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## SECTION 800.00 – PEDESTRIAN PROTECTION

Pedestrian protection is an important element in all design, construction and maintenance activities involving the State highway system. Proper protection of pedestrians requires sound engineering decisions and the proper application of available technology.

### SECTION 801.00 – REQUIREMENTS

**801.01 Legal.** All signing, pavement markings, and traffic signals employed in the protection of pedestrians shall conform to the policy set forth in the [Manual on Uniform Traffic Control Devices](#) and the additions in the following subsections and other related sections of this manual.

The Idaho Code references to pedestrians are as follows:

- 49-701 PEDESTRIAN OBEDIENCE TO TRAFFIC-CONTROL DEVICES AND TRAFFIC REGULATIONS
- 49-702 PEDESTRIANS' RIGHT-OF-WAY IN CROSSWALKS
- 49-703 PEDESTRIANS TO USE RIGHT HALF OF CROSSWALKS
- 49-704 CROSSING AT OTHER THAN CROSSWALKS
- 49-705 PEDESTRIANS YIELD TO AUTHORIZED EMERGENCY VEHICLES
- 49-706 BLIND AND/OR HEARING IMPAIRED PEDESTRIAN HAS RIGHT-OF-WAY
- 49-707 PEDESTRIANS' RIGHT-OF-WAY ON SIDEWALKS
- 49-708 PEDESTRIANS ON HIGHWAYS
- 49-709 PEDESTRIANS SOLICITING RIDES OR BUSINESS
- 49-710 BRIDGE AND RAILROAD SIGNALS
- 49-803 PEDESTRIAN-CONTROL SIGNALS

**801.02 Pedestrian Control Devices.** Different situations require varying combinations of pedestrian controls. Those controls employed in pedestrian protection are:

1. Pavement Markings
2. Signs
3. School Safety Patrol, Crossing Guards
4. Sidewalks
5. Flashing Beacon with Warning Signs
6. Traffic Signals
7. Pedestrian Overpass or Underpass
8. Parking Restrictions

**801.03 Engineering Data.** Base the installation and use of control devices for pedestrian protection on factual data and sound engineering decisions. It is necessary that each problem situation be thoroughly reviewed in the field and all applicable data recorded and analyzed. Prepare a complete report of existing conditions together with recommendations for improved protection. This report could prove very helpful and useful in presenting the facts when reviewing and discussing problems, especially a school crossing problem, with interested parties.

Data that would be pertinent to this type of report are as follows:

- Field Observation:
  - Vehicle operations and parking adjacent to the school and school pedestrian crosswalk.
  - Pedestrian crossing activities related to crosswalk use, control of pedestrians, and noted violations of desirable school pedestrian safety habits.
  - Signing, pavement markings, and type of crosswalk control presently being used.
  - Number and length of gaps in vehicular traffic during pedestrian crossing hours.
  - Pedestrian delay due to traffic.
- Traffic Counts: Take vehicle and pedestrian counts in 15 minute increments for the peak eight hours of a school day with notation of school age pedestrians.
- Speed Data: Make radar speed checks to determine the 85th percentile speed and the pace speed of vehicles operating in the vicinity of the crossing and existing speed zoning.
- Accident History: Tabulate accidents and their seriousness; especially accidents involving school age pedestrians.

## **SECTION 802.00 – SCHOOL SAFETY PATROLS AND ADULT CROSSING GUARDS**

**802.01 Responsibility.** The use of well disciplined and trained adult crossing guards or a school safety patrol at school crossings is generally more effective than any other type of control including traffic signals. The accident hazard at school crossings is high for only brief periods and the response to guard or patrol directions by both motorists and pedestrians is more positive than to signs or traffic signals. The instruction, supervision and cost of either school safety patrols or adult crossing guards is the responsibility of school and community officials.

**802.02 Legal Authority.** The following portions of the Idaho Code pertain to safety patrols. Further information can be obtained from the State Department of Education.

IDAHO CODE - TITLE 33, CHAPTER 18, SAFETY PATROLS

[33-1801](#) School Safety Patrols

[33-1802](#) Purchase of Uniforms, Equipment, Insurance

[33-1803](#) Failure to Obey Safety Patrol Member Unlawful

**802.03 School Safety Patrol.** The primary duty of the school safety patrol should be to direct and control the children at the street curb and in crossing the highway. They should be permitted to cross only when adequate gaps are available in the traffic stream to permit a safe crossing maneuver, School safety patrols should not be used where extensive direction and control of vehicular traffic is required. Under these circumstances, assign adult crossing guards or uniformed enforcement officers to the crossing.

**802.04 Adult Crossing Guards.** Consider adult crossing guards when more crossing protection and better control of the children is required. Adult supervision has proven very successful at critical high volume locations. Crossing guards should not relieve children of all responsibility at school crossings. It is essential that they take advantage of their assignment to properly instruct and develop in the children the ability to take care of themselves at any pedestrian crossing.

School crossing guards may be warranted at specific crossings under the following conditions:

- When the number of vehicles in the traffic stream does not provide adequate gaps for the children crossing the highway and partial control of the vehicles is necessary.
- At locations with traffic signals (arterials).
- When the total delay time for a pedestrian is excessive.
- When special protection is desired that can only be provided by adult supervision.
- Where there is not possibility of eliminating the need for such protection by the re-planning of school routes or school district.

**802.05 Operation at Traffic Signals.** The school safety patrol member or adult crossing guard should be instructed in the proper operation of traffic signals that may exist at any school crossing location. The guard should check to be sure that all traffic has stopped or is stopping before children are permitted to leave the street curb. The assigned guard or patrol member should be the only one actuating the pedestrian signal at actuated traffic signal locations.

**802.06 School Crossing Protection.** Consult the report “School Crossing Protection” prepared by the Office of Traffic and Highway Safety (OTHS) in 1977 for additional information.

