

New York State Snowmobile Trail Signing Handbook



Parks, Recreation
and Historic
Preservation



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Introduction

Snowmobilers travel beyond their local trail systems more frequently now than ever before. When snowmobiling on unfamiliar trails a rider's enjoyment and safety are greatly enhanced by uniform trail markings, detailed information signage, and careful identification of potential hazards. Few experiences in snowmobiling rival the unpleasant feeling of being lost, hungry and low on fuel somewhere along a poorly signed trail system.

The New York State Office of Parks, Recreation, and Historic Preservation (Parks) has compiled this handbook that provides guidelines for the effective placement of signs on snowmobile trails. The trail sign process is intended to improve snowmobile safety and enhance snowmobile trails in a safe and cost effective manner.

Posting trail signs will help to safely regulate the flow of snowmobile traffic, inform riders of particular trail characteristics, and provide information necessary for the enjoyment of the trail riding experience. This handbook will serve as a valuable resource to snowmobile club members, particularly those charged with the responsibility for trail signing, as well as those riding on the trails.

The guidelines are consistent with the International Association of Snowmobile Administrators (IASA) standards regarding color, size, shape and reflectorization. The handbook will also promote statewide uniformity of snowmobile trail signing by providing basic guidelines and techniques for post-



ing standardized trail signs uniformly throughout an unfamiliar trail.

The signing guidelines provided by this handbook should not be construed as minimizing an operator's responsibility. Operating a snowmobile in an observant, reasonable, and prudent manner is the responsibility of all snowmobilers. Rather, these guidelines will compliment safe riding practices for the betterment of snowmobiling.

Prior to installing signage on state land, the trail sponsor should meet with a representative of the respective state landowner to ensure compliance with state land manager policies and procedures.



Signs and Safe Snowmobiling

New York State law directs the Office of Parks, Recreation, and Historic Preservation to ensure the proper and safe use and operation of snowmobiles. In order to meet this legislative directive, the office has developed a system of trail markers and signs. The purpose of using trail signs is to direct the flow of snowmobile traffic, inform snowmobilers of trail characteristics, and provide information necessary to fully enjoy the trail riding experience.

The guidance provided to snowmobilers by trail signs should not be construed as reducing the snowmobiler's responsibility to operate their ma-

chines in a safe and prudent manner. Riders should ride on the right side of the trail at all times.

Trail signs and markers are essentially safety tools. Use them with care and caution to make snowmobiling in New York State enjoyable and more fulfilling. However, snowmobilers should be aware that signage can be affected by sign theft, vandalism and weather related events. Never assume that every object is properly identified with a sign. Civil or criminal liability can result if snowmobilers operate with willful disregard for such signs, and cause property damage, injury, or death.

Objectives, Purposes, and Roles

Recognizing the objectives and purposes of signing and the role of the participants will help provide the guidance for a well signed trail.

TRAIL SIGNING OBJECTIVE

It is the goal of Parks to achieve a comprehensive and uniform system of trail signing across the state.

The objective of trail signing is to:

- enhance the safety of persons, vehicles, and property,
- improve travel within and between trail systems,
- increase comfort and confidence in navigating the statewide trail system,
- standardize and promote recreational snowmobiling.

THE PURPOSE OF TRAIL SIGNS

The purpose of snowmobile trail signs is to:

- regulate the flow of traffic along the trails,
- warn riders of trail characteristics and potential hazards,
- provide information necessary to the enjoyment of the recreation.

ROLES

The responsibility of Parks is to set guidance for the signing of state funded recreational snowmobile trails and provide a model for local trails.

Responsibility for installing, maintaining, and removing trail signage rests with the local snowmobile program administrator and/or Trail Maintenance Entity (TME).



General Guidelines for Snowmobile Trail Signing

This document provides guidelines for the effective placement of signs on recreational snowmobile trails. It should be seen as a process to improve snowmobile trail development in as safe and cost effective manner as opposed to a rigid policy statement. It is anticipated that as a result of ongoing communication and development, these guidelines will continue to evolve through time.

NYS Parks has developed this manual to provide the minimum guidelines for regulatory signs, cautionary signs, and trail markers. These guidelines should be applied to all officially designated snowmobile trails.

Proper signage will reinforce safety and other information for the snowmobiler familiar with local trails. Moreover, proper signage will allow touring snowmobilers who are not familiar with the area to navigate more easily and with more confidence, thus enhancing safety and enjoyment of the snowmobiler.

To test your success in achieving this goal you may want to invite someone who is not familiar with the trail to join you on a trip. Their comments can be invaluable.

The methods used to mount trail signs vary depending on the intended permanence of the installation and landowner considerations, including trails on state lands. The following points provide guidance in selecting an appropriate mounting method to suit your circumstance.

- Compliance with signing guidelines for trails on any state lands is subject to provisions of permits issued by each respective state land-manager. This includes the Canal Corporation, DOT, DEC, and Parks. Contact the respective land managers to obtain proper sign installation requirements.
- Except for informational and trail identification or junction signs, as set forth in this handbook, trail signs must be reflective.
- When installing signs and grooming trails there needs to be consistency so that the groomed trail matches the signed trail. TME members installing signs and club members grooming the trails need to be in communication with

each other so that the groomed trail matches the signed trail. If a trail is groomed differently than it is signed, the club must change the signing for that part of the trail.

- Use durable materials for permanent installations i.e. flexible plastic, fiberglass, steel, or pressure treated lumber. Use adequately sized wood or metal signposts to provide stability and deter vandalism.
- It must be remembered that the trail will be used for travel in both directions. Separate, and often different, signing is required for each direction of travel.
- Signing is often done by persons who are familiar with the trail and who know where they are and where they are going. When putting up signs, imagine that you have never been in this area or on this trail before. Try to picture what signs would be necessary to get you safely to your destination.
- Have your signage reviewed by someone less familiar with the area to identify locations that need improvements. The trail inspection program would provide trail maintenance organizations with valid feedback on signage operations.
- Place signs as late in the fall as possible and remove promptly at the end of the season. This reduces vandalism, potential trespass, and conserves sign life by reducing exposure to the elements.
- Overuse of signs should be avoided; this practice can potentially impact safety. To avoid clutter and confusion, every effort should be made to sign the trails using only the regulatory and cautionary signs suggested in this handbook. Only trail signs meeting standards for shape, color, size, and reflectorization as mentioned in this handbook should be allowed on trails.
- Extra regulatory and warning signs should be carried on grooming equipment and by trail patrollers to replace those which have been removed or vandalized.

- Use an existing mounting object, such as a fence post, only if it is within the recommended sign location window and the permission of the owner has been obtained.
- If more than one sign is used at the same location, they should be placed vertically with the most important sign on top. Stop signs always convey the most important message and should not be accompanied by any other regulatory signs on the same post.
- The sightline from the driver to the sign must be clear for the entire distance through which the sign is intended to be viewed. This requires routine monitoring
- Informational signs may be placed on the trail by trail side businesses, but these signs should conform to the standard color and shape. Signs posted by businesses should be carefully controlled by the trail operator.
- Extra signs should be made available to replace missing or vandalized signs.
- Mounting signs on live trees is NOT recommended. If it is the only alternative, use aluminum nails. Ensure that all nails are removed when the signs are removed.
- On posts, use bolts or screws instead of nails to reduce vandalism and theft. A cordless drill with spare battery packs is an ideal tool to drive screws providing the sign holes are predrilled.
- When installing a signpost for one direction, also install a signpost on the opposite side of the trail. Use this parallel signpost for an appropriate sign or attach reflective material on the top of the post if no sign is necessary (See Staking pg. 20).
- No trail sign should be placed more than 6 feet from the edge of the groomed trail.
- Maintaining visibility of signs in areas of heavy snowfall accumulations poses additional challenges in terms of sign mounting techniques and materials. These signing situations will require periodic inspections and adjustment of sign poles or stakes throughout the winter to keep signs from being obscured by snowfall.



