

## **Business Area 5 – Engineering**

### **Fiscal 2008/09 Policy for Operating Funds**

### **Road & Structure Maintenance and Road Closure**

#### **1.0 Summary**

- 1.1 This policy for **fiscal 2008/09** provides direction to district managers for priority ranking and ministry funding of **operating funds** allocated through the BA 5 for road and structure maintenance, and closure of non-industrial use Forest Service Roads (FSRs) that are not associated with timber reallocation.
- 1.2 The *Forestry Revitalization Act* (Bill 28—2003) establishes the legal framework for timber reallocation. For fiscal 2008/09, the direction for priority ranking and use of timber reallocation road funding is provided in a separate document available at <http://www.for.gov.bc.ca/hth/engineering/reallocation.htm>. Districts considering possible Works of a Capital Nature on FSRs associated with timber reallocation must consult with the Regional Engineering Officers for clarification of funding criteria and source.
- 1.3 The following changes have been made to last year's BA 5 funding policy:
- (a) added new terminology for road types (i.e., Rural Residence & Recreation Access FSRs, and Environmentally Maintained FSRs);
  - (b) explained different sources of funding (i.e., operating funding, capital funding, financial transaction funding, and liability funding);
  - (c) made environmental maintenance projects on non-status roads (NSRs) and deactivation of Forest Service roads (FSRs) ineligible for funding from operating funds—rather, such projects are considered liabilities and may be funded from liability funds under a different process;
  - (d) added new terminology for the two existing levels of access maintenance (i.e., Level I access level of maintenance and Level II access level of maintenance), and gives more discretion to districts to determine the appropriate level of access maintenance based on such factors as traffic volumes and vehicle types, and number of residences served;
  - (e) added new definition for rural residence, and made other edits;
  - (f) revised Tables 1 and 2 to reflect the above changes.
- 1.4 In the past, the Business Area 5 (BA 5) Engineering received funding that was treated as **operating funds** regardless of activities. For fiscal year 2008/09, the BA 5 now has to consider four different funding types which can not be interchanged or mixed. There are serious ramifications should funds be expended on projects of the wrong type. If there is any question on which funding type should be applied for a specific works project, consult with your Regional Engineering Officer. The four funding types the engineering program now receives are: Operating, Capital, Financial Transaction and Liability funds.
- (a) **Operating funds** are for maintaining the district manager responsible FSRs (these funds are allocated through the BA 5);
  - (b) **Capital funds** can only be spent on “Works of a Capital Nature” (i.e., bridge and major culvert replacements and road upgrades that are at least \$100,000 for the road segment) for an FSR that has been capitalized and called a Tangible Capital Asset. (Capital funds, for Works of a Capital Nature, are not allocated and can only be expended on roads that are currently shown on the list of FSRs that have been identified as Tangible Capital Asset roads and for works which have been specifically approved for funding for the current fiscal year.). Any **Works of a Capital Nature** (i.e., capital works on roads that would be considered Tangible Capital Assets, typically Rural Residence & Recreation Access FSRs) must be funded through capital funds.
  - (c) **Financial Transaction funds** can only be spent on “Works of a Capital Nature” on non-capital FSRs. There is no dollar threshold of \$100,000 as there is for capital roads;
  - (d) **Liability funds** are used for Known FSR Deactivation and Known Safety or Environmental Non-Status Road projects and can only be spent on projects that have already been booked as a liability as part of the roads capitalization process. There will be an annual opportunity to look at adding additional liability projects to the inventory that the ministry currently has, and then when funding becomes available for those additional projects they could be completed sometime in the future. The liability funds are a source of money that does not disappear if the ministry does not use it, unlike all other sources of money that disappear at the end of the fiscal year if the ministry does not use them. In summary:

- (i) FSR deactivation funds can only be expended for those FSRs that have been “booked” as a liability for FSR deactivation as part of capitalization and for works that have been specifically approved for the current fiscal year.
  - (ii) NSR safety/environmental funds can only be expended for those projects that have been “booked” as a Known Safety or Environmental Non-Status Road liabilities as part of capitalization and have been specifically approved for the current fiscal year.
- 1.5 For more information about road capitalization, refer to the Ministry of Forests and Range (MFR) report called “Accounting for Resource Roads” available at [http://gww.for.gov.bc.ca/hth/engineering/documents/Capital-Roads-Project/Accounting-for-Resources-Roads-Report\(Updated-for-BA5comments\).pdf](http://gww.for.gov.bc.ca/hth/engineering/documents/Capital-Roads-Project/Accounting-for-Resources-Roads-Report(Updated-for-BA5comments).pdf)

