MEMO

To:	Southern Link Property Limited	Ref:	25055.2
Cc:			
From:	Will Sturch, Mark Hamer, Bryony Miller, Simon Bloomberg		
Date:	05 June, 2026		
Subject:	Southern Link Inland Port – Stormwater Monitoring Plan		

1 Introduction

Southern Link Property Ltd. proposes to develop and operate the Southern Link Inland Port (SLIP) at 270–292 Dukes Road North, Mosgiel, under the Fast-track Approvals Act 2024 (Figure 1). As part of the application, e3Scientific was engaged to provide a freshwater ecological impact assessment (FEcIA) to characterise the ecological value of Silver Stream and assess the potential and actual effects of the proposed development and operation of SLIP on the nearby freshwater values (e3Scientific, 2026). The effects considered within this report were primarily related to stormwater discharge from the site.

The proposed development includes an inland port, bulk storage, and logistics hub, with a high proportion of impervious surfaces such as large warehouses and sealed yard areas that will generate runoff. Stormwater from the developed site has been designed by Stantec to be directed through treatment and attenuation systems, including catchpits, gross or universal pollutant traps (GPTs/UPTs), vegetated conveyance, and a large attenuation pond, prior to discharge to Silver Stream (Stantec, 2026a).

These treatment measures are expected to significantly reduce the potential for adverse effects during construction- and operational-phase stormwater discharges to the receiving waterway, Silver Stream. Without appropriate stormwater treatment and attenuation, nutrient and contaminant inputs, sediment effects, and thermal/oxygen stress could adversely affect the high ecological values of Silver Stream.

Utilising the Environmental Institute of Australia and New Zealand (EIANZ, 2018) ecological impact assessment guidelines and Stantec's stormwater treatment design, e3Scientific (2026) determined that the overall level of effect from the stormwater discharge to Silver Stream was "Low", provided the stormwater treatment systems function as designed and can therefore maintain water quality in Silver Stream to current baseline conditions. However, in order to provide an early warning system regarding any treatment issues or weaknesses, a stormwater monitoring plan (SMP) was proposed to monitor the treatment systems (catchpits, GPT/UPT's and attenuation pond) and ensure they are operating effectively. The FEcIA (e3Scientific, 2026) recommended a suite of initial analytes and associated monitoring frequencies to ensure stormwater treatment systems were effective and to support the development of the SMP. In May 2026, Stantec (2026b) undertook a technical assessment of the likely key stormwater contaminants and loads generated from the SLIP development and operation, to further refine and support the development of the SMP.

This memo incorporates the Stantec technical assessment of stormwater contaminants (Stantec, 2026b) alongside FEcIA monitoring recommendations (e3Scientific, 2026) to provide a framework SMP for the site. Please note this SMP supersedes the monitoring recommendations provided in the FEcIA (e3Scientific, 2026).

This SMP also assumes that sources of contamination from HAIL activities on the site, as determined in the preliminary site investigation (PSI) (e3Scientific, 2025) and the subsequent detailed site investigation (DSI) (ECOtago, 2026), have undergone remediation prior to site construction and/or development, as is detailed in the DSI and associated Contaminated Site Management Plan (CSMP) prepared by ECOtago.