## **SECTION 803.00 – PAVEMENT MARKINGS**

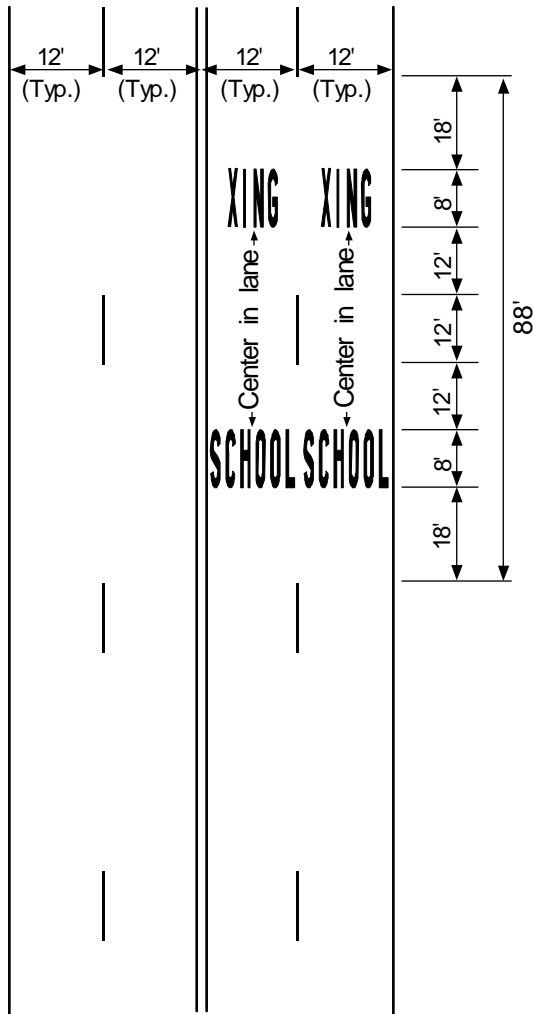
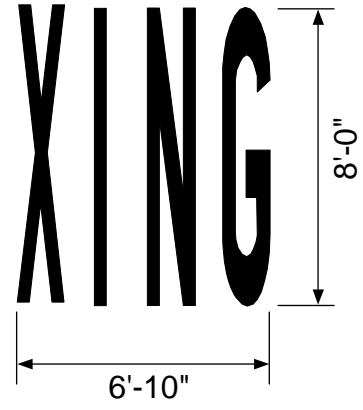
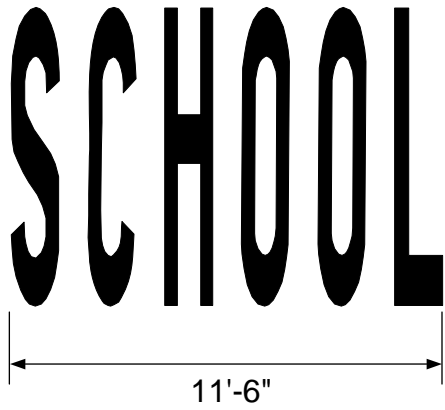
**803.01 Responsibility.** Use pavement markings to mark pedestrian and school crossings and to emphasize traffic controls. They should not be used as the sole protection for children in the vicinity of schools.

Pavement markings for pedestrian crosswalks and school crossings on urban extensions of the State highway system shall be the responsibility of the municipality unless otherwise noted in the Community-State Maintenance Agreement. Outside the corporate limits of communities, the pedestrian pavement markings on the State highway system will be the responsibility of the Idaho Transportation Department.

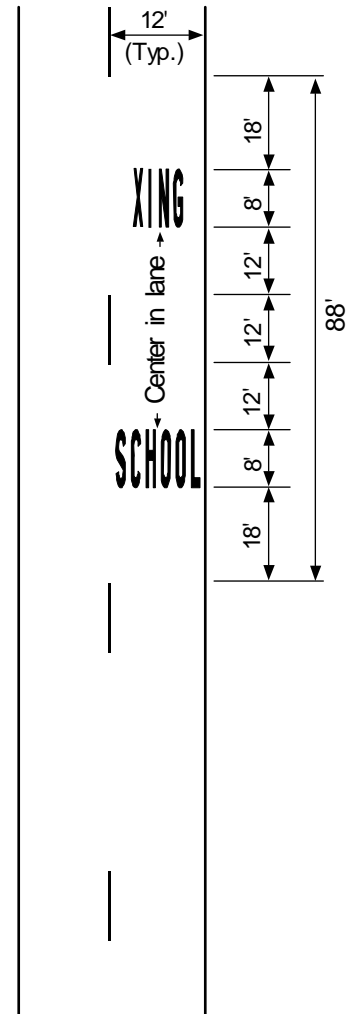
**803.02 Pedestrian Crosswalks.** In urban residential areas, with periodic street intersections, crosswalks are not always necessary at each intersection since the motorist expects them and can easily identify these pedestrian crossing locations.

**803.03 School Crossing Pavement Markings.** Use the SCHOOL XING pavement markings only in advance of an approved school crosswalk regularly used by school children going to and from school. On two-lane roads, place the pavement marking to the right of the centerline in the approach lane only. On multilane roads, place the pavement marking on each of the approach lanes. [Figure 803.03-01](#) illustrates the dimensions and placement of the SCHOOL XING marking. In urban locations, place the marking 200 feet (60 m) in advance of the painted school crosswalk as shown in [Figures 803.03-02](#) and [803.03-03](#). For rural locations, place the SCHOOL XING marking in advance of the printed school crosswalk at a distance in feet equal to ten times the legal speed as shown in [Figure 803.03-04](#).

