

# Draft Floodplain Management Plan for the Macquarie Valley Floodplain 2018

**Report card for Management Zone A**

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**More information**

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# Report card for Macquarie Valley Management Zone A (MZ A)—major discharge areas

Table 1. Overview of Management Zone A

<p><b>Description</b></p>	<p><b>Major discharge areas</b> (dark blue areas on the draft management zone map)</p> <p>Management Zone A (MZ A) includes areas where a significant discharge of floodwaters occurs during small and large flood events. These floodways are the areas that, even if only partially blocked, would cause a significant redistribution of flood flow, or a significant increase in flood level.</p> <p>MZ A is important for the conveyance of floodwater to floodplain ecological assets during flood events.</p> <p>Uncontrolled flood work development in MZ A may have a high impact on flood behaviour.</p> <p>Rules in MZ A aim to ensure that only minor works will be built. This will prevent flood flow redistribution and ensure there is continuity of flow paths to assist in maintaining the overall flow distribution on the floodplain.</p>	
<p><b>Ecological assets</b></p>	<p>MZ A includes areas of ecological significance that are dependent on frequent flooding to maintain ecological character.</p> <p>Specifically, MZ A includes semi-permanent wetlands and areas of key fish passage.</p> <p>MZ A also includes areas of high-priority floodplain wetland (flood-dependent shrubland wetland) and flood-dependent forest/woodland (wetlands).</p>	
<p><b>Cultural assets</b></p>	<p>MZ A includes cultural assets such as:</p> <ul style="list-style-type: none"> <li>• flood-dependent scarred trees</li> <li>• scarred trees that are/were associated with being a carved tree or ceremony location of special significance</li> </ul> <p>Aboriginal values in MZ A are likely to be associated with ecological assets that require frequent flooding.</p>	
<p><b>Key statistics</b></p>	<p>Area (ha)</p> <p>Area (% total floodplain area)</p>	<p>210,400ha</p> <p>17%</p>
<p><b>Flood works able to be applied for:</b></p>	<ul style="list-style-type: none"> <li>• access roads</li> <li>• supply channels</li> <li>• stock refuges</li> <li>• infrastructure protection works</li> <li>• enhancement works (ecological, Aboriginal value, heritage site)</li> </ul> <p>Flood works must also be assessed and approved against the proposed criteria.</p>	



Figure 1. Sample map

## Proposed management zone rules

Table 2. Access roads

Management	Access roads
<p><b>Proposed rule (R1.)</b></p>	<p>A flood work approval must not be granted or amended to authorise the construction or modification of an <b>access road</b> in MZ A unless, in the minister's opinion, the access road is or is proposed to be:</p> <ul style="list-style-type: none"> <li>• no more than 30 cm in height above the natural surface level, or</li> <li>• a primary access road* of no more than 50 cm in height above the natural surface level</li> </ul> <p>and is constructed:</p> <ul style="list-style-type: none"> <li>• with causeways situated at no higher than the natural surface level, located at low points of the floodway and a minimum of one causeway every 200 m of road length, and</li> <li>• with causeways that comprise at least 10% of the total length of the access road that is in MZ A, and</li> <li>• constructed so that the borrow associated with the construction and maintenance of the access road is located on the downstream side of the road and is of no greater depth than 30 cm below the natural surface level</li> </ul> <p>or is constructed:</p> <ul style="list-style-type: none"> <li>• in such a way as to allow for the adequate passage of floodwater, and to adequately prevent the diversion of floodwater from natural flow paths, and</li> <li>• constructed so that the borrow associated with the construction and maintenance of the access road is located on the downstream side of the road and is of no greater depth than 30 cm below the natural surface level.</li> </ul> <p>*Note: A primary access road is a road providing access from a public road to a permanently occupied, fixed dwelling via a direct route.</p>
<p><b>Current management</b></p>	<p><i>Macquarie (Narromine to Oxley Station) 2008 Floodplain Management Plan (FMP):</i></p> <p>Non-complying works require advertising and must not result in a significant increase in flood levels, flow redistribution or velocities for floods up to and including the 1990 design flood and not cause rises that exceed 1990 design flood levels.</p> <p>Lower Macquarie Designated Floodplain 1985:</p> <p>Access roads were assessed as controlled works and/or flood works under the <i>Water Act 1912</i>.</p> <p>All other areas within the Macquarie valley floodplain:</p> <p>No equivalent rule, because access roads have not typically been licensed.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley 2017</i> (adjoins the <i>Draft Macquarie Valley Floodplain Management Plan 2018—draft Macquarie Valley FMP—to the north</i>):</p> <p>Equivalent rule included, two height thresholds for the construction of access roads:</p> <ol style="list-style-type: none"> <li>1. a height threshold for the construction of general access roads</li> <li>2. a height threshold for the construction of primary access roads to permanently occupied fixed dwellings via a direct route.</li> </ol> <p>Along with requirements that allow adequate passage of floodwater and the location of borrow areas.</p>

