Dilapidation Surveys

The good, the bad and the ugly

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What I hope to talk about:

- dilapidation survey experiences;
- the state of records and the frustrations that result.

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Dilapidation surveys

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Why do we do them?

- To protect the owner?
- To protect the constructor?
- To be part of a future litigious cycle?

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What do they achieve?

Can satisfy all objectives, but often not.

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The typical process:

- builder, constructor, miner or other entity which might be held accountable for damage in the future undertakes a dilapidation survey;
- often part of risk management procedures of the contractor, sometimes laid down by development approval;
- consultant engaged to undertake survey;
- junior architect, engineer or other person handy with a camera sent out to take photos of cracks;
- report compiled and filed away.

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What happens next:

- owner reports building/structure damage;
- dilapidation report accessed;
- no photo or description of area with damage, or
- report didn't extend to the "damaged" property.

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Some examples

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Example 1

At your request our engineer
carried out an inspection of the above property in company with yourself on Monday the 19th April 2004 to asses the structural integrity of the dwelling and to comment on any items noted.

At the time of inspection the two storey stand stone structure with metal corrugated roof covering was considered to be stable.

It is considered that the structure was founded on masonry riser walls and isolated brick piers supporting hard wood bearers joist and timber flooring. It is considered that this type of construction would facilitate the partition walls extending to the ground to form the masonry footings.

For the purpose of this report Road is considered to be to the east.

Damaged List

External North Elevation

At the north western corner of the residence there is fretting of the sandstone at foot path level. The fretting is illustrated in photograph P1 and is to the lower courses of block work.

At ground level adjacent to the residence there is concrete paving which is now deformed due to heaving of the soils. The heaving is typically illustrated in photograph P2.

At the window sill it is noted that there separation beneath the sill as illustrated in photograph P3.

East Elevation

Across the east elevation it is noted that there is bowing to the rafters to the verandah as illustrated in photograph P4.

Across this elevation there is masonry paving to the verandah area. The paving is significantly deformed as illustrated in photograph P5.

The down pipe across this elevation adjacent to the internal corner of the verandah is corroded as illustrated in photograph P6.

At the step tread to the entry across this elevation the spalling of the rendered surface as illustrated in photograph P7.

The windows to the homestead are provided with shutters however there is a broken shutter across this elevation as shown in photograph P8.

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P1

P2

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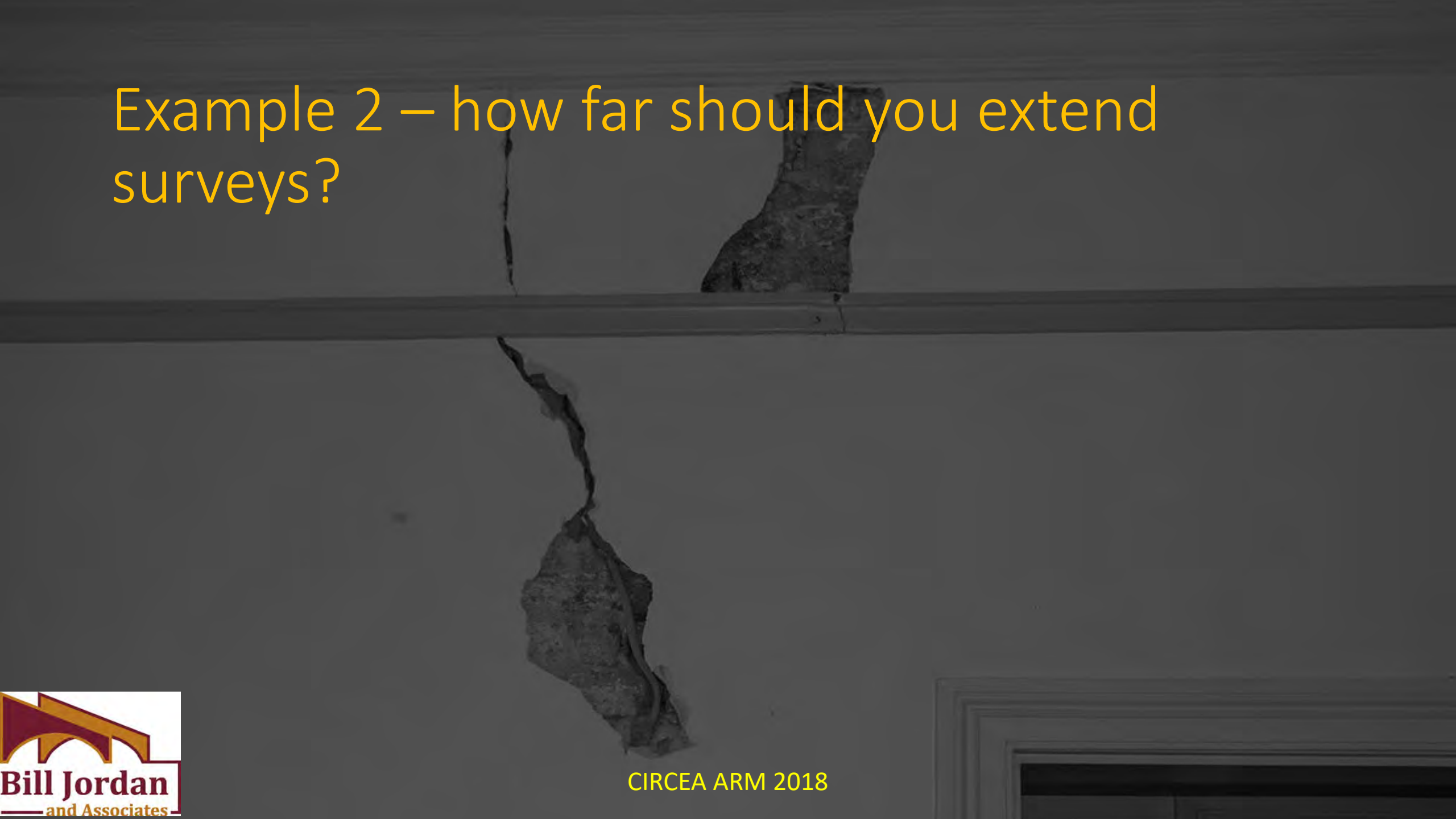
P3

