

# **Townsville Ring Road - Section 4**

## **Project Number - 268/10M/5**

### **Contract Number- NTHD 1284**

## **Monthly Report for – September 2016**



Mt Low Intersection Complete

## Contents

1. Summary
  - 1.1 Significant Events
  - 1.2 Milestones
2. Project Status
  - 2.1 Progress for the month- EW, pavements, drainage, bridges, PUP etc.
  - 2.2 Program for next month
  - 2.3 Looking forward three months
  - 2.4 As Constructed for the month
3. Safety
  - 3.1 Safety Incidents for the month, Reportable Incidents
  - 3.2 Safety Statistic to date- total labour hrs, MTI, LTI, LTIFR, LTI free days, inductions
  - 3.3 Safety Management – toolbox meetings, iLEAD, safety inspections/audits
  - 3.4 Safety Investigations
4. Quality management
  - 4.1 Quality approvals – materials, procedures,
  - 4.2 Lot Status – Lots opened/closed.
  - 4.3 NCRs Status- ratio No. of lots vs No. of NCRs, NCR closure rate
  - 4.4 NCR analysis – trends
5. Environment and Cultural Heritage
  - 5.1 Environmental issues
  - 5.2 Environmental incidents
  - 5.3 Environmental inspections/audits
  - 5.4 Environmental Monitoring
  - 5.5 CH issues

## 6. Financial/Commercial

- 6.1 Progress claim to date
- 6.2 Forecast Progress claim for next month & cash flow
- 6.3 Pending variations and claims
- 6.4 Other Commercial Issues

## 7. HR/IR

- 7.1 Project management team
- 7.2 Training - Completed/Scheduled
- 7.3 Sub-Contractor Issues
- 7.4 Industrial Relation Issues

## 8. Industrial Relation Issues / Project Issues

- 8.1 Earthworks
- 8.2 Pavements
- 8.3 Drainage
- 8.4 Bridges
- 8.5 Lighting
- 8.6 PUP
- 8.7 Road Furniture
- 8.8 Design

## 9. Project Learnings

Attachments - Photos

## 1. Summary

### 1.1 Significant Events

- Final Bridge Deck Pour
- Developers Access commences

### 1.2 Milestones

- Traffic Switched to Shaw Rd Overpass
- Dalrymple intersection open in final configuration
- Final BTF Breeding Season Count and Habitat Monitoring conducted

## 2. Project Status

### 2.1 Progress for the month- EW, pavements, drainage, bridges, PUP etc.

#### Structures

##### Road Furniture

- Installed 1196m of noise wall to Zone 7 (entire section ready for install).
- Installed Extruded Barrier Zone 7 & 9 (approx. 2200m)
- Installed type 28 kerb Zone 9 (Approx. 430m)
- Installed Guardrail to Zone 1, 2 (approx. 1550m)
- Completed 11 Batter chutes Zone 2 (Shaw Rd overpass). Partially completed 3, pending excavation of access road.
- Continued Bored piers Zone 9
- Completed 8 Gullies to Zone 7 barrier drainage. Prepared (excavate, pour blinder for accos, install acco drains) additional 28 Gullies. Completed 14 type 28 gullies Zone 9.

##### Bridges

- Bridge 10
  - Opened to traffic
- Bridge 30/35
  - Completed stressing of transverse bars
  - Commenced FRP to BR30 Kerbs
  - Commenced relieving slabs to BR30

- Bridge 40
  - Completed median and parapet pours to bridge
  - Completed relieving slabs
- Bridge 50
  - Completed relieving slabs
- Bridge 60
  - Complete
- Bridge 70
  - Poured deck slab
  - Completed RSS backfill
  - Commenced FRP of RSS Cantilever barrier
  - Completed install of precast parapets
  - Completed relieving slabs

#### Drainage

- Now completed a total of approximately 740m of 850m total of Batter Chutes, (84% Complete.)
- Completed Headwall & Wingwalls to 28A extension

