
5 Terrestrial archaeological assessment

The following section contains an archaeological assessment of the land based portions of the project area. This analyses potential archaeological resources, their research potential and outlines the results of the archaeological test excavations completed during the course of this assessment.

5.1 Potential archaeological resources

The historical context (Section 3) and site investigation (Section 4) have assessed the potential for archaeological resources to be present within the project area. Similar to the site investigation results, archaeological potential is discussed with reference to the project components, that is, the Construction works zone boundary and the flood mitigation works in Grafton and South Grafton.

Archaeological potential is defined by the NSW Heritage Office Archaeological Assessment Guidelines as “the degree of physical evidence present on an archaeological site”¹⁴¹. In practice this also involves an attempt to predict what archaeological remains are likely to be buried on the site. Predictions for this study were made by using documentary research, the site inspection or surveys (including any geophysical evidence) and other information such as results of site contamination or geotechnical testing and a degree of archaeological experience.

Archaeological potential can be subdivided into the following categories, based on the likely occurrence of archaeological material:

- **High potential:** Areas with known archaeological remains (established by surface evidence or the results of sub-surface testing).
- **Moderate potential:** Areas that may have archaeological remains based on other lines of evidence such as maps or documents.
- **Low potential:** Areas that are likely to have minimal archaeological remains based on analysis of known or likely disturbance.
- **No potential:** Areas where it is known that archaeological remains will not occur.

It should be clear that archaeological potential attempts to assess whether there is the potential for archaeological remains to occur in an area but not (at this stage) how important these remains might be if they existed.

Levels of archaeological potential are discussed specifically in relation to the project area are detailed in Table 18 and displayed in Figure 16 to Figure 21.

¹⁴¹ NSW Heritage Branch Department of Planning and Heritage Council of New South Wales (2009). Assessing significance for historical archaeological sites and 'relics'. Parramatta, Heritage Branch, NSW Dept. of Planning.

Table 18: Discussion of archaeological potential

Historical theme	Discussion	Archaeological potential
Construction works zone boundary - Grafton		
Cedar Getters (1830 – 1840)	No areas of archaeological potential have been identified with this historical theme within the project area.	The project area has a low potential to contain archaeological remains associated with this historical theme.
Squatters, Settlers and the Town Plan (1840 – 1860)	The focal points of the early settlement in Grafton were situated to the west of the project area and there is no recorded occupation in this locality.	The project area has a low potential to contain archaeological remains associated with this historical theme.
Boom and Bust (1860 – 1890)	The present day road alignments along Pound, Villiers, Kent and Clarence Street follow the road reserves originally designated by Darke. Accordingly, there is limited potential for archaeological remains within the existing road reserve outside of evidence of previous road surfaces. In 1864 three sections held by Surveyor P.C. Greaves between Clarence, Pound and Villiers were subdivided into groups of 14 lots, other lots south of Kent Street appear to have remained vacant during this time. The majority of dwellings were small, weatherboard cottages, most of which were removed in the late nineteenth to early twentieth century. Archaeological remains of these kinds of structures are likely to be ephemeral in nature and removed by as a result of later development of these blocks. Fisher's Drain (CZB07) is a brick and cement box drain constructed to drainage of a low area in Fisher Park, which was dedicated on 6 December 1867. This replaced an earlier drain which had been previously filled in. The site had a high degree of archaeological potential; however, despite being located within the project area, this site is unlikely to be impacted by the development. The only substantial Victorian home within this portion of the project area was built for Captain George Greenaway at 36 Villiers Street (Ravenswood – CZB10). The Henson's converted Greenaway's house into the two-storey Late Victorian 'Ravensford' residence in 1890. Given	Fisher's Drain (CZB07) has high archaeological potential but will not be impacted by the project. The remainder of the project area has a low potential of containing archaeological remains associated with this historical theme.

Historical theme	Discussion	Archaeological potential
	the age and alterations made to Ravensford (CZB10), it is likely to contain archaeological remains and phasing depicting continuous usage from the mid-nineteenth century. The project area, which infringes on the curtilage of this item, will only impact on a narrow strip, which is unlikely to contain significant archaeological remains. No evidence for wharfbases was identified within this portion of the project area. It is likely that this is due to the shallow nature of the northern side of the Clarence River at this location, which makes it unsuitable for maritime navigation.	
The Big River, Bridging the Gap and United City of Two Towns (1890 – 1957)	In 1905 "Dunvegan" (CZB11) a two-storey Late Victorian timber residence was constructed on an unusually large scale at 47 Pound Street. Due to the size and continuous occupation this residence has a high potential to contain archaeological deposits and structures relating to the occupation of this item. This may include wells, garden features, occupational deposits and former structural phases and sequences. Other heritage items constructed within the portion of the project area during this period are the Coronation Plaque (CZB12), Grafton Railway Viaducts (CZB20 & CZB21), 31 Pound Street (CZB18), King George V Plaque (CZB19), 24 Kent Street (CZB22), 22 Kent Street (CZB24), 18 Kent Street (CZB25), 16 Kent Street (CZB26), 14 Kent Street (CZB27), 12 Kent Street (CZB28), Clarendon (CZB30), 7 Greaves Street (CZB31), 5 Greaves Street (CZB32), 1 Greaves Street (CZB33), 1 Pound Street (CZB34) and Glyndon Private Hospital (CZB35). These properties are considered to have a high archaeological potential.	The project area contains a high potential to contain archaeological remains associated with this historical theme.
Modernisation (1957 – Present)	The project area continued to be developed during this historical theme, no areas of archaeological potential have been identified however developments during this phase would have served to disturb archaeological remains given the density of activities.	The project area contains a low potential to contain archaeological remains associated with this historical theme.

Historical theme	Discussion	Archaeological potential
Construction works zone boundary – South Grafton		
Cedar Getters (1830 – 1840)	No areas of archaeological potential have been identified with this historical theme within this portion of the project area.	The project area contains a low potential to contain archaeological remains associated with this historical theme.
Squatters, Settlers and the Town Plan (1840 – 1860)	The project area closest to the Clarence River was originally granted to W.C.B. Wilson and used as an agricultural lease. Archaeological remains could include evidence relating to cultivation and pastoralism, for example ridge and furrow created through ploughing activities, demarcation of land through fence lines and ditches and dams associated with the irrigation of land. There is no evidence for farms or other agricultural activities within this area. There is no evidence of any structures or activities taking place within this area. The remainder of the project area remained undeveloped during this period.	The project area contains a moderate potential to contain archaeological remains associated with this historical theme.
Boom and Bust (1860 – 1890)	The project area continued to be used for agricultural activities with no discernable changes. Any archaeological remains are likely (as discussed in the previous theme) to be agricultural in nature.	The project area contains a moderate potential to contain archaeological remains associated this historical theme.
The Big River, Bridging the Gap and United City of Two Towns (1890 – 1957)	In 1915 portion of the land granted to W.C.B. Wilson was resumed for the construction of the South Grafton Railway Precinct (CZB37). While the station complex is located outside of the project area, the complex included railway sidings (leading to the rail ferry wharf) and a turntable which formed the centre point of a locomotive servicing depot which included a substantial roundhouse. Archaeological remains associated with these would include concrete footings, post holes, timbers, ballast and refuse such as rails, pins, sleepers and locomotive ash. Construction commenced on the Grafton Road and Rail Bridge (CZB36) in late 1927, this resulted in the construction of an additional siding at South Grafton noted as “steel road” and the construction of several workhouses and wharfage’s within which bridge spans could be assembled and then floated out onto the river for assembly. Archaeological remains	The project area contains a high potential to contain archaeological remains associated with the locomotive servicing depot (CZB37) and Grafton Road and Rail Bridge (CZB36). Other portions of the project area have a low archaeological potential.

Historical theme	Discussion	Archaeological potential
	associated with the Grafton bridge construction including structural evidence (i.e. post holes, footings and pads) and archaeological deposits relating to construction activities.	
Modernisation (1957 – Present)	The project area continued to be developed during this historical theme; this mostly involves the removal of existing infrastructure. Including the demolition of the locomotive depot and Grafton Bridge construction area. The original locomotive turntable was also replaced. No areas of archaeological potential have been identified relating to this theme however removal of infrastructure is likely to have had a detrimental effect on any archaeological remains present given the extensive range of modifications.	The project area contains a low potential to contain archaeological remains associated with this historical theme.
Flood mitigation works – Grafton		
Cedar Getters (1830 – 1840)	No areas of archaeological potential have been identified with this historical theme within this portion of the project area.	The project area contains a low potential to contain archaeological remains associated with this historical theme.
Squatters, Settlers and the Town Plan (1840 – 1860)	The project area traverses a number of early areas of occupation within what would become Grafton. The original areas of occupation are roughly bound by Duke Street to the east, Mary Street to the west and Victoria Street to the north. An analysis of documentary information and early historical maps (seeSection 3) indicates that focal points for occupation were: Sharps Store and Inn (FMW17), this consisted of the inn which was located at the site of the current Crown Hotel, the store and public wharf located on the site of current Grafton Bowling and Sports Club and additional structures scattered around the intersection of Prince and Kemp Street. The site of Memorial Park (FMW14) is also likely to contain archaeological remains associated with this settlement. Portions of this site may contain relatively intact archaeology (i.e. Grafton Bowling and Sports Club, Memorial Park); however components which have been subject to development such as the Crown Hotel, road reserves and residential properties are likely to have displaced archaeological remains. It is also known	This portion of the project area has: - A moderate potential to contain archaeological remains associated with Sharpe's Store (FMW14 & FMW17). - A moderate potential to contain archaeological remains associated with the original courthouse and lockup (FMW19). - A low potential to contain archaeological remains Hewitt's Store (FMW27). Undocumented archaeological remains (specifically small dwellings and wharves) have a moderate potential to be present between Duke

