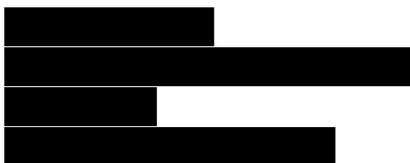




Our Ref: J22039

9 January 2023



Dear 

**River Road, Boddington
Powerline Alignment Survey**

As instructed I walked the proposed powerline alignment in River Road on 23 December 2022, using a handheld GPS to record locations where underground power installation could require drilling to avoid native vegetation or other constraints.

For the purposes of the survey I assumed that:

- The edge of the road reserve corresponds with the existing fencelines. Aerial photography suggests that this is accurate to within about 0.5m.
- Trenching for powerline installation will require a nominal 5m working width (including room for spoil), with temporary restriction to 3m or less possible over short distances.
- The powerline alignment will be between 0.6m and 1m from the boundary.

Survey Results

The total route surveyed was 992m from the end of the existing trench on River Road to about 50m along Crossman Road. Figure 1 shows the survey area and the path taken by the survey. Figure 2 shows photographs of the alignment. Appendix A shows the notes recorded during the survey. The locations and chainages (CH) shown in Appendix A and Figure 1 are based on handheld GPS readings and are accurate to about 5m.

The vegetation in the road verge is generally heavily degraded, with scattered mature native trees (Wandoo, Jarrah and Marri) over scattered native understorey species, weeds including Wild Oats and Tagasaste, and bare ground.

Drilling will be necessary in two locations totalling about 40m (CH 633-663 and CH 800-810) to avoid mature native trees. Drilling may also be required at several other locations to avoid private driveways (CH 275, 332, 337, 532, 674861, 910, 980 & 992) and one intersecting road (CH 683).

Planted trees at CH 332 (landscaping), CH 830-860 (olives), CH 867-943 (palms) and CH 966-992 (fruit trees) are likely to be valued by adjacent landowners; drilling in these areas may be advisable, although some of these may be avoidable by reduced working width.

Trees close to the alignment in several areas (CH 182, 210, 226, 275-282, 315-3237, 532, 561, 602, 695-820, 700-710 and 966-992) will require root trimming with cutting tools (e.g. chainsaw, ditch witch) to minimise damage.

Some trees will require pruning of overhanging branches to permit machinery access (CH 265-275 native, CH 943 planted).

A few small native saplings (some planted) and shrubs are present on the alignment. These could readily be replaced following trenching but technically require approval for their removal.

Recommendations

Under the *Environmental Protection Act 1986*, any removal of or damage to native vegetation requires approval by means of either a clearing permit, an exemption or a referral to the DWER. There is no threshold in terms of area, size or degree of disturbance, and the definition includes pruning or trimming of limbs.

The survey results suggest that drilling in two sections totalling about 40m would avoid damage to all mature native trees. Impacts on native saplings, understorey species and overhanging limbs could also be avoided but would require a further three sections of drilling totalling about 135m.

If time is critical to the project, drilling a total of about 175m would eliminate the need for any referral or clearing permission. If time permits, it may be preferable to refer the project to the DWER for a decision as to the need for a clearing permit under Section 51DA of the EP Act. There are no fees for referral under Section 51DA and the DWER is required to advise its decision within 21 days of accepting the referral.

I trust that the above and attached provide the information you need. Please don't hesitate to contact me if you require anything further.

Yours sincerely

BAYLEY ENVIRONMENTAL SERVICES



PHIL BAYLEY

Atts

- Figure 1 Survey Area**
- Figure 2 Photographs of the Alignment**
- Appendix A Survey Notes**