## 2.0 Introduction

- 2.1 MFR will continue to maintain its FSR network in accordance with this policy. This means that district managers have a continued obligation to (1) provide incremental surface maintenance on FSRs that provide access to year-round communities and rural residences, and designated Forest Recreation Sites and Trails and Recreational Areas and (2) carry out a wilderness road level of maintenance on the remaining non-industrial use FSR network. District managers also have an obligation to carry out incremental surface maintenance on FSRs in accordance with the Roads Serving Rural Residences funding program sponsored by the Ministry of Transportation (MoT). This funding has been static for a number of years and therefore there is no opportunity to add additional FSRs to the program at this point in time.
- 2.2 Although district managers are expected to minimize the expansion of the non-industrial FSR network, it is anticipated that this FSR network will gradually grow due to (1) areas affected by timber reallocation, beetle and wildfire, (2) the current economic downturn in the industry, and (3) the necessity to keep the road network accessible until such time as it is required again for industrial operations and the responsibility for maintenance can be delegated to an industrial user. Notwithstanding this, in accordance with the MFR Service Plan, where appropriate the ministry will continue to transfer responsibility for FSRs with industrial use to the forest industry. Additionally, MoT continues to provide funding to MFR for identified FSRs that provide access to year-round communities and rural residences.
- 2.3 Each district manager will allocate ministry vote funding for road and structure maintenance, and closure, on eligible roads in accordance with the funding considerations in Section 3.0 and the priority ranking procedure in Section 4.0. There are limited operating funds available, and it should be recognized that the current level of operating funding will not address all the needs for road and structure maintenance (additionally, the level is expected to drop over the coming years). Therefore, the key objectives of this policy are to:
- (a) provide a planning mechanism that assists the ministry in identifying priorities for road and structure maintenance and road closure, within each Forest District in accordance with current legislative requirements and ministry Service Plan;
  - (b) ensure consistent and efficient allocation of ministry operating funds; and
  - (c) reduce the ministry’s liability by prioritizing and allocating the funding for eligible activities based on the results of a documented maintenance inspection and engineering risk analysis of roads and structures and consideration of access needs (i.e., access to year-round communities and rural residences, or access to high value Forest Recreation Sites and Trails or important Recreational Areas as determined by the District Recreation Officer of the Ministry of Tourism, Sport and the Arts).

### Eligible road types

- 2.4 Definitions for terms such as industrial use FSRs and non-industrial use FSRs used in this policy are provided in Section 5.0. The following roads are eligible for funding in **fiscal 2008/09** (see also **Table 1**):
- (a) non-industrial use FSRs [e.g., **Rural Residence & Recreation Access FSRs** (formerly known separately in the fiscal 07/08 funding policy as Community Use FSRs and/or a special subset of General Use FSRs that provide access to year-round residence(s), or Recreation Use FSRs); **Environmentally Maintained FSRs**, (formerly known as General Use FSRs), and **closed FSRs**];
  - (b) industrial use FSRs under Road Use Permit that are also Rural Residence & Recreation Access FSRs that provide access to year-round communities or rural residences, or to high value Forest Recreation Sites and Trails or important Recreational Areas **if** the permit holders choose not to carry out access-related surface and structural maintenance **during periods of inactive log haul or other industrial use**.

- 2.5 Liabilities such as NSRs, and FSRs that will be deactivated, are not eligible for operating funds but may be eligible for liability funds under a different process.

### Eligible activities for fiscal 2008/09

- 2.6 Eligible activities are linked to eligible road types as shown in **Table 1**. These activities include:

