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an initiative of
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# Review of **Erosion and Sediment Control in South East Queensland**

DISCUSSION PAPER

**Review of Erosion and Sediment Control in South East Queensland**
**Version 1.4 – February 2023**

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## Disclaimer



## Purpose

This discussion paper was prepared for the consideration of the Queensland Government, as part of the Urban Stormwater and Erosion and Sediment Control Capacity Building Program.

## About Water by Design

Healthy Land & Water's Water by Design initiative works with individuals and organisations to identify and fill knowledge gaps, and facilitate the uptake of improved practice in sustainable water management.

## About Healthy Land & Water

Healthy Land & Water is the **peak environmental group** for South East Queensland. For over 20 years it has been dedicated to investing in and leading initiatives to build the prosperity, liveability, and sustainability of our 'future region'. Healthy Land & Water is focused on **delivering an environment for future generations to thrive**.

We are experts in research, monitoring, evaluation and project management. Our team has led many thousands of projects to restore waterways and landscapes, improve native habitats, manage weeds, protect native species, inform policy and educate communities on the best ways to improve and protect the environment.

Working in partnership with Traditional Owners, government, private industry, utilities and the community, Healthy Land & Water delivers innovative and science-based solutions to challenges affecting the environment. The combination of scientific expertise and on-ground management works to deliver Healthy Land & Water to lead and connect through science and actions that will preserve and enhance our natural assets and support resilient regions long into the future.

### Traditional Owner acknowledgement

We acknowledge that the place we now live in has been nurtured by Australia's First Nations' Peoples for tens of thousands of years. We believe the spiritual, cultural and physical consciousness gained through this custodianship is vital to maintaining the future of our region.


### Funding acknowledgement

The Urban Stormwater and Erosion and Sediment Control Capacity Building program is funded through the Queensland Government's Investing in Our Environment for the Future Program and delivered by the Department of Environment and Science (DES).


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## Where we were, where we are and where we want to go

This discussion paper was prepared for the consideration of the Queensland Government as part of the Urban Stormwater and Erosion and Sediment Control Capacity Building Program. It incorporates feedback from erosion and sediment control stakeholders in South East Queensland (SEQ). It summarises historic and current erosion and sediment control compliance rates in SEQ, explores barriers to compliance, and provides recommendations for improved implementation of erosion and sediment control.

# INTRODUCTION

Improving water quality in South East Queensland (SEQ) catchments is critical for the health of waterways, including the Moreton Bay Marine Park and the internationally recognised Moreton Bay Ramsar Wetland.

Government and industry both recognise the need for major improvements in erosion and sediment control (ESC) during the construction and post-construction phases of urban development. Greater uptake of ESC is required to progress towards the goal of reducing sediment emissions to waterways and ensuring sustainable urban development across the State (The State of Queensland, 2018).

Sediment runoff from building and development sites is a major source of pollution in waterways. To reduce sediment pollution, builders and developers are legally required to plan and implement appropriate and effective ESC measures in accordance with the Queensland *State Planning Policy 2017* (The State of Queensland, 2017), follow development application conditions, and comply with s. 440ZG of the *Environmental Protection Act, 1994* (Qld) regarding prescribed water contaminants.

ESC measures are well established and proven, and ESC guidance and decision support tools are freely available. This includes the International Erosion Control Association *Best Practice Erosion & Sediment Control* (IECA, 2008), *Erosion and Sediment Control Factsheets for Building Sites* (Healthy Land & Water, 2022c), and the Department of Environment and Science *Environmental Protection Act 1994 Procedural Guide for Release of Waters from Construction Sites*.

Despite strong regulatory mechanisms and adequate technical support, historic and recent assessments of SEQ building and land development sites by Healthy Land & Water have found ESC compliance to be low, resulting in the preventable pollution of the region's waterways. This discussion paper examines the results of these assessments, explores barriers to compliance, and provides recommendations to improve ESC and reduce sediment pollution.

**Figure 1.** The sediment plume from the 2022 SEQ floods entering southern Moreton Bay (Sentinel-2 imagery from European Space Agency).

# SEDIMENT POLLUTION IN SEQ

Sediment pollution is one of the most significant threats to the health of SEQ's waterways (Healthy Land & Water, 2021).

Sediment impacts on waterways in many ways, including:

- Reducing water clarity and light availability.
- Smothering benthic organisms such as plants and corals.
- Damaging fauna habitat and health.
- Reducing amenity and recreational use.
- Blocking stormwater drains and reducing waterway capacity, which increases flood risk and impact.
- Affecting water resource supply, quality, and infrastructure.