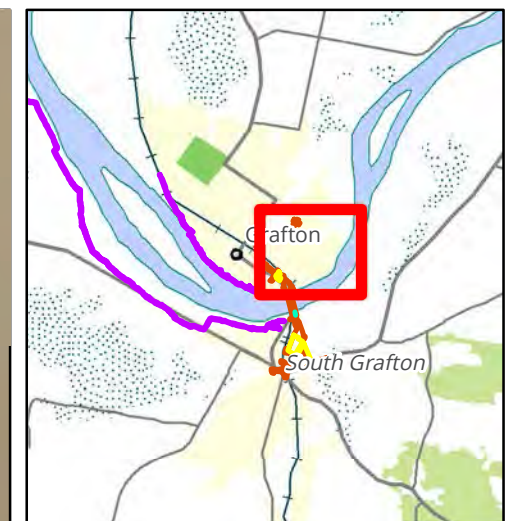
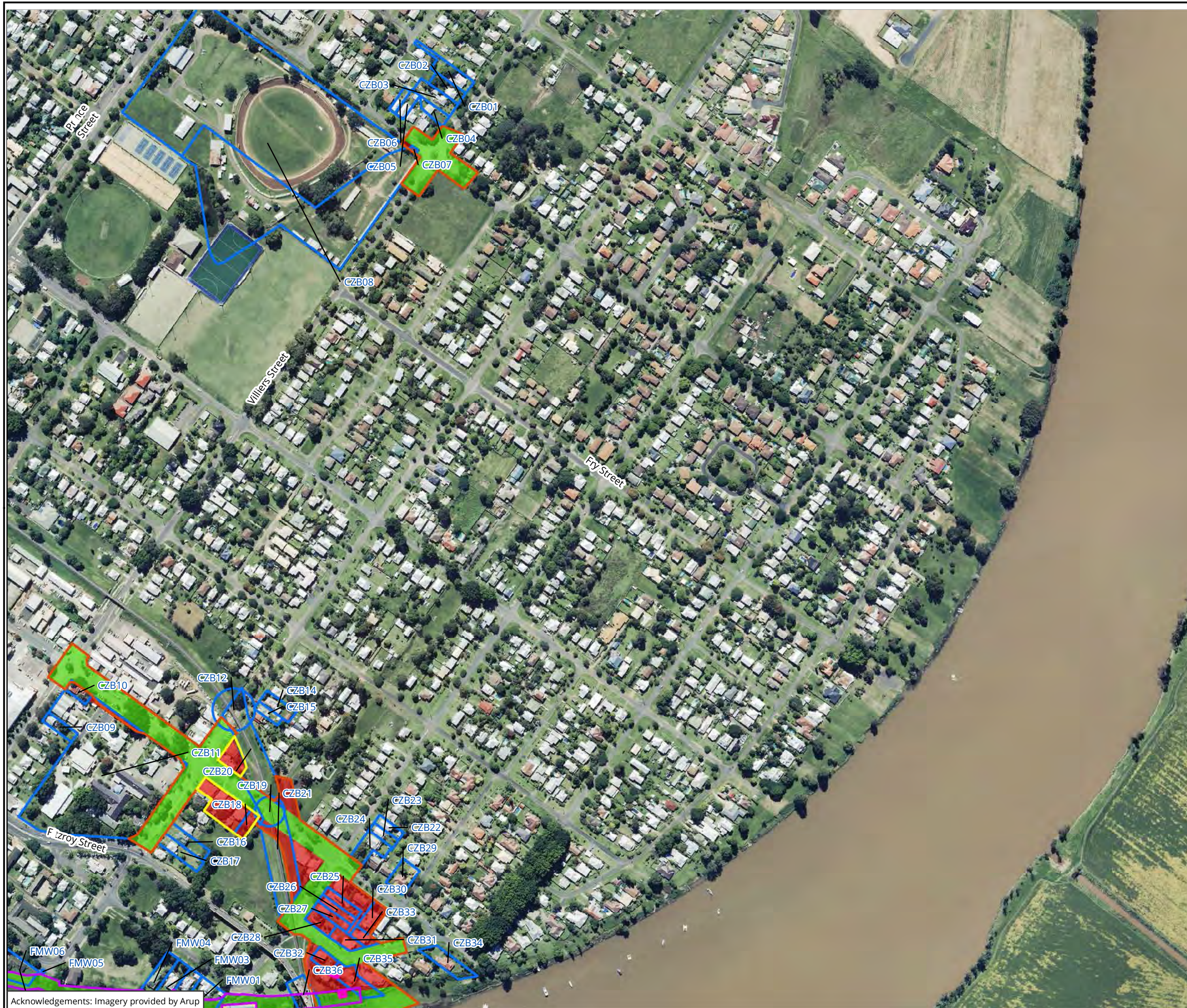
Historical theme	Discussion	Archaeological potential
	• Original courthouse and lockup (FMW19) (see Figure 4), consisted of a series of buildings located on the site of 10 and 11 Blackwood Close. Undisturbed portions of these sites may contain archaeological remains associated with early 19th century Grafton. However, it should be noted that these properties have been extensively developed and intact soil horizons are unlikely. • Hewitt's Store (FMW27) (see Figure 4) is recorded as a cluster of small buildings beside Alumny Creek which includes a store and inn. These buildings appear to have been located on the site of the current property at 225 Fitzroy Street, a modern shipping facility. There site appears to have been substantially modified, which may have substantially disturbed any archaeological remains. The site is only partially located within the project area and is unlikely to be impacted by the flood mitigation works. Archaeological remains which may be encountered are likely to be in the form of post holes, beam slots, brick or stone foundations, occupational deposits, wells and pieces of infrastructure such as drains and culverts. There is the potential for maritime remains such as wharves to be present; these normally appear in the form of substantial posts. There is no evidence for reclamation of land along the portion of the Clarence River associated with the project area and therefore buried maritime vessels dating to this period are unlikely.	and Mary Streets. Remaining portions of the flood mitigation works are considered to have a low archaeological potential.

Historical theme	Discussion	Archaeological potential
Boom and Bust (1860 – 1890)	The project area continued to develop during this historical theme. Maritime trade and exchange continued to be the dominant economical stimuli within Grafton. Numerous wharfages lined the Clarence, with the 1890 Town Plan (see Section 3.6) showing wharfages from the termination of Villiers to Mary Street. Whilst the riverfront has been subject to extensive disturbances through modern development and flooding events, the Clarence River banks between these points contain the potential to contain submerged and buried archaeological remains of wharfages. Residential development within this portion of the project area continued to expand with the following heritage items being constructed: "Avoca" (FMW01), 3 Fitzroy Street (FMW02), "Riverview" (FMW04), "Itala" (FMW18), "Fowey", 133 Victoria Street (FMW21) and Verona (FMW25). Public amenities such as Memorial Park (FMW14), Grafton Courthouse (FMW15) and Police Inspectors Residence (FMW16). These properties have the potential to contain archaeological remains associated with former land uses in addition to wells, garden features, occupational deposits and former structural phases and sequences.	The project area contains a moderate potential to contain archaeological remains associated with this historical theme.
The Big River, Bridging the Gap and United City of Two Towns (1890 – 1957)	As discussed in the previous theme, archaeological remains from this period are likely to be present the form of maritime trade and known heritage items. Additionally, several other heritage items were constructed during this time such as: St. Mary's Church (FMW06), the Roman Catholic Presbytery (FMW07), Former St Mary's College (FMW08), 2 Villiers Street (FMW09), RTA Regional Office (FMW10), and McWilliams Lodge (FMW11).). These properties have the potential to contain archaeological remains associated with former land uses in addition to garden features, occupational deposits and former structural phases and sequences.	The project area contains a high potential to contain archaeological remains associated with this historical theme.
Modernisation (1957 – Present)	The project area continued to be developed during this historical theme, no areas of archaeological potential have been identified however developments during this phase would have served to disturb archaeological remains given the density of activities.	This portion of the project area contains a low potential to contain archaeological remains associated with this historical theme.

Historical theme	Discussion	Archaeological potential
Flood mitigation works – South Grafton		
Cedar Getters (1830 – 1840)	There is the potential for archaeological remains associated with the shipyard of William Phillips to be located between Christopher Creek and Cowan's Creek within the flood mitigation works in South Grafton (FMW30). A shipyard such as the one Phillips operated would have had a simple slip, associated saw pit and forge (for making fastenings). Other items such as canvas and cordage would have been brought onto the site and stored ready for use. The remains of these features would be quite ephemeral especially as they were located near the banks of the river and would have been regularly flooded. As the project area has been subject to disturbance through the construction of the South Grafton Bowling Club but other areas within Lane Park (FMW34), several vacant lots and the current levee may retain archaeological remains associated with Phillips shipyard have been disturbed during construction works.	The project area contains a moderate potential to contain archaeological remains associated with Phillips Shipyard (FMW30). Areas of disturbance have a low archaeological potential.
Squatters, Settlers and the Town Plan (1840 – 1860)	The project area traverses the location of the early centre of what would become South Grafton. The project area traverses the portion of the early settlement which extended from Riverside Drive in the east to Arden Street in the west. The 1849 map shows areas of occupation within this area associated with W.C.B. Wilson's Store (FMW28), Public Wharf sites at the end of Through and Wharf Street (FMW32) and at the termination of Through Street and Skinner Street (FMW35). The former site of Price's store, which became the Steam Ship Inn, is believed to be on the site of Walkers Marina Hotel. The residence at 22 Wharf Street (FMW31) is believed to be upon the site of the Green Tree Hotel c 1853 -1860. Wilson's Store (FMW28), the Public Wharves (FMW32 and FMW35) and the River frontage formed focal points for occupation within Grafton. There is the potential for undocumented archaeological remains relating to early settlement within the project area. Extensive development along Riverside Drive, near the South Grafton Bowling and Sports Club and along the Clarence River frontage is likely to have disturbed archaeological remains associated with Wilson's Store (FMW28), The Public Wharves (FMW32 and FMW35). There are Lane Park (FMW34) and several vacant lots which could retain intact archaeological remains. The	Undisturbed portions of the project area contain a moderate potential to contain archaeological remains associated with this theme. Areas of disturbance have a low archaeological potential.

