Appendix D

Concept designs
CITY OF NEWCASTLE
MR108 - TOURLE STREET AND CORMORANT ROAD
TOURLE STREET BRIDGE DUPLICATION
CARRIAGEWAY DUPLICATION BETWEEN MR316 INDUSTRIAL DRIVE,
MAYFIELD AND EGRET STREET, KOORAGANG
CH 1.380km TO CH 5.320km NORTH OF MAYFIELD
VOLUME 1 - ROAD
CONCEPT DESIGN
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**ROADS AND MARITIME SERVICES**

**MR108 TOWN E STREET AND CORMORANT ROAD CARRIAGeway DUPLICATION BETWEEN INDUSTRIAL DRIVE MAYFIELD AND EORE STREET KOORANGANG CH 1.380km TO CH 5.320km NORTH OF MAYFIELD SHEET REGISTER 2 OF 2**
TYPICAL SECTION FOR CH2450 - CH2480 (CH2460)
TYPICAL SECTION FOR CH2480 - CH2635 (CH2560)
TYPICAL SECTION FOR CH4010 - CH4050 (CH4040)

TYPICAL SECTION FOR CH4050 - CH4280 (CH4060)

LEGEND
- Pavement Type 1 - Overlay Option
- Pavement Type 2 - HBB Option
- Pavement Type 2 - Select Material
- Verge Material
- Embankment Material
- Concrete
- No Fines Concrete
- Type A Filter Material
- Sand Binding Layer

NOT FOR CONSTRUCTION
TYPICAL SECTION FOR CH4280 - CH5300 (CH4600)
DETAIL A
CONCRETE MEDIAN

- N32 reinforced concrete 150mm thick with SL/82 mesh centrally located
- Broom finish.
- Median

DETAIL B
EMBANKMENT

- Trench drain with Type A filter material wrapped in geotextile and 100mm diameter corrugated perforated drainpipe.
- Minimum 600mm deep.
DETAIL C
RETAILING WALL

DETAIL D
CONCRETE MEDIAN

LEGEND
- Pavement Type 1 - Overlay Option
- Pavement Type 2 - HBB Option
- Pavement Type 2 - Select Material
- Verge Material
- Embankment Material
- Concrete
- No Fines Concrete
- Type A Filter Material
- Sand Binding Layer

NOT TO SCALE

ROADS AND MARITIME SERVICES

CARRIAGEWAY DUPLICATION BETWEEN
TOURLE STREET MAYFIELD AND EIGHT STREET KOORANGANG ISLAND
Ch 1.380km TO Ch 5.320km NORTH OF MAYFIELD
ENGINEERING TECHNOLOGY PROJECTS DELIVERY
DESIGN NEWCASTLE

TYPICAL DETAILS SHEET 2 OF 4

DS2013-002061-CD.dgn

NOT FOR CONSTRUCTION
DETAIL G
CONCRETE MEDIAN

Type VCB Barrier
Refer to Drawing MD.R132.D04.A

Type SF Kerb

N32 reinforced concrete
130mm thick with SL82
main centrally located
Broom finish

80mm sand binding layer

NOT TO SCALE
NOTES

1. Refer to sheet RA-0105 for alignment schedule.
2. Permanent survey marks are not to be disturbed.

ADJOINS SHEET NO. ADJOINS ABOVE ADJOINS BELOW

LEGEND

MC00 - Master control string

△ - Survey marks
NOTES

1. Refer to sheet RA-0105 for alignment schedule.

2. Permanent survey marks are not to be disturbed.
NOTES

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2. Permanent survey marks are not to be disturbed.
NOTES

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2. Permanent survey marks are not to be disturbed.
NOTES

1. Refer to sheet RA-0105 for alignment schedule.

2. Permanent survey marks are not to be disturbed.

Design Control MC00

Design Control MC10
### CORNFORD ROAD NORTHBOUND CARRIAGEWAY - MC00

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### CORNFORD ROAD SOUTHBOUND CARRIAGEWAY - MC10

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### ROAD維護和海事服務

Kjoye Tour Eat Street and Cornford Road CARRIAGEWAY DUPLICATION BETWEEN INDUSTRIAL DRIVE MAYFIELD and EGRET STREET KOORAGANG CH 1.380km TO CH 5.320km NORTH OF MAYFIELD ALIGNMENT SCHEDULES
NOTES

1. Refer to GE-0007 and GE-0008 for Survey legend.

2. Utility string cuts shown on longsection are approximate only. Refer to utility plan (UT) drawings for more details.

NOT FOR CONSTRUCTION
NOTES

1. Refer to GE-0007 and GE-0008 for Survey legend.

2. Utility string cuts shown on longsection are approximate only. Refer to utility plan (UT) drawings for more details.

LONGITUDINAL SECTION - CORMORANT ROAD (CONTROL MC00)

LEGEND

- Master control string
- Existing Pavement
- Existing Boundary
- Proposed Boundary

VERTICAL ALIGNMENT

HORIZONTAL ALIGNMENT

PAVEMENT SUPERELEVATION

DESIGN LEVELS

EXISTING LEVELS

CHAINAGE

LONGITUDINAL SECTION - CORMORANT ROAD (CONTROL MC00)

NOT FOR CONSTRUCTION
1. Refer to GE-0007 and GE-0008 for survey legend.