Management	Access roads
<b>Key factor(s) for decision making</b>	<ul style="list-style-type: none"> <li>Access roads may be used to facilitate the illegal interception, conveyance or storage of overland flow during times of small to medium flood.</li> <li>The inclusion of thresholds for the height of access roads, the number and location of causeways, and the location of the borrow associated with the construction of access roads provides for the adequate passage of water during times of small to medium flood and mitigates the potential for access roads to be used to facilitate the illegal interception, conveyance or storage of overland flow during times of flood.</li> <li>The construction of access roads of up to 30 cm in height above the natural surface level will be overtopped by most floods and will have minimal impact on flood flows.</li> <li>The height threshold of up to 50 cm in height above natural surface level for use with primary access roads provides for access to permanently occupied, fixed dwellings via a direct route during times of small to medium flood.</li> </ul>

Table 3. Supply channels

Management	Supply channels
<b>Proposed rule (R2.)</b>	<p>A flood work approval must not be granted or amended to authorise the construction or modification of a <b>supply channel</b> in MZ A unless, in the minister's opinion, the supply channel is or is proposed to be constructed:</p> <ul style="list-style-type: none"> <li>below the natural surface level, and</li> <li>in such a way as to allow for the adequate passage of floodwater and to adequately prevent the diversion of floodwater from natural flow paths, and</li> <li>so that spoil from its construction and maintenance: <ul style="list-style-type: none"> <li>(i) is windrowed parallel to the direction of flow such that it does not block more than 5% of the width of MZ A at the location of the works, or</li> <li>(ii) is levelled to a maximum of 10 cm above the natural surface level.</li> </ul> </li> </ul> <p>Note: The minister may require that a structure be put in place at a low point of the supply channel to meet the requirements of this paragraph.</p>
<b>Current management</b>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <p>Controlled work approvals were not required for below-ground channels under previous departmental policy (licensed under <i>Water Management Act 2000</i> as water supply works).</p> <p>Lower Macquarie Designated Floodplain 1985:</p> <p>Controlled work approvals were not required for below ground channels under previous departmental policy (licensed under <i>Water Management Act 2000</i> as water supply works).</p> <p>All other areas within the Macquarie valley floodplain:</p> <p>No equivalent rule as supply channels are not typically licensed. Only point of take is licensed under the <i>Water Act 1912</i>. Under the <i>Water Management Act 2000</i>, supply channels are required to be licensed as a water supply work.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley FMP 2017.</p>
<b>Key factor(s) for decision making</b>	<ul style="list-style-type: none"> <li>Above-ground channels have the potential to affect the distribution or flow of floodwater during flood events. This potential is minimised/managed by moving to below-ground supply channels.</li> </ul>

Management	Supply channels
	<ul style="list-style-type: none"> <li>• Installation of siphons or equivalent structures will enable floods to pass through or under these works.</li> <li>• Spoil may act as an above-ground flood work if not windrowed parallel to the direction of flow.</li> </ul>

