

TO: TECHNICAL SERVICES COMMITTEE – MONDAY 11 MARCH 2013

SUBJECT: TOWN CAMPS REPORT UPDATE

AUTHOR: DIRECTOR TECHNICAL SERVICES – GREG BUXTON

EXECUTIVE SUMMARY

This report is to provide Council with information in relation infrastructure within the Town Camps.

RECOMMENDATIONS

That it be a recommendation to Council

That this report is noted

1. BACKGROUND

Council is holding discussions with the Northern Territory Government regarding infrastructure and municipal services within town camps

2. DISCUSSION

Kym Davies, Regional Director, Dept, Chief Minister, Rex Mooney, CEO and Greg Buxton Director Technical Services inspected the Tier 1 camps (trucking Yards, Hidden Valley and Irapinta Valley on Wednesday 30 January 2013. Council pointed out the main concerns with the standard of construction and the non-compliance issues.

Refer attachment – Engineers overview.

3. POLICY IMPACTS

Good policy to provide infrastructure facilities.

4. FINANCIAL IMPACTS

Council is in negotiations regarding funding provisions.

5. SOCIAL IMPACTS

Non-provision of equitable infrastructure to town camp communities will be detrimental to living standards.

6. ENVIRONMENTAL IMPACTS

Nil

7. **PUBLIC RELATIONS**

Nil.

8. **ATTACHMENTS**

Engineers overview from site inspection within town camps



Greg Buxton

DIRECTOR TECHNICAL SERVICES

Trucking Yard – Site visit notes

Date: 8 January 2013

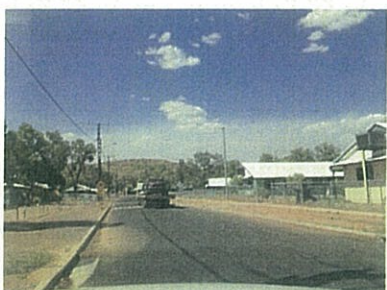
General notes:

- No construction activity on site since last visit
- No maintenance has been undertaken or defects managed
- Significant amount of silt has been deposited on roads.
- Asphalt/pavement issues now evident – see separate notes from BB Civil (Bruce Burman)
- Some street signs damaged – as was predicted in the July 2012 report.
- Erosion evident in open channel drains – some areas are more severe and more prominent than others
- Underground drainage has not been maintained/cleaned – not possible to do so due to accessibility issues not addressed.
- Previous issues identified – not addressed
- Open space – not touched







Smith Street looking West.





- Intersection still not upgraded.
- Road signage damaged.
- Traffic management – does not exist.


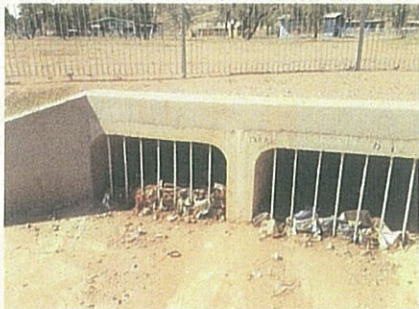
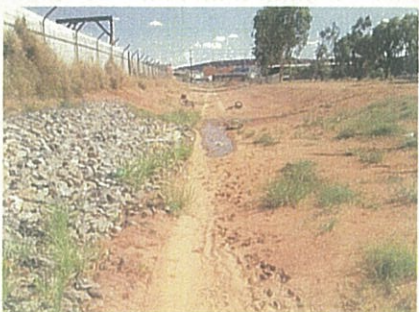


Entrance Road into Camp.

- Significant silt on road
- Dust stains indicates possible ponding of stormwater due to poor grading.

	<p>Entrance Road into Camp. Same issues as above</p>
	<p>Stormwater outlet at Smith Street Open Drain</p> <ul style="list-style-type: none"> • Not Maintained/cleaned • Construction not consistent with materials • Suggest that this headwall has been constructed as an afterthought and has not been designed.
	<ul style="list-style-type: none"> • No Through road signage damaged and not stable. • Silt on gutters.
	<ul style="list-style-type: none"> • Erosion around Telstra pit • Indicates verge is not compacted at service pit locations or pipes have been damaged.

