

**APPROACH MANUAL
FOR LANDOWNERS AND
DEVELOPERS**

DECEMBER 2013



INTRODUCTION

This manual provides guidance for landowners and developers when proposing new approaches or proposing modifications to existing approaches on all highways which are under the jurisdiction of the Department. It is not intended to be relied on as the definitive authority on the application process. Applicants using this manual should also familiarize themselves with and abide by all laws, rules and regulations pertaining to the construction, maintenance and use of approaches. To the extent those laws, rules and regulations conflict with this manual or any portion hereof, the laws, rules and regulations supersede this manual.

The frequency, proper placement and construction of points of access to highways are critical to the safety and capacity of those highways. The efficiency and safety of a modern highway are directly related to the amount and character of roadside interference, most of which is caused by vehicles moving to and from businesses, residences, farms and other developments along the highway. Uncontrolled approaches to a highway may nullify carefully planned safety and maintenance features, resulting in increased crashes and early obsolescence of the highway. It is therefore necessary to control highway access.

Frontage property owners have some right of reasonable access to a public highway and highway users have a right of safety and freedom of movement. The Department must consider the needs and rights of both the property owner and the highway user. When the needs of the individual property owner and the public highway user conflict, the needs of the highway user control.

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MONTANA DEPARTMENT OF TRANSPORTATION CONTACTS

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2701 Prospect Avenue
Helena, Montana 59620

<u>MISSOULA DISTRICT OFFICE</u> 2100 W Broadway PO Box 7039 Missoula, MT 59807-7039 Phone: (406) 523-5800 or (888) 231-5819 Fax: (406) 523-5801	<u>KALISPELL AREA OFFICE</u> 85 5th Avenue East North PO Box 7308 Kalispell, MT 59903-0308 Phone: (406) 751-2000	
<u>BUTTE DISTRICT OFFICE</u> 3751 Wynne Avenue PO Box 3068 Butte, MT 59702-3068 (406) 494-9600 Fax:(406) 494-4396	<u>BOZEMAN AREA OFFICE</u> 907 North Rouse Avenue PO Box 1110 Bozeman, MT 58771-1110 Phone: (406) 556-4700	
<u>GREAT FALLS DISTRICT OFFICE</u> 200 Smelter Avenue NE PO Box 1359 Great Falls, MT 59403-1359 Phone: (406) 454-5880 or (888) 730-0898 Fax:(406) 453-8737	<u>HAVRE AREA OFFICE</u> 1649 US Highway 2 NW Havre, MT 59501-3455 Phone: (406) 262-5500 Fax: (406) 265-9707	
<u>GLENDIVE DISTRICT OFFICE</u> 503 North River Avenue PO Box 890 Glendive, MT 59330-0890 Phone: (406) 345-8200 or 888-689-5296 Fax:(406) 345-8250	<u>MILES CITY AREA OFFICE</u> 217 North 4th Street PO Box 460 Miles City, MT 59301-0460 Phone: (406) 233-3600 or 888-229-1093 Fax: (406) 232-4273	<u>WOLF POINT AREA OFFICE</u> 200 East Highway 25 Wolf Point, MT 59201-9802 Phone: (406) 653-6700 Fax: (406) 653-6739
<u>BILLINGS DISTRICT OFFICE</u> 424 Morey Street PO Box 20437 Billings, MT 59104-0437 (406) 657-0210 Fax:(406) 256-6487	<u>LEWISTOWN AREA OFFICE</u> 1620 Airport Road PO Box 491 Lewistown, MT 59457-0491 Phone: (406) 538-1300	

INSTRUCTIONS FOR OBTAINING AN APPROACH PERMIT

1. An application for an approach permit to construct or reconstruct an approach shall be made to the appropriate District Office. The form can be found on the Department's website:

http://www.mdt.mt.gov/other/maintenance/external/forms/MDT-MAI-006-driveway_approach_permit.pdf

ALL NEW OR MODIFIED APPROACHES REQUIRE EITHER AN APPROACH PERMIT OR A RIGHT-OF-WAY AGREEMENT. CHANGES IN THE USE OF PROPERTY ABUTTING A STATE HIGHWAY OR CHANGE IN USE OF AN EXISTING APPROACH REQUIRE A NEW APPROACH PERMIT. THE LANDOWNER IS RESPONSIBLE FOR OBTAINING A NEW PERMIT FROM THE DEPARTMENT WHEN THERE IS A CHANGE IN USE OF THE PROPERTY OR APPROACH.

