Code of Practice

Maintenance of
Electricity Corridors and Infrastructure
in Queensland's Parks and Forests

October 2016

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1 Background

The Queensland Electricity Supply Industry (QESI) is responsible for the provision of electricity to consumers in Queensland and other States. QESI owns and operates transmission and distribution infrastructure, and is comprised of the following Government-owned corporations:

- Queensland Electricity Transmission Corporation Limited (QETC) trading as Powerlink Queensland - the primary electricity transmission entity in Queensland
- Energy Queensland Limited includes subsidiaries Energex Limited and Ergon Energy Corporation Limited - the primary distribution entities in Queensland.

To provide a safe and reliable supply of electricity in accordance with the *Electricity Act 1994,* QESI must have access to electricity infrastructure in all weather conditions. In addition to electricity lines, substations and communication sites, QESI manages vegetation within electricity corridors and access tracks to ensure ongoing electricity supply and electrical safety.

QESI entities have electricity infrastructure located across various lands, including parks and forests that are managed by the following organisations:

- Wet Tropics Management Authority (WTMA)
- Queensland Parks and Wildlife Service (QPWS)
- Department of Agriculture and Fisheries (DAF)
- HQPlantations Pty Ltd (HQP).

WTMA is a statutory body responsible for the Wet Tropics World Heritage Area (WTWHA), which covers approximately 894,420 hectares (ha) between Townsville and Cooktown. WTMA administers the *Wet Tropics Management Plan 1998* (WTM Plan) under the *Wet Tropics World Heritage Protection and Management Act 1993* which aims to protect the internationally significant natural values of the WTWHA. The WTWHA contains lands of various tenures including national park, leasehold, freehold, roads and water reserves. Under the WTM Plan, all maintenance of QESI electricity infrastructure in the WTWHA is regulated by permits issued by WTMA to each QESI entity. QESI employees and contractors must ensure that works in the WTWHA are compliant with WTMA permits, and where not in conflict, this Code.

QPWS is responsible for over 13 million ha of land that includes: national parks and other protected areas under the *Nature Conservation Act 1992;* State forests and timber reserves under the *Forestry Act 1959*, and; recreation areas under the *Recreation Areas Management Act 2006* (which may be jointly managed with local government or traditional owners). Naree Budjong Djara National Park on North Stradbroke Island and most national parks on Cape York are jointly managed with traditional owners through specific agreements. QPWS also manages 1.17 million ha of declared fish habitat areas in partnership with DAF under the *Fisheries Act 1994,* and around 72,000 km^2 of State marine parks under the *Marine Parks Act 2004.* Fish Habitat Areas and Marine Parks are not within the scope of this Code.

DAF is responsible for the administration and sale of State-owned native forest log timber, other forest products and quarry material under the provisions of the *Forestry Act 1959.* These resources are derived from: i) State forests and timber reserves - that are the responsibility of QPWS and within the scope of this Code, and ii) forest entitlement areas, forest consent areas (over freehold lands) and State leasehold lands - that are outside the scope of this Code.

DAF also oversees HQP's management of approximately 300,000 ha of State plantation forest, consisting of timber plantations and surrounding native forests. These activities are undertaken in accordance with a plantation licence and related agreements entered into by HQP with the State under the *Forestry Act 1959*.

Parks and forests are managed for a range of conservation, cultural, recreational, aesthetic, natural resource, visual amenity and/or commercial timber values. They include key sites that protect biodiversity of regional, national and international significance. The co-location and maintenance of QESI electricity infrastructure, access tracks and corridors has the potential to impact on the environmental, social or economic values of the parks or forests. For example, environmental impacts may: reduce populations of threatened species; fragment habitat remnants; create barriers to faunal movement; increase weeds, pathogens and erosion, or; introduce sediment into watercourses.

Impacts can be managed and mitigated by adopting best practice strategies and standards. QESI are committed to ensuring that the maintenance of electricity infrastructure, access tracks and corridors in these parks and forests achieves best practice standards through the implementation of this Code of Practice.

2 Use of this document

Key terms

Specific terms are defined in Section 8 and underlined hereafter in the first instance, with the following terms commonly adopted throughout this Code of Practice:

Agency/Agencies	WTMA, QPWS, DAF and HQP individually, collectively or as a specific combination, depending on the context and implied lands / land use for which they are responsible.
Parks and forests	lands within WTWHA and lands for which each Agency is responsible, as outlined in Section 8.
QESI	Powerlink Queensland and Energy Queensland (including the latter's subsidiaries Energex Limited and Ergon Energy Corporation Limited). The term may apply individually or collectively, depending on the context and the infrastructure for which they are responsible. QESI includes the employees, contractors, agents and invitees of QESI or other person acting on behalf of, or in the interests of QESI within parks and forests.
QESI infrastructure	"works, substations and operating works" as defined in the *Electricity Act 1994*. In parks and forests, this includes electricity lines, the corridors below and directly adjacent to powerlines, substations, and those communication sites, emergency access points and access tracks that are managed by QESI.

Applicability

This Code of Practice:

- covers administrative procedures and environmental standards applicable to the maintenance of QESI infrastructure within parks and forests
- supersedes the previous document - *Code of Practice: Maintenance of Electricity Corridors in Queensland's Parks and Forests*, March 2010
- applies to emergency works and decommissioning of QESI infrastructure
- does **not** apply to the approval and construction process for new QESI infrastructure
- is to be reviewed for currency every 5 years by QESI and the relevant Agencies.

Administrative structure

As outlined in the table below, this Code of Practice is:

- applicable to authorisations issued under legislation relevant to the land tenure, unless precluded by specific terms included within the authorisation
- enabled by the 2010 Deed of Agreement between QESI and the State of Queensland (or subsequent amendment), where applicable
- is relevant to the site-specific Environmental Work Plan (EWP), where applicable.

	Nature Conservation Act 1992		***Forestry Act 1959***		***Wet Tropics World Heritage Protection and Management Act 1993***
Land tenure	'Parks'		'Forests'		Various tenures, including parks and forests
	National Parks	Conservation Parks	Timber Reserve	State Forest including areas with plantation licences	
Authorisation	Section 35/35A authority	Section 34 authority	Occupation Permit under the *Forestry Act 1959*; registered Easement under the *Land Act 1994*		WTMA permit
Deed of Agreement	Applicable		Not Applicable		Not Applicable
EWP	Required		Required		Required

3 Objectives

This Code of Practice aims to establish clear direction for the maintenance of QESI infrastructure within parks and forests, specifically through:

- Procedural arrangements
- Standards for the development and implementation of Environmental Work Plans
- Standards for environmental performance.