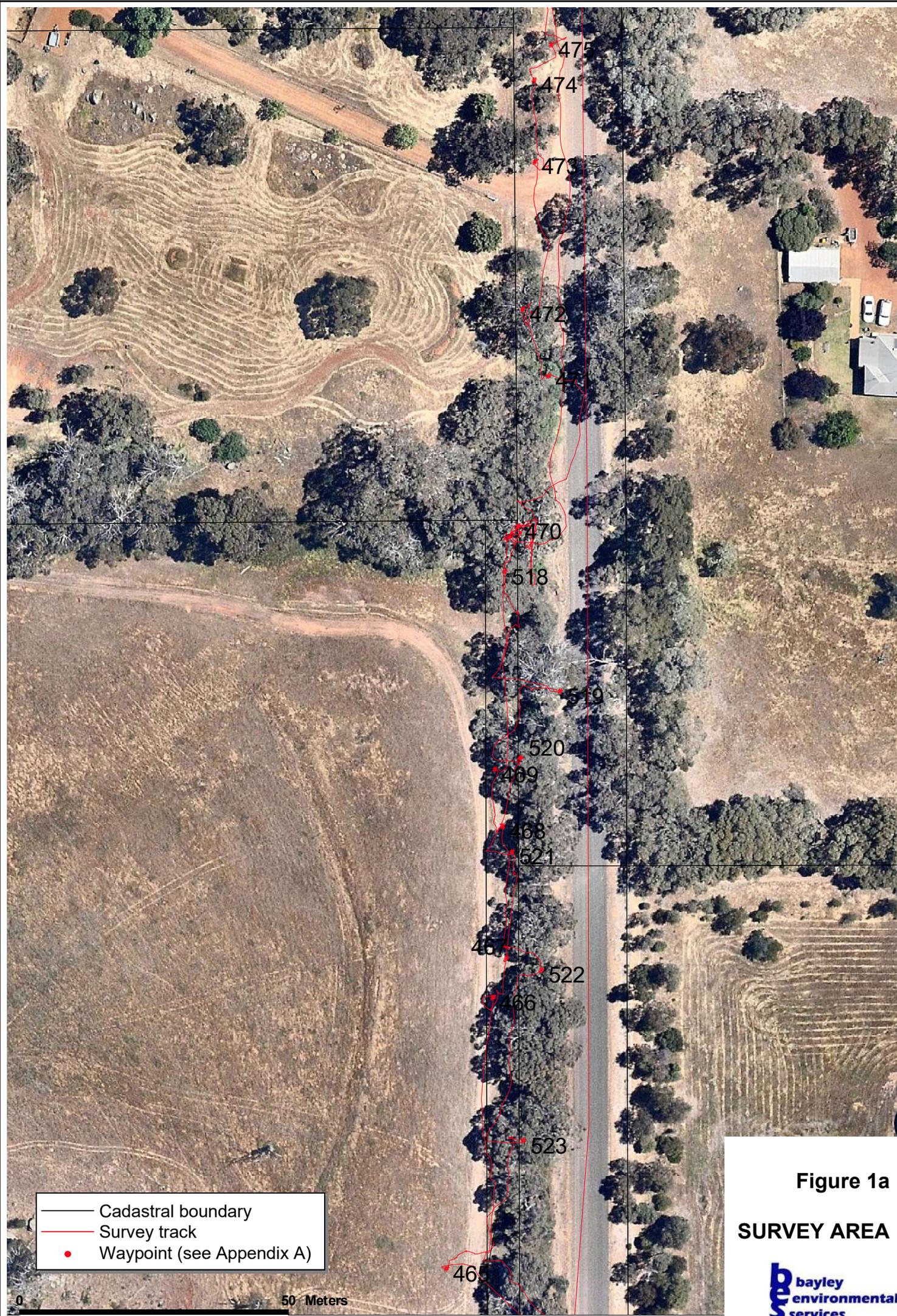


Figure 1a
SURVEY AREA



Figure 1b
SURVEY AREA



Figure 1c
SURVEY AREA



Figure 1d

SURVEY AREA



465 S



465 N



470 N



470 W



472 N



474 N



484 S



485 N



488 S



488 N

Figure 2a

See Figure 1 and Appendix A for waypoint locations and descriptions

PHOTOGRAPHS OF THE ALIGNMENT





488



489



489 S



489 N



490



491



491 S



491 N



492 S



493 N

Figure 2b

See Figure 1 and Appendix A for waypoint locations and descriptions

PHOTOGRAPHS OF THE ALIGNMENT





493



494



493 E



495 S



495 N



501



503 N



506 S



508 N



514 W

Figure 2c

See Figure 1 and Appendix A for waypoint locations and descriptions

PHOTOGRAPHS OF THE ALIGNMENT



Waypoint	Chainage	Description
465	0	Start point, end of existing trench.
466	51	WC section valve & air valve, 1.5m off fence.
467	58	Sapling, probably Wandoo, easy to replace.
468	83	Wattle on boundary, easy to replace.
469	93	ES Acacia (baileyana?). WC scour valve, small drainage line, manage erosion. Boundary jumps east 6m. Thicket of
470	141	Tagasaste for next ~20m. Wandoo sapling on boundary, avoidable.
471	170	WC air valve.
472	182	Mature Wandoo 3m from fence. Care cutting roots required.
473	210	Eucalypt (sp?) immediately inside fence, cut roots.
474	226	Young Eucalypt (Wandoo?) 0.5m outside boundary, cut roots.
475	232	Telstra manhole 1m off boundary, also water & power immediately inside boundary.
476	251	Power pole 3m off boundary
477	265	Trees inside boundary for about 10m, no obstruction but some branch trimming required.
478	277	End of trees. Centreline of 3m concrete driveway crossover. Trees north of driveway inside boundary to Wpt
479	275	480. Root trimming may be required.
480	282	End of trees. Group of sheoaks, wattles & Wandoo on or inside boundary to Wpt 482. Should be passable but
481	315	root trimming required.
482	327	End of trees; also Telstra pit. Water pipe coming from across road. Centreline of driveway crossover. To north, boulder wall & landscaping inc planted trees to Wpt
483	332	484.
484	337	Gravel driveway & ug power to north.
485	345	Clear to north. Few small, apparently planted small Eucalypts, Acacias & Sheoaks, all <1m. 2 Eucalypt saplings 2.5m & <1m. Larger is on boundary, smaller ~1m out. 5m gate to north then
486	430	another planted Eucalypt sapling <1m.
487	465	Old electrical termination? 5m south is Telstra pit & road crossing. Mature Marri 3m off boundary, room between but root trimming required. 3m gravel driveway &
488	532	gate immediately north.
489	561	Marri 10m high, 3m off boundary, root trimming required.
