

Surface Water Field Sheet

| | | |
|--------------------------------------|---|----|
| Site | SW7 | |
| Date | Wed, 22 Jul 2020, 1:06 pm | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Downstream of Horsley inlet | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Riparian and woody weeda | |
| Bank Slope | Minor | |
| Erosion | None | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 8.2 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear, slightly turbid | |
| Other | Erosion from work done by other sub contractor (see photos) | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW7 | | | | |

Surface Water Field Sheet

| Site | SW8DS | | | |
|--------------------------------------|-----------------------------------|---------------|-----------|----------|
| Date | Wed, 22 Jul 2020, 12:21 pm | | | |
| Sampling Officer | Tom Dewhurst | | | |
| Sampling Method | Grab | | | |
| Detailed sample location description | Down stream of works at bridge 9 | | | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | | | |
| Weather | Sunny | | | |
| Vegetation | | | | |
| Bank Slope | | | | |
| Erosion | | | | |
| Other | | | | |
| Text | <u>FIELD MEASUREMENTS</u> | | | |
| pH | 7.5 | | | |
| Checkbox | Visible oil and grease | No | | |
| Turbidity | See lab notes | | | |
| Text | <u>FLOW OBSERVATIONS</u> | | | |
| Flow | Low | | | |
| Colour | Clear | | | |
| Other | | | | |
| Sample Information | | | | |
| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
| SW08DS | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW08 US | |
| Date | Wed, 22 Jul 2020, 12:26 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Upstream of work area at bridge 9 | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | | |
| Bank Slope | | |
| Erosion | | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.2 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear but orange organical / algae present | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW08 US | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW9 | |
| Date | Wed, 22 Jul 2020, 1:34 pm | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | South of O'Gorman St | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Riparian and woody weeds | |
| Bank Slope | Minor | |
| Erosion | None | |
| Other | Rubbish in creek | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 8.0 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | See lab results | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW9 | | | | |

Attachment D, Laboratory results



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|--|-------------------------|--|
| Work Order | : EW2003322 | Page | : 1 of 4 |
| Client | : FULTON HOGAN PTY LTD | Laboratory | : Environmental Division NSW South Coast |
| Contact | : MR JAMES DIAMOND | Contact | : Glenn Davies |
| Address | : LEVEL 3 - 90 BOURKE ROAD ALEXANDRIA NSW, AUSTRALIA 2015 | Address | : 1/19 Ralph Black Dr, North Wollongong 2500 4/13 Geary Pl, North Nowra 2541 Australia NSW Australia |
| Telephone | : +61 02 8346 9400 | Telephone | : 02 42253125 |
| Project | : Albion Park Rail Bypass | Date Samples Received | : 22-Jul-2020 15:17 |
| Order number | : ---- | Date Analysis Commenced | : 23-Jul-2020 |
| C-O-C number | : ---- | Issue Date | : 27-Jul-2020 09:37 |
| Sampler | : TOM DEWHURST | | |
| Site | : ---- | | |
| Quote number | : EN/222 | | |
| No. of samples received | : 10 | | |
| No. of samples analysed | : 10 | | |



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: **Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| Signatories | Position | Accreditation Category |
|--------------|----------------|------------------------------------|
| Ashesh Patel | Senior Chemist | Sydney Inorganics, Smithfield, NSW |

Page : 2 of 4
Work Order : EW2003322
Client : FULTON HOGAN PTY LTD
Project : Albion Park Rail Bypass



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Analytical work for this work order will be conducted at ALS Sydney.
- TSS by EA025H may bias low due to fine particulate matter passing through the prescribed filter.

Page : 3 of 4
 Work Order : EW2003322
 Client : FULTON HOGAN PTY LTD
 Project : Albion Park Rail Bypass



Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | SW03US | SW03DS | SW04 | SW05A | SW06US |
|---|------------|-----|------|-------------------|-------------------|-------------------|-------------------|-------------------|--------|
| Client sampling date / time | | | | 22-Jul-2020 00:00 | 22-Jul-2020 00:00 | 22-Jul-2020 00:00 | 22-Jul-2020 00:00 | 22-Jul-2020 00:00 | |
| Compound | CAS Number | LOR | Unit | EW2003322-003 | EW2003322-004 | EW2003322-005 | EW2003322-006 | EW2003322-007 | |
| | | | | Result | Result | Result | Result | Result | |
| EA025: Total Suspended Solids dried at 104 ± 2°C | | | | | | | | | |
| Suspended Solids (SS) | --- | 5 | mg/L | <5 | <5 | 8 | <5 | 6 | |
| EA045: Turbidity | | | | | | | | | |
| Turbidity | --- | 0.1 | NTU | 2.2 | 1.9 | 1.2 | 1.7 | 0.9 | |

Page : 4 of 4
 Work Order : EW2003322
 Client : FULTON HOGAN PTY LTD
 Project : Albion Park Rail Bypass



Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | SW06DS | SW07 | SW08US | SW08 | SW09 |
|---|------------|-----|------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| Client sampling date / time | | | | 22-Jul-2020 00:00 | 22-Jul-2020 00:00 | 22-Jul-2020 00:00 | 22-Jul-2020 00:00 | 22-Jul-2020 00:00 | |
| Compound | CAS Number | LOR | Unit | EW2003322-008 | EW2003322-009 | EW2003322-010 | EW2003322-011 | EW2003322-012 | |
| | | | | Result | Result | Result | Result | Result | |
| EA025: Total Suspended Solids dried at 104 ± 2°C | | | | | | | | | |
| Suspended Solids (SS) | --- | 5 | mg/L | 9 | 11 | 8 | 6 | 10 | |
| EA045: Turbidity | | | | | | | | | |
| Turbidity | --- | 0.1 | NTU | 1.7 | 1.0 | 1.5 | 1.6 | 1.7 | |

Surface Water Monitoring

Construction Event 20

The purpose of water quality monitoring during the construction phase is to determine impacts resulting from construction of the project only (i.e. road construction) and no other unrelated sources, such as agricultural operations. The potential impacts from road construction activities will most likely result from erosion and sediment control loss and spills.

