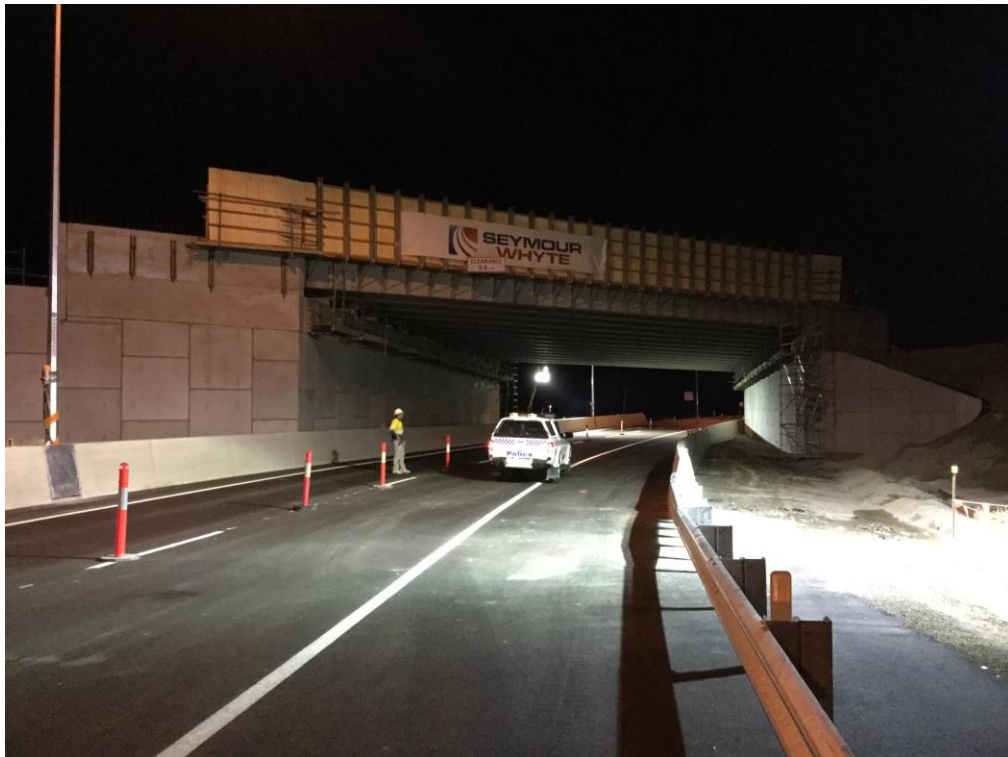


Townsville Ring Road - Section 4

Project Number - 268/10M/5

Contract Number- NTHD 1284

Monthly Report for – August 2016



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1. Summary

1.1 Significant Events

- Saunders Ck. Bridge Deck Landed
- Traffic Switch Woolcock St under BR70

1.2 Milestones

- Mt Low Intersection works commence
- Barrier works start in Zone 7

2. Project Status

2.1 Progress for the month

Structures

Road Furniture

- Commenced install of noise walls to Zone 7
- Completed install of noise wall fence to van park
- Completed extruded barrier to Zone 2 (Approx 130m)
- Installed Extruded Barrier Zone 9 (approx. 1500m)
- Installed Guardrail to Zone 1 and 2.

Bridge 10

- Installed remainder of throw screens
- Completed RSS wall spoon drain

Bridge 30/35

- Completed install of deck units
- Gabion Baskets and Rock Protection ongoing

Bridge 40

- Insitu Median and Parapet pours
- Batter protection

Bridge 50

- Poured Abut B relieving slab

Bridge 60

- Poured relieving slabs

- Installed throw screens

Bridge 70

- Completed cross girders
- Steeled up deck slab ready for pour
- Commenced RSS backfill to Abutments

Drainage

- Now completed a total of approximately 645m of 850m total of Batter Chutes, (75% Complete.)
- RCP Lines 1/314 – 3/314 completed including stage 1 of pit pours
- Installed pipes to 28A extension

Earthworks

- Embankment Total has now Reached 864,728m³. Approximately 99% complete with 9,281m³ remaining.
- CMB Pavements complete in Zone 9 with the exception of the Bruce Highway Works. Total CMB Pavements now at 126,869 of 134,698m³, (94% complete).
- -75 Subgrade Pavements Complete on Shaw's Road off-ramp and BR70 Abutment B. Total Select now complete is 74,506 m³ of 76,853m³, (97% Complete).
- Earthworks complete on Shaw road overpass and Widening.
- Pavements installed on Shaws Road Overpass and Shaws Road Widening
- Prime Seal and Asphalt Complete on Approximately 60% of Shaws Road Overpass
- Commenced Guardrail and Conduits and Pits on Shaws Road Overpass and Widening
- Mill and Fill complete on Shaw's Road
- Continuing batter Trim, Topsoil application Landscaping through Zone 2 and Zone 5.
- Culvert Protection on Inlets and Outlets is complete in Zone 5 and Zone 2.

