊩		<u>ئ</u>	6 4 4								_	3. 8	<u> </u>						\vdash	-	3.6	<u> </u>
2.7	S	╙		3.	4									3. (2						├	-	2 . '	1
2.4		╙		2.	7	_	_	_	_	_				3. 3		_		_	_		-	-	3. :	7
2.7		╟		۷.	. 4		_	-		_			-	3.6	_						-	-	3. (
3 0	٧	-		₹	. 3		-			_			_	3. E	2			_			_	-	3. 1	2
3.0 3.5	w	╫		₹	8					_			_	1.	<u>, </u>			_			 	_	1. :	, 3
2.7	X	╫		3.	2								-	3.	4						\vdash		3.	
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2.7	ż	⇈			2				_	-	_			3.			_		_		-		3.	

ENGLISH UNITS COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING SPACING CHARTS

> UPPER CASE SERIES D (ENGLISH)

DIRECT APPLIED LETTERS & NUMERALS

RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 SHT. 15 OF 18

CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER

TC-8700C

NOTE:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED. SEE SHEETS 2 THROUGH 7 FOR CORRESPONDING METRIC UNITS.

	1	8" UPPER	CASE to 18" UPPER	
18	3	A A A A A A A A A A A A A A A A A A A	BDEFHIKLMNPRU	C C O O C 2 X Z 4 0 0 8 0 0 9
11.3	Α	12.3	14.3	14.3
9.8	В	12.9	13.6	12.9
9.8	С	11.9	12.9	12.9
9.8	D	12.9	13.6	12.9
9.0	E	12.9 11.0	13.6 12.0	12.9 12.0
9.0		11.0	12.0	12.0
9.8	G	12.9	13.6	12.9
9.8 2.5	H	12.9 5.6	13.6	13.6
2.5		5.6	6.3	6.3
9.0	J	12.0	12.8	12.8
9.8	K	11.9	12.9	12.9
9.0	L	10.0	12.0	12.0
11.7	М	14.7	15.5	15.5
9.8	Z	12.9	13.6	13.6
10.4	0	13.5	14.2	13.5
9.8	Р	12.9 13.5 12.9	13.6	12.9
10.4	Q R	13.5	14.2	13.5
9.8	R	12.9	13.6	12.9
9.8	S	12.9	13.6	12.9
9.0		10.0	12.0	12.0
9.8	U	12.9	13.6	13.6
11.0	٧	12.0	14.0	14.0
13.5	W	14.5	16.5	16.5
10.6	X	12.6	13.6	13.6
11.3	Y	12.3	14.3	14.3
9.8	Z	11.9	12.9	12.9

18" DIGIT to 18" DIGIT													
18	}	10.4			9.8			3, 7	9.8	11.0	9.8		
		0	2	3	6	9	1	5	4	7			
10.4	0			13	14	. 2	13	• 5					
3.7	1		7.5 7.5 6.7										
9.8	2			12	. 9			13	. 6	12	. 9		
9.8	3			12	. 9			13	. 6	12	. 9		
11.0	4			14	.0			14	.0	12	.0		
9.8	5			12	. 9			13	. 6	12	. 9		
9.8	6			12	. 9				. 6	12	. 9		
9.8	7	12.9 12.9 10.9											
9.8	8	12.9 13.6 12.9											
9.8	9			12	. 9			13	. 6	12	. 9		

6		3,8	3.0	3, 7	4.5		3, 3		3.0	3, 3		3, 3		3,9				3, 3			۲4 ۲				3, 3
		Α	JT	٧	W	Υ	В	D	EF	Н	I	Κ	L	М	N	Ρ	R	U	С	G	0	Q	S	Х	Z
3.8	Α		4.								4	1. 8	3									1.8	3		
3.3	В		4.	. 3							-	1. !	5									. :	3		
3.3	C D E F		4.	. 0								1. :	3									l. :	3		
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3.0 3.3 3.0	J		4.	٠0							4	1	3									l. :	3		
3.3	K		4.	. 0							_	1.	3									١.:	3		
3.0	L		3,	. 3								1. ()								4	١. ()		
3.9	М		4.	. 9							Ę	1. !	2_								5	. :	2		
3.3	N		4.	. 3								1. !	5									١. !	5		
3.5	0		4.	. 5								1.	7									l. !	5		
3.3	Р		4.	<u>. 3</u>								1. !	7									. :	3		
3.5	Q	4.9 4.3 4.5 4.3 4.5 4.3 3.3 4.3																			١. :	5			
3.9 3.5 3.5 3.5 3.5 3.5	R	4.3									1. !	5									١.:	5 3 3			
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3.0	U		4.3									1. !	5_						L			١. :	5		
			4 ^																						

6" UPPER CASE to 6" UPPER CASE

	1:	2" UPPER	CASE to 12" UPPER	CASE
12	2	A A A A A A A A A A A A A A A A A A A		6 9 0 9 0 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0
7.5	Α	8.2	9.5	9.5
6.6	В	8.6 7.9	9.1	8.6
6.6	С	7.9	8.6	8.6
6.6	D	8.6	9.1	8.6
6.0	шн	7.4	8.0	8.0
6.0		7.4	8.0	8.0
6.6	G	8.6 8.6 3.7	9.1	8.6
6.6	Ξ	8.6	9. 1	9.1
1.7	I	3.7	4.2	4.2 8.5
6.0	J	8.0	8.5	8.5
6.6	K	7.9	8.6	8.6
6.0	L	6.7	8.0	8.0
7.8	М	9.8	10.3	10.3
6.6	N	8.6	9. 1	9.1
6.9	0	9.0 8.6	9.5 9.1	9.0
6.6	Р	8.6	9.1	8.6
6.9	Q	9.0	9.5 9.1	9.0
6.6	R	8.6	9. 1	8.6
6.6	S	8.6 6.7	9.1	8.6
6.0	T	6.7	8.0	8.0
6.6	U	8.6	9.1	9.1
7.3	٧	8.0	9.3	9.3
9.0	W	9.7	11.0	11.0
7.0	X	8.4	9.1	9.1
7.5	Υ	8.2	9.5	9.5
6.6	Z	7.9	8.6	8.6

12" DIGIT to 12" DIGIT														
12	12	6.9			9•9			2.4	9•9	7.3	6.6			
		0	2	9	1	5	4	7						
6.9	0		9.0 9.5 9.0											
2.4	1			5.	. 0			5.	0	4.	. 5			
6.6	2			8.	. 6			9.	. 1	8.	. 6			
6.6	3			8,	. 6			9.	. 1	8.	6			
7.3	4			9.	. 3			9.	. 3	8.	. 0			
6.6	5			8.	. 6			9.	. 1	8.	. 6			
6.6	9			8.	. 6			9.	. 1	8.	6			
6.6	7		8.6 8.6 7.2											
6.6	8	8.6 9.1 8.6												
6.6	9			8.	. 6			9.	. 1	8.	. 6			

			6 "	DΙ	GIT	- †0	6	'' D	I G I	Т		
	6		3.5			3, 3			1.2	3, 3	3, 7	3, 3
			0	2	3	6	8	9	1	5	4	7
1	3.5	0			4.	• 5			4.	. 7	4.	5
1	1.2	1			2.	• 5			2.	. 5	2.	2
1	3.3	2			4.	. 3			4.	. 5	4.	. 3
	3.3	3				. 3			4.		4.	. 3
	3.7	4			4.				4.		4.	
	3.3	5				. 3			4.	. 5	4.	
1	3.3	6				. 3			4.	. 5	4.	
1	3.3	7				. 3			4.	. 3	3.	. 6
1	3.3	8				. 3				. 5		. 3
1	3.3	9			4.	. 3			4.	. 5	4.	. 3
1												
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1												
-												
1												

	1 (O" UPPER	CASE to 10" UPPER	CASE
10)	A N A A G S S S S S S S S S S S S S S S S S	G G	
6.3	Α	6.8	7.9	7.9
5.5	В	7.2	7.6	7.2
5.5 5.5 5.5	С	6.8 7.2 6.6 7.2 6.1	7.9 7.6 7.2 7.6 6.7	7.2
5.5	D	7.2	7.6	7.2
5.0	Е	6.1	6.7	6.7
5.0	B C D E F	1 6-1	6. /	7.9 7.2 7.2 7.2 6.7 6.7 7.2
5.5	G	7. 2 7. 2 7. 2 3. 1 6. 7	7.6	7.2
5.5 1.4	H	7.2	7.6 3.5 7.1	7.6 3.5 7.1
1.4	_I_	3.1	3.5	3.5
5.0	J	6.7	7.1	7.1
5.5	K	6.6	7.2 6.7	7.2 6.7
5.0 6.5	L	5.6	6.7	6.7
6.5	М	8.2	8.6 7.6 7.9	8.6
5.5	N	7.2	7.6	7.6
5.8	0 P	7.5	7.6	7.5
5.5		7.5	7.6 7.9 7.6	7.5
5.8	Ų.	7.0	7.6	7.0
5.5	r c	7.2	7.6	7.2
5.0	Q R S	5.6	6.7	7.6 7.5 7.2 7.5 7.2 7.2 7.2 6.7
5.5 5.8 5.5 5.8 5.5 5.5 5.5 5.5 6.1	Ü	6.6 5.6 8.2 7.2 7.5 7.2 7.5 7.2 7.5 7.2 7.2	7.6	7.6
6 1	V	6.7	7.8	7.6 7.8 9.2
7.5	w	8.1	7.8 9.2 7.6	9. 2
5.9	X	7.0	7.6	7.6
6.3	Ŷ	6.8	7.9	7.6 7.9
5.5	Z	6.6	7.2	7.2

10" DIGIT to 10" DIGIT												
10)	5.8			5,5			2.0	5,5	6. 1	5.5	
	0 2 3 6 8 9							1	5	4	7	
5.8	0			7.	. 5			7.	9	7.	. 5	
2.0	1			4.	. 1			4.	. 1	3.	. 7	
5.5	2			7.	. 2			7.	6	7.	2	
5.5	3			7.	. 2			7.	6	7.	2	
6.1	4			7.	. 8			7.	8	6.	. 7	
5.5	5			7.	. 2			7.	6	7.	2	
5.5	6			7.	. 2			7.	6	7.	. 2	
5.5	7	7.2 7.2 6.0										
5.5	8		7.2 7.6 7.2									
5.5	9			7.	. 2			7.	6	7.	. 2	

			8" UPPER	CASE to 8" UPPER C	ASE
Z 2	8		Y A A A A A A A A C	B D E L H I K F W N B K A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	C G O
	5.0	Α	5.4	6.3	6
	4.4	В	5.7	6.1	
	4.4	С	5.3	5.7	5
	4.4	D	5.7	6.1	5
	4.0	E	4.9	5.3	5
	4.0	F	4.9 5.7	5.3	5
	4.4	G	5.7	6. 1	5
	4.4	Η	5.7	6.1	(
	1.1	I	2.5	2.8	2
	4.0	J	5.3	5.7	5
	4.4	K	5.3	5.7	5
	4.0	L	4.4	5.3	5
	5.2	М	6.5	6.9	6
	4.4	N	5.7	6.1	(
	4.6	0	6.0	6.3	6
	4.4	Р	5.7	6.1	5
	4.6	Q	6.0	6.3	6
	4.4	R	5.7	6. 1	5
	4.4	S	5.7	6. 1	5
	4.0	T	4.4	5.3	5
	4.4	U	5.7	6. 1	(
	4.9	٧	5.3	6.2	6
	6.0	W	6.4	7.3	7
	4.7	Х	5.6	6.0	55 55 55 66 66 66 55 55 66 66 67 77
	5.0	Υ	5.4	6.3	
	4.4	Z	5.3	5.7	5
					_

	8" DIGIT to 8" DIGIT												
8		4.6			4.4			1.6	4.4	4.9	4.4		
		0	2	3	6	8	9	1	5	4	7		
4.6	0			6.	. 0			6.	. 3	6.	0		
1.6	1			3.	. 3			3.	. 3	3.	0		
4.4	2			5.	. 7			6.	. 1	5.	. 7		
4.4	3			5,				6.	. 1	5.			
4.9	4			6.	. 2			6.	2	5.	. 3		
4.4	5			5.				6.	. 1	5.	. 7		
4.4	6			5.	. 7			6.	. 1	5.	. 7		
4.4	7			5.	. 7		5.	. 7	4.				
4.4	8	5.7 6.1									. 7		
4.4	9			5.	. 7			6.	. 1	5.	. 7		

		4 ''	UF	P	ΕF	7	С	Δ3	SE		† c)	4	11	UI	PF	PE	R	(CA	SE				
4		2,5	2.0	2, 4	3.0		0			2.0			2.2						2.2			2.3			2.2
7		Α	JT	-	-	-	Ь,		⊢	F	_	_	K			N	Ρ	_	_	С	G		-	Х	+
2.5	Α		2.	, 7								-	3. 2	2						Т		3.	2		_
2.2	В		2.	. 9								-3	3. (5						Т		2.	9		
2.2	С		2.	9								2	3. (9						Т		2.	9		
2.2	D		2.	. 9								- 3	5. ()						T		2.	9		
2.0	Е		2.	. 5								- 2	•	7						Г		2.	7		
2.0	F		2.	. 5								2	2	7								2.	7		
2.2	G		2.	. 9								(, ,	3. ()								2.	9		
2.2	Н		2.9 2.5 2.5 2.9 2.9									3	S. (<u> </u>								3.			
0.6	I		1.	. 2								- 1	١.،	4								1.			
2.0	J		2.	. 7								2	2.8	<u>3</u>						┖		2.	8		
2.2	K		2.	<u>. 6</u>								2	2. 9)						_		2.	9		
2.0	L			. 6								- 2	•	7						┖		2.	7		
2.6 2.2 2.3	М		3,	<u>. 3</u>								-		4_						⊢		3.	4		
2.2	N			<u>, 9</u>									. (<u>) </u>						╀-		<u> </u>	0		
2.3	0		3.	. 0									5. 2	<u>{</u>						╀		3.			
2.2	Р		- 2.	. 9			_						3. 6 3. 6 3. 6 3. 6	<u>_</u>						⊢		2.	<u>×</u>		
2.3	Q R	\vdash	<u> </u>	. 0			_						• •	<u>{</u>						⊢		3. 2.	0		
2.2	S		2	9.9								-	. (<u>, </u>						⊢		2.	9		
2 0	T	\vdash	- 2	· 3		_						_	, (7						+		2.	7		
2.2	U		2	. 9								-	3. (<u>^</u>						╁		3.	<u>_</u>		_
2.4	V	\vdash	2	. 7									3.							+		3.	1		_
3.0	w	\vdash	3. 2					_	_		_		3.		_	_	_	_	_	+		3.			_
2.3	X	\vdash	2.8									-	· ·	<u>. </u>						t		3.	'n		
2.5	Ŷ		2.7									_	3. 3	-						t		3.	5		_
2.2	ż		2.6									-2		- -						T		2.			_

NOTE:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED. SEE SHEETS 2 THROUGH 7 FOR CORRESPONDING METRIC UNITS.

4" DIGIT to 4" DIGIT												
4		2.3			2.2			0.8	2.2	2.4	2.2	
		0	2	3	6	8	9	1	5	4	7	
2.3	0			3.	0			3.	2	3.	0	
0.8	1			1.	. 7			1.	7	1.	. 5	
2.2	2			2.	. 9			3.	0	2.	. 9	
2.2	3			2.	. 9			3.	0	2.	9	
2.4	4				. 1			3.	. 1	2.	. 7	
2.2	5			2.	. 9			3.	0	2.	. 9	
2.2	9			2.	. 9			3.	0	2.	9	
2.2	7			2.	. 9		2.	9	2.	. 4		
2.2	8				. 9			0	2.			
2.2	9			2.	. 9			3.	0	2.	. 9	

ENGLISH UNITS

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

SPACING CHARTS DIRECT APPLIED LETTERS & NUMERALS

> UPPER CASE SERIES C (ENGLISH)

RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 SHT. 16 OF 18

CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER

TC-8700C

	1 (O" UPPER	CASE to 10" UPPER	CASE
10)	V V V V V V V V V V V V V V V V V V V	B D E E H I I K F M N b B D	C C O O S X Z 4 4 4 4 4 7 5 5 6 7 6 7
5.3	Α	5.8	6.8	6.8
4.2	В	5.7	6.1	5.7
4.2	С	5.2	5. 7	5.7
4.2	D	5.2 5.7	6.1	5.7
3.8	Е	4.8	5.3	5.3
3.8	F	4.8 5.7	5.3	5.3 5.7
4.2	G	5.7	6.1	5.7
4.2	Н	5.7	6.1	6. 1 3. 1 6. 3
1.3	I	2.8 5.9	3.1	3.1
4.4	J	5.9	6.3	6.3
4.4	K	5. 4 4. 3 6. 3 5. 7	5.9 5.3	5.9
3.8	L	4.3	5.3	5.3
4.8	М	6.3	6.7	6.7
4.2	N	5.7	6.1	6.1
4.5	0	6.0	6.4	6.0
4.2	Р	5.7	6.1	5.7
4.5	Q	6.0	6. 4	6.0
4.2	R	5.7	6.1	5.7
4.2	S	5.7	6.1	5.7
3.8		4.3	5.3	5.3
4.2	U	5.7	6. 1	6.1
4.6	٧	5.1	6. 1	6.1
6.3	W	6.8	7.8	7.8
4.6	Х	5.6	6.1	6.1
5.3	Y	5.8	6.8	6.8
4.2	Z	5.2	5.7	5.7

		10"	DΙ	GIT	. † c) 10) '' C	DIG	ΙT		
10		4.5			4.2			2.0	4.2	4.8	4.2
		0	2	3	6	8	9	1	5	4	7
4.5	0			6.	. 0			6.	. 4	6.	0
2.0	1			3.	. 9			3.	. 9	3.	. 5
4.2	2			5.	. 7			6.	. 1	5.	
4.2	3			5.	. 7			6.	. 1	5.	
4.8	4				. 3				. 3	5.	
4.2	5			5.				6		5.	
4.2	6			5.				6.		5.	
4.2	7			5.	. 7			5		4.	. 7
4.2	8			5.				6		5.	
4.2	9			5.	. 7			6.	. 1	5.	. 7 🗌

		8" UPPER	CASE to 8" UPPER C	ASE
8	3	A A A A A A A A A A A A A A A A A A A		C C O O C S X Z & & & & & & & & & & & & & & & & & & &
4.3	Α	4.7	5.5	5.5
3.4	B	4.6	4.9	4.6
3.4	Ċ	4.2	4.6	4.6
3.4	D	4.6	4.9	4.6
3.0	E	3.8	4.2	4.2
3.4 3.4 3.0 3.0 3.4 3.4	F	3.8 4.6 4.6	4.2	4.2 4.2
3.4	G	4.6	4.9	4.6
3.4	Н	4.6	4.9	4.9
1.0	I	2.2	2.5	2.5
3.5 3.5 3.0 3.9 3.4	J	4.7	5.0 4.7	5. 0 4. 7
3.5	K	4.3	4.7	4.7
3.0	L	3.4	4.2	4.2
3.9	М	5.1	5.4	5.4 4.9
3.4	N	4.6	4.9	4.9
3.6	0	4.8	5.1	4.8
3.4	Р	4.6	4.9	4.6
3.6	Q	4.8	5.1	4.8
3.4	R	4.6	4.9	4.6
3.4	S	4.6	4.9	4.6
3.0		3.4	4.2	4.2
3.4	U	4.6	4.9 4.9	4.9 4.9
3.6 3.4 3.6 3.4 3.0 3.4 3.7 5.0	V	4.1	4.9	4.9
5.0	W	5.4	6.2	6.2
3.7	X	4.5	4.9	4.9
4.3 3.4	Y Z	4.7 4.2	5.5	5.5 4.6
D. 4	1 4	4.2	4.6	4.6

		8 "	DΙ	GIT	† † ¢	8 ('' D	I G I	T		
8		3.6			3.4			1.6	3,4	3,9	3.4
		0	2	3	6	8	9	1	5	4	7
3.6	0			4.	. 8			5.	. 1	4.	. 8
1.6	1			3.	. 1			3.	. 1	2.	. 8
3.4	2			4.	. 6			4.	. 9	4.	. 6
3.4	3			4.	6			4.	. 9	4.	6
3.9	4			5.	. 1			5.		4.	. 3
3.4	5			4.	6			4.	. 9	4.	. 6
3.4	6			4.	6			4.	. 9	4.	. 6
3.4	7			4.	. 6			4.	6	3.	. 8
3.4	8			4.	. 6			4.	. 9	4.	. 6
3.4	9			4.	6			4.	9	4.	6

		4" UPPI	ΞR	CAS	ŝΕ	to	4	11	UI	PPE	R (CASE	=			
4		2.1 1.8 1.5	2.5	1.7	1.5			1.5	1.9		1.7		1.8	1.7	1.8	
		AJTV	WY	B D	E F	Н :	i K	L	М	ΝP	RU	CG	0 Q	S	Х	
2.1	Α	2.3					2.	7					2.	7		
1.7	В	2.3					2.	4					2.	3		
1.7	С	2.1					2. 2. 2.	3					2.	3		
1.7	D	2.3					2.	4					2.	3		
1.5	E	1.9					2.	1					2.	1_		
1.5		2.3 2.3 2.1 2.3 1.9 1.9 2.3					2.	1_				_	2. 2. 2. 2. 2.	<u> </u>		
1.7	G H	2.3					2.	4					2.	3_		_
0.5	I	2.3					<u> </u>	4					2.	4 7		
1.8	J	2 4					2	5					2	5		-
1.8	ĸ	2.4 2.2 1.7					2. 2. 2. 2.	4					2.	4		-
1.5	È	1.7					2.	1					2.	1		-
1.9	М	2.5					2.	7					2.	7		
1.7	N	2.3					2. 2.	4					2.	4		
1.8	0	1 2 4					2.	6					2.	4		
1.7	Р	2.3					2.	4					2.	3		
1.8	Q	2.3 2.4 2.3 2.3 1.7					2. 2. 2. 2. 2.	6					2. 2. 2. 2. 2. 2.	4		_
1.7	R	2.3					2.	4				_	2.	3_		_
1.7	S	2.3					<u>2.</u>	4					2.	<u> </u>		_
1.5	H U	1.1					2.	1	_			-	2.	1	_	
1.8	V	2.3					2.	4				\vdash	2.	4		
2.5	w	2.7					3.	1					3.	7		-
1.8	TX	2.2					2.	4					2.	4		-
2.1	Ŷ	2.3					2.	. 7				t	2.	. 7		-
1.7	Ż	2.1					2.	3					2.	3		
		<u> </u>					٠.					1	۷.	<u> </u>		-

l			4 ''	DΙ	GIT	† † ¢	4	'' D	I G I	T		
	4		1.8			1.7			0.8	1.7	1.9	1.7
]			0	2	3	6	8	9	1	5	4	7
1	1.8	0			2.	. 4			2.	6	2.	. 4
]	0.8	1			. 6	1.	. 4					
]	1.7	2			. 4	2.	. 3					
]	1.7	3			2.	. 3				4		. 3
1	1.9	4				. 5			2.	. 5	2.	. 1
]	1.7	7				. 3				. 4	2.	. 3
]	1.7	6			2.	. 3				4	2.	. 3
	1.7	7				. 3				. 3		. 9
l	1.7	8				. 3				. 4		. 3
1	1.7	9			2.	. 3			2.	. 4	2.	. 3

										_									_						_
	-	6 '	'	UF	P	ΕI	7	CAS	SΕ	†	0	6	11	UF	P	E	R	C.	Δ:	SE	=				
		2	ဖ	3	000	8	2	5	3		ر 8						5				7		2	8	2
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NOTES:

- USE OF SERIES B ALPHABET IS RESTRICTED TO STREET NAME SIGNS, PARKING SIGNS AND OTHER SIMILAR SIGNS WHERE LIMITED BREADTH AND STROKE WIDTHS ARE REQUIRED FOR DESIGN PURPOSES.
- 2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED. SEE SHEETS 2 THROUGH 7 FOR CORRESPONDING METRIC UNITS.

ENGLISH UNITS

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

SPACING CHARTS
DIRECT APPLIED LETTERS & NUMERALS

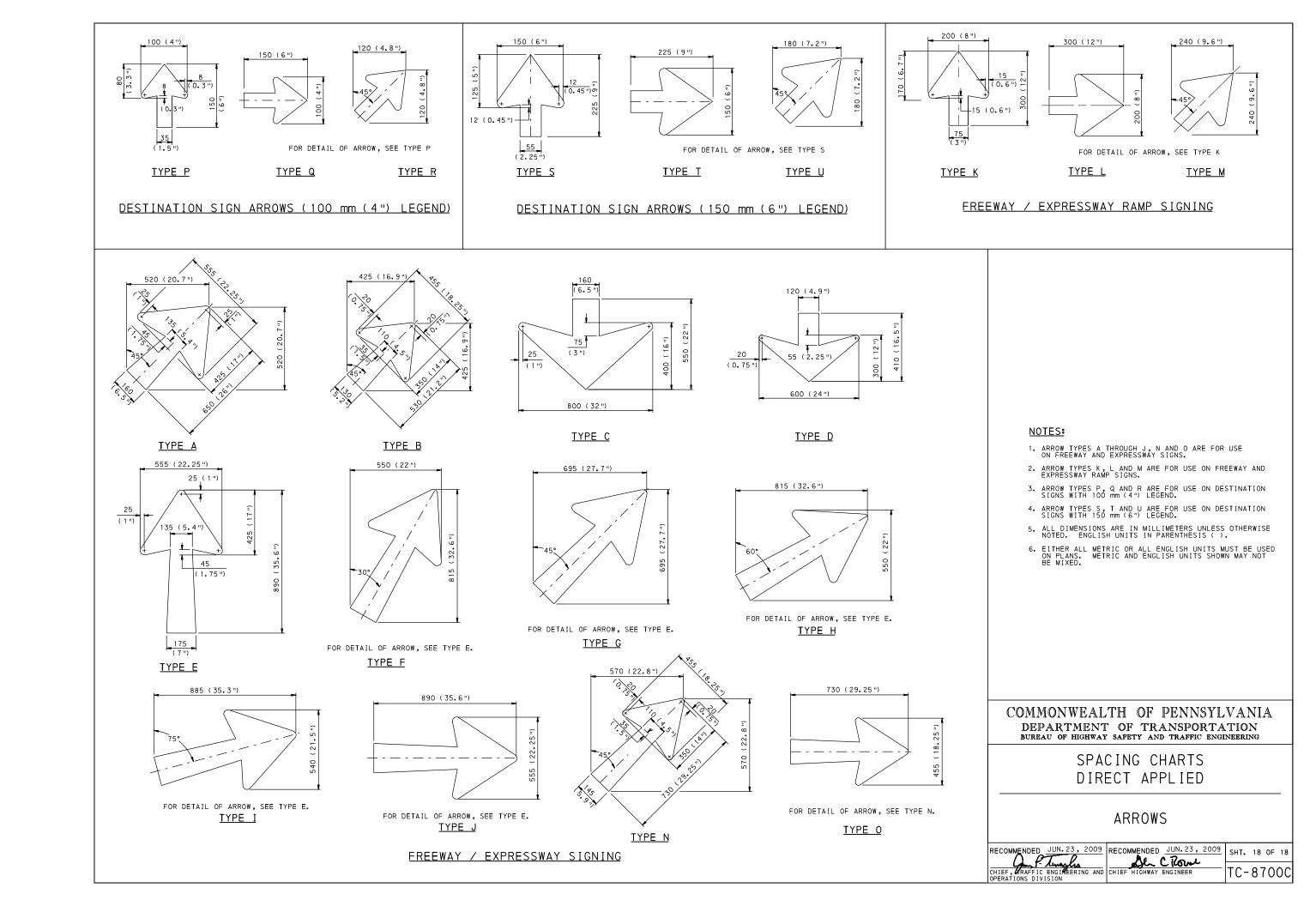
UPPER CASE SERIES B (ENGLISH)

RECOMMENDED JUN. 23, 2009 RECOMMENDED JUN. 23, 2009 SHT. 17 OF 18

CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER

OPERATIONS DIVISION

TC - 8 7 0 0 C



SIGNING PLANS

- 1. THE SIGNING PLANS SHOULD BE DRAWN TO A SCALE OF 1 : 1000 (1" = 100'). A PLAN VIEW OF THE SIGNS AND SIGN SUPPORTS SHOULD BE DEPICTED AT THE APPROXIMATE LOCATIONS AND SMALL PICTORIAL DRAWINGS OF THE SIGN FACES SHOULD BE INCLUDED NEAR THE PLAN VIEW, ALONG WITH THE TYPE OF POST AND/OR SUPPORT. A NUMBER SHALL BE ASSIGNED TO EACH SIGN NOT INCLUDED IN THE DEPARTMENT'S PUBLICATION 236M AND CROSS-REFERENCED TO THE SIGN FABRICATION DETAILS.
- 2. ALL SIGNS SHALL BE DESIGNED IN ACCORDANCE TO THE LAYOUT DETAILS INCLUDED IN TRAFFIC STANDARD TC-8701D.
- 3. SIGN LIGHTING SHOULD BE INCLUDED FOR ALL OVERHEAD GUIDE SIGNS EXCEPT SIGNS ON TANGENT ROADWAYS WHERE MOTORISTS HAVE A CLEARVIEW OF THE SIGN FOR A MINIMUM OF 240 m (800') AND WHERE THE VERTICAL ALIGNMENT IS SUCH THAT LOW BEAM HEADLIGHTS WILL ILLUMINATE THE SIGNS.

DESCRIPTION OF SIGNS

- 1. MAJOR GUIDE SIGNS PROVIDE MOTORISTS ADVANCE INFORMATION ON THE PRINCIPAL DESTINATIONS SERVED BY THE INTERCHANGE. TWO OR THREE MAJOR GUIDE SIGNS SHOULD BE USED, WITH TYPICAL PLACEMENT BEING 3.2 km (2 miles) 1.6 km (1 mile) AND 0.8 km (0.5 mile) 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 WHICH IS VERY CLOSE TO THE INTERCHANGE. A CARDINAL DIRECTION SHOULD BE ASSOCIATED WITH EACH ROUTE WHERE TRAFFIC CAN ONLY GO IN ONE DIRECTION, AND THE WORD "TO" SHOULD BE USED ABOVE THE SHIELD OF ROUTES WHICH ARE CLOSE TO THE INTERCHANGE.
- C. THE NAME OF THE TWO NEAREST COMMUNITIES AS IDENTIFIED ON THE OFFICIAL TRANSPORTATION MAP. ONE TO THE LEFT AND ONE TO THE RIGHT. UNLESS 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 THE COMMUNITY SERVED BY THE FIRST EXIT. IN URBAN AREAS, THE STREET NAME SHOULD BE USED IN LIEU OF COMMUNITY NAMES.
- D. THE DISTANCE TO THE EXIT IN MILES AND/OR FRACTIONS OF MILES SHOULD BE SHOWN BELOW THE COMMUNITY NAMES OR THE STREET NAME. FRACTIONS SHOULD TYPICALLY BE SHOWN TO THE NEAREST 1/4 MILE, ALTHOUGH THE FRACTIONS "1/8" AND "3/8" ARE ACCEPTABLE. THE WORD "EXIT" OR "EXITS" SHOULD PRECEDE THE DISTANCE IF THE EXIT IS NOT NUMBERED.
- 2. A SUPPLEMENTAL GUIDE SIGN MAY INCLUDE ONE OR TWO DESTINATIONS, WHICH MAY BE A LARGE COMMUNITY NOT IDENTIFIED ON THE MAJOR GUIDE SIGNS OR ANY OTHER LARGE TRAFFIC GENERATOR IN ACCORDANCE WITH DEPARTMENT
- 3. SERVICE SIGNS ARE USED TO IDENTIFY GAS, FOOD, LODGING, CAMPING, VISITOR INFORMATION, HOSPITAL, DIESEL, AND STATE POLICE. WITH THE EXCEPTION OF STATE POLICE, GENERAL MOTORIST SERVICE SIGNS INSTALLED ON NEW PANELS SHALL BE THE SYMBOL TYPE AS ILLUSTRATED IN TRAFFIC STANDARD TC-8701D.
- AS AN ALTERNATE TO GENERAL MOTORISTS SERVICE SIGNS, LOGO SIGNS MAY BE INSTALLED ON SELECTED INTERSTATE HIGHWAYS AND OTHER FREEWAYS IN ACCORDANCE WITH DEPARTMENT POLICY. WHEN LOGO SIGNS ARE INSTALLED, ALL GENERAL MOTORIST SERVICE SIGNS WILL BE REMOVED, UNLESS A SPECIFIC SERVICE IS NOT REPRESENTED
- 4. EXIT DIRECTION SIGNS SHOULD INCLUDE THE SAME TRAFFIC ROUTES AND DESTINATIONS AS INCLUDED ON THE MAJOR GUIDE SIGNS, AS APPROPRIATE, PLUS AN UPWARD-POINTING OR SLANTING ARROW. THE ALIGNMENT OF THE ARROW SHOULD APPROXIMATE THE ANGLE RELATED TO THE SHARPNESS OF THE TURN.
- 5. GORE 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; IF THE EXIT IS NUMBERED, THE NUMBER OR NUMBER AND LETTER SHOULD ALSO
- 6. CONFIRMATION ROUTE MARKERS SHOULD NOT BE USED BETWEEN CLOSELY SPACED INTERCHANGES OR WHEN A "PULL-THRU SIGN" FOLLOWS THE INTERCHANGE.

- 7. OFF-RAMP DIRECTIONAL SIGNS ARE USED ON ALL DIAMOND INTERCHANGE OFF-RAMPS, AND SHOULD INCLUDE ALL DESTINATIONS INCLUDED ON THE MAJOR AND SUPPLEMENTAL GUIDE SIGNS. THE DISTANCE IN THE NEAREST NUMBER OF WHOLE MILES TO THE DESTINATION SHOULD BE INCLUDED IF THE DESTINATION IS OVER 3.2 km (2 miles) AWAY, WHERE THE DISTANCE IS THE DISTANCE TO THE CENTER OF THE COMMUNITY OR ENTRANCE TO THE TRAFFIC GENERATOR.
- 8. POST-INTERCHANGE DISTANCE SIGNS SHOULD BE USED IN RURAL AREAS AND WHERE UNDUE REPETITION OF MESSAGES WILL NOT OCCUR. WHEN USED, IT SHOULD INCLUDE TWO OR THREE DESTINATION POINTS AND THE DISTANCES IN THE NEAREST NUMBER OF WHOLE MILES TO THOSE POINTS. THE FIRST DESTINATION SHOULD BE THE CLOSEST MEANINGFUL COMMUNITY WHICH IS NEAR AN INTERCHANGE; THE LAST DESTINATION IS THE NEAREST NATIONAL CONTROL CITY; AND AN INTERMEDIATE DESTINATION MAY BE INCLUDED BETWEEN THE TWO OTHER DESTINATIONS. CONSIDERATION MAY ALSO BE GIVEN TO INCLUDING MAJOR INTERSECTING HIGHWAY ROUTES AS DESTINATIONS USING THE ROUTE NUMBER (i.e., PA 30, US 30, etc.) EXCEPT PA TURNPIKE MAY BE USED. SHIELDS ARE NOT REQUIRED.
-) EXITS AREA SIGNS MAY BE USED IN ADVANCE OF MORE THAN THREE INTERCHANGES SERVING AN URBAN AREA OR HISTORICAL OR RECREATIONAL REGION. INTERCHANGE SEQUENCE SERIES SIGNS MAY BE USED PRIOR TO ALL BUT THE LAST INTERCHANGE.
- 10. INTERCHANGE SEQUENCE SIGNS ARE USED IN LARGE URBAN AREAS WHEN THE INTERCHANGES ARE CLOSELY SPACED IN ORDER TO IDENTIFY THE NEXT TWO OR THREE INTERCHANGES. WHEN USED, THE INTERCHANGE SEQUENCE SIGNS SHOULD NORMALLY BE INSTALLED IN THE MEDIAN OR ON AN OVERHEAD STRUCTURE. THEY FREQUENTLY CAN BE INSTALLED BACK-TO-BACK, ONE IN EACH DIRECTION.
- 11. COMMUNITY INTERCHANGES IDENTIFICATION SIGNS MAY BE USED FOR SUBURBAN OR RURAL COMMUNITIES SERVED BY TWO OR THREE INTERCHANGES. THE SIGN IS IDENTICAL TO THE INTERCHANGE SEQUENCE SIGN EXCEPT THE NAME OF THE COMMUNITY AND THE WORD "EXITS" IS SHOWN ON THE TOP OF THE SIGN. THE SIGN SHOULD BE LOCATED IN ADVANCE OF THE FIRST INTERCHANGE FOR THE
- 12. LANE ASSIGNMENT SIGNS MAY BE USED TO ASSIGN A PARTICULAR LANE FOR A GIVEN DESTINATION. A DOWN ARROW IS NORMALLY USED, BUT ALTERNATE MESSAGES SUCH AS "LEFT LANE", "RIGHT LANES", ETC. MAY BE USED.
- 13. PULL-THRU SIGNS MAY BE USED WHEN THE GEOMETRICS OF THE INTERCHANGE ARE COMPLEX, SUCH AS AT THE JUNCTION OF FREEWAYS AND WHEN IT IS NOT CLEAR TO THE DRIVER WHICH ROADWAY IS THE THROUGH ROADWAY. A NATIONAL OR REGIONAL CONTROL CITY SHOULD BE USED AS THE DESTINATION. DOWN ARROWS MAY BE USED WHEN THE ALIGNMENT AND NUMBER OF THROUGH LANES IS NOT READILY EVIDENT. (PULL-THRU SIGNS ARE SIMILAR TO LANE ASSIGNMENT SIGNS BUT NEVER HAVE DISTANCES OR EXIT PANELS.)
- 14.EXIT ONLY PANELS SHOULD BE USED FOR ALL INTERCHANGE LANE DROPS AT WHICH THE THROUGH ROUTE IS CARRIED ON THE MAINLINE. EXIT ONLY PANELS SHOULD ALWAYS BE INSTALLED OVERHEAD. IN CONJUNCTION WITH LANE ASSIGNMENT SIGNS, EXIT DIRECTION SIGNS AND DIAGRAMMATIC SIGNS.
- 15. DIAGRAMMATIC SIGNS PROVIDE A GRAPHIC VIEW OF THE EXIT IN RELATIONSHIP TO THE MAIN HIGHWAY. THEY SHOULD BE USED FOR SPLITS HAVING OFF-RAMP MOVEMENTS TO THE LEFT, OPTIONAL LANE SPLITS, EXITS WITH ROUTE DISCONTINUITY, AND LEFT EXIT LANE DROPS; AND THEY ALSO MAY BE USED AT TWO-LANE EXITS WITH AN OPTIONAL LANE. DIAGRAMMATIC SIGNS SHOULD BE DESIGNED IN ACCORDANCE WITH THE STANDARD HIGHWAY SIGNS BOOK, AS PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- 16.EXIT PANELS SHALL BE USED ON ALL MAJOR GUIDE, EXIT DIRECTION, LANE ASSIGNMENT, AND DIAGRAMMATIC SIGNS WHEN EXIT NUMBERS HAVE BEEN ASSIGNED. THE PLURAL "EXITS" SHOULD BE USED IN ADVANCE OF INTERCHANGES WITH MORE THAN ONE EXIT, ALONG WITH THE RAMP DESIGNATIONS "A-B" OR "B-A", DEPENDING UPON WHICH RAMP DESIGNATION IS SERVED FIRST. (WHEN THERE ARE TWO EXITS, THE FIRST ONE IN THE DIRECTION OF INCREASING DISTANCE MARKERS IS DESIGNATED AS "A", THE SECOND ONE AS "B".)
- 17. ADVISORY EXIT SPEED SIGNS (W13-2) AS DETAILED IN THE DEPARTMENT'S PUBLICATION 236M SHALL BE INSTALLED ALONGSIDE THE DECELERATION LANE, POSITIONED APPROXIMATELY AT THE MID-POINT.
- 18. NEXT EXIT () MILES SIGN SHOULD BE USED BELOW THE ADVANCE GUIDE SIGN NEAREST THE INTERCHANGE (NORMALLY THE 1 MILE ADVANCE GUIDE SIGN) WHEN THE DISTANCE BETWEEN SUCCESSIVE RURAL INTERCHANGES IS MORE THAN 8 km (5 miles). THIS SIGN MAY BE FABRICATED AS AN INTEGRAL PART OF THE ADVANCE GUIDE SIGN OR MAY BE A SEPARATE SUPPLEMENTARY PANEL, WHEN A SEPARATE PANEL IS USED, ENSURE THAT IT IS INSTALLED ON THE POST ABOVE THE HINGE PLATE.

NOTE:

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

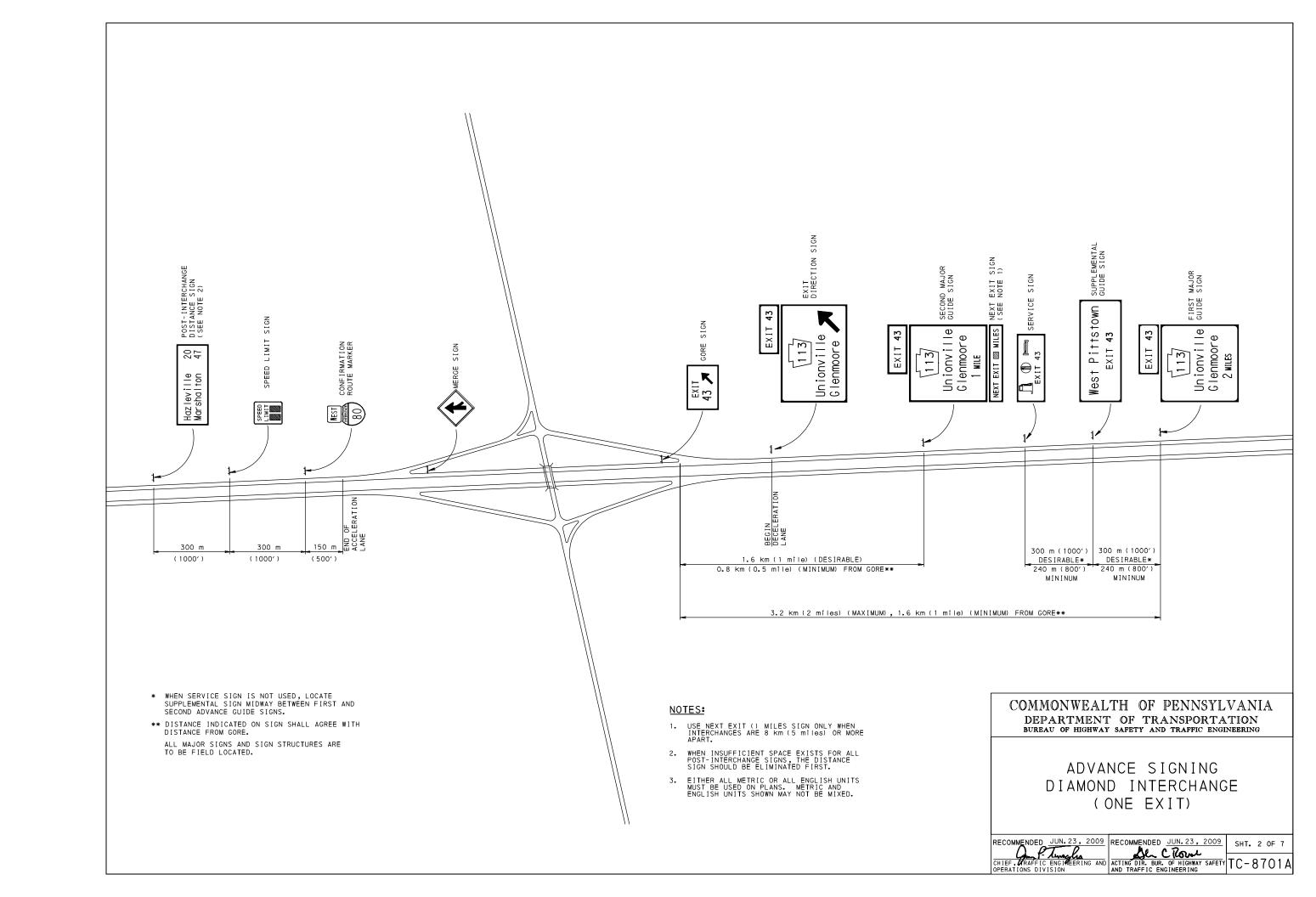
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