4 Procedural arrangements

4.1 Communication

1. QESI and Agencies will collaborate at a strategic level to achieve mutual benefits.
2. QESI and Agencies will share knowledge at a regional/operational level to achieve better site-based outcomes.
3. QESI and the Agencies will share contact lists, at least on an annual basis, relevant to general, emergency and after hours works.
4. Agencies will provide email addresses for QESI works notification.

4.2 Maintenance notification

5. QESI shall seek Agency agreement to commence maintenance, as set out below except in emergency situations.

Pre-works notification

6. QESI will submit a works notification form (Appendix 1) to the Agency at least 7 days prior to the commencement of maintenance, or as stipulated in the EWP.
7. In response to the works notification, the Agency will:
   - advise QESI of any matters that may affect the proposed works, such as timber harvesting or salvaging, planned burns, pest management or research activities
   - notify lessees and permittees with details of the proposed timing and extent of works, including details of chemical use. Where specific lessees or permittees are difficult to contact, the Agency will advise QESI, and work collaboratively to improve the notification process.
8. If QESI does not receive contrary advice from the Agency within 7 days, it can be deemed that the proposed maintenance works are accepted.

Patrols and inspections

9. QESI will contact local Agency staff prior to patrols and inspections in order to be advised of any activities or issues that may present a safety risk (*e.g.* planned burns).

Post-works notification

10. QESI will submit a works notification form (Appendix 1) to the Agency within 7 days, following completion of the maintenance.

4.3 Inspection and audit

11. All maintenance programs will comply with the standards established in this Code and applicable EWP.
12. QESI will monitor the condition of QESI infrastructure and the conduct of its maintenance contractors.
13. An Agency may carry out spot checks on maintenance programs.
14. An Agency or QESI may request a joint site inspection to improve outcomes or the implementation of an EWP or this Code.

Post-maintenance inspection

15. QESI will conduct inspections following each maintenance program and keep appropriate records.
16. Inspections of maintenance activities will be assessed against the EWP and this Code.

Audit

17. QESI shall undertake audits of the implementation of this Code in alignment with their Environmental Management System audit programs.
18. An Agency may carry out audits on the implementation of this Code.

Inspection and audit records

19. QESI will maintain records in compliance with:
    - The *General Retention and Disposal Schedule for Administrative Records* approved by the Queensland State Archivist
    - *Energy Sector Retention and Disposal Schedule* approved by the Queensland State Archivist.
20. QESI will make inspection and/or audit records available to Agencies upon request.

Non-compliance

21. QESI or an Agency must report any non-compliance (with an EWP or this Code) both internally and to the other party, by providing the following information:
    - alleged breaches or departures from an EWP or this Code
    - nature of the work and date
    - location (include tower or poles numbers where possible)
    - any other details relevant to the issue.
22. Based on the Agency's assessment of the non-compliance, the Agency may provide formal written notice to QESI, who shall:
    - contact the Agency to discuss remedial actions and timeframe for completion
    - provide a written report to the Agency that describes the proposed remedial actions and timeframe, within 28 days of receiving the formal written notice.

    The Agency will then confirm in writing the remedial actions to be complied with.
23. Within a mutually agreed period, QESI will advise the Agency that the remedial works are completed and that the Agency may inspect the works with QESI.
24. In the case of non-compliance with a WTMA issued permit, this will be managed in accordance with the permit conditions until satisfactory compliance is reached within a reasonably practicable time.
25. Any disagreement in the level of compliance shall be addressed in accordance with Section 4.4.

4.4 Conflict resolution

26. Resolution to disagreements between an Agency and QESI regarding the implementation of, or compliance with an EWP or this Code, will be addressed as follows:
    - all parties will negotiate in good faith to achieve a satisfactory outcome
    - resolution is first attempted through a face-to-face meeting of the parties
    - resolution will then be sought through referral to progressively higher levels of management.
27. Where agreement cannot be reached under clause 26, an independent mediator will be used. The Agency, acting reasonably, will nominate three qualified mediators and QESI will select one to undertake mediation.

5 Environmental Work Plans

5.1 Development

28. An Environmental Work Plan (EWP) will be developed for each major sector of QESI infrastructure.
29. EWPs will be consistent with, equivalent in standard or improve, the Environmental Performance Standards (Section 7) for routine maintenance.
30. With the approval of the Agency, EWPs may incorporate alternative or innovative practices that enhance, or more cost-effectively achieve, the expected environmental outcomes of this Code.
31. An Agency and QESI may agree to review and update an EWP to adapt to changed circumstances or improve environmental outcomes.

5.2 Endorsement

32. Once drafted, QESI will forward EWPs to the Agency for review and endorsement.
33. Agencies will seek to review the EWP within 90 days. If an Agency expects that this timeframe is insufficient, they will advise QESI at the earliest opportunity.
34. Where QESI and an Agency dispute the content of an EWP, the issue will be addressed in accordance with Section 4.4.
35. The EWP is endorsed when written notice to that effect is given to QESI by the Agency.
36. QESI may manage electronic versions of the endorsed EWP to maintain data currency and accuracy (*e.g.* changes to species or park names, location of weeds or Endangered, Vulnerable or Near Threatened (EVNT) wildlife) without compromising the standards of the endorsed version.

6 QESI employees and contractor competency

Objective

QESI employees and contractors working on parks and forests will have the necessary training and competence to ensure appropriate implementation of this Code, and relevant EWP.

General provisions

37. QESI employees and contractor competency requirements for work within the WTWHA shall comply with the applicable QESI WTMA permit training conditions.
38. Only QESI employees and their contractors with appropriate induction and/or environmental training will be permitted to work on parks and forests.
39. Agencies will be consulted regarding the content of training courses and induction and may provide local content for QESI trainers to ensure that the standards align.
40. QESI entities will ensure that content of the induction and/or environmental training courses is relevant to the requirements of this Code, and includes:
    - general Code of Practice induction
    - relevant fauna and flora identification
    - Species Management Program/Damage Mitigation Permit (or other authorities applicable to native fauna)
    - biosecurity management (*e.g.* hygiene requirements, weed identification, weed control, recognition of disease symptoms and their impacts on flora and fauna)
    - managing vegetation to reduce fire risk
    - erosion and sediment control
    - acid sulfate soil identification and management
    - spill response and management
    - incident management and reporting.

    The components of the induction and/or environmental training delivered will be appropriate to the maintenance role, activities and responsibilities.
41. QESI will keep up-to-date records of the employees and contractor personnel who have undergone induction and other environmental training, and make these records available to Agencies upon request.

