

Environmental Management Plan

Site:

Dura Constructions Pty. Ltd.

Environmental Management Plan

Section 1 - Risk Assessment

1. Identify the environmental aspects relevant to your site.
2. Under notes, document the items that influence the assignment of the level of risk for each aspect.
3. Based on the issues, document the likelihood and consequence of an aspect occurring.

a) Likelihood - What is the likelihood that the aspect will have an impact on the environment?

- Certain - Will occur at a frequency greater than every week if preventative measures are not applied.
- Likely - Will occur more than once or twice but less than weekly if preventative measures are not applied.
- Unlikely - May occur once or twice during the project if preventative measures are not applied.
- Rare - Unlikely to occur during a project even if controls are missing.

b) Potential Impact - How severe will the potential impact be?

Catastrophic - Significant damage or impact on environment or community eg.

- severe and/or persistent waterway/ stormwater quality pollution
- deaths of fauna/ flora
- widespread and/or significant changes to ecosystems
- soil contamination over an area > 10 m² , contamination of off site soil or contamination of soil with prescribed or hazardous materials
- widespread community impact resulting in illness, injury or inconvenience
- loss or destruction of archaeological/heritage places, sites or objects
- receiving a fine/s is a certainty or works will be halted

Major - Major adverse environmental or social impacts eg.

- medium-term, noticeable/measurable change in waterway/stormwater quality
- isolated deaths of non-vulnerable fauna/ flora species
- noticeable, localised changes to ecosystems
- soil contamination over an area 1m² – 10 m² (excluding contamination of off site soil or contamination of soil with prescribed or hazardous materials)
- annoyance or nuisance to community
- frequent, partial damage or off site movement of archaeological/heritage places, sites or objects
- fining likely or works may be halted

Moderate - Moderate undesirable environmental or social impacts eg.

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- localised, short term noticeable/measurable change in waterway/ stormwater quality
- short term, minor changes to ecosystems
- soil contamination over an area <1m² (excluding contamination of off site soil or contamination of soil with prescribed or hazardous materials)
- some annoyance or nuisance to community
- isolated, partial disturbance or movement of archaeological/heritage places, sites or objects
- fines unlikely

Minor - No or minimal adverse environmental or social impacts eg.

- no measurable/ unlikely effect on waterway/ stormwater quality and ecosystems
- no or isolated community complaints
- no or isolated events where areas of soil <1m² is contaminated (excluding contamination of off site soil or contamination of soil with prescribed or hazardous materials)
- no or unlikely impact on archaeological/heritage places, sites or objects
- no likelihood of being fined

4. Using the table below determine the level of risk based on the likelihood of occurrence and the potential consequence.

Consequence	Likelihood			
	Rare	Unlikely	Likely	Certain
Catastrophic	Medium	Significant	Significant	Significant
Major	Medium	Significant	Significant	Significant
Moderate	Low	Medium	Significant	Significant
Minor	Low	Low	Medium	Medium

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5. The level of risk will determine the type and amount of environmental protection measures that will be required on a site. Where a significant risk to the environment has been identified, environmental protection measures must be introduced to reduce the risk to an acceptable level. Aspects with a medium or low risk should also have practicable management measures implemented if these can further reduce risk.

Environmental Aspect	Notes	Likelihood	Consequence	Overall risk
Noise <ul style="list-style-type: none"> • Types of noise generating works • Potential noise receptors • Proximity of works to noise receptors 				
Dust <ul style="list-style-type: none"> • Sources • Potential dust receptors • Proximity of works to dust receptors • Wind conditions 				
Erosion and sediment <ul style="list-style-type: none"> • Sources • Potential sediment receptors • Proximity of works to sediment receptors • Soil type and erosivity • Slope • Site drainage patterns • Rainfall • Vehicle movements 				