- Place signs and posts carefully with regard to anticipated vehicle speeds, brush, line of sight, and anticipated snow depths. The desirable mounting height of signs is approximately 40 inches above the snow depth. Adjustments to sign height above the snow may be necessary to respond to changing snow depths.
- In accordance with established trail signing standards, trail signs should be placed on the right side of the trail. An exception to this standard is the practice of placing directional arrows or chevrons on the outside edge of the trail to indicate a distinct change in direction.
- Avoid installing signs on the back of signposts intended for the snowmobile operator traveling in the opposite direction. Install a reflective material for the back of each signpost to make it visible for the operator traveling in the opposite direction.
- Posts are preferred for the proper placement of regulatory, cautionary, and stop signs. When allowed by the landowner, signs may be attached to trees that are appropriately located and within 6 feet of the groomed trail surface. (Please refer to figure 1.)
- The line of sight from the driver to the sign must be clear for the entire distance through which the sign is intended to be viewed. This requires routine monitoring.

Trail Sign Placement

This section provides basic information on how snowmobile signs should be placed and installed.

SIGN POSITIONING

A critical part of sign mounting is understanding how a reflective sign works. A good analogy is to think of signs as mirrors. To maximize nighttime visibility of the sign, it must be placed at eye level and perpendicular to the direction of travel on the trail. This placement also ensures that the sign is visible over a long period, so that the rider has a chance to understand the message and to react accordingly. This important concept is illustrated by Figures 2 and 3.

FIGURE 1 - Recommended Sign Location Window

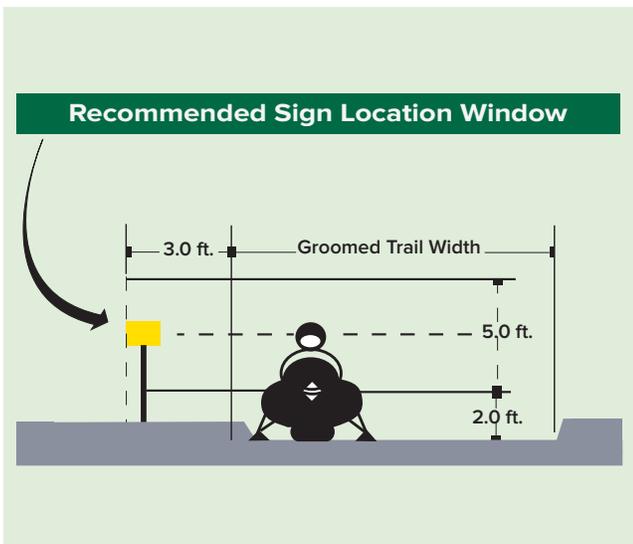


Figure 1 defines an imaginary “window” for sign location. Signs should be placed perpendicular to trail within a 5 ft x 3 ft area that starts 3 ft from the trail’s edge and 2 ft above the trail. Signs placed outside this window will not be seen as well. The sign window should be to the right side of the operator.

FIGURE 2 - Sign Placement, Side View

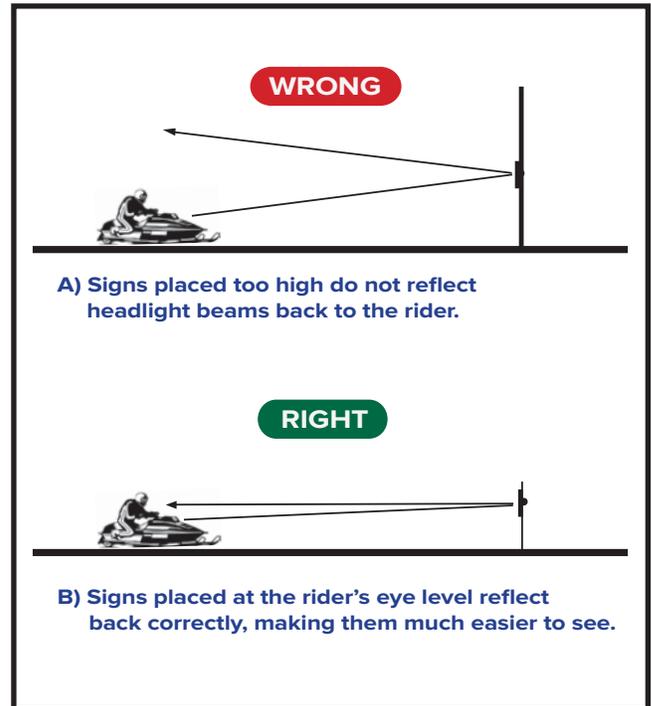
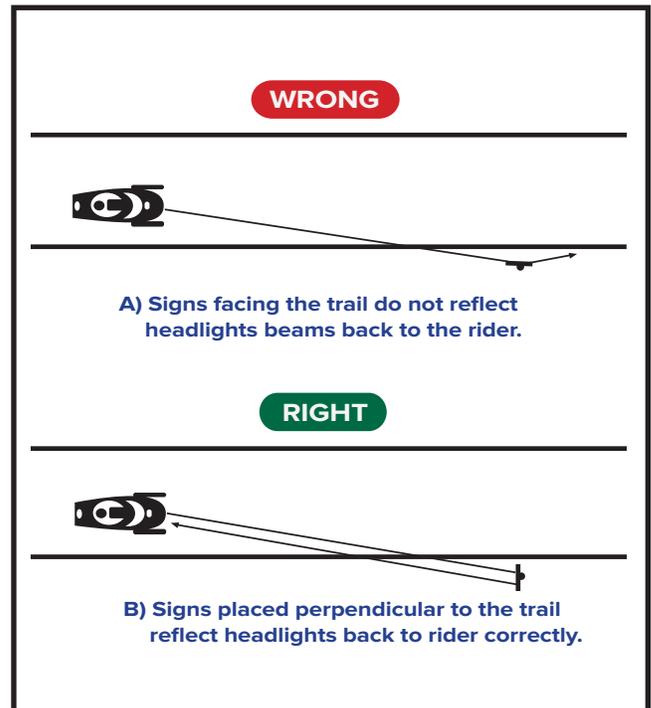


FIGURE 3 - Sign Placement, Overhead



SIGN POSTING DISTANCES

What is the proper distance before an object to place a warning sign? There are several factors involved in calculating the minimum posting distance including:

- Speed of the snowmobile when the sign is initially visible to the operator
- Sign legibility or recognition
- Decision making time
- The coefficient of friction between the track and snow
- Comfortable braking distance

The table below offers some guidance on what the appropriate sign posting distances should be. These recommendations have been developed through a variety of snowmobile and traffic publications, including the Manual on Uniform Traffic Control Devices and field observations. The minimum sign posting distances recommended below pertain only to cautionary signs.

The sign posting table looks at two situations. The first is a situation where a cautionary sign is posted so that a snowmobile can come to a complete stop before the trail condition. The most common example of this situation would be a “Stop Ahead,” trail sign prior to a STOP sign. The second signing situation is one where a SLOW sign is posted so that a snowmobiler might have to reduce speed, but not necessarily come to a complete stop. Examples of this situation might be changes in trail direction. The intent of warning signs is to allow the snowmobile to be brought to a complete stop before the trail condition. In some cases, a complete stop is not necessary, but we suggest the posting distance be sufficient for a complete stop in the event it is necessary.

The key factor in using the following table is the judgment of the signing crew on what the speed of the majority of reasonable snowmobilers in that situation would be and what reduction in speed, if any, would be necessary for the snowmobiler to comfortably and safely negotiate the trail condition.

TABLE 1 - Cautionary Sign Placement

Suggested Minimum Posting Distances for Snowmobile Cautionary Signs (in feet)		
Judged Speed (mph)	Condition Requiring Stop “X” =	Example - Deceleration Distance to Desired Speed of 20 mph
20*		
25*		
30	175	100
35	225	175
40	300	250
45	350	300
50	425	400
55	500	475

* No suggested minimum distance recommended. At these speeds, sign location depends on physical conditions at the site.

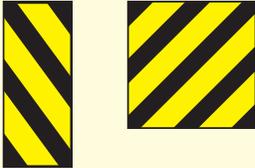
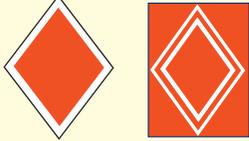
The Table above shows a range of distances for trail sign placements. The Table is adapted from IASA Signing Guidelines and is intended as a general guide for sign placement distances.