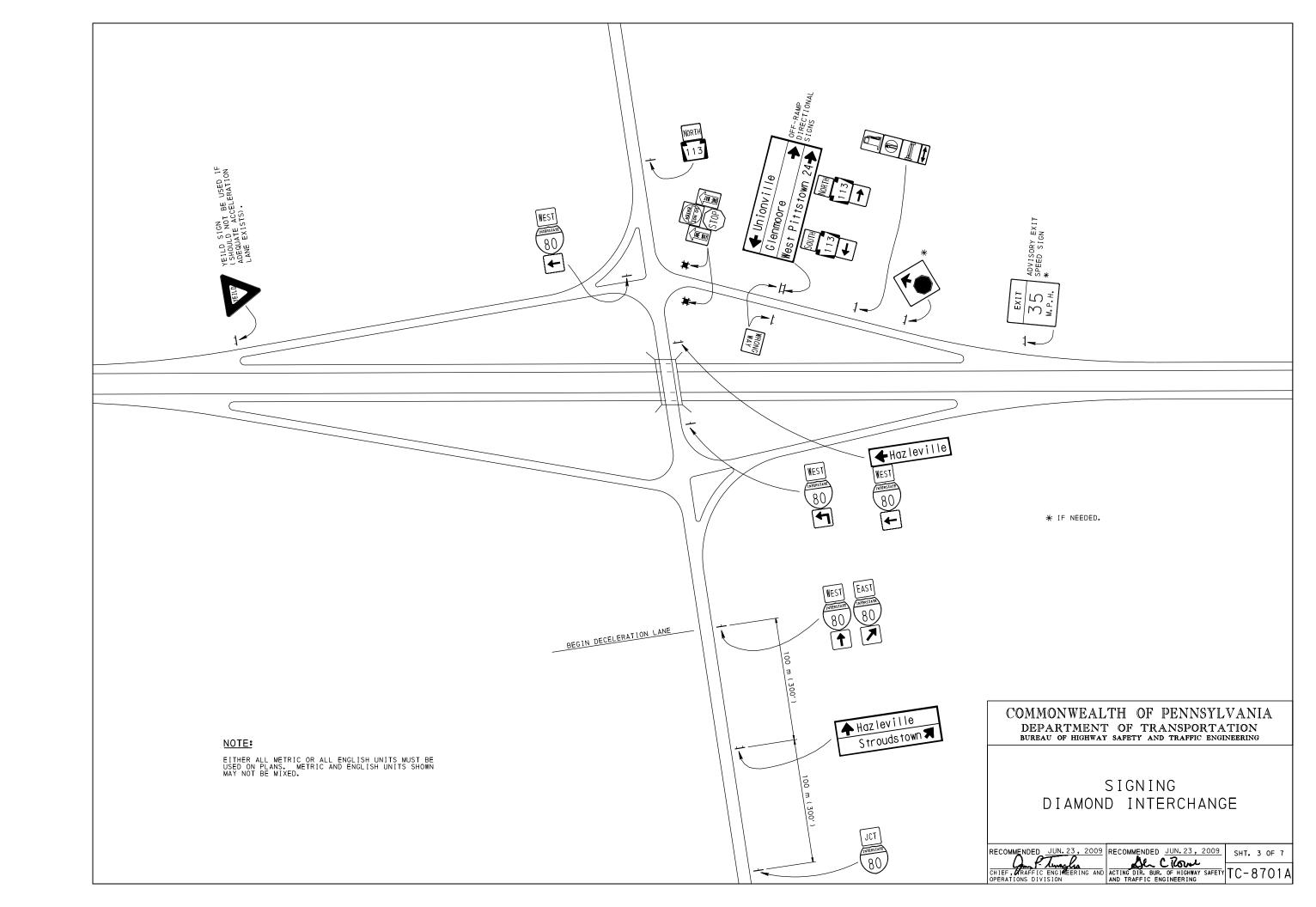
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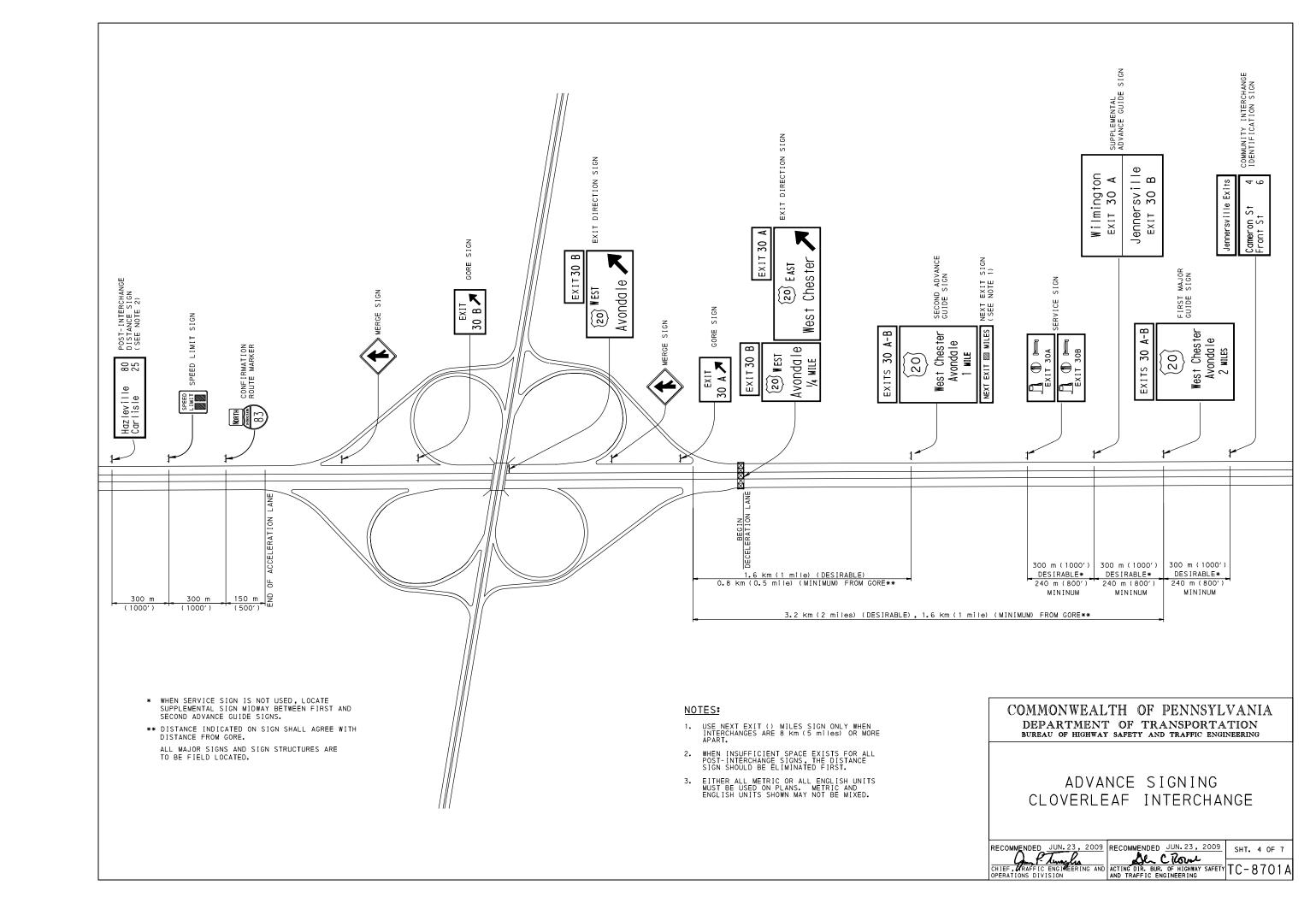
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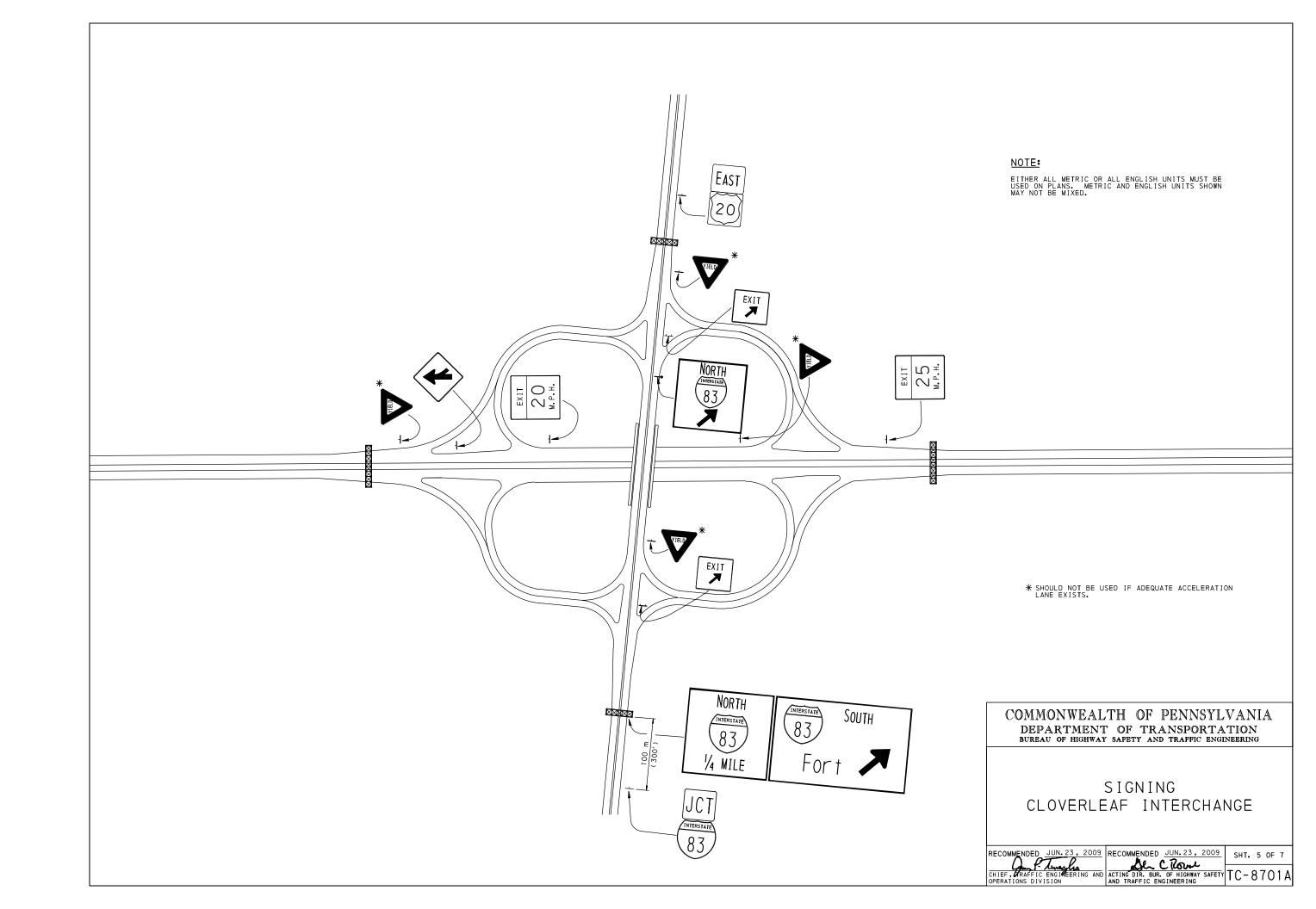
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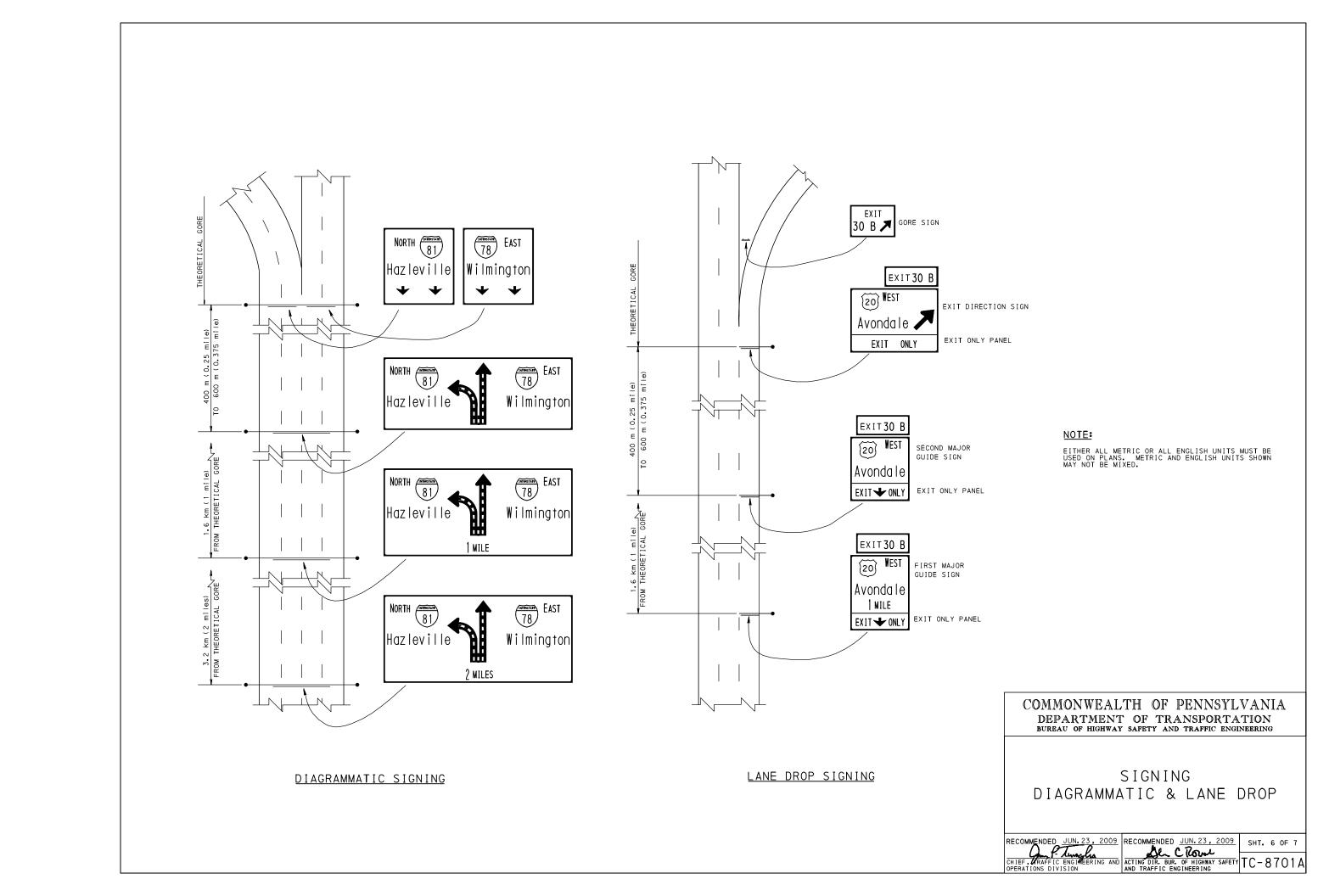
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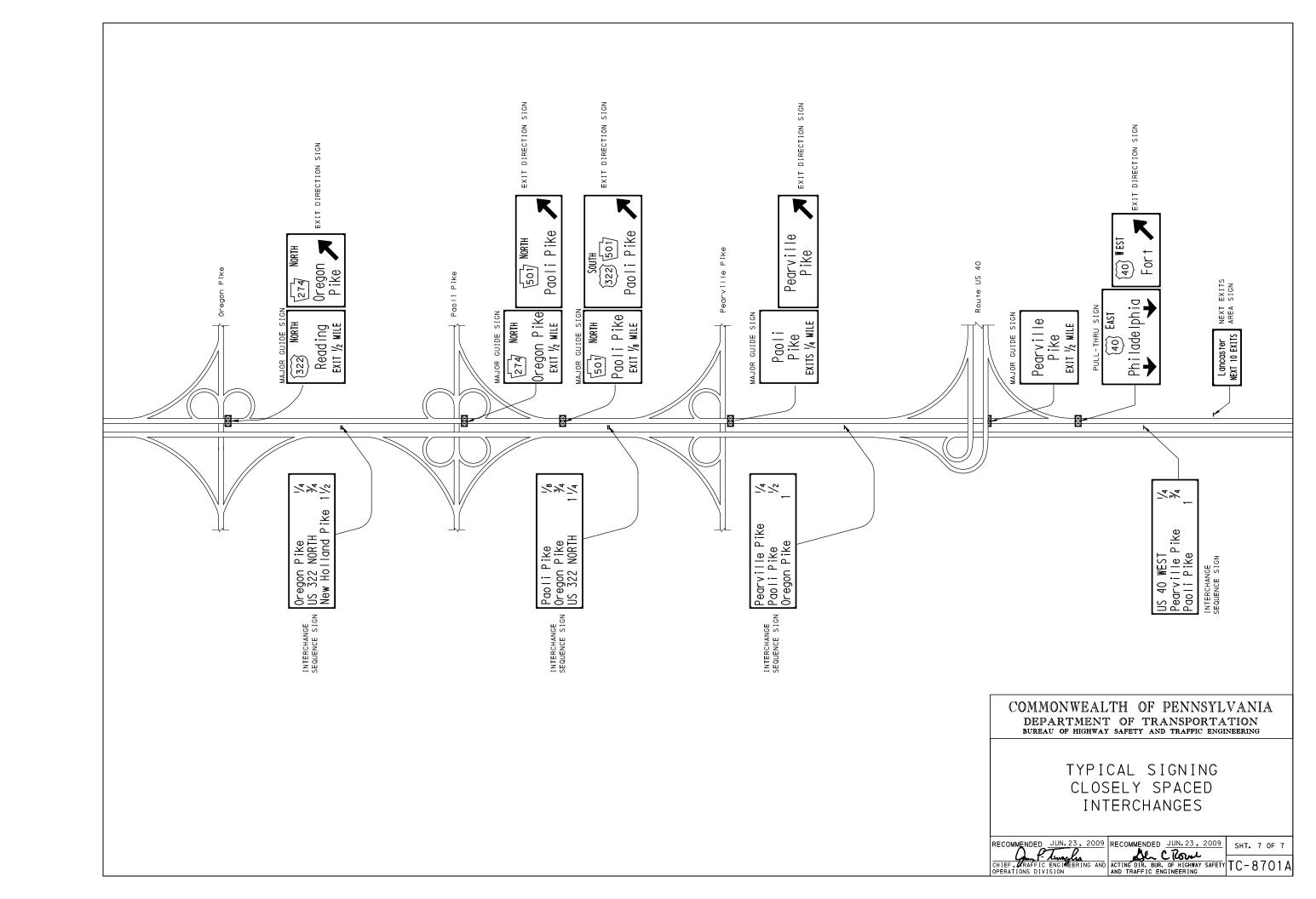


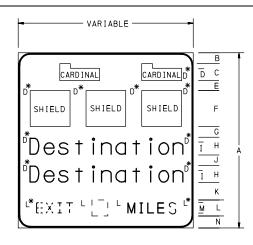








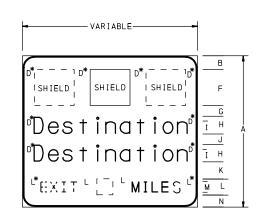




DEST.	DEST.					DI	MENSI	ONS (MILLI	METER	RS)				
SIZE	LINES	Α	В	С	D	Е	F	G	Н	I	J	K	L	М	N
500/375	1	4200	450	450	375	300	900	350	500	375		350	450	300	450
500/375	2	4950	400	450	375	300	900	350	500	375	375	350	450	300	375
400/300	1	3600	335	375	300	250	900	300	400	300		325	375	250	340
400/300	2	4200	335	375	300	250	900	275	400	300	300	300	375	250	290
330/250	1	3150	275	300	250	200	900	250	330	250		250	375	250	270
330/250	2	3750	290	300	250	200	900	250	330	250	250	250	375	250	275

ENGLISH UNITS

DEST.	DEST.						DIME	NSION	S (IN	CHES)					
SIZE	LINES	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N
20/15	1	168	18	18	15	12	36	14	20	15		14	18	12	18
20/15	2	198	16	18	15	12	36	14	20	15	15	14	18	12	15
16/12	1	144	13.5	15	12	10	36	12	16	12		13	15	10	13.5
16/12	2	168	13.5	15	12	10	36	11	16	12	12	12	15	10	11.5
13.3/10	1	126	10.9	12	10	8	36	10	13.3	10		10	15	10	10.8
13.3/10	2	150	11.4	12	10	8	36	10	13.3	10	10	10	15	10	11

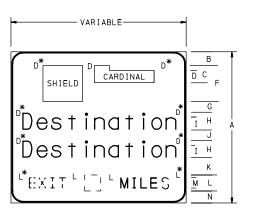


METRIC UNITS

				•				-					
DEST.	DEST.				DΙ	MENS I	ONS (MILL	METER	RS)			
SIZE	LINES	Α	В	D	F	G	Н	I	J	K	L	М	N
500/375	1	3300	375	375	900	350	500	375		350	450	300	375
500/375	2	4200	385	375	900	350	500	375	375	350	450	300	390
400/300	1	3000	335	300	900	325	400	300		325	375	250	340
400/300	2	3600	310	300	900	300	400	300	300	300	375	250	315
330/250	1	2700	295	250	900	250	330	250		250	375	250	300
330/250	2	3300	305	250	900	250	330	250	250	250	375	250	310

ENGLISH UNITS

DEST.	DEST.					DIME	NSION	S (IN	CHES)				
SIZE	LINES	Α	В	D	F	G	Н	I	J	K	L	М	N
20/15	1	132	15	15	36	14	20	15		14	18	12	15
20/15	2	168	15.5	15	36	14	20	15	15	14	18	12	15.5
16/12	1	120	13.5	12	36	13	16	12		13	15	10	13.5
16/12	2	144	12.5	12	36	12	16	12	12	12	15	10	12.5
13.3/10	1	108	11.8	10	36	10	13.3	10		10	15	10	11.9
13.3/10	2	132	12.2	10	36	10	13.3	10	10	10	15	10	12.2

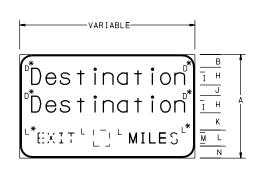


METRIC UNITS

DEST.	DEST.					DIMEN	NS I ONS	S (MII	LIME	TERS)				
SIZE	LINES	Α	В	С	D	F	G	Н	I	J	K	L	М	Ν
500/375	1	3300	375	450	375	900	350	500	375		350	450	300	375
500/375	2	4200	385	450	375	900	350	500	375	375	350	450	300	390
400/300	1	3000	335	375	300	900	325	400	300		325	375	250	340
400/300	2	3600	310	375	300	900	300	400	300	300	300	375	250	315
330/250	1	2700	295	300	250	900	250	330	250		250	375	250	300
330/250	2	3300	305	300	250	900	250	330	250	250	250	375	250	310

ENGLISH UNITS

DEST.	DEST.					DΙ	MENSI	ONS (INCHE	S)				
SIZE	LINES	Α	В	С	D	F	G	Н	I	J	K	L	М	N
20/15	1	132	15	18	15	36	14	20	15		14	18	12	15
20/15	2	168	15.5	18	15	36	14	20	15	15	14	18	12	15.5
16/12	1	120	13.5	15	12	36	13	16	12		13	15	10	13.5
16/12	2	144	12.5	15	12	36	12	16	12	12	12	15	10	12.5
13.3/10	1	108	11.8	12	10	36	10	13.3	10		10	15	10	11.9
13.3/10	2	132	12.2	12	10	36	10	13.3	10	10	10	15	10	12.2



METRIC UNITS

Dŧ	≣ST.	DEST.			DΙ	MENS I	ONS (MILL	METER	RS)		
s	ΙΖΕ	LINES	Α	В	D	Н	I	J	K	L	М	N
50	0/375	1	2100	400	375	500	375		350	450	300	400
50	0/375	2	3000	410	375	500	375	375	350	450	300	415
400	0/300	1	1800	350	300	400	300		325	375	250	350
400	0/300	2	2400	310	300	400	300	300	300	375	250	315
330	0/250	1	1500	270	250	330	250		250	375	250	275
330	0/250	2	2100	280	250	330	250	250	250	375	250	285

ENGLISH UNITS

DES	т.	DEST.				DIME	NSION	S (IN	CHES)			
SIZ	Έ	LINES	Α	В	D	Н	I	J	K	L	М	N
20/	15	1	84	16	15	20	15		14	18	12	16
20/	15	2	120	16.5	15	20	15	15	14	18	12	16.5
16/	12	1	72	14	12	16	12		13	15	10	14
16/	12	2	96	12.5	12	16	12	12	12	15	10	12.5
13.3.	/10	1	60	10.8	10	13.3	10		10	15	10	10.9
13.3.	/10	2	84	11.2	10	13.3	10	10	10	15	10	11.2

NOTES:

- SIGN DIMENSIONS: WIDTHS AND HEIGHTS OF SIGNS SHALL BE IN MULTIPLES OF 150 mm (6"). THE SIGN HEIGHTS OF EXTRUDED ALUMINUM PANEL SIGNS ARE ACCEPTABLE IN MULTIPLES OF 152 mm (6"). THE INCREASED HEIGHTS OF SIGNS SHALL BE DISTRIBUTED EQUALLY BETWEEN THE LEGEND CLEARANCE DIMENSIONS AT THE TOP AND BOTTOM OF THE SIGN, WHEN THE USE OF EXTRUDED ALUMINUM PANELS RESULTS IN A VERTICAL SIGN DIMENSION GREATER THAN REQUIRED.
- SINGLE SHIELD: WHEN MOUNTED ALONE, SHIELD SHALL BE CENTERED WITHIN THE WIDTH DIMENSION.
- MULTIPLE SHIELDS: WHEN MULTIPLE SHIELDS ARE USED, THEY SHALL BE EVENLY SPACED WITHIN THE WIDTH DIMENSION AND SHALL BE ON THE SAME VERTICAL ALIGNMENT.
- SINGLE SHIELD WITH CARDINAL DIRECTION: THE CARDINAL DIRECTION SHALL BE MOUNTED ON THE SAME SIDE OF THE SHIELD AS THE EXIT, WITH THE TOP LINE OF THE SHIELD AND THE CARDINAL AT THE SAME ELEVATION. CARDINALS MAY BE CENTERED OVER THE SHIELD WHEN THE SHIELD/CARDINAL BECOMES THE CONTROLLING LINE FOR THE WIDTH DIMENSION.
- MULTIPLE SHIELDS AND CARDINALS: WHEN MULTIPLE SHIELDS ARE USED WITH CARDINALS, THE CARDINALS SHALL BE CENTERED OVER THE APPROPRIATE SHIELDS. A CARDINAL MAY BE CENTERED OVER TWO SHIELDS WHEN APPLICABLE.
- <u>DESTINATION:</u> THE DESTINATION MESSAGE SHOULD ORDINARILY CONSIST OF NOT MORE THAN TWO DESTINATIONS. A DESTINATION MAY BE A CITY, TOWN OR VILLAGE NAME: A STREET NAME: OR THE NAME OF A LARGE TRAFFIC GENERATOR. FOR SUPPLEMENTAL GUIDE SIGNS, THE DESTINATION MAY BE ANY APPROVED SUPPLEMENTAL DESTINATION.
- ACTION MESSAGE: THE ACTION MESSAGE SHALL CONSIST OF EITHER A DISTANCE INDICATION, A DIRECTION INDICATION, OR A LANE ASSIGNMENT ARROW.
- EXIT PANELS: EXIT PANELS SHALL BE USED ON MAJOR GUIDE SIGNS WHENEVER EXIT NUMBERS HAVE BEEN ASSIGNED. WHEN USED, THEY SHALL BE INSTALLED ON THE SAME SIDE OF THE SIGN AS THE EXIT. WHEN EXIT PANELS ARE USED, THE WORD "EXIT" SHALL NOT BE USED IN THE MAIN SIGN'S ACTION MESSAGE.
- EXIT ONLY PANELS: EXIT ONLY PANELS SHALL BE USED ONLY FOR A LANE DROP. THE PANELS SHALL BE YELLOW REFLECTORIZED BACKGROUND WITH BLACK LEGEND, AND SHALL BE DESIGNED TO FIT WITHIN THE WHITE BORDER OF THE COMPLETE SIGN PANEL. THE TOP OF THE EXIT ONLY PANEL SHOULD BE A MINIMUM OF 260 mm (10.5") BELOW THE BOTTOM OF THE LOWEST DESTINATION. SEE SHEET 5 OF THIS STANDARD FOR DETAILS OF EXIT PANELS.
- INTERCHANGE CLASSIFICATION: FOR FREEWAY AND EXPRESSWAY SIGNING PURPOSES, INTERCHANGES ARE CLASSIFIED AS MAJOR OR INTERMEDIATE AS DEFINED BELOW:

 A. MAJOR/CATEGORY A -- INTERCHANGES WITH OTHER FREEWAYS OR EXPRESSWAYS.

 B. MAJOR/CATEGORY B -- INTERCHANGES WITH HIGH-VOLUME MULTILANE HIGHWAYS, PRINCIPAL URBAN ARTERIALS AND MAJOR RURAL ROUTES WHERE THE INTERCHANGING TRAFFIC IS HEAVY OR INCLUDES MANY DRIVERS UNFAMILIAR WITH THE AREA.

 C. INTERMEDIATE -- MOST INTERCHANGES WITH URBAN OR RURAL ROUTES.
- 11. <u>LEGEND SIZES:</u> WITH RESPECT TO NOTE 10, LETTER AND NUMERAL SIZES FOR ADVANCE GUIDE, EXIT DIRECTION, AND OVERHEAD SIGNS ARE:

			FREEWAYS			EXPRESSW	AYS	
LEG	END TYPE	MA	JOR	INTER-	MAG	IOR	INTER-	OVER- HEAD
LLO	LND THE	CAT. A	CAT. B	MEDIATE	CAT. A	CAT. B	MEDIATE	SIGNS
CARDINAL	FIRST LETTER	450 (18")	450 (18")	375 (15")	450 (18")	375 (15")	300 (12")	375 (15")
DIRECTION	OTHER LETTERS	375 (15")	375 (15")	300 (12")	375 (15")	300 (12")	250 (10")	300 (12")
DEST	INATION	500/375 (20 "/15 ")	500/375 (20"/15")	400/300 (16"/12")	500/375 (20"/15")	400/300 (16"/12")	330/250 (13.3 "/10")	400/300 (16"/12")
DISTANCE	NUMERAL	450 (18")	450 (18")	375 (15")	450 (18")	375 (15")	300 (12")	375 (15")
DISTANCE	WORD	300 (12")	300 (12")	250 (10")	300 (12")	250 (10")	250 (10")	250 (10")
ACTI	ON MESSAGE	300 (12")	300 (12")	250 (10")	300 (12")	250 (10")	250 (10")	250 (10")

- <u>LEGEND SPACING</u>: LEGEND SPACING SHALL FOLLOW THE PROCEDURES AND CHARTS SHOWN IN TC-870OC. SEE SHEET 9 OF THIS STANDARD FOR DESIGN DETAILS OF SHIELDS AND FOR THE SPACING OF CARDINAL DIRECTIONS.
- SERIES: ALL UPPER CASE/LOWER CASE LEGEND SHALL BE DETAILED WITH CLEARVIEW FONTS AS SHOWN ON TC-8700C SHEETS 8 THROUGH 11. CLEARVIEW 5W SHALL BE USED FOR SIGNS ON NEW SUPPORTS AND INSTALLATIONS WHERE EXISTING SUPPORTS WILL ACCOMODATE A SIGN SIZED USING CLEARVIEW 5W, OTHERWISE USE CLEARVIEW 5WR. ALL CAPITAL LEGEND AND NUMERALS SHALL BE SERIES E, UNLESS OTHERWISE NOTED.
- 14. <u>COLOR:</u> UNLESS NOTED OTHERWISE, ALL SIGNS SHALL HAVE A GREEN REFLECTORIZED BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER OF THE TYPE SPECIFIED IN SECTION 1103 OF PUBLICATION 408.
- 15. BORDERS: ALL SIGNS SHALL HAVE A 50 mm (2") BORDER WITH 300 mm (12") CORNER RADII, UNLESS OTHERWISE NOTED.
- 16. MUTCD: SIGN DETAILS SHALL COMPLY WITH THIS STANDARD DRAWING AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- 17. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 18. 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

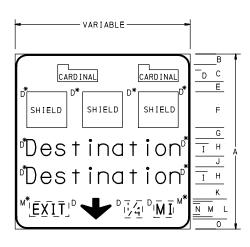
ADVANCE GUIDE SIGNS

RECOMMENDED MAR. 18, 2008 RECOMMENDED MAR. 18, 2008 SHT. 1 OF 9

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION AND TRAFFIC ENGINEERING

TC - 8701D

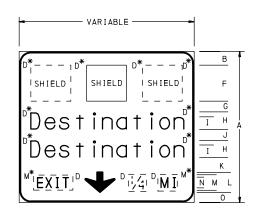
* INDICATES MINIMUM SPACING.



DEST.	DEST.					DΙ	MENSI	ONS (MILLI	METER	(S)					
SIZE	LINES	Α	В	С	D	Ш	F	G	Н	I	ک	K	L	М	N	0
500/375	1	4200	450	450	375	300	900	350	500	375		300	550	450	300	400
500/375	2	4950	400	450	375	300	900	350	500	375	375	300	550	450	300	325
400/300	1	3600	335	375	300	250	900	300	400	300		240	550	375	250	250
400/300	2	4200	310	375	300	250	900	275	400	300	300	215	550	375	250	225
330/250	1	3150	295	300	250	200	900	250	330	250		215	410	375	250	250
330/250	2	3750	305	300	250	200	900	250	330	250	250	225	410	375	250	250

ENGLISH UNITS

DEST.	DEST.						DIME	NS I ON:	S (IN	CHES)						
SIZE	LINES	Α	В	С	D	Е	F	G	Ξ	I	J	K	L	М	N	0
20/15	1	168	18	18	15	12	36	14	20	15		12	22	18	12	16
20/15	2	198	16	18	15	12	36	14	20	15	15	12	22	18	12	13
16/12	1	144	13.4	15	12	10	36	12	16	12		9.6	22	15	10	10
16/12	2	168	12.4	15	12	10	36	11	16	12	12	8.6	22	15	10	9
13.3/10	1	126	11.6	12	10	8	36	10	13.3	10		8.6	16.5	15	10	10
13.3/10	2	150	11.9	12	10	8	36	10	13.3	10	10	9	16.5	15	10	10

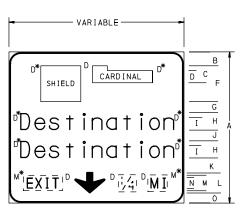


METRIC UNITS

DEST.	DEST.					DIME	NSION	S (MI	LLIME	TERS)				
SIZE	LINES	Α	В	D	F	G	Н	I	J	K	L	М	N	0
500/375	1	3300	375	375	900	350	500	375		300	550	450	300	325
500/375	2	4200	385	375	900	350	500	375	375	300	550	450	300	340
400/300	1	3000	335	300	900	325	400	300		240	550	375	250	250
400/300	2	3600	300	300	900	300	400	300	300	215	550	375	250	235
330/250	1	2700	300	250	900	250	330	250		235	410	375	250	275
330/250	2	3300	310	250	900	250	330	250	250	235	410	375	250	285

ENGLISH UNITS

DEST.	DEST.					D	MENS:	ONS ((INCH	ES)				
SIZE	LINES	Α	В	D	F	G	I	I	J	K	L	М	N	0
20/15	1	132	15	15	36	14	20	15		12	22	18	12	13
20/15	2	168	15.4	15	36	14	20	15	15	12	22	18	12	13.6
16/12	1	120	13.4	12	36	13	16	12		9.6	22	15	10	10
16/12	2	144	12	12	36	12	16	12	12	8.6	22	15	10	9.4
13.3/10	1	108	12	10	36	10	13.3	10		9.4	16.5	15	10	10.8
13.3/10	2	132	12.4	10	36	10	13.3	10	10	9.4	16.5	15	10	11.1



METRIC UNITS

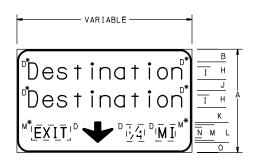
DEST.	DEST.					DI	MENSI	ONS (MILLI	METER	(S)				
SIZE	LINES	Α	В	С	D	F	G	Н	I	J	K	L	М	N	0
500/375	1	3300	375	450	375	900	350	500	375		300	550	450	300	325
500/375	2	4200	385	450	375	900	350	500	375	375	300	550	450	300	340
400/300	1	3000	335	375	300	900	325	400	300		240	550	375	250	250
400/300	2	3600	300	375	300	900	300	400	300	300	215	550	375	250	235
330/250	1	2700	300	300	250	900	250	330	250		235	410	375	250	275
330/250	2	3300	310	300	250	900	250	330	250	250	235	410	375	250	285

ENGLISH UNITS

DEST.	DEST.						DIME	NSIONS	S (IN	CHES)					
SIZE	LINES	Α	В	С	D	F	G	Н	I	J	K	L	М	N	0
20/15	1	132	15	18	15	36	14	20	15		12	22	18	12	13
20/15	2	168	15.4	18	15	36	14	20	15	15	12	22	18	12	13.6
16/12	1	120	13.4	15	12	36	13	16	12		9.6	22	15	10	10
16/12	2	144	12	15	12	36	12	16	12	12	8.6	22	15	10	9.4
13.3/10	1	108	12	12	10	36	10	13.3	10		9.4	16.5	15	10	10.8
13.3/10	2	132	12.4	12	10	36	10	13.3	10	10	9.4	16.5	15	10	11.1

NOTES:

- 1. SIGNS ON THIS SHEET ARE TO BE USED OVERHEAD FOR LANE ASSIGNMENTS.
- 2. REFER TO TC-8700C FOR ARROW DETAILS. THE TYPE C ARROW SHALL BE USED FOR THE 500 mm / 375 mm (20"/15") AND 400 mm / 300 mm (16"/12") LEGEND SIZES, AND THE TYPE D ARROW SHALL BE USED FOR THE 330 mm / 250 mm (13.3"/10") LEGEND SIZE.
- LANE ASSIGNMENT ARROW USAGE SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 4. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. BE MIXED. METRIC AND ENGLISH UNITS SHOWN MAY NOT



METRIC UNITS

DEST.	DEST.				DIME	NS I ON:	S (MI	LLIME	TERS)			
SIZE	LINES	Α	В	D	Н	I	J	K	L	М	N	0
500/375	1	2100	400	375	500	375		300	550	450	300	350
500/375	2	3000	410	375	500	375	375	300	550	450	300	365
400/300	1	1800	350	300	400	300		240	550	375	250	260
400/300	2	2400	310	300	400	300	300	215	550	375	250	225
330/250	1	1500	280	250	330	250		235	410	375	250	245
330/250	2	2100	285	250	330	250	250	235	410	375	250	260

ENGLISH UNITS

DEST.	DEST.				DΙ	MENSI	ONS (INCHE	S)			
SIZE	LINES	Α	В	D	I	I	J	K	L	М	N	0
20/15	1	84	16	15	20	15		12	22	18	12	14
20/15	2	120	16.4	15	20	15	15	12	22	18	12	14.6
16/12	1	72	14	12	16	12		9.6	22	15	10	10.4
16/12	2	96	12.4	12	16	12	12	8.6	22	15	10	9
13.3/10	1	60	11	10	13.3	10		9.4	16.5	15	10	9.8
13.3/10	2	84	11.2	10	13.3	10	10	9.4	16.5	15	10	10.3

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

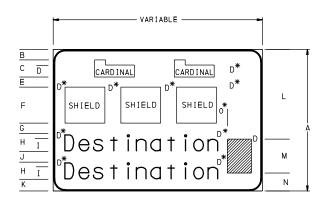
SIGN DETAILS FREEWAY AND EXPRESSWAY GUIDE SIGNS

> OVERHEAD LANE ASSIGNMENT SIGNS

RECOMMENDED MAR. 18, 2008 RECOMMENDED MAR. 18, 2008 SHT. 2 OF 9

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION AND TRAFFIC ENGINEERING TC - 8701D

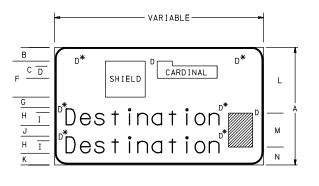
* INDICATES MINIMUM SPACING.



DEST.	DEST.					DΙ	MENSI	ONS (MILLI	METER	(S)					
SIZE	LINES	Α	В	С	D	Е	F	G	Н	I	J	K	Г	М	N	0
500/375	1	3300	400	450	375	300	900	350	500	375		400	2085	815	400	
500/375	2	4200	415	450	375	300	900	350	500	375	375	410	2760	815	625	
400/300	1	2850	325	375	300	250	900	275	400	300		325	1710	815	325	200
400/300	2	3600	325	375	300	250	900	300	400	300	300	350	2310	815	475	
330/250	1	2550	285	300	250	200	900	250	330	250		285	1450	815	285	200
330/250	2	3150	295	300	250	200	900	250	330	250	250	295	1935	815	400	

ENGLISH UNITS

DEST.	DEST.						DIMEN	NOISN	S (IN	CHES)						
SIZE	LINES	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0
20/15	1	132	16	18	15	12	36	14	20	15		16	83.4	32.6	16	
20/15	2	168	16.6	18	15	12	36	14	20	15	15	16.4	110.4	32.6	25	
16/12	1	114	13	15	12	10	36	11	16	12		13	68.4	32.6	13	8
16/12	2	144	13	15	12	10	36	12	16	12	12	14	92.4	32.6	19	
13.3/10	1	102	11.3	12	10	8	36	10	13.3	10		11.4	58	32.6	11.4	8
13.3/10	2	126	11.7	12	10	8	36	10	13.3	10	10	11.7	77.4	32.6	16	

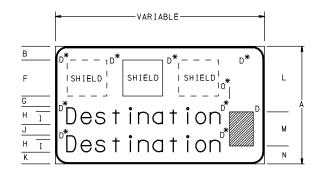


METRIC UNITS

DEST.	DEST.					DIM	ENSI) SNC	MILL	IMETE	RS)			
SIZE	LINES	Α	В	С	D	F	G	Н	I	J	K	L	М	N
500/375	1	2550	400	450	375	900	350	500	375		400	1335	815	400
500/375	2	3450	415	450	375	900	350	500	375	375	410	2010	815	625
400/300	1	2250	325	375	300	900	300	400	300		325	1110	815	325
400/300	2	3000	350	375	300	900	300	400	300	300	350	1710	815	475
330/250	1	2100	300	300	250	900	275	330	250		295	990	815	295
330/250	2	2700	310	300	250	900	275	330	250	250	305	1485	815	400

ENGLISH UNITS

DEST.	DEST.					[IMEN	SIONS	(IN	ICHES:)			
SIZE	LINES	Α	В	С	D	F	G	Н	I	J	K	L	М	Z
20/15	1	102	16	18	15	36	14	20	15		16	53.4	32.6	16
20/15	2	138	16.6	18	15	36	14	20	15	15	16.4	80.4	32.6	25
16/12	1	90	13	15	12	36	12	16	12		13	44.4	32.6	13
16/12	2	120	14	15	12	36	12	16	12	12	14	68.4	32.6	19
13.3/10	1	84	12	12	10	36	11	13.3	10		11.7	39.6	32.6	11.8
13.3/10	2	108	12.4	12	10	36	1.1	13.3	10	10	12	59.4	32.6	16

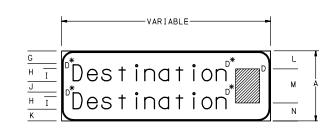


METRIC UNITS

DEST.	DEST.					DIME	NSION	S (MI	LLIME	TERS)				
SIZE	LINES	Α	В	D	F	G	Н	I	J	K	Г	М	N	0
500/375	1	2550	400	375	900	350	500	375		400	1335	815	400	
500/375	2	3450	415	375	900	350	500	375	375	410	2010	815	625	
400/300	1	2250	325	300	900	300	400	300		325	1110	815	325	200
400/300	2	3000	350	300	900	300	400	300	300	350	1710	815	475	
330/250	1	2100	300	250	900	275	330	250		295	990	815	295	200
330/250	2	2700	310	250	900	275	330	250	250	305	1485	815	400	

ENGLISH UNITS

DEST.	DEST.					D:	MENS I	ONS (INCHE	S)				
SIZE	LINES	Α	В	D	F	G	Ξ	I	J	K	L	М	N	0
20/15	1	102	16	15	36	14	20	15		16	53.4	32.6	16	
20/15	2	138	16.6	15	36	14	20	15	15	16.4	80.4	32.6	25	
16/12	1	90	13	12	36	12	16	12		13	44.4	32.6	13	8
16/12	2	120	14	12	36	12	16	12	12	14	68.4	32.6	19	
13.3/10	1	84	12	10	36	11	13.3	10		11.7	39.6	32.6	11.8	8
13.3/10	2	108	12.4	10	36	11	13.3	10	10	12	59.4	32.6	16	



METRIC UNITS

DEST.	DEST.			DIM	/ENSI	ONS (I	MILLII	METER:	S)		
SIZE	LINES	Α	D	G	Н	I	ے	K	L	М	Z
500/375	1	1350	375	425	500	375		425	270	815	265
500/375	2	2250	375	440	500	375	375	435	720	815	715
400/300	1	1350	300	475	400	300		475	270	815	265
400/300	2	1800	300	350	400	300	300	350	495	815	490
330/250	1	1350	250	510	330	250		510	270	815	265
330/250	2	1500	250	295	330	250	250	295	345	815	340

ENGLISH UNITS

DEST.	DEST.				DIMEN	SIONS	(INC	HES)			
SIZE	LINES	Α	D	G	H	I	J	K	L	М	Ν
20/15	1	54	15	17	20	15		17	10.8	32.6	10.6
20/15	2	90	15	17.6	20	15	15	17.4	28.8	32.6	28.6
16/12	1	54	12	19	16	12		19	10.8	32.6	10.6
16/12	2	72	12	14	16	12	12	14	19.8	32.6	19.6
13.3/10	1	54	10	20.4	13.3	10		20.3	10.8	32.6	10.6
13.3/10	2	60	10	11.7	13.3	10	10	11.7	13.8	32.6	13.6

NOTES:

- REFER TO TC-8700C FOR ARROW DETAILS. TYPE F ARROW DIMENSIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES, BUT TYPE E THROUGH TYPE J ARROWS MAY ALSO BE USED FOR THE SIGNS SHOWN ON THIS SHEET.
- 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

SIGN DETAILS FREEWAY AND EXPRESSWAY GUIDE SIGNS

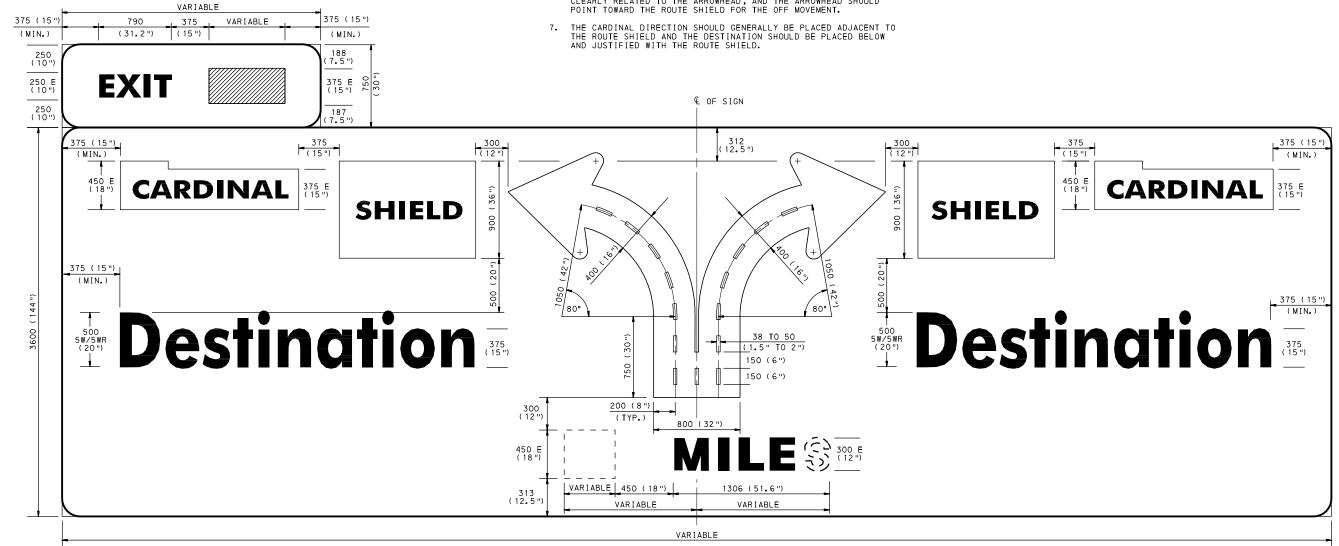
EXIT DIRECTION SIGNS

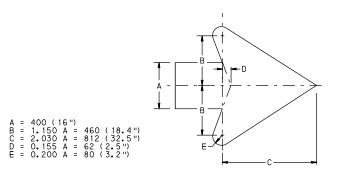
RECOMMENDED MAR. 18, 2008 RECOMMENDED MAR. 18, 2008 SHT. 3 OF 9

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION CTING DIR. BK. OF HIGHWAY SAFETY TC-8701D

- THE GRAPHIC LEGEND SHALL BE OF A PLAN VIEW SHOWING A SIMPLIFIED OFF-RAMP ARRANGEMENT.
- ONLY ONE DESTINATION MAY BE SHOWN FOR EACH ARROWHEAD, WITH A MAXIMUM OF TWO DESTINATIONS PER SIGN.
- THE GRAPHIC SHOULD NOT DEPICT DECELERATION LANES. A BLACK ON YELLOW "EXIT ONLY" PANEL SHOULD BE USED TO SUPPLEMENT A LANE DROP GRAPHIC.
- 4. THE SHAFT FOR THE EXIT RAMP MOVEMENT SHOULD BE SHORTER THAN, BUT NOT SEPARATED FROM, THE THROUGH MOVEMENT GRAPHIC.
- ARROW SHAFTS SHOULD CONTAIN LANE LINES WHERE APPROPRIATE AND ROUTE SHIELDS SHALL NOT BE USED AS A SUBSTITUTE FOR ARROWHEADS.
- ROUTE SHIELDS, CARDINAL DIRECTIONS, AND DESTINATIONS SHOULD BE CLEARLY RELATED TO THE ARROWHEAD, AND THE ARROWHEAD SHOULD POINT TOWARD THE ROUTE SHIELD FOR THE OFF MOVEMENT.

- 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 RIGHT EXITS.
- 9. SPECIFIC DESIGN STANDARDS FOR GRAPHIC COMPONENTS AND OTHER RECOMMENDED FEATURES ARE SHOWN IN THIS STANDARD.
- 10. SEE SHEET 9 OF THIS STANDARD FOR SHIELD AND CARDINAL DETAILS.
- 11. SEE TC-8701A SHEET 6 FOR ADVANCE PLACEMENT OF SIGN.
- 12. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 13. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.





