

TRANSPORTATION STANDARDS

Adopted October 2014

Park County, Montana

RESOLUTION NO. 1197

A RESOLUTION ADOPTING THE PARK COUNTY TRANSPORTATION STANDARDS

WHEREAS, pursuant to Title 7, Chapter 14, parts 21 and 22, MCA, the Park County Commission ("Commission") has the authority to control and maintain county roads and bridges;

WHEREAS, the Commission desires to establish polices and procedures for Park County roads and bridges;

WHEREAS, the Commission adopted the Capital Improvement Plan Bridges on May 4, 2012, pursuant to Resolution No. 1129; and

WHEREAS, the information contained within the Capital Improvement Plan Bridges adopted pursuant to Resolution No. 1129 has been incorporated in part into these Transportation Standards.

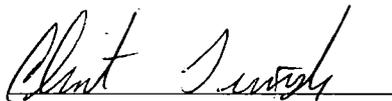
NOW, THEREFORE, BE IT RESOLVED THAT: The Park County Transportation Standards are adopted.

BE IT FURTHER RESOLVED THAT: these Transportation Standards supercede any and all other county road and bridge standards and resolutions including, but not limited to, Resolution No. 1129.

EFFECTIVE DATE. This Resolution shall be effective immediately upon its passage.

APPROVED AND ADOPTED this 28th day of October, 2014.

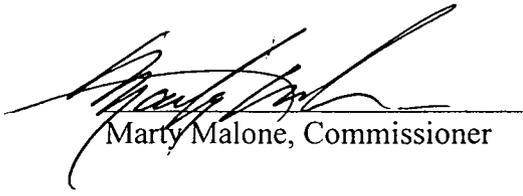
BOARD OF PARK COUNTY COMMISSIONERS


Clint Tinsley, Chair


Jim Durgan, Commissioner

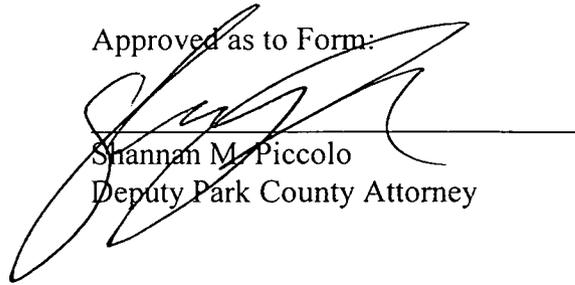
Attest:


Denise Nelson
Park County Clerk and Recorder



Marty Malone, Commissioner

Approved as to Form:



Shannan M. Piccolo
Deputy Park County Attorney

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II. Abbreviations, Definitions, Publications and References

The following abbreviations, definitions, publications and references are referred to for implementation of the standards. Publication references in italics refer to the most current edition and all subsequent addenda, errata and revisions shall apply unless otherwise amended in this document.

AASHTO American Association of State Highway and Transportation Officials, publications:

Policy on Geometric Design of Highways and Streets- commonly referred to as the "Greenbook"

LRFD Bridge Design Specifications

Guide for Design of Pavement Structures

Roadside Design Guide

Guidelines for Geometric Design of Very Low Volume Local Roadways

Guide for the Development of Bicycle Facilities

ADT Average Daily Trips made by vehicles or persons in a 24 hour period, counts are based on the following:

- (1) counts performed by a Traffic Engineer;
- (2) counts performed by Park County;
- (3) the best available information for existing roads;
- (4) average of 10 trips per day per proposed single family lot;
- (5) multi-family or commercial shall be determined based on the figures from the then most recent volume Trip Generation Manual published by the Institute of Traffic Engineers.

ADT shall be calculated on the use with the highest level of road impact allowed within the zoning district for the planning period. If the subdivision is not within a zoning district that sets allowable uses, ADT shall be calculated on the most impactful range of use common in the area or projected to occur, based on recommendations the Planning Department.

Applicant Any individual or entity seeking a permit required by these standards.

Commission The Board of County Commissioners of Park County, Montana, pursuant to MCA Section 76-3-103(7).

County Road

All roads and right-of-ways under Park County's jurisdiction in which Park County has a right to control, maintain, and manage. This includes, but is not limited to the road surface, culverts, bridges, ditches, approaches, pedestrian facilities, appurtenant structures, and ground located within Park County's right-of-way.

DEQ Montana Department of Environmental Quality

Encroachment

Any installation, device, object or occupancy that is located at, above or below the grade line of the roadway and within the right of way limits, and that is not installed as part of the facility by Park County or MDT.

Encroachments include, but are not limited to the following within the right of way:

- 1) Sign bases and poles;
- 2) Mailboxes;
- 3) Cattle guards, gates, fences;
- 4) Overhanging projections of signs;
- 5) Abandoned vehicles or equipment;
- 6) Trails or pathways for use by off road vehicles (e.g. ATV's, snow machines);
- 7) Advertising devices, including political banners;
- 8) Buildings, structures and development appurtenances;
- 9) Projections from buildings;
- 10) Planting or landscaping not located between curb and sidewalk;
- 11) Approaches in violation of County Standards including unpermitted approaches;
- 12) Excavations or fill material; and
- 13) Private signs, emblems, symbols, posters, monuments, etc.

Minor encroachments are considered as having a material plus installed (as-constructed) present value of \$25,000 or less within the right of way.

Major encroachments are considered as having a material plus installed (as-constructed) present value of over \$25,000 within the right of way.

Engineer A person licensed to practice engineering in the state of Montana in conformance with MCA Title 37, Chapter 67.

FEMA Federal Emergency Management Agency

FHWA Federal Highway Administration, publications:
Manual of Uniform Traffic Control Devices

HCM	<i>Highway Capacity Manual</i> , published by the TRB.
ITE	Institute of Traffic Engineers, publications: <i>Trip Generation Manual</i> <i>Transportation Impact Analysis for Site Development</i>
LOS	Level of Service, as defined by the <i>Highway Capacity Manual</i>
MCA	Montana Code Annotated
MDT	Montana Department of Transportation, publications: <i>Standard Specifications for Road and Bridge Construction</i> <i>Detailed Drawings</i> <i>Adopted Modifications to AASHTO Model Drainage Manual- Ch. 7 Hydraulics</i>
MPWSS	<i>Montana Public Works Standard Specifications</i> , distributed by the Montana Contractor's Association
MUTCD	<i>Manual of Uniform Traffic Control Devices</i> , published by FHWA
PCSD	<i>Park County Subdivision Regulations</i>
Private Road	Any road owned, controlled, managed, and maintained by a private party. A Private Road for purposes of these Regulations is not open to the public.
Public Road	Any road owned, controlled, managed, and maintained by a private party or public entity other than Park County. A Public Road for purposes of these Regulations is open to the public.
RAP	Recycled Asphalt Pavement

SSRBC	<i>Standard Specifications for Road and Bridge Construction</i> , published by the MDT
Surveyor	A person licensed to practice surveying in the state of Montana in conformance with MCA Title 37, Chapter 67.
SWPPP	Stormwater Pollution Prevention Plan
TIA	Traffic Impact Analysis
TRB	Transportation Research Board
WTI	Western Transportation Institute

III. General

The Park County Commission (“Commission”) uses tax dollars to maintain County Roads and bridges with funds available. The Commission, under the limitations and restrictions that are prescribed by law, may lay out, maintain, control, and manage County Roads and bridges within the county; (Section 7-14-2101, MCA).

Park County is responsible for 1,152 miles of County Roads, over 100 bridges and large diameter culverts. Park County maintains approximately 3 miles of bicycle and recreational trails.

These Regulations provide the minimum requirements for the design, construction and reconstruction of the Park County Transportation System which includes, but is not limited to roads, bridges, culverts and trails.

The Commission reserves the right to have the ultimate authority over decisions made regarding this standard. To that end, variances may be granted in circumstances that warrant deviations from the requirements included herein. All variance requests related to these standards shall be reviewed in accordance to the variance process set forth in this standard.

A. Intent & Applicability

The intent of this document is to provide for:

- 1) Standards required for dedication of land for roads, bridges and trails as County Road or Public Road under Park County’s jurisdiction;
- 2) Improvement of existing facilities as development occurs and to mitigate impacts;
- 3) An efficient, safe and reliable Transportation System within Park County for both vehicular and non-vehicular traffic.

The standards that comprise this document shall be applicable to:

- 1) The construction of roadways, pedestrian facilities, appurtenant structures, and utilities on or within County Roads that Park County, in its discretion, has chosen to maintain.
- 2) The construction of all new approaches, existing approaches, or where property improvements or development that require approval by Park County.
- 3) The erection or placement of all new traffic control signs, mailboxes and appurtenant structures within the County Road.
- 4) Nothing in this standard shall be construed to require that Park County undertake to construct, reconstruct, widen, maintain or improve a County Road to the standards and specifications contained herein.
- 5) Nothing in this standard shall be construed to require those portions of new or existing Public or Private Roads or approaches outside a County Road be constructed, reconstructed, widened or improved to the standards and specifications contained herein, unless subject to the Park County Subdivision Regulations.
- 6) Nothing in this standard shall be construed to obligate Park County to accept any new or existing County, Public, or Private Road(s) for maintenance, regardless of the standards or specification used for the construction of such roads.

B. Classification

Roads and streets are categorized hierarchically by function and capacity. Capacity is often expressed as Annual Average Daily Traffic (AADT) or Average Daily Traffic (ADT). The major road classes in the United States are freeways, arterials, collectors, and local roads. For purposes of these regulations, the following classification system shall apply.

