
Lumley Park Bore Retrieval

Responsible Officer: Group Manager Planning and Delivery (Andrew Logan)

Recommendation

That Council:

1. Receive and note this report.
2. Provide an exemption as per Section 55(3)(i) of the *Local Government Act 1993 (NSW)* to carry out services valued at over \$250,000 without going to tender because of the bespoke nature of the work and the extremely limited supplier options.
3. Endorse the continuing engagement of ACS Equip Pty Ltd to a maximum amount of \$415,000 (incl GST), as they have a unique set of skills and equipment required to execute the completion of this task with the Lumley Park Bore.

Background

As part of ongoing works for establishing the proposed Alstonville Groundwater Scheme, the four existing bore sites at Converys Lane (RCC), Lumley Park (RCC), Ellis Rd (Ballina Shire Council) and Lindendale Road (BSC) required internal camera inspections, cleaning of the bore casings /screens and pumping capacity tests as all of the bores had not been in operation for a number of years.

Original Engagement – Bore investigations and cleaning

ACS Equip Pty Ltd (Gundagai) were approached to assist Council, as a recommended contractor by our hydro-geologists Jacobs, who have assisted Council for many years with groundwater investigation works. Three drilling companies were approached to quote for these works – with ACS Equip Pty Ltd being the only contractor that submitted a quotation to carry out the required works.

The original engagement with ACS Equip Pty Ltd (PO 20807) was for \$100,848.88 (incl GST), for work at bores located at Converys Lane, Lumley Park, Ellis Road and Lindendale Road. Under Council's Procurement Procedure, for a project of this value, three quotes are required to be received. In accordance with the Procurement Procedure, a Procurement Exception was approved in February 2023 for this work, based on the unique skills and equipment that ACS Equip Pty Ltd possessed to undertake the work.

ACS Equip Pty Ltd successfully completed the planned work at Converys Lane, Ellis Road and Lindendale Road, before moving to Lumley Park.

The pump within the Lumley Park bore could not be retrieved or lifted out from the bore casing due to the flexible piping material (Well Master) breaking continually in the lifting operation. This lay flat type material normally has a lifting capacity of 5 to 7 tonne. The Lumley Park production bore was established in 1987 with records indicating it has a total depth of 82m, with a Standing Water Level (SWL) at 60m depth with a yield of ~14 L/s, with a reasonably good raw water quality. It is thought that due to the bore's age, the tensile strength of the Well Master piping has diminished, plus the overall installation of piping, cables and conduits has congested the bore casing, which has led to the pump retrieval issue.

Anticipating that the work at Lumley Park would extend, the original PO 20807 was invoiced for the three completed sites (Converys Lane, Ellis Road, Lindendale Road) for an amount of \$77,552.20 (incl GST).

Subsequent engagement – Bore retrieval

Council sought further advice again from Jacobs, who recommended the need for a specialist “Fishing and Retrieval” contractor. Again, ACS Equip Pty Ltd were recommended as being the best contractor with the capability to undertake this task in eastern Australia. It is noted that other than having worked together on previous projects over the last 15 years, there is no evidence of anything other than a professional working relationship between Jacobs and ACS Equip Pty Ltd. No Procurement Exception was sought for this second engagement with ACS Equip Pty Ltd.

The only other contractor in the industry with similar capability and equipment being Aged Developments, is located in Western Australia.

Council entered into the engagement for the pump retrieval works with ACS Equip Pty Ltd, based on an expected four (4) days on-site, in mid-February 2023, under PO 21089 for a value of \$33,146.08 (incl GST). However, it was evident that more days were needed to remove all the deleterious materials – piping, conduits, electrical and control cables that had collapsed down within the bore casing situated on top of the pump unit.

All of the collapsed accumulated materials has to be removed before ACS Equip Pty Ltd can gain access to the top of the bore pump which is presently sitting at 47m below the surface.

During their time on-site, ACS Equip Pty Ltd have continually pursued a variety of techniques to retrieve the material and pump in the bore, including manufacturing their own tools to work within a constricted and low visibility environment within the bore.

To date ACS Equip Pty Ltd have been on site for a total of 31 days on a number of occasions since February 2023, until works were stopped on 4 July 2023. At this time, attachment to the top of the bore pump to allow its removal has not been gained. The cost to date for this work under PO 21089 is \$248,746.08 (incl GST).

Next Steps – Bore retrieval

Following this pause in the works, staff have:

- Sought opinions from local and other specialists regarding the situation, and opportunities or techniques to increase the chances of success.
- Reviewed all available bore construction documents available through Rous and the NSW Government.

It has now been determined that the best available option is to invest a maximum of 7 more days at a total cost of \$53,900 (incl GST), in attempting to retrieve the pump from the bore.

If this is unsuccessful, then the only two remaining options are to abandon the bore or push the pump down the borehole, preferably to the borehole bottom at 82m. Pushing the pump down the borehole, to a depth would then enable the installation of a new pump above the level of the old pump, within the standing water level. The risk in pushing the pump down the bore is that it becomes stuck in the bore, before it reaches the bottom of the bore hole, which will result in the bore needing to be abandoned.

