

NORTH CAROLINA MOVING AHEAD SIGNS:

(7-18-06)

RWZ-6

Description

The Department will furnish the Contractor with the North Carolina Moving Ahead (NCMA) logo signs. The Contractor shall procure these signs from either the local Traffic Services office or directly from the Bunn Sign Plant. NCMA signs shall be installed as shown elsewhere in the contract and shall be left in place at the completion of the project. The NCMA signs and supports shall remain the property of NCDOT and will be removed by Division forces.

The Contractor shall have a sign fabricated with the name of his company, which will be mounted under the NCMA logo sign. The Contractor shall remove and keep the signs with the name of his company after final project acceptance, leaving the supports and NCMA logo signs in place.

The Contractor shall furnish all material, labor, hardware and supports necessary to erect the NCMA logo and Prime Contractor's name signs. There will only be one set of NCMA logo and Prime Contractor name signs in each direction on the mainline unless the Department identifies extenuating circumstances. These signs shall be erected prior to any work beginning on the project and shall not be installed more than three days prior to the beginning of work. After construction begins, the Contractor shall cover the NCMA signs if inactivity on the project site occurs for at least 7 days. All other required standard work zone signs shall be provided as described in Section 1110 of the *Standard Specifications* and elsewhere in the contract.

Materials

The materials for the Contractor's Company name sign and standard work zone signing shall meet the requirements of Article 1110 of the *Standard Specifications*.

The sign sheeting for the Contractor's Name Sign shall be black on orange Type I (Engineer's Grade) with 4 inch C Copy lettering. When the name of the Contractor with 4 inch C Copy lettering exceeds the maximum 60 inch width of the sign, the size of the letters shall be reduced to meet this maximum 60 inch width requirement.

Construction Methods

Construction of signs shall conform to the requirements of Article 1110-3 of the *Standard Specifications*.

Maintenance

Maintenance of the signs shall conform to the requirements of Article 1105-4 of the *Standard Specifications*. Maintenance for the NCMA signs will end upon final acceptance of the project.

Measurement and Payment

There will be no measurement and payment for the NCMA signs or the Contractor's Company name signs. All material, hardware, supports, and labor necessary shall be incidental to other items in the contract.

BICYCLE SYMBOL WITH ARROW:

(03-18-08)

SP-4

Description

This work consists of all work necessary to place skid resistant thermoplastic bicycle symbol with arrow in accordance with the provisions, plans, and as directed.

Materials

Provide bicycle symbol with arrow in accordance with Section 1287 Pavement Markings of the *Standard Specifications*. Bicycle symbol and arrow shall include high skid resistant material and shall be approved by the Engineer prior to application.

Construction Methods

Construction Methods shall be in accordance with Article 1205-3 of the *Standard Specifications*. See sheet PM-1 of project plans for Bike Symbol Dimensions for Designated 4' Bike Lane.

Measurement and Payment

Skid Resistant Thermoplastic Bicycle Symbol with Arrow (90 MILS) will be measured and paid for as the actual number of bicycle symbols with arrow markings satisfactorily placed and accepted by the Engineer. This payment shall include the arrow as part of the pay item for Skid Resistant Thermoplastic Bicycle Symbol with Arrow (90 MILS).

Payment will be made under:

Pay Item	Pay Unit
Skid Resistant Thermoplastic Bicycle Symbol with Arrow (90 MILS)	Each