Historical theme	Discussion	Archaeological potential
	extent of disturbances caused through the levee construction in these areas is unknown, depending on the method of construction there may be structural and depositional remains beneath the imported fill layers. Archaeological remains which may be encountered are likely to be in the form of post holes, beam slots, brick or stone foundations, occupational deposits, wells and pieces of infrastructure such as drains and culverts. There is the potential for maritime remains such as wharves to be present; these normally appear in the form of substantial posts. There is no evidence for reclamation of land along the in this alignment of the Clarence River and therefore buried maritime vessels dating to this period are unlikely.	
Boom and Bust (1860 – 1890)	As with the previous theme, the focus of development within the project area focused upon the public wharves which provided linkages between South Grafton and external trade routes. Wharfages continued to be developed in the vicinity of the Public Wharves (FMW32 and FMW35). Archaeological potential within these areas is likely to contain evidence of wharfages and associated developments such as dwellings, stores, inns and merchants are likely to be present. Archaeological features and disturbances are as discussed under the previous theme. The property at "Dallinga"(FMW38) was constructed in 1861; this property has the potential to contain archaeological remains associated with former land uses in addition to wells, garden features, occupational deposits and former structural phases and sequences.	The project area contains: • A high potential to contain archaeological remains associated with "Dallinga" (FMW38). • A moderate potential to contain archaeological remains associated the Public Wharves (FMW32 and FMW35). • Areas of disturbance have a low archaeological potential.

Historical theme	Discussion	Archaeological potential
The Big River, Bridging the Gap and United City of Two Towns (1890 – 1957)	Within the project area, occupation within Grafton continued to be focused on the Public wharfages until the construction of the Grafton Road and Rail Bridge. Hotels such as Walkers Marina Hotel (FMW36) were established to take advantage of the maritime trade. Following this the wharfages fell into disrepair and/or were dismantled. The process of removal may have implications for their level of preservation within the project area. The <i>SS Induna</i> was broken up on the banks of the Clarence River, its hull remains in the water 20 metres from the project area. Residential properties at 112 Through Street (FMW 37) and 22 Through Street (FMW31) were constructed. There is the potential for the project area to contain archaeological remains within residential occupation during this period.	The project area contains a high potential to contain archaeological remains associated with this historical theme.
Modernisation (1957 – Present)	The project area continued to be developed during this historical theme, no areas of archaeological potential have been identified however developments during this phase would have served to disturb archaeological remains given the density of activities.	The project area contains a low potential to contain archaeological remains associated with this historical theme.



Legend

Project Area

- Construction works zone
- Indicative location of pump station infrastructure
- Indicative location of ancillary sites
- Flood mitigation works construction zone
- Listed heritage items

Archaeological Potential

- High
- Moderate
- Low

Figure 16: Archaeological potential - Construction works zone - Grafton

0 50 100 150 200 250

Metres
Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014,
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F16_ArchPot_Detail_20140430



Legend

Project Area

- Construction works zone
- Temporary Jetty (Indicative)
- Indicative location of ancillary sites
- Flood mitigation works construction zone
- Listed heritage items

Archaeological Potential

- High
- Moderate
- Low

Figure 17: Archaeological potential - Construction works zone - South Grafton

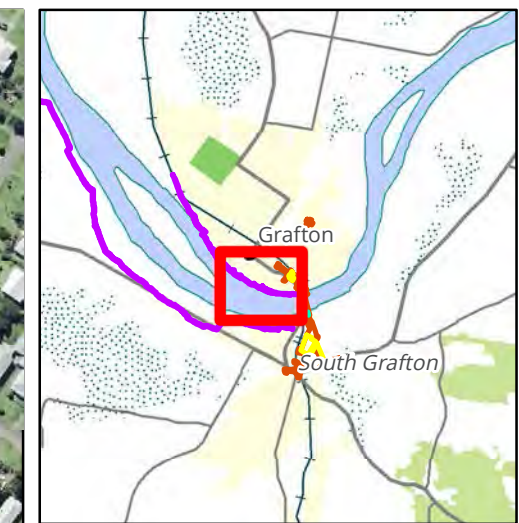
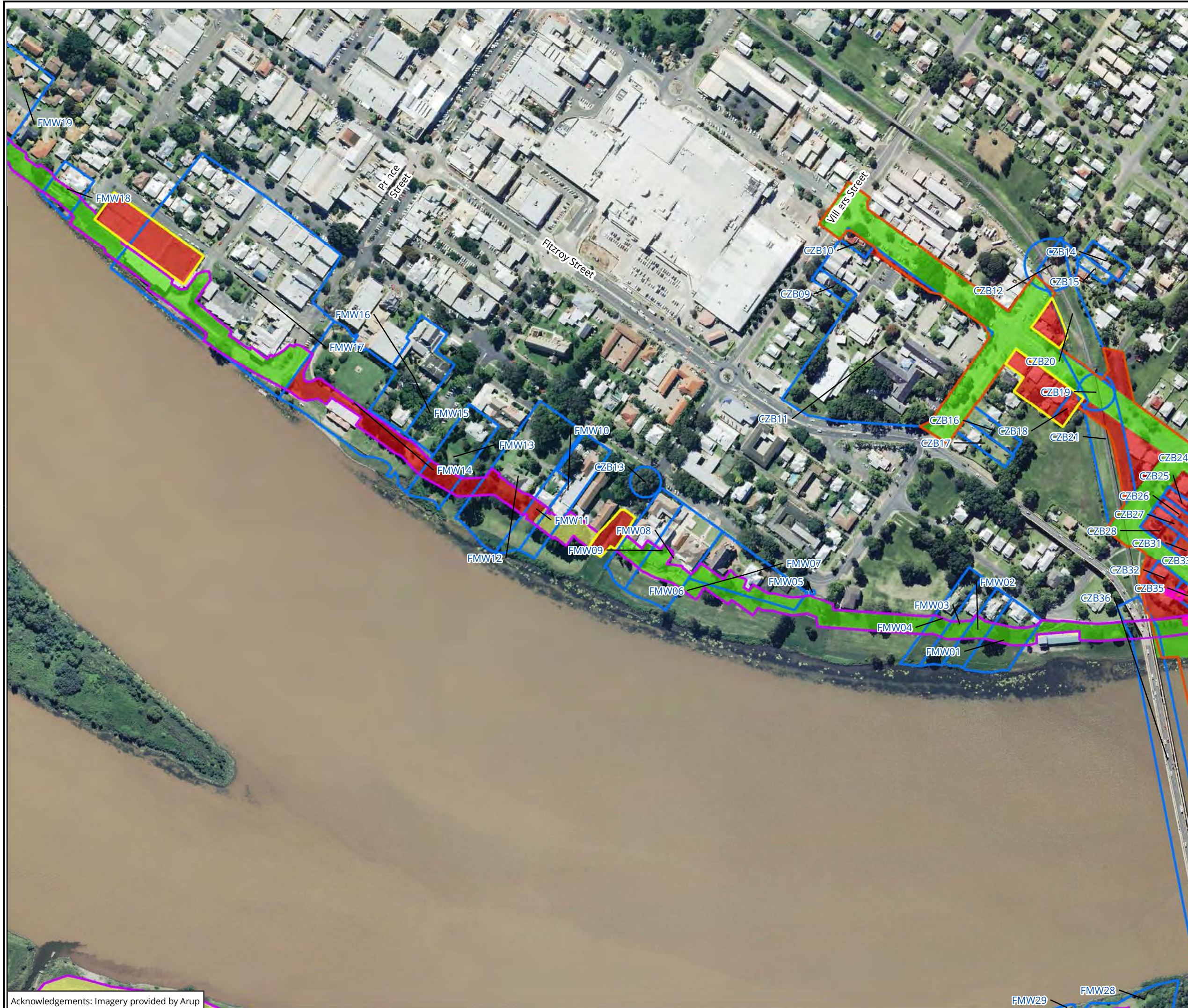
0 50 100 150 200 250
Metres

Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F16_ArchPot_Detail_20140430



Legend

Project Area

- Construction works zone
- Indicative location of pump station infrastructure
- Indicative location of ancillary sites
- Flood mitigation works construction zone
- Listed heritage items

Archaeological Potential

- High
- Moderate
- Low

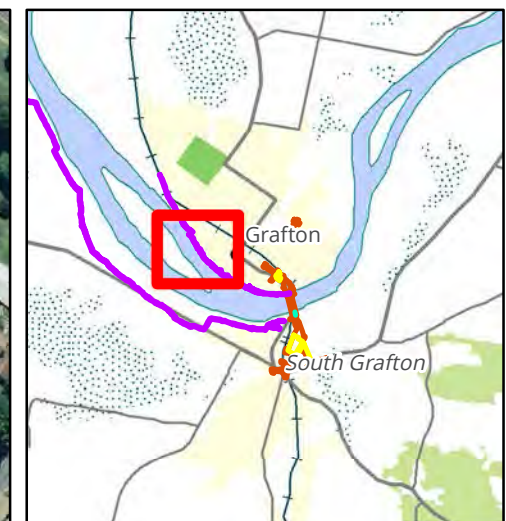
Figure 18: Archaeological potential - Flood mitigation works construction zone - Grafton - East

