

## 5 Discussion of potential methods of identifying filling events

The majority of the evidence for historical filling events in the Melbourne CBD comes from the records of the City Council, either in the form the minutes of the Public Works Committee meetings, in which filling orders are noted (PROV VPRS 4037), or in the form of correspondence to the Council from landowners regarding land levels and filling orders. Historical newspaper reports are also a useful source of information – particularly reports concerning the outcomes of Council or committee meetings.

On the whole, researching these sources, the Public Works Committee meeting minutes in particular, is a slow and time-consuming process. While the meeting minutes are readily available at the Public Record Office Victoria, the simple act of reading through the volumes of hand-written minutes available, while interesting, is somewhat arduous, and would require more time than was available in this project. It is also clear that not all historical filling events would have been recorded in these sources.

This section of the report provides a discussion of other potential methods of identifying locations of historical deep-filling events in the Melbourne CBD that were considered in the course of this project.

### 5.1 Comparing contours – historical contour data from 1853 and 1880

The first and main method attempted involved the comparison of two available datasets derived from contour plans of the Melbourne CBD derived from the two plans listed below.

- C. Hodgkinson (surveyor) 1853 *Contoured Plan of part of the City of Melbourne* (Figure 18)

This plan has a notation in the top left corner, noting that it is the Melbourne Sanitary Survey, Sheet No 1, working plan of contours. The vertical distance between contour lines on the plan is 4 feet, ‘the first contour being four feet above the ordinary level of low water as indicated by a tide gauge set up at a point on the river bank on the prolongation of the line of Flinders Street.’ The reduced levels ‘of the subjoined benchmarks are also given to low water at the tide gauge, corresponding to a datum 15’08 feet below the sill of the niche on the west side of the abutment of Princes Bridge on the right bank of the river’.

- N. Munro (surveyor) 1880 *Contour plan of portion of the City of Melbourne* (Figure 19)

This plan was created ‘for use in connection with the Mayor’s prize for essays, etc. on the underground drainage of the metropolis’. The datum for this plan is also noted to be the ‘low water mark to River Yarra’ and the bench mark on the NW abutment of the Princes Bridge ‘sill of niche is 15.08 above low water’.

As the information provided on the plans appears to suggest that they used the same vertical datum, and the contour lines shown on the plan are at the same vertical scale, comparing the contour data on the two

plans was considered a possible method for identifying locations that had been subject to filling in the years between the creation of the two plans.

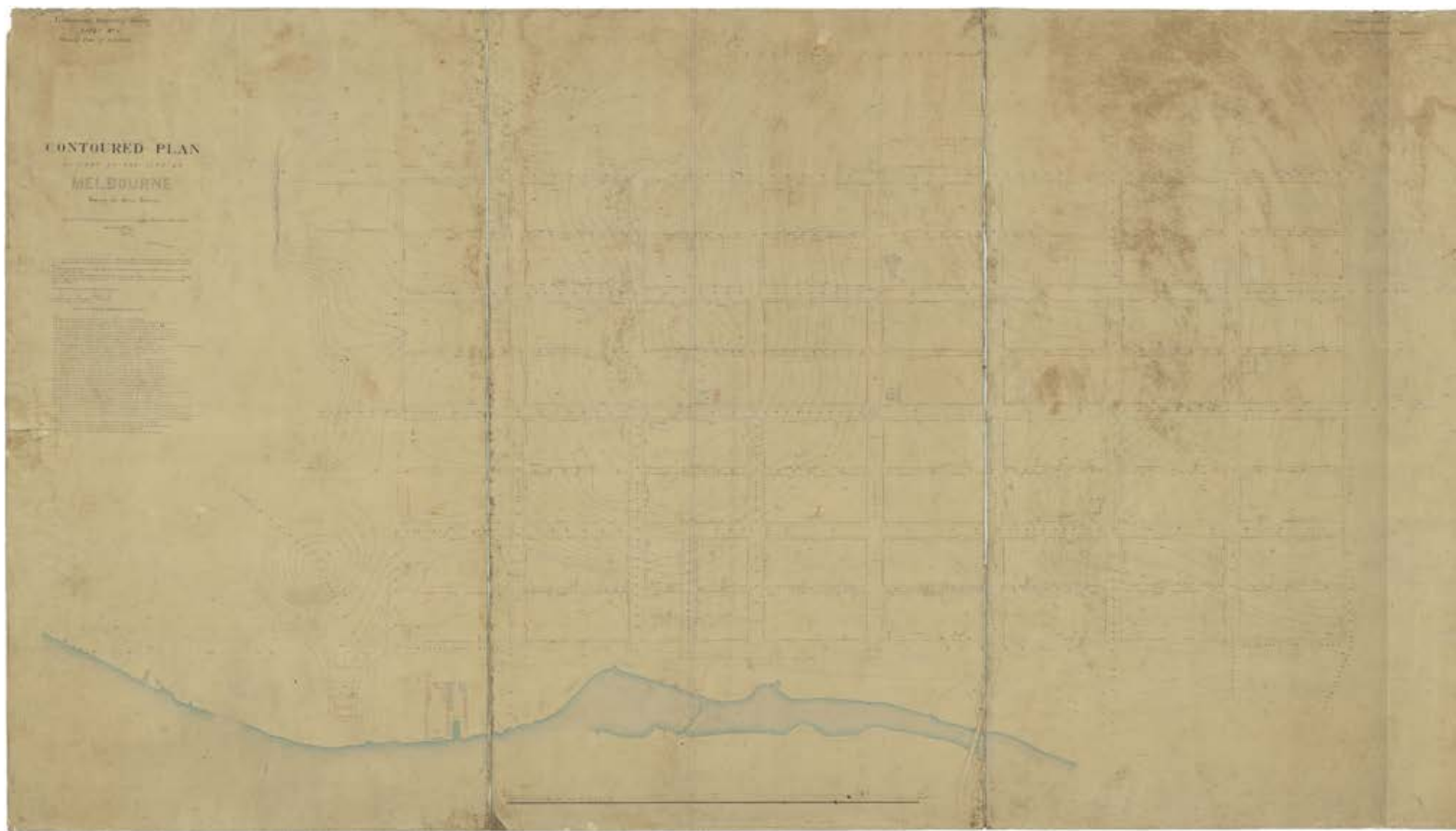


Figure 18 Hodgkinson's 1853 contour plan of Melbourne.

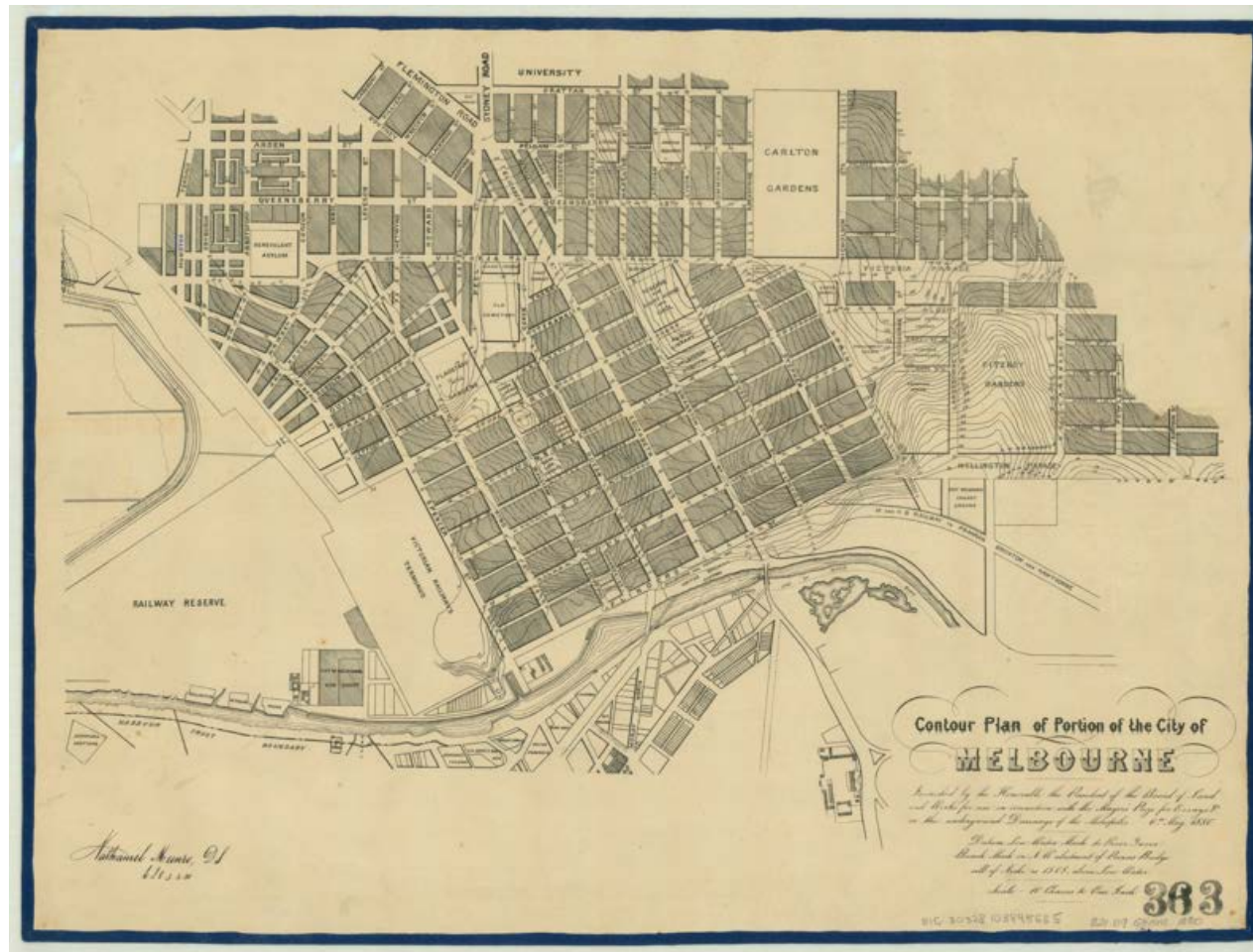


Figure 19 Munro's 1880 contour plan of Melbourne.

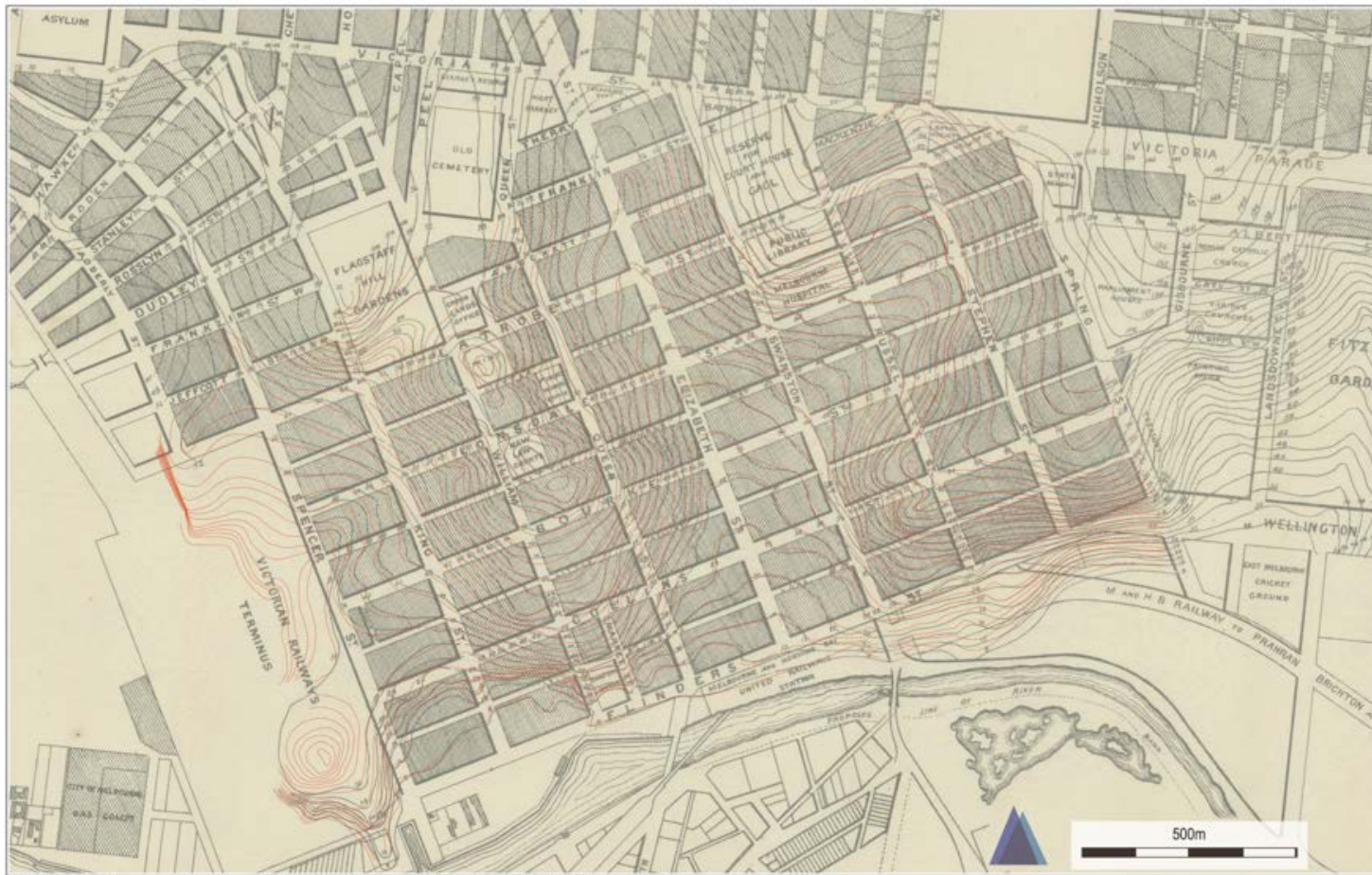
This method is not, of course, without its obvious problems. Manually georeferenced raster data, particularly scanned copies of historical plans will never be completely accurate, and the manual tracing of contour lines is also open to some human error. That said, a comparison of the two sets of contours does show some points of difference, but the usefulness of this is questionable. Figure 21 is an attempt to make this difference more visible. In it possible locations of filling have been shaded green – these are locations where contour lines in 1880 have, in essence, shifted downslope from their 1853 position. While the results of this does tend to produce green shading in areas where filling might have been expected, such as around Elizabeth Street and in the block bounded by Lonsdale, Latrobe, Russell and Stephen (Exhibition) Streets, it also produces shading in what would appear to be areas that were unlikely to have been filled – the eastern side of Batman’s Hill and on the rise between William and Queen Street along the line of Collins Street, for example. Perhaps one of the most surprising aspects of the result of the contour comparison is the lack of visible evidence of street level modifications between 1853 and 1880, which seems at odds with the other historical evidence. It does suggest the probabilities that either the 1880 CBD contours were largely based on those of the 1853 plan, or that the contour interval is simply too large to show a difference. The former seems the more likely explanation, given historical data that was discovered after the contour comparison had been made.<sup>22</sup> The outcome of this attempt was therefore a realisation that a comparison of these two datasets is not likely to be of use for the purpose of determining the locations of deep nineteenth century filling in the CBD<sup>23</sup>.