	<ul style="list-style-type: none"> • This kerb return is in a low spot with no drainage. • Silt around kerb and gutter is going to be an on-going issue for maintenance.
	<ul style="list-style-type: none"> • Silt issues. • Stormwater tray in front of SEP not constructed correctly – this leads to localised ponding. This issue is consistent across the camps
	<p>Asphalt/pavement issues – refer separate notes from BB Civil.</p>
	<p>On-going erosion issues as had been suggested in previous report.</p>



	<p>Unmanaged erosion from the reserve into open channel drain.</p> <ul style="list-style-type: none"> • Significant erosion issues
	<p>Un-maintained underground drainage outlet</p> <ul style="list-style-type: none"> • Not possible to maintain due to access issues – poor design/construction.
	<p>Open Channel on eastern boundary.</p> <ul style="list-style-type: none"> • Concrete low flow channel is completely filled with silt. Embankment stabilisation would have resolved much of this issue.

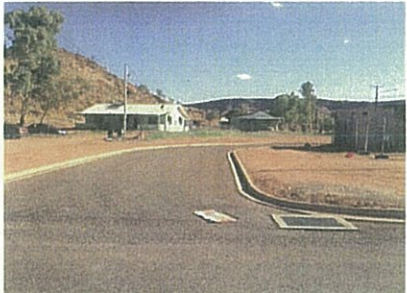


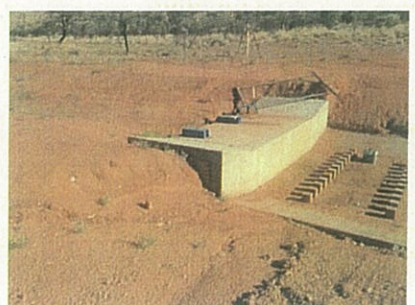
Hidden Valley – Site visit notes

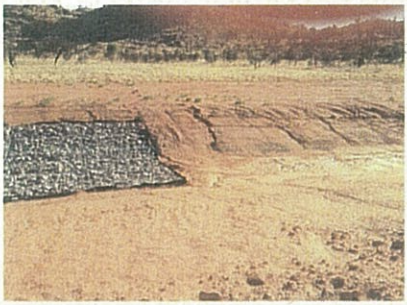


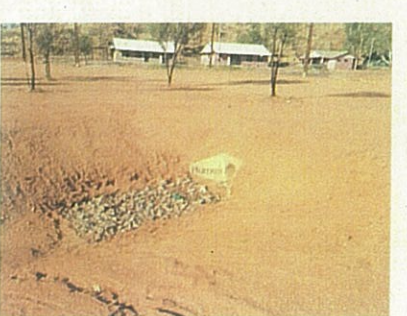
Date: 8 January 2013




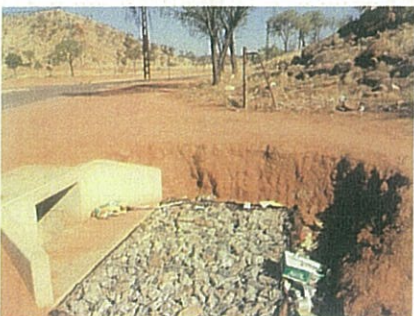
General notes:

- Limited construction activity on site – primarily a small crew undertaking minor works
- Grading of kerb and gutter is expected to be an issue based on visual inspection. Silt will be an issue.
- Pavement issues – see separate notes from BB Civil (Bruce Burman)
- Erosion evident in open channel drains – some areas are more severe and more prominent than others. This is a significant issue and remains unresolved.
- Stormwater drop structures – incomplete, significant erosion around the structures
- Previous issues identified – not addressed
- Open space – not touched

	<p>Kerb type is not as per council's requirement Road Grade is an issue – not adequately graded to allow stormwater flow.</p>
	<p>Primer Seal has been installed on most of the roads but not all. Refer to BB Civil comments. Kerb Ramp (in foreground) appears to be a flat spot and holding silt. Kerb Ramp is also non-compliant to Australian Standards.</p>

