

FLAGGING HANDBOOK



Pennsylvania Department of Transportation
*Bureau of
Highway Safety and Traffic Engineering
Traffic Engineering and Operations Division*

PUB 234 (3-08)



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INTRODUCTION

You have been chosen for the job of flagger because your supervisor feels you are physically able, mentally alert, and possess the unique combination of a courteous, but firm manner required to properly control traffic through work areas. Flaggers are responsible for human safety and make the greatest number of public contacts of all work personnel. As a flagger, your duties are to protect your work crew, and to provide guidance and direction to the traveling public.

In work areas, flaggers are provided to stop traffic as necessitated by the operations; or to maintain continuous traffic flow through the project at safe speeds. In all cases, the flagger must be clearly visible to approaching traffic for a distance sufficient to allow the drivers to properly react to their instructions.

This handbook has been developed to assist you in understanding your duties and is to be studied and kept available for your reference. You are a vital link in the safety of our work zone operations. Remember that lasting impressions are made, and public opinion is quickly formed during the brief contact the motorist has with our maintenance, construction, and engineering forces.

GENERAL

This handbook has been developed from the guidelines contained in Publication 212 and 213, *Work Zone Traffic Control (67 PA Code, Chapter 212 and 213)*. It is designed to provide information on the fundamentals of flagging and the typical figures used for short-term operations. This handbook shall not relieve its users of the responsibilities outlined in Publication 212 and 213. If flagging is

required for a long-term operation or more detailed traffic control information is needed, refer to Publication 212 and 213.

ATTIRE

All flaggers shall wear a helmet and high-visibility fluorescent orange-red or fluorescent yellow-green apparel with retroreflective material for Class 2 risk exposure. (*PennDOT employees shall wear a helmet, high-visibility fluorescent yellow-green Class 2 vest and high-visibility fluorescent yellow-green pants, leggings or chaps while flagging anytime day or night.*) During inclement weather, high visibility fluorescent rain gear may be used. A neat appearance helps promote a professional atmosphere and helps you be a more respected and effective flagger. When positioning yourself, remember to maintain the color contrast between the work area and your garments.

POSITIONING

Flaggers must be standing and alert when facing approaching traffic. Always stand in a highly visible location. Flaggers must be located in such a position that they can be seen by traffic so drivers can react safely to their instructions. For a two flagger stationary operation, the flaggers should be stationed a minimum of 200 feet in advance of the work area, and for mobile operations 100 feet in advance of the work area. Flaggers should normally stand on the shoulder or in the barricaded lane. Flaggers should stand alone and *never* allow a group of workers to congregate around their station, or stand next to work vehicles or other obstructions which could restrict paths of escape in case of an errant vehicle. Flaggers should always take precautions to be visible, particularly when working at night.

All flagger stations must be preceded by the appropriate work area signs (which can be found in Publication 213). In addition, flaggers should be visible to approaching motorists from a distance, in feet, equal to 10 times the posted speed limit. The following table establishes the distances at which the flagger should be clearly visible to approaching traffic:

IF THE SPEED LIMIT IS	BE VISIBLE TO MOTORISTS AT
25 mph.....	250 feet
30 mph.....	300 feet
35 mph.....	350 feet
40 mph.....	400 feet
45 mph.....	450 feet
50 mph.....	500 feet
55 mph.....	550 feet
60 mph.....	600 feet
65 mph.....	650 feet

EQUIPMENT

There are two basic pieces of equipment used by flaggers to control traffic. These are a Stop/Slow Paddle (W21-10) and a red flag. The Stop/Slow paddle shall display an 18" minimum size Stop Sign on one face and a diamond shaped Slow Sign on the opposite face. It shall be attached to a shaft a minimum of 72 inches in length, and be retro-reflectorized. The red flag shall be 24"x24" in size, made of *red* material, not orange, and be attached to a staff approximately 3 feet in length.

FLAGGING PROCEDURES

USE OF A STOP/SLOW PADDLE

A Stop/Slow paddle shall be used to control one-lane, two-way traffic except when flagging in the center of an intersection, or in an emergency situation when a Stop/Slow paddle is not readily available.

To Stop Traffic

The flagger shall face approaching motorists and hold the Stop/Slow paddle with the message "STOP" facing oncoming traffic. The Flagger's free arm shall be raised to approximately shoulder level with the palm toward approaching traffic.