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NOTES
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NOT FOR CONSTRUCTION

LONGITUDINAL SECTION - CORMORANT ROAD (CONTROL MC00)

Scales

VERTICAL SCALE 1:400m
HORIZONTAL SCALE 1:2000m

NOTES

1. Refer to GE-0007 and GE-0008 for survey legend.

2. Utility string cuts shown on longsection are approximate only. Refer to utility plan (UT) drawings for more details.
1. Refer to GE-0007 and GE-0008 for survey legend.

2. Utility string cuts shown on longsection are approximate only. Refer to utility plan (UT) drawings for more details.

NOTES

LEGEND

- Master control string
- Existing Pavement
- Existing Boundary
- Proposed Boundary

NOT FOR CONSTRUCTION
NOT FOR CONSTRUCTION

1. Refer to GE-0007 and GE-0008 for Survey legend.

2. Utility string cuts shown on longsection are approximate only. Refer to utility plan (UT) drawings for more details.

NOTES

LONGITUDINAL SECTION - CORMORANT ROAD (CONTROL MC00)

LEGEND

<table>
<thead>
<tr>
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<tr>
<td>MC00</td>
<td>Master control string</td>
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<tr>
<td>E</td>
<td>Existing Pavement</td>
</tr>
<tr>
<td>T</td>
<td>Existing Boundary</td>
</tr>
<tr>
<td>P</td>
<td>Proposed Boundary</td>
</tr>
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VERTICAL SCALES (1:400m)

HORIZONTAL SCALES (1:2000m)

DATUM R.L.1.0

P=0.002% L=1110.358

R=INFINITY

NOTES

This sheet may be prepared using colour and may be incomplete if copied.
NOTES

1. Refer to GE-0007 and GE-0008 for Survey legend.
2. Utility string cuts shown on longsection are approximate only. Refer to utility plan (UT) drawings for more details.
NOTES

1. Refer to CE-0007 and CE-0008 for survey legend.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.
NOT FOR CONSTRUCTION

LEGEND
- Batter to be topsoiled and hydromulched
- Pavement to be constructed
- Area to be treated with 10mm spray seal
- Concrete median to be constructed
- Drainage headwall
- Drainage junction pit
- Proposed boundary
- Title boundary

NOTES
1. Refer to CE-0007 and CE-0008 for Survey legend.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.

ROADS AND MARITIME SERVICES
MR108 TOURLE STREET AND CORRIGANT ROAD CARRIAGeway DUPLICATION BETWEEN INDUSTRIal DRIVE MAYFIELD AND EGREt STREET KOORANGAL CH 1.380km TO CH 5.320km NORTH OF MAYFIELD DETAIL DESIGN CH=1650 - CH=1000

DESIGN NEWCASTLE
PROJECTS DELIVERY
ENGINEERING TECHNOLOGY

SHEET No. DS2013/002061

DESIGNER

DRAWN

REVIEWED

ISSUE

SIGNATURE

DATE

CHANGE

COPY

FOR REVIEW

100% CONCEPT

DS2013-002061-CD.dgn

ISSUED FOR CONCEPT

NOTES

1. Refer to CE-0007 and CE-0008 for Survey legend.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.

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1. Refer to CE-0007 and CE-0008 for Survey legend.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
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2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
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3. Refer to Pavement plans (PV) for further pavement details.
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2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.

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2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.

NOTES

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2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.
NOT FOR CONSTRUCTION

1. Refer to CE-0007 and CE-0008 for Survey details.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.

Design Control MC00
Tourle Street:

Existing drainage network to be removed

10m retaining wall to be constructed
CH1975-CH2075
NOT FOR CONSTRUCTION

1. Refer to CE-0007 and CE-0008 for Survey legend.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.

LEGEND
- Batter to be topsoiled and hydromulched
- Pavement to be constructed
- Area to be treated with 10mm spray seal
- Concrete median to be constructed
- Drainage headwall
- Drainage junction pit
- Proposed boundary
- Title boundary

NOTES

1. Refer to CE-0007 and CE-0008 for Survey legend.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.

ROADS AND MARITIME SERVICES
MR108 TOURLE STREET AND CORRAGANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EGRET STREET KOORAGANG
CH 1.380km TO CH 5.320km NORTH OF MAYFIELD
DETAIL DESIGN C=2150 - C=2400

NOT FOR CONSTRUCTION
NOT FOR CONSTRUCTION
NOTES

1. Refer to CE-0007 and CE-0008 for Survey legend.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.
NOT FOR CONSTRUCTION

1. Refer to CE-0007 and CE-0008 for Survey Legco.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.
NOT FOR CONSTRUCTION

1. Refer to CE-0007 and CE-0008 for Survey legend.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.
NOT FOR CONSTRUCTION

ROADS AND MARITIME SERVICES
MR108 TOURLE STREET AND CORMORANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EGGRET STREET KOORAGANG
CH 1.380km TO CH 5.320km NORTH OF MAYFIELD
DETAIL DESIGN C=3400 - C=3650

NOTES
1. Refer to CE-0007 and CE-0008 for Survey legend.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.