	<p>A stormwater pit is located within the road carriageway – This is not acceptable in the driveline for vehicles.</p> <p>Localised grading appears to be an issue although an attempt has been made to manage this via the stormwater pit.</p>
	<p>Stormwater Channel – looks like a path leading to a road crossing. Batter is too steep and is considered unsafe.</p> <p>Existing tree root have been removed and is will have an impact on the existing tree survival.</p>
	<p>As above.</p> <p>Road safety and pedestrian safety issue.</p>
	<p>Stormwater drop structure</p> <ul style="list-style-type: none"> • Erosion issues • Design has not considered existing soil types and lack of vegetation • Safety issues (after hours) has not been considered

	<p>Stormwater – Major channel</p> <ul style="list-style-type: none"> • Channel works not complete • Erosion issues
	<p>Stormwater drop structure</p> <ul style="list-style-type: none"> • Erosion issues • Design has not considered existing soil types and lack of vegetation • Safety issues (after hours) has not been considered
	<p>Stormwater drop structure</p> <ul style="list-style-type: none"> • Erosion issues • Design has not considered existing soil types and lack of vegetation • Safety issues (after hours) has not been considered
	<p>Stormwater outlet</p> <ul style="list-style-type: none"> • Safety concerns • Erosion issues

	<p>Stormwater Channel crossing</p> <ul style="list-style-type: none"> • Safety issue with traffic • Significant erosion issues
	<p>Kerb ramp Does not comply to Australian Standards</p>
	<p>Stormwater outlet</p> <ul style="list-style-type: none"> • Road safety concerns • Erosion issues
	<p>Stormwater inlet</p> <ul style="list-style-type: none"> • Batter too steep • Safety concerns • No Safety bars to inlet structure



GREENHILL
ENGINEERS



Road entrance to the Camp

- Roadworks is incomplete
- No kerbs or stormwater infrastructure

Larapinta – Site visit notes

Date: 8 January 2013

General notes:


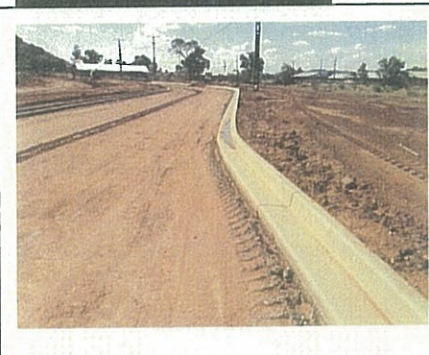
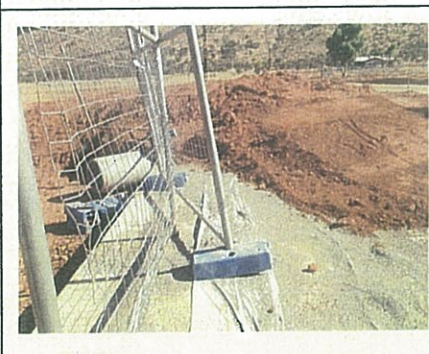

- Construction activity on site – Significant road construction crew undertaking works
- Grading of kerb and gutter is an issue based on visual inspection. Silt and ponding issues.
- Pavement and Subgrade issues – see separate notes from BB Civil (Bruce Burman)
- Erosion evident in open channel drains – some areas are more severe and more prominent than others.
- Kerb heights are to Australian Standards
- Previous issues identified – not addressed
- Open space – not touched



Road under construction
It appears that the kerbs have been constructed over thin layer or compacted (?) quarry rubble. There is no evidence of sub-base being constructed in the road.



Stormwater pit
Significantly blocked with silt
Top level appears to be below existing surface level.

	<p>Kerb throat depth noted at 130mm at some locations – Minimum requirement as per Australian Standards – 150mm at Gutter. This means that the edge should be 175mm minimum.</p>
	<p>Kerb has low spots (multiple locations) This will require reconstruction of significant lengths to fix the issue.</p>
	<p>Culvert Crossing These have been constructed recently. It does not have seals between the "crowns".</p>
	<p>As above</p>



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Road still under construction – at Sub-grade stage.