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<p>Waste</p> <ul style="list-style-type: none"> • Types of waste • Amount anticipated • Potential problems 				
<p>Chemicals</p> <ul style="list-style-type: none"> • Types of chemicals and fuels • amount of chemicals and fuels • Potential chemical and fuel receptors • Proximity of works to fuel and chemical receptors 				
<p>Flora/Fauna</p> <ul style="list-style-type: none"> • Significant flora and fauna • Vulnerability of flora and fauna • Proximity of flora and fauna to works • Activities that may impact on flora and fauna • Potential impacts on flora and fauna 				
<p>Archaeological or Heritage</p> <ul style="list-style-type: none"> • Traditional land owners contacted • Survey or assessment conducted? • Probability of finding archaeological or heritage items during 				

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works <ul style="list-style-type: none">• Types on site• Proximity of archaeological or heritage items to works• Activities that may impact archaeological or heritage items• Potential impacts on archaeological or heritage items				
Site specific aspects				

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Section 2 – Planning and Management

Responsibilities

1. Communication of Site EMP Requirements.

- It is necessary that the objectives and requirements of the Site EMP be communicated to all individuals on the site, including sub-contractors. Provide details on how this information will be communicated.
- Possible Considerations:
 - Displaying Site EMP on site shed wall
 - Inductions
 - Toolbox meetings
 - Training sessions
 - Informal events (eg Barbecues)

2. Inspections and Maintenance

- The contractor must ensure that environmental protection measures are working effectively on site through a system of self-checking. The self-check system should comprise of inspections of:
 - Status of the aspect (eg. Has there been rain resulting in sediment-laden run-off?)
 - Environmental protection measures (eg. Are appropriate measures in place to treat sediment-laden run-off and are these installed correctly and sufficiently maintained?)
 - Receptors of the effects of the aspect (eg. Is sediment-laden water discharging to natural waterbodies or the stormwater system?)
 - Inspections of the receiving waters should be up and downstream of works, during storm events and may take the form of water quality monitoring and/or visual inspections.)
 - State the nature and frequency of inspections. You may wish to refer to a checklist.
 - State the amount of time allocated to rectify deficiencies in environmental protection measures after they are identified.

3. Staging of Works

- Provide details of staging of works to minimise detrimental environmental effects. Possible considerations:
 - Staging of works in relation to weather conditions
 - Staged stripping to minimise the amount of exposed soil at one time
 - Limiting the time that areas are left exposed

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4. Informing Residents

- Provide details relating to the circumstances that will result in residents being informed about items of works and how this will be undertaken. Possible considerations:
 - Letter drop
 - Signage
 - Door knock
 - Newspaper articles

5. Associated Documents

- Documents, which support the Site EMP, may be used to keep records to demonstrate due diligence in the event of an incident. They may also provide additional information to that provided on the Site EMP. Documents may include
 - fauna or flora investigations,
 - archaeological/heritage assessments or surveys,
 - inspection/ self check checklists (see section 8),
 - emergency procedures,
 - incident report forms,
 - work procedures and
 - induction checklists (section 11).

Noise

1. EPA Victoria and Council requirements must be adhered to in relation to the level of noise and working hours, to ensure that residents and other applicable neighbours to the site are not disturbed unreasonably. The generation of noise must be minimised.

- Draw on the site plan the location of receptors that may be effected by site noise. This may include residents in close proximity to the site or other sensitive site neighbours.
- Nominate working hours in accordance with EPA and Council requirements.
- Provide details on the methods to be used to reduce the amount of noise generated on site. Possible considerations:
 - Noise barriers or screens
 - Maintenance/ retrofits of machinery
 - Use of alternative machines/work practices that produce less noise
 - Other site specific noise reduction methods
 - Draw on the plan the types and locations of environmental protection measures selected for noise management.

