

1 Introduction and Scope

The Ministry of Transportation and Infrastructure (MoT), contracts the maintenance of British Columbia's provincial highways to privatized Road and Bridge Maintenance Contractors. These contractors play an essential role in meeting the Ministry's mandate to provide safe transportation, and to carry out all work in an environmentally responsible manner.

To assist in this latter objective, the Ministry has developed this manual of Environmental Best Management Practices for Highway Maintenance Activities. These standardized practices and protocols are designed to be applicable across the province, and to serve as a practical and cost effective means for contractors to meet regulatory agency requirements, and public expectations for environmental protection.

The document is an integral component of a Memorandum of Understanding between the Ministry of Transportation and Infrastructure and the Ministry of Environment regarding operational environmental stewardship for highway maintenance (see Section 8 for further information).

The scope of this document is limited to the potential environmental concerns associated with the routine maintenance activities described in the Ministry's Highway Maintenance Contracts Maintenance Specifications, but also includes information for several topic areas that are integral to highway operations.

The Ministry's Highway Maintenance Contracts Maintenance Specifications document is available at:

http://www.th.gov.bc.ca/BCHighways/contracts/maintenance/Schedule_21_Maintenance_Specifications.pdf

Sixteen environmental best practices have been developed for 9 maintenance categories, and covering 35 specific MoT maintenance activities. These best practices are cross-referenced to the actual specification numbers and maintenance activity headings used in the Contract Maintenance Specifications. The following Table 1 matrix outlines the environmental best practices developed, and the location of additional information applicable to the related maintenance activities.

In cooperation with local regulators, MoT staff in some Ministry Districts, have also worked to develop local environmental best practices for specific maintenance activities. These locally-developed protocols are referenced where appropriate, and provide additional guidance.

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This manual is intended to be a living document—one that will continue to evolve through implementation of the best practices, and through continued dialogue with Maintenance Contractors. Ultimately the implementation of appropriate environmental best practices should help reduce the permit requirements for certain highway maintenance activities that are routine in nature, and regularly undertaken.



Table 1. Maintenance Activity/BP Reference Matrix

Category	MoT Maintenance Activity	Maintenance Specification Number	BP Name	Page #
Surface Maintenance	Highway Pavement Patching and Crack Sealing	1-100	Highway Surface Management	16
	Highway Surface Treatment	1-110	Highway Surface Management	16
	Gravel Surface Grading and Re-shaping	1-130	Gravel Surface Management	21
	Dust Control and Base Stabilization	1-140	Dust Management	26
	Highway Surface and Shoulder Graveling	1-150	Gravel Surface Management	21
	Highway Shoulder Maintenance	1-160	Gravel Surface Management	21
	Road Base Maintenance	1-170	Gravel Surface Management	21
	Pavement Surface Cleaning	1-180	Gravel Surface Management	21
	Debris Removal	1-190	Debris Removal	31
Drainage Maintenance	Ditch and Watercourse Maintenance	2-250	Ditch and Watercourse Management ¹	36
	Drainage Appliance Maintenance	2-260	Drainage Appliance Management ¹	43
	Shore, Bank and Watercourse Maintenance	2-270	Shore, Bank and Watercourse Maintenance ¹	51
	Engineered Wetland and Water Quality Pond Maintenance	2-280	Engineered Wetland and Water Quality Pond Maintenance	59
Winter Maintenance	Highway Snow Removal	3-300	Winter Road Maintenance	65
	Winter Abrasive and Chemical Snow and Ice Control	3-310	Winter Road Maintenance	65
	Roadside Snow and Ice Control	3-320	Winter Road Maintenance	65
	Highway Condition Reporting	3-330	No BP available	N/A
Roadside Maintenance	Roadside Vegetation Control	4-350	Roadside Vegetation Management	70
	Litter Collection and Graffiti Removal	4-370	No BP available	N/A
	Rest Area and Roadside Facilities Maintenance	4-380	Rest Area and Roadside Facilities Management	76
	Roadside Fence Maintenance	4-400	Roadside Fence Maintenance	83
Traffic Maintenance	Sign System Maintenance	5-440	No BP available	N/A
	Temporary Line Marking and Eradication	5-450	No BP available	N/A
	Highway Traffic Control	5-470	No BP available	N/A

¹ Other provincially-applicable best practices documents are also available for this specific maintenance activity.

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Table 1. Maintenance Activity/BP Reference Matrix (cont'd)

Category	MoT Maintenance Activity	Maintenance Specification Number	BP Name	Page #
Structure Maintenance	Bridge Deck Maintenance	6-500	Bridge Structure Management	88
	Bridge and Structure Cleaning	6-510	Bridge Structure Management	88
	Bridge Drain and Flume Maintenance	6-520	Bridge Structure Management	88
	Bridge Joint Maintenance	6-530	Bridge Structure Management	88
	Bridge Bearing Maintenance	6-540	Bridge Structure Management	88
	Bailey and Acrow Bridge Maintenance	6-560	Bridge Structure Management	88
	Minor Painting of Bridge Structures	6-570	Bridge Structure Management	88
	Concrete Structure Maintenance	6-600	Bridge Structure Management	88
	Steel and Aluminum Structure Maintenance	6-605	Bridge Structure Management	88
	Timber Truss Bridge Maintenance	6-620	Bridge Structure Management	88
	Bridge Piling Maintenance	6-640	Bridge Structure Management	88
	Timber and Log Structure Maintenance	6-650	Bridge Structure Management	88
	Retaining Structure Maintenance	6-660	Bridge Structure Management	96
	Multiplate Structure Maintenance	6-680	Bridge Structure Management	101
	Bridge Railing Maintenance	6-690	Bridge Structure Management	88
Debris Torrent Structure Maintenance	6-740	No BP available	N/A	
Emergency Maintenance	Flood Control and Washout Response	7-760	No BP available	N/A
	Mud, Earth and Rock Slide Response	7-770	No BP available	N/A
	Highway Incident and Vandalism Response	7-780	Highway Incident and Vandalism Response	107
	Snow Avalanche Response	7-790	No BP available	N/A
	Structural Damage Response	7-800	No BP available	N/A
	Bailey and Acrow Emergency Installation	7-810	No BP available	N/A
Inspection	Highway Inspection	8-830	No BP available	N/A
	Highway Patrol	8-840	No BP available	N/A
	Bridge Inspection	8-850	No BP available	N/A
Other	Gravel Pit Operations	No Spec	Gravel Pit Management	110

Additional BPs have been developed for application to a range of general and specific highway maintenance activities that may be routinely undertaken. These BPs and their location within this document are listed in Table 2.

Table 2. Supplementary Best Practices Applicable to General and Specific Highway Maintenance Activities

Category	MoT Maintenance Activity	BP Name	Page #
General	Erosion and Sediment Control	Erosion and Sediment Control	116
	Invasive Plant Management	Invasive Plant Management	122
	Use of Potentially Harmful Substances	Use of Potentially Harmful Substances	127