Most snowmobile trails typically have a mix of trail surface conditions and those conditions can change daily depending upon weather conditions and other factors. Terrain and trail conditions also have to be taken into account.

Core Trail Signs

The key to establishing a uniform signing system is the development of a list of core signs based on the IASA Guidelines for Snowmobile Trail Signing.

All signs must use reflective symbols and lettering.

Typical Design	Name and Use	Usual Characteristics
	<p>STOP Instructs riders to bring their snowmobile to a complete stop before proceeding with caution.</p>	<p>12" x 12" Octagon with red background with white lettering.</p>
	<p>STOP AHEAD Informs riders they are approaching a stop sign and will need to stop ahead.</p>	<p>12"X 12" Diamond, yellow background, red octagon, black arrow.</p>
	<p>SLOW Warns riders that there may be a potentially hazardous condition or feature ahead on the trail. Riders are to temporarily slow their snowmobile when seeing this sign so they can watch for the full range of potential hazardous operating conditions that might be present.</p>	<p>12"X 12" Diamond, yellow background, black lettering.</p>
	<p>Hazard Marker Identifies a fixed object at the side of the trail. Used any time the fixed object narrows the normal width of the trail such as bridge railings. It can also be used to mark culverts and drainage ditches that cross the trail. The stripes slope down towards the trail.</p>	<p>Sign is typically a 6"x 12" vertical rectangle with right side and left side signs, or a 8"x 8" square (minimum). The stripes slope down towards the trail.</p>
	<p>Directional Arrow This arrow sign informs riders that the trail makes a distinct change in direction; slow down to ensure you're prepared to safely negotiate the turn.</p>	<p>12" X 12" Diamond, yellow background, black graphic and black arrow.</p>
	<p>Curve Ahead Informs riders of a change in direction in the trail ahead. The rider should proceed with caution and may need to slow down.</p>	<p>12"X 12" Diamond, yellow background, black curve arrow.</p>
	<p>Snowmobile Trail Blazers Informs riders that they are on a designated snowmobile trail. Blazers should be used in pairs and should be placed at periodic intervals along the trail.</p>	<p>Sign is a 5"x 7", 4"x6", 6"x 6" or other sized uneven diamond, orange in color.</p>

Other Signs

Snowmobile Clubs are encouraged to rely as much as possible on the core signs listed on the previous page. However, there are several situations where supplemental signage may be appropriate. To that end, the following breakdown of the three categories of signs includes signs that may be appropriate to supplement the core signs.

All signs must use reflective symbols and lettering.

REGULATORY SIGNS TO SUPPLEMENT CORE SIGNS

Typical Design	Name and Use	Usual Characteristics
	<p>Designates highways where snowmobiles are permitted to use roadway, shoulder or inside bank. Should be installed by agency having jurisdiction over ROW of the road.</p>	<p>24' X 18" white legend on a green background.</p> <p>*On DEC lands within the Adirondack Park, these signs may be a yellow legend on a brown background</p>
	<p>NO SNOWMOBILING Identifies areas where snowmobiling is not allowed.</p>	<p>8" x 12" or 6" x 6" Square fluorescent red background with black lettering and symbol.</p>
	<p>NO ATV's or TRAIL BIKES Identifies areas where ATV's or TRAIL BIKES are not allowed.</p>	<p>12"X 12" or 6" x 6" Square fluorescent red background with black lettering and symbol.</p>
	<p>OTHER REGULATORY SIGNS Other regulatory signs may be needed as necessary</p>	<p>12"x 12" rectangle. White background, black lettering.</p>
	<p>DO NOT ENTER Instructs riders not to enter a particular road or trail. Typically used in conjunction with one way trails.</p>	<p>12"x 12" rectangle one way trails- White background, red circle with black lettering.</p>
	<p>SPEED LIMIT Reminds riders not to exceed the speed limit indicated.</p>	<p>Sign is a 8"x 12" rectangle with white background and black lettering.</p>

CAUTIONARY SIGNS TO SUPPLEMENT CORE SIGNS

All signs must use reflective symbols and lettering.

Typical Design	Name and Use	Usual Characteristics
	<p>BRIDGE AHEAD Informs riders that they are approaching a bridge which is narrower than the trail width and/or has a different track tread.</p>	<p>12" X 12" Diamond, yellow background, black graphic and black lettering.</p>
	<p>JUNCTION AHEAD Informs riders they are approaching a trail intersection.</p>	<p>12" X 12" Diamond, yellow background, black lettering.</p>
	<p>SNOWMOBILE CROSSING AHEAD Informs motorist of where snowmobiles may be crossing the road.</p>	<p>Diamond, yellow background, black lettering (reflective). Size varies as determined by DOT personnel. Placed by DOT personnel.</p>
	<p>CULVERT AHEAD Informs the rider that they are approaching a culvert which may be narrower than the trail and they should proceed with caution.</p>	<p>12" x 12" Diamond, yellow background, black graphic and black lettering.</p>
	<p>CHEVRON SIGN Provides additional guidance on a continuous sharp curve or change in direction.</p>	<p>Minimum 6" x 8" Rectangle, yellow background, black graphic.</p>
	<p>BLIND HILL Informs the rider that they are approaching a hill that obscures them from seeing snowmobiles approaching from the opposite direction.</p>	<p>12" x 12" Diamond, yellow background, black lettering and graphic.</p>

TRAIL MARKER, INFORMATIONAL AND IDENTIFICATION SIGNS

Typical Design	Name and Use	Usual Characteristics
	CORRIDOR TRAIL SIGN Used to identify the corridor trail by number.	6"X 6" Yellow reflective numbers and border with brown background.
	SECONDARY TRAIL SIGN Used to identify the secondary trail by number.	6"X 6" Yellow numbers and border with brown background.
	FOOD, LODGING, GAS, PHONE Informs the rider the services are near.	6"X 6" White letters on brown background.
	STATE FUNDED TRAIL A reminder to snowmobilers how the trail system is funded.	6"X 8" Yellow numbers and border with brown background.
	JUNCTION IDENTIFICATION Identifies junctions on state funded trails.	5" X 7" Yellow lettering on brown background. County abbreviation and assigned junction number.
	NYSSA CLUB TRAIL SIGN Identifies club trails that we open to the public but not funded by registration dollars.	6"X 6" Blue background with white lettering and number.

TEMPORARY, LIMITED DURATION SIGNS

Typical Design	Name and Use	Usual Characteristics
	LOGGING AHEAD Informs riders that logging operations taking place and trucks may be on or crossing the trail.	12"X 12" Diamond, yellow background, black lettering (reflective).
	TRAIL CLOSED Used to identify the trail is closed.	12"X 12" Diamond, yellow background, black lettering (reflective).

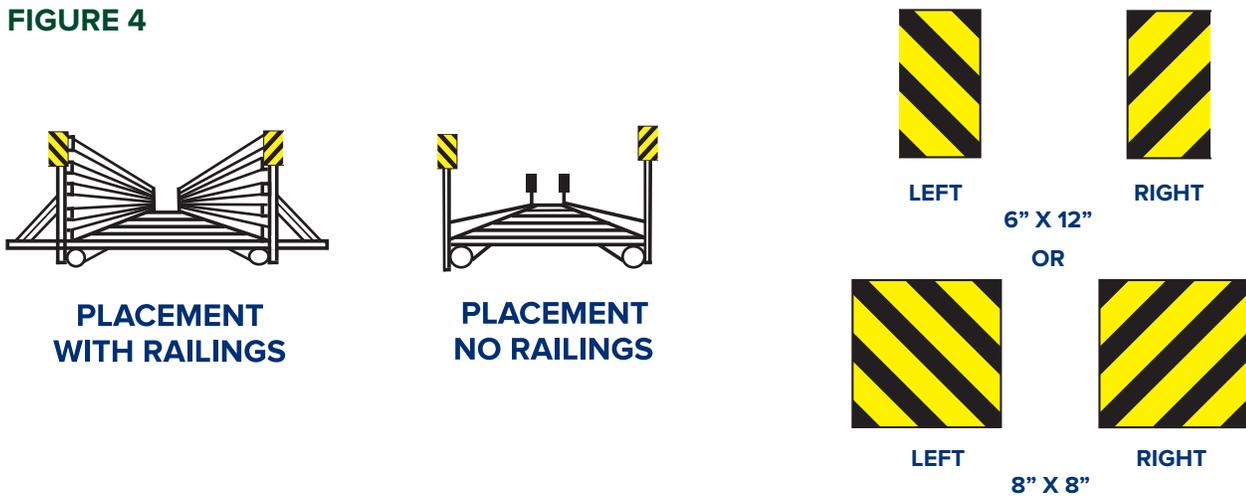
BRIDGE, CULVERT AND HAZARD MARKERS

Snowmobile bridge and culvert crossings should be signed with the standardized reflective black and **yellow hazard markers**. Used in pairs, the hazard markers delineate an opening through which the trail user must pass. The markers should be placed on each end rail of the bridge or on separate posts if the bridge is not railed. In rare circumstances, a single hazard marker may

be used to mark a low profile hazard close to the trail surface such as a fire hydrant.

