Planning the Water Works

maitland city council

Key Inquiry Question

Who was responsible for finding a permanent solution to the Hunter Valley water supply problem?

Bell and Clark

There were two engineers who investigated various solutions to the water supply problem-

Francis Bell and William Clark.

Francis Bell

Francis Bell (1800-1879) was an Irish born engineer. He was employed by Sydney City Council to assist with the Botany Watershed Project.

His other projects include the Hawthorn Bridge and Hawthorn Railway Bridge (Melbourne), the first Belmore Bridge, Pitnacree Bridge and Dunmore Bridge (Maitland).

Bell presented his report to Newcastle Borough Council in ***July 1875***. His recommendation was to take water from Redhead lagoon and sandbeds near Hamilton. His solution excluded the townships of Lambton, Wallsend and Waratah, due to his dislike of using the Hunter River. His proposal was rejected, so the Government sent for William Clark.

William Clark

William Clark (1821-1880) was born and educated in England. He completed many engineering projects in India, the United Kingdom and Australia.

In ***October 1877*** he advised that the Hunter River was the most suitable source of water for the supply of West Maitland (now called Maitland), East Maitland, Morpeth, Minmi, Plattsburg, Wallsend, Brookstown (now part of Wallsend), Lambton, Waratah, Burwood, Hamilton, Wickham and Newcastle.

In his report he states "This point is very favourable for the proposed works; at a distance of 80 **chains** from the river, a hillside afford an excellent position for the various tanks, filters and a little further on the Walka Lagoon occurs, which forms an admirable site for a storage reservoir".

Chains is an old-fashioned measurement that has not been used since 1985.
Task: Find out how long 80 chains are in metres/kilometres.

Key Inquiry Question

What was the timeline for completing the Walka Water Works?

Timeline

1877 — Approval to construct Walka Water Works

Tunneling and pipe laying

1882 — Newcastle Reservoir #1 (The Res) constructed

1883 — Construction of the reservoir, filter beds, settling and clearing tanks

1887 — Pumphouse building and chimney built

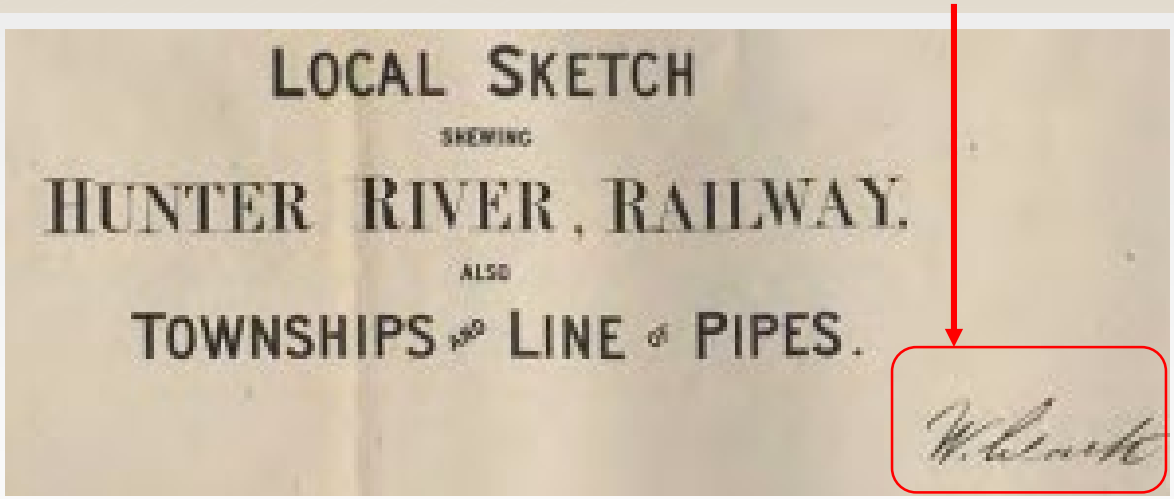
Walka Water Works completed

Copy and paste the link below into a search engine to watch a short video explaining The Res.
https://www.youtube.com/watch?v=jcvidHQ_fA8