2. The proper applicant for an approach permit is the owner of the land. Another person other than the owner of the land can fill out an approach application; however, the owner of the property is required to sign the application before it will be reviewed and approved by the Department.
3. The District Office shall determine whether an approach permit can be granted or if the Systems Impact Process is necessary. Upon receipt of the application, a representative from the Department shall arrange for a meeting with the applicant, at which time details of the proposed work shall be discussed.

In the event that the approach: (1) is on an existing or proposed access control highway, (2) will generate significant traffic volume, and/or (3) has significant environmental impacts, the approach permit approval is required to follow the Systems Impact Process. This is an internal Department process for the review and

assessment of development projects that will significantly and permanently impact the state transportation system.

The link to the Department's website describing the Systems Impact Process is: http://www.mdt.mt.gov/publications/docs/brochures/siap_guide.pdf

4. A site plan drawing with dimensions shall be provided to the Department to show location of the work, preferably tied to the nearest highway reference post or station marker, and the location of buildings (both proposed and existing) and appurtenances.

A typical site plan includes the present or intended use of the buildings and appurtenances, details of internal traffic circulation, parking and traffic control devices, including the distance from the nearest reference or station marker, highway right-of-way, property lines, drainage features, approach location, other approaches in the vicinity of the development and other pertinent information. In the case of permit applications for individual residential or farm field approaches, the site plan may consist of a simplified drawing and may be supplemented by photographs.

5. The applicant shall fill out the Environmental Checklist Form and submit it with the approach application. The form can be found on the Department's website with the approach application. The applicant is not authorized to proceed with construction until the checklist has been reviewed and approved, as necessary, and any requested conditions of approval have been incorporated. The applicant must obtain all necessary permits or authorizations from other entities with jurisdiction prior to beginning the proposed construction and is responsible for ensuring compliance with environmental laws and regulations.
6. Construction on the highway right-of-way shall not commence until an approved permit or letter of authorization has been issued. The permittee shall notify the District Office when construction is proposed to begin. The Department may set a time limit for constructing the requested approach. If the permittee fails to construct

the approach within the specified time limit, the permittee shall be required to obtain a time extension or a new approach permit.

7. Unless an approach is modified during highway reconstruction, the construction of all new or modified approaches under an approach permit is the responsibility of the permittee. Construction of all approaches shall be done in conformance with applicable regulations and as approved by the Department. The permittee is responsible for paying all costs in connection with the construction of approaches and their appurtenances on the right-of-way.

DESIGN AND GEOMETRIC CRITERIA

The Department may authorize or require changes to these criteria when the changes are necessary to preserve the normal and safe movement of traffic or to permit reasonable access. When physical factors make it impracticable to obtain reasonable access (direct or indirect access), appropriate variations to these criteria may be authorized by the Department.