Table 1 - Park County Road Classification		
Classification	ADT	Description
Local	0 < 400	Local roads are characterized by their many points of direct access to adjacent properties and their relatively minor value in accommodating mobility. Speeds and volumes are usually low and trip distances short.
Subcollector	400-1000	The subcollector provides passage to local roads and collectors. Subcollectors provide frontage and access to residential lots but also carry some through traffic to lower order roads.
Collector	1000-3000	A principal traffic route within residential or commercial areas, the collector carries relatively high traffic volumes and conveys traffic from arterial roads to lower-order roads. Its function is to promote the free flow of traffic. The MDT classifies some state highways as collectors.
Arterial	ADT ≥ 3000	Arterials connect communities and activity centers, and connect communities to major state and interstate highways. MDT classifies highway freeways and state highways as arterials.

Local Roads and Bridges within Park County are classified based on the following priority and usage patterns:

Table 2 - Park County Local Road Classification		
Local Classification	ADT	Description
L1	ADT ≥ 300	School bus route; regularly scheduled summer maintenance, 1 st priority for winter plowing & sanding to maintain travel
L2	ADT ≥ 300	Regularly scheduled summer maintenance, 2 nd priority for winter plowing & sanding to maintain travel

L3	$100 \leq \text{ADT} < 300$	Bi-Annual summer maintenance as time and funds allow, 3 rd priority for winter plowing & sanding to maintain travel
L4	$\text{ADT} < 100$	Seasonal traffic; maintenance once per year, not maintained for winter travel
L5	Not Applicable	Not maintained, County retains ownership, not maintained for winter travel

School Bus routes are re-evaluated annually or on an as needed basis.

C. Road Surfacing and Maintenance

The following table provides guidance for road surfacing and maintenance for County Roads or Public Roads established by the Park County Subdivision Regulations.

Table 3 - Park County Road Surfacing and Maintenance		
ADT	Description	Maintenance
$\text{ADT} \geq 300$	Asphalt	Surface treatment at 7-10 year intervals, Patch as required
	RAP / Millings	Surface treatment at 7-10 year, Patch as required
	Gravel	Regular grading and annual MgCl_2 Application, location specific re-graveling at 3 year intervals
$200 \leq \text{ADT} < 300$	RAP / Millings	Surface Treatment installed and maintained at 10-12 years as funded through RID or similar, Patch as required
	Gravel	Regular grading and bi-annual MgCl_2 Application
$\text{ADT} < 100$	Gravel	Grading and MgCl_2 Application as required

Guidance for this table is based on established standards by the FHWA on airborne particulate matter (PM) emissions for 35mph unpaved roads [WTI 2006] and demonstrated routine maintenance activities by the Park County Public Works and may be subject to modification as funding and time allow.

D. Road Names

Names of new streets or roads aligned with existing streets must be the same as those of the existing streets. Proposed street names may not duplicate or cause confusion with existing street names. Proposed street names must comply with the policies of the Park County Rural Addressing Office.

E. Dedication of Private Roads

In the cases where Private Road(s) or trail(s) are or have been dedicated to the public and accepted for public use through the Park County Subdivision Regulations, Park County accepts no responsibility for maintaining these road(s) or trails, nor are these road(s) or trail(s) considered County Roads. Dedicated Public Road(s) and trails shall be designed and constructed according to this standard. Maintenance can be funded through the County, by the creation of a Rural Improvement District or other agreements.

F. Easement

County Roads established by easement shall:

- 1) Be surveyed and platted by a Professional Land Surveyor licensed in the State of Montana;
- 2) be reviewed by the County Attorney;
- 3) be recorded with the Clerk and Recorder; and
- 4) grant to the public an unrestricted right of ingress and egress from a public road to the property to be subdivided.

G. Planning Period

The minimum planning or projection period required for future impacts is 30 years, unless otherwise indicated.

H. Creation, Alteration and Abandonment

Park County follows state law regarding county road creation, alteration, and abandonment per, Title 7, Chapter 14, part 26 MCA. Creation, alteration and abandonment information is available at the Park County Clerk and Records Office.

I. Unauthorized Encroachments

Failure to comply with these standards shall be subject to the following penalties:

- 1) First offense of an unauthorized encroachment may not be penalized but will be documented and the offender notified by the Public Works Department. Park County Public Works reserves the right to stop work and to remove any encroachments at any time at the sole expense of the utility or installer.
- 2) Second offense of an unauthorized encroachment will result in a penalty in accordance with state law and may be removed by the County at the owner's expense.

All further offenses, at the discretion of the Public Works Department, may result in removal of all encroachments, utilities and infrastructure from the County Road at the sole expense of the utility or installer.

IV. Documentation

A. Road Work Permit Application

Pursuant to Title 7, Chapter 14, MCA, any person or agency performing any work in or on a County Road must first obtain a permit from the Public Works Department. Permits are issued for encroachments, and any other kind of work performed or structure placed within Park County's jurisdiction. Any work on a County Road or a new subdivision road requires a Permit Application through the Park County Public Works Department. Refer to Appendix A- Park County Road Work Permit Application.

1. Public Utilities

Any public utility owning or operating a system of distribution lines for electric power, natural or artificial gas, telephone, fiber optics, cable television, sewer or water service or as otherwise recognized by the Public Works Department, shall not be required to pay fee for each excavation, unless there is a violation of compliance with these standards. The utility shall submit a permit and coordinate with the Public Works Department a minimum of fourteen (14) working days prior to the activity.

Utility companies shall be governed by the full provisions of these standards. It is recognized that continual maintenance of utility facilities is necessary and that reasonable operation in making excavations to restore or maintain service will be allowed under emergency conditions. Park County shall be notified as soon as practical in these cases.

Utility facilities shall be located to minimize conflicts and avoid the need for future adjustments. Where right-of-way width and terrain features permit, all utilities shall be located outside of the roadway cross section and at or near public right-of-way limits. Hardship cases may necessitate placement of the facility within the roadway cross section but ample justification must be provided. New facilities or a major revision of existing facilities will require review in regard to location by the County to avoid potential conflict prior to the permit being granted for placement.

The County reserves the right to require the utility to change the location or to remove any structures, lines or pipes at any time in order for the County to perform any needed work on or in the right-of-way as per statute. Any change, relocation or removal shall be made at the sole expense of the utility.

B. Additional Documentation

The following documentation shall be submitted as indicated on the Road Work Permit Application for approval by Park County. A minimum of two (2) hardcopy sets shall be submitted along with electronic files in portable document format (pdf) when submitted for approval.

1. Drainage Report

A Drainage Report shall provide analysis and recommendations regarding the function of the existing conveyance systems and recommendations for improvements to demonstrate compliance with the minimum requirements of this document and other agency regulations. Refer to the MDT Hydraulics Section adaptation Chapter 7 of the AASHTO Model Drainage Manual and the Bridge and

Culvert Crossing section of this document for guidance and data for report preparation.

The report shall be prepared, signed, and stamped by an engineer licensed in the State of Montana and may be included as an appendix to the Engineering Report.

Hydrologic Method

A hydraulic analysis shall be performed on new structures (all bridges and only culverts as determined necessary by the County) draining an area greater than one acre. The following factors are to be evaluated and included in the analysis:

- 1) Size, shape, slope, land use, geology and soils of the drainage basin
- 2) Geometry and configuration of stream channel
- 3) Characteristics of the flood plain

Several methods are available to analyze the design storm runoff from a drainage basin. The following methods are recognized by Park County:

- 1) USGS Rural Regression Equations per Methods for Estimating Flood Frequency in Montana Based on Data through Water Year 1998.
- 2) USGS Regional Regression Analysis per Methods for Estimating Flood Frequency in Montana Based on Data through Water Year 1998.
- 3) USGS Regional Frequency Analysis per Methods for Estimating Flood Frequency in Montana Based on Data through Water Year 1998.
- 4) Log Pearson Analysis of stream gauge data at a point near the proposed structure provided that a minimum of 10 years of gauging data is available.
- 5) SCS Curve Number Method for areas draining less than 3 square miles.
- 6) Rational Method for areas draining less than 80 acres.

FEMA 100 yr & 500 yr Floods

Identify areas designated as being within 100 & 500 year floodplains. Utilize <http://msc.fema.gov> or contact the Park County Floodplain Administrator regarding whether structure is located within either floodplain.

Alternative methods may be considered should the design engineer determine that a more accurate estimate of the runoff is available.

For drainage basins with an area greater than one square mile at least two methods must be compared to the flood history to determine the peak run-off volume.

Design Frequency

The minimum design flood shall be the 25 year event. In general, facilities shall be sized to accommodate the 50 year event when possible without significantly increasing the project cost. Impacts of a 100 year event shall be identified.

Park County Commissioners and Road and Bridge Department personnel shall be contacted during the hydraulic analysis to provide input on historic flood volumes and site specific flow conditions.

2. Environmental Requirements

The intent of the Environmental Requirements is to provide Park County the ability to make informed decisions regarding the environmental consequences and action required for mitigation associated with improvements within Park County's

jurisdiction. Items in this section may be included as an appendix to the Engineering Report.

Environmental Requirements for construction, maintenance and improvements to existing roads, bridges and trails at a minimum shall include (as applicable):

- Completion of the Environmental Checklist, see Appendix B;
- Stream and floodplain permitting; Necessary permits shall be obtained to construct the new facility. The Guide to Stream Permitting in Montana shall be followed to determine which permits are required for various type of work. A 124 Permit (FWP), 318 Permit (DEQ), 404 Permit (Corps) and Local Floodplain will generally be required for all projects. Private projects will require a 310 Permit (Park County Conservation District) in place of the 124 Permit. An erosion and sediment control plan may be required by the Park Conservation District as well;
- Delineation of Wetland and Riparian features by US Fish and Wildlife Service Wetland Mapper service within and adjacent to the project area;
- MDT Encroachment / Occupancy Permit;
- DEQ SWPPP Permitting for construction activities.

Additional requirements for existing and new improvements may also include:

- DEQ Permitting for
 - (1) Water;
 - (2) Sanitary;
 - (3) Stormwater Facilities.

