Proposed OH&S Regulation Amendments – JPB Task Group 27 February 2007

FINAL

PART 1: DEFINITIONS

1.1	In this Occupational Health and Safety Regulation:
"fill"	**means any soil or other loose material that is constructed to form an embankment or a part of the foundation of a structure or improvement;**
"forest professional"	**means a person admitted to the Association of BC Professional Foresters under Section 14 of the Foresters Act**
	[[Rationale: The Association of BC Forest Professionals regulates two general registered members including Registered Professional Foreste and Registered Forest Technologists. The ABCFP also regulate special permit holders who could practice in specific areas. APEGBC also regulates two general registered members including Professional Engineers and Professional Geoscientists as well as limited license holders.]]
"professional geoscientist"	**means a professional geoscientist as defined in the *Engineers and Geoscientist Act*;**
"qualified registered professional"	**A person who a) has appropriate education and experience to carry out the activity, and b) is a member of, or licensed by, a regulatory body in British Columbia that has the legislated authority to regulate the activity and its members or licensees performing the activity**
	[[Rationale: including "qualified registered professional" is supported by both the APEGBC and the ABCFP in terms of professional reliance and professional accountability in the forest sector. It ensures that it is the professions who regulate their respective members as mandated under BC legislation]]
"stockpile"	**means any soil or other loose material that is placed in an area for storage but that is not intended to function as fill;**

Deleted: *forester*

Deleted: professional forester as defined in the *Foresters Act*;

PART 4: GENERAL CONDITIONS

BUILDINGS, STRUCTURES AND EQUIPMENT

~~**Safe premises** **Safe workplaces and equipment**~~	**4.1**	**A** building~~s~~, structure~~s~~, **stockpile, fill,** excavation~~s~~, machine~~ry~~, **piece of** equipment, tool~~s~~ and workplace~~s~~ must be **planned, designed, constructed, supplied, used and** maintained **in a manner to protect people from danger** ~~in such a condition that workers will not be endangered~~.

[[Rationale: 'planned' includes items in the list that may not be designed (such as a stockpile in a forestry operation, or the use of a machine)]]

Explanatory Note

The proposed amendment to section 4.1 adds clarity by making specific reference to stockpiles and fills, which may be part of a workplace. Fills are regularly part of a workplace as part of a road, or as a dyke, dam or embankment. Stockpiles are also part of many operations and may be of soil, gravel or other similar geotechnical material or of a product such as hog fuel or wood chips. A fill or stockpile is most hazardous when heavy equipment is being used near the top edge and there is a risk of the edge giving way and the equipment rolling or sliding down the slope endangering the operator, or from a substantial amount of the fill or stockpile material moving down slope and endangering anyone near the base of the fill or slope.

The proposed amendment to section 4.1 also broadens the scope by adding responsibility to consider the **planning,** design **(if necessary)**, supply, construction, and use, as well as maintenance, to the process of ensuring a safe and healthy workplace

[[Rationale: clarifies the understanding that some of the items listed may planned rather than designed]]

PART 4: GENERAL CONDITIONS

Terrain stability assessment **4.1.1**

(1) In this section, "terrain stability assessment" means the investigation and analysis of the terrain within, adjacent to or connected to a workplace to determine the level of hazard that exists, or is likely to develop due to the activity planned to take place, in the workplace from a landslide or other unstable ground conditions, and includes the development of recommendations for measures to eliminate the hazard or reduce the risk to people in the workplace.

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[[Rationale: separate criteria on snow avalanches are appropriate, and developed in consultation with the Canadian Avalanche Association]].

(2) Before work commences where a potential landslide or unstable ground conditions may be hazardous to a person in a workplace, an appropriately qualified professional engineer or professional geoscientist must conduct a terrain stability assessment.

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[[Rationale: removes the word 'risk' since it could be ambiguous, and emphasizes the exposure of a hazard to a person in the workplace. This is particularly important in the forest sector, where operational controls may be used to reduce the exposure rather than the hazard (such as rainfall shutdown guidelines). Also, avalanches are deleted since they are a separate issue, and technical certification comes through the Canadian Avalanche Association. A separate regulation may be warranted.]]

(3) If the workplace described in subsection (2) is a forestry operation, the terrain stability assessment may be conducted by a qualified registered professional.