#### Road and Structure Maintenance

- (a) **Wilderness road level of maintenance:** Apply this minimum level of maintenance to Environmentally Maintained FSRs and closed FSRs. The primary purpose of a wilderness road level of maintenance is to protect forest resources (see **Table 2**). This level of maintenance does not guarantee motor vehicle access. It typically excludes access-related surface maintenance, structural maintenance on the road to protect the structural integrity of the road prism and clearing width, and structural maintenance on bridges, major culverts and other engineered structures as needed to correct structural deficiencies for vehicle access, subject to exceptions as noted in paragraph 2.6 (b).
- (b) In special situations on an Environmentally Maintained FSR, it may be necessary to provide temporary repairs to the road surface and stream crossing structures for equipment access. It may be appropriate to carry out such repairs as required to provide safe equipment access to carry out a wilderness road level of maintenance further up the road. For example, existing debris on the road running surface from cut slope slumping or raveling, or deteriorated bridge decks or collapsed log culverts, may restrict equipment access at some locations. In these cases, it may be appropriate to carry out nominal repairs to the road surface or stream crossing structures.
- (c) **A wilderness road level of maintenance** must ensure that, for the road and included structures:
- (i) the structural integrity of the road prism and clearing width are protected, **to the extent necessary to ensure there is no material adverse effect on a forest resource;**
  - (ii) the drainage systems of the road are functional, **to the extent necessary to ensure there is no material adverse effect on a forest resource** (for example, this may include ditch and culvert cleaning, or self-maintaining water control elements such as cross-ditches, backup cross-ditches at culvert locations, and culvert removal consistent with common deactivation techniques, among other techniques);
  - (iii) the transport of sediment from the road prism and its effects on other forest resources are minimized to the extent necessary to ensure there is no material adverse effect on those forest resources;
  - (iv) the safe passage for fish is provided at fish stream crossings built after June 15, 1995;
  - (v) road maintenance activities in a community watershed do not cause the quality of water to fail to meet the known water quality objectives established under section 8.2 of the Forest Planning and Practices Regulation.
- (d) **Level II access level of maintenance:** For fiscal 08/09, apply this intermediate level of maintenance primarily to Rural Residence & Recreation Access FSRs that provide access to high value Forest Recreation Sites and Trails or to important Recreational Areas. On occasion if acceptable to the district manager, this level of maintenance may be suitable for some Rural Residence & Recreation Access FSRs that provide access to smaller size year-round communities or scattered year-round rural residences based on consideration of traffic volumes and vehicle types, number of residences being served, and available funds. A Level II access level of maintenance includes a wilderness road level of maintenance **AND** access-related surface and structural maintenance as necessary to provide a reliable road network that will accommodate either 4-wheel drive high clearance vehicles (primitive road surface conditions), or 2-wheel drive high clearance vehicles (better than primitive road surface conditions) as shown in **Table 2**.
- (e) **Level I access level of maintenance:** For fiscal 08/09, apply this highest level of maintenance primarily to Rural Residence & Recreation Access FSRs that provide access to year-round communities or rural residences. On occasion if acceptable to the district manager, this level of maintenance may be suitable for some Rural Residence & Recreation Access FSRs that provide access to larger volume use “high value” Forest Recreation Sites and Trails or “important” Recreational Areas based on consideration of traffic volumes, vehicle types and available funds. A Level I access level of maintenance includes a wilderness road level of maintenance **AND** access-related surface and structural maintenance as necessary to provide a reliable road network that will normally accommodate 2-wheel drive vehicles (see **Table 2**).

#### Closure of FSRs

- (f) Forest Service roads and bridges must be closed if the conditions of the road, bridges or other structures pose a threat to road user safety. Criteria for FSR bridge closures are provided in the letter by Ron Davis, PEng, Chief Engineer, dated October 4, 2004 (copy attached).

#### Liability Issues--Road Deactivation on FSRs and Emergency projects on NSRs

- (g) Road deactivation works on non-industrial use FSRs must be carried out in accordance with the Forest Planning and Practices Regulation. Deactivation of FSRs must be funded from liability funds and not from operating funds.
- (h) It may be necessary to carry out emergency projects on NSRs to address either a **known** immediate threat to people or a **known** Very High and High risk to forest resources, property, utilities, transportation corridors, and other social and economic values. For these types of projects, seek advice and recommendations from a PEng or PGeo. Environmental maintenance projects on NSRs must be funded from liability funds and not from operating funds.

### 3.0 Funding Considerations

#### Industrial use FSRs

- 3.1 Consistent with current legislative requirements and Service Plan, there are two primary types of FSRs: *industrial use FSRs* and *non-industrial use FSRs*. As discussed in more detail in Section 5.0, industrial use FSRs may or may not be **Rural Residence & Recreation Access FSRs**, whereas non-industrial use FSRs would be one of three possible types: *Rural Residence & Recreation Access FSRs*, *Environmentally Maintained FSRs*, or *closed FSRs*.
- (a) Industrial use FSRs under Road Use Permit that are also Rural Residence & Recreation Access FSRs are eligible for funding only when industrial use is curtailed (i.e., the FSR is not used for industrial purposes over a specific time period) and these roads provide access either to year-round communities and rural residences, and high value Forest Recreation Sites and Trails or important Recreational Areas. In this special situation:
- (i) the permit holder will fund a wilderness road level of maintenance; and
  - (ii) if necessary, the ministry will seek other sources of incremental funding (i.e., outside of base funds) to pay for access-related surface and structural maintenance during the period that industrial use will be curtailed. If other funding sources are not available, the ministry may allocate ministry vote funding for access-related surface and structural maintenance.

