

Pollution Solutions

PRINTING

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EXPLANATORY NOTES FOR OPERATOR'S ENVIRONMENTAL GUIDE (OEG)

Purpose of the OEG

The *Environmental Protection Act 1994* states 'A person must not carry out an activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm (the "general environmental duty")'. This clause applies to all persons in Queensland.

Under the *Environmental Protection Act 1994* and the *Integrated Planning Act 1997* Local Government licenses and approves businesses that have the potential to cause environmental harm – Environmentally Relevant Activities (ERAs). Printers are level 2 ERAs listed in the *Environmental Protection Regulation 1998*.

All ERAs must have an environmental authority (approval) which lists the conditions of operation. However, setting these conditions is only part of the story. Businesses should know how to achieve these licence conditions (compliance) and to go beyond (best practice).

This Operator's Environmental Guide (OEG) – *Pollution Solutions for Printers* – has been developed to assist industries to achieve their general environmental duty as above. That is, to achieve compliance with the *Environmental Protection Act 1994* and progress towards best practice.

The OEG was developed jointly by the Brisbane City Council and representatives of the printing industry.

Limitations of the OEG

Council has written this OEG as a guide only. It does not form part of the approval conditions. Complying with this document does not necessarily exempt the operator from prosecution or ensure compliance with the *Environmental Protection Act 1994, Regulation and Policies* (Air, Water, Noise and Interim Waste).

Approvals may contain conditions that vary from the requirements of the OEG. These are often included because of site specific requirements or because of the nature of the activity. Whether your operational performance meets the conditions of your development permit and/or environmental authority (approval) will be the main determinant of compliance.

The control measures in the OEG are recommendations only. **It remains the responsibility of each operator and employee of a business to satisfy the general environmental duty applicable to that business.** You should carefully consider the information in this OEG and put in place measures that may help to achieve this objective.

This OEG represents accepted printing industry practice at the time of issue and is therefore subject to change. Please note the date recorded on the front.



How to use the OEG

This OEG is based on three central concepts. These are explained below and each operational process is defined according to these concepts.

Environmental Objectives

are those outcomes, or goals, that Council considers important to achieve if the environment is to be protected. **The Environmental Outcomes are highlighted in bold text.** You should try to satisfy the general environmental duty. The environmental outcomes in the OEG, however, do not ensure that this duty is achieved and should be considered in conjunction with your development permit and/or approval conditions.

Compliance

means those control measures that the Council recommends as the minimum required to meet the environmental outcome for the printing industry.

In some cases, a number of compliance control measures may be listed for one process. In these cases, you are advised to aim for the control measure or combination of control measures that is most likely to achieve the environmental outcome for that process.

Alternatively, you may be able to meet an environmental outcome in a manner that is not listed in this OEG. It is recommended that these instances be discussed with a Council Officer prior to implementation.

Although this guide lists some solutions, Council encourages operators to develop alternative ideas or innovations that are consistent with the environmental outcomes and other relevant requirements.



Best practice

means those control measures that are considered to be above the minimum requirements. They are not compulsory. Best practice incorporates concepts such as waste minimisation, recycling and reuse. Use of best practice control measures may help to improve industry standards and progress towards best practice in the industry. These measures are marked with a  in the text.

In some cases, a business may be required to use a best practice control measure, rather than compliance, if an authorised officer believes that it is necessary to achieve an environmental outcome.

The best practice options listed are not fully inclusive; they are only indicative of the options available. Other best practice options not listed in this OEG may be implemented.

Importantly, this OEG takes into account changing industry standards, technology improvements, and scientific knowledge and community expectations.



ENVIRONMENTAL DUTY

Develop environmental commitment and sound environmental performance

- Develop a commitment to being good neighbours and to preventing or minimising pollution.
- Ensure all staff are aware of the development permit and/or licence conditions and the relevant methods and procedures contained in this OEG.