The Melbourne and Metropolitan Board of Works plans of the Melbourne CBD blocks that were prepared in the 1890s would probably offer useful level data for comparison. As with modern levels, using this data for comparison with the 1853 plan would require consideration of the vertical datum used, but it is considered to be a method worth pursuing.

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<sup>22</sup> The probability that this plan was based on earlier contours is reinforced by the reports of an 1871 meeting regarding the creation of a contour plan for the planning Melbourne’s sewerage scheme in which the idea of utilizing and adding to the existing contour data was discussed (Lloyd-Smith 1971: 10–11). This evidence was found after the contour data had been analysed.

<sup>23</sup> A similar attempt was made with contour lines derived from a 1972 Melbourne and Metropolitan Board of Works plan of Melbourne. This involved digitising the 1972 contour lines and then (in order to make them comparable to the 1853 dataset) converting their values to feet from metres and converting levels to the 1853 datum. This method produced results that may not be directly comparable, and more work is required to assess this method and determine whether the levels have been accurately converted. For this reason, a plan of these contours is not shown here.



Red contour lines are derived from the 1853 Hodgkinson plan, base plan is the 1880 Munro plan

Figure 20 Plan showing the 1853 Hodgkinson contour line data set (in red) laid over the 1880 Munro plan.



Red contour lines are derived from the 1853 Hodgkinson plan, base plan is the 1880 Munro plan

Figure 21 Plan showing the 1853 Hodgkinson contour line data set (in red) laid over the 1880 Munro plan with green shading highlighting locations that may have been subject to filling (although later historical research has shown that this data is likely to be inaccurate).

## 5.2 Street levels

Historical research undertaken for this project has focused primarily on City Council records of filling orders and the responses of some landowners to them. The orders were, on the whole, made necessary by the construction or modification of city streets to their 'permanent levels'. The alteration and fixing of the street levels in the Melbourne CBD appears to have commenced as early as the 1840s and been on-going through the 1850s, and continued at least up until the late 1860s and likely beyond as evidenced by the newspaper report of Council business reproduced below:

*Permanent street levels. Councilor Butters moved the adoption of the report of the Public Works Committee, informing the Council that the city surveyor had pointed out the necessity of having a datum line fixed; accurate levels taken of the whole of the streets already formed within the city boundary; sections and cross-sections made on which the permanent levels may be definitely laid down, and to which citizens requiring information as to levels may be referred, and bench marks placed upon the lamp pillars; and recommending thereupon that the work be authorised...(The Argus 24/09/1867.*

Historical information also indicates that street level alteration continued in the inner city suburbs of Melbourne in the later nineteenth century (see Section 3.1).

While some information concerning the street level alteration was collected in the course of undertaking the historical research carried out for this report, more work would be required in order to collect the data needed to form a clear picture of the sequence of street formation in the CBD and inner city. Given the clear association between the building up of streets and the need to fill private property, working out the sequence and heights of street formation to permanent level would likely enable the identification of areas where filling was required, as well as the year in which the filling probably occurred.

A more complete investigation into the changing street levels was beyond the scope of this project, but this avenue would appear to be a promising one in terms of working out the timing, and potentially the depths of required filling. Figure 22 is a preliminary assessment of areas that likely required filling based on Darke's 1837 proposed street levels. At this stage, it is unclear whether or to what extent Darke's proposed levels were acted on across the city, but these proposed alterations provide an indication of where street filling, and hence land filling were probably required. We do know that street level alteration was occurring by the mid to late 1840s (see Section 2.1.1). It is assumed that filling occurred where it was originally proposed by Darke, then certainly it can be expected that those portions of land through which water flow would have been blocked by the raising of the adjacent street were likely subject to filling, whether as a result of Council order or (pre-1853) of simple necessity. The background to Figure 22 is the

1840 Russell plan of Melbourne which showed the structures present in the city at that time. This plan indicates that early structures existed in some of the areas that may have required filling – particularly along the north side of Collins Street. As discussed in Section 2.1.1, some of these structures were likely built to Darke’s proposed levels. Others were not and they, or the land around them, may have been subject to later filling.



Figure 22 Preliminary assess of the likely locations that filling may have been required, based on Darke’s 1837 proposed street levels (Figure 3) and the 1853 contour data.

A more thorough examination of the changing street levels (and importantly the sequence of this change) prior to final fixing of the levels in the nineteenth century would likely yield useful results in terms of determining which portions of the city are likely to have been subject to filling.

## 6 The likelihood of additional deep filling events existing in the Melbourne CBD, or elsewhere

The research undertaken for this report has resulted in the discovery of one historical description of what appears to be a deep filling event which can also be pinpointed to a fairly exact location. This description takes the form of a letter written by John Smith to the Melbourne City Council (discussed in Section 3.2 of this report) in which Smith outlined the method by which he hoped contractors would fill his property. The process described would have resulted in the partial burial of the lower part of what the description appears to indicate was a two-storey house, and may have resulted in deeply buried structural remains such as were excavated at the Wesleyan Church and Jones Lane sites discussed in Section 4.2.2.

Smith's property was located on the north side of Alma Place, 115 feet west of Bouverie Street in Carlton, and outside of the CBD study area of this project (location 26 on Figure 6). A relatively modern apartment complex sits on this location, which is indicative of a strong likelihood that any archaeological site that once existed there has been destroyed. The contents of Smith's letter suggests that his neighbours also would have had to fill their properties, but the extent of the filling is unclear – whether need for filling extended along both sides of Alma Street, or along Bouverie Street to the south is not currently known. More research is required in order to determine the likelihood of this, and of the historical archaeological sites existing in this general area.

No other historical references to deep filling that could be pinpointed to a reasonably exact location were found. The location of a house on Franklin Street that was, according to its owner, beneath the level of the adjacent street due to 1862 Council level alterations (see Section 3.2.2.1 and filling event 27 in Appendix 2) has not been found despite attempts to locate its whereabouts through a review of Gipps and Bourke Ward rate records. Again, additional historical research may rectify this.

Information derived from a combination of the known archaeology of the local area, and detailed examination of rate book records has resulted in the identification of some possible locations of deep filling in the fairly immediate surrounds of the Wesleyan Church/Jones Lane area. As discussed in Section 4.2.2.3, there appears to be relatively promising information suggesting that some properties in Bennetts Lane were subject to filling deep enough to cause some disruption, damage or change to the structures located on them (although the actual depth of the filling is not known). Additional historical research would be required in order to pinpoint the exact locations of these properties, but Figure 15 provides an indication of their probable positions.

One could also, of course, speculate that properties immediately adjacent to the locations of known filling have also been filled. For example, Heritage Inventory site H7822-2033 at 490–494 Elizabeth Street which sits immediately adjacent to deep filling uncovered during the excavation of the Stork Hotel and adjacent sites by Vincent Clark and Associates, or Heritage Inventory site H7822-1191 at the intersection of Little Lonsdale and Exhibition Streets which sits immediately to the east of the deep filling uncovered by Green Heritage at 109–111 Little Lonsdale Street. Similarly, sites located on the north side of Little Lonsdale Street to the north of the Wesley Church and Jones lane sites may also contain deep filling.

There is a danger in this speculation, however, as demonstrated by the Vincent Clark and Associates excavation at 9–11 Exploration Lane (H7822-1096) and toward the southern end of the Wesley Church site (H7822-1199) which showed that the characteristics of filling can be highly localised (see Section 4.2.2.2). For this reason we are reluctant to name any single inventory site as a probable candidate for containing historical deep filling based on existing information. Currently collected historical information is too vague to accurately identify individual sites. In addition, the information collected indicates that the need for land filling in the mid to late nineteenth century was both widespread and not necessarily recorded in the records consulted to date. For these reasons it is considered potentially misleading to attempt to isolate particular areas of the CBD as filling hotspots, based on current information.

While the historical information collected to date does not allow any archaeological site containing deep filling to be pinpointed with any certainty, the widespread nature of the known filling orders, combined with the large number of still untapped historical resources available, suggests that as yet unidentified deep fill locations do exist in the CBD and elsewhere, and that any archaeological work undertaken in the CBD should be carried out with that fact in mind.

Section 7.3 provides recommendations for addressing the possibility of filling events on Heritage Inventory sites.

## 7 Findings and further work

### 7.1 Findings of this project

The historical research undertaken for this project has shed some light on the reasons for the ‘buried block’ phenomenon identified as a result of excavations undertaken by Vincent Clark and Associates and Green Heritage in the Wesley Church/Jones Lane precinct of the Melbourne CBD. It has revealed that filling as a result of Council alterations of street levels was a widespread phenomenon in the mid to late 19<sup>th</sup> century and historical records of filling events can be found in a number of interconnected sources, primarily consisting of various records of the Melbourne City Council held at the Public Record Office Victoria. The major sources for data relating to filling events consulted for this report are:

- **Minutes of the Public Works Committee VPRS 4037/P0** – these meeting minutes contain mentions of filling orders. Such orders were often also reported in newspapers of the day when they reported on City Council meetings. It must be kept in mind, however that these records only record those instances of filling that required Council attention – i.e. it became necessary for the Council to order a landowner to fill their property. There is likely no Council record of those instances where landowners took it upon themselves to fill their properties without Council prompting.  
These meeting minutes also contain some requests from landowners for projected street levels.
- **Town Clerk’s Files (VPRS 3181/P0)** – there are various files grouped under different categories. Material relevant to filling events were found in the various files groups under the topics health, lands, lanes, nuisances and streets.

Other files from which information was derived for this report are listed in the references section and referenced through the report, and there may be information in other Council records that have not yet been examined. It is suggested that further research into the alteration and fixing of Melbourne street levels would likely yield further information concerning probable filling locations, including those for which no Council intervention was required. Rate book data has also been shown to be potentially useful in determining the likelihood of deep or disruptive filling in areas that have already been pinpointed as probable filling locations.

While there is certainly scope for a more thorough and comprehensive examination of the available historical records (Section 7.2), the work undertaken for this project has gone some way to explain the processes involved in the land filling phenomenon visible in the archaeological record. The results of the historical research can be summarised as follows:

- The need to level private property by filling was created by a combination of the natural topography of Melbourne and the formation of the city streets. The streets, by necessity, were raised above the natural ground level in low-lying areas, and their formation resulted in the blockage of the natural drainage of the CBD and the inner-city suburbs. This process was underway by at least the mid 1840s.
- Act 16 Victoria No 38 (1853) enabled the City Council to order the raising of land to the level of adjacent streets.
- The formation of streets, and the setting of permanent street levels appears to have been an ongoing process through the 1850s and 1860s in the CBD and (what is now) the inner city. In some locations it continued into later decades.
- An order to raise land could be for as little as a few inches, to as much as several feet (or the height of a roof), and the impact on existing structures on the property could therefore range from very little to significant.
- There are clear examples of landowners making preparation to raise their houses above the fill, in other instances property owners were clearly required to more or less bury the lower floor of their house.

It was the archaeological discovery of deep filling at the Wesleyan/Jones Lane precinct that prompted the development of this project. The implications for archaeology of the filling events known to have occurred in Melbourne in the early decades of post-contact settlement are significant, and can be summarised as follows:

- There are known archaeological examples of deep filling events from the 1850s in the Melbourne CBD. While archaeological information concerning the outcomes of these is fairly preliminary, it is clear that in more than one location deep filling occurred inside and around existing structures, leading to a level of preservation of walls, fireplaces and other structural features not typically found in CBD archaeological sites.
- More moderate (less deep) filling can also have significant implications for archaeology, as it may have resulted in the sealing and protection of very early features, structures and deposits that would otherwise have been disturbed or destroyed by subsequent occupation and use of the site. Included in these might be cess pits that were sealed 'as is' at the time of the filling event. The dampness of low-lying or flooded areas combined with the (usually clay) cap could result in improved conditions for the preservation of some organic remains.

- The fill layers are a potentially securely dated stratum (if historical evidence of the filling event can be found) the identification of which would assist generally in the interpretation of site formation processes on any given archaeological site.
- The filling events themselves are part of a city-wide phenomenon, and should be considered in that light. The fill itself was a commodity, the sourcing, creation and distribution of which has tended to be dismissed in archaeological reports in the past. An understanding of the locations from which fill was sourced, and where it was placed, may have implications for the interpretation of Aboriginal as well as historical archaeological material in the CBD. Unlike many other commodities that appear in the historical archaeological record, fill is generally largely ignored and dismissed by archaeologists during the interpretation of historical archaeological sites, yet paying more attention to it may assist in the interpretation and understanding of nineteenth century Melbourne.
- Though widespread, the characteristics of the filling events were highly variable and localised, with archaeological evidence indicating that sites located a short distance from one another may have been subject to very different filling requirements and processes.

## 7.2 Suggested further work

As discussed in the introduction, the historical research undertaken for this project has only scratched the surface of the available historical data, and it very much feels that there is great deal of additional work required to understand and make use of the filling phenomenon discussed in this report.

### 7.2.1 Completing the historical research into the filling phenomenon:

Due to the sheer volume of historical information available in the minutes of the Public Works Committee, not all available volumes, even those from the 1850s and 1860s, have been examined. These are likely to contain more useful information and a complete examination of them would complete the data in terms of listing filling orders issued by the Committee through the years examined. This data, though, is only one part of the story, given that they do not contain information concerning filling events for which landowners did not require either prompting or assistance from Council. Nor do they generally provide an indication of the depth of required filling. Avenues of inquiry that may fill in these gaps include:

- An analysis of the process and sequence of the alterations to and fixing of the final levels of the city streets. Street level data may provide a clearer indication of the depth of filling that was required. The sequence in which street levels were raised may on provide a better understanding of the sequence and depths of the filling events across the CBD.

- More targeted and detailed rate book analysis of locations known to have been subject to filling. A close examining of rate book data for properties on the north side of Little Lonsdale Street appeared to indicate a disruption in property types, and possible indications that some properties had been either raised or buried around the time when other historical data, in the form of filling orders, indicated that this may have occurred. While the close examination of rate book data is very time-consuming, it may be a worthwhile avenue of inquiry for gaining additional information on those locations where deep filling is suspected to have occurred.
- An examination of the City Surveyors contract specification plans. If these plans exist and are available, they could provide useful information on the depths of required filling for those filling events that were carried out by contractors. They are referred to in the City Surveyor specification books, but were not located during the work undertaken for this report.

A good understanding of the characteristics and sequence of filling across the city would assist in the interpretation of the historical archaeology across the CBD, potentially providing a horizontal sequence of filling across the CBD and inner city suburbs. It *may* be possible to trace the movement of fill across the city in some instances, providing an interesting additional perspective on site formation processes, and important information concerning potential site preservation.