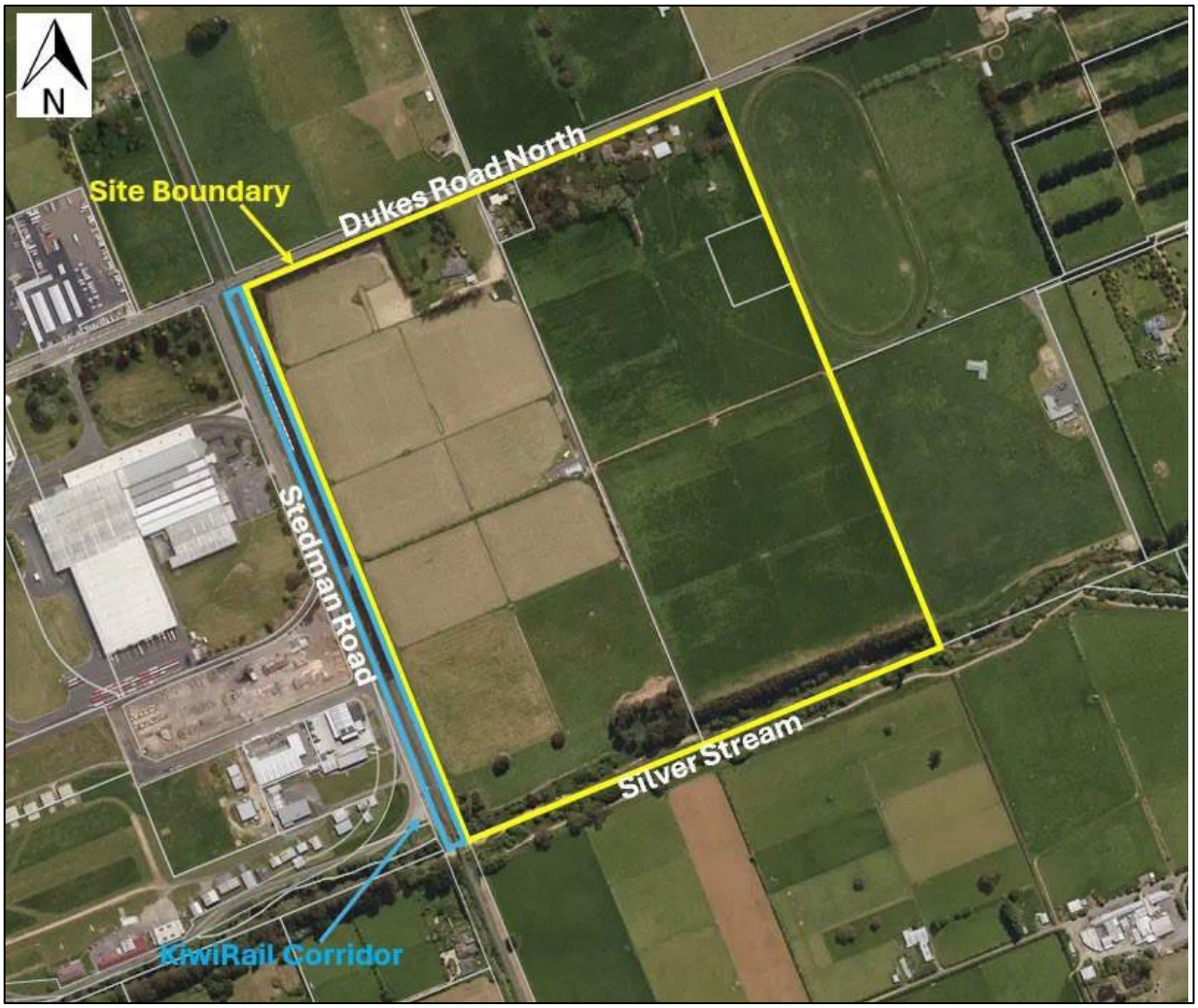

Figure 1: SLIP project area overview.

2 Sampling Rationale

The following section outlines the rationale for sampling parameters, frequency, and location to monitor the effectiveness of the proposed stormwater treatment system and the discharge to Silver Stream. The objective of the stormwater monitoring is to validate that the existing water quality is maintained despite the addition of a stormwater discharge.

2.1 Assessment of Stormwater Contaminants of Concern

A PSI (e3Scientific, 2025) reported possible sources of contamination from HAIL activities. It is understood that prior to development of the site, these areas will have undergone remediation via offsite disposal to remove all possible contamination. Thus, e3Scientific (2026) determined that without additional knowledge of the confirmed site-specific activities, a precautionary approach to determining the potential

contaminants of concern was appropriate. Thus, a broad suite of water quality analytes commonly associated with construction and industrial activities were proposed to be monitored to establish baseline conditions (Table 3; e3Scientific, 2026). Similarly, Stantec (2026b) recommended a robust analysis suite to assess the baseline prior to stormwater being discharged from the site. Additional water quality parameters currently monitored by Port Otago at Port Chalmers are the suite of semi volatile organic compounds (SVOC) that includes pesticides. Although SVOC concentrations at Port Otago are predominantly reported less than laboratory reporting limits (SLR Consulting New Zealand, 2026), this analysis suite would be relevant to test for in the event of a tradewaste overflow occurring.

