

Blind Spot Activity

1. Stage a dump truck (or other large piece of equipment) in an open area or parking lot. If possible, secure several different types of equipment to demonstrate how blind spots vary from one piece of equipment to another. Lock-out the vehicle and remove keys from cab. Instruct one worker to sit in the cab and observe workers through his mirrors and windows.
 2. Position employees in various positions around the vehicle, including directly in front, on the right-side and behind the parked truck.
 3. Instruct the employees on foot to move to various locations, extending distances until the driver can see them in the mirrors. Place cones on the ground when they become visible.
 4. By completing this exercise around the vehicle you will be able to obtain the length and width of where workers are not visible, helping them realize the size and location of blind spots.
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Variations: Park a heavy piece of equipment and stage a pickup truck in different blind areas around the equipment. Let workers sit in the operator's seat to visualize the blind areas. (Be sure to lock out the equipment and pickup when performing these types of exercises.)

Other variations of these exercises can be done by using different sized objects to illustrate how blind areas change depending upon the size of the object. Generally, blind spots become larger as objects are closer to ground level.



◀ *Worker on left side of truck, as seen through front, left mirror.*



▶ *Worker behind truck, invisible through windows or mirror.*



◀ *Worker in front of truck becomes visible as he walks away from cab.*



▶ *Worker on left side of truck, visible if operator were to turn and look out the window.*

Backing Safety Program

Backing can be extremely hazardous. Backing accidents statistically account for approximately 50% of all fatalities involving construction equipment in roadway work zones. These accidents can also result in serious disabling injuries. The following are some practical steps that should be used by drivers and pedestrian workers to eliminate backing accidents.

Before Driving:

1. Ensure mirrors are positioned properly for the driver before operating the vehicle.
2. While pickup trucks generally are not equipped with backup alarms, all vehicles equipped with backup alarms must be checked prior to operation to ensure they are in proper working condition.

Parking:

1. Avoid backing whenever possible. Evaluate the area to find a route to arrive at your destination while moving forward.
2. Keep the driver's window down, and if possible, the passenger window down when backing or driving in the vicinity of pedestrian workers.
3. Turn off radio or other distracting devices.
4. Park in a manner where you can leave in a forward motion. Pull straight through when possible. Remember, the closest space is not always the best place. Choose a place that is free of congestion. You can see more when you first arrive at any location, so if you must back, this is the time to do it.
5. Any time you have been stationary for more than 2 seconds, conditions change. Get out of your vehicle and walk around it before moving. Never trust the scene you checked to stay the same. A person walking three miles-per-hour will travel 9 feet in 2 seconds. A child riding a bike at 10 miles-per-hour will travel 30 feet in 2 seconds.

Backing:

1. Always beep your horn 2 times before reversing. This will alert others that you are doing something different. Everyone should be trained/informed that 2 beeps means you are backing.
2. If your vehicle is equipped with a backup alarm it must be working. If it is not working you are required to fix it. In an emergency, if you must finish the task at hand when the alarm stops working you must use a spotter while in reverse.
3. Always use all mirrors when backing and preferably always use a spotter. You should always agree on signals before backing. Always back at an extremely low rate of speed (walking speed) and do not back more than 50 – 100 feet before stopping and rechecking the area for a clear zone. Evaluate the area for more stringent guidelines in confined areas.



Adjust and clean mirrors; check back-up alarm.



Avoid backing; drive with windows down.



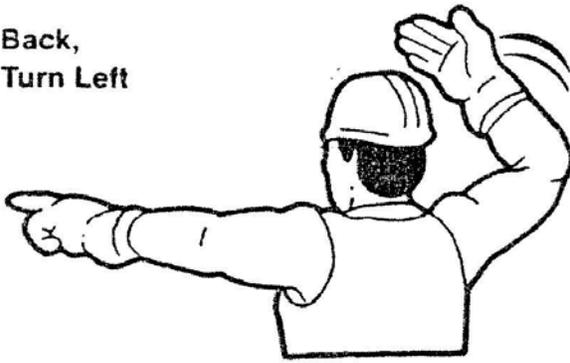
Park so you can exit forward; walk around vehicle before moving.



