



STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

Landscape Rehydration Infrastructure Guide

A guide to the planning pathway and information requirements for approvals, licences and permits

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Acknowledgment of Country

The Department of Planning, Industry and Environment acknowledges the Traditional Owners and Custodians of the land on which we live and work and pays respect to Elders past, present and future.

Contents

Landscape Rehydration Infrastructure Guide	0
Acknowledgment of Country	i
Introduction	1
Purpose of the guide	1
Purpose of landscape rehydration infrastructure	1
Environmental benefits of ecological function	2
1. Improved landscape function	2
2. Improving aquatic and riparian habitat	3
3. Less suspended sediment	3
4. Re-establishing riparian vegetation.....	3
5. More diversity of aquatic habitat	3
Planning controls for landscape rehydration infrastructure	4
Infrastructure SEPP.....	4
Mandatory approvals	5
Mandatory approvals flow chart	6
Crown land licence	7
Natural Resources Access Regulator controlled activity approval.....	7
Application requirements – Crown Lands and Natural Resources Access Regulator.....	7
A review of environmental factors needs to accompany the application	8
What is a Review of Environmental Factors?.....	8
What information should be in a Review of Environmental Factors?	8
Specific information required to be in the Review of Environmental Factors	9
What other assessments and approvals might be needed?	12
Threatened species – species impact statement / biodiversity assessment (BDAR) report	12
Authorisation – Local Land Services Act 2013.....	14
DPIE Fisheries S 199 Permit – For dredging or excavation.....	15
Water access licence	16
Aboriginal heritage impact permit.....	16
State Heritage Item Impact Approval	17
Commonwealth Approvals	17
When can construction commence?	19
Construction environmental management plans	19
Monitoring, evaluation and reporting	19
Record keeping	19
APPENDIX 1	20
Environmental factors.....	20

Introduction

Landscape rehydration is the process of restoring the natural movement of water through rural landscapes. *Landscape rehydration infrastructure* refers to a range of structures that contribute to rebuilding the natural flow patterns and ecological function of any given landscape system. Landscape rehydration infrastructure takes the form of permeable bed control structures made from natural materials such as logs and rocks. A series of such structures built along a stream or part thereof can, over time, help to bring the level and flow patterns of that stream back towards its long-term natural geomorphic state. Landscape rehydration infrastructure together with associated riparian vegetation planting assist to facilitate the creation of healthy landscapes that are more resilient to climate extremes through hydrating the soils.

Previously, planning provisions for landscape rehydration infrastructure were inconsistent, unclear and the works often required development consent from the local council. Council approval is no longer required for landscape rehydration infrastructure, but Council notification is required and other state agency permits or licences remain in place. An environmental assessment of the proposed works is also required under Part 5 of the EP&A Act. Changes to the planning system have been introduced to:

- provide a consistent planning process to deliver landscape rehydration infrastructure
- improve agricultural productivity in NSW by supporting actions that reduce soil erosion and hydrate soils
- facilitate best practice land management in the agricultural sector of the NSW economy
- encourage ecological restoration works that can provide broad ecosystem benefits with respect to water quality and availability, soil health, biodiversity and native habitat

Purpose of the guide

The purpose of this guide is to:

- explain the planning and approval requirements for landscape rehydration infrastructure.
- set out the information requirements for the environmental assessment documentation commonly referred to as a Review of Environmental Factors (REF) that is needed to accompany a Controlled Activity Application or a Crown Lands license application.

Purpose of landscape rehydration infrastructure

It is acknowledged that Australian landscapes were actively managed over many thousands of years by First Peoples. Water moved more slowly across the land and there were many wetlands, swampy meadows and chains of ponds.¹ Moisture was stored within the floodplain and was easily accessible to plants. During dry times, flows persisted beneath the surface. In wet times, water spread across the densely vegetated valley floor, distributing sediments and nutrients. These fertile floodplains were widespread and they contributed to complex ecosystem patterns and processes throughout the wider landscape.

¹ Hazell, D., Osborne, W. & Lindenmeyer, D. (2003) Impact of post-European stream change on frog habitat: southeastern Australia. *Biodiversity and Conservation* 12: pp 301 – 320. Kluwer.

European farming practices dramatically changed how water moved through the landscape.^{2, 3} Vegetation was cleared, removing the primary mechanism that slowed the water flow and built the floodplains in the first place.⁴ Since European settlement, soil erosion and the loss of complex ecosystems and their flora and fauna have been a chronic problem.⁵ This has contributed to reducing the resilience of NSW landscapes to extreme events such as droughts, floods and fires.

The main purpose of landscape rehydration infrastructure is to support the recovery of ecological function in any given landscape system.

Carefully planned interventions throughout an eroded stream system can rebuild the resilience of a landscape. Such interventions can mitigate the erosive force of water and reduce the desiccating effects of heat and drought. A degrading stream system can thereby become an aggrading stream system. A complex ecological structure can re-emerge, as can the functional connection between the stream and the floodplain.

The building of a permeable artificial hardpoint in an eroded stream bed, if properly designed and constructed, has the effect of raising the bed of a stream that has been lowered by erosion. The infrastructure changes the hydraulic conditions, so the stream energy no longer scours the bed, but deposits sediment behind the permeable structure. Over time the elevation of the stream bed rises as a result. This has the following effects:

- reducing stream water velocity
- moderating stream discharge – lower peak flows and increased low flows
- protecting streambanks from erosion
- increasing the flows of currently intermittent streams
- increasing the amount of water available during dry periods
- raising the level of a lowered alluvial water table
- capturing sediment and filtering water.