- Prime, Seals and Asphalt complete on Zone 2 and Zone 5 main alignment as well as the Dalrymple road onramps and Offramps. Only Kalynda Parade Link-ups Remaining
- Topsoil approximately 80% Complete in Zone 2 and Zone 5
- Switch Complete under BR70 for NB Traffic.
- Commenced Remaining Pavement Works on Bruce Highway
- Commenced Electrical Civil Works in Mt Low/Parkway (prep for relocation of ergon services)
- Completed Approximately 50% of Correctors in Mt Low Intersection

2.2 Program for next month

Structures

Road Furniture

- Correct defects on Bruce Highway LHS
- Install guardrail Shaw Road northbound, Zone 2, Zone 5, Zone 9 (for traffic switch)
- Construct extruded barrier Zone 2, Zone 7 & Zone 9
- Continue noise wall bored piers Zone 7 & Zone 9
- Install Caravan Park noise wall
- Commence Zone 7 noise wall installation

Bridge 10

- Surfacing and joints

Bridge 30 & 35

- Grout planks and post stress
- FRP kerb Units
- Commence works to remaining batter protection

Bridge 40

- Completed parapets and medians
- Pour relieving slabs

Bridge 50

- Complete relieving slab Abut A
- Install throw screens and remove screening

Bridge 60

- Pour relieving slab medians
- Install monowils to RSS wall and gates to walkway

Bridge 70

- Pour deck slab
- FRP parapets and median
- Complete RSS backfill to Abutments
- Install monowils to RSS wall
- Pour cantilever footing to off structure barrier Abut A & B
- Pour relieving slabs

Drainage

- Install remaining pavement drainage in Zone 7 (lines 236 – 240), install second lift of barrier drainage pits in Zone 7 following asphalt
- Complete WP28A
- Complete defects on main drainage lines
- Finish Batter chutes to Shaw Road overpass

Earthworks

- Switch onto Shaw's Road Overpass not to be complete until the 14/9/2016
- Commence Remaining Shaw Road works and Developers access after the switch
- Complete Mt Low Intersection
- Complete Pavements and Asphalt on the Remainder of the Bruce Highway
- Commence Civil Works in Mt Low parkway
- Asphalt Zone 7 SB and Zone 9 after barrier install. With the exception of the Bridge Link-ups
- Signage Install and guide post Install through Zone 1, 2, 5 and 7 to be complete.

- Complete all works in Zone 2, Zone 5 and Zone 7. Ready for Defect Walks in Early October.
- Completion of -200 Embankment Site wide.
- Complete Pavements on Shaw's Road widening, including remaining pavements at Bridge abutments.
- Complete all Landscaping and Culvert works in Zone 2 and Zone 5 and Zone 7.
- Complete all Electrical Civil Works in Zone 2, Zone 5 and Zone 7.
- Complete all culvert inlets and outlets site wide.
- Topsoiling to be complete with the exception of the Bridge abutments.

2.3 Looking forward three months

Structures

Road Furniture

- Completion of guardrail site wide.
- Completion of extruded barrier site wide.
- Completion of noise wall site wide.

Bridge 10

- Complete

Bridge 30 & 35

- Relieving slabs
- Bridge rail
- Complete batter protection
- Complete structure

Bridge 40

- Complete batter protection
- Install Gabions and Rock Mattress
- Complete structure

Bridge 50

- Complete structure
- Complete batter protection

Bridge 60

- Complete Structure

Bridge 70

- Relieving slabs
- Install Anti-Throw screens
- Complete Structure

Drainage

- Completion of all end structures site wide.
- Complete pavement drainage lines and headwalls site wide.
- Completion Stage 2 of drainage pits site wide.
- Install Monowills handrails site wide.
- Batter chutes complete site wide.

Earthworks

- Completion of Zone 2, 5 and 7 Earthworks. All of these Areas will be ready for defect walks in Early August.
- Completion of pavement link-ups to the Bridges at BR30/BR35, BR40, BR50, BR60 and BR70.
- Works ongoing in Zone 1 Completing the developers access and remaining Pavements
- Completion of Mt Low Intersection works. Pavements complete on Bruce Highway.
- Landscaping complete in Zone 2, 5 and 9 by the end of September.
- Signage continuing through Zone 9.
- Continuing works on Leonie Batter and Geaney Lane
- October we are expecting to receive practical completion late in the Month with all works effectively complete.
- All works in Zone 1 are expected to be Complete by the 25th of October
- All defects will be signed off in Zone 1 soon after.
- Zone 2, Zone 5 and Zone 7 will be defect free by the 25th of October
- Zone 9 all works expected to be complete in Late October. This is subject to Barrier crew availability and relieving slab pour dates.