490	594	Marri mostly dead, substantial, 2m off boundary. Possible passable, root trimming required. Marri, mature, 3m off boundary, low overhanging branches might need trimming, root trimming required Next 20m north is messy, lots of dead fallen branches etc., 2 native shrubs ~2m off
491	602	boundary, replaceable. Blackboy, low 30cm high, 2m spike, Tagasaste, Marri 4m from boundary, also Jarrah ~5m from
492	625	boundary, should be trenchable. Jarrah 10m tall, 0.4-0.8m from boundary. Also blackboys & sedges, acacias 2m out. Drilling
493	634	recommended.
494	654	Large Jarrah 20m x 1.5m, mostly dead but significant, smaller Jarrahs for next 10m. Drilling recommended.

495	664	Clear. Driveway 10m north.
496	683	Centreline of intersecting road. Next 120m north is line of planted trees ~1m inside fence, no obstruction but may need root trimming.
497	695	WC retic valve. Immediately north is small (3m) dead Jarrah.
498	701	Dead Jarrah stump, large but no hollows, 2m high. Minimal value. Next 10m to Wpt 499 is thicket of Jarrah ~3m from boundary, room to trench but root trimming required.
499	713	End of thicket.
500	732	Bus shelter ~1m from boundary.
501	809	Large Jarrah 20m x 0.8m, needs drilling.
502	821	Water valve on standpipe, ownership unknown, just outside boundary.
503	830	Row of olive trees ~1-1.5m outside boundary, 1-4m high, continues for ~30m.
504	833	Telstra pit, also power pole 3m off boundary, reinforcing cable anchored in alignment.
505	843	Water pipe under road.
506	851	End of olives, very large stump 1m high possibly Jarrah, possibly value for residents.
507	861	Centreline of gravel driveway.
508	867	Row of ornamental palms (dates?), 2m off boundary, varying sizes, continue to intersection.
509	876	WC stop valve, immediately north is 6m double gate, no driveway.
510	910	Centreline of 2m concrete driveway. Large date palm on corner, wattle possibly inside property boundary, spreading over verge, will need trimming.
511	943	
512	947	Telstra double pit.
513	963	Power pole 2m off boundary. Start of row of fruit trees ~3m off boundary, continues to end of alignment, could get through, roots require trimming.
514	966	
515	980	Centreline of 3m gravel driveway.
516	985	2 PVC pipes, poss, retic for fruit trees, poss disused. Power pole followed immediately by 3m gravel driveway; opposite power pole is Telstra pit. After driveway are gum trees, olives etc. on outside edge of verge interspersed with driveways & power poles.
517	992	
518	131	Mature Wandoo 15m tall, 6m boundary, on boundary of narrow CAD strip.
519	108	Wandoo 9m off fence.
520	96	2 Wandoo 8m off fence.
521	78	Patch of blackboys 6-7m off fence.
522	56	Sheoak, smallish, 7m off fence.
523	24	Wandoo, 7m off fence. 2 more Wandoo to south, 8m from fence.