

	RUNOFF & VEGETATION MANAGEMENT ALL-A0A-00-000-HST-0024	Retention Code: CG01 - CA
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Document History

Date	Approved by	Change Summary
April 2020	David Reaich	Usability Mapped – Issued for Use

About this Standard


Purpose	This standard sets the expectations for water and vegetation management at CPC operated facilities.
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1. Industrial Runoff Management


1.1. Drainage Requirements

All Sites	<p>All sites must manage industrial runoff (any surface water on a site) in compliance with the applicable regulation and approval requirements including the following:</p> <ul style="list-style-type: none"> • Prevent contaminated water from leaving site. • Surface water is prevented from running onto the site using berms and dikes as necessary. • Any water (surface water, groundwater, precipitation) that enters site is directed away from areas of potential contamination. • Minimize soil erosion. • Test surface water and ensure samples meet provincial discharge criteria before off-site discharge. • Water must not be discharged directly into a surface watercourse or waterbody.
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Sites within 100 m of a water body	<p>The following requirements apply to sites within 100 m of a water body:</p> <ul style="list-style-type: none"> • A lease dike, berm, or alternative control measure is in place to contain on site releases.
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 **NOTE:** This excludes saline water source wells.

 **NOTE:** In British Columbia, the licensee must comply with the Oil and Gas Activities Act, Environmental Protection and Management Regulation (EPMR), Section 5.

 **NOTE:** In Alberta, the licensee shall comply with Oil and Gas Conservation Rules section 8.06.

Sites operating with approvals or permits


Sites with operating approvals or permits are required to manage industrial runoff per approval conditions.


1.2. Industrial Runoff Discharge

Testing Industrial Runoff

Industrial runoff (accumulated surface water) on all sites must be tested prior to discharge to the surrounding environment and meet the following criteria:

Parameter	Concentration
Chloride (Cl)	<500 mg/L
pH	AB: 6.0-9.5 BC: 6.5-8.5
Hydrocarbons	No visible sheen
Electrical Conductivity (British Columbia Only)	<2 dS/m
Total Extractable Hydrocarbons (British Columbia Only)	Prior to pumping from secondary containment of refined fuel storage tank. <15 mg/L


 **NOTE:** Sites not operating under an approval or registration may be field tested except for Total Extractable Hydrocarbons.

 **NOTE:** Water in secondary containment around a storage tank must not be discharged if it does not meet criteria

Before Discharging Industrial runoff

Before discharging industrial runoff:

- Obtain landowner / occupant consent to discharge
- Choose a location on the low side of the site so water can move away from the site/facilities
- Ensure the discharge will not cause soil erosion
- Ensure discharge will not directly enter a watercourse/waterbody or pool on the ground adjacent to the site.

 **CAUTION:** Water not meeting the above testing requirements must not be discharged to the environment.

Industrial runoff
Discharge Records

All testing results and discharge volumes need to be recorded on a Industrial Runoff Discharge Form.
Attach field testing results (pH and chloride strips) and retain for ten years.

2. Vegetation Management

2.1. Vegetation Management

Vegetation
Management

Vegetation management is required to establish vegetation following construction and to:

- Control weeds
- Maintain access
- Provide erosion control
- Stabilize soil
- Meet regulatory and license/permit/approval requirements.

2.2. Vegetation Control Methods

Natural Competition

Natural competition is achieved by establishing native grass or shrub/tree or combination with the following long-term benefits:

- Ease of maintenance and aesthetic appeal
- Soil-holding capability
- Reduced soil erosion
- Biodiversity


Mechanical Control

Mechanical control involves the need to cut or mow tall and dense vegetation for ease of access and/or manage weeds. May include hand pulling and bagging to remove and dispose of prohibited and noxious plant species.

Chemical Control

Chemical control involves the application of herbicides and is often required to control noxious weeds.