COLORS
- LIGHT GRAY - PROPOSED CROSS-SECTION
- DARK GRAY - AS BUILT CROSS-SECTION
- LIGHT PURPLE - SCALES

LEGEND
- Yellow - Drainage headwall
- Blue - Drainage junction pit
- Black - Proposed boundary
- Red - Title boundary

SCALE 1:1000m

DATE PRODUCED: 30-05-2014
DRAWING: ROADS AND MARITIME SERVICES

DESIGN NEWCASTLE
PROJECTS DELIVERY
ENGINEERING TECHNOLOGY

100% CONCEPT
STATE PART ISSUE
1 1 1

REGISTRATION NUMBER
DS2013/002061

8137 Dgn
30/05/2014
11:47 AM

For Query Message, Please call 1300007540 or visit www.tnt.com.au
NOTES

1. Refer to CE-0007 and CE-0008 for survey alignment.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.
1. Refer to CE-0007 and CE-0008 for Survey legend.

2. Refer to Road Furniture plans (RF) for safety barrier details.

3. Refer to Pavement plans (PV) for further pavement details.

4. Refer to Stormwater management plans (SM) for drainage details.
NOTES
1. Refer to CE-0007 and CE-0008 for Survey legend.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.

LEGEND
- Batter to be topsoiled and hydromulched
- Pavement to be constructed
- Area to be treated with 10mm spray seal
- Concrete median to be constructed
- Drainage headwall
- Drainage junction pit
- Proposed boundary
- Title boundary

This sheet may be prepared using colour and may be incomplete if copied.

ROADS AND MARITIME SERVICES
MR108 "TOURLE STREET AND CORMORANT ROAD"
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EGRET STREET KOORAGANG
CH 1.380km TO CH 5.320km NORTH OF MAYFIELD

DESIGN NEWCASTLE
PROJECTS DELIVERY
ENGINEERING TECHNOLOGY

DESIGN CONTROL MC00
CORMORANT ROAD

SCALE 1:1000m

123 14 05.4

CORMORANT ROAD
FROM MAYFIELD WEST
TO NELSON BAY

NOT FOR CONSTRUCTION
1. Refer to CE-0007 and CE-0008 for survey alignment.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.
NOTES

1. Refer to CE-0007 and CE-0008 for surveying details.
2. Refer to Road Furniture plans (RF) for safety barrier details.
3. Refer to Pavement plans (PV) for further pavement details.
4. Refer to Stormwater management plans (SM) for drainage details.

NOTE: Overhead conveyor

NOTE: Rail level crossing

Legend:
- Batter to be topsoiled and hydromulched
- Pavement to be constructed
- Area to be treated with 10mm spray seal
- Concrete median to be constructed
- Drainage headwall
- Drainage junction pit
- Proposed boundary
- Title boundary

Design Control MC00
Comoran Road

Scale 1:1000m

R = 1000.000m
R = -1000.000m

R O A D
C O R M O R A N T
M R 1 0 8
Cormorant Road

NOT FOR CONSTRUCTION

ROADS AND MARITIME SERVICES
MR108 TURLE STREET AND COMORANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EGRET STREET KOORAGANG
CH 1.380km TO CH 5.320km NORTH OF MAYFIELD

NOTE: Rail level crossing

COORDINATE SYSTEM: MGA Zone 55
WEIGHT complexes A.P.D.

NOTE: Overhead conveyor

COORDINATE SYSTEM: MGA Zone 55
WEIGHT complexes A.P.D.

NOT FOR CONSTRUCTION
LEGEND

EXISTING UTILITIES TO REMAIN
- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

UTILITIES TO BE RELOCATED OR REMOVED
- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

ROADS AND MARITIME SERVICES
MR108 Toule Street and Cormorant Road
Carriageway Duplication Between
Industrial Drive Mayfield and Egret Street Kooyong
Ch 1.360m to Ch 5.320m North of Mayfield
Utilities Plan Ch1400 - Ch1650
LEGEND

EXISTING UTILITIES TO REMAIN
- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

UTILITIES TO BE RELOCATED OR REMOVED
- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

ROADS AND MARITIME SERVICES
MR108 TOURLE STREET AND CORMORANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EAGET STREET KOORAGANG
CH 1 360m TO CH 5 320m NORTH OF MAYFIELD
UTILITIES PLAN CH1650 - CH1900

NOT FOR CONSTRUCTION
LEGEND

EXISTING UTILITIES TO REMAIN

- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

UTILITIES TO BE RELOCATED OR REMOVED

- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

NOT FOR CONSTRUCTION

ROADS AND MARITIME SERVICES

MR108 TOURLE STREET AND CORRIGANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EGRET STREET KORAGANG
CH 1.380km TO CH 5.320km NORTH OF MAYFIELD
UTILITIES PLAN CH1900 - CH2150

SCALE 1:1000m

This sheet may be prepared using colour and may be incomplete if copied COORDINATE SYSTEM: A.H.D.
HEIGHT DATUM: A.H.D.
LEGEND

EXISTING UTILITIES TO REMAIN

- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

UTILITIES TO BE RELOCATED OR REMOVED

- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

Power pole to be removed or relocated by others

40m of Telstra main to be removed or relocated by others

ROADS AND MARITIME SERVICES

MR108 TOURLE STREET AND CORMORANT ROAD CARRIAGEWAY DUPLICATION BETWEEN INDUSTRIAL DRIVE MAYFIELD AND EGRET STREET KOORAGANG CH 1.380km TO CH 5.320km NORTH OF MAYFIELD UTILITIES PLAN CH2400 - CH2650