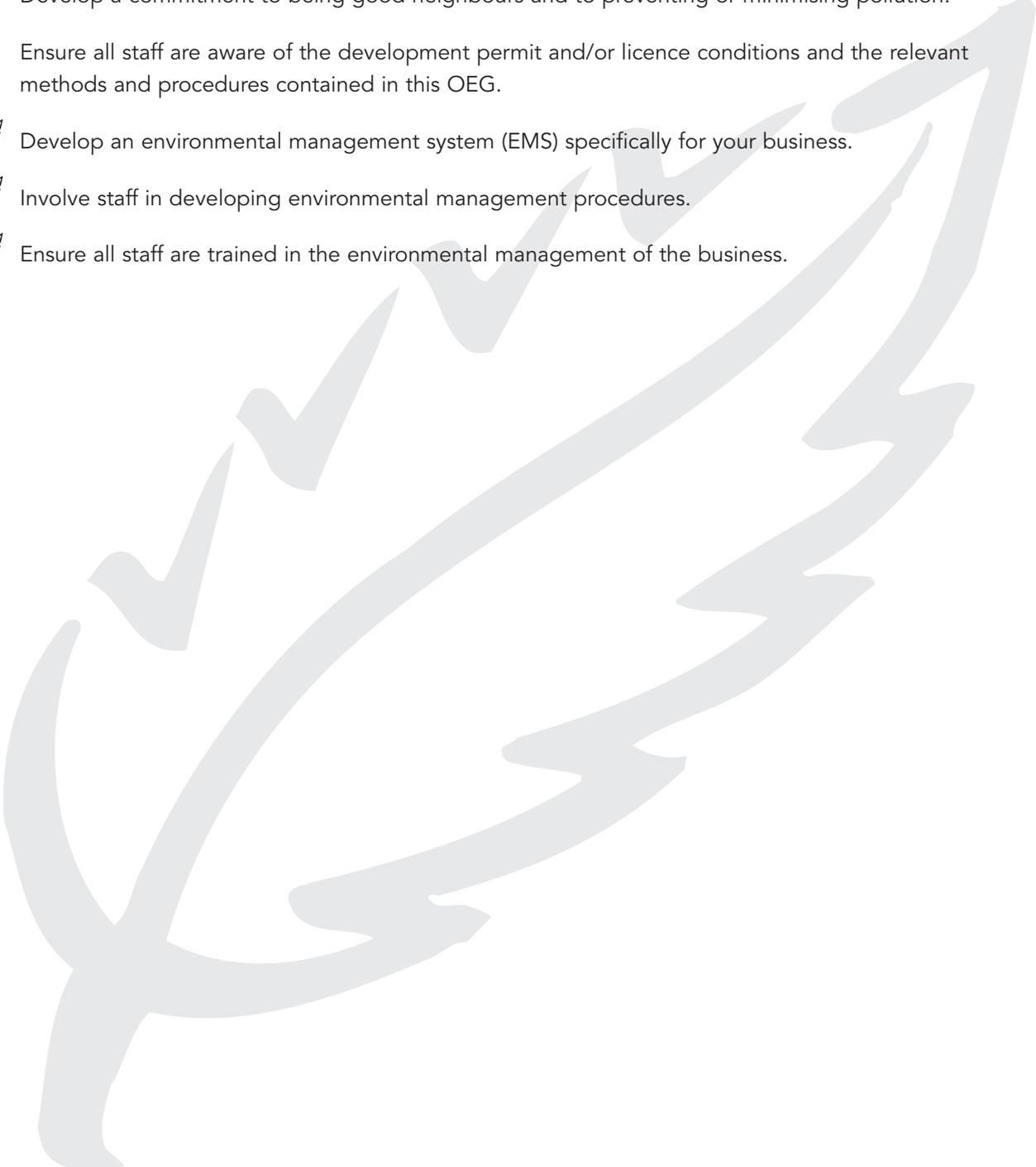
Develop an environmental management system (EMS) specifically for your business.



Involve staff in developing environmental management procedures.



Ensure all staff are trained in the environmental management of the business.



ENVIRONMENTAL MANAGEMENT

Implement environmental policies and practices

- The object of the *Environmental Protection Act 1994* is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (ecologically sustainable development).

Environmental Management Program (EMP)

Achieve compliance for non-conforming activities

- Operators who are currently unable to comply with the requirements of licensing conditions and the OEG may be required to submit an EMP for approval.
- An EMP is a binding agreement between your business and Council that sets out the areas where your business needs to improve to achieve compliance, and the time frame to achieve them. This allows you to operate your business although you may not fully comply, as long as Council has a firm arrangement with you to rectify problem areas in a mutually agreed time.

Environmental Management System (EMS)

Maintain compliance with licence conditions and implement best practices



Develop an EMS to ensure environmental performance and compliance with licensing conditions and the OEG. An EMS provides a systematic method for meeting environmental outcomes, approval conditions and the ways or procedures for meeting compliance. It allows for:

- better practices
- monitoring of performance
- training of staff
- keeping of relevant records
- complaint response
- emergency and incident response.



Plan to protect your environment and reduce your business risks



An EMS addresses noise, air quality, waste and any other relevant environmental issues associated with processes which could reasonably pose a significant risk to the environment, if not appropriately controlled, monitored and/or managed.

- For low risk activities, the EMS should be kept concise with key performance objectives, control measures, checklists and records (e.g. development application, waste disposal) maintained.
- In higher risk activities, approval conditions and procedures generally require more detail in an EMS. In some cases, preparation by an environmental consultant is recommended.
- The basic objectives are to increase business performance and reduce environmental risks through good management practices. Key components in the EMS include:
 - monitoring and reporting
 - records
 - training of employees
 - complaint response
 - emergency and incident responses.



PRINTING PROCESSES AND MANAGEMENT

Materials Handling and Storage

Avoid wastage of materials.

Ensure quality from suppliers

- Inspect materials before acceptance and return all unusable or damaged materials.

Minimise waste from spoilage

- Store adhesives and other chemicals according to the manufacturers' recommendations to maximise their shelf life.

