



22 May 2018

Our Ref: A22287183
Your Ref: SSI 6788

Glenn Snow
Director, Transport Assessments
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Mr Snow,

SSI 6788 - WestConnex New M5
Ministers Condition of Approval B63
Administrative Modification Request

1.0 Introduction

Roads and Maritime Services (RMS) is requesting a modification to the Ministers Conditions of Approval (MCoA) for State Significant Infrastructure (SSI) Application No 6788 in accordance with the requirements of Section 115ZI of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The modification relates to MCoA B63 that requires replacement trees to have a minimum pot-size of 75-litres.

MCoA B63 states:

The SSI must be designed to retain as many trees as possible and provide a net increase in the number of replacement trees. The Proponent must commission an independent experienced and suitably qualified arborist, to prepare a comprehensive Tree Report(s) prior to removing any trees on the periphery and/or outside the construction footprint as identified in the figures in Section 6 of the document referred to in condition A2(b), including any tree(s) removed along Euston Road. The Tree Report may be prepared for the entire SSI or separate reports may be prepared for individual areas where trees are required to be removed. The report(s) must identify the impacts of the SSI on trees and vegetation within and adjacent to the construction footprint. The report(s) must include:

- a) *a visual tree assessment with inputs from the design, landscape architect, construction team;*
- b) *consideration of all options to amend the SSI where a tree has been identified for removal, including realignment, relocation of services, redesign of or relocation of ancillary components (such as substations, fencing etc.) and reduction of standard offsets to underground services; and*

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- c) *measures to avoid the removal of trees or minimise damage to existing trees and is to ensure the health and stability of those trees to be protected. This includes details of any proposed canopy or root pruning, excavation works, site controls on waste disposal, vehicular access, storage of materials and protection of public utilities.*

*In the event that trees are to be removed, then replacement trees are to be planted within, or in close proximity to, the SSI boundary, including along Euston Road where feasible and reasonable. The location of the trees must be determined in consultation with the relevant council(s). **The replacement trees are to have a minimum pot size of 75 litres.** A copy of the report(s) must be submitted to the Secretary for approval prior to the removal, damage and/or pruning of any trees, including those affected by site establishment works. All recommendations of the report must be implemented by the Proponent, unless otherwise agreed by the Secretary. (**Emphasis added*).*

RMS is seeking to modify MCoA B63 to remove the requirement for replacement trees to have a minimum pot-size of 75-litres, while retaining all other requirements and committing to substantially increasing the number of trees to be replanted beyond the minimum requirement of a 'net increase'. Supporting justification and information pertinent to the proposal is outlined below.

2.0 Tree Removals

MCoA B63 requires the SSI to be designed to retain as many trees as possible. Where trees are to be removed, a comprehensive Tree Report is required to be approved by the Department of Planning and Environment (DP&E) justifying the need for removal. CDS-JV (the construction contractor for the New M5), has on behalf of RMS, prepared multiple Tree Reports identifying trees to be removed for the Project.

To date, a total of 6,053 trees have been approved for removal by DP&E.

The Tree Reports assess a 'worst case scenario' in which a conservative approach is adopted when determining whether a tree will require removal for construction of the SSI. During construction on the SSI periphery, where possible, efforts are made to retain trees, even if the tree has been approved for removal. CDS-JV maintains a register of trees **approved** for removal along with details of the trees **actually** removed for the project. To date, approximately 6,000 trees have been **actually** removed. The retention of these trees, despite being approved for removal, represents a significant effort on the part of RMS, the M5 Asset Trustee and CDS-JV to work collaboratively with councils and other stakeholders to minimise impacts to high retention value trees. CDS-JV will continue to maintain the tree register should further tree removals be required.

RMS notes that a significant proportion of these trees, accounting for almost half of all trees removed for the SSI to date, were located within the Cooks River/Castlereagh Ironbark Forest remnant community at Kingsgrove. As required by MCoA B10, this ecological community is to be offset with biodiversity offset credits as detailed in the Biodiversity Offset Package (MCoA B14). In addition to the acquisition of the offset credits, commensurate tree replacements for the removal of this community will be replanted within and in close proximity to the SSI boundary. This contribution is considered substantial noting the duplication of replacement planting and the purchase of offset credits.