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[[Rationale: includes qualified registered professional as per Part 1, Defintions]].

(4) If a terrain stability assessment identifies a hazard to a workplace described in subsection (2), the measures recommended to eliminate the hazard or reduce the risk to people in the workplace must be implemented before work commences.

(5) A person working in a workplace described in subsection (2) must be trained in any safe work procedures specified in the terrain stability assessment and must comply with those procedures.

Explanatory Note:

[[ABCFP and APEGBC note that the requirements for terrain stability assessments render Section 26.7.2 redundant, and as such, recommend that 26.7.2 be removed. We recommend that 26.7.1 'weather conditions' remains, as it specifically links weather to additional hazards in forestry operations which otherwise may not be emphasized.]]

The proposed new section 4.1.1 is a relocation of section 26.18 from Part 26, as the need for a terrain stability assessment may arise in workplaces that are not part of a forestry operation. The proposed new wording clarifies a number of aspects regarding terrain stability assessments. Proposed section 4.1.1(1) defines the term "terrain stability assessment" and states, where a hazard is identified by the assessment, the assessment is to include the development of recommendations for measures to eliminate the hazard or reduce the risk. Eliminating the hazard generally will involve physical alterations to the terrain or a change to the layout of the workplace. If the hazard cannot be eliminated or can only be partially removed, reducing the risk will require implementing procedures, such as, for example, to stop work and stay out of a hazard area under certain climatic conditions.

Proposed section 4.1.1(2) sets out when an assessment must be done and who must conduct it. In determining "where a potential landslide may be hazardous", the employer, prime contractor or owner is expected to make a preliminary decision on the possibility of a terrain stability hazard being present of the magnitude that could be a hazard to a person in the workplace. If the employer is unsure whether the circumstance at a particular workplace may be hazardous, or unsure if a hazard may be a significant risk, a professional opinion must be obtained. If it is determined there may be a terrain stability concern, a formal terrain stability assessment must be conducted by a professional engineer or professional geoscientist. Doing a terrain stability assessment combines elements of geoscience and engineering, and under the requirements of the *Engineers and Geoscientists Act*, such work must be done by an engineer or geoscientist, except as explained in the next paragraph.

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[[Rationale: The employer, prime contractor, or owner is usually not able to assess the likelihood of a landslide, but can assess the possibility of a landslide. A key focus of terrain stability assessments is the set of skills to carry out this work at a professional level, and these skills are the subject of guidelines by APEGBC and ABCFP.]]

Proposed section 4.1.1(3) sets out that in a forestry operation, the terrain stability assessment must be conducted by a *qualified registered professional* as defined by the Association of Professional Engineers and Geoscientists of BC and the Association of BC Forestry Professionals.

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Act, a professional forester is entitled to practice professional forestry, including forest engineering.

[[Rationale: this statement makes the terrain stability assessments and their completion by qualified registered professionals consistent with existing and proposed guidelines from APEGBC and ABCFP.]]

Proposed section 4.1.1(4) sets out that before work commences in a workplace where a hazard has been identified by a terrain stability assessment, the recommendations from that assessment must be implemented.

Proposed section 4.1.1(5) sets out that a person working in a workplace for which a terrain stability assessment was conducted must be trained in and must follow any safe work procedures stipulated in the terrain stability assessment.

The proposed wording does not specify a particular standard or criteria that a professional must follow when doing the terrain stability assessment. Both the *Engineers and Geoscientists Act* and the *Foresters Act* require registered members only undertake professional work they are qualified to do by virtue of their training and experience. Accordingly, a professional undertaking work with respect to a terrain stability assessment would be expected to be familiar with appropriate elements of professional practice for doing a terrain stability assessment and the development of effective recommendations to address any hazards. Generally it is expected the professional

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would be familiar with and follow recognized, published guidelines that are applicable. For example, the Association of Professional Engineers and Geoscientists of BC publishes "Guidelines for Terrain Stability Assessments in the Forest Sector" and "Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia" setting out the professional practice expected for this type of work. It is expected the engineer, geoscientist or forester will conduct an assessment of the workplace for potential hazards due to landslide, avalanche or other potential instability, and if necessary, will engage appropriately qualified specialist professionals to ensure the hazards are properly evaluated and appropriate remedial actions and/or work procedures are developed and implemented. The owner, prime contractor or employer, as applicable, must then ensure all the recommendations from the assessment are implemented.