Dust

1. Dust generation must be minimised to ensure there is no health risk or loss of amenity.

- Draw on the plan the location of receptors that may be affected by dust generated by the site. This may include residents in close proximity to the site or other sensitive site neighbours.
- Provide details on the measures to inhibit dust generation on site. Possible Considerations:

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- Retaining vegetation
 - Soil stabilisation
 - Roughening soil surface
 - Stockpile protection
 - Restricted vehicle movements
 - Preventing dust from material being transported
 - Wind fences
 - Other site-specific considerations
- Provide details on the measures that will be used to suppress dust on site.

Possible considerations:

- Method of water application (eg. water cart, sprinklers, hand held hose)
 - Target areas for water application
 - Likelihood of sprayed water generating run-off and management measures
 - Addition of dust suppressants and additional measures required due to their use.
 - Other site-specific considerations
- Provide details for the contingencies to be adopted in the event of unreasonable dust generation. Triggers that will result in the contingencies being implemented should also be documented. Possible considerations:
 - Restricting dust generating activities
 - Halting works
 - Other site-specific considerations
 - Document any other items relating to dust management that have not previously been covered.
 - Draw on the plan the types and locations of environmental protection measures for dust management.

Erosion and Sediment

- Erosion and sediment must be managed in accordance with current best practice environmental management practices, to prevent sediment-laden water from entering any drainage system or natural waterway.
- Draw on the plan the location of any areas, which may be affected by erosion or sediment. Possible areas may include:
 - Waterways and stormwater systems
 - Neighbouring properties
 - Areas of protected vegetation on or abutting the site
 - Other site-specific sensitive areas
- Draw on the plan the drainage patterns for the site.
- Document how run-off coming onto the site, drainage on site and run-off leaving the site will be managed. Possible considerations:
 - Diversion of off site run-off away from the site
 - Diversion of on site run-off away from sensitive areas such as unstabilised soil, batters or stockpiles

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- Diversion of sediment-laden run-off into sediment retention structures
- Other site specific drainage management methods
- Provide details on the soil stabilisation methods to be employed on site during construction and after works. Possible considerations:
 - Stabilisation matting
 - Grass/ vegetation establishment
 - Mulching
 - Rock armouring
 - Other site specific soil stabilisation methods
- Document how stockpiles will be protected from erosion. Possible considerations:
 - Diversion of run-off away from stockpile areas
 - Sediment retention structures downslope from stockpiles
 - Temporary grassing of stockpiles in place >28days
 - Position away from drainage lines and at least 10m from waterways
 - Cover stockpiles
 - Minimise the number and size of stockpiles
 - Max 2: 1 height to width ratio
 - Other site specific stockpile management measures

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- Document the details of the procedure for dewatering. This may include pumping of water from sumps, sediment basins or site low points. Where dewatering of groundwater is required, groundwater should be considered as a separate site-specific aspect. Possible considerations:
 - Re-use of run-off
 - Water quality objectives
 - Pumping procedure
 - Supervision during de-watering process
 - Use of flocculants
- Provide details on the site access characteristics that will be adopted to inhibit sediment from being deposited on roads. Possible considerations:
 - Minimising the number of access points
 - Site access restrictions
 - Stabilisation
 - Other site specific measures
- Provide details on how vehicles will be cleaned of soil before leaving the site. Possible considerations:
 - Physical scrape off of material with a shovel or brush
 - Driving the length of a stabilised access track
 - Rumble grids
 - Other site specific measures
- Provide details on how any soil deposited on the street will be removed. Possible considerations:
 - Physical scrape/sweep of material
 - Street sweeper
 - Other site specific measures
- Document any other items relating to erosion and sediment management that have not previously been covered.

Waste

Litter and waste must be contained on site, before disposal in a responsible manner. Waste generation must be minimised.