NOT FOR CONSTRUCTION

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EXISTING UTILITIES TO REMAIN
- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

UTILITIES TO BE RELOCATED OR REMOVED
- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

Legend:
- Existing Utilities to Remain
- Utilities to Be Relocated or Removed

Design Control MC00
Cormorant Road
310m of sewer main to be removed or relocated by others
500m of water main to be removed or relocated by others
890m of electricity main to be removed or relocated by others

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ROADS AND MARITIME SERVICES
MR108 DUBLER STREET AND CORMORANT ROAD
CARROAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EAGRET STREET KOORANG
CH 1.360km TO CH 5.328km NORTH OF MAYFIELD
UTILITIES PLAN CH2900 - CH3150

NOT FOR CONSTRUCTION
LEGEND

EXISTING UTILITIES TO REMAIN
- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

UTILITIES TO BE RELOCATED OR REMOVED
- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

ROADS AND MARITIME SERVICES
MR108 TOURLE STREET AND CORMORANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EGRET STREET KOORAGANG
CH 1.380km TO CH 5.320km NORTH OF MAYFIELD
UTILITIES PLAN CH3650 - CH3900

NOT FOR CONSTRUCTION

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LEGEND

EXISTING UTILITIES TO REMAIN

- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

UTILITIES TO BE RELOCATED OR REMOVED

- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

SCALE 1:1000

0 10 20 30 40 50

1700m of water main to be removed or relocated by others

NOT FOR CONSTRUCTION

This sheet may be prepared using colour and may be incomplete if copied.
EXISTING UTILITIES TO REMAIN
- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

UTILITIES TO BE RELOCATED OR REMOVED
- Optical Fibre Underground
- Major Transmission Line
- High Pressure Gas Main
- Sewer Main
- Water Main

NOT FOR CONSTRUCTION

ROADS AND MARITIME SERVICES
MR108 TURLE STREET AND CORMORANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EAGET STREET KOORANGA
CH 1.368km TO CH 5.328km NORTH OF MAYFIELD
UTILITIES PLAN CH4850 - CH4900

LEGEND

SCALE 1:1000m

1700m of water main to be removed or relocated by others.
Design Control MC00
Tourle Street
NOT FOR CONSTRUCTION

LEGEND

- Drainage headwall
- Drainage junction pit
- Drainage pipe (diameter shown)
- Existing drainage pipe (diameter shown)
- Design contour major interval 0.5m
- Design contour minor interval 0.1m
- Existing contour major interval 1.0m
- Existing contour minor interval 0.2m
- Proposed boundary
- Title boundary
- Drainage structure label

NOTE: Existing tank structure

ROADS AND MARITIME SERVICES

MR108 TOURLE STREET AND COORANGAN ROAD
CARRIAGEWAY Duplication between
INDUSTRIAL DRIVE MAYFIELD AND EGRET STREET KOORANG
CH 1.356km TO CH 5.328km NORTH OF MAYFIELD
DRAINAGE PLAN CH2150 - CH2400

SCALE 1:1000m

This sheet may be prepared using contour and may be incomplete if copied.

COORDINATE SYSTEM: MGA Zone 56
HEIGHT DATUM: A.H.D.

This sheet may be prepared using contour and may be incomplete if copied.

COORDINATE SYSTEM: MGA Zone 56
HEIGHT DATUM: A.H.D.

NOT FOR CONSTRUCTION
Design contour major interval 0.5m
Existing contour major interval 1.0m

Design contour minor interval 0.1m
Existing contour minor interval 0.2m

Existing inlet weir structure to be reinstated to new location
Reshape area to remove high point

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This sheet may be prepared using colour and may be incomplete if copied.

- **PROJECTS DELIVERY**
- **ENGINEERING TECHNOLOGY**

**DESIGN**

**CONSTRUCTION**

**WORKS**

**DRAINAGE PLAN CH4400 - CH4650**

**CORMORANT ROAD**

**MR108 TO NELSON BAY**

**FROM MAYFIELD WEST**

**TO MAYFIELD WEST**

**TO NELSON BAY**

**CARRIAGEWAY DUPLICATION BETWEEN**

**INDUSTRIAL DRIVE MAYFIELD AND EGRET STREET KOORAGANG**

**CH 1.360m TO CH 5.320m NORTH OF MAYFIELD**

**DRAINAGE PLAN CH4400 - CH4650**

**NOT FOR CONSTRUCTION**

**NOT FOR CONSTRUCTION**

**LEGEND**

- Drainage headwall
- Drainage junction pit
- Existing drainage pipe (diameter shown)
- Catch Drain
- Existing drainage pipe (diameter shown)
- Design contour major interval 0.5m
- Design contour minor interval 0.1m
- Existing contour major interval 1.0m
- Existing contour minor interval 0.2m
- Proposed boundary
- Title boundary
- Drainage structure label
LEGEND

