EROSION AND SEDIMENT CONTROL PLAN

Central Interceptor

May Road
Site Ecological Enhancements

54 Roma Road, Mount Roskill

Prepared for Watercare Services Limited

Prepared by: McConnell Consultancy Ltd Date: 26 September 2024

DOCUMENT CONTROL

May Road Site Ecological Enhancements Erosion and Sediment Control Plan			
Revision	Date	Details	Prepared by
A	20 Sep. 2024	Draft for review.	M. McConnell
B	26 Sep. 2024	For Consent.	M. McConnell

McConnell
Consultancy Ltd

CONTENTS

1. OVERVIEW

1.1. Scope

The applicant, Watercare Services Limited seeks resource consent to undertake stream enhancement works as part of the completion/reinstatement works at the May Road Shaft Site (**the Site**).

This Erosion and Sediment Control Plan (**ESCP**) has been prepared to support the resource consent application and determine the most appropriate erosion and sediment control (**ESC**) measures to manage site runoff associated with the earthworks associated with the proposed construction activities.

This ESCP should be read in conjunction with the complete application documents that have been prepared for the site by others.

This ESCP has been prepared in accordance with Auckland Council's Guideline Document 2016/005 *Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region, June 2016* (**GD05**).

This ESCP addresses the following:

- Construction methodology.
- Establishment of the erosion and sediment controls.
- Site establishment and enabling works.
- General earthworks; and
- Final landscaping and stabilisation.

1.2. Location and Site Description

Site Address	54 Roma Road Mount Roskill Auckland 1041
Legal Description	SEC 1 SO 468523
Record of Title No	635749
Council Property ID	11327545
Property Area:	1.4565 hectares
Map Reference (Shaft)	1754037, 5913714 (NZTM)
Zone	Business – Light Industry
Overlays	Quality-Sensitive Aquifer Management Area

The Site has an area of 1.4565 hectares. Construction activities will take place over the majority of the site; however, this will be undertaken in a number of stages.

The May Road Shaft Site is accessed from 54 Roma Road.

The site is currently utilised as a primary construction site operating as the launch site for the TBM for the construction of the northern section. At this location the excavated material is removed from the site and tunnel components and construction consumables are delivered.

Along the eastern boundary of the site is a tributary of the Oakley Creek. The Oakley Creek discharges to a 1.8m diameter culvert outside the northern extent of the site. Along the northern and a portion of the western boundary is an unnamed watercourse which discharges to the Oakley Creek tributary.