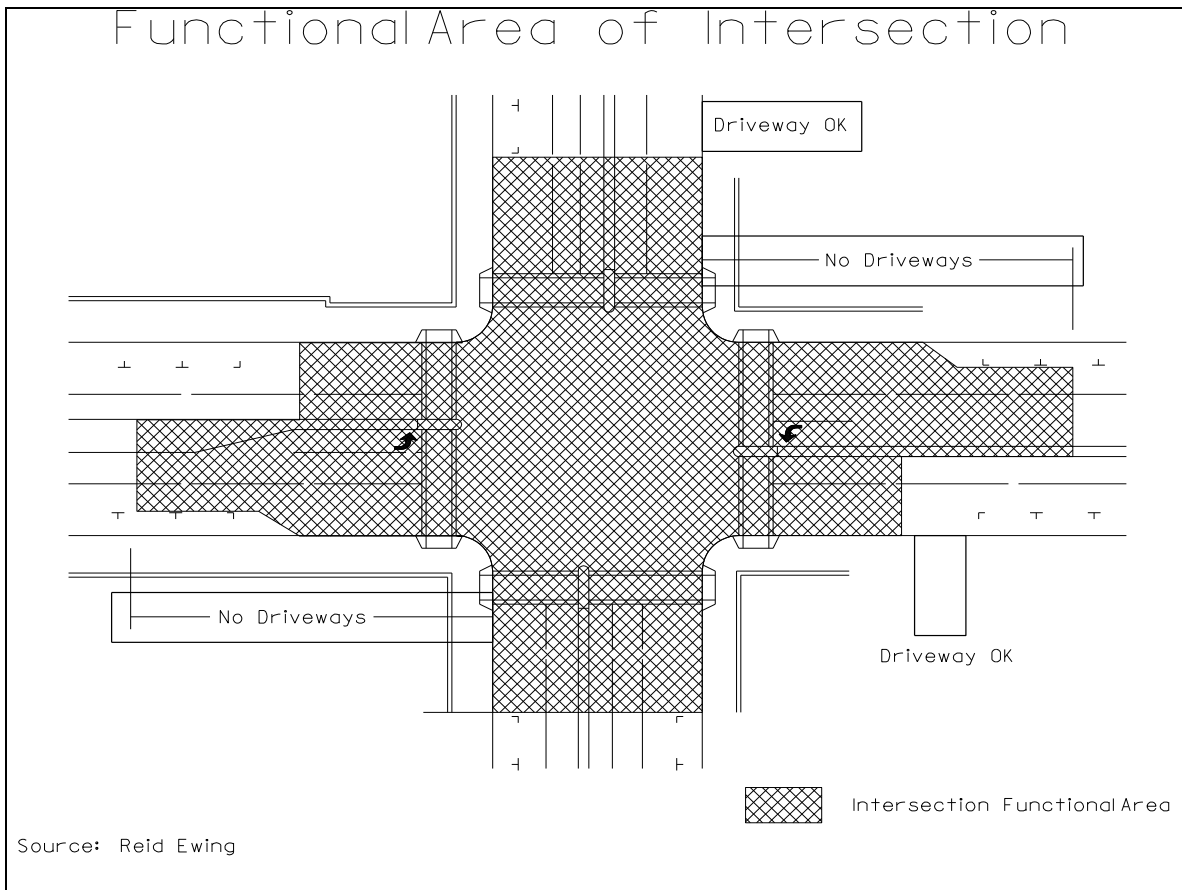
1. INTERSECTION SIGHT DISTANCE – The safe operation of driveways (and intersections) requires enough sight distance in both directions that a driver can safely enter the highway. This is referred to as intersection sight distance (ISD), which shall be maintained in all cases. ISD is based on a variety of factors, including the posted speed limit, the type of vehicle predominantly using the approach, and the amount of traffic on the highway. The final determination of necessary sight distance will be made by the Department of Transportation during the permitting process. Guidance for establishing ISD can be found in various publications, including the AASHTO Policy on Geometric Design of Highways and Streets, as well as MDT’s Road Design Manual (<http://www.mdt.mt.gov/publications/manuals.shtml#des>)
2. SETBACKS – The arrangement of real property such as buildings, gas pump islands, parked vehicles, and the temporary storage of large items can impact the functional intersection sight distance from an approach. If these items are too close to the edge of the property, they can obstruct the view of the exiting driver, and in some cases also shield the vehicle from oncoming traffic.

The preferred setback distance from the right-of-way line to the near edge of permanent fixtures such as gas pump islands, vendor stands and the like should be at least 15 feet to allow for internal circulation of traffic without encroaching into the public right-of-way and possibly restricting the sight distance from the approach. This distance may need to be greater if the business is specific to larger vehicles, such as semi-trucks, agricultural equipment or the like.

3. LOCATION – Location of approaches is an important factor to preserve the functional integrity of highways, while affording appropriate and reasonable access to abutting property. Items the Permittee should consider include:

a. Functional Area of Intersection

By illustration, the graphic below shows the “functional” area or the area that numerous driver decisions are being made as they are approaching the intersection such as intersection perception, decelerating and stopping, lane changing, etc. The extent of the functional area varies by traffic speeds, traffic volumes, and number and type of lanes. Access points shall be discouraged in this area, and may be prohibited in urbanized areas where traffic conditions preclude direct access due to frequent congestion. If access is allowed, right-in / right-out only restrictions will be considered. Direct full movement access may be allowed on a case-by-case basis, and should be supported by additional documentation such as a traffic study.



b. Location Relative to other Approaches

Consideration should be given to the effect the approach will have on nearby approaches. The number of approaches should be the minimum number to provide reasonable access to the adjacent property. Frontages of 100 feet or less shall be limited to one approach. No more than two approaches shall be granted to any single property tract or business establishment on any given highway unless written justification and approval is provided by the District Office. Additional approaches may be permitted by the appropriate authority on intersecting roadways if appropriate.