7 Environmental performance guidelines

7.1 Vegetation management

Vegetation associated with QESI infrastructure can include exotic and native species that present various challenges and opportunities. QESI maintenance needs to address weed control, electrical safety, erosion and fire risks whilst protecting the ecological, economic and social values of the park or forest (such as threatened species, commercial timber and visual amenity). Maintenance priorities are also influenced by the surrounding landscape. In parks with high conservation values, control of specific weed species may be prioritised. In other locations, adjacent lands may have fast-growing trees that threaten the electrical safety of powerlines, or low-growing plants may offer a valuable source of seeds for natural recruitment.

The clearing or removal of vegetation is regulated under the *Nature Conservation Act 1992* or *Forestry Act 1959* and the removal of plantation timber is authorised by a plantation licence. However, QESI is authorised (in accordance with a relevant EWP, WTMA permit and this Code) to interfere with vegetation that is a risk to QESI infrastructure and ongoing electricity supply.

Objective

Vegetation management objectives are to:

- primarily ensure a safe and reliable on-going supply of electricity
- protect and promote the integrity of existing habitat linkages
- protect native fauna and flora, particularly EVNT species wherever possible
- protect commercial native forest and plantation resources.

General provisions

42. Maintenance will be carried out by QESI at the frequencies documented within an EWP, or as agreed with an Agency. Maintenance cycles will vary according to visual amenity objectives, accessibility, growth rates, vegetation type, climate and topography.
43. To ensure compliance with the *Electrical Safety Regulation 2013* and minimum clearance distances from powerline conductors (allowing for any sag or swing by conductors), vegetation management can allow for rates of regrowth between maintenance cycles.
44. Any commercial timber that presents an electrical safety risk, may be removed by an Agency prior to maintenance, within a timeframe agreed with QESI.
45. The following will be documented in the EWPs:
    - maximum vegetation control width
    - names and locations of low growing native species
    - descriptions and maps of vegetation areas and habitat features to be retained, particularly those with EVNT species
    - descriptions and maps of sites requiring rehabilitation.

46. Vegetation management practices will aim to:
    - avoid damage to retained vegetation
    - reduce the area of bare earth and prevent erosion
    - retain and promote local native ground cover, shrubs and slow growing species
    - retain EVNT species where possible
    - maintain the functionality of riparian areas
    - minimise impact on visual amenity
    - incorporate advice from the Agency for fire management purposes.
47. Where appropriate, scalloping will be used in forested environments to enhance visual amenity and habitat connectivity.
48. In riparian areas, vegetation cover will be maintained wherever possible.
49. When controlling vegetation, efforts will be made to distribute cut or chipped vegetation as a layer across the electricity corridor or access track. Cut vegetation will not be windrowed.

Clearing and trimming trees

50. All tree felling, pruning or trimming will be carried out under direct supervision of an appropriately trained QESI representative (including contractor) in accordance with the QESI Environmental Management System.
51. Pruning will be carried out with the conservation value, natural form and structural integrity of the tree in mind. This is particularly important where people use QESI infrastructure areas for access or visitation.
52. Directional felling will be employed when clearing or pruning of any large trees to minimise damage to surrounding vegetation and soil. The felling of large trees must retain the root ball area in an undisturbed manner.
53. Coarse woody material felled into the corridor should be cut into smaller sections and allowed to decompose where this does not compromise access, or pose a fire hazard to conductors, poles or adjacent land assets.
54. The removal of tall-growing species (including in the juvenile stage) which may infringe on electrical safety clearances is permitted.

Machinery use

55. Use of blade-on-ground clearing techniques for vegetation control is not permitted.
56. Tractor-mounted slashers, mega mulchers, roller choppers and excavator mounted tree-grabbers are all permitted in vegetation control with the exception of roller-choppers that will not be used near public use areas, unless permitted by the Agency.

7.2 Fauna habitat features

Specific habitat features that are important to protected fauna can be associated with, or immediately adjacent to, electricity infrastructure and corridors. These include tree hollows, threatened ant-plants, rare host plants, dead wood, termite mounds and even raptor nests on transmission towers. Low growing vegetation within an electricity easement can also serve as a crucial corridor for reptiles, invertebrates and other fauna.

Objective

To ensure fauna and habitat features are identified and protected where it does not present a safety or security risk to QESI infrastructure.

General provisions

57. Habitat features that occur within QESI infrastructure, particularly those that are important to EVNT fauna will be identified, and their location mapped and documented in EWPs.
58. All native fauna, particularly EVNT fauna, and their habitat features will be protected and disturbance avoided wherever possible.
59. Relevant recovery plans listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* will be consulted to ensure that maintenance practices are compatible with the persistence of threatened fauna populations.
60. Prior to the removal of non-juvenile habitat trees, QESI will undertake spotting techniques to minimise impact on arboreal species, including koalas.
61. Fauna management and threat mitigation will be undertaken in accordance with Species Management Programs and/or Damage Mitigation Permit (or other authorities applicable to native fauna) approved by the relevant State agency.

7.3 Rehabilitation

Rehabilitation of native habitat on disturbed sites can achieve positive outcomes for both QESI maintenance and protection of park and forest values. Given electrical safety priorities, such projects typically focus on low and/or slow growing plant species. The techniques adopted will depend on landscape conditions and can include promoting natural recruitment, directly planting or seeding, and incorporating mulch and branches. The goal is to improve visual amenity, ecological resilience and habitat connectivity, as well as to reduce soil erosion and weed maintenance costs. Rehabilitation may also occur following decommissioning of QESI infrastructure to restore habitats and associated conservation values.

Objective

Rehabilitation will be strategically used to improve the environmental quality and integrity of QESI corridors, reduce ongoing maintenance requirements, provide linkages for wildlife movement and improve visual amenity.

General provisions

62. All plant material used in rehabilitation must be from endemic species, locally sourced and associated with the adjoining ecosystem. Where obtaining locally sourced plant material is difficult, alternative plant sources and rehabilitation methods such as mulching can be discussed with the Agency.
63. QESI infrastructure sites requiring rehabilitation will be addressed in EWPs.
64. When QESI infrastructure is to be decommissioned, QESI will consult with the Agency, and gain approval for, subsequent treatment of the decommissioned area. Options may include one, or a combination, of the following:
    - retaining the area for Agency purposes, such as for a firebreak or plantation
    - a rehabilitation plan to achieve appropriate regrowth over an agreed timeframe
    - natural regeneration through active or passive means
    - active weed control for an agreed period.

