

10 December 2021

Dear [REDACTED]

**RE: South Western Highway Water Main – Vegetation Assessment**

Following is our assessment of the vegetation along proposed alignment for a water main down the South Western Highway in Bunbury.

## **1 Background**

Geographe Civil is planning to construct a new water main to provide water for the future construction of the Bunbury Outer Ring Road. The alignment of the water main has not been finalised but is likely to extend for about 2.3km from the intersection of Halifax Drive and South Western Highway in the north to the intersection of Centenary Road and South Western Highway in the south (Plate 1).

**Plate 1: Approximate Location of Water Main**



Installation of the water main may require the removal of native vegetation. PGV Environmental was commissioned by Geographe Civil to assess whether the proposed routes contain native vegetation and, if so, whether a clearing permit will be required.

## 2 Methodology

The approximately 2.3km route for the water main was traversed by Dr Paul van der Moezel, a senior botanist with PGV Environmental, on 17 November 2021. Both sides of the South Western Highway were assessed. The location and type of native vegetation was described and mapped. Detailed flora surveys were not possible given the very late spring timing of the survey.

## 3 Results

Figure 1 shows the location of native vegetation types recorded in the survey area. Attachment 1 shows photos of the various types and other key locations in the area.

A summary of the vegetation survey follows:

- Native vegetation was recorded on both sides of the South Western Highway for much of the survey area (see attached figure 1). Marri trees (*Corymbia calophylla*) were the most dominant vegetation type, often mixed with Peppermint trees (*Agonis flexuosa*). The eastern side of the highway had large areas of wetland vegetation containing Paperbarks (*Melaleuca preissiana*), some Flooded Gums (*Eucalyptus rudis*) and native Spearwood (*Kunzea glabrescens*);
- The eastern side of the highway had a wider verge between the road and the start of native vegetation (see photos for sites 7-16 on attachment). The eastern side is more suitable for the water main to avoid clearing any native vegetation, or at least minimising the amount of impact;
- The western side has a buried gas pipeline along most of the route surveyed;
- The northern part of the western side has a track against the fence which could be used for the water main (pending the gas pipeline issue) (see Site photo 6);
- A 50m section of the northern part of the western side was inundated at the time of the survey (Site 5). The area is part of a wetland that extends into Manea Park to the west of the survey area;
- Some sections on the western side near the airport have an open drain alongside the road (see Site 1); and
- Two large Marri trees occur on the eastern side of the road (Sites 13 and 15) with the tree at Site 13 close to the road.

Vegetation types recorded in the survey area were:

- Marri/Peppermint Woodland
- Marri Woodland
- Marri/Peppermint Woodland with some Paperbark and Spearwood
- Marri Woodland with Paperbark
- Marri/Flooded Gum Woodland
- Flooded Gum/Paperbark/Spearwood
- Paperbark Low Woodland
- Paperbark/Spearwood Low Woodland
- Spearwood Tall Shrubland

#### 4 Conclusions

Native Vegetation occurs on both sides of the South Western Highway between Halifax Drive in the north to Centenary Road in the south. The eastern side of the Highway had a wider verge with no native vegetation between the road and the adjoining native vegetation. The eastern side therefore is the preferred option for the water main route.

The western side had some areas without native vegetation on tracks and in cleared parts of the road verges where the water main could potentially be installed with little to no clearing of native vegetation, however other parts of the western side contained native vegetation close to the road and would need to be cleared. One area of inundation associated with a wetland in the adjoining Manea Park should be avoided for installation of a buried pipe. The western side also contains a high pressure buried gas pipeline in the road reserve.

A clearing permit will be required to clear any native vegetation unless there is an exemption. If the water main was being installed as a requirement of an approved subdivision, or project environmental approval (eg. for the BORR project) an exemption might apply. Otherwise, PGV Environmental is not aware of any exemption that might apply to the installation of the water main.

Please contact me if you require any clarification of this assessment.

Yours sincerely



Attachment 1 Native Vegetation Map

Attachment 2 Site photos and descriptions

Site 1 Peppermints and open drain



Site 2 Marri in fenced area



Site 3 Marri and Flooded Gum



Site 4 Marri/Peppermint in 'island' near parking area



Site 5 Inundated area adjacent to Manea Park



Site 6 Track alongside fence Northern end of western side





Site 7 Marri/Peppermint and some Flooded Gums    Site 8 Marri and Paperbark, wide verge



Site 9 Spearwood, wide verge

Site 10 Paperbark, wide verge



Site 11 Paperbark and sedges

Site 12 Paperbark, wide verge



Site 13 Large Marri close to highway



Site 14 Spearwood, wide verge



Site 15 Large Marri away from highway Site 16 Marri and Paperbark





Site 17 Marri and Spearwood



Site 18 Marri trees



Site 19 Peppermint trees