- Mt Low Intersection will be complete in Late September with the remaining Bruce Highway getting complete by mid-October. Again this area will be defect free by the 25th.
- Mt low Parkway will be completed mid to late October again and should be defect free by the 25th.

2.4 As Constructed for the month

Earthworks

- 3000m³ of Embankment Completed in Zone 9 and Zone 2.
- 5400m³ of CMB Pavement Completed Through Zone 2, and Zone 9
- 6,500 m³ of Select Completed Through Zone 1, Zone 2, and Zone 9.
- Completed 2827m² of GST.
- 1635m³ of Road Excavation
- 7,000m² of Topsoil
- 16,541m² of Hydro mulch
- 34000 m² of AMCO Prime
- 34000M² OF C170 Seal
- 8025m² PMB Seal
- 3479t of DG14
- 330t of DG10
- 79 Road Lighting Footings
- 26 Bessa Block Retaining Walls
- 1150m of Electrical Conduits
- 23 Road Light Posts
- 25 Electrical Cable Joints
- 3200m Of Road Lighting Cable
- 1450m³ of Rock Outlet protection
- 132m of Concrete Kerb and Channel

3. Safety

3.1 Safety Incidents for the month, Reportable Incidents

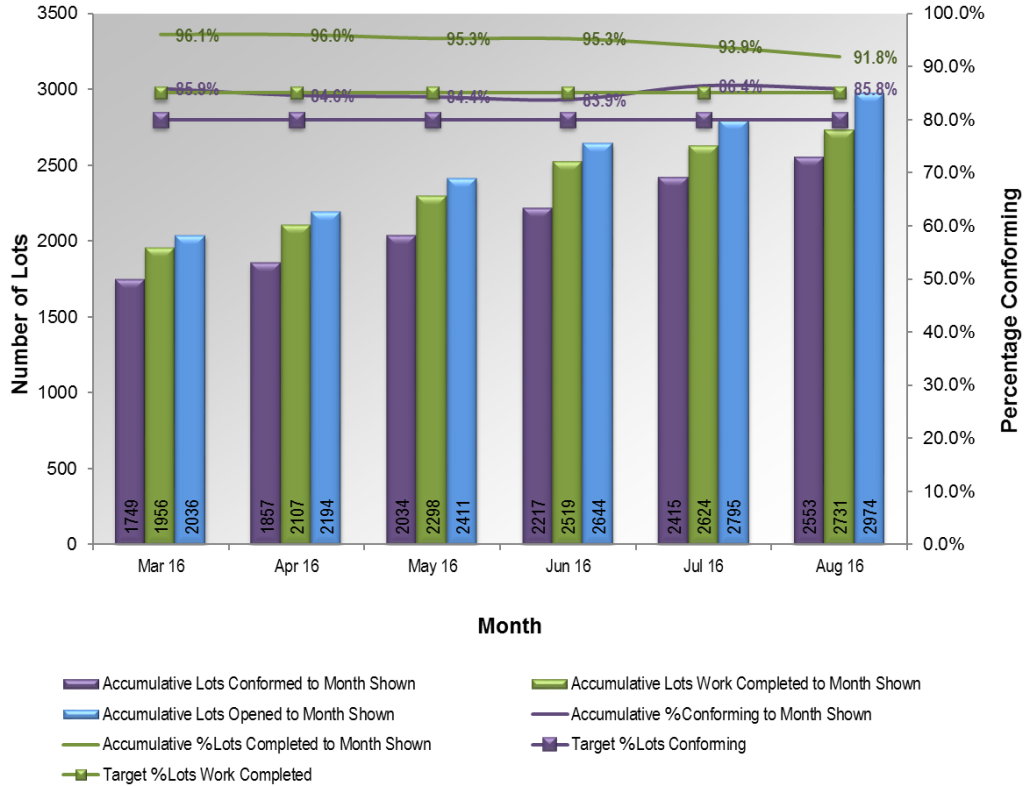
- 02/08/16 Class 3 PED, Excavator's windscreen broken by redundant conduit.
 - 11/08/16 Class 3 PED, Light vehicle reversed over a low level culvert.
 - 16/08/16 Class 3 FAI, Staff member complained of numbness in wrist.
 - 29/08/16 Class 2 FAI, Worker injured back of throat from wire cable.
 - 29/08/16 Class 2 MTI, Worker strikes himself with an LVL.
 - 30/08/16 Class 3 PED, Light vehicle reversed into a vehicle.
 - 30/08/16 Class 3 PED, Fuel truck drove into an excavator.
- 3.2 Safety Statistic to date- total labour hrs, MTI, LTI, LTIFR, LTI free days, inductions
- Hours 40,780
 - TRIFR 8.44,
 - 332 LTI free days,
 - 45 Inductions undertaken.
- 3.3 Safety Management – toolbox meetings, iLEAD, safety inspections/audits
- 3 Toolbox Meetings held,
 - 1 Monthly Multitrade Toolbox and Incident review,
 - 35 iLead conversations held,
 - 1 Leadership Walk,
 - 37 Weekly Workplace Inspections
- 3.4 Safety Investigations
- Nil investigations undertaken