#### Environmentally Maintained FSRs and closed FSRs

- 3.2 These roads should only receive a wilderness road level of maintenance in accordance with the eligible activities listed in column 5 of **Table 1**. The district manager may allow motor vehicle use of these roads to continue provided the following four conditions are satisfied:
- (a) road access can be accommodated at no additional cost to the ministry's expenditures to provide a wilderness road level of maintenance;
  - (b) motor vehicle use of the road will not adversely affect forest resources, property and other non-forest resource values;
  - (c) motor vehicle use of the road will not adversely damage the road infrastructure (e.g., it may be necessary to close the road to prevent damage to the integrity of the road running surface during spring break-up) or compromise the structural integrity of the road prism or road drainage system; and
  - (d) public health or safety, is not at unacceptable or intolerable risk.
- 3.3 If road users want supplementary access-related surface maintenance and structural maintenance (i.e., a Level I or II access level of maintenance) on Environmentally Maintained FSRs, they must enter into an FSR Maintenance Agreement (FS 1205) and pay for the incremental costs of such maintenance themselves.
- 3.4 The funding under the Roads Serving Rural Residences funding program sponsored by the Ministry of Transportation (MoT) has been static for a number of years and therefore there is no opportunity to add additional FSRs to the program at this point in time.

## **Rural Residence & Recreation Access FSRs that provide access to high value Forest Recreation Sites and Trails or important Recreational Areas**

3.5 If funding permits, the ministry will continue to provide access to both high value Forest Recreation Sites and Trails and important Recreational Areas by providing primarily a Level II access level of maintenance (2-wheel drive high clearance or 4-wheel drive) in accordance with paragraph 2.6(d).

## **Rural Residence & Recreation Access FSRs that provide access to year-round communities or rural residences**

3.6 On a road specific basis, there may be cost sharing arrangements between the MFR, MoT, and / or other agencies for Level I or II access-related surface maintenance and structural maintenance on Rural Residence & Recreation Access FSRs that provide access to year-round communities or rural residences. Until such time as alternative funding sources are found, or roads are transferred, MFR will provide either a Level I access level of maintenance or Level II access level of maintenance, as appropriate and commensurate with use, on such roads using engineering base funds and MoT funds (if any) for this purpose.

## **Replacement of structures and structural repairs to structures using Operational Funds**

3.7 **Replacement** of bridges and other engineered structures or major structural repairs may be required to prevent Forest Service road closure or unacceptable restrictions on traffic loads. If these works are required on an FSR that has been capitalized and identified as a Tangible Capital Asset, but the proposed works will cost less than \$100,000 (i.e., the works are not considered works of a capital nature), they can be funded with operational funds. However, if an FSR is not a Tangible Capital Asset, any such works must be funded from Financial Transaction funds. In this latter case, or if there is any question on which funding type should be applied for replacement of structures and structural repairs, consult with your Regional Engineering Officer.

## **Liabilities: Road deactivation on non-industrial use FSRs, and projects on NSRs**

3.8 **Road deactivation projects on FSRs:** The ministry will consider funding **road deactivation projects** on non-industrial use FSRs where a planning process identifies these roads as being candidates for road deactivation, or where these roads **must be closed** to protect public safety, and the cost of deactivating these roads is less than the cost of carrying out maintenance to a wilderness road level of maintenance over the period of expected closure. Deactivation of FSRs must be funded from liability funds and not from operating funds. Projects must have approval, through the liability funding process, prior to proceeding.

3.9 **Planned projects on some NSRs that have already been booked as a liability as part of the roads capitalization process:** On a project specific basis on some NSRs, if problems arise but where immediate action is not warranted, plan to address the mitigation of risk to people or to forest resources, property, utilities, transportation corridors, and other social and economic values as appropriate (and on a priority basis) through the funding process established for accessing liability funds. Projects must have approval, through the liability funding process, prior to proceeding.

3.10 **Emergency projects that arise on NSRs (not already booked as a liability):** In some cases, expenditures for emergency environmental projects cannot be foreseen or booked as a liability. On a project specific basis, take whatever steps are necessary to mitigate unacceptable risk to people or to forest resources, property, utilities, transportation corridors, and other social and economic values. Access to funds for such activities will be through the funding process established for liability funds.

## **4.0 Priority Ranking and Allocation Procedure**

4.1 District managers must budget and allocate ministry vote funding for eligible activities in accordance with the established priorities shown in Table 1. The ranking procedure consists of several steps:

- (a) Prepare a list of candidate road and structure projects that will require ministry funding from **operating** funds, and priority rank the projects according to Table 1 based on levels of risk to specific elements, and consideration of vehicle access needs. The list should be based on the results of a **documented maintenance inspection<sup>1</sup> and engineering risk analysis<sup>2</sup>** of roads and structures. For the purpose of this

<sup>1</sup> Hazards should be identified and recorded during maintenance inspections of roads and structures. For example, hazards within the road corridor or on slopes adjacent to the road corridor may include: cut and fill slope failures; shoulder slumps; washouts; blocked ditches and culverts; soil erosion and sediment transport; ineffective road drainage system; filled-in cross-ditches; events related to weather; damaged guard rails or curbs on bridges; deterioration of structural elements; landslides; debris floods; floods (freshet and heavy rain); and hazardous spills.