Therefore, the suite of water quality parameters for the SMP has been refined by incorporating analytical testing suites from existing Port Otago stormwater monitoring programmes and the potential activities occurring on site (Table 1). Alterations to the original suite recommended in Table 3 of the FEcIA report (e3Scientific, 2026) include:

- Removal of parameters associated with sodium adsorption ratio (SAR);
- Removal of continuous temperature monitoring as the attenuation pond is now planned to be empty between rainfall events; and
- The addition of SVOC testing associated with tradewaste overflow events.

Table 1 below sets out the updated suite of analytes proposed to be monitored during water quality surveys. Parameters measured include total recoverable metals, nutrients, petroleum hydrocarbons, and faecal bacteria. These parameters are currently monitored by Port Otago for the operation of a commercial port, and relate to industrial activities, such as vehicle tyres and brakes, roofs and guttering, concrete and asphalt, along with general earthworks associated sediment risks (SLR Consulting New Zealand, 2026). For each parameter, the associated ORC and / or the Australian & New Zealand Guidelines for Fresh & Marine Water quality (ANZG, 2018a) ecological water quality guideline is provided, where available.

Key parameters included in Table 1 will be used as triggers associated with monitoring the stormwater discharge. Other parameters, such as pH, dissolved oxygen, *E. coli* etc, are included to support understanding of physico-chemical conditions and mahinga kai collection but will not be used as specific triggers associated with the construction or operation of the site. Heavy metals should be assessed for both total and dissolved fractions; however, the provided guideline is to be assessed against the dissolved fraction.

The adoption of guidelines for dissolved copper and zinc will be subject to review pending results of baseline sampling. The laboratory detection limit for these parameters approaches the 99% guideline value for acute and chronic toxicity and may not be suitable pending results of baseline monitoring (Gadd, *et al.*, 2024). Dissolved non-purgeable organic carbon (DNPOC), dissolved calcium, and dissolved magnesium are to be analysed for toxicity calculation factor for dissolved copper and zinc.

Table 1: Water quality parameters and/or analytes recommended to be monitored and their corresponding guideline value. Key parameters are in bold.

Parameter/Analytes	Guideline Values
In field parameters	
pH	6.5 – 8.5 [1]
Dissolved Oxygen (%)	Below 81 / Above 101 [4]
Turbidity (NTU)	1 – 20 [1]
Conductivity (µS/cm)	116 [4]
Water temperature	Below 25° C or within 3° C of upstream [3]
Analysed by certified laboratory	
Total Suspended Solids (mg/L)	Increase of 5 mg/L from mean baseline level [3]
Arsenic (mg/L)	0.001 [1]
Cadmium (mg/L)	0.00006 [1]
Chromium (mg/L)	0.00095 [1]
Copper (mg/L)	Chronic = 0.0005 and Acute = 0.0013 [5]
Lead (mg/L)	0.001 [1]
Nickel (mg/L)	0.0008 [1]
Zinc (mg/L)	Chronic = 0.0019; Acute = 0.024 [5]
Mercury (mg/L)	0.095 [1]
Dissolved non-purgeable organic carbon (DNPOC) [6]	n/a
Dissolved magnesium (mg/L) [6]	n/a
Dissolved calcium (mg/L) [6]	n/a
Total Kjeldahl Nitrogen (mg/L)	n/a
Total Nitrogen (mg/L)	0.913 [4]
Total Ammoniacal-N (mg/L)	0.01 [4] – 0.24 [1*]
Nitrite-N (mg/L)	n/a
Nitrate-N (mg/L)	0.265 [4] - 1.0 [1]
Dissolved Reactive Phosphorus (mg/L)	0.008
Total Phosphorus	0.014 [4]
Total Coliforms (MPN/100mL)	n/a
Escherichia coli (MPN/100mL)	130 NPS-FM [2]
Total Petroleum Hydrocarbons (TPH)	n/a; If TPH monitoring results are greater than detection limit, further analysis of specific hydrocarbons (e.g. BTEX/PAHs) is required for assessment against ANZG (2018) water quality guidelines for specific hydrocarbon [1]

[1] ANZG (2018a) DGV water quality guidelines for 99% species protection.

[2] NPS-FM (2025)

[3] Long-term water quality guidelines for the protection of aquatic life (ORC, 2016)

[4] Physical and chemical stressors for cool, dry, low-elevation New Zealand stream (McDowell, Snelder, & Cox, 2013)

[5] 95% species protection (Gadd, Hickey, & Snelder, 2024), subject to review pending baseline monitoring

[6] Measured for toxicity calculation factor for copper and zinc, not for assessment of effects

* Calculated based on pH and temperature

n/a = not applicable (no guideline values).