Environmental benefits of ecological function

By supporting the recovery of ecological function in rural landscapes and eroded streams this can benefit the natural environment in the following ways:

1. Improved landscape function

Re-establishing the functional connection between the stream and floodplain vastly increases the amount of plant-available water that is stored and cycled between them. This improves the vigour and complexity of instream, riparian, and floodplain vegetation communities. Improved vegetation growth:

- moderates the energy of high flows
- captures sediments
- cycles nutrients

² Eyles, R. (1977) Changes in Drainage Networks since 1820, Southern Tablelands, NSW. Australian Geographer, 13: pp 377 – 386.

³ Wallbrink, P., Wilson, C., Olley, J., and Beavis, S. (1999) Management Implications of Channel Incision in the Liverpool Plains Region. Second Australian Stream Management Conference, Adelaide, pp 667 – 671.

⁴ Wasson, R. J., Mazari, R. K., Starr, B., Clifton, G. (1998) The recent history of erosion and sedimentation on the Southern Tablelands of southeastern Australia: sediment flux dominated by channel incision. Geomorphology 24: pp 291 – 308.

⁵ Prosser, I. P. (1991) A comparison of past and present episodes of gully erosion at Wangrah Creek, Southern Tablelands, New South Wales. Australian Geographical Studies 29: pp 139 – 154.

- fixes carbon
- transpires water and increases shade, which cools the atmosphere.

During dry periods water is slowly released from the floodplain, helping to maintain these ecosystem processes.

2. Improving aquatic and riparian habitat

Re-establishing the functional connection between the stream and the floodplain increases the abundance, composition and diversity of plant and animal species, and improves the overall health of the ecosystem. This effect may not be confined to the location of the permeable structure but may also extend a long way upstream, downstream, and laterally into the floodplain, for example through the re-emergence of ephemeral wetlands.

3. Less suspended sediment

When a stream has a stable environment, the stream becomes more beneficial to fish and other aquatic animals by:

- creating conditions favourable to a more diverse array of plants and animals
- increasing the availability of benthic food
- increasing light penetration and productivity of the stream
- making it easier for plants and animals to respire
- increasing the tolerance of fish to disease and pollutants
- reducing silt that may smother fish eggs and increase the success of spawning.

4. Re-establishing riparian vegetation

Actively increasing local native riparian vegetation has the effect of:

- stabilising the bed and banks of watercourses through root systems binding the soil and reducing bank and channel erosion
- improving water quality by trapping sediments, nutrients and other contaminants
- increasing shade, which reduces fluctuations in land and water temperatures and helps to increase the concentration of oxygen in the water
- providing connectivity for wildlife movement between areas of habitat
- increasing biodiversity, the amount of food, shelter, and habitat available for aquatic and terrestrial animals.

5. More diversity of aquatic habitat

Recreating a more complex stream structure and slower flows means that stream features such as pools, riffles, and banks are not undercut and can rebuild naturally. These features provide important habitat for aquatic animals, as do woody debris, logs, snags, boulders, and other natural materials that find their way into the stabilised stream.

Planning controls for landscape rehydration infrastructure

Infrastructure SEPP

The planning controls for landscape rehydration infrastructure are proposed to be located in the State Environmental Planning Policy (*Infrastructure*) 2007 (Infrastructure SEPP). The Infrastructure SEPP is a NSW Government State environmental planning policy that provides planning controls for many forms of infrastructure ranging from railways, public administration buildings to airports.

The Infrastructure SEPP clarifies the process for providing infrastructure, while still ensuring that appropriate levels of environmental assessment and consultation are undertaken.

Landscape rehydration infrastructure and the Infrastructure SEPP

Proposed changes to Clause 129A of the Infrastructure SEPP will set out the provisions for landscape rehydration infrastructure that can be undertaken by any person using the 'development without consent' planning pathway (also known as the 'Part 5'⁶ planning pathway).

The following planning provisions are proposed to be included in the Infrastructure SEPP. These changes are subject to consultation and may change following feedback received through that process.

128 Definitions

Landscape rehydration infrastructure means – a permeable stream bed control structure, located within the banks of an existing waterway, made from natural materials such as logs and rocks, is accompanied by riparian vegetation planting, and is often part of a series of such structures built along a stream or part thereof. The main purpose of the landscape rehydration infrastructure is to raise the bed of a stream and contribute towards rebuilding the natural flow pattern and ecological function of any given landscape system.

prescribed zone for the purpose of clause 129A means any of the following zones or a land use zone that is equivalent to any of those zones -

- (a) RU1 Primary Production
- (b) RU2 Rural Landscape
- (c) RU3 Forestry
- (d) RU4 Primary Production Small Lots

129A

(1) Development for the purposes of Landscape rehydration infrastructure may be carried out by any person without consent on land in a prescribed zone.

(2) Nothing in this clause authorises the carrying out of development in contravention of:

- (a) any existing licences or approvals from a state agency in relation to the stream; and
- (b) any requirements of any other legislation.

As part of applying for a controlled activity approval (CAA) from the Natural Resources Access Regulator (NRAR) or a licence from Crown Lands you may also be required to obtain approval from government agencies under other legislation including:

⁶ Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act)

- preparation of a species impact statement (SIS) or biodiversity development assessment report (BDAR). Concurrence is required from the Environment Agency Head for an SIS - *Biodiversity Conservation Act 2016 Act 2016*
- S199 approval – *Fisheries Management Act 1994*.
- Aboriginal Heritage Impact Permit (AHIP) – *National Parks and Wildlife Act 1974*
- S57(1) approval – *Heritage Act 1977*
- EPBC approval - Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Whether you apply for a CAA from NRAR or a Licence from Crown Lands you will need to supply environmental assessment documentation commonly referred to as a Review of Environmental Factors (REF) to support your application. The REF will also help you to determine if you need approval from other government agencies. The Department has developed a draft guide to assist in preparing environmental assessment documentation under Part 5 of the Environmental Planning & Assessment Act 1979.