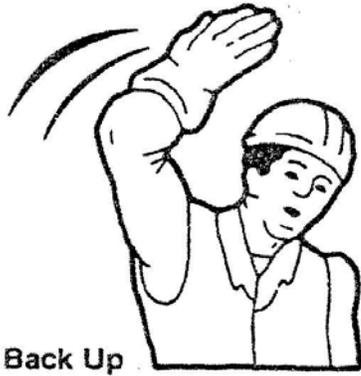
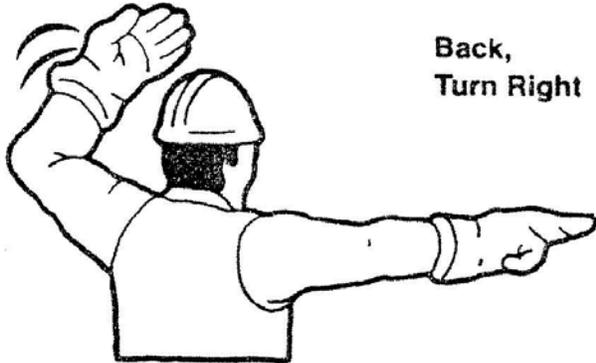
Use a spotter to assist in backing when possible.

Backing Hand Signals

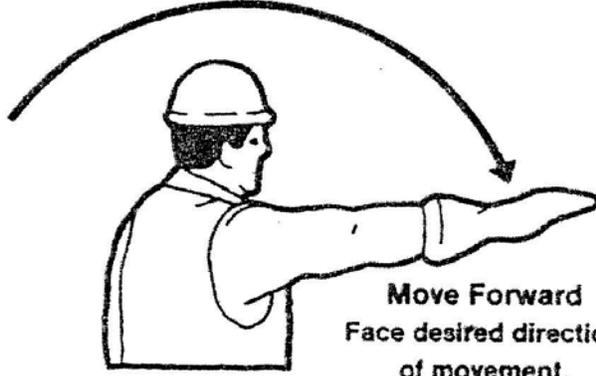
Back,
Turn Left



Back,
Turn Right



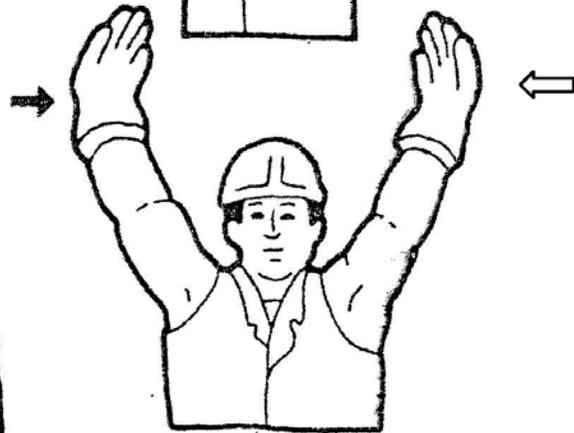
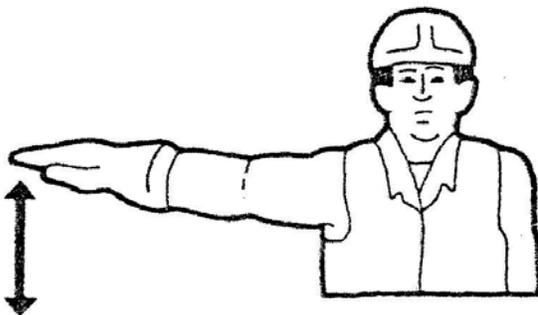
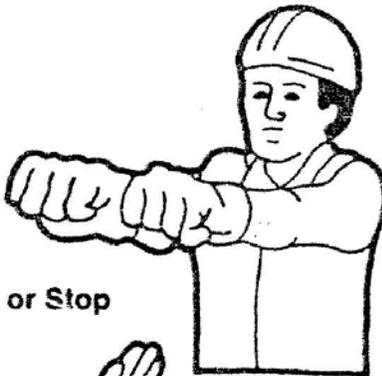
Back Up



Move Forward
Face desired direction
of movement.



Stop or Stop



Pedestrian Workers

The primary cause of worker fatalities and injuries in the heavy and highway construction industry is being run-over or backed-over by motorists and construction equipment—primarily dump trucks. While most workers assume the biggest threat is an errant driver who breaches the barricades and strikes construction workers, the fact is most workers are killed by construction vehicles.