4. Quality management

- 4.1 Quality approvals – materials, procedures,
- 0 Pre-Process Approval lots were opened.
 - 5 x 5000t type 2.1 pavement material lots submitted and approved
 - 219 Hold Points were raised in the period.
 - 111 Hold Points approved in the period
Pending Approval: 127 (overall)
- 4.2 Lot Status – Lots opened/closed.
- Lots Opened: 183
 - Lots Closed: 138

- % Lots Closed to Lots Opened: 85.8%.
- Lots Work Complete: 92%. Revised Target 85%

Townsville Ring Road Section 4
MQO#2 - Accumulative Lot Conformance Rate



4.3 NCRs Status- ratio No. of lots vs No. of NCRs, NCR closure rate

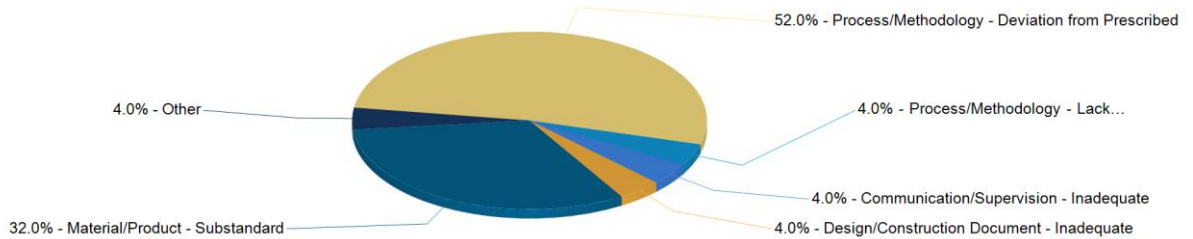
- 25 NCR's raised this period.
- 25 NCR's Approved this period.
- 27 NCR's Closed* this period.
- Average days to close – 24 days

* NCR's not closed are awaiting either Objective Evidence of Effectiveness of Preventive Action or Detailed Cost of Rectification.

4.4 NCR analysis – trends

- Material/Product - Substandard – 32.0%
- Process/Methodology – Deviation from and Lack of Process/Methodology – 52.0%
- These two root causes combined contributed to 84% of the NCR's raised in the period. The overall number of NCR's has reduced this month to the ongoing issues with the product being supplied by Humes coming to an end.

Root Cause Analysis



5. Environment and Cultural Heritage

5.1 Environmental issues

Three (3) Environmental Non-conformance Reports (ENCR's) raised this month.

	No.	Description
1	10	TMR Environmental Systems Audit 04/08/2016 – summary outlined in section 5.3 below.
2	11	Fuel and oil spills on chip sealed areas requiring repair prior to asphaltting, affecting long term integrity of asphalt surface.
3	12	Dust deposition gauge located at Caravan Park returned a level of 7.3 g/m ² /month, which is an exceedance of the guideline trigger level of 4 g/m ² /month set in the TMR Manual for Road Traffic Air Quality Management.

Northern Resource Consultants (NRC) have been engaged to conduct the final BTF Breeding Season Counts and Habitat Condition Monitoring in early October. This will be the final BTF monitoring required by SWC on the project.

5.2 Environmental incidents

We have had one (1) environmental incident reported for the month. Please refer to the Table 5.2 below for a summary of the incident.

	DATE	PSEM ID	SUMMARY
1	12/08/16	135	Backhoe was clearing up site rubbish left by Barrier crew. Lifted waste with bucket. As he drove away to load into truck, operator noticed hydraulic fluid spilling from bucket. Crew had put waste hydraulic oil in a clear plastic box/container and filled with general rubbish. Hydraulic oil spilled onto chip sealed section of road.

The table below will be used to summarise the lag and lead indicators for incidents, complaints, issues, actions and training / information campaigns.