[[Rationale: the change from 'engineering work' to 'elements of professional practice' focuses on the training and experience needed to carry out the activity at a professional level, rather than 'engineering' which could be mis-interpreted as a role rather than an activity]].

PART 20: CONSTRUCTION, EXCAVATION AND DEMOLITION

SAFE WORK AREAS AND SAFE ACCESS

Fills and stockpiles **20.14.1**

(1) If a person may be endangered by the failure of a fill or stockpile, the fill or stockpile must be constructed, used or maintained in accordance with the written instructions of an appropriately qualified professional engineer or professional geoscientist.

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[[Rationale: not all actions are directly applicable to potential hazards listed]].

(2) Subsection (1) above does not apply to forest roads.

[[Rationale: APEGBC and ABCFP recommend a separate regulation, 26.xx, regarding excavations for forestry roads. This may also require moving / copying the explanatory note below]]

Deleted: (2) If the fill or stockpile described in subsection (1) is in a forestry operation, the written instructions may be given by an appropriately qualified professional forester. ¶

Explanatory Note

In August of 2005, the operator of an excavator building a new logging road was seriously injured when a recently placed section of road fill gave way under the excavator and the machine and operator slid and rolled down the slope. The investigation of this accident identified that the *Occupational Health and Safety Regulation* did not have any specific provisions for addressing the safety of people required to work on or around a fill or stockpile in a workplace.

The intent of proposed new section 20.14.1 is to ensure that during the construction of a fill or stockpile, or when maintenance or other activity is taking place on or around a fill or stockpile, the work or activity is done in a manner stipulated by an appropriately qualified professional that minimizes the risk to a person on or near the fill or stockpile from a failure or instability of the fill or stockpile.

PART 20: CONSTRUCTION, EXCAVATION AND DEMOLITION

EXCAVATIONS

Work standards **20.78** Excavation work must be in accordance with the written instructions of a professional engineer **or professional geoscientist** if

(a) the excavation is more than 6 m (20 ft) deep,

(b) support structures other than as specified in section 20.81 are used in the excavation,

(c) an improvement or structure is adjacent to the excavation,

(d) the excavation is subject to vibration or hydrostatic pressure likely to result in ground movement hazardous to workers, or

(e) the ground slopes away from the edge of the excavation at an angle steeper than 3 horizontal to 1 vertical.

(2) The written instructions required in subsection (1) must

a) be certified by a professional engineer **or professional geoscientist**,

(b) be available at the site, and

(c) specify the support and sloping requirements, and the subsurface conditions expected to be encountered.

(3) Subsections (1) and (2) above do not apply to forest roads.

[[Rationale: APEGBC and ABCFP recommend a separate regulation, 26.xx, regarding excavations for forestry roads. This may also require moving / copying the explanatory note below]]

Sloping and shoring requirements **20.81** (1) Before a worker enters any excavation over 1.2 m (4 ft) in depth or, while in the excavation, approaches closer to the side or bank than a distance equal to the depth of the excavation, the employer must ensure that the excavation sides are sloped or supported as specified by a professional engineer **or professional geoscientist**, or that the sides of the excavation are

(a) sloped at angles, dependent on soil conditions, which will ensure stable faces, but in no case may the slope or combination of vertical cut and sloping exceed that shown in Figure 20-1,

(b) benched as shown in Figure 20-2,

(c) supported in accordance with the minimum requirements of section 20.85, or

(d) supported by manufactured or prefabricated trench boxes or shoring cages, or other effective means.

2) Subsection (1) above does not apply to forest roads.

[[Rationale: APEGBC and ABCFP recommend a separate regulation, 26.xx, regarding excavations for forestry roads. This may also require moving / copying the explanatory note below]]

(2) If the end of a trench over 1.2 m (4 ft) in depth is not adequately sloped, end shoring must be installed unless

(a) a worker in the trench is not required to approach closer to the end of the trench than a distance equal to the depth of the trench at that end,

(b) where, for the prevailing soil conditions at the end of the trench, the permissible spacing of uprights equals or exceeds the width of the trench, or

(c) otherwise authorized in writing by a professional engineer **or professional geoscientist**.