7.4 Visual Amenity

Electricity supply infrastructure and corridors can significantly detract from the aesthetic value of parks and forests, particularly when they are obvious from recreational areas, scenic routes and lookouts. Effective restoration and rehabilitation programs can serve to reduce the impact on visual amenity.

Objective

To avoid or minimise the visual impact of electricity corridors through appropriate vegetation management.

General provisions

65. Where QESI infrastructure presents a high visual impact to the public, an Agency and QESI will collaborate to develop and implement strategies to improve visual amenity. This may involve vegetation screening off-site in collaboration with Agencies, private landholders or community groups.
66. At the completion of maintenance and decommissioning works, any spoil dumps will be removed and sites rehabilitated.
67. Native and local occurring plants will be used in vegetation screening.
68. Work camps are not to be located within parks and forests.

7.5 Biosecurity

Weeds and pathogens can easily become established in disturbed environments such as electricity corridors. Many weeds, including those designated under the *Biosecurity Act 2014* require focused efforts for eradication or to limit further range expansion. Promoting the restoration of native vegetation can reduce maintenance efforts and improve the resilience of sites to invasions of weeds and pathogens.

It is important that no new weeds or pathogens are introduced to sites through maintenance activities, and that any new infestations that occur are quickly identified and managed according to relevant protocols. The *Biosecurity Act 2014* introduces the *General Biosecurity Obligation* which requires everyone to take all reasonable and practical measures to prevent and minimise biosecurity risks and adverse effects of dealing with a specific matter. This includes *Phytopthora* fungus which is known to occur within some parks and forests and for which compliance with the *National Threat Abatement Plan* is required.

Objective

Maintenance activities will be conducted in a manner that, within and adjacent to the QESI infrastructure, will:

- prevent the introduction of new pests, weeds, diseases or pathogens and the spread of existing infestations
- facilitate early detection and management intervention for any new pests, diseases or pathogens
- aim to reduce or eradicate weeds
- use targeted weed, disease and pathogen control methods that minimise environmental impacts.

General provisions

69. Maintenance will be planned where possible so that activities are conducted in weed free areas before moving in to any weed infested areas.
70. Weed control programs will focus on prohibited or restricted matter or those species known to pose a threat to the integrity of specific parks or forests.
71. Control strategies must be consistent with those of the Agency and be based on targeted control methods to minimise environmental impacts.
72. QESI and the Agencies will undertake coordinated joint weed management programs where possible to maximise the effective use of resources.
73. EWPs will document:
    - the location and distribution of pests, weeds, diseases or pathogens listed under the *Biosecurity Act 2014* relevant to the location of QESI infrastructure
    - programs or treatments to be used in managing those weeds, including Agency treatment programs
    - off-site and on-site locations and protocols for clean down.

74. New pest, weed, disease or pathogen infestations and expansion of existing infestations associated with QESI infrastructure will be reported to the Agency as soon as possible after detection, and appropriate biosecurity controls implemented in consultation with the Agency.

Vehicle, plant and equipment clean down

75. QESI will implement biosecurity control measures, which will include clean down of vehicles, plant and equipment, appropriate to the biosecurity risk that accords with the *Biosecurity Act 2014*.

76. QESI will maintain a log of biosecurity control measures for vehicles and plant equipment that will be available to an Agency upon request.

77. QESI use of Agency facilities for vehicle clean down may be specifically authorised under EWPs.

Pathogens

78. Any possible pathogen infestation detected by QESI must be immediately reported to the relevant QESI environmental coordinator who will notify the Agency.

79. Any possible pathogen infestation detected by an Agency must be immediately reported to the relevant QESI representative.

80. Where pathogens or pathogen sensitive species are known to occur or where new infestations have been detected, appropriate risk-based biosecurity controls, such as chemical clean down and sterilisation using foot baths will be implemented.

7.6 Fire Management

Fire plays a natural role in sustaining the conservation values of parks and forests, and planned burns are strategically utilised by QPWS in this context, as well as to reduce adverse impacts from wildfires. In plantation forests, HQP utilises planned burns to minimise the risk to commercial production values from wildfires.

Uncontrolled fires from adjacent lands can present a risk to QESI infrastructure. Equally, QESI infrastructure can present a fire risk to adjoining lands by being a potential source of ignition or by contributing notable fuel loads from vegetation.

The role of QESI maintenance programs therefore includes reducing the risk of fire from powerlines and associated vegetation. Promoting collaboration between QESI and Agencies can optimise the use of resources and access routes for fire management, including for controlled burns and wildfire suppression.

Objective

QESI and Agencies will collaboratively manage the fire risk from vegetation to protect QESI infrastructure and the assets and values of adjacent lands.

General provisions

81. QESI will not light or maintain any fire without (a) a permit pursuant to the *Fire and Emergency Services Act 1990* and (b) the written approval of the Agency.
82. At a strategic level, QESI and Agencies will liaise to coordinate fire management and maintenance programs.
83. At an operational level, QESI and Agencies and will collaborate to support Agency fire management strategies and objectives.
84. Agencies will provide QESI with reasonable notice of planned burns in proximity to QESI infrastructure or maintenance activities.
85. If an Agency undertakes a controlled burn in proximity to QESI infrastructure, the Agency will aim to use low intensity slow moving fires and treat the QESI infrastructure as an Asset Protection Zone.
86. In the case of an initial accidental or minor fire, QESI may extinguish the flames and/or move at-risk items away from the flames, where consistent with QESI safety procedures.
87. QESI will report any wildfires or accidental ignitions to emergency services immediately, and to the Agency, as soon as possible.
88. QESI will provide spatial data to the Agencies in an appropriate format and resolution to facilitate the inclusion of QESI infrastructure in Agency fire management mapping.
89. QESI managed access tracks can be used for fire management purposes where identified in an EWP, and maintained as agreed.
90. Where QESI infrastructure is subject to adverse fire events, is within a mapped fire prone location or adjacent to fire prone assets, vegetation maintenance by QESI will aim to reduce the potential fire risk.

7.7 Cultural heritage management

Cultural heritage is the legacy of our past and can reflect social, historic, spiritual, scientific and/or aesthetic values. Cultural heritage can be represented in various forms such as scarred or carved trees, archaeological artefacts, landscape features, rock art, middens, fish traps and weirs, historical cemeteries, in-use buildings, ruins, old mining sites, wells, memorials or ceremonial places. During QESI maintenance activities, Aboriginal heritage sites are more likely to be encountered, than those of European significance.