This has consequences for the overall value of SEQ's waterways, which are estimated to contribute over $10 billion per year to the region's economy through tourism, recreation, fishing, and drinking water supply (Healthy Waterways, 2015b).

**Figure 2.** Comparison of clean versus sediment laden water, showing the impacts of sediment pollution on waterways, ecology, and drainage.

## Sediment from construction sites

Sediment pollution primarily comes from the erosion of land and creek banks, particularly where vegetation and groundcover is low and soil is directly exposed to rain and overland flow.

Large-scale vegetation removal often occurs during urban development. If left unmitigated, exposed urban construction sites can generate over 200-400 t/ha/yr of sediment runoff. Under current SEQ development rates, this equates to approximately 500,000 tonnes of sediment per year entering SEQ waterways – the equivalent of 50,000 dump trucks (Figure 3).

With the consistent implementation and maintenance of best practice ESC, it is estimated that sediment loads from construction sites could potentially be reduced by an average of 85-95% (Robson, 2015; Rowlands & Leinster, 2015). This would effectively remove approximately 425,000-475,000 tonnes of sediment pollution per year, resulting in multiple benefits for the environment, community, local governments and industry.

Implementing best practice ESC also provides direct benefits to developers and builders by reducing:

- The amount of soil lost from construction sites.
- Damage to infrastructure caused by sediment clogging drains and roads.
- Damage to infrastructure caused by undermining.
- Amount of reprofiling and re-work after rain events.

**Figure 3.** Exposed ground at land development site (top) and dump truck of soil.

# REVIEWING IMPLEMENTATION OF ESC IN SEQ

In 2013, Healthy Waterways (now Healthy Land & Water) set about benchmarking ESC in SEQ within six local government areas (LGAs) undergoing significant urban development.

The aim of this investigation was to assess whether the land development industry was implementing all reasonable and practicable measures to minimise the impact of sediment on waterways (Healthy Waterways, 2013).

The investigation considered four main criteria:

| Criteria | Assessment measure |
|---|---|
| **Water contamination** | No actual water contamination occurring or potential for water contamination to occur. |
| **Erosion control** | All reasonable and practicable measures have been implemented to minimise erosion, such as staged clearing, temporary stabilisation or progressive revegetation. |
| **Drainage control** | All reasonable and practicable measures have been implemented to minimise erosion caused by concentrated stormwater flows, such as stabilisation of flow paths, diversion of clean runoff around the site, and diversion of contaminated runoff to an effective control device, such as a sediment basin. |
| **Sediment control** | All reasonable and practicable measures have been implemented to minimise sediment release from the site, such as establishing effective sediment traps/basins and maintaining them in effective working order. |

Each site was inspected and given a compliance rating:

- **Substantially compliant** – the site demonstrated a high degree of onsite ESC installation, monitoring, maintenance and expected performance consistent with current best practice ESC principles and practices*.
- **Partially compliant** – the site demonstrated a moderate degree of onsite ESC installation, monitoring, maintenance and expected performance with respect to current best practice ESC principles and practices*.
- **Non-compliant** – the site demonstrated a low degree of onsite ESC installation, monitoring, maintenance and expected performance with respect to current best practice ESC principles and practices*.

*Best practice ESC refers to the International Erosion Control Association's *Best Practice Erosion & Sediment Control* (IECA, 2008).

In 2013, Healthy Waterways (now Healthy Land & Water) inspected 57 sites across six LGAs in SEQ. The results identified a 'very low' rate of ESC compliance, with only 5% of sites being substantially compliant (Figure 4) (Healthy Waterways, 2013). The remaining 95% of sites were found to be either partially compliant or non-compliant.

In 2022, Healthy Land & Water repeated the exercise using the same methodology, this time inspecting 40 land development sites (large-scale development sites in earthworks phase), as well as 135 building sites (single dwellings under construction) in seven LGAs across SEQ.

The results found ESC compliance on development sites was still low, with only 15% of sites substantially compliant (Figure 5). Building sites had a slightly higher compliance rate of 25% (Figure 6).