Date of Monitoring: 17th August 2020

Rainfall Monitoring is shown below.

| | FH Northern AWS | FH Southern AWS | Albion Park Airport AWS |
|------------|--------------------|--------------------|-------------------------|
| Date: | Rainfall Received: | Rainfall Received: | Rainfall Received: |
| 15/08/2020 | 8.5mm | 8.5mm | 5.4mm |
| 16/08/2020 | 0.0mm | 0.1mm | 0.0mm |

Scope and Limitations

During the construction phase of the project, surface water quality will be monitored at the same locations as the baseline-monitoring program. Surface water quality will be monitored at eight locations (i.e. SW2-SW4, SW5A, SW6 to SW9).

In addition to the eight surface water monitoring locations identified for the baseline program (WSP, 2018), surface water quality will be monitored downstream of the bridge works at Duck Creek (i.e. SW2DS) and upstream of the bridge works at Macquarie Rivulet (i.e. SW3US) following feedback from DPI Fisheries. As a result, there will now be a total of 10 construction surface water quality monitoring locations for the project.

This report presents the information collected during the monitoring event with some discussion on field observations and results with respect to upstream vs downstream conditions.

Field Programme

Surface water sampling was undertaken at all surface locations where flow conditions allowed a representative sample to be taken. This monthly water sampling event was conducted in accordance with the sampling program and protocols provided in:

- 2018, Baseline Monitoring Program – Albion Park Rail Bypass;
- 2018 Appendix B4 Soil and Water Management Sub-plan Albion Park Rail bypass (Stage 2 – Princes Motorway between Yallah and Oak Flats) Appendix B Construction water quality monitoring program

Field parameter for Oil and grease of a visual inspections confirmed no impact.

Water samples were submitted to a NATA certified testing laboratory (Australian Laboratory services (ALS)) to be analysed for:

- Total suspended solids; and
- pH.

Weather Monitoring

The project uses the Bureau of Meteorology to monitor weather and onsite Automatic Weather Stations to monitor rainfall.

Surface water sampling results

Results for the water quality monitoring event are located as attachments at the end of this document, they are:

- Attachment A, Location maps
- Attachment B, Tabulated results
- Attachment C, Field sheets
- Attachment D, Laboratory results

Surface water locations

The upstream location represents the 'reference' (un-impacted) site while the down-stream locations represent the 'test' sites (potentially impacted sites during construction). By comparing upstream water quality with down-stream water quality, potential impacts from construction are assessed.

Table 1 Surface water locations within specific surface water bodies

| Surface water | Upstream of Alignment (reference site) | Downstream of Alignment (test site) |
|----------------------------|---|--|
| Brooks Creek | SW1 | - |
| Duck Creek | SW2 | SW2DS |
| Macquarie Rivulet | SW3US and SW5A | SW3 |
| Frasers Creek | SW4 | - |
| Frasers Creek | - | SW6 |
| Horsley Inlet | - | SW7 |
| Frasers Creek | - | SW8 |
| Tributary of Frasers Creek | SW9 | - |

Results summary

8.5mm was received prior to the monitoring event, however over 170mm was received in the previous week . All creeks were noted to have clear water and low to medium flow. Consequently, there were no observed construction impacts noted during this monitoring event assessing upstream against downstream conditions. All field results had TSS results

below the trigger level and pH results were consistent in range with the exception of SW7 that had a pH reading of 8.1 which is slightly higher than the trigger level however still within the ANZECC/ARMCANZ (2000) guidelines for pH being between 6.5 and 8.5

Brooks Creek: Removed from monitoring program as not influenced by construction works.

Duck Creek: Showed no impacts from construction. The creek medium flow.

