Procedural guide

Compliance notes – Building sites

Standard work method for the assessment of the lawfulness of releases to waters from Building and construction sites (less than 2500m²)

This document has been prepared to provide officers, authorised under the Environmental Protection Act 1994 (EP Act), with an assessment tool for undertaking erosion and sediment control (ESC) compliance inspections at building and construction sites less than 2500m² in Queensland and to assist in the decision-making process for applying enforcement provisions under the EP Act. The associated Summary Sheet EM1137 building provides a brief reference point for use on inspections and this document expands on key areas with information to assist with decision making.

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1 Development on Sites below 2500m² are currently not required to be assessed under the State Planning Policy State Interest Water Quality Interim Development provisions or equivalent provisions within a Local planning instrument. 2500m² is the default contributing catchment area were the use of sediment basins in accordance with the Best Practice Erosion and Sediment control document (IECA 2008) is generally not required.
Framework

Context

South-East Queensland (SEQ) is one of the most rapidly developing areas in Australia. With an increasing population comes extensive clearing of bushland for urban development, including residential, commercial and public infrastructure projects. Modelling that underpinned the development of the SEQ Healthy Waterways Strategy 2007-2012 showed that the urban diffuse sediment load will increase by approximately 63% by 2026 under a business-as-usual scenario. Further, according to the Healthy Waterways Ecosystem Health Monitoring Program, the ecological health of the regions estuaries and bays, including Moreton Bay, can be severely degraded by stormwater flows carrying large mass loads of sediments. This in turn can adversely impact on Queenslanders’ lifestyles and livelihood. Stopping the increased sediment and nutrient loads to the state’s waterways and reversing the ecosystem impacts will require progressive improvement in stormwater management, particularly erosion and sediment control measures to meet higher community expectations and government requirements.

Land and infrastructure development (all residential, commercial, industrial and public infrastructure developments on land, such as subdivisions, roads, rail, bulk water distribution and hospitals) are subject to legal requirements for depositing prescribed water contaminants in waters, including water contamination caused by the release of sediments during the construction stage. Compliance actions may be taken where stormwater run-off may impact the environment.

The major urban centres along the Queensland Coast that are located in catchments that discharge to the Great Barrier Reef are also experiencing significant growth, (e.g. Townsville’s population is expected to increase from 190,000 in 2011 to 270,000 – 300,000 by 2031. This will require 45,000 new dwellings, while Cairns, Mackay, Rockhampton/ Yeppoon, Gladstone, Bundaberg and Hervey Bay are also predicted to experience population increases.

Although urban water quality impacts are a relatively ‘minor’ impact on the GBR overall compared with loads from diffuse rural sources, there can be significant localised impacts form urban areas on inshore areas (and local waterways) which are important to local communities. Commitments in the Reef 2050 Long Term Sustainability Plan include reducing levels of sediment from all source including urban development sources.

For this reason, this Procedural Guide, that has been in use in South East Queensland (SEQ) since 2011, has now been updated and is now to be applied across all Queensland.

Purpose

This document provides a guide for undertaking inspections of stormwater management and erosion and sediment control during the construction phase of building and small scale construction sites less than 2500m² in area. When implemented, the practices described in this document will help achieve water quality objectives and management goals which in turn will help protect or enhance environmental values in all Queensland waterways.

This document provides:

- An objective assessment tool for applying the enforcement provisions of the *Environmental Protection Act 1994* (EP Act) on building and small scale construction sites.
- A key reference point for technical guidelines and training programs.
This document addresses EP Act provisions only. Some small scale construction sites may also be subject to development approvals under the Sustainable Planning Act 2009 (SP Act). It is recognised that complementary enforcement provisions of other legislation may also be considered during enforcement decisions such as those that exist under the SP Act (where relevant). This must also be considered when making decisions under the EP Act offence provisions.

Environmental objectives

This document aims to ensure that development, and associated construction activities, be planned and executed so that:

- the environmental values of waters are enhanced or protected
- the water quality objectives and management goals of waters are achieved.