#### Earthworks

- Embankment Total has now Reached 869,258m<sup>3</sup>. Approximately 99% complete with 4,400m<sup>3</sup> remaining.
- CMB Pavements complete in Zone 9 with the exception of the Bruce Highway Works. Total CMB Pavements now at 126,869 of 134,698m<sup>3</sup>, (94% complete).
- -75 Subgrade Pavements now complete is 74,506 m<sup>3</sup> of 76,853m<sup>3</sup>, (97% Complete).
- Shaw's Road Overpass opened to Traffic.
- Commencement of Embankment and Pavements at the Southern Tie in and the Developers access.
- Topsoil and Landscaping Complete in Zone 2.
- All Culvert Inlets and Outlets Complete in Zone 2 and Zone 5
- Line marking Commenced through Zone 2 Zone 5 and Zone 7.

- Light Poles almost fully Installed in Zone 2 and Zone 5.
- Mt Low Intersection Wearing Course Complete.
- Pavements to Subgrade at BR40/BR50 Plug and BR60/BR70 Plug
- CMB Pavements works complete on Bruce Highway.
- Commenced Electrical Civil Works in Mt Low/Parkway (prep for relocation of ergon services)

## 2.2 Program for next month

### Structures

#### Road Furniture

- Correct defects on Bruce Highway LHS
- Install guardrail Zone 5 (around BR20), Zone 2 (under BR10), Zone 9 (for traffic switch)
- Construct extruded barrier Zone 9
- Construct remaining type 28 kerb Zone 9
- Complete noise wall bored piers Zone 9
- Complete Zone 7 noise wall installation (pending completion of Zone 9 noisewall barrier)
- Commence noise wall installation to Zone 9

#### Bridges

- Bridge 30/35
  - Complete structure
  - Commence final batter protection to BR35
- Bridge 40
  - Complete structure
- Bridge 50
  - Complete structure
- Bridge 60
  - Complete structure
- Bridge 70
  - Complete superstructure

- Commence final batter protection

#### Drainage

- Install remaining pavement drainage in Zone 7 and Zone 9 including pits
- Complete defects on main drainage lines
- Finish all Batter chutes

#### Earthworks

- Complete the developers access.
- Complete AC on Southern Tie In
- Switch Traffic back onto Shaw's Road and complete the final 2 Gores. Effectively finishing all works in the South.
- Commission All Road Lighting in the South of BR40.
- All Landscaping Signage and Line marking to be complete South of BR40
- South of BR70 to be Defect Free
- Complete Pavements in Zone 7 and 9 (Bridge Tie ins)
- Complete Mt Low Intersection (Defect Free)
- Complete Pavements and Asphalt on the Remainder of the Bruce Highway
- Commence Civil Works in Mt Low parkway and the Bus Stop
- Install Signage in Zone 9
- Install Road Lighting in Zone 9
- Commence Box Drain on Graney's Lane
- Install Line marking in Mt Low Intersection the Bruce Highway and Commence Zone 9

### 2.3 Looking forward three months

#### Structures

##### Road Furniture

- All road furniture completed including defects

##### Bridges

- All Bridges defects completed

#### Drainage

- All drainage completed including defects

#### Earthworks

- All Earthworks completed including defects

#### 2.4 As Constructed for the month

### 3. Safety

#### 3.1 Safety Incidents for the month, Reportable Incidents

- 01/09/16 Class 3 PED A Skid Steer reversed into an electrical pillar box causing damage.
- 02/09/16 Class 2 MTI A formworker sustained eight stitches to face from impact with a piece of timber.
- 03/09/16 Class 3 PED Electrical pit's cable was damage.
- 10/09/16 Class 3 TI NPR A cyclist has fallen injuring herself.
- 10/09/16 Class 3 A worker drove a steel post down into a non-energised electrical service.
- 12/09/16 Class 3 IWI NTI A concrete pump line hand has splashed himself with grout.
- 13/09/16 Class 3 PED A Positrac was vandalised over the weekend.
- 15/09/16 Class 3 PED A rake has fallen from a crew truck causing damage to a light vehicle.
- 24/09/16 Class 3 Hazard The operator of an EWP has driven the machine outside the manufacturers specifications.
- 26/09/16 Class 3 PED A Chip Spreader has impacted a concrete barrier causing damage