2.1.1 Monitoring Locations

Samples of surface water from Silver Stream will be collected from three locations

- Upstream (10 m upstream of the site boundary)
    - Reference / control site
- Stormwater discharge outlet
    - Treated discharge prior to mixing with Silver Stream
- Downstream (50 m mixing zone below outlet)
    - Compliance point

ORC provides guidance on the mixing zone which is to be 10 times the wetted width (ORC, 2023). At this location the wetted width was measured to be 5 m wide and therefore, the mixing zone is considered to be 50 m for this site.

2.1.2 Baseline

Prior to site development, baseline water quality monitoring will be completed within Silver Stream. This will involve collecting samples from the upstream and downstream sites over a minimum of four sampling events, covering differing flow regimes throughout the year to broadly characterise baseline water quality in the stream. The upstream site will function as a reference site. The downstream or mixing zone site will enable any existing differences in water quality between the two sites to be characterised prior to stormwater discharge occurring. Samples will be tested for the parameters in Table 1.

Baseline sampling will form the basis for establishing a site-specific trigger value to monitor the SLIP stormwater discharge into Silver Stream.

2.1.3 Construction Stages

During and post site development, the stormwater treatment systems identified and proposed by Stantec (2026a) will actively intercept, manage and treat stormwater prior to discharging to Silver Stream. For smaller rainfall events, the attenuation pond is large and has reasonably short residence times, with 12 hours or less of discharge to remove stormwater from the pond[1]. Discharges to Silver Stream will be intermittent and only associated with rainfall events (Stantec 2026a).

[1] During regular rainfall events the attenuation pond is expected to hold various low levels of water which will be discharged over a 12-24 hour time period, after which time it will return to a grassed area.

During site development (i.e. Stages 1, 2 and 3), quarterly first flush water quality monitoring is proposed. First flush sampling is the collection of water quality samples from the initial volume of stormwater runoff (see Section 4). The first flush is expected to carry the highest contaminant concentrations in the discharge. These samples shall be analysed for the parameters in Table 1. First flush sampling constitutes a greater than 5 mm rainfall event within 24 hours (as recorded at Mosgiel airport), after a period of 5 dry days, provided water leaves the attenuation pond and discharges to Silver Stream. The first flush sample should be taken as soon as practicable after commencement of flow from the stormwater treatment system.

Monitoring will take place at three sites within Silver Stream: upstream (reference) site, at the discharge point prior to entering Silver Stream, and a downstream site within 50 m of the discharge point (mixing zone). During stage 1 and 2, the expected risk of contamination is generally associated with sediment from the construction of the site. During stage 3, the expected risk of contamination is associated to a greater extent with operational activities and to a lesser extent any ongoing construction.

Once fully operational (beyond completion of stage 3), water from the washpad/truckwash area is to be directed to trade waste; however, for large storm events (design criteria of greater than the 1 in 10 year rainfall), the container washbay wastewater system overflow will discharge via an overland flow path to the attenuation pond. This could add additional contaminants to the attenuation pond; however, Stantec (2026b) consider this risk to be low due to a significant first flush of contaminants into the wastewater system occurring, prior to any overflow.

If a large storm event (defined as a flow increase >1 m^3/s as measured at the Silver Stream @ Gordon Rd) resulted in overland flow from the washpad/truckwash area, water quality monitoring (covering Table 1 parameters with the addition of semivolatile organic compounds (SVOC) analysis) will be completed at the three sites (i.e., upstream, discharge, and downstream) as soon as is practicably safe after the overflow event.

2.1.4 Site Operation

When the site is operational without any active construction or development, ongoing assessment of the first flush water quality is proposed on a quarterly basis (e.g. summer (December-February), autumn (March-May), winter (June-August), spring (September-

November)) for the life of the consent. The analytical testing suite is that presented in Table 1.