Table 4. Stock refuges

Management	Stock refuges
<b>Proposed rule (R3.)</b>	<p>A flood work approval must not be granted or amended to authorise the construction or modification of a <b>stock refuge</b> in MZ A unless, in the minister's opinion, the stock refuge is or is proposed to be constructed:</p> <ul style="list-style-type: none"> <li>• so that the area of the stock refuge is no more than 10 ha in any single location within MZ A, and</li> <li>• the area of the stock refuge is no more than 5% of the total area of the landholding, and</li> <li>• the area of the stock refuge is no more than 5% of the width of MZ A at the location of the works.</li> </ul>
<b>Current management</b>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <p>Non-complying works require advertising and must not result in a significant increase in flood levels, flow redistribution or velocities for floods up to and including the 1990 design flood and not cause rises that exceed 1990 design flood levels.</p> <p>Lower Macquarie Designated Floodplain 1985:</p> <p>Stock refuges were assessed as controlled works and/or flood works under the <i>Water Act 1912</i>.</p> <p>All other areas within the Macquarie valley floodplain (Proposed NSW Department of Primary Industries Stock Refuge Policy):</p> <p>Proposed that stock refuges could be 10 ha in size in any single location or up to 5% of the total area of the property and that stock refuges were required to be located outside of sensitive areas or observed major flow paths.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<b>Key factor(s) for decision making</b>	<ul style="list-style-type: none"> <li>• Considers protection to life and property whilst ensuring flooding behaviour is not significantly affected.</li> <li>• Greater clarity by bringing the intention of an existing policy within a single governing FMP.</li> <li>• Stock refuges can be allowed in major flow paths under proposed rules because the extent to which they can block them is managed.</li> </ul>

Table 5. Infrastructure protection works (IPW)

Management	Infrastructure protection works (IPW)
<b>Proposed rule (R4.)</b>	<p>A flood work approval must not be granted or amended to authorise the construction or modification of an <b>infrastructure protection work</b> in MZ A unless, in the minister's opinion, the infrastructure protection work is or is proposed to be constructed so that the area enclosed by the infrastructure protection work:</p> <ul style="list-style-type: none"> <li>• accounts for no more than 10% of the total area of the landholding, on a landholding of less than or equal to 20 ha in area in MZ A, or</li> <li>• accounts for no more than the greater of 2 ha or 1% of the total area of the landholding, on a landholding of greater than 20 ha in area in MZ A, and will block no more than 5% of the width of MZ A at the location of the works.</li> </ul>
<b>Current management</b>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <p>FMP exempted IPW from controlled work approval, provided it was not part of a larger protection area. This exemption has since been modified by Water Management Regulation 2011, which exempts IPW under 2 ha or 10% of land area (whichever is lesser) and not located in FMP floodway.</p> <p>Lower Macquarie Designated Floodplain 1985:</p> <p>Some IPW close to major flood paths were assessed as controlled works and/or flood works under the <i>Water Act 1912</i>.</p> <p>All other areas within the Macquarie valley floodplain:</p> <p>No equivalent rule, as IPW's are not typically licensed.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<b>Key factor(s) for decision making</b>	<ul style="list-style-type: none"> <li>• Provides for protection of life and property from the effects of flooding whilst ensuring flood behaviour is not significantly affected.</li> <li>• Controls the size and shape of an IPW to prevent blocking major floodways.</li> </ul>

Table 6. Enhancement works

Management	Enhancement works
<b>Proposed rule (R5.)</b>	<p>A flood work approval must not be granted or amended to authorise the construction or modification of an <b>ecological enhancement work</b> in MZ A unless, in the minister's opinion, the ecological enhancement work is or is proposed to provide a positive outcome for an ecological asset that is mapped, recognised in or protected by this plan, or a local, state or Commonwealth environmental policy or legislation.</p>
<b>Current management</b>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <p>Non-complying works require advertising and must not result in a significant increase in flood levels, flow redistribution or velocities for floods up to and including the 1990 design flood and not cause rises that exceed 1990 design flood levels.</p> <p>Lower Macquarie Designated Floodplain 1985:</p> <p>Some enhancement works close to major rivers and creeks were assessed as controlled works under the <i>Water Act 1912</i>.</p> <p>All other areas within the Macquarie valley floodplain:</p>