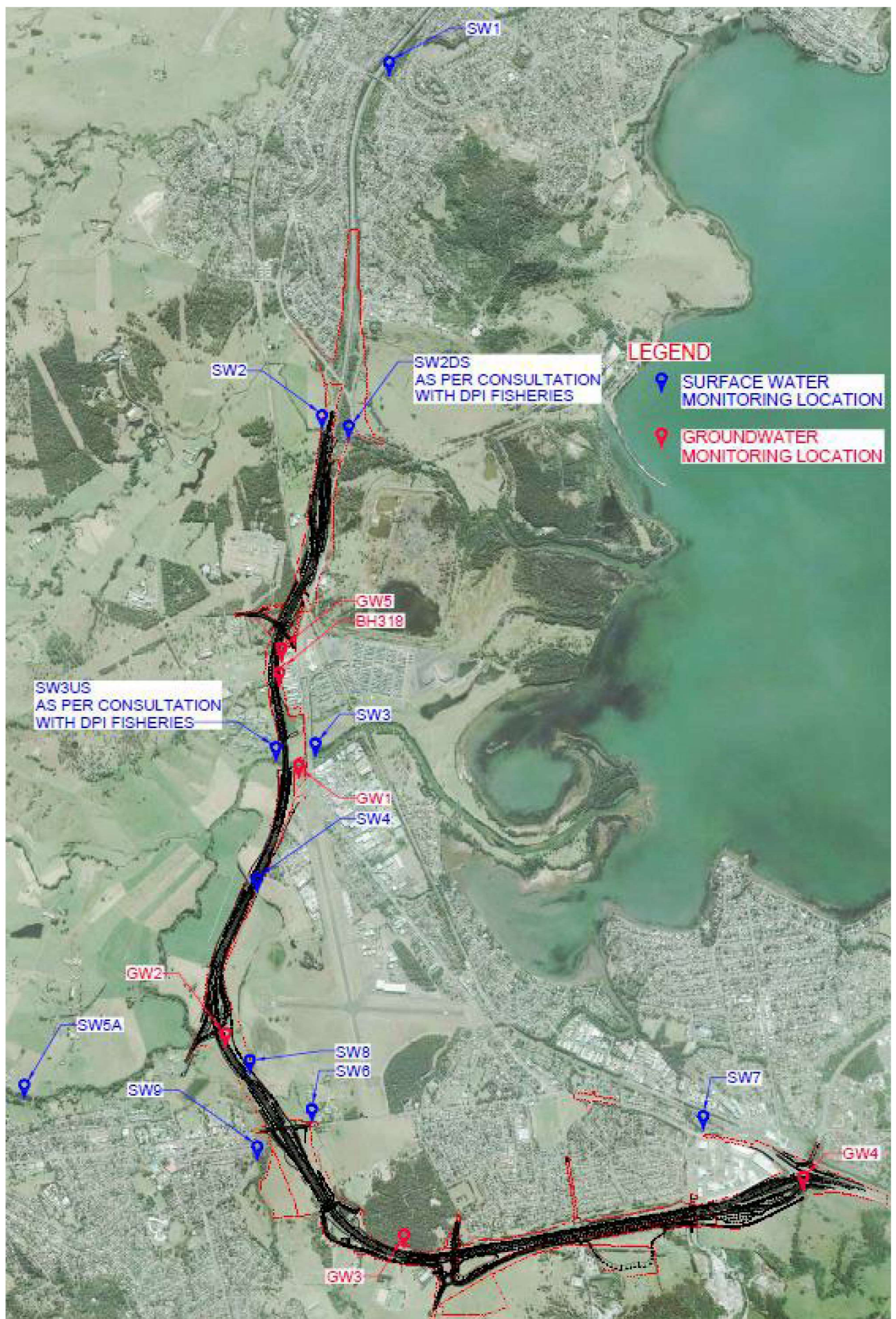
Macquarie Rivulet: Showed no impacts from construction. The creek had low flow at SW3US and SW3. SW5A was noted to have medium to high flow across the rock riffle/rapid below the monitoring location. It was also observed an excavator was present spreading topsoil on bank above monitoring point at SW5A.

Frasers Creek: Showed no impacts from construction. The creek had low to medium flow at all monitoring locations.

Horsley Inlet: Showed no impacts from construction. The creek had low flow.

Frasers Creek Tributary: Showed no impacts from construction. The creek had very low flow.

Attachment A, Location maps



Attachment B, Tabulated results

| No. | Date | Time | pH | Total Suspended Solids (mg/L) |
|-------|------------|---------|-----|-------------------------------|
| SW1 | 17/08/2020 | N/A | N/A | N/A |
| SW2 | 17/08/2020 | 3:24pm | 7.3 | 6 |
| SW2DS | 17/08/2020 | 1:30pm | 7.4 | <5 |
| SW3US | 17/08/2020 | 1:12pm | 7.4 | 8 |
| SW3 | 17/08/2020 | 2:04pm | 7.4 | 6 |
| SW4 | 17/08/2020 | 2:40pm | 7.3 | <5 |
| SW5A | 17/08/2020 | 12:48pm | 7.8 | 8 |
| SW6 | 17/08/2020 | 11:29am | 7.7 | 6 |
| SW7 | 17/08/2020 | 12:16pm | 8.1 | 9 |
| SW8 | 17/08/2020 | 11:14am | 7.6 | 6 |
| SW9 | 17/08/2020 | 12:36pm | 7.9 | 6 |

Attachment C, Field sheets

Surface Water Field Sheet

| | | | |
|--------------------------------------|--|-----|--|
| Site | SW2 US | | |
| Date | Mon, 17 Aug 2020, 3:24 pm | | |
| Sampling Officer | Tom Dewhurst | | |
| Sampling Method | Grab | | |
| Detailed sample location description | Upstream boundary of work area at Duck Creek | | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | | |
| Weather | Sunny | | |
| Vegetation | Riparian and woody weeds | | |
| Bank Slope | Gentle | | |
| Erosion | Minor | | |
| Other | | | |
| Text | <u>FIELD MEASUREMENTS</u> | | |
| pH | 7.3 | | |
| Checkbox | Visible oil and grease | Yes | |
| Turbidity | See lab results | | |
| Text | <u>FLOW OBSERVATIONS</u> | | |
| Flow | Medium | | |
| Colour | Clear | | |
| Other | | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW2 US | | | | |