 **NOTE:** Only CPC approved chemicals are permitted.

 **CAUTION:** Only approved CPC contractors are permitted to apply herbicides.

2.3. Herbicide Application

Prohibited Pesticides/Herbicides

The following pesticide/herbicide mixtures containing the following active ingredients are not permitted for use in CPC vegetation control programs:

- Amitrole (Amerol, Amino Triazole, Amitrol, Amizine, Amizol, Azolan, Azole, Cytrol, Diuro, and Weedazol)
- Picloram (Tordon 101, Tordon 22K and Grazon)

See CPC's SDS database for approved chemicals.

Pesticide/Herbicide Application Considerations

The following herbicide application considerations should be integrated into work planning:

- Limit spray drift using proper methods
- Spray areas adjacent to gardens, planted trees etc. while dormant.
- Maintain a 15 m buffer where a power line crosses a numbered road.
- Review application directions on herbicide label.

Notification Requirements

Landowners may require notification depending on the herbicides/pesticides, the areal extent of the program and proximity to waterbodies and dwellings:

- Verify notification requirements with licensed herbicide application to ensure compliance with current regulations
- If applying herbicides over large areas (>20ha in B.C.) or within 30m of waterbodies additional permits (e.g. Pest management Plan in B.C.) and notifications may be required

Documentation Requirements

The herbicide contractor is required to submit a report including maps of the previous year's herbicide program (DUE by January 31 of the following year) that includes:

- Name and address of owner of treatment location
- Name and certificate number of applicators
- Permit number for the class of pesticide/herbicide if applicable
- Date and time of pesticide use
- Trade name and registration number under federal regulations
- Target species/pest, weather conditions, and any safety precautions.
- Total quantity and method of application
- Map showing treatment areas
- Special note of any areas where herbicide was applied within 30 m of a waterbody.



NOTE: Where a Pest Management Plan was required an annual report must be submitted to the BC Ministry of Environment by January 31

3. CPC Approved Herbicides

Risk Category	Active Ingredient	Trade Name Examples	Comments	Type of Herbicide	Use Approved For
Low	Glyphosate	Roundup, Glyphos, Vantage	Irritant, very low mammalian toxicity, leaching capacity is low.	Non-Selective Non-Residual Herbicides	For weed/pest control on site and in facility areas where all vegetation growth must be suppressed.
Moderate-Low	Clopyralid	Transline, Lontrel	Slight toxicity to bees, use with caution in areas where bees are raised.		
	Imazapyr	Arsenal	Avoid when soils are permeable and groundwater table is shallow.		
Moderate-High	Triclopyr	Garlon	Highly mobile. Low soil persistence.	Selective for broadleaf weeds and woody species.	Effective for brush control while not affecting conifer and most grasses.
	Flumioxazin	Chateau, SureGuard, BroadStar, Payload	Highly mobile. Low soil persistence.		
	Aminopyralid	Milestone	Manure from cows grazed on fields within 3 days of treatment may have residues.	Selective Residual Herbicides	For weed control onsite and facility areas where plants have developed resistance to other herbicides or are difficult to control.
	Metsulfuron methyl	Escort	For use on non-crop areas.		
Dicamba	Dycleer, Vanquish	May persist longer with low soil moisture and rainfall (half-life > 12 weeks).			
High	2,4-D	2-4-D	Moderate toxicity and highly mobile. Most commonly used herbicide in the world.	Selective Non-Residual Herbicide	Appropriate for ditch or right-of-way application to retain grassy vegetation but control noxious weeds
	Pronamide	Kerb, Proyzamide, RH-315, Benzamide	High toxicity. Soil persistent.	Non-Selective Non-Residual Herbicide	Appropriate for ditch or right-of-way application to control noxious weeds
	MCPA	MCPA	Soil persistent. Precautions required in areas with shallow water tables.	Selective Non-Residual Herbicide	Appropriate for ditch or right-of-way application to retain grassy vegetation but control noxious weeds

Selective – Only susceptible vegetation is affected.

Non-Selective – All vegetation is affected.

Residual – Persists in the soil for more than one growing season.