3.0 Proposed Tree Plantings & revegetation

MCoA B63 requires the Project to provide a 'Net Increase' in the number of replacement trees within and in close proximity to the SSI boundary at a minimum pot-size of 75-litres. The net increase figure is not defined and RMS consider that this requirement would be satisfied by providing a net increase of +1 tree.

Although compliant with the MCoA, RMS do not consider this the best potential outcome for the project. RMS therefore proposes an alternative approach, which is to replant trees:

- At various pot-sizes; and
- At a ratio of at least 3 trees replanted for every 1 tree removed.

The New M5 Urban Design and Landscape Plan (UDLP), which has been developed in consultation with and endorsed by an independent Urban Design Review Panel, proposes trees to be planted within the SSI boundary ranging from forestry tube stock to 200-Litres. *Table 1* details the range of proposed pot sizes and numbers of replacement trees to be planted within the New M5 SSI boundary.

Table 1. New M5 Tree Replacements

	<i>Pot size proposed</i>	<i>Quantity</i>
Trees	Forestry Tube	3,166
	150mm	9,309
	200mm	1,127
	25 litres	1,788
	75-litres	1,140
	200-litres	23
	Palms (ex-ground)	110
	Total	16,663*

* Also refer Section 4.

The planting design, which includes over 105 species of trees, shrubs and ground layer species, draws upon the characteristics and species profiles of plant communities that once occupied each site and surrounding region. Over time, the varying growth heights, structures and forms of planting will add greater interest and deliver a more robust urban design outcome. The use of varying pot sizes is standard practise on RMS projects which, subject to good planting layout at the time of installation, creates well-proportioned and balanced landscape settings.

In terms of overall revegetation, over 900,000 trees, shrubs and plants will be planted within the SSI boundary. Of this figure, 650,000 will be planted at the former Alexandria Landfill (now St Peters Interchange [SPI]), a significant enhancement contributing to the overall remediation and regeneration of this site.

As a requirement of the Deed between the New M5 Asset Trustee and CDS-JV, a defects period of one year will be in place from the date of opening completions. During this timeframe, should any trees or vegetation within the SSI boundary die, then replacement trees will be planted to maintain the total number of replacement trees across the SSI.

Beyond this timeframe, a maintenance contractor has been engaged for landscape maintenance within the motorway corridor, SPI area and on the noise mound at Kingsgrove. The maintenance program will include weeding, pruning, mulching, fertilising, pest and disease control, replacement planting (if required) and mowing. The maintenance of trees and vegetation on land to be handed over to local councils in accordance with the Residual Land Management Plan (MCoA B67), will be maintained by each applicable council.

4.0 Enhancement to Tree Replacement Program

It is RMS' understanding that the intent of the 75-litre minimum pot-size requirement is to ensure appropriate visual amenity is provided for residents, pedestrians, cyclists and motorists upon completion of the New M5. With this in mind, and despite this proposed modification, RMS has ensured 75-litre pot sized trees will be a significant component of the landscaping in visually prominent locations across the New M5, including:

- On publicly accessible land within the St Peters local roads area;
- Around the Motorway Control Centre and Motorway Operations Complexes;
- Within the publicly accessible areas at SPI; and
- Within the SSI boundary along the M5 Linear Park.

In the local roads area, 75-litre pot sized trees will be planted, providing a strong visual effect in proximity to existing parklands of Sydney Park, Simpson Park and Camdenville Park and the surrounding urban setting. This approach is consistent with the RTA Landscape Guideline (2008), a key reference document of the UDLP. Larger size trees (75-litre pot sizes and above) provide visual amenity on 'Day 1' of opening/completions and are more resilient to social impacts (i.e. vandalism, theft, car doors, visibility for mowing avoidance etc). They are therefore preferred for amenity horticulture and where the threats and impacts of normal streetscape behaviours and constraints (such as in parks, at community facilities, feature specimen plantings, sightlines along roads, at bus stops etc) outweigh the costs of extended establishment.