Additional documentation requirements as determined by the applicant, Park County or permitting agencies upon the completion and review of the Environmental Checklist:

- Delineation of Wetland and Riparian features by a qualified wetland professional with demonstrated experience;
- Identification of known historic/archeological resources within the project area that may have local, state or national significance;
- Consultation with SHPO for known historic/archeological surveys completed for the project area.

3. Engineering Report

The Engineering Report shall follow the general outline of this standard to demonstrate compliance with the minimum requirements of this document and other applicable regulations.

Additional information regarding planning, existing facility evaluation, need, alternative(s) considered and selected (including costs) shall be included in the report. A probable opinion of material and construction cost for work performed within the right of way shall be provided for fee development.

Examples, outlines and guidance for additional information include a Preliminary Engineering Report for Montana Public Facility Projects, Engineering Report as prepared for the DEQ, or similar documentation acceptable to Park County.

The report shall be prepared, signed, and stamped by an engineer licensed in the State of Montana.

4. Transportation Impact Analysis

The Transportation Impact Analysis (TIA) shall provide analysis and recommendations regarding the function of the existing transportation network, the function of adjacent network improvements, and improvement impacts to the existing network. Minimum criteria for requiring a TIA include:

- Improvements that generate 150 or more ADT within the planning period;
- Improvements that generate a proposed ADT combined with existing ADT in which adjacent existing road classification must be modified within the planning period.

The study shall follow the guidance set forth in the ITE Transportation Impact Analyses for Site Development and minimum requirements of Appendix C. The report shall be prepared, signed, and stamped by an engineer with expertise in transportation planning licensed in the State of Montana.

5. Plans

Plans may be submitted in the following sizes: 11"x17' or 22"x34". A minimum of two (2) hardcopy sets shall be submitted along with electronic files in portable document format (.pdf) or AutoCAD design review (.dwf) format.

Final plans submitted for approval shall be sealed and stamped by an Engineer licensed in the State of Montana.

6. Specifications

Specifications shall be bound in 8 1/2" x 11" format. 11" x 17" pages folded to 8 1/2" x 11" pages within are acceptable. A minimum of two (2) hardcopy sets shall be submitted along with electronic files in portable document format (pdf).

Final specifications submitted for approval shall be sealed and stamped by an Engineer licensed in Montana.

V. Design

A. General

All street and road improvements constructed within a County Road or Public Road subject to Park County Subdivision regulations shall be designed and constructed according to AASHTO based on traffic volumes and Montana Public Works Standard Specifications (current edition), SSRBC, these regulations, the State of Montana, and be subject to any regulation or policy adopted by Park County. Consideration for improvements to existing facilities shall include references to AASHTO recommendations as applicable.

B. Roads

1. General

- All improvements shall be approved by the design engineer, Park County and/or MDT;
- All material submittals shall be approved by Park County prior to installation.

2. Excavation, Subgrade, and Embankment Backfill

Onsite and/or imported fill for subgrade, and embankment backfill shall meet the requirements of MPWSS 02230 with the following modifications to section 2.3.B.2:

Table 4 – Sub-Grade / Embankment / Replacement Below Subgrade Material Gradation	
Sieve Opening	% Passing
6"	100
3"	92
No. 4	25-60
No. 200	12 max.

Up to 5% "oversized" material is permitted provided that the "oversized" material is one size immediately larger than the top size specified (or 7" for 6" maximum).

3. Sub Base Course

Onsite and/or imported material for subgrade of either crushed or uncrushed shall meet the requirements of MPWSS 02234 for 3" Minus material per section 2.4.A.:

Table 5 – 3" Minus Sub-Base Course Material Gradation	
Sieve Opening	% Passing
3"	100
No. 4	25-60
No. 40	10-30
No. 200	2-10

4. Crushed Base / Crushed Top Course

Imported material for base or top course shall be crushed material meeting the requirements of MPWSS 02235 for 1" Minus material per section 2.3.A.:

Table 6 – 1” Minus Crushed Base / Top Course Material Gradation	
Sieve Opening	% Passing
1”	100
3/4”	80-90
1/2”	60-80
No. 4	40-70
No. 40	25-55
No. 200	5-15

- Liquid Limit (LL): not to exceed 25
- Plasticity Index (PI): 4-12 or less
- Dust Ratio: That portion passing the No. 200 sieve, shall not be greater than two-thirds (2/3) of that portion passing the No. 40 sieve.

5. Recycled Concrete/Asphalt Material

Sub-base / Base Course Application: Onsite and/or imported crushed concrete or asphalt material may be blended to a maximum 40% by weight for use as 3” Minus Sub Base or 1” Minus Crushed Base / Top Course. Blended material shall meet the requirements of this standard and MPWSS 02234 and/or 02235, respective to intended installation.

Surface Application: Millings (Recycled Asphalt Pavement) shall be placed in minimum 6” lifts.

6. Asphalt

Asphalt and related materials shall meet the requirements of the following MPWSS sections:

- (1) 02500 Paving and Surfacing;
- (2) 02502 Asphalt Prime and/or Tack Coat;
- (3) 02504 Asphalt Seal Coat;

The asphalt cement shall be PG 58-28 (AASHTO Performance Graded Binder Specification MP-1) unless otherwise approved. Standard thickness shall be 3” placed in two lifts for projected ADT below 3000 during the planning period.

Roadway sections for projected ADT above 3000 during the planning period shall be determined by AASTHO *Guide for Design of Pavement Structures* guidelines.

7. Centerline Radius

The minimum curve shall be in accordance with AASHTO standards and have capacity to carry the largest current or anticipated fire trucks in the district serving the road. If none is specified by the fire district authority, the minimum weight capacity shall be 75,000 pounds, as identified in the International Fire Code.

8. Maximum Grade

The maximum grade of new roads shall be 10%. Improvements to existing facilities shall be in accordance with AASHTO policies and are subject to approval by Park County.

9. Vertical Clearance

The minimum vertical clearance is 13.5 feet. This is the minimum clearance for any obstruction above the travel surface, including bridges or overpasses, tree limbs, or overhanging rock features.

C. Intersections

Road intersections must meet the following requirements:

- Intersections shall function at LOS Level "C":
 - (1) Two Way / One Way Stop Controlled Intersection shall function at an average LOS C of the two- way stop movements;
 - (2) The average LOS of all movements through an intersection shall determine the LOS for other intersections.
- Roads shall intersect at 90°angles, $\pm 10^\circ$.
- Distance between Parallel Centerlines: Two streets or roads intersecting a third road shall have a minimum distance between centerlines of 125 feet for local roads and 300 feet for collectors and arterials. Specific conditions may require additional distance per AASTHO requirements for site distance and clear zones.
- The intersection of more than two roads at one point is prohibited.
- Gravel roads that intersect asphalt or milled surface road shall be similarly surfaced for 50 feet from the edge of pavement or to a site specific length and as approved by Park County and/or MDT.
- A TIA shall identify and provide mitigation of impacts to adjacent intersections from a Subdivision or proposed improvements. If an existing intersection operates at or below a LOS C or the proposed work causes the intersection function below LOS C, mitigation of impacts from the subdivision or improvements shall be completed at the identified intersection.

D. Drive Approaches

Arrangement: Where practical, approaches shall be separated by not less than 100 feet and meet the following requirements:

- Alignment: Drive approaches shall intersect the roadway at 90°angles, $\pm 10^\circ$.
- Width: The standard width for residential drive approaches shall be 16' and 24' minimum width for multi-use, commercial or industrial approaches.
- Radius Returns: The minimum radius return between the drive approach

and road shall be 25’.

- **Materials:** the Road Work Applicant shall be responsible to supply, place, and properly compact all materials necessary for construction of the approach:
 - (1) **Fill:** Refer to Table 4 – Subgrade / Embankment / Replacement Below Subgrade;
 - (2) **Sub-Base:** Refer to Table 5 – 3” Minus Sub-Base Course minimum 9” thick;
 - (3) **Surfacing (Gravel):** Refer to Table 6 – 1” Minus Crushed Top Course minimum 3” thick;
 - (4) **Surfacing (Hard):** When approaching a hard surfaced county road, surfacing shall consist of not less than 3” of hot mix asphalt cement concrete and shall extend from the edge of pavement to the right of way line or a minimum of 12 feet, whichever is greater.
- **Cut/Fill Slopes:** The side slope shall be constructed to no greater than or equal to a 6:1 (Horizontal/Vertical) ratio.
- **Approach Drainage and Culverts:** All improvements shall promote positive drainage to either existing or proposed conveyance systems. Approaches shall not impair drainage within the road right of way. Minimum approach culvert size shall be equal to 18” diameter and shall be sized according to the conveyance design section in Bridges and Culvert Crossings. Minimum cover over top of pipe shall be 1’.
- **Maintenance:** The Road Work Applicant or adjacent landowner shall maintain the installations and structures to their original condition, in perpetuity, and shall be responsible for all necessary expenses.
- **Acceptance:** All road approaches shall be inspected, approved and permitted by Park County prior to filing with the Clerk and Recorder.

E. Dead Ends

Where streets or roads terminate, either a cul-de-sac or “T” turnaround must be provided at the terminus. Cul-de-sacs and “T” turnarounds must conform to the following minimum requirements:

- Maximum Road Length: 750ft;
- Cul-de sac: Minimum outside right of way radius: 50ft;
- Minimum outside road way radius: 45ft;
- “T” turnaround: 50ft. minimum length each leg.

F. Bridges and Culvert Crossings

Bridge and large culvert (for the purposes of this standard, large culverts shall be defined as those having diameters equivalent of 60-inches or greater) design and construction shall conform to this document.

Policy: Park County has adopted a policy of replacing old and unsafe bridges with culverts when feasible. The culverts shall be sized to handle the minimum storm event designated by this standard. The use of multiple culverts is discouraged due to debris collection and siltation problems. Culvert materials and installation shall meet the guidelines of this bridge standard.