Mandatory approvals

To undertake landscape rehydration infrastructure, you do not need to obtain development consent from council, but you *will* require either a CAA from NRAR OR a Licence from Crown Lands. The requirements are detailed below and are shown in the following Mandatory Approvals Flow Chart.

If your application is on freehold land or partly on freehold and partly on Crown land you need a CAA from NRAR.

It is the responsibility of the proponent to obtain landowners consent from Crown Lands where the proposed infrastructure is partly on Crown Land and the application will be lodged with NRAR. See the [landowners consent application form](#) on the department's website.

If your application is partly on Crown Land and an exemption applies to needing NRAR approval, then you will still need a licence from Crown Lands.

If your application is wholly on Crown land you need a Crown land licence and not a CAA. If you already hold a Crown Lands licence you will still need authorisation to undertake the works unless the purpose of the licence is already for landscape rehydration infrastructure.

Both applications (CAA or Crown Lands licence) need to be submitted with a letter from the NSW Department of Primary Industries (DPI) – Fisheries regarding fish passage and aquatic vegetation, as well as the proposed design of the fish passage (if required).

If the proposal is leasehold a copy of the lease is to accompany the application.

NRAR – CAA Application Form:

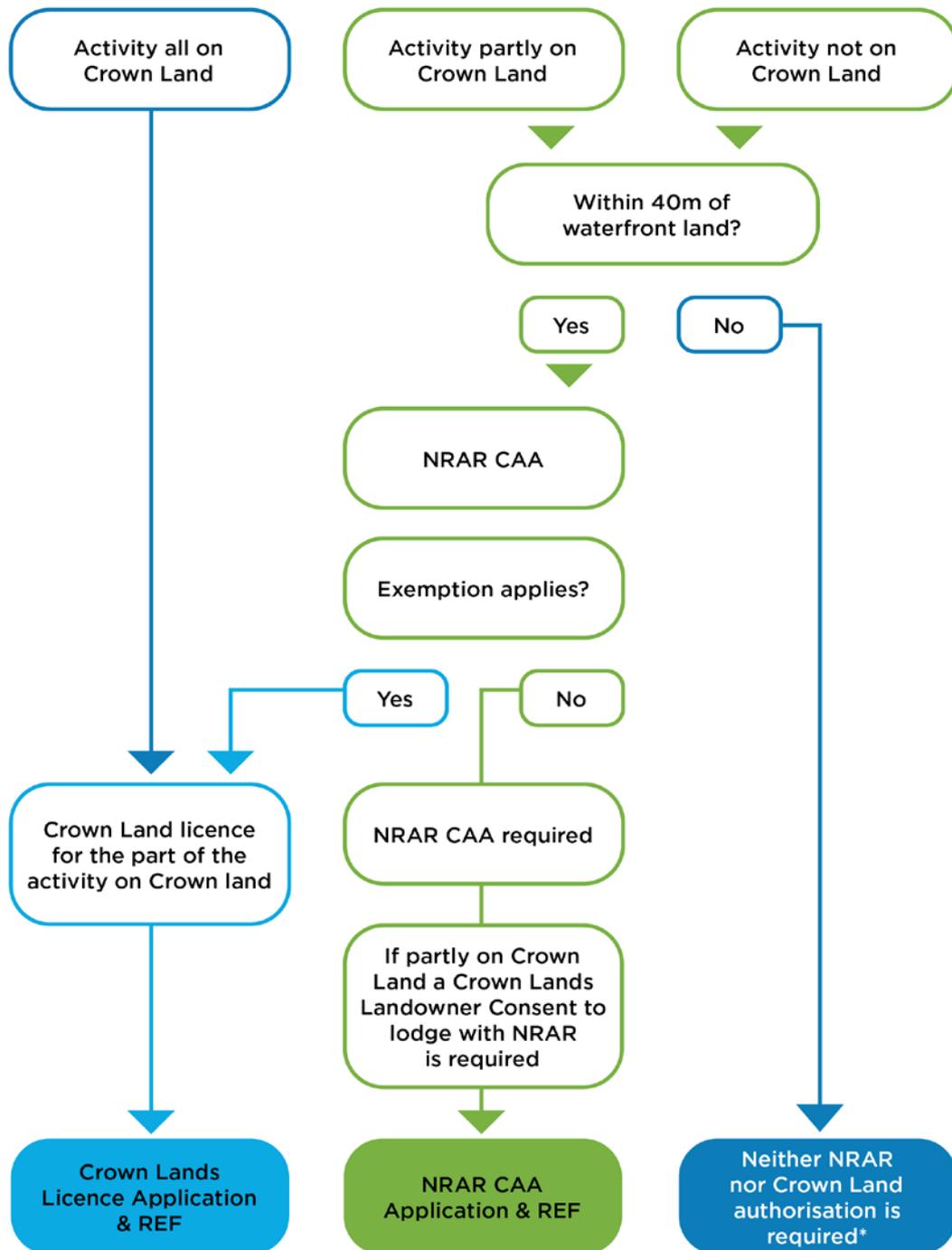
Refer to latest [NRAR application form](#).