Filling orders provide the opportunity to date specific filling events in different parts of the city, and potentially have also created a mind-nineteenth century landscape sealed by historically dateable events. The fill itself is a sealed archaeological deposit that was sourced, carted, traded and laid down across the Melbourne CBD and inner city.

The sort of work required to fully elucidate the chronology and character of the filling events across Melbourne is beyond the scope of any individual archaeological project in that the relevant information is not generally easy to access and find. It would generally be difficult to discover the relevant information in the course of historical research undertaken typically undertaken for such a project, making the need for this to be addressed in a single report/project all the more necessary. It is hoped that the information provided in this report provides a base, in terms of a basic understanding of the phenomenon, that future work can build on.

#### 7.2.2 Expanding the scope of the Heritage Inventory in inner city suburbs:

It is clear that filling events occurred in Fitzroy, Carlton, East Melbourne, probably North Melbourne, and West Melbourne. The example of John Smith's house (Section 3.2) indicates that deep filling may have occurred in Carlton. Other references to filling, or the possible need for filling in inner city suburbs were noted in the course of the historical research undertaken for this project but were outside the scope of the

study and beyond the study area. As Figure 6 indicates, clusters of filling events are known to have occurred in the 1850s and 1860s beyond the bounds of the Melbourne CBD. They were both on the immediate fringes of the CBD and further afield (see Appendix 2).

These inner city suburbs have never been the subject of a large-scale study of the type undertaken in the CBD by Fels, Lavelle and Mider in the early 1990s, and as a result comparatively few Heritage Inventory sites have been recorded within them. Considering the potential significance of sites that were subject to early deep filling, the risk in these locations of the loss of significant archaeology is higher than in the CBD where inclusion on the Inventory provides filled sites a level of protection. Large-scale preliminary studies of these inner city areas aimed at recording the existence of potential Heritage Inventory sites there would go some way to addressing this issue.

### 7.3 Implications for archaeological work in the CBD and the inner city

While one of the original aims of this project was to identify likely locations of additional, as yet unidentified locations of deep filling in the Melbourne CBD, that outcome has proved to be somewhat elusive. The relatively large quantity of historical material related to filling events, combined with the lack of readily accessible clear information concerning the required depths of the fill makes the isolation of deep fill locations difficult. In addition, the highly localised nature of the filling events as demonstrated by the archaeology makes any clear identification of particular locations or sites difficult. This makes any mapping of potential deep filling sites highly speculative and potentially misleading – for this reason it has not been undertaken for this report.

There exist instances both of deep filling occurring in the absence of any known historical reference to a filling event (for example, the Capitol Theatre in Swanston Street, see Section 4.2.3) and of no archaeological evidence of fill in locations where deep filling might be expected as a result of historical and/or archaeological information (for example, the Bucks Head Hotel site (H7822-1063), and the southwestern and southern portions of the area excavated by Vincent Clark and Associates at the Wesleyan and Jones Lane precinct where no clay fill was found (Section 4.2.2.2)). This makes any prediction of deep filling locations, in the absence of a clear historical description of the fill and of the property location, highly problematic. Certainly, continued excavation in the Melbourne CBD in locations near known deeply filled sites, and in those locations where historical data indicates there may have been deep filling (such as along portions of Bennetts Lane) will go some way to helping to tease out the correlation between historical and archaeological information and the extent of historical filling.

Both deeply and moderately filled archaeological sites have the potential to contain structures, features and deposits that are unusually well-preserved, meaning that there may be both management and

archaeological implications to their discovery – the former being around the potential significance of the site and the questions that it raises regarding a need for management strategies beyond salvage excavation, and the latter being around the potential complexity of the archaeology and particular needs around timing and resources that excavating such a site may require. Given that archaeological excavations in the Melbourne CBD are generally carried out as a result of property development, meaning that there could be quite high financial implications attached to management decisions around them, there is a clear need to identify as early as possible, and as clearly as possible, locations of deep filling.

At present, it would appear that the best course of action for archaeological investigation *anywhere* in the Melbourne CBD or in the inner city would be to:

1. Consider the position of the site in terms of contour mapping and determine whether the site is located in a situation that may have required filling (i.e. not on the top of a natural rise).
2. Undertake the excavation of deep soundings in the first phase of any historical archaeological investigations undertaken in the CBD to assess the probability of early clay (or other) fills being present at the site and to ensure that supposedly natural clay is indeed natural.

Clearly the discovery of early historical deep clay fill in any given Heritage Inventory site will have the potential to increase the significance of the archaeology of the site, potentially making the site eligible for inclusion on the State Heritage Register. While it would be useful to be able to identify potential sites of deep filling prior to the commencement of archaeological assessment, this is not generally possible with the level of historical data currently available. The completion of the historical research outlined in Section 8.2.1 would go some way to make this a more realistic proposal.

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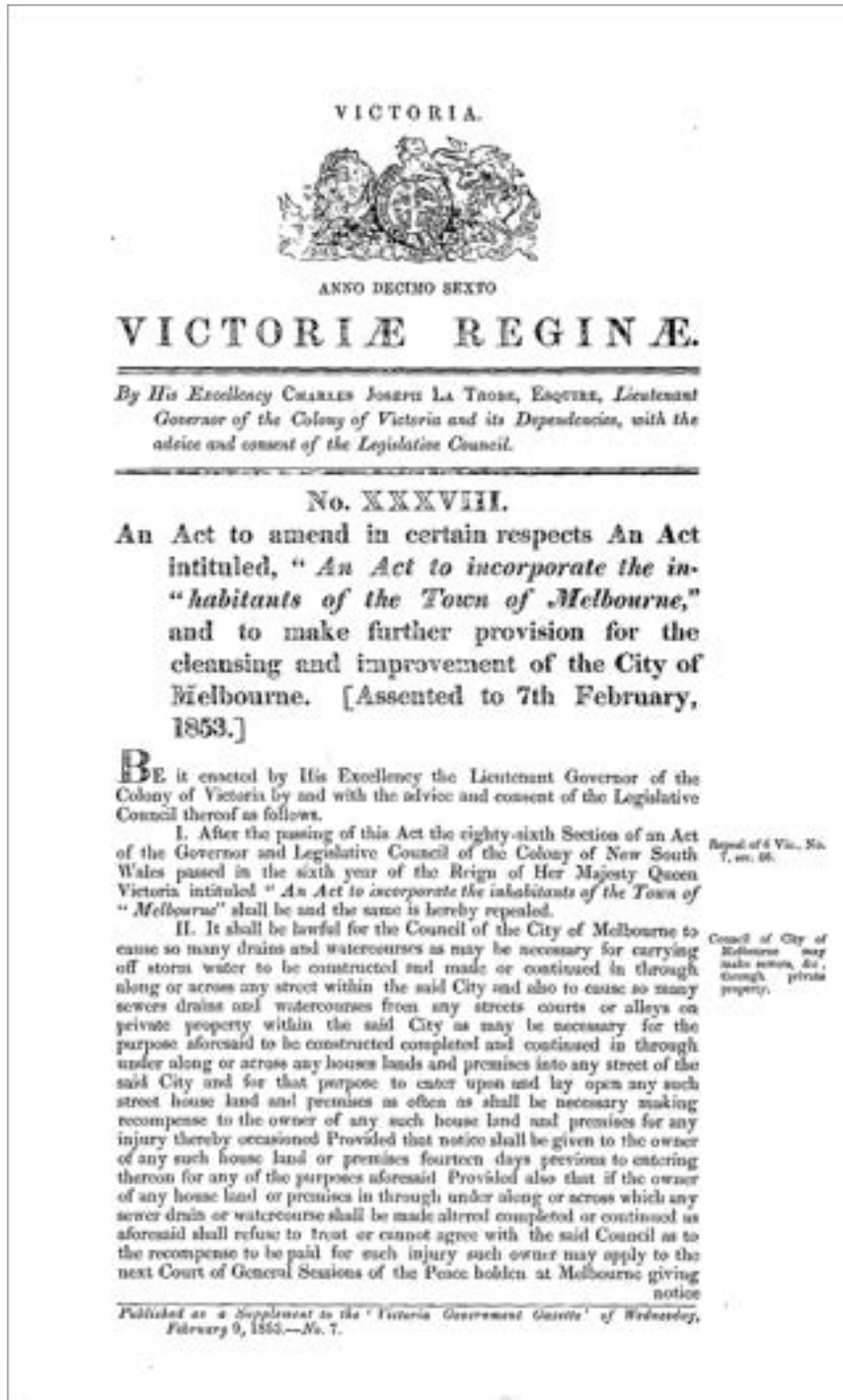
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Appendix 1 – Copy of the Act (Act 16 Victoria No 38 [1853])



notice thereof to the said Council and the said Court shall have power to summon and empanel a jury to assess the recompense which ought to be paid to such owner or occupier for such injury as aforesaid and thereupon the said Court shall order the sum assessed by such jury to be paid to such owner accordingly and such judgment shall be final to all intents and purposes and the said Court may award costs to either party at their discretion. Provided further that every such sewer drain or water course if carried in through or under any house or other building in the said City shall be a tube constructed of cast iron and kept constantly air-tight and in good order by and at the expense of the said Council.

Council of the said City may order owner or occupier to raise surface of yard or land.

III. Whenever it shall be made to appear to the Council of the said City upon the statement or complaint in writing of the Surveyor thereof that the surface of any yard or land situated in the said City and not being a street therein is lower than the level of the nearest street or of the street sewer or drain into which the water off the said yard or land should in the opinion of the said Surveyor flow or be made to flow it shall be lawful for the said Council at any time by writing under the hand of the Mayor and the Town Clerk of the said City to order that the surface of such yard or land or any part thereof shall be raised to such height in such manner and within such time as to the said Council may appear expedient and thereupon the occupier or owner of the said yard or land shall in such manner and within such time as shall be expressed in such order raise the surface thereof to the satisfaction of the said Surveyor.

Neglect of owners provided for.

IV. If any such owner shall omit to raise the surface of such yard or land as aforesaid in such manner and within such time as shall be expressed in the said order it shall be lawful for the said Council to raise the surface of the same or such parts thereof as shall not have been so raised in pursuance of the said order and to ascertain and charge such owner with the costs and expenses thereof.

As to recovery of expenses, &c.

V. If any such owner shall not pay all such costs charges and expenses as aforesaid the same shall and may be recovered by the said Council from the owner or from the occupier or any one of several occupiers of such yard or land in all respects in the same manner and by the same remedies as are provided by an Act of the Governor and Council of New South Wales passed in the fourteenth year of the Reign of Her Majesty Queen Victoria intituled "*An Act for regulating the formation of drainage and repair of streets courts and alleys on private property within the City of Melbourne*," with reference to the recovery of costs charges and expenses incurred in paving flagging macadamizing levelling draining and sewerage or otherwise completing and repairing streets courts and alleys on private property in the said City.

Interpretation Clause.

VI. In the interpretation of this Act the term "owner" shall be taken to mean every person who is in possession or in receipt of the rents or profits of such land. The term "land" shall be taken to mean any space or place in the said City upon which no building has been erected whether enclosed or unenclosed. The term "street" shall mean public street market place square crescent highway roadway lane passage or other public place.

## Appendix 2 – Known filling events (derived from historical sources)

Green shaded events are in the study area and plotted on Figure 6. Blue shaded events are outside the study area and plotted orange on Figure 6. Grey shaded events are not plotted (generally because they are either off the map provided in Figure 6, or because their location is too unclear).

These are events for which contemporary historical information or descriptions were found.

#	Date	Year	Source	Detail
1	18/01/1855	1855	VPRS 4037 (PWC minutes)	Letter read from Mr John Smith complaining of an intolerable nuisance existing on the premises at the back of the Sydney Hotel in William Street. Chairman instructed to report to the city Council recommending the issue of an order to the owners of the property to fill up their yards to the level of adjacent streets. That being the course recommended by the city surveyor whose report was received and adopted.
1	31/01/1855	1855	Argus	'Levelling private yards. The next order of the day was carried, viz; - That the report of the Public Works Committee No. 9 be adopted, recommending the issue of an order by the Council, in accordance with the provisions of the Act 16 Vict., No. 38, requiring the owners of property adjoining the Sydney Hotel, William Street, to fill up the surface of the same to the proper level.'
2	15/02/1855	1855	VPRS 4037 (PWC minutes)	Recommendation that the Council issue an order to owners of the property on the north side of Lonsdale Street between Russell and Stephen Streets to fill up property 'to the proper level'.
2	21/02/1855	1855	Argus	City Council 'to consider and order upon the report of the Public Works Committee, No. 17, recommending the issue of an order by the Council in accordance with the provisions of the Act 16 Vict, No. 8, calling upon the owners of property on the north side of Lonsdale street, between Russell and Stephen streets, to fill up the surface of the same to the property level. The report was adopted.'
3	25/05/1855	1855	VPRS 4037 (PWC minutes)	a petition from Mr Thomas James praying mitigation of the injury caused to his premises at the corner of Mincing Lane and Flinders Street by the alteration of the street level. Considered - referred to the city surveyor for report
4	16/06/1855	1855	VPRS 3621, unit 007 (govt letters)	Report of 'green stagnant water and other deposits in back yard of premises No 113 Little Bourke Street East [note in margin says 'premises filled']
5	13/08/1855	1855	VPRS 3181 (streets)	Edw Barker at 133 Bourke Street (a tenant in the house) asking that instructions be given to raise the level of the property 'to the level now forming' which appears to be about 8 inches above the yard level. Barker fears this will result in 'a stagnant pool of water' at the front of his residence if not addressed.

#	Date	Year	Source	Detail
6	11/10/1855	1855	VPRS 4037 (PWC minutes)	Chairman instructed to report to the city Council recommending the issue of an order requiring the owners of <i>certain</i> land on the north side of Little Lonsdale Street between Russell and Stephen Street to raise the surface of such land to the level of the street adjacent <sup>24</sup> .  This followed a petition from residents of Little Lonsdale Street complaining of the raising of the level of that street, and asking that some other solution to the drainage problem be found. Petition referred to the PWC (reported in <i>The Argus</i> 4/7/1855).
1	04/10/1855	1855	VPRS 4037 (PWC minutes)	Letter read from Mr John Smith complaining of the nuisance existing on property adjoining his and occupied by the premises of the Sydney Hotel, of an eating house, and of Messrs Murphy's Brewery requesting that measures may be taken for remedying the nuisance and that a private lane communicating with this property may be formed in accordance with the provisions of the Private Streets and Alleys Act. Chairman instructed to report to the city Council recommending the issue of an order requiring the owners of the land on which the Sydney Hotel, Messrs Murphy's Brewery, the neighbouring buildings stand to raise the surface of such lands to the level of the street adjacent in accordance with the provisions of the Act of Council 16 Victoria No 38.
6, 7, 8, 35	16/10/1855	1855	Argus	Orders to fill several properties:  <ol style="list-style-type: none"> <li>1. Vacant land in Franklin Street, the property of Mr Benjamin, to be raised to the level of Franklin Street (7).</li> <li>2. Yard adjoining Mr Benjamin's to be raised to the level of Franklin Street (7).</li> <li>3. Vacant land at the back of Wm Evans' Bourke Street property to be raised to the level of the adjoining private lane<sup>25</sup>.</li> <li>4. Properties at the back of Nos 13 and 14 Bouverie Street, property of Kinder and Cornwall to be raised to the level of that street (8).</li> <li>5. Property of Mr Nicholson, adjoining 10 Bouverie Street, to be raised to the level of Bouverie Street (8).</li> </ol> <p>Also, Council considered a report of the public works committee recommending that an order be made requiring the owners of certain land on the north side of Little Lonsdale Street between Russell and Stephen Streets to be raised to the level of adjacent street (6)</p>
9	20/03/1856	1856	VPRS 4037, (PWC minutes)	Recommendation to the City Council that Messrs Bright Brothers and Co be ordered to fill up property at corner of Little Bourke and Spencer Streets (they either own or occupy this land) in accordance with Act 16 Victoria No 38 <sup>26</sup> .