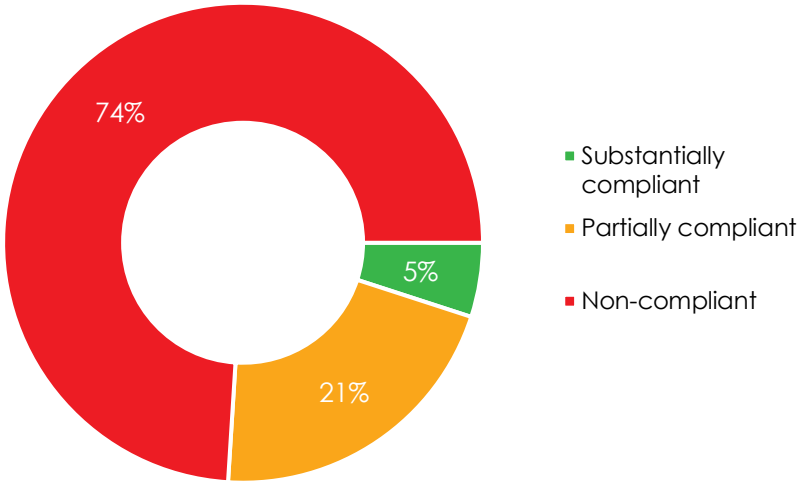



**Figure 4.** Overall ESC compliance rating for 57 land development sites in six LGAs within SEQ (2013).

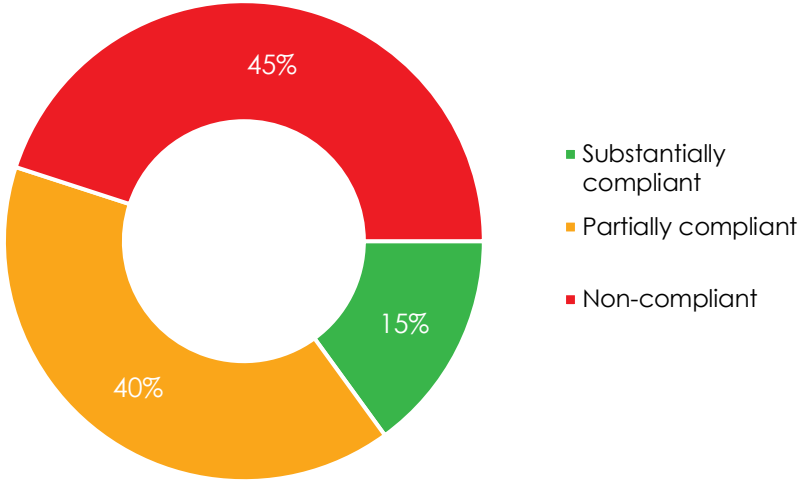



**Figure 5.** Overall ESC compliance rating for 40 land development sites in seven LGAs within SEQ (2022).

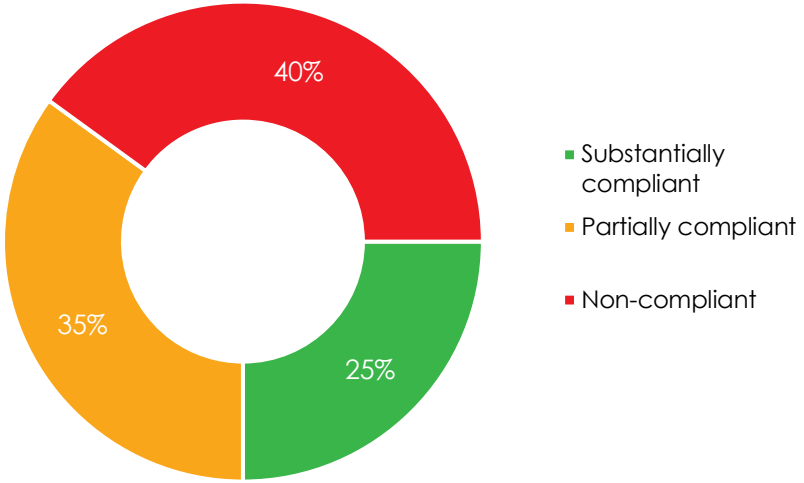



**Figure 6.** Overall ESC compliance rating for 135 building sites in seven LGAs within SEQ (2022).

# BARRIERS TO ESC COMPLIANCE

The results of the ESC site inspections undertaken by Healthy Land and Water in 2013 and 2022 (presented in the section above), demonstrate that ESC compliance in SEQ has been consistently low for nearly a decade with only 5% (2013) to 15% (2022) of land development sites substantially compliant.

To understand the reasons for this low compliance rate, Healthy Land and Water has gathered information from stakeholders over the last ten years via stakeholder surveys, meetings, local government embedments and stakeholder workshops. The analysis of this information has highlighted common barriers to ESC compliance experienced by government and industry stakeholders across the region. The most recent engagement activity hosted by Healthy Land and Water was an ESC Communities of Practice workshop involving state and local government and industry, held 13 June 2022 (Healthy Land and Water, 2022b). Information collected at this and previous engagement events has helped inform the *Barriers, Improvements* and *Recommendations* sections of this report. Current and common barriers to ESC compliance are discussed in the section below.