Lag indicator	This month	Total
Minor Incidents	1	34
Major Incidents	0	2
Environmental Complaints (community / residential)	0	10
Environmental Authority Notices	0	0
Cultural Heritage Issues	0	0
Environmental Action Request	8	107
Lead Indicator	This Month	Total
Emergency Response Drills	0	0
Environmental Toolbox talks	1	13
Environmental Poster (Make a Difference) Campaign	0	5

5.3 Environmental inspections/audits

TMR Environmental Systems Audit was conducted on Thursday 4th August by Michael McDermid and Rohan Wilson.

Three (3) x Non-Conformances were identified during the audit. They were:

1. SWC EMS requires the Construction Environmental Management Plan (CEMP) be reviewed every six (6) months. This review was overdue. Since

the audit, the CEMP has been reviewed and submitted to TMR for review and release of Hold Point.

2. Waste Management around Stoney Creek (BR40) – waste expandable filler foam used to seal gaps between bridge girders to be removed prior to rain events; waste concrete dumped within 5m of Stoney creek – concrete was removed, signage was installed at bridge advising no concrete dumping or washout at Stoney creek and concrete washout bay signage also installed at washout bay 50m from creek.
3. Hazardous Chemical Management at Alford St yard - Hydrochloric Acid stored with Flammable liquids in Multifix container. Removed immediately to alternative area. No SDS for: Vinidex Priming Fluid and Solvent Cement, Denso ST epoxy base, Denso Primer D. This is a recurring issue with Alford Street Chem store where SDS missing and chems stored incorrectly.

5.4 Environmental Monitoring

Monitoring results for June - July received this month.

Townsville Ring Road Section 4 - Work Zones

Start	Finish	ALS Report No.	Guideline	Total Insoluble Matter (g/m ² /month)					
				AQ-1	AQ-2	AQ-3	AQ-4	AQ-5	AQ-6
28/05/2015	29/06/2015	EB1522017	<4	0.4	1.1	1.2	9.1	178	2.6
29/06/2015	31/07/2015	EB1524715	<4	0.5	0.4	0.3	1.3	0.8	1.2
31/07/2015	31/08/2015	EB1527977	<4	2.8	0.4	0.3	5.8	1.8	3.4
31/08/2015	1/10/2015	EB1530593	<4	1.6	1.2	0.4	1.1	0.6	1.6
1/10/2015	2/11/2015	EB1534007	<4	1.8	1.2	1.7	0.7	0.8	0.8
2/11/2015	2/12/2015	EB1536538	<4	1.8	2.4	1.9	4	1.4	2.8
2/12/2015	5/01/2016	EB16000381	<4	1.8	1.3	2040	-	1	1.4
5/01/2016	8/02/2016	EB1603758	<4	0.9	1	1.3	1.1	0.6	1.6
1/04/2016	3/05/2016	EB1612182	<4	2	10.2	5.3	3.1	1.1	1.2
3/05/2016	9/06/2016	EB1616402	<4	0.5	3.7	1.1	1.2	0.6	3.3
9/06/2016	13/07/2016	EB16220111	<4	0.5	2	1.8	0.5	0.2	7.3