2.2 Ecological Monitoring

Aquatic Habitat and Macroinvertebrate Surveys

Aquatic habitat and macroinvertebrate surveys at the upstream and downstream sites assessed in the FEcIA (e3Scientific, 2026) should be repeated annually in spring (September to November) during the construction phases of the project. This will help confirm that earthworks are being managed effectively and that the ecology of Silver Stream remains intact. Surveys should be undertaken consistently during spring each year to support comparison between results and minimise seasonal variability. This timing is recommended because it reflects winter and spring stormwater inputs to Silver Stream.

Kanakana/Lamprey Surveys

Additionally, a kanakana/lamprey habitat survey should be undertaken between the upstream (reference) and downstream (mixing zone) sites before Stage 1 construction begins (i.e., before construction of the attenuation pond). If habitat and kanakana are found then a brief kanakana management plan should be developed with surveys continuing every two years during construction monitoring, ceasing once construction is complete. The timing of the baseline survey should aim for spring, summer or autumn months. If habitat is identified, targeted spot fishing for juveniles should be undertaken in accordance with NIWA (2024) methods, with kanakana numbers recorded and entered into the New Zealand Freshwater Fish Database (NZFFD). This monitoring and associated management plan is intended to confirm that if kanakana are found adjacent to the site, or within the 50 m mixing zone of the stormwater discharge, their habitat remains intact during site works for this taonga species and supports a greater understanding of kanakana population and abundance in Silver Stream. The work should be undertaken by, or in partnership with, local iwi, and the findings provided to the Department of Conservation.

These monitoring surveys will be included in the annual monitoring report provided to ORC.

2.3 Sediment Monitoring

Sediment monitoring will be completed during construction monitoring when either:

1. Deposited sediment is observed at the discharge or downstream mixing zone

site during the annual ecological survey.

2. Fine sediment is observed deposited in the stream at the discharge or downstream site during quarterly stormwater monitoring, including through sampling photographs.

Petroleum hydrocarbons are a potential stormwater contaminant that are toxic to aquatic life due to affecting aquatic organism oxygen uptake. Heavy metals from truck brakes, tyres and roof materials are toxic to aquatic life and can be bound to deposited sediments. If not managed on-site effectively sediment from open ground during works can smother streambed habitat if it makes its way to waterways.

If deposited sediment is observed at the discharge or downstream mixing zone site per the criteria above (1-2), a minimum of two samples should be taken and tested for particle size, heavy metals, semivolatile organic compounds (SVOC), and a nutrient suite.

Results from this monitoring survey will be assessed against relevant ANZG (2018b) sediment ecological guidelines and included in the annual monitoring report provided to ORC. If results show exceedances of these sediment guidelines, a review of the sediment and erosion practices and stormwater treatment will be undertaken within 1 month of these findings, with results and planned on-site improvements provided to ORC.

3 Stormwater Monitoring Plan

The following sections outline the monitoring frequency proposed before development begins (baseline), during construction, and during site operation at the SLIP.

Sampling and processing of water quality samples will follow best practice as defined by NEMS (2019). A reporting schedule and survey summary is provided in Section 5 (Table 3), and approximate locations of the monitoring sites are provided in Figure 2.

Figure 2: Approximate location of monitoring locations.

3.1 Baseline Monitoring

As described in e3Scientific (2026), baseline and stormwater quality monitoring of Silver Stream is needed to assess the effectiveness of the proposed stormwater treatment measures. This monitoring will establish baseline conditions against which construction and operation-phase results can be compared, helping to confirm whether the treatment system is performing as intended.

The following baseline monitoring is proposed:

1. Water quality sampling during a minimum of four events at different stream flows.
    a) During each event, samples will be collected at two sites (i.e., Upstream, Downstream).
    b) Water quality samples from all events will be tested for parameters included in Table 1. Results will then be compiled to be used as the baseline data set, establish site-specific triggers, and included in annual monitoring reporting.

2. The ecological survey completed during the FEcIA (e3Scientific, 2026) will be utilised as the baseline ecological survey for comparison with future ecological monitoring data. Note: relatively low percentage of fine sediment was observed during the baseline survey (15% sand, no silt, interspersed between gravels).
3. A kanakana/lamprey baseline habitat survey is to be completed within the reach of stream between the upstream and downstream sites, if habitat is found this should be spot fished in alignment with lamprey fishing guidelines NIWA (2024).
    a) Habitat locations and kanakana numbers found will be recorded in a short kanakana management plan[2] and data will be entered into the NZFFD, and provided to DOC.
    b) This survey should be completed by, or in conjunction with, local iwi.
    c) If kanakana are not found within the baseline survey, then no management plan or further surveys are required.