Minimise stock holding cost and waste from spoilage



Use the 'first-in, first-out' method to control your inventories. To avoid wastage avoid purchasing stock with a shelf life that will expire before stock is consumed.

Minimise waste from physical damage



Reduce paper waste through careful handling and storage.

Graphic Reproduction

Minimise waste and improve productivity



Use a computerised electronic pre-press system for typesetting and copy preparation to reduce waste and improve productivity.

Minimise waste and conserve resources

- Collect spent fixer solutions and photographic films containing silver. Recycle through a silver recovery agent. Retain your receipts as proof of proper disposal for seven years.



Reuse clear base (carrier film) where possible.

Minimise solvent use, protect air quality and workers health



Always cover baths and wash stations when not in use. This will minimise air emissions and evaporative losses.

- Minimise the use of wash baths, reducers and intensifiers to reduce volatile solvent emissions and save material costs.



Ensure efficient operation of equipment and optimum use of developer and fixer

- Regularly maintain and clean film and plate processors and their ancillary chemical recycling systems.

Minimise hazardous waste generation

- Replace hazardous chemicals and films with non-hazardous substitutes. For example, replace:

 silver halide films with photopolymer and electrostatic films

 intensifiers and reducers containing mercury or cyanide salts with non-hazardous substitutes.

Prevent soil and water contamination

- **Never** pour waste chemicals or liquids down stormwater drains, onto the ground or into trenches. Handle waste chemicals and liquids as described in the sections on Solid Wastes and Liquid Wastes.

Prevent contamination of landfills with hazardous wastes

- Empty all containers containing chemicals or other printing fluids before putting in the industrial waste bin.

Printing

Minimise solid waste

 Launder rags for reuse, and where appropriate, cut them into smaller working sizes to economise and improve efficiency.

Prevent oil contamination of soil and water

- Install printing presses on top of catchment trays (draining to oil sumps where necessary) or within bunding or drainage channels. This will capture excessive lubrication oil emanation from the presses. Recycle the waste oil via an oil recycler.

Minimise solvent use, protect air quality and workers' health

- Use solvents for cleaning the blanket cylinders and ink rollers sparingly and store in sealed containers to reduce solvent emissions.

 Recycle solvent wastes.

 Install automatic cleaning and solvent recycling systems to reduce solvent use and improve productivity.

 Use water based mechanical methods to clean cloth dampener rollers (e.g. high pressure water jet cleaning devices which filter the water for reuse).





To reduce the need to clean the ink fountains:

- spray a protective film over the ink in the fountain at the end of each work day to prevent it from drying overnight (not applicable for alcohol presses)
- use overnight series inks.



Plan your print runs to reduce the need to change colours. This will reduce the amount of cleaning solvents used. Planned print runs also reduce the need to clean dampeners (because of colour changes) and therefore solvent use.

Protect air quality and workers' health

- Always place solvent laden rags in covered containers to curtail the amount of solvent emitted into the pressroom.



Ensure solvent vapours and dust produced by drying equipment are ducted and treated appropriately by using an extraction system with inlets positioned directly above the points(s) of use.

- With web-off set (heat set) equipment an afterburner or catalytic converter normally treats solvent vapours.

Protect workers' health

- Provide adequate ventilation in the pressroom to ensure the removal of excessive solvent vapours and other volatile organic compounds (VOCs).

Prevent contamination of soil and water with hazardous waste

- Place waste ink and sludge not suitable for recycling in a secure sealed container by a licensed waste removalist.

Minimise ink waste



Use automatic ink levellers to maintain optimum levels for inking to reduce ink waste and spoilage. This is not suitable for sheet fed presses.

Minimise ink waste, protect air quality and workers health



Reseal ink containers after use to reduce solvent emissions, ink hardening and the possibility of contamination.

Prevent contamination of stormwater

- **Never** discharge wastewater to stormwater drains or watercourses.



Binding/Finishing

Prevent environmental nuisance and protect workers' health

- Use exhaust (and dust collection) systems to remove the dust and adhesive odours from binding and finishing operations that produce significant dust and adhesive odours (e.g. perfect binding).

Note: This is generally not needed for 'saddlestitch' operations.

Minimise odours and waste

- Always store adhesives in sealed containers to reduce offensive odours and evaporative waste.

Minimise solvent emissions



Use water-based glues instead of solvent-based glues.

Protect sewerage system and sewerage workers' health

- Only dispose of water-based glues via the sewer under the conditions of a Trade Waste Permit.
 - Solvent-based adhesives impair the sewerage system and affect sewerage workers' health (Refer to Liquid Wastes section) and must not be put in to the sewer or stormwater.

Prevent contamination of soil and water

- Place drip trays under all adhesive dispensers.



Wash-up

Minimise solvent use, protect air quality and workers' health

- Avoid using cleaning solvents containing harmful volatile compounds such as xylene and methylene chloride. Where unavoidable, use sparingly in well-ventilated areas to reduce employee exposure to vapours.