<sup>24</sup> Plotted location approximate only. It is clear that not all the land in this location was to be raised.

<sup>25</sup> The location of Evans' Bourke Street property has not been identified. In the 1853 *New Quarterly Melbourne Directory*, William Evans is listed as an upholster at 138 Queen Street and at 172 Little Bourke Street. In the 1855 *Butterfield Melbourne Commercial, Squatters and Official Directory* there is no listing for William Evans at all. The 1859 *Tanner's Melbourne Directory* has a listing for H.C. Evans, bookseller at 94 Bourke Street. A search of rate records along Bourke Street would likely identify the location of this property, but was beyond the scope of this report.

<sup>26</sup> In the 1860 *Sands Directory* Bright Brothers are listed as having a guano store on the south side of Little Bourke St at the Spencer St intersection. Bright Brothers were listed in the 1854 *Butterfield Directory* but with premises on Flinders and Lonsdale Streets only, but they were the original post-contact owners of allotment 1, section 16 in Lonsdale Ward, and so the correct location of this filling event may be close to the plotted location of #31 (on the corner of Little Collins Street).

#	Date	Year	Source	Detail
9	26/03/1856	1856	Age	City Council considered 'the report of the Public Works Committee No. 25, was adopted, recommending that an order be issued in accordance with the provisions of the Act 16 Victoria No. 38, requiring Messrs Bright, Brothers and Co. to fill up certain land of which they are the owners or occupants, and which is situated at the corner of Little Bourke Street and Spencer Street, to the level of those streets.'
10	04/03/1856	1856	Age	The report of the Public Works Committee, No. 22 was adopted, recommending that an Order be issued in accordance with the provisions of the Act, 16 Victoria, No. 38, requiring Thomas Budds Payne, Esq. to fill up to the level of the adjacent streets certain land being allotment 18 of section 43, at the junction of Therry and Elizabeth Streets.
11	20/4/1856	1856	VPRS 3181 (streets)	Petition from Richard Hill of Franklyn Street, North Melbourne – wooden house will be almost buried, can be raised by the aid of screws, requires Council assistance to fill.
11	01/05/1856	1856	VPRS 0403, unit 002	Petition read from Mr Richard Hill of Franklin Street asking that a sufficient quantity of earth should be placed upon his land to enable him to put his house on the same level to which the adjacent street has recently been formed - city surveyor instructed to comply.
12	08/10/1856	1856	VPRS 4037 (PWC minutes)	Mr Campbell instructed by city surveyor to provide Mr Abercrombie as much fill from works on Victoria Street as required 'to fill up [his] yards located off Swanston Street between A'Beckett and Franklin Streets <sup>27</sup> .
13	29/10/1856	1856	VPRS 4037 (PWC minutes)	City surveyor instructed contractors Campbell and Co to fill up the property of Mr P. Nelan on Swanston Street <sup>28</sup> .
14	29/10/1856	1856	VPRS 4037 (PWC minutes)	City surveyor instructed to order contractor for Victoria Street to fill up the allotment at the corner of Victoria and Leicester Streets.
15	20/10/1856	1856	VPRS 4037 (PWC minutes)	Ratepayers in Latrobe ward complain of stagnant water and decayed animal and vegetable matter in East Melbourne in area between Simpson Road, Powlett, Gipps and Hoddle Streets. City surveyor instructed to take care of it, spending no more than £20.
16	19/11/1856	1856	VPRS 4037 (PWC minutes)	The city surveyor instructed to fill the gully running through blocks 14, 15, 30 and 31 Smith Ward, and that the stuff for such purpose be taken from the works being executed in Russell Street.
17	10/12/1856	1856	VPRS 4037 (PWC minutes)	The city surveyor instructed to prepare plans of Adderley Street on its permanent level and the streets leading from Spencer Street between LaTrobe and Hawke Street, to enable the Council to call upon owners of property to fill up their yards in accordance with the terms of the management of towns, etc

<sup>27</sup> No listings for Abercrombie found in directories from 1854, 1859, 1860 or 1861. Location plotted is approximate only.

<sup>28</sup> It is assumed that this is P. Neylon, who owned lot 10 of section 38 (between A'Beckett and Franklin Streets on the west side of Swanston St).

#	Date	Year	Source	Detail
18	08/04/1857	1857	VPRS 4037 (PWC minutes)	Letter read from Mr Richard [Nile?] respecting his property in Franklyn Street which is much lower than the level of the street since its formation. The city surveyor was instructed to get the land filled up by the contractor who is now at work in the neighbourhood <sup>29</sup> .
19	02/08/1857	1857	VPRS 4037 (PWC minutes)	Request for an order on the King Street contractor to fill up William Shiels' land in Spencer Street to street level. Decision postponed by committee until contract finished so that the quantity of excess fill is known <sup>30</sup> .
20	16/09/1857	1857	VPRS 4037 (PWC minutes)	Mr Lyell requested that the committee honour a previous promise to have his land in Franklin Street filled to street level. The city surveyor was instructed to order the King Street contractor to deposit '300 cubic yards of stuff on Mr Lyells property' <sup>31</sup> .
21	05/09/1859	1859	VPRS 3181 (land)	William Wallace of Dudley street complaining that changed levels has meant that his house is now higher than required owing to a change in the levels told to him by authorities <sup>32</sup> .
22	22/11/1859	1859	Argus	The report of the Public Works Committee, recommending that an order be issued to the owners of the land abutting on Dudley and Spencer streets, being Allotment No 7 of Block [??], city of Melbourne, to raise the surface of the land to the levels of Dudley and Spencer Streets, be adopted.
23	10/1/1860	1860	VPRS 3181 (nuisances)	Charles Pardor at 29 Bourke Street. Calling attention to the rear of the property being '12 inches deep in putrid matter...and the extreme of it too large [5 by 200?] to be allowed to repair' <sup>33</sup> .
24	31/7/1860	1860	VPRS 3131 (streets)	Formation of Hawke Street will leave property of Alexander Short below street level, requesting fill from cutting in same street <sup>34</sup> .
25	20/11/1860	1860	VPRS 3181 (nuisances)	Drawing attention to a stagnant pool of water in George Street, East Melbourne created by recent street formation. The street has been recently made and filled and this allotment is under the level of the street.
26	16/11/1861	1861	VPRS 3181 (streets)	John Smith with instructions to E. G. Fitzgibbon regarding filling up Smith's property now that the laneway has been filled. This required the removal of floor boards and joists and the chimney piece.

<sup>29</sup> This surname is difficult to make out. Nile does not appear in available directory listings for Franklin Street for 1854 (when there were no listings for Franklin Street), 1859 or 1862, or in the 1862 rate records. There exists the possibility that this was Richard Hill (see number 11) but this seems unlikely as Melbourne City Council building records (Burchett Index) indicate that Hill built an additional house on Franklin Street west in June of 1857 (after the filling incident listed in #11) – it would seem unlikely that there were on going level issues with his property if this was the case.

<sup>30</sup> The 1860 *Sands Directory* listed William Shiels as the proprietor of the *James Watt Hotel* located on the south side of Rosslyn Street, west of the Spencer Street intersection.

<sup>31</sup> Bourke Ward rate records from 1862 a George Lyall was listed as listed as the owner of a property at 40 Franklin Street (south side of the street between Spencer and Adderley Streets).

<sup>32</sup> Probably not a filling event, but unclear.

<sup>33</sup> Pardor (or Pardoe) was a dentist whose business premises were on the north side of Bourke Street, between Elizabeth and Swanston Streets. Mapped location is approximate only.

<sup>34</sup> More research needed to identify property. Mapped location approximate only.

#	Date	Year	Source	Detail
27	14/4/1862	1862	VPRS 3181 (streets)	Signature unclear (Harworth/ Newcastle?), letter written from 21 Franklin Street asking for a few loads of gravel to fill up two rooms, the need for which was 'caused by the corporation having risen the road above the rooms of the house which cost £750'. Gravel to come from a cutting 'at the top of Franklin Street' <sup>35</sup> .
28	12/01/1864	1864	Argus	City Council considered 'an appropriation be made to the extent of £10, for the purpose of filling up to the level of adjacent streets, allotments eleven and twelve, block thirty-four, Bourke Ward, which have been reported by the city surveyor as dangerous nuisances, and that upon the work being completed, and the owners of the property discovered, the town clerk would be instructed to take proceedings to recover the cost
29	28/06/1865	1865	VPRS 3181 (nuisances)	John Reilly, City Surveyor bringing under the notice of the city Council defective drainage and stagnant water 'on the west side of Station Street in section 58 being allotment 6 and 7 Smith Ward' he recommends 'that the owner be noticed to fill up the ground to the levels of Station Street and Palmerston Street' <sup>36</sup>
30	13/08/1865	1865	VPRS 3181 (nuisances)	John Thomas enquiring as to whether his property at allotments 9, 10, 11 in sec 19 'is now cleared of water cause by city improvements' because he wishes to 'build and improve the place' <sup>37</sup> .
29, 31	14/01/1868	1868	Argus	The following recommendations of the public works committee were adopted: 'that tenders be called for filling up lands to the levels of adjacent streets in block 58, Smith ward...and in block 16, Lonsdale ward...the owners or occupiers having failed to comply with the order of the Council to raise the surface of to admit of the drainage flowing into the adjoining streets' <sup>38</sup> .
32	22/6/1868	1868	VPRS 3181 (land)	Filling up land level with Franklin Street – 'the cost of filling up is more than the value of my land' Ann Sigsworth.
33	5/11/1868	1868	VPRS 3181 (land)	Land in block 35, allot 17, Bourke Ward. Order given to landowner to fill up land. Landowner's agent is not willing to spend more than £20, but the cost will be in the order of £100.
34	03/09/1869	1869	VPRS 3181 (land)	Memo from the city surveyor asking for specifications for filling up land at block 96 allotment 3, Bourke ward, also noting that McDonald who owns adjacent low-lying property has stated that he can't fill up his land until the adjacent portion of Rosslyn Street, next to Adderley Street, has been filled.
34	14/09/1869	1869	Argus	Orders were given for the filling up of allotment 3, in block 96, Bourke ward, at the cost and risk of the owners <sup>39</sup> .

<sup>35</sup> Nothing resembling this name was found in the relevant rate books from 1862 or 1868. The claim of a property worth £750 seems overblown for the time and does not match values in 1862 rates.

<sup>36</sup> This is located north of the mapped area.

<sup>37</sup> Not certain that this is a filling event, but would appear likely. Location uncertain.

<sup>38</sup> Plotted location is approximate. It is assumed that the order refers to private landowners whose property was to the Spencer Street end of Section 16 (between Little Collins and Bourke Streets).

<sup>39</sup> Location uncertain.

### Appendix 3 – Rate book data for the north side of Little Lonsdale Street for the years 1854, 1855 and 1856

1854			1855			1856		
address	owner/ratepayer	description	address	owner/ratepayer	description	address	owner/ratepayer	description
First lane east of Russell Street (Hayward Lane)	Charles James	Brick house, 2 rooms and kitchen	First lane east of Russell Street (Hayward Lane)	Patk Dunn	brick house, 2 rooms and kitchen	First lane east of Russell Street (Hayward Lane)	not legible	brick, 4 rooms
	Joseph Sullivan	brick house, 2 rooms and kitchen		Robt Clothier	brick house, 2 rooms and kitchen		Robt Clothier	brick, 4 rooms
	William Cothyer	Brick house, 2 rooms and kitchen		Wm Clothier	brick house, 2 rooms and kitchen		Wm Clothier	brick, 4 rooms
	Joseph Henry	Brick house, 2 rooms and kitchen		Edward Butterworth	brick house, 2 rooms and kitchen		Edwd Butterworth	brick, 4 rooms
	John Edwards	Brick cottage, 2 rooms		Isaac Lazarus/ ?	brick house, 2 rooms and kitchen		Js Lazarus, alias 'Izzard'	brick, 2 rooms and kitchen
	Thomas Gardner	Brick cottage, 2 rooms		Mrs Sharpe	brick house, 2 rooms and kitchen		J. Corner	brick, 2 rooms and kitchen
	Anne Ash	Brick cottage, 2 rooms		Miss Ash	brick house, 2 rooms and kitchen		Foley	brick, 2 rooms and kitchen
	Thomas Anderson	Brick cottage, 2 rooms		Edwd Tyrell	brick house, 2 rooms and kitchen		Edwd Tyrell	brick, 2 rooms and kitchen
	James McClelland	Small wooden house, 2 rooms (in bad repair)		Mrs Ann Baxter	wood house, 1 room			
	John Franklyn	Small wooden house, 2 rooms		Michael Sullivan (owner?)	brick house, 2 rooms and 1 room adjoining		Levi Deriger	brick, 3 rooms
	John D Dumham	Small wooden house, 1 rooms		Geo Gibbs	brick house, 2 rooms		Chs McLaughlin	brick, 2 rooms
	Edward Tyrele	Brick cottage, 2 rooms		Geo Gibbs	brick house, 2 rooms		Chs McLaughlin	brick, 2 rooms
	Charles McLaughlin	Brick cottage, 2 rooms and cow shed		Chas McLaughlin	brick house, 3 rooms and shop		Chs McLaughlin	brick shop, 3 rooms
	Joseph Irvine	Brick house, shop, 2 rooms and kitchen (roughcast and stucco)						