## Lack of enforcement

One of the main barriers to improving ESC compliance that has been consistently raised by stakeholders is the lack of enforcement action taken by regulatory authorities. Enforcement action can help address poor compliance through the issuing of notices and fines. In Queensland, several pieces of legislation can be used by local governments to regulate ESC on development and/or building sites:

- The Queensland *State Planning Policy 2017* specifies construction phase stormwater management design objectives (SMDOs) (Appendix 2, Table A). The SMDOs outline desired outcomes to prevent sediment release during the construction phase of a development and are intended to be reflected in Queensland local government planning schemes and development approval conditions. When SMDOs are reflected in development approval conditions, they are enforceable under the *Planning Act 2016 (Qld)* (*Planning Act*).
- Section 440ZG of the *Environmental Protection Act 1994* (Qld) is devolved to local government (as per section 100, *Environmental Protection Regulation 2008* (Qld)). Under section 440ZG, it is an offence to unlawfully deposit a prescribed water contaminant (including sediment) in or in such a way where it could reasonably enter a roadside gutter or stormwater drain. The Queensland Government Department of Environment and Science (DES) has developed the following procedural guides to assist local government officers to administer and enforce s.440ZG on building and development sites:
  - *Procedural guide - Environmental Protection Act 1994 - Releases to waters from land development sites and construction sites 2500m$^2$ and greater.*

- *Procedural guide - Environmental Protection Act 1994 - Releases to waters from building sites and small construction sites (less than 2500m²).*

- Under section 319 of the *Environmental Protection Act 1994*, persons in Queensland carrying out activities which may cause environmental harm must comply with the general environmental duty (GED): '*A person must not carry out any 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*'. Demonstrating that all reasonable and practicable measures have been adopted to prevent and minimise environmental harm can be used as a defence for offences under the *Environmental Protection Act 1994* (DES Procedural Guides). The implementation of best practice ESC, in particular the measures and practices described in *Best Practice Erosion & Sediment Control* (IECA, 2008), is considered by government and industry as a way to comply with the legislation.

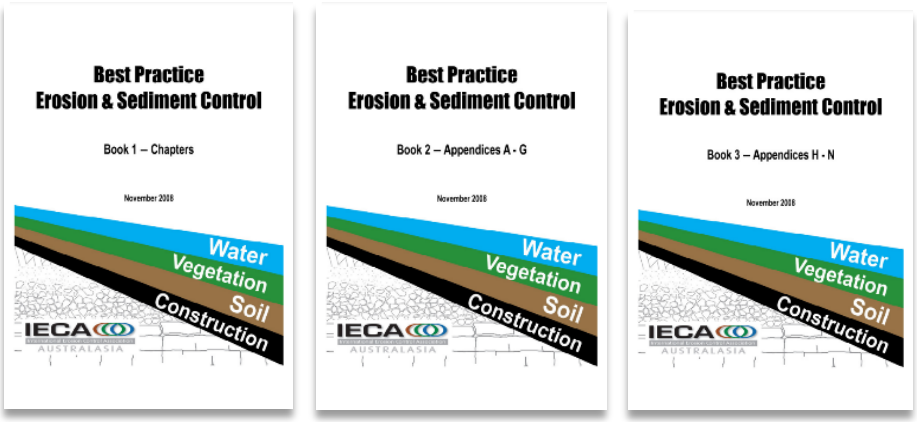



**Figure 7.** IECA's *Best Practice Erosion and Sediment Control.*

Despite these enforcement powers, stakeholder consultation suggests some local governments are reluctant to utilise them as a way to encourage ESC compliance (IUW SEP, 2015; Healthy Waterways, 2015a; Healthy Waterways 2015c; Healthy Land & Water, 2022b). The lack of enforcement and/or inconsistent enforcement across the region is reducing the likelihood of land developers and construction site operators getting 'caught', fined, or prosecuted for non-compliance. As a result, some industry members are willing to risk getting caught rather than budget for the full cost of proper ESC implementation.

Stakeholders generally feel that this situation could be corrected by local governments enforcing the relevant legislation. If enforcement procedures were consistently applied across the region, it would create a level playing field and a stronger incentive for industry to properly plan, budget and implement compliant ESC. It could also save local governments the high cost of road, drain and creek maintenance which result from urban sediment pollution, estimated to be over $500 million across SEQ per year (Healthy Waterways, 2015c; Healthy Land and Water, 2022a).