Protect sewerage systems and sewerage workers' health

- Only dispose of solutions containing water-soluble chemicals via the sewerage system under the conditions of a Trade Waste Permit.
- Store non water-based chemical solution in sealed containers for:
 - disposal by a licensed waste removalist
 - recycling and reuse (Refer to Liquid Wastes section).

Prevent contamination of stormwater

- Never discharge washup wastewater to the stormwater system.



STORAGE OF POTENTIAL CONTAMINANTS



Minimise accidental spills and prevent contamination of soil, stormwater, ground-water and/or air

- Store chemicals and other materials that may contaminate soil, stormwater, groundwater and/or air in a manner that prevents or minimises the impact of any accidental spills or releases. This means:
 - potential liquid contaminants stored in a secure, covered area away from through traffic. Such contaminants may include disinfectants, fuels, oils, detergents, poisons, cleaning solvents, alkaline or acidic solutions;
 - storage areas provided with an impervious bund or compound to contain any leakage or spillage. The capacity of the compound shall be at least the capacity of the largest tank or package in the compound. (Bunding may not be required where the storage is inside a workshop or similar area and the operator can demonstrate that any spills will not escape the area and contaminate stormwater or surrounding ground.); and
 - where dangerous goods (as defined by the ADG Code) are stored in quantities in excess of minor storage (refer to Note below), the capacity of the compound shall comply with the requirements of the relevant legislation, Australian Standard and/or Code of Practice.
Relevant Australian Standards may include:
 - AS 1940 *The storage and handling of flammable and combustible liquids*
 - AS 2022 *Anhydrous ammonia – storage and handling anhydrous ammonia*
 - AS 2714 *The storage and handling of hazardous chemicals - Class 5.2 substances (organic peroxides)*
 - AS 3780 *The storage and handling of corrosive substances*
 - AS 3833 *The storage and handling of mixed classes of dangerous goods in packages and intermediate bulk containers*
 - AS 4081 *The storage, handling and transport of liquid and liquefied polyfunctional isocyanates*
 - AS 4326 *The storage and handling of oxidising agents*
 - AS 4452 *The storage and handling of toxic substances*

Note: Storage of materials in excess of minor storage quantities may require approval, licensing and full compliance with the above standards. Contact Council or the relevant dangerous goods administering authority for further information.

- Storage must:
 - be away from any heating or ignition sources
 - be provided with adequate natural or mechanical ventilation relevant to the nature of the substance and its use.
- Ensure the tray's material is compatible with the chemical.



Reduce volatile emissions

- Store volatile liquids (e.g. solvents, thinners) in closed containers that are kept closed when not in use. This will avoid unnecessary exposure of volatile liquids.
- Keep Material Safety Data Sheets (MSDS) for all hazardous substances used or stored on site. In case of an emergency an MSDS is the most effective means of assessing risk.

CAUTION!: Some classes of materials may react dangerously if mixed or stored together. Incompatible materials must be segregated to minimise the possibility of any reaction. Read and follow all directions on labels. Refer to the materials' Material Safety Data Sheet (MSDS) or contact the manufacturer for further information.

Respond promptly to spills and leaks

- Keep clean-up equipment, absorbent materials, and any materials for neutralising or decontaminating spills on the premises. Staff are to be adequately trained in the use of these materials.
- Immediately take action to clean-up spills or leaks. Contaminated materials are not to be reused and must be appropriately contained and packaged for transport for either recycling or disposal by a licensed waste operator.
- Avoid the use of sawdust or other readily combustible absorbents to clean up flammable liquid spills.

Note: Oily and greasy rags and oil-soaked sawdust can spontaneously combust if stored in a confined space.

Minimise chemical risks



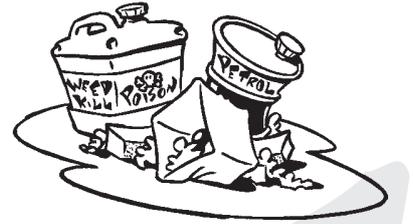
- Fit containers of chemicals (e.g. solvents) with taps to enable pumping instead of pouring.
- Position trays under chemical container taps to catch any spillage or drips. Ensure the tray's material is compatible with the chemical.



WASTE MANAGEMENT

Reduce waste of material resources and landfill space

- Minimise all wastes produced by site activities.



Recycle to reduce waste disposal costs



Disposal of wastes should be viewed as the **last** option in environmental management strategies. The life of material resources may be extended by recovery, reuse and recycling.



Implement a waste recycling (reuse) system for non-hazardous solid wastes using separate containers for individual waste streams (refer to Solid Wastes section).

- Clearly label waste containers and locate them in convenient areas to encourage use. Mixing wastes may render them unsuitable for reuse or recycling.

Protect soil, stormwater and groundwater quality

- Store solid wastes undercover so contaminants cannot be washed to stormwater by rain.
- Never dispose of waste on site.



Use wet/dry vacuum cleaners with dust filters for general cleaning of floors instead of sweeping and hosing with water.