P4

Example 2 – how far should you extend surveys?



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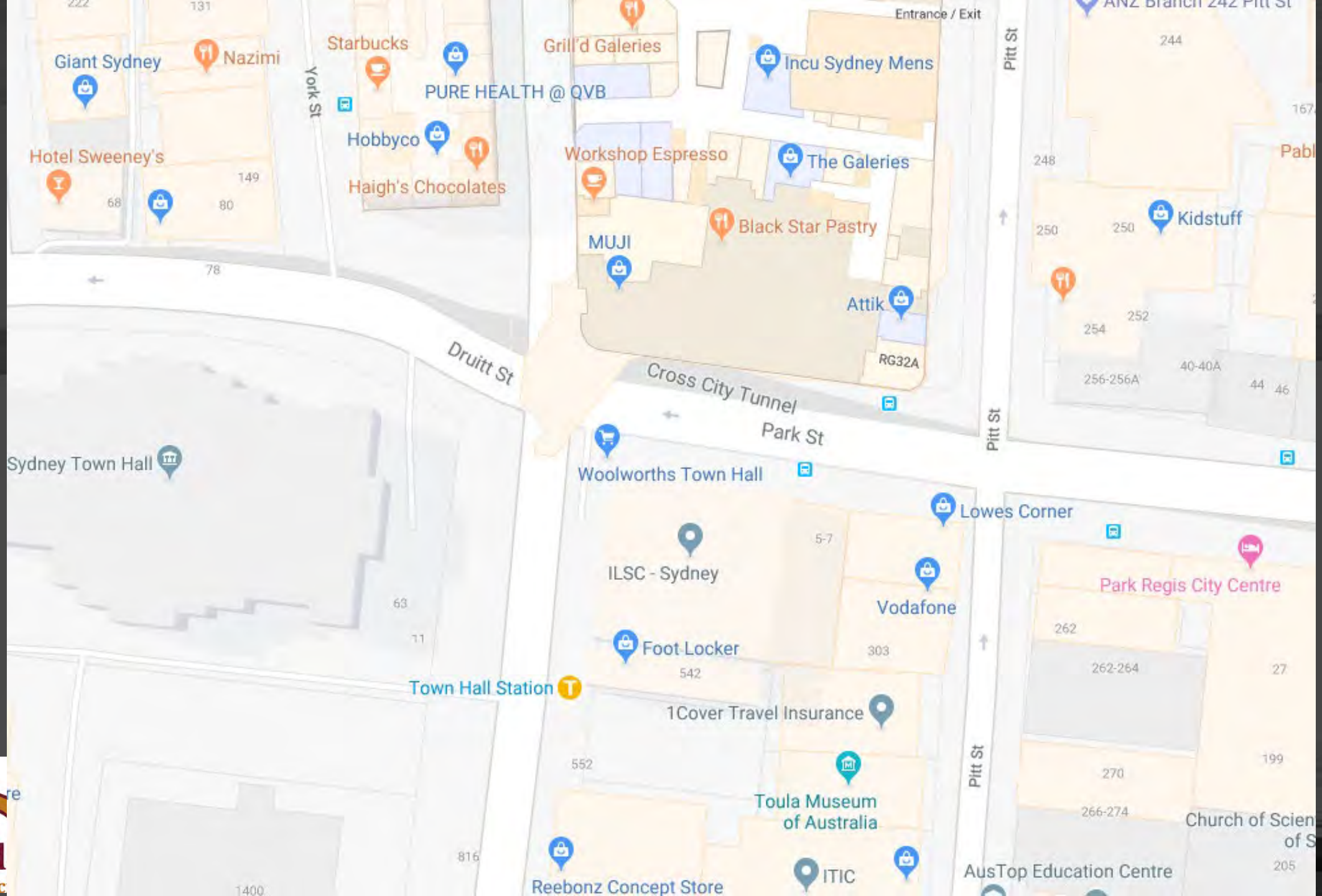