Cultural heritage values associated with the location of QESI infrastructure must be managed in accordance with the legislative framework for cultural heritage protection and management, which includes the *Queensland Heritage Act 1992*, the *Aboriginal Cultural Heritage Act 2003* and the *Torres Strait Islander Cultural Heritage Act 2003*. Substantial penalties apply where a person has failed to take all reasonable and practicable measures to ensure that an activity does not harm Aboriginal cultural heritage.

Objective

To manage QESI infrastructure in a manner that prevents damage to cultural heritage sites and is consistent with the *Queensland Heritage Act 1992*, *Aboriginal Cultural Heritage Act 2003* and the *Torres Strait Islander Cultural Heritage Act 2003*.

General provisions

91. EWPs will document:
    - known cultural heritage sites in proximity to QESI infrastructure including those listed in publicly available cultural heritage registers
    - appropriate management arrangements including those outlined in any relevant management plan or cultural heritage assessment.
92. Subject to cultural confidentiality considerations, an Agency will advise QESI of:
    - any known historic heritage sites
    - the types of cultural heritage located in the area
    - management plans for the area that includes provision for cultural heritage
    - relevant Traditional Owner stakeholders.
93. For accidental discoveries of cultural heritage the following applies:
    - do not touch or disturb the site
    - do not walk or drive vehicles on or around the site
    - delineate and document the location of the site
    - notify any other working parties in the area of the restriction
    - report to the QESI coordinator, who will refer the matter to the Agency.
94. Cultural heritage will be managed in accordance with the legislative duty of care, and any applicable Cultural Heritage Management Plan or agreement with the Aboriginal or Torres Strait Islander party.

7.8 Access

QESI needs safe and reliable access to QESI infrastructure within parks and forests at all times. QESI manages access tracks specifically associated with QESI infrastructure, which may be reached via Agency managed tracks. QESI use and maintenance of access tracks must minimise impacts to the environment, as well as to the visiting public.

Objective

Safe and suitable access to QESI infrastructure, and Agency assets will be maintained in a manner that minimises erosion and the potential for environmental harm.

General provisions

95. Access tracks will be used at speeds that are safe, minimise dust, noise pollution and avoids conflicts with other users and wildlife.
96. QESI managed access tracks will be mapped and their corresponding maintenance cycles documented in an EWP.

97. Except for access during an emergency, access tracks will not be used in conditions that are likely to result in significant damage or when advised that it is inappropriate by the Agency.

98. Any damage to access tracks due to QESI activities will be rectified by QESI.

99. QESI managed access tracks will be maintained by QESI to:

    - ensure surface stability, return usable material to the pavement and avoid lowering the road surface in a way that impedes surface drainage, concentrates flow along the road edge or saturates adjacent areas
    - restore the road profile and smooth the road surface after disturbance
    - restore drainage systems including any erosion control devices in accordance with *'Best Practice Erosion and Sediment Control'* (IECA 2008)
    - ensure water can freely drain from the surface and is not blocked by vegetation
    - minimise or avoid disturbance to soils adjacent to the road
    - minimise damage to riparian vegetation during maintenance of watercourse crossings
    - where a ground cover exists and no erosion is occurring, access will be maintained with minimal ground disturbance and typically limited to the clean up of drainage control structures.

100. QESI managed access tracks and corridors will be available for use by Agencies, and for non-vehicle based recreation, except where otherwise specified by QESI or the Agency. This excludes uses that may compromise the integrity of the track (*e.g.* logging trucks on 4WD tracks). Any damage caused by an Agency will be rectified by the Agency.

101. Signs, gates, bollards and wing fences may be installed on access tracks by QESI with agreement of the Agency and alignment to Agency standards. Where locks are required, the Agency is to be consulted to ensure that suitable arrangements are in place to maintain access for relevant stakeholders.

102. The size and type of maintenance vehicles will be consistent with the dimensions and load-bearing capacity of access tracks. Where existing tracks are unsuitable for the activities required, written approval from the Agency is required to upgrade the track.

103. QESI managed access tracks will have a maximum 4.5 metres clearing width except where a greater width is required for safety reasons and approved by the Agency.

104. The QPWS *Code of Practice for Native Forest Timber Production 2014* will be applied, except where WTMA permits apply the Queensland Government's *Road Maintenance Code of Practice for the Wet Tropics World Heritage Area 2012*.

105. Where high velocity or concentrated flows occur on QESI managed access tracks, special erosion control chutes and dissipaters should be installed in accordance with current best practice guidelines.

106. An approved traffic management plan is to be implemented where required in compliance with the *Transport Operations (Road Use Management) Act 1995*.

107. QESI will place temporary warning signs including UHF channel references, on roads and access tracks to alert members of the public of maintenance activities.

108. Roads and access tracks identified by the Agency as potential firelines may have other vegetation and hazard clearing requirements agreed and documented in EWPs.

Maintenance materials and storage

109. Earthen materials for maintenance will be sourced from weed-free and pathogen-free quarries, except where other arrangements are authorised in writing by the Agency.

110. Storage of stockpile materials will utilise areas already cleared of native vegetation, which will be marked out or fenced off to prevent spreading of the stockpile area. Stockpile and spoil dump locations will be mapped or documented in EWPs.

7.9 Chemical use

The safe and appropriate use of chemicals in parks and forests is crucial to protect environmental values. The storage of environmentally hazardous chemicals is prohibited on parks and forests, except at sub-stations. Legislation requires records to be kept of the use of any chemicals.

Objective

Chemical usage is undertaken in a manner which is safe, appropriate and minimises the potential for environmental harm.

General provisions

111. Herbicides and other chemical usage will be undertaken by an authorised QESI representative holding an appropriate certification/licence. Relevant safety data sheets will be carried with chemicals at all times.

112. The suitability of herbicides and other chemicals will be established by QESI prior to its use on parks and forests. Wherever possible, herbicides will be non-residual and selective in nature. Herbicides will also be applied in accordance with the relevant APVMA registration and product label conditions, or APVMA off label permit.

113. Only the minimum amount of chemical, including fuels, necessary to carry out planned maintenance will be taken into parks and forests at any time.

114. Decanting or mixing of herbicides and other chemicals should be undertaken outside the boundaries of parks and forests, where practical. Where no practical alternative exists, mixing or decanting will:

    - be conducted on a sealed, bunded surface in a well-ventilated area
    - have appropriate spill management facilities
    - not be undertaken within 50 metres of a watercourse or potential flood area.

115. QESI must not bring leaking chemical drums, containers, machinery or equipment on to parks and forests.

116. If accidental spillage occurs, spread will be limited and correct clean up procedures implemented. All contaminated materials will be recovered for subsequent disposal to an approved waste disposal site.

