NSW GOVERNMENT | Department of Primary Industries

OUT13/1863

25 JAN 2013

Mr Andrew Beattie
Infrastructure Projects
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Andrew.Beattie@planning.nsw.gov.au

Dear Mr Beattie,

**Princess Highway Upgrade (Foxground-Berry Bypass) (MP10_0240)**
**Response to exhibition of Environmental Assessment**

I refer to your letters dated 9 November 2012 to the attention of Fisheries NSW and the NSW Office of Water, both divisions within the Department of Primary Industries (DPI) in respect to the above matter. This letter advises of the response of these and other divisions within DPI.

Comment by Fisheries NSW
Comment by Fisheries NSW is detailed in Attachment A.

For further information please contact Dr. Trevor Daly, Fisheries Conservation Manager – South Coast (Batemans Bay office) on 4478 9103 or at: trevor.daly@dpi.nsw.gov.au.

Comment by NSW Office of Water
Comment by NSW Office of Water, including recommended conditions should the application be approved, is detailed in Attachment B. The key issues comprise:

- The project has the potential to impact on groundwater, groundwater dependent ecosystems, and water users. The Environmental Assessment does not provide a comprehensive assessment of potential groundwater impacts and the proponent has deferred this assessment to post-project approval. The Office of Water recommends a groundwater management plan is prepared to identify and mitigate impacts.
- The Office of Water supports the inclusion of mitigation measures in relation to the protection of waterways and riparian corridors.
- The Director General Requirements required geomorphic impacts to be considered. Where construction works may be located within the waterways, it is recommended consideration is given to potential geomorphic impacts (including impacts on bed and bank stability) and details provided on existing waterway stability near the proposed works and crossings.

For further information please contact Janne Grose, Planning and Assessment Coordinator (Penrith office) on 4729 8262, or at: Janne.Grose@water.nsw.gov.au.

Comment by Agriculture NSW
It is noted that the Director General Requirements for this project included specific mention of assessment of any agricultural impacts. Comment by Agriculture NSW is detailed in Attachment C.

For further information please contact Wendy Goodburn, Resource Management Officer (Goulburn office) on 4828 6635, or at: wendy.goodburn@industry.nsw.gov.au.

Comment by Crown Lands
It is advised that Crown Lands has responded directly to your Department by letter dated 30 November 2012.

For further information please contact Mark Edwards, Group Leader (Nowra office) on 4428 9101, or at Mark.Edwards@lands.nsw.gov.au.

Comment by Forests NSW
Forests NSW advise there are no forestry issues from the proposed development.

For further information please contact Kevin Petty, Planning Manager-Southern Region (Batemans Bay office) on 4475 1414, or at: KevinP@sf.nsw.gov.au.

Yours sincerely

Phil Anquetil
**Executive Director Business Services**

## Attachment A

## Princess Highway Upgrade (Foxground-Berry Bypass) (MP10_0240)
## Response to exhibition of Environmental Assessment
## Comment by Fisheries NSW

---

Fisheries NSW is responsible for ensuring that fish stocks are conserved and that there is "no net loss" of key fish habitats upon which they depend. To achieve this Fisheries NSW ensures that developments comply with the requirements of the *Fisheries Management Act 1994* (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act respectively) and the associated *Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (1999).*

It is Fisheries NSW policy that all developments should aim to achieve no net impacts on receiving waterways.

Fisheries NSW notes that parts of Broughton Creek, Broughton Mill Creek, Bundewallah Creek, Connollys Creek and Town Creek and their tributaries are located in or adjacent to the proposed development area. These waterways drain to the Shoalhaven River and have the potential to be impacted by the proposed development.

Fisheries NSW concurs with the proposed safeguards and mitigation measures to minimise environment impacts, in particular those related to biodiversity, aquatic ecology, surface water, groundwater, flooding, and geology and soils detailed in sections 7.3, 7.4, 7.5 and 8.1 of the Environmental Assessment (EA). All the proposed safeguards and mitigation actions listed in the EA, the Statement of Commitments, and Appendices should be included in any project approval, and listed in the subsequent Management Plans for Construction, Operation, Vegetation Management and Soil and Water, and fully implemented by the proponent and its contractors.