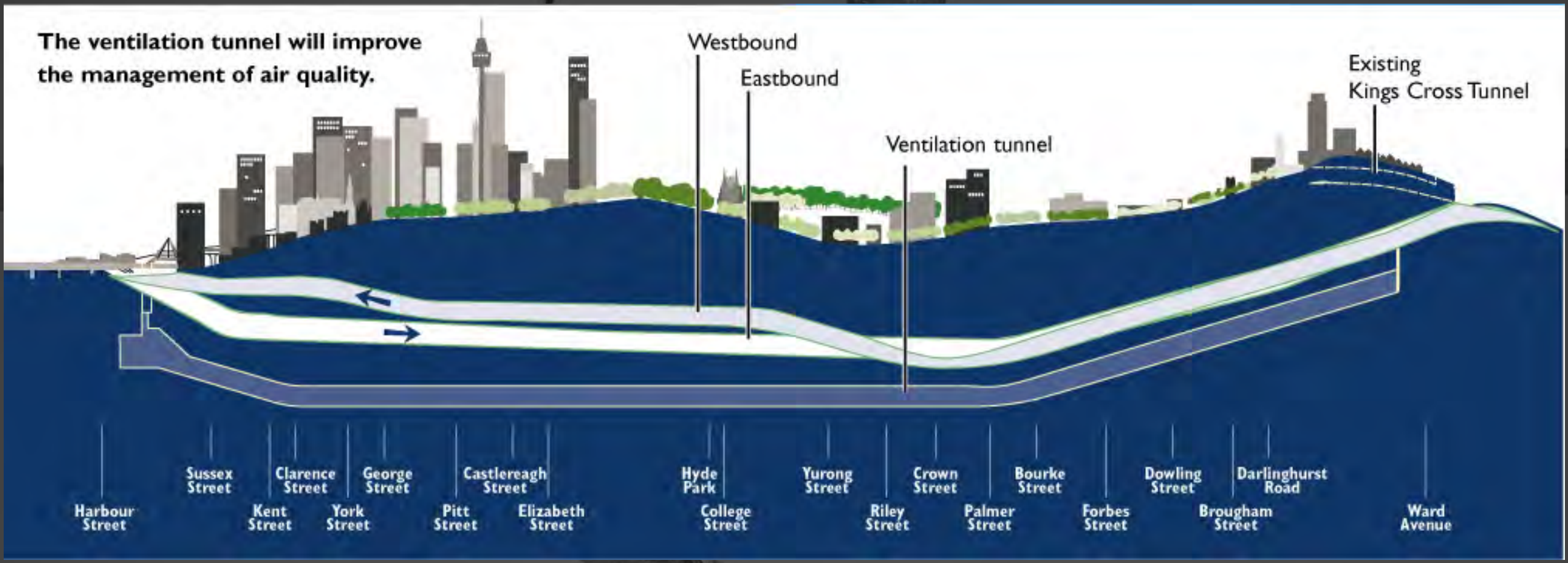

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Conclusion?

- may have been due to tunnel excavation from stress release in rock
- cosmetic only (but could have been worse)
- cost of litigation >> cost of repair

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A more recent example

3.1.4 WESTERN ELEVATION

WESTERN ELEVATION

Figure 19- Western Elevation

Brick Addition:

- Sandstock brickwork Colonial bond wall. Evidence of fretting and cracking in brickwork at lower level of wall.
- Sandstone block foundation, missing one block, making an entry to the sub floor.
- Sandstone blocks also spalling.
- Two symmetrically placed double hung sash windows at upper level with stone lintel and brick soldier course lintel.
- Three vents in wall, two on lower level, one on upper level.
- Large crack in brickwork between northern window and joint of two buildings.
- Movement joint between the two buildings has previously been closed by metal trim.
- Timber fascia on eaves has a broken board at southern end of wall.

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So what should be aim?

Objectivity over subjectivity

There is never enough information if there is a real problem

A better way?

https://my.matterport.com/show/?m=xnmdZUqgePL.

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To clear up a bee in my bonnet

Security and quality of historical structure records

In 1970s +, most large organisations, particularly government departments and instrumentalities, did away with Senior Draughtsman positions and, to save space, microfilmed then discarded original drawings.