Legal requirements

Stormwater run-off from land development and infrastructure development sites has a high potential to cause water contamination and/or environmental harm. This is regulated under the EP Act, (all section references refer to the EP act unless otherwise specified).

- Under s.440ZG it is an offence to unlawfully deposit a prescribed water contaminant to waters. Prescribed contaminants are listed in Schedule 9 of the Environmental Protection Regulation 2009 (EP Reg).
- Under s.319 persons in Queensland carrying out activities which may cause environmental harm must comply with the general environmental duty (GED). This requires that all reasonable and practicable measures must be adopted to prevent and minimise environmental harm. Although not being able to demonstrate compliance against GED is not an offence, demonstrating that all reasonable and practicable measures have been adopted is a defence for offences such as water contamination. For instance, under s.493A, where a person deposits a prescribed water contaminant to waters or causes unlawful environmental harm, it is a defence to demonstrate compliance with the GED. Demonstrating that all reasonable and practicable measures have been conceived and implemented should encompass:
  a) Thorough and ongoing site assessments.
  b) Consideration of, and adaptation for, site-specific erosion risk factors including topography, soil type, climate and season.
  c) Incorporation in the design, installation, operation, management, maintenance and monitoring of control measures which are consistent with the measures set out below.
- Reference must be made to s.493A when a decision is made about the unlawfulness of water contamination, for instance where the release is authorised under a development approval.
- The Environmental Protection (Water) Policy (2009) (EPP Water) provides a process for protecting Queensland waters by establishing environmental values and water quality objectives for many waters (see Schedule 1 of the EPP Water). For waters not included in Schedule 1, the EPP Water provides a process for determining the environmental values and water quality objectives.

The EPP Water also establishes a hierarchy of preferred management options for wastes, including water contaminants, which when applied, protects or enhances the environmental values of waters. This document applies the management hierarchy in establishing the environmental performance standards which are
necessary to help enhance or protect the environmental values of waters from the impacts of land development and infrastructure development sites.

Part A—Assessment of actual or potential water contamination

1 Sediment build up

| Has the activity caused, or does it have the potential to cause sediment build up, through act or omission, in the receiving environment? |

Under Section 440ZG, it is an offence to unlawfully deposit ‘prescribed water contaminants’ in waters, roadside gutters, stormwater drainage or to place contaminants where, and in such a way that, they could run into such places. Prescribed water contaminants (a full list of which can be found in Schedule 9 of the EP Reg.) include:

- clay, gravel, sediment (including from building activities), stones and similar organic and inorganic material
- earth, which Section 440ZD of the EP Act defines as sand, soil, silt or mud.

Such build-up will usually be evident by accumulation of coarse sediment in the kerb and channel at the front of the building site.

2 Releases

| Has the activity caused, or does it have the potential to cause, releases, flows or discharges containing prescribed water contaminants to waters, roadside gutters or stormwater drainage? |

If releases, flows or discharges are occurring from the site to waters, roadside gutters or stormwater drainage then water quality sampling should be undertaken in accordance with the Department of Environment and Heritage Protection’s (EHP) Monitoring and Sampling Manual 2009 (this manual can be found on the department’s website www.ehp.qld.gov.au).

If releases, flows or discharges are causing, have caused, or are likely to cause, unlawful water contamination, complete Part B. In dry weather it may be necessary to complete Part B to determine if the activity is likely to cause water contamination in a subsequent rain event.

If the answer to either 1 or 2 is yes, proceed to Part B.

If the answer to both is no, then no further action is required at this time.

Part B—Assessment of lawfulness of depositing prescribed water contaminants or release of stormwater run-off

1 Assessment of compliance with a development approval

| Is the release of the prescribed contaminant(s) and/or the build-up of sediment expressly permitted by a development condition of a relevant development approval? |

Under section 493A, an act which causes serious or material environmental harm, or a breach of s.440ZG, is unlawful, unless it is authorised by one of the provisions listed in s.493A(2). These provisions include a release of a contaminant to waters under ‘a development condition of a development approval’. If a contaminant release
is expressly permitted under a condition of a development approval, the release is considered lawful. If a release is not expressly permitted by a condition of a development approval, or the approval is silent on the matter, the lawfulness of the release needs to be determined by assessing compliance with GED. For most building sites there will not be a development approval so there will not be a condition which could permit the release.