Fisheries NSW concurs with the commitment to develop a biodiversity offset package within 12 months of project approval in accordance with the biodiversity offset strategy (Appendix F of the EA), and in consultation with the Office of Environment and Heritage and Department of Primary Industries (Fisheries NSW). Fisheries NSW also concurs with the commitment that it be consulted during the detailed design of the Town Creek diversion including design of the revegetation strategy. Both these commitments should be made conditions of any approval of the development.

Fisheries NSW recommends that any project approval require that the design and construction of all new or upgraded temporary and permanent road crossings to be undertaken in accordance with Fisheries NSW's *Policy and Guidelines for Fish Friendly Waterway Crossings* (2004) and *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (2004). These documents are available on our website www.dpi.nsw.gov.au, under 'Aquatic Habitats' and 'Publications'.

**End Attachment A**

*****

**Attachment B**

**Princess Highway Upgrade (Foxground-Berry Bypass) (MP10_0240)**
**Response to exhibition of Environmental Assessment**
**Comment by NSW Office of Water**

---

## 1. Route Options

The evaluation of the route options would have benefited if it addressed whether any of the options have less impact on watercourses and riparian corridors. Considerations in this regard should include the number of watercourse crossings and the potential to disturb the bed and banks of watercourses, in-stream habitat and riparian vegetation, etc (see Section 3.5.2, Volume 1 of the Environmental Assessment).

## 2. Watercourse Crossings

The Environmental Assessment (EA) notes the upgrade will cross Broughton Creek three times and bridges are proposed at each of these crossings. The Office of Water supports the use of bridges to cross Broughton Creek particularly as the riparian corridor provides biodiversity linkages.

The proposed use of a bridge to cross Broughton Mill Creek, Bundewallah Creek and Connolly Creek is supported.

Section 7.3.3 of the EA states that "*other than the bridge at Berry no permanent bridge abutments or piers would be placed within these waterways*" (see page 264). Clarification is required as to whether this mitigation measure is only in relation to the temporary crossing or if it applies to the permanent crossings. If it also applies to permanent crossings it is recommended the mitigation measure in Table 7-50 to "*not position bridge piers or abutments within the section of waterway channels (wetted width) that carry median flows where practicable*" (see page 276) is amended to be consistent with section 7.3.3.

Appendix F notes the bridges would be of sufficient height to allow light to filter underneath the bridge for vegetation growth (page 68) but it is not clear if the bridge design will allow moisture to penetrate beneath the structures for vegetation to grow in a continuous fashion. It is suggested further detail is provided on this.

<u>Temporary crossings</u>
Section 7.3.3 of the EA indicates five temporary crossings would be constructed near bridge sites; that is, three temporary crossings of Broughton Creek and temporary crossings of Broughton Mill Creek and Bundewallah Creek (page 260). The EA notes the preferred sites for the temporary creek crossings were located so that impacts to terrestrial and aquatic ecology and water quality were minimised (see page 270). It is unclear if a geomorphogical assessment was undertaken to identify the suitability of the crossing locations to minimise impacts on stream geomorphology and bed and bank stability. It is recommended the temporary crossings minimise:

- potential impacts on stream geomorphology, bed and bank stability, and remnant riparian vegetation,
- impeding the bankful flow, and
- sedimentation impacts during construction and decommissioning of the crossings.

It is recommended consideration be given to the potential risk of the crossings failing during their time of use, resulting in sedimentation and water quality impacts in the downstream receiving environment.

Table 7-50 includes a mitigation measure to locate the crossings immediately downstream of the proposed bridge alignments and within the existing footprint to minimise the clearing of additional riparian habitat (page 274). This mitigation measure is supported to reduce impacts on riparian vegetation but as noted above, it is recommended the geomorphology of the watercourses also be assessed to minimise impacts on bed and bank stability.

The EA indicates that following construction the riparian areas at the crossings would be rehabilitated (see Section 4.4.8, page 109). It is recommended the riparian areas are rehabilitated with fully structured local native vegetation (trees, shrubs and groundcover). The removal of the temporary crossings needs to ensure the bed and banks of the watercourses will be stable in the long term. It is recommended these watercourses are monitored pre-construction and post-construction to ensure removal of the crossings does not create bed and bank stability issues. The monitoring should continue until the rehabilitated crossing sites are identified as stable by an independent suitably qualified certifier.