To Allow Traffic To Proceed

The flagger shall turn the paddle to the message "SLOW" and motion traffic to proceed with their free hand.

To Alert or Slow Traffic

The flagger shall use the paddle with the message "SLOW." For added emphasis, the flagger may slowly raise and lower their free hand with the palm down.

NOTE: These Figures are MUTCD Compliant

Figure 1

**Hand Signaling Procedures
When Using A Stop/Slow Paddle**



TO STOP TRAFFIC



TRAFFIC PROCEED



**TO ALERT
AND SLOW TRAFFIC**

USE OF A RED FLAG

A red flag shall only be used to control traffic in an intersection where the flagger is positioned within the intersection, or in emergency situations when a Stop/Slow paddle is not available.

To Stop Traffic

The flagger shall face traffic and extend the flag horizontally across the traffic lane in a stationary position so that the full area of the flag is visible below the staff. The flagger's free arm shall be raised with the palm open toward approaching traffic.

To Allow Traffic To Proceed

The flagger shall stand parallel to the traffic movement, and with the flag and arm lowered from view of the driver, motion traffic ahead with their free arm. Flags shall not be used to signal traffic to proceed.

To Alert Or Slow Traffic

The flagger shall face traffic and slowly wave the flag in a sweeping motion of the extended arm from the shoulder level to straight down without raising the arm above a horizontal position.

NOTE: These Figures are MUTCD Compliant

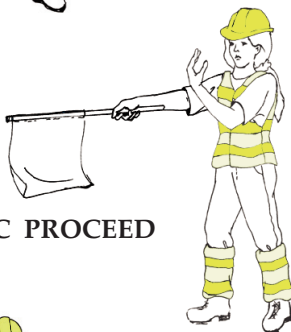
Figure 2

Hand Signaling Procedures

When Using A Red Flag



TO STOP TRAFFIC



TRAFFIC PROCEED



**TO ALERT AND
SLOW TRAFFIC**

NIGHTTIME FLAGGING

During hours of darkness, illumination of flagger stations is required, except during emergencies. When a flagger station is not illuminated during hours of darkness, a flashlight with a red wand or one or more flares shall be used to supplement the reflectorized Stop/Slow Paddle.

To Stop Traffic

The flagger should wave the light back and forth across the path of the approaching vehicle. *Never* shine the light directly into the eyes of the driver.

To Allow Traffic To Proceed

The flagger should lower the light and either tell the vehicle operator to proceed or use the daytime hand motion.

COMMUNICATIONS

Flaggers must be in communication with each other at all times. This can be accomplished by using predetermined hand signals between flaggers (when they are visible to each other), hand held radio communication, a flag carrying car, an official car or a pilot car.

INFORMING MOTORISTS

Whenever practical, flaggers should advise motorists of the reason for the delay and the approximate time that traffic will be halted. (Do not

abandon your post at the head of the traffic line to advise other drivers.) Both flaggers and equipment operators should understand that every reasonable effort must be made to prevent excessive delays and to allow the traveling public adequate right-of-way.

Do not lean on the vehicles and talk to the occupants. Be friendly and polite, but do not become preoccupied with small talk. Your job demands full and complete concentration.

Never engage in arguments with the occupants of a vehicle. It is important that you be courteous, yet brief and factual in your conversation with them.

FLAGGER CONDUCT

1. Be courteous and professional.
2. Be clearly visible to approaching traffic at all times.
 - Position yourself to provide the greatest color contrast between you and your surroundings.
 - Do not stand in the shade whenever possible.
 - *Never* flag from beside or inside a vehicle.
 - Do not lean, sit or lie on any vehicle.
 - Do not permit a group of workers to congregate around you.

3. Be ready to respond to all emergencies or errant vehicles.
 - Establish a warning signal with the work crew.
 - Plan an escape route.
4. Be familiar with the nature of the work being performed.
 - Answer motorists questions about the reason and the length of the delay.
 - Cover, fold, remove, or turn if beyond the clear zone, the “FLAGGER AHEAD” and/or “BE PREPARED TO STOP” sign when a flagger is no longer in position.
5. Remember - SAFETY FIRST.
 - Do not watch the work in progress or try to do any work other than flagging.
 - Do not step into or turn your back on traffic.
 - Do not leave your position until you are relieved by another flagger.