A cautionary **Bridge Ahead, Culvert Ahead** or **Slow** sign should be placed at a reasonable distance ahead of the bridge or culvert, depending on terrain, to alert the trail user of the impending crossing. In the situation where the bridge width is less than the groomed trail surface, a bridge ahead sign should be used.

FIGURE 4

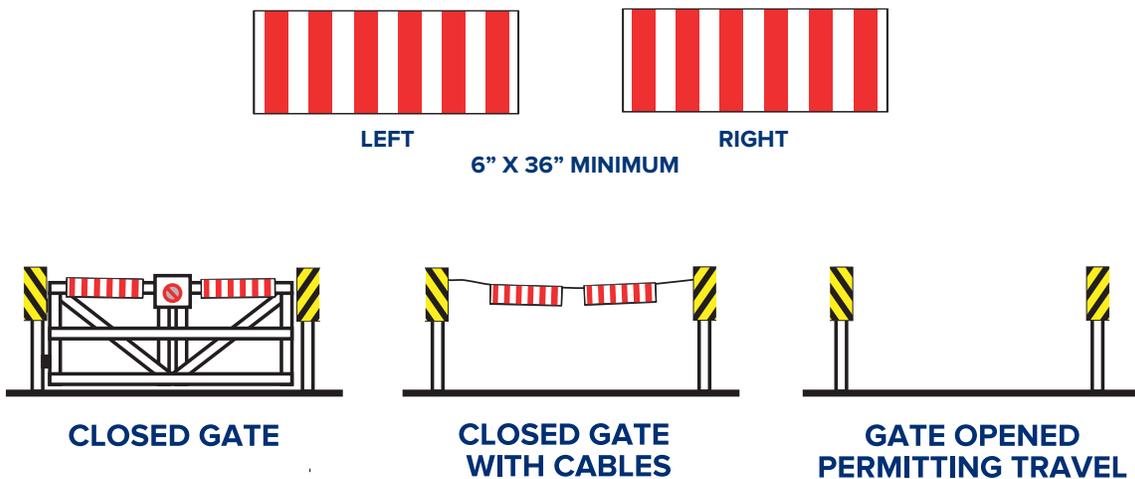


BARRIER AND GATE

When entry to a particular area or trail is to be restricted by a barrier or gate, the cable, chain, or bar should be marked with reflectorized panels of red vertical stripes on a white background. The panel should span as much of the space between

posts as possible. A regulatory sign may be added in the space between the two panels for added emphasis. The supporting gate posts may be signed in a similar fashion.

FIGURE 5



Tables and Diagrams

EXAMPLES OF SIGN USE

The following illustrations are intended to give signing crews an example of a few of the basic situations they will encounter on most trails. Not all of the signs contained in the previous pages are shown in these illustrated examples.

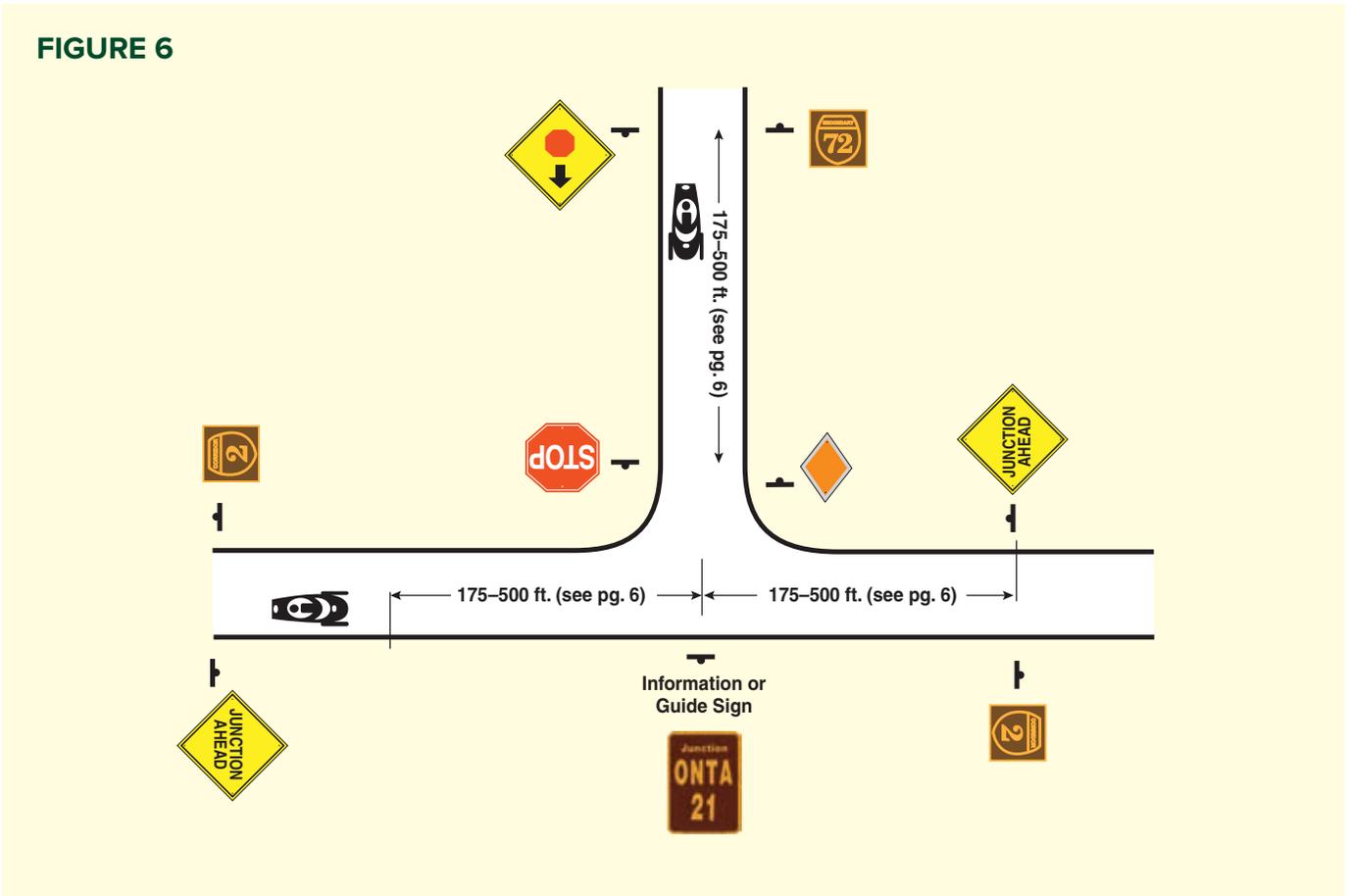
These illustrations serve as simplistic guidelines for use on snowmobile trails. It is understood that unusual situations may be encountered relating to trail conditions, topography, man made objects, or other circumstances that will require some modifications to typical sign placement. The most suitable placement of each sign must be determined at the site where all variables are visible. It would be prudent to document any cases where sign placement is outside the range indicated in this snowmobile signing handbook and prepare written justification for your files.