**3. Diversion of Town Creek**

The EA indicates Town Creek is to be diverted. There are no surface water licences on Town Creek below the proposed diversion point and it is unlikely there are Basic Landholder Rights (BLRs) along this section of creek but it is recommended the proponent confirms this.

The *Water Management Act 2000* identifies BLRs for access to water, whereby landholders with frontage to a watercourse can access water for domestic (household) purposes or to water stock without the need for a water access licence. The project needs to demonstrate there are no BLR users that could be affected by the proposed diversion. It is not clear if landholders who have frontage to Town Creek below the proposed diversion point have been consulted to determine any BLR users. If this has not occurred, it is suggested the landholders are consulted.

Appendix F recommends maintaining the flow along the current Town Creek to mitigate impacts on riparian vegetation along this creek (see section 5.1 pages 64). It is unclear if flow will be maintained. The EA notes "*the overall flow speed and volume would be reduced*" along the existing Town Creek channel and the diversion would potentially remove wildlife connectivity along the existing creek (page 260). The EA indicates an alternative corridor would be provided along the Town Creek diversion channel and Bundewallah Creek with the planting and rehabilitation of appropriate riparian vegetation (see page 260). It is recommended consideration is given to maintaining flow along the current Town Creek alignment to mitigate impacts on riparian vegetation.

It is recommended the riparian corridor along either side of the diversion channel is vegetated with local native plant species to improve biodiversity and stabilise and reduce the risk of erosion.

Section 4.2.11 of the EA notes the diversion channel would include a meander as part of the design and it would be grassed and planted with native vegetation (page 87). At an agency meeting held on 1 November 2011, it was recommended the diversion channel should aim to have:

- a changed form and an alignment that replicates natural form and geomorphic features (eg. pools, riffles, bed controls, vegetated riparian zone). It should have a stream shape, not a straight channel
- a cross-section with appropriate channel definition (ie. defined bed and banks incorporating a low-flow channel)
- the channel fenced to permanently exclude stock
- riparian zone rehabilitation that incorporates vegetation establishment/enhancement
- a management proposal for, for example, the next ten years
- crossing and access points for landholders and ongoing management.

Section 4.2.11 indicates the gradients of the channel would be between 2:1 and 10:1 (page 87). A 2:1 gradient is likely to require rock. It is recommended rock is not used as a design feature

along the full length of the diversion channel and should only be used where there is inadequate space. It is recommended the diversion channel be consistent with the mitigation measure included in Appendix G that the diversion channel should aim to mimic a natural creek in alignment, depth, creek bed formation and bank configuration (page 89).

The Office of Water agrees with the EA that the banks of the diversion channel need to be stabilised prior to diversion of flow from Town Creek (see Table 7-54, page 299). It is recommended a monitoring/maintenance period continues until the diversion channel is identified as stable by an independent suitably qualified certifier.

**4. Construction Pads**

Section 7.3.3 of the EA indicates the construction pads may involve the temporary placement of rocks or other construction materials within waterways (page 270). Where possible, it is recommended the construction pads are located outside the waterways and riparian corridors to minimise impacts on natural flow regimes, bed and bank stability, stream geomorphology, in-stream habitat, riparian vegetation etc. Where this is not possible, the Office of Water agrees with the EA that the construction method should avoid completely blocking the stream and any placement of rock and material in the waterways need to be fully removed at the completion of construction to minimise impacts on the waterways (page 270). Construction works need to minimise impeding bankful flow.

Where works are proposed within the bed and banks of waterways it is recommended the bed and bank stability of the waterways is monitored pre-construction and post-construction.

**5. Stockpiles**

Draft Statement of Commitment (F3) notes the stockpile sites will be located at least 50 metres away from sensitive locations (page 558). Clarification is required as to where the proposed stockpile site referred to in Appendix G has been relocated as it straddles the southern end of the project area between Schofield's Lane and Andersons Lane and an unnamed watercourse and its tributary appears to flow through it (pages 70 and 73). It is recommended this proposed stockpile is in accordance with the environmental criteria for the project, that is, that project works and ancillary infrastructure (including stockpiles) are not placed within 50 metres of any waterways, particularly as Appendix G indicates there is sufficient space to achieve this (page 75).