Figure 803.03-01 School Crossing Pavement Markings



MULTI-LANE HIGHWAY



TWO-LANE HIGHWAY

Figure 803.03-02 Urban School Location Adjacent To Highway

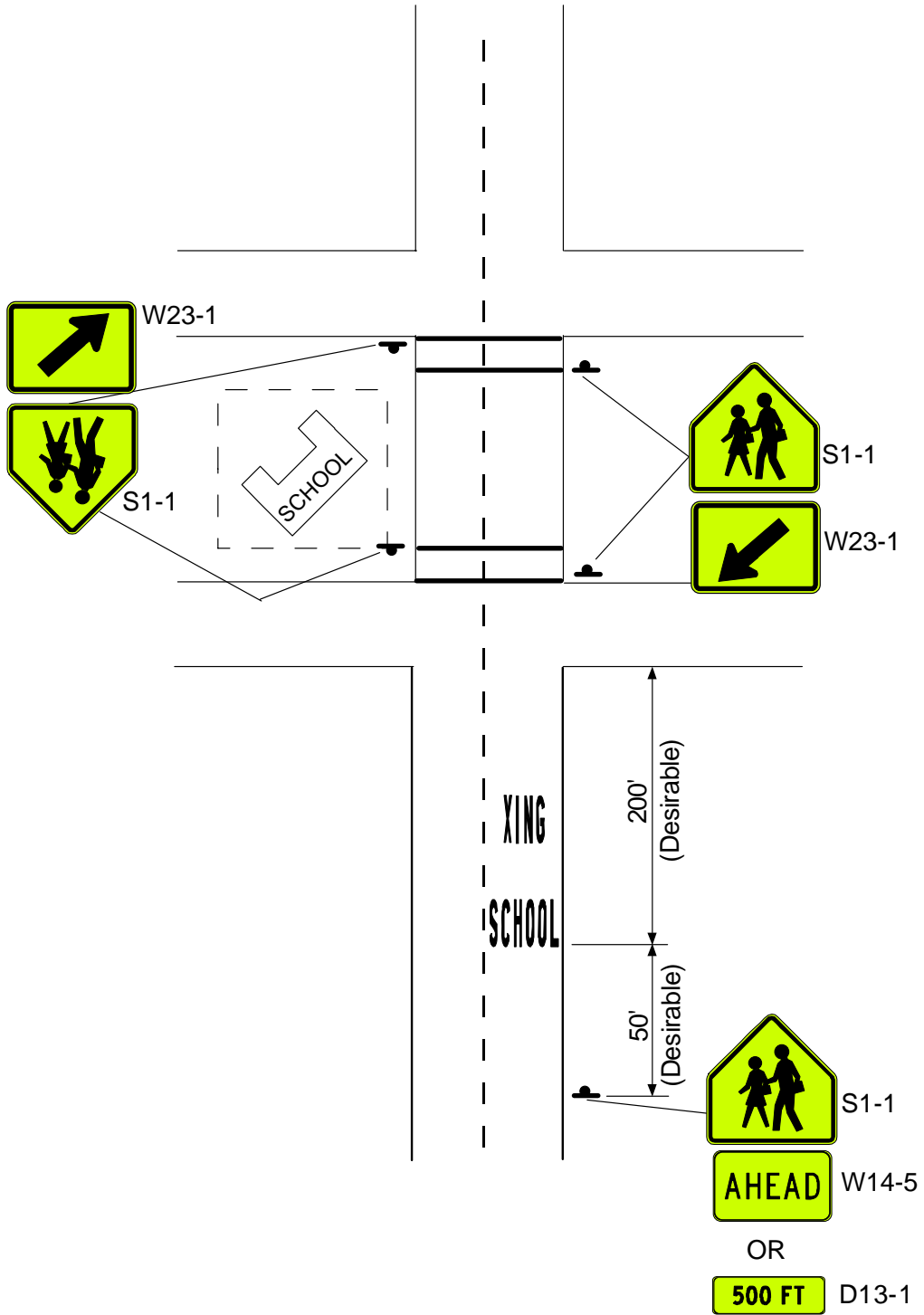


Figure 803.03-03 Urban School Location Not Adjacent To Highway

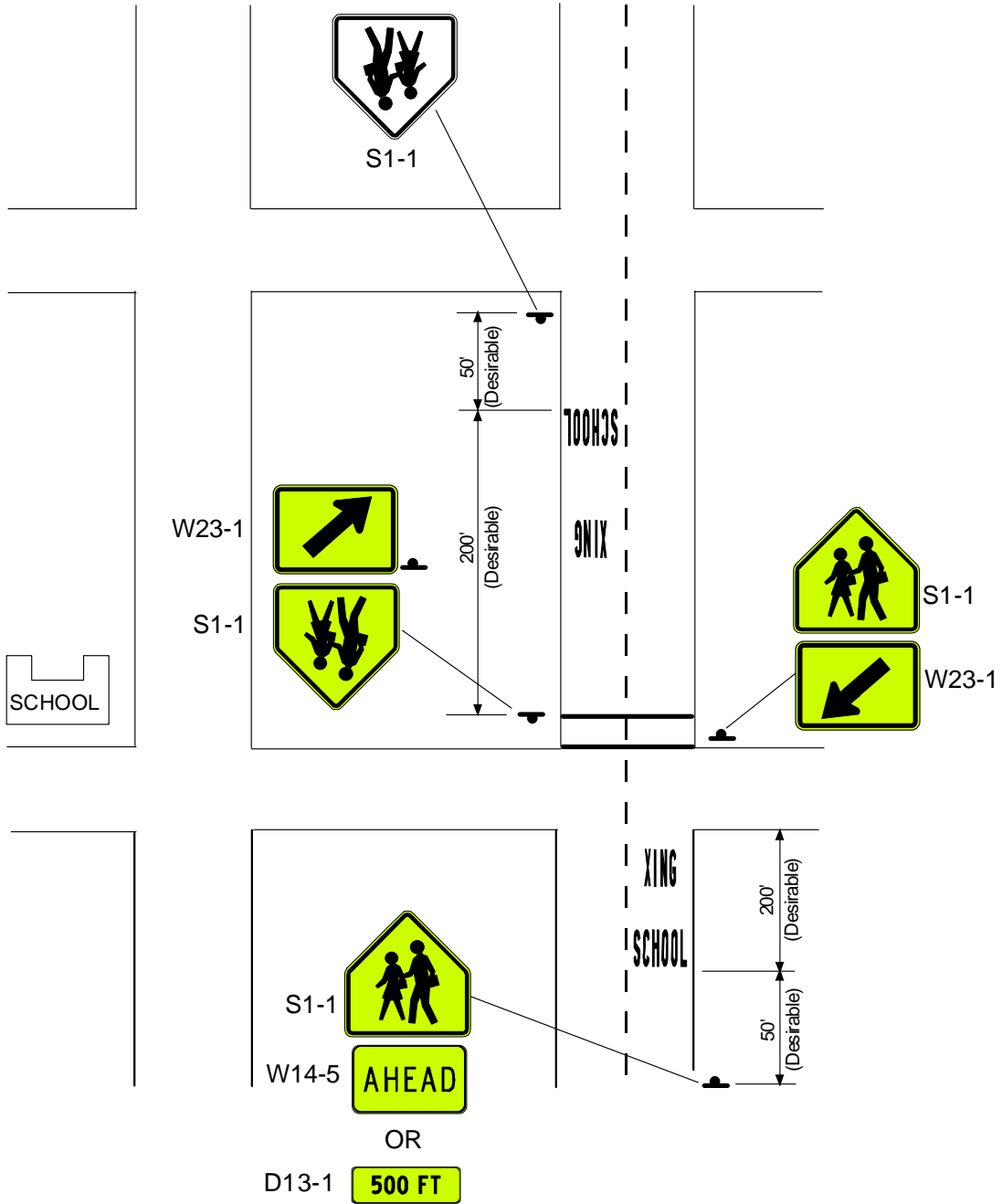
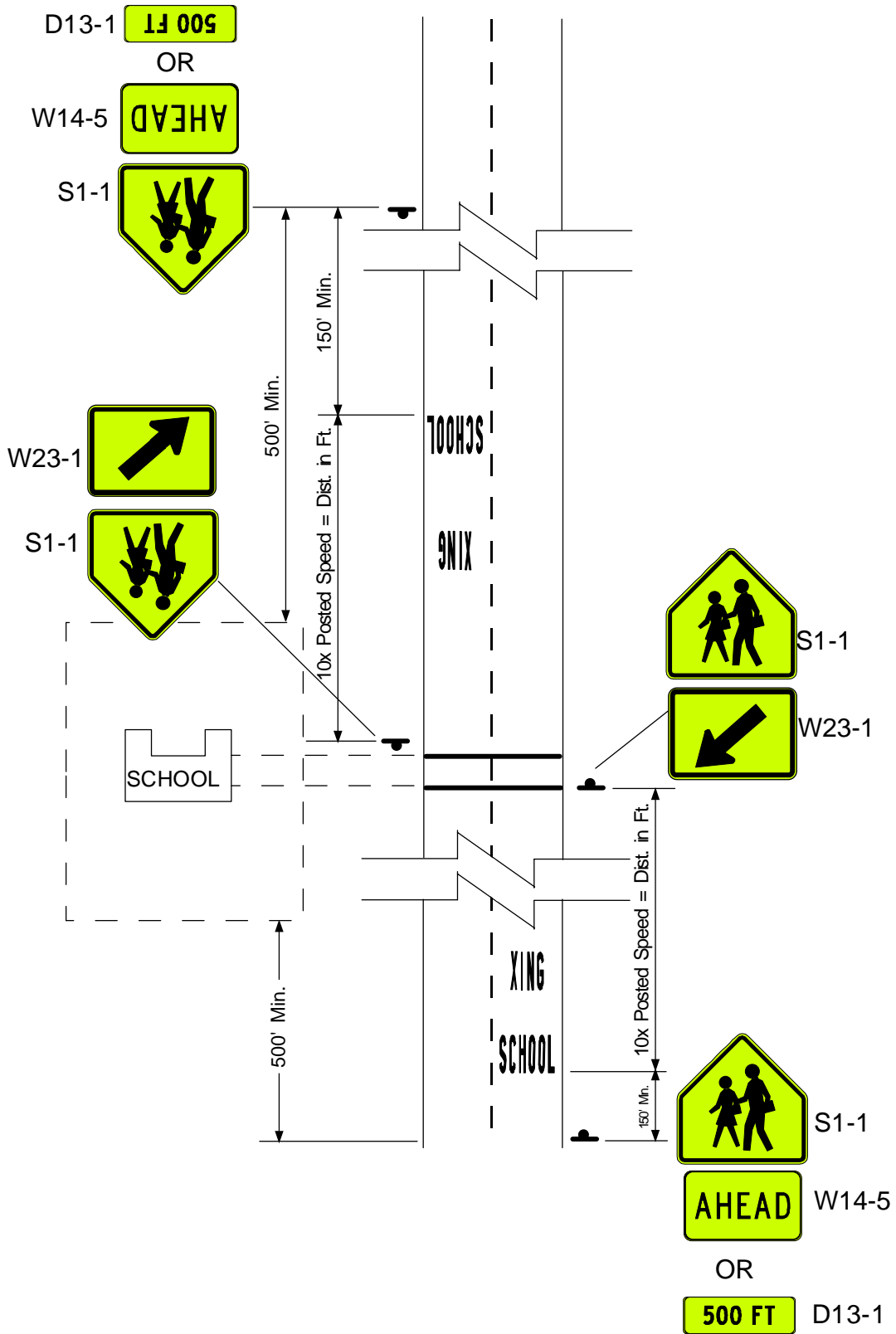


