

PERMANENT PAVEMENT MARKING PLAN

NOTES & GUIDELINES

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GENERAL INFORMATION:

- SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.
- EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS, AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY AN AGENCY PLACED YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE MAINLINE RADIUS.
- DO NOT APPLY THE PAVEMENT MARKINGS WHEN WEATHER AND OTHER CONDITIONS CAUSE A FILM OF DUST OR DEBRIS TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL IS APPLIED.
- APPLY THE PAVEMENT MARKING IMMEDIATELY FOLLOWING THE PAVEMENT CLEANING.
- APPLY THE RETROREFLECTIVE MEDIA IMMEDIATELY AFTER APPLICATION OF THE LIQUID PAVEMENT MARKINGS.
- THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

CONTRAST MARKINGS

- CONTRAST MARKINGS ARE DEFINED AS STANDARD LINEAR PAVEMENT MARKINGS, CROSSWALK MARKINGS AND PAVEMENT MESSAGES WITH 1.5 INCH NON REFLECTIVE BLACK BORDERS.

PREFORM TAPE INLAY APPLICATION

- VERIFY MAT TEMPERATURE WITH A THERMOMETER TO MAKE SURE THE INLAY IS BEING DONE IN THE PROPER TEMPERATURE RANGE. THE TEMPERATURE SHOULD MEASURE BETWEEN 150° F (ASPHALT FIRM ENOUGH TO WALK ON) AND 120° F. APPLICATION BELOW 120° F MAY NOT GET A PROPER INLAY. INLAYS ARE NOT RECOMMENDED AFTER SEPTEMBER 15th AS THE ASPHALT COOLS TOO FAST AT THIS TIME OF THE YEAR.
- NO PRIMERS ARE USED FOR INLAY APPLICATION. DO NOT PLACE LANE LINES ON AN ASPHALT SEAM. ROLLING OF ALL THE MARKINGS SHOULD BE LENGTHWISE IN THE DIRECTION THEY WERE LAID. FOR CROSSWALKS AND STOP BARS, INITIAL TAMPING WITH THE TAMPING CART IS RECOMMENDED USING ONLY 100 LBS. OF WEIGHT.
- USE A COMPACTION ROLLER TO EMBED (INLAY) MARKINGS INTO PAVEMENT SURFACE. USE MINIMUM SPEED AND WATER ON ROLLER. DO NOT USE VIBRATOR. IF MARKING BUCKLES OR DISTORTS SEVERELY IN FRONT OF ROLLER, MAT TEMPERATURE OR ROLLER SPEED MAY BE TOO HIGH.
- IF INLAY IS NOT SUCCESSFUL INTO THE APPROPRIATELY HEATED MAT, RECESS THE PAVEMENT MARKINGS PER MnDOT 2582.3.B.7..

DESIGNER'S NOTES:

REMOVE ALL UNNECESSARY MATERIAL NOTES FROM TITLE SHEET.

THIS SPACE MAY BE USED FOR PERMANENT PAVEMENT MARKING TABULATIONS SHEET.

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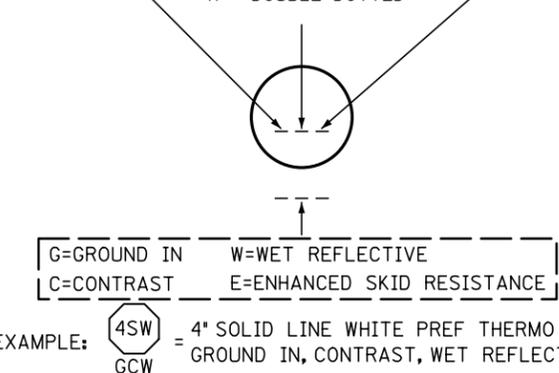
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- 0 PERMANENT PAVEMENT MARKING TABULATIONS
- 0 INTERIM PAVEMENT MARKINGS
- 0-0 DETAILS
- 0-0 TYPICALS

SYMBOLS & MATERIALS LEGEND

-   BROKEN LINE-50' CYCLE (10' LINE, 40' GAP)
-  DOTTED LINE-15' CYCLE (3' LINE, 12' GAP), UNLESS SHOWN OTHER WISE IN THE PLAN

-  CROSSWALK BLOCK
 -  PAVEMENT MESSAGE (LEFT ARROW)
- #### STRIPING KEY
-  CIRCLE-MULTI COMP  BOX-PREF TAPE
 -  TRIANGLE-PAINT  OCTAGON-PREF THERMO

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PRINT NAME: ENGR NAME HERE LICENSE #
 DATE: \$DATE\$ SIGNATURE: _____
 DESIGNER TECH NAME HERE

TITLE: PERMANENT PAVEMENT MARKING TITLE SHEET

DISTRICT *: Metro
 IPLOT NAME: PM Title Sheet
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 PLOTTED/REVISED: 15-JAN-2019

PERMANENT PAVEMENT MARKING PLAN

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GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY AN AGENCY PLACED YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO 3 INCHES FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

JUST PRIOR TO THE PLACEMENT OF PAVEMENT MARKINGS THE ROAD SURFACE SHALL BE CLEANED AND FREE OF CONTAMINATION AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE.

APPLY ALL PAVEMENT MARKINGS AS RECOMMENDED BY THE MATERIAL MANUFACTURER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

REFER TO SPECIAL PROVISIONS OR SPEC BOOK FOR GROUND IN/RECESSED PAVEMENT MARKING APPLICATION REQUIREMENTS.

CONTRAST MARKINGS:

STANDARD LINEAR PAVEMENT MARKINGS, CROSSWALK MARKINGS AND PAVEMENT MESSAGES WITH 1.5 INCH NON REFLECTIVE BLACK BORDERS.