The literature and experience of leading stormwater managers and ESC practitioners in Australia and globally supports the view that a proactive ESC compliance program is necessary to incentivise industry to comply with ESC requirements.

For example:

- Taylor (2003) explains that "...there is strong evidence from the literature and case studies to suggest a well-designed, vigorous and ongoing enforcement program is essential in substantially increasing the performance of erosion and sediment control on construction sites" (p. 3).
- Lehner et al. (1999) concluded from a review of 100 stormwater-related case studies in the US that "programs with high accountability [e.g. enforcement elements] often reduce pollutant loadings by 50% or greater."
- Fritz (2002) states "...that education and awareness [alone] does not lead to compliance. There must be an incentive for compliance to work. This can be either positive (monetary savings, awards) or negative (regulatory intervention)."

These findings are consistent with what has been observed in SEQ, that local governments undertaking regular and consistent compliance activities have higher rates of ESC compliance.

**Figure 8.** Examples of non-compliant building and development sites.

## Inconsistency between local government areas

Recent stakeholder consultation (Healthy Land & Water, 2022b) found there is a high level of inconsistency across SEQ relating to various ESC planning and compliance matters, including:

- **ESC plans:** How and when ESC plans are assessed and approved/accepted by local government, and the quality of the plans being submitted/accepted varies. Some local governments review and approve plans, while others don't. Recent feedback from the International Erosion Control Association suggests that the overall quality of ESC plans being submitted across the region is poor and is resulting in ESC not being properly budgeted for by developers.

- **ESC conditions:** ESC related development conditions vary between local governments. This affects the level of ESC implementation on development sites and a local government's ability to enforce the conditions under the *Planning Act*.
- **Compliance resourcing:** Resourcing for ESC compliance varies, with some local governments employing teams of well-trained, experienced ESC compliance officers dedicated to undertaking proactive ESC compliance activities, while other local governments dedicate very little to no resources to compliance.
- **Staff training:** Staff knowledge and experience varies, which can affect an officer's confidence and ability to assess ESC plans and undertake compliance activities.
- **Enforcement action:** How and when enforcement action is taken varies. Some local governments take enforcement action under the *Environmental Protection Act 1994*, others under the *Planning Act*, some under both, and others don't take any enforcement action.

Inconsistency in how ESC compliance activities are undertaken between local governments can cause confusion in the industry and create an uneven playing field across the region. Improving consistency in the above listed matters would reduce confusion, improve understanding of legal requirements, reduce disparity across the region and likely increase voluntary compliance.

The following section discusses ways in which these and other issues could potentially be addressed.

**Figure 9.** Examples of non-compliant building and development sites.

# IMPROVING ESC COMPLIANCE

Over the last decade, Healthy Land & Water has worked extensively with the Queensland Government, local governments and industry via Communities of Practice workshops, ESC training, local government embedments, stakeholder surveys, and general meetings and discussions (Healthy Waterways, 2014; Healthy Waterways, 2015a; Healthy Land & Water, 2022b). Through these engagement activities, ideas have emerged about how to improve ESC compliance. These are summarised in the sections below.

## Best practice ESC compliance programs

Healthy Land & Water has observed a range of different compliance programs and their overall effectiveness. A key factor to compliance success was found to be the level of resourcing and support given to compliance officers/teams. The most effective programs had compliance officers/teams that were:

- Well trained and experienced.
- Well resourced, funded and staffed.
- Supported to undertake regular proactive site inspections.
- Given the authority and support to undertake enforcement action when necessary.
- Provided with effective and consistent compliance processes and systems.

**Figure 10.** ESC Compliance Officer undertaking inspections.

To improve ESC compliance and reduce regional inconsistency, the above factors would need to be implemented across all SEQ local governments. Funding for such initiatives could be sourced by dedicating a percentage of development assessment fees to ESC compliance activities.

## ESC plans

Good quality ESC plans are essential for successful and effective ESC implementation on land development sites.

Evidence collected by Healthy Land & Water suggests that ESC plans being submitted and approved by local governments often do not reflect best practice (i.e. *Best Practice Erosion & Sediment Control* (IECA, 2008). Such plans are often not created by a suitably qualified person, such as a Certified Professional in Erosion and Sediment Control (CPESC), and are not reviewed by an experienced local government officer.

The development and approval of inadequate plans can result in developers not properly resourcing ESC over the life of a development. Approval of a single, static plan can also result in a lack of flexibility, such that the controls do not adapt to the changing conditions and stages of a construction site.

There is some debate about whether local governments should approve ESC plans at all due to their evolving nature and the need to adapt to changing site conditions.