Surface Water Field Sheet

| | |
|--------------------------------------|---|
| Site | SW2 DS |
| Date | Mon, 17 Aug 2020, 1:30 pm |
| Sampling Officer | Tom Dewhurst |
| Sampling Method | Grab |
| Detailed sample location description | Downstream of work boundary at Duck creek |

Text **ENVIRONMENTAL OBSERVATIONS**

| | |
|------------|--------------------------|
| Weather | Sunny |
| Vegetation | Riparian and woody weeds |
| Bank Slope | Gentle |
| Erosion | None |
| Other | |

Text **FIELD MEASUREMENTS**

| | | |
|-----------|------------------------|----|
| pH | 7.4 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |

Text **FLOW OBSERVATIONS**

| | |
|--------|--------|
| Flow | Medium |
| Colour | Clear |
| Other | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW2DS | | | | |

Surface Water Field Sheet

| | |
|--------------------------------------|--|
| Site | SW3 DS |
| Date | Mon, 17 Aug 2020, 1:04 pm |
| Sampling Officer | Tom Dewhurst |
| Sampling Method | Grab |
| Detailed sample location description | Down stream of work area at bridge 6 Macquarie rivulet |

Text **ENVIRONMENTAL OBSERVATIONS**

| | |
|------------|----------|
| Weather | Sunny |
| Vegetation | Pastural |
| Bank Slope | Gentle |
| Erosion | None |
| Other | |

Text **FIELD MEASUREMENTS**

| | | |
|-----------|------------------------|----|
| pH | 7.42 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | | |

Text **FLOW OBSERVATIONS**

| | |
|--------|-----------------|
| Flow | Low to medium |
| Colour | Slightly turbid |
| Other | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW3DS | | | | |

Surface Water Field Sheet

| | |
|------------------|---------------------------|
| Site | SW3 US |
| Date | Mon, 17 Aug 2020, 1:12 pm |
| Sampling Officer | Tom Dewhurst |
| Sampling Method | Grab |

Detailed sample location description

Text ENVIRONMENTAL OBSERVATIONS

| | |
|------------|----------|
| Weather | Sunny |
| Vegetation | Pastural |
| Bank Slope | Minor |
| Erosion | None |
| Other | |

Text FIELD MEASUREMENTS

| | | |
|-----------|------------------------|----|
| pH | 7.4 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |

Text FLOW OBSERVATIONS

| | |
|--------|--------|
| Flow | Medium |
| Colour | Clear |
| Other | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW3US | | | | |

Surface Water Field Sheet

| | |
|--------------------------------------|--|
| Site | SW4 |
| Date | Mon, 17 Aug 2020, 2:40 pm |
| Sampling Officer | Tom Dewhurst |
| Sampling Method | Grab |
| Detailed sample location description | Fraser's 1 on downstream boundary of work area |

Text **ENVIRONMENTAL OBSERVATIONS**

Weather

Vegetation Riparian and woody weeds

Bank Slope Gentle

Erosion Minor

Other

Text **FIELD MEASUREMENTS**

pH 7.3

Checkbox Visible oil and grease No

Turbidity See lab results

Text **FLOW OBSERVATIONS**

Flow Low

Colour Clear

Other

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW4 | 1 | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|---|----|
| Site | SW5A | |
| Date | Mon, 17 Aug 2020, 12:48 pm | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | | |
| Bank Slope | | |
| Erosion | | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.8 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Medium to high | |
| Colour | Turbid | |
| Other | Excavator spreading topsoil at monitoring point at time of monitoring | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW5A | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|-----------------------------------|----|
| Site | SW6 | |
| Date | Mon, 17 Aug 2020, 11:29 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Pastural | |
| Bank Slope | Gentle | |
| Erosion | Moderate from agriculture | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.7 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low to medium | |
| Colour | Slightly turbid | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW6 | 1 | | | |

Surface Water Field Sheet

| | |
|------------------|----------------------------|
| Site | SW06US |
| Date | Mon, 17 Aug 2020, 11:39 am |
| Sampling Officer | Tom Dewhurst |
| Sampling Method | Grab |

Detailed sample location description

Text ENVIRONMENTAL OBSERVATIONS

| | |
|------------|--------------------------|
| Weather | Sunny |
| Vegetation | Riparian and woody weeds |
| Bank Slope | Gentle |
| Erosion | None |
| Other | |

Text FIELD MEASUREMENTS

| | | |
|-----------|------------------------|----|
| pH | 7.7 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |

Text FLOW OBSERVATIONS

| | |
|--------|-----------------|
| Flow | Medium flow |
| Colour | Slightly turbid |
| Other | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW6 US | 1 | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW7 | |
| Date | Mon, 17 Aug 2020, 12:16 pm | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Horsley Inlet (Downstream of work area) | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Riparian and woody weeds | |
| Bank Slope | minor | |
| Erosion | Slight | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 8.1 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW7 | 1 | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW7 US | |
| Date | Mon, 17 Aug 2020, 11:57 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Upstream of work area at Fill 14 | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Riparian Weeds | |
| Bank Slope | Moderate | |
| Erosion | Moderate | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 6.8 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW7 US | | | | |

Surface Water Field Sheet

| | |
|------------------|----------------------------|
| Site | SW08 DS |
| Date | Mon, 17 Aug 2020, 11:14 am |
| Sampling Officer | Tom Dewhurst |
| Sampling Method | Grab |