1854			1855			1856		
address	owner/ ratepayer	description	address	owner/ ratepayer	description	address	owner/ ratepayer	description
Second lane east of Russell Street (Davison Lane)	James Hales	Brick cottage, 2 rooms	Second lane east of Russell Street (Davison Lane)	Christopher Houghton	brick house, 2 rooms	Second lane east of Russell Street (Davison Lane)	J. Howard	brick house, 2 rooms and yard
	William Griffiths	Brick cottage, 2 rooms		Michael Sullivan (owner)	brick house, 2 rooms		Wm Ackroyd	brick house, 2 rooms and yard
	John Harold	Brick cottage, 2 rooms		John Chantil?	brick house, 2 rooms		Thiel	brick house, 2 rooms and yard
	M. Lorne Pyke	Brick cottage, 2 rooms		M. L. Pike	brick house, 2 rooms		T. W. Pike	brick house, 2 rooms and yard
	James Hamilton	Brick cottage, 2 rooms		M Sullivan (owner)	brick house, 2 rooms		Conrade Tircer	brick house, 2 rooms and yard
	William Edmonds	Brick cottage, 2 rooms		Wm Edwards	brick house, 2 rooms		Geo Rise	brick house, 2 rooms and yard
	William H Walker	Brick cottage, 2 rooms		Rupperdict	brick house, 2 rooms		Wm Rise/ Rice	brick house, 2 rooms and yard
	John Thomas Taylor	Wooden cottage, 1 room		J. T. Taylor	wooden house, 1 room and tent?		Elign Grace	wood, 2 rooms and yard
	William Murray	Brick cottage, 2 rooms		H? Fox	brick house, 2 rooms		Mrs Fox	brick, 2 rooms
	Hugh Blane	Brick cottage, 2 rooms		J. Bartley	brick house, 2 rooms		J? Owen	brick, 2 rooms
	George Polemy(?)	Brick cottage, 2 rooms roughcast		C. Driscoll	brick house, 2 rooms		Lawc Eagan	brick, 2 rooms
	Thomas Glover	Brick cottage, 2 rooms roughcast		J. T. Taylor	brick house, 2 rooms		Thos Quinn	brick, 2 rooms
	Mrs Coffy	Brick cottage, 2 rooms and cowyard		J. Courtney (owner)	brick house, 2 rooms and tent?		Js Courtney	brick, 2 rooms and sheds
	Margaret Campbell	Brick cottage, 1 apartment		J. Courtney (owner)	brick house, 3 rooms		Wm Hill/ Noll?	stone, 3 rooms
	Joseph ?vale	Brick cottage, 2 rooms		J. Courtney (owner)	brick house, 3 rooms		Js Courtney	stone, 3 rooms
				Robt. [can't read surname]	brick house, 1 room		Edw Bower	brick, 1 room
							Mrs Lawrence	brick, 2 rooms
	William Purvis	Brick cottage, 2 rooms and shed		Wm Purvis	brick house, 2 rooms		Wm Purvis	brick, 2 rooms and [not legible]
							Francis Hanagan	brick house, 4 rooms
							Jacob Curry	brick house, 5 rooms

1854			1855			1856		
address	owner/ ratepayer	description	address	owner/ ratepayer	description	address	owner/ ratepayer	description
Third lane east of Russell Street (Bennetts Lane)	Patrick Courtney	Brick cottage, 2 rooms and cow yard in yard enclosed with the following (below)		Patrick Courtney	brick house, 2 rooms, stables [in brackets 'buried by r??d]		Patr Courtney	brick, 2 rooms, cowsheds and loft
	James Courtney	Brick cottage, 2 rooms stable and hayloft (in enclosed yard)		James Courtney	brick house, 2, 2 rooms, Range of 4 houses each (buried by ???)		Js Courtney	brick, 3 rooms, 5 rooms
	Denis Lynch	Brick house, 2 rooms (in enclosed yard)						
	John B?ingham	Brick house, 2 rooms (in enclosed yard)						
	William Ham	Brick cottage, 2 rooms (in enclosed yard)						
	Robert Palm	Wooden house, 2 rooms, brick house at rear, 2 rooms		Catherine Maloney	wood house, 3 rooms and brick house		Wm Harris	wood, 2 rooms and brick house of 2 rooms
	Thomas Carrick	Wooden house, 2 rooms and workshop in front		Thos Carrick	wattle house, 2 rooms and wood house		Thos Carrick	brick, 2 rooms and kitchen
	William Rogers	Brick stuccoed house, 3 rooms, shed and wooden house in front, detached		J. Paddy	wood house, 3 rooms and kitchen		Wm Hinds?	wood house, 4 rooms and kitchen
	Isabelle Kelly	Wooden house 2 small rooms (note indicated that this is in one yard with house below)					Js Williams	wood house, 2 rooms
	William Erskine	Brick house, 2 rooms		Wm Erskine (owner)	brick house, 2 rooms and wood house 2 rooms		Thos Cohen	brick, 2 rooms
	Edward Linane	Wooden house, 2 rooms		Mary Ann Jones	wood house, 2 rooms		Wade?	wood, 2 rooms
				Miss Higgins	wood house, 2 rooms		Mrs Digg	wood, 2 rooms
	Samuel Redding	Wooden house, 2 rooms and cow yard		David? Redding	wood house, 4 rooms (buried by ??d)		Dani Reddin	wood, 2 rooms and cowshed
							Andw Drummond	stone, 2 rooms
	Joseph Boyle	Brick stuccoed cottage, 2 rooms		J. Barry	brick house, 2 rooms (buried by ??d)		John ?gen	stone, 2 rooms
							Barry Barry	wood, 2 rooms
	George Nott	Brick stuccoed cottage, 2 rooms		Mrs Donohue	brick house, 2 rooms (buried by ??d)		Donovan	wood, 4 rooms

	John Anglam	Wooden house, 3 rooms (half buried?)		J. Murphy	wood house, 2 rooms (raised up)			
<b>1854</b>			<b>1855</b>			<b>1856</b>		
address	owner/ ratepayer	description	address	owner/ ratepayer	description	address	owner/ ratepayer	description
Fourth lane east of Russell Street (Exploration Lane)	Samuel Evans	Stone and brick house with shop and 3 rooms	Fourth lane east of Russell Street (Exploration Lane)	Denis Lynch	brick house, 3 rooms	Fourth lane east of Russell Street (Exploration Lane)	Miss Duncan	brick, 3 rooms
	James Abbott	Brick cottage, 3 rooms		J. Ryan	brick house, 3 rooms and kitchen		Patk Reynolds	brick, 2 rooms and kitchen
	Domanick Flemming	Brick house, 2 rooms and small kitchen		J. Ploughman	brick house, 2 rooms		Mrs Fisher	brick, 2 rooms
	? Lavers	Brick stuccoed house, 2 rooms		Peter Romfels	wood house, 2 rooms		Romp??	wood, 2 rooms and stable
	Patrick Stapleton	Wooden house, 2 rooms and stables		J. Sawyer	wood house, 2 rooms		Nigleton?	brick, 2 rooms and shed
	Jeremiah Rigby	Brick house, 2 rooms		Jerhm Rigby	wood house, 3 rooms		Jerhm Rigby	brick, 4 rooms
	no name	Brick stuccoed house, 2 floors, 4 rooms, well furnished		John Winter	wood house, 4 rooms at the back of yard		Jerhm Rigby	brick, 3 rooms
	Margaret Donnerville	Brick stuccoed house, 2 rooms, 2 door entrances		Mrs Somerville	wood house, 2 rooms		Mrs Somerville	brick, 2 rooms
		Brick house, 2 rooms and shed		Mrs Somerville (owner)	wood house, 2 rooms		Mrs Somerville	brick, 2 rooms
				Mrs Somerville (owner)	wood house, 2 rooms		Mrs Somerville	brick, 2 rooms
	Stephen Wilkinson	Brick stuccoed house, 2 rooms	East side	Stephen Wilkinson	wood house, 2 rooms		J. Stanton and J Hinds	brick, 3 rooms
	John George Williams	Brick stuccoed house, 1 room		John Williams	wood house, 3 rooms		S. Williamson	brick, 2 rooms
	no name	Brick stuccoed house, 2 rooms		Mrs Kelly	wood house, 4 rooms		Saml. Hanghey	brick, 4 rooms
	Samuel Hockey	Brick house, 4 rooms		Michl Dwyer	wood house, 2 rooms		Michl. Dwyer	wood, 2 rooms
	Michael Dwyer	Brick house, 2 rooms		Saml Fitzpatrick	wood house, 2 rooms		Saml. Fitzpatrick	brick, 2 rooms
	Samuel Fitzpatrick	brick house, 2 rooms		Saml Fitzpatrick	wood house, 2 rooms		Saml. Fitzpatrick	brick, 2 rooms
	no name	Brick house, 3 rooms (small)		R. Kippod?	wood house, 2 rooms		Thos. Green	brick, 2 rooms
	William Moore	Brick house, 2 rooms		S. Green	wood house, 2 rooms, ? Shop		Thos. Green	brick, 2 rooms and stables
	Thomas Boyd Door/ Dove and Taylor	Brick house, 2 rooms		Harton/ Warton?	wood workshop? And coal? Yard			

1854			1855			1856		
address	owner/ ratepayer	description	address	owner/ ratepayer	description	address	owner/ ratepayer	description
Fifth lane east of Russell Street (Evans Lane)	Henry Stevenson	Brick house, 2 rooms	Fifth lane east of Russell Street (Evans Lane)	David O'Brien (owner)	brick house, 2 rooms	Fifth lane east of Russell Street (Evans Lane)	John Edwd Chalmers	brick, 2 rooms
	Henry Payne	Brick house, 2 rooms		David O'Brien (owner)	brick house, 2 rooms		Mrs Norman	brick, 2 rooms
	David O'Burn	Brick house, 2 rooms		David O'Brien (owner)	brick house, 2 rooms		Walter Taylor	brick, 2 rooms
	Edward Pearce	Brick house, 3 rooms		Edw Pearce	brick house, 3 rooms		Robt Throckmorton	brick, 2 rooms
	Edward Pearce	Brick house, 3 rooms		Mrs Dunn	brick house, 3 rooms		Cat? Taylor	brick, 2 rooms
	Henry Sarsfield	Brick house, 3 rooms		Wm Toppin	brick house, 3 rooms		Robt Telligh	brick, 2 rooms
	George S?	Brick house, 3 rooms		Joshu Ovens?	brick house, 3 rooms		Miss Young	brick, 2 rooms
1854			1855			1856		
address	owner/ ratepayer	description	address	owner/ ratepayer	description	address	owner/ ratepayer	description
Little Lonsdale St, north side	Archibald Maconochie	Brick house, 2 front shop windows, 6 rooms and cellar				Little Lonsdale N side, east of Russell cnr	Mrs S??y	brick 'Ship Inn' bar, 10 rooms, cellar and stable
87 Little Lonsdale	William Gibbons	Brick house, shop and three rooms				Little Lonsdale	John Lowry	brick shop of small room and bakehouse
Little Lonsdale	Benjamin Wycherley	Brick house, shop, 3 rooms and cellar				Little Lonsdale	Edwd Round	brick shop, 3 rooms
			Little Lonsdale	Mrs Wilson	brick house, 7? Room, shop	Little Lonsdale	Mrs Wilson	brick shop, 3 rooms
Hayward Lane								
93 Little Lonsdale	Byrne and Dickenson	Brick house, 5 rooms (stuccoed)	93 Little Lonsdale Street	Benj Gosling	brick house, 3 rooms and shop	Little Lonsdale	Benj Gosling	brick shop, 3 rooms
95 Little Lonsdale	Cornelius Sullivan	Brick house, 4 rooms and kitchen (stuccoed)	95 Little Lonsdale Street	A? Toll	brick house, 4 rooms and kitchen	Little Lonsdale	Mrs? Hemingham	brick, 4 rooms and kitchen
97 Little Lonsdale	James Perkins	Brick house, 4 rooms and kitchen (stuccoed)	97 Little Lonsdale Street	M? or R? Sullivan	brick house, 4 rooms and kitchen	Little Lonsdale	J. Chambers	brick, 4 rooms and kitchen
99 Little Lonsdale	William G Houghton	Brick stuccoed house, 4 rooms and kitchen	99 Little Lonsdale Street cnr	Geo. Stacey	brick house, 4 rooms and kitchen	Little Lonsdale	Mrs McLaughlin	brick house, 4 rooms and kitchen
Davisons Lane								
109 Little Lonsdale	William Learmonth	Brick stuccoed house, 2 rooms kitchen and cellar	109 Little Lonsdale	Tullock and Brown	brick house, 4 rooms and cellar?	Little Lonsdale	Andw Brown	brick, 4 rooms and cellar
111 Little Lonsdale	Mrs ? Hunter	Brick stuccoed house, 2 rooms kitchen and cellar	111 Little Lonsdale	Mrs ?? Hunter	brick house, 4 rooms and cellar?	Little Lonsdale	Mrs. V? Hunter	brick, 4 rooms and cellar
113 and 115 Little Lonsdale	Robert Bennett	Two brick stuccoed houses, 8 rooms, kitchen and shed	113 and 115 Little Lonsdale (corner?)	??Miller	brick house, 8 rooms (cellar?)	Little Lonsdale	Eliz. Tuck	brick, 4 rooms and cellar

						Little Lonsdale	Hugh Mundi	brick shop, 3 rooms
<i>Bennetts Lane</i>								
Little Lonsdale Street (1340)	Patrick Casey	Brick house, 2 rooms and shed attached at rear	117 Little Lonsdale corner	Arch? McConochy	brick house, 1 room, shop and bakehouse?	Little Lonsdale	Cramer and Kiers?	brick shop, 2 rooms and bakehouse
			119 Little Lonsdale	Martin Rooney	brick house, 4 rooms and stables	Little Lonsdale	Martin Rooney	brick, 4 rooms
			121 Little Lonsdale	C. Liegler	brick house, 4 rooms kitchen and ???	Little Lonsdale	Mrs Mack?	brick, 5 rooms, back ? And stables
Little Lonsdale Street	William Skinner	Brick house, 3 rooms and wooden shed	123 Little Lonsdale	Mrs Skinner	brick house, 3 rooms	Little Lonsdale	Mrs Skinner	brick house, 4 rooms
Little Lonsdale Street	no name	Brick house, 3 rooms and wooden shed	125 Little Lonsdale	Mrs Skinner	brick house, 3 rooms and kitchen	Little Lonsdale	Mrs Skinner	brick house, 4 rooms
Little Lonsdale Street	William Thomas Bowery	Stone and brick house with shop and 3 rooms	127 Little Lonsdale	J. McCarthy	Stone house, 3 rooms and coffee house?	Little Lonsdale	Ellen Holdsworth	stone shop, 4 rooms
<i>Exploration Lane</i>								
off Little Lonsdale (131?)	Patrick Kilmartin	Brick cottage, 2 rooms	129 Little Lonsdale	Thos O'Brien	brick house, 2 rooms	Little Lonsdale	Rd Kipponnd	brick house, 2 rooms
off Little Lonsdale	no name	Brick cottage, 2 rooms	131 Little Lonsdale	G. Dickenson	brick house, 2 rooms	Little Lonsdale	not legible	brick house, 2 rooms
off Little Lonsdale	no name	Brick cottage, 2 rooms	133 Little Lonsdale	Patk Kilmartin	brick house, 2 rooms	Little Lonsdale	Patk Kilmartin	brick, 2 rooms and sheds
133 Little Lonsdale	Henry Malimaine	Brick stuccoed house, 2 rooms, kitchen and servants room	135 Little Lonsdale	W. Ward	brick house, 2 rooms and shop	Little Lonsdale	Kaldowner	brick house, 3 rooms and house at back of 2 rooms
135 Little Lonsdale	John Dwyer	brick stuccoed house, shop, 3 rooms, kitchen, servants room	137 Little Lonsdale	John Dwyer	brick house, 3 rooms and shop	Little Lonsdale	John Dwyer	brick shop, 3 rooms and kitchen
137 Little Lonsdale	William Hanley	Brick house, shop, 3 rooms and stable	138 Little Lonsdale, corner	Wm Hanley/ Hanby	brick house, 3 rooms and shop [something illegible under this]	Little Lonsdale	Wm Hanley	brick shop, 3 rooms and [not legible]
<i>Evans Lane</i>								

## Appendix 4 – A3 version of the Figures provided in the report



Figure 1 One version of Hoddle's 1837 plan (PROV VPRS 8168/P05 – SYDNEY M8) of the grid layout that was to become the Melbourne CBD. Note the original shading that indicates elevated land/hills in sections 19 and 6 and sloping land along the rough alignment of Queen Street and south of Collins Street.