1. Trail Junctions (Fig. 6, pg. 13)
2. Junction Identification Sign Placement... (Fig. 7, pg. 14)
3. Road Crossing (Fig 8, pg 14)
4. Bridge (Fig 9-10, pg 15)
5. Culverts (Figs 11, pgs. 16)
6. Change in Direction (Fig. 12, pg. 17)
7. Sharp Curves..... (Fig. 20, pg. 21)
8. Divided Trail (Fig. 15, pg. 19)
9. Field Gates and Woods Openings ... (Fig. 16-17, pg. 19)
10. Drainage Ditches..... (Fig. 18, pg. 20)



SIGNING A JUNCTION

FIGURE 6



At each trail junction, one trail (at a “T” junction) should be signed to stop; at 4-way trail junctions, at least one pair of opposing trails should be signed to stop.

1. The trail (s) that must stop, need to have a **Stop** sign installed as close to the stopping point as possible, but not more than 15 ft. before that point.
2. Each trail approaching an intersection where there is not a stop sign installed must have a **Junction Ahead** sign.
3. Each junction needs a guidepost located near the point where the approaching trails intersect but off the groomed surface of the trail:

- The uppermost part of the guidepost needs to display an **junction identification number**.
 - All junction identifications need to begin with the 4-letter county abbreviation followed by a number.
 - The guidepost may also include trail number information, directional arrows, and destinations with accurate mileages.
4. Each trail leading away from the intersection **must** have a trail number sign that correctly identifies that trail located at a point that is visible from the intersection and far enough down the trail to clearly establish the trail being identified

TYPICAL JUNCTION (STATE FUNDED TRAIL)

A Guidepost showing corridor ID sign and reflector. An orange reflector or orange reflective tape should also be installed above the junction identification sign.

The main feature of any guidepost is to show the identification of that intersection.

Parks has established the following guidelines for all junction identification signs:

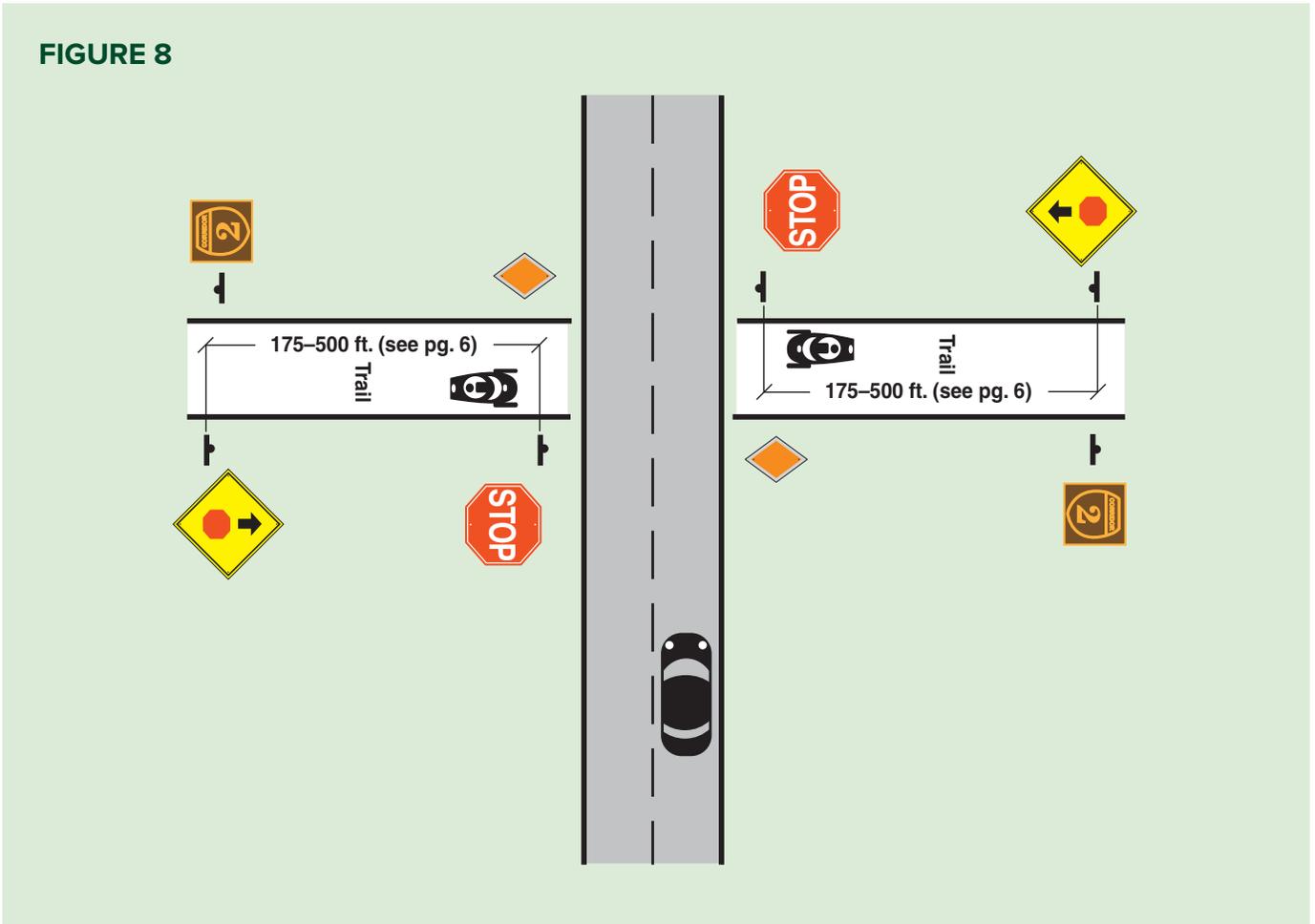
- 5 inches wide by 7 inches high, yellow text on a brown background; identifications begin with the 4-letter abbreviation followed by a number.



FIGURE 7

SIGNING A ROAD CROSSING

FIGURE 8

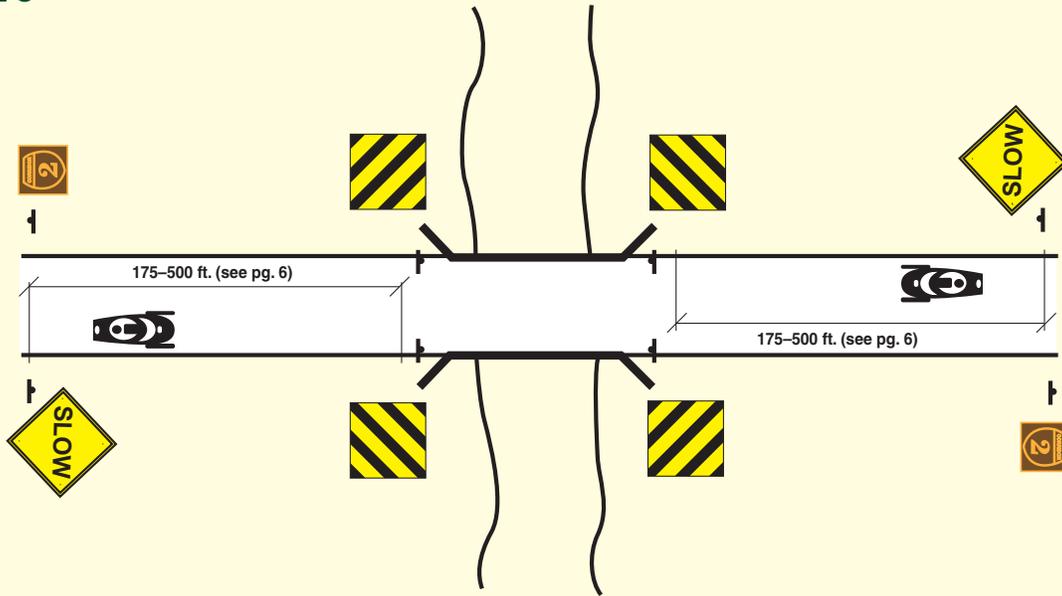


SIGNING A BRIDGE

A **Bridge Ahead** cautionary sign on each approach to the bridge should be installed at a distance from the bridge that allows the snowmobiler to react to the presence of the bridge and slow