The following steps are critical to the safety of roadway construction workers:

1. The area directly in front or behind trucks and large equipment is a prohibited zone. Do not walk or work in front or behind the equipment unless you receive verbal and visual communication from the operator that it is safe to do so. Do not approach a vehicle unless the operator signals his or her approval.
2. Don't be a victim of complacency. Stay alert and do not underestimate the risk of tasks you perform regularly or fail to notice a change in your surroundings. Be careful not to stray into open traffic lanes or pathways of trucks delivering materials.
3. Position yourself so that you have peripheral vision of everything in the area where you are working. Don't stand in shadows or in areas where you may be hard to see.
4. Create a routine to glance around in all directions for awareness of surroundings.
5. Wear appropriate high-visibility garments that comply with industry standards. Keep vest closed in front and on sides to ensure visibility.
6. Listen for back-up alarms, horns or other signals warning you of nearby vehicles. Don't "learn to ignore" alarms. Look up when you hear one.
7. Stay in your assigned area. Remain behind barriers or other traffic control devices designed to separate you from traffic and construction equipment.
8. **STAY ALERT!** What you don't see can kill you



Do not stand directly in front or behind equipment.



Don't become complacent with routine tasks.



Pause to look around and note activities near you.



STAY ALERT!

Internal Traffic Control Plan Development Check List Ideas to Consider for ITCP Drawing

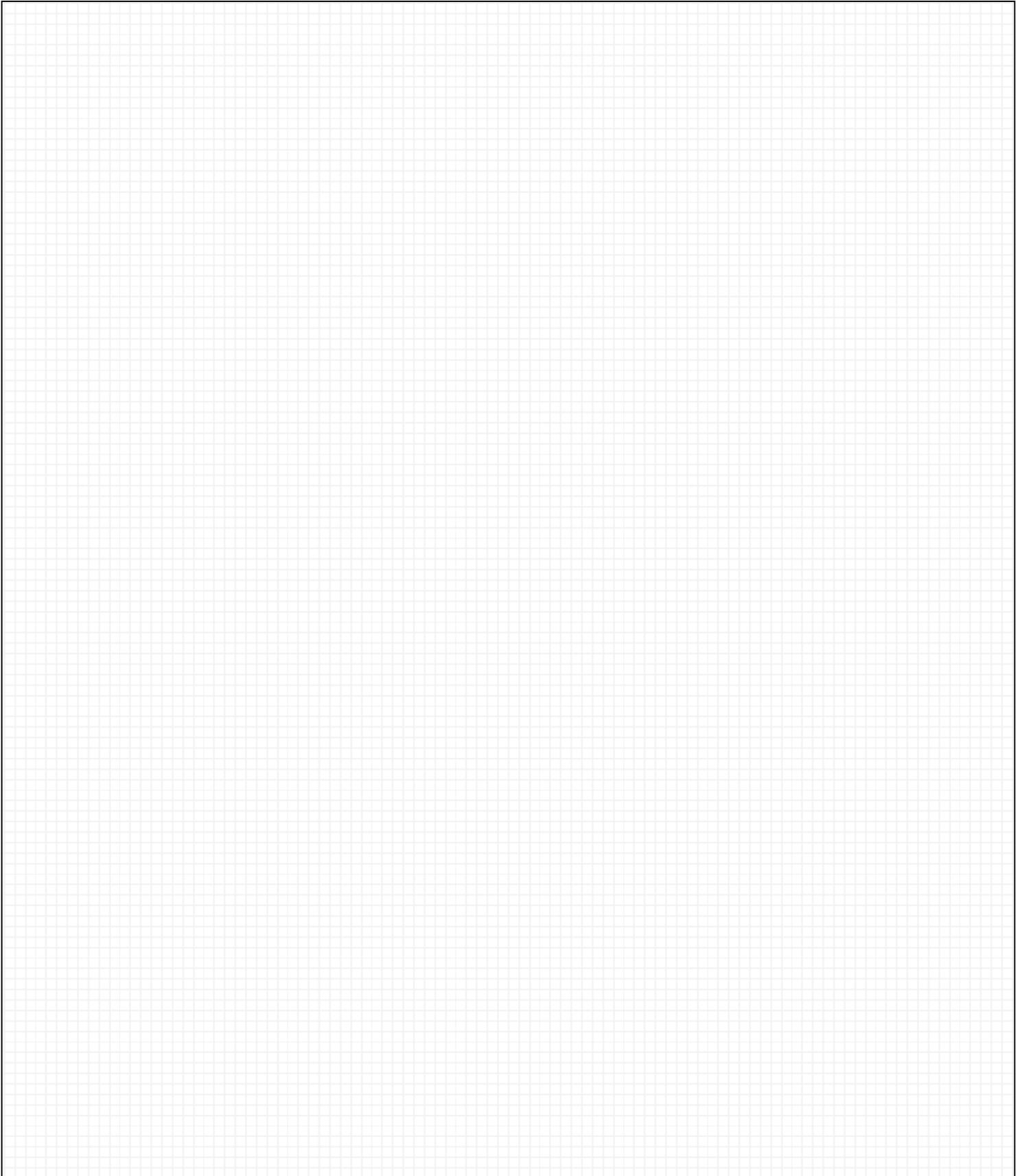
- Draw basic work area layout, which can be taken from project drawings or the traffic control plan
- Plot where work activities will take place
- Plot the vehicle access points
- Identify where equipment will be backing and create pedestrian free zones
- Plot how workers will get to and from work areas
- Draw the traffic flow for large equipment
- Determine the storage areas
- Plot how materials will get to and from staging areas
- Establish parking areas for workers and visitors
- Establish restroom and break areas
- Plot utilities
- Write notes to explain the diagram and specify duties of personnel

