Table 1 Impact Assessment (7-PART TEST)

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
a. in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at the risk of extinction.	*NA, BGHF is an endangered ecological community*	*Agreed*
b. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction	*NA, BGHF is an endangered ecological community*	*Agreed*
c. in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed: i. is likely to have an adverse effect on the extent of the	*The three Sydney Blue Gums proposed for removal are remnant trees of BGHF, fragmented from a 0.64 ha remnant patch of Blue Gum High Forest located approximately 60 m to the east along Borambil Street (see Figure 1). The Sydney Blue Gums exist as an*	*Disagree* *The Blue Gum High Forest within the Knox School is disjunct from the Borambil Street patch of BGHF.* *Genetic transfer of pollen can occur*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
ecological community such that its local occurrence is likely to be placed at risk of extinction, or	*isolated tree within a mulched garden bed and two trees within a paved area. Although the three trees proposed for removal have ecological value as biodiversity reservoirs for fauna habitat and for cross pollination and seed dispersal interactions (Land and Environment Court 2007) the loss of the trees is not likely to place the Borambil Street BGHF patch at risk of extinction because:* • *there is negligible or nil native seed soil bank or regeneration potential for the ecological community due to the paved ground surface around trees 3 and 1,* • *there is potential disturbance to the soil in the garden bed in which tree 4 is growing from past building construction and landscape maintenance practices (mulching,*	*between the canopy trees within the School and the BGHF within Borambil Street however there is no supporting information that other components which comprise part of the BGHF community e.g. soil, fungi and microbial life are interacting.* *Section 3 of the scientific determination states the following "community also includes micro-organisms, fungi, cryptogamic plants and a diverse fauna, both vertebrate and invertebrate".* *Therefore the local occurrence of BGHF is defined as that which occurs within the Knox School. The proposal will result*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
	herbicide spraying, etc) significantly compromising the regeneration potential for the ecological community, • *the three trees are fragmented from the 0.64 ha patch of BGHF by a road, turf area and built infrastructure such as demountable buildings, fences etc.* • *regular pruning to reduce hazard reduces the potential of the trees to provide fauna shelter/roosting habitat due to the absence of hollows and dead branches*	*in the directly removal of trees 1, 3 & 4 (69%) of the local occurrence of BGHF within the subject site. Tree 9 is unlikely to survive construction impacts and therefore the local occurrence of BGHF would be removed in its entirety.* *The loss of 823 m^2 of Blue Gum High Forest will have an adverse affect on the local occurrence in the short term placing the community at risk of extinction.* *Section 9 of the scientific determination for Blue Gum High Forest stipulates the following* ***"Blue Gum High Forest has a very highly restricted geographic distribution,***

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
		and is currently estimated to cover an area of less than 200ha. The distribution comprises a series of small remnant patches, the largest of which is less than 20ha. Highly modified relics of the community also persist as small clumps of trees without a native understorey. All remnants of the community are now surrounded by urban development. Consequently, the distribution of Blue Gum High Forest is severely fragmented. Fragmentation of habitat contributes to a very large reduction in the ecological function of the community". *The proposed*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
		removal of tree 1, 3 & 4 and the likely loss of tree 9 will further fragment the Blue Gum High Forest and further decrease ecological functions such as cross pollination and seed dispersal interactions (Land and Environment Court 2007) which is likely to have an adverse impact upon the Blue Gum High Forest community.
ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.	*The removal of the three Sydney Blue Gums is unlikely to substantially and adversely modify the composition of the Borambil Street BGHF patch such that its local occurrence is likely to be placed at risk of extinction because:* • *the core BGHF patch is 60 m to the east of the Sydney Blue Gums and separated by a*	*Disagree* *As discussed above the local occurrence of BGHF is defined as that which occurs within the Knox School. The proposal will result in the directly removal of trees 1, 3 & 4 (69%) of the local occurrence of BGHF within the*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
	road, turf area and built infrastructure such as demountable buildings, fences etc. • *there is no native midstorey or ground cover vegetation occurring in association with the Sydney Blue Gums and the restoration potential for the ecological community is nil as the trees grow in the paved area. The tree growing in the mulched garden bed is significantly compromised due to likely past soil disturbance and ongoing landscape maintenance practices.*	*subject site. Tree 9 is unlikely to survive construction impacts and therefore the local occurrence of BGHF would be removed in its entirety.* *Section 13 of the scientific determination for Blue Gum High Forest stipulates the following".* *Blue Gum High Forest in the Sydney Basin Bioregion is eligible to be listed as a critically endangered ecological community as, in the opinion of the Scientific Committee, it is facing an extremely high risk of extinction in New South Wales in the immediate future, as determined in accordance with*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
		the following criteria as prescribed by the Threatened Species Conservation Regulation 2002: ***Clause 25*** *The ecological community has undergone, is observed, estimated, inferred or reasonably suspected to have undergone, or is likely to undergo within a time span appropriate to the life cycle and habitat characteristics of its component species:* *(a) a very large reduction in geographic distribution.* ***Clause 26*** *The ecological community's geographic distribution is estimated or inferred to be:*