INFORMATION FOR SUPERVISORS AND FOREMEN

Successful execution of traffic control is dependent upon proper supervision. One of the first and most important steps in supervision is the issuance of all necessary instructions to the foreman, crew chief and flagger(s) who must undertake the responsibility for traffic control. It must not be

assumed that employees will understand their duties without careful and complete instructions. An uninformed flagger can cause confusion and accidents instead of preventing them. On the other hand, proper instructions will increase his or her interest, encourage better performance, develop sound judgment for use in difficult situations, and enhance better public relations.

It is the duty of the supervisors and foremen to see that all guidelines are followed. Any supervisor, foreman, or crew member should not hesitate to identify and correct any carelessness that may lead to an accident. Particular attention should be given to proper training and awareness of each individual responsible for the traffic control, and to special items such as the proper treatment of emergency vehicles and crews, the correct response to an accident (both with and without bodily injury), etc.

It is impractical to attempt in this booklet to cover the vast number of situations that will arise during the course of work that may require special traffic control. We must, therefore, depend upon supervisory personnel to plan each particular action and supervise the placement of signs, traffic control devices, and flaggers. The safety of the work crew and the motoring public is as important as the work you are performing. Take pride in your position as a supervisor or foreman and be proud of your flaggers and the job they are doing. Be effective in your decisions and continue to give our "boss," the traveling public, the safest and most efficient system of highways possible.

In an effort to obtain standardized traffic control, the following guidelines should be followed:

1. The selection of persons to be used as flaggers and the assignment of persons already employed in this capacity are clearly the responsibility of the supervisor or foreman. Flaggers should possess the following minimum qualifications:
 - Adequate training in safe temporary traffic control practices
 - Good physical condition (including sight, mobility and hearing).
 - Courteous, but firm manner.
 - Neat appearance.
 - Sense of responsibility for safety of the motoring public and the work crew.
 - Mental alertness and the ability to react in an emergency
2. The supervisor or foreman shall decide which situations require flaggers. A flagger should be made available when required, even if there is insufficient manpower to perform all of the work activities.
3. Flaggers should be instructed in the importance of the work they are to perform before being allowed to assume full responsibility for directing traffic.

4. Traffic control should be handled in a uniform manner.
5. Flaggers should be relieved periodically during the course of work to provide ample rest breaks. This can be accomplished by training all of the crew members in the proper procedures of flagging and rotating them throughout the day. This is very important in maintaining proficient flagging operations.
6. Supervisors or foremen must determine that all required traffic control devices, flaggers, and equipment are in place, and that measures to safeguard the public and employees have been taken before work is started.
7. Consideration should be given to the positioning of the flagger for every work project. It is important that flaggers stand where they can see the workers if possible, and where the approaching drivers can see them in plenty of time to interpret and react to the signals to stop, proceed or slow down.
8. When the traffic control devices and flaggers are in place, the supervisor or foreman should drive through the work area at the anticipated speed of the motorists in order to determine the effectiveness of the overall traffic control system.

9. Should a flagger report that a close call or near accident has occurred after the traffic control has been set up, the supervisor or foreman will take this as an indication that something may be wrong and investigate the situation. If adjustments are made, the supervisor or foreman should not leave the job until behavior of the traffic has been studied to be certain that the problem has been corrected.
10. "FLAGGER AHEAD" and/or "BE PREPARED TO STOP" signs shall be removed, covered, folded, or turned if beyond the clear zone, during lunch time, at quitting time, and any other time when work is interrupted and the equipment is clear of the traveled way for more than 15 minutes. The confidence of the traveling public in these warning devices must be maintained.
11. Advance warning signs and Stop/Slow paddles shall be replaced when the faces become dull or worn.
12. All traffic control signs shall be in accordance with the Publication 212 and 213, Work Zone Traffic Control.

SIGNS, SYMBOLS AND FIGURES

The following signs, symbols and figures are for informational purposes. They will give you an idea of how the work area will look. For specific guidelines, please consult Publication 212 and 213, Work Zone Traffic Control.

Sign

Description



Road Work Ahead (W20-1)
36" x 36" Minimum



Flagger Symbol (W20-7a)
36" x 36" Minimum



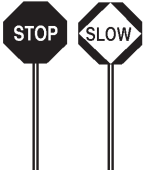
Be Prepared to Stop (W20-10)
36" x 36" Minimum
Advisory _____ Miles (W14-1)
18" x 18" Minimum



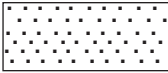
One Lane Closed (W20-4)
36" x 36" Minimum

Sign

Description



Stop/Slow Paddle (W21-10)
18" Minimum Sign Face
72" Minimum Height Shaft



Work Area



Sign



Channelizing Device



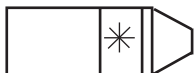
Flagger with
a Stop/Slow Paddle

Sign

Description



Flagger with a 24" x 24" red flag



Vehicles with a flashing or revolving yellow light

Condition 1: All Highways
(except Freeways and Expressways)

A = 500 ft.