(3) If end shoring is required, the walers for the end shoring must be installed to bear against the walers that extend along the sides of the trench, or in a manner that will provide equivalent structural restraint.

(4) End shoring must be designed by a professional engineer if the end shoring waler length exceeds 1.8 m (6 ft).

Part 26: FORESTRY OPERATIONS

PART 1: DEFINITIONS

1.1 In this Occupational Health and Safety Regulation:

"hazard area" **means a workplace or any portion of a workplace where a worker may be exposed to a hazard;**

"safe work practices" **means work practices that are acceptable to the Board as safe work practices or that can be proven to be safe work practices;**

[[ABCFP and APEGBC note that the requirements for terrain stability assessments render Section 26.7.2 redundant, and as such, recommend that 26.7.2 be removed. We recommend that Section 26.7.1 'weather conditions' remains, as it specifically links weather to additional hazards in forestry operations which otherwise may not be emphasized.]]

~~**Log landings**~~ **Work area arrangement**

26.56 (1) ~~Log landings and other work areas must be~~**All work areas in a forestry operation must be planned, designed, located, constructed, maintained and operated to ensure that**

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[[Rationale: the following activities are planned as part of forest operations]]

(a) ~~located, constructed, arranged, maintained, and operated so that logs can be landed safely and workers may work in the clear of moving logs and equipment,~~**logs can be moved safely,**

(b) ~~located on stable and relatively level ground, and~~**all persons are able to work in locations clear of moving logs and equipment,**

(c) ~~adequately illuminated in accordance with the requirements of this Regulation in areas where workers are required to work at night or in other conditions of limited illumination.~~**no person is exposed to incoming or runaway logs or other debris,**

(d) they are kept in good repair and free from hazardous buildup of bark and other debris, and

(e) they have an effective method of dust control.

(2) ~~Log piles must be maintained in a stable condition.~~**Landings and log dumps must be located on stable and relatively level ground to ensure that the log piles and the equipment being used to handle the logs do not become unstable or otherwise create a hazard.**

(3) Log piles must be maintained in a stable condition in all weather conditions.

(4) Log piles must not be higher than the safe operating reach of equipment being used to handle the logs.

Explanatory Note

It is proposed to make the language in subsection (1) above more general so that the requirements in this section will apply to all work areas in a forestry operation, not just to landings and log dumps. It is proposed to reorganize the section into subsections for clarity, move some requirements currently found in other sections to this section, and remove certain requirements from this section. It is understood that roads and other work areas can have a varying level of detail in the plan and/or design, depending on the intended use of the road or area, the presence of hazardous conditions, and the complexity or atypical nature of the work required.

The proposed subsections (1)(a) and (b) are a reorganization of the existing subsection (1)(a). The proposed subsection (1)(c) is moved here from section 26.57. The proposed subsections (1)(d) and (e) are moved here from section 26.62.

It is proposed to move the current subsection (1)(b) to subsection (2) with some additional language to clarify the intent of that requirement. It uses a performance based standard, rather than quantifying a maximum slope.

It is proposed to remove the requirement in the current subsection (1)(c) regarding illumination as this obligation is covered in greater detail by Part 4 “General Conditions” –sections 4.64 to 4.69 “Illumination”.

It is proposed to move the current subsection (2) to subsection (3) and add a reference to weather factors, which are significant in northern winters where the stability of a log pile can change with the weather.

The proposed new subsection (4) is moved here from section 26.15 with no change in wording.

It is also proposed to change “worker” to “person” in this section for the reasons set out in the Generic Note that follows section 26.2

[[ABCFP and APEGBC note that design in forestry operations commonly refers to profiles and cross sections and related documents which may not prepared for roads on gently-sloping terrain. In these low hazard areas, field markings by forest professionals, topographic maps, and standard operating procedures are typically used to ensure worker safety. Any language developed must recognize that work areas do not have to be both planned and designed in all cases.]]

Part 26: FORESTRY OPERATIONS

ROADS AND ROAD MAINTENANCE

Haul road standards **26.79**

~~Roads, bridges, elevated platforms, and other structures used by vehicles transporting workers, logs or other forest products in forestry operations must be constructed and maintained to a standard which will permit safe transit.~~

(1) In this section, "road" includes a bridge, or other structure or improvement that is part of a road system in a forestry operation.