3.2 Construction Stage

Construction of the site will occur over three stages, during which site use and erosion and sediment controls will vary. The proposed construction monitoring will occur when any area of the site is undergoing active construction or development during that 12-month period.

Construction monitoring includes stormwater, ecological, and sediment monitoring.

To monitor stormwater quality during site construction, the following is proposed:

1. First flush sampling will occur quarterly (4 times in a year, once during every 3 month period[3]) at three sites in Silver Stream. The upstream and downstream sites will be located in the same location as those used in the baseline survey and in the FEcIA and be tested for the parameters in Table 1. The discharge sampling location will be GPS'd during the first sampling event and included in the first annual report.
    a) Samples will aim to be collected during the first rainfall of > 5 mm after a period of 5 dry days (but ideally 10 days or more) so that sampling reflects worst-case scenario as contaminants build up higher

[2] The kanakana management plan requirements are detailed further in Section 3.2 and 4.3.
[3] Assuming a first flush event occurs every 3 months. If this is not the case, 4 sampling events should still be collected annually during a first flush event.

concentrations between events.

b) During each sampling event, a photograph should be taken of the stream at each site to maintain a record of site conditions.

c) Results from these sampling events will be provided to ORC in a digital tabulated format (e.g., xlsx, csv) within 30 days of receiving them from the laboratory.

2. During construction stage, ecological monitoring will be completed annually. Aquatic habitat and macroinvertebrate surveys will be completed at the same upstream and downstream survey sites assessed in the FEcIA.
    a) Ecological monitoring will be replicated annually in spring (September to November) until the completion of construction.
    b) If deposited sediment is observed at the stormwater discharge or downstream site this will be sampled and tested for heavy metals, semivolatile organic compounds (SVOC), and a nutrient suite. If results show exceedances of the sediment guidelines for protection of ecosystems, a review of the sediment and erosion practices and stormwater treatment will be undertaken within 1 month of these findings and results and planned on-site improvements provided to ORC.
3. If kanakana are observed during the baseline survey, a kanakana/lamprey habitat survey is to be completed every two years (biennially) during the construction stage as detailed in the kanakana management plan (see Section 3.1).
    a) Survey findings to be provided in the annual monitoring report to ORC.

3.3 Site Operation

To monitor potential stormwater impacts during the ongoing operation of the site, when construction is either paused for a 12-month period or is fully completed, the following monitoring is proposed:

1. The stormwater monitoring completed during the construction stage is proposed to continue. This includes quarterly first flush sampling, (e.g. summer (Dec-Feb), autumn (March-May), Winter (June-Aug), spring (Sept-Nov)), for the life of the consent.
2. Stormwater monitoring should also be completed (at any time) as soon as is practically safe following a large storm event (flow increase >1 m^3/s as measured at the Silver Stream @ Gordon Rd) that has resulted in any overland flow from the washpad/truckwash area and include an analysis of the SVOC suite.
3. After one year of testing the Table 1 parameters at the operational site, if no construction is planned to occur on the site during the next 12-month period, a review of monitoring parameters should be undertaken and included in the annual report to ORC. This should include a review of activities taking place on the site during operation, the results of prior monitoring, and any recommendations for changes to the monitoring parameters. If any parameters have been found to be elevated (i.e. near to, or exceeding ecological guidelines), monitoring should continue for those parameters. Stantec (2026b) proposed that total suspended solids (TSS), total and dissolved copper, total and dissolved zinc, and total petroleum hydrocarbons (TPH) should always be monitored. Any updates or changes to the stormwater monitoring suite (Table 1) will require approval from ORC.
4. If new activities are planned on the site, these should be included in the next annual report alongside a review of the subset of stormwater monitoring parameters.

4 Monitoring Triggers and Response

4.1 Stormwater

To monitor the quality of stormwater discharged from SLIP to Silver Stream, site-specific trigger limits should be established for selected analytes shown in bold in Table 1. Other parameters, such as pH, dissolved oxygen, and *E. coli*, are included to support understanding of Silver Stream's physico-chemical condition and mahinga kai values but are not proposed as compliance triggers for construction or operation. A summary of the proposed triggers is provided in Table 2.