In typical bureaucratic fashion, cheapest tender used for microfilming and there was no review of adequacy until after the grand destruction

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Example 1

An Allan Truss bridge

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BRIDGE OVER ORARA RIVER AT CORAMBA

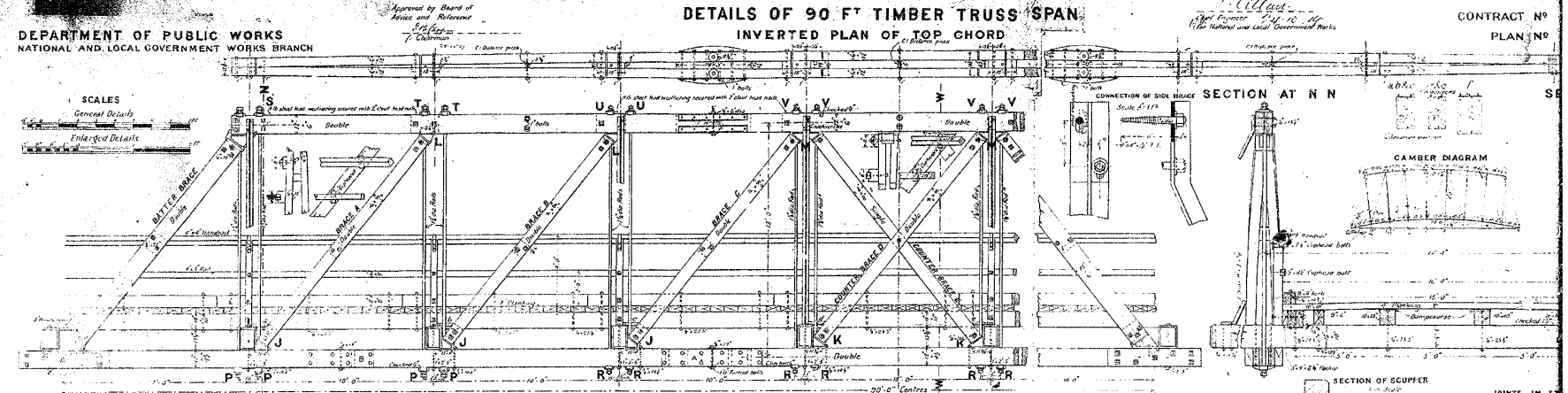
ON ROAD CORAMBA TO RAILWAY STATION

DEPARTMENT OF PUBLIC WORKS
NATIONAL AND LOCAL GOVERNMENT WORKS BRANCH

DETAILS OF 90 Ft TIMBER TRUSS SPAN

CONTRACT Nº