(2) A qualified registered professional must plan and/or design every road to meet a standard that permits the safe transportation of persons, logs or other forest products by any vehicles that will be used on the road.

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[[Rationale: includes qualified registered professional as per Part 1, Definitions and, the planning for roads (as not all road may be designed)]]

(3) Every road must be constructed and maintained to meet a standard that permits the safe transportation of persons, logs or other forest products by any vehicles that use the road.

(4) No vehicle used in a forestry operation may be used on a road unless the vehicle can be safely operated on that road after taking in to account the design parameters and prevailing conditions of that road.

(5) Every person working in a forestry operation who is authorized to drive a vehicle on a road must be provided with and follow the rules and procedures established for the use of that road.

(6) A person working in a forestry operation must report any hazard observed or encountered on a road to the person responsible for direction and control of the forestry operation.

(7) If a hazard observed or encountered under subsection (6) presents an immediate danger to a person using the road, all work activity in the forestry operation that is affected by this hazard must stop and must not be resumed until the hazard is remedied to the extent necessary to permit the work activity to be conducted safely.

Explanatory Note:
The proposed amendments to section 26.79 are intended to clarify a number of requirements related to road design, construction, use and maintenance. There have been a number of logging truck accidents with serious injuries and fatalities and these proposed requirements for road design, construction and maintenance would address that issue.

The proposed subsection (1) defines a road to include any bridge or other structure or improvement that is a part of the road system. This would include, for example, related facilities such as a pullout, landing, fill, drainage ditch and culvert as part of the road.

The proposed subsection (2) would require that a road in a forestry operation must be designed by an appropriately qualified licensed professional to ensure it will be safe for use by the vehicles that will be used to carry people, logs and other loads (such as a low bed transporter moving heavy equipment or a gravel truck) on the road. The road design will determine the limits for the size and type of equipment that can safely use the road system, and these limits may vary with the season. For example, load limits may be higher in winter (when the road is frozen) than during spring break-up. The obligation to know the design parameters and to use the road in the manner prescribed by the designer rests with the owner, licensee, prime contractor, employer, worker and/or independent operator as applicable to the nature of the employment arrangements for the operation at any particular time.

The proposed subsection (3) would require that the road must be constructed and maintained in accordance with the design requirements set out in subsection (2). Again, this obligation may rest with any of the workplace parties, depending on the circumstances.

The proposed subsection (4) would require that the design limits for the road and the prevailing road conditions, such as snow and ice on the road, must be taken into account in using the road.

The proposed subsection (5) would require road users to be aware of and follow the rules and procedures for use of the road. For example, a rule would be a posted maximum speed limit, and a procedure would be the use of a radio system to coordinate traffic flow.
The proposed subsection (6) would set out the obligation to report any hazard on a road. This is to ensure a person in a position to initiate action to correct the hazard is made aware of the hazard.

The proposed subsection (7) would set out what must happen if there is a hazard that presents an immediate danger to a person using the road. For example, if a danger tree is creating an immediate danger to anyone using the road, all traffic would need to be stopped from passing through the danger area until the hazard was remedied, likely by removal of the danger tree. On the other hand, if the immediate danger was the integrity of a bridge to safely carry loaded log trucks or heavier loads, but the bridge was deemed safe for use by light trucks and crew crummies, the bridge would only need to be closed for loaded log trucks and heavier traffic.

Both APEGBC and ABCFP agree that a separate section regarding excavations on forest roads is warranted as a result of using 'qualified registered professional' in appropriate WorksafeBC regulations, and removing potential mis-understandings regarding the application of 20.78 and 20.81 to excavations during forest road construction. It is understood that other types of excavations outside of forestry roads would continue to be covered by Part 4, Sections 20.78 and 20.81.