The landscape proposed within the SPI area is rehabilitation and revegetation, not amenity horticulture. A large proportion of the interchange area, beneath bridge flyovers, will not be publicly accessible and therefore the threat of vandalism is not as prevalent. The opportunity to plant trees and shrubs at pot-sizes ranging from forestry tube-stock up to and including 75-litres within this area can therefore be realised.

Tree planting within the SSI boundary has been maximised to the extent possible. The UDLP ensures appropriate crime prevention through environmental design principles are applied whilst also maintaining sightlines for pedestrians, cyclists and motorists. The project urban designers have ensured open space opportunities have been maximised, as opposed to planting out vast areas of land with trees to satisfy the net increase requirement of the MCoA. This is considered appropriate given the commitments made during EIS exhibition in relation to the provision of open space upon completion of the project.

To meet the proposed net increase of at least 3:1, RMS and the New M5 Asset Trustee are actively exploring opportunities to replant trees and support tree replanting initiatives beyond the SSI boundary as allowed by MCoA B63 (replacement trees may be replanted '*within, or in close proximity to, the SSI boundary*'), which includes:

- The New M5 Asset Trustee is in the process of signing a Scope of Service Agreement with Canterbury Bankstown Council and National Parks and Wildlife to plant trees and support bush regeneration within the Wolli Creek Bushland until 2023.
- The New M5 Asset Trustee has contacted schools along the project corridor to offer financial and volunteer assistance for tree replanting initiatives on Schools Tree Day on Friday 27 July 2018.
- Canterbury Bankstown Council is being consulted on tree replanting opportunities within their LGA as well as a potential partnership for National Tree Day on Sunday 29 July 2018.

- As a Community Cohesion measure under MCoA B66, the New M5 Asset Trustee will support tree replanting initiatives for Schools Tree Day and National Tree Day in 2018, 2019 and 2020 in collaboration with local schools and the relevant councils.

5.0 Technical Basis for Change

As previously stated, it is understood that the primary intent of the minimum 75-litre pot-size requirement defined by MCoA B63 is to ensure that appropriate visual amenity is provided through landscaping upon completion of the New M5. However, based on RMS experience and advice from our Landscape Advisors, plantings should be provided based on the growth performance per species and in consideration of new site topographies, as opposed to an arbitrary minimum pot-size requirement.

The primary technical basis for the proposed modification include:

- The RTA Landscape Guideline (2008) and standard RMS horticultural practice prefers roadside trees to be planted at a range of sizes to maximise resilience, provide early visual effect and ensure longevity. Relying on tree sizes of equal to or greater than 75-litre pot sizes misses the potential for energetic, adaptable young stock to quickly grow and provide the long-term canopy cover envisaged for the project.
- Larger size trees (75-litre pot sizes and above) provide an early impact but require additional maintenance input (watering, plant replacement and pruning) and are less adaptable to the roadside environment. After a few years they are often overtaken by smaller stock as evidenced by several RMS projects delivered in recent years (refer Case Study at Attachment A).
- Trees planted from 75-litre to 150-litre pot sizes are highly vulnerable to acute climatic or other site impacts comparable with other smaller advanced pot sizes (upwards from 200mm diameter x 200mm deep), without being large enough to be resistant to shock¹. The root ball is usually not large enough to balance the sail effect on canopy, therefore support staking is required at installation.
- More advanced trees (75-litre and above) would be more exposed and require a different maintenance service level on higher, exposed parts of a site than those advanced trees planted in lower areas of a site. This has been a key consideration during development of the New M5 Urban Design and Landscape Plan (UDLP), given the varying topography of the site(s).
- Trees in 75-litre pot sizes generally come in bags, which are approximately 470mmØ x 440mm depth and weigh roughly 42kg. Due to the size and weight of the trees, machine handling is required to safely load, unload and plant. This is of particular importance at SPI where the vast majority of replacement tree planting is proposed. The topography of SPI includes a multitude of 1V:2H slopes. Machine handling will not be possible in every instance and therefore, large areas of this site will be unsuitable for tree replanting to meet the current requirements of MCoA B63, due to safety considerations.
- Varying pot-sizes will deliver better horticultural and ecological outcomes, providing more sustainable survival rates in the short, medium and long term comparable with planting 75-litre pot-sized trees alone².