0 40 80 120 160 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Matter: 16255
Date: 06 May 2014
Checked by: AJB, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F16_ArchPot_Detail_20140430



Legend

Flood mitigation works
construction zone

Listed heritage items

Archaeological Potential

High

Low

Figure 19: Archaeological potential - Flood mitigation works construction zone - Grafton - West

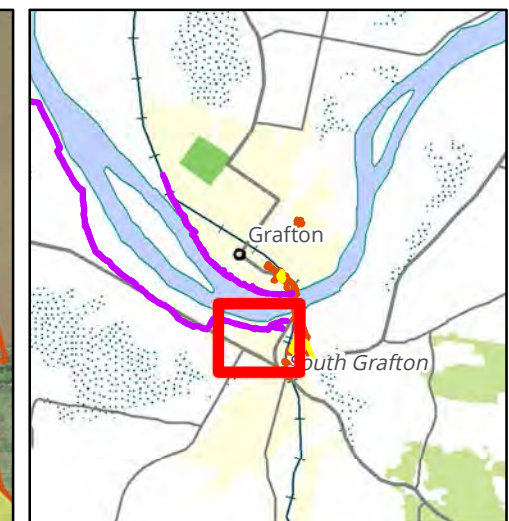
0 40 80 120 160 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014,
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F16_ArchPot_Detail_20140430



Legend

Project Area

- Construction works zone
- Temporary Jetty (Indicative)
- Indicative location of ancillary sites
- Flood mitigation works construction zone
- Listed heritage items

Archaeological Potential

- High
- Moderate
- Low

Figure 20: Archaeological potential - Flood mitigation works construction zone - South Grafton - East

0 40 80 120 160 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne, Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F16_ArchPot_Detail_20140430



Legend

Flood mitigation works construction zone

Listed heritage items

Archaeological Potential

Moderate

Low

Figure 21: Archaeological potential - Flood mitigation works construction zone - South Grafton - West

0 40 80 120 160 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Biosis Pty Ltd
Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014,
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F16_ArchPot_Detail_20140430

5.2 Research potential

Archaeological research potential refers to the ability of archaeological evidence to provide information about a site that could not be derived from any other source and which contributes to the archaeological significance of that site.

Archaeological research potential differs from archaeological potential in that the presence of an archaeological resource (i.e. archaeological potential) does not mean that it can provide any additional information that increases our understanding of a site or the past (i.e. archaeological research potential).

The research potential of a site is also affected by the integrity of the archaeological resource. If a site is disturbed, then vital contextual information that links material evidence to a stratigraphic sequence may be missing and it may be impossible to relate material evidence to activities on a site. This is generally held to reduce the ability of an archaeological site to answer research questions.

Assessment of the research potential of a site also relates to the level of existing documentation of a site and of the nature of the research done so far (the research framework), to produce a 'knowledge' pool to which research into archaeological remains can add.

Levels of archaeological research potential are discussed specifically in relation to the project area in Table 19 and displayed in Figure 22 to Figure 27.

Table 19: Discussion of archaeological research potential in relation to the project area

Historical theme	Discussion	Archaeological research potential
Construction works zone boundary - Grafton		
Cedar Getters (1830 – 1840)	No areas of archaeological potential have been identified with this historical theme in the project area.	If encountered there is a low archaeological research potential associated with this historical theme.
Squatters, Settlers and the Town Plan (1840 – 1860)	No areas of archaeological potential have been identified with this historical theme in the project area.	If encountered there is a low archaeological research potential associated with this historical theme.
Boom and Bust (1860 – 1890)	Ravenford (CZB10) and Fisher's Drain (CZB07) do not have a high potential to contain archaeological remains associated with this period. Ravensford (CZB10), which has a high potential is one of the oldest of the grand residences associated with the project area and one of the more historically significant houses. Whilst archaeological structural and depositional remains associated with Ravensford (CZB10) as a whole have a high potential to answer research question relating to mid 19th century residential occupation in Grafton. The impacts proposed by the project are unlikely to encounter these kinds of remains. The project area is only impacting on a narrow strip of land to the east of the property (to the side) which is unlikely to contain archaeological resources useful in answering detailed research questions. Fisher's Drain (CZB07) illustrates the need to drain low land in the vicinity of Fisher Park, an area subsequently subdivided into Fisher Park and the Grafton Showground. It has the potential to answer research questions relating to early public works and land use within the Grafton area. However, this information is unlikely to yield significant amounts of information beyond the construction techniques utilised to create the drain, it has moderate research potential. Fisher's Drain (CZB07) whilst within the project area is outside of identified areas of impact and should not be encountered during the construction works.	If encountered there is a moderate archaeological research potential associated with this historical theme.

Historical theme	Discussion	Archaeological research potential
The Big River, Bridging the Gap and United City of Two Towns (1890 – 1957)	Dunvegan (CZB12) has the potential to answer a number of research questions relating to occupation and peopling of Grafton during this period. However, the project area is only impacting on a narrow strip relating to the Pound Street frontage of the item. This area is unlikely to contain significant archaeological remains, outside of remains associated with former garden features, plantings, entrance and egress points. Other heritage items within the project area are the Coronation Plaque (CZB12), Grafton Railway Viaducts (CZB20 & CZB21), 31 Pound Street (CZB18), Kind George V Plaque (CZB19), 24 Kent Street (CZB22), 22 Kent Street (CZB24), 18 Kent Street (CZB25), 16 Kent Street (CZB26), 14 Kent Street (CZB27), 12 Kent Street (CZB28), Clarendon (CZB30), 7 Greaves Street (CZB31), 5 Greaves Street (CZB32), 1 Greaves Street (CZB33), 1 Pound Street (CZB34) and Glyndon Private Hospital (CZB35). During this period council refuse collection was available which limits the range of depositional evidence available for archaeological analysis. Any archaeological questions relating to these items would relate to their construction and therefore would be easily answered through analysis of the built and/or structural elements to these or other items available locally.	If encountered there is a low archaeological research potential associated with this historical theme.
Modernisation (1957 – Present)	No areas of archaeological potential have been identified with this historical theme in the project area.	If encountered there is a low archaeological research potential associated with this historical theme.
Construction works zone boundary – South Grafton		
Cedar Getters (1830 – 1840)	No areas of archaeological potential have been identified with this historical theme in the project area.	If encountered there is a low archaeological research potential associated with this historical theme.
Squatters, Settlers and the Town Plan (1840 – 1860)		

Historical theme	Discussion	Archaeological research potential
Boom and Bust (1860 – 1890)	This consists of land that was cultivated by W.C.B. Wilson (the grantee) and otherwise occupied for grazing until quite recently. It is unlikely that there would be significant remains of these activities in the archaeological record. The preliminary results of sub-surface testing for Aboriginal sites support this as there was little A horizon deposit, making it unlikely that archaeological remains from farming would survive as legible information. The archaeological research potential of the area is assessed as being low.	If encountered there is a low archaeological research potential associated with this historical theme.
The Big River, Bridging the Gap and United City of Two Towns (1890 – 1957)	Archaeological remains associated with railway infrastructure (CZB37) such as the turntable, roundhouse and tracks were constructed c.1914 over land that was essentially unoccupied. The location and method of construction for these items would have been to standard NSW Government Railways practice and there is no archaeological research question that could be usefully answered by archaeological work in this area beyond confirming their existence and if present their current condition. The construction of the bascule bridge (CZB36) over the Clarence River was the high point of steel bridge construction on the North Coast Line and was important in developing in-house engineering skills which were later used in the emergency replacement of the Hawkesbury River Bridge¹⁴². The question is whether the archaeology of the construction site for the bridge can add anything to our knowledge of the bridge itself. The structural steel for the bridge was fabricated by Clyde Engineering in Granville, and according to Roberts the contract called for “the temporary erection in the manufacturer’s yard of each separate span of different type”.¹⁴³ Thus little actual fabrication was reportedly done on the Grafton site rather the material was railed up to the South Grafton site and erected on a grillage¹⁴⁴ and from there each span was floated out on punts to the erection site. Roberts, who was the engineer for the	This portion of the project area contains: • A moderate archaeological research potential relating to CZB36. • A low research potential relating to CZB37.

¹⁴² Fraser, Don, 1995 Bridges Down Under: The history of railway underbridges in New South Wales, Australian Railways Historical Society p118.

¹⁴³ Roberts, J.W. 1932 The Clarence River Bridge, Transactions of the Institution of Engineers Vol 13 p405.