B = 500 ft., W20-4 sign distance plaque to read 1000 ft. or "AHEAD"

C = 500 ft., W20-1 sign distance plaque to read 1500 ft. or "AHEAD"

Condition 2: For Urban Streets

A, B and C = 200 ft. and sign distance plaque to read "AHEAD"

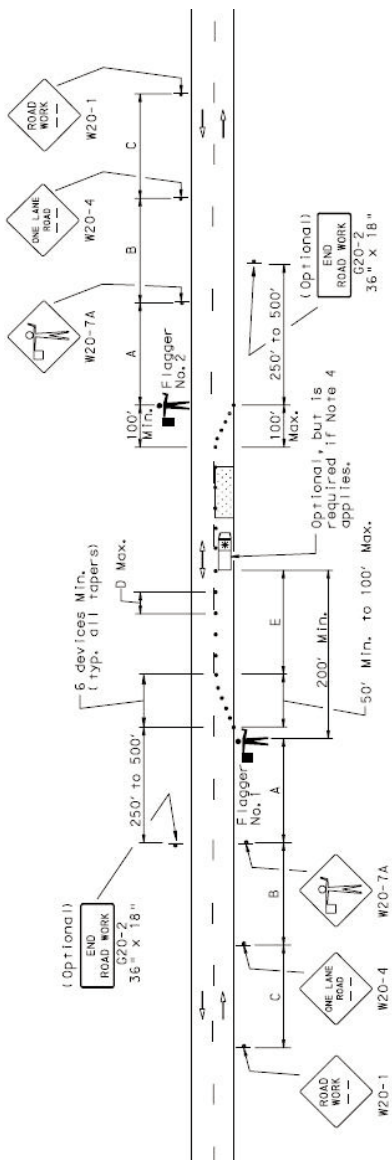
ALL HIGHWAYS

(except freeway and expressway)

MPH	D	E*
	ft.	ft.
25	50	155
30	60	200
35	70	250
40	80	305
45	90	360
50	100	425
55	110	495

GENERAL NOTES

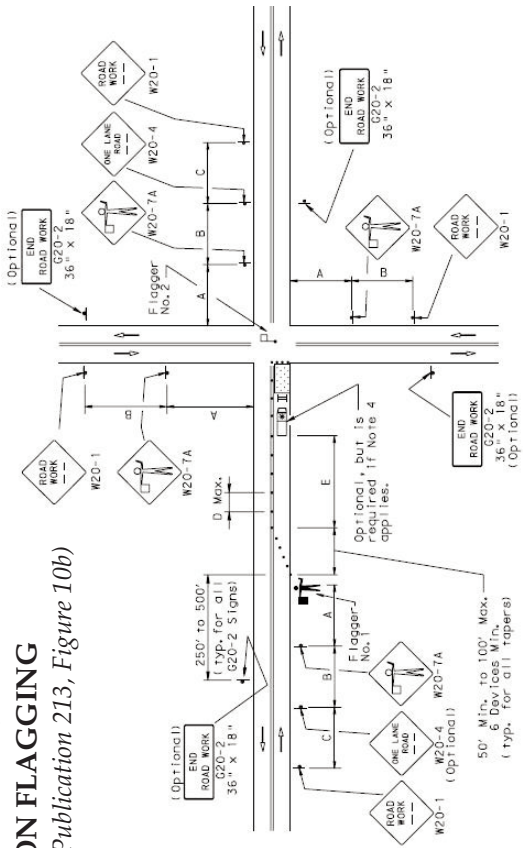
1. These figures have been developed from guidelines contained in Publication 212 and 213, Work Zone Traffic Control (*67 PA Code, Chapter 212 and 213*). If additional traffic control information is required, refer to Publication 212 and 213.
2. All distances may be adjusted slightly to fit field conditions.
3. All flaggers must be in communication with each other and clearly visible to the traffic which is being controlled for a minimum distance, in feet, of 10 times the posted speed limit.
4. All flaggers shall wear a helmet and high-visibility fluorescent orange-red or fluorescent yellow-green apparel with retroreflective material for Class 2 risk exposure. (*PennDOT employees shall wear a helmet, high-visibility fluorescent yellow-green Class 2 vest and high-visibility fluorescent yellow-green pants, leggings or chaps while flagging anytime day or night.*) During inclement weather, high-visibility fluorescent rain gear may be used.
5. During hours of darkness, similar outside garments shall be reflectorized. Illumination of each flagger station is required except in an emergency. When a flagger station has not been illuminated, a flashlight with a red wand or one or more flares shall be used to supplement the reflectorized Stop/Slow Paddle.
6. Definitions:
 - Short-Term Stationary Operation:** Work that occupies a location up to 24 hours.
 - Stationary Operation:** An operation where workers and/or equipment are working at a specific location for 30 minutes or longer.
 - Mobile Operation:** An operation that moves intermittently or continuously.