Replacement: Should replacement with a culvert not be feasible, a new bridge shall be constructed to meet current AASHTO and MDT standards as modified or amended by this bridge standard. All new bridge and culvert designs are subject to the approval of the Park County Road and Bridge Department.

Bridges requiring rehabilitation or replacement shall be prioritized by the County Commission and Public Works Department. Replacement of existing structures shall follow the order of the priority list with the exception of emergencies and special exemptions.

Rehabilitation/Demolition: Structures designated for demolition or rehabilitation shall follow the County Process for the Alteration, Demolition or Disposal of County Owned Properties. Per this document, a structure determined to have significant historic or cultural resource value(s) and/or is listed or eligible to be listed with the National Register of Historic Places requires the Historic Preservation Commission and SHPO to be contacted prior to beginning demolition/rehabilitation activities. It should be noted that SHPO's current position is that structures more than fifty years of age are considered historic and are potentially eligible for listing on the National Register of Historic Places. Once contacted, these agencies will make a recommendation to the County Commission regarding the proposed alteration/demolition of the structure.

1. Bridge and Culvert Design Standards

- Design and construction shall conform to the following design standards unless otherwise modified or amended in this document:
 - (1) AASHTO A Policy on Geometric Design of Highways and Streets;
 - (2) AASHTO Guidelines for Geometric Design of Very-Low Volume Local Roads;
 - (3) AASHTO LRFD Bridge Design Specifications;
 - (4) Montana Department of Transportation Standard Specification for Road and Bridge Construction.
- Geotechnical: Where a comprehensive geotechnical investigation is deemed a requirement by the County Commission/Design Engineer, a reputable geotechnical engineering firm shall be retained to determine the engineering properties of the soils through the use of borings, test pits, sampling and other methods. The geotechnical report shall be stamped by a professional engineer registered with the State of Montana.
- Opening: The waterway opening for a bridge shall be sized to pass the design flood event while providing the minimum freeboard between the bottom of the lowest stringer and the water surface as specified in the hydraulic conveyance sections below. Additional freeboard and/or larger opening sizes may be required for mountain streams which carry a large amount of debris. The waterway opening shall be sufficiently large as to

minimize backwater conditions that may cause damage to adjacent property. The waterway opening size for a culvert shall meet the requirements of the culvert section of these standards.

- Bridges over large drainages or in densely populated areas should be analyzed with an appropriate modeling program, such as HEC-RAS, to accurately determine the flow characteristics and backwater elevations.

Roadside Design for Structures: Object markers per the FHWA Manual of Uniform Traffic Control Devices for Streets and Highways shall be installed at each corner of the new bridge or at the ends of the guardrail leading to the fill section over a culvert.

2. Standard Dimensions

The following should be considered the standard dimensions for the geometric design of Bridges and Culvert Crossings.

- Bridge Width:

ADT > 100/day – Two Lane, Min. 24' Rail Face to Rail Face;

ADT < 100/day – Single Lane 14' Rail Face to Rail Face where existing single lane bridges have demonstrated acceptable performance;

Culverts shall generally be designed to extend beyond the clear zone in order to eliminate the need for guardrail. A slope of 4:1 or flatter is required within the clear zone for all large culverts.

- Approaches: The roadway leading to the new bridge or large culvert should be designed in accordance with the aforementioned standards whereas the road should be reconstructed as required to provide a smooth transition that will minimize the impact forces transmitted to the structure and/or guardrail. This may require the road to be constructed for several hundred feet on either side of the bridge.
- Skew: While crossings at 90 degrees to the flow line are preferred, skewed bridges and crossings may be required to best fit a specific site. When a skew is required the angle should be kept to 30 degrees or less as measured between a line normal to the roadway centerline and a line parallel to the flow line.

3. Bridge Design

- Bridge Substructure Preference: For bridges with overall spans of less than or equal to 60ft, concrete spread footings protected with riprap revetment is preferred. For bridges with span greater than 60ft deep foundations consisting of driven pile or drilled shafts with a reinforced concrete cap are preferred. HP section, Steel Pipe and Timber are acceptable pile materials. Timber piles may not be spliced.
- Bridge Superstructure Preference: Selection of the bridge superstructure shall be done on a case by case basis. All bridge decks shall have a skid resistant surface. For smaller bridges with spans less than 40ft located on gravel roads it is generally preferred to utilize steel stringers with steel

decking and a gravel road surface. For bridges located on paved roads and bridges with spans ranging from 40ft to approximately 100ft it is generally preferred to utilize precast/pre-stressed concrete superstructures. Bulb Tees, Tri-decks, Twin Tees and Channels are acceptable types of precast, pre-stressed beams. For bridges with spans greater than approximately 100ft it is generally preferred to utilize steel girders with a conventional cast in place concrete deck.

- **Hydraulic Conveyance:** In accordance with State and County codes, bridge openings shall be designed to have adequate hydraulic conveyance capacity as to not adversely affect the headwater elevations during a 100 year flood by more than 6 inches. In addition, bridge openings shall be sized such that the bridge meets the following free board requirements:

Freeboard: 24" @ the 25 year design event

12"@ the 50 year design event

- **Bridge Loading:** Design loads shall be applied as specified in the AASHTO LRFD Bridge Design Specifications. The minimum design live load shall be HL-93. Reductions from the minimum design live load may be considered on a case by case basis with a variance granted per this document.
- **Bridge Rail:** Rail must meet AASHTO standards with a minimum TL-2 load rating. When the bridge is or may be utilized for stock crossing, additional railing height shall be provided as directed by the County. Neoprene pads should be placed between the base plate and bridge deck on concrete structures.
- **Bridge Deck:** The surface of the bridge deck shall have a skid resistant texture preferably consisting of a roughened concrete surface or gravel surface. The bridge deck shall also be sufficiently cambered, crowned or super elevated to provide for adequate drainage.
- **Bridge Scour:** Scour shall be evaluated on a case by case basis. Historically scour has not been a problem on end abutments properly armored with riprap and underlain with a geotextile. However, should the abutment be located on the outside of a channel bend a scour analysis may be warranted.
- A scour analysis is also required whenever a pier(s) is placed within the stream channel. The substructure (spread footing or piles) must extend a minimum of 6' below the scour depth unless a geotechnical investigation indicates otherwise or revetment measures have been taken to eliminate the potential for scour below substructure elements.
- **Revetment:** Riprap revetment shall generally be used to provide erosion protection on bridge abutments as necessary. When utilized, rip rap shall be designed in accordance with FHWA Design of Riprap Revetment, Hydraulic Engineering Circular No. 11 (HEC-11).
- Riprap shall extend to a minimum of two feet below the lowest portion of the adjacent channel and when possible keyed at the bottom of the slope.
- The placement of riprap around piers set in the stream channel shall not serve to reduce the minimum footing/pile depth required for scour.

- Temperature Effects: The effect of temperature shall be investigated when designing the stringer-substructure connection. The use of elastomeric bearing pads is recommended when precast/pre-stressed beams are incorporated into the design.

4. Bridge Materials

- All materials and workmanship shall be in accordance with AASHTO Specifications and MDT Road and Bridge Specifications or as amended in this document.
- Reinforcement Steel: Reinforcement steel shall be ASTM A615 Grade 60 steel minimum. Heating of reinforcement steel for bending will not be allowed. Structural Steel: ASTM A36, A50 shop primed and painted or ASTM A588 weathering steel.
- Portland Cement Concrete:
 - (1) Class “AD” or “DD” concrete shall be used for all cast-in-place structures. Minimum 6.5 Sack Mix, 3000 PSI @ 28 days;
 - (2) Class “BD” concrete shall be used for all cast-in-place deck structures. Minimum 7.0 Sack Mix, 4000 PSI @ 28 days;
 - (3) Class “Pre” concrete shall be used for all pre-stressed members.
- Timber: The use of timber structures (stringers, decking, and backwalls) is discouraged in new structures.
- Treated timber may be used for piles although they may not be spliced. All timber shall be treated with a preservative approved by the American Wood Products Association (AWPA)

5. Culvert Design

- Culvert Structure Preferences: Open bottom culverts, such as aluminum boxes or precast concrete, should be considered where feasible to minimize the impact on the streambed. Open bottom culverts shall be set on either a metal or concrete footing per the manufacturer’s recommendation.
- Alignment: Culvert alignment shall match the horizontal and vertical configuration of the existing channel as closely as possible to minimize sedimentation. Culverts shall be adequately sized to accommodate debris or ice that may occur in the channel.
- Scour Protection: Culverts carrying large volumes of water shall have concrete cutoff walls on both the upstream and downstream ends to prevent erosion below the pipe. Cutoff walls are not required when an open bottom culvert is utilized.
- Cross Drain Culverts: The minimum culvert diameter shall be 15” for cross drains to allow for routine maintenance and cleaning.

- **Hydraulic Conveyance:** Culvert headwater (HW) should be kept to a reasonable level at the design flow to prevent flooding of adjacent property. Headwater depths at design flow shall generally follow the MDT design criteria listed below where D is the diameter of a circular pipe and R is the rise of an arch pipe.

Pipe Size	HW @ Design Flow
< = 42"	<3D or 3R
48"-108"	<1.5D or 1.5R
> = 120"	<D+2' or R+2'

- The headwater at the entrance during a 100 year flood may not exceed historic levels by more than 6" in FEMA floodplains per State and County codes.
- **Revetment:** The upstream fill slope must be adequately protected against erosion. Slopes of 3:1 or less may only require reseeding whereas a more severe slope (>3:1) should either have riprap or a headwall. Culverts with upstream fill slopes exceeding 2:1 shall have concrete headwalls.

