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Ref: 22097

14th October 2022

Brett Hutton  
JCDecaux  
Unit 2-3, 182-190 Euston Rd,  
Alexandria NSW 2015

**RE: Pacific Hwy after Havilah Rd, Lindfield, NSW**  
**Column Mounted P50 Signage, Structural Feasibility Statement**

This Structural Feasibility Statement has been conducted by Dennis Bunt Consulting Engineers Pty Ltd (DBCE) at the request of JCDecaux.

The proposed sign is documented in the generic DA drawings by the architects Tzannes (JCD Multi-Site P50) 21027/ 001(D), 002(D) and 003(C) and the site-specific DA drawings by DBCE 22097 / DA01(A) and DA02(B).

A survey of the site was commissioned by JCDecaux.

The P50 sign is a single sided LED screen with visual screen dimensions of 3072mm horizontally x 4608mm vertically. The top of the LED screen will be located 8290mm above the ground. The sign is to be located above a column and horizontal beam that will form an L shape under the screen. The column and horizontal beam will be clad in stainless steel. There will be a door in the rear of the column to store equipment for the LED screen.

### **Site Description**

The site is located between Pacific Hwy to the west and Sydney Trains tracks to the east. The ground is fairly flat. The sign is to be located at the boundary on the Pacific Hwy side in an area with a low-level fence that presently stores rubbish bins. The edge of the sign closest to the track will be approximately 3.5 m from the railway track.

There are 4 existing signs in the area that are to be removed. The steel frames will first be removed, and then the existing piles that support the signs cut back to a depth of 300m below

the ground. Any exposed reinforcement will be coated with an approved epoxy grout and the existing footing covered with soil.

## **Structural Description**

### **Steel frame**

The structure will consist of a fabricated steel column 600mm x 300mm x 20mm thick and a rectangular box section welded to the top of the column to form an L shape.

A door is to be located in the rear of the column to store equipment so the column will act as a C section for most of its height.

A welded steel frame consisting of 200 x 100 RHS vertical members and 100x100 SHS horizontal members will be bolted to the top of the horizontal box section. Spigots will be welded to the top of this section and the vertical members in the welded frame will drop over the spigots and be fixed with bolts.

The LED screen will be assembled in the contractor's factory and clamped to the welded frame so it can be transported to site as one unit.

The L shaped structure will have stainless steel cladding fixed to it also in the contractor's factory and be transported to the site as one unit.

On site the L shaped structure will be bolted to the top of the concrete footing and the welded frame supporting the LED screen bolted to the L shaped frame.

The weight of the structure including the digital screen and the cladding is approximately 3.1 tonnes.

The sign is to be designed for a wind load for region A, terrain category 2.5 and a 50 year design life in accordance with AS1170.2.

### **Footing**

A concrete pile and pile cap are proposed to minimise the impact of the sign footing on the adjacent railway track. The pile cap will be 1.5m square in area and 1.5m deep. The concrete pile will be 1m in diameter and extend below ground by approximately 8m.

If the ground is a cohesive material like clay the hole for the pier will maintain its shape during excavation without impacting the adjacent train track located approximately 4m from the face of the pile.

If the ground is non-cohesive ie sand a continuous flight augur pile (CFA) is recommended.

For a CFA pile the concrete is pumped into the hole as the drill bit is removed so the concrete stops the walls of the hole from collapsing inwards.

If there is rock, 2 m or less beneath the ground level, a concrete pad is proposed approximately 3m x 3m in size with the pad fixed to the rock with reinforcing bars epoxied into the rock.

If there is rock greater than 2m under the ground, a concrete pad 3m x 3m in size and 1.5m in depth with piles socketed into the rock is proposed.

## **Recommendations**

Based on the survey and our preliminary design we see no reason why the cantilevered signage cannot be installed.

A geotechnical report is commissioned to provide information on the soil/rock profile and its depth below ground.

A services search is undertaken in the area of the footing.

If you have any questions, please do not hesitate to ring the undersigned on 9451 7757

Yours Faithfully,



John Linsell BE(Hons), MIEAust, CPEng, NPER(Struct)  
for Dennis Bunt Consulting Engineers Pty Ltd