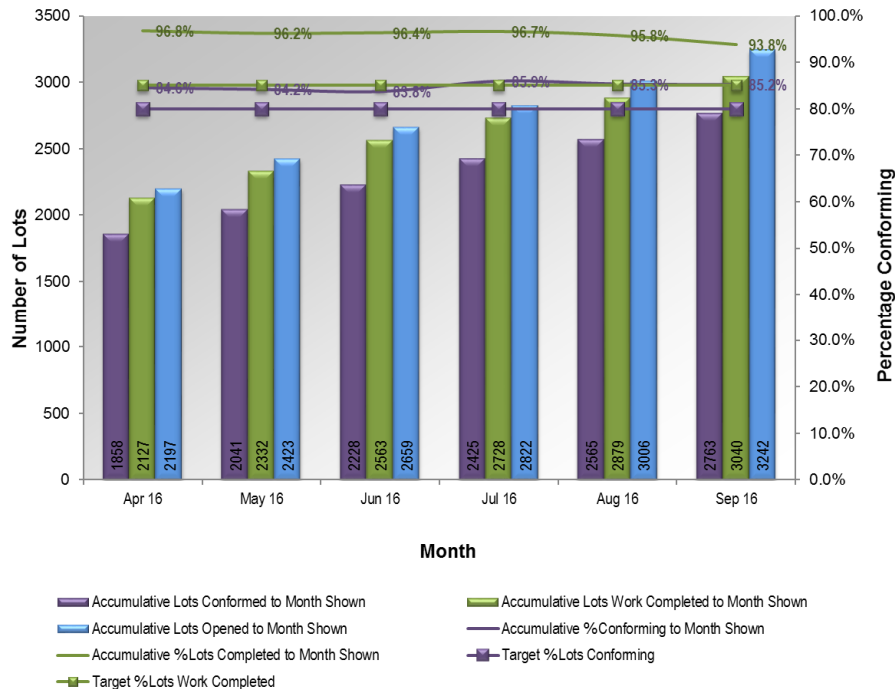
#### 3.2 Safety Statistic to date- total labour hrs, MTI, LTI, LTIFR, LTI free days, inductions

- Hours 36,430



- TRIFR 12.3
  - 362 LTI free days
  - 44 Inductions undertaken
- 3.3 Safety Management – toolbox meetings, iLEAD, safety inspections/audits
- 3 Toolbox meetings held,
  - 1 Monthly Multitrade Toolbox and Incident review,
  - 16 iLead conversations held,
  - 1 Leadership Walk
  - 30 Weekly Workplace Inspections
- 3.4 Safety Investigations
- 1 PEEPO investigations held (Rake)
4. Quality management
- 4.1 Quality approvals – materials, procedures,
- 0 Pre-Process Approval lots were opened.
  - 1 x 5000t type 2.1 pavement material lots submitted and approved
  - 212 Hold Points were raised in the period.
  - 95 Hold Points approved in the period  
Pending Approval: 123 (overall)
- 4.2 Lot Status – Lots opened/closed.
- Lots Opened: 236
  - Lots Closed: 198
  - % Lots Closed to Lots Opened: 85.2%.
- Lots Work Complete: 93.8%.

**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**

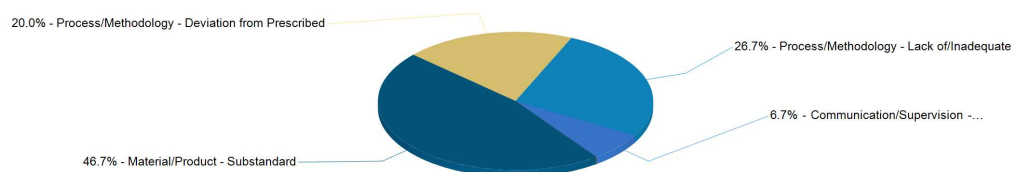
- 10 NCR's raised this period.
- 12 NCR's Approved this period.
- 13 NCR's Closed\* this period.
- Average days to close – 27 days

\* 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 – 46.7%
- Process/Methodology – Deviation from and Lack of Process/Methodology – 26.7%
- These two root causes combined contributed to 73% 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

There were no Environmental Non-conformances reports (ENCR's) raised in the month.