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		(b) very highly restricted, and the nature of its distribution makes it likely that the action of a threatening process could cause it to decline or degrade in extent or ecological function over a time span appropriate to the life cycle and habitat characteristics of the ecological community's component species. ***Clause 27*** *The ecological community has undergone, is observed, estimated, inferred or reasonably suspected to have undergone, or is likely to undergo within a time span appropriate to the life cycle and*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
		habitat characteristics of its component species: *(**a) a very large reduction in ecological function,*** *as indicated by any of the following:* *(b) change in community structure* *(c) change in species composition* ***(f) disruption of ecological processes*** *(g) invasion and establishment of exotic species* *(**h) degradation of habitat*** ***(i) fragmentation of habitat*** *The proposal will result in the removal of trees 1, 3 & 4 and the likely loss of tree 9. A total loss of 823 m^2 of Blue Gum High Forest from within the subject site. The*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
		removal of these large remnant trees will result in further fragmentation and a reduction in the ecological processes which contribute to the survival of the Blue Gum High Forest community. The Blue Gum High Forest within the site is likely to become extinct.
d. in relation to the habitat of a threatened species, population or ecological community: *i. the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*	*The three Sydney Blue Gums proposed for removal are isolated remnant trees of the BGHF disjunct from the 0.64 ha Borambil Street BGHF patch by 60 m of road, turf area and built infrastructure. Accordingly, the extent of habitat removed or modified is minor.*	*The proposal will result in the direct loss of three trees 1, 3 & 4- Sydney Blue Gums or approximately 569m^2 of Blue Gum High Forest. One tree identified as tree 9 is likely to be detrimentally affected which will result in a further loss of 254 m^2 of BGHF. A total area of 823 m^2 of Blue Gum High Forest is likely to be lost as a result of the proposal.*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and	*The removal of the three Sydney Blue Gums will not result in the fragmentation or isolation of the Borambil Street BGHF patch from other areas of habitat because the trees are separated from the patch by 60 m by a road, turf area and built infrastructure.*	*The BGHF within the Knox School is already fragmented from other areas of BGHF (Borambil; Street), the proposed removal of trees 1, 3 & 4 and the likely loss of tree 9 will result further fragmentation of the BGHF community.*
iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long term survival of the species, population or ecological community in the locality,	*Although the three trees proposed for removal have ecological value as biodiversity reservoirs for fauna habitat and for cross pollination and seed dispersal interactions (Land and Environment Court 2007) the relative importance of the trees to the long-term survival of BGHF in the locality is considered low because:* • *there is negligible or nil native seed soil bank or regeneration potential for the ecological community due to the paved ground surface around trees 3 and 1,*	*Trees 1, 3, 4 & 9- Sydney Blue Gums which comprise part of the onsite Blue Gum High Forest community are of high ecological importance for the following;* • *Section 9 of the scientific determination states "Highly modified relics of the community also persist as small clumps of trees without a native understorey. All*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
	• *there is potential disturbance to the soil in the garden bed which tree 4 is growing in from the past construction and ongoing landscape maintenance practices (mulching, herbicide spraying, etc) significantly compromises the regeneration potential for the ecological community,* • *all trees are subject to hazard management (i.e. the removal of limbs that pose a risk to students), limiting the potential for the development and retention of hollows.* • *the three trees represent a very small proportion of the area of BGHF in*	*remnants of the community are now surrounded by urban development. Consequently, the distribution of Blue Gum High Forest is severely fragmented. Fragmentation of habitat contributes to a very large reduction in the ecological function of the community".* • *The BGHF proposed to be removed occurs within a highly over cleared landscape. Trees 1, 3, 4, & 9 are part of stepping stone corridor between remnants of Blue Gum High Forest on the western & eastern side of the pacific Highway. These trees*