- Drainage headwall
- Drainage junction pit
- Drainage pipe (diameter shown)
- Catch Drain
- Existing drainage pipe (diameter shown)
- Design contour major interval 0.5m
- Design contour minor interval 0.1m
- Existing contour major interval 1.0m
- Existing contour minor interval 0.2m
- Proposed boundary
- Title boundary
- Drainage structure label

NOT FOR CONSTRUCTION

ROADS AND MARITIME SERVICES

MR108 TOURLE STREET AND CORMORANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EGGERT STREET KOORANG
CH 1.368m TO CH 5.328m NORTH OF MAYFIELD
DRAINAGE PLAN CHS150 - CHS400

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RODS AND MARITIME SERVICES

MR108 TOURLE STREET AND CORMORANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EGGERT STREET KOORANG
CH 1.368m TO CH 5.328m NORTH OF MAYFIELD
DRAINAGE PLAN CHS150 - CHS400

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100% CONCEPT

RODS AND MARITIME SERVICES

MR108 TOURLE STREET AND CORMORANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN
INDUSTRIAL DRIVE MAYFIELD AND EGGERT STREET KOORANG
CH 1.368m TO CH 5.328m NORTH OF MAYFIELD
DRAINAGE PLAN CHS150 - CHS400

DS2013/002061-CD.dgn
100% CONCEPT
### Scales

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<th>AT PLOT</th>
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### PIPE SCHEDULE - NETWORK A LINE 1

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<th>PIPE TYPE</th>
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<th>LENGTH (m)</th>
<th>SLOPE (%)</th>
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### PIPE SCHEDULE - NETWORK B LINE 1

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<th>DIAMETER (mm)</th>
<th>PIPE TYPE</th>
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<th>UPSTREAM INSERT</th>
<th>DOWNSTREAM INSERT</th>
<th>LENGTH (m)</th>
<th>SLOPE (%)</th>
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### PIPE SCHEDULE - NETWORK C/L LINE 1

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<th>DIAMETER (mm)</th>
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<th>SLOPE (%)</th>
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### PIPE SCHEDULE - NETWORK D LINE 1

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<th>DIAMETER (mm)</th>
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### PIPE SCHEDULE - NETWORK E LINE 1

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<th>PIPE TYPE</th>
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<th>SLOPE (%)</th>
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<td>E1-1</td>
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<td>E1-2</td>
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<td>RC Class 4</td>
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### ROADWAYS AND MARITIME SERVICES

- **MURRAY TUNNEL E STREET AND CORMORANT ROAD CARRIAGEWAY DUPLICATION BETWEEN INDUSTRIAL DRIVE MYFIEL AND EGE STREET KOO RAGAN CH 1.380km TO CH 5.320km NORTH OF MYFIEL**
- **CARRIAGEWAY DUPLICATION BETWEEN INDUSTRIAL DRIVE MYFIEL AND EGE STREET KOO RAGAN CH 1.380km TO CH 5.320km NORTH OF MYFIEL**

### DRAINAGE PLAN SCHEDULE

- **DRAINAGE PLAN SCHEDULE**
LEGEND
- Pavement 1 Overlay
- Pavement 2 Reconstruction
- Pavement 3 Side Roads
- AC Mill and Resheet
- AC14 HD

This sheet may be prepared using colour and may be incomplete if copied.

ROADS AND MARITIME SERVICES
MR108 TOURLE STREET AND CORMORANT ROAD
CARRIAGEWAY DUPLICATION BETWEEN INDUSTRIAL DRIVE MAYFIELD AND EGRET STREET KOORAGANG
CH 1.360m TO CH 5.320m NORTH OF MAYFIELD
PAVEMENT PLAN CH3400 - CH3650
LEGEND

- Pavement 1 Overlay
- Pavement 2 Reconstruction
- Pavement 3 Side Roads
- AC Mill and Reheet
- AC14 HD

SCALE 1:1000m

CO-ORDINATE SYSTEM:
HEIGHT DATUM:

This sheet may be prepared using colour and may be incomplete if copied.

Roads and Maritime Services

Pavement Plan CH5150 - CH5400

MR108 Tourole Street and Cormorant Road
Carrigeway Duplication Between
Industrial Drive Mayfield and Egret Street Kooragang
CH 1.365km to CH 5.328km North of Mayfield

Pavement Projects Delivery
Design Newcastle

DS2013-002061-CD.dgn
100% Concept

Registration Number: DS2013/002061

PV-0016
LEGEND
- Pavement 1 Overlay
- Pavement 2 Reconstruction
- Pavement 3 Side Roads
- AC Mill and Resheet

AC14 HD
45mm AC14 HD (AR 450)
195mm AC20 HD (AR 450)

P1
OVERLAY

P2
RECONSTRUCTION

P3
FULL DEPTH AC

300mm Sealed
Material zone.

900mm heavy bound
Pavement Course

300mm Sealed
Material zone.

195mm AC20 HD (AR 450)
10mm Sprayed Prime and Bitumen Seal C320

45mm AC14 HD (AR 450)
45mm AC14 HD (AR 450)

Subgrade

40mm Mill Existing
Pavement

NOT FOR CONSTRUCTION

This sheet may be prepared using colour and may be incomplete if copied.

COLOURS: RED - BSM Zone 55 55 55
HEIGHT DATUM: A.H.D.
NOTES

1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.