ARROWHEAD DETAIL

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

> SIGN DETAILS FREEWAY AND EXPRESSWAY GUIDE SIGNS

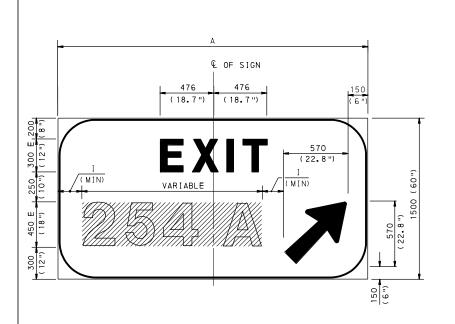
DIAGRAMMATIC SIGNS

RECOMMENDED MAR. 18, 2008 RECOMMENDED MAR. 18, 2008 SHT. 4 OF 9

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED MAR. 18, 2008 SHT. 4 OF 9

ACTING DIR. BER. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

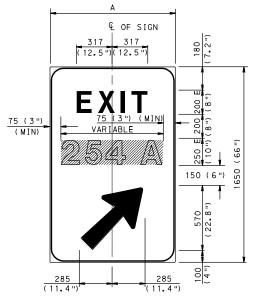


METRIC UNITS ENGLISH UNITS DIMENSIONS NUMBER DIMENSIONS

0)F	(m	nm)	()F	(INC	HES)
DIGITS	LETTERS	Α	I (MIN)	DIGITS	LETTERS	Α	I (MIN)
1	0	1800	329	1	0	72	13.3
2	0	2100	243	2	0	84	10
1	1*	2400	288	1	1*	96	11.8
3	0	2400	158	3	0	96	6.7
2	1*	2700	202	2	1 *	108	8.5
3	1*	3000	117	3	1 *	120	5.2

*USE 225 mm (9") FOR DIGIT TO LETTER SPACING

TYPE I (STANDARD)



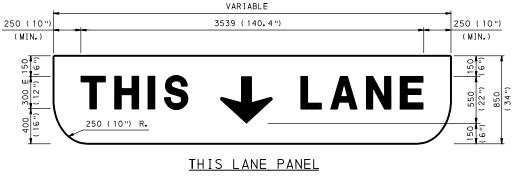
BORDER: 35 (1.4") CORNER RADII: 100 (4")

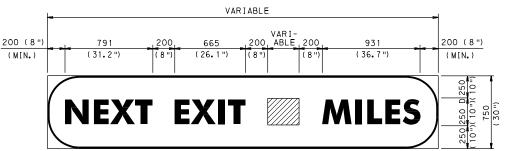
	MBER OF	DIMENSIONS mm (INCHES)
DIGITS	LETTERS	А
1	0	900 (36)
2	0	900 (36)
1	1**	900 (36)
3	0	900 (36)
2	1**	1200 (48)
3	1**	1350 (54)

** USE 125 mm (5") FOR DIGIT TO LETTER SPACING

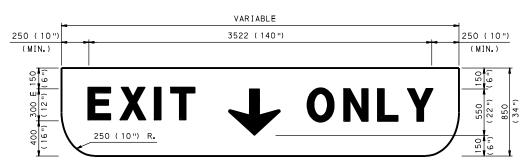
TYPE III

(SPECIAL CASE - USE ONLY WHEN LATERAL SPACING PROHIBITS THE USE OF TYPE II)

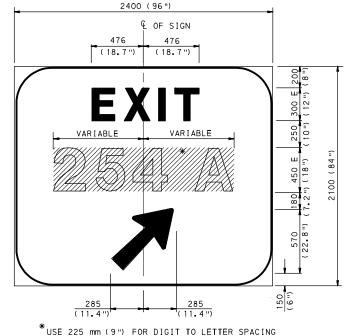




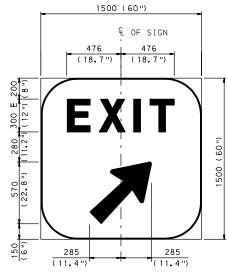
NEXT EXIT PANEL



EXIT ONLY PANEL



(SPECIAL CASE - USE ONLY WHEN LATERAL SPACING PROHIBITS THE USE OF TYPE I)



TYPE IV (USE FOR UNNUMBERED EXITS ONLY)

GORE SIGNS



EXIT ONLY PANEL

- 2. REFER TO TC-8700C FOR ARROW DETAILS. TYPE N ARROW SHALL BE USED ON THE GORE SIGNS, AND TYPE C ARROW SHALL BE USED ON THE EXIT ONLY AND THIS LANE PANELS.

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

EXIT PANEL

VARIABLE

375

(15 ")

VARIABLE

790

(31.2")

EXIT

375 (15")

(MIN.)

188 (7.5")

187 (7.5")

375 E 05 M

SIGN DETAILS FREEWAY AND EXPRESSWAY GUIDE SIGNS

GORE SIGNS, EXIT PANELS & NEXT EXIT SIGNS

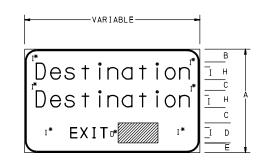
RECOMMENDED MAR. 18, 2008 RECOMMENDED MAR. 18, 2008 SHT. 5 OF 9

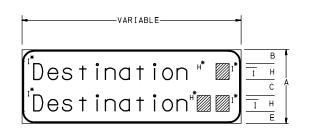
CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION AND TRAFFIC ENGINEERING SHT. 5 OF 9

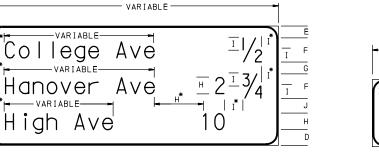
TC - 8701D

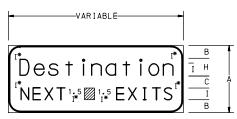
NOTES:

- EXIT ONLY AND THIS LANE PANELS SHALL HAVE A YELLOW REFLECTORIZED BACKGROUND AND BLACK NONREFLECTORIZED LEGEND.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.









TYPE	DESTINATION		DIME	NS I ON:	S (MIL	LIMET	ERS)	
FACILITY	LINES	Α	В	С	D	Е	Н	I
EXPRESSWAY	1	1200	205	225	300	205	265	200
LXI NESSWAT	2	1800	235	250	300	235	265	200
EDEE#AV	1	1500	260	275	375	260	330	250
FREEWAY	2	2100	260	275	375	255	330	250

TYPE	DESTINATION	D1	MENSI	ONS (MILLI	METERS	5)
FACILITY	LINES	Α	В	С	E	Н	I
EXPRESSWAY	2	1200	275	250	275		150
LAI NESSWAT	3	1500	250	200	250	200	150
EDEEWAY.	2	1350	275	270	275	H 200 200 265	200
FREEWAY	3	1800	245	255	250		200
	ENGL	ISH	UN I .	ΓS			

METRIC UNITS

METRIC UNITS												
DIMENSIONS (MILLIMETERS)												
Н	I	J										
265	200	230										
265	200	230										
330	250	250										
330	250	250										
	H 265 265 330	H I 265 200 265 200 330 250										

С

METRIC UNITS

TYPE	DIME	DIMENSIONS (MILLIMETERS									
FACILITY	Α	В	С	Н	I						
EXPRESSWAY	1200	245	245	265	20						
FREEWAY	1350	260	250	330	250						

ENGLISH UNITS

TYPE	DESTINATION	DIMENSIONS (INCHES)									
FACILITY	LINES	Α	В	С	D	E	Н	I			
EXPRESSWAY	1	48	8.2	9	12	8.2	10.6	8			
LATRESSWAT	2	72	9.4	10	12	9.4	10.6	8			
EDEE#AV	1	60	10.4	11	15	10.3	13.3	10			
FREEWAY	2	84	10.2	11	15	10.2	13.3	10			

TYPE	DESTINATION		DIMENSIONS (INCHES)								
FACILITY	LINES	TINATION	I								
EXPRESSWAY	2	48	11	10	11	8	6				
EXI NESSWAT	3	60	10	8	10	8	6				
EDEE#4V	2	54	1.1	10.8	11	10.6	8				
FREEWAY	3	72	10.1	10	10.1	10.6	8				

ENGLISH UNITS

TYPE	DESTINATION	DIMENSIONS (INCHES)									
FACILITY	LINES	Α	В	С	D	E	F	G	Н	I	J
EXPRESSWAY	2	54	11.4	10	11.4	10.7	12		10.6	8	9.3
EXI NESSIIAT	3	72	10.1	10	10.1	9.4	12	8.6	10.6	8	9.3
EDEEWAY	2	60	11.2	1.1	11.2	10.4	15		13.3	10	10.1
FREEWAY	3	84	11	1.1	11.1	10.2	15	9.2	13.3	10	10.2

ENGLISH UNITS

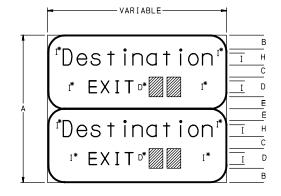
TYPE	D:	DIMENSIONS (INCHES)								
FACILITY	Α	В	С	Н	I					
EXPRESSWAY	48	9.8	9.8	10.6	8					
FREEWAY	54	10. 3	10.1	13.3	10					

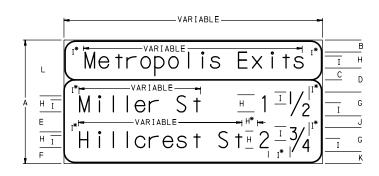
SINGLE EXIT SUPPLEMENTAL GUIDE SIGN

POST INTERCHANGE DISTANCE SIGN

INTERCHANGE SEQUENCE SIGN

NEXT (NUMBER) EXITS AREA SIGN





* INDICATES MINIMUM SPACING.

METRIC UNITS

TYPE	DIMENSIONS (MILLIMETERS)										
FACILITY	Α	В	С	D	E	Н	I				
EXPRESSWAY	2400	220	200	300	215	265	200				
FREEWAY	3000	275	250	375	270	330	250				

METRIC UNITS

TYPE	DESTINATION		DIMENSIONS (MILLIMETE							S)			
FACILITY	LINES	Α	В	С	D	E	F	G	Н	I	J	K	L
EXPRESSWAY	2	1950	255	205	400	235	250	300	265	200	200	230	935
LXI ILLUSINAT	3	2400	255	205	400	210	250	300	265	200	175	230	935
EDEEWAY	2	2400	310	260	500	295	285	375	330	250	250	260	1160
FREEWAY	3	3000	285	260	500	295	285	375	330	250	250	260	1135

NOTES:

- 1. SEE TC-8700C, SHEET 1 FOR LAYOUT OF FRACTIONS.
- 2. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.

ENGLISH UNITS

LNGLISH UNITS											
TYPE	DIMENSIONS (INCHES)										
FACILITY	Α	В	С	D	Е	Ι	I				
EXPRESSWAY	96	8.8	8	12	8.6	10.6	8				
FREEWAY	120	10.9	10	15	10.8	13.3	10				

TYPE	DESTINATION		DIMENSIONS (INCHES)										
FACILITY	LINES	Α	В	O	D	Е	F	G	Н	I	J	K	L
EXPRESSWAY	2	78	10.2	8.2	16	9.4	10	12	10.6	8	8	9.2	37.4
	3	96	10.2	8.2	16	8.4	10	12	10.6	8	7	9.2	37.4
FDFFWAY	2	96	12.3	10.4	20	11.7	11.3	15	13.3	10	10	10.4	46.4
FREEWAY	3	120	11.3	10.4	20	11.7	11.3	15	13.3	10	10	10.4	45.4

ENGLISH UNITS

COMMUNITY INTERCHANGES IDENTIFICATION SIGN

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

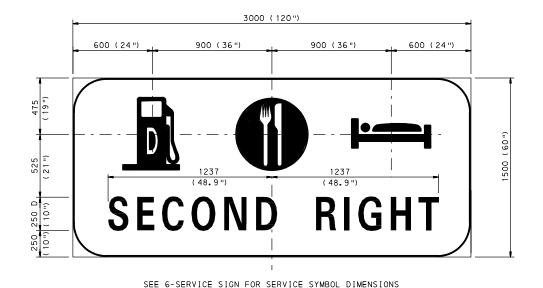
SIGN DETAILS FREEWAY AND EXPRESSWAY GUIDE SIGNS

SUPPLEMENTAL GUIDE SIGNS & MISCELLANEOUS INTERCHANGE SIGNS

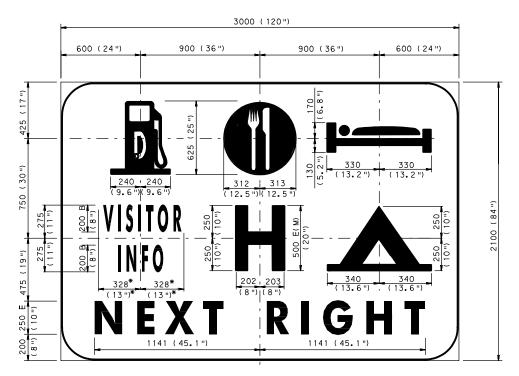
RECOMMENDED MAR. 18, 2008 RECOMMENDED MAR. 18, 2008 SHT. 6 OF 9

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION AND TRAFFIC ENGINEERING TC - 8701D

DOUBLE EXIT SUPPLEMENTAL GUIDE SIGN

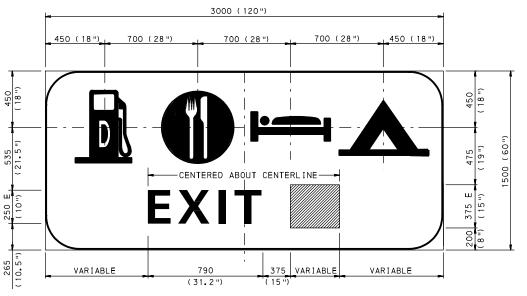


3-SERVICE SIGN



* - 15% REDUCED SPACING

6-SERVICE SIGN



SEE 6-SERVICE SIGN FOR SERVICE SYMBOL DIMENSIONS

4-SERVICE SIGN









 $oldsymbol{\Delta}$





VISITOR

INFO

STATE

POL I CE

RAMP SIGNING

NOTES:

- ALL SERVICE SIGNS SHALL HAVE A BLUE REFLECTORIZED BACKGROUND AND WHITE REFLECTORIZED SYMBOLS, LEGENDS, AND BORDERS. UNLESS NOTED OTHERWISE, THE TYPE OF REFLECTIVE SHEETING SHALL COMPLY WITH DEPARTMENT PUBLICATION 408.
- 2. ALL MAINLINE SERVICE SIGNS SHALL HAVE A 50 mm (2") BORDER WITH 225 mm (9") CORNER RADII.
- THE STANDARD MAINLINE SERVICE SIGN SHALL USE A 3000 mm × 1500 mm (120" × 60") PANEL AND SHALL USE THE THREE-SYMBOL LAYOUT. IF FOUR SYMBOLS ARE REQUIRED, THE SYMBOLS SHALL BE AS INDICATED. IF MORE THAN FOUR SYMBOLS ARE REQUIRED, A 3000 mm × 2100 mm (120" × 84") PANEL SHALL BE USED.
- 4. WHEN THE EXIT IS NUMBERED, THE EXIT NUMBER SHOULD BE USED INSTEAD OF "NEXT RIGHT" OR "SECOND RIGHT".
- FOR THE LAYOUT OF RAMP SIGNING [600 mm \times 600 mm (24" \times 24")], SEE D9 SERIES IN DEPARTMENT PUBLICATION 236M. USE 600 mm \times 300 mm (24" \times 12") SERVICES ARROW (D9-2-2) WITH RAMP SIGNING.
- 6. NORMAL SEQUENCE SHOULD BE GAS (DIESEL), FOOD, LODGING, AND THEN OTHERS.
- 7. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 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

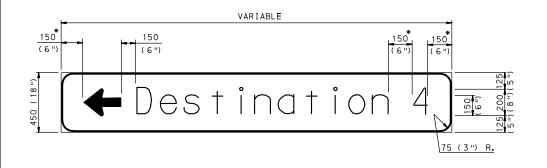
SIGN DETAILS FREEWAY AND EXPRESSWAY GUIDE SIGNS

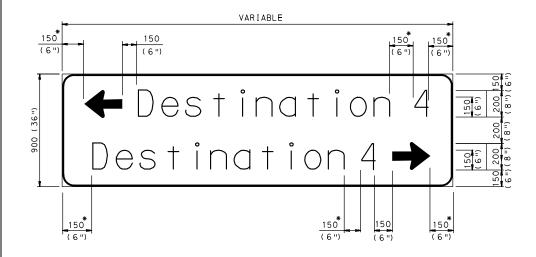
> GENERAL MOTORIST SERVICE SIGNS

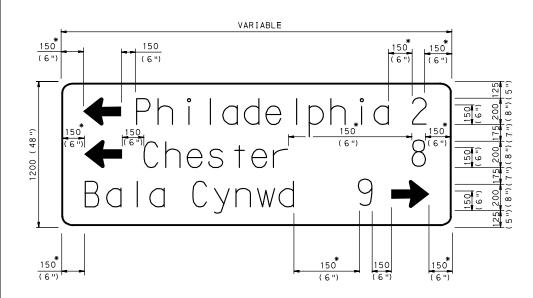
RECOMMENDED MAR. 18, 2008 RECOMMENDED MAR. 18, 2008 SHT. 7 OF 9

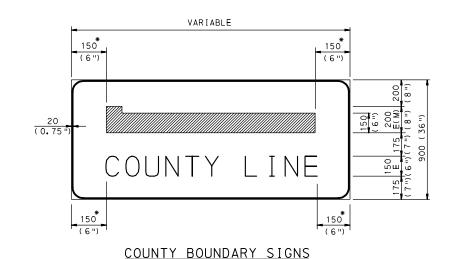
CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION AND TRAFFIC ENGINEERING

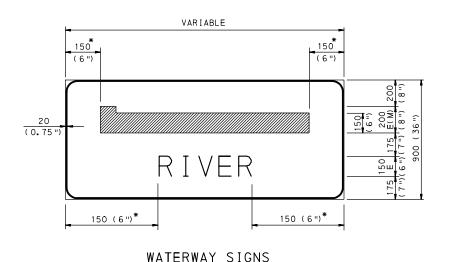
TC - 8701D











NOTES:

- 1. ALL SIGNS ON THIS SHEET SHALL HAVE A 30 mm (1.25") BORDER WITH 150 mm (6") CORNER RADII, UNLESS OTHERWISE NOTED.
- 2. REFER TO TC-8700C FOR ARROW DETAILS. TYPE K, TYPE L OR TYPE M ARROWS SHALL BE USED FOR THE RAMP DESTINATION SIGNS.
- 3. BOUNDARY AND WATERWAY SIGNS SHALL HAVE WHITE REFLECTORIZED BACKGROUND AND BLUE REFLECTORIZED LEGEND AND BORDER. UNLESS NOTED OTHERWISE, THE TYPE OF REFLECTIVE SHEETING SHALL COMPLY WITH DEPARTMENT PUBLICATION 408.
- 4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 5. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.

RAMP DESTINATION SIGNS

* INDICATES MINIMUM SPACING

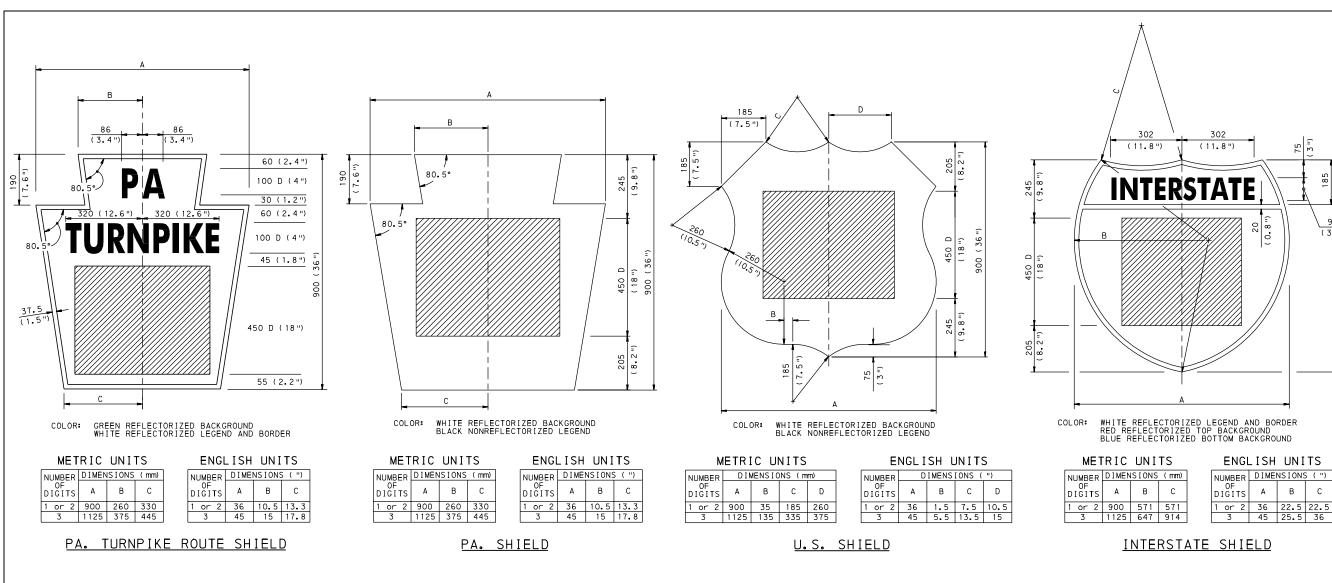
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

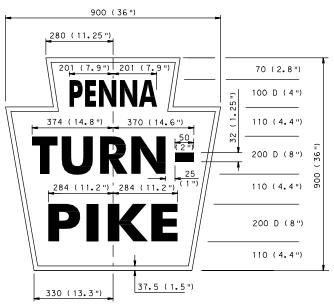
SIGN DETAILS FREEWAY AND EXPRESSWAY GUIDE SIGNS

> RAMP DESTINATION AND BOUNDARY SIGNS

RECOMMENDED MAR. 18, 2008 RECOMMENDED MAR. 18, 2008 SHT. 8 OF 9

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION CTURE OF HIGHWAY SAFETY TC-8701D





PENNA. TURNPIKE SHIELD

SERIES E CAPITAL

		METR	IC U	NITS	•		
Α	В	С	D	Е	F	G	TOTAL

	А	Б	L	U		F	G	1017
N _{OR} T	450	375	472	413	383	358	304	193
R ₊	375	300	392	330	306	287	243	155
Н	300	250	315	276	254	238	202	128
SO ^J	450	375	452	413	383	358	304	191
Ŭ_	375	300	375	330	306	287	243	154
J _H	300	250	301	276	254	238	202	127
E.	450	375	393	460	383	279		151
E _A S,	375	300	326	368	306	224		122
Т	300	250	263	306	254	186		100
W	450	375	566	358	383	279		158
W _E ST	375	300	470	287	306	224		128
Т	300	250	377	238	254	186		105

ENGLISH UNITS

	Α	В	С	D	Е	F	G	TOTAL
NORT H	18	15	18.6	16.3	15.0	14.1	12.0	76.0
	15	12	15.4	13.0	12.0	11.3	9.6	61.3
	12	10	12.4	10.9	10.0	9.4	8.0	50.7
S _O U _{T_H}	18	15	17.7	16.3	15.0	14.1	12.0	75.1
	15	12	14.7	13.0	12.0	11.3	9.6	60.6
	12	10	11.8	10.9	10.0	9.4	8.0	50.1
E _A S _T	18	15	15.5	18.1	15.0	11.0		59.6
	15	12	12.9	14.5	12.0	8.8		48.2
	12	10	10.3	12.1	10.0	7.3		39.7
W _E S _T	18	15	22.2	14.1	15.0	11.0		62.3
	15	12	18.5	11.3	12.0	8.8		50.6
	12	10	14.8	9.4	10.0	7.3		41.5

CARDINAL DETAILS

NOTES:

- 1. THESE IRREGULAR-SHAPED SHIELDS SHALL BE FABRICATED FROM TYPE III OR IV REFLECTIVE SHEETING AND SHALL BE USED ON ALL GUIDE SIGNS IN LIEU OF THOSE SHIELDS DEPICTED IN PUBLICATION 236M.
- 2. THE PA TURNPIKE ROUTE SHIELD SHALL ONLY BE USED WITH PA NUMBERED TRAFFIC ROUTES, i.e., NOT WITH INTERSTATE ROUTES SUCH AS I-76, I-276, I-476, ETC.
- 3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 4. 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

CARDINALS AND SHIELDS

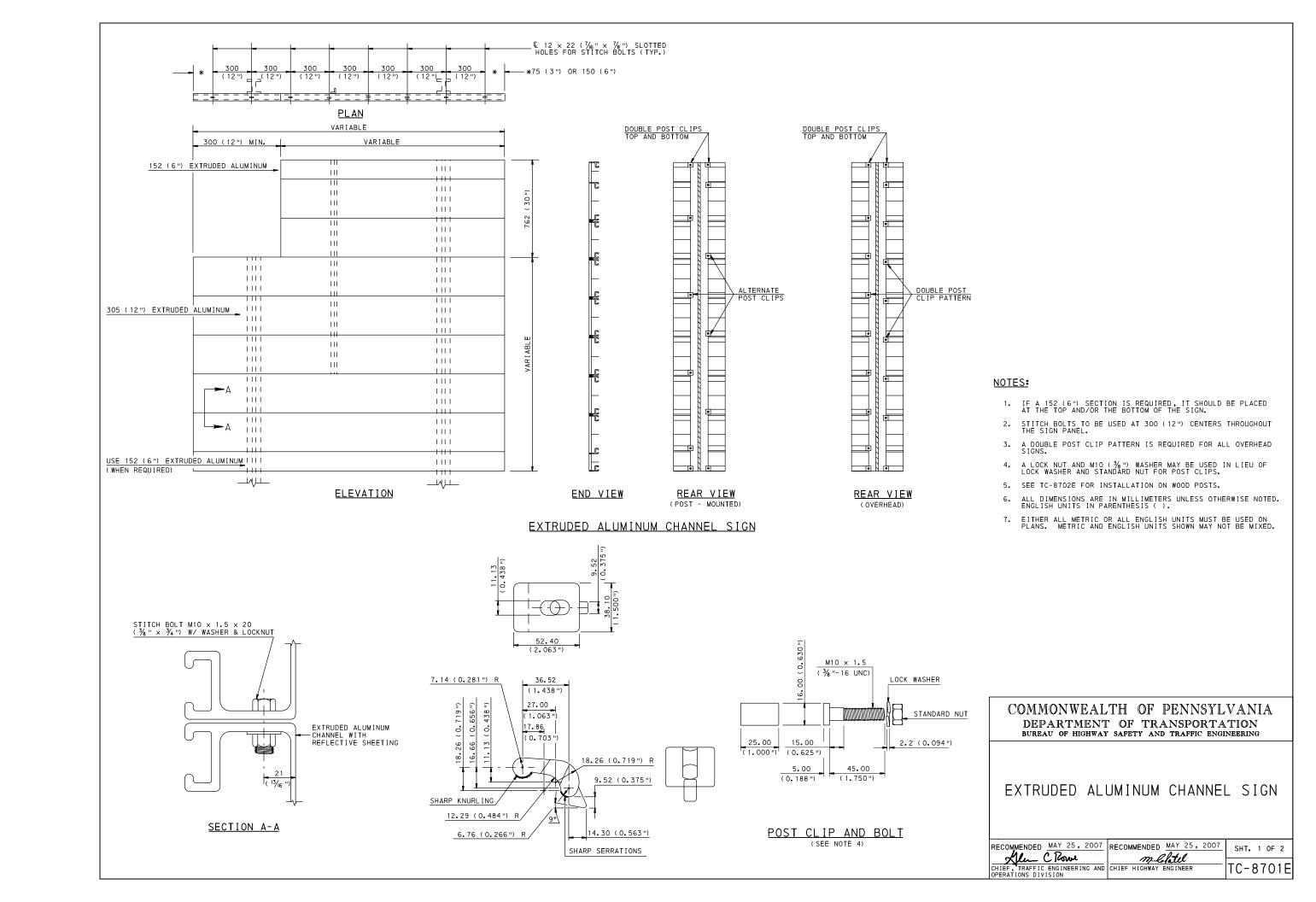
RECOMMENDED MAR. 18, 2008 RECOMMENDED MAR. 18, 2008 SHT. 9 OF 9

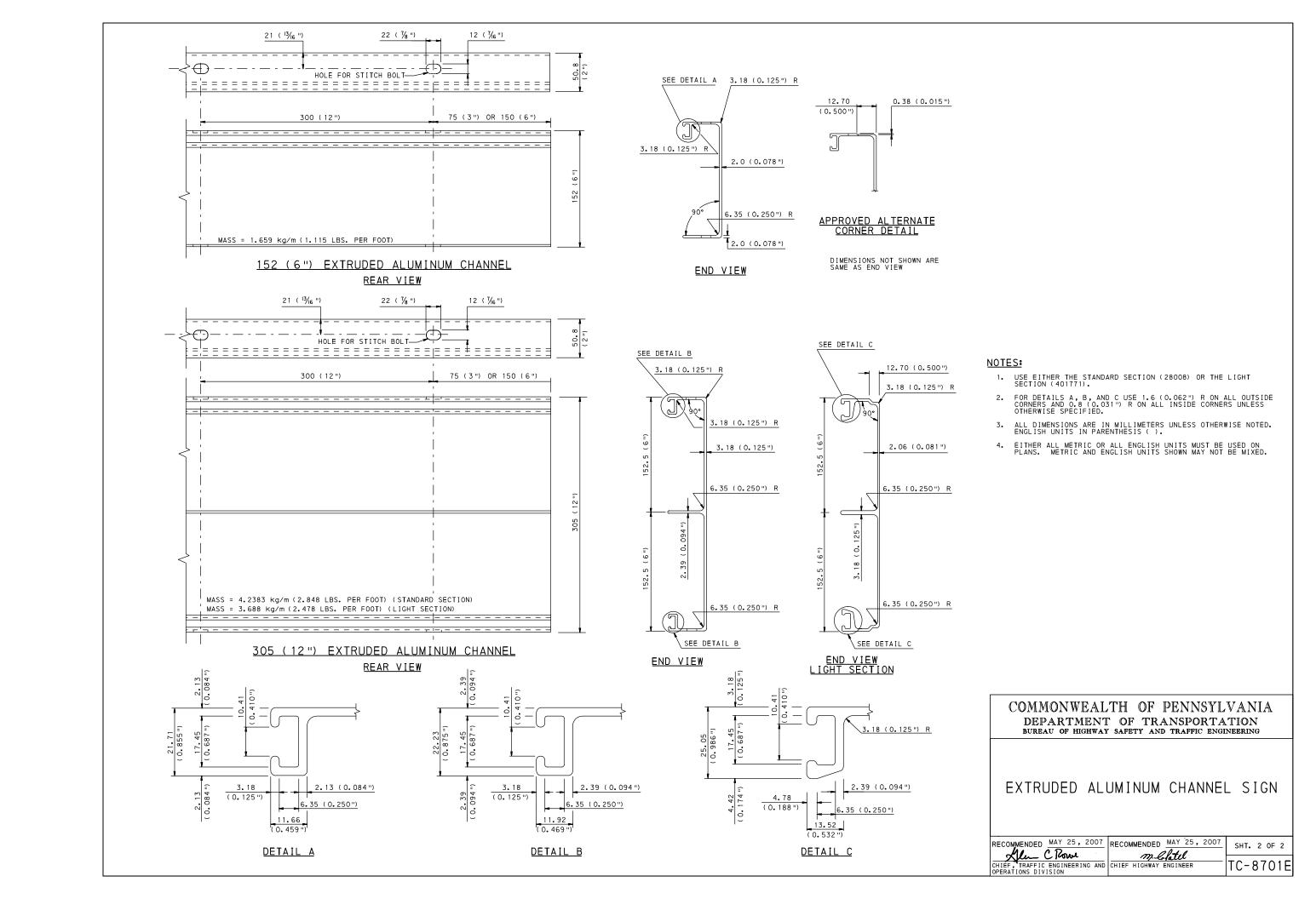
CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION AND TRAFFIC ENGINEERING

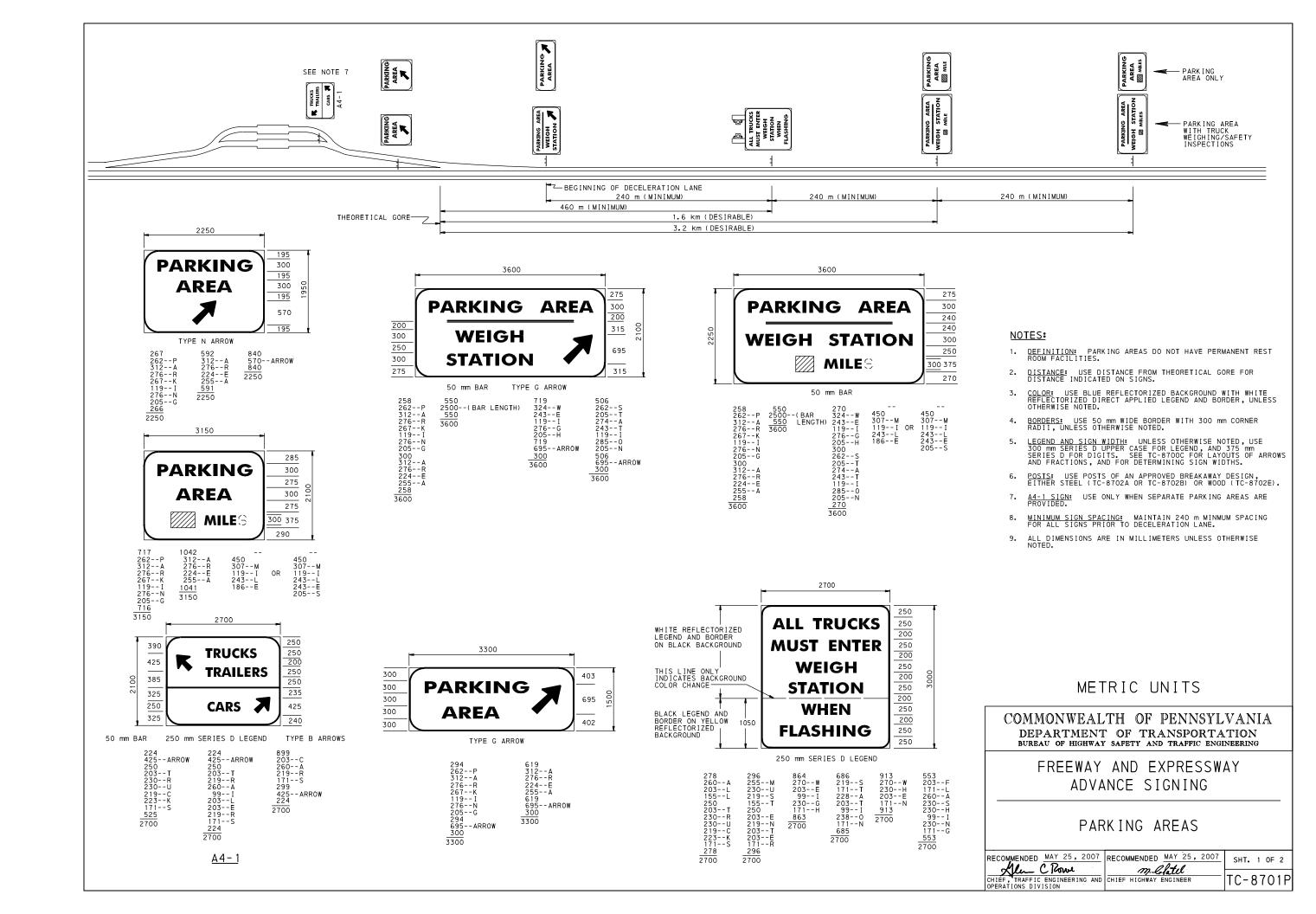
TC - 8701D

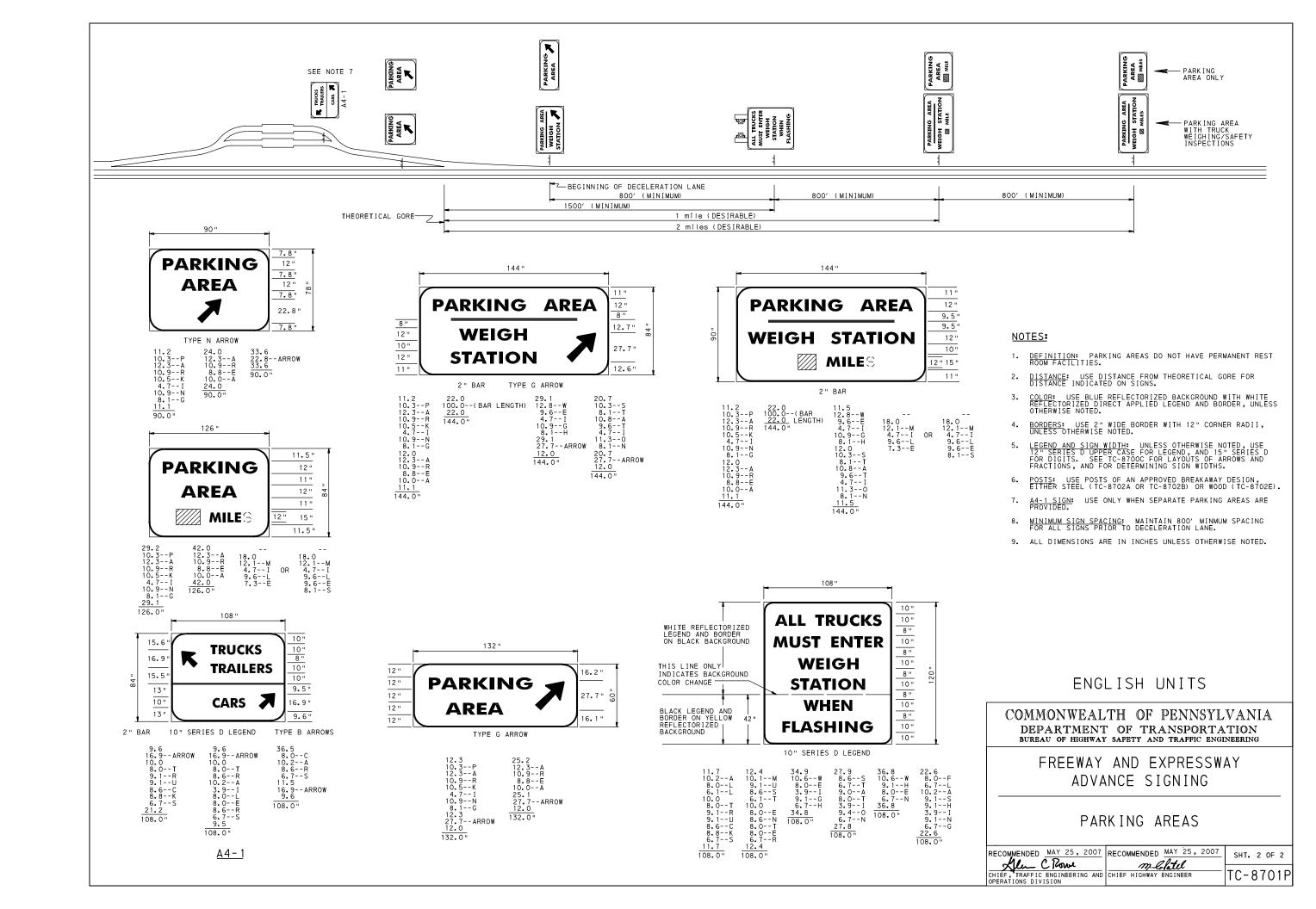
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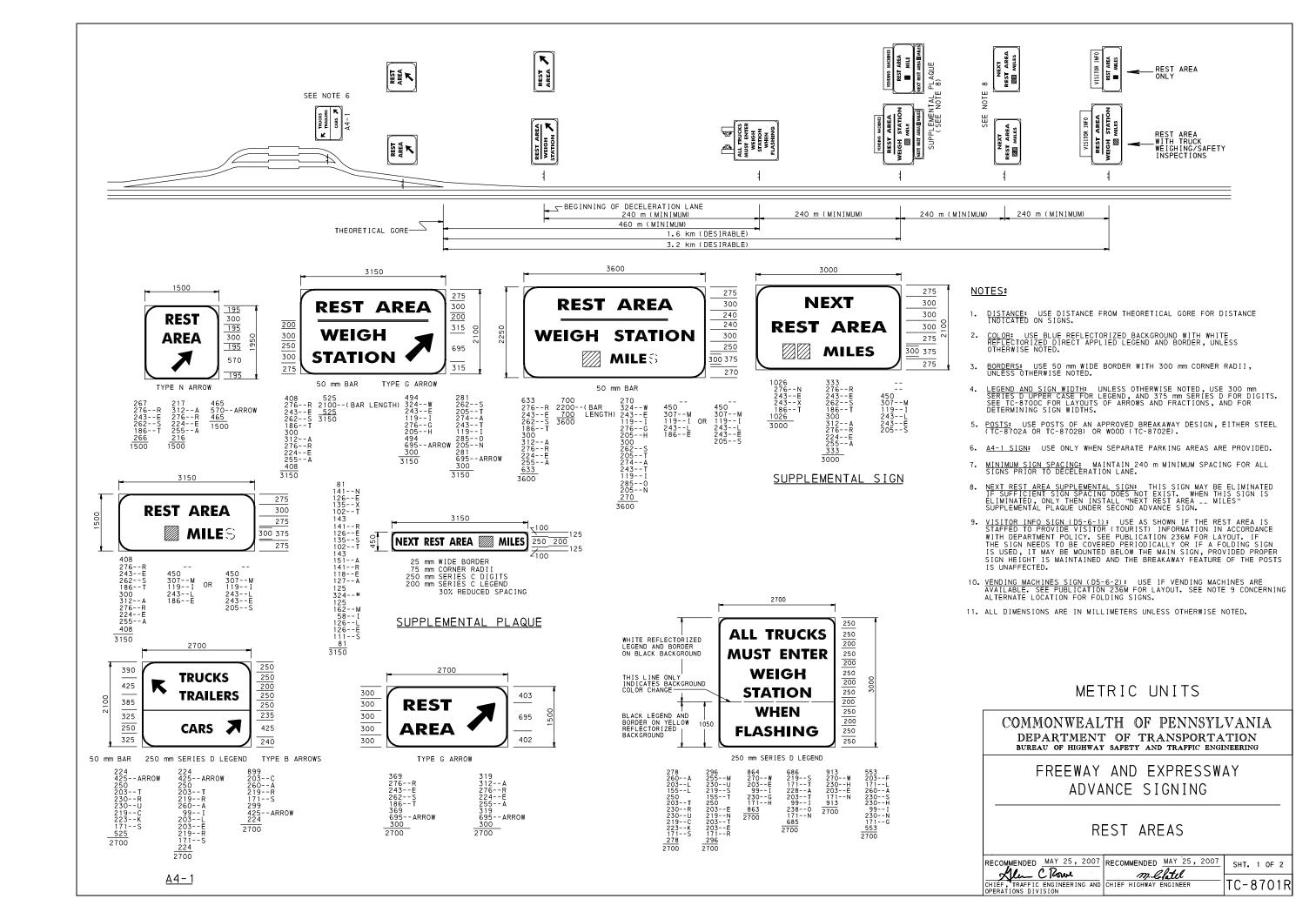
(3. 75 ")

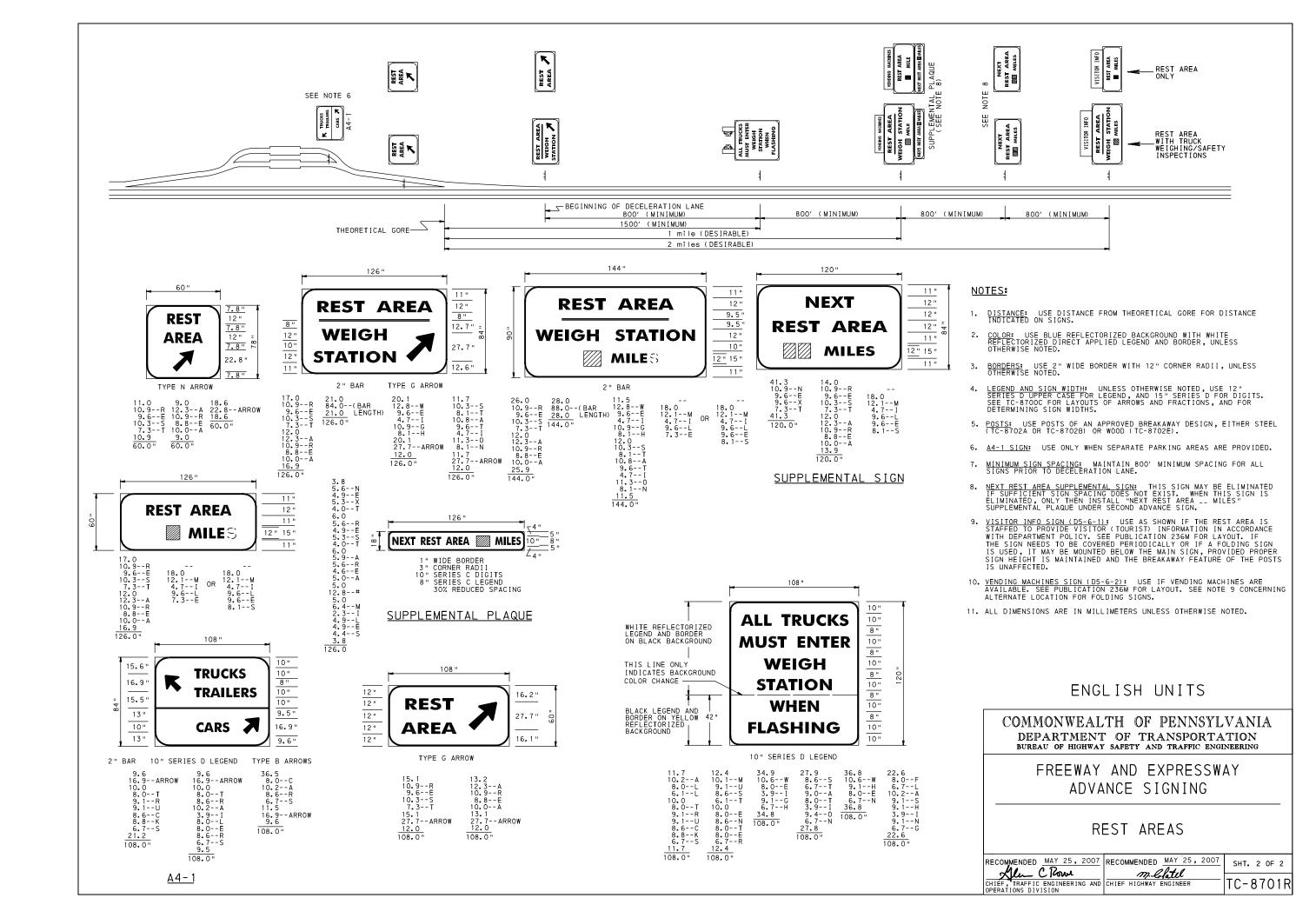




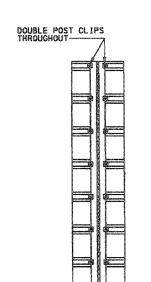








METRIC UNITS STOR MIDTH STOR MEDITH STOR MEDIT



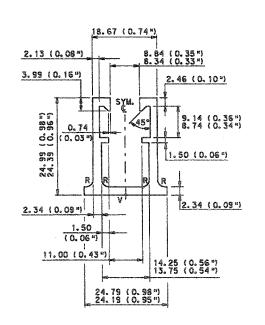
REAR VIEW
(POST & OVERHEAD MOUNTED)

NOTES:

- THIS STANDARD SHALL APPLY TO LARGE REFLECTORIZED SIGNS MANUFACTURED FROM FLAT SHEET ALUMINUM, BRACED WITH EXTRUDED ALUMINUM STIFFENERS, AND CONNECTED TO A SPECIFIED TYPE OF POST (OR VERTICAL SUPPORT OF A STRUCTURE) BY USE OF TWIST-IN TOGGLE AND BUCKLE STRAPS, OR STAINLESS STEEL POST CLIPS. WHEN POST CLIPS ARE USED, A DOUBLE POST CLIP PATTERN IS REQUIRED FOR BOTH POST MOUNTED AND CVERHEAD SIGN INSTALLATIONS.
- 2. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THIS STANDARD AND PUB. 408.
- 3. THE STIFFENER SPACING CHART ON THIS SHEET IS DESIGNED TO ACCOMODATE "SINGLE-POST" INSTALLATIONS AND "MULTIPLE-POST" INSTALLATIONS WHERE THE SPACING BETWEEN THE POSTS (OR VERTICAL SUPPORTS) IS THREE TIMES THE SIGN OVERHANG BEYOND THE END POSTS. (THE SPACING BETWEEN THE POSTS ON A "TWO-POST" INSTALLATION IS THREE-FIFTHS OF THE SIGN WIDTH, AND SPACING BETWEEN THE POSTS ON A "THREE-POST" INSTALLATION IS ONE-THIRD OF THE SIGN WIDTH.)
- 4. WHEN SIGNS ARE TO BE INSTALLED AND THE SPACING OF THE POSTS IS OTHER THAN THOSE INDICATED IN NOTE NO. 3, THE FABRICATOR SHOULD CONSULT THE DISTRICT TRAFFIC ENGINEER FOR THE PROPER SPACING OF THE STIFFENERS. HOWEVER, THE SPACING BETWEEN THE STIFFENERS SHALL NOT BE GREATER THAN THE SPACING INDICATED IN THE CHART FOR THE SAME WIDTH OF SIGN.
- 5. TO USE THE STIFFENER SPACING CHART, START WITH THE SIGN WIDTH AND GO VERTICALLY UPWARD UNTIL INTERSECTING THE CURVED LINE INDICATING THE PROPER NUMBER OF POSTS (OR VERTICAL SUPPORTS) AND THE TYPE OF STIFFENER SECTION TO BE USED. THE MAXIMUM STIFFENER SPACING IS INDICATED HORIZONTALLY TO THE LEFT.
- 6. THE MAXIMUM STIFFENER SPACING IS NORMALLY 725 (29"). HOWEVER, FOR SIGNS MADE OF A CONTINUOUS SHEET OF ALUMINUM THROUGHOUT THE HEIGHT OF THE SIGN AND ON WHICH THE FLAT SHEET ALUMINUM OVERHANGS BOTH THE TOP AND BOTTOM STIFFENERS BY A DISTANCE EQUAL TO ONE-THIRD OF THE SPACING BETWEEN STIFFENERS, STIFFENERS SPACINGS INDICATED IN THE SHADED PORTION OF THE CHART MAY BE USED. (EXAMPLE: A 3600 x 1500 (144" x 60") SIGN COULD BE INSTALLED ON TWO POSTS USING ONLY TWO LARGE SECTION STIFFENERS SPACED AT THE ULTIMATE 900 (36") SPACING, WITH 300 (12") OF THE SIGN ABOVE THE TOP STIFFENER AND 300 (12") OF THE SIGN BELOW THE BOTTOM STIFFENER.)
- 7. PANELS MAY BE SPLICED USING ANY OF THREE ARRANGEMENTS SHOWN ON SHEET 2 OF 3 OF THIS STANDARD.
- 8. SEE TC-8702E FOR INSTALLATION ON WOOD POSTS.
- 9. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 10. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.