Whether plans are 'approved' or not, an adequate plan submitted to local government can help ensure the developer has allowed sufficient budget and physical space in the development for ESC to be implemented. Such plans should continue to be adapted throughout the life of a development's construction phase (as illustrated in Figure 11).

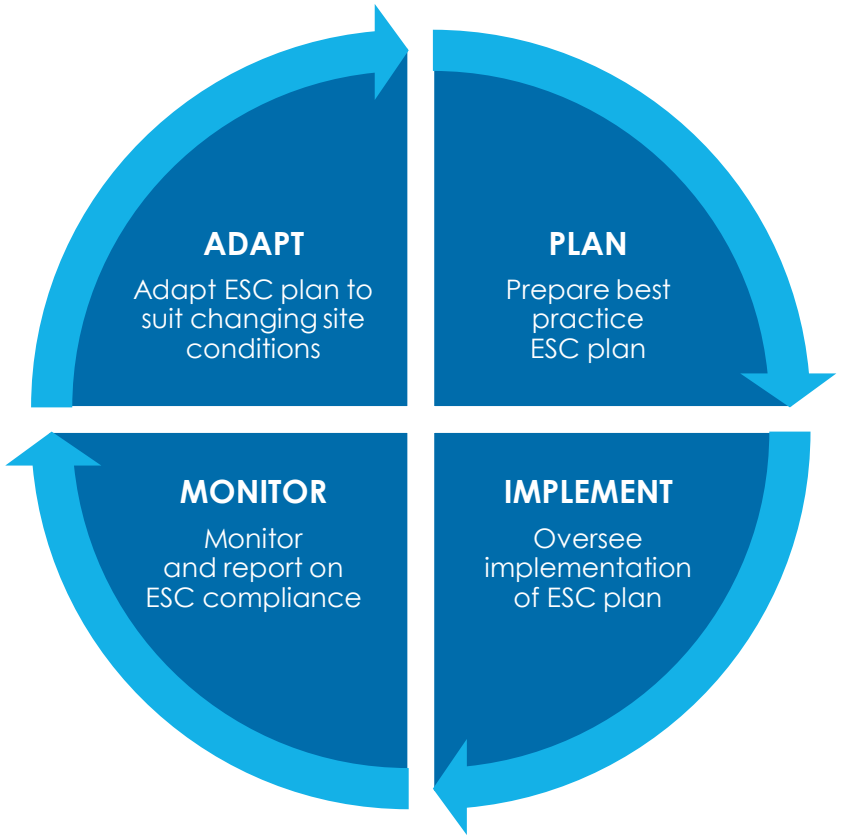
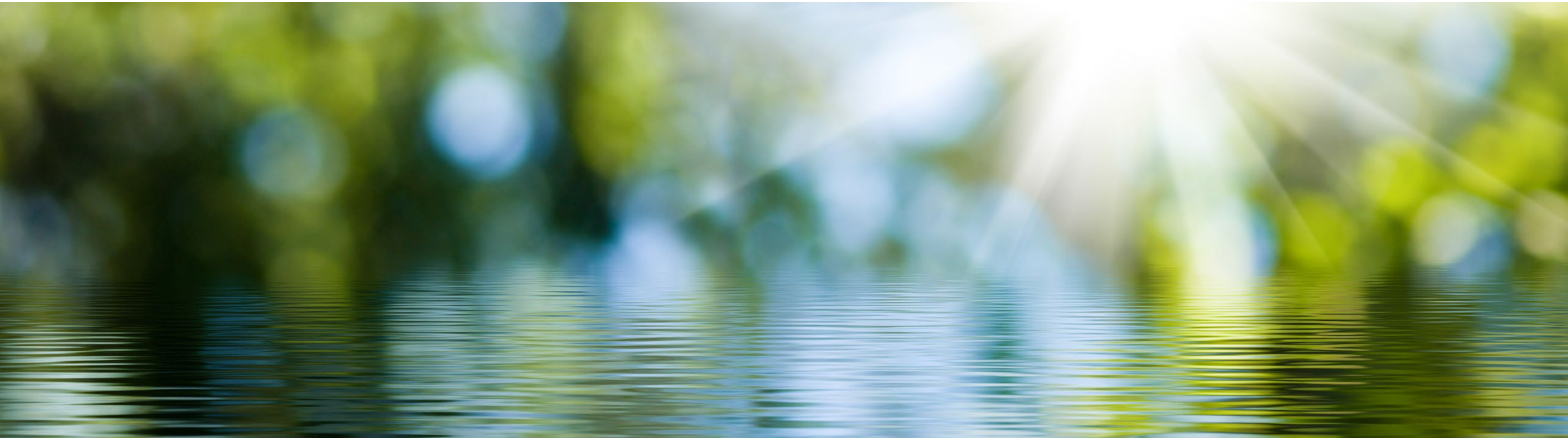