**6. Water quality basins**

Section 4.4.7 of the EA notes the sedimentation detention basins would be located close to natural watercourses (page 108). It is recommended the basins avoid remnant native riparian vegetation and if they are dry basins are fully vegetated with locally indigenous plant species (trees, shrubs and groundcover species).

**7. Ancillary facility sites**

Table 4-10 lists selection criteria for locating ancillary facilities and includes the locating of facilities more than 50 metres from watercourses (page 106). The Office of Water supports this proposed setback as it would assist to minimise potential impacts on riparian corridors and watercourses.

**8. Riparian Corridors**

Table 7-50 notes a Vegetation Management Plan (VMP) needs to be prepared which details the restoration, regeneration and rehabilitation of areas of native vegetation in the vicinity of the project (page 273). It is recommended the VMP includes specific details for the rehabilitation of the riparian corridors disturbed by the project.

The Office of Water agrees with using locally indigenous species to rehabilitate and revegetate habitat areas (see Table 7-50, page 273). It is recommended the riparian corridors are fully structured (trees, shrubs and groundcover species) and rehabilitated to mimic the relevant local native vegetation community.

## 9. Water supply

Section 4.4.6 of the EA notes the water sources would include surface water sourced from watercourses and groundwater sourced from dewatering, but it then notes the extraction of water (from watercourses or groundwater sources) is not currently proposed (page 105). Section 7.4.3 implies that surface water extraction from watercourses may be required (see page 289).

Further clarification is required in relation to whether surface water and groundwater sources are required for construction.

## 10. Monitoring

Where works are proposed within the bed and banks of waterways it is recommended the stability of the waterways is also monitored. In relation to the Town Creek diversion and watercourse stability, it is recommended:

- the stability of the diversion channel is monitored post construction, and
- Bundewallah Creek (downstream of where the diversion channel enters the creek) is monitored pre-construction and post-construction.

Watercourse stability monitoring should continue until the relevant watercourses are identified as stable by an independent suitably qualified certifier.

## 11. Groundwater

The project falls within the mapped extent of the Sydney Basin South Groundwater Source as identified within the *Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011*. However, Roads and Maritime Services (RMS) is exempt from the need for an access licence for the take of groundwater from that source under Part 1 (Access licence exemptions) of Schedule 5 of the *Water Management (General) Regulation 2011*, which identifies the authority as follows.

> *A roads authority (within the meaning of the Roads Act 1993)—in relation to water required for road construction and road maintenance.*

The activity is also exempt from consideration under the NSW Aquifer Interference Policy. The Aquifer Interference policy includes "caverns, cuttings, trenches and pipelines (intersecting the water table) if a water access licence is not required" as a minimal impact aquifer interference activity and does not require to be assessed under the Policy.

The EA outlines several aspects of the project that could potentially impact on groundwater in the shallow alluvial systems and in the underlying hard rock. A comprehensive assessment of potential impacts on groundwater users and groundwater dependent ecosystems has not been included in the EA. The assessment report includes a heavy reliance on further work after project approval, as well as the outcomes of consultation with the Office of Water.

As a result of the short-term construction and long-term operation of the project, the following groundwater impacts are likely to occur:

- compaction of alluvial sediments beneath embankments having undergone pre-loading for stabilisation purposes, leading to obstruction of groundwater flows
- dewatering from excavations for road cuttings and bridge footings, leading to draw-down in surrounding areas.

- groundwater quality impacts from the disturbance of actual or potential acid sulphate soils, with such impacts needing to be managed in accordance with the Acid Sulfate guidelines.

Monitoring of construction impacts

The EA identifies a commitment to developing a groundwater management plan to "*address groundwater issues during and after construction*". The report states that "*a detailed sampling, analysis and quality plan outlining the groundwater monitoring programs would be compiled in consultation with the OEH and NOW*", and further recommends that "*groundwater monitoring should be undertaken and reported on a three monthly basis during construction*". The Office of Water recognises the importance of a groundwater monitoring program to ensure any potential impacts are understood. The development of a groundwater management plan and a detailed groundwater monitoring program is supported.