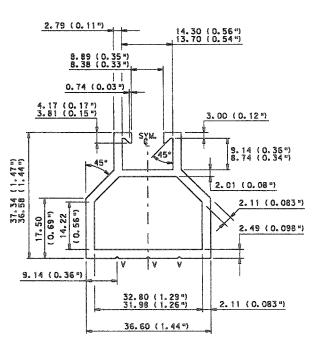
ENGLISH UNITS 36" 24" WIDTH OF SIGN WIDTH OF SIGN SEE NOTE NO. 6

STIFFENER SPACING CHARTS



V = VEE GROOVE 0.25 (0.01") DEEP x 90° R = 2.49 (0.10") RADIUS

MEDIUM SECTION



V = VEE GROOVE 0.38 (0.015") DEEP x 90°

LARGE SECTION

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

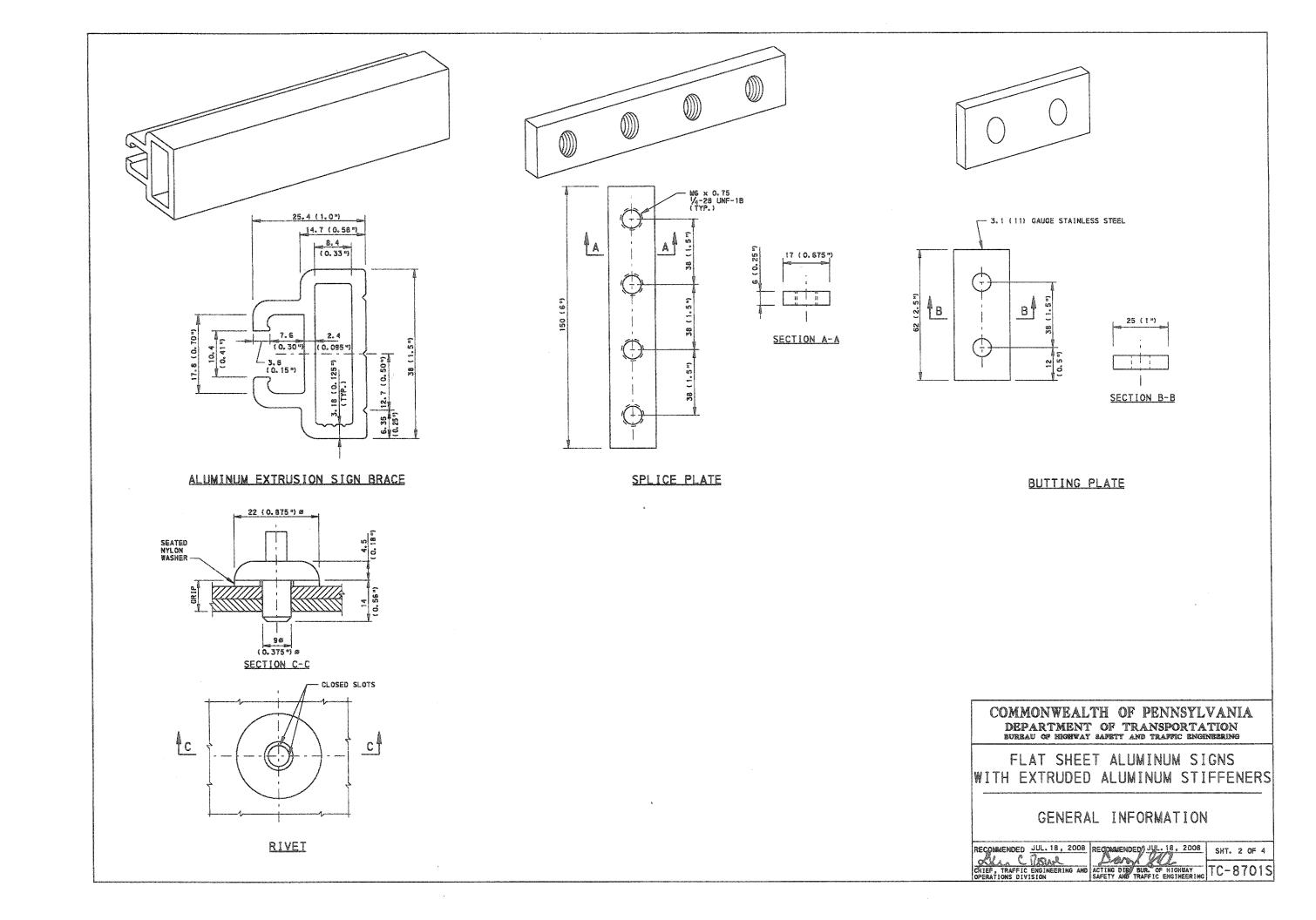
FLAT SHEET ALUMINUM SIGNS WITH EXTRUDED ALUMINUM STIFFENERS

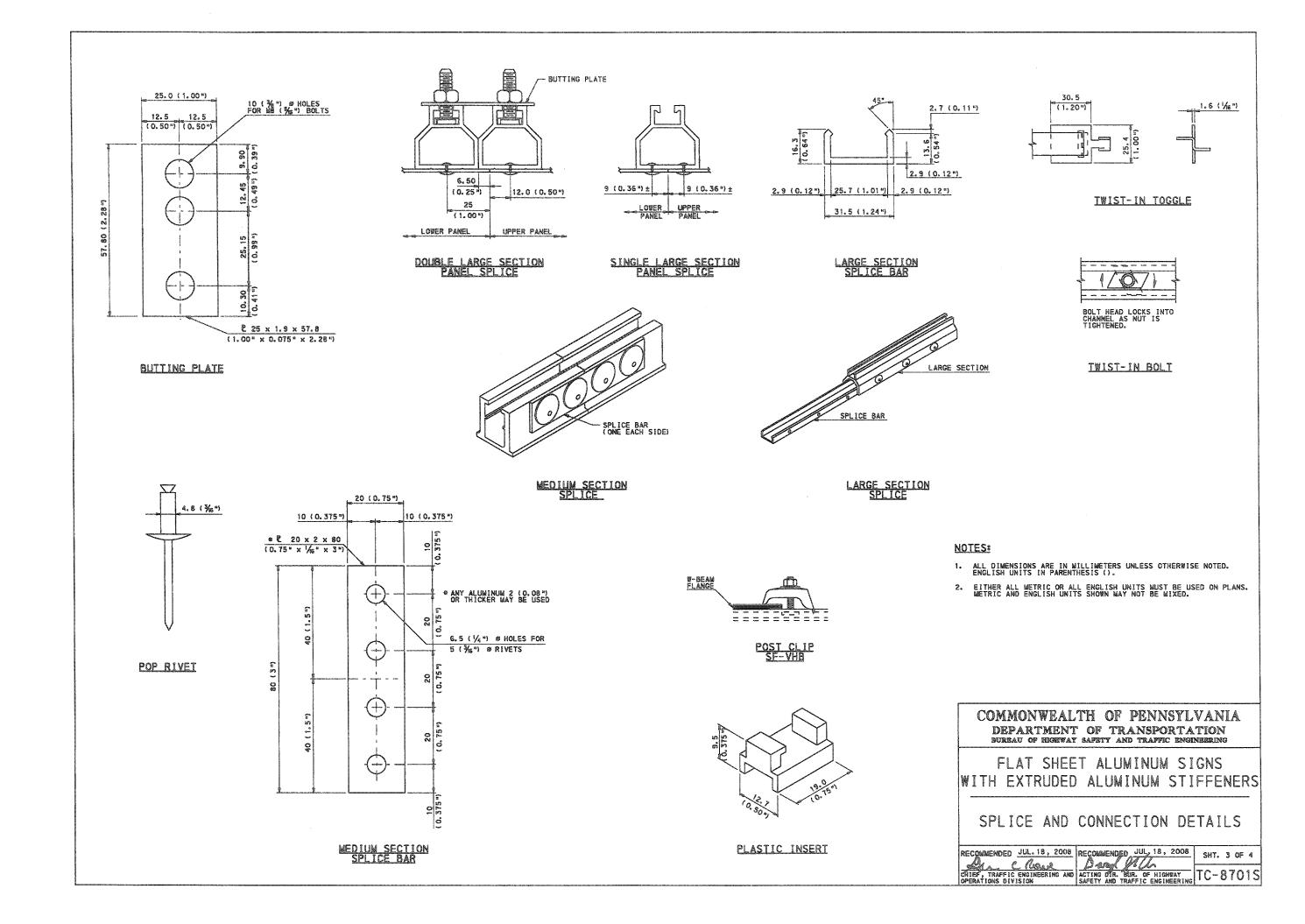
GENERAL INFORMATION

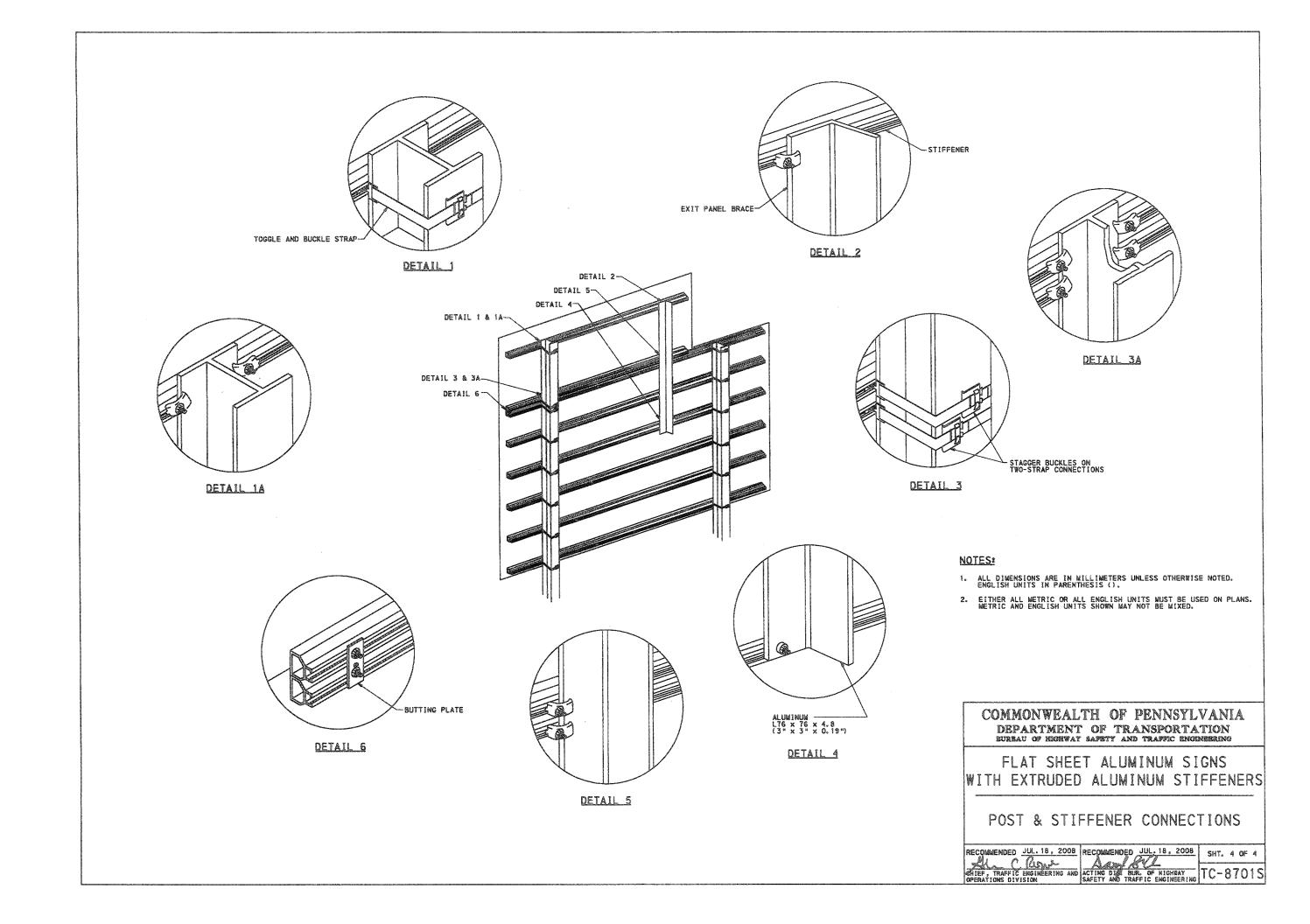
RECOMMENDED JUL. 18, 2008 RECOMMENDED JUL. 18, 2008 SHY. 1 OF 4

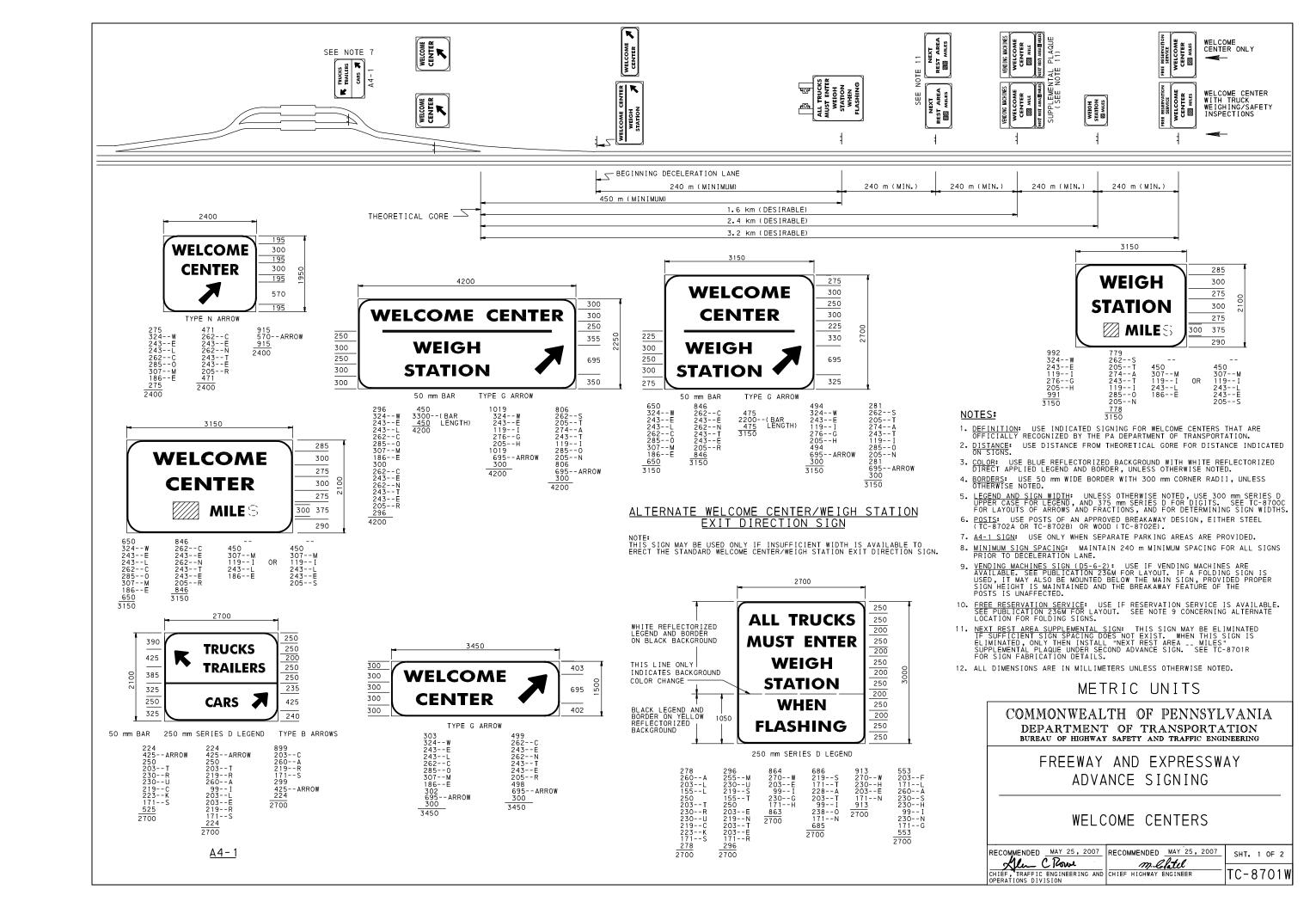
CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

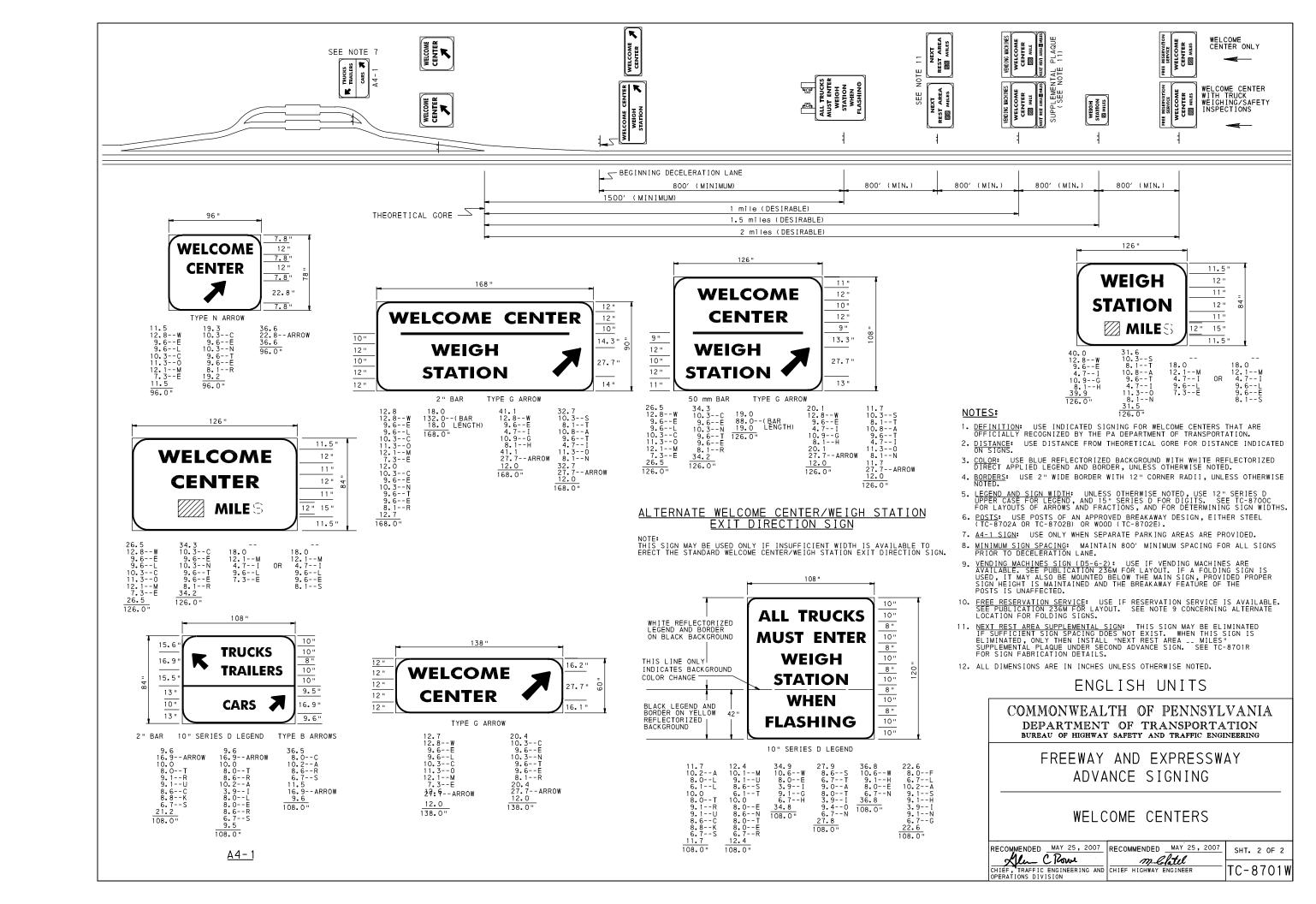
ACTING SER. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

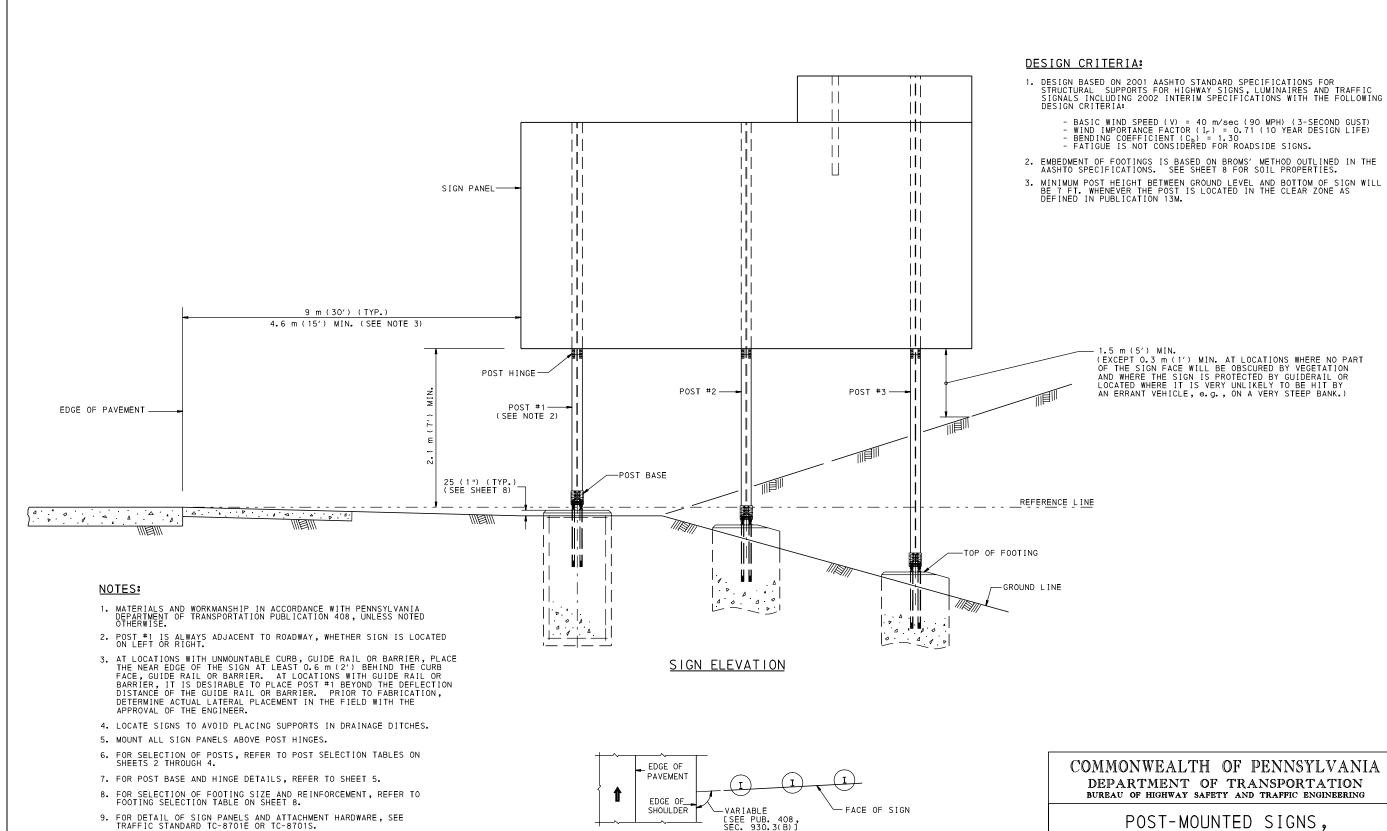


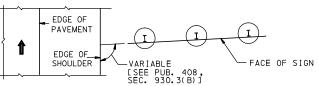












PLAN VIEW

10. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().

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

POST-MOUNTED SIGNS, TYPE A

ERECTION DETAILS

RECOMMENDED MAY 25, 2007

LILL C Power

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED MAY 25, 2007

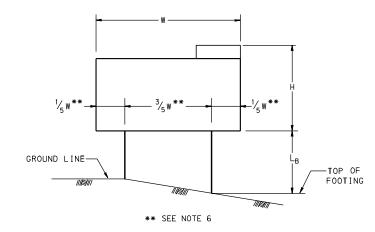
M. Altel

CHIEF HIGHWAY ENGINEER SHT. 1 OF 8 TC-8702A

					P0	ST SE	LECTI	ON TA			POSTS						
W	L _B	1,220	1.525	1.830	2 135	2.440	2.745	HE I GI			m (FT) 4.270	4.575	4.880	5.185	5.490	5, 795
m (FT)	m (FT)	(4') P1	(5') P1	(6') P1	(7') P1	(8') P1	(9') P1	(10') P1	(11') P2	(12') P2	(13') P3	(14') P3	(15') P3	(16') P3	(17') P3	(18')	(19')
	2.4 (8')	P1	P1	P1	P1	P1	P1	P2	P2	P2	P3	P3	P3	P3	-	-	-
	2.7 (9') 3.0 (10')	P1 P1	P1 P1	P1 P1	P1 P1	P1 P2	P2 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P3	P3 -	-	-	-	-
	3.3 (11')	P1	P1	P1	P1	P2	P2	P3	P3	P3	P3	-	-	-	-	-	-
1.8 (6')	3.6 (12') 3.9 (13')	P1 P1	P1 P1	P1 P1	P2 P2	P2 P2	P3 P3	P3 P3	P3 P3	P3 P3	-	-	-	-	-	-	-
	4.2 (14')	P1	P1	P2	P2	P3	P3	P3	Р3	-	-	-	-	-	-	-	-
	4.5 (15') 4.8 (16')	P1 P1	P2 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P3	-	-	-	-	-	-	-	-	-
	5.1 (17')	P2	P2	P2	Р3	P3	P3	-	-	-	-	-			-	-	-
	2.1 (7')	P1 P1	P1 P1	P1 P1	P1 P1	P1 P1	P1 P2	P2 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P3	P3 -	-	-	-
	2.7 (9')	P1	P1	P1	P1	P2	P2	P2	Р3	P3	P3	P3	-	-	-	-	-
	3.0 (10')	P1 P1	P1 P1	P1 P1	P1 P2	P2 P2	P2 P2	P3 P3	P3 P3	P3 P3	P3 -	-	-	-	-	-	-
2.1 (7')	3.6 (12')	P1 P1	P1 P1	P1	P2	P2	P3	P3 P3	P3	-	-	-	-	-	-	-	-
	3.9 (13') 4.2 (14')	P1	P2	P2 P2	P2 P2	P3 P3	P3 P3	P3	P3 -	-	-	-	-	-	-	-	-
	4.5 (15') 4.8 (16')	P1 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P3	-	-	-	-	-	-	-	-	-	-
	5.1 (17')	P2	P2	P3	P3	P3	-	-	-	-	-	-	-	-	-	-	-
	2.1 (7')	P1 P1	P1 P1	P1 P1	P1 P1	P1 P1	P2 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3	P3	-	-	-	-
	2.4 (8')	P1	P1	P1	P1	P2	P2	P3	P3	P3	P3	P3 -	-	-	-	-	-
	3.0 (10') 3.3 (11')	P1 P1	P1 P1	P1 P1	P2 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3	-		-	-	-	-	-
2.4 (8')	3.6 (12')	P1	P1	P2	P2	P2	P3	Р3	P3	-	-	-	-	-	-	-	-
	3.9 (13') 4.2 (14')		P1 P2	P2 P2	P3 P3	P3 P3	P3 P3	P3 -	-	-	-	-	-	-	-	-	-
	4.5 (15')	P2	P2	P3	P3	P3	P3	-	-	-	-	-	-	-	-	-	-
	4.8 (16') 5.1 (17')	P2 P2	P2 P3	P3 P3	P3 P3	P3 P3	-	-	-	-	-	-	-	-	-	-	-
	2.1 (7')	P1	P1	P1	P1	P1	P2	P2	P3	P3	P3	P3	P4 *	P4 *	P5 *	P5 *	P7 *
	2.4 (8')	P1 P1	P1 P1	P1 P1	P1 P2	P2 P2	P2 P2	P3 P3	P3 P3	P3 P3	P3 P4 *	P4 *	P4 *	P5 *	P5 *	P7 *	P7 *
	3.0 (10')	P1	P1	P1	P2	P2	P3	Р3	P3	P3	P4 *	P5 *	P5 *	P7 *	P7 *	P7 *	P8 *
2.7 (9')	3.3 (11')	P1 P1	P1 P1	P2 P2	P2 P2	P3 P3	P3 P3	P3 P3	P3 P4 *	P4 *	P5 *	P5 *	P5 *	P7 *	P7 *	P7 *	P8 *
	3.9 (13')	P1	P2	P2	P3	P3	P3	P4 *	P4 *	P5 *	P5 *	P7 *	P7 *	P7 *	P8 *	P9 *	P10 *
	4.2 (14')	P1 P2	P2 P2	P3 P3	P3 P3	P3 P3	P3	P4 *	P5 *	P5 *	P6 *	P7 *	P7 *	P8 *	P8 *	P10 *	P10 *
	4.8 (16')	P2	P3 P3	P3	P3	P4 *	P4 *	P5 *	P5 *	P7 *	P7 *	P7 *	P8 *	-	-	-	-
	5.1 (17') 2.1 (7')	P2 P1	P1	P3 P1	P3 P1	P4 *	P5 * P2	P5 * P2	P6 *	P3	P7 *	P8 *	P8 *	P5 *	P5 *	P6 *	- P7 *
	2.4 (8')	P1 P1	P1 P1	P1 P1	P1 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P3	P3 P4 *	P4 * P5 *	P5 * P5 *	P5 * P7 *	P7 *	P7 *	P7 * P8 *
	3.0 (10')	P1	P1	P2	P2	P2	P3	P3	P3	P4 *	P5 *	P5 *	P5 *	P7 *	P7 *	P7 *	P8 *
7 0 / 10/)	3.3 (11') 3.6 (12')	P1 P1	P1 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P3	P4 *	P5 *	P5 * P5 *	P5 *	P7 *	P7 *	P7 *	P8 *	P10 *
3.0 (10.)	3.9 (13')	P1	P2	P2	Р3	P3	P3	P4 *	P5 *	P5 *	P6 *	P7 *	P7 *	P8 *	P8 *	P10 *	P10 *
	4.2 (14')	P2 P2	P2 P2	P3 P3	P3 P3	P3	P4 *	P4 *	P5 *	P5 *	P7 *	P7 *	P7 *	P8 *	P10 *	P10 *	P10 *
	4.8 (16')	P2	P3	P3	P3	P4 *	P5 *	P5 *	P6 *	P7 *	P7 *	P8 *	P9 *	-	-	-	-
	5.1 (17') 2.1 (7')	P2 P1	P3 P1	P3 P1	P4 *	P4 *	P5 *	P5 *	P7 *	P7 *	P7 *	P8 *	- P5 *	- P5 *	- P6 *	- P7 *	- P7 *
	2.4 (8')	P1	P1	P1	P2	P2	P2	P3	P3	P3	P4 *	P5 *	P5 *	P5 *	P7 *	P7 *	P8 *
	2.7 (9') 3.0 (10')	P1 P1	P1 P1	P1 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P3	P4 *	P4 *	P5 *	P5 *	P7 *	P7 *	P7 *	P8 * P10 *
	3.3 (11')	P1	P2	P2	P2	P3	P3	P3	P4 *	P5 *	P5 *	P7 *	P7 *	P7 *	P8 *	P9 *	P10 *
3.3 (11′)	3.6 (12') 3.9 (13')		P2 P2	P2 P2	P3 P3	P3 P3	P3 P4 *	P4 *	P5 * P5 *	P5 * P5 *	P6 *	P7 *	P7 *	P8 *	P9 *	P10 *	P10 *
	4.2 (14') 4.5 (15')		P2 P3	P3 P3	P3 P3	P3 P4 *	P4 *	P5 * P5 *	P5 * P5 *	P7 *	P7 *	P7 *	P8 *	P10 *	P10 *	P10 *	
	4.8 (16')	P2	P3	P3	P4 *	P4 *	P5 *	P5 *	P7 *	P7 *	P7 *	P8 *	P9 *	F10 ★ -	-	P10 *	-
	5.1 (17') 2.1 (7')	P3 P1	P3 P1	P3 P1	P4 *	P5 * P2	P5 * P2	P7 *	P7 * P3	P7 *	P8 *	- P4	- P5	- P6	- P7	- P7	- P7
	2.4 (8')	P1	P1	P1	P2	P2	P3	P3	P3	P3	P4	P5	P5	P7	P7	P7	P8
	2.7 (9') 3.0 (10')	P1 P1	P1 P1	P2 P2	P2 P2	P3 P3	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P7	P7 P7	P7 P7	P7 P8	P8 P9	P10 P10
7 6 4	3.3 (11')	P1	P2	P2	P3	P3	P3	P4	P5	P5	P5	P7	P7	P8	P8	P10	P10
ა.6 (12′)	3.6 (12') 3.9 (13')	P1 P2	P2 P2	P2 P3	P3 P3	P3 P3	P4 P4	P4 P5	P5 P5	P5 P5	P7 P7	P7 P7	P7 P8	P8 P10	P10 P10	P10 P10	P10 -
	4.2 (14') 4.5 (15')	P2	P3 P3	P3 P3	P3 P3	P4 P4	P5 P5	P5 P5	P5 P7	P7	P7 P7	P8	P9	P10 P10	P10	P10	-
	4.8 (16')	P2	P3	P3	P4	P5	P5	P7	P7	P7	P8	P8 -	P10 -	-	P10 -	-	-
	5.1 (17') 2.1 (7')	P3 P1	P3 P1	P3 P1	P4 P2	P5 P2	P5 P3	P7 P3	P7 P3	P7 P3	P9 P4	- P5	- P6	- P6	- P7	- P7	- P8
	2.4 (8')	P1	P1	P1	P2	P2	P3	Р3	P3	P4	P4	P5	P6	P7	P7	P8	P9
	2.7 (9') 3.0 (10')	P1 P1	P1 P2	P2 P2	P2 P2	P3 P3	P3 P3	P3 P3	P4 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P7	P8 P8	P9 P10	P10 P10
	3.3 (11')	P1	P2	P2	P3	P3	P3	P4	P5	P5	P7	P7	P7	P8	P10	P10	P10
3.9 (13′)	3.6 (12') 3.9 (13')	P1 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P5	P7 P7	P7 P7	P7 P8	P8 P9	P10 P10	P10 P10	P10 P10	P10 -
	4.2 (14')	P2	P3	P3	P3	P4	P5	P5	P7	P7	P7	P8	P10	P10	P10	-	-
	4 5	P2	P3 P3	P3 P3	P4 P4	P5 P5	P5 P5	P6 P7	P7 P7	P7 P8	P8 P8	P10 -	P10 -	P10 -	-	-	-
	4.5 (15') 4.8 (16')	l P3		P4	P5	P5	P7	P7	P7	P8	-	-	-	-	-	-	-
	4.8 (16') 5.1 (17')	P3	P3			P2	P3	P3	P3 P3	P4 P4	P4 P5	P5 P5	P6 P7	P7 P7	P7 P7	P7 P8	P9 P10
	4.8 (16') 5.1 (17') 2.1 (7')		P1	P1	P2 P2		P3	1 23									
	4.8 (16') 5.1 (17') 2.1 (7') 2.4 (8') 2.7 (9')	P3 P1 P1 P1	P1 P1 P1	P1 P2 P2	P2 P2	P3 P3	P3 P3	P3 P3	P4	P5	P5	P5	P7	P7	P8	P10	P10
	4.8 (16') 5.1 (17') 2.1 (7') 2.4 (8') 2.7 (9') 3.0 (10')	P3 P1 P1 P1 P1	P1 P1 P1 P2	P1 P2 P2 P2	P2 P2 P3	P3	P3 P3			P5	P5 P7 P7	P5 P7 P7	P7 P7 P8		P8 P10		P10
4.2 (14′)	4.8 (16') 5.1 (17') 2.1 (7') 2.4 (8') 2.7 (9') 3.0 (10') 3.3 (11') 3.6 (12')	P3 P1 P1 P1 P1 P1 P1	P1 P1 P1 P2 P2 P2	P1 P2 P2 P2 P2 P2 P3	P2 P2 P3 P3 P3	P3 P3 P3 P3 P3	P3 P3 P3 P4	P3 P4 P4 P5	P4 P4 P5 P5	P5 P5 P7	P7 P7 P7	P7 P7 P7	P7 P8 P8	P7 P8 P9 P10	P8 P10 P10 P10	P10 P10 P10 P10	P10 P10
4.2 (14′)	4.8 (16') 5.1 (17') 2.1 (7') 2.4 (8') 2.7 (9') 3.0 (10') 3.3 (11') 3.6 (12') 3.9 (13')	P3 P1 P1 P1 P1 P1 P2 P2	P1 P1 P1 P2 P2 P2 P2	P1 P2 P2 P2 P2 P2 P3 P3	P2 P2 P3 P3	P3 P3 P3 P3	P3 P3 P3 P4 P5	P3 P4 P4 P5 P5	P4 P4 P5 P5 P7	P5 P5	P7 P7 P7 P7	P7 P7 P7 P8	P7 P8	P7 P8 P9 P10 P10	P8 P10 P10	P10 P10 P10	P10 P10
4.2 (14′)	4.8 (16') 5.1 (17') 2.1 (7') 2.4 (8') 2.7 (9') 3.0 (10') 3.3 (11') 3.6 (12') 3.9 (13') 4.2 (14') 4.5 (15')	P3 P1 P1 P1 P1 P1 P2 P2 P2 P2 P3	P1 P1 P1 P2 P2 P2 P2 P2 P3 P3	P1 P2 P2 P2 P2 P3 P3 P3 P3	P2 P2 P3 P3 P3 P3 P3 P4 P4	P3 P3 P3 P3 P3 P3 P4 P4 P5	P3 P3 P3 P4 P5 P5 P5	P3 P4 P4 P5 P5 P5 P7	P4 P4 P5 P5 P7 P7	P5 P5 P7 P7 P7 P7	P7 P7 P7 P7 P7 P8 P8	P7 P7 P7 P8 P8 P10	P7 P8 P8 P10 P10	P7 P8 P9 P10	P8 P10 P10 P10 P10 -	P10 P10 P10 P10 -	P10 P10 - - -
4.2 (14′)	4.8 (16') 5.1 (17') 2.1 (7') 2.4 (8') 2.7 (9') 3.0 (10') 3.3 (11') 3.6 (12') 3.9 (13') 4.2 (14')	P3 P1 P1 P1 P1 P1 P2 P2 P2 P2 P3	P1 P1 P1 P2 P2 P2 P2 P2 P3	P1 P2 P2 P2 P2 P3 P3 P3	P2 P3 P3 P3 P3 P3 P4	P3 P3 P3 P3 P3 P4 P4	P3 P3 P3 P4 P5 P5	P3 P4 P4 P5 P5 P5	P4 P4 P5 P5 P7 P7	P5 P5 P7 P7 P7	P7 P7 P7 P7 P8	P7 P7 P7 P8 P8	P7 P8 P8 P10 P10	P7 P8 P9 P10 P10	P8 P10 P10 P10 P10	P10 P10 P10 P10 -	P10 P10 - -

LEGEND:

P1 = W150 x 14 (W6 x 9) P2 = W150 x 18 (W6 x 12) P3 = W150 x 22 (W6 x 15) P4 = W200 x 27 (W8 x 18) P5 = W200 x 31 (W8 x 21) P6 = W250 × 33 (W10 × 22) P7 = W250 × 39 (W10 × 22) P7 = W250 × 39 (W10 × 26) P8 = W360 × 45 (W14 × 30) P9 = W460 × 52 (W18 × 35) P10 = W460 × 60 (W18 × 40)



SIGN ON TWO POSTS SKETCH A

POST SELECTION EXAMPLE

FOR A SIGN WHERE

W = 1.8 m (6')H = 1.220 m (4')

 $L_B = 5.1 \text{ m } (17')$

TWO P2 = W150 \times 18 (W6 \times 12) STEEL POSTS ARE REQUIRED.

SIGN POST SELECTION NOTES:

- 1. DETERMINE VALUES OF "W", "H", AND "LB" AS INDICATED IN SKETCHES "A" OR "B".

 W = MAXIMUM WIDTH OF SIGN.

 - H = MAXIMUM HEIGHT OF SIGN.
 - L_B = MAXIMUM DISTANCE BETWEEN TOP OF A FOOTING AND BOTTOM OF SIGN.
- 2. FOR SELECTION OF POSTS, ENTER TABLES WITH VALUES OF "W", "H" AND "LB".
- 3. FOR A SIGN SIZE BETWEEN THOSE VALUES OF "W", "H" AND "L $_{\rm B}$ " IN THE TABLE, USE NEXT HIGHEST m (FT) VALUE.
- 4. ALL POSTS ARE ASTM A 572/A 572M, GRADE 345 (GRADE 50) STEEL.
- 5. USE THE LONGEST POST TO SELECT ALL POST SIZES.
- 6. POSTS IN THE SELECTION TABLE WITH AN "*" MUST HAVE A MINIMUM CLEAR SPACING OF 2.1 m (7') BETWEEN POSTS BY INCREASING THE 3/5 W SPACING. THE REMAINING SIGN WIDTH "W" SHOULD BE EQUALLY DISTRIBUTED TO THE OVERHANGS.
- 7. THERE IS NO NEED TO CHECK THE BELOW WEIGHT CRITERIA FOR POSTS DETERMINED USING THIS POST SELECTION TABLE. NO MORE THAN TWO POSTS MAY BE ERECTED WITHIN A 2.1 m (7') PATH. A SINGLE POST SPACED WITH A CLEAR DISTANCE OF 2.1 m (7') OR MORE FROM ANOTHER POST, SHALL HAVE A MASS NO GREATER THAN 65 Kg/m (44 LB/FT). THE TOTAL MASS BELOW THE HINCE PLATE, BUT ABOVE THE SHEAR PLATE OF THE BREAKAWAY BASE, SHALL NOT EXCEED 270 Kg (600 LB). FOR TWO POSTS SPACED WITH LESS THAN 2.1 m (7') CLEARANCE, EACH POST SHALL HAVE A MASS LESS THAN 25 Kg/m (17 LB/FT).
- 8. SEE SHEET 4 FOR THREE-POST INSTALLATION.