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	the locality and are fragmented from the core BGHF patch by a road, turf area and built infrastructure such as demountable buildings, fences, etc. • *regular pruning to reduce hazard reduces the potential of the trees to provide fauna shelter/roosting habitat due to the absence of hollows and dead branches.*	*are important for maintaining the limited vegetated corridor between remnants of Blue Gum High Forest.* • *Have ecological value as biodiversity reservoirs for fauna habitat and for cross pollination and seed dispersal interactions (Land and Environment Court 2007).* • *Section 10 of the scientific determination states "The dominant eucalypts of the community live for several hundred years. Blue Gum High Forest has therefore undergone a very large reduction in its geographic*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
		distribution within a time span appropriate to the life cycle and habitat characteristics of its component species. Small-scale clearing associated with residential subdivision, road upgrading, extension and maintenance of service easements, etc. pose a threat of ongoing decline in the extent of the community. Clearing of native vegetation is listed as a Key Threatening Process under the Threatened Species Conservation Act 1995." Clearing of native vegetation is a key threatening process which further places

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		the community at risk of extinction.
e. whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),	*NA: there is no declared BGHF critical habitat.*	*N/A*
f. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,	*There is currently no Recovery Plan or Threat Abatement Plan for BGHF, however, there are 20 priority actions identified to help recover BGHF in the Sydney Basin Bioregion in NSW. Removal of the three Sydney Blue Gums is not inconsistent with these priority actions because they represent a very small proportion of the area of BGHF in the locality and are unlikely to be considered as a "priority" BGHF site due to their relatively minor ecological importance.*	*N/A*
g. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.	*A key threatening process is defined under the TSC Act as "a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities". One threatening process listed under Schedule 3 of the TSC Act is relevant to*	*The direct removal of trees 1, 3 & 4- Sydney Blue Gums will exacerbate "Clearing of Native Vegetation" which is a key threatening process which is defined under*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
	the current proposal and poses a threat to the continued survival of BGHF, namely "Clearing of Native Vegetation". The final determination specifically identifies small-scale clearing associated with residential subdivisions, road upgrading, extension and maintenance of service easements etc as posing a threat of ongoing decline of the extent of the community (DECC 2005b). Three Sydney Blue Gums are proposed for removal. The scale and impact of vegetation clearing is considered small because the trees are growing in an environment where there is nil to negligible potential for restoration of the community, their ecological value to the community is relatively minor and they represent a very small proportion of the area of Blue Gum High Forest in the locality.	*the TSC Act as "a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities". The final determination specifically identifies small-scale clearing associated with residential subdivisions, road upgrading, extension and maintenance of service easements etc as posing a threat of ongoing decline of the extent of the community (DECC 2005b).*
	Conclusion: *The removal of three Sydney Blue Gums for a proposal to construct a Senior's Centre and redirection of a*	***Conclusion:*** *The proposed removal of trees 1, 3 & 4 and the likely loss of tree 9 will result in*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
	stormwater easement is unlikely to pose a significant impact upon the critically endangered Blue Gum High Forest ecological community because: *there is negligible or nil native seed soil bank or regeneration potential for the ecological community due to the paved ground surface around trees 3 and 1 and a mulched garden bed around tree 4,* • *the three trees are disjunct from a 0.64 ha patch of BGHF in the locality. They are separated from the core BGHF patch by a road, turf area and built infrastructure such as demountable buildings, fences etc.* • *regular pruning to reduce hazard reduces the potential of the trees to provide fauna shelter/roosting habitat due to the absence of hollows and dead*	*the following.* • *Adverse impacts upon the local occurrence of Blue Gum High Forest* • *Loss 823m^2 Blue Gum High Forest resulting in local extinction of BGHF within the site* • *Further fragmentation of Blue Gum High Forest which contributes to a decrease in ecological processes which contributes to the survival of BGHF community.* • *Exacerbation*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
	branches, • *it is likely that in the long-term the trees will die or be removed as they age without replacement due to the hazard they pose in the specific area of the school environment (paved quadrangle and adjacent to buildings where there is considerable movement of staff and students).* *The ecological value of the three Sydney Blue Gum trees as biodiversity reservoirs for fauna habitat and for cross pollination and seed dispersal interactions (Land and Environment Court 2007) is acknowledged and to minimise the impact of their loss, Knox Grammar School will undertake the following actions to contribute to the long-term viability of BGHF:*	*of key threatening process which further threaten the survival of BGHF community.* • *Proposed mitigation measures supplementary planting of Blue Gum High Forest can not be considered as part of the assessment process (DECC 2007/363).*

Factors of the assessment as set out under section 5a part 2 factors a, b, c (i) (ii), d (ii) (iii), e, f & g of the Environmental Planning & Assessment Act 1979 .	***Eco Logical Australia Response***	***Ku-ring-gai Council Response***
	• *supplementary planting of Sydney Blue Gum trees (grown from seed from the removed trees or from local remnant Sydney Blue Gums) in areas of the school grounds where the trees are unlikely to pose hazards or be affected by future development,* • *incorporation of information on the former extent and conservation significance of Blue Gum High Forest in school education programs.*	