Crown Lands – new licence application form:

Refer to latest [Crown land new licence application form](#)

Either NRAR or Crown Lands would then refer the application, REF and information from your application to other agencies, where relevant, to determine whether additional approvals/permits are required from those agencies.

Mandatory approvals flow chart



*Separate approvals may be required. See below "What other assessments and approvals are required"

Figure 1. Mandatory approvals flow chart

Crown land licence

The department issues licences to individuals, companies or entities and community organisations for a number of purposes. A licence over Crown land is a contractual agreement that grants the licensee a personal right to occupy and use Crown land for a particular purpose

The department is guided by the [Licensing of Crown land Policy](#) and [guideline](#).

Policy link: https://www.industry.nsw.gov.au/data/assets/pdf_file/0008/164546/IND-O-252-Licensing-of-Crown-land-policy.pdf

Guideline link: https://www.industry.nsw.gov.au/data/assets/pdf_file/0018/165213/Licensing-of-Crown-land-guidelines.pdf

The department considers each application received on its merits, taking into account:

- site inspection
- valuation
- related policies and guidelines
- Native title
- Aboriginal land claims
- REF
- current land use and condition
- land assessment requirements

Natural Resources Access Regulator controlled activity approval.

What is a controlled activity approval?

The NRAR administers the *Water Management Act 2000* and is required to assess the impact of any proposed controlled activity to ensure that no more than minimal harm will be done to waterfront land as a consequence of carrying out the controlled activity.

When is a controlled activity approval needed?

“Controlled activities” are activities on waterfront land. Waterfront land includes the bed and bank of any river, lake or estuary and all land within 40 metres of the highest bank of the river, lake or estuary.

You need a CAA to carry out a controlled activity on waterfront land unless an exemption applies. In the case of landscape rehydration infrastructure, the only exemption that is relevant relates to maintenance, once constructed. Maintenance is exempt providing the maintenance does not increase the height or width of the existing infrastructure.

Application requirements – Crown Lands and Natural Resources Access Regulator

The information requirements and the [CAA application](#) for a CAA from NRAR are detailed in the [NRAR Guide to completing and submitting a new or amended controlled activity approval](#) on the [Natural Resources Access Regulator website](#).

The [information requirements for a Crown land licence](#) are available on the [Crown Lands website](#).

The description of the works proposed is the same for both a Crown land licence and CAA application. Environmental assessment documentation commonly referred to as a REF is required for both applications.

A review of environmental factors needs to accompany the application

What is a Review of Environmental Factors?

To assess your application, NRAR or Crown Lands will need to have a copy of the Review of Environmental Factors (REF). The purpose of the REF document is to record the assessment of the environmental impacts of the proposed landscape rehydration infrastructure in accordance with Division 5.1 of the EP&A Act.

What information should be in a Review of Environmental Factors?

REFs are explained in the draft Guidelines for Division 5.1 Assessments, Department of Planning, Industry and Environment 2021. The guideline outlines the form of the REF document may take, which must demonstrate how environmental factors were taken into account when undertaking environmental impact assessment. The environmental factors are listed in Appendix 1 of this Landscape Rehydration Infrastructure Guide and are the same as those in clause 156(2) of the EP&A Regulation⁷.

The REF document would be tailored to consider the specific environment that the landscape rehydration infrastructure is proposed to be located and be proportionate to the scope of the works proposed.. This means the REF would need to describe the existing environment and assess the potential direct and indirect impacts of the proposed infrastructure on that environment including details on the following:

- existing physical form of the stream and channel (size, shape and condition)
- geomorphologic condition
- soil erosion and compaction
- hydrology of stream and affected properties / sub-catchment / downstream impacts)
- history of any flood events if known / potential to create additional risk to communities
- potential for flooding as a result of the proposal,
- contamination
- acidity
- salinity
- identification of any wetlands or dependent ecosystems
- biodiversity including vegetation, vegetation community / any endangered ecological community / native or exotic / condition - intact or disturbed and fragmented / plant species – is the area fragmented or providing a corridor / native terrestrial and aquatic flora and fauna / fauna habitat and fish species
- whether fish passage is required
- Aboriginal cultural heritage (including whether an AHIP is required, Native Title and Aboriginal land claims)
- European heritage
- location of any existing structures including sheds, dwellings, roads, bridges in proximity

⁷ As proposed in the exhibition draft of the *Environmental Planning and Assessment Regulation 2021*, which was publicly exhibited by DPIE from 5 August 2021 until 22 September 2021

- surrounding land uses.

Specific information required to be in the Review of Environmental Factors

The following information is required by NRAR to assess the CAA application. It is advisable to provide the information also in any Crown Lands Licence application.

Description of proposed activity

- describe the activity to be undertaken, including all proposed works on waterfront land. Provide a detailed description and explanation of works
- describe the purpose of the proposal as well as any outcomes that will be achieved for increased riparian areas or bank stability. Outline reasons for undertaking the activity
- dates for the proposed work should be as accurate as possible. These dates will help to determine the duration of the approval. If a rehabilitation plan or vegetation management plan (VMP) is to be implemented, ensure that a maintenance period is included in the estimated timeframe. The minimum maintenance period is two years
- provide construction plans for any work or controlled activities in, on or under waterfront land. If not available, include a sketch diagram of the proposed work or controlled activity

Location of proposed activity

Topographic map and/or aerial photo(s) showing

- where the work or controlled activity is to occur
- the location of waterfront land
- a map that clearly shows the boundary of all tenures (properties) relating to the proposed development
- the map can be an annotated google map satellite image

Survey information

Survey information is to include the completed extent of the structure (plan) and a cross-section showing the designed riverbed, banks and structure along the crest centreline.