In order to limit the number of highway approaches for the safety of the travelling public, it may be necessary to consolidate approaches, including the construction of a frontage road on the properties which connects to the highway at an appropriate location(s), or through a joint use approach. In the event such a system is approved, an approach permit shall be issued to all property owners. Property being subdivided should include internal and/or frontage roads in order to reduce access points on the highway.

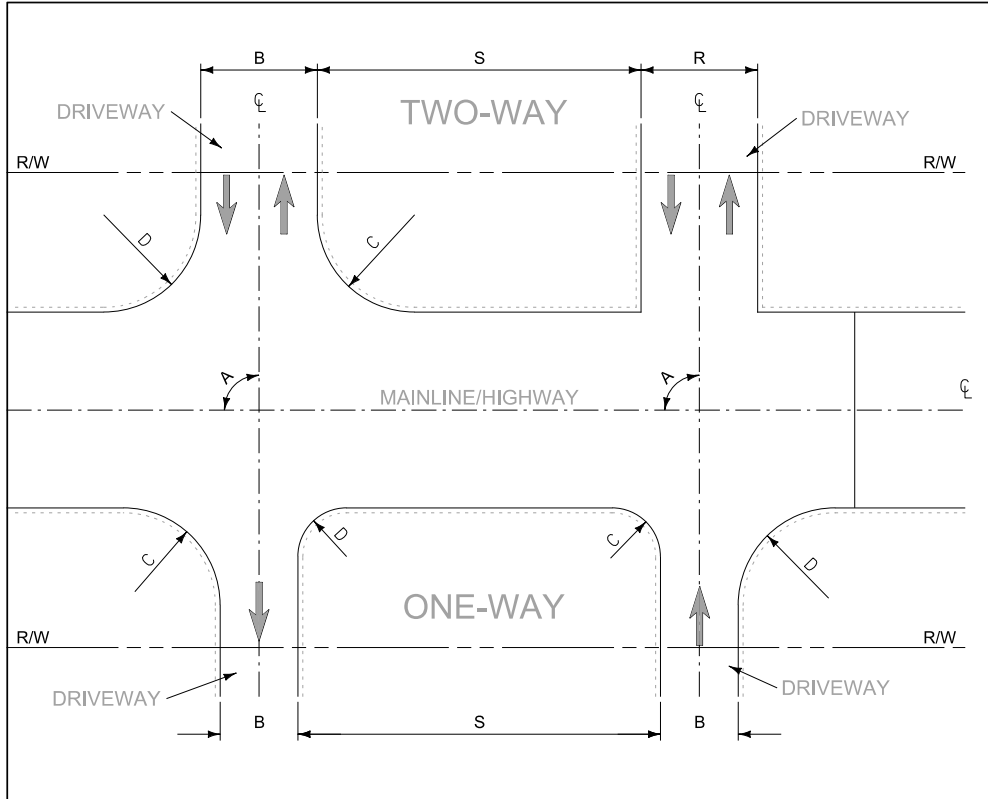
c. Property Frontage

All parts of entrances and exits, including the radii but not including right-turn lanes and tapers on highway right-of-way should be confined entirely within the permittee's property frontage.

d. Design and Layout Details and Layout Requirements

Approach layout and design by the permittee should reflect the applicable dimensions and layout provided on the following approach figures. Entering and exiting curb radii should be large enough to accommodate the largest vehicle type that will frequently use the approach, which may require exceeding the recommended dimensions. Justification should be provided by the permittee in these cases.