Monitoring of operational impacts

The operational impacts of the project are indicated as being essentially the same as those likely to occur during construction; that is, groundwater draw-down, changes to flow-paths and potential contamination. The assessment report acknowledges the impact of draw-down during operation and indicates "*the results of the groundwater modelling will be used to develop trigger points within groundwater management plans*" as well as "*the groundwater modelling program, if required, would be undertaken in consultation with NOW*".

## 12. Draft Statement of Commitments

The draft Statement of Commitments includes commitments to minimise impacts on water quality and aquatic ecology and alterations to natural flow regimes. These commitments are supported. It is recommended a Statement of Commitment is included to minimise impacts on stream geomorphology and bed and bank stability.

The inclusion of Statement of Commitment (F3) to locate ancillary facilities and stockpile sites at least 50 metres away from sensitive areas is supported, particularly as Table 4-10 clarifies that this includes locating facilities more than 50 metres from watercourses.

## 13. Recommended Condition of Approval

Should the proposal be approved, the Office of Water recommends the following condition requiring a commitment to mitigate any impacts on high priority groundwater dependent ecosystems, water supply bores or groundwater quality changes from acid sulphate soils during the project:

*A groundwater management plan shall be prepared to the satisfaction of the Office of Water that includes the identification of, appropriate response management procedures and mitigation measures for the protection of*

a. *high priority groundwater dependent ecosystem listed in Schedule 4 of the Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011,*
b. *water supply bores, and*
c. *groundwater quality impacts from the disturbance of actual or potential acid sulphate soils.*

**End Attachment B**

## Attachment C

## Princess Highway Upgrade (Foxground-Berry Bypass) (MP10_0240)
## Response to exhibition of Environmental Assessment
## Comment by Agriculture NSW

---

### 1. General comment in relation to agriculture in the area.

It is noted that it is intended to purchase a number of properties impacted by the highway realignment. It is also noted that some properties will be severed by the proposed highway. It is unclear whether properties to be severed will retain access to the main property or will be subdivided. Subdivision is not preferable as it can lead to ad-hoc small properties that can cause land use conflicts with surrounding land uses.

If properties to be severed from the main farm still maintain access to the farm via underpasses, provision will need to be made for facilities to herd stock through underpasses as well as enable access for emergency services such as the Rural Fire Service to attend to fire outbreaks.

Each of the broader options and access refinement options in Sections B and C have been assessed from an agricultural perspective and the route recommended that will have the least likely impact on agricultural land and operations.

### 2. Comment on broad route options.

(i) Section B

*Yellow option*

This option would create a new highway alignment remote to the existing alignment and cross high value agricultural land and would result in severance and acquisition of agricultural land as well as disturb acid sulfate soils, which is not desirable. It would also be a significant change to the landscape due to impact on relatively undisturbed rural land and communities.

*Pink and green options*

The green option is the preferred option from an agricultural perspective due to the minimisation of severance of properties, the need to acquire properties, and the associated impacts on agricultural businesses. It is understood, however, that issues of vegetation conservation and traffic efficiencies have lead to the favourable option being the pink option.

*Southern option*

It is agreed that the Southern option is not favoured because of:

- a high probability of encountering acid sulfate soils.
- surface water and flooding issues
- the severance of a number of large agricultural properties as opposed to the northern options that utilise the existing road corridor.

(ii) Section C

*Blue option*

This route is largely greenfield and will impact on high value agricultural land. This would result in a greater impact on agricultural productivity and viability of the directly impacted properties, the severance of land, and the viability and connectivity of the rural community.

*Orange option*

This route will minimise land take and impacts on agricultural land by utilising an existing road corridor for much of its length. It is agreed that the Orange option is the preferred option for Section C.

## 3. Comment on access options for Berry

*Northern Berry access*
While the revised Option 3 will impact on agricultural land, it appears to be the most practical from other perspectives. There will need to be good access for stock from one side of the bridge to the other as well as access for emergency vehicles such as for bushfire management by the Rural Fire Service.

*Alignment along North Street*
The alignment of the highway along North Street will impact on both rural residences and residential properties along North Street. The option to locate the alignment about 40 metres from North Street enables both a 40 metre buffer to be established between the North Street residents and the alignment and also reduces the impact on the productive agricultural land of the rural property ie. through severance.

*Southern interchange for Berry*
Given the options here involve the same land, with different access configurations, no comment from an agricultural impact perspective are made.

**End Attachment C**