117. The Agency will be advised of spills or leaks of any size, including those with potential to cause environmental harm as defined in the *Environmental Protection Act 1994*.

118. A list of all chemicals, and quantities, used on parks and forests will be kept by QESI and updated regularly. This list will be available for review by the Agency on request.

119. All chemicals stored in substation facilities on parks and forests, will be stored in a manner that minimises the potential to cause environmental harm.

7.10 Plant and equipment use

The storage and operation of plant and equipment needs to minimise impacts to the environment as well as, to the visiting public. Recreational users of parks and forests are invariably seeking peace and quiet, or wildlife encounters which therefore needs due consideration. It is also important to address the significant risk of fire both to, and from, QESI plant and equipment.

Objective

All plant or equipment usage is undertaken in a manner which is safe, appropriate and minimises the potential for environmental harm.

General provisions

120. Ensure plant and equipment, including mufflers or other noise reducing devices, are in good working order.

121. All plant and equipment should be subject to biosecurity and hygiene protocols as described under section 7.5.

122. Planned or scheduled servicing of plant and/or equipment (*i.e.* oil changes) is not permitted on parks and forests.

123. Any spillage resulting from equipment failure or minor breakdowns that require emergency repairs in the field, will be cleaned up and wastes including sump oil, grease cartridges, hydraulic oil or their containers removed in accordance with Section 7.9 and 7.12.

124. Overnight storage of maintenance machinery and equipment on site will be kept to a minimum. Only sites already cleared of native vegetation will be used for this purpose.

125. Except in emergency situations, use of machinery will be avoided:

    - during wet weather conditions (when soil is saturated)
    - when an Agency deems that the fire danger rating presents a risk to safe operations, or when there are active wildfires
    - where access and/or safety may be compromised.

126. Fire and accidental ignition shall be dealt with in accordance with Section 7.6.

127. Unless otherwise authorised by an Agency or in emergency situations, QESI will not operate equipment and machinery from 6.30 pm to 6.30 am in parks and forests, or undertake Sunday works in areas which may adversely impact the public.

7.11 Acid Sulfate Soils

Acid Sulfate Soils (ASS) can naturally occur in low-lying coastal areas and if disturbed, cause significant environmental damage. These soils form in waterlogged conditions where the iron sulfides remain stable. However, if ASS are excavated and exposed to air, oxidation releases sulfuric acid, iron, aluminium and commonly, arsenic. The impacts can be extensive: contaminating groundwater, killing flora and fauna, and corroding steel or concrete infrastructure. It is therefore critical that potential ASS are identified prior to undertaking QESI maintenance activities that have the potential to disturb significant volumes of soil.

Objective

Exposure of ASS will be avoided wherever possible, or otherwise efforts will be made to minimise disturbance as far as practicable.

General provisions

128. QESI will document, where possible, the location of ASS soils in EWPs.
129. Unless otherwise indicated, the presence of ASS is to be assumed for any area where soil disturbance is to occur below five metres Australian Height Datum.
130. If minor soil disturbance is required and there is potential to encounter ASS, agricultural lime shall be applied with Agency approval (unless already specified in an EWP) at a minimum of 25 kg/m^3 immediately following excavation.
131. If significant soil disturbance is required where there is potential to encounter ASS, QESI will develop an ASS management plan with Agency approval. If acid sulfate soil is exposed, QESI will undertake remediation in accordance with the approved ASS management plan.

7.12 Air quality, noise and waste management

Visitors to parks and forests are invariably seeking peace and quiet, fresh air and wildlife encounters. It is therefore essential that QESI maintenance activities protect the environment and respect the expectations of the visiting public.

Objective

Maintenance activities are managed so that impacts to air quality and noise levels remain within acceptable limits and all waste is disposed of outside the parks and forests.

General provisions

132. Activities will be planned and conducted to minimise noise and dust disturbance to neighbours and users of the park or forests.
133. Where nuisance dust emissions are associated with maintenance activities, watering of worksites or access tracks will be undertaken.
134. Existing toilets will be used whenever possible. Where there are no toilets available, human waste and toilet paper will be buried to a minimum depth of 150 millimetres at locations at least 50 metres from any lake, watercourse, walking track, campsite or other public facility. Portable toilets will be used for significant maintenance programs.

135. All wastes (including paper, machine parts, sump residues, herbicides or other chemicals and all containers) are to be promptly collected, placed in suitable receptacles and removed from parks and forests for disposal or recycling. Dumping of waste on parks and forests is not permitted.

7.13 Emergency works

Any QESI works associated with an emergency situation (*e.g.* to rectify an urgent safety issue or restore electricity supply) must comply with standard maintenance procedures and have regard to the environment. Where non-compliance is unavoidable, QESI will rectify any inconsistency in accordance with this Code as soon as practicable.

Objective

Emergency works will be addressed in a safe and effective manner with minimal additional disturbance to the environment.

General provisions

136. As far as is practical, any works associated with an emergency situation will be consistent with this Code and any relevant EWP.

137. Emergency realignment of access tracks will be limited to the minimum environmental impact necessary to restore service.

138. In the event of an emergency that impacts on QESI infrastructure, QESI or an Agency will locally advise the other party as soon as it is safe and practical to do so, clarifying the location and nature of the emergency, and the works required to address the situation.

139. Within 7 days of completing any emergency works, a full written report will be provided to the Agency. The report shall detail the emergency situation, site impacts or damage, and access track or vegetation work undertaken. Rehabilitation, where required, will be undertaken in accordance with Section 7.3.

8 Definitions

Access tracks - formed (*e.g.* causeway, raised road) or unformed (*e.g.* vehicle track) surfaces required for vehicles, plant and equipment to access and maintain QESI infrastructure. Includes gates and fences, associated drainage, erosion and sediment control structures, bridges, pipes, culverts and bed level crossings.

Acid sulfate soils (ASS) - Acid sulfate soils contain metal sulfides and in an undisturbed and waterlogged state, they may pose no or low risk. When disturbed or exposed to oxygen, ASS release oxidized compounds such as sulfuric acid, which can have significant adverse environmental impacts.

Agency / Agencies - QPWS, DAF (or their respective successors), WTMA and/or HQP. The term may apply individually, collectively or as a specific combination, depending on the context and the lands / the land use for which they are responsible.

Asset Protection Zone - A specific fire management term that refers to a fuel reduced area surrounding a built asset or structure, that provides a buffer between a fire hazard and an asset.

Code/Code of Practice - Refers to this Code of Practice document.

DAF - Department of Agriculture and Fisheries.