Figure 803.03-04 Rural School Location Adjacent To Highway



**803.04 Mid-block Crosswalks.** Mid-block crosswalks are not recommended in urban areas. These crosswalks cause additional vehicular-pedestrian conflicts, vehicle delay, disrupt traffic signal progression systems and present an unexpected pedestrian problem to the motorist who expects these conflicts normally only at an intersection. The mid-block crosswalk may have sight distance restrictions because of parked vehicles and motorists do not respect a mid-block location as much as one at an intersection. Pedestrians have a false assumption that painted crosswalks provide them protection, causing an extra problem at mid-block locations where both the pedestrian and motorists may not be alert. For the reasons above, discourage the use of urban mid-block crosswalks except in special cases.

## **SECTION 804.00 – SIGNING**

**804.01 Recommendations.** Signs are used to advise and warn motorists of pedestrian crossing locations and to regulate pedestrian movements. [Figures 803.03-02](#) through [803.03-04](#) illustrate the recommended signing and their locations in respect to pavement markings. The signing for a signalized intersection and a rural unsignalized pedestrian crossing are illustrated in [Figures 804.01-01](#) and [804.01-02](#).

The signs shall be retroreflectorized since many schools begin or end during hours of darkness. Also, many schools are used for night classes and meetings. Fluorescent yellow-green crossing signs for use at pedestrian, bicycle, and school warning crossings are optional to replace the standard yellow warning signs. However, sign colors should not be mixed at a selected site area which will require all crossing signs in the selected area to be installed or changed at the same time.