LEGEND

- Install G4 Guardfence
  - Linemarking Type
  - Existing Sign
  - Install New Sign

ROADS AND MARITIME SERVICES

MR108 TOURLE STREET AND CORAMANT ROAD
CARRIAGeway Duplication Between
INDUSTRIAL DRIVE MAYFIELD AND EAGRE STREET KoorANG
CH 1.380KM TO CH 5.320KM NORTH OF MAYFIELD
ROADSIDE FURNITURE AND LINEMARKING PLAN CH1400 - CH1650
NOTES

1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.
NOTES
1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.

SAFETY BARRIER SCHEDULE

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<thead>
<tr>
<th>LABEL</th>
<th>DESCRIPTION</th>
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<th>TO STATION</th>
<th>CONTROL STATION</th>
<th>CONTROL STATION</th>
<th>LOCATION</th>
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<td>SB01</td>
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<td>1901.000</td>
<td>239.667</td>
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LEGEND
- Install G4 Guardfence
- Linemarking Type
- Existing Sign
- Install New Sign

ROADS AND MARITIME SERVICES
MR108 TOURLE STREET AND CORRIGAN ROAD CARRIAGeway DUPLICATION BETWEEN INDUSTRIAL DRIVE MAYFIELD AND EORET STREET KOORANGA CH 1.380km TO CH 5.320km NORTH OF MAYFIELD ROADSIDE FURNITURE AND LINEMARKING PLAN CH1900 - CH2150

NOT FOR CONSTRUCTION
NOTES

1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.
NOTES

1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.

SAFETY BARRIER SCHEDULE

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<td>SB05</td>
<td>W-beam</td>
<td>2443.161 MC00</td>
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<td>Northbound eveside shoulder</td>
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<td>2520.514 MC00</td>
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<td>Type F</td>
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ROADS AND MARITIME SERVICES

MR108 TOURLE STREET AND EAGRENT ROAD CARRIAGEWAY DUPLICATION BETWEEN INDUSTRIAL DRIVE MAYFIELD AND EAGRENT STREET KOORAGANG CH1.396km TO CH5.320km NORTH OF MAYFIELD ROADSIDE FURNITURE AND LINEMARKING PLAN CH2400 - CH2650
NOTES

1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.

LEGEND

- Install G4 Guardfence
- Linemarking Type
- Existing Sign
- Install New Sign

ROADS AND MARITIME SERVICES
MR108 TOURLE STREET AND CORMORANT ROAD
CARRIAGeway duplication between
INDUSTRIAL DRIVE MAYFIELD and EAGET STREET KOORANGAN
CH 1.380km to CH 5.320km NORTH OF MAYFIELD
ROADSIDE FURNITURE AND LINEMARKING PLAN CH2650 - CH2900

Scales: 1:1000m (1cm=1000m)

NOT FOR CONSTRUCTION

CO-ORDINATE SYSTEM: A.H.D.
HEIGHT DATUM: MGA Zone 55
COASTAL SURVEY (NSW) - D.P.M.O

This sheet may be prepared using colour and may be incomplete if copied
COLORIMETRY SYSTEM: MGA Zone 55
MAYFIELD AS A.F.D.
MODELS: 30/5/2014 11:47 AM

DS2013-002061-CD.dgn
100% CONCEPT

DS2013/002061 RF-0006

This sheet may be prepared using colour and may be incomplete if copied.
COLORIMETRY SYSTEM: MGA Zone 55
MAYFIELD AS A.F.D.
NOTES
1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.

SAFETY BARRIER SCHEDULE

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NOTES

1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.

SAFETY BARRIER SCHEDULE

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NOTES
1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.
NOTES
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2. Pavement marking and signposting in accordance with RMS standards.
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SAFETY BARRIER SCHEDULE

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</table>

NOTE: This sheet may be prepared using colour and may be incomplete if copied.
NOTES

1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.

LEGEND
- Install G4 Guardfence
- Linemarking Type
- Existing Sign
- Install New Sign

Scales
SCALE: 1:1000m

NOT FOR CONSTRUCTION
NOTES

1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.

Design Control MC20
Cormorant Road

Roadside Furniture and Linemarking Plan CH4650 - CH4900

Roads and Maritime Services
MR108 Towre Street and Cormorant Road
Carriageway Duplication Between
Industrial Drive Mayfield and Egret Street Kooringa
CH 1.380km to CH 5.320km North of Mayfield
Roadside Furniture and Linemarking Plan CH4650 - CH4900

Scale 1:1000m

NOTES
NOTES
1. All redundant linemarking to be removed.
2. Pavement marking and signposting in accordance with RMS standards.
NOTES

1. All redundant linemarking to be removed.

2. Pavement marking and signposting in accordance with RMS standards.
This sheet may be prepared using colour and may be incomplete if copied.
### CROSS SECTION - CORRORANT ROAD - MC00 - 2150 TO 2175

#### ROAD FEATURES
- **Location:** Carriageway Duplication between Mr108 Cormorant Road and 1750m to 1775m North of Mayfield
- **Stage:** 100% Concept
- **Sheets:** DS2013/002061
- **Drawing:** DS2013-002061-CD-RC.dgn
- **Date:** 29/04/2014