Decommissioning - the deconstruction and removal of QESI infrastructure and associated works with Agency approval.

Emergency situation - the unexpected malfunction of the electricity works or any works, or the imminent threat of damage to the electricity works or any works that will put at risk the safe and continuous operation of QESI infrastructure.

Endangered, Vulnerable or Near Threatened (EVNT) - listed as Endangered, Vulnerable or Near Threatened under the *Nature Conservation (Wildlife) Regulation 2006*.

Energy Queensland - Energy Queensland Limited ACN 612 535 583. A Government-owned corporation with subsidiaries **Energex** Limited ACN 078 849 055 and **Ergon** Energy Corporation Limited ACN 087 646 062.

Environmental Work Plans (or EWPs) - describes the environmental management arrangements for key site-specific issues and features, and may include part or all of the provisions covered in this Code of Practice. In some cases, an EWP may be referred to as an Environmental Management Plan (EMP).

HQP - HQPlantations Pty Limited ACN 142 448 977, which manages State Plantation Forests (identified in Schedule 2 of the *Forestry Regulation 2015*) under a plantation licence and related agreements entered into with the State under the *Forestry Act 1959*.

Inspections - site assessment of QESI infrastructure for a range of purposes, including monitoring asset condition, maintenance or vegetation management. Inspections may be undertaken by ground or aerial means, and in conjunction with patrols.

Maintenance - activities necessary to ensure access to, and the safe and reliable function of QESI infrastructure including:

- vegetation management and rehabilitation activities
- installation, maintenance and monitoring of wildlife crossing structures (*e.g.* glider pole arrays)
- biosecurity management
- access track maintenance
- environmental or cultural heritage surveys
- replacement and repair of damaged or fatigued existing infrastructure (with items of similar dimensions and potential impacts), such as:
  - poles and towers (or parts thereof *e.g.* insulators, cross arms, bracing, stay wires, or earthing), conductors, and overhead protection grounding wire
  - placing material at the base of towers to reload foundation ballast
  - micro-piling to reinforce tower foundations
  - communication facility infrastructure, plant and equipment
  - substation facility infrastructure, plant and equipment
  - abrasive blasting, washing and painting infrastructure.

  Maintenance does not include the construction of new infrastructure or a change in existing infrastructure that increases the nature or extent of its impact on the site.

Pathogen - a bacterium, virus or other organism that can cause disease.

Patrols - an activity to assess, by ground or aerial means, the status or condition of QESI infrastructure, which may occur in conjunction with inspections.

Parks and forests - lands within WTWHA and lands for which each Agency is responsible.

Powerlink Queensland - is the trading name of Queensland Electricity Transmission Corporation Limited (QETC) ACN 078 849 233, the primary electricity transmission entity in Queensland.

Queensland Electricity Supply Industry (QESI) - Powerlink Queensland and Energy Queensland (including the latter's subsidiaries Energex Limited and Ergon Energy Corporation Limited). The term may apply individually or collectively, depending on the context and the infrastructure for which they are responsible. QESI includes the employees, contractors, agents and invitees of QESI or other person acting on behalf of, or in the interests of QESI within parks and forests.

QESI infrastructure - "works, substations and operating works" as defined in the *Electricity Act 1994*. In parks and forests, this includes electricity lines, the corridors below and directly adjacent to powerlines, substations, and those communication sites, emergency access points and access tracks that are managed by QESI.

QPWS - Queensland Parks and Wildlife Service, an agency of the Department of National Parks, Sport and Racing (or its relevant successor) which manages the following:

- national parks and other protected areas under the *Nature Conservation Act 1992*
- state forests and timber reserves under the *Forestry Act 1959*
- recreation areas under the *Recreation Areas Management Act 2006*
- marine parks under the *Marine Parks Act 2004*
- fish habitat areas (in partnership with DAF) under the *Fisheries Act 1994*
- other lands under joint management with traditional owners.

Rehabilitation - active management of a disturbed site to return it to a more natural condition, including through the planting of local endemic species.

Safety data sheet - a document that provides information on the properties of hazardous chemicals and how they affect health and safety in the workplace.

Species Management Program - agreed framework under the *Nature Conservation Act 1992* for the management of interactions with fauna and fauna breeding places.

Spoil - material that results from excavating, disturbing soil or digging holes including earth, soil, rock, sand, gravel or plant material (vegetation).

Vegetation - any community or individual organism that is a member of the plant or fungus kingdom including a flowering plant, cycad, conifer, fern, moss, liverwort, alga, fungus or lichen, as well as the associated flowers, fruit, spores or seeds.

Watercourse - a perennial, permanent flow or a seasonal creek.

WTMA - the Wet Tropics Management Authority which is responsible for administering the Wet Tropics World Heritage Area.

WTWHA - Wet Tropics World Heritage Area of approximately 894,420 ha in North Queensland which is recognised for its outstanding universal value under the World Heritage Convention.

9 Relevant legislation

Aboriginal Cultural Heritage Act 2003

Agricultural Chemicals Distribution Control Act 1966

Biosecurity Act 2014

Electricity Act 1994

Electricity Safety Act 2002

Environmental Protection Act 1994

Environmental Protection and Biodiversity Conservation Act 1999

Fisheries Act 1994

Forestry Act 1959

Forestry Regulation 2015

Nature Conservation Act 1992

Nature Conservation (Wildlife) Regulation 2006

Queensland Heritage Act 1992

Recreation Areas Management Act 2006

Torres Strait Islander Cultural Heritage Act 2003

Transport Operations (Road Use Management) Act 1995

Vegetation Management Act 1999

Wet Tropics World Heritage Protection and Management Act 1993

Wet Tropics Management Plan 1998

10 Signatories

Counterparts

This document may be executed in any number of counterparts. Each counterpart constitutes an original of this document, all of which together constitute one instrument. A party who has executed a counterpart of this document may exchange it with another party by faxing, or by emailing a portable document format (pdf) copy of, the executed counterpart to that other party, and if requested by that other party, will promptly deliver the original by hand or post. Failure to make that delivery will not affect the validity of this document.