Figure 804.01-01 School With Signalized Intersection

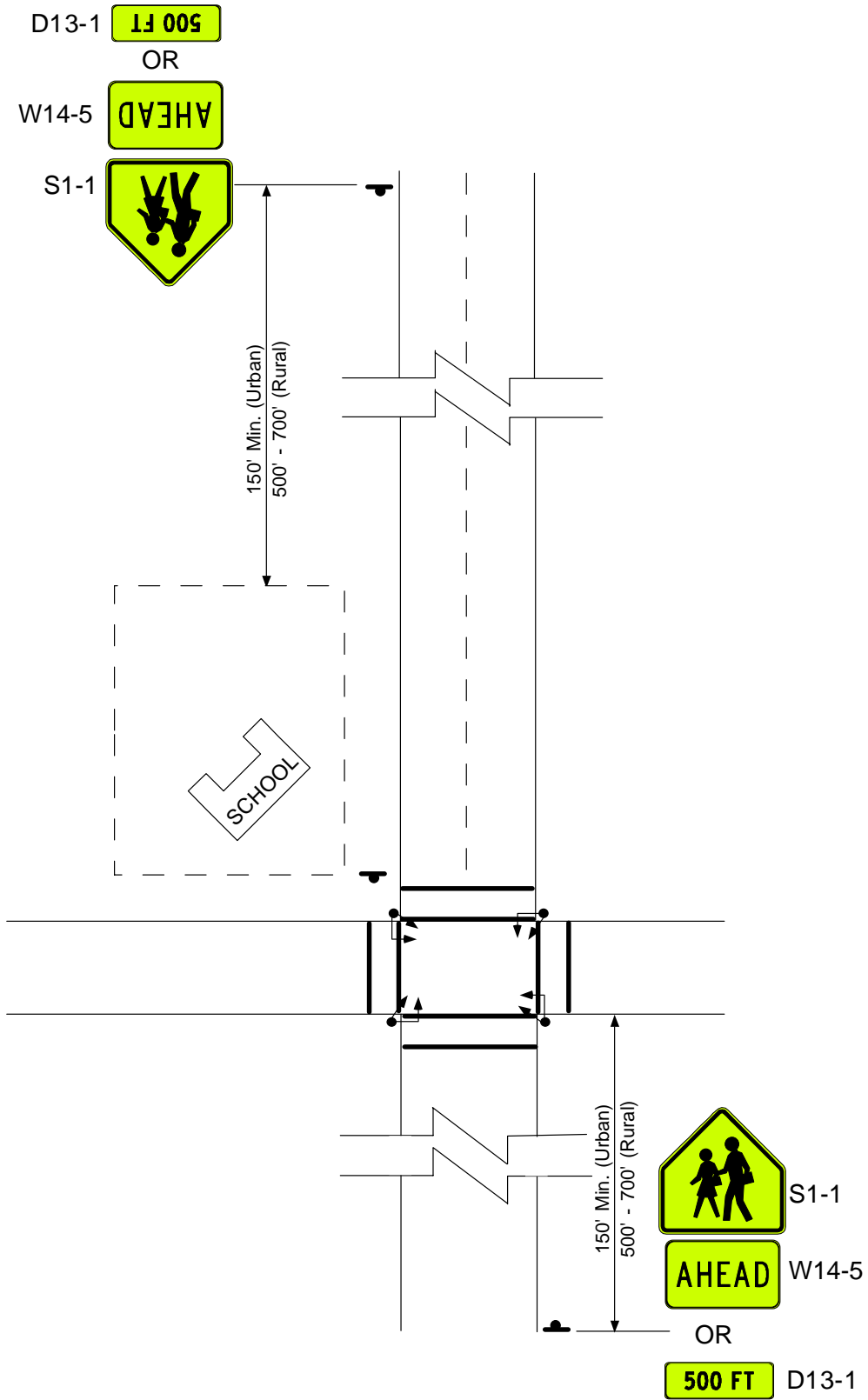
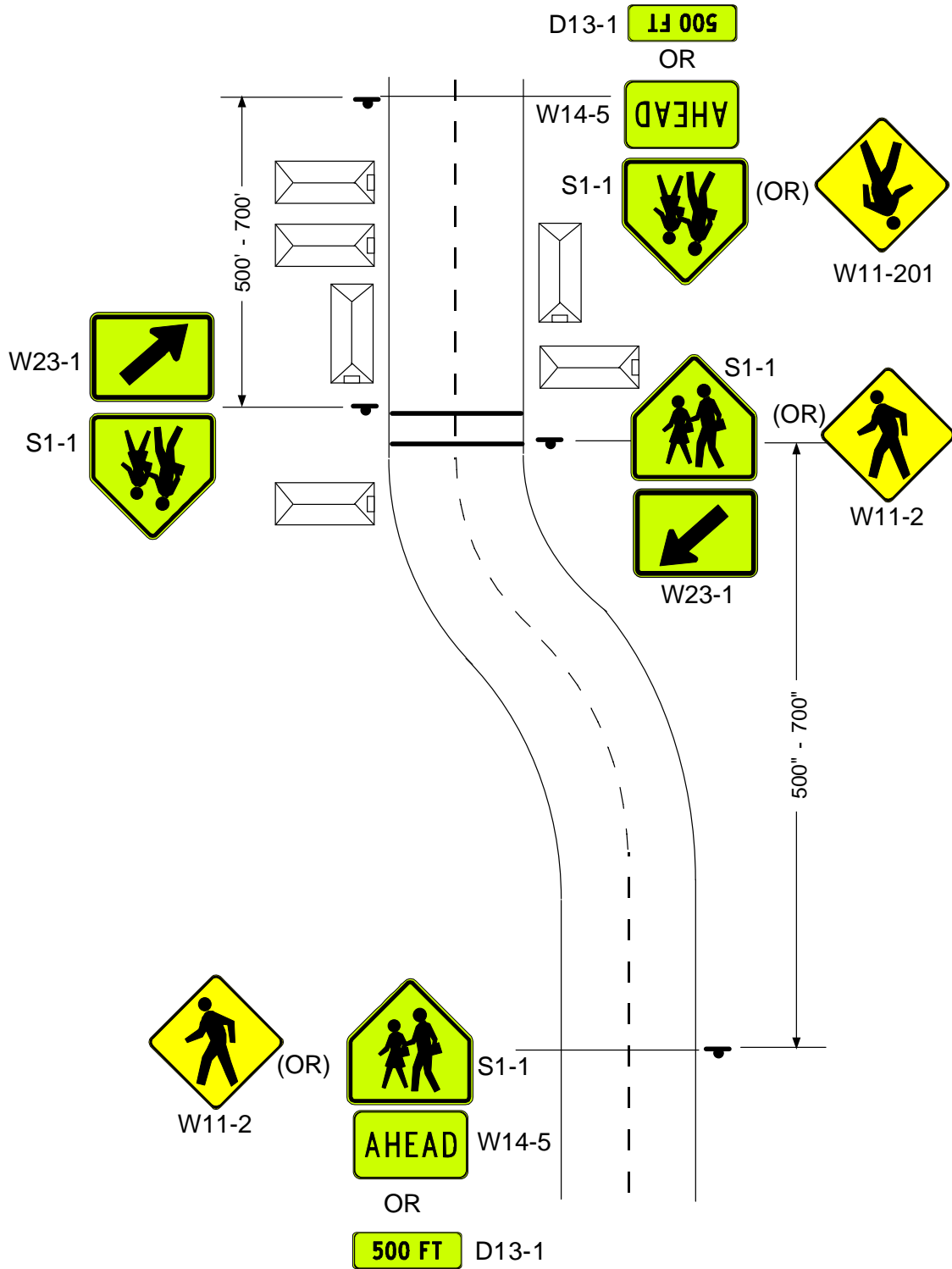


Figure 804.01-02 Rural Pedestrian Or School Crossing



**804.02 Responsibility.** If an agency requests the optional fluorescent yellow-green warning signs when the current signing is still in satisfactory condition, the requesting agency will be responsible for all signing costs. The Department will participate in the signing costs if the signs are changed from yellow to fluorescent yellow-green when signing is needing replaced due to normal deterioration.

## **SECTION 805.00 – FLASHING BEACON-WARNING SIGNS**

**805.01 Recommendations.** The effectiveness of advance warning signs for school crossings or heavy pedestrian crossings may be improved by installing an amber flasher in conjunction with the sign to help attract the motorists' attention. This combination of warning device has been used quite successfully for school crossings in Idaho and other states. The flasher is activated only during those hours that pedestrians are using the crossing when an actual conflict with vehicles exists. This provides for maximum effectiveness of the installation.