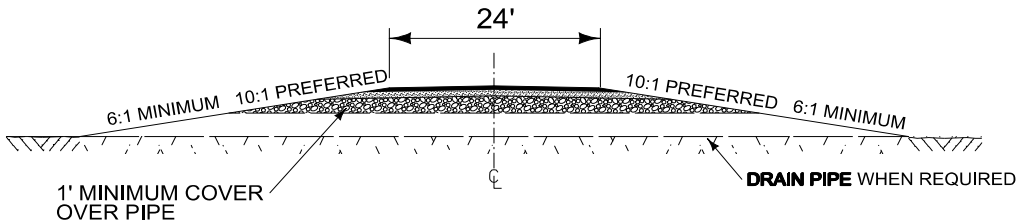
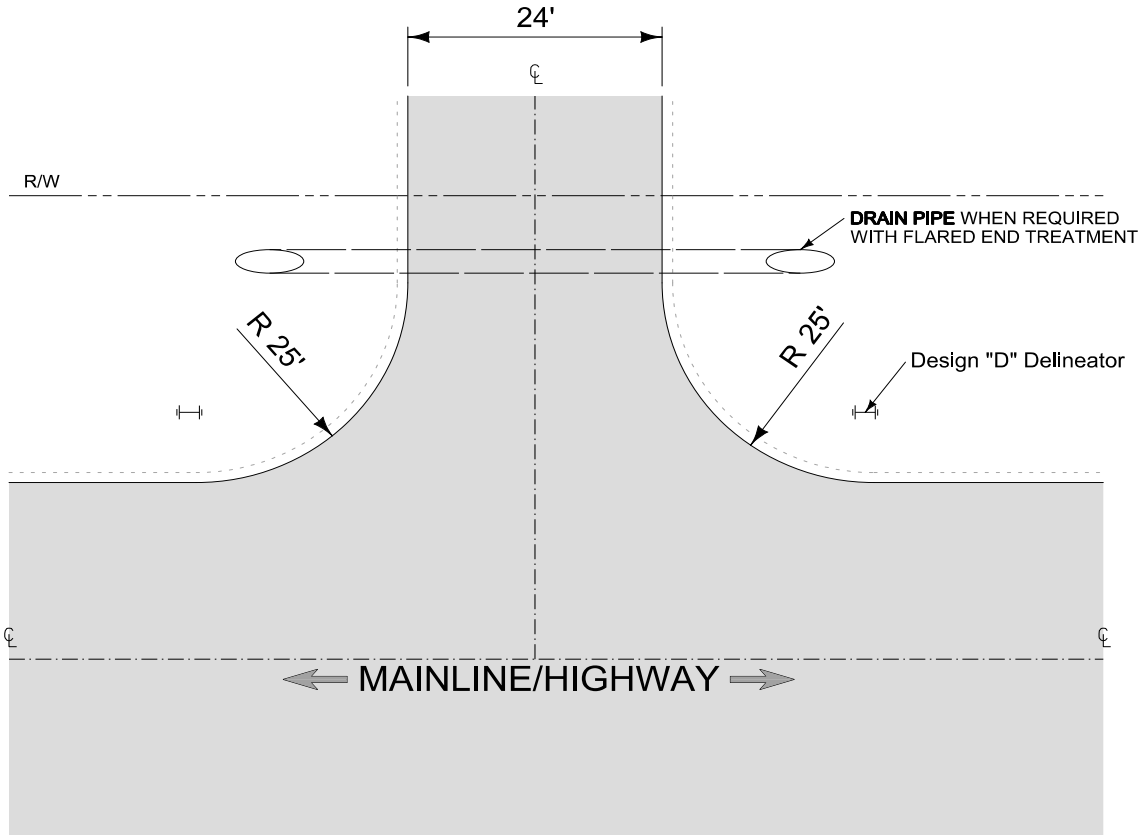
APPROACH DESIGN CRITERIA



		Distance between Approaches (S)	Intersecting Angle (A)	Approach Width (B)	Entering Radius (C)	Exiting Radius (D)	Curb Cut (R)
		Recommended (Range)	Recommended (Range)	Recommended (Range)	Recommended (Range)	Recommended (Range)	Recommended (Range)
Curbed	Two-Way	400 ft (25-500+)	90 ° (75-105°)	24 ft (24-40 ft)	20 ft (5-50 ft)	15 ft (5-50 ft)	40 ft (20-50 ft)
	One-Way In	400 ft (25-500+)	90 ° (75-105°)	16 ft (16-30 ft)	20 ft (15-50 ft)	10 ft (5-15 ft)	
	One-Way Out	400 ft (25-500+)	90 ° (75-105°)	16 ft (16-30 ft)	10 ft (5-15 ft)	20 ft (15-50 ft)	
Uncurbed	Two-Way	400 ft (25-500+)	90 ° (75-105°)	24 ft (24-40 ft)	25 ft (5-50 ft)	25 ft (5-50 ft)	N/A
	One-Way In	400 ft (25-500+)	90 ° (75-105°)	16 ft (16-30 ft)	20 ft (15-50 ft)	10 ft (5-15 ft)	
	One-Way Out	400 ft (25-500+)	90 ° (75-105°)	16 ft (16-30 ft)	10 ft (5-15 ft)	20 ft (15-50 ft)	