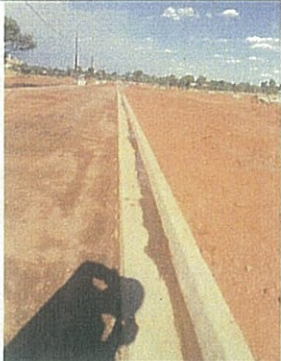

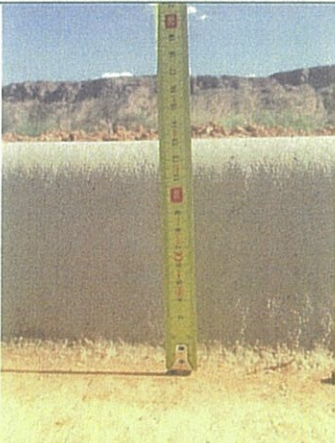
Kerb type is not line with council standard.



Quarry rubble being placed under kerb.
Note the existing sub-grade under pavement is wet and will be an issue with pavement.



As above

	<p>Kerb is ponding water This section should be removed and re-graded.</p>
	<p>Silt issues in stormwater open channel</p>
	<p>Barrier kerb height. This kerb is required to be 150mm high, currently built to 130mm.</p>

Inspection Report on Trucking Yards, Larapinta Valley and Hidden Valley Community Road Pavements

For

Alice Springs Town Council

Inspection Date: 8/01/2013 - 9-01/2013

BB_CC

Controlled Document: PR3801112 Version A/01-2012	Prepared by: BB Civil Consulting	Authorised by: B .Burman
Document Prepared for: Alice Springs Town Council	Content: Pavement Inspection Report	Date: 21 st January 2013

Introduction

This inspection report on the road pavement construction for the indigenous communities at Trucking Yards, Larapinta Valley and Hidden Valley is presented to follow up on the initial report dated 21st November 2012. The purpose of the report is to report on issues found during construction and maintenance periods for each of the camp projects.

Trucking Yards

- Minor environmental cracking of the asphalt surface noted
- Surface damage (indentations) caused by an object placed on the asphalt road surface
- Surface damage (indentations) where loose stones have been punched into the asphalt surface under vehicle loads
- Surface damage due to vehicle tyre marks on soft asphalt mix
- Surface damage (shoving and ravelling) of the asphalt surface due to turning vehicle tyres while the vehicle is stationary and breaking of vehicles
- Loss of fines from the asphalt surface under turning vehicle tyres in cul-de-sacs.
- Some areas of open texture suggestive of lower compaction levels or low mix temperatures
- Loss of surface fines due to adhesion to vehicle tyres

The above may indicate the use of a softer grade of bitumen or some softening of the bitumen due to diesel or kerosene contamination.

Larapinta Valley

- Water table edge depths measured to be 135mm - 160mm, inferring a similar pavement depth, including the asphalt surface.
- Surface preparation of the earthworks indicates only one crushed granular pavement layer in the pavement structure, both on collector roads and local/minor roads.
- The Cardno pavement design recommends 150mm basecourse plus 25mm basecourse (175mm total depth) on CBR 15% subgrades.
- No granular founding layer placed for the concrete kerbing
- Silty fines noted for some areas of subgrades which had become weak due to watering