**Figure 11.** Adaptive ESC.

Suggestions that could improve ESC planning include:

- Mandate in policy and development conditions that all ESC plans be prepared by a suitably qualified person, such as a CPESC (at least for sites over a certain area or risk level).
- Resource an experienced local government officer to review plans.
- Standardise Erosion Hazard Assessment forms.
- Standardise conditions for development approvals. For example, conditions should:
  - Allow ESC plans to adapt to various development stages whilst ensuring best practice measures are implemented and maintained.
  - Reference compliance with the most up-to-date *State Planning Policy 2017 Stormwater Management Design Objectives* (SMDO's), the International Erosion Control Association's *Best Practice Erosion & Sediment Control (IECA, 2008), DES Procedural Guides* and other relevant documents.
  - Include performance-based conditions, such as discharge water quality objectives (50mg/L) as per the *State Planning Policy 2017* SMDOs.
  - Require the involvement of a suitably qualified independent third party to plan, implement/oversee, monitor, report and adapt ESC on development sites.

Good ESC plans and the involvement of a suitably qualified person can increase the likelihood of proper resourcing and implementation of ESC and should therefore be an important consideration of any development approval process.



## Capacity building and education

Since 2012, the Queensland Government has funded a regional ESC capacity building program in partnership with Healthy Land & Water to build ESC knowledge and skills across government and the building and development industry.

The program includes:

- Training and field days demonstrating ESC best practice methods and emerging technologies.
- ESC Communities of Practice workshops which bring government and industry stakeholders together to share information, discuss issues and develop solutions.
- Embedment activities with local governments to support the review and improvement of their ESC policies, plans, staff training, and compliance and enforcement activities.
- Development of educational material, such as *Erosion and Sediment Control Factsheets for Building Sites* (Healthy Land & Water, 2022c), to help improve industry knowledge of best practice ESC.

Through annual practitioner surveys and independent reviews (Choudrey, 2020) we understand that these activities increase the capability and ability of targeted local government organisations, industry representatives and developers to undertake technical, logistical, and managerial led decisions in the implementation of increased erosion and sediment control and urban stormwater management best practice.

**Figure 12.** Healthy Land & Water ESC capacity building events, field days and Communites of Practice workshops.

## Recognition and behaviour change programs

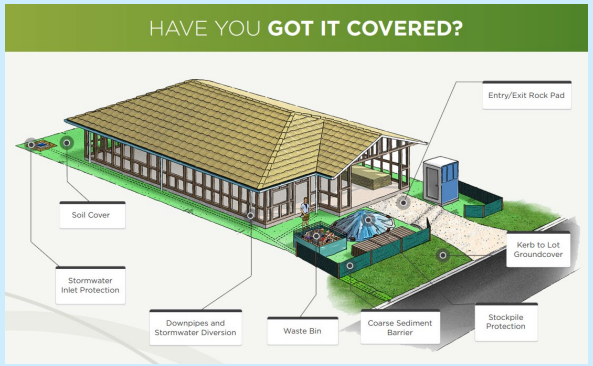
Recognition and behaviour change programs could also be used as an incentive to increase voluntarily ESC compliance.

This could come in many forms, including:

- Industry led accreditation programs, for example Green Star programs that include ESC criteria.
- Industry awards programs.
- Articles in industry newsletters highlighting consistently complying companies.
- Behaviour change programs that aim to improve voluntary compliance (e.g. refer ESC behaviour change case study).

### ESC behaviour change case study

Behaviour change campaigns work on the principal of normalising a behaviour by demonstrating the behaviour sought, rather than poor practice. It can also involve publicly committing to a behaviour and installing prompts to help remind and reinforce the sought behaviour.




Behaviour change campaigns, particularly for building sites, could help improve voluntary compliance. A behaviour change program was trialled by Healthy Land & Water in 2015 to improve ESC on building sites.

Methods used included:

- Development of easy-to-understand ESC factsheets for building sites.
- Builders' Breakfasts to educate builders about how to undertake best practice ESC and normalise these behaviours.
- Prompt signage installed on building blocks throughout a new development area demonstrating best practice ESC methods.
- Commitment/pledge signs at the front of the development.
- Free, publicly accessible ESC best practice decision support tools, such as iAuditor mobile assessment tool and online decision support tools (www.waterbydesign.com).