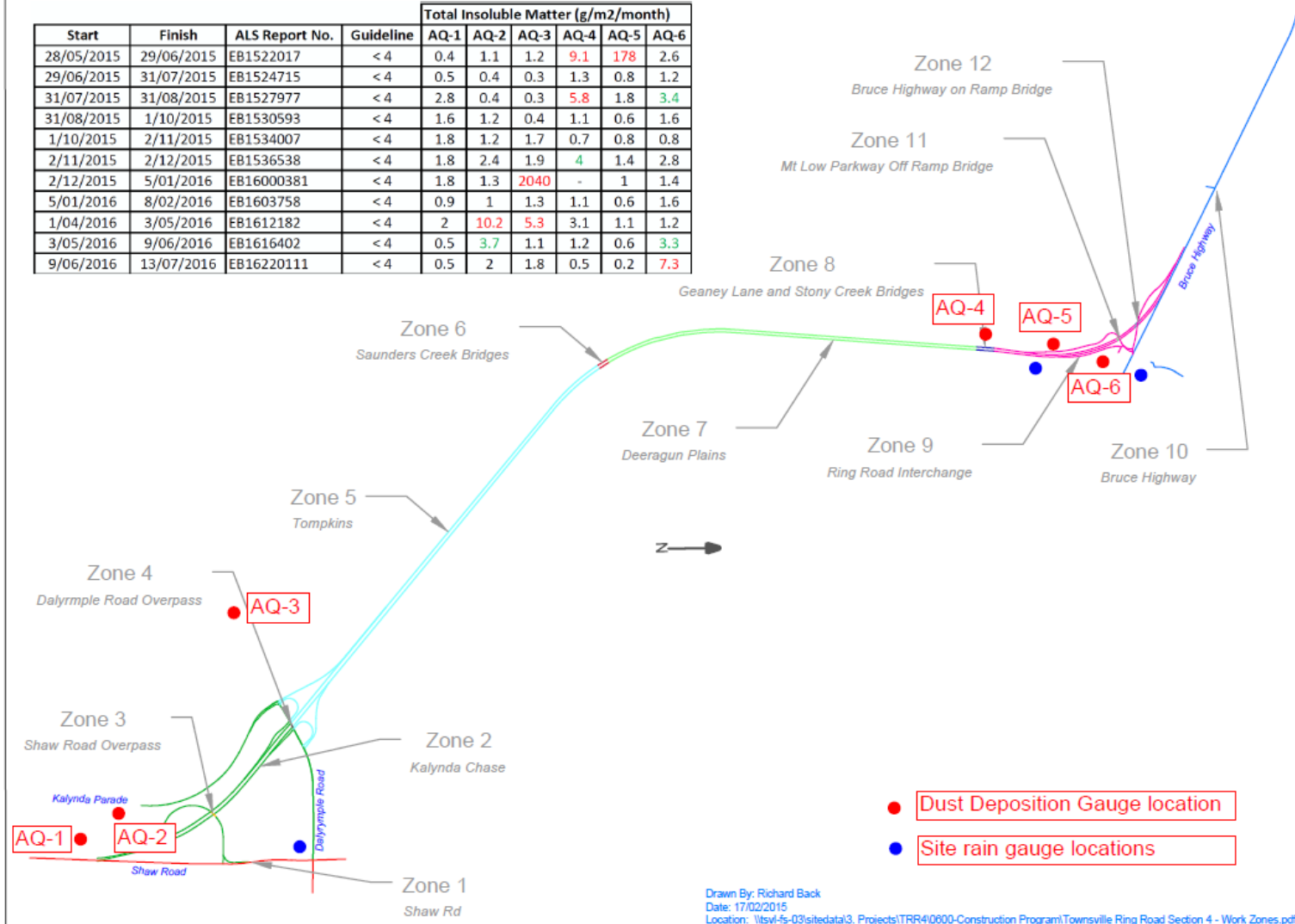


Figure 5.1 Dust Deposition Gauge locations along project alignment.

5.5 CH issues

No Cultural Heritage impacted works completed this month.

6. Financial/Commercial

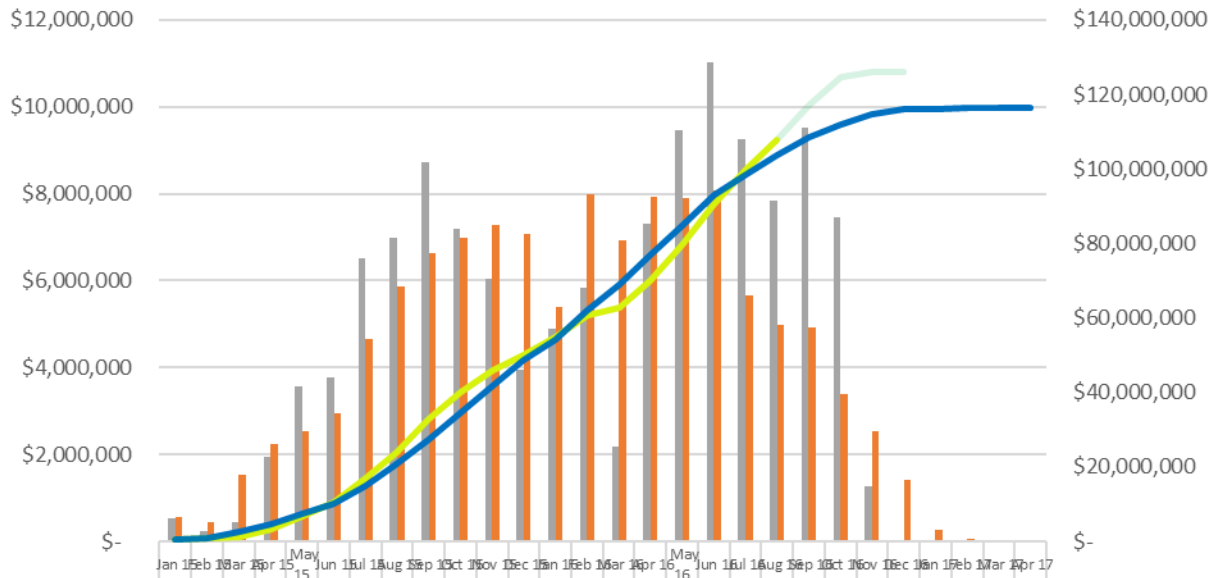
6.1 Progress claim to date

- For Period \$ 8,206,422
- To Date \$ 108,090,625
- Approved Variations \$ 9,072,882
- Deductions Schedule Item \$ -4,682,165
- Additional Schedule Items \$ 2,263,858
- To Complete \$ 17,865,874
- Final Value \$ 125,956,499

