






Highland Pine Products.
Storm Water Management Plan
2018-2020

  	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		




Contents

Introduction.....	2
Background.....	2
Legal Requirements.....	3
Objectives and Performance Outcomes.....	3
Stormwater System Summary.....	4
Highland Pine Products site 1.....	4
Highland Pine Products site 2.....	4
Structures within System.....	5
Criteria and Guideline Values – HPP Site 2.....	5
Stormwater.....	5
Sediment.....	6
Criteria and Guideline Values – HPP Site 1.....	7
Stormwater.....	7
Management Safeguards and controls.....	8
Controls on site.....	8
Cleaning and Maintenance of System.....	8
Training and Responsibilities.....	9
Reporting and Review.....	11
Reporting.....	11
Review.....	11
Appendix 1 – Environmental Protection Licence – 11229 and 887.....	12
Appendix 2 – Surface water flow – Site overview.....	13
Appendix 3 – Surface water flow – HPP Site 1.....	14
Appendix 4 – Surface water flow – HPP Site 2.....	15

Review Date	Review Team	Changes Made (Section)
1. Dec 2014	SK, BG	Update historical document. All sections updated
2. Dec 2016	PS, BG	Minor updates/review
3. Dec 2018	SK, BG	Doc rewrite. Update due to changes to ownership.

Prepared by	Position	Approved by	Position	Company	Page
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Printed Documents are uncontrolled

  	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
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INTRODUCTION

The purpose of this plan is to document processes and procedures implemented by Highland Pine Products (HPP) with regard to storm water management at its two manufacturing facilities at Oberon NSW. Historically this plan considered the integrated stormwater system including impacts by adjacent facilities on stormwater quality. A recent change of ownership has necessitated the need to update this document to consider impacts from the HPP site 1 (HPP1) and Site 2 (HPP2) facilities only.

Broadly, this plan documents the required management and controls for a number of potential impacts to storm water across the complex being;

- Historical contamination of Organochlorine pesticides (OCP's);
- Impact of spills;
- Sediment (unsealed surfaces) and wood fibre.
- Use of termiticide in the solid wood treatment process; and
- Large volume of fuels and oils used across the complex.

All of the above have the potential to negatively impact on sensitive aquatic ecosystems found in the receiving environment.


BACKGROUND

In 2008, then owners (Carter Holt Harvey (CHH)) entered into an agreement with the DECC (now the NSW EPA) to complete a remediation action plan (RAP) across the Oberon Timber Complex. After numerous investigations over the previous 10 years, historical Organo-Chlorine Pesticide (OCP) contamination was found in drainage line sediments and at discreet locations.

A Remediation Action Plan (RAP) was developed to control and prevent the mobilization of major sediment sources impacted with the pesticides Aldrin and Dieldrin, and to contain potentially impacted soils and sediments in-situ under concrete capping. Aldrin was used in the manufacture of particleboard prior to the 1970's to protect it from termites.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	2

Printed Documents are uncontrolled

	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

This Remediation Action Plan was implemented in 2010 and completed in early 2011. The objectives of the plan were to;

- remove contaminated material above a certain threshold.
- Cap known contamination “hot spots” under concrete to prevent human exposure or any further contamination of storm water.
- Implement processes to ensure future work completed on the site does not result in further migration of contamination.
- Remove underground services from known impacted areas to eliminate the need for future excavation.

To prevent surface water from potentially mobilizing any remaining contaminants, specific areas on the HPP2 site where the contamination was potentially located have been covered with concrete. Areas covered included around the HPP2 Planermill baghouse and the main stormwater channel reaches 1 and 2. No remediation or capping was undertaken at HPP1.

LEGAL REQUIREMENTS




The *Protection of the Environment Operations Act 1997* is the key piece of environmental protection legislation administered by the New South Wales Environment Protection Agency (NSWEPA) to authorize the undertaking of scheduled activities in NSW.

Under this legislation Highland Pine Products site 1 & 2 are issued with an Environmental Protection License (EPL) to operate subject to satisfying the various conditions which include emissions to air and water, waste disposal and requirements for monitoring and reporting. The Highland Pine Products Site 1 and 2 EPL's are attached as **Appendix 1**.