PLAN Nº

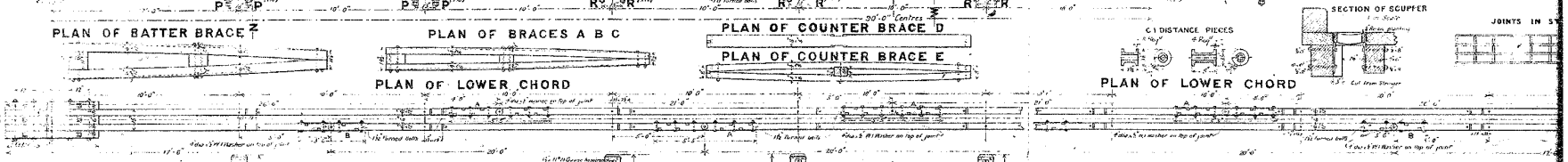


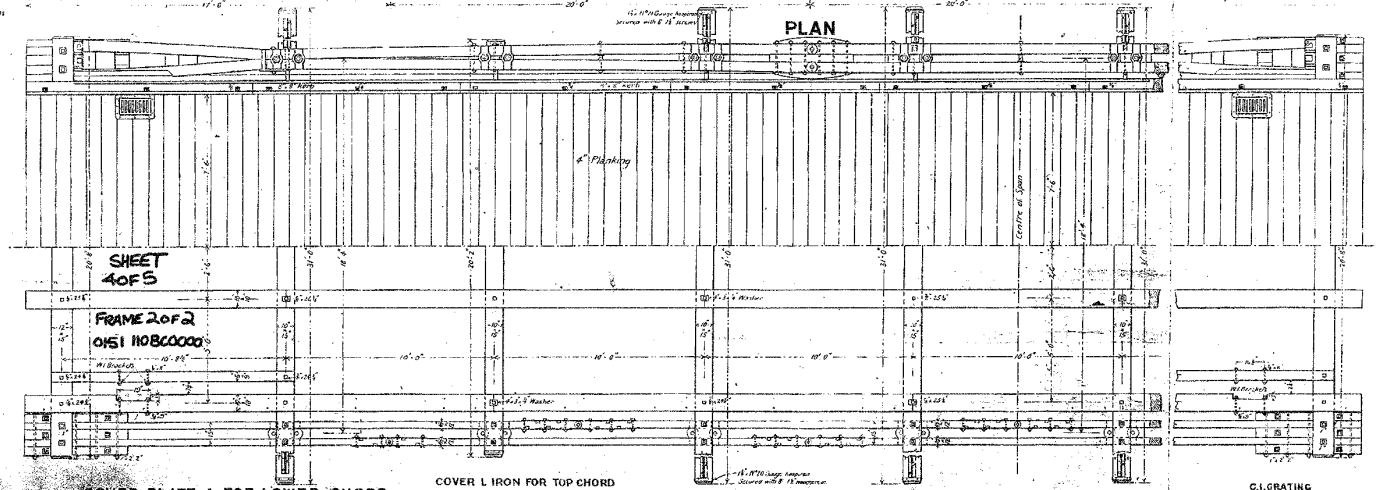
PLAN OF BATTER BRACE

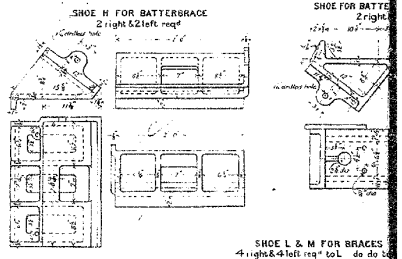
PLAN OF BRACES A B C

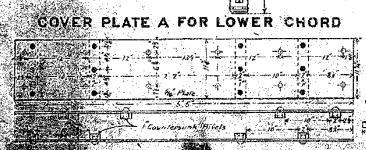
PLAN OF COUNTER BRACE D

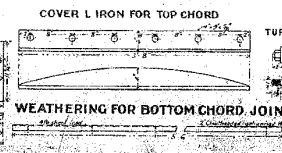
PLAN OF COUNTER BRACE E

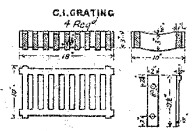


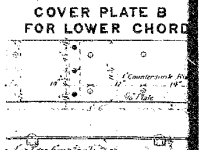










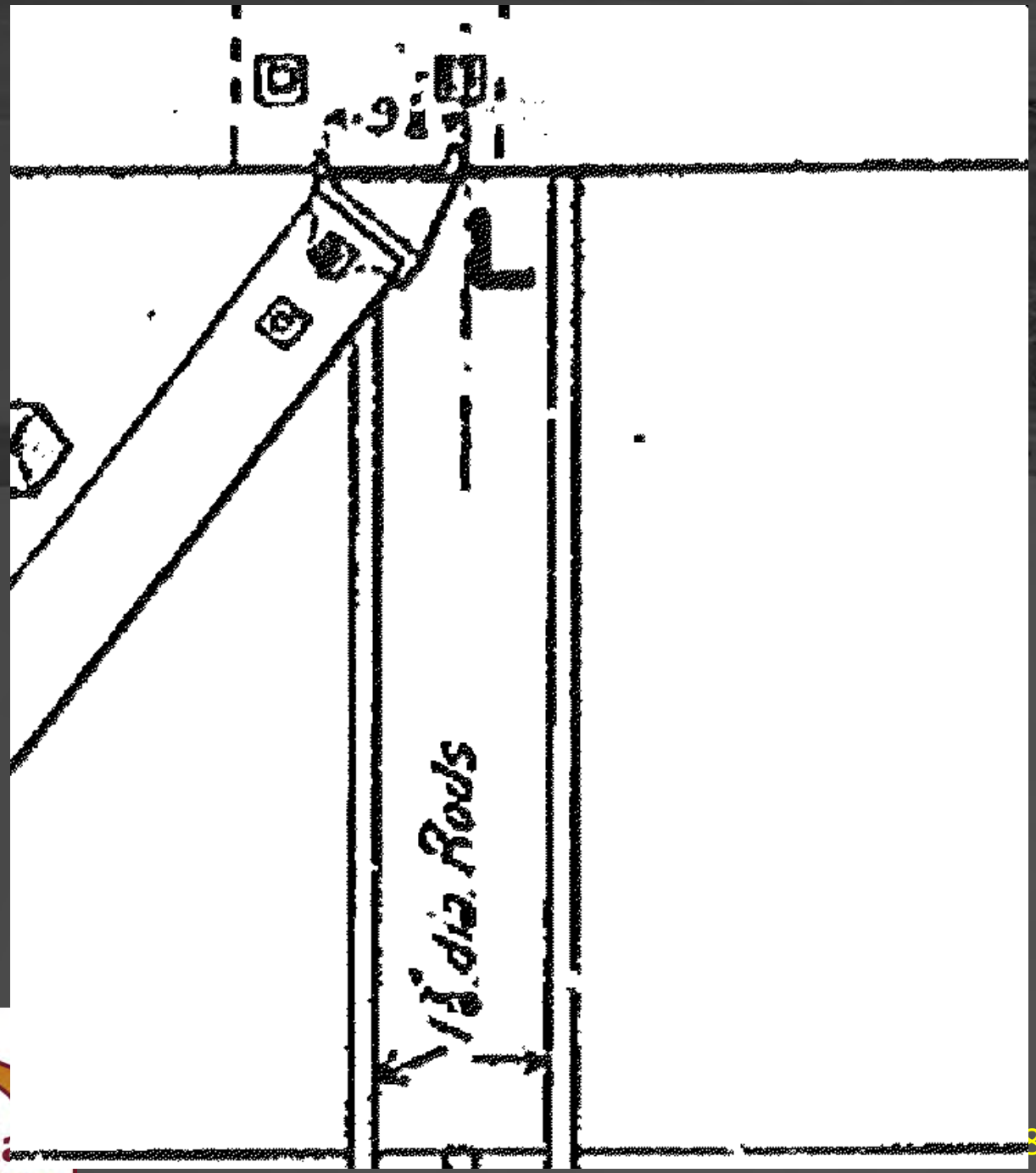


DEPARTMENT OF PUBLIC WORKS

DRAWN BY L.L. Morris