Management	Enhancement works
	<p>Some enhancement works close to major rivers and creeks were assessed as controlled works under the <i>Water Act 1912</i>.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the Draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<p><b>Key factor(s) for decision making</b></p>	<p>This rule will allow the construction of flood works to enhance ecological assets in MZ A (subject to technical assessment). This is consistent with the <i>Water Management Act 2000</i> additional provision 30(c), which allows an FMP to deal with the restoration or rehabilitation of land, water sources or their dependent ecosystems, in particular in relation to the following:</p> <ul style="list-style-type: none"> <li>• the passage, flow and distribution of floodwater</li> <li>• existing dominant floodways and exits from floodways</li> <li>• rates of flow, floodwater levels and duration of inundation</li> <li>• downstream water flows</li> <li>• natural flood regimes, including spatial and temporal variability.</li> </ul>
<p><b>Proposed rule (R6.)</b></p>	<p>A flood work approval must not be granted or amended to authorise the construction or modification of an <b>Aboriginal value enhancement work</b> in MZ A unless, in the minister's opinion, the Aboriginal value enhancement work is or is proposed to provide a positive outcome for an Aboriginal value asset that is listed in one of the following sources:</p> <ul style="list-style-type: none"> <li>• Aboriginal Heritage Information Management System (AHIMS)</li> <li>• Aboriginal Water Initiative System (AWIS)</li> <li>• State Heritage Register</li> <li>• Commonwealth Heritage Register</li> <li>• Murray–Darling Basin Authority Aboriginal Submissions database</li> <li>• any other source deemed relevant by the minister.</li> </ul>
<p><b>Current management</b></p>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <p>Non-complying works require advertising and must not result in a significant increase in flood levels, flow redistribution or velocities for floods up to and including the 1990 design flood and not cause rises that exceed 1990 design flood levels.</p> <p>Lower Macquarie Designated Floodplain 1985:</p> <p>Some enhancement works close to major rivers and creeks were assessed as controlled works under the <i>Water Act 1912</i>.</p> <p>All other areas within the Macquarie valley floodplain:</p> <p>Some enhancement works close to major rivers and creeks were assessed as controlled works under the <i>Water Act 1912</i>.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<p><b>Key factor(s) for decision making</b></p>	<p>This rule will allow the construction of flood works to enhance Aboriginal value assets in MZ A (subject to technical assessment). This is consistent with the <i>Water Management Act 2000</i> additional provision 30(c), which allows an FMP to deal with the restoration or rehabilitation of land, water sources or their dependent ecosystems, in particular in relation to</p>