OBJECTIVES AND PERFORMANCE OUTCOMES

The following objectives and performance outcomes for stormwater management on the sites are provided in **Table 1: Objectives and performance outcomes**.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	3
Printed Documents are uncontrolled					

  	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

Objectives	Performance outcomes
Comply with all statutory requirements.	All stormwater flowing from site meets license limits where required.
Ensure all monitoring is undertaken in accordance with requirements of SWMP.	All monitoring undertaken at specified frequency and results reported
Ensure integrity of concrete drains and shotcrete remains intact.	Vehicular access to certain areas restricted, damage repaired ASAP, no vehicular movements on shotcrete areas.
Maintain controls to ensure stormwater quality objectives are met.	Compliance with license limits.
Reduce impacts through the better management of risk	Reduction of potential for pollutants to reach the receiving environment through better understanding of risk mitigation.

Table 1: Objectives and Performance Outcomes.

STORMWATER SYSTEM SUMMARY

Highland Pine Products 2 consists of two operational entities, Highland Pine Products Site 1 and 2 in Oberon. A summary of the stormwater system is provided below. An overview of the stormwater system is attached as **Appendix 2**.

HIGHLAND PINE PRODUCTS SITE 1.

Stormwater, including roof water is collected from within the site by a series of sumps and pipes into four main drains from the west toward the eastern boundary (**Appendix 3**). The main drains discharge into three pipes located underneath Lowes Mount Road into a railway drain (Piped) heading north until intersecting the Borg MDF drainage system.




Given a high portion of HPP1 is unsealed and heavily trafficked, impacts to stormwater are BOD, TSS and TPH. Controls have been implemented to mitigate these impacts.

Once on Borg land, stormwater then flows via vegetative channel under an easement to the North/East corner of the property prior to discharge at the Northern V Notch (licensed discharge point) into a tributary of Kings Stockyard Creek.

HIGHLAND PINE PRODUCTS SITE 2.

Stormwater, including roof water on the eastern and southern areas of the site are collected in a series of surface drains and underground pipes prior to discharging into the main stormwater discharge channels reach 1 and channel reach 2. (**Appendix 4**). Process water is captured within a separate system for treatment. For sampling purposes, the discharge point for the site is at the end of channel reach 2.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	4

  	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

Stormwater from the logyard drains to the interceptor basin located on the eastern edge main storage area prior to discharge to a settlement dam located at the northern end of the Highland Pine Products Site 1. The process allows for sediment removal prior to discharge to the existing stormwater system. In high flows, stormwater from the logyard interceptor basin will bypass the dam and flow into the main Stormwater drain.

With the site predominantly sealed, impacts from the HPP2 site to stormwater are greatest from the Logyard through wood fibre, BOD, TSS and TPH. Structures within the system have been installed to mitigate these impacts.

STRUCTURES WITHIN SYSTEM

A series of First Flush Dams, Gross pollutant traps, trash racks and Penstock gate valves have been installed within the stormwater system to manage pollutants and minimize risk to the receiving environment in the event of a loss of containment. The system has been designed to;

- capture and retain the first 10mm of stormwater falling on process areas – First flush dams;
- remove larger floating objects such as bark, plastic bottles – trash racks;
- remove sediments – gross pollutant traps;
- allow for closure of the system in case of spills e.g. chemicals, oils – Penstock or emergency gate valves.
- Over/under weirs – control of oil spills.

CRITERIA AND GUIDELINE VALUES – HPP SITE 2




Under agreement with the adjacent land owner (Borg), stormwater discharging off HPP2 is not required to meet specific water quality values. HPP2 must work with Borg should water quality deteriorate and results report outside guideline values as detailed in **Table 2** and **Table 3**, below.