PAINT:

GLASS BEADS SHALL BE APPLIED AT A RATE OF AT LEAST 8 LBS/GAL. IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR AND PAVEMENT SURFACE TEMPERATURES IS 50°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

MULTI-COMPONENT LIQUID:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE.

THE MULTI-COMPONENT LIQUID MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI-COMPONENT LIQUID PAVEMENT MARKING.

APPLY MULTI-COMPONENT LIQUID MARKINGS WITH A MINIMUM THICKNESS OF 20 MILS; GLASS BEADS SHALL BE APPLIED AT A RATE OF AT LEAST 25 LB/GAL. THE "NO-TRACKING" CONDITION SHALL BE DETERMINED ON AN APPLICATION OF SPECIFIED THICKNESS TO THE PAVEMENT AND COVERED WITH GLASS BEADS AT THE RATE OF AT LEAST 25 LB/GAL.

PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR AND PAVEMENT SURFACE TEMPERATURES ARE 40°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

PREFORMED MARKINGS:

MANUFACTURER CERTIFICATIONS ARE REQUIRED FOR INSTALLERS, AND WRITTEN CERTIFICATION SHALL BE PRESENTED AT ANYTIME UPON REQUEST OF ENGINEER OR OTHER STATE PERSONAL.

DO NOT USE LINE MATERIAL TO PIECE TOGETHER INDIVIDUAL LETTERS, SYMBOLS, OR CROSSWALKS BLOCKS. UTILIZE PRECUT KITS PROVIDED BY THE MANUFACTURER. TWO STRIPS OF 18" LINE MATERIAL MAY BE USED TO FORM CROSSWALK BLOCKS OF 36" WIDTH.

DO NOT USE NARROWER LINE MATERIAL TO PIECE TOGETHER WIDER LINES.

IF THERE IS A CRACK OR JOINT IN ROAD SURFACE. (FOR TAPE LAY OVER CRACK OR JOINT THEN CUT TAPE 1" ON EACH SIDE OF CRACK OR JOINT). (FOR THERMO MAKE A DEEP SCORE IN THE MATERIAL ONCE IT HAS SET UP BUT NOT ENTIRELY COOLED DOWN).

PREFORM TAPE INLAY APPLICATION:

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BITUMINOUS PAVEMENT SURFACES WHERE PAVEMENT MARKINGS CANNOT BE INLAID IN THE HOT MAT SHALL HAVE A RECESS GROUND IN FOR THE PLACEMENT OF DURABLE REFLECTORIZED PAVEMENT MARKINGS. SEE CONSTRUCTION SPECIFICATIONS.

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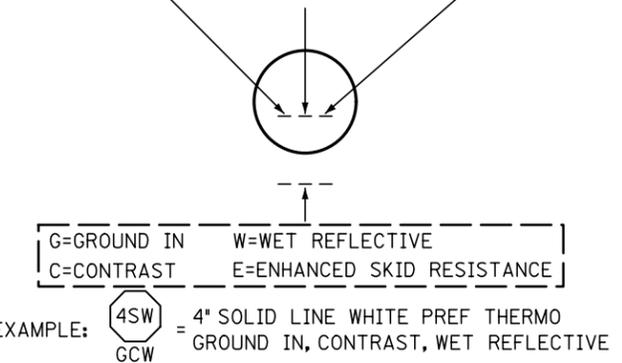
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TITLE:
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TITLE SHEET

PERMANENT PAVEMENT MARKING PLAN

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GENERAL INFORMATION:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAVEMENT MARKING RELATED ACTIVITIES SUCH AS, BUT NOT EXCLUSIVE TO, COLLECTING DATA FROM IN PLACE LANE LINES AND MARKING PERMANENT MARKING ALIGNMENTS. THIS SHALL ALSO INCLUDE ANY LANE CLOSURES OR TRAFFIC CONTROL NECESSARY TO COMPLETE THESE PROJECTS SAFELY. MnDOT PERSONNEL WILL ASSIST IN THE LOCATION OF GORES, MESSAGES AND TAPERS FOR PERMANENT PAVEMENT MARKING ALIGNMENTS. MnDOT PERSONNEL SHALL BE GIVEN A MINIMUM OF 24 HOURS' NOTICE TO PROVIDE THIS ASSISTANCE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PLACEMENT OF TEMPORARY PAVEMENT MARKINGS. MnDOT PERSONNEL WILL BE AVAILABLE TO ASSIST IN THE SPOTTING OF TRANSITION AREAS, GORES, MESSAGES, AND TAPERS, AND SHALL BE GIVEN 24 HOURS' NOTICE TO PROVIDE THIS ASSISTANCE.

PAYMENT FOR SAID PAVEMENT MARKING RELATED PROJECTS SHALL BE INCIDENTAL WITH NO DIRECT COMPENSATION MADE.

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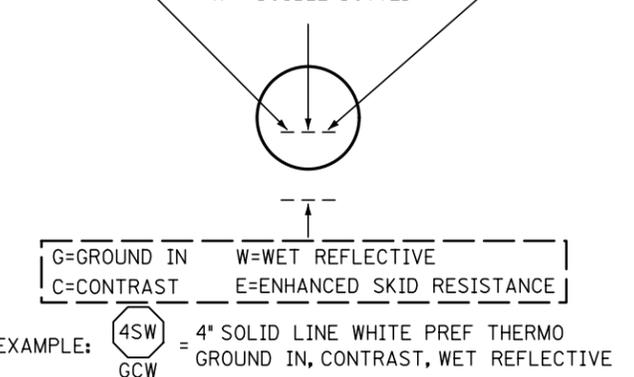
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