Northern Resource Consultants (NRC) have conducted the final BTF Breeding Season Counts and Habitat Condition Monitoring, we are awaiting the report.

### 5.2 Environmental incidents

There were no environmental incidents for the reporting period.

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

Table 5.2 Lag and Lead Environmental Indicators		
Lag indicator	This month	Total
Minor Incidents	0	34
Major Incidents	0	2
Environmental Complaints (community / residential)	0	10
Environmental Authority Notices	0	0
Cultural Heritage Issues	0	0
Environmental Action Request	0	107
Lead Indicator	This Month	Total
Emergency Response Drills	0	0
Environmental Toolbox talks	0	13

Environmental Poster (Make a Difference) Campaign	0	5
---	---	---

### 5.3 Environmental inspections/audits

TMR / SWC conducted and Environmental Inspection on Wednesday September 28 focusing on Concrete Washouts, scouring of treated batters, General site rubbish, Disturbed areas not identified for revegetation and weeds. No NCR's were raised from this inspection and actions have been assigned for rectification.

### 5.4 Environmental Monitoring

Monitoring results have not been received at the time of compiling this report.

### 5.5 CH issues

No Cultural Heritage impacted works during the reporting period.

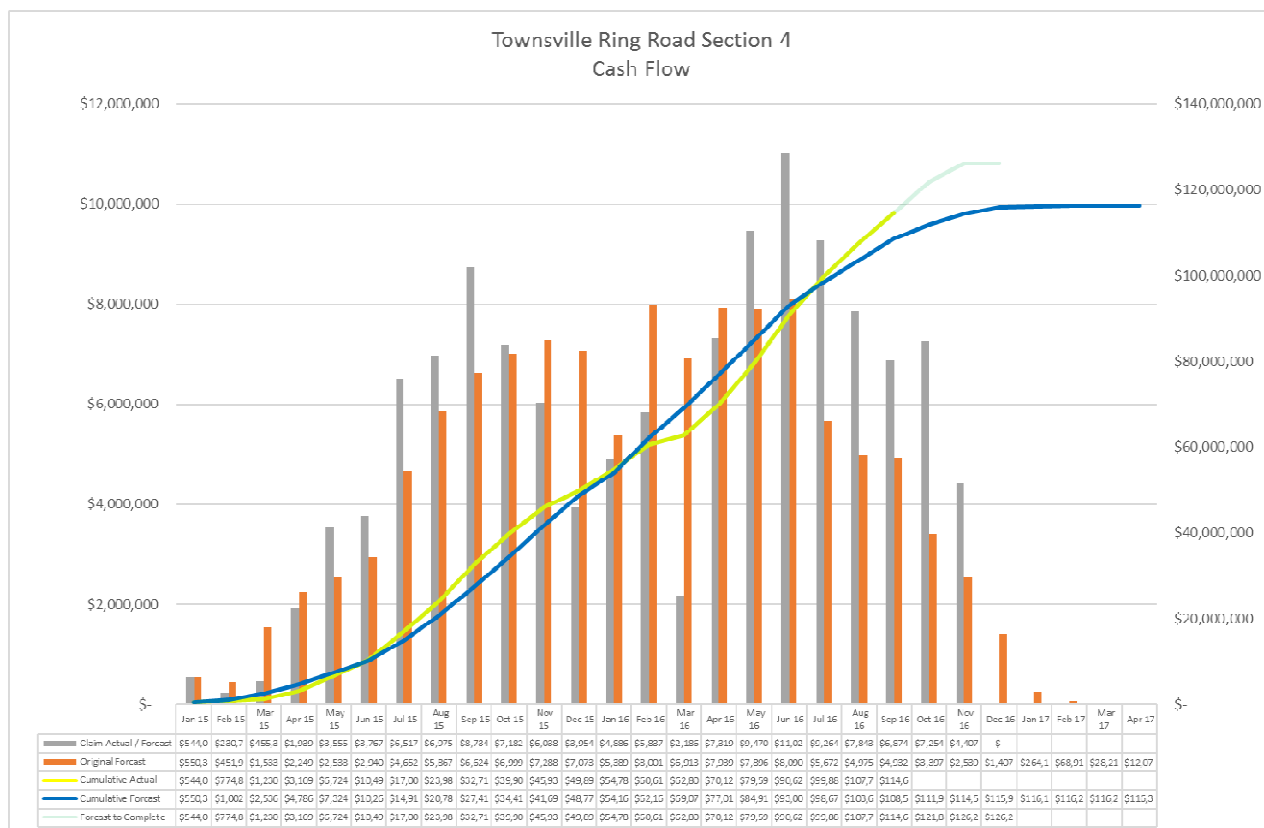
## 6. Financial/Commercial

### 6.1 Progress claim to date

- For Period \$ 6,874,725
- To Date \$ 114,968,556
- Approved Variations \$ 10,216,861
- Deductions Schedule Item \$ -4,682,165
- Additional Schedule Items \$ 2,263,858
- To Complete \$ 13,473,045
- Final Value \$ 128,441,601

### 6.2 Forecast Progress claim for next month & cash flow

Date	Cumulative Forecast	Month Claim Forecast
Oct-16	\$ 125,033,792	\$ 7,254,837
Nov-16	\$ 128,441,601	\$ 4,407,809
Dec-16		



### 6.3 Pending variations and claims

- See variation register attached.

### 6.4 Other Commercial Issues

The preparation and evaluation of variations is becoming more of a focus for both teams. The Omitted items highlighted by the Quantity Surveyor has been presented and TMR are currently performing their evaluation. This has been quite convoluted due to the nature of the contract model.

Currently \$3.5mil of submitted variations awaiting valuation with TMR, the largest of these is the omitted items.