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Recommendation of the ABCFP

Part 26: FORESTRY OPERATIONS

EXCAVATION AND CONSTRUCTION OF CUTS AND FILLS

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Work standards **26.xx** (1) Excavation work must be in accordance with the written instructions of a qualified registered professional if:

(a) an earlier terrain stability assessment carried out for the site identifies that such instructions are necessary to address worker safety or requires a subsequent assessment at the time of construction

(b) no terrain stability assessment has been carried out, the excavation work has been identified by a qualified registered professional as being potentially unstable and hazardous to a worker

(c) a worker will enter a roadcut excavation area closer to the side bank than a distance equal to the height of the roadcut, in an area where slopes are unstable and hazardous to a person;

[[Note: this is an adaptation of 20.81.1 to forest roads]]

(2) If a person may be endangered by the failure of a fill or stockpile, the fill or stockpile must be constructed, used or maintained in accordance with the written instructions of a qualified registered professional.

(3) The written instructions required in subsections (1) and (2) must

(a) be certified by a qualified registered professional,

(b) be available at the site, and

(c) specify the support and sloping requirements, and the subsurface conditions expected to be encountered.

(4) Subsections (1) and (2) above apply to road cuts and fills during forest road construction, maintenance, and

deactivation.

[[Rationale: This new section addresses a number of issues such as: which professionals have the right to practice in forestry operations and are best suited for the prescribed task, how to address the potential endangerment of a person in the workplace in the excavation and construction of roadcuts and roadfills, and where should the concept of 'written instructions' be applied. As previously stated the use of the term 'qualified registered professional' is supported by ABCFP and APEGBC and both Associations are mandated under legislation to regulate their respective members. This new section draws on and supports existing and soon to be released guidance documents from both ABCFP and APEGBC. The concept of written instructions should enhance the existing process of terrain stability assessment and not be independent of it. This change also closely mirrors the approach take by WorkSafeBC in regards to fills and stockpiles, which can be as dangerous as excavations.

Both Associations through the Joint Practice Board will be providing new guidance to their respective members as "*when to carried out a terrain stability assessment*". This new document will also provide guidance regarding terrain stability management where no terrain stability assessment will be carried out.

An additional important concept of this new section is it has limited excavation work in forestry operation to roadcut excavation. Larger or more specialized excavations for the installation of structures such as trenches which require more specialized knowledge of engineering and geoscience, would continue to be covered under 20.78 and 20.81 in Part 4. The move to 'result oriented' type language will direct employers and professionals to 'identify' criteria particular to their area of operation and hence, focus the concept of written instructions where most applicable, which is specifically those areas where special care must be taken by the worker.

Developing a general criteria approach to forest operation roadcuts for a province with such a broad diversification of terrain and geology as BC is not the best approach to address worker safety. The criteria utilized in the existing regulation, specifically where *"the ground slopes away from the edge of the excavation at an angle steeper than 3 horizontal to 1 vertical"* would result in written instructions on the majority of forest roads on the coast and even much of the interior. This will undoubtedly lead to a general approach to written instructions and roadcut areas or situations that may be hazardous to a worker could be overlooked.

Government has also moved towards the concept of professional reliance and ABCFP believes this direction fits well with what Worksafe BC is trying to achieve. Both ABCFP and APEGBC members have not only the education and experience for excavation and construction works but they are legislatively professional accountable to ensure their plans are safe. ABCFP believes that moving away from the general province wide approach and focusing in on area specific concerns will improve worker safety.

Recommendation of the APEGBC

Part 26: FORESTRY OPERATIONS

EXCAVATION AND CONSTRUCTION OF ROADCUTS AND ROADFILLS

EXCAVATIONS

Work standards **26.xx**

(1) Excavation work must be in accordance with the written instructions of a **qualified registered professional** if

(a) the excavation is more than 6 m (20 ft) deep,

(b) support structures other than as specified in section 20.81 are used for the excavation,

(c) an improvement or structure is adjacent to the excavation,

(d) the excavation is subject to vibration or hydrostatic pressure likely to result in ground movement hazardous to workers, or

(e) the ground slopes away from the edge of the excavation at an angle steeper than 3 horizontal to 1 vertical.

(2) The written instructions required in subsection (1) must

(a) be certified by a qualified registered professional,

(b) be available at the site, and

(c) specify the support and sloping requirements, and the subsurface conditions expected to be encountered.

(3) If a fill or stockpile described in subsection 20.14.1 is in a forestry operation, the written instructions may be given by an appropriately qualified registered professional.