SIGNED for and on behalf of the **STATE OF QUEENSLAND**

this . . 2ND . . day of NOVEMBER 2016

by . . TAMARA ANNE O'SHEA . . . . .
(full name)

. . . DIRECTOR-GENERAL . . . . . T.A. O'Shea
(title) *(signature)*

. . NATIONAL PARKS, SPORT &
(Department) RACING.

who is a duly authorised officer in the presence of:

. . . . Emily Strickland . . . . . .
(name of witness)

. . . . . .
(signature of witness)

SIGNED for and on behalf of the

WET TROPICS MANAGEMENT AUTHORITY

this . 11TH . . day of NOVEMBER 2016

by . SCOTT PHILLIP BUCHANAN . . . . .
(full name)

EXECUTIVE DIRECTOR . . . . . .
(title) WET TROPICS MANAGEMENT AUTH. *(signature)*

in the presence of:

. . RACEY CHURCHILL . . . . . .
(name of witness)

. . . . . .
(signature of witness)

SIGNED for and on behalf of the

QUEENSLAND ELECTRICITY TRANSMISSION CORPORATION LIMITED (ACN 078 849 233)

this 15th day of NOVEMBER 2016

by MERRYN EDNA YORK
(full name)

CHIEF EXECUTIVE
(title)

Merryn York
(signature)

in the presence of:

MELISSA LUNNEY
(name of witness)

(signature of witness)

SIGNED for and on behalf of the

ERGON ENERGY CORPORATION LIMITED
(ACN 087 646 062)

this 10th day of November 2016

by ROSLYN BAKER
(full name)

A/C.E. ERGON ENERGY
(title)

(signature)

in the presence of:

TRACEY CHURCHILL
(name of witness)

(signature of witness)

SIGNED for and on behalf of the

ENERGEX LIMITED (ACN 078 849 055)

this 15th day of November 2016

by PETER FRANCIS WERTHEIM
(full name)

ACEO ENERGEX
(title)

(signature)

in the presence of:

MICHAEL WAYNE RUSSELL
(name of witness)

(signature of witness)

SIGNED for and on behalf of

HQPlantations Pty Ltd (ACN 142 448 977)

this 8th day of November 2016

by Brian Farmer
(full name) Chief Executive Officer

(title)

(signature)

in the presence of:

ERICA HOPEWELL
(name of witness)

(signature of witness)

Appendix 1a - QESI Works Notification Form

Notification Type (Pre-works / Post-works):	**Date:**

Electricity Organisation:	**QESI Contact:**
Agency (QPWS / WTMA / HQP):	**Agency Contact:**

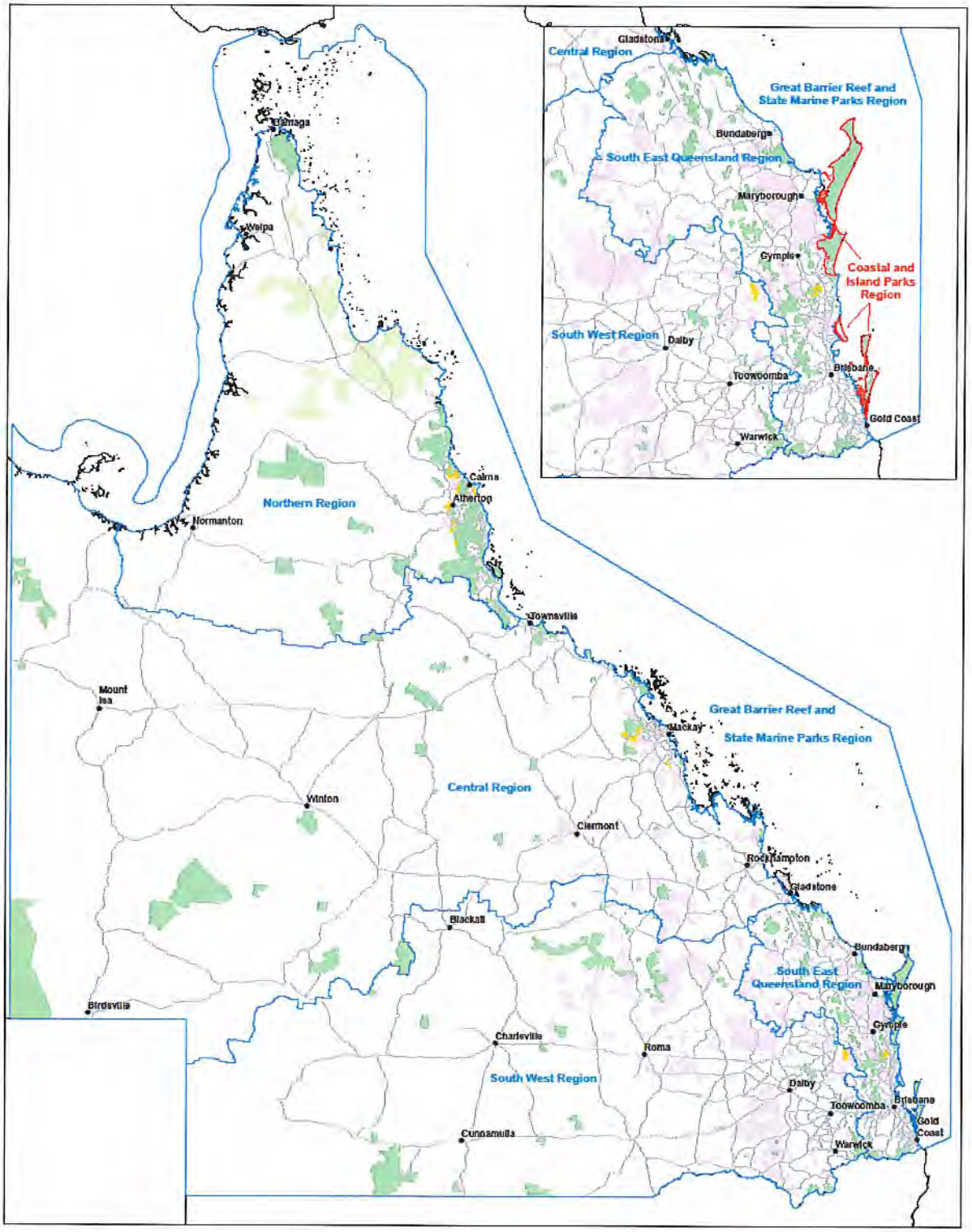
Location of works			
QPWS Region (Appendix 1b)	Name of Protected Area	Lot & Plan / Sector ID	EWP # (if known)

Works Summary					
Required maintenance	Nature of disturbance	Control techniques	Chemical use	Start date	End date

Additional Comments:	

Appendix 1b – QPWS Regions

The six QPWS regions: Northern; Central; South West; South East Queensland; Great Barrier Reef and State Marine Parks, and; Coastal and Island Parks (inset).



QPWS Region Map

Queensland Government

National Park
National Park (CYPAL)
Regional Park
Forest Reserve
State Forest
Timber Reserve
QPWS Region boundary
Major Road
Town

Date: 23/08/2016