¹ Florabank advice on Tubestock Planting is available from http://www.florabank.org.au/default.asp?V_DOC_ID=977.

² Source: University of Florida advice on Landscape Plants is available from <http://hort.ifas.ufl.edu/woody/maximum-size.shtml>.

- The recommended period for establishment watering for 75-litre pot sized trees is approximately 8 litres per plant per day for the first 2 weeks, then reducing to 16 litres per plant per week for up to 9 months depending on the planting season and amount of rainfall³. Comparably, smaller pot sizes require higher watering frequency requirements, but for a shorter timescale. This is considered a much more sustainable outcome noting the number of trees required to meet the net increase requirements of MCoA B63.

6.0 Consultation

The proposed tree replacements as outlined in Table 1 are detailed within Section 10 Landscape Design of the New M5 UDLP. The UDLP was prepared with extensive consultation with the community, relevant councils and New M5 Urban Design Review Panel since Project Approval and during the UDLP exhibition period (3 April – 30 April 2017). Comments in relation to the proposed landscaping are detailed within the Community Consultation Report (July 2017).

In addition to the broader consultation undertaken during the preparation and exhibition of the UDLP, RMS, CDS-JV and the New M5 Asset Trustee have engaged in targeted consultation with specialists and stakeholders as detailed in Table 2.

As recommended by the New M5 Urban Design Review Panel, Mr Stuart Pittendrigh has been consulted as a specialist horticulturalist during preparation of the UDLP. Mr Pittendrigh is also a qualified landscape architect and arborist, whom as DP&E will note, was consulted during preparation of the Tree Replacement Strategy on SSI 6307 (M4 East).

Table 2. Consultation with stakeholders on landscaping proposals

Date	Stakeholder(s)	Comments
Since project approval	New M5 Urban Design Review Panel (UDRP)	The New M5 UDRP have been consulted on the proposed landscaping designs for the New M5 since project approval in April 2016. Evidence of consultation with the UDRP is included in the Community Consultation Report (July 2017) submitted in support of the New M5 Main UDLP. Members of the UDRP provided a letter of endorsement on the overall project design on 13 July 2017.
31/08/17	RMS Centre for Urban Design	A meeting was held to discuss the proposed landscape design and tree replacement strategy for the New M5. The RMS Centre for Urban Design are supportive of the proposed modification to MCoA B63 *Note: The RMS Centre for Urban Design has been consulted on the detailed design packages for landscaping as the project has evolved from Concept Design, through to Substantial Detailed Design and subsequent Final Design iterations since project approval in April 2016.

³ Source: Watering Rates Table for Eastern NSW, Ross Clark, Trees Impact. Updated guidance for container sizes 100L or larger is available from <http://www.treesimpact.com.au/articles/watering-newly-planted-trees>.

Date	Stakeholder(s)	Comments
13/10/17	Stuart Pittendrigh, Horticulturalist	A review of the landscape design for the SPI was undertaken. Advice was specifically in relation to species suitability and performance.
13/11/17	Sophie Golding, Ecologist, City of Sydney	A meeting was held in which the proposed landscaping designs for SPI and St Peters local roads were presented by Hassell Architects and CPBDS-JV. The proposed modification to MCoA B63 was also discussed. The landscape designs were subsequently issued to CoS for review and comment. No issues were raised with regards the proposed pot sizes to be replanted.
11/04/18	Nell Graham, Team Leader, Environment Strategy, Canterbury Bankstown Council	A meeting was held to discuss tree replanting opportunity sites within the council LGA. The Council have a document titled Flying Fox Forage Tree Guide, September 2017, which will guide the species selection and location of trees to be replanted with the M5 Linear Park and Wolli Creek Bushland.
17/04/18	Department of Planning and Environment	A meeting was held between RMS, the New M5 Asset Trustee, CDS-JV and DP&E to discuss the proposed modification and additional mitigation measures proposed to meet the intent of MCoA B63.