<sup>2</sup> The following references provide helpful information on risk management processes and risk analyses:

budgeting exercise, a qualitative analysis of risk is suitable. This list may be prepared by reviewing available road and structure maintenance inspection reports on file and other relevant information, and considering the historical record of annual road and structure maintenance required on individual roads. Where this information does not exist or is lacking, field inspections should be carried out if possible to collect the information necessary to carry out the budgeting exercise.

- (b) The District Recreation Officer of the Ministry of Tourism, Sport and the Arts is responsible for reviewing the existing list of “high value” Forest Recreation Sites and Trails and “important” Recreational Areas within the district, and should work with district engineering staff to update, confirm and prioritize the list of Rural Residence & Recreation Use FSRs that provide access to these destinations.
- (c) Once the list of high value Forest Recreation Sites and Trails and important Recreational Areas has been determined, district engineering staff with input from the District Recreation Officer should determine:
  - the type of road access to the sites (e.g., FSR, Road Permit road, Non Status Road);
  - whether additional maintenance is required to provide access to the site;
  - the maintenance standard [i.e., Level II access level of maintenance to accommodate either two wheel drive (high clearance) or four wheel drive (high clearance), or occasionally in some cases Level I access level of maintenance with two wheel drive; and
  - the estimated costs.
- (d) The list of roads and structures must be updated annually for budget purposes. For budgeting purposes, the list of candidate roads and structures should be grouped into 4 primary categories consistent with the method of reporting in the fiscal 2008/09 Service Plan spreadsheet:
  - (i) Rural Residence & Recreation Access FSRs requiring a Level I access level of maintenance;
  - (ii) Rural Residence & Recreation Access FSRs requiring a Level II access level of maintenance;
  - (iii) Environmentally Maintained FSRs requiring only a wilderness road level of maintenance;
  - (iv) Environmentally Maintained FSRs requiring closure.
- (e) When districts have prepared their priority ranked “district lists”, they will submit them to the Regional Engineering Officer (REO) for compilation. The REO will develop a regional roll-up for review by the Provincial Business Area 5 Team. The review by the BA 5 Team includes ensuring government objectives and or specific directions are met. Based on pre-determined criteria, processes and expected MoT and MFR funding, the BA Team will make regional funding allocation recommendations by account to the Executive prior to regional allocations being made. The region will determine district allocations in accordance with the ministry budget allocation letter.
- (f) When the district receives its BA 5 funding allocation, it is expected that it will carry out, within available funding, eligible activities / projects from the ranked list.
- (g) Close those roads and structures that cannot be funded and pose a substantial safety risk to non-industrial users.
- (h) Advise the Regional Executive Director of the potential consequences of not funding a project (e.g., possible road closure; potential impacts on people, infrastructure, and forest resources; and deterioration of the structural integrity of the road itself).

Basic information on qualitative risk analyses:

- (i) BC Ministry of Forests. *Managing Risk Within a Statutory Framework*  
[http://www.for.gov.bc.ca/hen/publications/managing\\_risk/managing\\_risk\\_intro.html](http://www.for.gov.bc.ca/hen/publications/managing_risk/managing_risk_intro.html)
- (ii) BC Ministry of Forests. Forest Road Engineering Guidebook (June 2002)  
<http://www.for.gov.bc.ca/tasb/legsregs/fpc/FPCGUIDE/Guidetoc.htm>.

Detailed technical references on qualitative and quantitative risk analyses:

- (i) Wise, M.P., G.D. Moore, and D.F. VanDine (editors). 2004. Landslide risk case studies in forest development planning and operations. B.C. Min. For., Res. Br., Victoria, B.S. Land Manage. Handb. No. 56. <http://www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh56.htm>
- (ii) References listed on the Division of Engineers and Geoscientists in the Forest Sector website: <http://www.degifs.com>