TRACED BY Do
CHECKED Do
PASSED

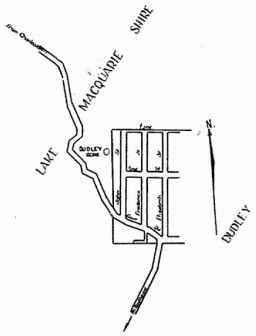
DRAFTSMAN
CHIEF DRAFTSMAN
DESIGNED BY

REDUCTION RATIO
30 x

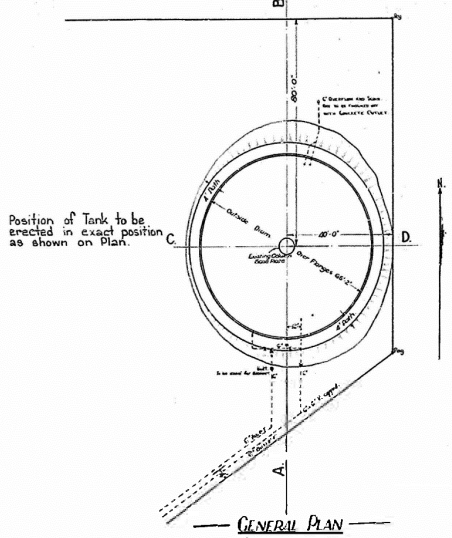


What are the fractions of an inch dimensions?

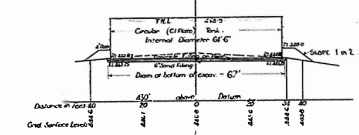

22. 6. 2005



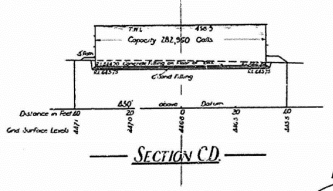
LOCALITY PLAN
Scale 10 Chns. to an inch



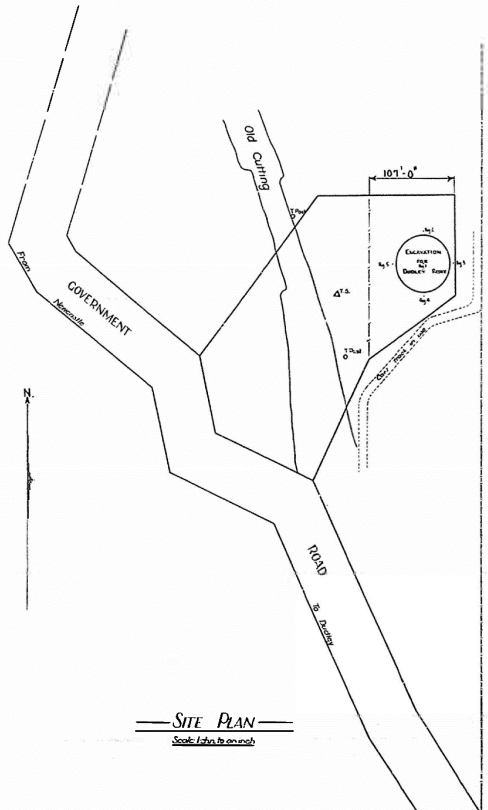
GENERAL PLAN
Scale 20 feet to an inch



SECTION AB

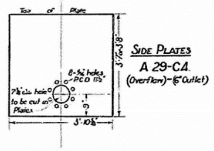


SECTION CD.