Management	Enhancement works
	<p>the following:</p> <ul style="list-style-type: none"> <li>• the passage, flow and distribution of floodwater</li> <li>• existing dominant floodways and exits from floodways</li> <li>• rates of flow, floodwater levels and duration of inundation</li> <li>• downstream water flows</li> <li>• natural flood regimes, including spatial and temporal variability.</li> </ul>
<p><b>Proposed rule (R7.)</b></p>	<p>A flood work approval must not be granted or amended to authorise the construction or modification of a <b>heritage site enhancement work</b> in MZ A unless, in the minister's opinion, the heritage site enhancement work is or is proposed to provide a positive outcome for a heritage site that is listed in one of the following:</p> <ul style="list-style-type: none"> <li>• State Heritage Register</li> <li>• State Heritage Inventory</li> <li>• Aboriginal Heritage Information Management System (AHIMS)</li> <li>• Aboriginal Water Initiative System (AWIS)</li> <li>• Murray–Darling Basin Authority Aboriginal Submissions database</li> <li>• Historic Heritage Information Management System</li> <li>• Commonwealth Heritage Register</li> <li>• any other source deemed relevant by the minister.</li> </ul>
<p><b>Current management</b></p>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <p>Non-complying works require advertising and must not result in a significant increase in flood levels, flow redistribution or velocities for floods up to and including the 1990 design flood and not cause rises that exceed 1990 design flood levels.</p> <p>Lower Macquarie Designated Floodplain 1985:</p> <p>Some enhancement works close to major rivers and creeks were assessed as controlled works under the <i>Water Act 1912</i>.</p> <p>All other areas within the Macquarie valley floodplain:</p> <p>Some enhancement works close to major rivers and creeks were assessed as controlled works under the <i>Water Act 1912</i>.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the Draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<p><b>Key factor(s) for decision making</b></p>	<p>This rule will allow the construction of flood works to enhance heritage site assets in MZ A (subject to technical assessment). This is consistent with the <i>Water Management Act 2000</i> additional provision 30(c), which allows an FMP to deal with the restoration or rehabilitation of land, water sources or their dependent ecosystems, in particular in relation to the following:</p> <ul style="list-style-type: none"> <li>• the passage, flow and distribution of floodwater</li> <li>• existing dominant floodways and exits from floodways</li> <li>• rates of flow, floodwater levels and duration of inundation</li> <li>• downstream water flows</li> </ul>

Management	Enhancement works
	<ul style="list-style-type: none"> <li>natural flood regimes, including spatial and temporal variability.</li> </ul>

Table 7. Existing works

Management	Existing works
<b>Proposed rule (R8.)</b>	<p>A flood work approval must not be granted to authorise an <b>existing unlicensed work</b> that does not comply with the rules of MZ A, unless in the minister's opinion, the existing unlicensed work:</p> <ul style="list-style-type: none"> <li>was constructed at the date of commencement of the plan, and,</li> <li>is for an access road, or a supply channel, or a stock refuge or an infrastructure protection work, and</li> <li>as at the date of application, the flood structure is not the subject of: <ul style="list-style-type: none"> <li>(i) an undetermined work application under Part 8 of the <i>Water Act 1912</i>, or</li> <li>(ii) a previously refused Part 8 application of the <i>Water Act 1912</i>, or</li> <li>(iii) an undetermined flood work application under the <i>Water Management Act 2000</i>, or</li> <li>(iv) a previously refused flood work application under the <i>Water Management Act 2000</i>.</li> </ul> </li> </ul> <p>Applications to license an existing unlicensed work must also fulfil the assessment criteria described for MZ A.</p>
<b>Current management</b>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <ul style="list-style-type: none"> <li>Existing infrastructure protection works (IPW) were exempted by the 2008 FMP from controlled work approval under the <i>Water Act 1912</i>. This exemption since modified by Water Management Regulation 2011, which exempts only IPW outside the FMP floodway network that are within specified size limits.</li> <li>Existing below-ground channels did not require controlled work approval under previous departmental policy but approved as water supply works under the <i>Water Management Act 2000</i>.</li> <li>All other types of existing eligible flood works required approval.</li> </ul> <p>Lower Macquarie Designated Floodplain 1985:</p> <p>Existing access roads and stock refuges were assessed as controlled works and/or flood works under the <i>Water Act 1912</i>.</p> <p>Existing below ground channels did not require controlled work approval under previous local water policy but approval as water supply works was required under the <i>Water Management Act 2000</i>.</p> <p>Existing IPW works close to major rivers and creeks were assessed as controlled works under the <i>Water Act 1912</i>.</p> <p>All other areas within the Macquarie valley floodplain:</p> <p>Existing access roads, stock refuges and IPW were only assessed as controlled works under the <i>Water Act 1912</i> if located close to a major river and/or creek.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley 2017.</p>