The focus for SWC will be to present all variations to TMR and identifying any additional items by the end of October. In addition, the team will commence defects and hand over of the completed works with the aim to be defect free at time of practical completion, which is currently set for November 14, 2016.

## 7. HR/IR

### 7.1 Project management team

Steve Sawtell has re-joined the project to help close out Structures

Arthur Kudla has also re-joined the project to help in the preparation of variations, we are also looking at an additional resource to accelerate the process and will be joining the project mid-October.

Anita Payne will leave the project end of the month.

Julie Ann Hardboard will join the project to relieve Renee Rozis while receiving treatment for an injury.

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
<b>EARTHWORKS</b>			
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	Graduate Engineer (4) Earthworks	Dominic Nibbs	To Complete
8	Supervisor - Earthworks	David Weaver	To Complete
9	Supervisor - Earthworks	Damian Townsend	To Complete
<b>STRUCTURES</b>			
10	Senior Project Engineer (1) Structures	Michael Menkens	To Complete
11	Project Engineer (2) Structures	Michael Berlund	To Complete
12	Site Engineer (3) Structures	Harrison Meehan	To Complete
13	Graduate Engineer (4) Structures	Frederick Tungol	To Complete
14	Supervisor – Structures	Steve Sawtell	To Complete
15	Supervisor – Structures	Daniel Rapp	To Complete
<b>PROJECT SUPPORT</b>			
16	Contractor Quality Representative	John Tippet	To Complete
17	Senior Safety Coordinator / Environmental Officer	Tai Lawrence	To Complete
18	Document Controller	Anita Payne	28/10/16
<b>SURVEY</b>			
19	Surveyor Manager	Adam Lerch	To Complete
20	Survey Structures	Mike Grieder	28/10/16
<b>ADMINISTRATION</b>			
21	Senior Contract Administrator	Kevin Flanagan	To Complete
22	Site Administrator	Renee Rozis	To Complete

## 7.2 Training - Completed/Scheduled

### 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

## 7.3 Sub-Contractor Issues

Tranex (Guard Rail Installer) are not accomplishing the required meterage per day due to productivity loss on drilling through rock and machine break downs. They have brought an additional crew to accelerate and a supervisor to increase productivities. We have also spoken to an additional subcontractor who is willing to come to site if required to accelerate further.