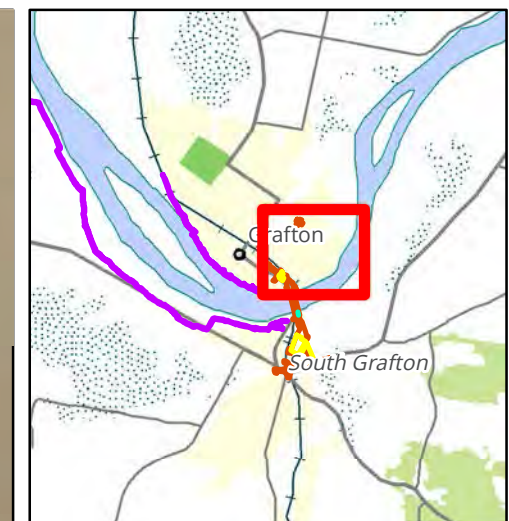
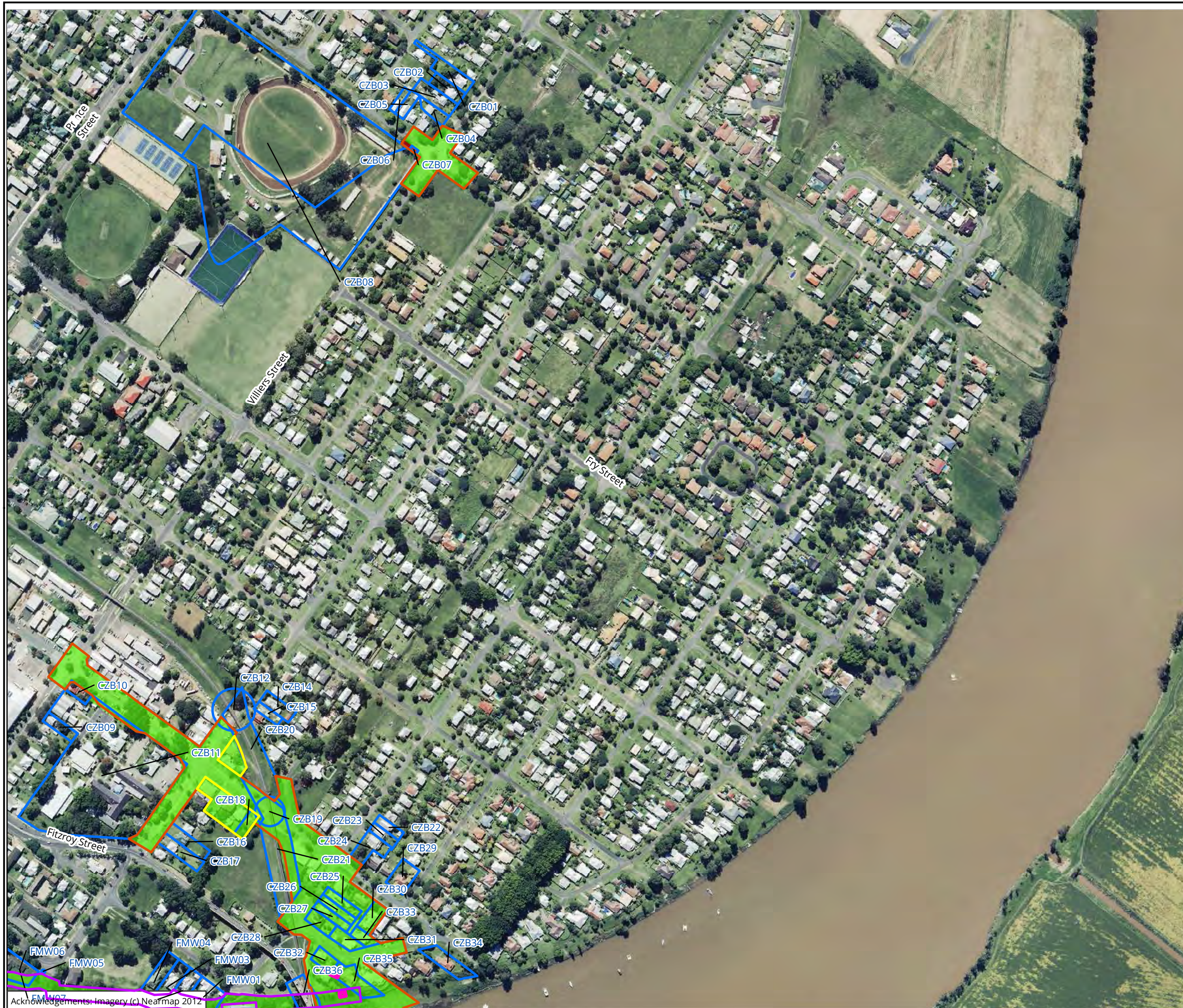
¹⁴⁴ “a heavy framework of cross-timbering or metal beams forming a foundation for building on difficult ground”.

Historical theme	Discussion	Archaeological research potential
	project, in his article presents a site plan for South Grafton. This shows work areas in detail and a workshop but little detail is provided on the actual fabrication and methods used. There would appear to be no major archaeological research questions that can be developed that cannot be answered by reference to documentary sources or by the fabric of the bridge itself. However archaeological questions concerning the extent to which fabrication and alteration of the prefabricated sections may have been completed on the site and would be worth pursuing should it conflict with the historical evidence presented. The documentary evidence available was drafted by the engineer in charge and may represent the ideal rather than the reality of the bridge construction. In particular, the workshop site (located within the project area) has a high potential to contain archaeological information pertaining to construction activities. An investigation of these archaeological remains could yield beneficial information pertaining to the preparation, alteration and assembly of spans in comparison to the documentary evidence available.	
Modernisation (1957 – Present)	No areas of archaeological potential have been identified with this historical theme in the Construction works zone boundary – South Grafton.	If encountered there is a low archaeological research potential associated with this historical theme.
Flood mitigation works – Grafton		
Cedar Getters (1830 – 1840)	No areas of archaeological potential have been identified with this historical theme in the Construction works zone boundary – South Grafton.	If encountered there is a low archaeological research potential associated with this historical theme.
Squatters, Settlers and the Town Plan (1840 – 1860)	The project area traverses a number of early areas of occupation within what would become Grafton. The original areas of occupation are roughly bound by Duke Street to the east, Mary Street to the west and Victoria Street to the north. An analysis of documentary information and early historical maps (see Figures 4-6) indicates that focal points for occupation were Sharps Store and Inn (FMW17), Memorial Park (FMW14), Original courthouse and lockup (FMW19) and Hewitt's Store (FMW27). Archaeological remains associated with this period have a high research potential to inform research questions relating to	There is a limited potential for construction works associated with the flood mitigation works to encounter archaeological deposits associated with this historical theme. If encountered there is a high

Historical theme	Discussion	Archaeological research potential
	the early informal development, occupation and lifestyles in Grafton.	archaeological research potential associated with this historical theme.
Boom and Bust (1855 – 1890)	Numerous wharfages lined the Clarence, with the 1890 Town Plan showing wharfages from the termination of Villiers to Mary Street. Remains of wharfages dating to this period are likely to be able to answer detailed research questions relating to maritime trade and economy both locally and on a regional level. Residential development within this portion of the project area continued to expand with the following heritage items being constructed: "Avoca" (FMW01), 3 Fitzroy Street (FMW02), "Riverview" (FMW04), "Itala" (FMW18), "Fowey", 133 Victoria Street (FMW21) and Verona (FMW25). Public amenities such as Memorial Park (FMW14), Grafton Courthouse (FMW15) and Police Inspectors Residence (FMW16). As a whole archaeological remains with these properties have the potential to answer research question relating to mid 19th century residential occupation in Grafton.	There is a limited potential for construction works associated with the flood mitigation works to encounter archaeological deposits associated with this historical theme. If encountered there is a high archaeological research potential associated with this historical theme.
The Big River, Bridging the Gap and United City of Two Towns (1890 – 1957)	As discussed in the previous theme, archaeological remains from this period are likely to be present the form of maritime trade and known heritage items. Remains of wharfages dating to this period are likely to be able to answer detailed research questions relating to maritime trade and economy both locally and on a regional level. Additionally, several other heritage items were constructed during this time such as: St. Mary's Church (FMW06), the Roman Catholic Presbytery (FMW07), Former St Mary's College (FMW08), 2 Villiers Street (FMW09), RTA Regional Office (FMW10), and McWilliams Lodge (FMW11).). These properties have the potential to contain archaeological remains associated with former land uses in addition to garden features, occupational deposits and former structural phases and sequences. During this period council refuse collection was available which limits the range of depositional evidence available for archaeological analysis. Any archaeological questions relating to these items would relate to their construction and therefore would be easily answered through analysis of the built and/or structural elements to these or other items available locally.	There is a limited potential for construction works associated with the flood mitigation works to encounter archaeological deposits associated with this historical theme. This portion of the project area contains: • If encountered there is a high archaeological research potential associated with maritime archaeological sites. • If encountered there is a low archaeological research potential associated with other sites associated with this historical

Historical theme	Discussion	Archaeological research potential
		theme.
Modernisation (1957 – Present)	No areas of archaeological potential have been identified with this historical theme in the project area.	If encountered there is a low archaeological research potential associated with this historical theme.
Flood mitigation works – South Grafton		
Cedar Getters (1830 – 1840)	There is the potential for archaeological remains associated with the shipyard of William Phillips to be located between Christopher Creek and Cowans's Creek within the flood mitigation works in South Grafton (FMW30). To date, no archaeological remains of cedar cutting have been investigated in Grafton. Similarly although maritime archaeologists have researched the question of ship building on the Clarence it has been through examination of shipwrecks rather than through shipyards.	There is a limited potential for construction works associated with the flood mitigation works to encounter archaeological deposits associated with this historical theme. If encountered there is a high archaeological research potential should archaeological remains associated with Phillips Shipyard (FMW30).
Squatters, Settlers and the Town Plan (1840 – 1860)	The project area traverses the portion of the early settlement which extended from Riverside Drive in the east to Arden Street in the west. The 1849 map shows areas of occupation within this area associated with W.C.B. Wilson's Store (FMW28), Public Wharf sites at the end of Through and Wharf Street (FMW32) and at the termination of Through Street and Skinner Street (FMW35). The former site of Price's store, which became the Stream Ship Inn, is believed to be on the site of Walkers Marina Hotel. The residence at 22 Wharf Street (FMW31) is believed to be upon the site of the Green Tree Hotel c 1853 -1860. Archaeological remains associated with this period have a high research potential to inform research questions relating to the early informal development, occupation and lifestyles in Grafton.	There is a limited potential for construction works associated with the flood mitigation works to encounter archaeological deposits associated with this historical theme. If encountered there is a high archaeological research potential associated with this theme.