6. Culvert Materials

- All materials and workmanship shall be in accordance with AASHTO Specifications and MDT Road and Bridge Specifications or as amended in this document.
- Culverts shall generally be constructed of corrugated HDPE, reinforced concrete (RCP), aluminum, aluminized steel or CMP coated with bitumastic to prolong service life. CMP culverts shall be annular. Uncoated CMP culverts may be acceptable.

G. Roadside Design

1. Traffic Control

All traffic control and road signage shall meet the requirements of the MUTCD. The plan location shall be in accordance with the AASHTO Roadside Design Guide and signs shall be submitted for review and approval by Park County and/or MDT.

2. Guardrail

Existing guardrail in the vicinity of the new structure or crossing shall be removed and replaced with new guardrail. New guardrail should meet current AASHTO standards. Should the existing guardrail be in good condition and meet current standards, it may be removed and replaced. New guardrail should not be connected to existing guardrail unless specifically approved by a variance.

In general, the length of new guardrail location should match the length of existing guardrail. The limits of the new guardrail may only be reduced when the road side slopes have been flattened to a 4:1 or flatter. The limits of the new guardrail should not be reduced from the existing length without the approval by a variance.

3. Roadside Drainage

All improvements shall promote positive drainage to either existing or proposed conveyance systems. Minimum culvert size shall be equal to 18" diameter and shall be sized according to the conveyance design sections in Bridges and Culvert Crossings.

4. Mailbox

Mailboxes within the right of way are considered allowable, non-permitted encroachments as long as the installation is in substantial compliance with United Postal Service Regulations (USPS) and County Standards. Contact the USPS Postmaster regarding mailbox standards. The face of the mailbox shall be not be within 12" from the edge of the roadway surface and shall be installed according to applicable USPS regulations. Park County reserves the right to treat the mailbox as an encroachment that requires removal if it is a threat to public safety, public nuisance or hinders the County's ability to perform maintenance tasks

5. Restoration and Seeding

Restoration and seeding is the responsibility of the Work Permit Applicant.

All impacted property shall be restored to the condition, or better, existing at the commencement of construction. Such restoration work shall include, but not be limited to, fences, mailbox, buildings, driveways (graveled, concrete, paved), sidewalks, and curbs. The restoration work will be done to the satisfaction of Park County.

All seeding and reseeding shall be in accordance with MPWSS 02910 & 02920. Application rates shall be 8-10lb/acre for hydraulic/drill seeding and 16-20lb/acre for broadcast seeding. Coverage shall be 70% at the following growing season for acceptance.

Table 7– Recommended Roadside Seed Mix	
Species	% by weight
Crested Wheatgrass	50%
Western Wheatgrass	50%
	100%

6. Sidewalks, Curbs and Gutters

Sidewalks, curbs and gutters shall be installed within the right of way per MPWSS and conform to the most recent ADA guidelines. Minimum sidewalk width shall be 5' and the back edge of walk shall be installed 1' inside the right of way line to provide for grade separation (i.e. retaining wall, etc..) structures if required. The adjacent property shall be responsible for maintenance and snow removal for sidewalks and planter strips between the sidewalk and back of curb.

7. Lighting

Illumination is not required on local streets, however, illumination may be considered during the development of plans for any new or reconstructed roadways where pedestrian facilities are provided, specifically at intersections.

Where lighting is installed all streetlights shall project horizontally level to the ground in all directions and utilize full cutoff optic type luminaires avoiding light trespass and glare and is subject to the approval of Park County. Examples and guidance for street lighting can be found at www.darkskysociety.org/handouts/streetlighting.pdf

VI. Multi-use and Recreational Pathways

Multi-Use pathways shall be built to ADA standards and the minimum standards of AASTHO “*Guide for the Development of Bicycle Facilities*”, current edition or approved reference. Multi-use paths shall be a minimum 6’ wide.

Recreational pathways shall be built to ADA standards and the minimum standards of AASTHO “*Guide for the Development of Bicycle Facilities*”, current edition or approved reference. Recreational paths shall be a minimum 4’ wide.

VII. Construction

A. General

All street and road improvements constructed within a County Road or Public Road subject to Park County Subdivision regulations shall be designed and constructed according to AASHTO based on traffic volumes and Montana Public Works Standard Specifications (current edition), SSRBC, these regulations, the State of Montana, and be subject to any regulation or policy adopted by Park County.

- A road work permit application and additional documentation shall be approved by Park County prior to construction.
- All material submittals shall be approved by Park County prior to installation.

Improvements which have been designed under the supervision of a registered professional engineer shall be constructed under the supervision of a registered professional engineer.

Upon completion, the improvement shall be certified by a professional engineer as being constructed in general accordance with the approved plans and specifications and submitted to Park County per this document.

VIII. Variances

A. Variances Authorized

The Commission, after a public hearing on the variance request, may grant variances from these standards when, due to the characteristics of land proposed for the work, strict compliance with these standards would result in undue hardship and would not be essential to the public welfare. A variance will not be granted if it would have the effect of nullifying the intent and purpose of these regulations.

The Commission shall not approve a variance unless it finds that:

- 1) The granting of the variance will not be detrimental to the Public Health, Safety, or general welfare or injurious to other adjoining properties;
- 2) Due to the physical surroundings, shape, or topographical conditions of the property involved, strict compliance with the regulations will impose an undue hardship on the owner. Undue hardship does not include personal or financial hardship, or any hardship that is self-imposed;
- 3) The variance will not cause a substantial increase in public costs;
- 4) The variance will provide a substantial decrease in public cost while meeting the policy guidelines contained AASTHO;
- 5) The variance will not place the location in which the work occurs in nonconformance with any adopted zoning regulations.

B. Procedure

1. Submission

The Applicant(s) shall include with the submission of the required documentation a detailed written statement describing and justifying the requested (primary) variance, along with documentation, including, but not limited to:

- 1) Photographs of the requested variance area;
- 2) Drawings;
- 3) Topographical maps;
- 4) Letters/documentation from professionals; and
- 5) The variance request shall include a requested alternative that complies with the provisions under Section A and includes the same type of information and documentation as the primary variance (as described above). Failure to provide an adequate alternative will result in an insufficient variance request.

2. Review, Consideration and Recommendation

Park County Public Works, or designated representative, will review the submission for sufficient information under Section A and B.1 above. After the submitted information is deemed sufficient for review and consideration, Park County Public Works shall consider the requested primary variance and alternative variance and make findings and forward a recommendation of approval, conditional approval, or denial to the Commission or board of authority such as the

Planning Board. Applicant(s) will be responsible for reimbursement to Park County for contracted services required by Park County to ensure public safety as part of the review, consideration and recommendation of a variance.

3. Conditions

In granting variances, the Commission may impose reasonable conditions to ensure the objectives of these regulations and the protection of public health and safety are met.

4. Statement of Facts

When a variance is granted, the motion to approve the proposed project must contain a statement describing the variance and the facts and conditions upon which the issuance of the variance is based.

Appendix C Transportation Impact Analysis

The Traffic Impact Analysis shall provide an assessment of:

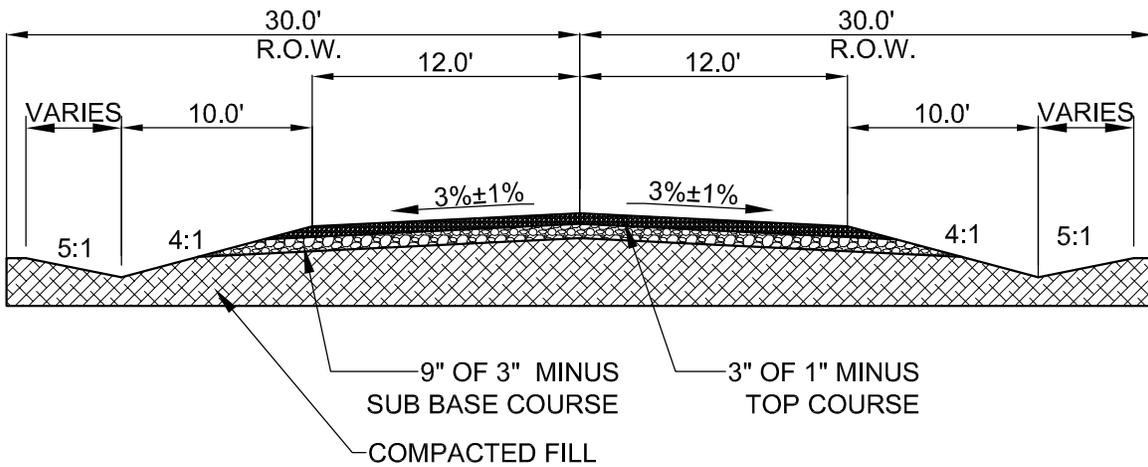
- Design, capacity and structure of existing roadways;
- Future traffic with and without the proposed improvements;
- Improvements required to address additional traffic generated by the improvements.

