Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent[1]. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use HIKER/PEDESTRIAN		Trail Class 1	Trail Class 2	Trail Class 3 [2]	Trail Class 4 [2]	Trail Class 5 [2]
Design Tread Width	**Wilderness** (Single Lane)	0" – 12"	6" – 18"	12" – 24" Exception: may be 36" – 48" at steep side slopes	18" – 24" Exception: may be 36" – 48" at steep side slopes	Not applicable
	Non-Wilderness (Single Lane)	0" – 12"	6" – 18"	18" – 36"	24" – 60"	36" – 72"
	Non-Wilderness (Double Lane)	36"	36"	36" – 60"	48" – 72"	72" – 120"
	Structures (Minimum Width)	18"	18"	18"	36"	36"
Design Surface[3]	**Type**	Native, ungraded May be continuously rough	Native, limited grading May be continuously rough	Native with some onsite borrow or imported material where needed for stabilization, occasional grading Intermittently rough	Native with improved sections of borrow or imported material, routine grading Minor roughness	Likely imported material, routine grading Uniform, firm, and stable
	Protrusions	≤ 24" Likely common and continuous	≤ 6" May be common and continuous	≤ 3" May be common, not continuous	≤ 3 " Uncommon, not continuous	No protrusions
	Obstacles (Maximum Height)	24"	14"	10"	8"	No obstacles
Design Grade[3]	**Target Grade**	5% – 25%	5% – 18%	3% – 12%	2% – 10%	2% – 5%
	Short Pitch Maximum	40%	35%	25%	15%	5% FSTAG: 5% – 12%[2]
	Maximum Pitch Density	20% – 40% of trail	20% – 30% of trail	10% – 20% of trail	5% – 20% of trail	0% – 5% of trail

10/16/2008

Designed Use HIKER/PEDESTRIAN		Trail Class 1	Trail Class 2	Trail Class 3 [2]	Trail Class 4 [2]	Trail Class 5 [2]
Design Cross Slope	Target Cross Slope	Natural side slope	5% – 20%	5% – 10%	3% – 7%	2% – 3% (or crowned)
	Maximum Cross Slope	Natural side slope	25%	15%	10%	3%
Design Clearing	Height	6'	6' – 7'	7' – 8'	8' – 10'	8' – 10'
	Width	≥ 24" Some vegetation may encroach into clearing area	24" – 48" Some light vegetation may encroach into clearing area	36" – 60"	48" – 72"	60" – 72"
	Shoulder Clearance	3" – 6"	6" – 12"	12" – 18"	12" – 18"	12" – 24"
Design Turn	Radius	No minimum	2' – 3'	3' – 6'	4' – 8'	6' – 8'

[1] For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

[2] Trail Classes 3, 4, and 5, in particular, have the potential to provide accessible passage. If assessing or designing trails for accessibility, refer to the Forest Service Trail Accessibility Guidelines (FSTAG) for more specific technical provisions and tolerances (FSM 2350).

[3] The determination of trail-specific design grades, design surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent[1]. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use PACK AND SADDLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Wilderness** (Single Lane)	Typically not designed or actively managed for equestrians, although use may be accepted	12" – 18" May be up to 48" along steep side slopes 48" – 60" or greater along precipices	18" – 24" May be up to 48" along steep side slopes 48" – 60" or greater along precipices	24" May be up to 48" along steep side slopes 48" – 60" or greater along precipices	Typically not designed or actively managed for equestrians, although use may be accepted
	Non-Wilderness (Single Lane)		12" – 24" May be up to 48" along steep side slopes 48" – 60" or greater along precipices	18" – 48" 48" – 60" or greater along precipices	24" – 96" 48" – 60" or greater along precipices	
	Non-Wilderness (Double Lane)		60"	60" – 84"	84" – 120"	
	Structures (Minimum Width)		Other than -bridges: 36" Bridges without handrails: 60" Bridges with handrails: 84" clear width	Other than bridges: 36" Bridges without handrails: 60" Bridges with handrails: 84" clear width	Other than bridges: 36" Bridges without handrails: 60" Bridges with handrails: 84" clear width	
Design Surface[2]	**Type**		Native, limited grading May be frequently rough	Native with some onsite borrow or imported material where needed for stabilization, occasional grading Intermittently rough	Native, with improved sections of borrow or imported material, routine grading Minor roughness	
	Protrusions		≤ 6" May be common and continuous	≤ 3" May be common, not continuous	≤ 3" Uncommon, not continuous	
	Obstacles (Maximum Height)		12"	6"	3"	