## 7.4 Industrial Relation Issues

Nil to report

## 8. Project Issues

Due to the use of minus 200 material and the design for the noise wall footings to go to 3m deep at 4m spacing. The problem is when the auger hole went past 2.5m in the deep embankments the material at the bottom would bell out, in some cases to 1.8m in diameter when using a 600mm auger. Also slowing production down considerable from an average of 14 holes per day to 3.

We went back to the designers and requested a change to shorten the bored piers, they responded by reducing the depth to 2.5m at 2.5m spacing. This has helped the process. To this end the installation of noise walls are now on critical path.

## 9. Project Learnings

Attachments - Photos



Zone 9 Asphalt Run

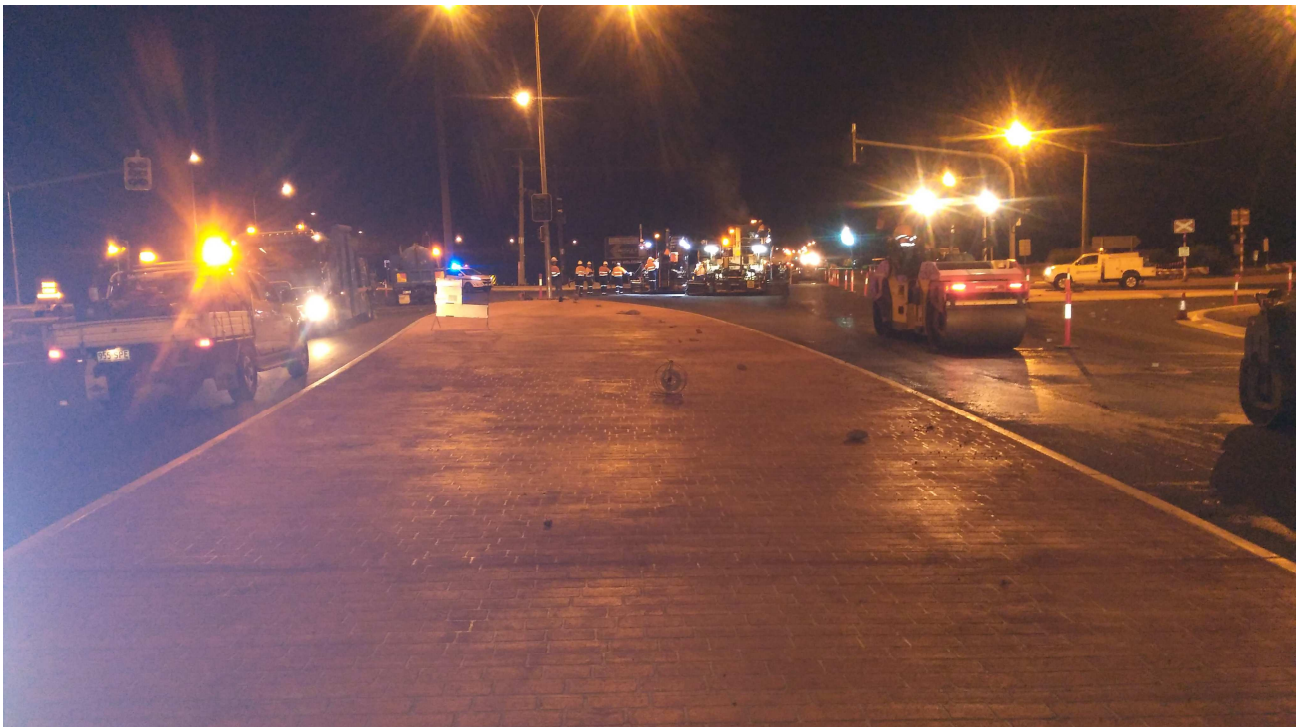


Final Bridge Deck Pour Woolcock St Overpass





**Gore Pour at Dalrymple Southbound On Ramp**



**Asphalt works Mt Low Intersection**



**Noise Wall within Zone 7**



**Removal of Access Track Stoney Ck.**