The Analysis shall provide the following information, at a minimum:

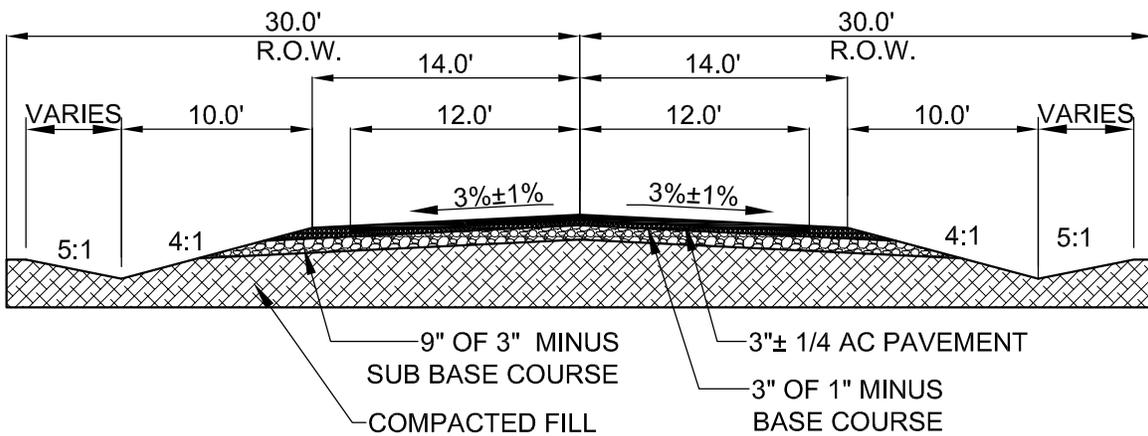
- Written narrative: describe the purpose, objectives and goals
- Executive Summary: include a description of the proposed improvements, location, findings, conclusions, and recommendations.
- Analysis and Detailed Description of Improvements: include detailed information regarding site plans, phasing, land use, zoning/covenants and improvement timing.
- Study Area Conditions:
 - Existing adjacent land uses, intensity and development;
 - Existing zoning/covenants;
 - Existing surface conditions and crash analysis;
 - Future Development of existing adjacent land uses;
 - Area of Improvement Influence and transportation impacts.
- Site Analysis & Accessibility: including current and future traffic volumes, existing and future pedestrian and multi-use facilities, nearest transit services, capacity, level of service for roadways and intersections, traffic control, circulation, parking, and safety.
- Capacity Analysis: Transportation system capacity analysis and structural design based on traffic projections that include:
 - Analysis of trip information including: generation, distribution, modal split and assignments;
 - Analysis of through traffic including estimated volumes and method of projection.
- Summary: Provide a summary of findings, assessment, and identification of adverse impacts relating to the analysis. Provide mitigation recommendations to address the adverse impacts identified

Mitigation recommendations shall be reviewed and approved by Park County. Upon approval mitigation improvements must be constructed and approved in accordance with the Park County Transportation Standards, the Road Work Permit Application and conditions of the Environmental Checklist.

Park County Standard Details



TYPICAL GRAVEL ROAD SECTION



TYPICAL ASPHALT ROAD SECTION

Drawn By _____ CJM
 Checked By _____ KJF
 Date _____ 07/24/14
 CTA # _____ PRKCTY
 Cad File: _____ N/A

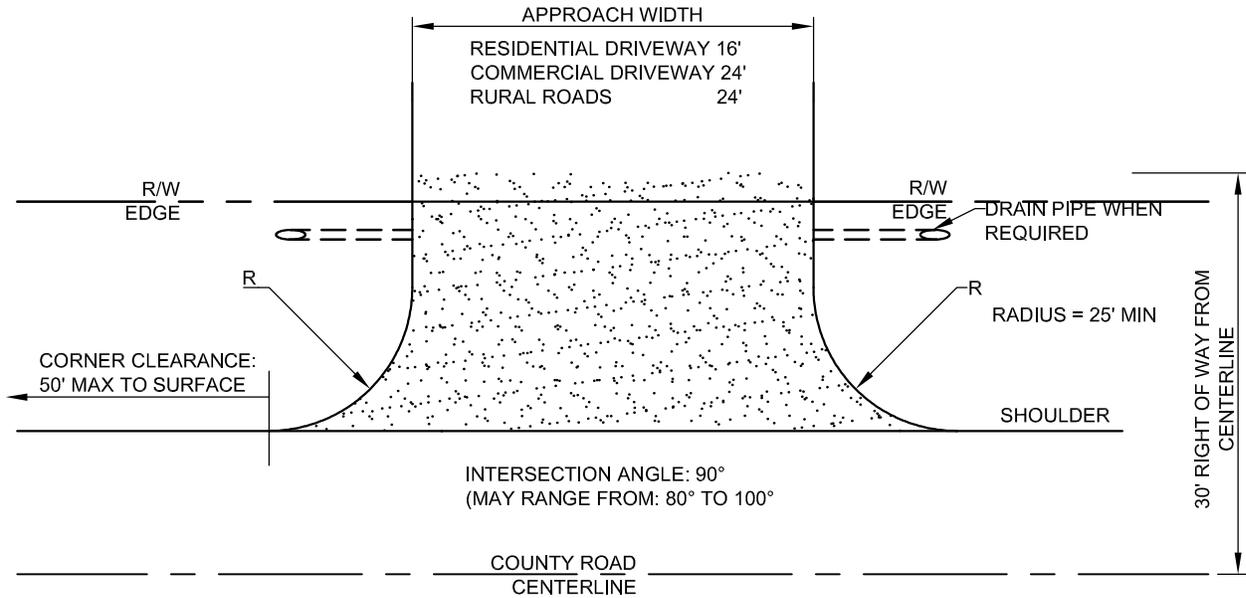


PARK COUNTY, MT
 TYPICAL ROAD CROSS-SECTIONS

ADDENDUM

REF SHEET#

SHEET#



SHOULDER
EXHIBIT "A" ROAD APPROACH PLAN VIEW AND DIMENSIONS

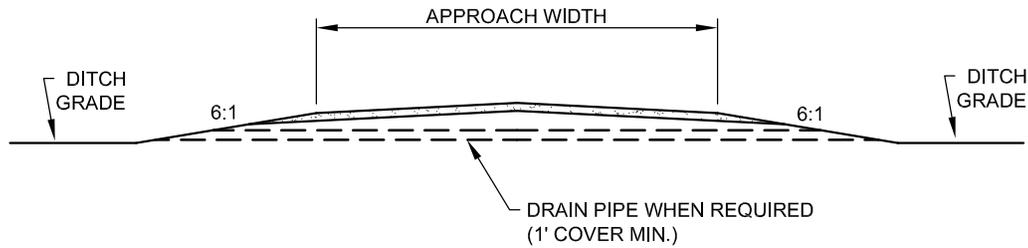


EXHIBIT "B" SIDE SLOPE

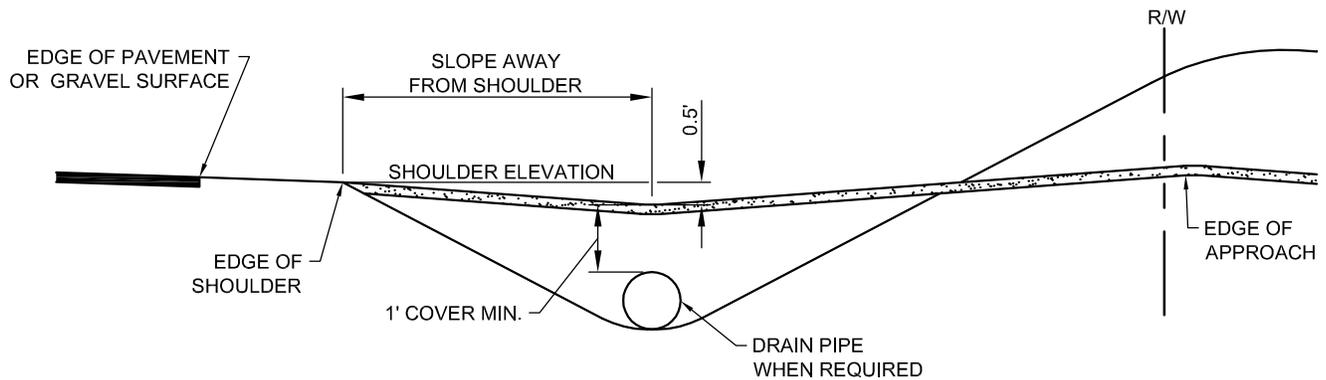


EXHIBIT "C" GRADING AND DRAINAGE

Drawn By CJM
 Checked By KJF
 Date 07/24/14
 CTA # PRKCTY
 Cad File: N/A

CTA
 BILLINGS, MT
 (406)248-7455
 Fax (406)248-3779

PARK COUNTY, MT
 TYPICAL ROAD APPROACH

ADDENDUM

REF SHEET#

SHEET#

Appendix A Park County Road Work Permit Application

Subject to the following terms and conditions, the permit applied for is hereby granted:

Pursuant to Title 7, Chapter 14, MCA, inter alia, any person or agency performing any work in a County Road right of way must first obtain a permit from the Public Works Department. Permits are issued for driveways, road approaches, underground and aerial utility work, and any other kind of work performed or structure placed within the road right of way. Refer to Park County Transportation Standards for additional encroachment items. Any work on a Park County road or a new subdivision road requires a Permit Application through the Park County Public Works Road Department.

Applicant will complete this form along with plans, sketches along with required documentation and send to Park County for review and approval. Refer to Park County Transportation Standards for requirements specific to additional documentation.

Minor encroachments are considered as having a material plus installed (as-constructed) present value of \$25,000 or less within the right of way. Major encroachments are considered as having a material plus installed (as-constructed) present value of over \$25,000 within the right of way.

No work may be performed until Park County has given written preliminary approval for the project. The work and associated operations shall be conducted so that there is minimal interruption in the use and associated impacts to affected roads. Exact procedures in this respect shall be established in advance of mobilization. All work shall conform to Park County Transportation Standards and other applicable local, state and federal regulations.

The application is not a permit until the approval is completed by Park County. Upon approval by Park County "County", the "Applicant" becomes the "Permittee" and agrees to the terms of this permit.