Prevent landfill hazards

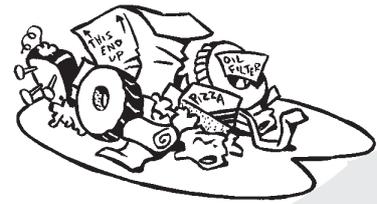
- Material put into industrial bins will generally go to landfill. Do not dispose of gas cylinders, asbestos-containing materials or synthetic-mineral fibres into an industrial bin; instead wastes should be disposed through a licensed waste removalist.
- Only put solid inert waste in industrial bins.

Protect air quality

- Incinerating waste on site is prohibited.



SOLID WASTES



Hazardous Wastes (regulated)

Prevent contamination of landfill, soil and water

- Regulated wastes are those that have been identified as unsafe for municipal or refuse landfill disposal. These wastes are listed in Schedule 7 of the *Environmental Protection Regulation 1998* (Refer to Appendix 2) and must be disposed through a licensed waste removalist.
- Proof of proper disposal of hazardous wastes should be kept for presentation to Council officers. Proof includes:
 - hazardous waste disposal facility dockets
 - waste manifest documents
 - licensed waste transport receipts.

Non-hazardous Wastes

Conserve material resources, landfill space and reduce waste disposal costs



The following solid wastes are recyclable. They should be collected in separate containers for disposal at a waste recycling and reprocessing facility:

- clean cardboard
- waste paper, off-cuts and misprints
- aluminium cans, drink bottles
- plastics
- steel drums, drained steel cans
- rags (can be laundered and reused).

Ensure appropriate disposal of non-recyclable solid wastes

- Always dispose of non-recyclable solid waste at a licensed general waste disposal facility (e.g. local government service or approved waste removalist).

Prevent contamination of landfill and groundwater with hazardous wastes

- Empty all containers or vessels containing ink, solvents or other chemicals before disposing via the industrial bins.

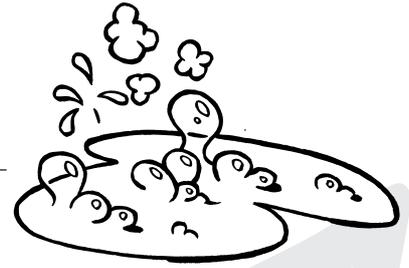
Prevent air contamination by harmful dusts

- Bag floor sweepings and other dusty wastes before disposing via the industrial bins.
- Only transport general solid waste in your own vehicle or by a licensed waste transporter.



LIQUID WASTES

Non-sewerable Wastes (regulated)



Prevent contamination of landfill, soil and water

- Non-sewerable (regulated) wastes are those that have been identified as unsafe for sewer disposal. These wastes are outlined in Schedule 7 of the *Environmental Protection Regulation 1998* (Refer to Appendix 2) and must be disposed of by a licensed waste removalist.
- Keep proof of proper disposal of non-sewerable wastes for presentation to Council officers upon request. Proof includes:
 - hazardous waste disposal facility dockets
 - waste manifest dockets
 - licensed waste transport receipts.



Separate out recyclable liquid wastes for collection by a licensed waste removalist. Recyclable liquid wastes include solvents, thinners and waste oil.

Sewerable Wastes

Ensure compliance with licence conditions (Trade Waste Permit)

- Obtain a Trade Waste Permit from the Council prior to discharge of any trade waste to the sewer. The permit establishes the discharge conditions for the waste.
- Water-miscible solutions are generally accepted under a Trade Waste Permit. This may include dilute organic wastes.
- Washdown waters must either be directed to the sewerage system under the conditions of the Trade Waste Permit, or collected for recycling or disposal by a licensed waste removalist.

Prevent contamination of landfill, soil and water



On-site treatment and reuse of wastewater (e.g. washdown waters) can be used to replace or reduce disposal of wastewater to sewer. The systems of treatment and nature of reuse must not cause pollution or be hazardous to persons (refer to Appendix 3).



STORMWATER MANAGEMENT

Prevent contamination of soil, stormwater and local watercourses

Stormwater flows untreated to your local creek or waterbody.

- Prevent stormwater from entering or leaving work areas where it may become contaminated with inks, grease, oils, chemicals, particles or solvents.
 - Cover and bund areas where necessary to avoid the incursion of stormwater and prevent hazardous and trade wastes from contaminating the surrounding soil and stormwater system.
- Prevent wastewater containing contaminants (such as detergents used for cleaning areas) from contaminating stormwater or ground. Do not hose workshop floor, vehicles or machinery parts on to the surrounding soil or the stormwater drains.



Avoid sewerage system overload

- Do not direct stormwater to the sewerage system. It is an offence under the *Sewerage and Water Supply Act 1949*.
- Contain any contaminated stormwater (e.g holding tank) and:
 - dispose by a licensed waste removalist
 - treat on-site to an appropriate standard for discharge
 - treat on-site for recycling or reuse (refer to Appendix 3).