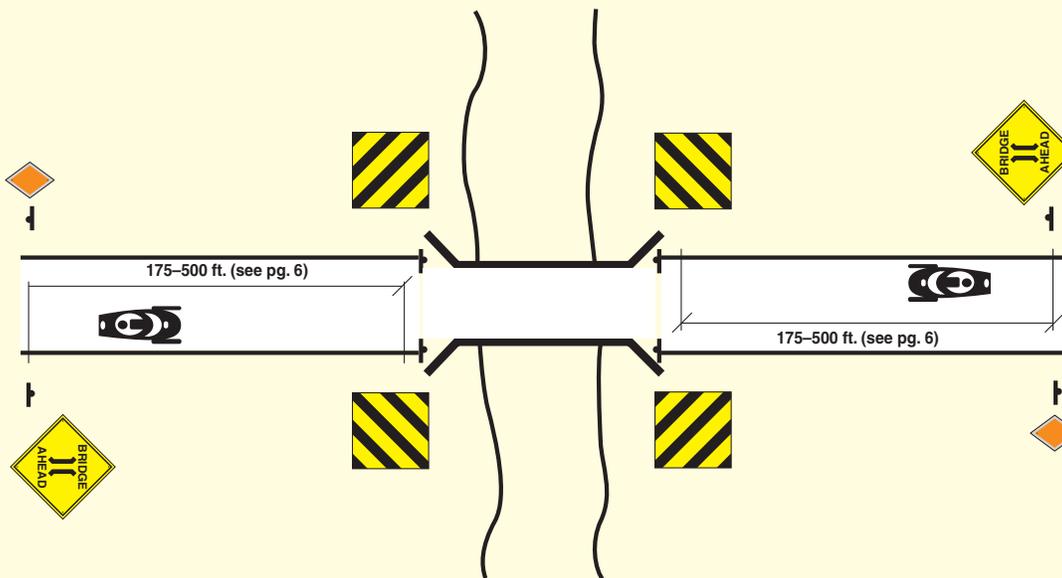
to a speed acceptable to the width and surface of the bridge. A bridge that does not narrow the trail may be marked with a **Slow** sign in lieu of a **Bridge Ahead** sign.

FIGURE 9



Hazard markers should be installed to mark each corner of the bridge.

FIGURE 10 - NARROW BRIDGE



SIGNING CULVERTS

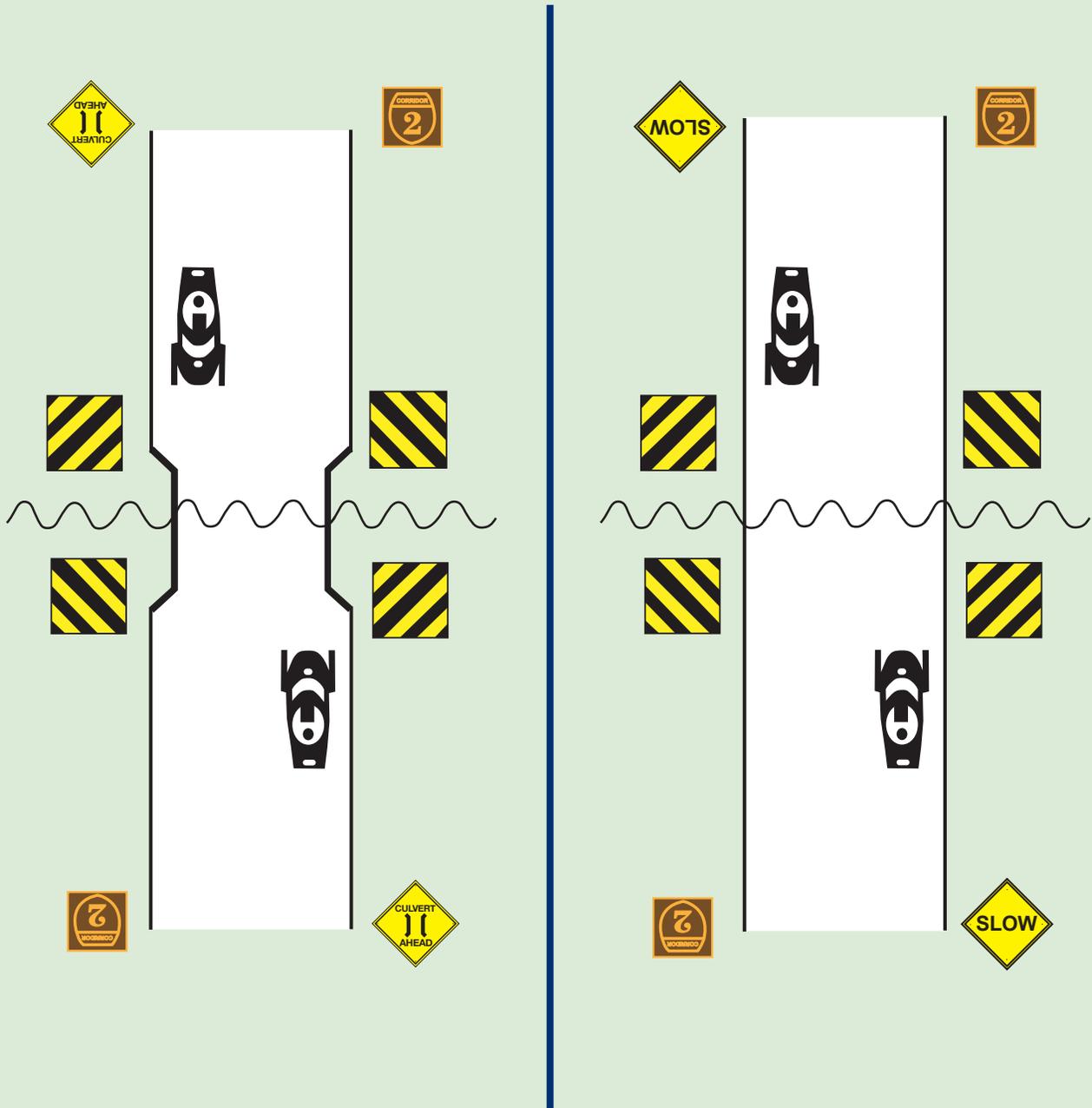
A culvert is defined as a tube of some construction over which a trail crosses, not including the backfill area at each end of the tube.

A culvert should be marked with a **Culvert Ahead** or **Slow** sign on each approach to the culvert

and **Object Markers** on each side of the culvert. (See Fig. 11)

Any culvert that narrows the groomed trail surface needs to be marked. Culverts that do not narrow the trail do not necessarily need to be marked.