COUNTY SAVED HARMLESS FROM CLAIMS. As a consideration of being issued this permit, the Permittee, its successors or assigns, agrees to protect the COUNTY and save it harmless from all claims, actions or damage of every kind and description which may accrue to, or be suffered by, any person or persons, corporations or property by reason of the performance of any such work, character of materials used, or manner of installations, maintenance and operation, or by the improper occupancy of said roadway right-of-way, and in case any suit or action is brought against the County and arising out of, or by reason of, any of the above causes, the Permittee, its successors or assigns, will, upon notice to them of the commencement of such action, defend the same at its sole cost and expense and satisfy any judgment which may be rendered against the County in any such suit or action. Contractor's performing work in the public right of way shall be licensed, bonded, and insured holding the County harmless in the amount of \$1,000,000. the Applicant is required to provide a Certificate of Insurance naming Park County as additional insured prior to permit approval. Final Inspection approval is required prior to removing the County from additional insured.

TERM. This permit shall be in full force and effect from the date hereof until revoked as herein provided. Permits are issued for a ninety (90) day period. All construction work must be complete within the 90 period unless otherwise stated on the Permit. An extension may be granted by Park County for up to an additional 90 days. If no extension is granted the applicant must resubmit the application and fee.

REVOCATION. This permit may be revoked by the County upon giving **45** days notice to Permittee by ordinary mail, sent to the address shown herein. However, the County may revoke this permit without notice if Permittee violates any of its conditions or terms.

COMMENCEMENT OF WORK. No work shall be commenced until Permittee notifies the County shown in application the date the Permittee proposes to commence work.

CHANGES IN ROADWAY. If County roadway changes necessitate changes in structures or installations installed under this permit, Permittee will make necessary changes without expense to the County.

PROTECTION OF TRAFFIC. The Permittee shall protect the work area with traffic control devices that comply with the Manual of Uniform Traffic Control Devices. The Permittee may be required to submit a traffic control plan to the County for approval prior to starting work. During work, the County or designee may require the Permittee to use additional traffic control devices to protect traffic or the work area. No road closure shall occur without prior approval from the County Board of Commissioners.

ROADWAY AND DRAINAGE. If the work done under this permit interferes in any way with the drainage of the County roadway affected. Permittee shall, at the Permittee's expense, make such provisions as the County may direct to remedy the interference.

RUBBISH AND DEBRIS. Upon completion of work contemplated under this permit, all rubbish and debris shall be immediately removed and the roadway and roadside left in a neat and presentable condition satisfactory to the County.

INSPECTION. The installation authorized by this permit shall be in compliance with the attached plan and the conditions of this permit. The Permittee may be required to remove or revise the installation, at sole expense of Permittee. If the installation does not conform with the requirements of this permit or the attached plan.

COUNTY'S RIGHT NOT TO BE INTERFERED WITH. All changes, reconstruction or relocation shall be done by Permittee so as to cause the least interference with any of the County's work, and the County shall not be liable for any damage to the Permittee by reason of any such work by the County, its agents, contractors or representatives, or by the exercise of any rights by the County upon the roadways by the installations or structures placed under this permit.

REMOVAL OF INSTALLATIONS OR STRUCTURES. Unless waived by the County, upon termination of this permit, the Permittee shall remove the installations or structures installed under this permit at no cost to the County and restore the premises to the prior existing condition, reasonable and ordinary wear and tear and damage by the elements, or by circumstances over which the Permittee has no control, excepted.

MAINTENANCE AT EXPENSE OF PERMITTEE. Permittee shall maintain, at its sole expense, the installations and structures for which this permit is granted, in a condition satisfactory to the County.

COUNTY NOT LIABLE FOR DAMAGE TO INSTALLATIONS. In accepting this permit, the Permittee agrees that any damage or injury done to said installations or structures by a contractor working for the County, or by any County employee engaged in construction, alteration, repair, maintenance or improvement of the County roadway, shall be at the sole expense of the Permittee.

COUNTY TO BE REIMBURSED FOR REPAIRING ROADWAY. Upon being billed, therefore, Permittee agrees to promptly reimburse County for any expense incurred in repairing surface of roadway due to settlement at installation, or for any other damage to roadway as a result of the work performed under this permit.

The Permittee shall not discharge or cause discharge of any hazardous or solid waste by the installation or operation of the facility of a county Right-of-Way.

The Permittee will control noxious weeds within the disturbed installation area for two (2) years.

In accordance with Mont. Code Ann. § 76-3-403(2), Permittee shall, at Permittee's expense, employ the services of a Montana Licensed Professional Land Surveyor to re-establish all existing survey monuments disturbed by work contemplated under this permit.

The use of explosives is prohibited for the installation.

Any condition of this permit shall not be waived without written approval of the County.

OTHER CONDITIONS AND/OR REMARKS: _____

PRELIMINARY APPROVAL:

Preliminary Review: _____
By _____ Date _____

Preliminary Approval: Granted _____ Denied _____

Park County Public Works Department: _____
Representative Signature _____ Date _____

Required for Major Encroachments / Subdivisions:

Public Works Director: _____
Signature _____ Date _____

Park County Commissioners: _____
Signature _____ Date _____

Signature _____ Date _____

Signature _____ Date _____

FINAL APPROVAL:

Final Review: _____
By _____ Date _____

Final Approval: Granted _____ Denied _____

Park County Public Works Department: _____
Representative Signature _____ Date _____

Required for Major Encroachments / Subdivisions:

Public Works Director: _____
Signature _____ Date _____

Park County Commissioners: _____
Signature _____ Date _____

Signature _____ Date _____

Signature _____ Date _____

Appendix B Environmental Checklist

PARK COUNTY ENVIRONMENTAL CHECKLIST

For:

- Major Encroachment** (material and construction cost within right of way over \$25,000)
 Subdivision

Location: Nearest State Highway or Route: _____ Milepost(s): _____

Physical Address: _____ City: _____

Legal Description: County: _____ Township: _____ Range: _____ Section(s): _____

Applicant Information: Name: _____ Phone: _____

Company/Utility _____ Business Phone: _____

Mailing Address: _____ City _____ State _____ Zip Code _____

	Impact Questions	Yes	No	Comment, Explanation, and Information Source (Attach supporting information, as necessary.)
1.	Will the proposed action impact any known historical or archaeological site(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Will the proposed action impact any publicly owned formally classified lands such as parkland(s), recreation area(s), wildlife or waterfowl refuge(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
3.	Will the proposed action impact prime farmlands?	<input type="checkbox"/>	<input type="checkbox"/>	
4.	a. Will the proposed action have an impact on the human environment that may result from relocations of persons or businesses, changes in traffic patterns, changes in grade, or other types of changes?	<input type="checkbox"/>	<input type="checkbox"/>	
	b. Has the proposed action received any preliminary or final approval from the local land use authority?	<input type="checkbox"/>	<input type="checkbox"/>	
5.	For the proposed action, is there documented controversy on environmental grounds? (For example, has the applicant received a letter of petition from an environmental organization?)	<input type="checkbox"/>	<input type="checkbox"/>	
6.	Will the proposed action require work in, across or adjacent to a River?	<input type="checkbox"/>	<input type="checkbox"/>	
7.	Will the proposed action require work in or adjacent to a Class I Air Shed or nonattainment area?	<input type="checkbox"/>	<input type="checkbox"/>	
8.	Will the proposed action impact air quality or increase noise, even temporarily?	<input type="checkbox"/>	<input type="checkbox"/>	
9.	Will the proposed action have potential to affect water quality, wetlands, streams or other water bodies? If the answer is YES, an environment-related permit or authorization may be required.	<input type="checkbox"/>	<input type="checkbox"/>	
10.	Are solid or hazardous wastes or petroleum products likely to be encountered? (For example, project occurs in or adjacent to Superfund sites, known spill areas, underground storage tanks, or abandoned mines.)	<input type="checkbox"/>	<input type="checkbox"/>	
11.	a. Are there any listed or candidate threatened or endangered species, or critical habitat in the vicinity of the proposed action?	<input type="checkbox"/>	<input type="checkbox"/>	
	b. Will the proposed action adversely affect listed or candidate threatened or endangered species, or adversely modify critical habitat?	<input type="checkbox"/>	<input type="checkbox"/>	
12.	Will the proposed action require an environmental-related permit or authorization? If the answer is "yes," please list the specific permits or authorizations.	<input type="checkbox"/>	<input type="checkbox"/>	
13.	Will the proposed action result in increased traffic volumes, increased wait or delays on Public, County or Private Roads; or have adverse impacts on other forms of transportation (rail, transit or air movements)?	<input type="checkbox"/>	<input type="checkbox"/>	
14.	Is the proposed action part of a project that may require other governmental permits, licenses or easements? If "Yes", describe the full extent of the project and any other permits, licenses or easements that may be necessary for the applicant to acquire.	<input type="checkbox"/>	<input type="checkbox"/>	

15. Include this Checklist with the Engineering Report.

Checklist preparer: Applicant **Title** **Date**

Conditions of Approval:

Reviewed for Consideration by:

Name	Title	Date
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Approved by:

Park Co. Public Works		Date
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Approved by:

Park County Commissioner		Date
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Park County Commissioner		Date
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Park County Commissioner		Date
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Checklist Conditions and Required Approvals:

- A. The Applicant is **not** authorized to proceed with the proposed work until the checklist has been reviewed and approved, as necessary, and any requested conditions of approval have been incorporated.
- B. Complete the checklist items 1 through 14, indicating "Yes" or "No" for each item. Include comments, explanations, information sources, and a description of the magnitude/importance of potential impacts in the right hand column. Attach additional and supporting information as needed. Ensure that the checklist is included with the Engineering Report as indicated in item 15. The checklist preparer, by signing, certifies the accuracy of the information provided.
- C. If "Yes" is indicated on any of the items, the Applicant must explain the impacts as applicable. Appropriate mitigation measures that will be taken to avoid, minimize, and/or mitigate adverse impacts must also be described. **Any proposed mitigation measures will become a condition of approval.** Use attachments if necessary. If the applicant checks "No" and the County concludes there may in fact be potential impacts, the Environmental Checklist must resubmitted to include appropriate mitigation measures for review and approval.
- D. If "Yes" is indicated in item 11 a. (threatened or endangered species), the Applicant should provide information naming the particular species and the expected location, distribution and habitat use in the proposed action area, i.e. within the immediate area of the proposed action; or, in the general area on occasion (seasonally passes through) but does not nest, den or occupy the area for more than a few days.
- E. **When the applicant checks "Yes" to any item, the Applicant cannot be authorized to proceed with the proposed work until all required permits are issued and the County signs the checklist.**
- G. Applicant must obtain all necessary permits or authorizations from other entities with jurisdiction prior to beginning the proposed action or activity. The Applicant is solely responsible for any environmental impacts incurred as a result of the project; obtaining any necessary environmental permits, notifications, and/or clearances; and ensuring compliance with environmental laws and regulations.