Site-specific trigger limits will be developed for each key analyte (bold in Table 1) once baseline sampling is complete. The proposed process for developing site-specific trigger limits is outlined below:

1. A minimum of four baseline samples will be collected from the upstream reference site and downstream mixing zone site to assess natural variability in Silver Stream.
2. Following baseline sampling, the mean concentration for each analyte will be calculated separately for both sites. The baseline relationship will then be established between mean values of the upstream reference and downstream mixing zone site which will be used as a 'baseline modification factor'. For example, if the upstream reference and downstream reference site report the same concentration mean then the baseline modification factor would be 0%.
3. A preliminary trigger limit will then be set for the downstream mixing zone site at 10% above the reported concentration at the upstream reference site, plus the baseline modification factor.

Monitoring triggers and associated responses during both construction (Section 3.2) and operation (Section 3.3) are provided in Table 2.

Table 2: Summary of water quality monitoring triggers and associated response.

	Trigger	Response
Trigger 1	Quarterly water quality monitoring at the downstream mixing zone site exceeds the site-specific trigger limit (e.g., more than 10% above the reported upstream concentration plus the baseline modification factor) for a monitored analyte. The downstream result also exceeds the corresponding ecological guideline (Table 1; e.g., 99% species protection guideline (ANZG, 2018a)).	Undertake an audit and review of stormwater catchment activities and the cleaning and maintenance schedule for the stormwater infrastructure. Carry out one additional stormwater monitoring event at the next rainfall event greater than 5 mm in 24 hours.
Trigger 2	During the follow-up monitoring event required under Trigger 1, results at the downstream mixing zone site again exceed both the established limit for the contaminant of concern and the corresponding ecological guideline (Table 1).	Undertake a further review to identify the cause of the repeated exceedance. Provide a response plan to ORC within 20 working days of receiving the laboratory results. The plan should include a review of the relevant stormwater treatment measures and the likely source of the contaminant.
Trigger 3	The next quarterly water quality monitoring event shows that the proposed trigger and corresponding ecological guideline (Table 1) has been exceeded again in a consecutive stormwater sample at the downstream mixing zone site.	Undertake a further review of the stormwater treatment system and its design by a suitably qualified engineer to identify the cause of the repeated contaminant exceedances into Silver Stream and any required improvements. Also complete a one-off ecological monitoring survey (refer Section 3.2) to assess the ecological effects of the repeated elevated water quality results. The response to the ecological monitoring will be as set out in Section 4.3. Outcomes of these assessments are to be sent to ORC within 30 days of receiving the laboratory results.

4.2 Sediment

Sediment monitoring will be completed during construction when the trigger criteria outlined in Section 2.3 are met. Sediment results should be interpreted using the sediment quality guidelines and associated protocols in the current ANZG sediment

guidance (ANZG, 2018b). The ANZG guidelines provide two threshold levels for predicting biological effects:

- DGV: the default guideline value or lower threshold indicating a *possible* biological effect.
- GV-High: the upper guideline values or higher threshold which indicates a *probable* biological effect.

Results and interpretation of sediment monitoring will be completed by a suitable qualified environmental practitioner and be included within the annual report provided as per Section 6.

If any sediment results are above GV-High ANZG (2018b) sediment guidelines, the following responses will occur:

1. A minimum of two sediment samples should be taken at the nearest observed sediment deposition location, near to or upstream from, the Upstream (Reference) site. These samples should be tested for the same parameters and if results show similar exceedances, no further action is required. If the upstream results do not show the same exceedances, then the actions in points 2-5 are required.
2. A review of the most recent stormwater results, stormwater cleaning schedules and catchment cleaning procedures at the location of the sediment exceedance.
3. If it is determined during this review that the elevated deposited fine sediment or contaminant concentrations are a direct result of activities conducted by Southern Link Property Ltd, additional water quality sampling will take place at the outlet with the exceedance.
4. Southern Link Property Ltd shall prepare a report which includes the findings from Step 1, Step 2, and includes details of on-site activities that are resulting in the deposition of contaminants into the stream. The report shall also contain a timetable detailing measures to be implemented to reduce discharges of the contaminants.
5. If it is determined that the elevated contaminant concentrations are *not* a direct result of activities conducted during the construction or operation of SLIP, the sampling results and rationale of why it was determined that the exceedance was not direct result of the project shall be forwarded to ORC within 30 days of initial laboratory results. If it is determined that the elevated contaminant concentrations are a direct result of activities conducted during the construction or operation of SLIP, a report shall be forwarded to ORC within 30 days of initial laboratory results which includes the results and measures to be implemented to reduce discharges of the contaminant.