**STATIONARY SHORT-TERM OPERATION
TWO LANE, TWO-WAY ROADWAY - FLAGGING**
(For additional details, see Publication 213, Figure 10a)

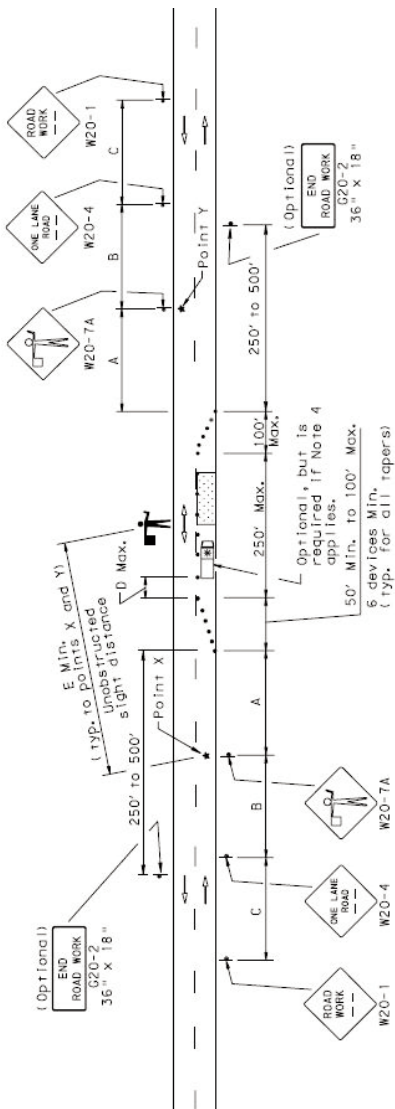
STATIONARY SHORT-TERM OPERATION - TWO LANE, TWO-WAY ROADWAY - INTERSECTION FLAGGING

(For additional details, see Publication 213, Figure 10b)



NOTE

Sight distance between the flagger and any vehicle between Points X and Y will be unobstructed.

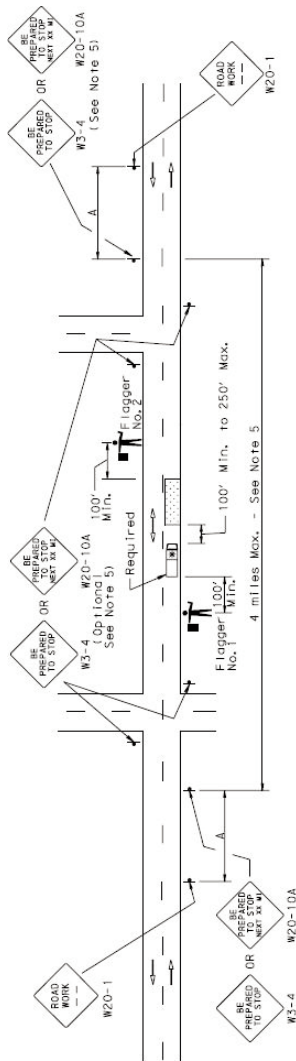


**STATIONARY SHORT-TERM OPERATION
TWO LANE, TWO-WAY ROADWAY - SINGLE FLAGGER**

(For additional details, see Publication 213, Figure 10c)

NOTES

- The minimum distance between a flagger and the first “Be Prepared to Stop” sign in each direction should be, in feet, equal to 10 times the posted speed limit.
- The maximum distance between a flagger and a “Be Prepared to Stop” sign is 2 miles. Interim “Be Prepared to Stop” signs will be required for any projects over 2 miles in length; however, if there will be no flaggers after the “Be Prepared to Stop” sign, the “Be Prepared to Stop” sign should be removed or turned away from traffic.