NOTES:

- 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 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 RECOMMENDED MAY 25, 2007 Splen C Rowe

m.lofatel

SHT. 2 OF 8

TC-8702A CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER OPERATIONS DIVISION

(TABLE CONTINUED FROM SHEET 2)

					POS	ST SEI	_ECTI	ON TA	BLE -	TWO	POSTS	·					
W	L _B	1 000	4 505	4 070	0 475	0 440	0 745		1T "H		m (FT		4 575	14.000	E 405	F 400	705
m (FT)	m (FT)	1.220	1.525 (5')	1.830 (6')	2.135 (7')	2.440 (8')	2.745 (9')	3.050 (10')	3• 355 (11')	3.660 (12')	3.965 (13')	(14')	4.575 (15')	4.880 (16')	5.185 (17')	5.490 (18′)	5.795 (19′)
	2.1 (7')	P1	P1 P1	P1 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P6 P6	P6 P7	P7 P7	P7 P8	P8 P10	P10 P10
	2.7 (9')	P1	P1	P2	P3	P3	P3	P4	P4	P5	P5	P7	P7	P8	P9	P10	P10
	3.0 (10')	P1	P2	P2	P3	P3	P3	P4	P5	P5 P7	P7 P7	P7 P7	P7	P8	P10	P10	P10
4.5 (15')	3.3 (11')		P2 P2	P3 P3	P3 P3	P3 P3	P4 P5	P5 P5	P5 P6	P7	P7	P8	P8 P9	P10 P10	P10 P10	P10 -	-
	3.9 (13')	P2	P3	P3	P3	P4	P5	P5	P7	P7	P8	P9	P10	P10	P10	-	-
	4.2 (14')		P3 P3	P3 P3	P4 P4	P5 P5	P5 P5	P7 P7	P7 P7	P7 P8	P8 P10	P10 P10	P10 P10	P10	-	-	-
	4.8 (16')	P3	P3	P4	P5	P5	P7	P7	P8	P9	-	-	-	-	-	-	-
	5.1 (17') 2.1 (7')	P3 P1	P3 P1	P4 P1	P5 P2	P5 P2	P7 P3	P7 P3	P8 P3	- P4	- P5	- P6	- P7	- P7	- P7	- P8	- P10
	2.4 (8')	P1	P1	P2	P2	P3	P3	P3	P4	P5	P5	P6	P7	P7	P8	P10	P10
	2.7 (9') 3.0 (10')	P1	P2 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P5	P5 P7	P7 P7	P7 P8	P8 P9	P10 P10	P10 P10	P10
	3.3 (11')		P2	P3	P3	P3	P4	P5	P5	P7	P7	P8	P9	P10	P10	P10	_
4.8 (16')	3.6 (12')	P2 P2	P2	P3 P3	P3 P4	P4 P4	P5 P5	P5	P7 P7	P7 P7	P7 P8	P8	P10 P10	P10 P10	P10	-	-
	3.9 (13') 4.2 (14')		P3 P3	P3	P4	P5	P5	P6 P7	P7	P8	P8	P10 P10	P10	P10	-	-	_
	4.5 (15')		P3	P4	P5	P5	P7	P7	P7	P8	P10	P10	P10	-	-	-	-
	4.8 (16') 5.1 (17')		P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P8	P8 P9	-	-	-	-	-	-	-	-
	2.1 (7')	P1	P1	P2	P2	Р3	P3	Р3	P4	P4	P5	P6	P7	P7	P7	P8	P10
	2.4 (8')	P1	P1 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7	P7 P8	P7 P9	P8 P10	P10 P10	P10 P10
	3.0 (10')	P1	P2	P3	P3	P3	P4	P5	P5	P5	P7	P7	P8	P10	P10	P10	-
5.1 (17')	3.3 (11')	P2 P2	P2 P3	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P6 P7	P7 P7	P7 P8	P8 P10	P10 P10	P10 P10	P10 P10	-	-
' ' ' ' '	3.9 (13')	P2	P3	P3	P4	P5	P5	P7	P7	P7	P8	P10	P10	P10	-	-	-
	4.2 (14')		P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P8	P8 P10	P10 P10	P10 P10	P10 -	-	-	-	-
	4.8 (16')	P3	P3	P4	P5	P7	P7	P7	P8	-	-	-	-	-	-	-	-
	5.1 (17') 2.1 (7')	P3	P4 P1	P5 P2	P5 P2	P7 P3	P7 P3	P8 P3	- P4	- P5	- P6	- P6	- P7	- P7	- P8	- P9	- P10
	2.4 (8')	P1	P1	P2	P3	P3	P3	P4	P4	P5	P6	P7	P7	P8	P10	P10	P10
	2.7 (9') 3.0 (10')	P1	P2 P2	P2 P3	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P8	P8 P10	P10 P10	P10 P10	P10 P10	-
	3.3 (11')	P2	P2	P3	P3	P4	P4	P5	P7	P7	P7	P9	P10	P10	P10	-	_
5.4 (18')		P2 P2	P3 P3	P3 P3	P3 P4	P4 P5	P5	P6 P7	P7 P7	P7	P8	P10	P10	P10	-	-	-
	3.9 (13') 4.2 (14')		P3	P3	P5	P5	P5 P7	P7	P7	P8 P9	P10 P10	P10 P10	P10 -	-	-	-	-
	4.5 (15')		P3	P4	P5	P5	P7	P7	P8	P10	P10	P10	-	-	-	-	-
	4.8 (16') 5.1 (17')		P4 P4	P5 P5	P5 P5	P7 P7	P7 P7	P8 P8	-	-	-	-	-	-	-	-	-
	2.1 (7')	P1	P1	P2	P2	P3	P3	P3	P4	P5	P6	P7	P7	P7	P8	P10	P10
	2.4 (8')	P1	P2 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P5	P7 P7	P7 P7	P7 P8	P8 P10	P10 P10	P10 P10	P10 -
	3.0 (10')	P2	P2	P3	P3	P3	P4	P5	P5	P7	P7	P8	P10	P10	P10	-	-
5.7 (19')	3.3 (11')	P2 P2	P2 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P7	P7	P7 P8	P8 P9	P10 P10	P10 P10	P10 -	-	-	-
,	3.9 (13')	P2	P3	P3	P4	P5	P6	P7	P7	P8	P10	P10	P10	-	-	-	-
	4.2 (14')		P3 P3	P4 P4	P5 P5	P5 P7	P7 P7	P7 P7	P8 P9	P10 P10	P10 P10	P10 -	-	-	-	-	-
	4.8 (16')	P3	P4	P5	P5	P7	P7	P8	-	-	-	-	-	-	-	-	-
	5.1 (17') 2.1 (7')	P3	P4 P1	P5 P2	P7 P2	P7 P3	P8 P3	P9 P4	- P4	- P6	- P6	- P7	- P7	- P8	- P9	- P10	- P10
	2.4 (8')	P1	P2	P2	P3	P3	P3	P4	P5	P6	P7	P7	P7	P8	P10	P10	-
	2.7 (9') 3.0 (10')	P1 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P5	P7 P7	P7 P7	P7 P9	P10 P10	P10 P10	P10 P10	-	-
	3.3 (11')	P2	P3	P3	P3	P4	P5	P5	P7	P7	P8	P10	P10	P10	-	=	-
6.0 (20')	3.6 (12') 3.9 (13')		P3 P3	P3 P3	P4 P5	P5 P5	P5 P7	P7 P7	P7 P7	P8	P10 P10	P10 P10	P10 -	-	-	-	<u> </u>
	4.2 (14')	P3	P3	P4	P5	P5	P7	P7	P8	P10	P10	P10	-	-	-	-	-
	4.5 (15')		P4 P4	P5 P5	P5 P5	P7 P7	P7 P7	P8 P8	P10	P10	P10	-	-	-	-	-	-
	5.1 (17')		P4	P5	P7	P7	P8	-	-	-	-	-	-	-	-	-	-
	2.1 (7')	P1 P1	P1 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P6 P6	P6 P7	P7 P7	P7 P8	P8 P10	P10 P10	P10 P10	P10 -
	2.7 (9')	P1	P2	P3	P3	P3	P4	P5	P5	P7	P7	P8	P10	P10	P10	-	-
	3.0 (10') 3.3 (11')		P2 P3	P3 P3	P3 P3	P4 P4	P5 P5	P5 P5	P7 P7	P7 P7	P8 P9	P10 P10	P10 P10	P10	-	-	-
6.3 (21')	3.6 (12')	P2	P3	P3	P4	P5	P5	P7	P7	P8	P10	P10	P10	-	-	-	-
	3.9 (13') 4.2 (14')	P3	P3 P3	P3 P4	P5 P5	P5 P6	P7 P7	P7	P8 P9	P10	P10 P10	P10	-	-	-	-	-
	4.5 (14')	P3	P4	P5	P5	P7	P7	P7 P8	P10	P10 P10	P10	-	-	-	-	-	-
	4.8 (16')	P3	P4	P5	P7	P7	P8	-	-	-	-	-	-	-	-	-	-
	5.1 (17') 2.1 (7')	P4 P1	P5 P1	P5 P2	P7 P3	P7 P3	P8 P3	- P4	- P5	- P6	- P7	- P7	- P7	- P8	- P10	- P10	-
	2.4 (8')	P1	P2	P2	Р3	P3	P4	P5	P5	P6	P7	P7	P8	P10	P10	-	-
	2.7 (9') 3.0 (10')	P2 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P8	P8 P10	P10 P10	P10 P10	P10 -	-	-
	3.3 (11')	P2	P3	P3	P4	P5	P5	P7	P7	P8	P10	P10	P10	-	-	-	-
6.6 (22')	3.6 (12') 3.9 (13')	P2 P3	P3 P3	P3 P4	P4 P5	P5 P5	P7 P7	P7 P7	P7 P8	P9 P10	P10 P10	P10 P10	-	-	-	-	-
	4.2 (14')	P3	P3	P4	P5	P7	P7	P8	P10	P10	P10	-	-	-	-	-	-
	4.5 (15') 4.8 (16')		P4 P4	P5 P5	P5 P7	P7 P7	P7 P8	P8	P10	P10		-	-	-	-	-	-
	5.1 (17')		P5	P5	P7	P7	P9		-			-	-	-	-	-	-
•																	

LEGEND:

P1 = W150 × 14 (W6 × 9)
P2 = W150 × 18 (W6 × 12)
P3 = W150 × 22 (W6 × 15)
P4 = W200 × 27 (W8 × 18)
P5 = W200 × 31 (W8 × 21)
P6 = W250 × 33 (W10 × 22)
P7 = W250 × 39 (W10 × 26)
P8 = W360 × 45 (W14 × 30)
P9 = W460 × 52 (W18 × 35)
P10 = W460 × 60 (W18 × 40)

NOTES:

- SEE SHEET 2 FOR SIGN POST SELECTION NOTES AND SHEET 4 FOR SIGNS ON THREE POSTS.
- 2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 3. 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

LUL C Power CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER OPERATIONS DIVISION

RECOMMENDED MAY 25, 2007

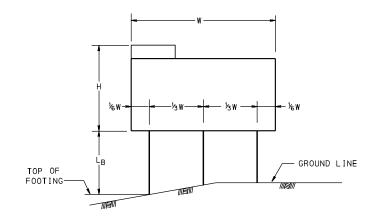
TC-8702A

SHT. 3 OF 8

					POST S	SELECT	ION T	ABLE -	- THRE	E POS	TS				
٧	1	L _B				0 175		IGHT		l m (F					
m (FT)	m (FT)	1.220 (4')	1.525 (5')	1.830 (6')	2.135 (7')	2.440 (8')	2.745 (9')	3.050 (10')	3.355 (11')	3.660 (12')	3.965 (13')	4.270 (14')	4.575 (15')	4.880 (16')
		2.1 (7')	P1 P1	P1 P1	P1 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P5	P6 P7	P7 P7
		2.7 (9')	P1	P1	P2	P2	P3	P3	P3	P4	P5	P5	P7	P7	P8
		3.0 (10') 3.3 (11')	P1 P1	P2 P2	P2 P3	P3 P3	P3 P3	P3 P4	P4	P5 P5	P5 P7	P7 P7	P7 P7	P7 P8	P8 P10
6.6 (22′)	3.6 (12')	P2	P2	P3	P3	Р3	P4	P5	P5	P7	P7	P8	P9	P10
		3.9 (13') 4.2 (14')	P2 P2	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P7	P7 P8	P8 P10	P10 P10	P10 P10
		4.5 (15')	P3	P3	P3	P4	P5	P5	P7	P7	P8	-	-	-	-
		4.8 (16') 5.1 (17')	P3 P3	P3 P3	P4 P4	P5 P5	P5 P5	P7 P7	P7 P7	P7 P8	P8 -	-	-	-	-
		2.1 (7')	P1	P1	P1	P2	P2	Р3	P3	P3	P4	P5	P6	P6	P7
		2.4 (8')	P1 P1	P1 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P5	P6 P7	P7 P7	P7 P8
		3.0 (10')	P1	P2	P2	P3	P3	P3	P4	P5	P5	P7	P7	P8	P9
6.9 (23′)	3.3 (11') 3.6 (12')	P2 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P7	P7 P8	P8 P10	P10 P10
		3.9 (13')	P2	P3	P3	P3 P4	P4	P5 P5	P5	P7	P7	P8	P10	P10	P10
		4.2 (14')	P2 P3	P3 P3	P3 P4	P4	P5 P5	P6	P7 P7	P7 P7	P7 P8	P8 -	P10 -	P10 -	P10 -
		4.8 (16')	P3 P3	P3 P3	P4 P4	P5 P5	P5 P7	P7 P7	P7 P7	P8 P8	P9 -	-	-	-	-
		5.1 (17') 2.1 (7')	P1	P1	P1	P2	P2	P3	P3	P3	P4	P5	P6	P7	P7
		2.4 (8')	P1	P1	P2	P2	P3	P3 P3	P3	P4	P5	P5 P5	P6 P7	P7 P7	P7
		3.0 (10')	P1 P1	P2 P2	P2 P2	P3 P3	Р3	P4	P4 P4	P5 P5	P5 P5	P7	P7	P8	P8 P10
7 2 '	24.	3.3 (11')	P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P7	P8 P8	P9 P10	P10 P10
(24 /	3.6 (12') 3.9 (13')	P2 P2	P3	P3	P4	P5	P5	P6	P7	P7	P8	P10	P10	P10
		4.2 (14') 4.5 (15')	P2 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P7	P8 P8	P9 -	P10	P10	-
	ŀ	4.8 (16')	P3	P3	P4	P5	P5	P7	P7	P8	-	-	-	-	-
		5.1 (17') 2.1 (7')	P3 P1	P4 P1	P5 P2	P5 P2	P7 P3	P7 P3	P8 P3	P9 P4	- P4	- P5	- P6	- P7	- P7
	ŀ	2.4 (8')	P1	P1	P2	P2	Р3	Р3	P3	P4	P5	P5	P7	P7	P7
		2.7 (9') 3.0 (10')	P1 P1	P2 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P5	P6 P7	P7 P7	P7 P8	P8 P10
. -		3.3 (11')	P2	P2	P3	P3	Р3	P4	P5	P6	P7	P7	P8	P10	P10
7.5 (25′)	3.6 (12') 3.9 (13')	P2 P2	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P7	P8 P8	P9 P10	P10 P10	P10 P10
		4.2 (14')	P2	P3	P3	P4	P5	P5	P7	P7	P8	P10	P10	P10	-
		4.5 (15') 4.8 (16')	P3 P3	P3 P3	P4 P4	P5 P5	P5 P6	P7 P7	P7 P7	P8 P8	P9 -	-	-	-	-
		5.1 (17')	Р3	P4	P5	P5	P7	P7	P8	-	-	-	-	-	-
	ŀ	2.1 (7')	P1 P1	P1 P1	P2 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P6 P6	P6 P7	P7 P7	P7 P7
		2.7 (9')	P1	P2	P2	P3	P3	P3	P4	P5	P5	P7	P7	P8	P9
		3.0 (10') 3.3 (11')	P1 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P7	P7 P7	P7 P7	P8 P8	P9 P10	P10 P10
7.8 (26′)	3.6 (12')	P2	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P8	P8 P9	P10 P10	P10	P10
		3.9 (13') 4.2 (14')	P2 P3	P3	P4	P4	P5	P7	P7	P7	P8	P10	P10	P10 P10	-
		4.5 (15') 4.8 (16')	P3 P3	P3 P4	P4 P4	P5 P5	P5 P7	P7 P7	P7 P7	P8 P9	-	-	-	-	-
		5.1 (17')	P3	P4	P5	P5	P7	P7	P8	1	-	-	-	-	-
		2.1 (7')	P1 P1	P1 P2	P2 P2	P2 P3	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P6 P6	P6 P7	P7 P7	P7 P8
		2.7 (9')	P1	P2	P2	P3	P3	P3	P4	P5	P5	P7	P7	P8	P10
		3.0 (10')	P2 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P8	P8 P9	P10 P10	P10 P10
8.1 (27')	3.6 (12')	P2	P3	P3	P3	P4	P5	P7	P7	P7	P8	P10	P10	P10
		4.2 (14')	P2 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7	P7 P7	P8 P9	P10 P10	P10 P10	P10 -	-
		4.5 (15')	P3	P3	P4	P5	P5	P7	P7	P8	-	-	-	-	-
		4.8 (16') 5.1 (17')	P3 P3	P4 P4	P5 P5	P5 P5	P7 P7	P7 P7	P8 P8	-	-	-	-	-	-
		2.1 (7')	P1 P1	P1 P2	P2 P2	P2 P3	P3	P3	P3	P4 P5	P5 P5	P6 P7	P7 P7	P7 P7	P7 P8
	ŀ	2.7 (9')	P1	P2	P2	P3	Р3	P3 P4	P4	P5	P5	P7	P7	P8	P10
		3.0 (10') 3.3 (11')	P2 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P8	P8 P9	P10 P10	P10 P10
8.4 (28′)	3.6 (12')	P2	P3	P3	P3	P4	P5	P7	P7	P7	P9	P10	P10	P10
		3.9 (13') 4.2 (14')	P2 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P7	P7 P7	P7 P8	P8 P10	P10 P10	P10 P10	P10 -	-
		4.5 (15')	Р3	P3	P4	P5	P6	P7	P7	P8	-	-	-	-	-
	ŀ	4.8 (16') 5.1 (17')	P3 P3	P4 P4	P5 P5	P5 P6	P7 P7	P7 P7	P8 P9	-	-	-	-	-	-
		2.1 (7')	P1	P1	P2	P2	Р3	Р3	P3	P4	P5	P6	P7	P7	P7
	}	2.4 (8')	P1 P1	P2 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P5	P5 P5	P5 P6	P7 P7	P7 P7	P7 P9	P8 P10
		3.0 (10')	P2	P2	P3	P3	P3	P4	P5	P5	P7	P7	P8	P10	P10
8.7 (29′)	3.3 (11') 3.6 (12')	P2 P2	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P7	P7 P7	P7 P8	P8 P9	P10 P10	P10 P10	P10 -
		3.9 (13')	P2	P3	P3	P4	P5	P6	P7	P7	P8	P10	P10	P10	-
	}	4.2 (14')	P3 P3	P3 P3	P4 P4	P5 P5	P5 P7	P7 P7	P7 P8	P8 P9	P10 -	P10 -	P10 -	-	-
		4.8 (16')	P3	P4	P5	P5	P7	P7	P8	-	-	-	-	-	-
		5.1 (17') 2.1 (7')	P3 P1	P4 P1	P5 P2	P7 P2	P7 P3	P8 P3	- P4	- P4	- P6	- P6	- P7	- P7	- P8
		2.4 (8')	P1	P2	P2	Р3	Р3	P3	P4	P5	P6	P7	P7	P7	P8
	}	2.7 (9') 3.0 (10')	P1 P2	P2 P2	P3 P3	P3 P3	P3 P4	P4 P4	P5 P5	P5 P5	P7 P7	P7 P8	P7 P9	P10 P10	P10 P10
a		3.3 (11') 3.6 (12')	P2 P2	P3	P3	P3	P4 P5	P5 P5	P5 P7	P7 P7	P7 P8	P8	P10 P10	P10 P10	P10
	20.1	3.6 (12')	P2 P3	P3	P3	P5	P5	P7	P7	P8	P9	P10 P10	P10	P10 -	-
9. U (- 1	3 (13 /					P5	P7	P7	P8	P10	P10	P10	-	-
3.U (4.2 (14')	P3	P3	P4	P5									
9. O (P3 P3 P3 P3	P3 P4 P4 P5	P4 P5 P5 P5	P5 P5 P5	P7 P7 P7	P7 P7 P7	P8 P8			- - -	-	-	-

LEGEND:

P1 = W150 x 14 (W6 x 9)
P2 = W150 x 18 (W6 x 12)
P3 = W150 x 22 (W6 x 15)
P4 = W200 x 27 (W8 x 18)
P5 = W200 x 31 (W8 x 21)
P6 = W250 x 33 (W10 x 22)
P7 = W250 x 39 (W10 x 26)
P8 = W360 x 45 (W14 x 30)
P9 = W460 x 52 (W18 x 35)
P10 = W460 x 60 (W18 x 40)



SIGN ON THREE POSTS

SKETCH B

- 1. SEE SHEETS 2 AND 3 FOR SIGN POST SELECTION NOTES AND SIGNS
- 2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 3. 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

LILL C POWE

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

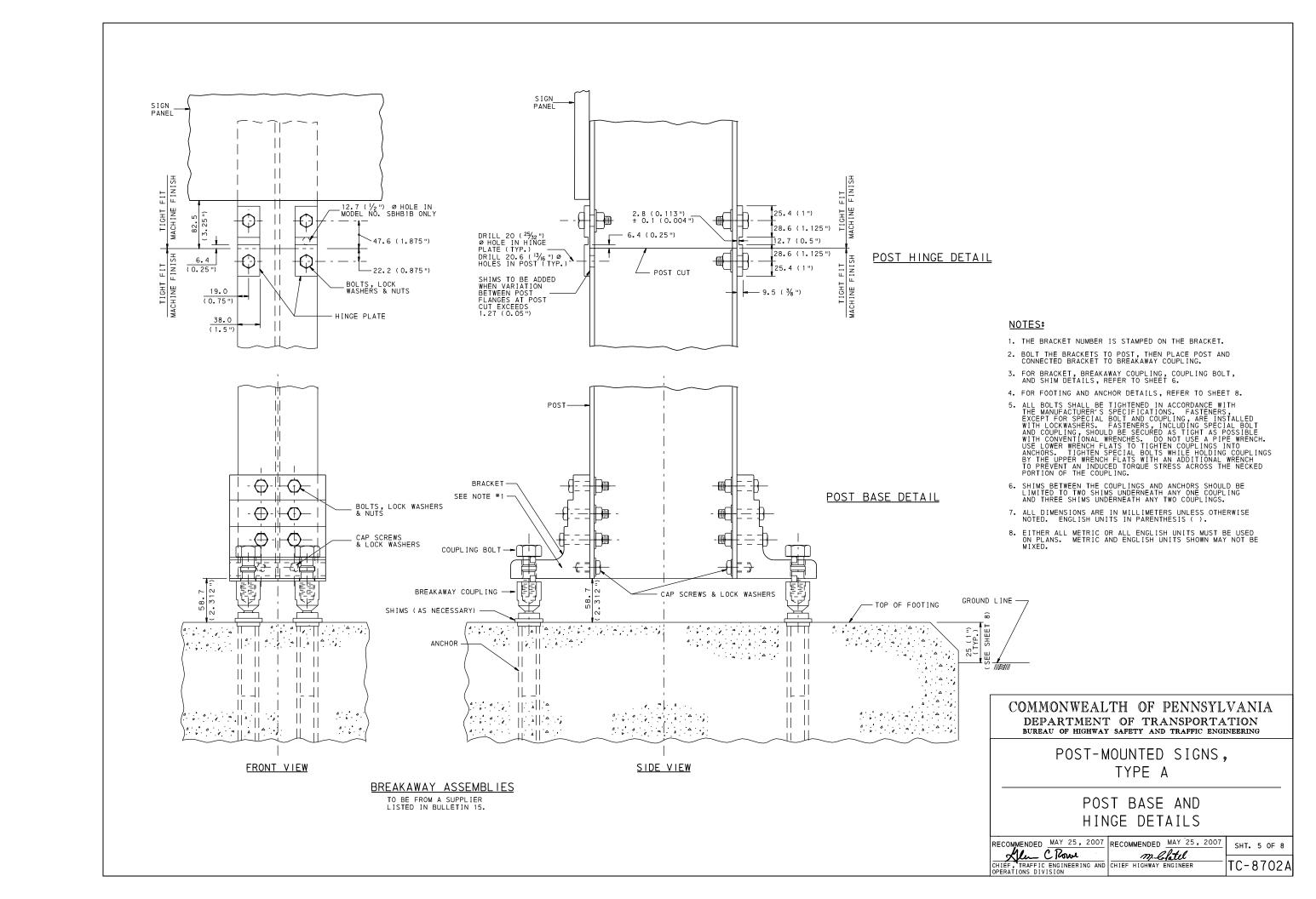
RECOMMENDED MAY 25, 2007

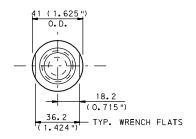
MICHAEL

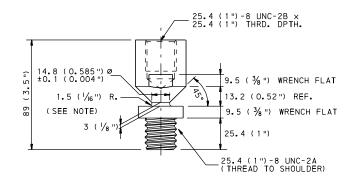
CHIEF HIGHWAY ENGINEER

SHT. 4 OF 8

TC-8702A

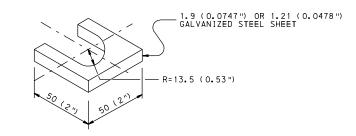




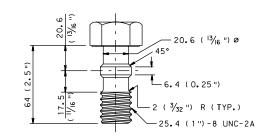


BREAKAWAY COUPLING DETAIL

NOTE: DO NOT PLACE TORQUE ACROSS NECK PORTION OF COUPLING.



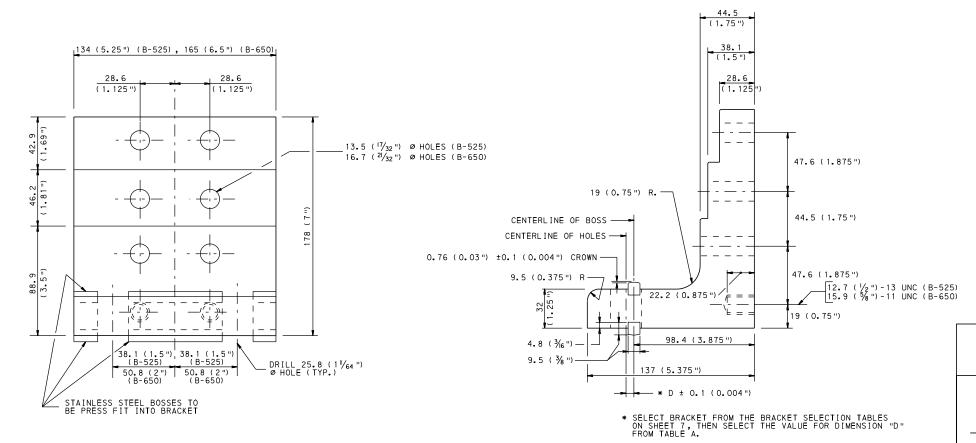
SHIM DETAIL



COUPLING BOLT DETAIL

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 2. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.



BRACKET DETAIL

BRACKET NO.	D mm (INCHES)
1	2.5 (0.100")
2	3.8 (0.150")
3	5.1 (0.200")

TABLE A

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

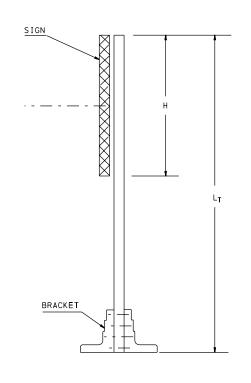
POST-MOUNTED SIGNS,
TYPE A

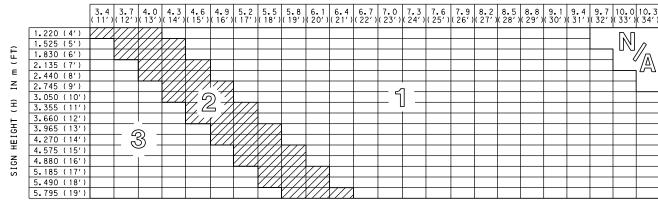
BREAKAWAY COUPLING AND BRACKET DETAILS

SHT. 6 OF 8 TC-8702A

RECOMMENDED MAY 25, 2	2007	RECOMME	NDED	MAY	25,	200
Sle C Rowe				Plato		
CHIEF, TRAFFIC ENGINEERING OPERATIONS DIVISION	G AND	CHIEF HIO	SHWAY	ENGIN	EER	

W150 (W6) POST POST LENGTH (L_T) IN m (FT)





W200 (W8) POST

POST LENGTH (L_T) IN m (FT)

		3.4 (11′)	3.7 (12′)	4.0 (13′)	4.3 (14′)	4.6 (15′)	4.9 (16')	5.2 (17′)	5.5 (18′)	5.8 (19′)	6 . 1 (20′)	6.4 (21′)	6.7 (22′)	7.0 (23′)	7.3 (24′)	7 . 6 (25′)	7 . 9 (26′)	8•2 (27′)	8.5 (28′)	8.8 (29′)	9 . 1 (30′)	9.4 (31′)	9.7 (32′)	10.0 (33′)	10.3 (34′)
	1.220 (4')																							ΓП	
_	1.525 (5')					U/L	\times	1																. /\	Λ
Ħ	1.830 (6')					<i>Y///</i>	<u> </u>	1																	//_
_	2.135 (7')						\mathcal{U}																	,	
Ε	2.440 (8')						<i>X///</i>		1																" "
z	2.745 (9')						\mathcal{U}	1//	<u> </u>						· 1 —										
~	3.050 (10')						X//	k 9	1 //					_ ነ											
£	3.355 (11')								1 <i>77</i>																
-	3.660 (12')						V/Z	7//	1///																
픙	3.965 (13')		L	<i>-</i>																					
не і сн т	4.270 (14')			33]																					
	4.575 (15')																								
NS	4.880 (16')																								
SI	5.185 (17')																								
	5.490 (18')																								
	5.795 (19')																								

NOTES FOR SELECTION OF BRACKET NUMBER:

- FOR EACH POST, DETERMINE VALUES OF "L " AND "H" AS INDICATED IN SKETCH.
- H = MAXIMUM HEIGHT OF SIGN IN m (FT). $L_{\rm T}$ = DISTANCE BETWEEN THE TOP OF FOOTING AND THE TOP OF SIGN IN m (FT) FOR EACH POST.
- 2. ENTER TABLE WITH "H" AND "LT" TO SELECT THE REQUIRED BRACKET FOR THAT POST.
- 3. FOR SIZES OF "H" AND "LT" BETWEEN THOSE VALUES ON THE TABLE, USE THE NEXT HIGHEST VALUE.

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 2. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.

B-525 BRACKET TABLES

<u>W250 (W10) POST</u>

POST LENGTH (L_T) IN m (FT)

1.525 (5') 1.830 (6') 2.440 (8′) Z .745 (9') .050 (10' 3.355 (11/ 3.965 (13') 3 4.880 (16' 5.185 (17') 5.795 (19') <u>W460 (W18) POST</u>

POST LENGTH (L_T) IN m (FT)

1.220 (4') 1.525 (5') 1.830 (6') 2.135 (7') 2.440 (8') 2.745 (9') 2 .050 (10' 3.355 (11') 3,660 (121) 3.965 (13') 4.270 (14') 4.575 (15') 4.880 (16') 5.185 (17′) 5.490 (18'

B-650 BRACKET TABLES

W360 (W14) POST POST LENGTH (L_T) IN m (FT)

		3.4 (11′)	3.7 (12′)	4.0 (13′)	4.3 (14′)	4.6 (15′)	4.9 (16′)	5.2 (17′)	5.5 (18′)	5.8 (19′)	6.1 (20′)	6.4 (21′)	6.7 (22′)	7.0 (23′)	7.3 (24′)	7.6 (25′)	7.9 (26′)	8.2 (27′)	8.5 (28′)	8.8 (29′)	9 . 1 (30′)	9 . 4 (31′)	9.7 (32′)	10.0 (33′)(10.3 34′)
	1.220 (4')							///		777														ГУП	
_	1.525 (5')							7//																11/1	ρ
╁	1.830 (6')							///		///														ر/ تا	/ _/
_	2.135 (7')																								/ <u>A</u> \
E	2.440 (8')												7//												<i>-</i> -
z	2.745 (9')									777,			<i>: 7</i>							ı					
_	3.050 (10')				- G	33 ==													_ 7						
Ξ	3.355 (11')				_	_						Z <u>'</u>	5 /							, –					
⊢	3.660 (12')				_							///	77												
E	3.965 (13')												777												
Ŧ	4.270 (14')												///												
	4.575 (15')												777,	////			///								
8	4.880 (16')																								
SI	5.185 (17')																								
	5.490 (18')																///								
	5.795 (19')																								

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

> POST-MOUNTED SIGNS, TYPE A

BRACKET SELECTION TABLES

RECOMMENDED MAY 25, 2007

LILL C Power RECOMMENDED MAY 25, 2007

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

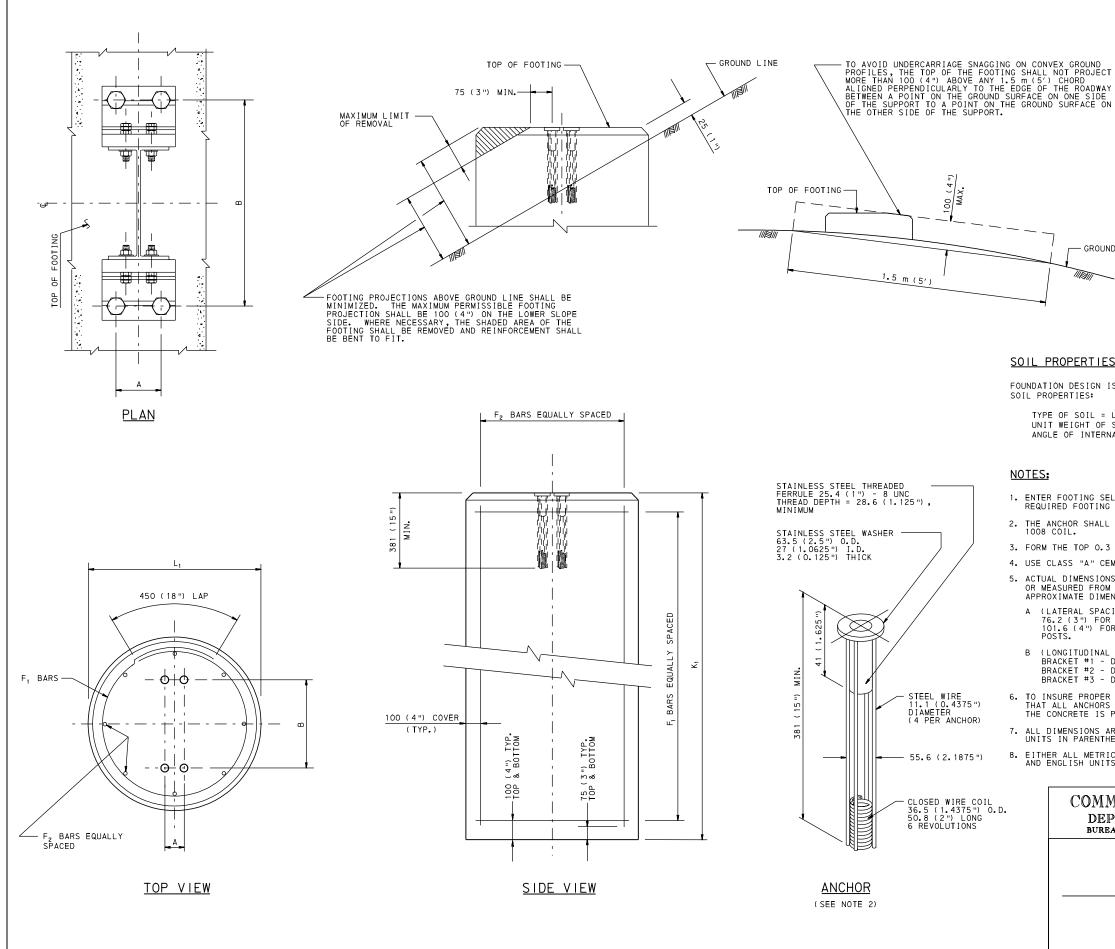
RECOMMENDED MAY 25, 2007

M. Chief Highway Engineer

CHIEF HIGHWAY ENGINEER

SHT. 7 OF 8

TC-8702A



METRIC UNITS

POST SIZE	L ₁ * (m)	DEPTH K ₁ (m)	REINF. STEEL F ₁	REINF. STEEL F ₂
W150	0.75	2.30	8-#13	8-#22
W200	0.15	2.60	9-#13	8-#22
W250	0.90	2.75	10-#13	10-#22
W360	0.30	2.13	1013	1022
W460	1.05	2.90	10-#13	12-#22

ENGLISH UNITS

POST SIZE	L ₁ * (FT)	DEPTH K ₁ (FT)	REINF. STEEL F ₁	REINF. STEEL F ₂
W6	2 -	7.50	8-#4	8-#7
W8	2.5	8.50	9-#4	8-#7
W10	7.0	9.00	10-#4	10-#7
W14	3.0	9.00	10-#4	10-#1
W18	3.5	9.50	10-#4	12-#7

FOOTING SELECTION TABLE

SOIL PROPERTIES:

- GROUND LINE

FOUNDATION DESIGN IS BASED ON BROMS' METHOD USING THE FOLLOWING SOIL PROPERTIES:

TYPE OF SOIL = LOOSE-MEDIUM SAND UNIT WEIGHT OF SOIL (δ) = 18.85 kN/m (120 PCF) ANGLE OF INTERNAL FRICTION (Ø) = 25°.

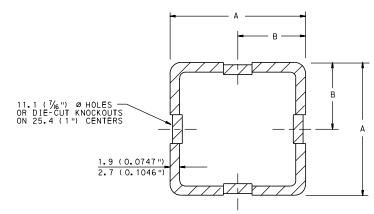
- 1. ENTER FOOTING SELECTION TABLE WITH REQUIRED POST SIZE AND FIND REQUIRED FOOTING VALUES AS SHOWN IN DETAILS.
- 2. THE ANCHOR SHALL BE 304 STAINLESS STEEL WITH 1045 STEEL ROD AND 1008 COIL.
- 3. FORM THE TOP 0.3 m (1') OF THE FOOTING.
- 4. USE CLASS "A" CEMENT CONCRETE IN ALL FOOTINGS.
- 5. ACTUAL DIMENSIONS "A" & "B" SHOULD BE OBTAINED FROM THE MANUFACTURER OR MEASURED FROM THE ASSEMBLED BRACKETS PRIOR TO PLACEMENT OF ANCHORS. APPROXIMATE DIMENSIONS ARE AS FOLLOWS:
- A (LATERAL SPACING OF ANCHORS) 76.2 (3") FOR B-525 USED ON W150 (W6) & W200 (W8) POSTS. 101.6 (4") FOR B-650 USED ON W250 (W10), W360 (W14) & W460 (W18) POSTS.
- B (LONGITUDINAL SPACING OF ANCHORS) BRACKET #1 DEPTH OF POST SECTION PLUS 201.6 ($7^{15}/_{16}$ "). BRACKET #2 DEPTH OF POST SECTION PLUS 204.8 ($8^1/_{16}$ "). BRACKET #3 DEPTH OF POST SECTION PLUS 206.4 ($8^1/_{16}$ ").
- 6. TO INSURE PROPER SPACING AND ALIGNMENT OF ANCHORS, IT IS RECOMMENDED THAT ALL ANCHORS BE HELD IN PLACE BY A RIGID MACHINED TEMPLATE WHILE THE CONCRETE IS PLACED AND CURED.
- 7. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 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

POST-MOUNTED SIGNS, TYPE A

FOOTING DETAILS

RECOMMENDED MAY 25, 2007 RECOMMENDED MAY 25, 2007 SHT. 8 OF 8 Splen C Rowe TC-8702A CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER OPERATIONS DIVISION



METRIC UNITS (mm)

S	IGN	P0S1	Γ	A٨	CHOF	PO:	ST	ANC	HOR	SLEE	VE *	SPL	ICE	SLEE	VE
SIZE	DIMEN	IS I ON B	THICK.	SIZE	DIMEN	IS I ON B	THICK.	SIZE	DIMEN	NS I ON	тніск.	SIZE	DIMEN	NS I ON B	THICK.
44.5	44.5	22.2	1.9	50.8	50.8	25.4	2.7	57.2	57.2	28.6	2.7	38.1	38.1	19.0	1.9
50.8	50.8	25.4	1.9	57.2	57.2	28.6	2.7	63.5	63.5	31.8	2.7	44.5	44.5	22.2	1.9
57.2	57.2	28.6	1.9	63.5	63.5	31.8	2.7	76.2	76.2	38.1	4.8	50.8	50.8	25.4	1.9

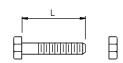
ENGLISH UNITS (INCHES)

S	IGN	POST		AN	CHOF	POS	Т	ANC	HOR :	SLEEV	/E *	SPL	ICE	SLEE	/E
SIZE	DIME	NSION	THICK.	SIZE	DIMEN	IS I ON	THICK.	SIZE	DIME	NSION	THICK.	SIZE	DIME	NS I ON	THICK.
1 75 11	1 75 H	D 075 H	0.0747"	2 00 "	A 00 II		0 1046 11	2 25 11	A 25 II	B	0 1046	1 50 11	1 FO	-	0 074711
							0.1046"						_		0.0747"
			0.0747"												

* ONLY REQUIRED FOR INSTALLATIONS IN CONCRETE.

SQUARE STEEL POSTS SYSTEM A

2.7 mm (0.1046") AND 1.9 mm (0.0747") - 415 MPa (60 KSI)



METRIC UNITS

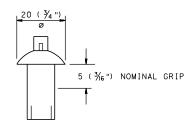
SIGN POST SIZE (mm)	DIMENSION L (mm)
44.5	75
50.8	15
57.2	90

ENGLISH UNITS DIMENSION SIZE (INCHES) (INCHES) 1.75 3.0 2.00

3.5

$\frac{\text{M10} \times 1.5 \text{ (} \frac{3}{8}\text{"} - 16 \text{ UNC)}}{\text{ANCHOR BOLTS & NUTS}}$

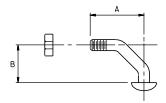
CADMIUM PLATED STEEL, ZINC PLATED STEEL OR ALUMINUM



2.25

<u>10 (3/4 ") DRIVE RIVET</u>

CADMIUM PLATED STEEL, ZINC PLATED STEEL OR ALUMINUM



ENGLISH UNITS

2.25 1.562 1.188

1.75

2.00

DIMENSION

(INCHES)

А В

0.969

METRIC UNITS

SIGN POST SIZE	DIME1	NSION nm)		
(mm)	Α	В		
44.5	34.13	24.61		
50.8	34.13	24.01		
57.2	39.69	30.16		

$\frac{\text{M8} \times 1.25 \ (\frac{5}{16}\text{"-} 18 \ \text{UNC})}{\text{CORNER BOLTS & NUTS}}$

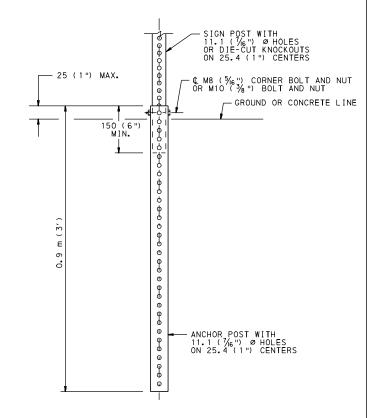
CADMIUM PLATED STEEL, ZINC PLATED STEEL OR ALUMINUM

INSTALLATION INSTRUCTIONS:

- DETERMINE THE PROPER SIZE AND NUMBER OF SIGN POSTS FROM THE APPROPRIATE GRAPH ON SHEET 2 OF 9.
- 2. PUNCH OUT APPROPRIATE KNOCKOUTS AND ATTACH THE SIGN.
- 3. DETERMINE THE PROPER SIZE ANCHOR POST FROM THE SQUARE STEEL POSTS TABLE ON THIS SHEET.
- 4. DRIVE THE ANCHOR POST INTO THE GROUND, USING THE APPROPRIATE SIZE DRIVE CAP, UNTIL ONLY ONE HOLE REMAINS ABOVE THE GROUND OR FINISHED ELEVATION OF THE CONCRETE.
- 5. PUNCH OUT THE SIXTH KNOCKOUTS FROM THE BOTTOM OF THE SIGN POST.
- SLIDE 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 M8 ($\%_6$ ") CORNER BOLT AND NUT (OR ALTERNATELY ONE M10 ($\%_8$ ") BOLT AND NUT) THROUGH THE TOP HOLE OF THE ANCHOR POST.
- 8. TIGHTEN THE BOLT AND NUT BY THE TURN-OF-NUT METHOD.
 BRING NUT TO A SNUG CONDITION TO ENSURE THAT ALL PARTS
 ARE BROUGHT TOGETHER INTO FULL CONTACT WITH EACH OTHER,
 THEN TIGHTEN AN ADDITIONAL 1/2 TURN.

INSTALLATION IN CONCRETE:

INSTALL AS NOTED ABOVE, BUT PLACE A 450 (18") LONG ANCHOR SLEEVE OUTSIDE THE ANCHOR POST SO THAT THE TOPS OF THE ANCHOR POST AND ANCHOR SLEEVE ARE EVEN. SELECT THE PROPER SIZE ANCHOR SLEEVE FROM THE SQUARE STEEL POSTS TABLE ON THIS SHEET.



INSTALLATION DETAIL

NOTES:

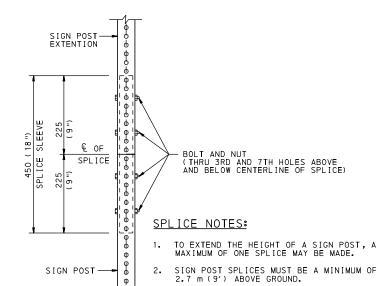
- 1. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH PUB. 408.
- 2. SIGN POSTS AND SPLICE SLEEVES SHALL HAVE 11.1 mm ($\frac{1}{16}$ ") DIAMETER HOLES OR DIE-CUT KNOCKOUTS ON 25.4 mm (1") CENTERS ON ALL FOUR SIDES. ANCHOR POSTS AND ANCHOR SLEEVES SHALL HAVE 11.1 mm ($\frac{1}{16}$ ") DIAMETER HOLES ON 25.4 mm (1") CENTERS ON ALL FOUR SIDES.
- 3. BOLTS AND NUTS SHALL BE ASTM A 307, GRADE B.
- 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 PARENTHESIS ().
- 6. 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 B

STEEL SQUARE POSTS (SYSTEM A) **ERECTION DETAILS**

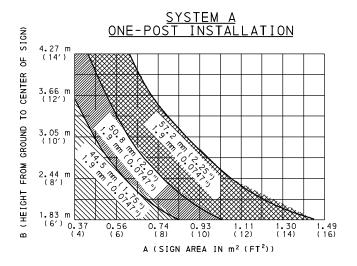
RECOMMENDED MAY 25, 2007 RECOMMENDED MAY 25, 2007 SHT. 1 OF 9 Sle C Rowe m.lofatel TC-8702B CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER OPERATIONS DIVISION

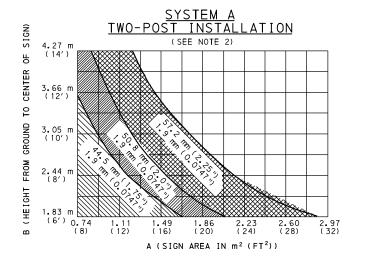


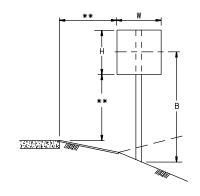
SELECT THE PROPER SIZE SPLICE SLEEVE FROM THE SQUARE STEEL POSTS TABLE ON THIS SHEET.

SPLICE DETAIL

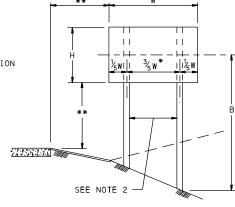
3.







- * WHEN ERECTING STANDARD WARNING OR REGULATORY SIGNS THAT ARE PREPUNCHED, THIS DISTANCE IS THE DISTANCE BETWEEN THE HORIZONTAL HOLES.
- ** SEE SHEET 9 OF 9 FOR SIGN LOCATION/INSTALLATION DETAILS.