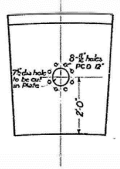


SITE PLAN
Scale 1 chn. to an inch

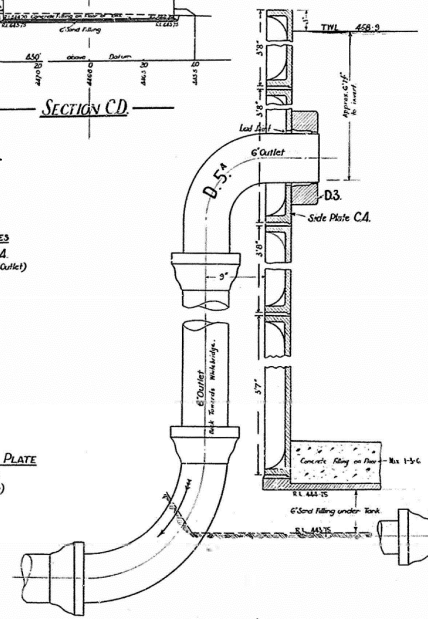
DRILLING OF PLATES.



SIDE PLATES
A 29-C4.
(Overflow)-(Outlet)

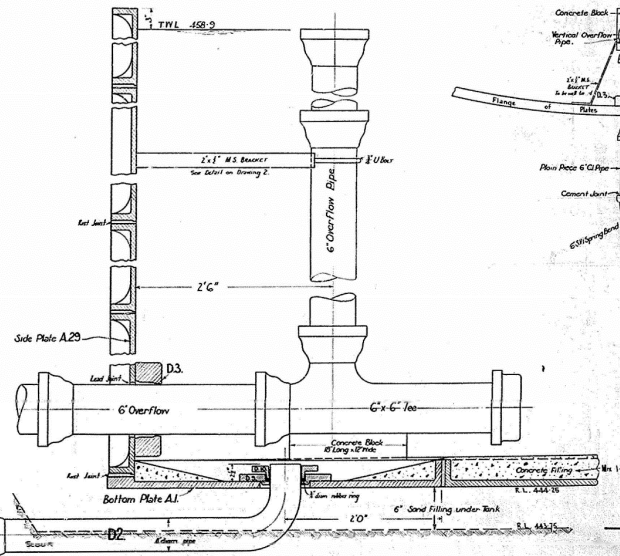


BOTTOM PLATE
A1
(Scour)

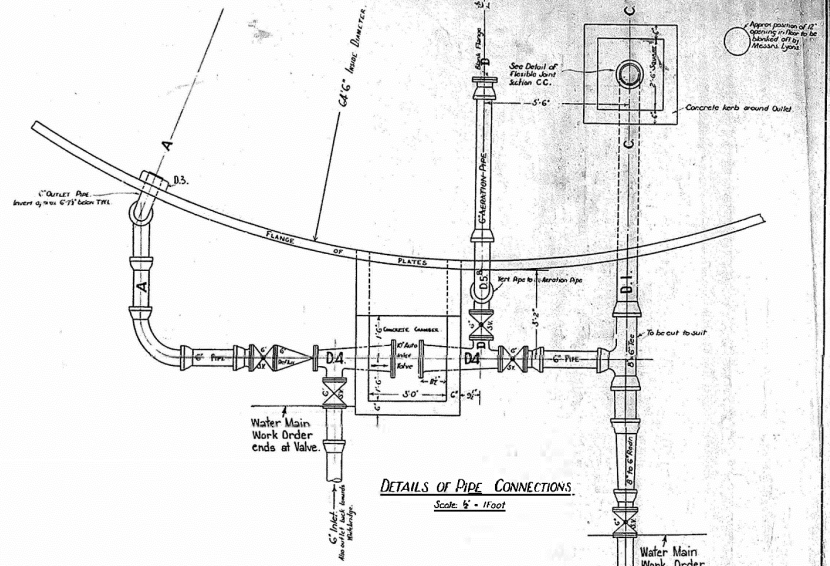


SECTION AA.

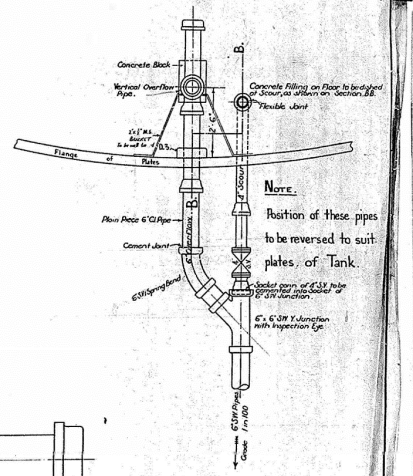
NOTE:-
Side Slopes of Excavation must be maintained
No cut through for Cartage to be made.
Where pipes are required, narrow trenches should be provided, and filling well rammed.
Top of bank to be well rammed, and to slope away from the tank, to shed rain.
Grass roots to be planted on bank.