## 5.0 Definitions of Terms

- 5.1 **Industrial use FSRs may or may not be Rural Residence & Recreation Access FSRs:** These roads are used primarily by an industrial user under Road Use Permit. During periods of non-industrial use, the permit holder is responsible to provide for at least a wilderness road level of maintenance but is not obligated to carry out access-related surface and structural maintenance. During times of inactive industrial operations, the ministry may consider the funding of access related road surface and structure maintenance in accordance with paragraph 3.1 (a).
- 5.2 **Non-industrial use Rural Residence & Recreation Access FSRs:** These roads (not under Road Use Permit) were formerly known separately as Community Use FSRs and/or a special subset of General Use FSRs that provide access to year-round residence(s), or Recreation Use FSRs that provide access to “high value” **Forest Recreation Sites and Trails** or to “important” **Recreational Areas** such as provincial parks and recreation features, as officially designated by a District Recreation Officer of the Ministry of Tourism, Sport and the Arts.
- 5.3 **Non-industrial use Environmentally Maintained FSRs:** These roads (not under Road Use Permit) are used primarily by non-industrial users and do not provide access to communities, or to year-round rural residences, or to “high value” Forest Recreation Sites and Trails or “important” Recreational Areas.
- These roads may provide access on a part time basis (i.e., not year-round access) to private land, isolated recreational residences or cabins, commercial operation(s), including designated or undesignated parks and recreation sites (including backcountry hunting and fishing areas) **that have not been identified** by a District Recreation Officer to be “high value” Forest Recreation Sites and Trails or “important” Recreational Areas.
  - At a minimum, a wilderness road level of maintenance must be provided on these roads (see Table 2).
  - If access-related road surface and structure maintenance is not provided, it should be expected that some vehicle use might be limited due to gradual deterioration in the condition of the road surface and clearing width over time. In some situations, public access may eventually be lost. For example, motor vehicle access may be prevented where: (1) material from failed cut slopes comes to rest on the road surface, (2) failures of the road subgrade or road prism reduce or eliminate the road running width, and (3) heavy brush invades the clearing width. In other cases, it is possible that installation of deep cross-ditches or partial or full road fill pullback necessary to achieve the requirements of a wilderness road level of maintenance may also preclude motor vehicle access.
- 5.5 **Non-industrial use closed FSRs:** These roads (not under Road Use Permit) are barricaded to preclude motor vehicle access during times of unacceptable risks to user safety, or in accordance with higher level plans, until either appropriate repairs are made in accordance with the service plan, or until the road is permanently deactivated. Note that such roads may already be closed for other reasons, for example, threat of damage to the integrity of the road running surface during spring break-up. If access to private property is required, contact Resource Tenures and Engineering Branch, Real Estate Section prior to closing the road for advice on ministry liability due to the closure; based on that advice, consider whether it might be more prudent to fix the problem and keep the road open.
- 5.6 **Project:** A project is carried out within a defined work area such as a point location on a road, or within a defined section of road or entire length of road. The project work, when completed, requires mobilization and demobilization of the equipment used to carry it out.
- 5.7 **Year-round community:** For the purpose of this policy, these are one or more of (a) populated First Nations reserves; or (b) population centres that (1) have a Canada Post post office, (2) have a school or are served by school buses provided by the school district, or (3) are designated by the Regional Executive Director.
- 5.8 **Recreation site and Recreation trail:** Is a recreation site or recreation trail established under section 56 of the *Forest and Range Practices Act* (FRPA) or designated under the *Forest Act*.
- 5.9 **Recreation feature:** Is a biological, physical, cultural or historic feature that has recreational significance or value.
- 5.10 **Year-round rural residence:** Is a principle residence that requires year-round access by an FSR that is currently maintained using funds primarily from the Roads Serving Rural Residences funding program sponsored by the Ministry of Transportation (MoT).

**Table 1: Priority Ranking for Projects Funded by Operating Funds**

(1) Priority Ranking*	(2) Elements at Risk	(3) Risk Rating to Elements or Vehicle Access Criteria	(4) Roads Eligible for Operating Funds	(5) Eligible Activities
<p><b>High 1<sup>st</sup> priority</b></p>	<p>People</p>	<p>Probability of death to an individual or group is unacceptable (always consult with a PEng or PGeo if public health or safety is at risk)</p>	<ul style="list-style-type: none"> <li>• Non-industrial use FSRs:                             <ul style="list-style-type: none"> <li>○ Rural Residence &amp; Recreation Access FSRs</li> <li>○ Environmentally Maintained FSRs</li> <li>○ Closed FSRs</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Wilderness road level of maintenance</li> <li>• Road closure</li> </ul>
	<p>Property, utilities and transportation corridors Water quality, fish and fish habitat, and other forest resources as included under FRPA</p>	<p><b>Very High and High</b> risk of damage or loss to the element(s)</p>		
<p><b>High 2<sup>nd</sup> priority</b></p>	<p>Vehicle access must be maintained or restored  Safety of road users must be addressed</p>	<p>Must accommodate safe public access to year-round communities or rural residences</p>	<ul style="list-style-type: none"> <li>• Non-industrial use Rural Residence &amp; Recreation Access FSRs</li> <li>• During periods of inactive log haul, industrial use FSRs under Road Use Permit that provide access to year-round communities or rural residences</li> </ul>	<ul style="list-style-type: none"> <li>• Level I access level of maintenance, or occasionally Level II access level of maintenance if appropriate</li> <li>• <u>Occasionally and on a project specific basis</u>, replacement of bridges and major culverts and other engineered structures, subject to approval by the Regional Executive Director and appropriate funding sources</li> </ul>
		<p>Must accommodate safe public access to “high value” Forest Recreation Sites and Trails</p>	<ul style="list-style-type: none"> <li>• Non-industrial use Rural Residence &amp; Recreation Access FSRs that provide access to “high value” Forest Recreation Sites and Trails</li> <li>• During periods of inactive log haul, industrial use FSRs under Road Use Permit that provide access to “high value” Forest Recreation Sites and Trails</li> </ul>	<ul style="list-style-type: none"> <li>• Level II access level of maintenance, or occasionally Level I access level of maintenance if appropriate</li> <li>• <u>Occasionally and on a project specific basis</u>, replacement of bridges and major culverts and other engineered structures, subject to approval by the Regional Executive Director and appropriate funding sources</li> </ul>
<p><b>Mod</b></p>	<p>Property, utilities and transportation corridors Water quality, fish and fish habitat, and other forest resources as included under FRPA</p>	<p><b>Moderate</b> risk of damage or loss to element(s)</p>	<ul style="list-style-type: none"> <li>• Non-industrial use FSRs:                             <ul style="list-style-type: none"> <li>○ Rural Residence &amp; Recreation Access FSRs</li> <li>○ Environmentally Maintained FSRs</li> <li>○ Closed FSRs</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Wilderness road level of maintenance</li> <li>• Road closure</li> </ul>
	<p>Vehicle access must be maintained or restored Safety of road users must be addressed</p>	<p>Must accommodate safe public access to “important” Recreational Areas</p>		