This program was successful at improving the implementation of best practice ESC on targeted building sites.

## Queensland Government engagement

Local government stakeholders have suggested more direct engagement from the Queensland Government would help them improve their accountability, transparency, and capacity to administer s.440ZG, *Environmental Protection Act 1994*. An example engagement activity that has been suggested by local government stakeholders is the holding of local and Queensland Government joint site inspections to improve the confidence of compliance officers to take enforcement action under the Act. Additionally, this could help improve the consistency of enforcement procedures across the region.

## Continual research and policy improvements

New techniques and technologies are continually arising that make ESC implementation easier and more affordable. Funding and actively encouraging and promoting the following on an ongoing basis would help ensure continual industry improvement:

- Research into new ESC techniques and technologies.
- Emerging innovative compliance and ESC practices.
- Guideline development.
- Legislation and policy updates.

**Figure 13.** Example of compliant site with a high efficiency sediment basin.

## Continual monitoring and data sharing

As this report demonstrates, ESC compliance monitoring can be used to measure past and current industry performance to help government and industry understand change and progress in compliance rates. Therefore, ongoing monitoring of ESC compliance across SEQ is recommended to:

- Measure changes to ESC compliance.
- Measure the effectiveness of ESC improvement programs, such as those recommended throughout this report.
- Improve capacity of local government to undertake compliance monitoring and enforcement activities.
- Improve consistency of ESC across the region.

**Figure 14.** ESC compliance monitoring in the field.

To ensure consistency, it is recommended that compliance monitoring and enforcement procedures be standardised across the region/state using standard and accepted industry guidelines such as the International Erosion Control Association's *Best Practice Erosion & Sediment Control* (IECA, 2008) and DES procedural guides. It is important that local government capacity to undertake these activities be built, in addition to the continuation of third-party audits to ensure consistency and transparency.

During recent consultation, local governments across the region also expressed an interest in the creation of a database to enable the sharing of relevant ESC related information, including:

- Enforcement notices issued by local government. This would help local government identify operators who are consistently not complying so they can target ESC compliance activities and assess the environmental risk of proposed developments.
- Standardised ESC monitoring procedures and the ability to upload and share monitoring results.
- Standardised ESC conditions, policies, enforcement procedures and best practice guidance.
- Register of suitably qualified persons/Certified Professionals in ESC. This would help governments identify and engage with such professionals and check their credentials.
- Other resources, information, and case studies relevant to ESC.

# RECOMMENDATIONS

Historic and recent investigations into ESC compliance on land development and building sites by Healthy Land & Water have found low levels of compliance with government policies and best practice standards. The following summarises recommendations made throughout this report to improve ESC compliance.

## To improve ESC compliance, it is recommended that:

**1** **The Queensland Government oversee the establishment and long-term support of a state-wide best practice ESC partnership compliance program.**

This program should support local governments to create a strong incentive for industry to comply with ESC requirements and be underpinned by a consistent and proactive compliance approach that substantially increases the likelihood of non-compliant sites being subject to appropriate enforcement action and penalties.

To help support and implement this program, it is recommended that a network made up of local government, industry groups, Healthy Land and Water, and the Queensland Government be established to collaboratively implement the recommendations in this discussion paper, including but not limited to:

- Development of standardised tools including ESC conditions, enforcement, compliance monitoring, and plan review procedures, complemented by local government training in these tools and procedures.
- Education of government and industry on how to plan, implement, monitor, adapt and enforce best practice ESC.
- Undertake monitoring of ESC compliance across the state through joint site inspections with local government, Healthy Land and Water and DES, in order to build local government capacity and ensure consistency and transparency.
- Continual improvement of ESC guideline documents, training, research, legislation, and policy.
- Creation of an ESC database to enable local government to share ESC related information, including enforcement actions, standardised conditions, ESC enforcement and monitoring procedures, suitably qualified persons register, and other ESC related resources.
- Investigate recognition and/or behaviour change programs that could be used to incentivise voluntary compliance.
- Bring to light, encourage and actively support emerging and innovative compliance and ESC practices.

**2** **Local governments increase the implementation of best practice ESC across their local government areas through adequate resourcing and support for:**

- Dedicated, qualified ESC compliance officers.
- Experienced officers to review ESC plans.
- Development of effective ESC policies and development approval conditions.
- Continual ESC training for compliance and development assessment officers.
- Support for compliance officers to undertake regular proactive site inspections.
- Support and authorisation for compliance officers to undertake enforcement action when necessary.
- Effective ESC compliance processes and systems.
- Implementation of best practice ESC on local governments' own construction sites.

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