#### Coordinates
- **Coordinate System:** MGA Zone 56
- **Scale:** 1:200m
- **Datum:** AHD

#### Heights
- **Reference Datum:** OS80
- **Height Datum:** On Original File Path: D:\Data\Projects\N-10-021-Toule Street Bridge duplication\CAD Data\02-Concept\Micro Station\DS2013-002061-CD-RC.dgn
- **Printed by:** Powers 11/02/2014 12:25 PM

#### Design String Levels
- **Levels:** Design
- **Cuts:** R.L. -2.0%
- **Strings:** 15 levels

#### Existing String Levels
- **Levels:** Existing
- **Cuts:** R.L. -2.0%
- **Strings:** 15 levels

#### Design Offsets
- **Offsets:** Designer
- **Units:** Meters

#### Existing Offsets
- **Offsets:** Designer
- **Units:** Meters

#### Design Cut String Levels
- **Strings:** 15 levels

#### Existing Cut String Levels
- **Strings:** 15 levels

#### Design Cut String Levels
- **Strings:** 15 levels

#### Existing Cut String Levels
- **Strings:** 15 levels

### NOT FOR CONSTRUCTION
### CROSS SECTION - CORMORANT ROAD - MC00 - 2 250

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**Scales:**
- PLAN 1:200m
- CROSS SECTION 1:250

**Details:**
- NOT FOR CONSTRUCTION
- ISSUE / AMENDMENT DESCRIPTION: ISSUE
- DATE: 30-05-2014
- DRAWING: ROADS AND MARITIME SERVICES
- PROJECTS DELIVERY ENGINEERING TECHNOLOGY
- CROSS SECTION - CORMORANT ROAD - MC00 - 2 250

**Registration Number:** DS2013/002061
**Design:** DS2013-002061-CD-RC.dgn
### Cross Section - Cormorant Road - MC00 - 2350

#### Design Levels

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#### Existing Offsets

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### Scale 1:200m

- CO-ORDINATE SYSTEM: MGA Zone 56
- HEIGHT DATUM: A.H.D.
- Issue: 29/04/2014 1:05 PM
- Produced: 30-05-2014

### NOT FOR CONSTRUCTION
TOURLE STREET MAYFIELD AND EGRET STREET KOORAGANG ISLAND

CROSS SECTION - CORMORANT ROAD - MC00 - 2825 TO 2850

ROADS AND MARITIME SERVICES

100% CONCEPT

DC2013/002061

NOT FOR CONSTRUCTION
### ISSUE / AMENDMENT DESCRIPTION

- HEIGHT DATUM: -3.0%
- 25 m on ORIGINA L
- 30-05-2014
- 1:05 PM

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**OFFSETS**

**DESIGN**

**EXISTING**

**LEVELS**

**EXISTING**

**LEVELS**

**DESIGN**

**STRINGS**

**CUT**

**R.L.** -1.0

**DATE**

**ISSUE FOR CONCEPT**

---

**COORDINATE SYSTEM:**

**SCALE 1:200m**

**MGA Zone 56**

**SCALES**

---

**NOT FOR CONSTRUCTION**

---

**ROADS AND MARITIME SERVICES**

**ENGINEERING TECHNOLOGY PROJECTS DELIVERY DESIGN NORTHCOLDWELL**

**TOURLE STREET MAYFIELD AND EIGE STREET KOOARANGAR ISLAND**

**CROSS SECTION - CORMORANT ROAD - MC00 - 3 025 TO 3 050**

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### CROSS SECTION - CORMORANT ROAD - MC00 - 3225 TO 3250

**CUT STRINGS**

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**DESIGN LEVELS**

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**SCALES**

Scale: 1:200m

**COORDINATE SYSTEM:**

MGA Zone 56

**HEIGHT DATUM:**

A.H.D.

NOT FOR CONSTRUCTION
### CROSS SECTION - CORMORANT ROAD - MC00 - 3275 TO 3300

**Scale:** 1:200

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<td>3 275</td>
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**Scales: A3 ORIGINA L
MGA Zone 56
A.H.D.
CO-ORDINATE SYSTEM:
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### CO-ORDINATE SYSTEM:

- Scale 1:200m
- Coordinate System: NZ90
- Height Datum: OZB5

### ROAD NAMES

- Suite 1: Tourle Street Mayfield and Egret Street Kooragang Island
- Suite 2: Cormorant Road

### CROSS SECTION - CORMORANT ROAD - MC00 - 3575 TO 3600

- Roads and Maritime Services

### DRAWING REGISTRATION NUMBER

- DS2013/002061-CD-RC.dgn

### NOT FOR CONSTRUCTION

100% Concept Stage

### RSMS PROJECTS DELIVERY DESIGN NEWCASTLE

- File Path: D:\Data\Projects\N-10-021-Toule Street Duplication\CAD Data\02-Concept\Micro station\DS2013-002061-CD-RC.dgn

### Sheet No.

- 0044

### Issue

- 1

### Scale

- 1:200m

### Drawing

- Produced: Design Newcastle Projects Delivery Engineering Technology

### Date

- 29/04/2014
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**Roads and Maritime Services:**

**Stage:** RC

**Sheet No.:** 1

**Part:** 1

**Registration Number:** DS2013/002061

**Sheet:** RC-0052

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### Cross Section - Cormorant Road - MC00 - 4325 to 4350

