ATTACHMENT E - RESPONSE TO OFFICE OF ENVIRONMENT & HERITAGE SUBMISSION

Issues & Recommendations	Response
Office of Environment & Heritage	
Biodiversity values of the site The proposal seeks to remove Cumberland Plain Woodland (CPW) which is listed as a critically endangered ecological community (CEEC) under the NSW Biodiversity Conservation Act 2016 (BC Act). It is also listed as CEEC for the related community of Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest, under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).	Noted.
Cumberland Plain Woodland is currently listed as a Serious and Irreversible Impacts entity as it is most at risk of extinction from potential development and therefore must be protected. In the Sydney Basin, 93% of this critically endangered ecological community has already been cleared and very little of this community remains within a 1,000 ha and 10,000 ha radius of the site (refer to Figure 1 in Attachment 2).	Noted.
The site is within Western Sydney parklands (WSP) and forms part of a corridor linking core habitat of CEEC CPW in the parklands. The site provides connectivity to the parklands including a conservation area to the east of the site and an adjoining bushland corridor as shown on the State Environmental Planning Policy (Western Sydney Parklands) 2009 and WSP Plans of Management (WSPT PoM) 2020 and draft WSPT PoM 2030. The Biodiversity Development Assessment Report (BOAR) states that the site is part of a larger vegetation patch of about 331 ha within the 1,500 m buffer of the subject site. Of this 1,500m buffer area, 37.77% is native vegetation (and Figure 2 Attachment 2).	Refer to **Attachment B** that provides a detailed response to WSPT Submission.
The intended land use for this site that is part of the WS parklands has been established by the Western Sydney Parklands SEPP and PoM which is to maintain the parklands and the habitat for threatened fauna and flora. The site is not identified for a future business hub and as such this proposal is inconsistent with the vision for the parklands.	Refer to **Attachment A** that provides a detailed response to the intended future land uses for the development.

The site contains CPW in good condition as reflected in the site achieving near benchmark values for native plant species richness and most vegetation cover attributes. The vegetation integrity score for this vegetation (68) reflects a high diversity of biodiversity values that provide a range of foraging, roosting and shelter resources for threatened and protected fauna species (see Appendix B of BDAR). Mature and hollow-bearing trees are scattered throughout native vegetation within the subject site and there is regeneration of all canopy species within this native vegetation (BDAR dated November 2018 prepared by GHD Section 3.2.3 pg 23).	Refer to **Page 3** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
An abundance of native frogs and bats were noted in the BDAR (page 16), with four species of threatened bats including the Eastern Bentwing-bat, Eastern Freetail-bat, Southern Myotis and Grey- headed Flying-fox recorded on site. Many native birds were also recorded, including the Red-rumped Parrot, Satin Bowerbird and Little Pied Cormorant. Records were also given for the Sugar Glider and Common Brushtail Possum. A total of 69 flora species from 31 families are recorded within the subject site, comprising 38 native and 31 exotic species. There were 49 native fauna species and seven exotic fauna species recorded on-site.	Refer to **Page 3** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
Further, two creeks traverse the site along both the northern boundary and eastern boundary and the site is part of the Ropes Creek riparian corridor system. This creek provides linkages between vegetation communities and this development has the potential to fragment a key biodiversity corridor.	Refer to **Page 3** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
Biodiversity impacts of the proposal The development proposed currently fails to meet the objectives of the Biodiversity Act 2016 Act (BC Act) 2016 as it does not avoid and minimise impacts on the abovementioned biodiversity values. The development does not avoid impacting on 2.35 hectares of CPW that is a CEEC and is therefore inconsistent with the objectives of the BC Act 2016 that requires proposals to first and foremost avoid impacts on biodiversity values, secondly to minimise such impacts and thirdly, as a last resort, offset unavoidable impacts. OEH considers that there has been no attempt to apply the avoid, minimise and offset framework as established by the BC Act (section 1.3(k)) and the Biodiversity Assessment Method (BAM).	Refer to **Page 4** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
The urban design report states "Due to the site's area of 7.38 ha, there is limited scope for retention of extensive vegetation which should not result in any reduction of the size of the development footprint". This statement demonstrates that limited site analysis has occurred with the view to avoid impacts on significantly threatened and in this case critically endangered ecological community. OEH considers that adequate	Refer to **Page 5** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019. **5.2 Avoidance of impacts (Page 47)** within the BDAR (**Attachment D**) states:

planning/siting of the proposal has not been carried out that avoids the CPW. The site is 7.37 ha in size with a proposed developable footprint of 6.01ha although there is a cleared area of 3.66 ha comprising exotic vegetation on site.	*The proposal has aimed to avoid impacts on native vegetation and habitat values by focusing development in areas of exotic grassland where possible, and adjusting the proposal footprint to limit impacts on better quality (i.e. native) vegetation within the remainder of the site (see Figure 5-1). The proposal includes 11 industrial lots that would result in impacts to 1.15 ha of native vegetation. The current footprint represents a third iteration of the proposal, and was devised following ongoing consultation with DPIE regarding the need to avoid impacts on the CEEC Cumberland Plain Woodland (PCT 849), as well as consultation with TfNSW regarding compulsory acquisition of a portion of the lot.* *The original proposal sought to impact 2.35 ha of PCT 849 (GHD 2018). This amount was reduced to 2.00 ha in October 2019 following consultation with DPIE on an acceptable quantum of impacts. This amount has been further reduced to 1.15 ha in the current BDAR, taking into account the constraints associated with the proposed land acquisition for the M12 Motorway, while still achieving a viable development*
The BDAR states (page 32 Chapter 5.2 -Avoidance of Impacts) "The proposal has aimed to avoid impacts on native vegetation and habitat values by focusing development in areas of exotic grassland where possible and adjusting the proposal footprint to limit impacts on better quality vegetation within the remainder of the site (see BDAR Figure 5)." However, only one vegetation zone was identified across the study area (see BDAR Figure 4), which shows the vegetation was considered homogeneous across the site. Therefore, the proposal does not limit impacts on 'better quality' vegetation because the vegetation was assessed as having a relatively homogenous condition (or 'quality') across the entire study area. OEH considers that through better site planning that the CPW_on site can be protected and retained.	Refer to **Page 5** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.

In summary, the proposal's biodiversity impacts are as follows:
 	
• removing 2.35 ha of PCT 849 - Grey Box
• remove habitat for the Southern Myotis (Myotis macropus)
• removal of 2.35 ha of assumed habitat for:
  ○ threatened flora species Pultenaea pedunculata
  ○ Bush Stone-curlew
  ○ Cumberland Plain Land Snail and
  ○ Southern Myotis
• fragmentation of a core biodiversity corridor that provides connectivity across the Western Sydney Parklands that will create barriers to the movement of
	Refer to **Page 7** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
	
	The proposal would result in the following impacts:
	
	• Removal of 1.15 ha of PCT 849 – Grey Box - Forest Red Gum grassy woodland on flats, which is listed as Cumberland Plain Woodland in the Sydney Basin Bioregion CEEC under the BC Act and Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest CEEC under the EPBC Act.
	• Removal of 1.06 ha of known habitat for the Southern Myotis.

pollinator vectors and small and sedentary fauna with the likely isolation of remnant vegetation • removal of mature trees that have value for fauna populations as sources of foraging resources such as leaves, nectar, sap or seed and substrate for invertebrate prey • adversely impacting on foraging, roosting and shelter resources for threatened species, dwelling mammals, reptiles and amphibians • weed invasion and edge effects such as changes to vegetation type and structure, increased growth of exotic plants and increased potential spread due to the presence of two creeks on site, increased predation of native fauna, light spill and noise • ongoing operational impacts include increased risk of fire particularly given the proposed land uses such as a service station and bulky goods, increased fauna mortality due to increased vehicular movements on site • the proposed rehabilitation of a 1.36ha riparian corridor of CPW despite its good condition as reflected in a vegetation integrity score under the BAM of 68 and rehabilitation has potential to detrimentally impact on the condition of this remnant vegetation. Based on the flood risk plans, it appears that this vegetation reserve area has only been proposed due to flood risk in this area, for flood mitigation purposes. In addition, the following direct and indirect biodiversity impacts have not been assessed.	• Potential indirect impacts to adjoining vegetation associated with edge effects, light spill, noise and introduction of weeds and pathogens.
<u>Assessing direct and indirect impacts</u> The BDAR has failed to appropriately apply section 9 of the BAM (Assessment of impacts) because it has not assessed all the proposed impacts. Direct and indirect impacts from the following have not been addressed:	The BDAR (**Attachment D**) includes an assessment of all the proposed impacts.
• a co-located flood detention basin and bioretention area, and their associated spillway (see Appendix B Stormwater Management Plan in ae Design Partnership Pty Ltd 2126819-REP-1111- 1141 Elizabeth Drive DA Stage Stormwater, Flooding and Dams (GHD October 2018)) and	The BDAR (**Attachment D**) includes an assessment of all the proposed impacts.
• an on-site wastewater management system (see the Environmental Impact Statement (AE Design Partnership 7 December 2018) and Preliminary Onsite Wastewater Assessment: Lot 2 Sec 4 DP2954 1111-1141 Elizabeth Drive, Cecil Park, NSW (Martens & Associates Pty Ltd September 2018)). The EIS notes that the site has no access to reticulated sewer services with the nearest reticulated sewerage network located approximately 800m away and the	The BDAR (**Attachment D**) includes an assessment of all the proposed impacts.