Management	Existing works
<b>Key factor(s) for decision making</b>	The inclusion of this rule in MZ A makes it clear for all stakeholders that existing unlicensed access roads, IPW, stock refuges and supply channels may be lawfully approved post the commencement of the plan provided they meet the assessment criteria for MZ A.
<b>Proposed rule (R9.)</b>	<p>A flood work approval must not be granted to authorise the amendment of an <b>existing licensed work</b> in MZ A so that it does not comply with the rules of MZ A, unless in the minister's opinion, the existing licensed work:</p> <ul style="list-style-type: none"> <li>• was constructed at the commencement of the FMP, and</li> <li>• the proposed modification of the flood work will reduce the impact of the flood work on flow patterns (distribution of flows, drainage, depth or velocity) in MZ A</li> </ul> <p>Applications to license an existing licensed work must also fulfil the assessment criteria described for MZ A.</p>
<b>Current management</b>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i> No equivalent rule.</p> <p>Lower Macquarie Designated Floodplain 1985: No equivalent rule.</p> <p>All other areas within the Macquarie valley floodplain: No equivalent rule.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north): Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<b>Key factor(s) for decision making</b>	This rule enables landholders to apply for a flood work approval under the <i>Water Management Act 2000</i> to amend an existing flood work approval so that the flood work does not comply with the rules for MZ A, specifically to reduce the impact of those works on flood flow patterns.

## Proposed assessment criteria

Table 8. Ecological impacts

Management	Ecological impacts
<b>Proposed assessment criteria (AC1.)</b>	A flood work approval must not be granted or amended to authorise the construction or modification of a flood work in MZ A unless, in the minister's opinion, the flood work can be constructed to maintain adequate flood connectivity to ecological assets and to facilitate fish passage under a range of flood scenarios, including at a minimum, scenarios for the 1990, 2000 and 2012 design floods.
<b>Current management</b>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <p>Non-complying works must:</p> <ul style="list-style-type: none"> <li>not block, impede or divert the natural flooding regimes in wetlands and related ecosystems, or in habitats benefiting from periodic flooding located in the FMP floodway network and other areas where works are specified as non-complying</li> <li>be consistent with actions specified in the Macquarie Marshes Environmental Management Plan (Section 8.2) relating to the delivery of environmental water to identified ecological assets in the Macquarie Marshes.</li> </ul> <p>Lower Macquarie Designated Floodplain and all other areas:</p> <p>Part 8 Matters for General Consideration (Section 166C <i>Water Act 1912</i>) requires regard for:</p> <ul style="list-style-type: none"> <li>the need to maintain the natural flood regimes in wetlands and related ecosystems and the preservation of any habitat, animals (including fish) or plants that benefit from flooding</li> <li>any geographic features, or other matters, of Aboriginal interest that may be affected by a controlled work</li> <li>the protection of the environment.</li> </ul> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<b>Key factor(s) for decision making</b>	<p>The management zones were designed at a strategic scale and may not always account for the complex network of flow paths and pathways that are important for maintaining the ecological character of flood-dependent floodplain assets. Therefore, this criterion is proposed to ensure that all flood-dependent floodplain assets are specifically considered during the assessment of flood work applications.</p> <p>Flood connectivity that facilitates fish passage is specifically dealt with in the assessment criteria because consultation with agency experts determined that fish habitat on the floodplain is a significant asset that requires additional protection measures.</p>

Table 9. Aboriginal values and heritage site impacts

Management	Aboriginal values and heritage impacts
<b>Proposed assessment criteria (AC2.)</b>	A flood work approval must not be granted or amended to authorise the construction or modification of a flood work in MZ A unless, in the minister's opinion, the flood work can be constructed to maintain adequate flood connectivity to Aboriginal values and to heritage sites under a range of flood scenarios, including at a minimum, scenarios for the 1990, 2000 and 2012 design floods.