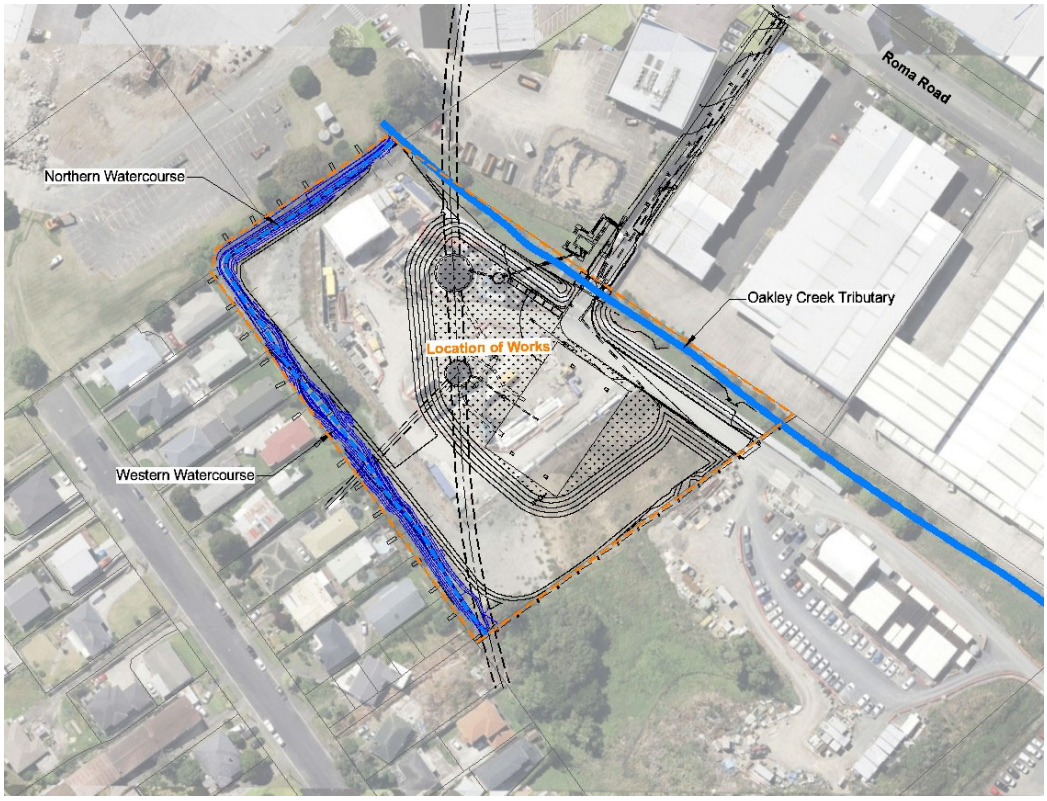


Figure 1: Site Location (Source: Google Earth).

2. DESCRIPTION OF WORKS

The proposed works are associated with the Central Interceptor Project.

Specifically, the works include:

- The reshaping and recontouring of the western watercourse (approximately 130m), and
- The reshaping and recontouring of the northern watercourse (approximately 90m).

The reshaping and recontouring of the streams will improve ecological values without compromising

the storage capacity of the adjacent, consented stormwater attenuation area.

The wider reinstatement of the site, once the Central Interceptor is commissioned, is authorised by the Central Interceptor designation, and associated consents.

2.1. Streamworks

These works are likely to be completed during the site reinstatement following commissioning of the Central Interceptor.

The streamworks are required to improve stream flows around the completed stormwater pond and to improve the ecological values of these watercourses.

These works are relatively minor requiring approximately 550m^3 of excavation over approximately 1,750m^2. There is a minor amount of fill (approximately 75m^3) required in the southern stream.

The streamworks will result in the following typical detail.

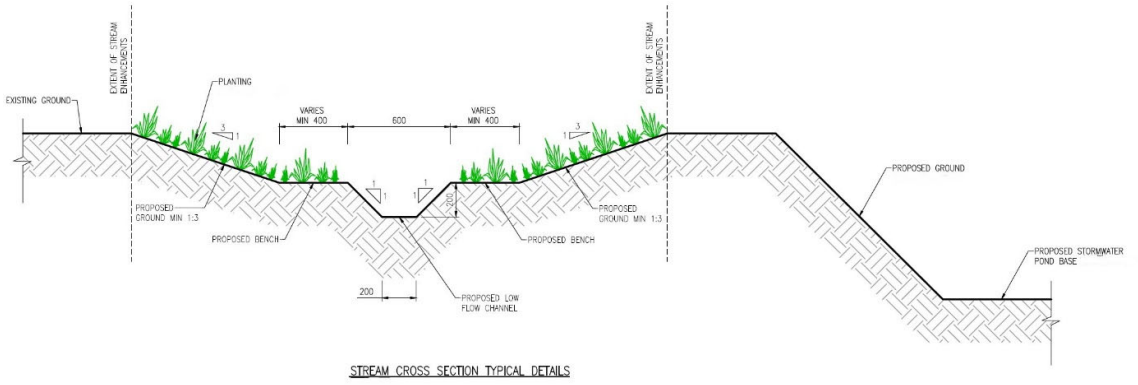


Figure 2: Typical Watercourse Cross-section.

3. EROSION AND SEDIMENT CONTROL PHILOSOPHY AND PROCESSES

3.1. Objectives

The ESCP objectives for these works are:

- To ensure that sediment discharges from the works are minimised to the greatest extent practical.
- To ensure that all ESC measures are designed and approved prior to construction works.
- To ensure that all ESC measures are implemented prior to commencement of construction works.
- To ensure that all contractual and regulatory requirements are met as a minimum standard.

These objectives will be measured by the project's ability to meet environmental targets.

- No environmental or regulatory breaches (compliance with consent conditions; no prosecutions, enforcement orders, abatement or infringement notices received).
- Conduct regular environmental inspections.
- Induct all employees and subcontractors on the environmental rules and procedures relevant to the project.