**Roads and Maritime Services**

**MRT180 Cormorant Road**

CARRIAGEWAY DUPLICATION BETWEEN TOULGE STREET MAYFIELD AND EIGHT STREET KOORAGANG ISLAND CH 1.380km TO CH 5.320km NORTH OF MAYFIELD

CROSS SECTION - CORMORANT ROAD - MC00 - 4325 TO 4350

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**MGA Zone 56**

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ROADS AND MARITIME SERVICES

CARRIAGEWAY DUPLICATION BETWEEN
TOURLE STREET MAYFIELD AND EGRET STREET KOORAGANG ISLAND
CH 1.380Km TO CH 5.320Km NORTH OF MAYFIELD

CROSS SECTION - CORMORANT ROAD - MC00 - 4625 TO 4650
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CROSS SECTION - CORMORANT ROAD - MC00 - 4925 TO 4950

ROADS AND MARITIME SERVICES

COORDINATE SYSTEM: MGA Zone 55
WIGHT Datum: A.H.D.

NOT FOR CONSTRUCTION

DS2013/002061

TORQUE STREET MAYFIELD AND EAGET STREET KOORANG ISLAND

CARRIAGEWAY DUPLICATION BETWEEN
Ch 1.396m TO Ch 5.328m NORTH OF MAYFIELD

CH 1.396m TO CH 5.328m NORTH OF MAYFIELD

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COORDINATE SYSTEM: MGA Zone 55
WEIGHT DUNIT: A.H.D.

DS2013/002061

REGISTRATION NUMBER

DS2013-002061-CD-RC.dgn

100% CONCEPT

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NOT FOR CONSTRUCTION
### CROSS SECTION - CORMORANT ROAD - MC00 - 5125 TO 5150

#### ROAD PROPERTIES

- **Location:** CORMORANT ROAD
- **Stage:** 100% CONCEPT
- **Part:** 1
- **Sheet No.:** -0075
- **Registration Number:** DS2013/002061

#### Drawing Details

- **Drawing Date:** 30/06/2014
- **Issued For Concept:**
- **Sheet Path:** DS2013-002061-CD-RC.dgn
- **Printed By:** powers
- **Print Date:** 02/04/2014 23:12 PM

#### Section Details

- **CROSS SECTION - CORMORANT ROAD - MC00 - 5125 TO 5150
- **Roads and Maritime Services**
- **Stage:** 100% CONCEPT
- **Part:** 1
- **Sheet No.:** -0075

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### CARRIAGEWAY DUPLICATION BETWEEN

- **Tourle Street Mayfield and Eigret Street Kooraingang Island**
- **Ch 1.380km to Ch 5.320km NORTH OF MAYFIELD**
- **Carrigeway Duplication Between**
- **Ngarraburra Road**
- **North of Mayfield**
- **Roads and Maritime Services**
- **Stage:** 100% CONCEPT
- **Part:** 1
- **Sheet No.:** -0075

#### Drawing Details

- **Drawing Date:** 30/06/2014
- **Issued For Concept:**
- **Sheet Path:** DS2013-002061-CD-RC.dgn
- **Printed By:** powers
- **Print Date:** 02/04/2014 23:12 PM

#### Section Details

- **CROSS SECTION - CORMORANT ROAD - MC00 - 5125 TO 5150
- **Roads and Maritime Services**
- **Stage:** 100% CONCEPT
- **Part:** 1
- **Sheet No.:** -0075

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**REGISTRATION NUMBER:**

**STAGE:**

100% CONCEPT

**PART:**

ROADS AND MARITIME SERVICES

**PROJECTS DELIVERY**

ENGINEERING TECHNOLOGY

**DS2013/002061-CD-RC.dgn**

**ISSUE/DRAWING:**

ROADS AND MARITIME SERVICES

**DATE:**

29/04/2014

**TIME:**

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**FILE PATH:**

REGISTRATION NUMBER

STAGE

100% CONCEPT

PART

ROADS AND MARITIME SERVICES

PROJECTS DELIVERY

ENGINEERING TECHNOLOGY

DS2013/002061-CD-RC.dgn

ISSUED FOR CONCEPT

100% CONCEPT

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NOT FOR CONSTRUCTION

**REFERENCE:**

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**PROJECTS DELIVERY**

ENGINEERING TECHNOLOGY

**DS2013/002061-CD-RC.dgn**

**ISSUE/DRAWING:**

ROADS AND MARITIME SERVICES

**DATE:**

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STAGE

100% CONCEPT

PART

ROADS AND MARITIME SERVICES

PROJECTS DELIVERY

ENGINEERING TECHNOLOGY

DS2013/002061-CD-RC.dgn

ISSUED FOR CONCEPT

100% CONCEPT

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NOT FOR CONSTRUCTION
CITY OF NEWCASTLE

MR108 - TOURLE STREET AND CORMORANT ROAD

TOURLE STREET BRIDGE DUPLICATION

CARRIAGEWAY DUPLICATION BETWEEN MR316 INDUSTRIAL DRIVE, MAYFIELD AND EGRET STREET, KOORAGANG

CH 1.380km TO CH 5.320km NORTH OF MAYFIELD

VOLUME 2 - BRIDGE

CONCEPT DESIGN