Management	Aboriginal values and heritage impacts
<b>Current management</b>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <p>Non-complying works must:</p> <ul style="list-style-type: none"> <li>not block, impede or divert the natural flooding regimes in wetlands and related ecosystems, or in habitats benefiting from periodic flooding located in the FMP floodway network and other areas where works are specified as non-complying</li> <li>be consistent with actions specified in the Macquarie Marshes Environmental Management Plan (Section 8.2) relating to the delivery of environmental water to identified ecological assets in the Macquarie Marshes.</li> </ul> <p>Lower Macquarie Designated Floodplain and all other areas:</p> <p>Part 8 Matters for General Consideration (Section 166C <i>Water Act 1912</i>) requires regard for:</p> <ul style="list-style-type: none"> <li>the need to maintain the natural flood regimes in wetlands and related ecosystems and the preservation of any habitat, animals (including fish) or plants that benefit from flooding</li> <li>any geographic features, or other matters, of Aboriginal interest that may be affected by a controlled work</li> <li>the protection of the environment.</li> </ul> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<b>Key factor(s) for decision making</b>	<p>The management zones were designed at a strategic scale and may not always account for the complex network of flow paths and pathways that are important for maintaining the character of flood-dependent, floodplain, Aboriginal value/heritage site assets. Therefore, this criterion is proposed to ensure that all flood-dependent, Aboriginal value / heritage site assets are specifically considered during the assessment of flood work applications.</p>

Table 10. Heritage site impacts

Management	Heritage site impacts
<b>Proposed assessment criteria (AC3.)</b>	<p>A flood work approval must not be granted or amended to authorise the construction or modification of a flood work in MZ A if, in the minister's opinion, the construction of the flood work is likely to disturb the ground surface of a heritage site or cause more than minimal erosion to a heritage site.</p>
<b>Current management</b>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <p>Non-complying works must:</p> <ul style="list-style-type: none"> <li>not block, impede or divert the natural flooding regimes in wetlands and related ecosystems, or in habitats benefiting from periodic flooding located in the FMP floodway network and other areas where works are specified as non-complying</li> <li>be consistent with actions specified in the Macquarie Marshes Environmental Management Plan (Section 8.2) relating to the delivery of environmental water to identified ecological assets in the Macquarie Marshes.</li> </ul> <p>Lower Macquarie Designated Floodplain and all other areas:</p> <p>Part 8 Matters for General Consideration (Section 166C <i>Water Act 1912</i>) requires regard for:</p> <ul style="list-style-type: none"> <li>the need to maintain the natural flood regimes in wetlands and related ecosystems and the preservation of any habitat, animals (including fish) or plants that benefit from</li> </ul>

Management	Heritage site impacts
	<p>flooding</p> <ul style="list-style-type: none"> <li>any geographic features, or other matters, of Aboriginal interest that may be affected by a controlled work</li> <li>the protection of the environment.</li> </ul> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<b>Key factor(s) for decision making</b>	<p>Consultation with agency experts identified that some heritage sites are at risk from being impacted during the construction of a flood work, or as a result of erosion from changes to flood behaviour caused by a flood work. In combination with the <i>National Parks and Wildlife Act 1974</i>, and by referencing sources identified in Division 3 of the FMP, this assessment criterion will help to ensure that the sites are not impacted by a flood work proposal.</p>

Table 11. Drainage impacts

Management	Drainage impacts
<b>Proposed assessment criteria (AC4.)</b>	<p>A flood work approval must not be granted or amended to authorise the construction or modification of a flood work in MZ A unless, in the minister's opinion, the flood work can be constructed to maintain adequate drainage on:</p> <p>(i) adjacent landholdings, and</p> <p>(ii) other landholdings</p> <p>that may be affected by the proposed flood work.</p>
<b>Current management</b>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i></p> <p>Non-complying works must:</p> <ul style="list-style-type: none"> <li>not block, impede or divert the natural flooding regimes in wetlands and related ecosystems, or in habitats benefiting from periodic flooding located in the FMP floodway network and other areas where works are specified as non-complying</li> <li>be consistent with actions specified in the Macquarie Marshes Environmental Management Plan (Section 8.2) relating to the delivery of environmental water to identified ecological assets in the Macquarie Marshes.</li> </ul> <p>Lower Macquarie Designated Floodplain and all other areas:</p> <p>Part 8 Matters for General Consideration (Section 166C <i>Water Act 1912</i>) requires regard for the effect or likely effect of a controlled work on existing dominant floodways or exits from floodways, rates of flow, flood water levels and the duration of inundation.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north):</p> <p>Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<b>Key factor(s) for decision making</b>	<p>This criterion was developed to ensure that flood work applications do not impact drainage on neighbouring properties. The management zones were designed on a strategic scale and may not always account for the possibility that a type of flood work might impact on local drainage, which may cause a significant disruption to the daily life of surrounding landholders.</p>