Historical theme	Discussion	Archaeological research potential
Boom and Bust (1860 – 1890)	As with the previous theme, the focus of development within this portion of the project area focused upon the public wharves which provided linkages between South Grafton and external trade routes. Wharfages continued to be developed in the vicinity of the Public wharves (FMW32 and FMW35). Remains of wharfages dating to this period are likely to be able to answer detailed research questions relating to maritime trade and economy both locally and on a regional level. Archaeological remains associated with the property at "Dallinga"(FMW38) have the potential to answer research question relating to mid 19th century residential occupation in South Grafton.	There is a limited potential for construction works associated with the flood mitigation works to encounter archaeological deposits associated with this historical theme. If encountered there is a high archaeological research potential associated with this theme.
The Big River, Bridging the Gap and United City of Two Towns (1890 – 1957)	Within the project area, occupation within Grafton continued to be focused on the Public wharfages until the construction of the Grafton Road and Rail Bridge. The SS <i>Induna</i> was broken up on the banks of the Clarence River, its hull remains in the water 20 metres from the project area. These have the potential to answer research questions pertaining to The project area contains the Walkers Marina Hotel (FMW36), 112 Through Street (FMW 37) and 22 Through Street (FMW31). These properties have the potential to contain archaeological remains associated with former land uses in addition to garden features, occupational deposits and former structural phases and sequences. During this period council refuse collection was available which limits the range of depositional evidence available for archaeological analysis. Any archaeological questions relating to these items would relate to their construction and therefore would be easily answered through analysis of the built and/or structural elements to these or other items available locally.	There is a limited potential for construction works associated with the flood mitigation works to encounter archaeological deposits associated with this historical theme. This portion of the project area contains: • If encountered there is a high archaeological research potential associated with maritime archaeological sites. If encountered there is a low archaeological research potential associated with other sites associated with this historical theme.
Modernisation (1957 – Present)	No areas of archaeological potential have been identified with this historical theme in the Construction works zone boundary – South Grafton.	If encountered there is a low archaeological research potential associated with this historical theme.



Legend

Project Area

- Construction works zone
- Indicative location of pump station infrastructure
- Indicative location of ancillary sites
- Flood mitigation works construction zone
- Listed heritage items

Archaeological research potential

- High
- Moderate
- Low

Figure 22: Archaeological research potential - Construction works zone - Grafton

0 50 100 150 200 250
Metres

Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne, Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F20_ArchResPot_Detail_20140430



Legend

Project Area

- Construction works zone
- Temporary Jetty (Indicative)
- Indicative location of ancillary sites
- Flood mitigation works construction zone
- Listed heritage items

Archaeological research potential

- High
- Moderate
- Low

Figure 23: Archaeological research potential - Construction works zone - South Grafton

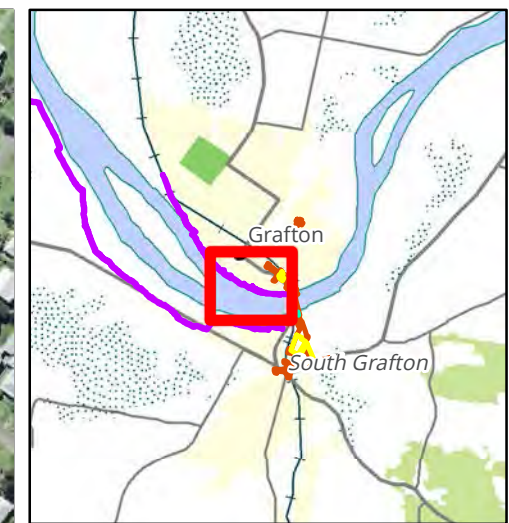
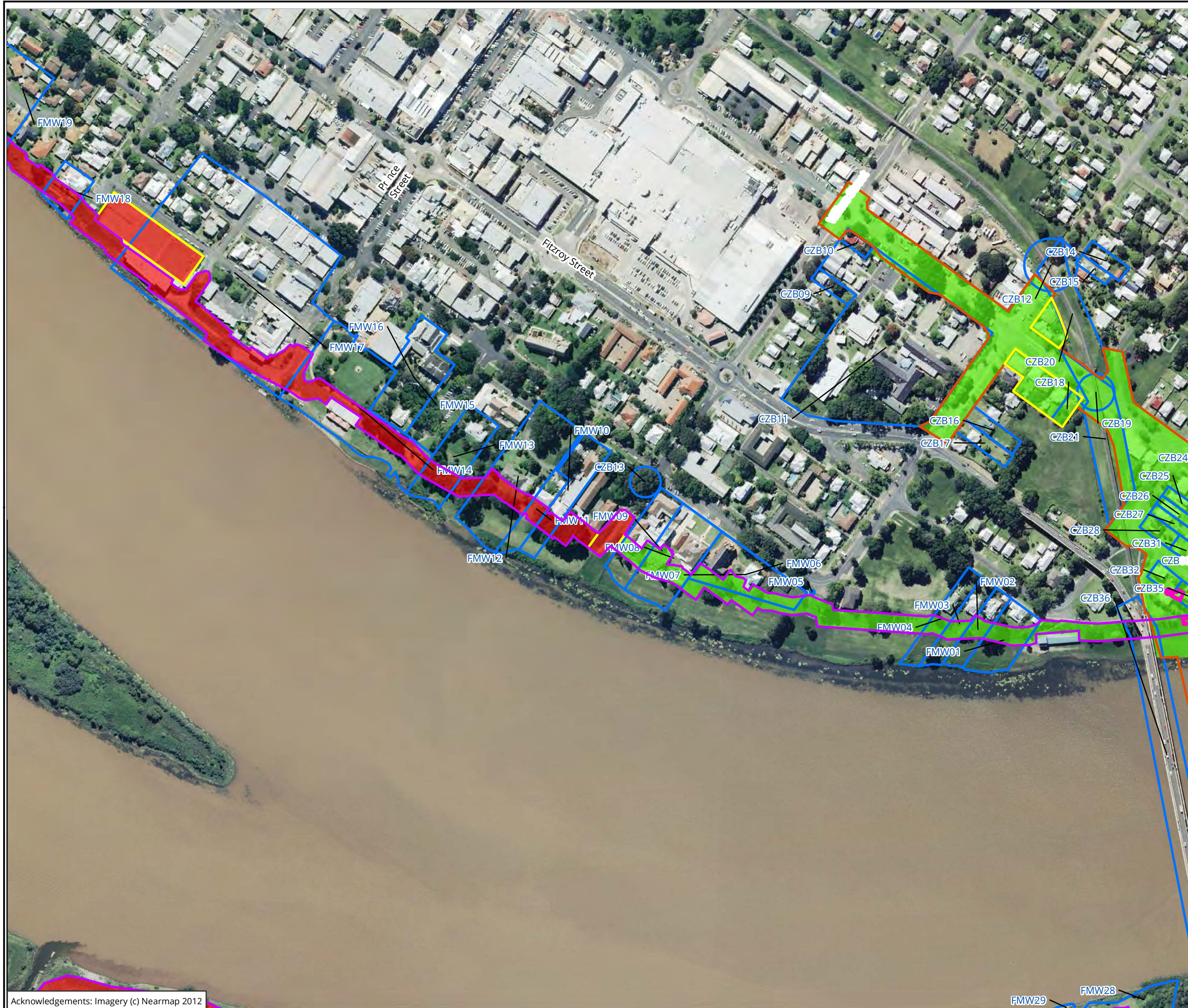
0 50 100 150 200 250
Metres

Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne, Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014,
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F20_ArchResPot_Detail_20140430



Legend

Project Area

- Construction works zone
- Indicative location of pump station infrastructure
- Indicative location of ancillary sites
- Flood mitigation works construction zone
- Listed heritage items

Archaeological research potential

- High
- Moderate
- Low

Figure 24: Archaeological research potential - Flood mitigation works construction zone - Grafton - East

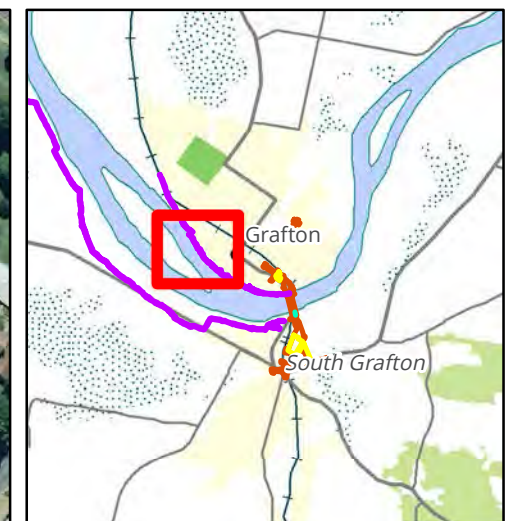
0 40 80 120 160 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F20_ArchResPot_Detail_20140430



Legend

Flood mitigation works
construction zone

Listed heritage items

Archaeological research potential

High

Moderate

Low

Figure 25: Archaeological
research potential - Flood
mitigation works construction
zone - Grafton - West

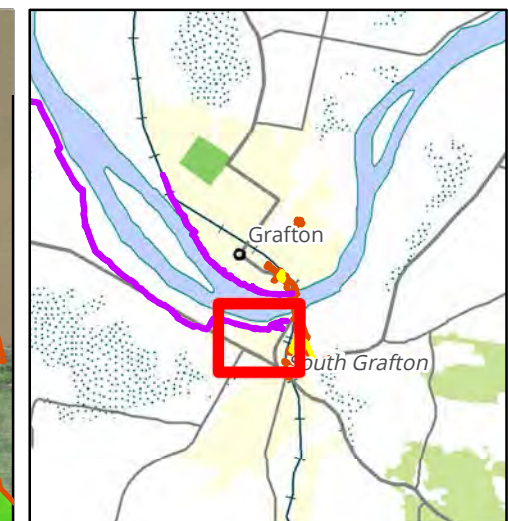
0 40 80 120 160 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

biosis
Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014,
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F20_ArchResPot_Detail_20140430



Legend

Project Area

- Construction works zone
- Temporary Jetty (Indicative)
- Indicative location of ancillary sites
- Flood mitigation works construction zone
- Listed heritage items

Archaeological research potential

- High
- Moderate
- Low

Figure 26: Archaeological research potential - Flood mitigation works construction zone - South Grafton - East

0 40 80 120 160 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne, Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F20_ArchResPot_Detail_20140430



Legend

Flood mitigation works construction zone

Listed heritage items

Archaeological research potential

High

Moderate

Low

Figure 27: Archaeological research potential - Flood mitigation works construction zone - South Grafton - West

0 40 80 120 160 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

biosis
Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 16255
Date: 06 May 2014
Checked by: A/B, Drawn by: JMS, Last edited by: jshepherd
Location: P:\16200s\16255\Mapping\16255_F20_ArchResPot_Detail_20140430

5.3 Test excavation

Based upon the findings of the historical context and site investigation sections, archaeological test excavations were completed to investigate the area used for the construction of the Grafton Road and Rail Bridge (CZB36) in South Grafton.