- Identify if soil will be moved on or off site and the contaminant status. Possible considerations:
 - Clean fill
 - Low level contaminated waste
 - Prescribed waste
- Draw on the plan the location of receptors that may be effected by site waste. This may include waterways in close proximity to the site or other sensitive site neighbours.
- Provide details on how the generation of waste on site will be minimised. Possible considerations:
 - Reduce
 - Reuse
 - Recycle

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- Other site specific measures
- Provide details on how litter and waste will be stored and disposed of. Waste on the site at work commencement and waste that will be generated throughout the works process should be considered. Possible considerations:
 - Containment methods for general litter, solid waste and liquid wastes such as concrete washing's
 - Frequency of removal
 - Other site specific considerations

Chemicals

Storage and spill management practices must be implemented to ensure that no environmental damage can result from the escape or spillage of chemicals or fuels.

- Draw on the plan the location of receptors that may be effected by the use or spills of chemicals on site. This may include waterways in close proximity to the site or other sensitive site neighbours.
- Provide details on the storage of chemicals on site. Possible considerations:
 - Designated areas
 - Page 16
 - Bunding
 - Impervious liners
 - Other site specific measures
- Document how spills of chemicals will be managed on site. Possible considerations:
 - Spill kits
 - Trained personnel
 - Other site specific measures
- Provide details on the procedure for refuelling. Possible considerations
 - Refuelling in designated areas vs. fuel trucks
 - Other site specific considerations

Flora and Fauna

All significant flora and fauna on and adjacent to the site must be protected.

- Management Measures for Significant Flora and Fauna. Are significant flora or fauna present? If yes, provide details of management measures: Possible considerations:
 - No go areas/ barriers/ signage
 - Buffers
 - Relocation programs
 - Tree protection eg. temporary fencing around the drip line
 - Weed management
 - Offsets eg. removal of a tree, replaced by planting of new trees
 - Design changes
 - Other site-specific measures

Archaeological/ Heritage

Places, sites and objects of archaeological or heritage significance must be protected. Are significant archaeological/ heritage places, sites or objects present? If yes, provide details of management measures: Possible considerations:

- Requirement to contact community
- Procedure if further items are found
- Collection and relocation
- Design changes
- Monitoring
- Stop works

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Use the following checklist to ensure that you complete all required parts.

Environmental Management Plan Checklist

Contractor:	Phone:	
Project:		
Section	Page No.	Completed ✓
1. Risk Assessment		
2. Planning and management		
3. Cover sheet identifying key person and contacts		
4. Project Description		
5. Site Layout Plan (to be completed in Activity 3)		
6. Specific local government consent conditions or other specific environmental requirements		
7. Action Plan		
8. Fortnightly Report Form		
9. Contractor/Subcontractor commitment Forms to EMP implementation		
10. Waste Management Plan		
11. Administrative requirements		
Name of contractor's representative completing this form:	Signature: Date:	

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Section 3: Cover sheet identifying key person and contacts

Document Control and Contacts

Copies of this plan are kept onsite at all times and are available to all staff.

Project No:	Project and Site Location:	
Prepared for:	Contractor:	Prepared by:

Contacts	Name	Phone	After Hours/Mobile
Local Council			
Environment Protection Authority			
Fire Brigade			
Company Reps (2)			

Approval	Name	Signature	Date
Contractor Manager			
Works Manager			
OH&S Manager			
Environmental Manager			

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Section 6: Specific local government consent conditions or other environmental requirements

1. Identify a local Council that you are currently working in or will be working in the future.
2. Find out what the planning requirements and local laws are for that Council in regards to waste minimisation and environmental management planning.

You can find out the information you need from the internet, over the phone or in person.

If you are going to do your research via the internet then you can go to the website for the Council you have nominated and the EPA website.

Council Nominated:	
What planning must you do and what evidence must you show the Council before you will be granted a building permit?	
Specific environmental requirements (including waste minimisation) for the nominated Council	
What are the monitoring and reporting requirements for the life of the project?	
What are the penalties imposed for breaching any environmental requirements?	

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Section 7: Action Plan

Complete the following checklists by placing a ✓ in the appropriate space indicating the action that applies to your building project.