A = SIGN AREA (SEE TABLE). A = W × H FOR SQUARE OR RECTANGULAR SIGNS, WHERE: W = WIDTH OF SIGN H = HEIGHT OF SIGN

METRIC UNITS

				SIG	N AREA TA	ABLE		
	SQUA	RE OR RECT	TANGULAR SI	GNS		IRREGULAR SHAPED SIGNS		
SIZE (mm x mm)	AREA (m²)	SIZE (mm × mm)	AREA (m²)	SIZE (mm x mm)	AREA (m²)	SIGN (mm × mm)	AREA (m²)	
200×1200	0.24	750×375	0.28	1800×300	0.54	YIELD (R1-2) 900 x 900	0.35	
300×450	0.14	750×600	0.45	1800×600	1.08	YIELD (R1-2) 1200 x 1200	0.62	
300×600	0.18	750×750	0.56	1800×900	1.62	YIELD (R1-2) 1500 x 1500	0.97	
300×750	0.22	750×900	0.68	1800×1200	2.16	NO PASSING PENNANT (W14-3)1200 x 900	0.50	
300×900	0.27	750×1200	0.90	1800×1500	2.70	RAILROAD WARNING (W10-1) 900 DIA.	0.64	
300×1200	0.36	750×1500	1.12	2400×600	1.44	SCHOOL (S1-1) 750 x 750	0.42	
450×375	0.17	900×900	0.81	2400×1200	2.88	SCHOOL (S1-1) 900 x 900	0.61	
450×450	0.20	900×1200	1.08	3000×300	0.90	STOP (R1-1)600 x 600	0.30	
450×600	0.27	900×1350	1.22	3000×375	1.12	STOP (R1-1) 750 x 750	0.47	
450×900	0.40	1200×1200	1.44	3000×600	1.80	STOP (R1-1) 900 x 900	0.67	
450×1200	0.54	1200×1500	1.80	3000×750	2.25	STOP (R1-1) 1200 x 1200	1.19	
525×375	0.20	1500×300	0.45	3600×300	1.08	INTERSTATE ROUTE MARKER (M1-1) 600 x 600	0.29	
600×600	0.36	1500×600	0.90	3600×450	1.62	INTERSTATE ROUTE MARKER (M1-1) 750 x 600	0.36	
600×900	0.54	1500×1050	1.58	3600×600	2.16	INTERSTATE ROUTE MARKER (M1-1) 900 x 900	0.69	
600×1200	0.72	1500×1500	2.25	3600×750	2.70	INTERSTATE ROUTE MARKER (M1-1) 1125 x 900	0.80	

FNGLISH UNITS

				⊏I'	IGE I ON I	13	
				SIC	ON AREA TA	ABLE	
	SQUA	RE OR RECT	ANGULAR S	IRREGULAR SHAPED SIGNS			
SIZE (in. x in.)	AREA (FT²)	SIZE (in. x in.)	AREA (FT²)	SIZE (in. x in.)	AREA (FT²)	SIGN (in. x in.)	AREA (FT²)
8 "×48 "	2.7	30"×15"	3.1	72 "x12 "	6.0	YIELD (R1-2) 36"x36"	3.9
12 "x18 "	1.5	30"x24"	5.0	72 "x24 "	12.0	YIELD (R1-2) 48"x48"	6.9
12 "x24 "	2.0	30"x30"	6.3	72 "x36 "	18.0	YIELD (R1-2) 60"x60"	10.8
12 "x30 "	2.5	30"x36"	7.5	72 "×48 "	24.0	NO PASSING PENNANT (W14-3) 48"x36"	5.6
12 "x36 "	3.0	30"×48"	10.0	72 "x60"	30.0	RAILROAD WARNING (W10-1) 36" DIA.	7.1
12 "x48 "	4.0	30"x60"	12.5	96"x24"	16.0	SCH00L (S1-1) 30"x30"	4.7
18"×15"	1.9	36"×36"	9.0	96"x48"	32.0	SCH00L (S1-1) 36"x36"	6.8
18 "×18 "	2.3	36"×48"	12.0	120"x12"	10.0	STOP (R1-1) 24"x24"	3.3
18 "x24 "	3.0	36"x54"	13.5	120"x15"	12.5	STOP (R1-1) 30"x30"	5.2
18 "x36 "	4.5	48 "×48 "	16.0	120"x24"	20.0	STOP (R1-1) 36"x36"	7.4
18 "×48 "	6.0	48 "x60 "	20.0	120"x30"	25.0	STOP (R1-1) 48"×48"	13.2
21"x15"	2.2	60"×12"	5.0	144"x12"	12.0	INTERSTATE ROUTE MARKER (M1-1) 24"x24"	3.2
24"x24"	4.0	60"x24"	10.0	144"×18"	18.0	INTERSTATE ROUTE MARKER (M1-1) 30"x24"	4.0
24"x36"	6.0	60"x42"	17.5	144"x24"	24.0	INTERSTATE ROUTE MARKER (M1-1) 36"x36"	7.2
24"×48"	8.0	60"×60"	25.0	144"x30"	30.0	INTERSTATE ROUTE MARKER (M1-1) 45"x36"	9.0

NOTES:

- TO DETERMINE THE POST SIZE, ENTER THE GRAPH WITH THE VALUES OF A AND B. THE SHADED AREA INDICATES THE APPROPRIATE POST SIZE REQUIRED.
- 2. 57.2 mm (2.25") POSTS SHALL HAVE 2.1 m (7') CLEARANCE BETWEEN EACH OTHER, MEASURED FROM INSIDE POST EDGE TO INSIDE POST EDGE, WHEN USED IN TWO-POST INSTALLATIONS. 50.8 mm (2") AND 44.5 mm (1.75") POSTS MAY HAVE LESS THAN 2.1 m (7') CLEARANCE BETWEEN EACH OTHER WHEN USED IN TWO-POST INSTALLATIONS.
- 3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 4. 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
BURBAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

POST-MOUNTED SIGNS,
TYPE B

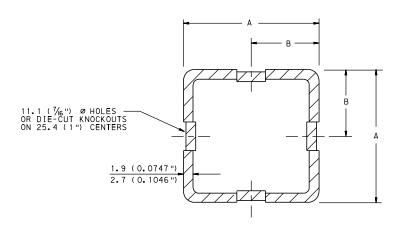
STEEL SQUARE POSTS (SYSTEM A)
SELECTION TABLES

RECOMMENDED MAY 25, 2007 RECOMMENDED MAY 25, 2007 SHT. 2 OF 9

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

CHIEF HIGHWAY ENGINEER

TC-8702B



METRIC UNITS (mm)

	METATO GATES CHIIII														
SIGN POST ANCHOR POST			ANC	HOR	SLEE	VE *	SPL	ICE	SLEE	VE					
SIZE	DIMEN	ISION	THICK.	SIZE	DIMEN	ISION	THICK.	SIZE	DIMEN		THICK.	SIZE	DIMEN		THICK.
	Α	В			A	В			Α	В			Α	В	
44.5	44.5	22.2	1.9	50.8	50.8	25.4	2.7	57.2	57.2	28.6	2.7	38.1	38.1	19.0	1.9
50.8	50.8	25.4	1.9	57.2	57.2	28.6	2.7	63.5	63.5	31.8	2.7	44.5	44.5	22.2	1.9

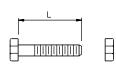
ENGLISH UNITS (INCHES)

S	SIGN POST ANCHOR POST			ANCHOR SLEEVE *			′E *	SPLICE SLEEVE							
SIZE	DIME	NS I ON	THICK.	SIZE	DIMEN	ISION	THICK.	SIZE	DIME	NSION	THICK.	SIZE	DIME	NSION	THICK.
3126	Α	В	INICK.	312L	Α	В	Inick.	312L	Α	В	INICK.	312L	Α	В	IUICK*
1.75"	1.75"	0.875"	0.0747"	2.00"	2.00"	1.000"	0.1046"	2.25"	2.25"	1.125"	0.1046"	1.50"	1.50"	0.750"	0.0747"
2.00"	2.00"	1.000"	0.0747"	2.25"	2.25"	1.125"	0.1046"	2.50"	2.50"	1.250"	0.1046"	1.75"	1.75"	0.875"	0.0747"

* REQUIRED FOR ALL POST INSTALLATIONS

SQUARE STEEL POSTS SYSTEM C

1.9 mm (0.0747") - 415 MPa (60 KSI) 2.7 mm (0.1046") - 230 MPa (33 KSI)

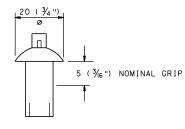


METRIC UNITS

METR	RIC UNITS	ENGL I	SH UNITS
SIGN POST SIZE (mm)	DIMENSION L (mm)	SIGN POST SIZE (INCHES)	DIMENSION L (INCHES)
44.5	75	1.75	3.0
50.8	15	2.00	3.0
57.2	90	2.25	3.5
63.5	30	2.50	3.3

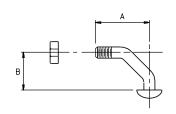
$\frac{\text{M10} \times 1.5 \text{ (} \frac{3}{8}\text{"} - 16 \text{ UNC)}}{\text{ANCHOR BOLTS & NUTS}}$

CADMIUM PLATED STEEL, ZINC PLATED STEEL OR ALUMINUM



10 (3/8") DRIVE RIVET

CADMIUM PLATED STEEL, ZINC PLATED STEEL OR ALUMINUM



METRIC UNITS

WETHIO CHITIS								
SIGN POST SIZE	DIMENSION (mm)							
(mm)	Α	В						
44.5	34.13	24.61						
50.8	34.13	24.01						
57.2	39.69	30.16						
63.5	23.63	30.16						

ENGLISH UNITS

SIGN POST SIZE		NSION CHES)
(INCHES)	Α	В
1.75	1.343	0.969
2.00	1. 343	0.363
2.25	1.562	1.188
2.50	5	•

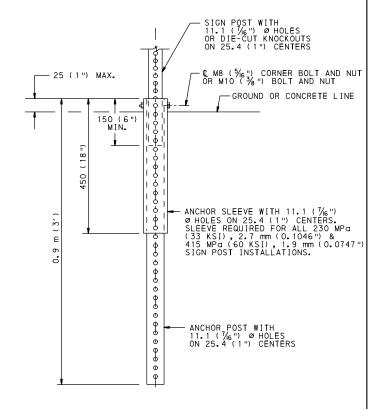
 $\frac{\text{M8} \times 1.25 \text{ (}^{5}\!\!/_{16}\text{''-} \text{ 18 UNC)}}{\text{CORNER BOLTS & NUTS}}$ CADMIUM PLATED STEEL, ZINC PLATED STEEL OR ALUMINUM

INSTALLATION INSTRUCTIONS:

- DETERMINE THE PROPER SIZE AND NUMBER OF SIGN POSTS FROM THE APPROPRIATE GRAPH ON SHEET 4 OF 9.
- DETERMINE THE PROPER SIZE ANCHOR POST AND ANCHOR SLEEVE FROM THE SQUARE STEEL POSTS TABLE ON THIS SHEET.
- DRIVE THE ANCHOR POST AND ANCHOR SLEEVE INTO THE GROUND SIMULTANEOUSLY, USING THE APPROPRIATE SIZE DRIVE CAP, UNTIL ONLY ONE HOLE REMAINS ABOVE THE GROUND OR FINISHED
- SLIDE A MINIMUM OF 150 mm (6") OF THE SIGN POST INTO THE ANCHOR POST.
- ATTACH THE SIGN POST TO THE ANCHOR POST AND SLEEVE WITH ONE M8 ($^5\!\!/_6$ ") CORNER BOLT AND NUT (OR ALTERNATELY ONE M10 ($^3\!\!/_8$ ") BOLT AND NUT) THROUGH THE TOP HOLE OF THE ANCHOR POST AND SLEEVE.
- TIGHTEN THE BOLT AND NUT BY THE TURN-OF-NUT METHOD. BRING NUT TO A SNUG CONDITION TO ENSURE THAT ALL PARTS ARE BROUGHT TOGETHER INTO FULL CONTACT WITH EACH OTHER, THEN TIGHTEN AN ADDITIONAL $\frac{1}{2}$ TURN.

INSTALLATION IN CONCRETE:

INSTALL AS NOTED ABOVE.



INSTALLATION DETAIL

NOTES:

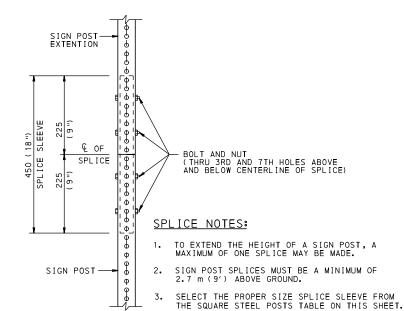
- 1. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH PUB. 408.
- 2. SIGN POSTS AND SPLICE SLEEVES SHALL HAVE 11.1 mm (7/6") DIAMETER HOLES OR DIE-CUT KNOCKOUTS ON 25.4 mm (1") CENTERS ON ALL FOUR SIDES. ANCHOR POSTS AND ANCHOR SLEEVES SHALL HAVE 11.1 mm (7/6") DIAMETER HOLES ON 25.4 mm (1") CENTERS ON ALL FOUR SIDES.
- 3. BOLTS AND NUTS SHALL BE ASTM A 307, GRADE B.
- DRIVE RIVETS MAY BE USED TO FASTEN SIGN BLANKS TO
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 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 B

STEEL SQUARE POSTS (SYSTEM C) ERECTION DETAILS

RECOMMENDED MAY 25, 2007	RECOMMENDED MAY 25, 2007	SHT. 3 OF 9
CHIEF, TRAFFIC ENGINEERING AND	m. Colatel	TC-8702B
OPERATIONS DIVISION	CHIEF HIGHWAY ENGINEER	

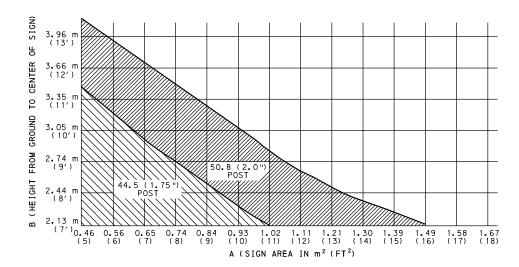


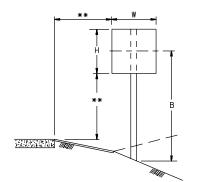
SPLICE DETAIL

SYSTEM C ONE-POST INSTALLATION 4.27 m (14') NS 3.96 r (12′) 은 (11' 50.8 (2.0 POST 2.44 (8') (7')0.19 0.28 0.37 0.46 0.56 0.65 0.74 0.84 (2) (3) (4) (5) (6) (7) (8) (9) A (SIGN AREA IN m² (FT²)

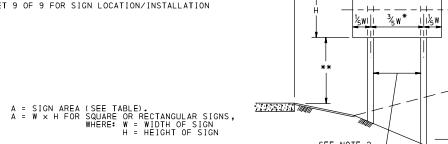
<u>SYSTEM C</u> <u>TWO-POST INSTALLATION</u>

SEE NOTE 2





- * WHEN ERECTING STANDARD WARNING OR REGULATORY SIGNS THAT ARE PREPUNCHED, THIS DISTANCE IS THE DISTANCE BETWEEN THE HORIZONTAL HOLES.
- ** SEE SHEET 9 OF 9 FOR SIGN LOCATION/INSTALLATION DETAILS.



METRIC UNITS

				SIC	ON AREA TA	BLE	
	SQUA	RE OR RECT	TANGULAR SI	IRREGULAR SHAPED SIGNS			
SIZE (mm x mm)	AREA (m²)	SIZE (mm x mm)	AREA (m²)	SIZE (mm x mm)	AREA (m²)	SIGN (mm × mm)	AREA (m²)
200×1200	0.24	750x375	0.28	1800×300	0.54	YIELD (R1-2) 900 x 900	0.35
300×450	0.14	750×600	0.45	1800×600	1.08	YIELD (R1-2) 1200 x 1200	0.62
300×600	0.18	750×750	0.56	1800×900	1.62	YIELD (R1-2) 1500 x 1500	0.97
300×750	0.22	750×900	0.68	1800×1200	2.16	NO PASSING PENNANT (W14-3) 1200 × 900	0.50
300×900	0.27	750×1200	0.90	1800×1500	2.70	RAILROAD WARNING (W10-1) 900 DIA.	0.64
300×1200	0.36	750×1500	1.12	2400×600	1.44	SCHOOL (S1-1) 750 x 750	0.42
450×375	0.17	900×900	0.81	2400×1200	2.88	SCHOOL (S1-1) 900 x 900	0.61
450×450	0.20	900×1200	1.08	3000×300	0.90	STOP (R1-1)600 x 600	0.30
450×600	0.27	900×1350	1.22	3000×375	1.12	STOP (R1-1)750 x 750	0.47
450×900	0.40	1200×1200	1.44	3000×600	1.80	STOP (R1-1)900 x 900	0.67
450×1200	0.54	1200×1500	1.80	3000×750	2.25	STOP (R1-1) 1200 x 1200	1.19
525×375	0.20	1500×300	0.45	3600x300	1.08	INTERSTATE ROUTE MARKER (M1-1) 600 x 600	0.29
600×600	0.36	1500×600	0.90	3600x450	1.62	INTERSTATE ROUTE MARKER (M1-1) 750 x 600	0.36
600×900	0.54	1500×1050	1.58	3600×600	2.16	INTERSTATE ROUTE MARKER (M1-1) 900 x 900	0.69
600×1200	0.72	1500×1500	2.25	3600×750	2.70	INTERSTATE ROUTE MARKER (M1-1) 1125 × 900	0.80

ENGLISH UNITS

	SIGN AREA TABLE											
	SQUA	RE OR RECT	ANGULAR S	IGNS		IRREGULAR SHAPED SIGNS						
SIZE (in. x in.)	AREA (FT²)	SIZE (in. x in.)	AREA (FT²)	SIZE (in. x in.)	AREA (FT²)	SIGN (in. x in.)	AREA (FT²)					
8 "×48 "	2.7	30"×15"	3.1	72 "x12 "	6.0	YIELD (R1-2) 36"x36"	3.9					
12"×18"	1.5	30"x24"	5.0	72 "x24 "	12.0	YIELD (R1-2) 48"x48"	6.9					
12 "x24 "	2.0	30"x30"	6.3	72 "x36 "	18.0	YIELD (R1-2) 60"x60"	10.8					
12 "x30 "	2.5	30"x36"	7.5	72 "x48 "	24.0	NO PASSING PENNANT (W14-3) 48"x36"	5.6					
12 "x36 "	3.0	30"×48"	10.0	72 "x60 "	30.0	RAILROAD WARNING (W10-1) 36" DIA.	7.1					
12 "x48 "	4.0	30"x60"	12.5	96"x24"	16.0	SCHOOL (S1-1) 30"x30"	4.7					
18 "×15 "	1.9	36"×36"	9.0	96"x48"	32.0	SCHOOL (S1-1) 36"x36"	6.8					
18"×18"	2.3	36"×48"	12.0	120"x12"	10.0	STOP (R1-1) 24"x24"	3.3					
18"×24"	3.0	36"x54"	13.5	120"x15"	12.5	STOP (R1-1) 30"x30"	5.2					
18 "x36 "	4.5	48 "x48 "	16.0	120"x24"	20.0	STOP (R1-1) 36"x36"	7.4					
18 "×48 "	6.0	48 "×60 "	20.0	120"x30"	25.0	STOP (R1-1) 48"x48"	13.2					
21"×15"	2.2	60"x12"	5.0	144"×12"	12.0	INTERSTATE ROUTE MARKER (M1-1) 24"x24"	3.2					
24"×24"	4.0	60"x24"	10.0	144"×18"	18.0	INTERSTATE ROUTE MARKER (M1-1) 30"x24"	4.0					
24"×36"	6.0	60"x42"	17.5	144"x24"	24.0	INTERSTATE ROUTE MARKER (M1-1) 36"x36"	7.2					
24"×48"	8.0	60"x60"	25.0	144"x30"	30.0	INTERSTATE ROUTE MARKER (M1-1) 45"x36"	9.0					

NOTES:

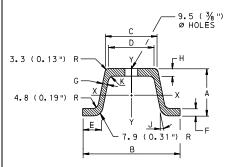
- TO DETERMINE THE POST SIZE, ENTER THE GRAPH WITH THE VALUES OF A AND B. THE SHADED AREA INDICATES THE APPROPRIATE POST SIZE REQUIRED.
- 2. 50.8 mm (2") AND 44.5 mm (1.75") POSTS MAY HAVE LESS THAN 2.1 m (7') CLEARANCE BETWEEN EACH OTHER WHEN USED IN TWO-POST INSTALLATIONS.
- 3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 4. 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 B

STEEL SQUARE POSTS (SYSTEM C) SELECTION TABLES

RECOMMENDED MAY 25, 2007	m. Clatel	SHT. 4 OF 9
	M. Cofall	
CHIEF, TRAFFIC ENGINEERING AND	CHIEF HIGHWAY ENGINEER	ITC-8702
OPERATIONS DIVISION		110 0102



 \bigcirc

SIGN POST

METRIC UNITS

STEEL POST DIMENSIONS										
* WEIGHT	DIMENSIONS (MILLIMETERS)									
kg/m	Α	В	С	D	E	F	G	Н	J	K
3.71	39.6	79.5	31.8	26.9	16.0	4.1	3.3	3.8	12.5°	3.3 R
5.94	44.4	88.9	42.4	35.8	18.3	6.4	4.6	5.8	11.5°	4.8 R

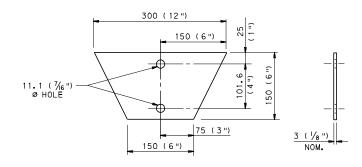
ENGLISH UNITS

	STEEL POST DIMENSIONS											
Γ	* WEIGHT DIMENSIONS (INCHES)											
	LBS/FT.	Α	В	С	D	Е	F	G	Н	J	K	П
Г	2.5	1.56	3.13	1.25	1.06	0.63	0.16	0.13	0.15	12.5°	0.13 I	R
	4.0	1.75	3.50	1.67	1.41	0.72	0.25	0.18	0.23	11.5°	0.19 F	R

* ±3.5%

FIRST AND FIFTH HOLES TO BE ELONCATED SLOTS 9.5 × 13 (1/8 " × 0.5")

ANCHOR POST



ANCHOR PLATE

\oplus 3.12 98.0 (3.87") [41.1 (1.62 ")] 19 49.0 \bigcirc 0 (1.93") 0 \bigcirc \bigcirc Ф-0 \bigcirc -D- \oplus 0 $- \diamondsuit$ 9.5 (3/8") 0 0 0 0 0 \bigcirc 0 Q 9.5 (3%") \oplus

FORMED-CHANNEL SIGN MOUNT

USE WHEN IT IS NECESSARY TO MOUNT SIGNS ON THE SIDE OF A CHANNEL BAR POST IN ADDITION TO THE NORMAL SIGN MOUNTING LOCATION ON THE FLANGED FACE.

NOTES:

- 1. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH PUB. 408.
- 2. FORMED-CHANNEL SIGN MOUNTS SHALL BE MILD STEEL.
- 3. ANCHOR BOLTS SHALL BE 7.94 mm ($^5\!/_6$ ") 18 UNC \times 38 (1.5 ") FULLY THREADED, GRADE 9 HEX HEAD. A FLANGED ANCHOR BOLT MAY BE SUBSTITUTED FOR THE STANDARD ANCHOR BOLT AND FLAT WASHER.
- 4. WASHERS SHALL BE 7.94 mm (1/6") GRADE 9 PLATED.
- 5. LOCKNUTS SHALL BE 7.94 mm ($\frac{5}{16}$ ") 18 UNC THREADS, HEX HEADED.
- 6. ANY OTHER DEPARTMENT APPROVED BREAKAWAY CONNECTION APPROVED FOR THIS KIND OF POST MAY BE SUBSTITUTED FOR THE UNIVERSAL SPACER.
- 7. SEE SHEET 6 OF 9 FOR SPACER AND ANCHOR BOLT DETAILS.
- 8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 9. 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 BURBAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

POST-MOUNTED SIGNS, TYPE B

CHANNEL BAR POSTS (ROLLED STEEL RAILS) MATERIAL DETAILS

RECOMMENDED MAY 25, 2007

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED MAY 25, 2007

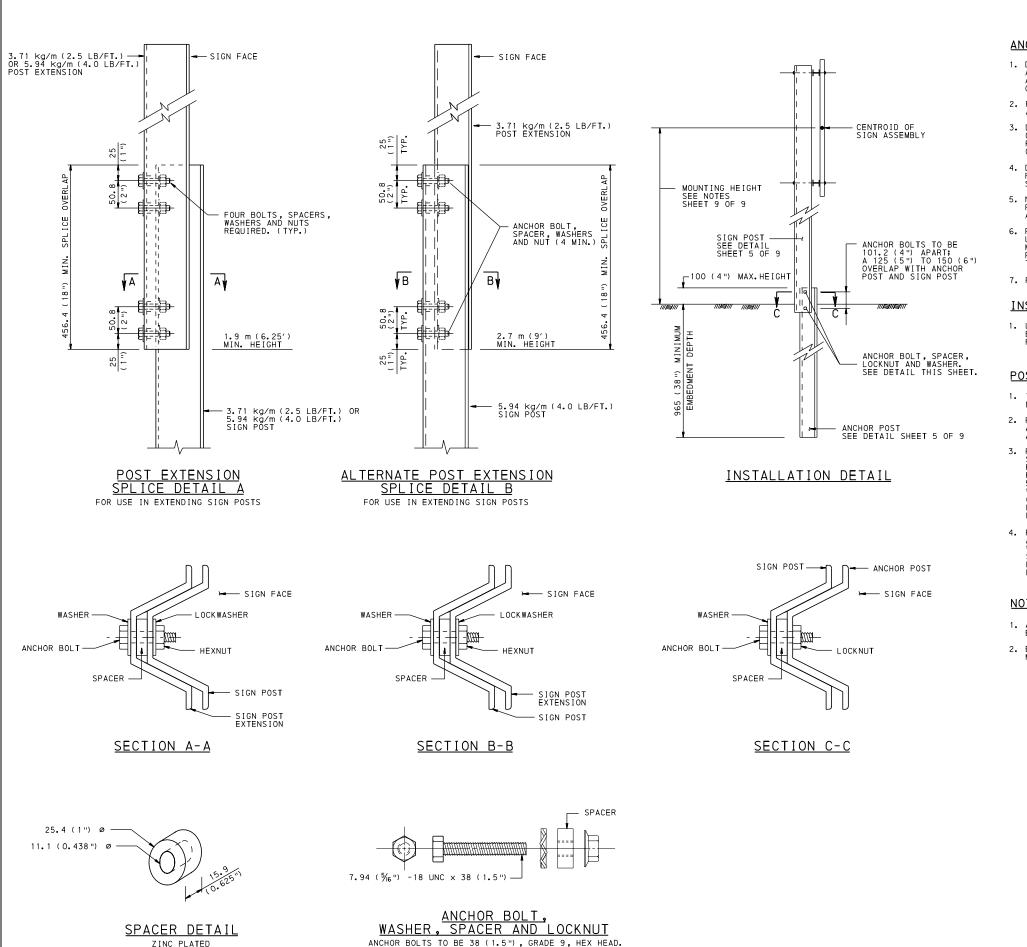
M. Clatel

CHIEF HIGHWAY ENGINEER

CHIEF HIGHWAY ENGINEER

TC-8702B

SHT. 5 OF 9



ZINC PLATED

ANCHOR SPLICE INSTALLATION INSTRUCTIONS:

- 1. DETERMINE THE PROPER SIZE SIGN POST AND ANCHOR POST FROM THE APPROPRIATE GRAPH ON SHEET 7 OF 9. USE 3.71 kg/m (2.5 LB/FI.) ANCHOR POSTS WITH 3.71 kg/m (2.5 LB/FI.) SIGN POSTS AND 5.94 kg/m (4.0 LB/FI.) ANCHOR POSTS WITH 5.94 kg/m (4.0 LB/FI.) SIGN POSTS.
- 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 300 mm (12") ABOVE GROUND LEVEL. PLACE ONE BOLT AND WASHER IN FIFTH HOLE FROM THE END OF THE EXPOSED ANCHOR POST. SECURELY TIGHTEN SPACER
- 4. DRIVE ANCHOR POST TO 100 mm (4") ABOVE GROUND LEVEL. PLACE REMAINING BOLT AND WASHER IN FIRST HOLE FROM THE END OF POST AND SECURELY TIGHTEN SPACER ONTO BOLT. (BOLTS 101.6 mm (4") APART).
- 5. NEST TOP SIGN POST OVER PROTRUDING ANCHOR POST BOLTS THROUGH FIRST AND FIFTH HOLES OF TOP SIGN POST. THIS WILL RESULT IN A 125 mm (5") TO 150 mm (6") OVERLAP.
- 6. PLACE A LOCKNUT ON EACH BOLT (A STANDARD LOCKWASHER AND NUT MAY BE USED IN LIEU OF THE LOCKNUT). TIGHTEN BOLTS AND NUTS BY TURN-OF-NUT METHOD. BRING NUT TO A SNUG TIGHT CONDITION TO ENSURE THAT ALL PARTS ARE BROUGHT TOGETHER INTO FULL CONTACT WITH EACH OTHER, THEN
- 7. RESTORE SOIL AROUND THE ANCHOR POST.

INSTALLATION IN SOFT SOIL:

1. USE THE ANCHOR PLATE IN AREAS WITH SOFT SOIL. BOLT THE TOP ANCHOR BOLT 25.4 mm (1") BELOW THE BOTTOM ANCHOR POST 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 MADE.
- 2. FOUR ANCHOR BOLTS WITH SPACERS, WASHERS, LOCKWASHERS AND NUTS ARE REQUIRED (LOCKNUTS MAY BE USED IN LIEU OF STANDARD LOCKWASHERS AND NUTS). SEE THIS SHEET FOR ANCHOR BOLT SYSTEM.
- 3. POST EXTENSION SPLICE DETAIL A IS PREFERRED OVER POST EXTENSION SPLICE DETAIL B. WHEN DETAIL A IS USED, 3.71 kg/m (2.5 LB/FT.) POSTS SHALL USE A 3.71 kg/m (2.5 LB/FT.) POST EXTENSION POST FOR SPLICE EXTENSIONS; 5.94 kg/m (4.0 LB/FT.) POSTS SHALL USE A 5.94 kg/m (4.0 LB/FT.) POST EXTENSION POST FOR SPLICE EXTENSIONS. WHEN DETAIL A IS USED, POST EXTENSION SPLICES SHALL BE MOUNTED ON THE BACK (NON-IMPACT) SIDE OF THE SIGN POST. SPLICES SHALL BE MADE AT A MINIMUM HEIGHT OF 1.9 m (6.25′), MEASURED TO THE BOTTOM OF THE SPLICES
- 4. POST EXTENSION SPLICE DETAIL B IS PERMITTED FOR USE TO PROVIDE A FLUSH SIGN MOUNT SURFACE FOR 5.94 kg/m (4.0 LB/FT.) POSTS. WHEN DETAIL B IS USED, 3.71 kg/m (2.5 LB/FT.) POST EXTENSION SPLICES MAY BE NESTED ON THE FRONT OF A 5.94 kg/m (4.0 LB/FT.) POST. SPLICES SHALL BE MADE AT A MINIMUM HEIGHT OF 2.7 m (9'), MEASURED TO THE BOTTOM OF THE SPLICE.

NOTES:

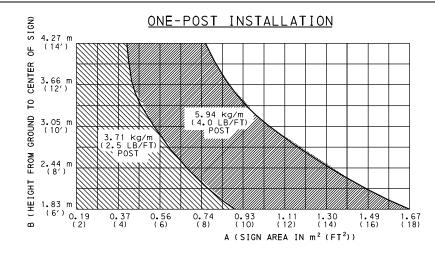
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 2. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.

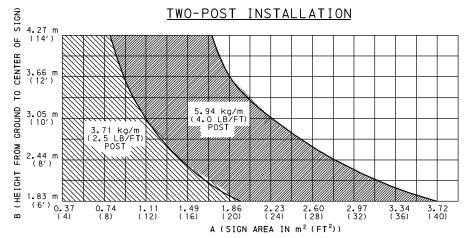
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

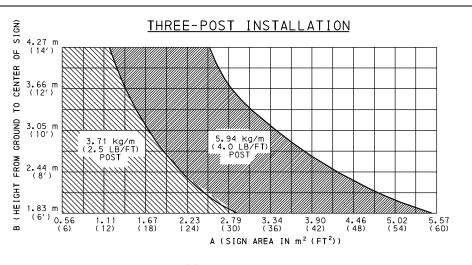
> POST-MOUNTED SIGNS, TYPE B

CHANNEL BAR POSTS ERECTION DETAILS

RECOMMENDED MAY 25, 2007 RECOMMENDED MAY 25, 2007 SHT. 6 OF 9 C Rowe TC-8702B CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER OPERATIONS DIVISION

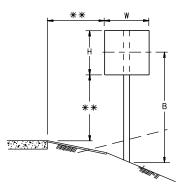


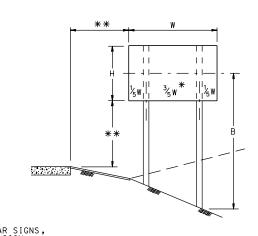




1.1

3/8 W * 1|





* WHEN ERECTING STANDARD WARNING OR REGULATORY SIGNS THAT ARE PREPUNCHED, THIS DISTANCE IS THE DISTANCE BETWEEN THE HORIZONTAL HOLES.

** SEE SHEET 9 OF 9 FOR SIGN LOCATION/INSTALLATION DETAILS.

A = SIGN AREA (SEE TABLE). A = W × H FOR SQUARE OR RECTANGULAR SIGNS, WHERE: W = WIDTH OF SIGN H = HEIGHT OF SIGN METRIC UNITS

	SIGN AREA TABLE										
	SQUA	RE OR RECT	ANGULAR SI	GNS		IRREGULAR SHAPED SIGNS					
SIZE (mm x mm)	AREA (m²)	SIZE (mm × mm)	AREA (m²)	SIZE (mm x mm)	AREA (m²)	SIGN (mm × mm)	AREA (m²)				
200×1200	0.24	750×375	0.28	1800×300	0.54	YIELD (R1-2) 900 x 900	0.35				
300×450	0.14	750×600	0.45	1800×600	1.08	YIELD (R1-2) 1200 x 1200	0.62				
300×600	0.18	750×750	0.56	1800×900	1.62	YIELD (R1-2) 1500 x 1500	0.97				
300×750	0.22	750×900	0.68	1800×1200	2.16	NO PASSING PENNANT (W14-3)1200 x 900	0.50				
300×900	0.27	750×1200	0.90	1800×1500	2.70	RAILROAD WARNING (W10-1) 900 DIA.	0.64				
300×1200	0.36	750×1500	1.12	2400×600	1.44	SCHOOL (S1-1) 750 x 750	0.42				
450×375	0.17	900×900	0.81	2400×1200	2.88	SCHOOL (S1-1) 900 x 900	0.61				
450×450	0.20	900×1200	1.08	3000×300	0.90	STOP (R1-1)600 x 600	0.30				
450×600	0.27	900×1350	1.22	3000×375	1.12	STOP (R1-1) 750 × 750	0.47				
450×900	0.40	1200×1200	1.44	3000×600	1.80	STOP (R1-1)900 × 900	0.67				
450×1200	0.54	1200×1500	1.80	3000×750	2.25	STOP (R1-1) 1200 x 1200	1.19				
525×375	0.20	1500×300	0.45	3600×300	1.08	INTERSTATE ROUTE MARKER (M1-1) 600 x 600	0.29				
600×600	0.36	1500×600	0.90	3600×450	1.62	INTERSTATE ROUTE MARKER (M1-1) 750 x 600	0.36				
600×900	0.54	1500×1050	1.58	3600×600	2.16	INTERSTATE ROUTE MARKER (M1-1) 900 x 900	0.69				
600×1200	0.72	1500×1500	2.25	3600×750	2.70	INTERSTATE ROUTE MARKER (M1-1) 1125 x 900	0.80				

FNGLISH UNITS

				□ I\	IGE I SH DINI	13	
				SIC	ON AREA TA	ABLE	
	SQUA	RE OR RECT	ANGULAR S	IGNS		IRREGULAR SHAPED SIGNS	
SIZE (in. x in.)	AREA (FT²)	SIZE (in. x in.)	AREA (FT²)	SIZE (in. x in.)	AREA (FT²)	SIGN (in. x in.)	AREA (FT²)
8 "×48 "	2.7	30"×15"	3.1	72 "x12 "	6.0	YIELD (R1-2) 36"x36"	3.9
12 "×18 "	1.5	30"x24"	5.0	72 "x24 "	12.0	YIELD (R1-2) 48"×48"	6.9
12 "x24 "	2.0	30"x30"	6.3	72 "x36 "	18.0	YIELD (R1-2) 60"x60"	10.8
12 "x30 "	2.5	30"x36"	7.5	72 "×48 "	24.0	NO PASSING PENNANT (W14-3) 48"x36"	5.6
12 "x36 "	3.0	30"×48"	10.0	72 "x60"	30.0	RAILROAD WARNING (W10-1) 36" DIA.	7.1
12 "x48 "	4.0	30"x60"	12.5	96"x24"	16.0	SCH00L (S1-1) 30"x30"	4.7
18 "×15 "	1.9	36"×36"	9.0	96 "x48 "	32.0	SCH00L (S1-1) 36"x36"	6.8
18"×18"	2.3	36"×48"	12.0	120"x12"	10.0	STOP (R1-1) 24"x24"	3.3
18 "x24 "	3.0	36"x54"	13.5	120"x15"	12.5	STOP (R1-1) 30"x30"	5.2
18 "x36 "	4.5	48 "×48 "	16.0	120"x24"	20.0	STOP (R1-1) 36"x36"	7.4
18 "×48 "	6.0	48 "x60 "	20.0	120"x30"	25.0	STOP (R1-1) 48"x48"	13.2
21"x15"	2.2	60"×12"	5.0	144"x12"	12.0	INTERSTATE ROUTE MARKER (M1-1) 24"x24"	3.2
24"x24"	4.0	60"x24"	10.0	144"×18"	18.0	INTERSTATE ROUTE MARKER (M1-1) 30"x24"	4.0
24"x36"	6.0	60"x42"	17.5	144"x24"	24.0	INTERSTATE ROUTE MARKER (M1-1) 36"x36"	7.2
24"×48"	8.0	60"x60"	25.0	144"x30"	30.0	INTERSTATE ROUTE MARKER (M1-1) 45"x36"	9.0

NOTES:

1. TO DETERMINE THE POST SIZE, ENTER THE GRAPH WITH THE VALUES OF A AND B. THE SHADED AREA INDICATES THE APPROPRIATE POST SIZE REQUIRED.

11

3/8 W ★ | | 1/8 W

- 2. 3.71 kg/m (2.5 LB/FT.) AND 5.94 kg/m (4.0 LB/FT.) POSTS MAY HAVE LESS THAN 2.1 m (7') CLEARANCE BETWEEN EACH OTHER WHEN USED IN TWO-POST AND THREE-POST INSTALLATIONS.
- 3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 4. 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 BURBAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

POST-MOUNTED SIGNS, TYPE B

CHANNEL BAR POSTS SELECTION TABLES

SHT. 7 OF 9 TC-8702B

RECOMMENDED MAY 25, 2007

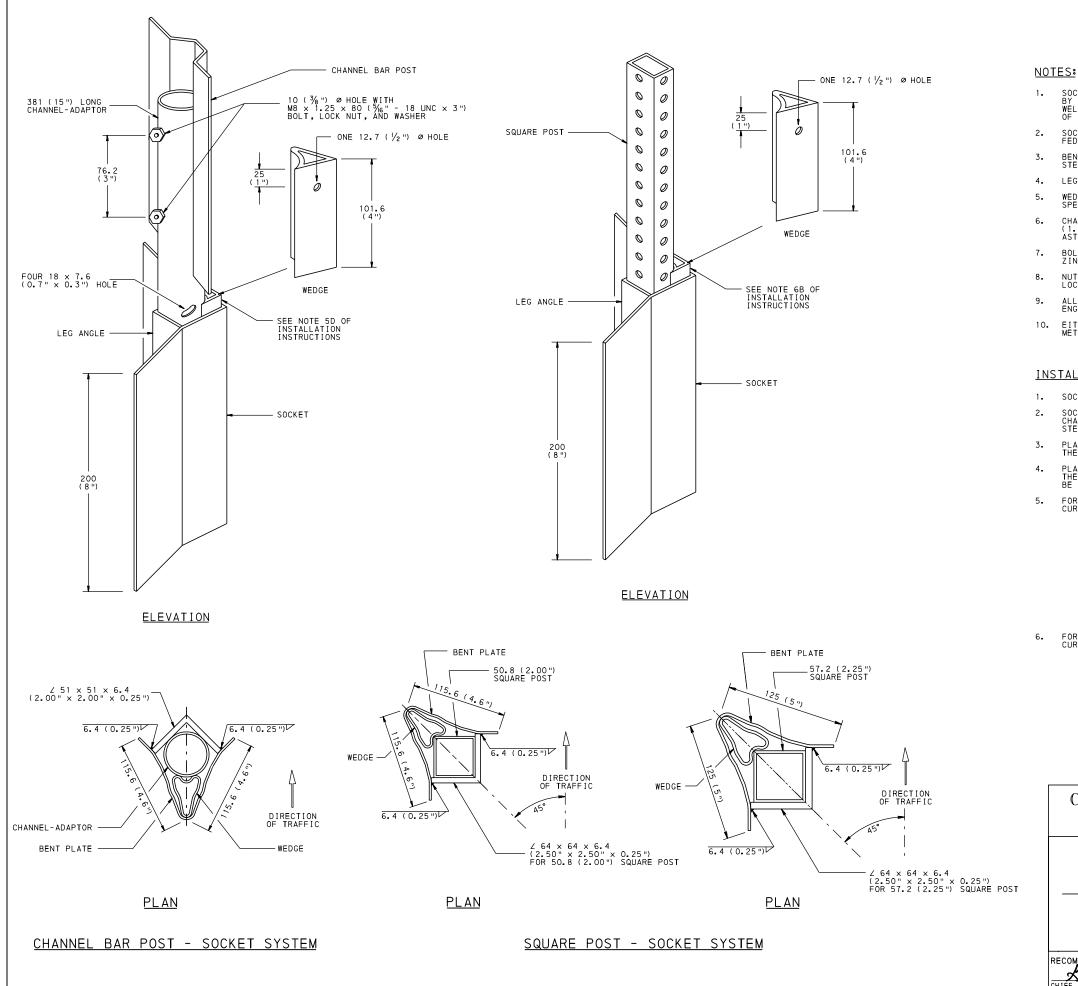
LILL C Power

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED MAY 25, 2007

M. Chief Highway Engineer

CHIEF HIGHWAY ENGINEER



- SOCKET SHALL CONSIST OF A BENT PLATE ATTACHED TO A LEG ANGLE BY A MINIMUM OF SIX, 6.4 mm \times 38.1 mm (0.25" \times 1.5") FILLET WELDS. THE TOP OF THE BENT PLATE SHALL BE FLUSH WITH THE TOP
- 2. SOCKET TO BE DIP-COATED WITH A RUST INHIBITING PRIMER MEETING FED. SPEC. TTP636.
- BENT PLATE SHALLL BE 2.7 mm (0.1046") HOT ROLLED CARBON SHEET STEEL, COMMERCIAL QUALITY, ASTM A 569/A 569M.
- 4. LEG ANGLE SHALL BE ASTM A 36/A 36M.
- WEDGE SHALL BE STEEL TUBING MADE TO ASTM A 500, GRADE B SPECIFICATIONS.
- CHANNEL-ADAPTOR SHALL BE GALVANIZED STEEL MADE FROM 48 mm (1.9") OD TUBE WITH 3.0 mm (0.1196") WALL THICKNESS, ASTM A 500, GRADE B.
- BOLTS TO BE M8 \times 1.25 \times 80 (5/16" \times 3") HEX HEAD, GRADE 5, ZINK PLATED WITH WASHERS.
- NUTS SHALL BE M8 \times 1.25 ($\%_{6}$ " $^{-}$ 18 UNC) THREADS, NYLON INSERT LOCK NUTS.
- ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE. ENGLISH UNITS IN PARENTHESIS ().
- 10. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.

INSTALLATION INSTRUCTIONS:

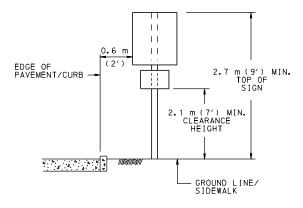
- 1. SOCKET SYSTEMS ARE APPROVED FOR CONCRETE INSTALLATIONS.
- SOCKET SYSTEMS ARE APPROVED FOR USE WITH 3.71 kg/m (2.5 LB/FT.) CHANNEL BAR POSTS AND 50.8 mm (2.00") AND 57.2 mm (2.25") STEEL SQUARE POSTS.
- PLACE SOCKET IN A HOLE WITH THE TOP OF THE SOCKET FLUSH WITH THE TOPS OF THE ORIGINAL CONCRETE ELEVATION.
- PLACE CONCRETE AROUND THE SOCKET. DO NOT PLACE CONCRETE INSIDE THE SOCKET WHERE THE WEDGE AND CHANNEL-ADAPTOR OR POST ARE TO BE PLACED.
- FOR CHANNEL BAR POST INSTALLATIONS AFTER THE CONCRETE HAS
 - A. ATTACH THE CHANNEL BAR POST TO THE CHANNEL- ADAPTOR USING TWO BOLTS, LOCK NUTS, AND WASHERS.
 - INSERT THE LOWER PORTION OF THE CHANNEL- ADAPTOR INTO THE SOCKET UNTIL THE FOUR PIERCED HOLES ARE AT THE SAME HEIGHT AS THE TOP OF THE SOCKET.
 - C. ROTATE THE TWO UPPER HOLES IN THE CHANNEL- ADAPTOR TOWARD ONCOMING TRAFFIC.
 - POSITION THE WEDGE IN THE SOCKET WITH ITS HOLE AT THE TOP, AND DRIVE THE WEDGE INTO THE SOCKET UNTIL THE TOP OF THE WEDGE IS FLUSH WITH THE TOP OF THE SOCKET.
- FOR STEEL SQUARE POST INSTALLATIONS AFTER THE CONCRETE HAS CURED:
 - A. INSERT THE SQUARE POST FULLY INTO THE SOCKET.
 - POSITION THE WEDGE IN THE SOCKET WITH ITS HOLE AT THE TOP, AND DRIVE THE WEDGE INTO THE SOCKET UNITL THE TOP OF THE WEDGE IS FLUSH WITH THE TOP OF THE SOCKET.

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

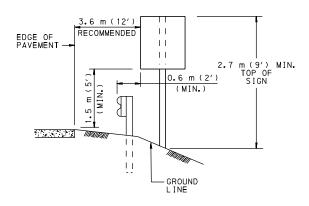
POST-MOUNTED SIGNS, TYPE B

SOCKET SYSTEM FOR CONCRETE INSTALLATIONS

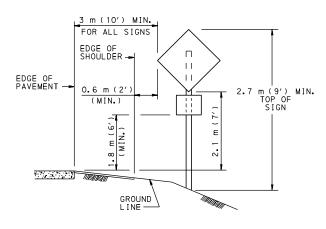
RECOMMENDED MAY 25, 2007 RECOMMENDED MAY 25, 2007 SHT. 8 OF 9 TC-8702B TAPCO INDUSTRIES OR EQUAL OPERATIONS DIVISION CHIEF HIGHWAY ENGINEER



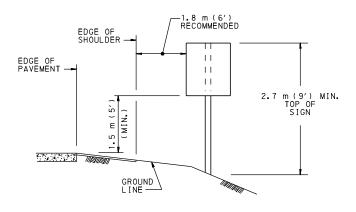
BUSINESS OR RESIDENTIAL AREA



RURAL AREA
CONVENTIONAL HIGHWAY (NO SHOULDER)



FREEWAY / EXPRESSWAYS



RURAL AREA
CONVENTIONAL HIGHWAY (WITH SHOULDER)

NOTES:

SIGN CLEARANCE HEIGHT

1. CLEARANCE HEIGHT SHALL BE MEASURED FROM THE BOTTOM OF THE SIGN TO A LEVEL LINE PROJECTED FROM THE NEAR EDGE OF ROADWAY. THIS MAY RESULT IN A SIGN HEIGHT GREATER THAN THE MINIMUM HEIGHT REQUIRED WHEN MEASURED FROM THE GROUND LEVEL TO THE BOTTOM OF THE SIGN. IN BUSINESS AND URBAN AREAS THE CLEARANCE HEIGHT SHALL ALSO BE MEASURED FROM THE BOTTOM OF THE SIGN TO THE GROUND LEVEL OR SIDEWALK AREA TO REDUCE THE POSSIBILITY OF PEDESTRIANS COLLIDING WITH THE SIGN.

LATERAL SIGN CLEARANCE

- 2. SIGNS SHOULD BE PLACED AS FAR AS PRACTICAL FROM THE EDGE OF THE ROADWAY TO REDUCE THE POSSIBILITY OF VEHICLES HITTING THE SIGNS. WHEN GUIDE RAIL IS PRESENT, SIGNS WILL BE PLACED BEHIND THE GUIDERAIL.
- ROUTE MARKER SIGNS WITH AUXILIARY SIGNS (NORTH, SOUTH, ETC.) SHALL BE CONSIDERED A SINGLE SIGN ASSEMBLY. THE CLEARANCE HEIGHT IS MEASURED FROM THE BOTTOM OF THE LOWEST AUXILIARY SIGN TO A LEVEL LINE PROJECTED FROM THE NEAR EDGE OF ROADWAY.
- 4. BUSINESS OR URBAN AREAS
 - A. IN BUSINESS, COMMERCIAL OR RESIDENTIAL DISTRICTS, OR WHERE PARKING AND/OR PEDESTRIAN MOVEMENTS ARE LIKELY, OR WHERE THE SIGN MAY BLOCK VISIBILITY, THE BOTTOM OF ALL SIGNS (INCLUDING AUXILIARY SIGNS) SHALL BE A MINIMUM OF 2.1 m (7') ABOVE GROUND AND THE NEAR PAVEMENT EDGE
 - B. LATERAL CLEARANCE RECOMMENDED IS 0.6 m (2') BEHIND CURB. IF SIDEWALK WIDTH IS LIMITED, OR WHEN EXISTING UTILITY POLES ARE CLOSE TO THE CURB A 0.3 m (1') CLEARANCE IS PERMISSIBLE.

5. RURAL AREAS

CONVENTIONAL HIGHWAYS. ALTHOUGH 2.1 m (7') MINIMUM SIGN HEIGHT CLEARANCE IS RECOMMENDED, IN RURAL DISTRICTS WHERE THE CONDITIONS LISTED IN NOTE 4A ARE NOT LIKELY, SIGNS MAY BE MOUNTED AT A MINIMUM CLEARANCE HEIGHT OF 1.5 m (5'). IF A SUPPLEMENTAL SIGN IS INSTALLED BELOW THE MAIN SIGN, THE CLEARANCE HEIGHT OF THE SUPPLEMENTAL SIGN MAY BE 1.2 m (4').

WHEN GUIDERAIL OR CONCRETE BARRIERS ARE PRESENT A 0.6 m (2') LATERAL CLEARANCE IS RECOMMENDED.

WHEN SHOULDERS ARE NOT PRESENT IT IS RECOMMENDED THAT SIGNS BE PLACED 3.6 m (12') FROM THE EDGE OF ROADWAY. WHERE SHOULDERS ARE PRESENT A 1.8 m (6') LATERAL CLEARANCE IS RECOMMENDED.

B. FREEWAY AND EXPRESSWAYS. DIRECTIONAL SIGNS SHALL BE HAVE A MINIMUM CLEARANCE HEIGHT OF 2.1 m (7'). HOWEVER, IF A SUPPLEMENTAL SIGN IS INSTALLED BELOW THE MAIN SIGN, THE SUPPLEMENTAL SIGN MAY HAVE A CLEARANCE HEIGHT OF 1.8 m (6'), PROVIDED THAT A 2.4 m (8') CLEARANCE HEIGHT IS MAINTAINED FOR THE MAIN SIGN.

ALL ROUTE MARKER, REGULATORY, AND WARNING SIGN ASSEMBLIES SHALL MAINTAIN A 1.8 m CLEARANCE HEIGHT TO THE BOTTOM OF THE SIGN ASSEMBLY (INCLUDING AUXILIARY SIGNS).

A 0.6 m (2') MINIMUM LATERAL CLEARANCE IS REQUIRED BEHIND UNMOUNTABLE CURB OR ROADWAY SHOULDER.

A 3.0 m (10') MINIMUM LATERAL CLEARANCE FROM THE EDGE OF THE NEAREST TRAVEL LANE IS RECOMMENDED.