2 Assesment of compliance with the general environmental duty (GED)

Section 319 (GED) requires that all reasonable and practicable measures be taken to avoid or minimise environmental harm including water contamination and environmental nuisance. Demonstrating compliance with GED constitutes a defence against those offences.

Part B establishes minimum practices which define what constitutes reasonable and practicable, which in turn assists with determining whether the requirements under GED have been fulfilled. These practices have been developed in consideration of the management hierarchy of s.13 of the EPP Water to include the principles of preventing or reducing the production of contaminants, ensuring effective treatment of contaminants and ensuring releases, discharges and flows do not adversely affect the environmental values of the receiving environment. The minimum practices are consistent with the detailed guidance provided in the Erosion and Sediment Control Fact Sheets (HWW, 2016) available on the Healthy Waterways website www.healthywaterways.org/initiatives/esc/house-sites

2.1 Erosion Control

2.1.1 Soil Cover

Is soil cover maximised by:

a) Clearing is limited to only the area necessary to undertake building work
b) Clearing of existing soil cover (grass) only occurs immediately before building work starts
c) Areas of bare soil not being actively worked are covered

Erosion control is the most effective way of preventing water contamination and (unlike sediment barriers) targets both coarse and fine sediment. Clearing for building work should be restricted to the actual footprint required for the immediate works and the clearing should not occur until works are about to commence. An example of non-complaint practice would be cutting a building site for the slab and then not returning to the site for a week.

Areas of the site where works are complete or where works are not currently occurring are required to be provided with a soil cover to prevent erosion. There are a range of soil covers available depending on the situation (refer HWW, 2016).

2.1.2 Stockpile Protection

Are stockpiles protected by:

d) Covering stockpiles when not in use
e) Ensuring stockpiles are not placed on top of sediment barriers (e.g. sediment fences)
f) Ensuring stockpiles are not located in overland flow paths. If unavoidable, runoff is directed around the stockpile
Stockpiles can be covered using builder’s plastic (weighted down) when not in use to protect them from erosion by wind or rain. If stockpiles must be located in an overland flow path then water can be diverted around the stockpile using a perimeter bank of compacted spoil covered in turf, or a row of sandbags on the upslope side.

2.1.3 Kerb to Lot Groundcover

- Has exposed soil between the lot boundary and the kerb been covered with turf?
- Are stockpiles fully contained within the lot (not on the verge)?

2.2 Sediment Control

2.2.1 Entry/Exit Rock Pad

Has a stable entry/exit rock pad been installed which:

- Is at least 2m wide?
- Extends from the kerb to the building slab?
- Consists of geofabric overlaid with 40-75mm diameter rock laid at least 150mm thick?
- Is covered with an additional layer of 25-50mm diameter gravel within the verge to make it safe for pedestrians?
- Includes a bund to direct upslope runoff to a sediment trap?
- Has been replaced or refreshed if clogging of the rock with sediment has occurred?

It is important that the rock pad extends to the building slab and also includes a bund. If these features are absent, then the rock pad can easily become a conduit for runoff from bare soil on the site to pass between the sediment fences. Rock pads frequently become clogged with soil so it is important that the rock is either refreshed or replaced when this occurs.

2.2.2 Stormwater Inlet Protection

For lots which fall away from the road to an internal stormwater inlet pit, has the pit been covered in filter cloth and surrounded by a sediment collection pit in order to prevent entry of coarse sediment into the pit?