Solid Waste

Actions	If applicable
install a fence at the site boundary to limit site access from footpath	
install appropriate silt fences and other sediment control structures	
ensure sediment control measures are in place before starting clearing and excavation activities	
sweep roads free of dirt each day	
regularly check and clean silt from behind silt fences and barriers if required	
limit vehicle entry points and lay geotextile and blue metal to stabilise vehicle access ways	
all vehicles to remain on clean all weather surface within the site	
stockpile materials only in designated areas behind sediment fences	
do not disturb the nature strip between the site and the roadway	
implement the site Construction Waste Management Plan (see attached)	
order only the required quantities of materials	
separate recyclable from non-recyclable waste where possible	
ensure that all waste is placed in the correct waste containers by all site personnel and not left scattered around building site	
return excess concrete with delivery truck to supplier for recycling or proper disposal	
do not place waste containers, skip bins or building materials on road or footpath - store all materials within the work site. Obtain permit for storage offsite.	
store excess concrete in a lined bin or pit for eventual recycling or disposal	
store excess mortar with waste concrete in a lined bin or pit for eventual recycling or disposal	
dispose of solid paint waste with other solid waste	

Liquid Discharges

Actions	If Applicable
stockpile materials only in designated areas behind sediment fences	
minimise water use for cleaning	
cover stockpiled materials with plastic to prevent erosion by wind and rain	
wash out trucks at supplier's depot	

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wash out in a area where water cannot enter waterways, stormwater drains, footpaths or roads up slope from a sediment control device	
collect wash water in plastic container carried by delivery truck and return with truck to supplier for recycling or proper disposal	
collect wash water in onsite container to allow solids to settle	
irrigate a flat grassy area with diluted wash out water, ensuring it does not enter waterways or stormwater	
wash out in an area where water cannot enter driveways, stormwater drains, footpaths or roads, preferably up slope from sediment control device	
collect wash water in onsite container to allow solids to settle	
irrigate a flat grassy area with diluted wash out water, ensuring it does not enter waterways or stormwater	
ensure brick cutting is undertaken where waste water will not run onto footpaths or roads	
Provide a washout area, with settlement tanks and disposal to sewer. Obtain Trade Waste agreement.	
wash out in an area where water cannot enter waterways, stormwater drains, footpaths or roads, preferably up slope from sediment control device	
transfer as much paint as possible back to the tin	
spin brushes and roller sleeves in a waste paint drum	
for solvent based paints, return solvent to a solvent recycling depot	
connect guttering and downpipes to the stormwater system as soon as the roof is completed	
ensure there are no cross connections made between the stormwater and public sewerage system	
regularly check all sediment control structures to ensure they are working effectively	
ensure that no disturbance of the nature strip occurs between the site and the roadway	
do not locate stockpiles within 2 metres of hazard areas such as spoon drains or areas of high flow	

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Air Emissions

Actions	If Applicable
damp down dusty areas as required	
do not burn off any waste products or off cuts	
if dust is a problem, install a fence around the site with a cloth barrier to act as a wind break	
damp down surfaces such as stockpiles to reduce wind blown dust	
cover stockpiles as needed to minimise dust	

Hazardous Materials

Actions	If Applicable
minimise chemicals stored on site	
determine if lead is present in surfaces to be painted	
seal the area with plastic sheeting to prevent escape of dust	
to prevent lead fumes, do not use open flame torches on lead paint	
use a High Efficiency Particulate Air (HEPA) vacuum cleaner to clean up lead dust	
wash surfaces with a small amount of high phosphate detergent	
make staff aware of emergency phone numbers (eg. Fire Brigade) to use in the case of a large spill	
keep Material Safety Data Sheets (MSDSs) on site at all times	
keep clearly marked booms and/or absorbent material to contain spills	
if a spill occurs, stop source, contain, clean up in accordance with MSDSs and notify relevant authorities	
ensure hazardous materials such as asbestos are handled and disposed of correctly by licensed contractors, following EPA requirements	
do not mix hazardous materials with other demolition materials	
minimise paints and chemicals on site by ordering minimum quantities	
store paints and chemicals where they can be contained if spills occur	