- 6. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 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 B

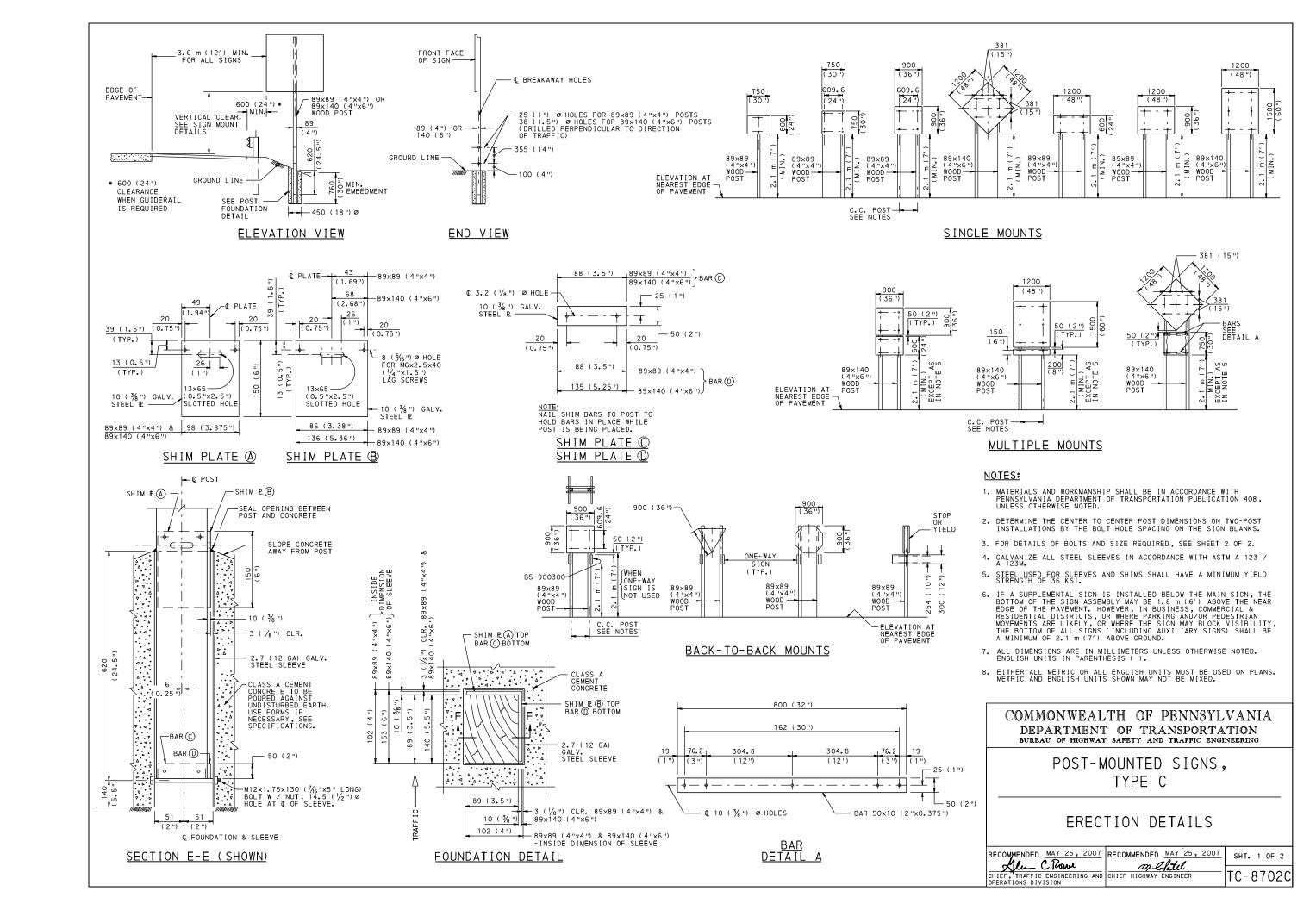
SIGN LOCATION/INSTALLATION DETAILS

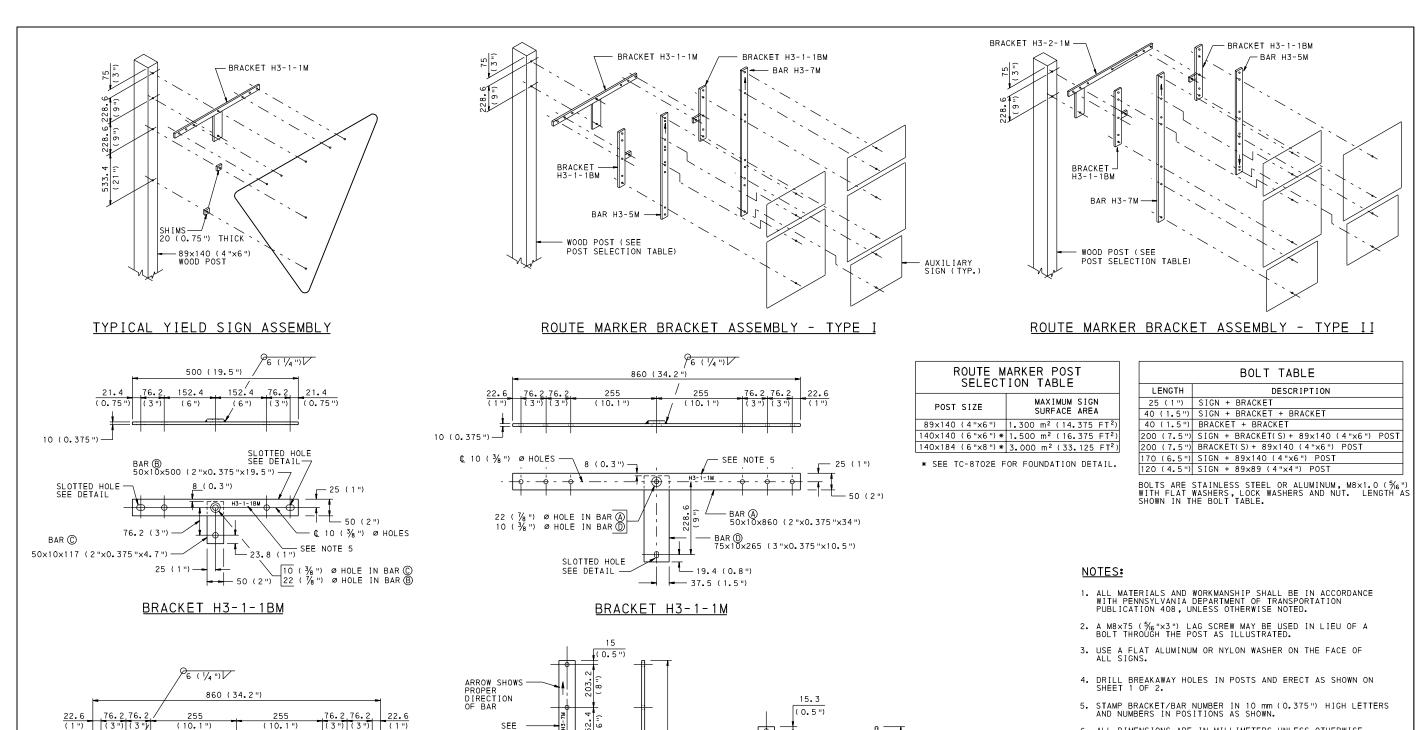
RECOMMENDED MAY 25, 2007 RECOMMENDED MAY 25, 2007 SHT. 9 OF 9

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

CHIEF HIGHWAY ENGINEER

TC-8702B





PROPER DIRECTION OF BAR

¢ 10 (3/8 ") Ø HOLES —

¢ 10 (¾ ") Ø HOLES —

304.

(0, 5 ")

BAR H3-7M

(0.375")

25 (1")

SEE NOTE 5

BAR (A) 50x10x860 (2"x0.375"x34.2")

¢ 10 (3/8") Ø HOLES

10 (0.375")-

SLOTTED HOLE

SEE DETAIL

 $\frac{7}{8}$ ") Ø HOLE IN BAR (A) $\frac{3}{8}$ ") Ø HOLE IN BAR (D)

BRACKET H3-2-1M

19.4 (0.8") 37.5 (1.5")

- BAR (D) 75×10×265 (3"×0.375"×10.5")

- 25.4 (1")

-76.2 (3")

- 25**.** 4 (1") 50.8 (2") 76.2 (3")

-76.2 (3")

-76.2 (3")

BAR H3-5M

(0. 375 ")

(0.5")

(½ ")

2 (1/16 ") 2 (1/16 ")

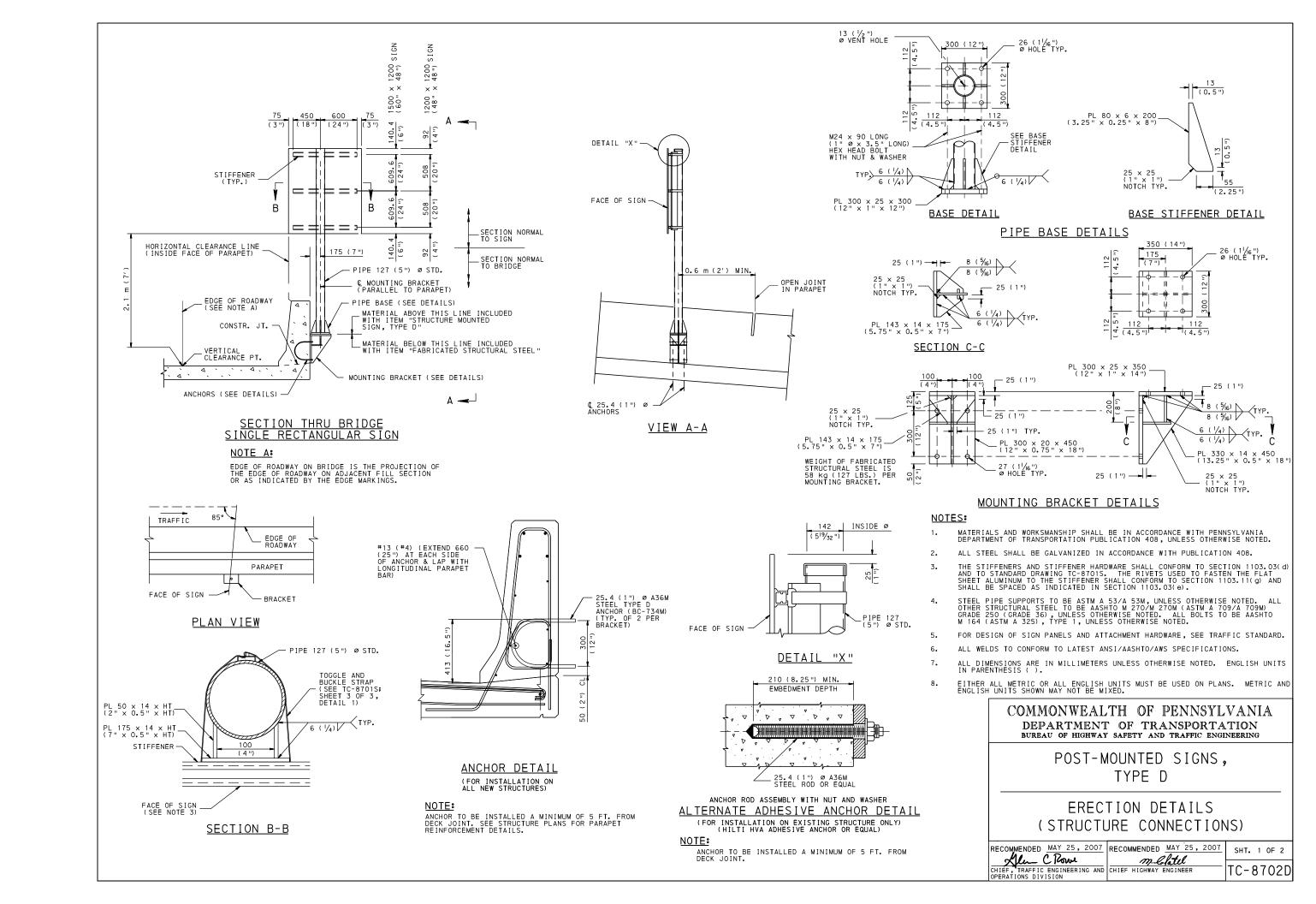
SLOTTED HOLE

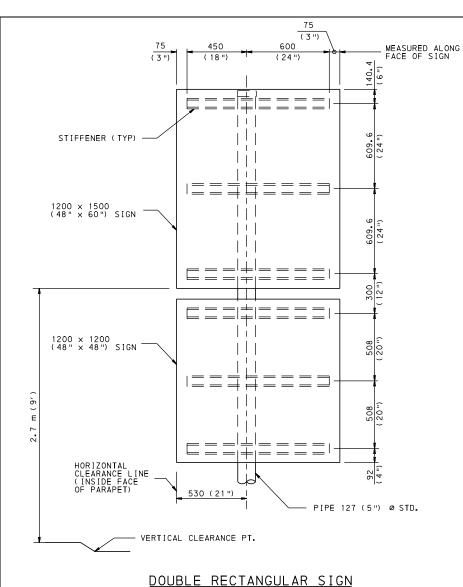
- 6. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 7. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING POST-MOUNTED SIGNS, TYPE C

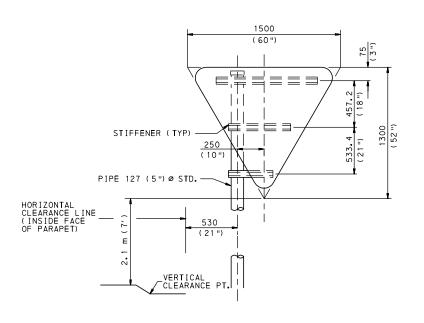
ERECTION DETAILS

RECOMMENDED MAY 25, 2007	RECOMMENDED MAY 25, 2007 m. Colatel	SHT. 2 OF 2
CHIÉF, TRAFFIC ENGINEERING AND		TC-8702C
OPERATIONS DIVISION	CHIEF HIGHWAY ENGINEER	110-01020



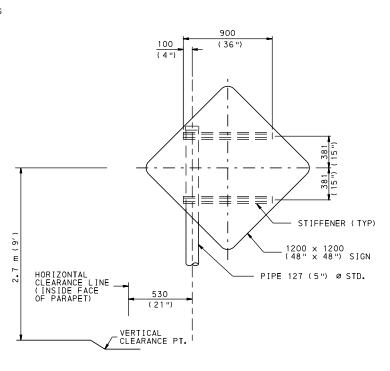


(PARTS NOT SHOWN ARE SIMILAR TO SINGLE RECTANGULAR SIGN)



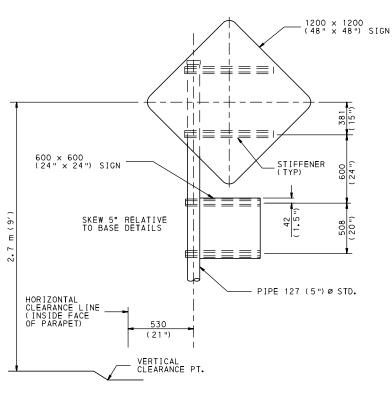
TRIANGULAR SIGN

(PARTS NOT SHOWN ARE SIMILAR TO SINGLE RECTANGULAR SIGN)



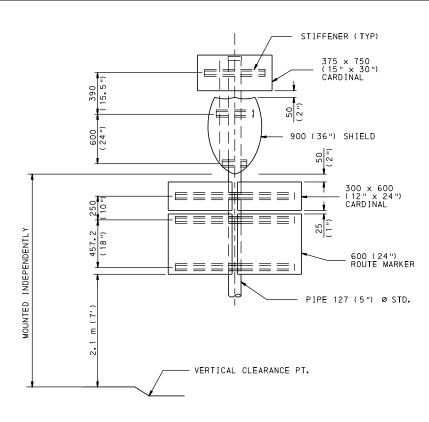
DIAMOND SIGN

(PARTS NOT SHOWN ARE SAME AS SINGLE RECTANGULAR SIGN)



DIAMOND SIGN WITH RECTANGULAR SIGN

(PARTS NOT SHOWN ARE SIMILAR TO DIAMOND SIGN AND RECTANGULAR SIGN)



DOUBLE ROUTE MARKER WITH 900 (36") SHIELD

(PARTS NOT SHOWN ARE SIMILAR TO SINGLE RECTANGULAR SIGN)

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 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 BURBAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

POST-MOUNTED SIGNS,
TYPE D

ERECTION DETAILS (STRUCTURE CONNECTIONS)

	RECOMMENDED MAY 25, 2007	SHT. 2 OF 2
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CHIEF, TRAFFIC ENGINEERING AND	CHIEF HIGHWAY ENGINEER	TC-8702D

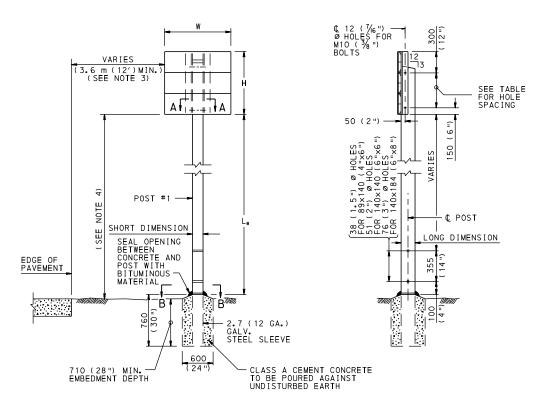
DESIGN CRITERIA:

- 1. DESIGN BASED ON 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS INCLUDING 2002 INTERIM SPECIFICATIONS WITH THE FOLLOWING DESIGN CRITERIA:
 - BASIC WIND SPEED (V) = 40 m/sec (90 MPH) (3-SECOND GUST) WIND IMPORTANCE FACTOR (Ir) = 0.71 (10 YEAR DESIGN LIFE) FATIGUE IS NOT CONSIDERED FOR ROADSIDE SIGNS.
- 2. EMBEDMENT OF FOOTINGS IS BASED ON FIGURES 13-3 AND 13-4 AS OUTLINED IN THE AASHTO SPECIFICATIONS.



PLAN VIEW

	POST	SELEC	TION	TABLE	- ON	IE POS	ST.			
w	W L _B HEIGHT "H" IN m (FT)									
m (FT)	m (FT)	0.610	0.915 (3)	1.220 (4)	1.525 (5)	1.830	2.135 (7)	2.440		
	1.8 (6)	P1	P1	P1	P1	P1	P2	P2		
	2.1 (7)	P1	P1	P1	P1	P1	P2	P3		
0.6 (2)	2.4 (8)	P1	P1	P1	P1	P2	P2	P3		
0.0 (2)	2.7 (9)	P1	P1	P1	P1	P2	P3	P3		
	3.0 (10)	P1	P1	P1	P2	P3	P3	P3		
	3.3 (11)	P1	P1	P1	P2	P3	P3	P3		
	1.8 (6)	P1	P1	P1	P1	P2	P3	P3		
	2.1 (7)	P1	P1	P1	P2	Р3	P3	P3		
0.9 (3)	2.4 (8)	P1	P1	P1	P2	Р3	P3	P3		
0.9 (3/	2.7 (9)	P1	P1	P2	Р3	Р3	P3	P3		
	3.0 (10)	P1	P1	P2	P3	P3	P3	-		
	3.3 (11)	P1	P1	P3	P3	Р3	-	-		
	1.8 (6)	P1	P1	P1	P2	P3	P3	P3		
	2.1 (7)	P1	P1	P2	P3	P3	P3	-		
1.2 (4)	2.4 (8)	P1	P1	P2	P3	P3	P3	-		
1.2 (4)	2.7 (9)	P1	P2	P3	P3	Р3	-	-		
	3.0 (10)	P1	P2	P3	P3	Р3	-	-		
	3.3 (11)	P1	P3	P3	P3	-	-	-		
	1.8 (6)	P1	P1	P2	P3	Р3	P3	-		
	2.1 (7)	P1	P1	P2	P3	Р3	-	-		
1.5 (5)	2.4 (8)	P1	P2	P3	P3	P3	-	- 1		
1.5 (5)	2.7 (9)	P1	P2	P3	P3	-	-	-		
	3.0 (10)	P1	P3	P3	P3	-	-	-		
	3.3 (11)	P2	P3	P3	-	-	-	-		
	1.8 (6)	*	P2	P3	P3	P3	-	-		
	2.1 (7)	*	P2	P3	P3	-	-	-		
1.8 (6)	2.4 (8)	*	P2	P3	P3	-	-	- 1		
1.0 (6)	2.7 (9)	*	Р3	P3	-	-	-	-		
	3.0 (10)	*	P3	P3	-	-	-	-		
	3.3 (11)	*	P3	-	-	-	-	-		
	1.8 (6)	*	P2	P3	P3	-	-	-		
	2.1 (7)	*	P2	P3	P3	-	-	-		
2.1 (7)	2.4 (8)	*	P3	P3	-	-	-	-		
2. (/)	2.7 (9)	*	P3	P3	-	-	-	-		
	3.0 (10)	*	P3	-	-	-	-	- 1		
	3.3 (11)	*	P3	-	-	-	-	-		
	1.8 (6)	*	P2	P3	P3	-	-	-		
	2.1 (7)	*	Р3	P3	-	-	-	-		
2.4 (8)	2.4 (8)	*	P3	P3	-	-	-	-		
2.4 (0)	2.7 (9)	*	P3	-	-	-	-	-		
	3.0 (10)	*	P3	-	-	-	-	-		
	3.3 (11)	*	P3	-	-	-	-	-		
							·			



SIGN ELEVATION

END VIEW

LEGEND:

POST SELECTION EXAMPLE

P1 = 89×140 (4"×6") F0
P2 = 140×140 (6"×6")
3 = 140×184 (6"×8")
* USE TWO POSTS (SEE SHEET 2)

FOR A SIGN WHERE W = 0.6 m(2')

H = 0.610 m (2')

 $L_B = 3.3 \text{ m } (11')$

ONE P1 = 89×140 (4"×6") WOOD POST IS REQUIRED.

METRIC UNITS

ANGLE CONNECTION BOLT SPACING								
H (m)		SPACES						
0.610	1	ΑТ	160.0	mm				
0.915	2	ΑТ	232.5	mm				
	2	ΑT	385.0	mm				
1.525	3	ΑТ	358.3	mm				
1.830	3	ΑT	460.0	mm				
2.135	4	ΑТ	421.3	mm				
2.440	6	ΑТ	331.6	mm				

TABLE FOR HOLE SPACING

ENGLISH UNITS ANGLE CONNECTION BOLT SPACING H (FT) SPACES 2 1 AT 6"

3 2 AT 9" 4 2 AT 15"

6 3 AT 18"

8 6 AT 13"

3 AT 14"

4 AT 16.5"

SIGN POST SELECTION NOTES:

- 1. DETERMINE VALUES OF "W", "H", AND "L_B" AS INDICATED IN THE SIGN ELEVATION.
 - W = MAXIMUM WIDTH OF SIGN.
 - H = MAXIMUM HEIGHT OF SIGN.
 - LB = MAXIMUM DISTANCE BETWEEN TOP OF A FOOTING AND BOTTOM
- 2. FOR SELECTION OF POSTS, ENTER TABLES WITH VALUES OF "W", "H"
- 3. FOR A SIGN SIZE BETWEEN THOSE VALUES OF "W", "H" AND "L $_{\rm B}$ " IN THE TABLE, USE NEXT HIGHEST m (FT) VALUE.
- 4. USE THE LONGEST POST TO SELECT ALL POST SIZES.

NOTES:

- MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408, UNLESS NOTED OTHERWISE.
- 2. POST #1 IS ALWAYS ADJACENT TO ROADWAY, WHETHER SIGN IS LOCATED ON LEFT OR RIGHT.
- 3. AT LOCATIONS WITH UNMOUNTABLE CURB, GUIDE RAIL OR BARRIER, PLACE THE NEAR EDGE OF THE SIGN AT LEAST 0.6 m (2') BEHIND THE CURB FACE, GUIDE RAIL OR BARRIER. AT LOCATIONS WITH GUIDE RAIL OR BARRIER, IT IS DESIRABLE TO PLACE POST #1 BEYOND THE DEFLECTION DISTANCE OF THE GUIDE RAIL OR BARRIER. PRIOR TO FABRICATION, DETERMINE ACTUAL LATERAL PLACEMENT IN THE FIELD WITH THE APPROVAL OF THE ENGLISHED
- 4. BUSINESS OR URBAN AREAS
- A. IN BUSINESS, COMMERCIAL OR RESIDENTIAL DISTRICTS, OR WHERE PARKING AND/OR PEDESTRIAN MOVEMENTS ARE LIKELY, OR WHERE THE SIGN MAY BLOCK VISIBILITY, THE BOTTOM OF ALL SIGNS (INCLUDING AUXILIARY SIGNS) SHALL BE A MINIMUM OF 2.1 m (7') ABOVE GROUND AND THE NEAR PAVEMENT EDGE.

RURAL AREAS

- CONVENTIONAL HIGHWAYS. ALTHOUGH 2.1 m (7') MINIMUM SIGN HEIGHT CLEARANCE IS RECOMMENDED, IN RURAL DISTRICTS WHERE THE CONDITIONS LISTED IN NOTE 4A ARE NOT LIKELY, SIGNS MAY BE MOUNTED AT A MINIMUM CLEARANCE HEIGHT OF 1.5 m (5'). IF A SUPPLEMENTAL SIGN IS INSTALLED BELOW THE MAIN SIGN, THE CLEARANCE HEIGHT OF THE SUPPLEMENTAL SIGN MAY BE 1.2 m (4').
- FREEWAY AND EXPRESSWAYS. SIGNS SHALL HAVE A MINIMUM CLEARANCE HEIGHT OF 2.1 m (7'). HOWEVER, IF A SUPPLEMENTAL SIGN IS INSTALLED BELOW THE MAIN SIGN, THE SUPPLEMENTAL SIGN MAY HAVE A CLEARANCE HEIGHT OF 1.8 m (6'), PROVIDED THAT A 2.1 m (7') CLEARANCE HEIGHT IS MAINTAINED FOR THE
- 5. LOCATE SIGNS TO AVOID PLACING SUPPORTS IN DRAINAGE DITCHES.
- 6. SEE SHEET 2 FOR TWO-POST INSTALLATION.
- 7. SEE SHEET 3 FOR THREE-POST INSTALLATION.
- 8. SEE SHEET 4 FOR SECTIONS AND ERECTION DETAILS.
- 9. SEE SHEET 5 FOR TEMPORARY DIRECT BURIAL TWO-POST INSTALLATION.
- 10. FOR DETAIL OF SIGN PANELS AND ATTACHMENT HARDWARE, SEE TRAFFIC STANDARD TC-8701E OR TC-8701S.
- 11. TWIST-IN TOGGLE STRAPS MAY BE USED ON FLAT SHEET ALUMINUM SIGNS WITH STIFFENERS IN ACCORDANCE WITH TC-8701S AND PUB. 408.
- 12. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 13. 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 E

WOOD POSTS SELECTION TABLES ERECTION DETAILS

TC-8702E

RECOMMENDED MAY 25, 2007 RECOMMENDED MAY 25, 2007 SHT. 1 OF 5 Sle C Rowe m.l.fatel

CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER OPERATIONS DIVISION

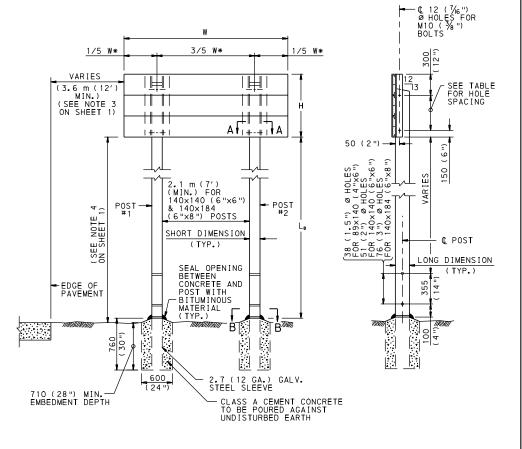
P0S1	SELECT	ION	ΓABLE	- TW	O POS	TS
W	L _B	HE	IGHT	"H " I	N m (FT)
m (FT)		0.610	0.915 (3)	1.220	1.525 (5)	1.830
	1.8 (6)	P1	P1	P1	P1	-
	2.1 (7)	P1	P1	P1	-	-
	2.4 (8)	P1	P1	P1	-	-
	2.7 (9)	P1	P1	-	ı	-
	3.0 (10)	P1	P1	-	-	-
1.8 (6)	3.3 (11)	P1	-	-	-	-
	3.6 (12)	P1	-	-	-	-
	3.9 (13)	P1	-	-	-	-
	4.2 (14)	-	-	-	-	-
	4.5 (15)	-	-	-	-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P1	P1	P1	-	-
	2.1 (7)	P1	P1	P1	-	-
	2.4 (8)	P1	P1	-	-	-
	2.7 (9)	P1	P1	-	1	-
	3.0 (10)	P1	-	-	1	-
2.1 (7)	3.3 (11)	P1	-	-	-	-
	3.6 (12)	P1	-	-	-	-
	3.9 (13)	-	-	-	-	-
	4.2 (14)	-	-	-	-	-
	4.5 (15)	-	-	-	-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P1	P1	P1	_	-
	2.1 (7)	P1	P1	-	-	-
	2.4 (8)	P1	P1	-	-	-
	2.7 (9)	P1	-	-	-	-
	3.0 (10)	P1	-	-	-	-
2.4 (8)	3.3 (11)	P1	-	-	-	-
	3.6 (12)	-	-	-	-	-
	3.9 (13)	-	-	-	-	-
	4.2 (14)	-	-	-	-	-
	4.5 (15)	-	-	-	-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P1	P1	P2 *	P3 *	P3 *
	2.1 (7)	P1	P1	P2 *	P3 *	P3 *
	2.4 (8)	P1	P2 *	P3 *	P3 *	P3 *
	2.7 (9)	P1	P2 *	P3 *	P3 *	P3 *
	3.0 (10)	P1	P2 *	P3 *	P3 *	
2.7 (9)	3.3 (11)	P1	P3 *	P3 *	P3 *	-
	3.6 (12)	P2 *	P3 *	P3 *	-	-
	3.9 (13)	P2 *	P3 *	P3 *	-	-
	4.2 (14)	P3 *	P3 *	-	-	-
	4.5 (15)	P3 *	P3 *	-	-	-
	4.8 (16)	P3 *	-	-	-	-
	1.8 (6)	P1	P1	P2 *	P3 *	P3 *
	2.1 (7)	P1	P1	P3 *	P3 *	P3 *
	2.4 (8)	P1	P2 *	P3 *	P3 *	P3 *
	2.7 (9)	P1	P2 *	P3 *	P3 *	-
	3.0 (10)	P1	P3 *	P3 *	P3 *	-
3.0 (10)	3.3 (11)	P2 *	P3 *	P3 *	-	-
	3.6 (12)	P2 *	P3 *	P3 *	-	-
	3.9 (13)	P3 *	P3 *	-		-
	4.2 (14)	P3 *	P3 *			
	4.5 (15) 4.8 (16)	P3 * P3 *	-	-	-	-

P0S1	r select	ION	TABLE	- TW	0 POS	TS
W	L _B		IGHT	"H" I	N m (FT)
m (FT)	m (FT)	0.610	0.915	1.220	1.525	1.830
	1.8 (6)	P1	P1	P2 *	P3 *	P3 *
		P1	P2 *	P3 *	P3 *	P3 *
		P1		P3 *	P3 *	F3 *
	2.4 (8)					
	2.7 (9)	P1	P3 *	P3 *	P3 *	
	3.0 (10)	P2 *	P3 *	P3 *	-	-
3.3 (11)	3.3 (11)	P2 *	P3 *	P3 *	-	-
	3.6 (12)	P3 *	P3 *	-	-	-
	3.9 (13)	P3 *	P3 *	-	-	-
	4.2 (14)	P3 *	P3 *	-	-	-
	4.5 (15)	P3 *	-	-	-	-
	4.8 (16)	P3 *	-			
	1.8 (6)	P1	P2 *	P3 *	P3 *	P3 *
	2.1 (7)	P1	P2 *	P3 *	P3 *	-
	2.4 (8)	P1	P2 *	P3 *	P3 *	-
	2.7 (9)	P2 *	P3 *	P3 *	-	-
	3.0 (10)	P2 *	P3 *	P3 *	-	-
3.6 (12)	3.3 (11)	P2 *	P3 *	-	-	-
	3.6 (12)	P3 *	P3 *	-		-
	3.9 (13)	P3 *	P3 *	-	-	-
	4.2 (14)	P3 *	-	-	-	-
	4.5 (15)	P3 *	-	-	-	-
	4.8 (16)	P3 *	-	-	-	-
	1.8 (6)	P1	P2	P3	P3	-
	2.1 (7)	P1	P2	P3	P3	-
	2.4 (8)	P1	P3	P3	-	-
	2.7 (9)	P2	P3	P3	-	-
	3.0 (10)	P2	P3	P3	-	-
3.9 (13)	3.3 (11)	P3	P3	-	-	-
	3.6 (12)	P3	P3	-	-	-
	3.9 (13)	P3	P3	-	-	-
	4.2 (14)	P3	-	-	-	-
	4.5 (15)	P3	-	-	-	-
	4.8 (16)	P3	-	-	-	-
	1.8 (6)	P1	P2	Р3	P3	-
	2.1 (7)	P1	P2	P3	P3	-
	2.4 (8)	P2	P3	P3	-	-
	2.7 (9)	P2	P3	P3	-	-
	3.0 (10)	P2	P3	-	-	-
4.2 (14)	3.3 (11)	P3	P3	-	-	-
	3.6 (12)	Р3	P3	-	-	-
	3.9 (13)	Р3	-	-	-	-
	4.2 (14)	P3	-	-	-	-
	4.5 (15)	P3	-	-	-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P1	P2	P3	P3	-
	2.1 (7)	P1	P3	P3	-	-
	2.4 (8)	P2	P3	P3	-	-
	2.7 (9)	P2	P3	-	-	-
	3.0 (10)	P3	P3	-	-	-
4.5 (15)	3.3 (11)	P3	P3	-	-	-
	3.6 (12)	P3		-	-	-
	3.9 (13)	P3	-	-	-	-
	4.2 (14)	P3	-	-	-	_
	4.5 (15)	P3	-	_	_	
	1 10 0 (10/	1 1 2				
	4.8 (16)	-	-	-	-	_

POST	SELECT	TION	ΓABLE	- TW	0 POS	TS
w	L _B	HE	IGHT	"H" I	N m (FT)
m ("FT)	m (FT)	0.610	0.915	1.220	1.525	1.830
		(2)	(3)	(4)	(5)	(6)
	1.8 (6)	P1	P2	P3	Р3	-
	2.1 (7)	P2	Р3	P3	-	-
	2.4 (8)	P2	Р3	Р3	-	-
	2.7 (9)	P2	P3	-	-	-
	3.0 (10)	P3	Р3	-	-	-
4.8 (16)	3.3 (11)	P3	P3	-	-	-
'• • ` ' •	3.6 (12)	P3		_	_	_
	3.9 (13)	P3			_	_
	4.2 (14)	P3		_	_	_
	4.5 (15)	P3				
-		-		_	-	_
	4.8 (16)				-	-
	1.8 (6)	P1	P3	P3	-	-
	2.1 (7)	P2	P3	P3	-	-
	2.4 (8)	P2	P3	-	-	-
[2.7 (9)	P3	P3	-	-	-
Ī	3.0 (10)	P3	P3	-	-	-
5.1 (17)	3.3 (11)	P3	-	-	-	-
	3.6 (12)	Р3	-	-	-	-
	3.9 (13)	P3	-	-	-	-
	4.2 (14)	P3		_	_	_
	4.5 (15)			_	_	_
-		-	_	_	_	
	4.8 (16)				_	
-	1.8 (6)	P1	P3	P3	-	-
	2.1 (7)	P2	P3	P3	-	-
	2.4 (8)	P2	P3	-	-	-
	2.7 (9)	P3	P3	-	-	-
	3.0 (10)	P3	P3	-	-	-
5.4 (18)	3.3 (11)	P3	-	-	-	-
	3.6 (12)	P3	-	-	-	-
	3.9 (13)	Р3	-	-	-	-
	4.2 (14)	Р3	-	-	-	-
	4.5 (15)	-	-	-	-	-
	4.8 (16)	_	_	_	_	_
		P2	P3	P3	_	_
	1.8 (6)		P3		<u> </u>	
	2.1 (7)	P2		P3		
	2.4 (8)	P2	P3	-	-	-
	2.7 (9)	P3	P3	-	-	-
	3.0 (10)	P3	-	-	-	-
5.7 (19)	3.3 (11)	P3	-	-	-	-
	3.6 (12)	P3	-	-	-	-
	3.9 (13)	P3	-	-	-	-
Ī	4.2 (14)	-	-	-	-	-
	4.5 (15)	-	-	-	-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P2	P3	P3	_	-
	2.1 (7)	P2	P3	-		<u> </u>
	2.4 (8)	P3	P3	-		-
				_		
	2.7 (9)	P3	P3			
۱ <i>-</i>	3.0 (10)	P3	-	-	-	-
			-	-	-	-
6.0 (20)	3.3 (11)	P3				
6.0 (20)	3.6 (12)	P3	-	-	-	-
6.0 (20)			-	-	-	-
6.0 (20)	3.6 (12)	P3	1 1 1	-	-	- - -
6.0 (20)	3.6 (12) 3.9 (13)	P3				- - -



PLAN VIEW



SIGN ELEVATION

END VIEW

ENGLISH UNITS

6 3 AT 18"

METRIC UNITS

1.830 3 AT 460.0 mm

ANGL BC	E CONNECTION LT SPACING	ANGLE BOL	CONNECTION T SPACING
H (m)	SPACES	H (FT)	SPACES
0.610	1 AT 160.0 mm	2	1 AT 6"
0.915	2 AT 232.5 mm	3	2 AT 9"
1.220	2 AT 385.0 mm	4	2 AT 15"
1.525	3 AT 358.3 mm	5	3 AT 14"

TABLE FOR HOLE SPACING

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

POST-MOUNTED SIGNS, TYPE E

WOOD POSTS SELECTION TABLES **ERECTION DETAILS**

RECOMMENDED MAY 25, 2007

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED MAY 25, 2007

MEGLEU

CHIEF HIGHWAY ENGINEER SHT. 2 OF 5 TC-8702E

NOTES:

- POSTS IN THE SELECTION TABLE WITH AN "*" MUST HAVE A MINIMUM CLEAR SPACING OF 2.1 m (7') BETWEEN POSTS BY INCREASING THE 3/5 W SPACING. THE REMAINING SIGN WIDTH "W" SHOULD BE EQUALLY DISTRIBUTED TO THE OVERHANGS.
- 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 PARENTHESIS ().
- EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.

LEGEND:

* SEE NOTE 1.

P1 = 89×140 (4"×6") P2 = 140×140 (6"×6") P3 = 140×184 (6"×8")

POST SELECTION EXAMPLE

FOR A SIGN WHERE

W = 1.8 m (6')H = 0.610 m (2')

 $L_B = 3.9 \text{ m } (13')$

TWO P1 = 89×140 (4"×6") WOOD POSTS ARE REQUIRED.

POST S	ELECTIO	N TARI	E _ T	HREE	PUSTS
			<u> </u>		
w (ET)	L _B	0,610	0.915	' IN m 1.220	1.525
m (FT)	m (FT)	(2)	(3)	(4)	(5)
	1.8 (6)	P1	P2*	P3*	P3*
	2.1 (7)	P1	P3*	P3*	-
	2.4 (8)	P2*	P3*	P3*	-
	2.7 (9)	P2*	P3*	-	-
	3.0 (10)	P3*	P3*	-	-
6.6 (22)	3.3 (11)	P3*	P3*	-	-
0.6 (22)	3.6 (12)	P3*	-	-	
	3.9 (13) 4.2 (14)	P3*			
	4.5 (15)	P3*	-	-	-
	4.8 (16)	-	-	_	-
	5.1 (17)	-	-	-	_
	5.4 (18)	-	-	-	-
	1.8 (6)	P1	P2	P3	P3
	2.1 (7)	P2	P3	P3	-
	2.4 (8)	P2	P3	P3	-
	2.7 (9)	P2	P3	-	-
	3.0 (10)	P3	P3	1	-
	3.3 (11)	Р3	P3	-	-
6.9 (23)	3.6 (12)	P3	-	-	-
	3.9 (13)	P3	-	-	-
	4.2 (14)	P3	-	-	
	4.5 (15)	-	-	-	-
	4.8 (16)	-	-	-	-
	5.1 (17)	-	-	-	-
	5.4 (18)	-	-	-	-
	1.8 (6)	P1	P2	P3	P3
	2.1 (7)	P2	P3	P3	
	2.4 (8)	P2	P3	P3	
	2.7 (9)	P3	P3 P3		-
	3.0 (10) 3.3 (11)	P3 P3	P3		-
7.2 (24)	3.6 (12)	P3	-	-	-
(27)	3.9 (13)	P3	_		-
	4.2 (14)	P3	-		-
	4.5 (15)	- 1	-	-	-
	4.8 (16)	-	-	-	-
	5.1 (17)	-	-	-	-
	5.4 (18)	-	-	-	-
	1.8 (6)	P1	P3	Р3	-
	2.1 (7)	P2	P3	Р3	-
	2.4 (8)	P2	P3	ī	-
	2.7 (9)	Р3	Р3		-
	3.0 (10)	P3	P3	-	-
	3.3 (11)	P3	-	-	-
7.5 (25)	3.6 (12)	P3	-	-	-
	3.9 (13)	P3	-	-	-
	4.2 (14)	P3	-	-	-
	4.5 (15)	-	-	_	-
	4.8 (16)	-	-	-	-
	5.1 (17)	-	-	-	-
	5.4 (18)	-	- D7	- D7	
	1.8 (6)	P1	P3	P3	-
	2.1 (7)	P2	P3	P3	-
	2.4 (8)	P2	P3 P3	-	
	2.7 (9) 3.0 (10)	P3 P3	P3		
	3.3 (11)	P3	-	-	
7.8 (26)	3.6 (12)	P3	-		
	3.9 (13)	P3	-	_	
	4.2 (14)		-	-	-
	4.5 (15)	-	-	-	-
	4.8 (16)	-	-	-	-
	5.1 (17)	-	-	-	-
	5.4 (18)	-	-	-	-
* CEE N/	OTF 1				

		5.	4 (
*	SEE	NOTE	1.

LEGEND: P1 = 89×140 (4"×6") P2 = 140×140 (6"×6") P3 = 140×184 (6"×8")

POST SELECTION TABLE - THREE POSTS HEIGHT "H" IN m (FT) 0.610 0.915 1.220 1.525 (2) (3) (4) (5) 1.8 (6) P2 P3 P3 P2 P3 P2 P3 Р3 P3 P3 Р3 8.1 (27) 3.6 (12) P3 4.2 (14) 4.5 (15) 4.8 (16) 5.4 (18) P2 P3 P3 P2 P3 P3 1.8 (6) 2.1 (7) 2.4 (8) P3 P3 2.7 (9) P3 P3 P3 -3.3 (11) Р3 8.4 (28) 3.6 (12) Р3 3.9 (13) Р3 4.2 (14) 4.5 (15) 4.8 (16) 5.1 (17) 5.4 (18) 1.8 (6) P2 2.1 (7) P3 P3 P3 P3 2.4 (8) 2.7 (9) 3.0 (10) Р3 3.3 (11) 8.7 (29) 3.6 (12) P3 3.9 (13) 4.2 (14) 4.5 (15) 4.8 (16) 5.1 (17) 5.4 (18) P2 P2 P3 Р3 Р3 1.8 (6) P3 2.1 (7) 2.4 (8) P3 P3 P3 3.0 (10) 3.3 (11) 9.0 (30) 3.6 (12) 3.9 (13) P3 4.2 (14) 4.5 (15) 4.8 (16)

POST SELECTION EXAMPLE

FOR A SIGN WHERE

5.1 (17) 5.4 (18)

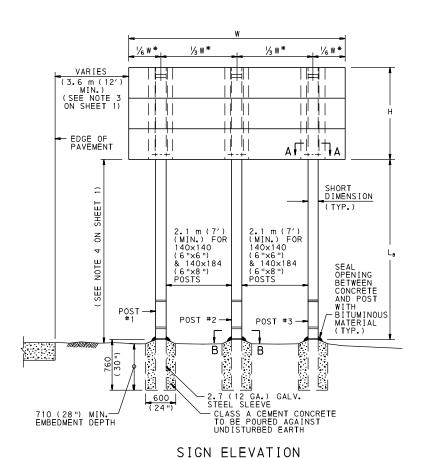
W = 6.6 m (22')H = 0.610 m (2')

 $L_B = 4.5 \text{ m } (15')$

THREE P3 = 140×184 (6"×8") WOOD POSTS ARE REQUIRED.



PLAN VIEW



- (12 (1/6") Ø HOLES FOR M10 (3/8") BOLTS FOR HOLE SPACING - C POST LONG DIMENSION

END VIEW

METRIC UNITS ENGLISH UNITS

ANGL BC	E_COI	NNECTIC PACING	Z	ANGLE BOL	CON T SP	CONNECTION SPACING			
H (m)	S	PACES		H (FT)	S	PAC	ES		
.610	1 AT	160.0	mm	2	1	ΑT	6"		
915	2 AT	232.5	mm	3	2	ΑT	9"		
.220	2 AT	385.0	mm	4	2	ΑТ	15"		
.525	3 AT	358.3	mm	5	3	ΑТ	14"		

TABLE FOR HOLE SPACING

NOTES:

- 1. POSTS IN THE SELECTION TABLE WITH AN "*" MUST HAVE A MINIMUM CLEAR SPACING OF 2.1 m (7') BETWEEN POSTS BY INCREASING THE 3/5 W SPACING. THE REMAINING SIGN WIDTH "W" SHOULD BE EQUALLY DISTRIBUTED TO THE OVERHANGS.
- 2. SEE SHEET 1 FOR ADDITIONAL NOTES.
- 3. SEE SHEET 4 FOR SECTIONS AND ERECTION DETAILS.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 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 E

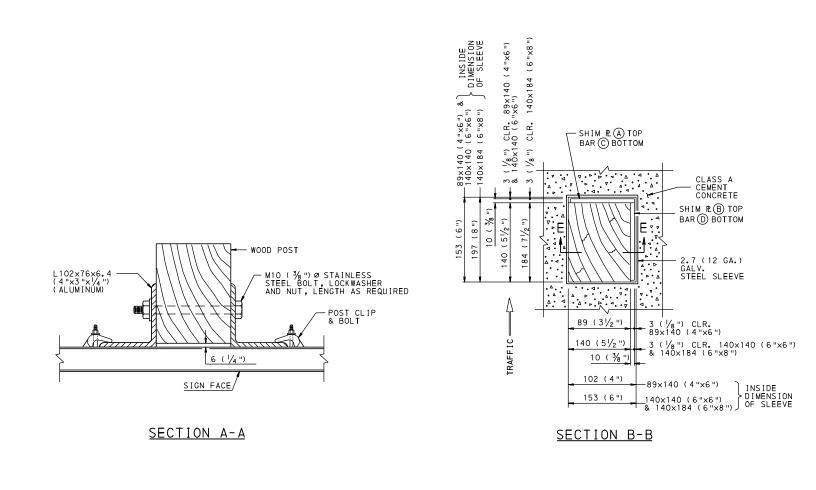
WOOD POSTS SELECTION TABLES **ERECTION DETAILS**

RECOMMENDED MAY 25, 2007 RECOMMENDED MAY 25, 2007 Sle C Rowe CHIEF, TRAFFIC ENGINEERING AND CHIEF HIGHWAY ENGINEER OPERATIONS DIVISION

m. lofatel

TC-8702E

SHT. 3 OF 5



140×140 (6"×6") &

39 (1½") (¾")

140×184 (6"×8")

13 (1/2 ")

10 (3/8 ") GALV. STEEL PL

89×140 (4"×6") 140×140 (6"×6") & 140×184 (6"×8")

88 (3½") _89×140 (4"×6")

¢ 3 (⅓") Ø HOLE

10 (3/8 ") GALV. -STEEL PL

140×140 (6"×6")

140×184 (6"×8")

89×140 (4"×6")

140×140 (6"×6")

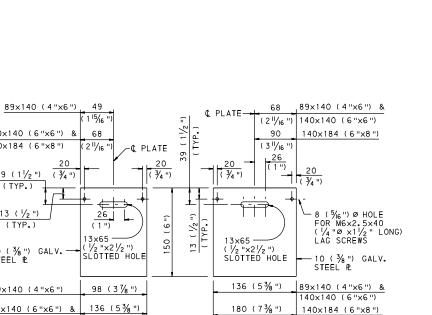
184 (7 1/4 ") 140×184 (6 "×8 ") BAR D

NOTE: NAIL SHIM BARS TO POST TO HOLD BARS IN PLACE WHILE POST IS BEING PLACED.

