Technical Circular T-02/26
Date August 19, 2026

To: All Engineering Directors
All Regional Directors
All HQ Directors: Operations, Planning and Major Projects
All District Managers Transportation

Subject: Use of Hog Fuel as Light Weight Fill

Restrictions on Use

This technical circular summarizes restrictions and provides guidance and best practices for the use of hog fuel as a lightweight fill material. This technical circular supersedes technical circular T-17/06.

Hog fuel has the potential to generate environmentally harmful leachate and accordingly under Section 6.20 of the Ministry of Transportation and Transit's Supplement to the Canadian Highway Bridge Design Code (CHBDC S6), the use of hog fuel as a fill material in highways and roadways is not permitted. Any proposed use of hog fuel requires a design variance in accordance with Technical Circular T-03/25 and must be supported by appropriate professional assessments as outlined below.

Design Variance

Any design variance request submitted to the Chief Engineer for the use of hog fuel must:

- Include recommendations and guidance from a Contaminated Sites Approved Professional (CSAP) confirming compliance with the Contaminated Sites Regulation
- Include an assessment by a Registered Professional Biologist (RPBio) addressing potential environmental impacts
- Demonstrate that environmental risks will be minimal
- Establish that alternative lightweight materials such as cellular concrete, pumice, or geofoam (expanded polystyrene - EPS) are impractical for the project.

Guidance and Best Practices

The suitability of hog fuel depends on factors such as material source, tree species, and environmental conditions. Hog fuel must not be comprised of wood or bark from cedar or aspen species. Hog fuel must be free of hydrocarbons and wood preservatives. Sawdust is strictly prohibited**.** Aged hog fuel stockpiles are preferable due to reduced leachate potential.

Appropriate design features to mitigate leachate concerns include encapsulation, drainage, and safe disposal of leachate from drainage collection systems. Please refer to Figure A**.** Hog fuel should remain encapsulated so that groundwater does not adversely affect it through wetting and drying cycles, which could result in decay and the generation of leachate.

Typically, encapsulation is accomplished using 20-mil polyethylene sheeting overlapping by a minimum of 1000 mm with sealed seams**.** A permanent system of drainage pipes

leading to sealed sumps (manholes) is required to allow for the safe collection and disposal of leachate.

Protective steps must be implemented to mitigate fire hazards and wind displacement, and a fire control plan must remain in place until the material is covered with SGSB or Type D fill. Hog fuel must be protected from exposure to rainwater prior to placement and should remain dry to minimize moisture retention. The material should be blended as necessary to ensure a uniform composition and spread in 500 mm loose lifts using tracked equipment. Lifts should be compacted using a 10-ton sheepsfoot roller and vibration. At the outset, compaction trials should be carried out under the supervision of a geotechnical engineer to determine the number of passes necessary to achieve suitable compaction. If the material is excessively dry it may be necessary to apply water to achieve suitable compaction.

Existing Infrastructure Containing Hog Fuel

In the past the Ministry typically utilized hog fuel as lightweight fill in bridge approach embankments for overpasses in areas with soft soils to reduce loading which causes settlement and induces shear stress at the toe of embankments. Hog fuel is subject to variability in material properties and decomposition possibly leading to differential settlement over time which may necessitate repairs. Project upgrades and infrastructure improvements, such as new utilities, may also necessitate work in and around existing embankments comprised of hog fuel.

It is important to exercise care when developing designs or construction work including utility installations on or below embankments constructed of hog fuel. Project designers and professionals working on behalf of permit applicants must have access to as-built drawings and other related information to fully understand the geotechnical loading conditions, as well as the design and function of the encapsulation and drainage systems.

If work initiated by the ministry is expected to impact a hog fuel embankment, then the design should be developed to minimize differential settlement in accordance with project specific direction provided by the Ministry. For work initiated by third parties such as utility owners the design should be developed so there is no differential settlement.

If the work is expected to disturb encapsulation and drainage systems, then the design should be developed to reinstate these systems.

Contact

Scott Cosman, P.Eng.
Lead Engineer, Materials and Standards
Scott.B.Cosman@gov.bc.ca

Warren Lemky, P.Eng.
Deputy Director, Environment and Geotechnical Engineering
warren.lemky@gov.bc.ca

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Ian Pilkington, P.Eng.
Chief Engineer

Attachment: Figure A – Conceptual Hog Fuel Embankment Design

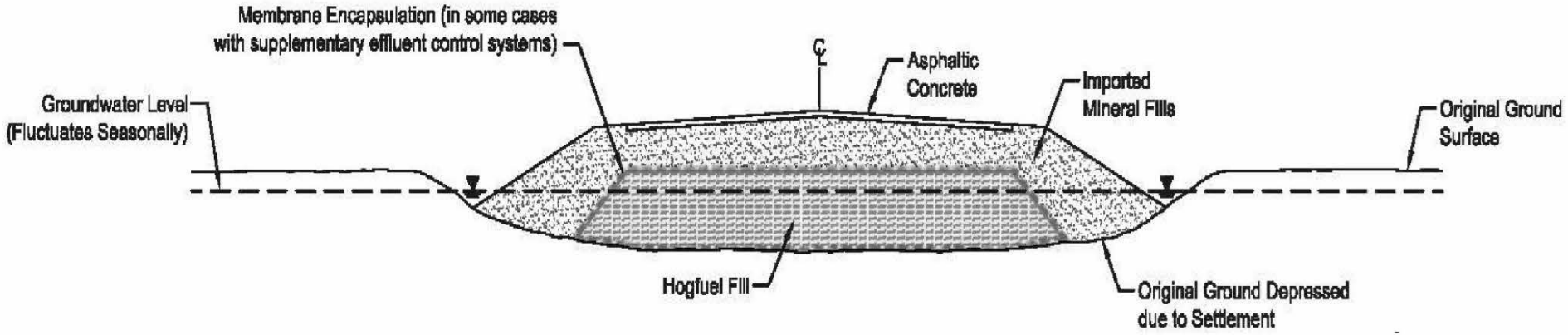


FIGURE A

SHOWING MEMBRANE ENCAPSULATION OF HOG FUEL (WHERE MORE COMPLETE EFFLUENT RETENTION IS REQUIRED AT CRITICAL LOCATIONS)

BRITISH COLUMBIA
Ministry of Transportation

CONCEPTUAL HOG FUEL EMBANKMENT DESIGN