Where the proposed works involve significant construction or excavation and/or ongoing works, survey plans should be provided. An accurately surveyed plan and cross sections, to an appropriate scale, should be provided showing features of the site as listed below.

All plans should be legible and include a legend, scale bar and be provided in electronic PDF format.

If the proposal involves significant works, these requirements should be discussed with NRAR before proceeding with any surveys. Survey information (as detailed below) includes the completed extent of the structure (plan) and a cross-section showing the designed riverbed, banks and structure along the crest centreline.

Survey control

A permanent benchmark (as identified by survey or GPS) and recovery pegs for each cross-section should be installed in suitable locations so that the operation does not disturb them.

NRAR may require resurveys of the plans and sections at regular intervals.

An assumed datum may be used where an Australian Height Datum (AHD) permanent mark is not readily available.

Hydraulic calculations and erosion control

For the proposed erosion control(s): a report detailing the hydraulic calculations used to assess the effect of the whole structure on the water level for natural bank-full discharge (prior to degradation if any).

Plans

Plans should show the following:

- title, scale bar and north arrow
- works area divided into stages to show progression
- property boundaries
- existing erosion control works
- cross-sections and survey pegs
- names of landowners
- gravel and sand deposits
- high and low banks, shorelines of existing rivers and lakes
- proposed sites for tree or shrub planning, listing species or refer to VMP
- contours at one-meter interval except within the exposed channel or lake bed where an 0.5 metre interval is required
- low flow and direction of flow

Show the following, only if present:

- water bore holes
- major snags
- buildings
- access tracks
- any structures/roads in proximity to the proposed landscape rehydration infrastructure
- existing weirs, crossings, bridges and culverts
- vegetation type and structure
- water supply pumps and intake pools
- bed rock outcrops

Cross-sections

The cross-sections should:

- be spaced at 50-metre intervals or as otherwise specified by the department
- be plotted at a scale of 1:100 vertical and 1:500 horizontal or as specified by the department
- show all areas covered with water and the depth
- extend at least three metres beyond any disturbed area
- show depth of soil (if any)
- run normal (perpendicular, at right angles) to the channel
- show all changes in slope
- show all water levels at the time of the survey along with the dates they were surveyed
- show all high and low banks, shorelines

- show proposed final rehabilitated surface

Photos

Photographs of the site and waterfront land - position the photographs (location and direction for example looking east) on a sketch plan and ensure the top of bank is clearly identified.

Panoramic (multiple frame) photos of the watercourse (and waterfront land) showing both banks and views upstream and downstream. The photographs are to be placed (showing location and direction) on a sketch plan and ensure the top of the highest bank is clearly identified.

NRAR recommends that the location, or point from which the initial photographs are taken, be surveyed or identified by GPS coordinates to ensure that future photographic studies (of the site) can be properly referenced.

What other assessments and approvals might be needed?

Approval from either NRAR or Crown Lands to undertake landscape rehydration infrastructure may be needed, and other permits or licences for impacts or activities that are outside of NRAR and Crown Lands powers to authorise.

Generally, these will be for impacts or activities that other agencies have a role in regulating, such as native vegetation (Local Land Services), threatened species (Environment, Energy and Science) and aquatic habitat (Fisheries). Your REF will help you to identify if other approvals may be needed. It is your responsibility to comply with all relevant legislation.

Threatened species – species impact statement / biodiversity assessment (BDAR) report

Under section 7.2 of the Biodiversity Conservation Act 2016 (BC Act) and section 221ZX of the Fisheries Management Act 1994 (FM Act) a Part 5.1 activity is to be regarded as an activity likely to significantly affect the environment if:

- it is likely to significantly affect threatened species, populations or ecological communities, or their habitats (according to the test in section 7.3 of the Biodiversity Conservation Act), or
- it is carried out in a declared area of outstanding biodiversity value.

When is a SIS or BDAR required?

When assessing an activity under Division 5.1 of the EP&A Act, if the activity is likely to significantly affect a threatened species, population or ecological community, or their habitats, the REF must be accompanied by a species impact statement (SIS) or, for terrestrial biodiversity, if the proponent elects to participate in the biodiversity offsets scheme, a biodiversity development assessment report (BDAR).

How to obtain a SIS?

Further information on applying the test of significance set out under section 7.3 of the BC Act is provided in the [Threatened Species Test of Significance Guidelines](#). Also refer to Section 220ZZA of the FM Act, and Guidelines for Division 5.1 Assessments, Department of Planning, Industry and Environment, 2021.

When an SIS is required, the proponent must first seek Environment Agency Head's requirements (for terrestrial biodiversity) or Fisheries Agency Head's requirements (for fish or aquatic vegetation) for the SIS. Once the SIS is prepared, the concurrence of the Environment Agency Head and/or the Secretary of the Department of Primary Industries is required before the activity can take place.

How to obtain a BDAR?

If the proponent elects to participate in the biodiversity offsets scheme and a BDAR is prepared, it must be prepared by an accredited assessor and follow the Biodiversity Assessment Methodology (BAM).

If a significant impact is likely for NSW listed matters and a BDAR or SIS has been prepared, public exhibition and Agency consultation requirements apply to the REF.

Information requirements of a SIS or a BDAR:

Terrestrial biodiversity

To determine whether the proposed activity is likely to significantly affect threatened species or ecological communities, or their habitats under the BC Act the proponent and determining authority should determine whether the activity will be carried out in an area of outstanding biodiversity value (AOBV). If the proposed activity will be carried out in an AOBV a SIS must be prepared, or if the proponent elects to participate in the biodiversity offsets scheme for terrestrial biodiversity impacts, a BDAR.