CAUTION!: Contaminating stormwater and other Queensland waters may result in an 'on the spot' fine or prosecution under the *Environmental Protection Act 1994*.

The Environmental Protection (Water) Policy 1997 prohibits the discharge of 'certain things' into a roadside gutter, stormwater or a water, or to a place where it could be reasonably expected to move or to be washed into a roadside gutter, stormwater or a water. Discharges to stormwater must comply with the Environmental Protection (Water) Policy 1997.



AIRBORNE WASTES



Stack Emissions

Maintain and protect local and regional air quality, soil and waters

- Emissions from this activity (e.g. dusts, solvents or odours) must comply with those outlined in the *Environmental Protection (Air) Policy 1997* or those prescribed by Council.
- Fit emissions stack with an effective rain protection device that does not impede the discharge of exhaust gases from the stack.



Use air-dispersion modelling to determine:

- buffer distances between the activity and sensitive land
- optimum stack height and exit velocity.

Maintain air pollution control equipment



Examine and review the need for enhanced emission controls annually and if you receive complaints about performance.

- Regularly maintain any emission control equipment such as cyclones, baghouse filters or afterburners as per manufacturers' instructions.
- Immediately replace or repair any emission control equipment that is blocked, frayed, leaking or not functioning within specifications. Spare bags and filters must be kept on-site.

Ensure emissions are below prescribed Air Quality Limits

- Undertake regular monitoring, recording and reporting of air emissions to ensure compliance with the stack emission standards and ambient standards set in the *Environmental Protection (Air) Policy 1997*.
- Install monitoring ports in all stacks and other air emissions discharge points. Refer *AS 4323.1 (1995) – Stationary Source Emissions: Method 1: Selection of Sampling Positions*.
- Keep a register of all recorded emissions and air quality indicator levels and have available for Council inspection.



Dust Control

Maintain and protect local and regional air quality, soil and waters

- Control dust generation so that particles do not move off-site. Dusts may also contain hazardous materials and contaminate air, soil and waters.
- Immediately clean up material spilt on traffic areas before vehicle movement can move it.
- Regularly collect and place in a sealed bag any floor sweepings, dust, powder waste or absorbent clean up materials, before disposing in a covered waste bin.

Odour/Volatile Emissions

Reduce odour and volatile emissions to prevent environmental nuisance

- Maintain adequate ventilation and hygiene to reduce the generation of odour.
-  Maintain good housekeeping and cleaning practices.
-  Use mechanical ventilation systems and activated carbon filters or scrubbers to prevent the release of any uncontrolled and objectionable odours from buildings or rooms.
- Volatile liquids (solvents)
 - must be kept cool and stored in a covered container to prevent evaporation into the environment
 -  should be pumped instead of poured.



NOISE MANAGEMENT



Prevent nuisance and unreasonable noise

- The activity must not cause an 'unreasonable noise' as defined in the *Environmental Protection (Noise) Policy 1997*.
- Use the layout of the buildings and the natural topography as noise barriers where possible. Cost-effective landscaping improvements (e.g. fencing, mounds, and plants) can be implemented to reduce noise emissions and therefore noise complaints.
- It is best to avoid using extension telephone bells and public address systems but if they are considered necessary keep them at the lowest possible audible level. Ensure that music does not cause an annoyance to the neighbours.
- Ensure that silencers fitted to air compressors, pumps, fans and blowers and other noisy machinery are effective.
- Enclose or acoustically screen noisy equipment (e.g. printing presses/ binding machines) not complying with *Environmental Protection (Noise) Policy 1997* to muffle noise. Locate equipment or operations away from noise sensitive land uses.
- Reduce structural-borne noise and vibration by mounting equipment on vibration isolating platforms, rubber mats, or by increasing the mass weight of equipment.
- Fit mechanical ventilation systems (e.g. air conditioners, fans) with noise-proof ducting and acoustically-designed intake and exhaust openings.
- Ask for noise-reduction devices when purchasing new plant and equipment.
- Close windows and roller doors facing noise-sensitive premises and seal all unnecessary openings.
- Only operate heavy vehicles in daylight hours.
- Regularly maintain all equipment and vehicles and attend promptly to any loose parts, rattling covers, worn bearings and broken components. This should be addressed through a regular maintenance schedule and correct staff training.

Note: Premises causing ongoing noise problems may be required to introduce other noise control measures, including noise monitoring and reporting.