Date: 02-13-2008

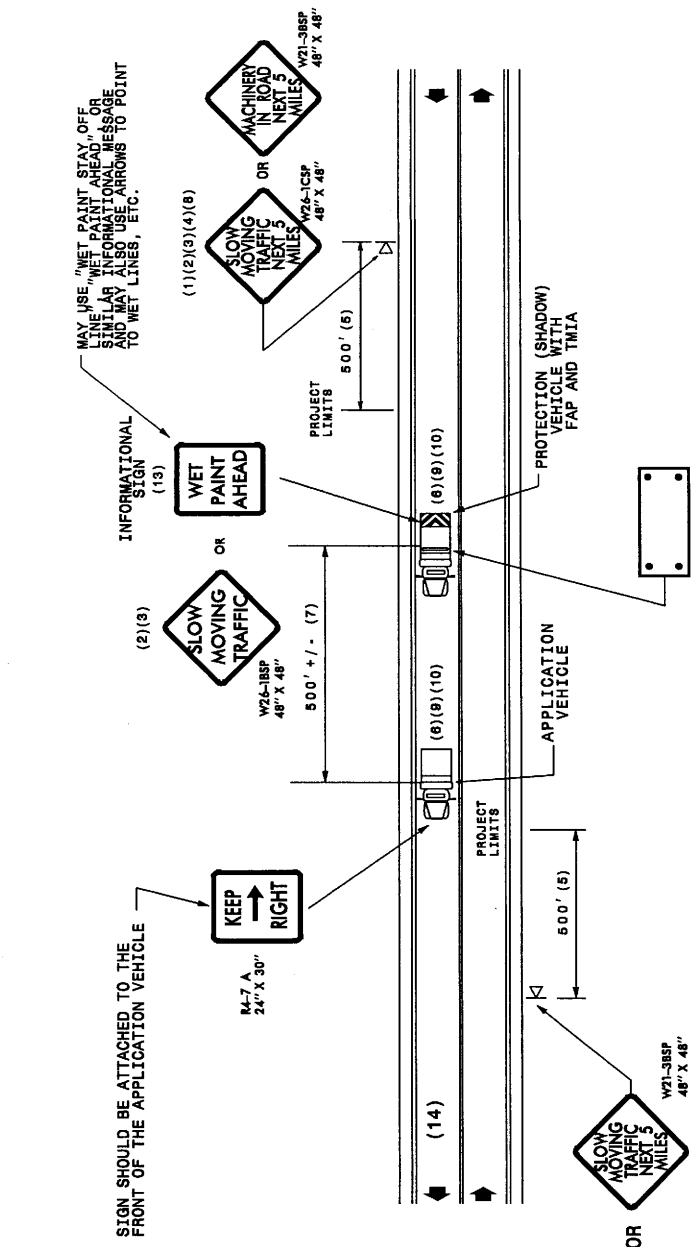
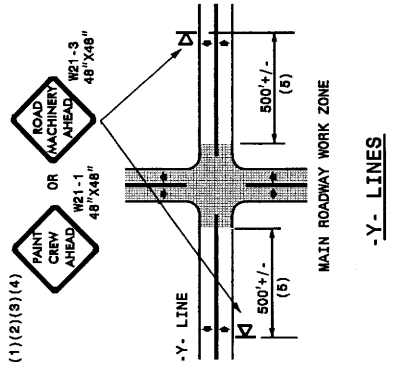
LEGEND

- PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
- DIRECTION OF TRAFFIC FLOW
- APPLICATION VEHICLE WITH LIGHT BAR
- PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1185.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60-MPH) APPROVED.
- FLASHING ARROW PANEL, TYPE "B" (60"x30" MIN.), "CAUTION MODE"

GENERAL NOTES

- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN APPLICATION AND PROTECTION VEHICLES. DISTANCE CAN BE LENGTHENED TO ACCOMMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (9) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.
- (13) INFORMATIONAL SIGNS SHOULD BE ACTIVITY SPECIFIC, I.E. "PAINT CREW IN ROAD". SIGNS MAY BE RECTANGULAR OR DIAMOND SHAPE. SIGN SIZE SHOULD BE BASED ON THE MOTORIST ABILITY TO RECOGNIZE SIGN WHEN TRAVELING FIVE (5) MILES ABOVE POSTED SPEED LIMIT.
- (14) IF A LEAD VEHICLE IS ADDED TO OPERATION, IT SHOULD HAVE THE SAME ADVANCE WARNING SIGNS AS THE APPLICATION VEHICLE SHOWN BELOW.

- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
 - A. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
 - B. TRUCK MOUNTED MESSAGE SIGN (TMS)
 - C. GROUND MOUNTED MESSAGE SIGN (GMS)
 - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE FLASHING ARROW PANEL AND/OR LIGHTBAR.
- (4) GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.
- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRYING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES). HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.



MOVING OPERATION CARAVAN
 (OPERATIONS TRAVELING 3 MPH OR FASTER)
 PLACING PAVEMENT MARKING OR MARKERS
 ON TWO-LANE TWO-WAY ROADWAYS