Exercise: Using the following worksheets and the checklist above, practice sketching an internal traffic control plan for an operation of your choice, or use the included drawings. Remember to include safe traffic control principles, including:

- **Limit vehicle backing**
- **Control vehicle access points**
- **Isolate workers from vehicle and equipment movements**
- **Design buffer spaces to protect workers from vehicles and equipment**
- **Consider use of signage**

INTERNAL TRAFFIC CONTROL PLAN DRAWING

Name: _____ Date: _____ Job Location: _____



INTERNAL TRAFFIC CONTROL PLAN DRAWING

Name: _____ Date: _____ Job Location: _____

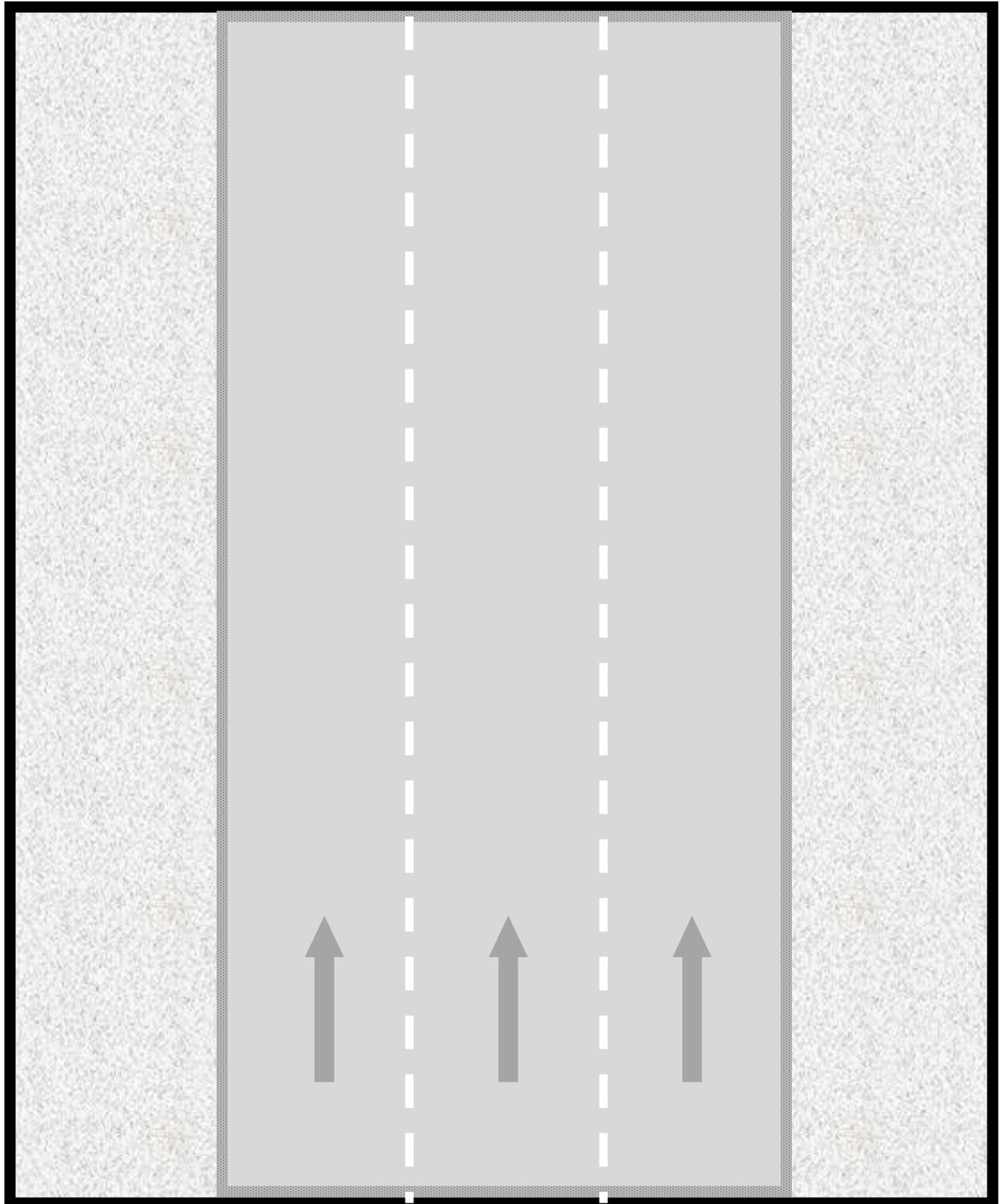
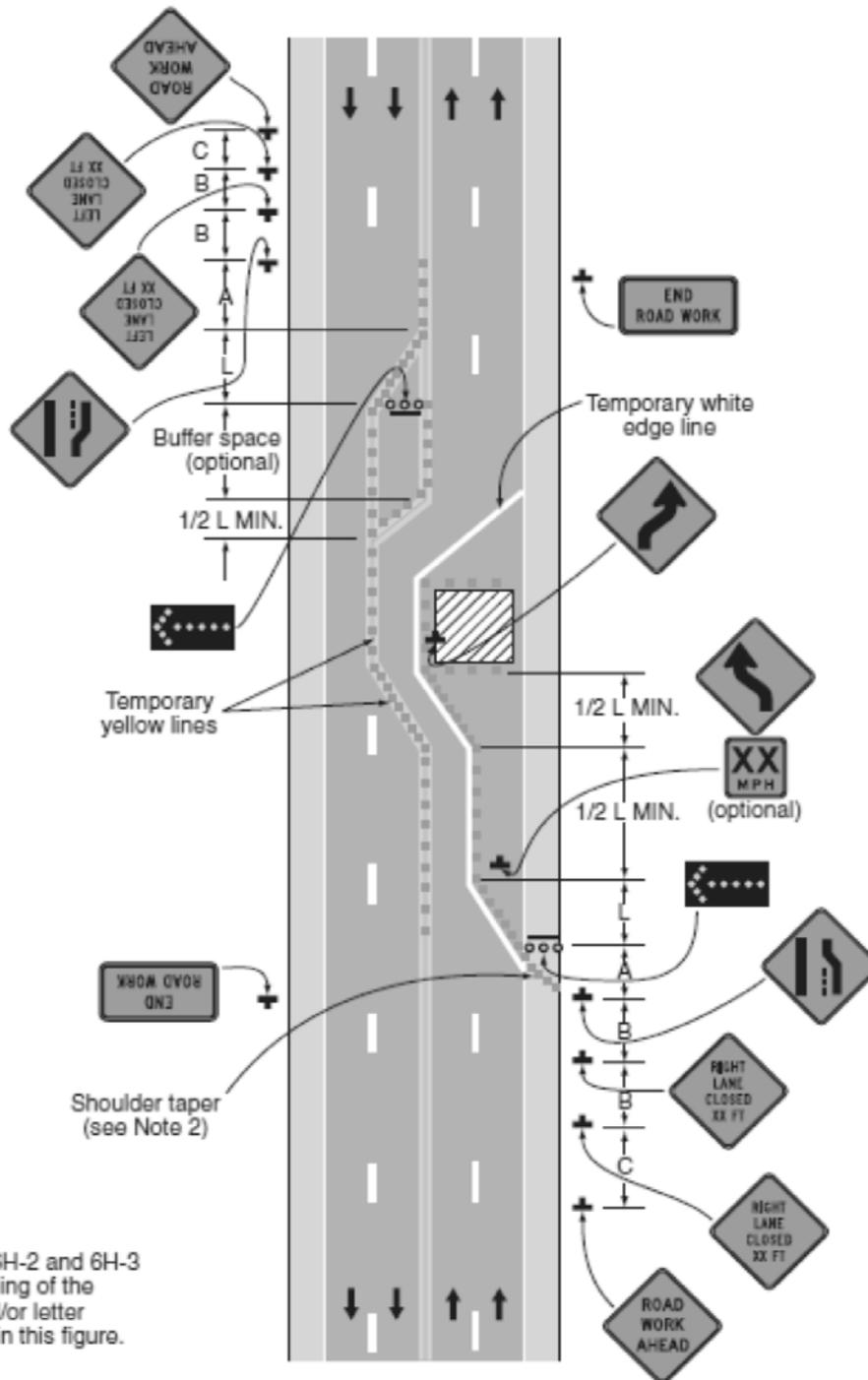


Figure 6H-32. Half Road Closure on a Multi-Lane, High-Speed Highway (TA-32)



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

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Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)