Additional Information to be used for informational purposes when filling out the Environmental Checklist for Park County:

SUMMARY OF SOURCES FOR ENVIRONMENTAL INFORMATION

Environmental Resources	Contact	Type of Information Available
General Land Use	Local planning agencies	Zoning, land use classifications
Important Farmland	NRCS	Soil surveys
Formally classified lands	DNRC, FWP, NPS, BLM, USFS, BIA, USACE	State lands, monuments, landmarks, wild and scenic rivers, wilderness areas, State or national parks, reservations, recreational areas
Floodplains	DNRC, County Disaster Coordinator	Floodplain information
Wetlands	NRCS, USACE, FWP, USFWS	Soil surveys, National Wetland Inventory maps, and Section 404 issues
Cultural resources	SHPO, THPO	Historic and archaeological sites. Visually sensitive areas
Biological resources	USFWS, FWP	Threatened and endangered species, critical habitats, species of special concern
Water quality	USEPA, DEQ, DNRC, FWP	Discharge permits, water appropriation permits, sole source aquifers, non-degradation, underground storage tanks
Air quality	DEQ	State Implementation Plan
Transportation	FAA, MDT, USDOT	Airports, highway safety
Noise	DOT, DOLI, USEPA, OSHA, FAA	Noise levels/restrictions

Stream Permitting Guidelines

The most commonly required permits or authorizations are listed below. **Other permits or authorizations may be required**, and other laws may apply depending on the type and the location of the proposed activity. For more information please refer to “A Guide to Stream Permitting in Montana” available on the Internet at <http://www.dnrc.mt.gov/permits/> or from your local conservation district office. (The information provided below was adapted from “A Guide to Stream Permitting in Montana”)

Montana Natural Streambed and Land Preservation Act (310 Permit)

Any private, nongovernmental individual or entity that proposes any activity that physically alters or modifies the bed or banks of a **perennially flowing stream** must obtain a 310 permit before beginning work.

Contact the conservation district office to obtain a permit application, fill the application out and submit it to the local conservation district prior to any activity in or near a perennial-flowing stream. Once an application is accepted, a team that consists of a conservation district representative; a Department of Fish, Wildlife and Parks biologist; and the applicant may conduct an on site inspection. The team makes recommendations to the conservation district board, which has 60 days from the time the application is accepted to approve, modify, or deny the permit. Local rules apply. There is no charge for a 310 permit.

For more information, contact the Park Conservation District Office, (406) 222-2899, <http://www.parkcd.org/>, or the Conservation Districts Bureau – MT Department of Natural Resources and Conservation at (406) 444-6667, or the Montana Association of Conservation Districts (406) 443-5711

Montana Stream Protection Act (SPA 124 Permit)

Any agency or subdivision of federal, state, county, or city government proposing a project that may affect the natural existing shape and form of **any stream** or its banks or tributaries must obtain a SPA 124 permit before beginning work.

Any agency or unit of government planning a project must submit a Notice of Construction (application) to the Department of Fish, Wildlife and Parks, which has up to 60 days to review the application, perform an on-site investigation, and approve, modify, or deny the application. There is no application fee.

For more information contact the Habitat Protection Bureau – MT Fish, Wildlife and Parks (406) 444-2449.

Montana Floodplain and Floodway Management Act (Floodplain Development Permit)

Anyone planning new construction **within a designated 100 year floodplain** must obtain a floodplain development permit before beginning work. New construction includes, but is not limited to, placement of fill, roads, bridges, culverts, transmission lines, irrigation facilities, storage of equipment or materials, and excavation; new construction, placement, or replacement of manufactured homes; and new construction, additions, or substantial improvements to residential and commercial buildings. Check with local planning officials or the Floodplain Management Section of the Department of Natural Resources and Conservation to determine whether a 100-year floodplain has been designated for the stream of interest.

Floodplain Development Permits are available from the local floodplain administrator, who may be the city/county planner, sanitarian, building inspector, town clerk, or county commissioner.

Permit applications are available from the local floodplain administrator or from the Department of Natural Resources and Conservation. Application fees are established by the local government and vary widely throughout the state. The application process may take up to 60 days. Joint Application participant-see Permitting Tips section.

For more information contact the Floodplain Management Section – MT Department of Natural Resources and Conservation (406) 444-0860 or the Park County Floodplain Administrator, 406-222-4145.

Federal Clean Water Act (404 Authorization or Permit)

Anyone proposing a project that will result in the **discharge or placement of dredged or fill material into waters of the United States** must obtain a 404 authorization or permit before beginning work. "Waters of the United States" include lakes, rivers, streams (including perennial, intermittent, and ephemeral channels with an ordinary high water mark), wetlands, and other aquatic sites.

Anyone planning a project must submit an application to the U.S. Army Corps of Engineers (Corps). The U.S. Environmental Protection Agency also has regulatory review and enforcement functions under the law. Permit authorization varies depending on the size and scope of the intended project.

Activities that meet the conditions for a Nationwide or Regional General Permit may be approved in 10 to 45 days. Individual Permits require more extensive review and require a public notice period. Permit approval may take 90 to 120 days. Application fees for Individual Permits may vary from \$10 for private individuals to \$100 for commercial applicants. Do not send money with the application. Applicants will be notified if a fee applies.

For more information contact the U.S. Army Corps of Engineers, 10 West 15th Street, Suite 2200, Helena, MT 59626, Phone (406) 441-1375.

Short-term Water Quality Standard for Turbidity (318 Authorization)

Anyone initiating construction activity that will cause **short term or temporary violations of state surface water quality standards for turbidity in any "State water"** must obtain a 318 Authorization before beginning work. "State water" includes any body of water, irrigation system, or drainage system, either surface or underground, including wetlands, except for irrigation water where the water is used up within the irrigation system and the water is not returned to other state water.

A 318 Authorization must be obtained prior to initiating a project. The authorization may be obtained from the Department of Environmental Quality, or may be waived by the Department of Fish, Wildlife and Parks during its review process under the Natural Streambed and Land Preservation Act (310 Permit) or the Stream Protection Act (SPA 124 Permit).

Individual applications submitted to the Department of Environmental Quality are normally processed within 30 to 60 days. Authorizations waived under the 310 or SPA 124 permit processes correspond to the time frame under each permit system, usually 30 to 60 days. There is an application fee of \$150.00 (make check or money order payable to Water Protection Bureau, Department of Environmental Quality).

For more information contact the Water Protection Bureau – MT Department of Environmental Quality (406) 444-3080.

Storm Water Discharge General Permits

Anyone proposing a construction **activity that will disturb one or more acres**, a defined industrial activity; a mining or oil and gas activity in which storm water will come into contact with overburden, raw material, intermediate products, finished products, or waste products located on the site of such operations (including active and inactive mine sites); or other defined activity that **has a discharge of storm water into surface waters**. Permit authorization is typically obtained under a Montana Pollutant Discharge Elimination System (MPDES) "General Permit".

For storm water discharges associated with construction activity, permit authorization is effective upon Department receipt of a complete Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and fee. This must be received no later than the construction activity start date. For other regulated storm water discharges, a complete Application Form, SWPPP (except for Small MS4s), and fee must be received for review at least 30 days prior to the discharge of storm water from the facility or activity. Fees vary depending on the type of permit. Contact the Department or visit the website listed below for various storm water discharge "General Permits," Application/NOI Forms, fee schedule, and other permitting forms/information.

For more information contact the Water Protection Bureau – MT Department of Environmental Quality, (406) 444-3080, <http://www.deq.mt.gov>.

Appendix C Transportation Impact Analysis

The Traffic Impact Analysis shall provide an assessment of:

- Design, capacity and structure of existing roadways;
- Future traffic with and without the proposed improvements;
- Improvements required to address additional traffic generated by the improvements.

The Analysis shall provide the following information, at a minimum:

- Written narrative: describe the purpose, objectives and goals
- Executive Summary: include a description of the proposed improvements, location, findings, conclusions, and recommendations.
- Analysis and Detailed Description of Improvements: include detailed information regarding site plans, phasing, land use, zoning/covenants and improvement timing.
- Study Area Conditions:
 - Existing adjacent land uses, intensity and development;
 - Existing zoning/covenants;
 - Existing surface conditions and crash analysis;
 - Future Development of existing adjacent land uses;
 - Area of Improvement Influence and transportation impacts.
- Site Analysis & Accessibility: including current and future traffic volumes, existing and future pedestrian and multi-use facilities, nearest transit services, capacity, level of service for roadways and intersections, traffic control, circulation, parking, and safety.
- Capacity Analysis: Transportation system capacity analysis and structural design based on traffic projections that include:
 - Analysis of trip information including: generation, distribution, modal split and assignments;
 - Analysis of through traffic including estimated volumes and method of projection.
- Summary: Provide a summary of findings, assessment, and identification of adverse impacts relating to the analysis. Provide mitigation recommendations to address the adverse impacts identified

Mitigation recommendations shall be reviewed and approved by Park County. Upon approval mitigation improvements must be constructed and approved in accordance with the Park County Transportation Standards, the Road Work Permit Application and conditions of the Environmental Checklist.