[[Rationale: this is a new section regarding excavations that mirrors Sections 20.78, with the intent of incorporating the role of the qualified registered professional for providing written instructions in specific circumstances for forest roadcuts and roadfills. Section 20.14.2 pertaining to forestry operations could also be located in this section.]]

Part 26: FORESTRY OPERATIONS

Road grade **26.79.1** **(1) If the grade on a road or portion of a road used in a forestry operation exceeds 20%, a risk assessment must be performed to ensure that any vehicle or equipment using the road or portion of the road is capable of being operated in a safe manner.**
(2) The risk assessment under subsection (1) must consider all relevant factors, including the following:

(a) specifications regarding the road surface conditions;

(b) typical maximum vehicle or equipment speed;

[[Rationale: it is the typical maximum speed of vehicles that is usually the limiting criteria]]

(c) length of pitch of the road;

(d) road relief;

(e) curve radius of the road;

(f) specific terrain hazards;

(g) potential weather conditions.

(3) A risk assessment is not required under subsection (1) if

(a) the vehicle or piece of logging equipment being operated on the road or portion of the road is within the design limits approved by the manufacturer, or
(b) the vehicle or equipment using the road is assisted or snubbed down the slope of the road using equipment and procedures that ensure the operation is performed safely.

[[Additional comment: APEGBC and ABCFP recommend that all roads that are used for resource extraction or industrial use be covered under the same Regulations applicable to forest roads, since in most cases the technical issues and involvement of professionals is similar.]]

[[APEGBC and ABCFP are also aware of a recent study that was carried out to review the issue of maximum road grade for design purposes. While not involved directly in the study, and thus reserving comment on the relevance of the study for informing the proposed regulations, both APEGBC and ABCFP support the use of the best available science as a means to establish design criteria.]]

Part 26: FORESTRY OPERATIONS

~~Bull rails~~**Bridges, other structures and bull rails**	**26.81**	~~The open sides of bridges, elevated truck weigh scales and associated elevated ramp approaches and other elevated structures used by logging trucks must be equipped with substantial and well secured continuous timber or log curbs or bull rails of sufficient height to prevent vehicles from running off the structure, but not less than 25 cm (10 in).~~ ~~[Amended by B.C. Reg. 312/2003.]~~ **(1) Bridges, elevated platforms and other structures on roads used in a forestry operation by vehicles transporting persons, logs or other forest products must be designed and constructed to withstand the loads and stresses likely to be placed on them.** **(2) The open sides of bridges, elevated truck weigh scales and associated elevated ramp approaches and other elevated structures used by logging trucks must be equipped with substantial and well secured continuous timber or log curbs or bull rails of sufficient height to prevent vehicles from running off the structure, but not less than 25 cm (10 in).** **(3) Bridges, elevated platforms, structures and bull rails referred to in subsections (1) must** **(a) be maintained in good condition and repair, and** **(b) be inspected** (i) if built under the Guidelines for Professional Services in the Forest Sector – Crossings (ABCFP and APEGBC) at a frequency interval after construction as specified by the Coordinating Registered Professional with a maximum frequency of at least once every 3 years, or (ii) if not built under the guidelines specified in subsection 3 (i) at least once every 3 years after construction or the stringers or any portion of the structural components of the bridge substructure are untreated wood, in which case the timeframe is at least once every 2 years after construction (4) Bull rails referred to in subsection (2) must (a) be maintained in good condition and repair, and (b) be inspected at least once a year by a qualified and authorized person **(5) a record of every inspection under subsection must be kept and maintained.**

[[Rationale: This new section distinguishes between the inspection frequency of structural and non-structural aspects of bridges and structures. The proposed Worksafe BC Regulation specifying a bridge or structure inspection to be completed every year is conservative and does not necessarily equate to an increase in worker safety. Completing a structural inspection on non-treated wood structures every one year versus two years will not resolve the issue of poorly completed inspections or inspections completed by non-qualified individuals. Both Associations through the Joint Practice Board released "Guidelines for Professional Services in the Forest Sector – Crossings" in March, 2006. This document directs the Coordinating Registered Professional (usually the Forest Professional) to define the inspection frequency for all crossings built under these guidelines (maximum of 3 years). For crossings built before March, 2006 a structural inspection frequency of 2 (non-treated wood) or 3 years is proposed.