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TYPICAL APPROACH SECTION
AT RIGHT-OF-WAY LINE



4. MATERIALS – The permittee shall furnish all materials necessary for the construction of the entrances and appurtenances authorized by the permit. This shall include, but is not limited to, drainage pipe, curb and gutter, concrete sidewalks, topsoil or sod, etc., as required. All materials, including base and surfacing, shall be of satisfactory quality and shall be subject to inspection and approval by the Department.

5. BASE AND SURFACING – The permittee is responsible to supply, place, and properly compact the approach fill, base material and any surfacing required. All base material shall consist of sand, sand-gravel or sand and rock mixtures containing sufficient granular fines to fill the voids between the larger gravel and stone and to permit compaction. If bituminous or concrete surfacing is required, the surfacing should extend to the right-of-way line.

6. ANGLE OF INTERSECTION – Approaches should intersect at or as close to 90 degrees as practical. The intersection angle should not exceed 15 degrees from perpendicular.

7. DRAINAGE – Drainage in highway ditches shall not be altered. When drainage structures are required, size of opening, length of pipe and other design features must be approved by the Department. Minimum sizes for approach culverts are 18” diameter for private approaches and 24” diameter for public approaches; however, larger culverts may be necessary to meet drainage requirements.

See MDT’s Hydraulics Manual for additional guidance.

<http://www.mdt.mt.gov/publications/manuals.shtml#des>

All approaches shall drain away from the traveled way or have sufficient crown to cause all drainage to run to the side of the approach rather than onto the highway. Approaches shall be constructed so as not to impair drainage within the highway

right-of-way, alter the stability of the roadway subgrade or materially alter the drainage of the areas adjacent to the right-of-way. Culverts and drop inlets shall be installed where required and shall be the type and size specified by the Department. Where the border area is re-graded and/or landscaped, it shall have sufficient slope, culverts and drop inlets for adequate drainage.

8. APPROACH GRADE –The landing area shall slope downward from the intersection of the approach and shoulder on a gradient no greater than 3%. An upward sloping landing area should be avoided if possible. If not, the landing area may slope upward from the intersection on a gradient not to exceed 3%. The landing area should be a minimum of 75 feet for public approaches and 25 feet for private approaches. The grade of private approach beyond the 25-foot landing area should not exceed 6%. The grade of an approach beyond the 25-foot landing area should not exceed 10% for a farm field approach.

On curbed sections of the highway, if the maximum allowable slope shown is not great enough to bring the approach to the level of the sidewalk, a depressed sidewalk may be constructed. The connection between the original sidewalk and the depressed sidewalk shall be made through a warped section, the slope of which shall not exceed 5% longitudinal grade, with a maximum cross-slope of 2%. The maximum gradient limits beyond the outer edge of the sidewalk shall be the same as for uncurbed sections.

All new curbs and sidewalks shall be constructed in accordance with the Department's current detailed drawings and in accordance with the Americans with Disabilities Act (ADA).

For high-speed facilities greater than 45mph, approach side slopes of 10:1 are desirable and should be no steeper than 6:1. For low-speed facilities less than or equal to 45mph, approach side slopes should be 6:1 or flatter.

9. DEDICATED STREETS – A dedicated street or roadway is considered to be a public approach and shall comply with all applicable regulations. Applications by cities, counties, or other governmental bodies shall be considered evidence that the application is for an approach to a dedicated street when so stated. Developers of subdivisions or housing tracts shall obtain approval from the local unit of government having jurisdiction over the dedicated road or street. The governmental unit shall submit the approach application to the Department.
10. MAILBOX LOCATIONS – Mailbox locations must conform to the Department’s Road Design Manual, Section 18.7, Mailbox Turnout and Mailbox Detail, in the detail drawings.
11. SETBACK DISTANCE AND SUFFICIENT AREA – The permittee shall provide sufficient area on their property to provide designated parking and to maneuver vehicles so that vehicles do not have to back out of an approach onto the traveled way. Poles, signs, displays, buildings, landscaping or any other fixtures or objects which restrict the sight distance of a vehicle entering or leaving an approach shall not be installed between the right-of-way line and the setback line.
12. TRAFFIC CONTROL – During construction of the approach, the permittee shall provide for the safe and efficient passage and protection of vehicles and pedestrians and shall provide work zone traffic control devices in accordance with the MUTCD and MDT’s Work Zone Safety and Mobility policy and guidelines. The traffic control plan shall be submitted to the Department for review and approval.

