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Iwan Davies
 Director Energy Assessments
 Planning and Assessment
 Department of Planning, Housing and Infrastructure

Goulburn River Solar Farm (SSD-33964533): Request for temporary increase to vehicle length under Development Consent condition B1(b)

Dear Iwan,

Request to the Planning Secretary

Lightsource bp is requesting the Planning Secretary’s written approval to temporarily increase the permitted vehicle length under Condition B1(b) of Development Consent SSD-33964533 for Goulburn River solar farm (the Project). This condition currently limits the length of any vehicle used for the Project to 19m (excluding heavy vehicles requiring escort).

Lightsource bp is seeking approval for the following temporary increase to the length of any vehicle (excluding heavy vehicles requiring escort) (Table 1):

Table 1 Specifics of request to the Planning Secretary

Aspect	Detail
<i>Start date</i>	1 st July (or as soon as possible)
<i>Duration</i>	Three months from start date
<i>Requested increase</i>	Length of any vehicle used for the development does not exceed 21m (increase from 19m, excluding heavy vehicles requiring escort) for the delivery of temporary workers camp infrastructure.
<i>Purpose</i>	<ul style="list-style-type: none"> - To enable the temporary workers camp supplier to deliver camp infrastructure to the site. - The camp suppliers’ fleet of trucks have a total length of truck and trailer of 21m. - The fleet of trucks are Kenworth type bull nose prime-movers, with an extended low-loader semi-trailer and four (4) axles supporting the trailer.
<i>Delivery schedule</i>	<ul style="list-style-type: none"> - Expected 20 days of delivery across three months - Deliveries planned for two days per week (i.e., Tuesday and Thursday) - Average of nine (9) 21m heavy vehicle movements per delivery day (two days per week)

The total number of heavy vehicle movements per day (as specified by Condition B1(a)) will remain unchanged.

The camp delivery vehicles will be operated under a valid National Heavy Vehicle Regulator (NHVR) permit due to the size of the load (proposed laden width of up to 3.45m and height of 4.9m). Whilst the vehicles are 'over size' they are not 'over mass' and do not require a pilot vehicle and/or escort vehicle. They therefore do not meet the Development Consent definition of a heavy vehicle requiring escort and their movement does not require the culvert upgrades to have been completed.

The required NVHR permits have been issued with consultation from Upper Hunter Shire Council. These permits are currently in the process of being amended to incorporate a turn around in Merriwa for left turn access to Ringwood Road.

Swept path analysis

Swept paths assessed in the Traffic and Transport Impact Assessment and included in the Project's approved Traffic Management Plan (TMP; December 2024) considered a low loader / semi-trailer (19 metre length as per *Austrroads Design Vehicles and Turning Path Templates Guide* (Austrroads, 2013).

To support this request to the Planning Secretary, a swept path analysis for each of Bow Creek culvert (Ringwood Road) and the site entrance (Wollara Road) have been included as Attachment 1.

The proposed 21m camp delivery vehicle is not a standard size and does not have a standard Austrroads vehicle turning movement template. The design vehicle used for this analysis was therefore the next size standard Austrroads vehicle movement template (prime mover & long semi-trailer [25m]) on the basis that the actual 21m vehicle turning movements would be covered by this larger template.

No vegetation removal or other environmental impacts will occur as a result of the 21m camp delivery vehicle movements.

Turning area in Merriwa

The camp delivery vehicle deliveries originate in Adelaide, South Australia. They will approach the Project site from the west, along Golden Highway. To comply with Condition B4, the camp delivery vehicles will utilise a turning location in Merriwa, before entering Ringwood Road via a left turn in. They will exit Ringwood Road via a left turn out and continue west on the return journey.

The Project's approved TMP identified that a suitable turn around route in Merriwa could include Dutton Street, Mackenzie Street and Bow Street, with Dutton Street south of Golden Highway being an approved B-double route (noting that this present request is for 21m vehicles and not for B-doubles). This is one option for the camp delivery vehicles to use. An alternative approach involving Dutton, Blaxland, Bow Streets as the turning area in Merriwa has been proposed by the Project and agreed to by Council.