10/16/2008

Designed Use PACK AND SADDLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Grade [2]	Target Grade		5% – 20%	3% – 12%	2% – 10%	
	Short Pitch Maximum		30%	20%	15%	
	Maximum Pitch Density		15% – 20% of trail	5% – 15% of trail	5% – 10% of trail	
Design Cross Slope	Target Cross Slope		5% – 10%	3% – 5%	0% – 5%	
	Maximum Cross Slope		10%	8%	5%	
Design Clearing	Height		8' – 10'	10'	10' – 12'	
	Width		72" Some light vegetation may encroach into clearing area	72" – 96"	96"	
	Shoulder Clearance		6" – 12" Pack clearance: 36" x 36"	12" – 18" Pack clearance: 36" x 36"	12" – 18" Pack clearance: 36" x 36"	
Design Turn	Radius		4' – 5'	5' – 8'	6' – 10'	

[1] For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

[2] The determination of trail-specific design grades, design surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent[1]. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	Single Lane	6" – 12"	12" – 24"	18" – 36"	24" – 48"	36" – 60"
	Double Lane	36" – 48"	36" – 48"	36" – 48"	48" – 84"	72" – 120"
	Structures (Minimum Width)	18"	18"	36"	48"	60"
Design Surface[2]	Type	Native, un-graded May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native, limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common	Native with some onsite borrow or imported material where needed for stabilization, occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present, but not common	Native, routine grading with improved sections of borrow or imported materials Stable with minor roughness	Likely imported material, routine grading Uniform, firm, and stable
	Protrusions	≤ 24" Likely common and continuous	≤ 6" May be common and continuous	≤ 3" May be common, not continuous	≤ 3" Uncommon, not continuous	No protrusions
	Obstacles (Maximum Height)	24"	12"	10"	8"	No obstacles
Design Grade [2]	Target Grade	5% – 20%	5% – 12%	3% – 10%	2% – 8%	2% – 5%
	Short Pitch Maximum	30% 50% on downhill-only segments	25% 35% on downhill-only segments	15%	10%	8%
	Maximum Pitch Density	20% – 30% of trail	10% – 30% of trail	10% – 20% of trail	5% – 10% of trail	0% – 5% of trail

10/16/2008

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Cross Slope	Target Cross Slope	5% – 10%	5% – 8%	3% – 8%	3% – 5%	2% – 3%
	Maximum Cross Slope	10%	10%	8%	5%	5%
Design Clearing	Height	6'	6' – 8'	8'	8' - 9'	8' - 9'
	Width	24" – 36" Some vegetation may encroach into clearing area	36" – 48" Some light vegetation may encroach into clearing area	60" – 72"	72" – 96"	72" – 96"
	Shoulder Clearance	0' – 12"	6" – 12"	6" – 12"	6" – 18"	12" – 18"
Design Turn	Radius	2' – 3'	3' – 6'	4' – 8'	8' – 10'	8' - 12'

[1] For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

[2] The determination of trail-specific design grades, design surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent[1]. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use MOTORCYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	Typically not designed or actively managed for motorcycles, although use may be accepted	8" – 24"	18" – 36"	24" – 48"	Typically not designed or actively managed for motorcycles, although use may be accepted
	Double Lane		48"	48 " – 60"	60" – 72"	
	Structures (Minimum Width)		36"	48"	48"	
Design Surface[2]	**Type**		Native, limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native with some onsite borrow or imported material where needed for stabilization, occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present	Native with imported materials for tread stabilization common, routine grading Minor roughness Sections of soft tread not common	
	Protrusions		≤ 6" May be common and continuous	≤ 3" May be common, not continuous	≤ 3" Uncommon, not continuous	
	Obstacles (Maximum Height)		18" May be common or placed for increased challenge	12" Common, left for increased challenge	3" Uncommon	
Design Grade[2]	**Target Grade**		10% – 25%	5% – 20%	3% – 10%	
	Short Pitch Maximum		40%	25%	15%	
	Maximum Pitch Density		20% – 40% of trail	15% – 30% of trail	10% – 20% of trail	

Designed Use MOTORCYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Cross Slope	Target Cross Slope		5% – 10%	5% – 8%	3% – 5%	
	Maximum Cross Slope		15%	10%	10%	
Design Clearing	Height		6' – 7'	6' - 8'	8' - 10'	
	Width (On steep side-hills, increase clearing on uphill side by 6" – 12")		36" – 48" Some light vegetation may encroach into clearing area	48" – 60"	60" - 72"	
	Shoulder Clearance		6" – 12"	12" – 18"	12" – 24"	
Design Turn	Radius		3' – 4'	4' – 6'	5' – 8'	

[1] For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

[2] The determination of trail-specific grades, surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall trail sustainability.

Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent[1]. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use ALL-TERRAIN VEHICLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	Typically not designed or actively managed for ATVs, although use may be accepted	48" – 60"	60"	60" – 72"	Typically not designed or actively managed for ATVs, although use may be accepted
	Double Lane		96"	96" – 108"	96" – 120"	
	Structures (Minimum Width)		60"	60"	60"	
Design Surface[2]	**Type**		Native, limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native with some onsite borrow or imported material where needed for stabilization, occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present	Native with imported materials for tread stabilization common, routine grading Minor roughness Sections of soft tread not common	
	Protrusions		≤ 6" May be common and continuous	≤ 3" May be common, not continuous	≤ 3" Uncommon, not continuous	
	Obstacles (Maximum Height)		12" May be common or placed for increased challenge	6" May be common, left for increased challenge	3" Uncommon	
Design Grade[2]	**Target Grade**		10% – 25%	5% – 15%	3% – 10%	
	Short Pitch Maximum		35%	25%	15%	
	Maximum Pitch Density		20% – 40% of trail	15% – 30% of trail	10% – 20% of trail	

10/16/2008

Designed Use ALL-TERRAIN VEHICLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Cross Slope	**Target Cross Slope**		5% – 10%	3% – 8%	3% – 5%	
	Maximum Cross Slope		15%	10%	8%	
Design Clearing	**Height**		6' – 7'	6' – 8'	8' – 10'	
	Width (On steep side hills, increase clearing on uphill side by 6" – 12")		60" Some light vegetation may encroach into clearing area	60" – 72"	72" - 96"	
	Shoulder Clearance		0" – 6"	6" – 12"	12" – 18"	
Design Turn	**Radius**		6' – 8'	8' – 10'	8' – 12'	

[1] For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

[2] The determination of trail-specific grades, surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent[1]. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use FOUR-WHEEL DRIVE VEHICLE > 50"		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	Typically not designed or actively managed for 4WD Vehicles > 50", although use may be accepted	72" – 84"	72" – 96"	96" – 120"	Typically not designed or actively managed for 4WD Vehicles > 50", although use may be accepted
	Double Lane		16'	16'	16'	
	Structures (Minimum Width)		96"	96"	96"	
Design Surface[2]	**Type**		Native, limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native with some onsite borrow or imported material where needed for stabilization, occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present	Native with imported materials for tread stabilization common, routine grading Minor roughness Sections of soft tread not common	
	Protrusions		≤ 12" May be common and continuous	≤ 8" May be common and continuous	≤ 4" May be common and continuous	
	Obstacles (Maximum Height)		36" May be common or placed for increased challenge	24" Common, left for increased challenge	12" Uncommon	
Design Grade[2]	**Target Grade**		10% – 21%	5% – 18%	5% – 12%	
	Short Pitch Maximum		25%	20%	15%	
	Maximum Pitch Density		20% – 30% of trail	10% – 20% of trail	5% – 10% of trail	

10/16/2008

Designed Use FOUR WHEEL DRIVE VEHICLE > 50"		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Cross Slope	Target Cross Slope		8% – 15%	5% – 12%	5% – 8%	
	Maximum Cross Slope		15%	12%	8%	
Design Clearing	Height		6' – 8'	6' – 8'	8' – 10'	
	Width		72" – 84" Some light vegetation may encroach into clearing area	72" – 96"	96" - 144"	
	Shoulder Clearance		0" – 6"	6" – 12"	12" – 18"	
Design Turn	Radius		10' – 15'	15' – 20'	20' – 30'	

[1] For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

[2] The determination of trail-specific design grades, design surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent[1]. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use CROSS-COUNTRY SKI		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Groomed Width	**Single Lane**	Typically not designed or actively managed for cross-country skiing	2' – 4' Typically not groomed	6' – 8' (or width of grooming equipment)	8'– 10" (or width of grooming equipment)	Typically not designed or actively managed for cross-country skiing
	Double Lane		6' – 8'	8' – 12'	12' – 16'	
	Structures (Minimum Width)		36"	36"	36"	
Design Grooming and Surface[2]	**Type**		Generally no machine grooming	May receive occasional machine grooming for snow compaction and track setting	Regular machine grooming for snow compaction and track setting	
	Protrusions		No protrusions	No protrusions	No protrusions	
	Obstacles (Maximum Height)		12" Uncommon	8" Uncommon (no obstacles if machine groomed)	No obstacles	
Design Grade[2]	**Target Grade**		5% – 15%	2% – 10%	0% – 8%	
	Short Pitch Maximum		25%	20%	12%	
	Maximum Pitch Density		10% – 20% of trail	5% – 15% of trail	0% – 10% of trail	
Design Cross Slope	**Target Cross Slope**		0% – 10%	0% – 5%	0% – 5%	
	Maximum Cross Slope (For up to 50')		20%	15%	10%	