If the activity is not proposed to be carried out on an AOBV, then the proponent must undertake a test of significance following the NSW DPIE [Threatened Species Test of Significance Guidelines](#) and submit this to the determining authority.

Where the test of significance indicates that a significant effect is likely, the application must be accompanied by a SIS, or if the proponent elects to participate in the biodiversity offsets scheme for terrestrial biodiversity impacts, a BDAR.

Part 7, Division 5 of the BC Act sets out the required form and content of a SIS.

Where a BDAR has been prepared and a condition to retire biodiversity credits has been imposed, the biodiversity credits must be retired prior to commencement of the activity in accordance with Section 7.15 of the BC Act.

Note that if the only likely significant effect of the activity is impacts identified under section 7.2 of the BC Act or section 221ZX of the FM Act, an environmental impact statement (EIS) is not required and the SIS and/or BDAR can meet the requirements for an EIS under Part 5, Division 5.1. This means that where the project is likely to significantly affect threatened species, populations or ecological communities, but there is no significant effect on any other matter – then an EIS is not required to be prepared – and only a SIS and/or BDAR is required.

Aquatic biodiversity

Further information on applying the test of significance set out under section 220ZZ of the FM Act is available in the [Threatened Species Assessment Guidelines - The Assessment of Significance](#) prepared by NSW DPI.

The required form and content of a SIS is set out in Part 7A, Division 6 of the FM Act for SISs involving marine vegetation and fish.

Additional considerations

Landscape rehydration infrastructure should be located to avoid and minimise disturbance and clearing of existing native riparian vegetation as this takes time to restore and rehabilitate, impacts habitat and potentially causes bed and bank instability issues. The REF should demonstrate that landscape rehydration infrastructure first avoid impacts to biodiversity / existing native vegetation and then minimises impacts – the REF should apply the avoid, minimise and offset hierarchy for assessing direct and indirect impacts.

Any vegetation or trees which are identified as components of EEC should not be cleared and any trees which contain hollows or provide habitat should be retained.

Prior to the removal of any native vegetation:

- seed from any native plants to be removed should be collected and used to propagate plants for site restoration
- topsoil from any of areas of native vegetation to be cleared should be collected and used in the revegetation

- o native vegetation that is to be retained must be clearly marked with temporary fencing to ensure there is no unnecessary removal of vegetation.

Any native trees that are approved for removal should be salvaged and reused (for example tree hollows and tree trunks which are greater than approximately 25-30cm in diameter and 3 m in length) and placed in biodiversity /riparian corridors, etc to enhance habitat.

If landscape rehydration infrastructure disturbs or removes vegetation from along the watercourse, a vegetation management plan should be prepared to replant vegetation and the vegetation management plan is included as an appendix to the REF. The vegetation management plan should include details on the revegetation including proposed location of plantings, native vegetation communities/native plant species that currently occur/or once occurred at this location; a list of local native plant species to be planted; fencing out of livestock, weed control/monitoring and maintenance and scaled plans.

Any replanting of vegetation should use a diversity of local native plant species from the relevant native vegetation community that occurs, or once occurred on the property or in the locality (rather than use non-local native or exotic plants) to improve local biodiversity.

Noxious vegetation /weed species should be removed over time and replaced by local natives.

After replanting the vegetation should be regularly monitored and maintained.

Authorisation – Local Land Services Act 2013

When is authorisation under the Local Land Services Act 2013 required?

Authorisation to clear native vegetation may be required from Local Land Services if approval has not been given under another Act (for example, planning approval under the *EP&A Act*; *Biodiversity Conservation Act*, *Rural Fires Act*; *Forestry Act* etc)

The management of native vegetation on private rural land in NSW is in accordance with the following Land Management Framework:

- category 1 – exempt land – native vegetation clearing is allowed without approval from Local Land Services so long as landholders do not knowingly harm an animal or damage the habitat of an animal that is a threatened species or part of a threatened ecological community
- category 2 – regulated land – authorisation may be required from Local Land Services for native vegetation clearing. This may include clearing under the [Land Management \(Native Vegetation\) Code 2018](#)

Landholders can also manage native vegetation on properties for a range of [allowable activities](#), for use without approval from Local Land Services. These allowable activities are routine land management activities associated with agriculture and other common practices in rural zoned areas, including environmental protection works

- category 2 – vulnerable regulated land is designated as steep or highly erodible lands, protected riparian land or special category land. Use of the [Land Management \(Native Vegetation\) Code 2018](#) and allowable clearing activities are restricted in these areas
- category 2 – sensitive regulated land is designated as environmentally sensitive. Clearing under the [Land Management \(Native Vegetation\) Code 2018](#) is not permitted in these areas, although there is a limited suite of allowable activities available
- excluded land is managed outside the land management framework. Other clearing controls may exist in these areas

If the proposed clearing of native vegetation does not meet conditions under the code or allowable activities then the Native Vegetation Panel can determine the application.

The Native Vegetation Panel can also assess applications for clearing in non-rural areas where proposed clearing exceeds the Biodiversity Offset Scheme threshold.

How to obtain authorisation from Local Land Services?

The [Local Land Services website](#) contains information on how to obtain authorisation from Local Land Services.

Information requirements?

Information requirements are provided on the [Local Land Services website](#).

DPIE Fisheries S 199 Permit – For dredging or excavation

The REF should include an assessment of whether a permit under Part 7 of the *Fisheries Management Act 1994* (FM Act) is required to dredge, reclaim, obstruct fish passage (including whether a fishway is needed to be included as part of the design of the landscape rehydration infrastructure) or harm marine vegetation.