Figure 2 Plan of the Melbourne CBD, showing the streets for which surveyor Darke's 1837 proposed levels are available, and showing those locations where filling was considered to be required (in orange).

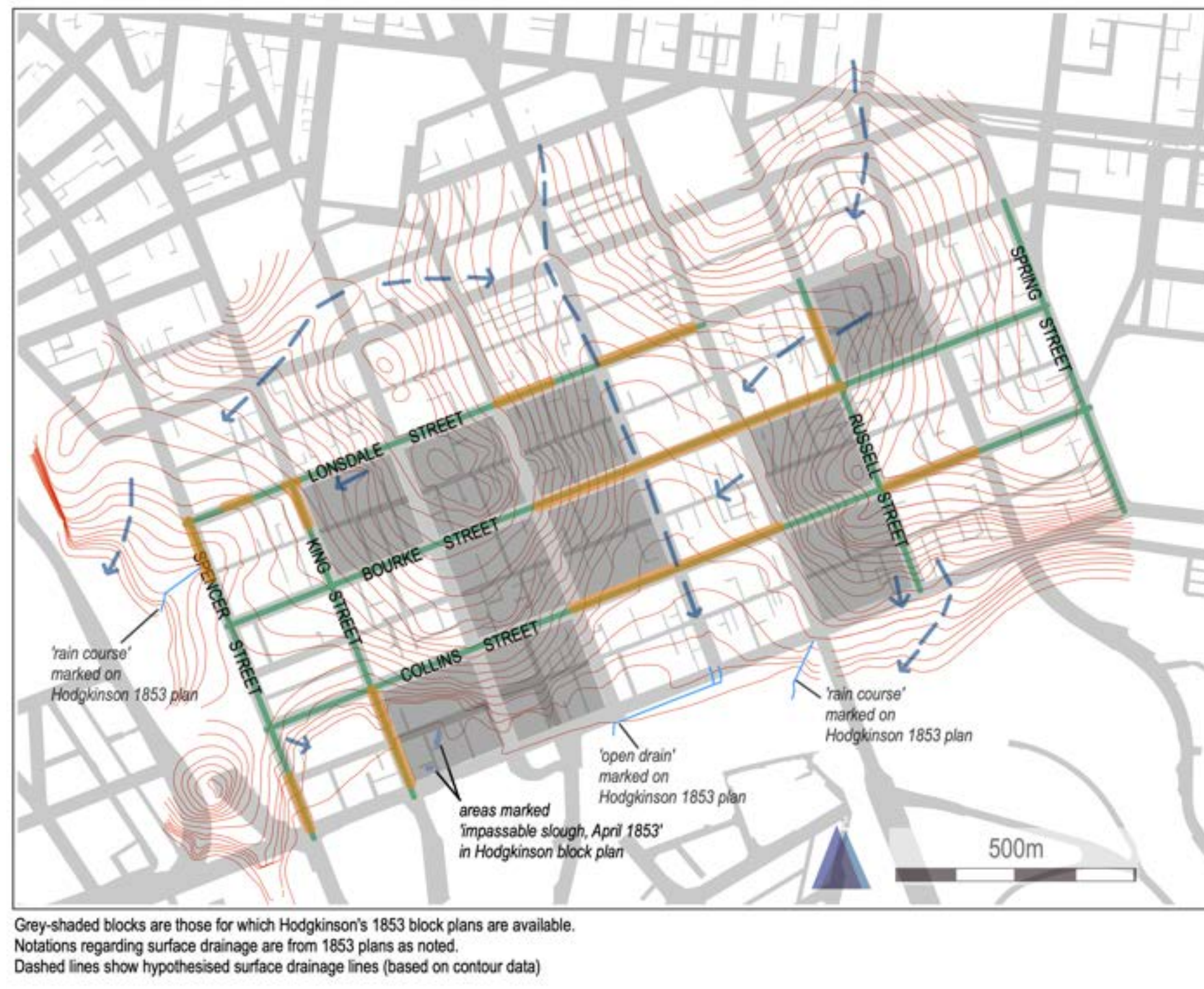


Figure 3 Probable intermittent water courses/drainage lines in the Melbourne CBD, based on Hodgkinson's 1853 contour data.

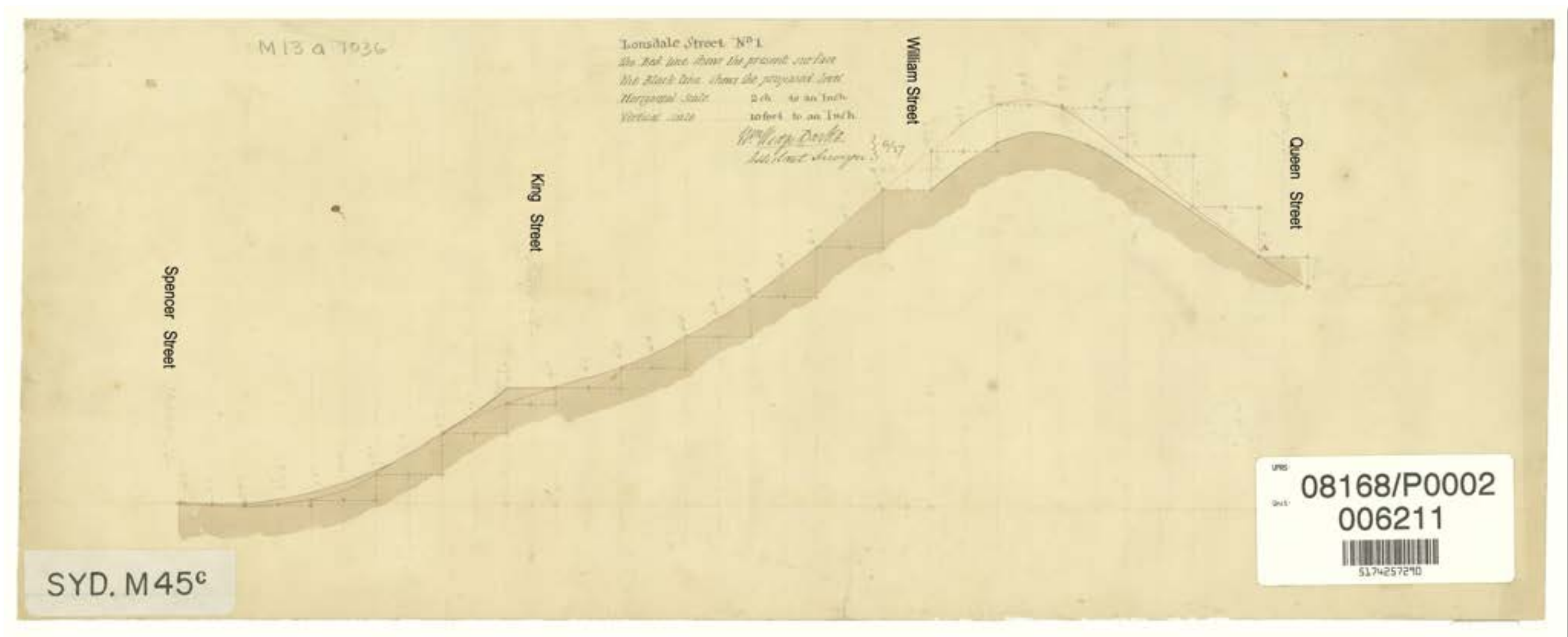


Figure 4 Surveyor Darke's proposed levels (1837) for the western portion of Lonsdale Street. The notations on the plan indicate that the red line shows the then present surface and the black line shows the proposed level. Note that the vertical scale is exaggerated (PROV VPRS 8168/P05 – SYDNEY M45C).

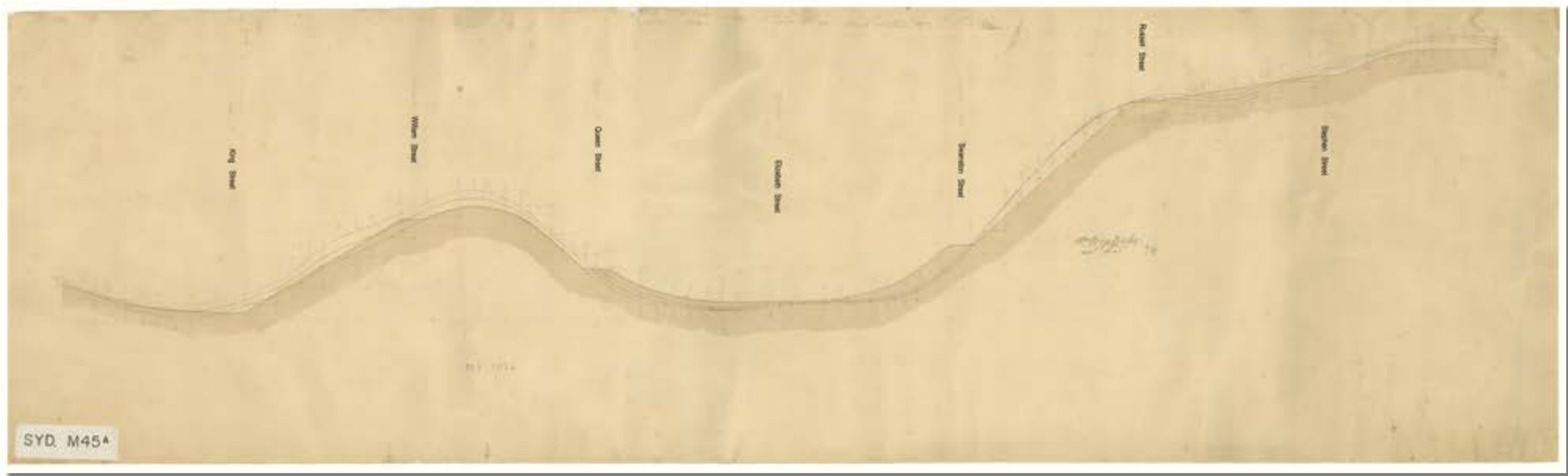


Figure 5 Surveyor Darke's proposed levels for the length of Collins Street. Again, the red line indicates the then land surface and black lines indicate proposed levels. Vertical scale is exaggerated (PROV VPRS 8168/P05 – SYDNEY M45A).



Figure 6 Locations of filling events listed in Appendix 2 overlaid on a plan of the distribution of Heritage Inventory sites.



Hodgkinson's 1853 contours overlaid on the 1853 Proeschel map of Melbourne

Figure 7 Detail of Proeschel's 1853 map of Melbourne with Hodgkinson's 1853 contours overlaid. Note the basin-like conditions of the block bounded by Lonsdale, Little Lonsdale, Russell and Stephen Streets (with water flow likely to enter from the north northwest, north, and north northeast) with conditions likely made worse by the forming of part of Lonsdale Street in this location. According to the key the stippled areas of the map are vacant land, the L-shaped and T-shaped buildings note the locations of a school and chapel, respectively.

**MR. JAMES SMITH'S PROPERTY.**  
Councillor STORY moved—  
“That the council, in its capacity of Local Board of Health for the city of Melbourne, now order that notice, in accordance of the 13th section of the act 18 Victoria, No. 13, be given to James Smith, of or supposed to be of Benalla, in the colony of Victoria, bricklayer, the overseer, proprietor, or owner of a house and land in a right-of-way called Alma-street, in Smith Ward, being on the north side of the said right-of-way, commencing 115 feet 6 inches from Bouverie-street, and having a frontage of twenty-six feet to the said right-of-way by a depth of twenty-seven feet, portion of Section 14, Allotment 3, city of Melbourne, being a place containing or used for the collection of drainage, filth, water, matters or things of an offensive nature and likely to be prejudicial to health, requiring him within fifteen days from and after the date of this order to drain, cleanse, or fill up the said place; and that, in the event of his failing to comply with this order within the time herein specified, this council, as Local Board of Health for the city of Melbourne, will execute the works necessary, and will cleanse and fill up the said place at the expense of him the said James Smith; and that John Reilly, Esq., the city surveyor, be and he is hereby authorized, empowered, and directed to, in the event of such failure, execute the said works and cleanse and fill up the said place at a cost not exceeding £10, and thereupon to proceed, on behalf of this council, as the Local Board of Health aforesaid, against the said James Smith for the recovery of the cost so incurred.”  
The motion was seconded, and carried.  
The council then adjourned.

Figure 8 Excerpt from *The Argus* (26/10/1861) describing a filling order for property owned by James/John Smith in Alma Street, Smith Ward (Carlton).

21 Franklan St  
 Melbourne April 14/62  
 To the Chairman of the  
 Public Works Committee  
 Sir May I be allowed  
 to ask the liberty of  
 taking a few Loads of  
 Gravel from the Cutting  
 at the Top of Franklan  
 St to fill up two Rooms  
 caused by the Corporation  
 having raised the Road  
 above the Rooms of  
 the House which cost  
 750 £ I shall be glad  
 to give you any further  
 information if you  
 will consent - Waiting

an interview  
 from Sir  
 John Woodhouse  
 Harcourt  
 J. S.

Figure 9 Copy of a letter from '21 Franklan Street' requesting fill from the Public Works Committee (VPRS 3181/P01, unit 822).