STORMWATER

Stormwater sampling will be undertaken from the final discharge point at the end of Channel Reach 3 on the Structaflor site by Borg. Should guideline values be exceeded, Borg will notify HPP and collectively review potential pollutant sources for rectification.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	5

Printed Documents are uncontrolled

  	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

HPP will complete quarterly Due Diligence testing on surface water from the final HPP discharge point (end of Channel Reach 2) to assess impacts of its operations on stormwater considering analytes and criteria below.

Analyte	Units	Criteria/Guideline	Documented
pH	pH	6.5 – 8.5	EP License 11566 ¹
Total suspended solids (TSS)	mg/L	30	EP License 11566
Oil and Grease	mg/L	10	EP License 11566
Aldrin	mg/L	0.03	EP License 3035 ²
Dieldrin	mg/L	0.03	EP License 3035
Methylene blue active substances (MBAS)	mg/L	0.5	EP License 3035
Colour	Hazen	160	EP License 3035
Biological oxygen demand	mg/L	20	EP License 3035

Table 2: Stormwater Analytes and Guideline Values (HPP2).

1. Borg Structaflor - EP License 11566
2. MDF Borg - EP License 3035

SEDIMENT

Sediments collected in the final Gross Pollutant Trap along channel reach 3 will be sampled prior to removal and disposal. The following guidelines will be used. Note the requirement to test sediment is subject to a positive surface water testing for OCP's (completed by Borg).

Table 5.2. Sediment guideline values.

Analyte	Units	Guideline
Total Petroleum Hydrocarbons (TPH) C6–C9	mg/kg	65 ⁽¹⁾
TPH C10 – C36	mg/kg	1,000 ⁽¹⁾
Polycyclic Aromatic Hydrocarbons (PAH)	mg/kg	100 ⁽²⁾ – 4,000 ⁽⁴⁾
Aldrin and Dieldrin	mg/kg	2 ⁽³⁾ – 50 ⁽²⁾
DDT+DDD+DDE (total)	mg/kg	1.6 ⁽⁴⁾ – 1,000 ⁽²⁾


Table 3: Sediment Guideline Values (HPP2).

1. NSW EPA, 1994. Guidelines for assessing Service Station Sites, for sensitive land use, such as residential with access to soils
2. NSW EPA, 2006. Guidelines for the NSW Site Auditor Scheme (2nd edition), Health based investigation levels for industrial use
3. Chemical Control Orders, 2004. Scheduled waste under the *Environmentally Hazardous Chemicals Act, 1985*.
4. ANZECC, 2000. Australian and New Zealand Guidelines for Fresh Water Quality – Interim sediment quality guidelines (ISQG) low.

Sediment exceeding the Chemical Control Order (CCO) for scheduled chemicals of 2mg/kg will need to be either contained on site or disposed of to a licensed landfill. Concentrations of up to 50mg/kg can remain on site but are regulated by the Chemical Control Order. Sediments below the scheduled

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	6

Printed Documents are uncontrolled

	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

chemicals limit of 2mg/kg may be put into the waste pile for fuel as it will mainly be organic material or reused on site or disposed of to the local landfill.

If sediment levels above guideline values as detailed in **Table 3** are detected, HPP and Borg will work together to;

- Identify the source of contaminants, and
- Detail how contaminated waste will be collected and disposed of in accordance with the CCO.

CRITERIA AND GUIDELINE VALUES – HPP SITE 1

STORMWATER.

Highland Pine site 1 Environmental Protection Licence (EPL 887) provides limits that must be met for surface water quality prior to discharge. Under agreement with the adjacent landowner (Borg), surface water travels via a vegetative channel on Borg land before its final discharge point at the Northern V Notch.

HPP 1 water quality must be compliant with the EPL limits detailed in **Table 4** at the Northern V Notch.




Analyte	Unit	EPL 100 Percentile Limit
BOD	mg/l	20
Oil and Grease	mg/l	10
pH	pH units	6.5-8.5
Total Suspended Solids	mg/l	30
Total Iron	mg/l	No Limit
Filterable Iron	mg/l	No Limit
MBAS	mg/l	No Limit
Nitrate	mg/l	No Limit
Nitrite	mg/l	No Limit
TKN	mg/l	No Limit
Turbidity	NTU	No Limit

Table 4: HPP1 Analyte and Surface Water criteria.