10/16/2008

Designed Use CROSS-COUNTRY SKI		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Clearing	**Height** (Above normal maximum snow level)		6' – 8'	8' (or height of grooming machinery)	8' – 10'	
	Width		24" – 60" Light vegetation may encroach into clearing area	72" – 20"' Light vegetation may encroach into clearing area	96"' – 168" Widen clearing at turns or if increased sight distance needed	
	Shoulder Clearance		0" – 6"	0" - 12"	0" – 24"	
Design Turn	**Radius**		8' – 10'	15' – 20' (or to accommodate grooming equipment)	≥ 25'	

[1] For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

[2] The determination of trail-specific grades, surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential and other factors contributing to surface stability and overall sustainability of the trail.

Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent[1]. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use SNOWSHOE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	Single Lane	Typically not designed or actively managed for snowmobiles.	36"	36" – 48"	36' – 60'	Typically not designed or actively managed for snowmobiles.
	Double Lane		60"	72"	72" – 96"	
	Structures (Minimum Width)		36"	48"	48"	
Design Surface[2]	Type		Generally no machine grooming	May receive occasional machine grooming for snow compaction	Likely to receive occasional machine grooming for snow compaction	
	Protrusions		No protrusions	No protrusions	No protrusions	
	Obstacles (Maximum Height)		12" Uncommon	8" Uncommon (no obstacles if machine groomed)	No obstacles	
Design Grade[2]	Target Grade		10% – 20%	5% – 15%	0% – 10%	
	Short Pitch Maximum		30%	20%	15%	
	Maximum Pitch Density		5% – 20% of trail	5% – 25% of trail	0% – 10% of trail	
Design Cross Slope	Target Cross Slope		0% – - 10%	0% – 5%	0% – 5%	
	Maximum Cross Slope		20%	15%	10%	

10/16/2008

Designed Use SNOWSHOE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Clearing	**Height** (Above normal maximum snow level)		6' – 8'	8'	8' – 10'	
	Width		48" Some light vegetation may encroach into clearing area	72" Light vegetation may encroach into clearing area	72" – 96"	
	Shoulder Clearance		0"	12"	12" – 24"	
Design Turn	**Radius**		3' – 4'	3' – 6'	4' – 8' (provide sufficient radius for grooming equipment)	

[1] For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

[2] The determination of trail-specific design grades, design surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent[1]. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use SNOWMOBILE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	Typically not designed or actively managed for snowmobiles.	4' – 6' Typically not groomed	6' – 8' (or width of grooming equipment) On tight-radius turns, increase groomed width to ≥ 10'	8' – 10' (or minimum width of grooming equipment) On tight-radius turns, increase groomed width to ≥ 12'	Typically not designed or actively managed for snowmobiles.
	Double Lane		10' Typically not groomed	10' – 12'	12' – 20'	
	Structures (Minimum Width)		6'	12'	18'	
Design Surface[1]	**Type**		Generally no machine grooming Commonly rough and bumpy	May receive occasional machine grooming for snow compaction and conditioning Frequently rough and bumpy	Regular machine grooming for snow compaction and conditioning Commonly smooth	
	Protrusions		No protrusions	No protrusions	No protrusions	
	Obstacles (Maximum Height)		12" Uncommon	6" Uncommon (no obstacles if machine groomed)	No obstacles	
Design Grade[2]	**Target Grade**		0% – 12%	0% – 10%	0% – 8%	
	Short Pitch Maximum		35%	25%	20%	
	Maximum Pitch Density		15% – 30% of trail	10% – 20% of trail	5% – 10% of trail	

10/16/2008

Designed Use SNOWMOBILE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Cross Slope	**Target Cross Slope**		0% – 10%	0% – 5%	0%	
	Maximum Cross Slope		15%	10%	5%	
Design Clearing	**Height** (Above normal maximum snow level)		6'	6' – 8' (provide sufficient clearance for grooming equipment)	8' – 12' (provide sufficient clearance for grooming equipment)	
	Width		6' – 12' Some light vegetation may encroach into clearing area	8' – 14' Light vegetation may encroach into clearing area	10' – 22' Widen clearing at turns or if increased sight distance needed	
	Shoulder Clearance		6" – 12"	12" – 18"	12" – 24"	
Design Turn	**Radius**		8' – 10'	15' – 20' (or sufficient radius for grooming equipment)	25' – 50'	

[1] For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18.

[2] The determination of trail-specific design grades, design surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.