7.0 Impact of Modification

The impact of the modification is not considered significant in terms of changing the intent or requirements of the condition. The modified condition:

- Will not result in the removal of any additional trees;
- Will result in a significant number of additional trees being replanted;
- Remains enforceable;
- Retains the requirement for a net increase in the number of replacement trees;
- Retains the intention of the condition with all replacement trees to be of a minimum 75-litre pot-size in areas with direct community interfaces;
- Delivers a better horticultural and ecological outcome by replanting trees based on their growth performance per species as opposed to an arbitrary minimum pot-size requirement; and
- Provides for a more flexible tree replacement strategy that will provide a positive impact more in line with each applicable council's vegetation programs/plans.

The M5 Asset Trustee and RMS will report annually until 2023 (as required by MCoA B66) on the Community Cohesion initiatives being implemented to plant trees beyond the SSI boundary. These annual reports will at minimum include:

- Details of the organisation/council/school partnered with in relation to tree planting;
- The number, species and pot-size of trees planted;
- Maps and reference images of trees planted and/or details of where trees were distributed to community members for planting;
- The value of the initiative implemented each year; and
- A status update on the effectiveness of the initiative implemented the previous year (commencing two years after first annual report).

8.0 Proposed Modification

In consideration of the above justification and information, it is recommended that MCoA B63 be modified as follows:

The SSI must be designed to retain as many trees as possible and provide a net increase in the number of replacement trees. The Proponent must commission an independent experienced and suitably qualified arborist, to prepare a comprehensive Tree Report(s) prior to removing any trees on the periphery and/or outside the construction footprint as identified in the figures in Section 6 of the document referred to in condition A2(b). The Tree Report may be prepared for the entire SSI or separate reports may be prepared for individual areas where trees are required to be removed. The report(s) must identify the impacts of the SSI on trees and vegetation within and adjacent to the construction footprint. The report(s) must include:

- a) a visual tree assessment with inputs from the design, landscape architect, construction team;*
- b) consideration of all options to amend the SSI where a tree has been identified for removal, including realignment, relocation of services, redesign of or relocation of ancillary components (such as substations, fencing etc.) and reduction of standard offsets to underground services; and*
- c) measures to avoid the removal of trees or minimise damage to existing trees and is to ensure the health and stability of those trees to be protected. This includes details of any proposed canopy or root pruning, excavation works, site controls on waste disposal, vehicular access, storage of materials and protection of public utilities.*

In the event that trees are to be removed, then replacement trees are to be planted within, or in close proximity to, the SSI boundary. The location of the trees must be determined in consultation with the relevant council(s). ~~The replacement trees are to have a minimum pot size of 75 litres.~~ The replacement trees are to be selected based on their required visual amenity for the community and species diversity for areas of vegetation rehabilitation as detailed in the Urban Design Landscape Plan (Condition B61). A copy of the report(s) must be submitted to the Secretary for approval prior to the removal, damage and/or pruning of any trees, including those affected by site establishment works. All recommendations of the report must be implemented by the Proponent, unless otherwise agreed by the Secretary.

The revised wording of MCoA B63 is considered appropriate in continuing to maintain the intent of the condition whilst providing the flexibility required to achieve a more desired, sustainable and effective ecological outcome.

If you have any questions or would like further information relating to this proposed modification, please contact Mr Ashley Robinson on 0439 575 388 or email ashley.j.robinson@rms.nsw.gov.au.

Yours sincerely,



Paul Hitchings
Director Project Delivery

Attachment A: Warringah Freeway: Planting Area Outcome Case Study, RMS

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