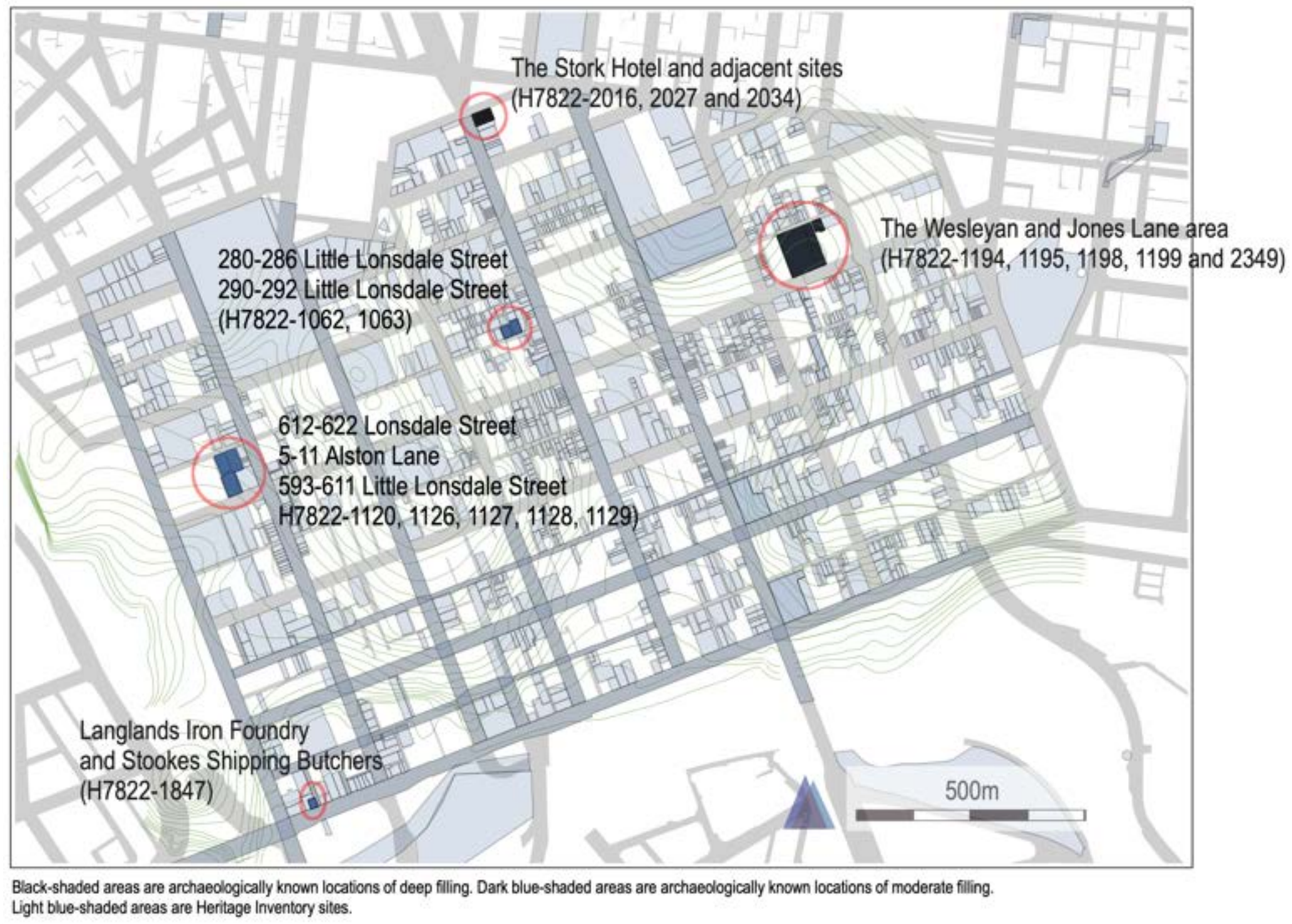
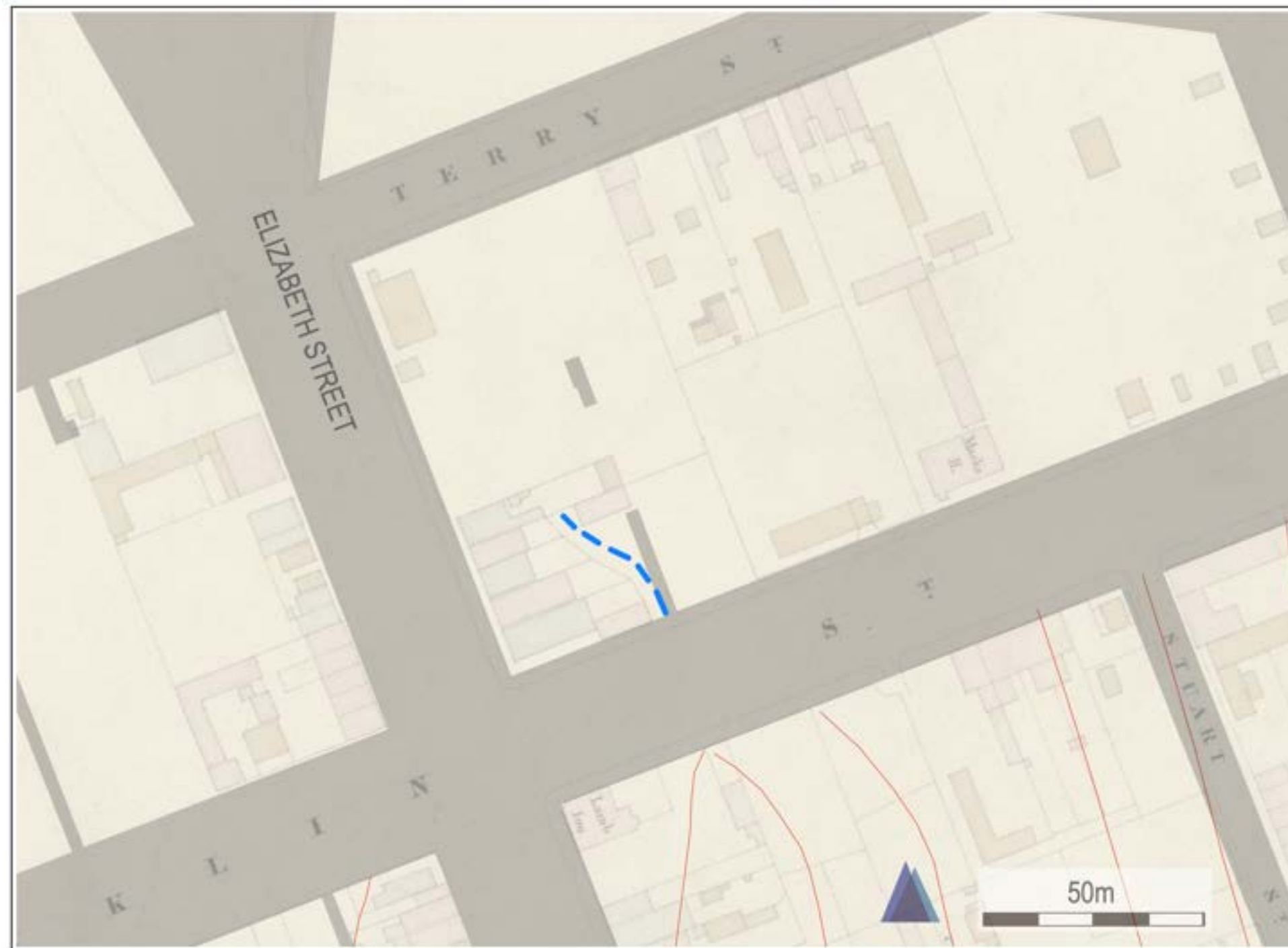


Figure 10 Location of the archaeological sites discussed in this section.



Detail of Munro's 1880 contour plan of Melbourne, showing the intersection of Therry and Franklin Streets

Figure 11 The location of the Stork Hotel, and Samuel Benjamin's land on Elizabeth Street. While the 1880 contour plan shows no evidence of Franklin Street having been built up, it is clear that this area could have become flooded by water flowing in from the north. Areas shaded light blue are heritage inventory sites.



Detail of the Bibbs plan of Melbourne. Dashed blue line is the inferred line of the gully as indicated by the adjacent fenceline. Note that the gully lines up well with 1853 contour lines (which are only available as far as the south side of Franklin Street).

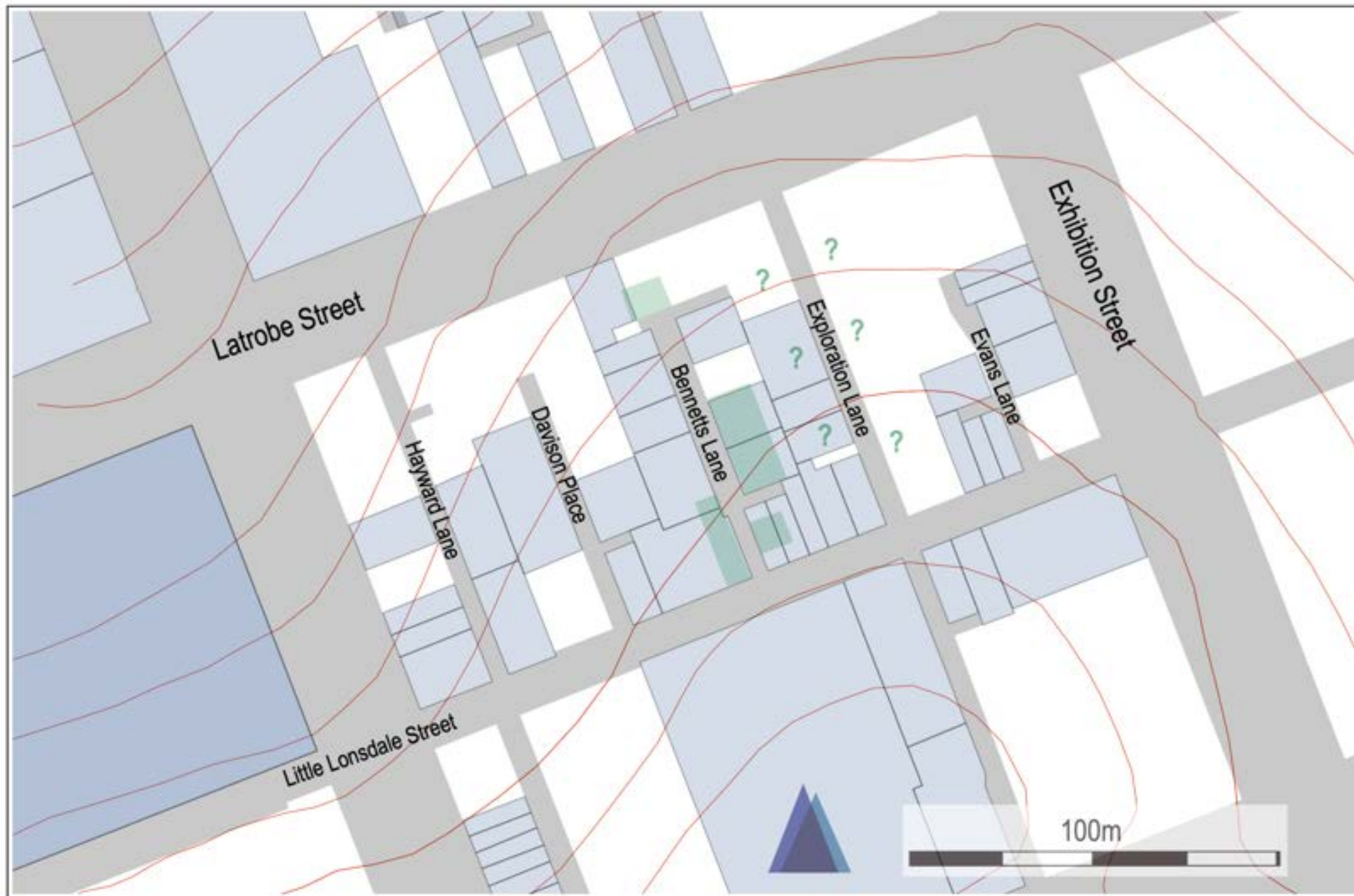
Figure 12 Showing the partly known and partly inferred line of a gully identified during the excavation of H7822-2028 at the corner of Franklin and Elizabeth Streets. This gully appears to flow from the direction of corner of Elizabeth and Therry Streets.



Figure 13 Location of the Little Lonsdale/ Wesleyan precinct Heritage Inventory sites, and the Exploration Lane site (H7822-1096) later excavated by Vincent Clark and Associates.

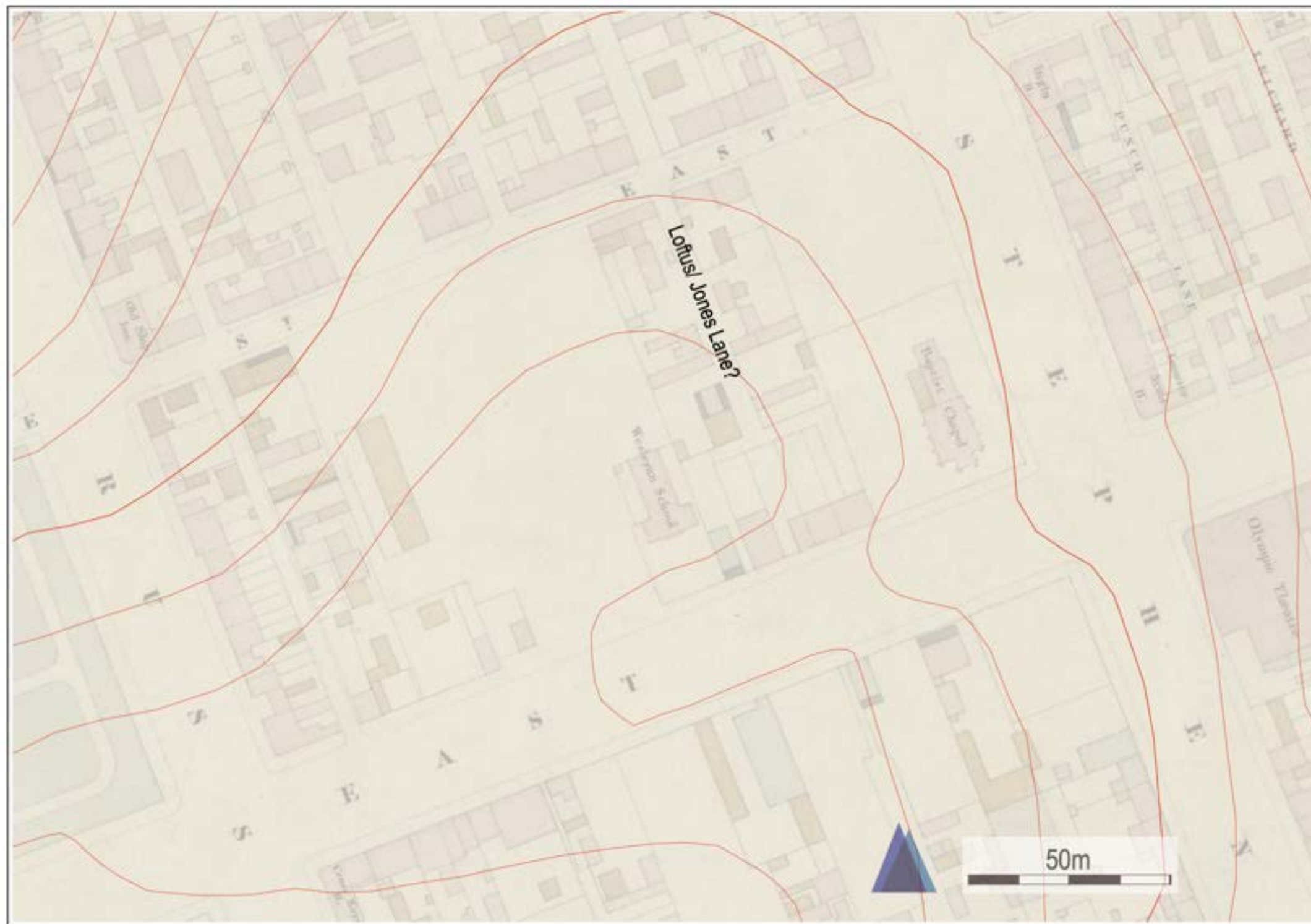
Gipps Ward				
No.	Name of Occupier	Situation of Premises	Description of Premises	
344	James Courtney	Little Lonsdale Street west side of the street	Milk house 2 rooms	Range of 4 houses East (buried by road)
5	Catherine Maloney	do	Wood house	3 room 1 brick house
6	Thos. Carrick	do	Wattle do	2 do wood do
7	J. Paddy	do	Wood do	3 do 11. 11. 11.
8	W. Eakin (owner)	do	Brick do	2 do Wood house 2 rooms
9	Mary Ann Jones	do	Wood do	2 do
350	Miss Higgins	do	do do	2 do
1	Paul Redding	do	do do	4 do (buried by road)
2	J. Barry	do	Brick do	2 do (do)
3	John Dowling	do	do do	2 do (do)
4	J. Murphy	do	Wood do	2 do (raised up)

Figure 14 An excerpt from the 1855 Gipps Ward rate book, showing a portion of the entries for a laneway off Little Lonsdale Street presumed to be Bennetts Lane. The upper red underlined notations appear to read 'buried by [?not legible]', the lowest one appears to read 'raised up'.