**NOTE:** \* Only if high and moderate priorities have been addressed, allocate any available surplus maintenance funds to lower priority roads (e.g., roads with LOW risk ratings), or to selected roads that may require pro-active maintenance to protect or prolong the life of the road infrastructure.

**Table 2: Wilderness Road Level of Maintenance, and Levels I & II Access Level of Maintenance**

<b>Environmentally Maintained FSRs (formerly known as General Use FSRs)</b>	<b>Rural Residence &amp; Recreation Access FSRs (formerly known as Community Use FSRs and Recreation Use FSRs)</b>	
<b>Wilderness Road Level of Maintenance  (Also applies to closed FSRs)</b>	<b>Level II Access Level of Maintenance</b>	<b>Level I Access Level of Maintenance</b>
<p><b>Vehicle access objective:</b> <u>None</u>. Focus is on protection of the environment. Access is not guaranteed and may be lost over time.</p>	<p><b>Vehicle access objective:</b> 4-Wheel Drive High Clearance</p>	<p><b>Vehicle access objective:</b> 2-Wheel Drive High Clearance (e.g., ¾ ton pickup)</p>
<p><b>Provide Nominal Surface Maintenance</b> <u>Water management / soil erosion and sediment control:</u></p> <ul style="list-style-type: none"> <li>cleaning and grading ditches, and cleaning and repair of culvert inlets, outlets, ditch blocks, catch basins, and flumes to provide for flow of water</li> <li>replacing cross-drain culverts or flumes, or installing additional cross-drain culverts and ditch blocks, among other measures</li> <li>water control elements may employ a range of water management techniques, including:             <ul style="list-style-type: none"> <li>installation of cross-ditches and waterbars</li> <li>backup or removal of cross-drain culverts or stream culverts</li> <li>installation of trench drains, blanket drains, french drains, fords and armoured swales</li> <li>windrow removal</li> <li>removal of bridge superstructures and substructures, among other measures</li> </ul> </li> <li>carrying out erosion control measures such as grass seeding, vegetation planting, soil bioengineering, and installation of erosion control blankets; and sediment control measures such as silt fence, catch basins, and check dams, among other measures.</li> </ul> <p><u>Nominal repairs of road surface and structures for motor vehicle or equipment access</u></p> <ul style="list-style-type: none"> <li>carrying out nominal repairs to the road surface (e.g., removal of debris) to allow continuation of motor vehicle access (if desirable) where this can be achieved concurrently with and at no additional cost to providing activities for a wilderness road level of maintenance</li> <li>carrying out nominal repairs to a major culvert or bridge deck and/or the bridge superstructure (e.g., bracing, girders, and stringers) if:             <ul style="list-style-type: none"> <li>safe equipment access across the structure is required to carry out a wilderness road level of maintenance further up the road, or</li> <li>if the stream crossing structures are in need of a wilderness road level of maintenance themselves</li> </ul> </li> <li>carrying out structural repairs to restore safe fish passage at a fish-stream crossing built after June 15, 1995, including repairs to a stream culvert or structural maintenance of a bridge substructure to ensure that safe passage for fish is provided. For example, activities may include repair of culvert components, structural repair of bridge abutments, repair of scour protection, or complete removal of these structures to (1) prevent their failure into streams or (2) re-establish the stream crossings to provide safe fish passage.</li> </ul> <p><b>Structural Maintenance on the Road</b> <u>Road prism stabilization – consistent with Vehicle Access Objective</u></p> <ul style="list-style-type: none"> <li>As needed, making repairs to the road prism to ensure that the transport of sediment from the road prism and its effects on other forest resources (particularly on water quality in community watersheds) are minimized</li> <li>As per paragraph 2.4(a) where road prism stability is an issue, repairing cut and fill slopes, or carrying out road fill pullback or cut slope buttressing consistent with typical road deactivation techniques, or apply other cost effective landslide risk mitigation measures.