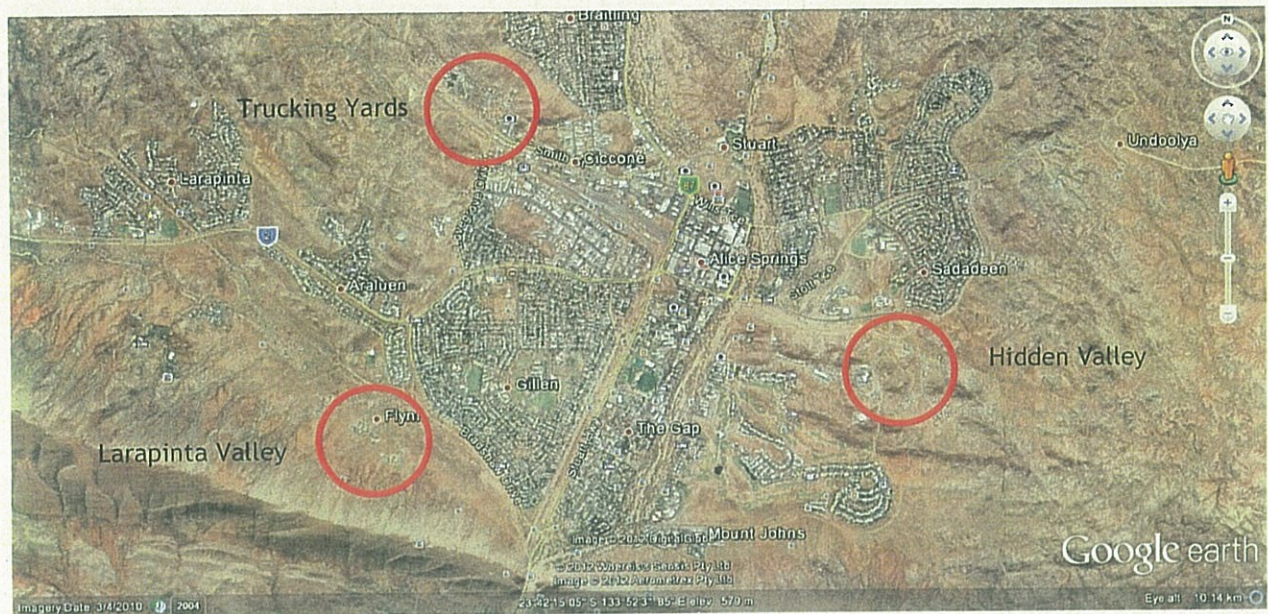
Hidden Valley

- Basecourse placed throughout with primer seal placed on most areas of completed base.
- Depth of water table above basecourse or primer seal noted was 20mm - 40mm. This implies a basecourse depth of 120mm - 150mm.
- Localised minor stripping of the primerseal possibly due to a blocked jet on the bitumen sprayer
- Localised minor bleeding of the primerseal due to embedment of the sealing aggregate in the basecourse surface
- Some areas of damp basecourse visible where primerseal not yet applied
- Application rate for primerseal mostly looks adequate, with some over application of sealing aggregate. In some areas there is a build-up of surplus sealing aggregate in the gutter, but this should normally be swept off prior to application of asphalt.

Photographs in Attachment C

Attachment A

Site Locality



Attachment B

Pavement Design

DC9028

SIHIP - Trucking Yards



Designer	RC
Date	16/12/2010
Subject	PDC 001 - Flexible Pavement Design
Location	Trucking Yards - Alice Springs

Design Information: 1. ASTC Subdivision and Development Guidelines - Consultation Draft
2. Austroads Guide to pavement Design Part 2 (February 2010)
3. CBR Test Report by Soil Testing Services (NT) PTY LTD report no 10132 (6/08/10)

Flexible Pavement Design:

Subgrade CBR: Lowest CBR value used for the subgrade based on the CBR Test report is 40

Design Traffic: 5.0×10^4 ESA's (ASTC subdivision and development guidelines table 14: Flexible pavement Criteria for Residential Access). Austroads guide suggest 4.0×10^4 ESA; adopt ASTC design traffic of 5.0×10^4 ESA.