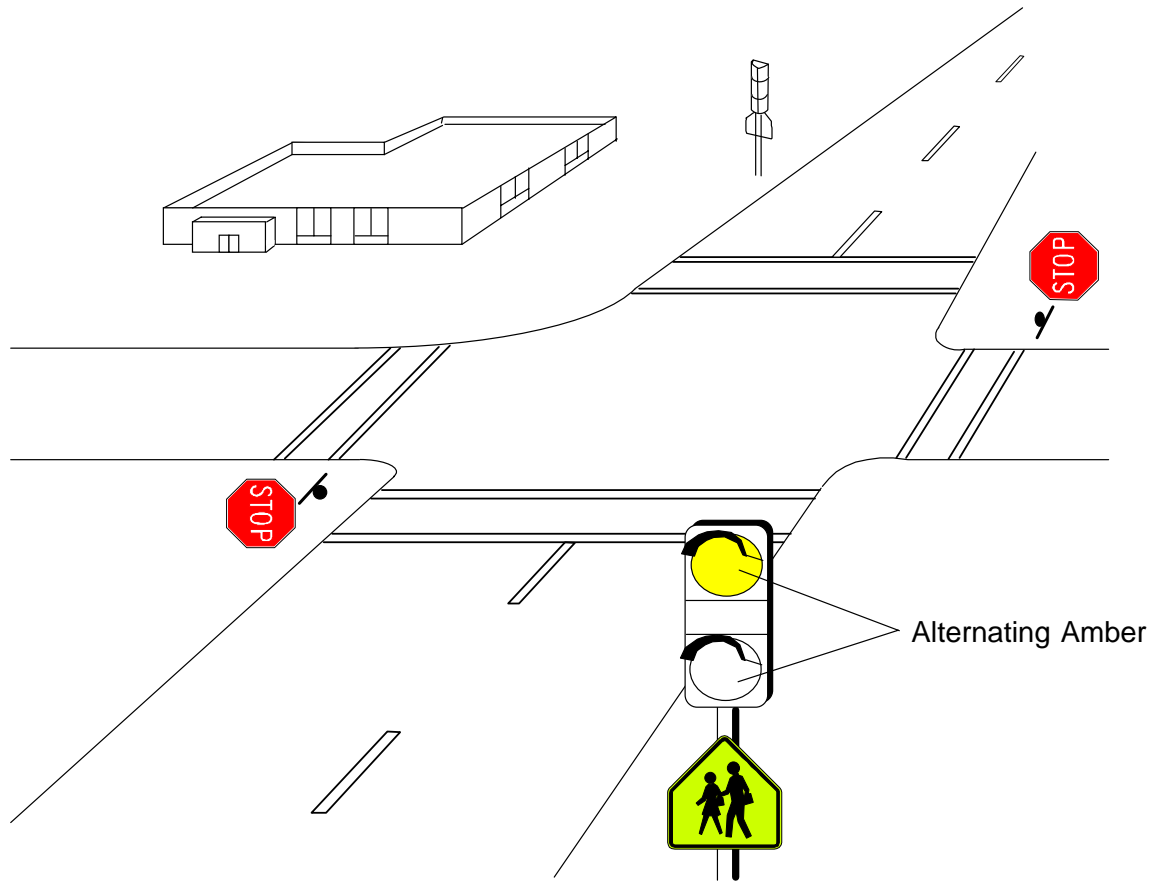
**805.02 Installation And Maintenance.** The Flashing Beacon-Warning sign installation can normally be installed at any school or pedestrian crossing where a definite crossing problem exists. The Traffic and Highway Safety Engineer must approve each such installation on the State highway system before it is installed.

Installation and maintenance costs of flashing beacons installed in conjunction with School Crossing warning signs are the community or school districts' responsibility. The Idaho Transportation Department will provide technical assistance as required to design an approved installation.

**805.03 Design And Operation.** The vertical mounted, double amber, flasher arrangement with alternating indications as shown in [Figure 805.03-01](#), is the recommended design. A single amber indication would be acceptable but is not as effective in attracting the driver's attention. The flashing beacon requirements shall conform to the general specifications for traffic signal heads and applicable design specifications for flashing beacons covered by the [MUTCD](#).

Operate the installation only during school crossing hours. The flasher mechanism may be activated manually at the school or automatically with a time clock installation at the beacon installation. The recommended equipment and method of installation are indicated in [Figure 805.03-02](#).