The REF should include an assessment of any impact the proposal may have on aquatic threatened species, and whether or not a Species Impact Statement is required.

Dredging includes works that involves excavating water land, moving or removing material on to or from water land (i.e. land that is intermittently or permanently submerged by water (either naturally or artificially) including wetlands), and reclamation works means using materials e.g. sand, soil, gravel, timber or rocks to fill reclaim water land or depositing such material on water land to construct something over water land.

When is a s199 permit for dredging or excavation required?

A permit is needed if your proposed work site is within or adjacent to a waterway that fits the [definition of Key Fish Habitat](#) and/or is mapped as [Key Fish Habitat](#). You do not need a permit for dredging, reclamation or obstructing fish passage under the FM Act.

For details about whether you need a permit under the FM Act, please access the following web site: www.dpi.nsw.gov.au/fishing/habitat/help/permit

How to obtain a s199 permit for dredging or excavation?

Permits

The Department of Primary Industry – Fisheries Division will issue any required permit under the FM Act. Please access the following web site: www.dpi.nsw.gov.au/fishing/habitat/help/permit

Information requirements for an s199 Permit:

Permits

For details about what information is needed for a permit under the FM Act, please access the [Department of Primary Industries—Fisheries](#) web site.

The proponent should provide to NRAR, or Crown Lands details of discussions or a copy of any letter received from NSW Department of Primary Industries—Fisheries including details of the proposed design of any fish passage required.

Threatened species

Refer above to threatened species – SIS/BDAR

Water access licence

Is a water access licence needed?

The *Water Management Act 2000* (WM Act) is the main law that provides for the management and allocation of surface and groundwater resources in New South Wales (NSW).

A water access licence is required to “take” water from a river, lake, dam or groundwater for irrigation, industrial or commercial purposes. As landscape rehydration infrastructure is not a work or structure for extraction purposes or for impoundment to facilitate water extraction, a water access licence is not needed for landscape rehydration infrastructure.

For further information may be obtained from the [WaterNSW website](#)

Assessment of whether a water access licence is required should be included in the REF.

Aboriginal heritage impact permit

Aboriginal cultural heritage is protected under Part 6 of the *National Parks & Wildlife Act 1947* including Aboriginal objects and Aboriginal places.

An [Aboriginal Heritage and Information Management System \(AHIMS\)](#) search would be undertaken during the preparation of the REF. The AHIMS may find an Aboriginal object(s) in or close to the proposed landscape rehydration infrastructure location, in which case an Aboriginal heritage impact permit (AHIP) may be required.

Consultation with the Local Aboriginal Land Council would be required during preparation of the REF if an Aboriginal place was found during the AHIMS Search.

When is authorisation for an impact on Aboriginal heritage required?

If the proposed landscape rehydration infrastructure works will harm an Aboriginal object or Aboriginal place, then a permit is required to be issued by Heritage NSW. Heritage NSW is part of the Community Engagement Group in the Department of Premier and Cabinet.

How to obtain an Aboriginal heritage impact permit?

An Aboriginal cultural heritage assessment report will need to be prepared to accompany the AHIP application and submitted to Heritage NSW. Information about how to apply for an AHIP is provided on the [NSW Heritage web site](#).

Information requirements for an Aboriginal heritage impact permit:

The REF should identify Aboriginal objects and Aboriginal places in the vicinity of the proposed works. Aboriginal objects and declared Aboriginal places are provided protection by establishing offences of harm.

The [Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW 2010](#) is to be followed during the preparation of the REF. An Aboriginal object or place should not be harmed or desecrated unless under an approved AHIP.

State Heritage Item Impact Approval

When is authorisation for an impact on European Heritage required?

Approval under s.60 of the *Heritage Act 1977* is required from the NSW Heritage Council for works to a place, building, work, relic, moveable object, precinct, or land listed on the [NSW Heritage Register](#) (state heritage items or where an interim heritage order applies). Also s.57 exemptions may apply.

How to obtain authorisation for an impact on European Heritage?

An application needs to be made to Heritage NSW.

Information requirements for an impact on European Heritage?

The REF should include a desktop search of historic registers including the [World Heritage List](#), [National Heritage List](#), [Commonwealth Heritage List](#), [NSW State Heritage Register](#) (SHR), and the heritage schedule of the relevant Local Environmental Plan related to the proposal area and surrounds.

A heritage expert may be required to prepare a statement of heritage impact to assess whether or not there is any impact. The statement of heritage impact would need to accompany any application to Heritage NSW.

Commonwealth Approvals

The *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act*) is Australia's national environmental law and it makes sure that [nationally significant' animals, plants, habitats and heritage places](#) are identified, and any potential negative impacts on them are carefully considered, before changes in land use or new developments are approved.

The *EPBC Act* requires referral of activities that may impact on Matters of National Environmental Significance (MNES). Actions that have a significant impact on MNES may require approval from the Commonwealth Minister for the Environment.

Key MNES relevant to landscape rehydration infrastructure include:

- nationally threatened and migratory species
- nationally threatened ecological communities
- wetlands of international importance (Ramsar)
- world and national heritage properties

When is approval under the EPBC Act required?

This means that landowners must seek Commonwealth approval in addition to state approvals if their proposal is likely to significantly impact on matters of national significance. To determine whether approval is required, the Commonwealth have [Significant Impact Guidelines 1.1 – Matters of National Environmental Significance](#) to assist.