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Environmental Noise

Actions	If Applicable
identify site access with minimal impact on locals and instruct trucks to use	
do not park site vehicles where they will impact local use of the street	
limit hours of operations to suit council requirements in consent conditions	
use noise suppressors on machinery	
do not use loud radios where neighbours can be disturbed	
advise adjoining neighbours of work at least one week prior to commencement, including hours of work	

Flora and Fauna

Actions	If Applicable
fill in service trenches as soon as work is completed to minimise trapping ability	
cover service trenches with plastic sheeting or another suitable cover if filling cannot be immediately completed	
Record details of local veterinarian and animal handlers	
minimise clearing of vegetation	
rope off 'no go' areas to minimise disturbance	
protect trees during construction	
do not stockpile materials under the canopy of a designated, protected tree	
ensure site amenities (eg. sheds and material storage areas) are not sited underneath tree canopies or in a position to disturb neighbours	

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Miscellaneous

Actions	If Applicable
identify and protect heritage items present on site	

Rehabilitation of site surrounds

Actions	If Applicable
when no longer required, reinstate ground level around the works - fill spoon drains and sediment basins, level banks, remove surplus soil	
complete landscaping and revegetation as soon as possible following building activities	
ensure sediment control measures are in place until all vegetation is established	
ensure that soils and fill used in landscaping areas are free from weeds and weed seeds	
ensure appropriate trees are chosen for the site, taking into consideration the buildings, services and eventual height and root systems of the trees	

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Section 8: Fortnightly Report Form

This report is completed at the end of each fortnight and provided for routine inspections.

Issue	Yes	No
1. Are all sediment control structures in place, cleaned out and operating? If not, provide details.		
2. Have there been any complaints (verbal or written) from nearby residents, local council or the Environment Protection Authority in relation to site activities, such as: noise, dust, traffic, dirt trucked on roads or stormwater pollution? If yes, provide detail of complaints and responses to complaints.		
3. Have there been any incidents on the site, such as spills of chemicals or fuel? If yes, describe what happened and what was done to clean it up.		
4. Are there any areas of the EMP that have not been complied with? If yes, provide details.		
5. Have any further strategies been employed to reduce waste going to landfill?		
6. Other comments: list any other environmentally related issues		
Name: 	Signature: 	
	Date: 	

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Section 9: Subcontractor commitment form

Develop a simple form for your contractors and subcontractors to sign that they have read and are:

1. Committed to the conditions and actions of the Environmental Management Plan
2. Committed to minimising waste (including packaging waste)
3. Ready to comply with the statement that informs the subcontractors that:
 - they will be responsible for any fines incurred due to their actions and / or inactions
 - if any fines are owing for non-compliance with the EMP the amount will be withheld from any final payment owed by you, your business or your company

The form that you develop should be typed and include:

- Your company, business or own name
- Details of building project that the EMP relates to
- A statement that they have read the EMP and are committed to the conditions and actions contained
- A statement about payment of fines incurred
- A place for the subcontractor to sign
- A place for the date

Section 10: Waste management plan

Estimated Waste Materials	Planned actions to reduce waste			
	Amount	On-site reuse? (How? Where?)	Off site reuse (Name of recycler)	Disposal (Name of contractor, landfill and amount)
Bricks				
Cardboard and paper				
Carpet/underlay				
Concrete				
Green waste				
Metals				
Pavers				
Plaster waste				
Plastic wrapping				
PVC				
Roof tiles				
Rubble				
Soil				
Timber				
Waffle pods				
Other -				
Other -				

Section 11: Administrative records

Purpose of meeting	Date	People present	Minutes attached
Senior management			
Contractors			

Inductions	People present	Date

Record of audits by external bodies	Date	People present	Description and Comments	Report attached