The link to the Department’s website for the work zone guidelines is:

http://www.mdt.mt.gov/other/const/external/manuals_guidelines/workzone_safety_mobility.pdf.

It shall be noted, for the purpose of this manual, that private approaches do not necessarily warrant traffic control devices.

13. INSPECTION – The Department shall inspect permittee installed approaches at the time of construction.

14. MAINTENANCE – The permittee is responsible for the cost of any changes, maintenance and/or repairs to the approach and structures.

DEFINITIONS OF TERMS USED

Applicant – One who applies for an approach permit.

Approach – That section of highway right-of-way between the outside edge of shoulder and the right-of-way line which is designed as a roadway for the movement of vehicles between the highway and abutting property.

Approach Flare or Approach Radii – The angle or curve radius connecting the approach to the outside edge of the highway shoulder.

Approach Intersecting Angle – The angle between the highway centerline (in the direction of travel) and the extended approach centerline measured in a clockwise direction from the highway centerline.

Approach Transition – The area from the edge of an approach sloped to match the curb and border area elevations.

Approach Width – The width of the approach excluding flares or radii measured at right angles to the approach centerline.

Border Area – The area between the outside edge of shoulder or curb line and the right-of-way line.

Commercial Approach – Connections to and/or from an urban, industrial or high-density residential property.

Corner Clearance – The distance, measured along the outside edge of shoulder or curb line, between the ends of the intersection curb radius, edge of pavement of the intersection highway or frontage boundary line and the extension of the nearest approach edge, including flares or radii.

Department – The State of Montana Department of Transportation (MDT)

Distance Between Approaches – The distance measured along the curb line or outside edge of shoulder between the extensions of the near edges of adjacent approaches, excluding approach flares.

Farm Field Approach – This is an approach that is to be used only for access to and/or from agricultural lands (farm fields) and for no other purpose.

Flare Tangent Distance or Transition Tangent Distance – The distance, measured along the curb line or outside edge of shoulder, from the extension of the approach edge to the end of the approach flare or transition.

Frontage – The distance a separate property is contiguous to highway right-of-way measured along the curb line or outside edge of shoulder, between property lines.

Highway or Roadway – For the purposes of this manual, this is a general term that refers to a road that is maintained by the Department which also includes streets.

Joint Use Approach – An approach shared by two adjacent property owners for access to and/or from the highway.

Landing Area – The portion of a public or private approach, constructed outside the edge of the shoulder, that transitions from the approach to the highway. The landing area is used for vehicles waiting to enter the highway.

Manual on Uniform Traffic Control Devices (MUTCD) - The Federal Highway Administration (FHWA) publishes the MUTCD, which contains all national design, application, and placement, standards, guidance, options, and support provisions for traffic control devices. The purpose of the MUTCD is to provide uniformity of these devices, which include signs, signals, and pavement markings, to promote highway safety and efficiency on the nation's streets and highways.

Permittee – One who is granted an approach permit.

Private Approach – An entrance to and/or from a highway and the abutting property which may be a commercial, agricultural, industrial or residential property based on the use of the property served.

Property Clearance Line – The distance measured along the curb line or outside edge of shoulder between the frontage boundary line and the extension of the nearest edge of the approach. If flares are present they are not considered the nearest edge of the approach.

Public Approach – An entrance to and/or from a highway, street, road, alley, etc., or dedicated right-of-way and which the appropriate jurisdiction has acknowledged authority over the roadway for the approach to be considered public.

Residential Approach – Connections between the highway and a residential property.

Setback Distance or Buffer Zone – The horizontal distance measured at right angles to the highway centerline between the right-of-way and permanent fixtures.

Sight Distance – The length of highway visible to the driver; the minimum sight distance available on a highway should be sufficiently long to enable a vehicle traveling at or near the design speed to stop before reaching an object in its path.