How to obtain approval under the EPBC Act

An application needs to be made to the Commonwealth Department of Agriculture, Water and the Environment.

Information requirements for approval under the EPBC Act:

The proponent and/or determining authority must undertake a self-assessment to decide whether or not to refer the activity to the Commonwealth Department of Agriculture, Water and the Environment to make a decision as to whether an approval is required under the *EPBC Act*. In making this decision the proponent and determining authority should consider the following:

1. are there any matters of national environmental significance located in the area of the proposed activity (noting that ‘the area of the proposed activity’ is broader than the immediate location where the activity is undertaken; consider also whether there are any matters of national environmental significance adjacent to or downstream from the immediate location that may potentially be impacted)?
2. considering the proposed activity at its broadest scope (that is, considering all stages and components of the activity, and all related actions and infrastructure), is there potential for impacts, including indirect impacts, on matters of national environmental significance?
3. are there any proposed measures to avoid or reduce impacts on matters of national environmental significance (and if so, is the effectiveness of these measures certain enough to reduce the level of impact below the ‘significant impact’ threshold)?
4. are any impacts of the proposed activity on matters of national environmental significance likely to be significant impacts (important, notable, or of consequence, having regard to their context or intensity)?

The Australian Government [Significant Impact Guidelines 1.1 – Matters of National Environmental Significance](#) set out criteria for determining if an activity is likely to have significant impacts on a matter of national environmental significance.

If after undertaking this self-assessment process, a proponent or determining authority are still unsure whether the activity likely to have a significant impact on a matter of national environmental significance then the action should be referred to the Commonwealth Department of Agriculture, Water and Environment.

For more information or to understand if your project needs approval, use the [protected matters search tool](#) or refer to the [stakeholder information kit](#) or [EPBC web page](#).

When can construction commence?

Construction may commence when a proposed activity application has been determined and the applicant hold the required CAA or Crown Lands authorisation (usually a licence).

Construction must not occur until:

- a Crown land Licence or NRAR CAA has been issued; and
- the REF has been determined by either Crown Lands or NRAR; and
- in a case where the determination is subject to certain mitigation measures or conditions being observed before implementation begins, those mitigation measures or conditions are observed, including any approvals that must be obtained under legislation other than the *EP&A Act*.

Construction environmental management plans

A proponent is to document how potential environmental impacts will be managed during construction and operation and how any relevant approval conditions and REF mitigation measures will be complied with. The construction environmental management plans provides the proponent with:

- measures identified in the REF to mitigate environmental impacts
- mitigation measures contained in the other Permits or Licences

Monitoring, evaluation and reporting

The environmental performance of activities should be monitored during each stage of project life cycle (such as, during construction, operational and decommissioning if appropriate) to:

- ensure compliance with the REF, and approvals and any mitigation measures of the determination; and
- assess whether additional mitigation measures might be required to mitigate previously unidentified impacts.

The CEMP will include details of monitoring, evaluation and reporting, and the responsibility for the environmental performance assessment would be either the proponent, or its appointed Environmental Management Representative.

The replanting / revegetation of riparian areas should be regularly monitored and maintained (e.g. weeding / watering plants) for a minimum of 2 years after the completion of works.

Record keeping

A copy of the licence must be retained by the applicant and produced to authorised officers on request.

Sufficient records of works undertaken, monitoring, and evaluation must be kept by the applicant to show compliance with the CAA or Licence conditions and other legislative requirements.

The NRAR or Crown Lands will keep a copy of the landscape rehydration infrastructure REF and other submitted documents on its web site for public access.

APPENDIX 1

Environmental factors

When considering the likely impact of an activity on the environment, the proponent and determining authority must take into account the factors set out in Table 1 and include the impact assessment in the REF. These factors are the same as those listed in clause 156(2) of the EP&A Regulation⁸.

⁸ As proposed in the exhibition draft of the *Environmental Planning and Assessment Regulation 2021*, which was publicly exhibited by DPIE from 5 August 2021 until 22 September 2021

Table 1. Factors to be considered

Environmental factor	Example
a) Any environmental impact on a community	Social, economic and cultural impacts
b) Any transformation of a locality	Human and non-human environment
c) Any environmental impact on the ecosystems of the locality	Any environmental impact on the ecosystems of the locality
d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality	Visual, recreational, scientific and other
e) Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations	Aboriginal heritage, shared heritage and other
f) Any impact on the habitat of protected fauna (within the meaning of the National Parks and Wildlife Act 1974)	Listed species and habitat requirements/critical habitat
g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air	Listed species, non-listed species and key threatening processes
h) Any long-term effects on the environment	Ecological, social and economic
i) Any degradation of the quality of the environment	Ecological, social and economic
j) Any risk to the safety of the environment	Public health, contamination, bushfire, sea level rise, flood, storm surge, wind speeds, extreme heat, urban heat and climate change adaptation
k) Any reduction in the range of beneficial uses of the environment	Natural resources, community resources and existing uses
l) Any pollution of the environment	Air (including greenhouse gases), water and soil
m) Any environmental problems associated with the disposal of waste	Transportation, disposal and contamination
n) Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply	Land, soil, water, air, minerals and energy
o) Any cumulative environmental effect with other existing or likely future activities	Existing activities and future activities

<p>p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions</p>	<p>Coastal processes, hazards, climate scenarios</p>
<p>q) Any applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act</p>	<p>Issues, objectives, policies and actions identified in local, district and regional plans</p>
<p>r) Any other relevant environmental factors</p>	<p>Any other factors relevant in assessing impacts on the environment to the fullest extent</p>