Plan of the lanes running north from Little Lonsdale Street between Russell and Exhibition Street. Green shading indicates the approximate location of properties against which there are 1855 rate book notations that appear to read either 'buried...' or 'raised up'. These locations are approximate only. Further research is required to determine their exact location. Green question marks indicate locations where there are rate book discrepancies.

Figure 15 Showing the estimated locations of those properties that 1854-1856 rate book entries suggest might have been subject to disruption as a result of filling requirements. Size and dimensions of properties are not currently known and further research would be required to determine this. Blue shading indicates the location of a Heritage Inventory site.



Detail of the Bibbs plan of Melbourne showing the inferred location of Loftus Lane. Red contour lines are from the 1853 data set.

Figure 16 Plan showing the inferred location of Loftus Lane.



Figure 17 The locations of known deep filling events in the Melbourne CBD.

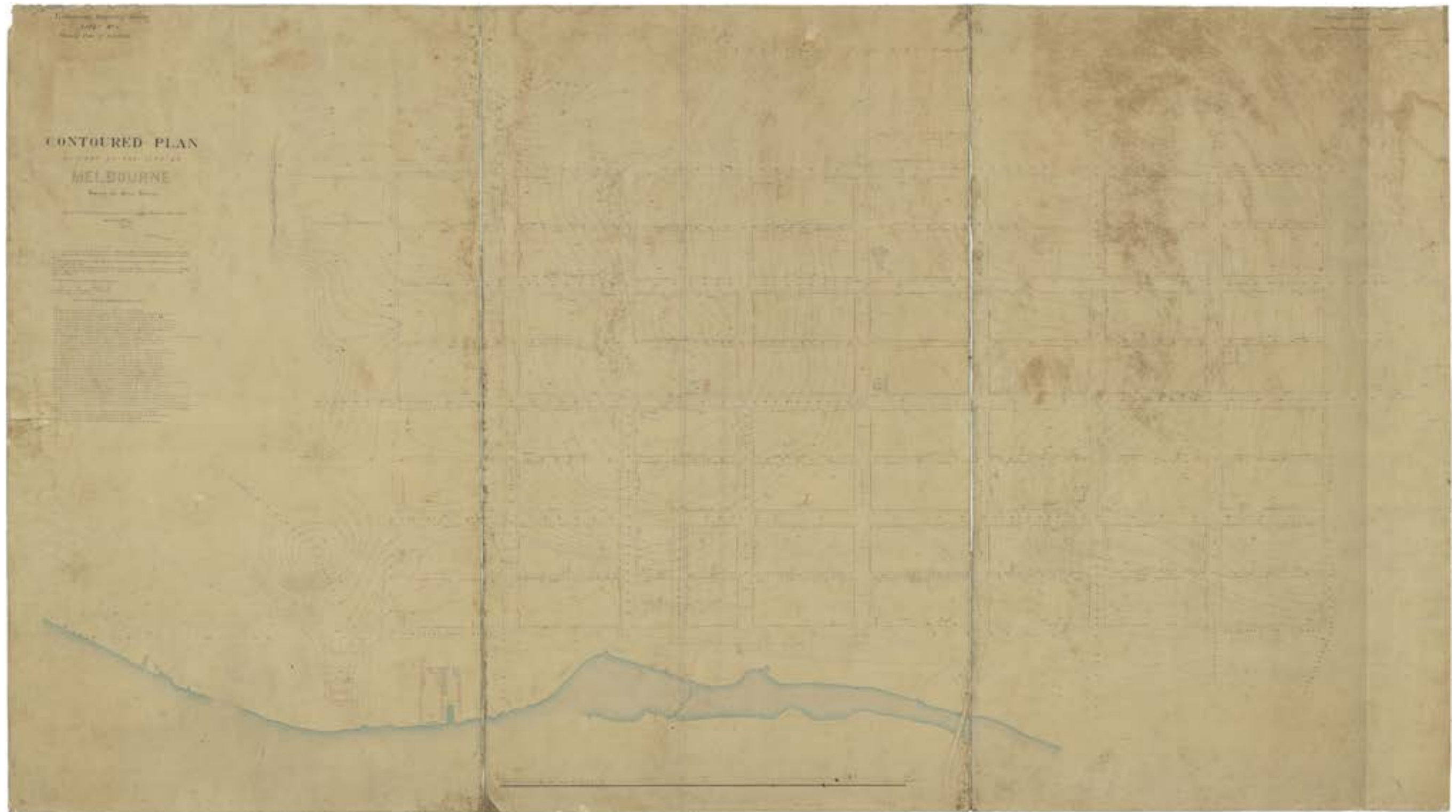


Figure 18 Hodgkinson's 1853 contour plan of Melbourne.

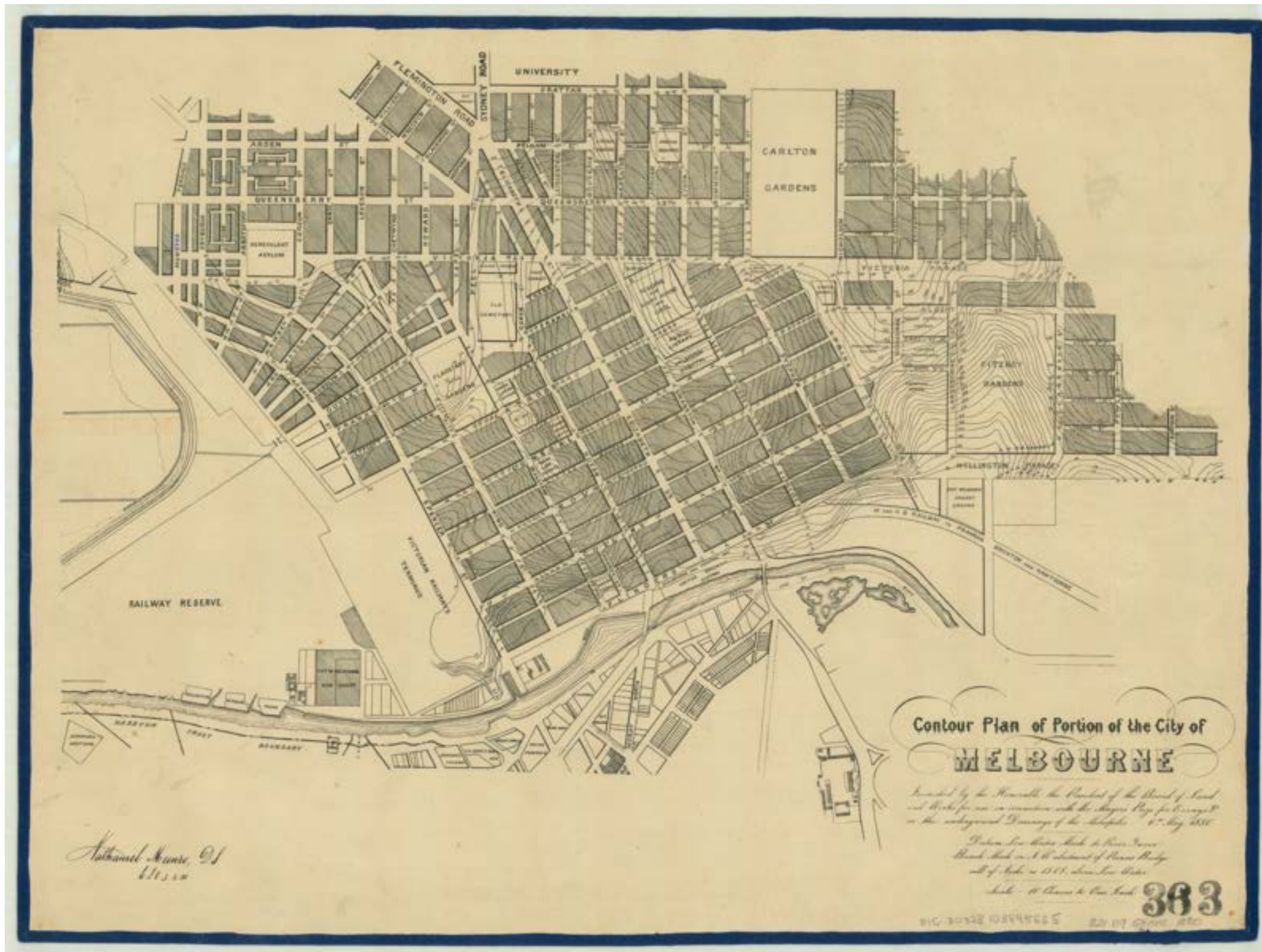
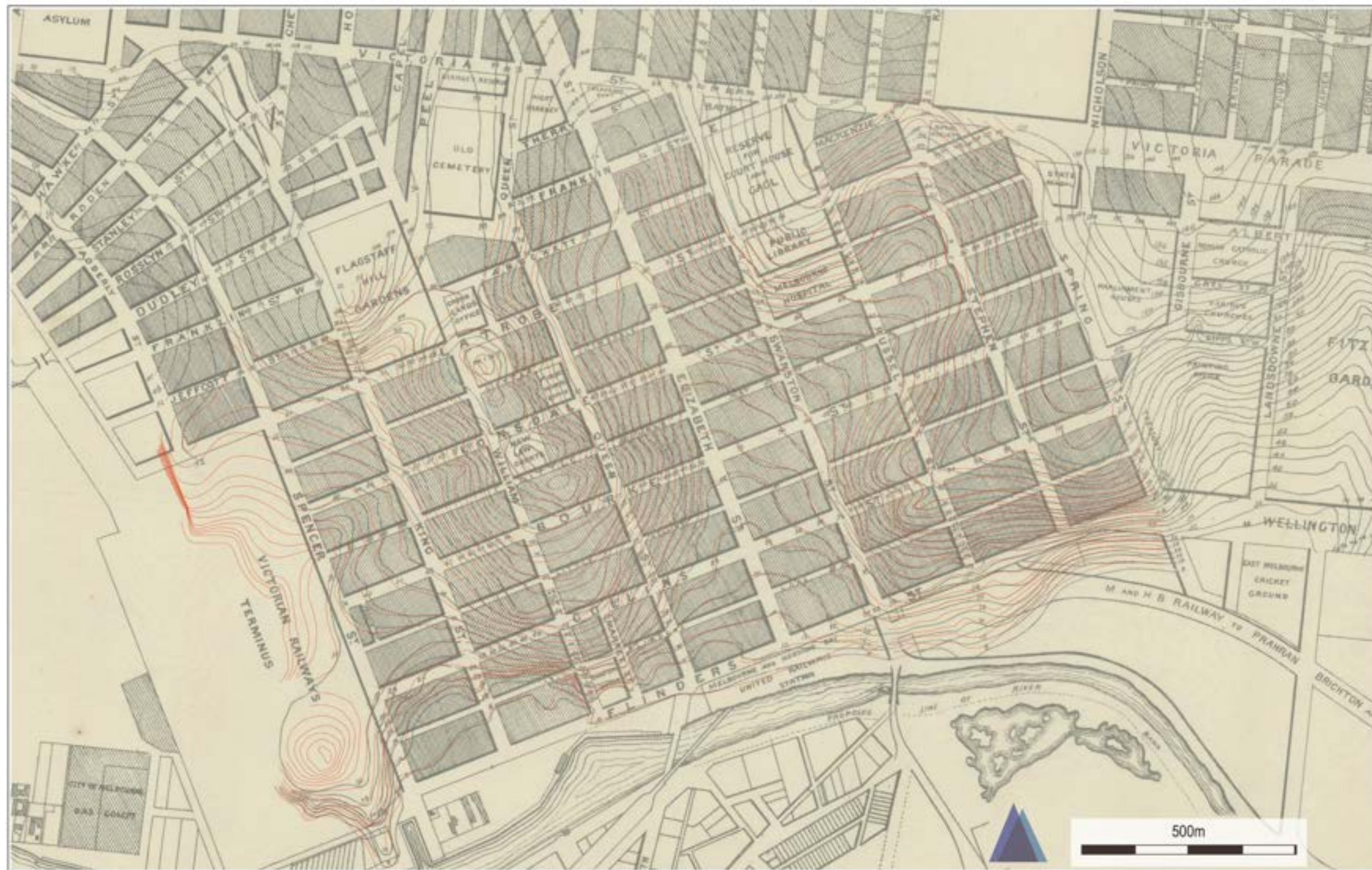


Figure 19 Munro's 1880 contour plan of Melbourne.



Red contour lines are derived from the 1853 Hodgkinson plan, base plan is the 1880 Munro plan

Figure 20 Plan showing the 1853 Hodgkinson contour line data set (in red) laid over the 1880 Munro plan.



Red contour lines are derived from the 1853 Hodgkinson plan, base plan is the 1880 Munro plan

Figure 21 Plan showing the 1853 Hodgkinson contour line data set (in red) laid over the 1880 Munro plan with green shading highlighting locations that may have been subject to filling.



Figure 22 Preliminary assess of the likely locations that filling may have been required, based on Darke's 1837 proposed street levels (Figure 3) and the 1853 contour data.