DRAWING NUMBER 6
 IMPLEMENTATION DATE: 07/01/97
 REVISED: 11/03/04

LEGEND

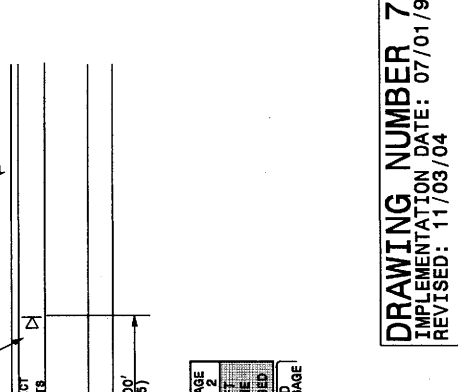
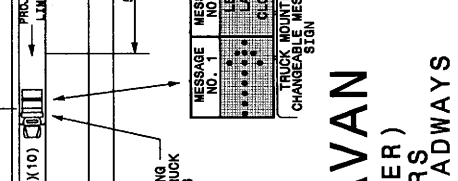
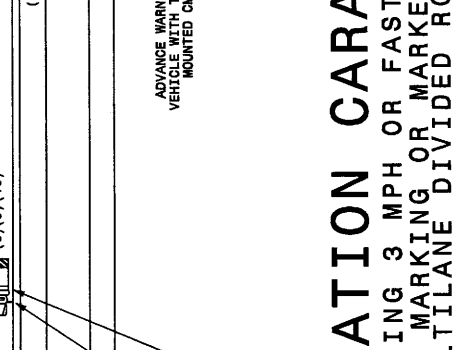
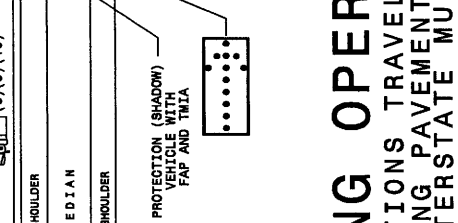
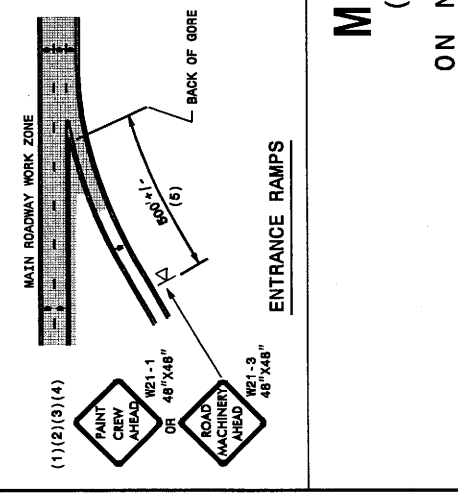
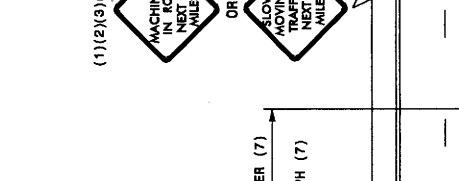
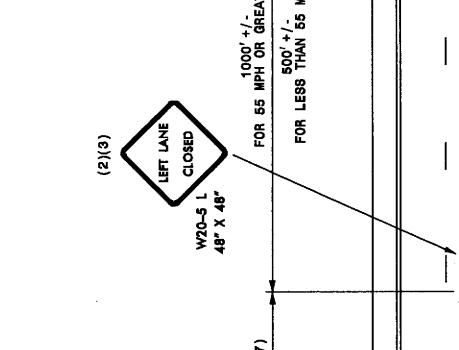
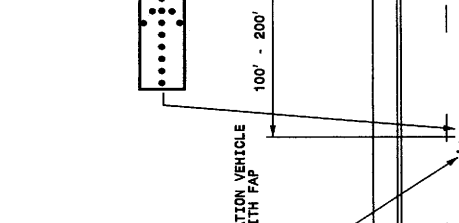
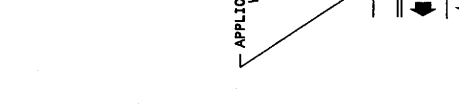
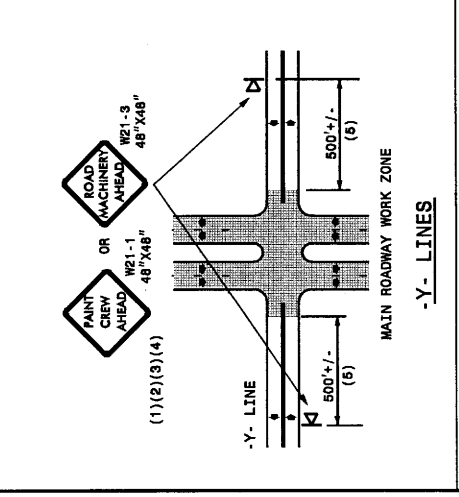
- PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
- DIRECTION OF TRAFFIC FLOW
- APPLICATION VEHICLE WITH LIGHT BAR
- PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1185.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60-MPH) APPROVED.
- ADVANCE WARNING VEHICLE WITH TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS) AND LIGHT BAR. MESSAGE SIGN LETTER HEIGHT SHOULD BE A MINIMUM OF 10 INCHES.
- FLASHING ARROW PANEL. TYPE "B" (60"x30" MIN.) APPROPRIATE DIRECTION INDICATED
- CHANGEABLE MESSAGE SIGN

GENERAL NOTES

- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRIVING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES) HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.
- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (8) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH FLASHERS AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.

GENERAL NOTES

- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
 - A. TRUCK MOUNTED SIGNS
 - B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
 - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST CIRCLE TO PICK UP SIGNS)
 - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHT BAR.
- (4) GROUND MOUNTED ADVANCE WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.



MESSAGE NO.	MESSAGE
1	ROAD MACHINERY AHEAD
2	PAINT CREW AHEAD
3	LEFT LANE CLOSED

TRUCK MOUNTED MESSAGE SIGN

DRAWING NUMBER 7
 IMPLEMENTATION DATE: 07/01/97
 REVISED: 11/03/04

MOVING OPERATION CARAVAN
 (OPERATIONS TRAVELING 3 MPH OR FASTER)
 PLACING PAVEMENT MARKING OR MARKERS
 ON NON-INTERSTATE MULTILANE DIVIDED ROADWAYS