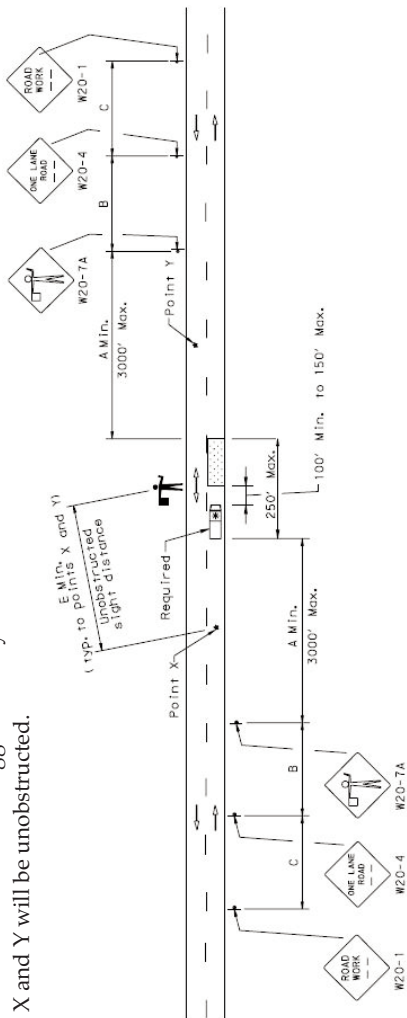


SHORT-TERM MOBILE OPERATION TWO LANE, TWO-WAY ROADWAY - FLAGGING

For additional details, see Publication 213, Figure 11a)

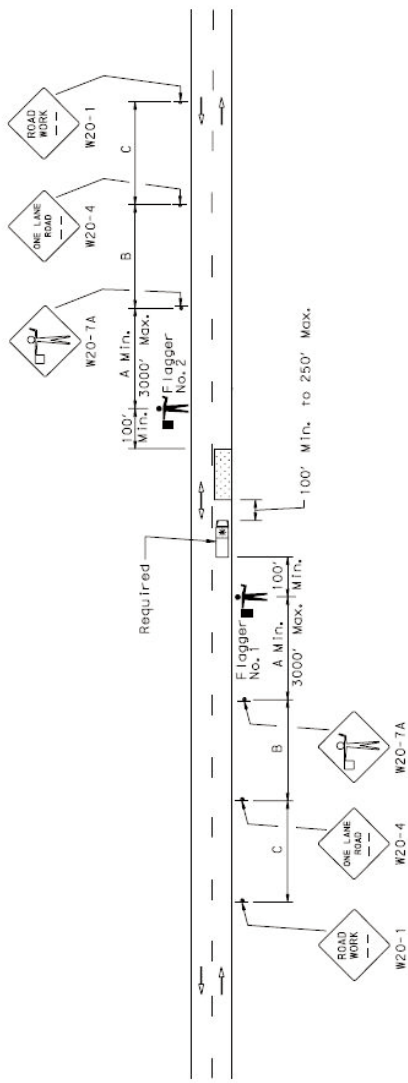
NOTE

Sight distance between the flagger and any vehicle between points X and Y will be unobstructed.



SHORT-TERM MOBILE DAYLIGHT OPERATION TWO LANE, TWO-WAY ROADWAY - SINGLE FLAGGER

(For additional details, see Publication 213 Figure 11b)



SHORT-TERM MOBILE OPERATION TWO LANE, TWO-WAY ROADWAY - FLAGGING

(For additional details, see Publication 213, Figure 11f)

NOTES

NOTES

A FLAGGER SHOULD HAVE PRIDE

ProfessionalAnd have a neat, clean appearance; be alert and properly positioned.

ResponsiveAnd able to adjust to changing conditions.

InformedAnd properly briefed by the supervisor, and know the limits of the work area and the type of traffic that will be encountered.

DecisiveAnd give signals that are clear, that motorists and the crew will understand and comply with.

Effective.....And able to efficiently control the flow of traffic.

P rofessional	P
R esponsive	R
I nformed	I
D ecisive	D
E ffective	E

Flaggers who display *PRIDE* in their work will be better able to more effectively control the flow of traffic through the work zone.