2.2.3 Coarse Sediment Barrier

- Are sediment fences installed downslope of all areas of bare site soil and in accordance with the following:
  - Is the sediment fence buried at least 200mm into the ground?
  - Are support posts provided at intervals no greater than 2m?
  - Does the sediment fence extend at least 450mm above ground level?
  - Are returns in the sediment fence provided?
- If sediment fences are not installed, is the site less than 500m² and less than 2% slope and have
2.3 Drainage Control

2.3.1 Downpipes and Stormwater Diversion

a) If the roof is in place, have permanent or temporary downpipes been connected to all gutter outlets to connect all roofwater runoff to the underground stormwater system?

b) If there is an area of land upslope of the building site greater than 1500m\(^2\) in area, have catch drains been provided to divert upslope runoff around bare areas of the site and been implemented as follows:

   i. Catch drains are lined with geofabric, UV resistant plastic or turf
   ii. Catch drains are located within the building site
   iii. Catch drains discharge to the roadway or to a stormwater drain safely without causing erosion

2.4 Other Pollutants

2.4.2 Cement, Plaster and Paint

a) Pollutants such as paint, plaster and cement are prevented from entering the stormwater system by:

   i. Washing equipment only in a contained area that cannot reach the stormwater system
   ii. Containing runoff when cutting materials with water-cooled saws
   iii. Ensuring cement-wash from exposed aggregate driveways is contained in a collection trench and residue is disposed of without release to the stormwater system

Sediment is not the only pollutant generated on building sites. Water contaminants can also be created by activities such as washing equipment, cutting materials with water-cooled saws or exposing the aggregate in driveways. The contaminants created by these activities must also be managed and prevented from reaching the stormwater system.

Part C—Compliance and Enforcement Considerations

This section is provided in order to identify a number of considerations which Authorised Officers should have regard to when making compliance and enforcement decisions about water contamination offences on building and small scale construction sites. The purpose is not to limit the discretion which Authorised Officers are required to exercise, nor is it meant to replace the Enforcement Guidelines (DEHP, 2016) which are available to download here: https://www.ehp.qld.gov.au/management/pdf/enforcement-guidelines.pdf. This part is merely aimed at identifying considerations specific to this scale of works and type of offence and thereby assisting Authorised Officers to make robust decisions.
**a) Key Consideration: Who has committed the deposit or release?**

This is not a trivial consideration for building sites. Due to the numbers of different sub-contractors and deliveries which can occur, it can often be difficult to identify the party who is directly responsible for a deposit or release unless an act is directly observed by the Authorised Officer. The EPAct s.440ZE recognises this difficulty and makes the occupier of the place (i.e. the builder who has possession of the building site) responsible for deposits of earth or contaminants caused by another person, so long as the occupier is aware of the deposit and has been given a reasonable time to rectify the situation.

So if an offence is observed (for example a stockpile is present on the site and not covered and not provided with a down-slope sediment fence) but it is unclear whether this has been committed by a sub-contractor or the builder, it would not be appropriate to take action by way of a PIN to the occupier (builder) without first bringing the issue to their attention and allowing them time to rectify.

These issues are illustrated through the following 2 scenarios.

**Scenario 1:** The Site Supervisor **is present on site, and:**

1. All controls required by Part B are in place; or
2. All the controls required by Part B are not in place, but:
   1. No actual release or deposit to the stormwater system has occurred; and
   2. The controls have either been temporarily removed for site access or the deficiencies can be easily reinstated prior to rainfall and prior to the end of the days works

In situations where the answer is ‘Yes’ to either of the above then no action should be taken. Where the answer is ‘No’ then there may be sufficient grounds to demonstrate that the occupier (represented by the Site Supervisor) was aware of the issues and is therefore responsible for the deposit. Every effort should be made to identify the actual person responsible for the deposit but if this is not possible then enforcement action may be able to be taken on the occupier if deemed appropriate.

**Scenario 2:** The Site Supervisor **is not present on site**

In this situation, if an offence is observed it will be necessary to determine conclusively whether it has been committed by the occupier (builder) or other party (eg. subcontractor) before action such as a PIN can be taken, regardless of whether an actual release or deposit off-site has occurred. In many situations it will not be possible to make this distinction.

It may often therefore be necessary to bring the issue/offence to the attention of the occupier (builder) and allow them reasonable time to rectify before they can be held accountable for the deposit under s.440ZE. It is recommended that in these situations the builder is notified in writing and a follow-up inspection is conducted to determine whether the issue/offence has been rectified.

**Further information**

For copies of supporting information visit www.ehp.qld.gov.au.

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