An additional allowance of 4 days at a total cost of \$32,567.48 (incl GST) has been made for this activity to push the pump down the bore hole, if the retrieval is unsuccessful.

If ACS Equip Pty Ltd continue with the pump recovery works, the next technique will likely involve drilling into the top of the pump, effectively destroying it. Assuming they are successful in the pump removal, Rous will need to purchase a new bore pump. Whilst this is not ideal, ultimately a new pump would have been needed to be purchased, because the existing pump is not suitable to pump to the higher elevation of Russellton Industrial Estate.

The continuation of these works to remove the pump from the bore, has been focused on avoiding having to abandon the bore hole at Lumley Park, which will require significant additional costs if needing to be reconstructed.

In the first instance, these costs would be associated with plugging the casing off for the existing bore. Following on from that, are the costs, time and risks associated with the permitting, investigation and construction of a new bore hole on site, if this is possible.

The estimate for a new bore located at Lumley Park is shown in Table 1.

Table 1 – Cost estimate for a new bore near Lumley Park

Item	Description	Estimated cost
1	Hydrogeological Consultant, tendering, drilling supervision, detailed bore design, pump testing and data analysis and reporting.	\$100,000
2	Initial REF and planning works	\$30,000
3	Tendering and engagement of drilling contractor	\$270,000
4	Application of WAL licence matters	\$10,000
5	RCC Project Management	\$20,000
6	Contingency amount (~20%)	\$80,000
7	Total	\$ 510,000

The above budget estimate does not include a new bore pump (required to pump the water up to higher elevation at Russellton Industrial Estate) and electrical costs, which are expected to be required for both the existing bore and any new bore located at Lumley Park, as part of the Alstonville Groundwater scheme.

NSW Government Regulations mean that if a 'replacement' bore is sunk more than 20m away from the existing bore, it is considered a new bore, with the requirement to commence from the start with the permitting process.

Finance

Within the 2022/23 budget, \$550,000 was available under the Alstonville Groundwater scheme item, of which \$504,200 was expended or committed during the FY. Of this amount, \$45,800 has been recommended for carry forward into the 23/24 budget. Within the 23/24 budget, there is \$2,705,000 available under the Alstonville Groundwater scheme item. It is expected that the combined budget of \$2,750,800 for 23/24 is adequate to allow the completion of this work as planned and incur the total potential additional costs of \$86,467.48 as shown below in Table 2.

This will be funded from the current FY23-24 budget and is not anticipated to adversely affect the capacity to undertake other works.

Table 2 – ACS Equip Pty Ltd costs to date and to complete – all bores

Item	Description	Cost (incl GST)
1	Initial engagement for internal CCTV inspections, cleaning of the bore casings /screens and pumping capacity tests for Converys Lane, Ellis Road, Lindendale Road and Lumley Park bores	\$77,552.50
2	Costs for Pump Retrieval Works to Date	\$248,746.08
3	Additional Pump Retrieval Days	\$ 53,900
4	Additional Days to Push Pump Down Bore	\$ 32,567.48
	Total potential costs for ACS Equip Pty Ltd engagement	\$412,766.06

Legal

Under section 55 of the *Local Government Act 1993 (NSW)* a tender is required for a contract to carry out services for councils valued over \$250,000 (incl GST) unless “*where, because of extenuating circumstances, remoteness of locality or the unavailability of competitive or reliable tenderers, councils decide by resolution (which states the reasons for the decision) that a satisfactory result would not be achieved by inviting tenders*”¹.

Support is requested for the continuation of the above stated works by ACS Equip Pty Ltd due to the bespoke nature of the work and the extremely limited supplier options.

ACS Equip Pty Ltd has been identified as having a unique set of skills and equipment required in order to execute the completion of this task with the Lumley Park Bore. The only other supplier who has been identified as having the required equipment and skills to complete the job is located in Western Australia.

Consultation

Consultation has been undertaken with multiple specialists throughout the process regarding the hydro-geology, geology and logistical aspects of the work. This consultation has included the Senior Hydrogeologist at the Department of Planning and Environment regarding the original records for the Lumley Park Bore and related pump tests that were undertaken.

This consultation concluded that the current bore location is critical, as he informed us that bores located within metres of the current bore hole did not yield the same flow and showed different geological features. Further consultation with the principal hydrogeologist at Jacobs regarding the options has also confirmed the risks associated with having to establish a new bore.

Conclusion

After a significant investment into retrieving the pump from the Lumley Park groundwater bore, it is recommended that a further, relatively small investment of funding, be approved to maximise the opportunity to allow future use of the bore.

The Lumley Park bore has historically shown sound performance and good quality water, and with the challenges relating to sinking a new bore (significant cost, protracted timeframe and the unpredictability of water quality/quantity), further work by ACS Equip Pty Ltd to remove\move the pump is considered the best option.

Council’s endorsement is sought for incurring additional expenditure and continuing its engagement of ACS Equip Pty Ltd to complete the bore retrieval work without requiring tenders to be invited from alternative suppliers to complete the work.

¹ Section 55 (3)(i) *Local Government Act 1993 (NSW)*