be made for the initial installation only. Relocation of signs will be incidental to the measurement of the quantity of signs.

Work Zone Signs (Portable) will be measured and paid as the actual number of square feet satisfactorily installed and accepted by the Engineer. Payment will be made for the initial installation only. Relocation of signs will be incidental to the measurement of the quantity of signs.

No direct payment will be made for stationary work zone sign supports or portable work zone sign stands. All stationary work zone sign supports or portable work zone sign stands will be incidental to the work of providing work zone signs.

Payment will be made under:

Pay Item	Pay Unit
Work Zones Signs (Stationary)	Square Foot
Work Zones Signs (Barricade Mounted)	Square Foot
Work Zones Signs (Portable)	Square Foot

SECTION 1115
FLASHING ARROW BOARDS

1115-1 DESCRIPTION

Furnish, install, operate, maintain, relocate and remove arrow boards.

1115-2 MATERIALS

Refer to Division 10.

Item	Section
Flashing Arrow Boards	1089-6

Use arrow boards listed on the NCDOT APL.

Poor performance of arrow boards at any site, whether or not related to a specific contract, will be grounds for non-acceptance of a product on any project under contract.

1115-3 CONSTRUCTION METHODS

Use arrow boards that have the capability to display mode selections.

Do not use straight-line caution or chevron displays.

Mount flashing arrow boards on trucks, trailers or other mobile units.

Expedite repairs due to failure, malfunction or damage to an arrow board. Furnish another arrow board approved by the Engineer during the repair time. Repair or replace arrow boards immediately; otherwise, suspend all construction activities requiring the use of the arrow board until the arrow board is restored to operation.

Perform all maintenance operations recommended by the manufacturer of the arrow board.

1115-4 MEASUREMENT AND PAYMENT

Flashing Arrow Board will be measured and paid as the maximum number of arrow boards satisfactorily placed and accepted by the Engineer in use at any one time during the life of the project as required by the contract.

Flashing arrow boards installed on truck mounted attenuators (TMAs) will not be paid for separately as they are incidental to the cost of the TMA.

Replacement, repair and maintenance of arrow boards will be incidental to the work of this section.

Payment will be made under:

Pay Item	Pay Unit
Flashing Arrow Board	Each

SECTION 1120
PORTABLE CHANGEABLE MESSAGE SIGNS

1120-1 DESCRIPTION

Furnish, install, operate, maintain, relocate and remove portable changeable message signs.

1120-2 MATERIALS

Refer to Division 10.

Item	Section
Portable Changeable Message Signs	1089-7

Use portable changeable message signs listed on the NCDOT APL.

Poor performance of portable changeable message signs at any site, whether or not related to a specific contract, may be grounds for non-acceptance of a product on any project under contract.

1120-3 CONSTRUCTION METHODS

Mount all portable changeable message signs on a trailer or truck so as to support the message board in a level position and in accordance with the plans. Align and sight the portable changeable message sign to provide optimal driver visibility. Messages on a portable changeable message sign shall consist of no more than 2 phases, and a phase shall consist of no more than 3 lines of text. Each phase shall be capable of being understood by itself, regardless of the order in which it is read. Messages shall be centered and uppercase within each line of the legend. If more than one portable changeable message sign is simultaneously legible to road users, then only one of the signs shall display a sequential message at any given time. As guidance, the display time for each phase shall be at least 2 seconds, and the sum of the display times for both of the phases shall be no more than 8 seconds. Sign operator will adjust the display rate so the 2 phase message can be understood by the motorist twice when approaching the sign at the posted speed limit. Relocate the units for the various stages of construction as shown in the plans or as needed to inform the motorists.

Provide an experienced operator for the portable changeable message sign during periods of operation to ensure that the messages displayed on the sign panel are in accordance with the plans and Article 1089-7(D). Periodically change the controller password to deter unauthorized programming. Using two levels of password security is recommended such that operators at one level may only change message sequences displayed using preprogrammed sequences and operators at a higher level may create and store messages or message sequences.

Ensure that the message sign is illuminated properly to meet the existing light conditions, and that all adjustments for operation of the sign are made as needed to properly guide motorists.

Expedite repairs due to failure, malfunction or damage to a portable changeable message sign. Furnish another changeable message sign during the repair time. Repair or replace portable changeable message sign immediately; otherwise, suspend all construction activities requiring the use of the sign until the sign is restored to operation.