**Figure 805.03-01 Typical Flashing Beacon – Warning Sign Installation For School Crossings**

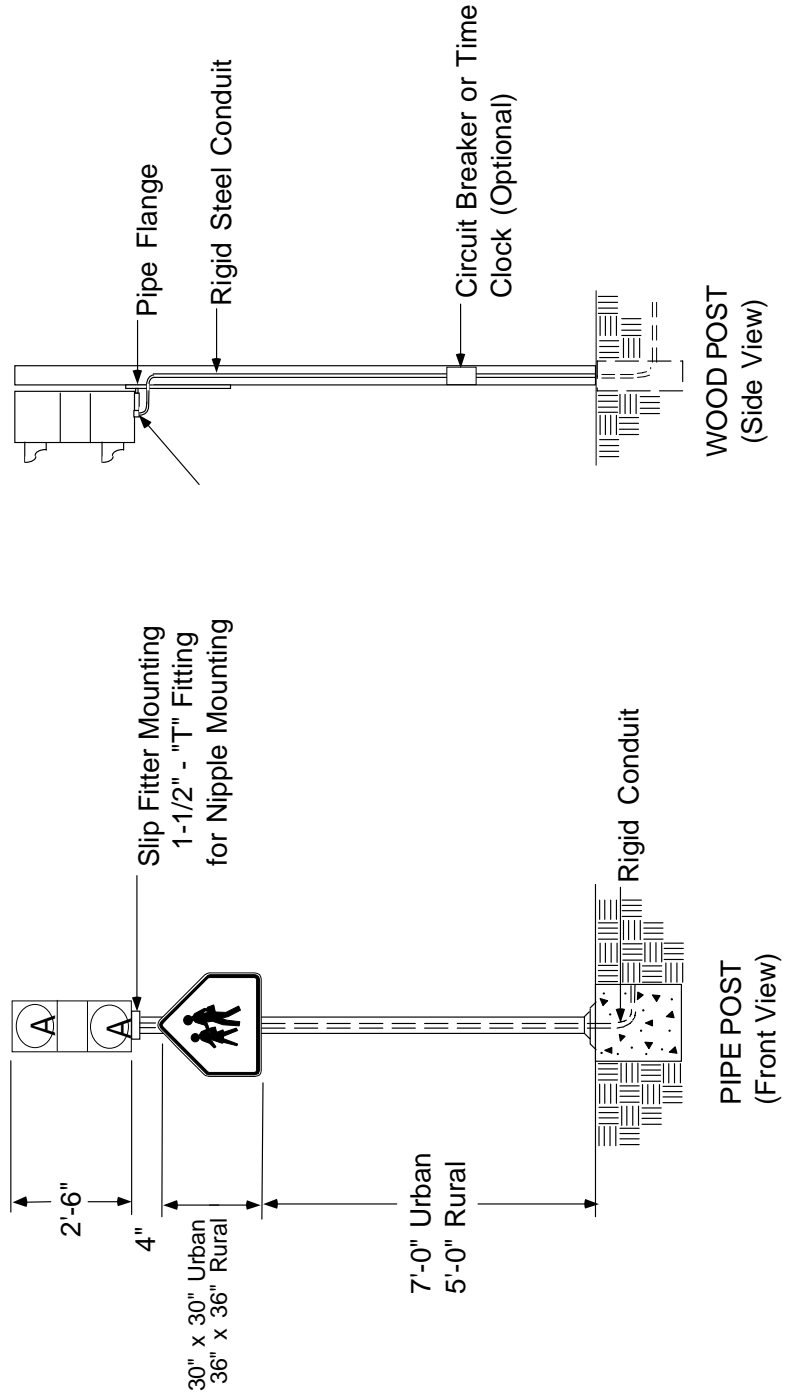


**Figure 805.03-02 Typical Flashing Beacon – Warning Sign Installation For School Crossings**

### TYPICAL FLASHING BEACON - WARNING SIGN INSTALLATION FOR SCHOOL CROSSINGS

Traffic signal, 8", three section, one-way, 8" tunnel visors, appropriate mounting, amber lenses in top and bottom sections, blank door center section with a two circuit, jack mounted, flasher unit.

Circuit breaker for manual control or a time clock for automatic operation may be installed on the post in a weather-proof cabinet.



## SECTION 806.00 – TRAFFIC SIGNALS – PEDESTRIAN

**806.01 Recommendations.** Traffic signals are seldom warranted solely on the basis of pedestrian volumes. However, pedestrian signal WALK and DON'T WALK or symbol indications are frequently installed where traffic signals are warranted by vehicle volumes.

It should be understood that a traffic signal is not the only remedy nor is it necessarily the best or correct solution to the perplexing problem of traffic conflicts between vehicles and school children. Brief periods during which hazards are unusually high are often better handled by officer control or adult crossing guards. In some circumstances, the pupils' response to traffic signal indications is so inadequate that the signal can become a contributory factor to increasing rather than decreasing accidents. The response to officer control or adult crossing guards is usually more positive. It is therefore believed that traffic control signals should not be installed at school crossings where school safety patrols or adult crossing guards can be used effectively or where students can be directed to cross at locations which are already controlled by traffic control signals or police officers, or where other control devices can provide adequate protection.

**806.02 Installation And Maintenance.** The Idaho Transportation Department will not normally participate in the installation, maintenance, or operation costs of any traffic signal installation on the State highway system that is installed primarily for protection of school crossings. This is considered a local problem and would be the communities' responsibility.

These community installed school crossing signals, erected on the State highway system, must be approved by the Idaho Transportation Department in conformance with the [Idaho Code, Section 49-202\(20\)](#).

**806.03 School Crossing Signal Warrant.** A signal installation at an established school crossing may be warranted when traffic and pedestrian volumes meet the normal warrant requirements.

Also, when the number of adequate gaps in the traffic stream during the period the children are using the crossing is less than the number of minutes in that same time period, the adequate gap criteria has been met and a signal is warranted.

- A pedestrian gap study is needed to test this warrant. A detailed analysis like that covered in the ITE Handbook could be followed but for most cases a simplified version would be adequate. The test is whether the acceptable gaps occur on an average every minute during the study period (when children are going to and from school).
- The following form ([Figure 806.03-01](#)) or a similar one could be used. The acceptable gap is figured by assuming the pedestrians will travel 3.5 ft./sec for the entire width of the street.

**Figure 806.03-01 Pedestrian Gap Study**

LOCATION \_\_\_\_\_ DATE \_\_\_\_\_

TIME \_\_\_\_\_ TO \_\_\_\_\_ MINUTES \_\_\_\_\_

XING WIDTH \_\_\_\_\_ ACCEPTABLE GAP \_\_\_\_\_

GRAND TOTAL

MINUTES = \_\_\_\_\_ 1 = Warranted

**TALLY**

GAP SIZE (Sec.)	(Discard all gaps less than acceptable gap)	TOTAL
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8

9

10

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40 & Over

GRAND TOTAL \_\_\_\_\_

**806.04 Design And Operation.** Traffic signals installed for pedestrians should be the actuated type. Time clocks could be used to turn the signals on flash or steady green during periods of non-use.

Intersection type flashing beacons should not be used at school crossings. The use of flashing signals shall be limited to the function of advance warning where a school crossing is not easily recognized and at signalized school crossings when the pedestrians are not using the crossing.

The design of all traffic signals shall meet the requirements of the Manual on Uniform Traffic Control Devices, as adopted by the State.

Exclusive pedestrian crossing traffic signals shall be operated on stop and go indications only during those periods when school children are crossing the highway. At all other times during the day or night, retain the traffic signal on steady green.

Where school children cross at a signalized location, they should be properly instructed in the traffic signal use. They should be warned about the hazard of relying too much on the WALK indication alone and the hazards of turning vehicles at signalized intersections. It is also necessary that they be instructed in the proper use of the pedestrian signal-actuation button. Failure to properly instruct children may result in accidents.

Adult crossing guards or school safety patrols should be used at all signal crossings. With high volume crossings, an adult crossing guard or police officer to protect the students is necessary.