4.3 Ecological

Aquatic Habitat and Macroinvertebrate Surveys
Results from ecological monitoring should be interpreted by a suitably qualified environmental practitioner and included in the annual report provided in accordance with Section 5.

Annual ecological monitoring at the downstream mixing zone site should be assessed against baseline conditions and the upstream reference site. For the downstream site, MCI, QMCI, and %EPT abundance should not exceed a 20% decrease from baseline values, unless the upstream reference site shows a similar change. *For example, if the baseline QMCI score was 6.2 at the downstream mixing zone site and 6.6 at the upstream reference site, a reduction in downstream QMCI to 5.0 during annual monitoring would trigger a review, provided the upstream QMCI had not declined by a similar amount. If the upstream site shows a similar change, then this is not deemed attributable to the discharge activity.*

If this trigger is exceeded, stormwater and any sediment monitoring results, along with relevant on-site practices from the preceding year, should be reviewed. A response plan outlining recommendations to maintain or improve ecological values should then be provided to ORC within 90 days of receiving the ecological monitoring results.

Kanakana/ Lamprey Surveys
If kanakana are found within the baseline survey a brief management plan will be prepared which will contain the baseline survey results, frequency of future surveys (i.e. biennial during construction stages), management actions to support the maintained abundance of kanakana and remedial options if kanakana abundance is observed to decline due to the discharge activity (i.e. not due to flood events or regional council stream maintenance). This kanakana management plan will be developed by iwi and/or appropriately qualified personnel to provide for the long-term protection of this species adjacent to the site and to support greater understanding of the distribution of this species within Silver Stream.

5 Schedule of Reporting

During the development and operation of SLIP, one annual report, response plans as required, and the ongoing presentation of raw data will be supplied to ORC. Specifically, the following is proposed:

An annual report should be prepared for ORC which includes the results from all monitoring events over the course of an annual period (i.e., the four quarterly

stormwater sampling events, all additional overflow monitoring, construction stage annual ecological monitoring and construction stage biennial kanakana survey). Results will be assessed against appropriate ecological guidelines and baseline monitoring.[4]

1. An additional report should be prepared for ORC providing the results of each survey completed in response to washpad/truckwash overland flow events. This report should be supplied within 2 months of sampling, as required.

2. The raw results from each stormwater sampling event will be provided to ORC in a digital tabulated format (e.g., xlsx, csv) within 30 days of receiving them from the laboratory.

Table 3 provides an overview of the recommended monitoring surveys and associated frequency.

Table 3: Silver Stream surveys and annual report content to be provided to ORC. ✓ refers to number of sampling events within the stated timeframe (annual or biennial).

Monitoring	Survey	Stage		
		Baseline	Construction	Operation
Stormwater	First flush water sampling at three sites (Upstream, discharge, downstream)	✓✓✓✓	Annual ✓✓✓✓	Annual ✓✓✓✓
		n/a	Within 1 week following any large storm event (flow increase >1 m^3/s as measured at the Silver Stream @ Gordon Rd) that has resulted in any overland flow from the washpad/ truckwash area	
Ecological	Habitat and macroinvertebrate. Two sites (Upstream and downstream).	Completed 9 Sep 2025 (FEcIA)	Annual (Spring) ✓	*n/a*
	Kanakana habitat survey within reach between the two sites.	To be completed	Biennial* ✓	
Sediment	If deposited sediment is observed at the discharge and/or downstream sites.	*n/a*	Annual (Spring; or if observed during first flush sampling) ✓	*n/a*

n/a = not applicable or required.

***Only to be completed if kanakana found within the baseline survey. Results to be provided to DOC and entered into NZFFD.**

[4] If sediment results show exceedances of the sediment guidelines for protection of ecosystems, a review of the sediment and erosion practices and stormwater treatment will be undertaken within 1 month of these findings and results and planned on-site improvements provided to ORC.

6 References

ANZG. (2018a). *National water quality management strategy paper Number 4: Australian and New Zealand guidlelines for fresh and marine water quality, Volume 1, The Guidelines.* Canberra: Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand.

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