

# APPENDIX D

## SCHEDULE OF WORKS FOR ROAD UPGRADES

BOWMANS CREEK **WIND FARM**  
Response to Additional Information Request



Our Ref: 80020015  
Contact: Hayden Calvey

9 December 2021

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James Bailey & Associates

Attention: James Bailey

Dear James,

**BOWMANS CREEK WINDFARM  
SCHEDULE OF WORKS FOR OSOM ROUTE**

It is understood that the Department of Planning, Industry and Environment (DPIE) have requested a schedule of works that details the relevant roads / intersections, location of works, indicative scope of work and proposed timing of the works with regard to the Bowmans Creek Wind Farm.

Reference is made to the Traffic and Transport Impact Assessment (TTIA) for the Bowmans Creek Windfarm dated 25 February 2021. Appendix C of this document contains a schedule of likely works necessary to facilitate the Over Size Over Mass (OSOM) vehicle route from the Port of Newcastle to the site access points.

In general, the proposed road upgrade commitments and design standards are based on the following assumptions:

- > The proposed design standards and upgrades will only be implemented on the roads or road sections to be actually used for over-mass and over-dimensional construction traffic based on the final wind farm construction layout or staged development construction. Appropriate and adequate safety measures will be agreed with Councils prior to commencement on all access roads, including roads identified for normal light vehicle access only.
- > The proposed road upgrades are based on the current anticipated traffic numbers and proposed access routes for constructing the wind farm. Should the final construction layout and design result in materially different construction traffic numbers or different routes to be considered, the Proponent and the Council will negotiate in good faith appropriate alternative standards in conjunction with appropriate traffic management measures to ensure safe construction activities.
- > The dimensions proposed are subject to on-site assessments to ensure there are no significant impacts on sensitive native vegetation within the road reserves or significant physical constructability constraints. Council and the Proponent will negotiate in good faith to agree on appropriate options to avoid or minimise significant impacts where this will be the case.
- > The proposed upgrades are subject to the roads not being upgraded by council or a 3rd party prior to the
- > Bowmans Creek Wind Farm construction. The Proponent, in consultation with the councils, will undertake a final review of road conditions and suitability prior to construction to confirm road conditions and upgrade requirements based on the agreed design standards for each road.
- > The Proponent will agree with councils on a suitable method for determining and capturing road conditions before and after upgrades, including how best to undertake any dilapidation report requirements that may be required under the development consent conditions.
- > Any bridge or other structures to be upgraded will be assessed for suitability and upgraded as required to comply with the appropriate standards.
- > These commitments will be reflected in the final Traffic Management Plan which will be developed in consultation with the road authorities prior to the commencement of any construction activities.

The schedule provided in the February 2021 assessment is reproduced below, with additional information in response to the DPI request. The figure point references are in relation to the analysis presented within the February 2021 assessment, Appendix C, and should be read in conjunction with this document.

Table 1-1 Schedule of Works on Hebden Road and Albano Road OSOM routes

Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
1	Hebden 1	151.0553	-32.4416	Furniture	Guardrail removed or relocated during turbine delivery	Local Council, Austroads		
1	Hebden 1	151.0556	-32.4413	Overhang	Load path clearance required, embankment may need to modified	Local Council, Austroads	Y	
2	Hebden 1	151.0617	-32.4395	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
2	Hebden 1	151.0623	-32.4394	Property	Vehicle and load path near property, may require landowner notification			
2	Hebden 1	151.0619	-32.4392	Overhang	Load path clearance required, trees require trimming			Y
3	Hebden 1	151.0605	-32.4358	Driver Instructions	For wheel path to stick to pavement and avoid bridge abutment, truck will need to turn later.			
3	Hebden 1	151.0629	-32.4226	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
4	Hebden 1	151.063	-32.4005	Property	Property boundary unclear			
4	Hebden 1	151.0667	-32.3934	Pavement Widening	If 3 "Driver Instructions" occur, pavement widening will need to occur	Local Council, Austroads	Y	
5	Hebden 1	151.0598	-32.3804	Furniture	Guardrail removed or relocated during turbine delivery	Local Council, Austroads		
6	Hebden 1	151.0554	-32.3751	Property	Vehicle and load path near property, may require landowner notification			

Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
7	Hebden 1	151.0569	-32.3775	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
8	Hebden 1	151.057	-32.3771	Furniture	Machinery above OSOM height. Guardrail either side and close to edge of pavement and would require relocation or removal	Local Council, Austroads		
9	Hebden 1	151.0557	-32.3765	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
10	Route 1 (Hebden)	151.0487	-32.3693	Furniture	A tension line supporting the power pole is potentially within the OSOM height, this will require a survey to confirm			
11	Route 1 (Hebden)	151.0486	-32.3683	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
11	Route 1 (Hebden)	151.0442	-32.3586	Property	Vehicle and load path on property, landowner notification required. Vehicle could turn later to avoid property; however, this would require widening on the righthand side of the road	Local Council, Austroads		
12	Route 1 (Hebden)	151.0441	-32.3579	Furniture	Potential impacts to guardrail. Guardrail (on both sides of the bridge) removal or relocation required	Local Council, Austroads		
12	Route 1 (Hebden)	151.0434	-32.3567	Overhang	Load path clearance required			
13	Route 1 (Hebden)	151.0475	-32.3478	Structural Design	The structural capacity of the bridge in terms of weight is required.	Local Council, Austroads		

Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
14	Route 1 (Hebden)	151.0463	-32.3471	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
14.5	Route 1 (Hebden)	151.0457	-32.3462	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
15	Route 1 (Hebden)	151.0631	-32.3827	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
16	Route 1 (Hebden)	151.0637	-32.3815	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
17	Route 1 (Hebden)	151.0645	-32.38	Property	Vehicle and load path near property, may require landowner notification			
17	Route 1 (Hebden)	151.0677	-32.3755	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
18	Route 1 (Hebden)	151.0714	-32.3735	Overhang	Trees require trimming for load path			Y
19	Route 1 (Hebden)	151.074	-32.3679	Overhang	load path clearance required. Land slopes upward and fence is higher than road surface. Possible earthworks required.	Local Council, Austroads	Y	
20	Route 1 (Hebden)	151.0956	-32.353	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
20	Route 1 (Hebden)	151.0969	-32.3521	Property	Vehicle and load path on property, landowner notification required			
21	Route 1 (Hebden)	151.1514	-32.2697	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	

Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
21	Route 1 (Hebden)	151.1511	-32.2698	Overhang	Trees require trimming for load path			Y
21	Route 1 (Hebden)	151.1487	-32.2697	Property	Vehicle and load path on property, landowner notification required			
22	Route 1 (Hebden)	151.1486	-32.2697	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
22	Route 1 (Hebden)	151.1473	-32.2687	Overhang	Trees require clearing.		Y	
23	Route 1 (Hebden)	151.1461	-32.269	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
23	Route 1 (Hebden)	151.1452	-32.2698	Property	Vehicle and load path near 2 x properties, will require landowner notification on at least one			
30	Albano	151.1439	-32.2717	Overhang	Trees require trimming for load path			Y
30	Albano	151.1439	-32.2711	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
31	Albano	151.1436	-32.2714	Overhang	Load path clearance required			
31	Albano	151.1404	-32.2719	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
32	Albano	151.1393	-32.2719	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
33	Albano	151.1384	-32.2725	Overhang	Trees require trimming for load path			Y
33	Albano	151.138	-32.2729	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	

Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
34	Albano	151.1376	-32.2735	Property	Vehicle and load path near 2 x properties, will require landowner notification			
34	Albano	151.1314	-32.2751	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
34	Albano	151.1299	-32.2745	Overhang	Trees require trimming for load path			Y
35	Albano	151.1279	-32.2763	Overhang	Trees require trimming for load path			Y
35	Albano	151.1263	-32.2763	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
36	Albano	151.1201	-32.2762	Overhang	Trees require trimming for load path			Y
37	Albano	151.118	-32.2752	Cattle Grid	Cattle grid will need to be widened and associated fences moved.	Local Council, Austroads	Y	
37	Albano	151.1177	-32.2746	Overhang	Trees require trimming for load path			Y
37	Albano	151.1152	-32.2713	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
38	Albano	151.115	-32.2703	Overhang	Trees require trimming for load path			Y
39	Albano	151.1151	-32.2658	Overhang	Trees require trimming for load path			Y
40	Albano	151.1154	-32.2639	Causeway	Steep road grade. OSOM vertical grade max 10%. Slope profile of causeway approx 30%. Would require vertical assessment and upgrades to causeway to create flatter profile.	Local Council, Austroads	Y	
40	Albano	151.1147	-32.2617	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
42	Albano	151.115	-32.2612	Overhang	Trees require trimming for load path			Y

Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
42	Albano	151.1154	-32.2604	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
43	Albano	151.1155	-32.2611	Overhang	Trees require trimming for load path			Y
43	Albano	151.1143	-32.2582	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.		Y	
44	Albano	151.1137	-32.257	Causeway	Steep road grade. OSOM vertical grade max 10%. Slope profile of causeway approx 30%. Would require vertical assessment and upgrades to causeway to create flatter profile.	Local Council, Austroads	Y	
44	Albano	151.1145	-32.2553	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
44	Albano	151.113	-32.2541	Overhang	Trees require trimming for load path			Y
45	Albano	151.0553	-32.4416	Overhang	Load path clearance required			
45	Albano	151.0556	-32.4413	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
46	Albano	151.0617	-32.4395	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
46	Albano	151.0623	-32.4394	Property	Vehicle and load path on property, landowner notification required			
46	Albano	151.0619	-32.4392	Overhang	Load path clearance required			
47	Albano	151.0605	-32.4358	Property	Vehicle and load path on property, landowner notification required			



Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
47	Albano	151.0629	-32.4226	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
48	Albano	151.063	-32.4005	Causeway	Steep road grade. OSOM vertical grade max 10%. Slope profile of causeway approx 30%. Would require vertical assessment and upgrades to causeway to create flatter profile.	Local Council, Austroads	Y	
48	Albano	151.0667	-32.3934	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
49	Albano	151.0598	-32.3804	Cattle Grid	Cattle grid will need to be widened and associated fences moved.			
50	Albano	151.0554	-32.3751	Property	Vehicle and load path potentially on property, landowner may require notification			
50	Albano	151.0569	-32.3775	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
51	Albano	151.057	-32.3771	Property	Vehicle and load path potentially on property, landowner may require notification			
52	Albano	151.0557	-32.3765	Cattle Grid	Cattle grid will need to be widened and associated fences moved.	Local Council, Austroads		
53	Albano	151.0487	-32.3693	Property	Vehicle and load path on property, landowner notification required			
54	Albano	151.0486	-32.3683	Property	Vehicle and load path on property, landowner notification required			

Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
55	Albano	151.0442	-32.3586	Property	Vehicle and load path potentially on property, landowner may require notification			
55.5	Albano	151.0441	-32.3579	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
56	Albano	151.0434	-32.3567	Overhang	Trees require trimming for load path			Y
56	Albano	151.0475	-32.3478	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
57	Albano	151.0463	-32.3471	Overhang	Trees require trimming for load path			Y
57	Albano	151.0457	-32.3462	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
58	Albano	151.0631	-32.3827	Overhang	Trees require trimming for load path			Y
58	Albano	151.0637	-32.3815	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
59	Albano	151.0645	-32.38	Overhang	Trees require trimming for load path			Y
59	Albano	151.0677	-32.3755	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
60	Albano	151.0714	-32.3735	Property	Vehicle and load path potentially on property, landowner may require notification			
60	Albano	151.074	-32.3679	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
61	Albano	151.0956	-32.353	Overhang	Trees require trimming for load path			Y

Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
61	Albano	151.0969	-32.3521	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
62	Albano	151.1514	-32.2697	Property	Vehicle and load path on property, landowner notification required			
62	Albano	151.1511	-32.2698	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel), temporary road.	Local Council, Austroads	Y	
63	Albano Road	151.1132	-32.252	Cattle Grid	Cattle grid will need to be modified and associated fences moved.	Local Council, Austroads		
64	Albano Road	151.1128	-32.2506	Tree Branch Trimming	Tree Branch Trimming Required			Y
65	Albano Road	151.1122	-32.2494	Road Widening	Minor widening and stabilising road surface needed	Local Council, Austroads	Y	
66	Albano Road	151.1113	-32.2487	Road Widening	Minor widening and stabilising road surface needed	Local Council, Austroads	Y	
67	Albano Road	151.1116	-32.2475	Tree Branch Trimming	Tree Branch Trimming Required			Y
68	Albano Road	151.1121	-32.2469	Road Widening	Minor widening and stabilising road surface needed	Local Council, Austroads	Y	
69	Albano Road	151.1121	-32.246	Road Widening	Minor widening and stabilising road surface needed	Local Council, Austroads	Y	
70	Albano Road	151.1133	-32.2438	Embankment	Embankment may impact rear of load. Clearance to be reviewed			
71	Albano Road	151.1133	-32.2435	Property Overhang	Load path overhangs corner of property			

Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
72	Albano Road	151.1122	-32.2428	Cattle Grid	Cattle grid will need to be modified and associated fences moved.	Local Council, Austroads		
73	Albano Road	151.1052	-32.23	Tree Branch Trimming	Tree Branch Trimming Required			Y
74	Albano Road	151.1045	-32.2281	Tree Branch Trimming	Tree Branch Trimming Required			Y
75	Albano Road	151.1035	-32.2272	Cattle Grid	Cattle grid will need to be modified and associated fences moved.	Local Council, Austroads		

Table 1-2 Schedule of Works from PON to Hebden Road

Figure Point	Route	Latitude	Longitude	Impact Type	Impact Description	Design Standard	Land Disturbance	Vegetation Trimming
1	Newcastle Port to Pacific Hwy/New England Hwy	151.7678	-32.89558	Road Furniture	Fencing may need to be temporarily removed, however the rear overhang should clear the fencing. Wheel path stays within bitumen	TfNSW		
2	Newcastle Port to Pacific Hwy/New England Hwy	151.7682	-32.8984	Swept Path Overhang	Fencing may need to be temporarily removed, however the rear overhang should clear the fencing. Wheel path stays within bitumen	TfNSW		

3	Newcastle Port to Pacific Hwy/New England Hwy	151.7674	-32.89892	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required	TfNSW	Y
4	Newcastle Port to Pacific Hwy/New England Hwy	151.7533	-32.90054	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel)	TfNSW	
4	Newcastle Port to Pacific Hwy/New England Hwy			Road Furniture	Traffic Light required to be relocated or removed during turbine delivery	TfNSW	
8	Newcastle Port to Pacific Hwy/New England Hwy	151.7190	-32.88211	Pavement Widening	Wheel path exits pavement. Suitable sub base as per OSOM Standard required (e.g gravel)	TfNSW	Y
8	Newcastle Port to Pacific Hwy/New England Hwy			Road Furniture	Power Poles required to be relocated or removed during turbine delivery	TfNSW	