SECTION BB.



DETAILS OF PIPE CONNECTIONS.
Scale ½" = 1 Foot

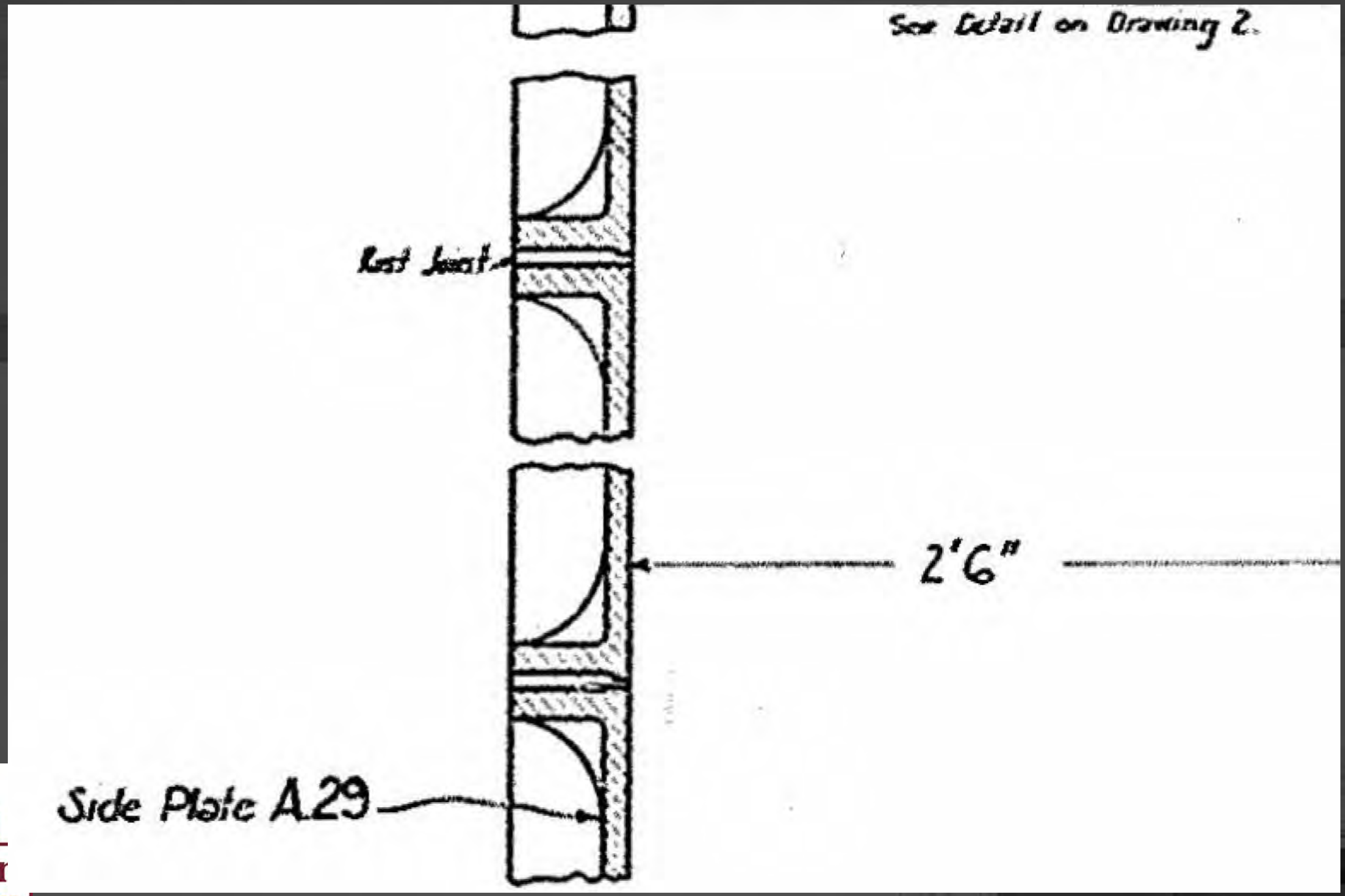


DETAIL OF OVERFLOW & SCOUR PIPES
Scale ½" = 1 Foot

NOTE.
Position of these pipes to be reversed to suit plates of Tank.

WORK AS EXECUTED
Princ. Assist. Engineer. E. R. Henning 30-3-28
Designing Engineer. J. Ewing 30-5-28.

H.D.W.S. & S. BOARD.
DUDLEY RESERVOIR
PLAN No 1.



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Scanning for digitisation not much better as, particularly in early days, memory capacity was a problem

A plea!

If you find old drawings, don't let them be destroyed until someone who knows what they represent has had a critical look at the copy.

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Thank you

Any questions?

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