In 2011, Borg diverted flow from the drainage channel prior to discharge from the Northern V Notch back into the Borg Water Treatment Plant. With no discharge, no monitoring or data has been collected since 2011. Should flow return to the Northern V notch in future, water will be assessed considering the above criteria on a monthly basis.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	7

Printed Documents are uncontrolled

  	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

MANAGEMENT SAFEGUARDS AND CONTROLS

CONTROLS ON SITE

Physical controls for the protection of stormwater quality exist on both sites and include the following:

- Bunding of bulk chemical and diesel storages.
- Dedicated roadways for truck and forklift traffic.
- Segregation of clean and dirty areas for process waters and stormwater.
- Treatment of first flush water.
- Concrete and shotcrete cover of remaining potentially contaminated areas.
- Bunding and safe storage for small (<50L) chemicals.
- Penstock gate valves to allow for shutting down stormwater system in the event of a spill or fire emergency.
- Gross pollutant traps to manage solids on HPP2 and HPP1
- Trash Screens.

In support of these various operational procedures exist and include the following;




- Emergency response plan
- Emergency response flip charts.
- Pollution incident response management plan.
- Environment Policy.
- Spill SoP.

CLEANING AND MAINTENANCE OF SYSTEM

Cleaning of the production areas and stormwater system is essential to ensuring that the final water quality discharging from the site is within license limits. Maintenance of the stormwater system is essential to ensure that the system runs smoothly and that in the event of an emergency all items of equipment are operational. The cleaning and maintenance items related to the stormwater system are summarized in **Table 5**.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	8

Printed Documents are uncontrolled

  	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

Action	Frequency	Reason
Clean logyard - Surface with loader	As needed, but not less than twice per shift	Remove bark and debris from the logyard and prevent it washing into the stormwater system during rain. Reduce sediment load and colour (Tannins) impact to stormwater.
Remove stockpiled bark and wood debris	Daily	Reduce wood debris and release of tannins from stockpiled material discharging to stormwater.
Clean under log deck HPP2	Twice per shift	Reduce wood debris, and release of tannins from stockpiled material discharging to stormwater.
Clean trash racks Channel reach 1 and Channel reach 2	Following heavy rainfall or monthly	Remove large floating objects and any obstruction to flow through screens/racks
Clean Stormwater drains in main stormwater channel using a bobcat. Channel reach 1, Channel reach 2 and interceptor basin	As required – at least on a quarterly basis	Remove bark and debris and reduce colour discharge to stormwater. Prevent build-up of sediments and maintain free board in Gross pollutant trap for storm events
Clean First flush dam using excavator	As required	Remove sediments and debris to reduce colour and sediment to stormwater
Check working of Penstock gate valves, undertake maintenance as necessary	Monthly	Gate valves need to be operational in event of an emergency spill on site.
Clean and maintain Site 1 first flush system including pump-out	quarterly	Pump out system. Remove sediments accumulated in sump.
Clean and maintain site 1 discharge pits (x3).	6 monthly	Assess solids – complete check-sheet and maintain as required.

Table 5: Stormwater system maintenance requirements.




The items listed above will be included in daily work tasks for operational personnel.

TRAINING AND RESPONSIBILITIES

All personnel and contractors are required to complete a full site induction (including assessment) prior to undertaking any work across HPP (both sites). The induction has specific environmental requirements including what to do in the event of a spill. Pollution incident response training is carried out annually for all site-based personnel. All routine tasks are managed by Standard Operating Procedures (SoP's) and non-routine tasks are managed through the RADAR process.