6.2 Forecast Progress claim for next month & cash flow

Date	Cumulative Forecast	Month Claim Forecast
Sep-16	\$ 118,414,784	\$ 9,509,773
Oct-16	\$ 124,869,621	\$ 7,454,837
Nov-16	\$ 125,956,499	\$ 1,263,857
Dec-16		

Townsville Ring Road Section 4 Cash Flow



	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15	Jul 15	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15	Jan 16	Feb 16	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17	
Claim Actual / Forecast	\$54	\$23	\$45	\$1,	\$3,	\$3,	\$6,	\$6,	\$8,	\$7,	\$6,	\$3,	\$4,	\$5,	\$2,	\$7,	\$9,	\$11	\$9,	\$7,	\$9,	\$7,	\$1,	\$-					
Original Forecast	\$55	\$45	\$1,	\$2,	\$2,	\$4,	\$5,	\$6,	\$6,	\$7,	\$7,	\$5,	\$8,	\$6,	\$7,	\$7,	\$8,	\$5,	\$4,	\$4,	\$4,	\$3,	\$2,	\$1,	\$26	\$68	\$28	\$12	
Cumulative Actual	\$54	\$77	\$1,	\$3,	\$6,	\$10	\$17	\$23	\$32	\$39	\$45	\$49	\$54	\$60	\$62	\$70	\$79	\$90	\$99	\$10									
Cumulative Forecast	\$55	\$1,	\$2,	\$4,	\$7,	\$10	\$14	\$20	\$27	\$34	\$41	\$48	\$54	\$62	\$69	\$77	\$84	\$93	\$98	\$10	\$10	\$11	\$11	\$11	\$11	\$11	\$11	\$11	
Forecast to Complete	\$54	\$77	\$1,	\$3,	\$6,	\$10	\$17	\$23	\$32	\$39	\$45	\$49	\$54	\$60	\$62	\$70	\$79	\$90	\$99	\$10	\$11	\$12	\$12	\$12					

6.3 Pending variations and claims

- See variation register attached.

6.4 Other Commercial Issues

For the month August 16, \$8.2mil was claimed. The preparation of variations are ongoing and meetings between the parties to discuss has been productive.

The Landscaping variation has finally been agreed. As Townsville is now on level 3 water restrictions meaning only hand watering two times per week driven this variation.

Variations are our key focus for the next month hoping to have the majority submitted by October 7.

We are currently designing a 8km bike path and should be ready by mid-month, TMR have indicated that this will not proceed as part of this project and will come out as a new contract.

The project is closing up and getting close to completion. After our next major switch sending the existing ring road traffic over the Shaw Rd overpass, we will assign an engineer to defects and hand over of the completed works with an aim to have them all complete at time of PC.

Additional resources will come to the project to aid the close out as some of the staff are been reassigned to other projects.

7. HR/IR

7.1 Project management team

Tom Givney and Graeme Schulze have left the project and are working on TNAIU project.

Chris Huynh, Frederick Tungol and Dominic Nibbs have joined the project to help with close out.

No	Title	Name	Demob Date
1	Construction Manager	Will Macdonald	To Complete
2	Project Manager	Campbell McCall	To Complete
3	Superintendent	Peter Barnes	To Complete
EARTHWORKS			
4	Senior Project Engineer (1) Earthworks	Paul Dillan	To Complete
5	Project Engineer (2) Earthworks	Russel Evans	To Complete
6	Project Engineer (3) Earthworks	Jay Sharma	To Complete
7	Site Engineer (4) Earthworks	Richard Back	16/09/16
8	Site Engineer (5) Earthworks	Blake Miles	30/09/16
	Graduate Engineer (6) Earthworks	Chris Huynh	To Complete
	Graduate Engineer (7) Earthworks	Dominic Nibbs	To Complete
9	Supervisor - Earthworks	David Weaver	To Complete
10	Supervisor - Earthworks	Damian Townsend	To Complete
STRUCTURES			
12	Senior Project Engineer (1) Structures	Michael Menkens	To Complete
13	Project Engineer (2) Structures	Reon Knowler	5/10/16
14	Project Engineer (3) Structures	Michael Berlund	To Complete
15	Project Engineer (4) Structures	Nigel Curran	15/08/16
16	Site Engineer (5) Structures	Harrison Meehan	To Complete
	Graduate Engineer (6) Structures	Frederick Tungol	To Complete
18	Supervisor – Structures	Daniel Rapp	To Complete
PROJECT SUPPORT			
19	Contractor Quality Representative	John Tippet	To Complete
20	Senior Safety Coordinator	Tai Lawrence	To Complete
21	Environmental Officer	Steve Mount	07/10/16
22	Document Controller	Anita Payne	To Complete
SURVEY			
23	Surveyor Manager	Adam Lerch	To Complete
24	Survey Structures	Mike Grieder	07/10/16
ADMINISTRATION			
26	Senior Contract Administrator	Kevin Flanagan	To Complete
27	Site Administrator	Renee Rozis	To Complete