Stopping Sight Distance – Stopping sight distance (SSD) is the sum of the distance traveled during a driver's perception/reaction or brake reaction time and the distance traveled while breaking to a stop.

ILLUSTRATION OF DEFINITIONS Applying To Curb and Gutter Sections

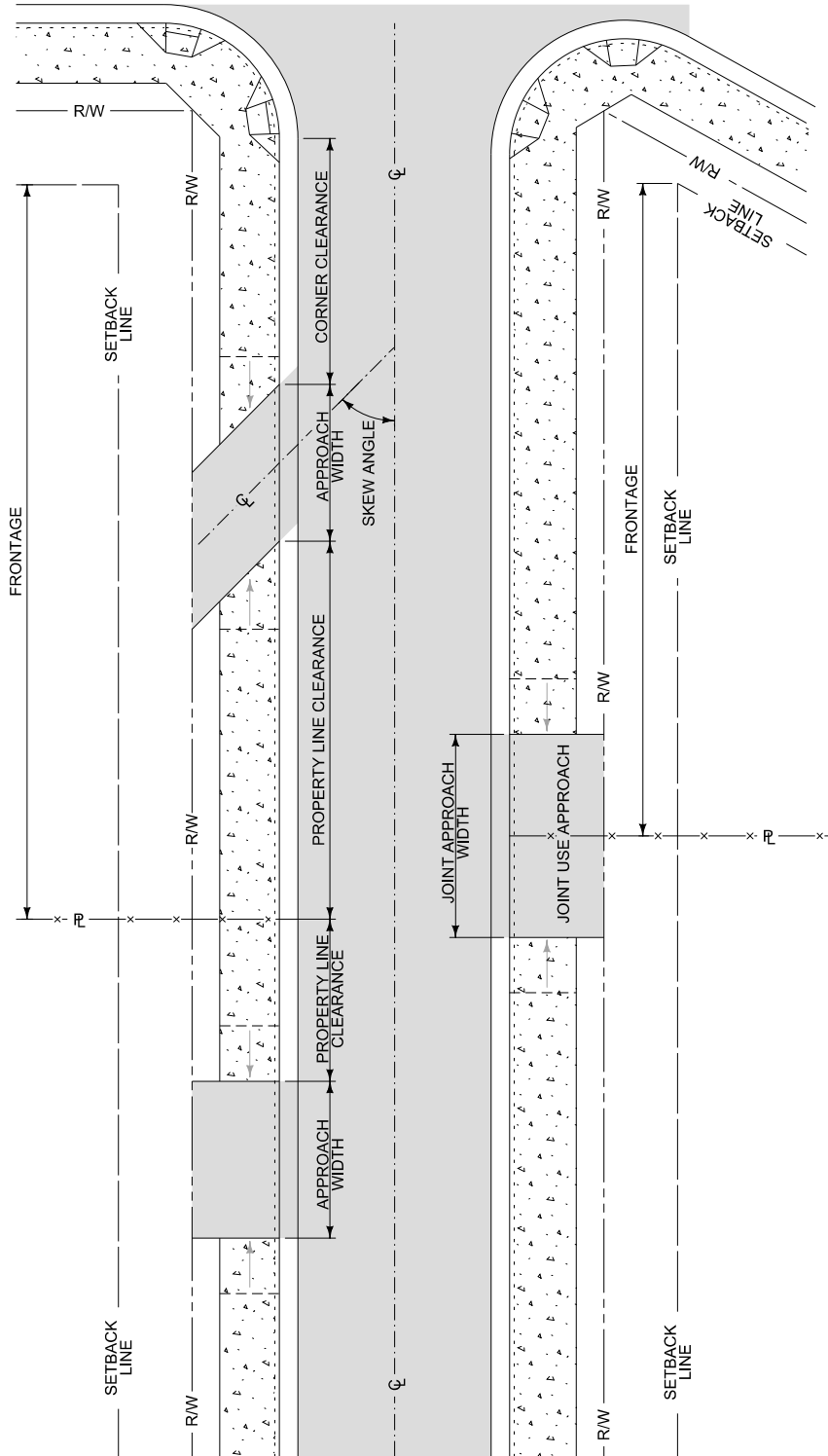


ILLUSTRATION OF DEFINITIONS

Applying To Sections without Curb and Gutter