nearest trunk sewer is 1.7km away. Details regarding onsite wastewater management is proposed to be deferred to the DA stage for each individual building on each lot and this is inconsistent with the BAM given the potential direct or indirect impacts on vegetation and the creeks/water quality.	
Importantly, the report states in its assessment of serious and irreversible impacts (SAIis) (see page 54), that the proposed vegetation reserve will not be impacted by the proposal. However, this area will be directly and indirectly impacted by the above-mentioned stormwater works.	The BDAR (**Attachment D**) includes an assessment of all the proposed impacts.
Potential impacts on aquatic fauna have not been adequately assessed. The BDAR states there is no permanent aquatic habitat occurring within the subject site. It also states that the "larger artificial water body in the north west of the study area lack any fringing, emergent or aquatic vegetation, and as such, are unlikely to provide suitable habitat for wetland species such as the Australasian Bittern (Botaurus poicilopti/us) or the Green and Golden Bell Frog (Litoria aurea)". However, aerial photos and the photograph on the front page of the stormwater report as shown below show fringing vegetation near the dam. Further, the proposed co-located flood detention basin and bioretention area at the northern boundaries of the site appears to be in the vegetation reserve where the onsite dam is presently. This may necessitate dam removal and an adequate assessment of aquatic ecology is required. This may need to include a management plan for dam dewatering/decommissioning to ensure that aquatic fauna are relocated prior to dewatering occurring, as well as to manage water quality impacts, contamination etc.	The area referred to is within the proposed land to be acquired by Transport NSW for the M12 project – Refer to **Attachment C** Drawing Package. Impact associated with this area would be addressed through the M12 approvals process. The BDAR (**Attachment D**) includes an assessment of all the proposed impacts.
Furthermore, asset protection zones (APZs) are mentioned in the discussion of mitigation measures, for example on page 41 it states "Water Sensitive Urban Design infrastructure, perimeter roads and setbacks would be included in APZ (sic). These design features would act as a buffer between the built form and vegetation reserve." But the locations of APZs and their impacts on biodiversity values have not been assessed, nor have the impacts of WSUD infrastructure.	The BDAR (**Attachment D**) includes an assessment of all the proposed impacts.
The report states on page ii "Given the scale and nature of the proposal, the character of the study area and the proposed impact mitigation measures there are unlikely to be any notable indirect impacts on biodiversity values arising from the proposal." This seems unlikely however, given: the bulk earth works required for the construction of the roads (25,055m^3 of cut) and the stormwater management system (for example see page 18 of the Environmental Impact Statement); the connection of the site to the Ropes Creek corridor and its proximity to extensive areas of native vegetation conserved within the Western Sydney Parklands; and the high threat status of Cumberland Plain Woodland, which is an entity of SAIi. Further to this, the Cumberland	All associated infrastructure now assessed in the BDAR in **Attachment D**.

Plain Woodland on the site meets the definition of a CEEC under both state and federal legislation.	
OEH considers the description of the proposal is inadequate, with a misleading operational footprint and no construction footprint.	Refer to **Page 15** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
Chapter 5.2 of the BDAR also states (page 32) "The proposal includes 14 industrial lots that would result in impacts to 2.35 ha of native vegetation but has avoided impacts to 1.12 ha of native vegetation that could have yielded additional industrial lots within the proposed subdivision of the study area." However, it seems that the 1.12 ha of 'better quality' vegetation identified in BDAR Figure 5 (i.e. the vegetation reserve) is related to flood extent and depth (see ae Design Partnership Pty Ltd 2126819-REP-1111-1141 Elizabeth Drive DA Stage Stormwater, Flooding and Dams (GHD October 2018)).	Refer to **Page 15** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
OEH notes that the failure of the BDAR to mention the flood extent and depth is not in accordance with the BAM, which requires the BDAR to identify the full range of site constraints. Section 8.1.1.5 of the BAM requires that "Justifications for project location decisions should identify any other site constraints that the proponent has considered in determining the location and design of the project, e.g. bushfire protection requirements including clearing for asset protection zones, flood planning levels, servicing constraints."	Refer to **Page 15** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
<u>Assessing serious and irreversible impacts (SAIis) on biodiversity values</u> The BDAR has not adequately addressed section 10.2 of the BAM (Impact assessment of potential entities of serious and irreversible impacts on biodiversity values) because assessment under sections 10.2.2.1 (a) and 10.2.2.1 (b) cannot be carried out until all impacts are first identified.	This has now been assessed in the BDAR in **Attachment D**.
Furthermore, the report states (page 57) "Overall the subject site would make a minor contribution to regional biodiversity values and is unlikely to be considered an important area of the PCT/TEC." However, this statement is not supported given: • The large patch size (greater than 100 ha) calculated for this site and its proximity to major drainage lines, riparian areas and conservation areas within the Western Sydney Parklands (see Figure 2 of the BDAR). • The vegetation integrity score for the site (68) and the near benchmark values for native plant species richness and most vegetation cover attributes (see BDAR page 24), along with at least four large trees (with a diameter at breast	Refer to **Page 17** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.