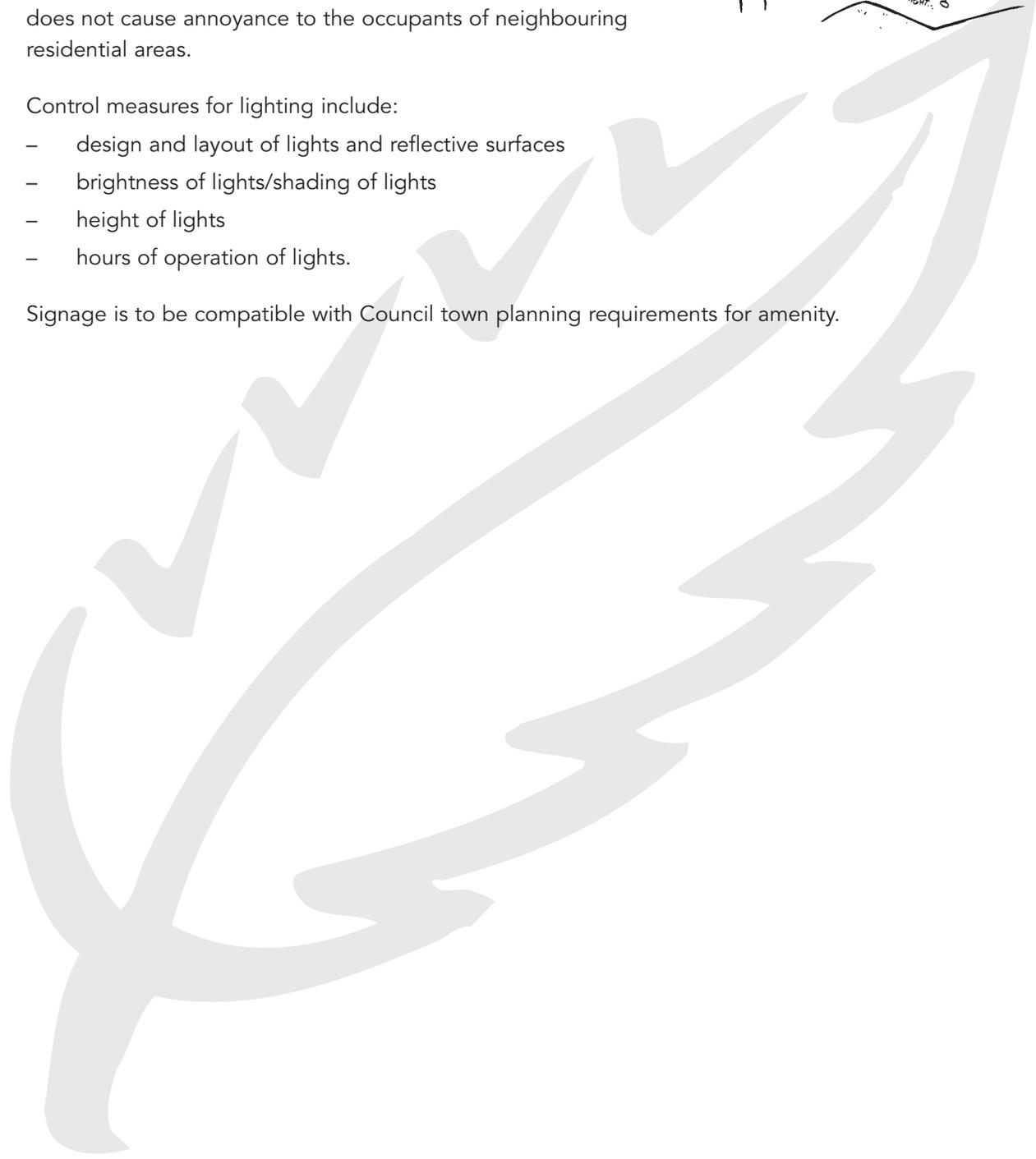
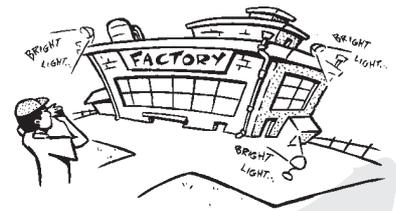
Operators should be aware of the cumulative effects of noise levels on the receiving environment, and where practical, take appropriate steps to reduce noise levels from their operation, particularly before 7am and after 6pm.



VISUAL AMENITY

Prevent environmental nuisance

- Ensure that lighting of the premises for security or any other reason does not cause annoyance to the occupants of neighbouring residential areas.
- Control measures for lighting include:
 - design and layout of lights and reflective surfaces
 - brightness of lights/shading of lights
 - height of lights
 - hours of operation of lights.
- Signage is to be compatible with Council town planning requirements for amenity.



APPENDIX 1 – DEFINITIONS

Bund

An impervious embankment or wall of brick, stone, concrete, or other approved material that may form part or all of the perimeter of a compound. For example, a bund may be used to contain spills from a fuel tank.

Environmental Harm

An adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value and includes environmental nuisance, *Environmental Protection Act 1994*.

Environmental Management Program (EMP)

A specific program that, when approved, achieves compliance with the *Environmental Protection Act 1994* for the matters dealt with by the program by:

- (a) reducing environmental harm
- (b) detailing the transition to an environmental standard.

Environmental Management System (EMS)

Is a systematic approach to managing the environmental aspects of an activity. As a minimum for the lower risk activities administered by Council, an EMS would entail documenting standard operating procedures for the aspects of the activity that may result in environmental harm or nuisance.