The assessment of archaeological potential and research potential identified that excavations would not be required in other portions of the Grafton and South Grafton construction works zone boundary. Archaeological remains likely to be impacted by the project are most likely with post 1890 residential subdivisions. Any archaeological remains are unlikely to yield information which is unavailable through other avenues of research (specifically documentary sources and analysis of existing architecture).

Several areas of moderate to high archaeological potential and research potential have been identified within the flood mitigation works. Archaeological investigation of these areas through test excavation was not carried out due to potential risks associated with archaeological excavation of the existing levee and property access issues. The flood mitigation works will be confined to the existing levee system which has been subject to heavy disturbance through the initial levee construction and subsequent upgrades. Therefore, it is uncertain to what extent archaeological remains will remain intact.

A research design was formulated for the archaeological investigations in accordance with the DGRs for the EIS. These stated that the assessment of impacts to State and local historic heritage shall 'develop *an appropriate archaeological assessment methodology, including research design, in consultation with the Department and the Heritage Council of New South Wales, to guide physical archaeological test excavations (terrestrial and maritime) and include the results of these excavations.*' (DGRs, Application Number SSI 13_6103). The research design for the test excavations was developed in consultation with DP&E and the Office of Environment and Heritage (Heritage Division) as representative of the Heritage Council. Refer to Section 1.5.3 for more details. Archaeological investigations relating to the Grafton Bridge construction area (CZB36) were designed to ascertain the nature of archaeological structures and deposits associated with the construction of the Grafton Bridge. The bridge itself was a major construction project which improved communications around Australia's east coast. The archaeology within this area was assessed to have moderate research potential to provide an insight into the actual fabrication and methods used in the construction of the bridge. The aim of the test excavations is to answer the following research questions:

- Ascertain the nature and extent of archaeological remains within the south Grafton area, specifically relating to the bridge construction areas.
- Determine the range of activities and conditions within the Grafton bridge workshop areas.
- Are the documentary sources available sufficient to address all research questions relating to the site or is further archaeological investigation required prior to the destruction of this resource.

5.3.1 Purposes of the test excavation

The physical archaeological test excavations were used to inform the assessment of non-Aboriginal heritage values and the impacts of the proposed bridge construction on that resource and its significance. The objective of the excavation was to quantify the nature of the archaeological resource located within the Grafton Bridge construction areas (CZB36) on the southern bank of the Clarence River. This area was assessed to have a high archaeological potential and moderate research potential (Refer to assessment presented in Table 18 and Table 19); therefore further investigation was required to analyse the nature of this archaeological resource. Information obtained through the physical archaeological investigations has allowed for the formulation of detailed management recommendations to be formulated as part of this report.

5.3.2 Test excavation methodology

Two test pits were excavated to assess the impacts of the proposed bridge construction on historical archaeological deposits that may be present within the project area (see Figure 28, Plate 48 to Plate 52). These trenches have been sited in accordance with the results of historical research which indicates that workshops consisting of a large shed with smaller buildings located on the waterfront. The large shed is labeled "work shops" in front of the shed was a row of

wharves or moorings. This may have been a goods and materials wharf for the bridge construction. Remains of these structures are detailed in numerous plans and historical photographs of the project area. Piers surviving along the waterfront and a concrete revetment may be part of the mooring and wharf structure.

The investigation was primarily directed at assessing the depth, extent and nature of archaeological deposits and structures within the project area. The excavation was undertaken primarily by a machine fitted with a toothless mud bucket.

Two trenches were excavated measuring 30 x 6 metres and 10 x 5 metres in size to target the construction sheds and wharf. The final positioning of the trenches was influenced by the location of two active fibre optic cables which are present within the project area to the north and between the two trenches. As these test trenches would have impacted upon any potential archaeology excavation within these easements was unlikely to yield beneficial, stratigraphic archaeological data.

The excavation methodology consisted of machine excavation limited to the removal of recent made ground or to undifferentiated alluvial muds which would be removed stratigraphically. All machine-excavated deposits would be recorded during excavation and any artefacts would be recorded and retrieved. Where intact archaeological structures or deposits were exposed, machine excavation would cease at that point and the archaeological material would be investigated by conventional manual archaeological techniques. At the completion of the excavation, each trench was recorded, with drawn plans and sections, photographs and archaeological context descriptions. Trench locations were recorded with a DGPS and post-processed to 0.3 metres accuracy.

5.3.3 Test excavation results

Trench 1

Trench 1 was set out as being 10 metres by 5 metres and located in an area adjacent to the workshop location; the stratigraphic contexts encountered are detailed in Table 20.

Table 20: Contexts encountered within Trench 1

Context No	Description
1	The surface layer was unevenly grassed across the trench and quite dry. The layer was of a uniform thickness of 10cm across the site with a clear boundary to Context 2. The layer was comprised of a grayish brown (Munsell 10YR 5/2) clayish silt.
2	This context was a grey (Munsell 10YR 5/1) coloured deposit comprising ash and burnt coal (sinter) extending across the whole trench and c15cm thick. This deposit is clearly a fill and contains discarded metal artefacts and pieces of wood, including a railway sleeper. The ash and coke would have been obtained from steam locomotive servicing when the ash and burnt coal, which material was typically used by the railways to consolidate ground as it had to be dumped somewhere.
3	This context, the base layer extending across the trench, consisted of a very dark grayish brown (Munsell 10YR 3/2) clayish silt. There was a clear and distinct boundary between this context and Context 2. This context represents the remains of the natural soil profile across the site.

No archaeological features were identified in the excavation. The artefacts recovered from Trench 1 are detailed in Table 21 these were partially cleaned and photographed before being reburied when the trench was backfilled.

Table 21: Artefacts recovered from Trench 1

Number	Fabric	Description
1	Steel	Flat bottom rail section, 34cm long.
2	Iron	Two links of a large chain, most likely from a coupling.
3	Iron	40cm length of 7.7cm diameter pipe.
4	Composite	Square lead washer; iron bolt with a square head; square keeper plate; and other corroded iron items.
5	Composite	Rectangular iron plate, with a bolt through it, plus another hole; remnant timber.
6	Composite	Rectangular iron plate, with a bolt through it, and remnants of timber.
7	Iron	Iron rail joining plate.
8	Composite	Four iron bolts with square washers and threaded end through a remnant timber.
9	Iron	Iron strap.
10	Steel	Circular metal piston ring stamped with the number 16001 (see Plate 53).
11	Iron	84 miscellaneous iron pieces.
12	Steel	Flat bottom rail 91cm long.
13	Wood	Timber sleeper.

Artefacts numbers 4, 5, 6 and 8 would seem to be part of a timber framed structure which used iron fastenings. This would be typical of any of the structures known to be on the site. Artefacts numbers 1, 12 and 13 are from railway track and Item 2 is likely to be from wagon couplings. All are common items on railway sites. The only unique artefact is no. 10, which is clearly from some form of machinery, but it is unclear what type of machine.

Overall, the collection is not unexpected given the general area was the site of a locomotive depot in which all these items could have been found and discarded in situ. There is nothing in the artefact collection that specifically points to the construction of the bridge.

Trench 2

Trench 2 was located between the optical fibre cables in the vicinity of the workshops area and positioned to include a depression in the ground surface which, it was thought, might be related to the workshops. The Trench was 35 metres long and 5 metres wide. The stratigraphic contexts encountered are detailed in Table 22.

Table 22: Contexts encountered within Trench 1

Context No	Description
1	The surface layer unevenly grassed across the trench and quite dry. The layer was of a uniform thickness of 10cm across the site with a clear boundary to Context 2. The layer comprised of a grayish brown (Munsell 10YR 5/2) clayish silt.
2	This context was a grey (Munsell 10YR 5/1) coloured deposit comprising ash and burnt coal (coke) only present in the western end of the trench and c15cm thick. This deposit is clearly a fill and contains discarded metal artefacts and pieces of wood, including a railway sleeper.
3	This context, the base layer extending across the trench, consisted of a very dark grayish brown (Munsell 10YR 3/2) clayish silt. There was a clear and distinct boundary between this context and Context 2 and a marked absence of artefacts. This context represents the remains of the natural soil profile across the site.

Context 2 consisted of a fill deposited over Context 3, and Context 1 later accumulated over both 2 and 3. Eight archaeological features were identified in the trench, these are detailed in Table 23.