</li> </ul>	<p><b>Provide a wilderness road level of maintenance</b></p> <p><b>Provide access-related surface maintenance</b> activities as appropriate to provide an effective running surface commensurate with road use to meet the vehicle access objective, including minor repairs such as:</p> <ul style="list-style-type: none"> <li>minimal crowning and grading of the road surface</li> <li>minimal vegetation control (brushing) as necessary to maintain vehicle access</li> <li>filling minor scours or washouts to restore or meet the required vehicle access objective</li> <li>repairing or replacing signage, bridge curbs, rails, delineators, fender logs, and running planks</li> <li>repairing cattle guards</li> <li>patching of concrete bridge decks</li> </ul> <p><b>Provide structural maintenance on bridges, major culverts and other engineered structures</b> as needed to correct structural deficiencies and consistent with Vehicle Access Objective:</p> <ul style="list-style-type: none"> <li>Repair or replace damaged bridge structural members (abutments, piers, ties, stringers, needle beams, structural curb beams), retaining structures</li> <li>Repair stream channel and scour protection</li> <li>Repair major culvert headwalls and spillways</li> <li>Repair or replace cattleguards</li> </ul> <p><b>NOTE:</b> The maintenance of existing cross-ditches and water bars across the road running surface, or new cross-ditch and water bar installations, is permissible provided the vehicle access objective can be achieved</p>	<p><b>Provide a wilderness road level of maintenance</b></p> <p><b>Provide access-related surface maintenance</b> activities as appropriate to provide an effective running surface commensurate with road use to meet the vehicle access objective, including minor repairs such as:</p> <ul style="list-style-type: none"> <li>crowning and grading the road surface</li> <li>vegetation control (brushing) to allow for safe sight distance and unobstructed ditches</li> <li>spot gravelling, or gravelling short sections, to repair, smooth and strengthen the running surface</li> <li>filling minor scours or washouts to restore or meet the required vehicle access objective</li> <li>snow removal and sanding is only done if MoT funding is available</li> <li>bridge deck cleaning (washing, sweeping)</li> <li>repairing or replacing signage, bridge curbs, rails, delineators, fender logs, and running planks</li> <li>repairing cattle guards</li> <li>patching of concrete bridge decks</li> </ul> <p><b>Provide structural maintenance on bridges, major culverts and other engineered structures as listed under 4-wheel drive and consistent with Vehicle Access Objective</b></p> <p><b>NOTES:</b> The maintenance of existing cross-ditches and water bars across the road running surface, or new cross-ditch and water bar installations, is permissible <b>except</b> if the road has high traffic volumes and provides access to High value Forest Service recreation sites. It is expected that roads with high traffic volumes to high value Forest Recreation Sites and Trails and important Recreational Areas may require grading or brushing more often.</p> <p><b>Provide structural maintenance on the road</b> to protect the structural integrity of the road prism and clearing width and consistent with Vehicle Access Objective</p> <ul style="list-style-type: none"> <li>Repair long sections of road subgrade</li> <li>Replace the running surface</li> </ul> <p><b>Provide structural maintenance on bridges, major culverts and other engineered structures as listed under 4-wheel drive</b></p>

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October 4, 2004

To: All Regional Executive Directors  
All District Managers  
All Timber Sales Managers

From: Ron Davis  
Chief Engineer  
Resource Tenures & Engineering Branch

**Re: Forest Service Bridge Closures**

There are recent examples of bridge closure methods that do not provide appropriate levels of user safety or of risk management for the ministry. Although this issue will be further addressed in the engineering standard operating procedures being updated later this year, the potential consequences of inadequate responses to known extreme bridge deterioration prompts this interim advice.

When the regional bridge engineer cannot apply any safe load limit to a dilapidated structure, take immediate action to close the bridge by either:

1. Removing the bridge superstructure and erecting a barrier to access to the bridge site, or
2. Erecting a barricade such that access is prohibited, together with a sign stating that the bridge is closed.

It is not sufficient to post the bridge for zero load, or similar. If there are unique situations where it is not possible in the short term to erect a barricade or remove the span, seek legal advice through this office to address mitigation. Note that normal signing would apply to situations where the load rating has been reduced to a level that anticipates continued vehicle use.

Ron Davis  
Chief Engineer  
Resource Tenures & Engineering Branch