3.2. Design

ESC devices have been designed in accordance with the design principles of GD05.

The ESCP has been designed to detail how the streamworks will be undertaken and managed.

This ESCP has been developed based on the anticipated construction methodologies at the time of consent application, to address any potential modifications as a result of detailed design and or revised construction methodologies; a Final ESCP will be provided to AC for certification prior to the commencement of earthworks at the site.

Sizing and design information for the ESC measures are included in Section 4. The general philosophies and strategies behind the ESCP are outlined below.

As-builts and an audit programme ensures compliance with the design requirements and guidelines.

Earthworks and land disturbance will only be undertaken where it is authorised by the resource consent.

3.3. Principles

The general principles adopted during the construction activities which will be incorporated in the ESCP are as follows.

- Minimise the necessary area of disturbance as far as practically possible while ensuring adequate productivity.
- Stage the works and progressively stabilise exposed areas following completion of each stage of works.
- Divert clean water runoff away from the work area, in particular undertaking the stream works once stream flows have been diverted.
- Ensure sediment laden water from the construction activities is intercepted and discharged via the sediment retention devices.
- Regularly inspect the ESC measures and undertake any maintenance necessary to maximise the sediment retention efficiency of the site.
- Undertake ongoing assessment of the ESC methodology and, if required, adjust as the work progresses.
- Ensure site staff are aware of the requirements of the ESCP and the relevant resource consent conditions.

3.4. Review

This ESCP is a live document and will be revised / confirmed prior to commencement of works to address:

- Final stage design;
- Associated confirmed construction methodologies; and
- Consent Conditions.

Commitment and continuous improvement to environmental management is critical to its success and continuation. As part of continuous improvement, additional changes to the ESCP may be appropriate during the course of the project.

These changes may be a result of:

- Any significant changes to construction activities or methods.
- Key changes to roles and responsibilities within the site.
- Changes in industry best practice standards or recommended erosion and sediment controls.
- Changes in legal or other requirements (social and environmental legal requirements, Resource Consent conditions, Auckland Council objectives and relevant policies, plans, standards, specifications, and guidelines).
- Results of inspection and maintenance programmes, logs of incidents, corrective actions, internal or external assessments.
- The outcome of investigations into discharges of contaminants.

Reasons for making changes to the ESCP will be documented. Any new/updated version of the ESCP documentation will be issued with a version number and date. A copy of the current ESCP document and subsequent versions will be kept for the Project records. Superseded versions will be marked as obsolete.

Any relevant revisions to the ESCP will be submitted to the Auckland Council for review and

certification at least 10 days before becoming operational.

4. EROSION AND SEDIMENT CONTROL DETAILS

The erosion and sediment control methodology has been designed in accordance with best practice and the principles outlined in GD05.

Draft ESC drawings are provided in Appendix A, a Final ESCP to be submitted post consent and prior to commencement of works.

4.1. Streamworks

The streamworks will be undertaken before the bulk earthworks associated with the site reinstatement, specifically the completion of the stormwater pond, are completed.

These streamworks will be undertaken in 3 stages as detailed below.

In broad terms the streamworks will be undertaken by diverting the existing stream flows to the existing stabilised flowpath adjacent to the existing platform.

Figure 3: Existing stabilised flowpath.

This will allow the stream works to be undertaken offline in dry conditions.

It is impractical to divert clean water overland flows from north and west of the works as there is insufficient room to construct diversion bunds between the extent of the works and the site

boundaries. The extent of streamworks undertaken in each stage is therefore limited to minimise exposed areas.

During the streamworks, in the event of a MetService Severe Weather Warning for the area the exposed areas within the work area will be stabilised by aggregate or geotextile.

These streamworks will be undertaken in 3 stages as detailed below.