28	Site Administrator	Jessica Elliman	To Complete
29	Site Administrator	Sue Kopittke	To Complete

Blue indicated non local

7.2 Training - Completed/Scheduled

Completed in August

- 8 x HLTAID001 – CPR (Safety and Learning Techniques);
- 2 x HLTAID001, 002 and 003 – First Aid (Australia Wide First Aid Training);
- 3 x MUTCD Level 2 Training (WARP Training Services);

Ongoing

- 7 Trainees – RII31409 - Certificate III Civil Construction - Road Construction and Maintenance
- 1 Trainees – RII40713 - Certificate IV Civil Construction Supervision
- 1 Student Engineer – Bachelor of Engineering (Civil Engineering) – Robert De Hollander is working on the project two (2) days per week and is studying three (3) days per week

Scheduled for September

- 2 x SafeSteps (Behavioral Safety) – TBC;

Total man hours reported for August = 40,780

Training hours for TRR4 for August:

- Traineeships – 1,650 man hours (4.0%)
- ATSI – 3,010 man hours (7.4%)
- Upskilling – 124 man hours (0.3%)

7.3 Sub-Contractor Issues

Humes have delivered the last deck units to Saunders Ck. bridges completing the 560 decks supplied to the project.

7.4 Industrial Relation Issues

Nil

8. Project Issues

Nil

9. Project Learnings

Attachments - Photos



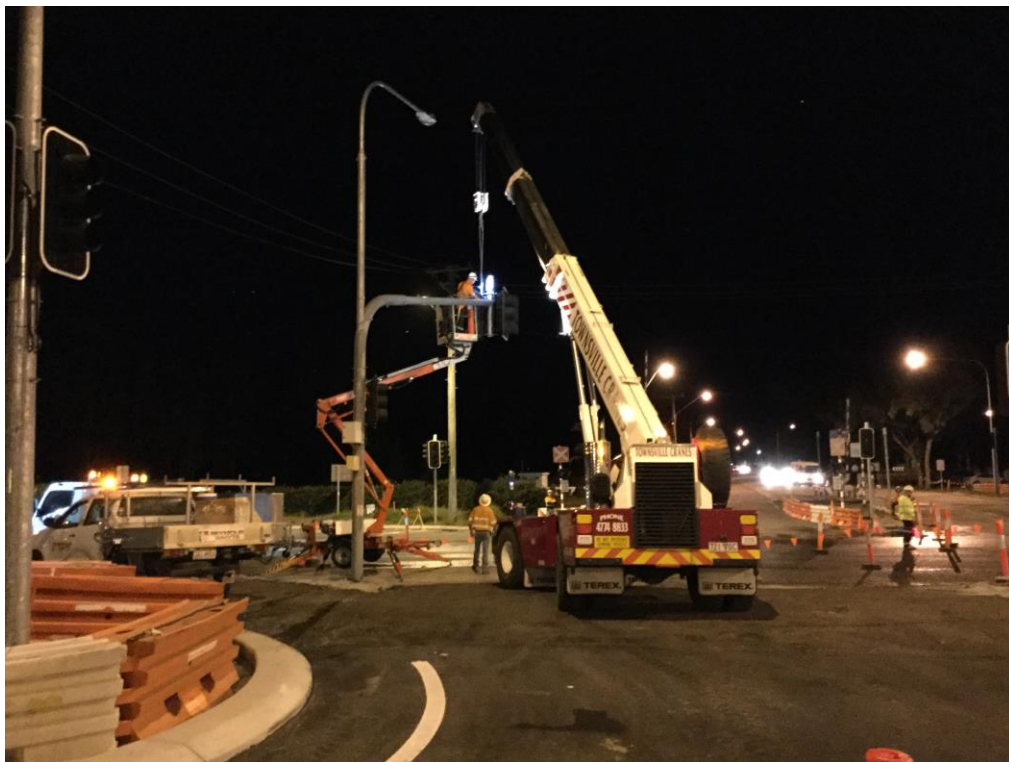
Asphalt Woolcock St



Geaney Lane Overpass



Saunders Ck Bridge.



Mt Low Intersection switch preparation



Woolcock St Overpass



Shaw Rd Overpass batter preparation.