Table 12. Cumulative impacts

Management	Cumulative impacts
<p><b>Proposed assessment criteria</b></p> <p><b>(AC5.)</b></p>	<p>A flood work approval must not be granted or amended to authorise the construction or modification of a flood work in MZ A unless the minister has considered the cumulative impact that the proposed flood work and other existing works* may have on the:</p> <ul style="list-style-type: none"> <li>(i) landholding under application, and</li> <li>(ii) adjacent landholdings, and</li> <li>(iii) other landholdings</li> </ul> <p>that may be affected by the proposed flood work and the floodplain environment.</p> <p>*Note: Existing works means flood works located both on the landholding under application and on neighbouring properties.</p>
<p><b>Current management</b></p>	<p><i>Macquarie (Narromine to Oxley Station) 2008 FMP:</i> Requires that the cumulative impact on flooding characteristics of a proposed non-complying work be addressed comprehensively.</p> <p>Lower Macquarie Designated Floodplain and all other areas: Part 8 Matters for General Consideration (Section 166C <i>Water Act 1912</i>) requires regard for the effect or likely effect of a controlled work on the passage, flow and distribution of any flood waters.</p> <p><i>Floodplain Management Plan for the Barwon–Darling Valley Floodplain 2017</i> (adjoins the draft Macquarie Valley FMP to the north): Equivalent rule included in the Barwon–Darling Valley 2017.</p>
<p><b>Key factor(s) for decision making</b></p>	<p>This criterion was developed to prevent the approval of multiple flood work applications, which individually have an acceptable impact but in combination could have an unacceptable cumulative impact on a key hydraulic parameter(s).</p>

## Statewide exemptions

Table 13. Statewide exemptions

Management	Statewide exemptions
<b>State-wide exemptions</b>	<p>As per the Water Management (General) Amendment (Flood Work Approvals) Regulation 2015, the following exemptions from the requirement to hold a flood work approval under the <i>Water Management Act 2000</i> apply in MZ A:</p> <ul style="list-style-type: none"> <li>works constructed by the State Emergency Service</li> <li>public roads and railways.</li> </ul>
<b>Background information</b>	<p>The exemptions are part of the Water Management (General) Amendment (Flood Work Approvals) Regulation 2015 and are not part of this plan.</p> <p>The exemptions are for works or types of works which are considered to be low-risk or necessary for public safety, or which are more appropriately overseen by another government body such as a local council. For these types of works, requiring a flood work approval is considered to be unnecessary red tape.</p>

## Other key factors

- Applications for the construction or modification of flood works in MZ A will not be accepted unless those flood works are described in the rules for MZ A.
- The construction of new flood works and the amendment of existing Part 8 *Water Act 1912* licensed flood works require approval under the *Water Management Act 2000*.
- Applications for the construction and/or modification of flood works in accordance with the rules for MZ A do not require advertising.
- Applications for the construction and/or modification of flood works may require the submission of technical studies or supporting information to demonstrate that the proposed flood work meets the assessment criteria for MZ A.

## Public exhibition

Feedback is sought from stakeholders on the proposed rules and assessment criteria for MZ A.

## More information

This report card has been provided as a summary of the rules and assessment criteria for Management Zone A. To view exact wording of the *Draft Floodplain Management Plan for the Macquarie Valley Floodplain 2018*, written in the required statutory format, please visit the NSW Department of Industry website.

[www.industry.nsw.gov.au/water](http://www.industry.nsw.gov.au/water)

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