height greater than 50 cm) and four hollow bearing trees and an appreciable amount of fallen logs (for example see Table A6 of the BOAR). • There were 49 native fauna species and seven exotic fauna species recorded on-site (see Appendix B of the BOAR). Of these seven exotics, three most likely comprised stock and/or pets (i.e. dog, horse and sheep) associated with the current tenancy of the site. • There were positive anabat recordings for four threatened bat species on the site (i.e. Eastern Bentwing-bat, Eastern Freetail-bat, Southern Myotis and Grey-headed Flying-fox), with as many as 14 other bat species also having been recorded (see Appendix Bin BOAR. • The Cumberland Plain Woodland on the site is critically endangered under both state and federal legislation.	
Assessing prescribed biodiversity impacts The BDAR has not assessed prescribed biodiversity impacts in accordance with sections 6.7 and 9.2 of the BAM. The areas reportedly not requiring assessment (see chapter 6.4 of the report) were buildings, infrastructure, dumped fill and a 0.25 ha artificial waterbody without any fringing vegetation. These features however, may provide habitat for threatened species such as the Cumberland Plain Land Snail, Eastern Bentwing-bat and Southern Myotis.	This has been addressed in the BDAR in **Attachment D.**
<u>Carrying out targeted surveys</u> Targeted surveys for the Cumberland Plain Land Snail were carried out but no spatial data was given for where this occurred. Section 6.5.1.5 of the BAM requires information to be given on the timing, method and effort used for threatened species surveys. Furthermore, the method used active searches around woody debris and the bases of trees where leaf litter was present (page 14 of BDAR). However, this species can also shelter under virtually any form of human made ground cover including rubbish, building materials, old car parts etc. and so may be impacted by prescribed biodiversity impacts.	Refer to **Page 20** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
Targeted surveys for threatened flora were also carried out but once again, no spatial data (map) was given for this. This is at odds with sections 6.5.1.3 and 6.5.1.5 of the BAM.	Refer to **Page 21** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
Chapter 4.1.2 (Species credit species) of the BDAR states "Further targeted surveys are required for some species credit species. These surveys will be completed at the appropriate time of year to target these species (refer to Table 4-2)." However, it is not clear from Table 4-2 which species need to be surveyed.	Refer to **Page 22** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.

Creating the Southern Myotis species polygon The method used to calculate the species polygon for Southern Myotis (chapter 6.6 of BDAR) grossly under mapped the habitat components for this species. It involved mapping foraging and roosting habitat by buffering the dam on the northern-most boundary of the study area by 100 meters (see BDAR Figure 7), then clipping out areas that did not contain areas of native vegetation with hollow bearing trees or other suitable roost sites; no mapped drainage lines, on or adjacent to the site, were used to map the polygon because they were not considered to be foraging habitat (see page 50 of the report).	Refer to **Page 22** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
The following method must be used instead to develop a species polygon for Southern Myotis (as per section 6.4.1.33 of the BAM, Table 1 of 'Species credit' threatened bats and their habitats: NSW survey guide for the Biodiversity Assessment Method (OEH 2018) and from information contained within the Threatened Biodiversity Data Collection): • the features to include in the polygon are all habitats on the subject land where the subject land is within 200 meters of a waterbody with pools and/or stretches three meters or wider including rivers, creeks, billabongs, lagoons, dams, and other water bodies on the subject land; • the approach to create the polygon needs to use aerial imagery to map waterbodies with pools and/or stretches three meters or wider that are on, or within 200 meters of, the subject land; and • following on from this, the polygon boundaries need to align with the plant community types (PCTs) on the subject land to which the species is associated (as listed in the Threatened Biodiversity Data Collection) that are within 200 meters of the mapped waterbodies.	Refer to **Page 22** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.
Note the correct 'buffer' is twice the size of that used for the BDAR, with the correct method not being reliant on hollow bearing trees. Additionally, it seems likely that a large waterbody located next to the subject land, between Cecil Road and Elizabeth Drive, would constitute a waterbody for mapping a species polygon for Southern Myotis at this site i.e. it is within 200 meters of the subject land and it is more than three meters wide.	Refer to **Page 22** in **Attachment E** that provides a detailed response from GHD to OEH concerns in the submission letter dated 28/02/19 as well an additional response from EES to GHD's response in November 2019.