Detailed sample location description

Text ENVIRONMENTAL OBSERVATIONS

| | |
|------------|--------------------------|
| Weather | Sunny |
| Vegetation | Riparian and woody weeds |
| Bank Slope | Gentle |
| Erosion | None |
| Other | |

Text FIELD MEASUREMENTS

| | | |
|-----------|------------------------|----|
| pH | 7.6 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |

Text FLOW OBSERVATIONS

| | |
|--------|-------|
| Flow | Low |
| Colour | Clear |
| Other | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW8 DS | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW8US | |
| Date | Mon, 17 Aug 2020, 11:16 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Upstream boundary of work area at bridge 9 | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | riparian and woody weeds | |
| Bank Slope | Gentle | |
| Erosion | none | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.7 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW8 US | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW9 | |
| Date | Mon, 17 Aug 2020, 12:36 pm | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | upstream of Stapleton Ave | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Riparian and woody weeds | |
| Bank Slope | Gentle | |
| Erosion | None | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.9 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW9 | 1 | | | |

Attachment D, Laboratory results



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|--|-------------------------|--|
| Work Order | : EW2003725 | Page | : 1 of 5 |
| Client | : FULTON HOGAN PTY LTD | Laboratory | : Environmental Division NSW South Coast |
| Contact | : MR JAMES DIAMOND | Contact | : Glenn Davies |
| Address | : LEVEL 3 - 90 BOURKE ROAD ALEXANDRIA NSW, AUSTRALIA 2015 | Address | : 1/19 Ralph Black Dr, North Wollongong 2500 4/13 Geary Pl, North Nowra 2541 Australia NSW Australia |
| Telephone | : +61 02 8346 9400 | Telephone | : 02 42253125 |
| Project | : Albion Park Rail Bypass | Date Samples Received | : 17-Aug-2020 16:03 |
| Order number | : ---- | Date Analysis Commenced | : 18-Aug-2020 |
| C-O-C number | : ---- | Issue Date | : 24-Aug-2020 16:00 |
| Sampler | : ---- | | |
| Site | : ---- | | |
| Quote number | : EN/222 | | |
| No. of samples received | : 13 | | |
| No. of samples analysed | : 13 | | |



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: **Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| Signatories | Position | Accreditation Category |
|--------------|-------------------|------------------------------------|
| Ankit Joshi | Inorganic Chemist | Sydney Inorganics, Smithfield, NSW |
| Ashesh Patel | Senior Chemist | Sydney Inorganics, Smithfield, NSW |
| Ivan Taylor | Analyst | Sydney Inorganics, Smithfield, NSW |

Page : 2 of 5
Work Order : EW2003725
Client : FULTON HOGAN PTY LTD
Project : Albion Park Rail Bypass



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Analytical work for this work order will be conducted at ALS Sydney.

Page : 3 of 5
 Work Order : EW2003725
 Client : FULTON HOGAN PTY LTD
 Project : Albion Park Rail Bypass



Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | SW02US | SW02DS | SW03US | SW03DS | SW04 |
|---|------------|-----|------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| Client sampling date / time | | | | 17-Aug-2020 00:00 | 17-Aug-2020 00:00 | 17-Aug-2020 00:00 | 17-Aug-2020 00:00 | 17-Aug-2020 00:00 | |
| Compound | CAS Number | LOR | Unit | EW2003725-001 | EW2003725-002 | EW2003725-003 | EW2003725-004 | EW2003725-005 | |
| | | | | Result | Result | Result | Result | Result | |
| EA025: Total Suspended Solids dried at 104 ± 2°C | | | | | | | | | |
| Suspended Solids (SS) | --- | 5 | mg/L | 6 | <5 | 8 | 6 | <5 | |
| EA045: Turbidity | | | | | | | | | |
| Turbidity | --- | 0.1 | NTU | 10.5 | 9.9 | 7.5 | 7.8 | 6.4 | |

Page : 4 of 5
 Work Order : EW2003725
 Client : FULTON HOGAN PTY LTD
 Project : Albion Park Rail Bypass



Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | SW05A | SW06US | SW06DS | SW07 | SW08US |
|---|------------|--------|------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------|
| Client sampling date / time | | | | 17-Aug-2020 00:00 | 17-Aug-2020 00:00 | 17-Aug-2020 00:00 | 17-Aug-2020 00:00 | 17-Aug-2020 00:00 | |
| Compound | CAS Number | LOR | Unit | EW2003725-006 Result | EW2003725-007 Result | EW2003725-008 Result | EW2003725-009 Result | EW2003725-010 Result | |
| EA025: Total Suspended Solids dried at 104 ± 2°C | | | | | | | | | |
| Suspended Solids (SS) | --- | 5 | mg/L | 8 | 6 | 6 | 9 | <5 | |
| EA045: Turbidity | | | | | | | | | |
| Turbidity | --- | 0.1 | NTU | 2.5 | 4.49 | 4.99 | 3.24 | 2.38 | |
| EG020F: Dissolved Metals by ICP-MS | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.001 | mg/L | --- | --- | --- | --- | <0.001 | |
| Cadmium | 7440-43-9 | 0.0001 | mg/L | --- | --- | --- | --- | <0.0001 | |
| Chromium | 7440-47-3 | 0.001 | mg/L | --- | --- | --- | --- | <0.001 | |
| Copper | 7440-50-8 | 0.001 | mg/L | --- | --- | --- | --- | 0.003 | |
| Nickel | 7440-02-0 | 0.001 | mg/L | --- | --- | --- | --- | <0.001 | |
| Lead | 7439-92-1 | 0.001 | mg/L | --- | --- | --- | --- | <0.001 | |
| Zinc | 7440-66-6 | 0.005 | mg/L | --- | --- | --- | --- | <0.005 | |
| EG035F: Dissolved Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.0001 | mg/L | --- | --- | --- | --- | <0.0001 | |