Environmental Nuisance

Any unreasonable interference or likely interference with an environmental value that is caused by noise, dust, odour, light, an unhealthy, offensive or unsightly condition because of contamination, or another way prescribed by regulation, *Environmental Protection Act 1994*.

Environmental Value

- (a) A quality or physical characteristic of the environment that is conducive to ecological health or public amenity or safety; or
- (b) another quality of the environment identified and declared to be an environmental value under an environmental protection policy or regulation, *Environmental Protection Act 1994*.

General Environmental Duty

A person must not carry out an activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm.

Material Safety Data Sheets (MSDS)

Information sheets on products that manufacturers are required to provide. They outline the composition, applications and precautions that need to be taken in using such products.

Regulated Liquid Wastes

Those wastes that have been identified as unsafe for sewer disposal due to their chemical nature (e.g. flammable). These wastes are outlined in Schedule 7 of the *Environmental Protection Regulation 1998*.

Regulated Solid Wastes

Those wastes that have been identified as unsafe for landfill disposal. These wastes are outlined in Schedule 7 of the *Environmental Protection Regulation 1998*.



Stormwater

Rainfall that runs off hard surfaces, such as roofs, roads and car parks, or off ground that has become saturated. Stormwater flows untreated to local creeks.

Trade Waste

Liquid wastes from any business, industry, trade or manufacturing process approved for sewer disposal other than domestic sewage.

Unreasonable Noise

An unreasonable noise is one which:

- (a) causes unlawful environmental harm because of:
 - its characteristics
 - its intrusiveness
 - the time at which it is made
 - where it can be heard
 - other noises ordinarily present at the place where it can be heard
- (b) is not declared to be reasonable in and Environmental Protection Policy.

VOCs (Volatile Organic Compounds)

Evaporated organic solvents (e.g. hydrocarbons or alcohols, or unburnt liquid fuels) that are known or suspected to have environmental or health effects. Examples of VOCs include solvents, thinners, acrylic lacquers and fuels.



APPENDIX 2 – SCHEDULE 7 REGULATED WASTES

Abattoir effluent	Heterocyclic organic compounds containing oxygen, nitrogen or sulphur	Phenolic compounds (other than solid inert polymeric materials)
Acids and acid solutions	Hydrocarbons (oxygen, nitrogen or sulphur)	Phosphorus
Adhesives (other than solid inert polymeric materials)	Industrial plant wash down waters	Pickling liquors
Alkalis and alkaline solutions	Infectious substances	Polychlorinated biphenyls and related substances
Antimony	Inks	Polymeric lattices
Arsenic	Inorganic cyanides and cyanide complexes	Poultry processing wastes
Asbestos (all chemical forms)	Inorganic sulphur compounds	Quarantine waste
Azides	Isocyanate compounds (other than solid inert polymeric materials)	Reactive chemicals
Barium	Laboratory chemicals	Reducing agents
Batteries	Lead	Resins (other than solid inert polymeric materials)
Beryllium	Lime neutralised sludges	Saline effluent and residues
Biocides	Lime sludges	Selenium
Boiler blowdown sludge	Materials or equipment contaminated with infectious substances	Silver compounds
Boron	Mercaptans	Solvent recovery residues
Cadmium	Mercury and anything containing mercury	Surfactants
Caustic solutions	Metal finishing effluent and residues	Tallow
Chlorates	Methacrylate compounds (other than solid inert polymeric materials)	Tannery effluent and residues
Chromium	Nickel	Tars and tarry residues
Contaminated soils	Oil interceptor sludges	Tellurium
Copper compounds	Oil water emulsions and mixtures	Textile effluent and residues
Cytotoxic wastes	Oils	Thallium
Detergents	Organic solvents	Timber preservative effluent and residues
Distillation residues	Oxidising agents	Treatment tank sludges and residues (including sewage tank sludges and residues)
Dyes	Ozone depleting substances	Tyres
Electroplating effluent and residues	Paint sludges and residues	Vanadium
Filter backwash waters	Perchlorates	Vegetable oils
Filter cake sludges and residues	Pesticides	Vehicle wash down waters
Fish processing waste	Petroleum tank sludges	Wool scouring effluent & residues
Fly ash	Pharmaceutical substances	Zinc compounds
Food processing waste		
Grease interceptor trap effluent and residues		
Halogen compounds (other than solid inert polymeric materials)		
Heat treatment salts		

APPENDIX 3 – ON-SITE TREATMENT AND REUSE OF WASTEWATER OR STORMWATER

- a) The operator should consult with the Council regarding any system for the collection, treatment and reuse of wastewater (e.g. washdown waters) or stormwater that may be contaminated. This needs to be approved by Council to ensure the method and level of treatment is adequate and safe.
- b) It is generally necessary to test and monitor treated waters to demonstrate effectiveness of the system for Council approval.
- c) Consideration must be made of:
 - volumes to be treated
 - handling and storage
 - key contaminants
 - types of treatment
 - disposal of wastes (e.g. sludge)
 - safety and hygiene
 - testing and frequency.