As a condition under the NVHR permit, the Project will complete a dilapidation survey of the local roads comprising the turn around and will repair any damage which may arise as a result of temporary use by the 21m camp delivery vehicles.

Section 3.7 of the TMP states that use of local roads in Merriwa by construction vehicles would be subject to swept path and sight distance checks prior to their use. These checks have been conducted for Dutton, Blaxland, Bow Streets and included as Attachment 2 and Attachment 3.

The use of Merriwa local roads as a turning point for vehicle movements originating in the west is compliant with the Conditions of Consent and is addressed by both the TTIA and TMP.

As described above, Council have been consulted on the use of a turning area in Merriwa and have provided their support for this approach. Council have also raised no objections to the temporary increase to vehicle length from 19m to 21m.

Please do not hesitate to reach out if you would like to discuss any of the items presented in this request.

Sincerely,

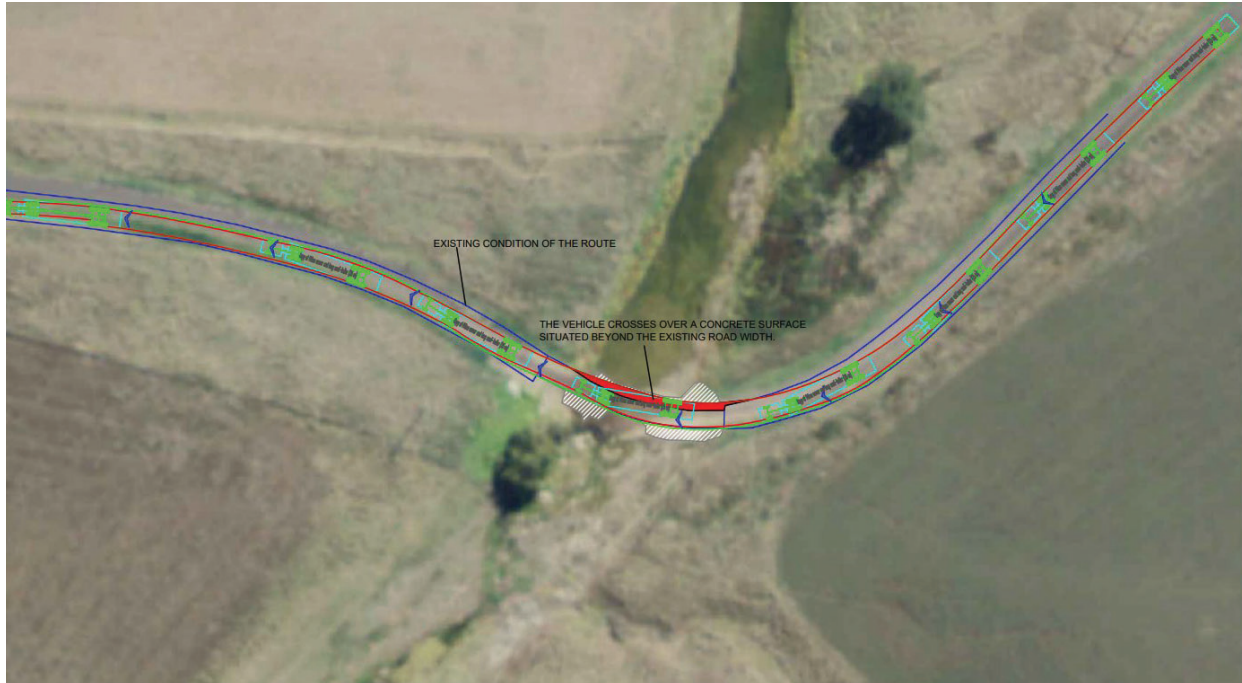


Beth Kramer
Principal Environmental Planner, Lightsource bp
0428 379 894

Cc: Glenn Tilley (Senior Project Manager), Michelle Housego (Senior HSE Advisor)