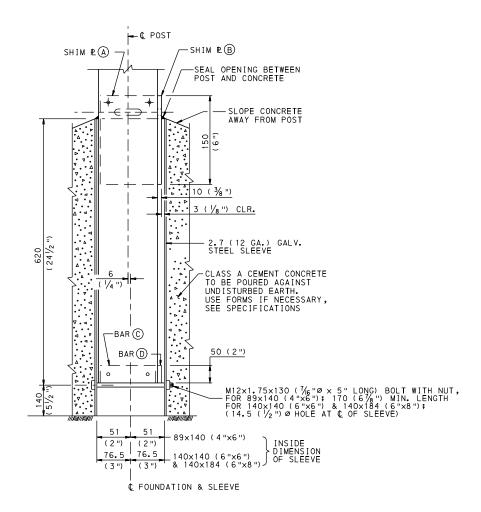
SHIM BAR © SHIM BAR ©

└─ 50 (2")

25 (1")







SECTION E-E

NOTES:

- 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 2. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.
- 3. STEEL USED FOR SLEEVES AND SHIMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 36 KSI.
- 4. STAINLESS STEEL BOLT, LOCKWASHER AND NUT SHALL BE AISI TYPE 304 STEEL AND MEET ASTM A320.

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

POST-MOUNTED SIGNS, TYPE E

WOOD POSTS **ERECTION DETAILS**

RECOMMENDED MAY 25, 2007

LILL C Power

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED MAY 25, 2007

M. Clattle

CHIEF HIGHWAY ENGINEER SHT. 4 OF 5 TC-8702E

	SELECT			- TW		
W	L _B		IGHT		N m (
m (FT)	m (FT)	0.610	0.915	1.220	1.525	1.830
	1.8 (6)	P1	P1	P1	P1	-
}	2.1 (7)	P1	P1	P1	- ' '	_
}			P1	P1	-	-
-		P1		PI	-	-
	2.7 (9)	P1	P1	-	-	-
1 0 / 0	3.0 (10)	P1	P1			
1.8 (6)	3.3 (11)	P1	-	-	-	-
-	3.6 (12)	P1	-	-	-	_
	3.9 (13)	P1 -	-	-	-	-
-	4.2 (14)			_	-	
	4.5 (15)	-	-		-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P1	P1	P1	-	-
	2.1 (7)	P1	P1	P1	-	-
	2.4 (8)	P1	P1	-	-	-
	2.7 (9)	P1	P1	-	-	-
	3.0 (10)	P1	-	-	-	-
2.1 (7)	3.3 (11)	P1	-	-	-	-
	3.6 (12)	P1	-	-	-	-
	3.9 (13)	-	-	-	-	
	4.2 (14)	-	-	-	-	-
	4.5 (15)	-	-	-	-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P1	P1	P1	-	-
	2.1 (7)	P1	P1	-	-	-
	2.4 (8)	P1	P1	-	_	-
ļ	2.7 (9)	P1	-	-	-	-
ļ	3.0 (10)	P1	-	-	-	-
2.4 (8)	3.3 (11)	P1	-	-	-	-
	3.6 (12)	-	-	-	-	-
ŀ	3.9 (13)	-	-	-	-	-
	4.2 (14)	-	-	-	-	-
ŀ	4.5 (15)	-	-	-	-	-
ŀ	4.8 (16)	-	-	-	-	-
	1.8 (6)	P1	P1	P2 *	P3 *	P3 *
}	2.1 (7)	P1	P1	P2 *	P3 *	P3 *
}	2.4 (8)	P1	P2 *	P3 *	P3 *	P3 *
}	2.7 (9)	P1	P2 *	P3 *	P3 *	P3 *
}	3.0 (10)	P1	P2 *	P3 *	P3 *	-
2.7 (9)	3.3 (11)	P1	P3 *	P3 *	P3 *	-
2.1 (3)	3.6 (12)	P2 *	P3 *	P3 *		-
}		P2 *	P3 *	P3 *	_	<u> </u>
}	3. 9 (13) 4. 2 (14)	P3 *	P3 *		_	
-				-	-	-
	4.5 (15)	P3 *	P3 *	-	-	-
	4.8 (16)	P3 *			- D7 ···	
	1.8 (6)	P1	P1	P2 *	P3 *	P3 *
	2.1 (7)	P1	P1	P3 *	P3 *	P3 *
	2.4 (8)	P1	P2 *	P3 *	P3 *	P3 *
	2.7 (9)	P1	P2 *	P3 *	P3 *	-
	3.0 (10)	P1	P3 *	P3 *	P3 *	
3.0 (10)	3.3 (11)	P2 *	P3 *	P3 *	-	-
	3.6 (12)	P2 *	P3 *	P3 *	-	-
	3.9 (13)	P3 *	P3 *	-	-	-
	4.2 (14)	P3 *	P3 *	-	-	-
	4.5 (15)	P3 *	-	-	-	-
	4.8 (16)	P3 *	-	-	-	-
	1.8 (6)	P1	P1	P2 *	P3 *	P3 *
	2.1 (7)	P1	P2 *	P3 *	P3 *	P3 *
ĺ	2.4 (8)	P1	P2 *	P3 *	P3 *	
	2.7 (9)	P1	P3 *	P3 *	P3 *	
	3.0 (10)	P2 *	P3 *	P3 *	-	-
3.3 (11)	3.3 (11)	P2 *	P3 *	P3 *	-	-
ľ	3.6 (12)	P3 *	P3 *	-	-	-
İ	3.9 (13)	P3 *	P3 *	-	-	-
	4.2 (14)	P3 *	P3 *	-	-	-
	4.5 (15)	P3 *	-	-	-	-
	4.8 (16)	P3 *	-	-	-	-
	1.8 (6)	P1	P2 *	P3 *	P3 *	P3 *
	2.1 (7)	P1	P2 *	P3 *	P3 *	-
	2.4 (8)	P1	P2 *	P3 *	P3 *	-
	2.7 (9)	P2 *	P3 *	P3 *	-	-
	3.0 (10)	P2 *	P3 *	P3 *	-	-
3.6 (12)	3.3 (11)	P2 *	P3 *	-	-	-
/	3.6 (12)	P3 *	P3 *	-	-	-
ŀ	3.9 (13)	P3 *	P3 *	-	-	-
Į.	4.2 (14)	P3 *	-	-	-	-
Γ	4.5 (15)	P3 *	-	-	-	-
[4.8 (16)	P3 *	-	-	-	-
	7 · U · I D/	P1	P2	P3	P3	
						<u> </u>
	1.8 (6)	D 1	P2	P3	P3	<u> </u>
	1.8 (6) 2.1 (7)	P1		P3	-	-
	1.8 (6) 2.1 (7) 2.4 (8)	P1	P3			-
	1.8 (6) 2.1 (7) 2.4 (8) 2.7 (9)	P1 P2	Р3	P3	-	
	1.8 (6) 2.1 (7) 2.4 (8) 2.7 (9) 3.0 (10)	P1 P2 P2	P3 P3	Р3	-	-
3,9 (13)	1.8 (6) 2.1 (7) 2.4 (8) 2.7 (9) 3.0 (10) 3.3 (11)	P1 P2 P2 P3	P3 P3 P3	P3 -	-	-
3.9 (13)	1.8 (6) 2.1 (7) 2.4 (8) 2.7 (9) 3.0 (10) 3.3 (11) 3.6 (12)	P1 P2 P2 P3 P3	P3 P3 P3 P3	Р3	-	-
3.9 (13)	1.8 (6) 2.1 (7) 2.4 (8) 2.7 (9) 3.0 (10) 3.3 (11) 3.6 (12) 3.9 (13)	P1 P2 P2 P3 P3 P3	P3 P3 P3	P3 - - -	-	-
3.9 (13)	1.8 (6) 2.1 (7) 2.4 (8) 2.7 (9) 3.0 (10) 3.3 (11) 3.6 (12) 3.9 (13) 4.2 (14)	P1 P2 P2 P3 P3 P3 P3	P3 P3 P3 P3	P3 -	-	-
3.9 (13)	1.8 (6) 2.1 (7) 2.4 (8) 2.7 (9) 3.0 (10) 3.3 (11) 3.6 (12) 3.9 (13)	P1 P2 P2 P3 P3 P3	P3 P3 P3 P3 P3	P3 - - -	-	-

POS	T SELEC	TION	TABLE	- TW	10 POS	TS
w	L _B	HE	IGHT	"H" I	N m (FT)
m (FT)	m (FT)	0.610	0.915	1.220	1.525	1.830
、 , , , ,		(2)	(3)	(4)	(5)	(6)
-	1.8 (6)	P1	P2	P3	P3	-
-	2.1 (7)	P1	P2	P3	P3	-
-	2.4 (8)	P2	P3	P3	-	-
	2.7 (9)	P2	P3	P3	-	-
	3.0 (10)	P2	P3	-	-	-
4.2 (14)	3.3 (11)	P3	P3	-	-	-
-	3.6 (12)	P3	P3	-	-	-
-	3.9 (13) 4.2 (14)	P3	-	-	-	
-	4.5 (15)	P3 P3		_	_	_
	4.8 (16)	-			_	
	1.8 (6)	P1	P2	P3	P3	-
	2.1 (7)	P1	P3	P3	-	
	2.4 (8)	P2	P3	P3	_	_
-	2.7 (9)	P2	P3	-	-	_
	3.0 (10)	P3	P3	-	-	-
4.5 (15)	3.3 (11)	P3	P3	-	-	-
'• 3 \ 3/	3.6 (12)	P3	-	-	-	-
	3.9 (13)	P3	-	-	-	-
	4.2 (14)	P3	-	-	_	-
	4.5 (15)	P3	-	-	-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P1	P2	P3	P3	-
	2.1 (7)	P2	P3	P3	-	-
	2.4 (8)	P2	P3	P3	-	-
	2.7 (9)	P2	Р3	-	-	-
	3.0 (10)	P3	P3	-	-	-
4.8 (16)	3.3 (11)	P3	P3	-	-	-
	3.6 (12)	P3	-	-	-	-
	3.9 (13)	P3	-	-	-	-
	4.2 (14)	Р3	-	-	-	-
	4.5 (15)	Р3	-	-	-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P1	P3	P3	-	-
	2.1 (7)	P2	P3	P3	-	-
	2.4 (8)	P2	P3	-	-	-
	2.7 (9)	P3	P3	-	-	-
	3.0 (10)	Р3	P3	-	-	-
5.1 (17)	3.3 (11)	Р3	-	-	-	-
	3.6 (12)	Р3	-	-	-	-
	3.9 (13)	Р3	-	-	-	-
	4.2 (14)	Р3	-	-	-	-
	4.5 (15)	-	-	-	-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P1	P3	P3	-	-
	2.1 (7)	P2	P3	P3	-	-
	2.4 (8)	P2	P3	-	-	-
	2.7 (9)	P3	P3	-	-	-
	3.0 (10)	P3	P3	-	-	-
5.4 (18)	3.3 (11)	P3	-	-	-	-
	3.6 (12)	P3	-	-	-	-
	3.9 (13)	P3	-	-	-	-
	4.2 (14)	Р3	-	-	-	-
	4.5 (15)	-	-	-	-	-
	4.8 (16)	-	-	-	-	-
	1.8 (6)	P2	P3	P3	-	-
	2.1 (7)	P2	P3	P3	-	-
	2.4 (8)	P2	P3	-	-	-
	2.7 (9)	P3	P3	-	-	-
E 7 / 10	3.0 (10)	P3	-	-	-	-
5.7 (19)	3.3 (11)	P3	-	-	-	-
	3.6 (12)	P3	-	-	-	-
	3.9 (13)	P3	-	-	-	-
	4.2 (14)	-	-	-	-	
	4.8 (16)	-	_	-	-	
	1.8 (6)	P2	P3	P3	-	
		P2	P3			
	2.1 (7)	P3	P3	_	_	
	2.7 (9)	P3	P3	-	-	
-	3.0 (10)	P3	-	_	-	_
6.0 (20)	3.3 (11)	P3	-	-	-	_
	3.6 (12)	P3	-	-	-	-
ŀ	3.9 (13)	P3	_	_	_	
		ر ا	_	_	_	
		-	_			
	4.2 (14)		-	-	-	-
		-				

POST SELECTION EXAMPLE

LEGEND:

FOR A SIGN WHERE

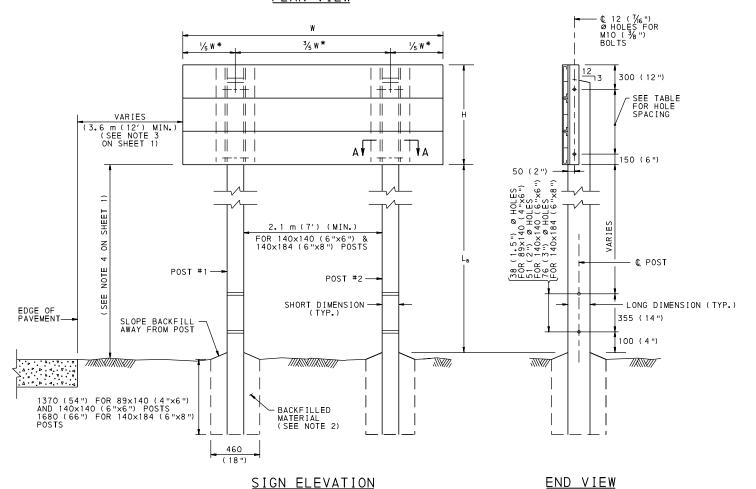
W = 1.8 m (6') H = 0.610 m (2') $L_B = 3.9 \text{ m } (13')$

P1 = 89×140 (4"×6") P2 = 140×140 (6"×6") P3 = 140×184 (6"×8")

TWO P1 = 89×140 (4"×6") WOOD POSTS ARE REQUIRED.



PLAN VIEW



METRIC UNITS ENGLISH UNITS

ANGLE CONNECTION BOLT SPACING					ANGL E	CONNECTION T SPACING
H (m)		SF	ACES		H (FT)	SPACES
0.610	1	ΑТ	160.0	mm	2	1 AT 6"
0.915	2	ΑT	232.5	mm	3	2 AT 9"
1.220	2	ΑТ	385.0	mm	4	2 AT 15"
1.525	3	ΑT	358.3	mm	5	3 AT 14"
1.830	3	ΑT	460.0	mm	6	3 AT 18"

TABLE FOR HOLE SPACING

NOTES:

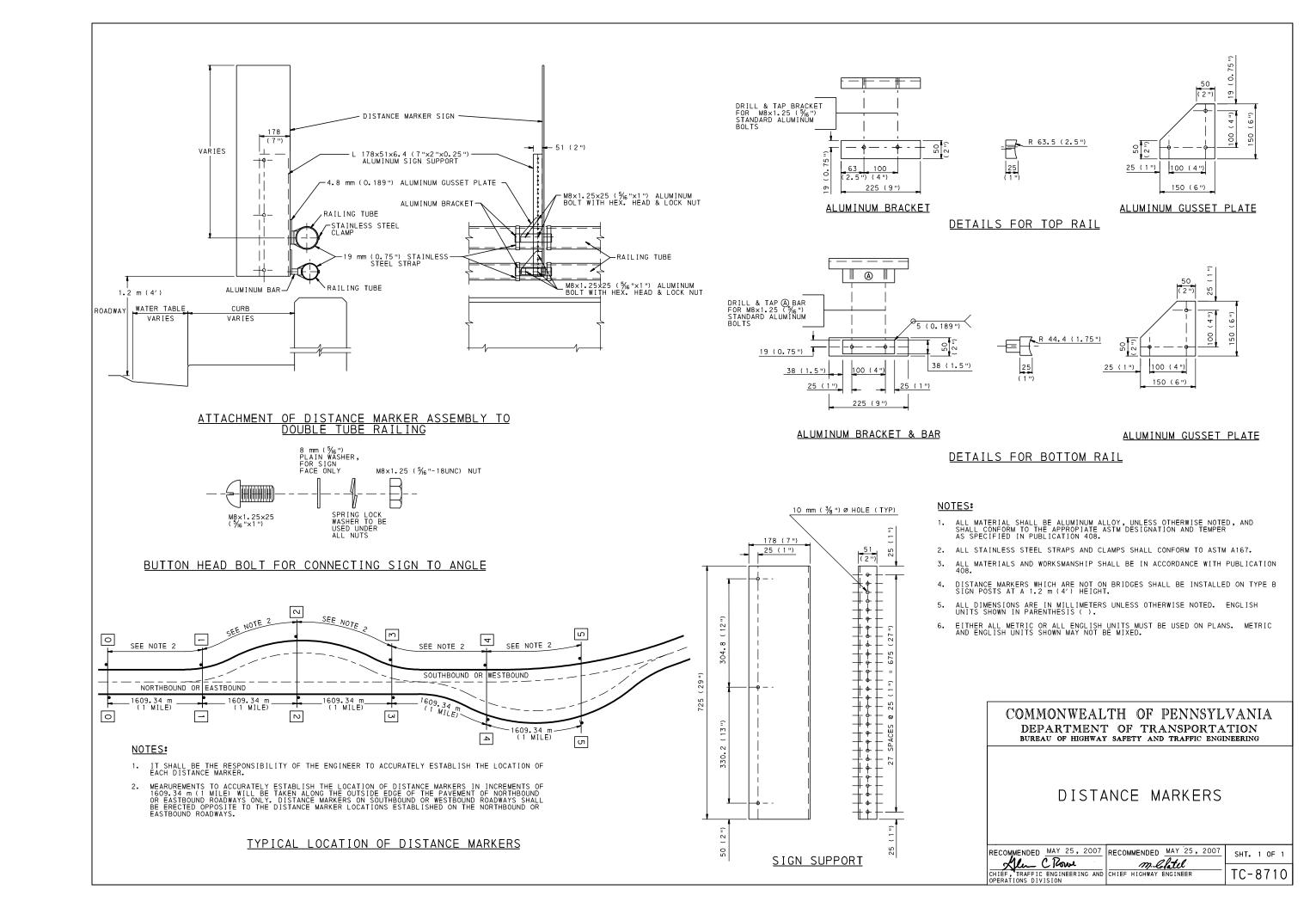
- POSTS IN THE SELECTION TABLE WITH AN "*" MUST HAVE A MINIMUM CLEAR SPACING OF 2.1 m (7') BETWEEN POSTS BY INCREASING THE 3/5 W SPACING. THE REMAINING SIGN WIDTH "W" SHOULD BE EQUALLY DISTRIBUTED TO THE OVERHANGS.
- 2. DRILL OR EXCAVATE A HOLE OF SUITABLE DIMENSIONS AND DEPTH TO PLACE THE POST AT GRODE. SET THE POST AND BACKFILL TO THE GROUND LINE USING ACCEPTABLE EMBANKMENT MATERIAL, THOROUGHLY COMPACTED IN 150 mm (6") LAYERS.
- 3. SEE SHEET 1 FOR ADDITIONAL NOTES.
- 4. SEE SHEET 4 FOR SECTIONS AND ERECTION DETAILS.
- 5. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 6. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.

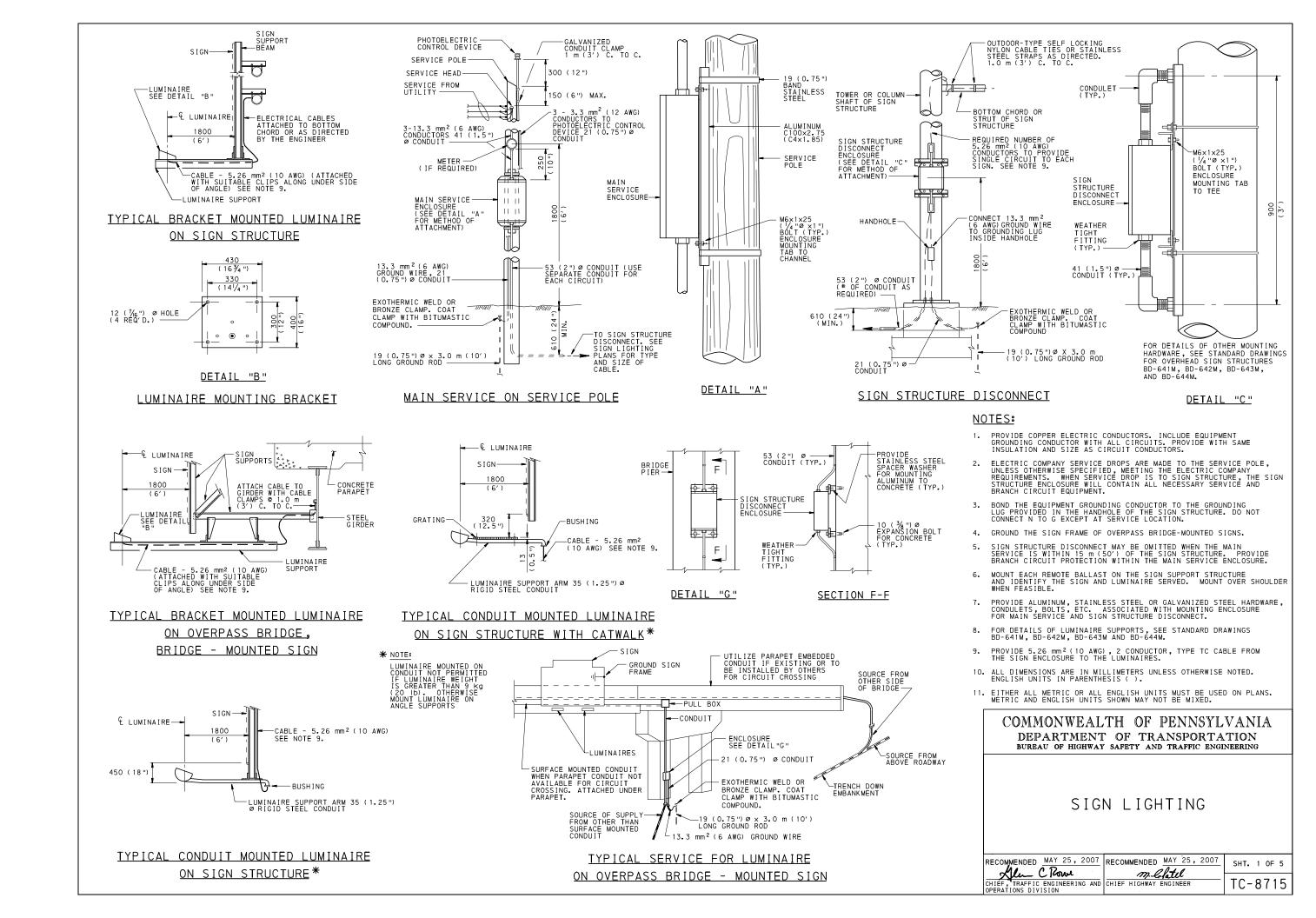
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

POST-MOUNTED SIGNS, TYPE E

WOOD POSTS - DIRECT BURIAL ERECTION DETAILS TEMPORARY USE ONLY

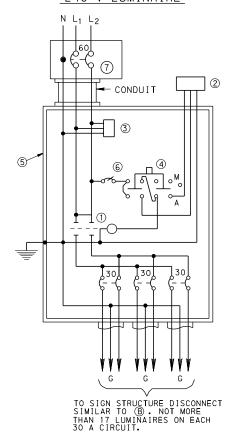
RECOMMENDED MAY 25, 2007		SHT. 5 OF 5
CHIEF, TRAFFIC ENGINEERING AND	m. Lolatel CHIEF HIGHWAY ENGINEER	TC-8702





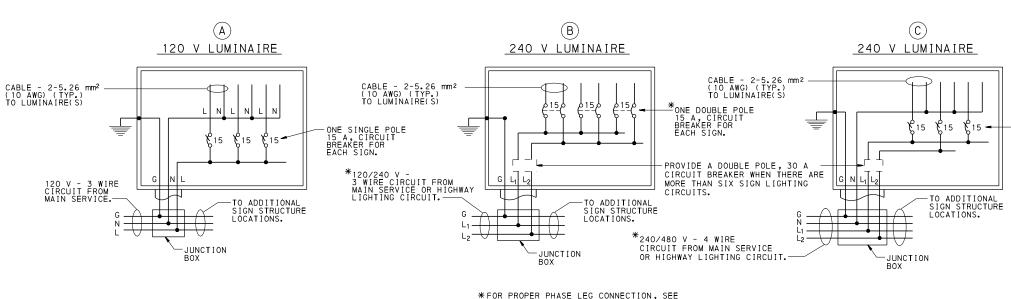
120 V - 2 WIRE SUPPLY 120 V LUMINAIRE N L GO T GO T GO T TO SIGN STRUCTURE DISCONNECT SIMILAR TO Â): NOT MORE THAN 8 LUMINAIRES ON EACH 30 A CIRCUIT.

120/240 V - 3 WIRE SUPPLY 240 V LUMINAIRE



MAIN SERVICE (TYPICAL)

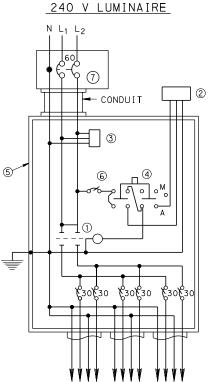
NOTE: MAIN SERVICE NOT REQUIRED WHEN POWER SUPPLY IS FROM HIGHWAY LIGHTING CIRCUIT.



SIGN LIGHTING PLAN OR HIGHWAY LIGHTING CIRCUIT SCHEMATIC, AS APPLICABLE.

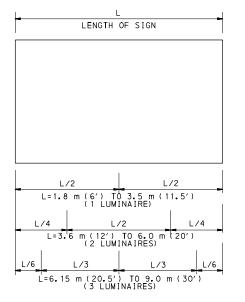
SIGN STRUCTURE DISCONNECT (TYPICAL)

240/480 V - 3 WIRE SUPPLY



TO SIGN STRUCTURE DISCONNECT SIMILAR TO ©. NOT MORE THAN 17 LUMINAIRES PER PHASE LEG ON EACH 30 A CIRCUIT.

- 1 TWO POLE, 60 A, LIGHTING CONTACTOR
- ② PHOTOELECTRIC CONTROL DEVICE
- 3 LIGHTNING ARRESTOR
- (4) SELECTOR SWITCH (MANUAL-OFF-AUTO.)
- ⑤ ENCLOSURE
- 6) 15 A, SINGLE POLE CIRCUIT BREAKER
- SERVICE DISCONNECT



QUANTITY AND LOCATION OF LUMINAIRES

NOTES:

- 1. PROVIDE A CIRCUIT BREAKER FOR THE MAIN DISCONNECT UNLESS THE POWER COMPANY REQUIRES FUSES.
- 2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS IN PARENTHESIS ().
- 3. EITHER ALL METRIC OR ALL ENGLISH UNITS MUST BE USED ON PLANS. METRIC AND ENGLISH UNITS SHOWN MAY NOT BE MIXED.
- 4. PROVIDE A MAIN DISCONNECT IN A SEPARATE NEMA 3R OR 4 ENCLOSURE THAT IS LABELED AS "SUITABLE FOR USE AS SERVICE EQUIPMENT". PROVIDE WITH A LOCKABLE COVER AND NO EXTERNAL HANDLE. THE DISCONNECT MAY BE PROVIDED INTEGRAL TO THE CONTROL CABINET IF THE CABINET IS DEAD FRONT AND LABELED AS "SUITABLE FOR USE AS SERVICE EQUIPMENT".

*
ONE SINGLE POLE
15 A, CIRCUIT
BREAKER FOR
EACH SIGN.

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

SIGN LIGHTING

RECOMMENDED MAY 25, 2007
RECOMMENDED MAY 25, 2007

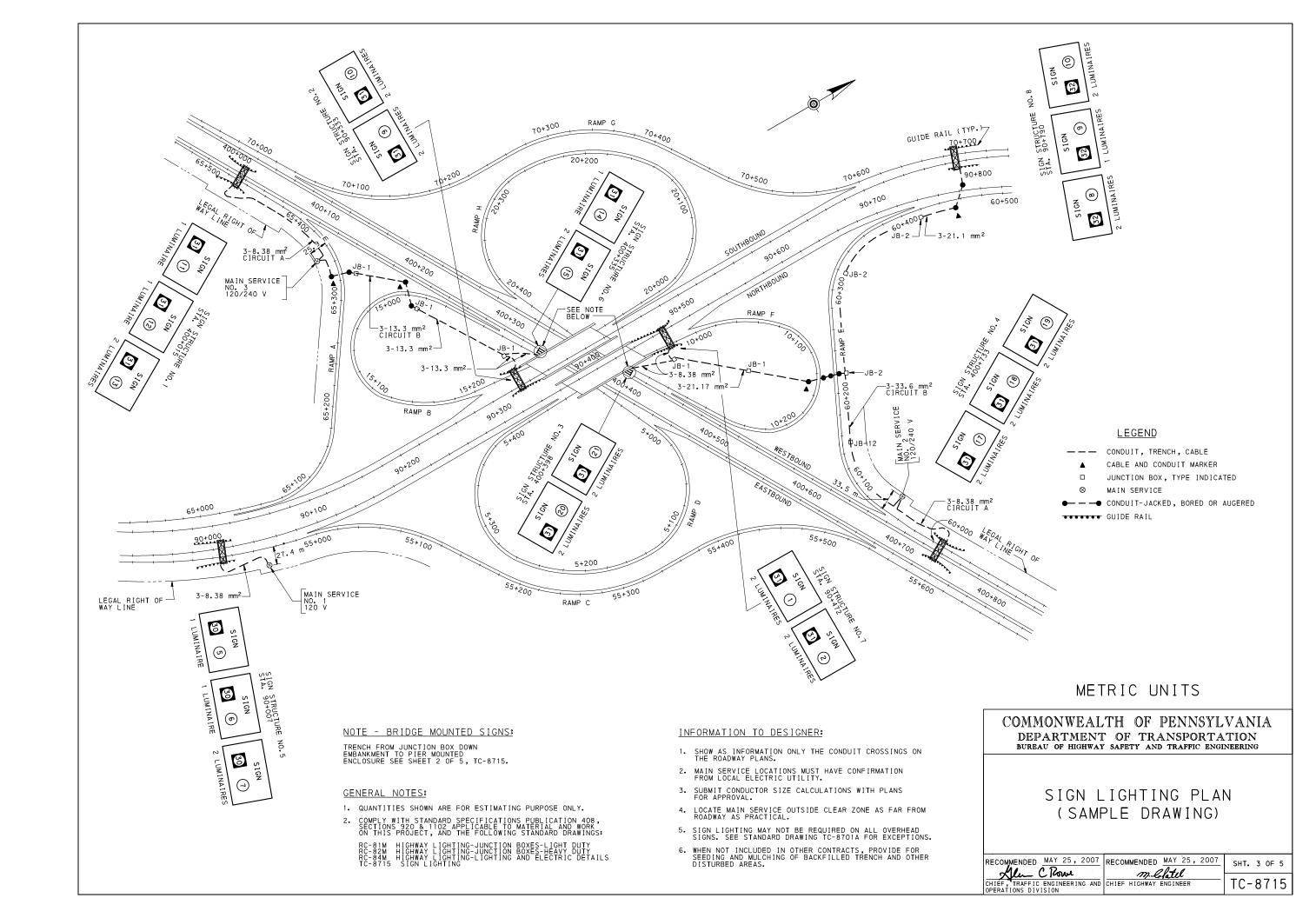
Melstel

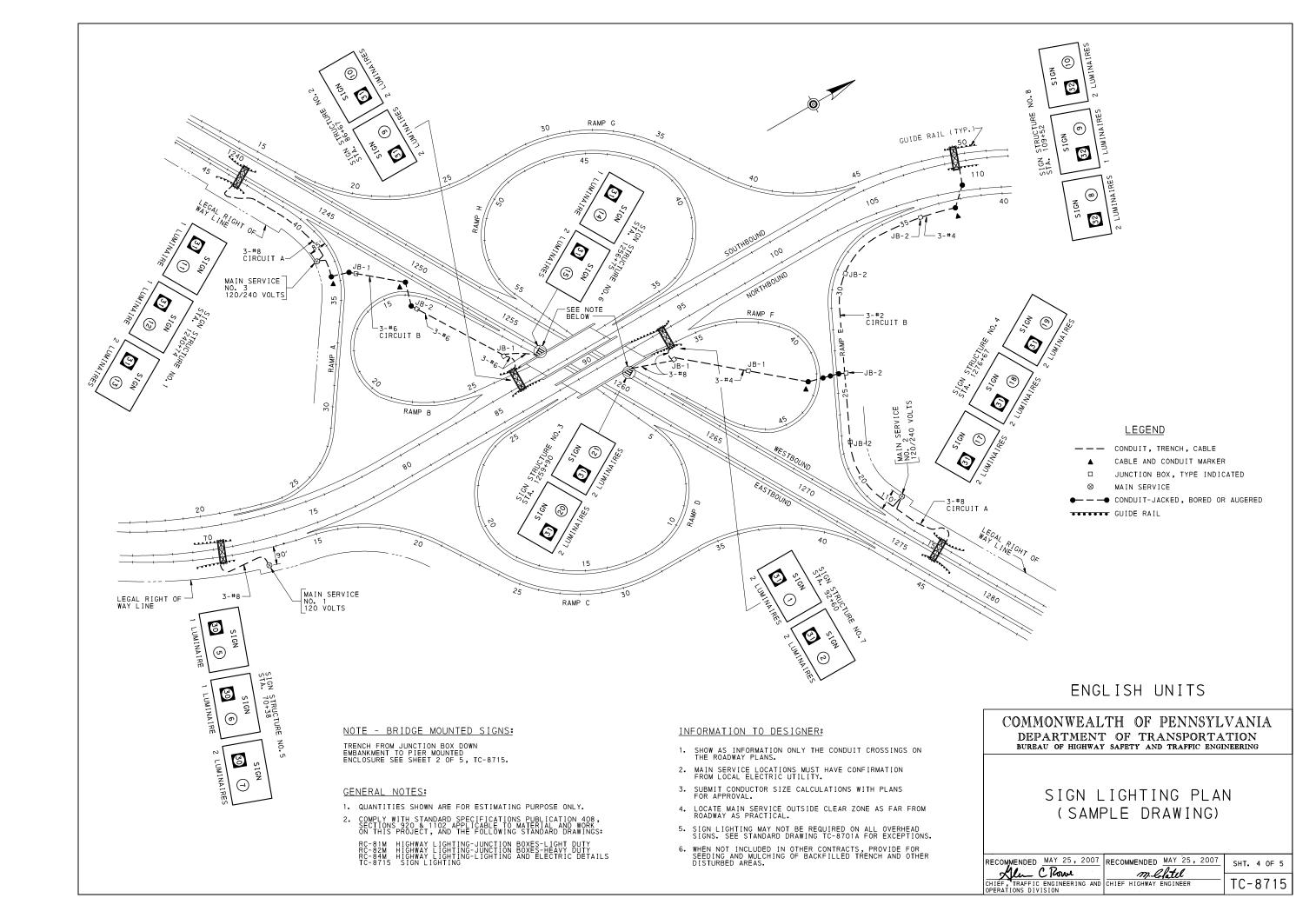
CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

CHIEF HIGHWAY ENGINEER

TC-8715

SHT. 2 OF 5



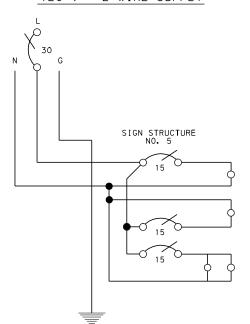


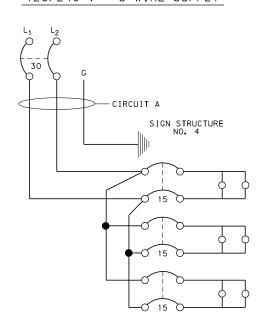
MAIN SERVICE NO. 1 120 V - 2 WIRE SUPPLY

MAIN SERVICE NO.2 120/240 V - 3 WIRE SUPPLY

MAIN SERVICE NO.3 120/240 V - 3 WIRE SUPPLY

MAIN SERVICE NO.3 120/240 V - 3 WIRE SUPPLY





ESTIMATE OF REQUIRED QUANTITIES

MAIN SERVICE REQUIRED QUANTITIES	M.S. #1	M.S. #2	M.S. #3	TOTAL
SERVICE POLE	1	1	1	3
METER BASE (IF REQUIRED)	1	1	1	3
SERVICE DISCONNECT	1	1	1	3
ENCLOSURE	1	1	1	3
WEATHERHEAD & SERVICE CLOSURE	1	1	1	3
LIGHTNING ARRESTER	1	1	1	3
PHOTOELECTRIC CELL	1	1	1	3
GROUND ROD	1	1	1	3
SELECTOR SWITCH	1	1	1	3
LIGHTING CONTACTOR, 2 POLES, 60 A	1	1	1	3
CIRCUIT BREAKER, 1 POLE, 60 A	1			1
CIRCUIT BREAKER, 2 POLES, 60 A		1	1	2
CIRCUIT BREAKER, 1 POLE, 15 A	1	1	1	3
CIRCUIT BREAKER, 1 POLE, 30 A	1			1
CIRCUIT BREAKER, 2 POLES, 30 A		2	2	4
CONDUIT, FITTINGS, MISC. HARDWARE	1	1	1	3

\$10	SIGN STRUCTURE REQUIRED QUANTITIES							
SIGN STRUCTURE	ENCLOSURE	GROUND ROD	15 A 1P, C.B.	15 A 2P, C.B.	175 W LUM.			
1	1	1		3	4			
2	1	1		2	4			
3	1 *	1		2	4			
4	1	1		3	6			
5	1	1	3		4			
6	1 *	1		2	3			
7	1	1		2	4			
8	1	1		3	5			
TOTAL	8	8	3	17	34			

* BRIDGE MOUNTED SIGNS - ENCLOSURE MOUNTED ON BRIDGE PIER. SEE SHEET 1 OF 5, TC-8715.

- CIRCUIT B SIGN STRUCTURE NO. 8 JB SIGN STRUCTURE NO. 7 SIGN LOCATION NO.3 BRIDGE MOUNTED ENCLOSURE ON PIER (SEE NOTE)

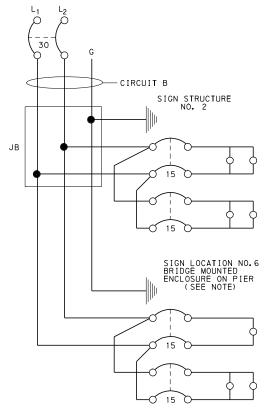
MAIN SERVICE NO. 2

120/240 V - 3 WIRE SUPPLY

Ò

30

CIRCUIT A SIGN STRUCTURE NO. 1 15



NOTE:

IT MAY BE MORE DESIRABLE TO USE ONE COMMON ENCLOSURE ON NEARBY SIGN STRUCTURE COLUMN FOR BOTH THE STRUCTURE SIGN AND THE BRIDGE-MOUNTED SIGN IN LIEU OF A SEPARATE ENCLOSURE MOUNTED ON THE BRIDGE PIER AS SHOWN ON SHEET I OF 5, TC-8715. IF THIS OPTION IS DESIRED, IT MUST BE CLEARLY SPECIFIED ON THIS SHEET. IN THE SAMPLE, ENCLOSURES FOR SIGN LOCATIONS 3 AND 6 WOULD NOT BE SPECIFIED AND A NOTE EXPLAINING THE OMISSION WOULD BE NECESSARY.

METRIC UNITS *

CIRCUIT REQUIRED QU	ANTITIES -	ENTIRE
ITEM	QUANTITY	REMARKS
33.6 mm ² , UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	510 m	
21.1 mm ² , UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	1320 m	
13.3 mm ² , UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	900 m	
8.38 mm ² , UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	905 m	
5.26 mm ² , TYPE TC CABLE, COPPER, 2 CONDUCTOR	460 m	FROM S.S.ENCLOSURE TO LUMINAIRE
CABLE & CONDUIT MARKER	4 EACH	
53 mm Ø DIRECT BURIAL CONDUIT	1150 m	
TRENCH	1150 m	
JUNCTION BOX JB-1	3 EACH	
JUNCTION BOX JB-12	6 EACH	

ENGLISH UNITS *

CIRCUIT REQUIRED Q	UANTITIES	- ENTIRE
ITEM	QUANTITY	REMARKS
AWG 2, UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	2190 FT.	
AWG 4, UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	6588 FT.	
AWG 6, UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	4350 FT.	
AWG 8, UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	5090 FT.	
AWG 10, TYPE TC CABLE, COPPER, 2 CONDUCTOR	1500 FT.	FROM S.S.ENCLOSURE TO LUMINAIRE
CABLE & CONDUIT MARKER	4 EACH	
2" Ø DIRECT BURIAL CONDUIT	5730 FT.	
TRENCH	5730 FT.	
JUNCTION BOX JB-1	3 EACH	
JUNCTION BOX JB-12	6 EACH	

* 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

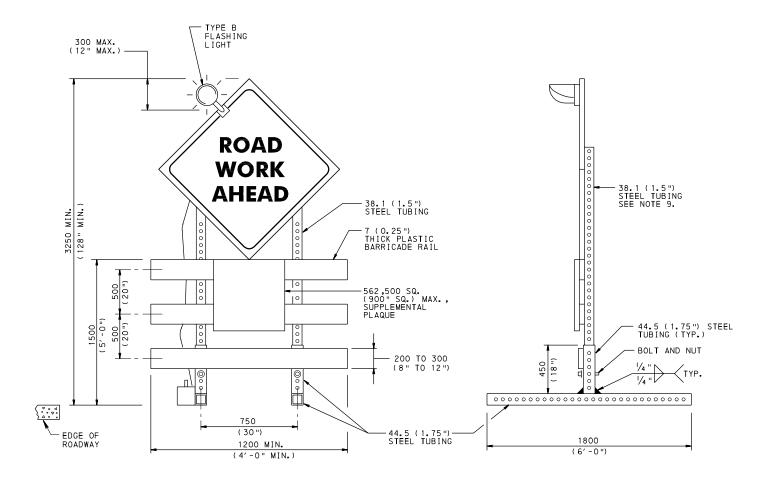
SIGN LIGHTING (SAMPLE DRAWING)

RECOMMENDED MAY 25, 2007 RECOMMENDED MAY 25, 2007 SHT. 5 OF 5

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED MAY 25, 2007 SHT. 5 OF 5

TC-8715



SKID-MOUNTED METAL SIGN SUPPORT

NOTES:

- 1. PROVIDE SIGN MATERIALS MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 1103.4.
- 2. DIAMOND, RECTANGULAR, OCTAGONAL AND TRIANGULAR SIGNS ARE PERMITTED. WHILE HAVING NO MAXIMUM AREA, THE MAXIMUM WEIGHT OF THE SIGN MAY NOT EXCEED 11.3 kg (25 lb).
- 3. MINIMUM MOUNTING HEIGHT TO TOP OF ALL SIGNS IS 3250 mm (128").
- 4. SUPPLEMENTAL PLAQUE IS TO BE MOUNTED AS SHOWN.
- BATTERY CASE MUST BE PLACED EITHER ON THE GROUND OR ATTACHED 500 (20") MAXIMUM ABOVE THE GROUND TO THE POST OR BASE LEG.
- 6. SIGN SUBSTRATE MAY BE PLYWOOD, ALUMINUM, FLEXIBLE (ROLL-UP)
 ABS, ALUMINUM / PLASTIC LAMINATE, CORRUGATED POLYPROPOLYLENE
 OR POLYETHYLENE.
- 7. PLACE SANDBAG BALLAST OR EQUAL ON BASE AS INDICATED OR DIRECTED.
- 8. SIGNS AND RAILS ARE TO BE ATTACHED WITH BOLTS AND NUTS.
- 9. IF TURNED 90°, RETROREFLECTIVE SHEETING MUST BE PLACED ON THE SIDES SO THAT THE BARRICADE IS CLEARLY VISIBLY TO APPROACHING DRIVERS.
- 10. MAXIMUM OF TWO TYPE B WARNING LIGHTS ON ALL SIGNS ARE ALLOWED WITH 600 (24") SEPARATING LIGHTS ON ROAD CLOSED SIGNS.
- 11. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS SHOWN IN PARENTHESIS ().
- 12. 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

TRAFFIC CONTROL SIGNING TYPE III BARRICADE

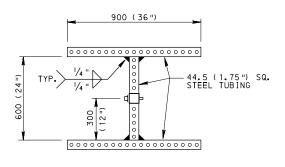
RECOMMENDED JUN. 23, 2009

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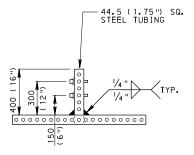
RECOMMENDED JUN. 23, 2009

ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

TC-8716

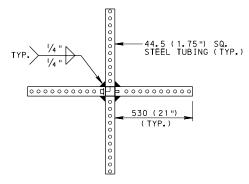


PLAN

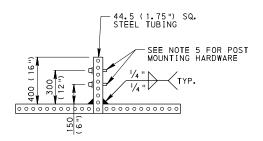


ELEVATION

"H" BASE DETAIL

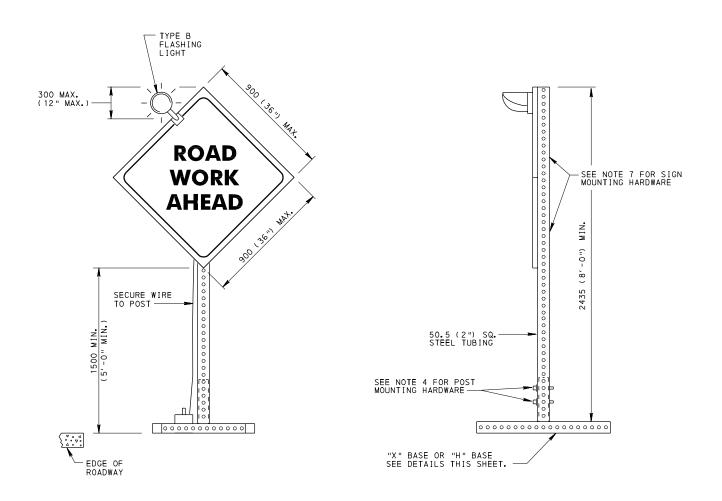


PLAN



ELEVATION

"X" BASE DETAIL



NOTES:

- 1. PROVIDE SIGN MATERIALS MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 1103.4.
- 2. DIAMOND, RECTANGULAR, OCTAGONAL AND TRIANGULAR SIGNS ARE PERMITTED. THE MAXIMUM SIGN AREA SHALL NOT EXCEED 0.81sq. m (9 sq. ft.)
- 3. BATTERY CASE MUST BE PLACED EITHER ON THE GROUND OR ATTACHED 500 (20") MAXIMUM ABOVE THE GROUND TO THE POST OR BASE LEG.
- 4. SIGN SUBSTRATE MAY BE PLYWOOD, ALUMINUM, ALUMINUM / PLASTIC LAMINATE, CORRUGATED POLYPROPOLYLENE OR POLYETHYLENE, MAX. WEIGHT 6.8 kgs (15 lbs).
- 5. POST, 50.5 (2") STEEL TUBING SLIDES OVER BASE STUB, 44.5 (1.75") STEEL TUBING FASTENED WITH 8 (5/16") DIAMETER 57 (21/4") LONG STAINLESS STEEL OR GRADE 5 ZINC PLATED BOLTS AND NYLON INSERT LOCK NUTS. USE 9.5 (3/8") STEEL AND NYLON WASHERS UNDER BOTH THE BOLT AND NUT.
- 6. PLACE SANDBAG BALLAST OR EQUAL ON BASE AS INDICATED OR DIRECTED.
- 7. SIGN PANEL IS PLACED ON THE VERTICAL SIGN POST WITH TOP EDGE ALIGNED WITH POST TOP END AND FASTENED WITH 8 ($\frac{5}{6}$ ") DIAMETER 57 ($2\frac{1}{4}$ ") LONG NYLON 6/6 FULLY THREADED HEX HEADED BOLTS AND NYLON INSERT LOCK NUTS. USE 9.5 ($\frac{3}{6}$ ") STEEL AND NYLON WASHERS UNDER BOTH THE BOLT AND NUT.
- 8. MAXIMUM OF TWO TYPE B WARNING LIGHTS ON ALL SIGNS ARE ALLOWED WITH 600 (24") SEPARATING LIGHTS ON ROAD CLOSED SIGNS.
- 9. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ENGLISH UNITS SHOWN IN PARENTHESIS ().
- 10. NCHRP 350 TEST LEVEL 3 CRASH TESTED AND APPROVED.
- 11. 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

> TEMPORARY PORTABLE SIGN POST

"H" BASE AND "X" BASE

RECOMMENDED JUN. 23, 2009

CHIEF, TRAFFIC ENGINEERING AND OPERATIONS DIVISION

RECOMMENDED JUN. 23, 2009

ACTING DIR. BUR. OF HIGHWAY SAFETY AND TRAFFIC ENGINEERING

TC-8717