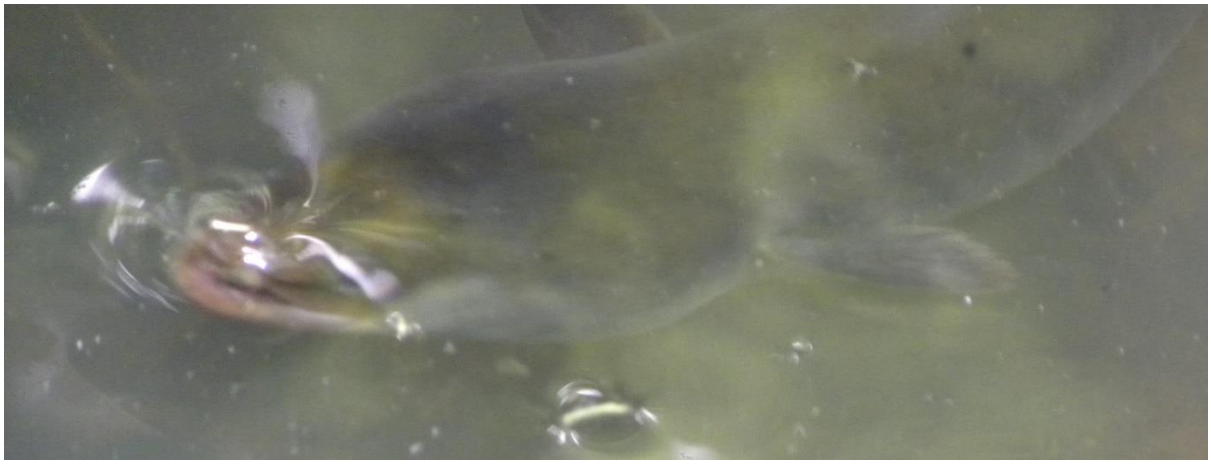

19 Oct 2017- Longfin Eel feeding on Tadpoles, Vineyard Creek, 50m north Burramatta Canyon, PJ Coleman. A1

Submission – Parramatta Light Rail (Stage 1) Environmental Impact Statement

Carlingford Precinct – Environmental Impacts on Vineyard Creek

Submission Author: PJ Coleman – Local Business Owner Rydalmere, Clean Up Australia Site Supervisor Rydalmere, River Keeper Vineyard Creek/Burramatta Canyon – River Keeper Network.

19 Oct 2017 - Burramatta (Darug – Eel place or creek) Canyon, Vineyard Creek – PJ Coleman. A2 Viewpoint looking south towards the direction of Parramatta River, note possible Cumberland Plains remnant stand of flora on the right-hand side of the image.

This submission contains observations made intensively over a section of Vineyard Creek south of Victoria road that ends at the juncture with Parramatta River, an area of not more than 700 meters, approximately 17% of Vineyard Creek system. Within this stretch of creek system and butting up to this creek system and habitat, Parramatta Light Rail will undertake two bridge constructions. With the construction outlined in the EIS impacting into habitat zones at a couple of sites on Vineyard Creek. Observations of the entirety of Vineyard Creek, 4 kms of creek system, areas outside the 700 meters intensively observed, are general in nature as the interactions in these areas have been of a recreational nature, bushwalking. This submission is feedback on the PLR EIS and I undertake it without a science or ecology background but with the concerned interest of a local business owner who dislikes seeing a resource being undervalued and believes that businesses and the environment have an important partnership that needs closer attention and more resourcing. The current worldwide trend of putting a value on large canopy trees in the urban setting is a good start and now mainstream with the Daily Telegraph having a two-page article, 20 October 2017, covering this and the value of investment in trees as cool sink zones, part of a major new policy direction by the NSW Government.

The Parramatta Light Rail project is a big change and a positive change that will reshape our business district for the better, better linkages, accessibility, while reducing traffic and parking congestion and pollution.

The PLR Team have put together a substantial and through body of work in the published EIS in all areas except one, the flora and fauna surveys. The EIS Flora and Fauna surveys undertaken covered a very limited range of species in identifying the ecological values of the Vineyard Creek and the other habitat/vegetation zones within the PLR project areas. The inclusion of the Koala in the survey made me question how the survey list of species was arrived at. The focus with reptile and aquatic species ranged only to one fish, one lizard and a few frogs that are rated as vulnerable, with no further reptile and aquatic species surveyed? Proceeding to construction within a creek system without surveys of probable existing aquatic species such as Eel and Turtles who have suffered significant recent specie declines seems counterintuitive to me. This narrow band vulnerable species only survey approach has the potential for negative outcomes with the lack of identification for an array of other species, such as invertebrates, reptiles and aquatic species i.e. Water Dragons, Skinks, Lizards, Snakes, Turtles, Eels (see photo A1), Frogs and Dragonflies. For example, undertaking an EIS survey with a minimal amount of time on the ground in Vineyard Creek south of Victoria Road could have easily identified Eel habitat and Turtle habitats, both species were observed in Vineyard Creek by myself on the 19 October 2017. I have photographs of the Eel sightings, and one other person, witnessed, sighted the Turtle mid-stream in Vineyard Creek at the same time as myself.

My point is that with only 38 hours, as reported in the EIS, allocated for surveying 62.14 hectares across the multiple habitat areas, often within waterways or bordering them, the chance of even identifying the targeted vulnerable species is very low. For the vulnerable and highly elusive Microbat species, the EIS records a combined survey length of less than an hour. In the next level of planning, prior to construction, I am hoping there is priority and funding allotted to more comprehensive on the ground surveys of aquatic and reptile habitat and species. PLR has an outstanding team of Ecologists and Biologists available, what additional surveys are planned?