FIGURE 11

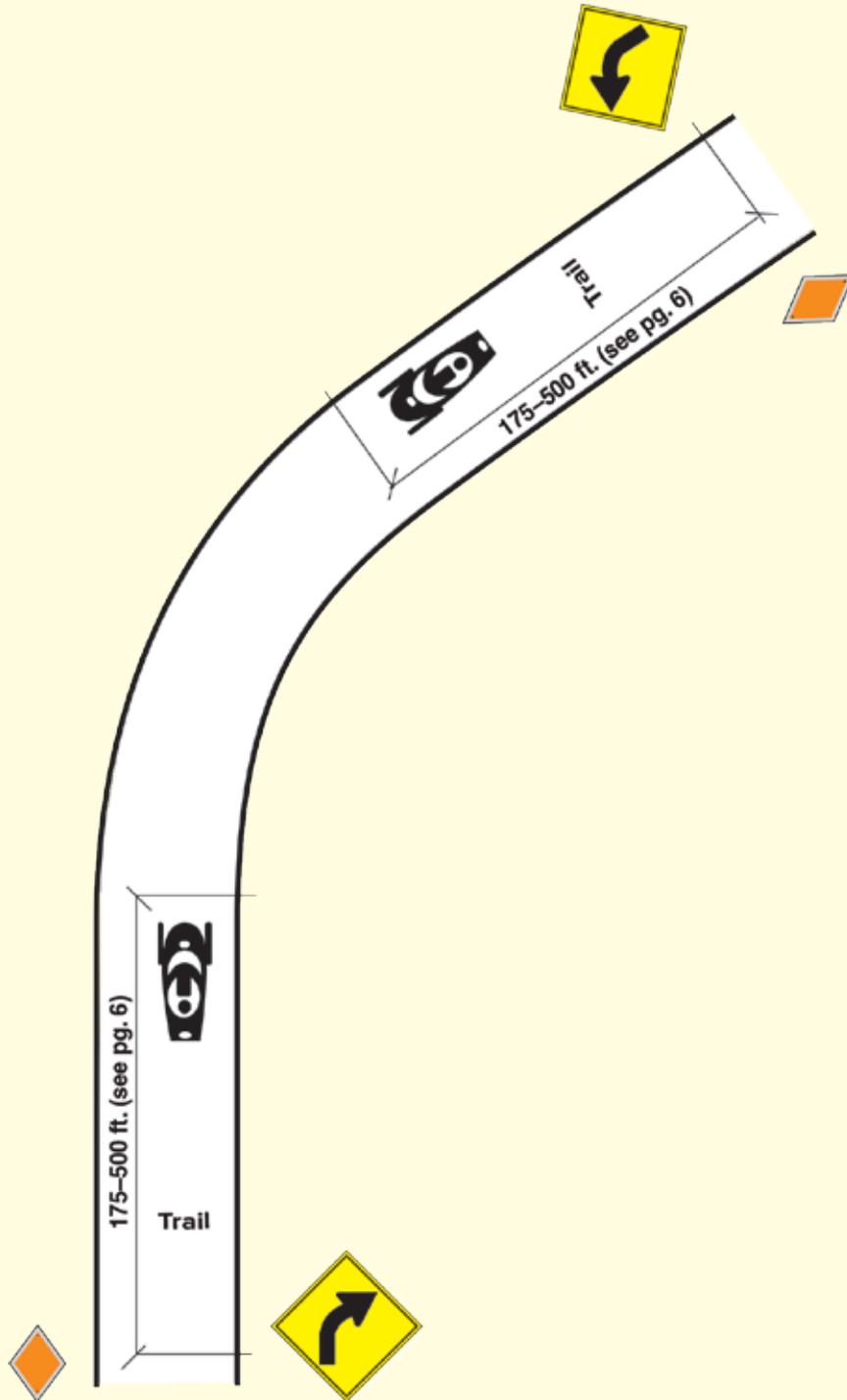


SIGNING A CHANGE IN DIRECTION

A **Curve Ahead** sign informs the rider that the trail ahead makes a change in direction; slow down to ensure you're prepared to safely negotiate the

turn. Use the guidance from table 1 (pg. 6) to help determine the distance from the sign to where the turn begins. (See Fig. 12)

FIGURE 12



SIGNING A SHARP CURVE

Directional arrow signs inform riders that the trail ahead makes a distinct change in direction; slow down to ensure you're prepared to safely negotiate the turn. Use the guidance from table 1

(pg. 6) to help determine the distance from the directional arrow to the slow sign. For a continuous sharp curve, chevrons may be used for additional guidance.

FIGURE 13

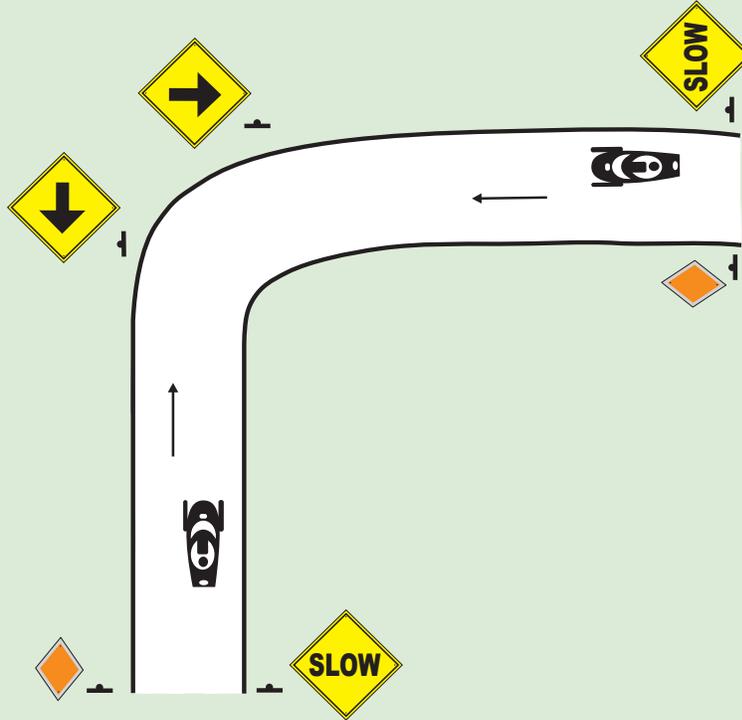
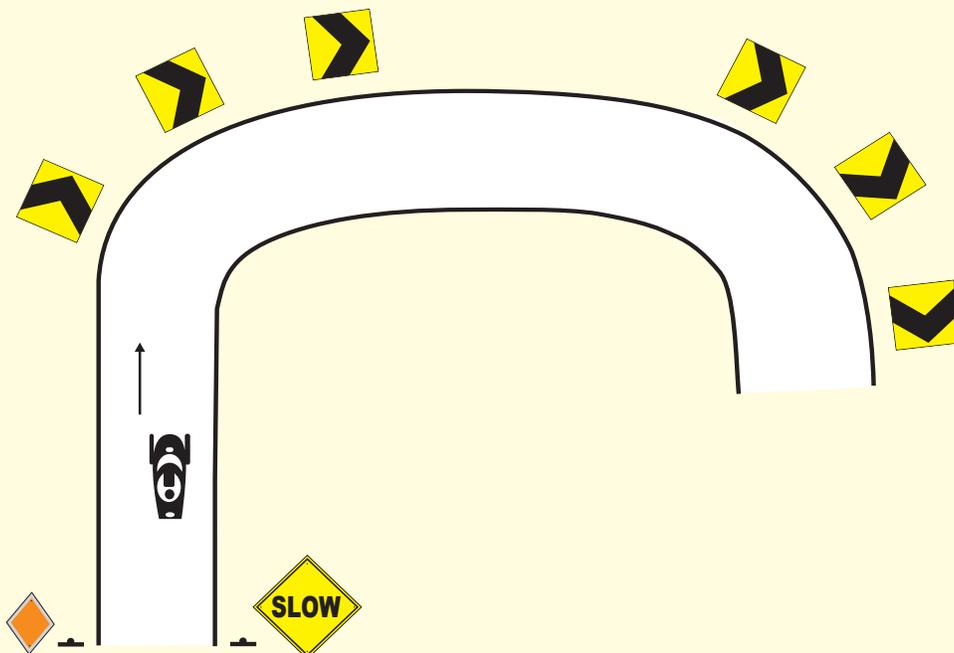


FIGURE 14

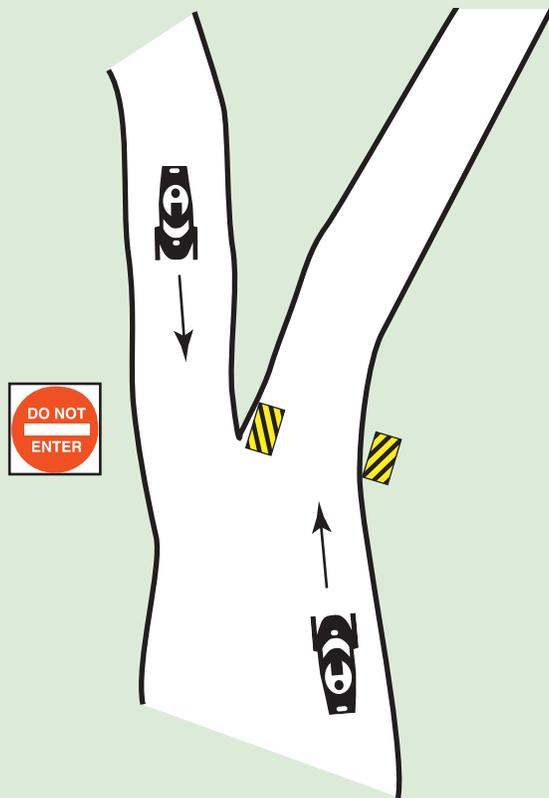


SIGNING A DIVIDED TRAIL

It is not uncommon to find a divided trail in open fields where there may be a blind hill or in the woods where a stand of trees may have necessitated split-

ting the trail to allow enough room for traffic to move in either direction. Divided trails should be signed as depicted in the diagram below.