4.1.1. Stage 1

Drawing 459-001 – Streamworks Methodology Stage 1

- Access to the work area will be formed by forming a short causeway across the existing flowpath.
- This causeway will include a 600mm culvert to maintain the flowpath.
- A short section of stabilised channel will be formed from the existing stream upstream of the work area into the existing flowpath.
- This will include a stabilised diversion bund to divert existing stream flows into this diversion.
- A stabilised bund will be formed at the downstream end of stage 1, this will include a floating decant to form a Decanting Earth Bund (DEB) within the work area.
- With the above measures in place, this section of stream will be excavated, reshaped and formed to final design details excluding planting (which will be undertaken at the end of all streamworks, subject to planting season requirements).
- The completed section of stream will be fully stabilised with appropriate erosion control matting.

4.1.2. Stage 2

Drawing 459-002 – Streamworks Methodology Stage 2

- The access to the work area will be realigned to provide access to the Stage 2 portion of streamworks.
- The existing, lower bund of stage 1 will be retained and the decant will be removed or blocked. This bund will now act as a cleanwater diversion to divert any flows from the completed stage 1 to the existing stabilised flowpath.
- A stabilised bund will be formed at the downstream end of stage 2, this will include a floating decant to form a Decanting Earth Bund (DEB) within the work area.
- As part of this bund a short section of cleanwater diversion bund will be formed to divert the existing overland flowpath around this work area.
- With the above measures in place, this section of stream will be excavated, reshaped and formed to final design details excluding planting (which will be undertaken at the end of all streamworks, subject to planting season requirements).
- The completed section of stream will be fully stabilised with appropriate erosion control matting.

4.1.3. Stage 3

Drawing 459-003 – Streamworks Methodology Stage 3

- The access to the work area will be relocated to provide access to the Stage 3 portion of streamworks.
- The existing, lower bund of stage 2 will be retained and the decant will be removed or blocked. This bund will now act as a cleanwater diversion to divert any flows from the completed stage 1 & 2 to the existing stabilised flowpath.

- As part of this bund a short section of cleanwater diversion bund will be formed to divert the existing overland flowpath around the stage 3 work area.
- The diversion bund above stage 1 will be removed to divert stream flows to the completed stages 1 & 2.
- A stabilised bund will be formed at the downstream end of stage 3, this will include a floating decant to form a Decanting Earth Bund (DEB) within the work area.
- With the above measures in place, this section of stream will be excavated, reshaped and formed to final design details excluding planting (which will be undertaken at the end of all streamworks, subject to planting season requirements).
- The completed section of stream will be fully stabilised with appropriate erosion control matting.

4.2. Stabilisation

Progressive stabilisation will be undertaken as areas are completed.

At the completion of all works, all areas will be stabilised in accordance with the final landscaping design.

4.3. Chemical Treatment

Prior to commencement of works, chemical bench testing will be undertaken to determine the effectiveness of chemical treatment and the appropriate dose rate.

The results and management of the chemical treatment systems will be detailed within a Chemical Treatment Management Plan (ChTMP). The ChTMP will be provided prior to commencement of works.

If chemical treatment is shown to be beneficial, it will be undertaken in accordance with the recommendations of ChTMP.

Any chemical treatment will be undertaken in accordance with section F2.0 of GD05.

4.4. As-Built Certification

Prior to earthworks commencing within an area, as-builts for the ESCs for that area will be provided to the Auckland Council. The as-built certification will confirm that the controls have been constructed in accordance with the ESCP and GD05.

4.5. Winter Works

It is intended that these works are completed within summer (October-May) months. However unforeseen delays to the main works programme may result in the works being undertaken outside of that period.

In that event additional controls and or measures (including additional staging and or rapid stabilisation) will be considered for those activities proposed to be undertaken in the winter period.

4.6. Monitoring and Maintenance

All erosion and sediment control measures and methodologies will be monitored and maintained during the works in accordance with GD05. Monitoring will be undertaken before and immediately after rain events as well as during heavy rainfall events. Any required maintenance or improvements to control measures will be undertaken immediately.