Page : 5 of 5
 Work Order : EW2003725
 Client : FULTON HOGAN PTY LTD
 Project : Albion Park Rail Bypass



Analytical Results

| Sub-Matrix: WATER (Matrix: WATER) | | | | Client sample ID | SW08 | SW09 | SW07US | ---- | ---- |
|---|------------|--------|------|-------------------------|-------------------------|-------------------------|--------|-------|------|
| Client sampling date / time | | | | 17-Aug-2020 00:00 | 17-Aug-2020 00:00 | 17-Aug-2020 00:00 | ---- | ---- | |
| Compound | CAS Number | LOR | Unit | EW2003725-011 Result | EW2003725-012 Result | EW2003725-013 Result | ----- | ----- | |
| EA025: Total Suspended Solids dried at 104 ± 2°C | | | | | | | | | |
| Suspended Solids (SS) | --- | 5 | mg/L | 6 | 6 | 6 | ---- | ---- | |
| EA045: Turbidity | | | | | | | | | |
| Turbidity | --- | 0.1 | NTU | 2.19 | 3.51 | 2.91 | ---- | ---- | |
| EG020F: Dissolved Metals by ICP-MS | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- | |
| Cadmium | 7440-43-9 | 0.0001 | mg/L | <0.0001 | ---- | ---- | ---- | ---- | |
| Chromium | 7440-47-3 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- | |
| Copper | 7440-50-8 | 0.001 | mg/L | 0.002 | ---- | ---- | ---- | ---- | |
| Nickel | 7440-02-0 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- | |
| Lead | 7439-92-1 | 0.001 | mg/L | <0.001 | ---- | ---- | ---- | ---- | |
| Zinc | 7440-66-6 | 0.005 | mg/L | 0.005 | ---- | ---- | ---- | ---- | |
| EG035F: Dissolved Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.0001 | mg/L | <0.0001 | ---- | ---- | ---- | ---- | |

Surface Water Monitoring

Construction Event 21

The purpose of water quality monitoring during the construction phase is to determine impacts resulting from construction of the project only (i.e. road construction) and no other unrelated sources, such as agricultural operations. The potential impacts from road construction activities will most likely result from erosion and sediment control loss and spills.

Date of Monitoring: 24th September 2020

Rainfall Monitoring is shown below.

| | FH Northern AWS | FH Southern AWS | Albion Park Airport AWS |
|------------|--------------------|--------------------|-------------------------|
| Date: | Rainfall Received: | Rainfall Received: | Rainfall Received: |
| 20/09/2020 | 1.9mm | 2.8mm | 4.6mm |
| 21/09/2020 | 7.6mm | 12.9mm | 5.2mm |
| 22/09/2020 | 0.0mm | 0.0mm | 0.0mm |
| 23/09/2020 | 1.1mm | 1mm | 0.0mm |

Scope and Limitations

During the construction phase of the project, surface water quality will be monitored at the same locations as the baseline-monitoring program. Surface water quality will be monitored at eight locations (i.e. SW2-SW4, SW5A, SW6 to SW9).

In addition to the eight surface water monitoring locations identified for the baseline program (WSP, 2018), surface water quality will be monitored downstream of the bridge works at Duck Creek (i.e. SW2DS) and upstream of the bridge works at Macquarie Rivulet (i.e. SW3US) following feedback from DPI Fisheries. As a result, there will now be a total of 10 construction surface water quality monitoring locations for the project.

This report presents the information collected during the monitoring event with some discussion on field observations and results with respect to upstream vs downstream conditions.

Field Programme

Surface water sampling was undertaken at all surface locations where flow conditions allowed a representative sample to be taken. This monthly water sampling event was conducted in accordance with the sampling program and protocols provided in:

- 2018, Baseline Monitoring Program – Albion Park Rail Bypass;
- 2018 Appendix B4 Soil and Water Management Sub-plan Albion Park Rail bypass (Stage 2 – Princes Motorway between Yallah and Oak Flats) Appendix B Construction water quality monitoring program

Field parameter for Oil and grease of a visual inspections confirmed no impact.

Water samples were submitted to a NATA certified testing laboratory (Australian Laboratory services (ALS)) to be analysed for:

- Total suspended solids; and

- pH.

Weather Monitoring

The project uses the Bureau of Meteorology to monitor weather and onsite Automatic Weather Stations to monitor rainfall.

Surface water sampling results

Results for the water quality monitoring event are located as attachments at the end of this document, they are:

- Attachment A, Location maps
- Attachment B, Tabulated results
- Attachment C, Field sheets
- Attachment D, Laboratory results

Surface water locations

The upstream location represents the 'reference' (un-impacted) site while the down-stream locations represent the 'test' sites (potentially impacted sites during construction). By comparing upstream water quality with down-stream water quality, potential impacts from construction are assessed.