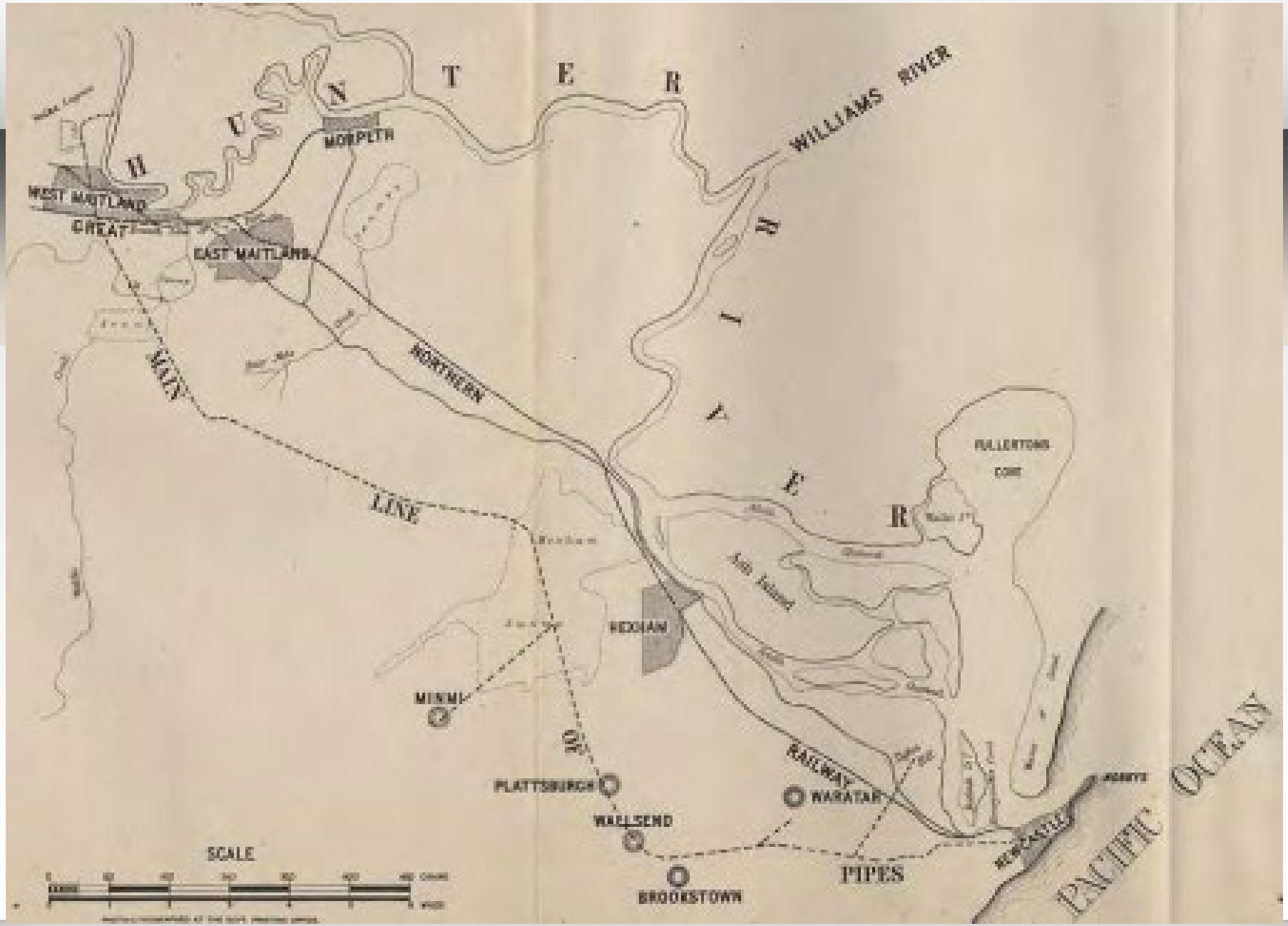
Key Inquiry Question

What townships (suburbs) did Walka Water Works service?

The next page shows Clark's map. This part has been cut off to allow the map to be enlarged. Notice Clark's signature at the bottom .



Task: On the next page use highlighters to show townships, rivers, pipes and railways. Make sure to include a key.
e.g. light blue= rivers dark blue= ocean yellow= railway
red= townships (suburbs) green= pipes


N T E R
H U N T E R
WILLIAMS RIVER
MORPETH
WEST MAITLAND
GREAT
EAST MAITLAND
MAIN
NORTHERN
LINE
FULLERTONS
COVE
REDHEAD
MINMI
PLATTSBURGH
WALLSEND
BROADSTOWN
RAILWAY
WARATAH
PIPES
NEWCASTLE
PACIFIC OCEAN
SCALE

Task: List all of the townships (suburbs) that Walka Water Works serviced

This map shows the current Hunter Water area of operations with the original Walka Water Works area of operations (approximate) over the top in red.

Task: Discuss the new townships in the current area of operations.
Where do you live?

Planning for the Future

William Clark's plans allowed for expansion as the population grew. You can see from this table that as the population grew Hunter Water has been able to meet the needs of the residents. **Task:** What might have happened to make consumption lower in 2016 than in 1990?

Year	Population	Annual Water Consumption (million litres)
1893	17 000	748
1903	52 610	1 846
1920	124 320	7 187
1950	247 992	32 625
1970	345 897	67 817
1990	407, 673	78 077
2016	563 659	68 781