Table 23: Archaeological features identified in Trench 2

Name	Description
Feature 1	Consisted of two 35mm diameter metal pipes; one having a type of collar on it, bent over. They were in a pit cut into Context 3.
Feature 2	A 34m diameter pipe bent over; no sign of a foundation trench but the pipe is clearly in Context 3.
Feature 3	A 35m diameter pipe bent over; no sign of a foundation trench but the pipe is clearly in Context 3.
Feature 4	A 35m diameter pipe bent over. The pipe seems to be associated with a concrete deposit consisting of large river pebbles loosely cemented together.
Feature 5	A drain consisting of 21cm terracotta agricultural pipes running across the trench.
Feature 6	A metal pipe, 52mm in diameter, running roughly parallel to the trench, 6m long. The pipe was resting in Context 1 and sealed by Context 2.
Post Hole 1	Was a roughly circular hole 82cm in diameter. The cut was square and 80cm deep and cut into Context 3, and sealed by Context 1. No post was in situ but the cut was backfilled with a dark brown/black silt containing abundant wood fragments (see Plate 51).
Post Hole 2	Steep sided, flat bottomed post hole with post in situ. Post hole was 70cm deep and 33cm in diameter, cut into Context 3 and sealed by Context 1. Part of the post was in situ; the timber being a bush timber (i.e. not sawn) (see Plate 51).

The following artefacts were recovered, partially cleaned and photographed before being reburied when the trench was backfilled. The artefacts were mostly collected from the area of Context 2 and are detailed in Table 24.

Table 24: Artefacts recovered from Trench 1

Number	Fabric	Description
14	Iron	Water pipe, 30mm diameter 63cm long.
15	Composite	Iron pipe with a copper pipe inserted; possibly an exhaust and guard.
16	Iron	Broken spanner.
17	Iron	Two iron straps.
18	Ceramic	Glazed circular ceramic piece, stamped "Hughes".
19	Iron	Metal object.
20	Iron	Metal link.
21	Ceramic	Fragment of a ceramic insulator.
22	Iron	Metal strap.
23	Aluminium	Fragment of a can – Golden Circle Orange Passion (fruit). Based on dates of cans with similar colour schemes c. early 1990's.
24	Iron	Iron wedge.
25	Ceramic	Two complete and four half bricks. Dry pressed standard dimensions.
26	Iron	Eighty-three miscellaneous and non-diagnostic metal objects.
	Wood	One railway sleeper.

Similar to the artefacts in Trench 1, those in Trench 2 are not unique and reflect the sort of items that would be discarded from railway workshops. The presence of a can from the 1990s suggests that Context 2 might have been deposited as part of the general site clearing, evidenced from the aerial photography as occurring in the mid 1990's (see Figure 8). Trench 2 demonstrated that some archaeological features have survived in this area but there is nothing in the way of evidence that suggests these remains are from the 1930s workshops and the remains and archaeological features would be more easily explained as relating to the buildings dating from the 1950s to 1994.

5.3.4 Test excavation conclusions

The results of the archaeological work at the South Grafton Bridge construction site are that:

- Substantial archaeological remains from the 1930s workshops used to erect the spans for the Clarence River Bridge are unlikely to occur in this area
- That archaeological remains from more recent building do exist, and numerous railway related artefacts occur in fill deposits such as Context 2

Therefore, it is concluded that archaeologically significant remains from the bridge construction workshops are unlikely to be present along the south bank of the Clarence River. The archaeological potential for CZB36 can be reassessed from high to **moderate** and the archaeological research potential from moderate to **low**.

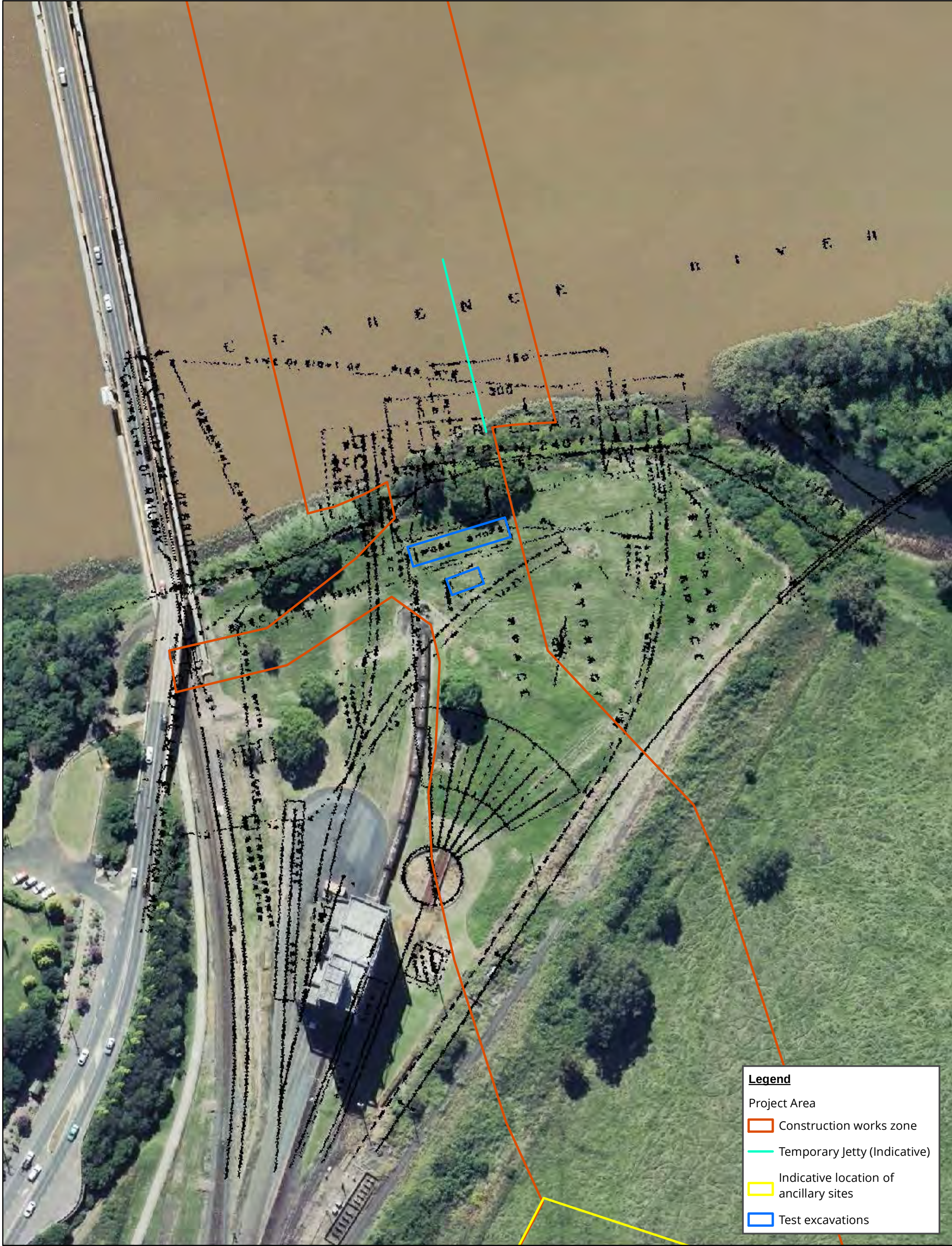


Figure 28: Location of test trenches excavated in the Grafton Bridge construction area (PB36)



Plate 48: West facing pre-excitation photograph of Trenches 1 and 2 (Source: JCIS Consultants).



Plate 49: East facing post-excitation photograph of Trench 1 (Source: JCIS Consultants).



Plate 50: East facing post-excavation photograph of Trench 2 (Source: JCIS Consultants).



Plate 51: Pre-excavation photograph of post hole 1 (left) and (right) post excavation photograph of post hole 1 (Source: JCIS Consultants).

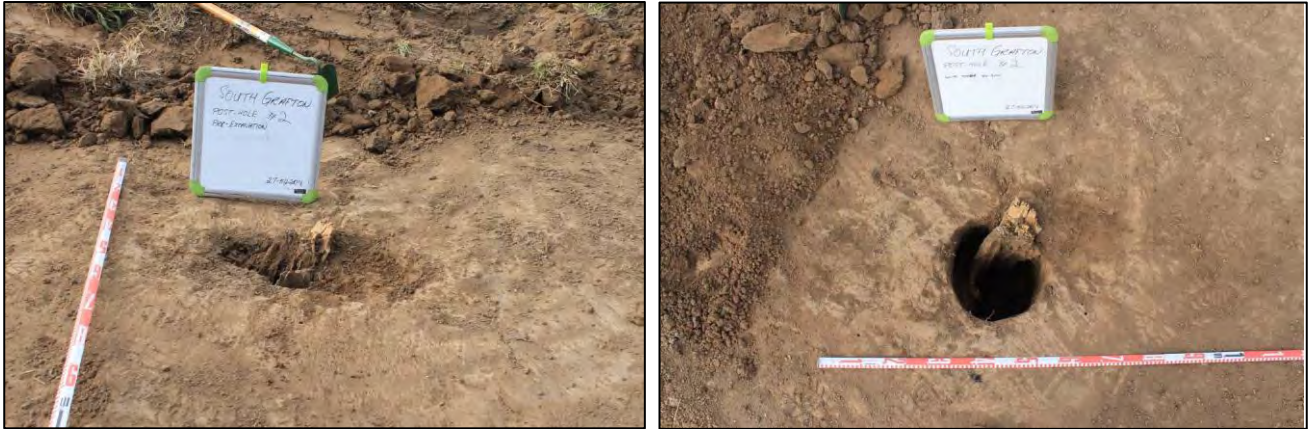


Plate 52: Pre-excavation photograph of post hole 2 (left) and (right) post excavation photograph of post hole 2 (Source: JCIS Consultants).



Plate 53: A representative sample of an artefact collected during the archaeological investigation from Trench 1 (Source: JCIS Consultants).