Table 1 Surface water locations within specific surface water bodies

| Surface water | Upstream of Alignment (reference site) | Downstream of Alignment (test site) |
|----------------------------|--|-------------------------------------|
| Brooks Creek | SW1 | - |
| Duck Creek | SW2 | SW2DS |
| Macquarie Rivulet | SW3US and SW5A | SW3 |
| Frasers Creek | SW4 | - |
| Frasers Creek | - | SW6 |
| Horsley Inlet | - | SW7 |
| Frasers Creek | - | SW8 |
| Tributary of Frasers Creek | SW9 | - |

Results summary

In the week prior to the monitoring event we received between 17-22mm. All creeks were noted to have clear water and low to medium flow with exception of SW2 which had no flow. Consequently, there were no observed construction impacts noted during this monitoring event assessing upstream against downstream conditions. All field results had TSS results below the trigger level and pH results were consistent in range with the exception of SW7 that had a pH reading of 8.1 and SW8 that had a pH reading of 8.0 which is slightly higher than the trigger level however still within the ANZECC/ARMCANZ (2000) guidelines for pH being between 6.5 and 8.5.

Brooks Creek: Removed from monitoring program as not influenced by construction works.

Duck Creek: Showed no impacts from construction. The creek had no flow at SW2 and very low flow at SW2DS.

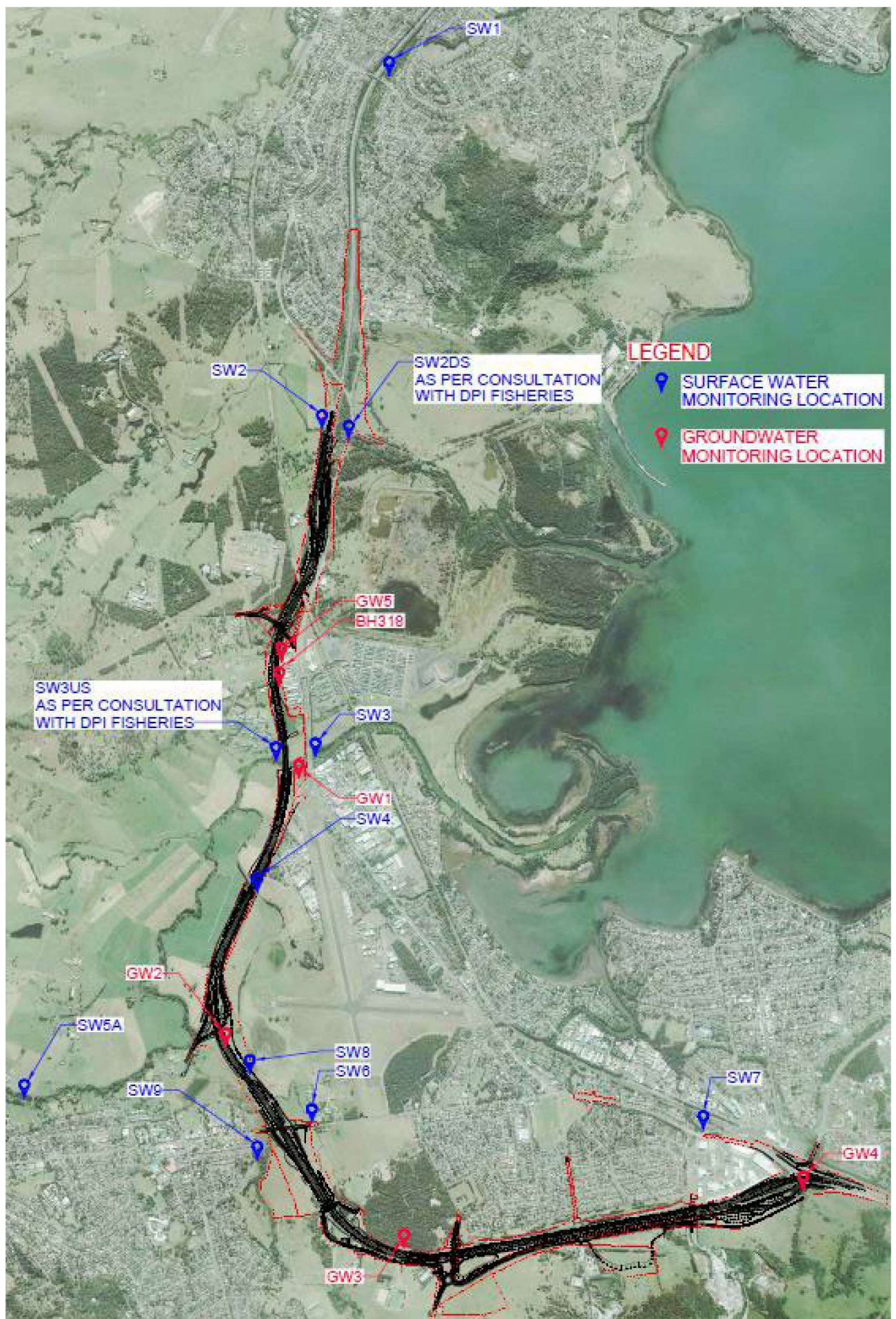
Macquarie Rivulet: Showed no impacts from construction. The creek had medium flow at SW3US and SW3. SW5A was noted to have low flow.

Frasers Creek: Showed no impacts from construction. The creek had low flow at all monitoring locations.

Horsley Inlet: Showed no impacts from construction. The creek had very low flow.