Minimum pavement thickness: 300mm (ASTC Guideline) but based on Austroads design chart for lightly trafficked road the minimum base thickness for CBR 15 and corresponding design traffic of 5.0×10^4 ESA is 135mm. Adopt 150mm for base thickness using Fine Crushed Rock material. 150mm of base thickness is suitable for subgrade CBR of 15 with design traffic of 5.0×10^4 ESA (Austroads Guide to Pavement Technology part 2, Figure 12.2)

Prime

Asphalt: 25mm DG 10 mix Type 2

Asphalt 25mm DG 10
Prime
Base 150mm FCR
Subgrade CBR 15

Attachment C

Photographs

Trucking Yards



Asphalt surface damage - indentations



Asphalt surface damage - indentations



Asphalt surface damage - turning vehicle wheel

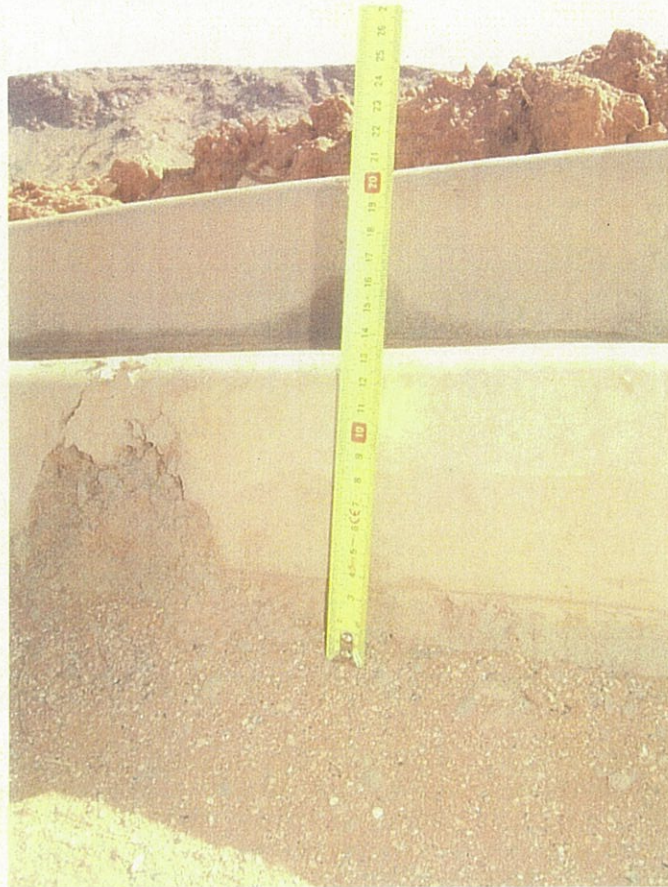


Asphalt surface damage - tyre damage and wheel marks



Asphalt surface damage - tyre damage and wheel marks

Larapinta Valley



Shallow kerb water table depth



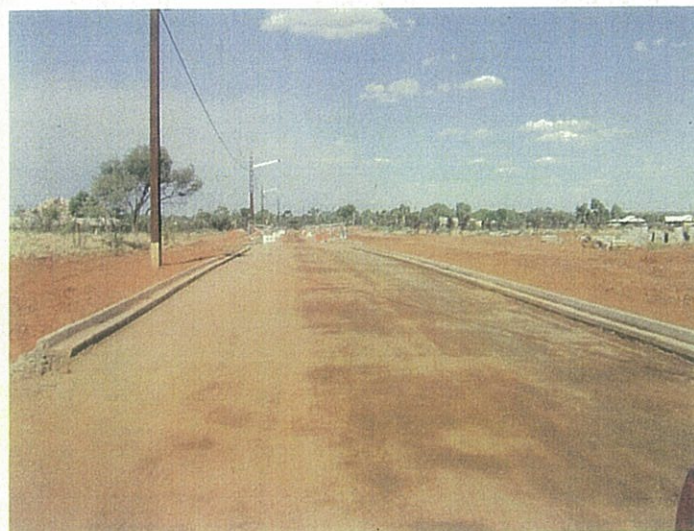
Shallow kerb water table depth



Tackiness of silty fines on wet earthworks



Weak soils when wet



Consistent kerb depths

Hidden Valley



Depth to top of water table from basecourse for asphalt surface - 20mm



Depth to top of water table from basecourse for asphalt surface - 20mm - 25mm



Depth to top of water table from primerseal for asphalt surface - 25mm



Minor localised bleeding of primerseal due to aggregate embedment in soft base



Minor localised stripping possibly due to partially blocked sprayer jet