FIGURE 15



SIGNING FIELD GATES

The preferred method is that field gates must be marked with an **object marker** on each side of the opening and in each direction. (See Fig. 16)

SIGNING WOODS OPENINGS

The preferred method is that openings into woods from a field trail must be signed with an **object marker** on each side of the opening. (See Fig. 17)

FIGURE 16

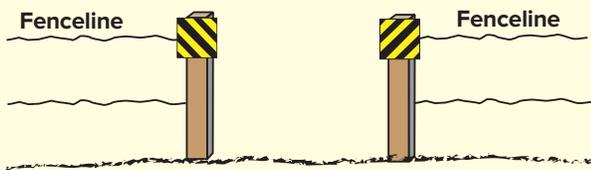
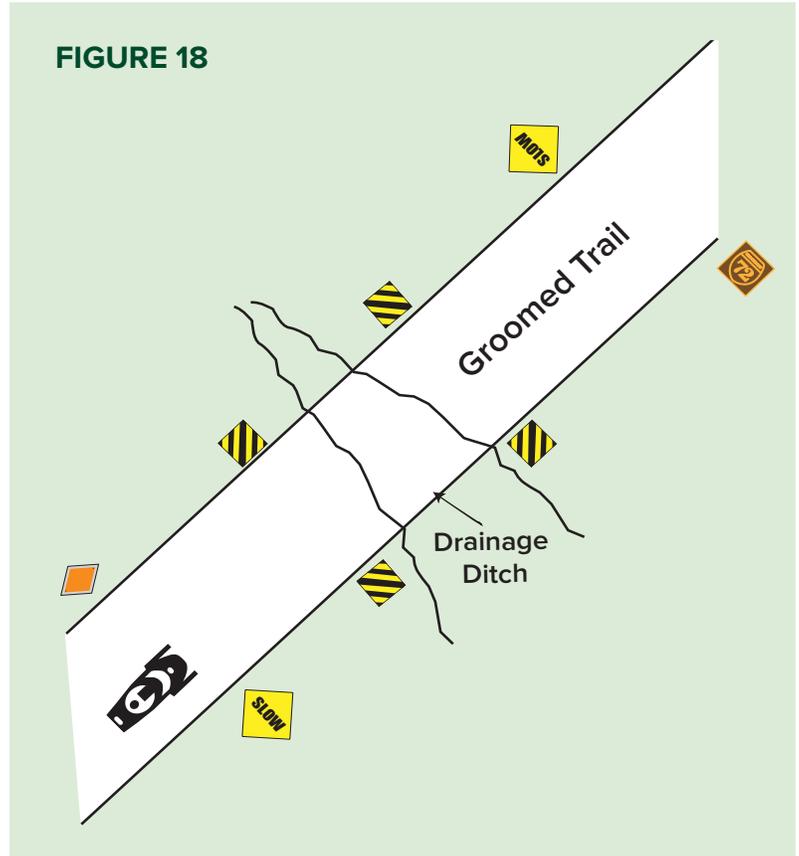


FIGURE 17



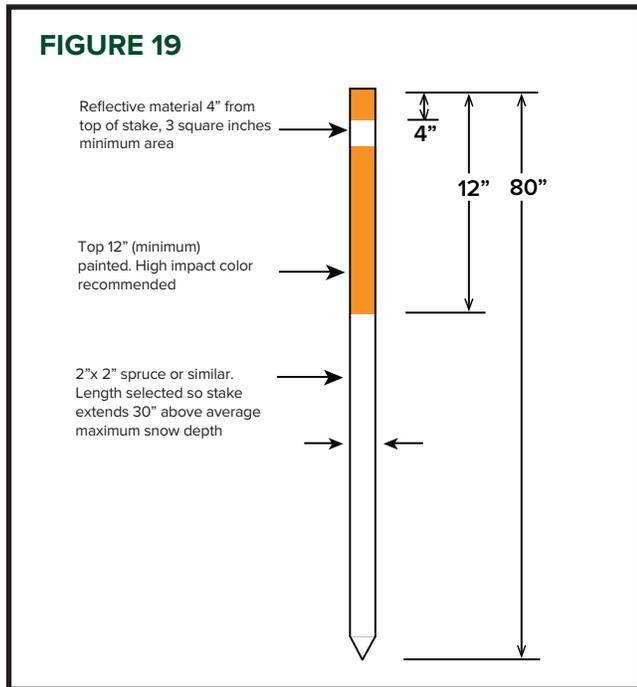
DRAINAGE DITCHES

Trails that cross fields many times must also cross a drainage ditch that separates sections of a large farm field. In some cases, grooming fills the ditch with snow, eliminating it from concern. But even in those cases, a period of warm weather may cause some of the snow-fill to compact and even melt or the presence of running water may occur, allowing the ditch to reappear. Snowmobilers need to be aware of the presence of a drainage ditch on the trail. The preferred method for signing this condition is to install a Slow sign at a distance before the ditch to allow the snowmobiler opportunity to react to the presence of the ditch with an **Object Marker** on each side of the trail located in the vicinity of the ditch. This should be done in both directions of the trail.



Staking

In forested areas, following the trail may be a fairly obvious and straightforward task. However, when trails cross fields, meadows or other cleared areas, trail routing may not be at all obvious. Relying on the groomed track for trail routing is not adequate since even a well-established trail can be quickly obscured by a heavy snow fall, heavy snowmobile use and other factors.



Both snowmobilers and groomer operators need continuous reference points to navigate the trail confidently. A simple method of identifying the trail corridor in open areas is to use stakes or poles that are mounted into the ground or snow adjacent to the trail.

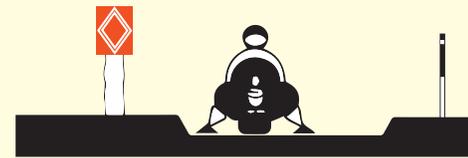
STAKES/POLES

In areas where snow depths are low to moderate, a typical stake is a 2" x 2" (minimum) piece of inexpensive lumber sharpened at one end to allow for mounting in the ground. A minimum of 12" at the top of the stake is painted a color that offers high contrast to the background, e.g. blaze or fluorescent orange. This will make the stake more visible during the flat light conditions that can occur during daylight hours.

At least 3 square inches of reflective material should be attached on both sides of the stake at a point 4" down from the top of the stake. This will make the stake more visible at night from both directions of travel. The length of the stake is selected so

that when it is driven into place, a minimum of 30" of stake remains visible above the top of the snow with the reflective material being as close to eye level as possible. Stake lengths in these snow conditions are typically 4', 5' or 6'.

FIGURE 20



A) Single Stake used to augment an existing fixed objects such as a fence post. Note the use of a blazer to provide a second reference point.



B) Standard two stake configuration leaves no doubt as to the intended trail routing.

Figure 19 shows a recommended configuration of an inexpensive wooden stake. Stakes are driven into the snow or ground within the sign location window previously defined in figure 3 (pg. 5). A commercial post driver is a simple and inexpensive tool that makes this task much easier.

In areas where snow depths are moderate to heavy (6'–12'+) it may not be practical to use stakes that are driven into the ground. Large seasonal snow depths may dictate the use of plastic fence posts, PVC tubing or similar commercially manufactured synthetic products that are mounted in the snowpack adjacent to the trail. The characteristics of contrasting color and reflectorization mentioned in the previous paragraphs apply. The major differences are the typical lengths of the material, 6'–12', and the necessity for inspection and occasional readjustment to reflect changes in snow depth.

DISTANCE BETWEEN STAKE PAIRS

It is important in open fields that the next pair should be easily visible at a distance immediately after passing through a stake pair. Double staking is the only acceptable staking method for trail delineation.



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