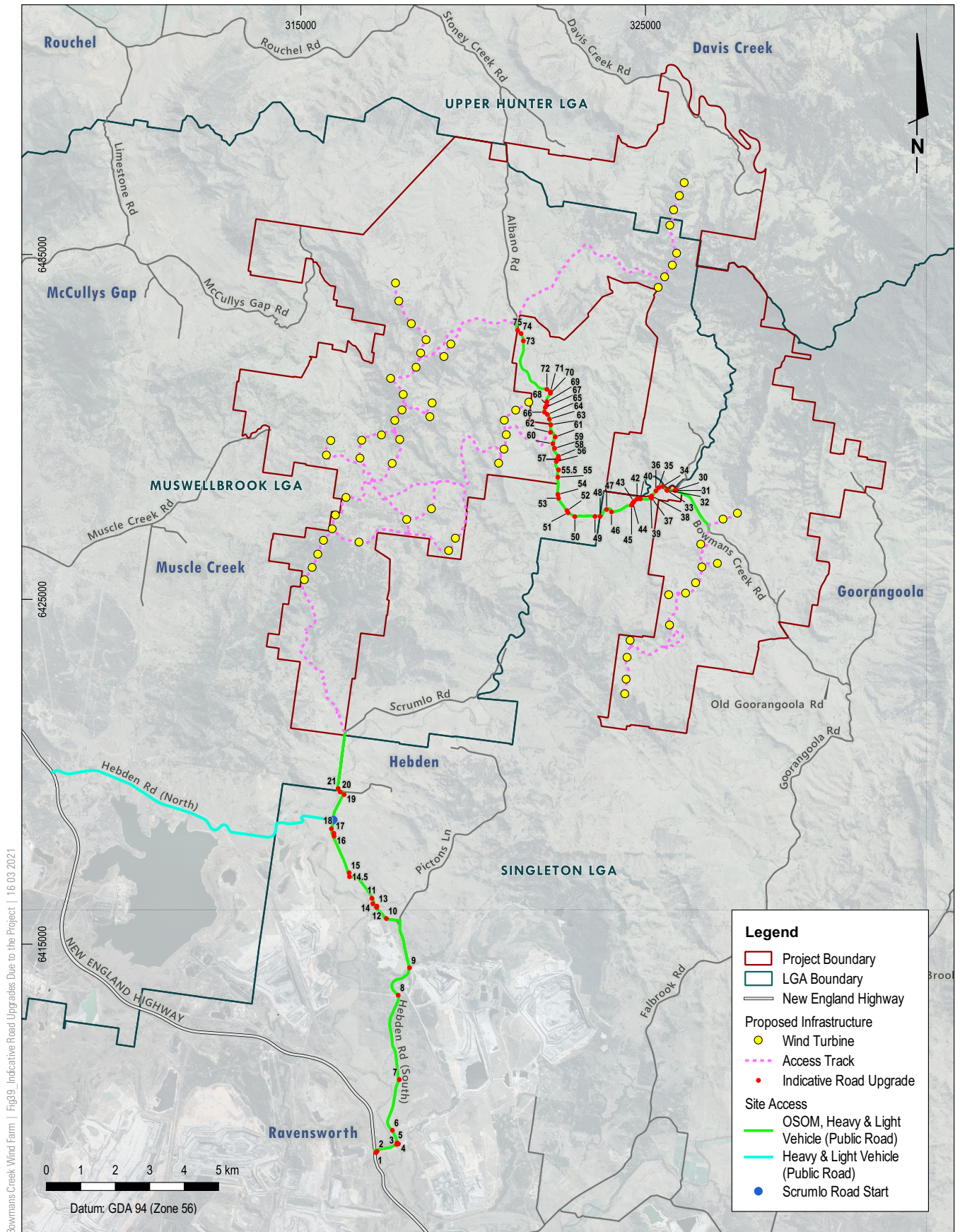
8	Newcastle Port to Pacific Hwy/New England Hwy	Road Furniture	Traffic Lights required to be relocated or removed during turbine delivery	TfNSW
8	Newcastle Port to Pacific Hwy/New England Hwy	Road Furniture	Median barrier encroached by OSOM body and load and required to be removed during turbine delivery	TfNSW
8	Newcastle Port to Pacific Hwy/New England Hwy	Road Furniture	Alternate path for OSOM vehicle to utilise opposite side of the carriageway. Traffic lights appear close to the OSOM vehicle but should be clear. Wheel path stays within bitumen.	

Yours sincerely,



Hayden Calvey  
Traffic Engineering Team Lead  
for Cardno





BOWMANS CREEK WIND FARM