The following summary is provided of the personnel who will be responsible for actions, monitoring and reporting at HPP. As HPP operates on a 24 hour, 7 day a week roster, in some cases both the week day and other shift personnel have been nominated to cover all eventualities. A detailed responsibility matrix is attached as **Table 6** with specific responsibilities assigned to all site personnel.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	9
Printed Documents are uncontrolled					

  	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

Function	General Manager	Environment Manager	Prod/Shift leader	Eng/Maint Manager	Operators	Maintenance personnel	Contractors
Legal and other requirements							
Compliance with legal requirements	X	X	X				
Comply with SWMP objectives and performance outcomes		X	X	X			
Operational control		X	X				
Protection of integrity of concrete and shotcrete areas			X	X	X	X	X
Adherence to procedures for excavation				X		X	X
Removal of rubbish from trash racks, sediments from Gross Pollutant Traps				X		X	X
Maintain emergency response – Penstock gate valves				X		X	
Monitoring and measurement		X	X	X	X		
Surface water monitoring		X	X				
Sediment monitoring		X	X				
Training and awareness		X	X				
Develop program and conduct training of employees		X	X				
Communication (Internal and External)	X	X					
Authority liaison (NSW EPA, etc.)	X	X					
Report incidents	X	X	X	X	X	X	X
Reporting and Review		X	X	X			
Report results		X		X			
Review SWMP annually		X	X	X			
Documentation and Document Control	X	X					
Control and update procedures (including excavation)		X	X	X			




Table 6: Responsibility Matrix.

Production manager or Shift supervisor/Leader is responsible for;

- allocating suitably trained and competent personnel to isolate the stormwater system at the Penstock gate valve/s in the event of a spill or fire event; and
- Activating the Pollution Incident Response Plan (PIRMP) in the event of a loss of containment.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	10

Printed Documents are uncontrolled

  	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

- visual inspection of any affected stormwater;
- collecting a sample for analysis if directed by the Environment Manager.

Environmental Manager is responsible for;

- ensuring that all monitoring of surface water is undertaken in accordance with the EP license and this plan;
- coordinating and overseeing major spill clean-up and or fire water containment activities and ensure that monitoring of surface waters is undertaken; and
- activation of the PIRMP if required.

REPORTING AND REVIEW

REPORTING.

An Annual Return in the approved format in accordance with Condition R1 of the EPL must be completed and supplied to the NSW EPA. The Annual return comprises the monitoring, including surface water monitoring required under the license, complaints summary along with all non-compliances that have occurred through-out the reporting period.

The Annual Return must include a Statement of Compliance signed by a HPP Director or delegated authority and submitted to the NSW EPA within 60 days of the end of the reporting period.




REVIEW

To ensure ongoing conformance with the Stormwater Management Plan and the performance of the system, an annual review of the plan will be undertaken. This process will involve the following;

- Critically examine key objectives and performance outcomes, and the monitoring data collected during the year;
- Identify issues and processes that do not satisfy the minimum performance standards established within this plan;
- Establish and document action plans in response to any unsatisfactory findings in the review process; and
- Maintain records sufficient to demonstrate that the management review process has been implemented.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	11




Printed Documents are uncontrolled

   <p>ACB1903 059 404 A Joint Venture Company Between Boral Timber and AKD Softwoods</p>	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

APPENDIX 1 – ENVIRONMENTAL PROTECTION LICENCE – 11229 AND 887




Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	12

Printed Documents are uncontrolled

   <p>ACB1903 059 404 A Joint Venture Company Between Boral Timber and AKD Softwoods</p>	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

APPENDIX 2 – SURFACE WATER FLOW – SITE OVERVIEW.




Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	13
Printed Documents are uncontrolled					

   <p>ACB 1973 059 494 A Joint Venture Company Between Boral Timber and AKD Softwoods</p>	Title	Storm Water Management Plan	Doc#	010319
	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

APPENDIX 3 – SURFACE WATER FLOW – HPP SITE 1.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	14

Printed Documents are uncontrolled

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	Related to	Site EMP	Revision	3
	Date of Issue	1/3/19	Review Freq	2 yearly
Purpose:		To detail the site process for the management of stormwater		

APPENDIX 4 – SURFACE WATER FLOW – HPP SITE 2.

Prepared by	Position	Approved by	Position	Company	Page
S Kavalieros EHSR Group	Management Representative	B Gawehn	Engineering and Environment Manager	HPP	15
Printed Documents are uncontrolled					