Attachment 1 – Swept path analyses: culvert and site entrance

Bow Creek culvert crossing (Ringwood Road)



Site entrance (Wollara Road)



Attachment 2 – Swept path analysis: Merriwa turning area



Attachment 3 – Safe intersection site distance assessment: Merriwa turning area

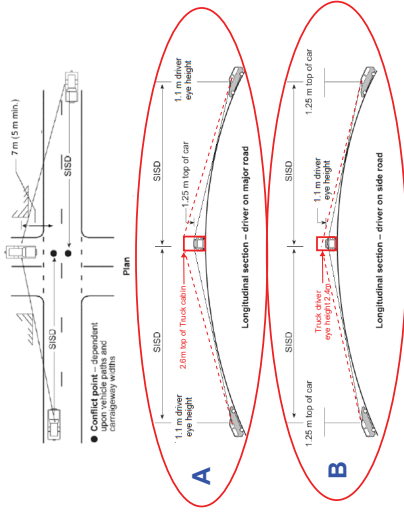
Safe Intersection Site Distance (SISD)

Source: Austroads Guide to Road Design

Part: Part 4A: Unsignalised and Signalised Intersections

Edition: May 2023

Figure 3.2: Safe intersection sight distance (SISD)



Equation 2 provides the formula for SISD:

$$SISD = \frac{D_1 + V}{3.6} + \frac{V^2}{25.4 \times (d + 0.01 \times a)}$$

where SISD = safe intersection sight distance (m)

D_1 = decision time (sec) = observation time (3 sec) + reaction time (sec) – refer to AGRD Part 3 (Austroads 2018a) for a guide to values

V = operating (85th percentile) speed (km/h)

d = coefficient of deceleration – refer to Table 3.3 and AGRD Part 3 for a guide to values

a = longitudinal grade in % (in direction of travel; positive for uphill grade, negative for downhill grade)

SISD Calculations

SCENARIO A – Vehicle observing a TRUCK turning RIGHT out of Bow Street, observing a oncoming

Vehicle on Bettington Street.

West-bound Car:

$V_o = 70$ km/h; $D_1 = 5.0$ sec; $d_{car} = 0.36$; $a_{west} = -2\%$
SISD_{A,West-Car} = 154m
 COMPLIANT

West-bound Truck:

$V_o = 70$ km/h; $D_1 = 5.0$ sec; $d_{truck} = 0.24$; $a_{west} = -2\%$
SISD_{A,West-Truck} = 185m
 COMPLIANT

East-bound Car:

$V_o = 70$ km/h; $D_1 = 5.0$ sec; $d_{car} = 0.36$; $a_{west} = +1\%$
SISD_{A,East-Car} = 149m
 COMPLIANT

East-bound Truck:

$V_o = 70$ km/h; $D_1 = 5.0$ sec; $d_{truck} = 0.24$; $a_{west} = +1\%$
SISD_{A,East-Truck} = 174m
 COMPLIANT

ACTUAL AVAILABLE SIGHT DISTANCE (East) = 330m

ACTUAL AVAILABLE SIGHT DISTANCE (West) = 255m



Parameter	Inputs
Coefficient Value	ADG Part # (Reference/ Note)
Truck Driver Eye	4a ~ Table 3.3 (Truck h = 2.4m)
Target Height	4a ~ Section 3.2.2. (Top of car)
R ₁ (Reaction Time)	3 ~ Table 5.2. (general minimum)
O ₁ (Observation Time)	4a ~ Section 3.2.2
V _o (Operating Speed)	UHSC has reduced SPEED ZONE of 50km/h
V _o (Design Speed)	Original Operating Speed 60km/h +10km/h
d _{car} (deceleration)	0.36
d _{truck} (deceleration)	0.24
a _{west} (long. grade)	-2%
a _{west} (long. grade)	+1%
D ₁ (Decision Time)	5.0 sec