Frasers Creek Tributary: Showed no impacts from construction. The creek had low flow.

Attachment A, Location maps



Attachment B, Tabulated results

| No. | Date | Time | pH | Total Suspended Solids (mg/L) |
|-------|------------|---------|-----|-------------------------------|
| SW1 | 24/09/2020 | N/A | N/A | N/A |
| SW2 | 24/09/2020 | 10:40am | - | - |
| SW2DS | 24/09/2020 | 10:37am | 7.6 | <5 |
| SW3US | 24/09/2020 | 10:59am | 7.5 | 8 |
| SW3 | 24/09/2020 | 10:53am | 7.5 | 6 |
| SW4 | 24/09/2020 | 9:23am | 7.6 | <5 |
| SW5A | 24/09/2020 | 9:09am | 7.9 | 8 |
| SW6 | 24/09/2020 | 11:33am | 7.7 | 6 |
| SW7 | 24/09/2020 | 8:24am | 8.3 | 9 |
| SW8 | 24/09/2020 | 11:13am | 8.0 | 6 |
| SW9 | 24/09/2020 | 8:51am | 7.8 | 6 |

Attachment C, Field sheets

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW2DS | |
| Date | Thu, 24 Sep 2020, 10:37 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Downstream of boundary at Duck creek | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Riparian weeds | |
| Bank Slope | Gentle | |
| Erosion | None | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.6 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Very low | |
| Colour | Clear | |
| Other | Upstream not flowing | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW2DS | | | | |

Surface Water Field Sheet

| | | | | |
|--------------------------------------|--|---------------|-----------|----------|
| Site | SW2US | | | |
| Date | Thu, 24 Sep 2020, 10:40 am | | | |
| Sampling Officer | Tom Dewhurst | | | |
| Sampling Method | | | | |
| Detailed sample location description | Upstream of boundary at duck creek | | | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | | | |
| Weather | Sunny | | | |
| Vegetation | Pasturl | | | |
| Bank Slope | Minor | | | |
| Erosion | Minor | | | |
| Other | | | | |
| Text | <u>FIELD MEASUREMENTS</u> | | | |
| pH | No sample taken | | | |
| Checkbox | Visible oil and grease - | | | |
| Turbidity | Creek not running | | | |
| Text | <u>FLOW OBSERVATIONS</u> | | | |
| Flow | | | | |
| Colour | | | | |
| Other | | | | |
| Sample Information | | | | |
| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
| | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW3 DS | |
| Date | Thu, 24 Sep 2020, 10:53 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Downstream of work area at Macquarie rivuley | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Pastural | |
| Bank Slope | Gentle | |
| Erosion | Minor | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.5 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Medium | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW3DS | 1 | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|---|----|
| Site | SW3US | |
| Date | Thu, 24 Sep 2020, 10:59 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Upstream of boundary of work at Macquarie rivulet | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Pastural | |
| Bank Slope | Gentle | |
| Erosion | Minor | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.5 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Medium | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SWUS | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|-----------------------------------|----|
| Site | SW4 | |
| Date | Thu, 24 Sep 2020, 9:23 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Pastural | |
| Bank Slope | Gentle | |
| Erosion | Minor | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.6 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear | |
| Other | Algae present | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW4 | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW5A | |
| Date | Thu, 24 Sep 2020, 9:09 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Under bridge on Calderwood rd | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Pastural | |
| Bank Slope | Minir | |
| Erosion | Moderate | |
| Other | Work done around monitoring point in bringing in material. | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.9 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW5A | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|---|----|
| Site | SW6DS | |
| Date | Thu, 24 Sep 2020, 11:33 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Downstream of stapeltons bridge Frazers creek | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Pastural | |
| Bank Slope | Gentle | |
| Erosion | Sight | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 7.7 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW6 DS | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW6 US | |
| Date | Thu, 24 Sep 2020, 8:36 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Up stream of Frasers creek at boundary | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Riparian | |
| Bank Slope | Gentle | |
| Erosion | Minor | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 8.0 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW6US | | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW7 | |
| Date | Thu, 24 Sep 2020, 8:24 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Downstream of work area Horsley inlet | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Riparian and woody weeds | |
| Bank Slope | Gentle | |
| Erosion | Minor | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 8.3 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Very low | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW07 | 1 | | | |

Surface Water Field Sheet

| | | |
|--------------------------------------|--|----|
| Site | SW8 DS | |
| Date | Thu, 24 Sep 2020, 11:13 am | |
| Sampling Officer | Tom Dewhurst | |
| Sampling Method | Grab | |
| Detailed sample location description | Downstream of work at bridge9 | |
| Text | <u>ENVIRONMENTAL OBSERVATIONS</u> | |
| Weather | Sunny | |
| Vegetation | Riparian and woody weeds | |
| Bank Slope | Gentle | |
| Erosion | Minor | |
| Other | | |
| Text | <u>FIELD MEASUREMENTS</u> | |
| pH | 8.0 | |
| Checkbox | Visible oil and grease | No |
| Turbidity | See lab results | |
| Text | <u>FLOW OBSERVATIONS</u> | |
| Flow | Low | |
| Colour | Clear | |
| Other | | |

Sample Information

| Sample ID | No. of Containers | Preservatives | Duplicate | Comments |
|-----------|-------------------|---------------|-----------|----------|
| SW8DS | 1 | | | |