I further illustrate my concerns with an inaccuracy from the current EIS resulting from the limited site surveys, Vineyard Creek as outlined in the EIS is an intermittently flowing creek system. My observations and photographic records easily refute this description. See photo A2, from the 19 October 2017, on this day I observed a good level of permanent stream flow, despite 4 months of extremely low rainfall prior to observation. Vineyard Creek is a permanently flowing creek system for a significant portion of its length, and is prone to flooding see image below. At Brodies Street Reserve, now being used as an external storage site by Parramatta Council, I have personally observed 30-40% inundation on four to five occasions over the last 12 years. No photographic record available for these observations, check Six Maps historical views, correlated with records of rainfall downpours.

20 Oct 2017 – Burramatta Canyon, Vineyard Creek. PJ Coleman A3. This image was taken after only 15-20mm of steady and light rain over the preceding 14-15 hours. View looking north towards Victoria Road. See online bom.com.au rainfall gauges to confirm near site rainfall measurements, no gauges directly for site or adjacent.

The geological survey/report, in Appendix G of the EIS, that identified a substructure fracture in the geology under Rydalmere Railway Bridge, a structure that is scheduled to be demolished and replaced caused some concern. Particularly the note that risk management was advised to prevent the stream flow draining into the substructure, this occurrence would result in permanent flow loss south of the new bridge, impacting catastrophically on habitat and species that exist in this southern portion of Vineyard Creek. Project risk here is flagged as Low/Medium, good to know. What impact does the storm water drainage have on managing the geology of the bridge site, particularly during construction? There are various businesses bordering Vineyard Creek that suffer inundation issues during sever down pours, my understanding of the flood modelling in the EIS was that the inundation risk with the new bridge and during construction stays the same, is this correct? There

are a couple of stormwater drains just north of the planned new bridge at Rydalmere, see photo A4 of a Heron, location - under the current railway bridge, note the storm water drain pictured in the top left above the Heron.

19 Oct 2019 – Heron foraging on bank of Vineyard Creek, location - under existing Rydalmere Railway Bridge, note stormwater drain just to the top left of Heron's head. PJ Coleman A4.

Quick outline of observed habitat and species that exist south of and up to the new Rydalmere Railway Bridge site. Three zones of different aquatic and reptile habitat and 3 different vegetation zones, which include stands of different species of high value large canopy trees. Note here my flawed citizen science observations will contain no finalised tree identification information just a flagging of further identification to be undertaken to gain an understanding of habitat implications.

The 3 Aquatic Zones Vineyard Creek South of Rydalmere Railway Bridge:

Mangrove – EIS identified as high quality – zone approximately 150 meters - a wide deep channel system at mouth of creek providing good area of habitat protected from wave energy.

Sandstone - zone approximately 150 meters of sandstone creek bed and sandstone canyon with instream sandstone ledge, minor waterfall, minor rapids, deep sandstone pool and a few shallower ones all with water flow.

Eel and Turtle Habitat – zone approximately 200 meters ending at the Rydalmere Railway Bridge with a shallow section before gaining depth again – deep and slow flowing area with good bank overhang, sandy areas along the bank structure, ideal Eel and Turtle habitat. The areas of sandy banks in this zone are the preferred location of a swamp mahogany large canopy gum tree species, the mature species having a large trunk covered in porous deeply grooved reddish bark, and should be noted as potential habitat to survey for Micro Bats. This tree species has been difficult to identify, it's particulars have been provided to the Botanical Gardens for identification. The yet to be confirmed hypothesis is that it is a hybrid of 2-3 swamp mahogany species and may therefore be the only stand of its kind in existence.

The EIS outline of the heavily degraded nature of vegetation around the existing Rydalmere railway bridge, i.e. choking masses of invasive weeds, covered the disturbance and removal of these invasive weed species prior and during construction and the plan to not add seed load to adjacent areas. What is the habitat replacement plan for the areas cleared post construction? Is weed removal the first part of a bush regeneration plan for the locale around the new light rail bridge? As any regeneration plan developed by PLR can be built upon by the other landholders in the zone to start other bush regeneration sites throughout Vineyard Creek. Western Sydney University is looking to begin bush generation efforts in the Vineyard Creek zone next year and it makes no sense to have landholders doubling up on the same vegetation plans.

The Bush Care Natural Resources Officer for Parramatta Council has done a great job in co-ordinating the Vineyard Creek Bush Regen Group north of Victoria Road, this is a model of what the PLR efforts and inputs can lead onto. The significantly reduced invasive weed load in the north Vineyard Creek habitat areas is a credit to this Bush Regen Group, resulting in improved water quality and a reduced waste load flowing through into the southern zone. It is a great example of degraded habitat being regenerated to good quality habitat, with the Vulnerable species, the Powerful Owl and the Grey-headed Flying Fox being identified in this habitat in past Flora and Fauna surveys by Parramatta Council.

Vineyard Creek is unique in its recent identification as an Eel habitat, the other waterway renown as an Eel habitat in the Parramatta River System is Duck River. The Parramatta River System now has few remaining suitable natural waterways that could support Eel habitats, with most creeks being concreted and or concreted over, turned into partial or full stormwater drains. The two remaining creeks with natural watercourses, are Subiaco and Vineyard Creeks, with Subiaco to be yet be investigated as an Eel habitat. Vineyard Creek is currently the only Eel identified habitat creek in the Parramatta River System.

Thanks for your time and considerations, PJ Coleman.