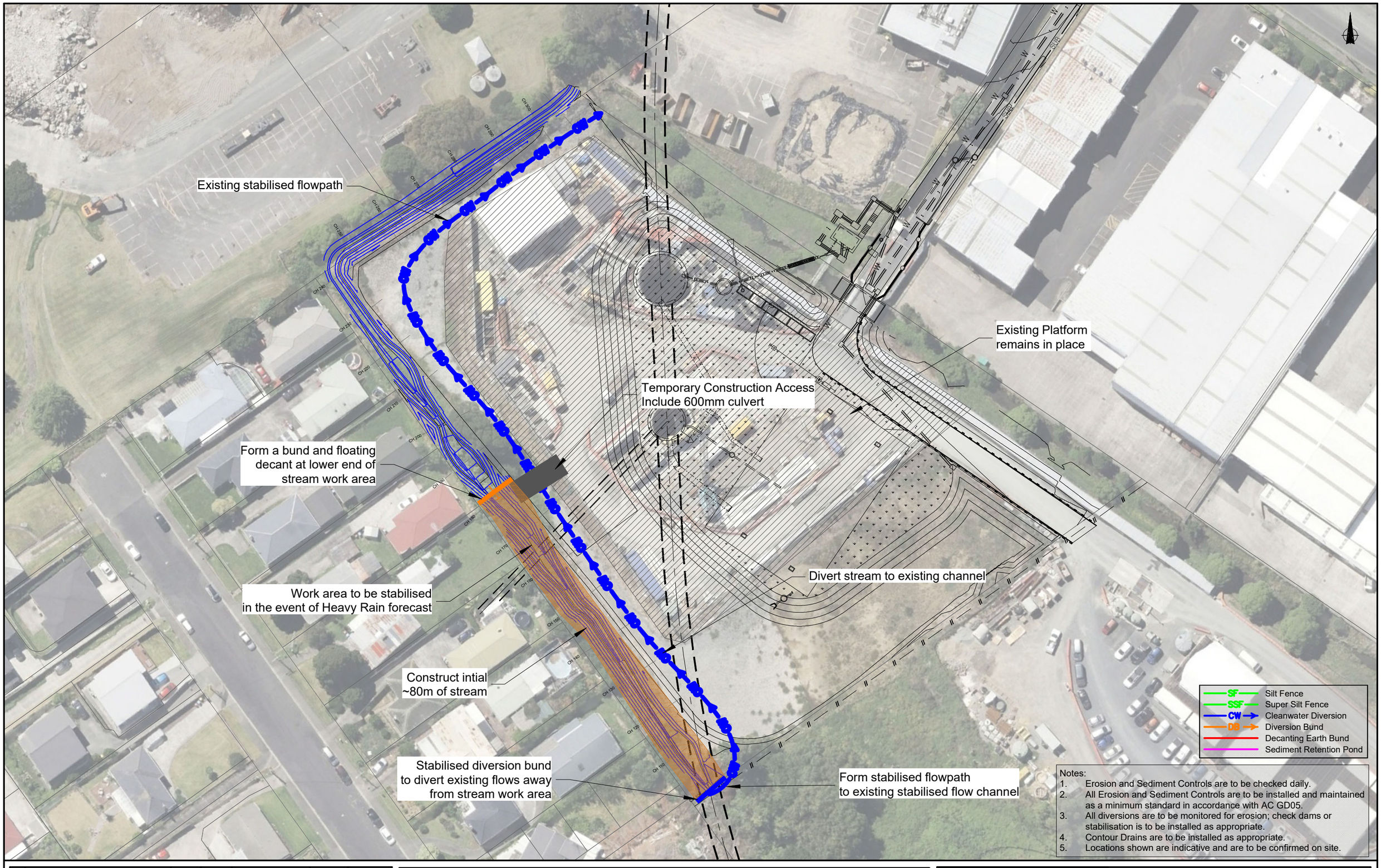
4.7. Removal of ESC Measures

The removal of any ESC measure from any area where soil has been disturbed as a result of the exercise of this consent will only occur after consultation and written approval has been obtained from the Auckland Council.

5. APPENDIX

5.1. Appendix A - Erosion and Sediment Control Drawings

Drawing number	Drawing title	Date	Revision
459-001	Streamworks Methodology Stage 1	26-09-24	A
459-002	Streamworks Methodology Stage 2	26-09-24	A
459-003	Streamworks Methodology Stage 3	26-09-24	A
459-004	Streamworks Methodology Completion	26-09-24	A



Notes:
1. Erosion and Sediment Controls are to be checked daily.
2. All Erosion and Sediment Controls are to be installed and maintained as a minimum standard in accordance with AC GD05.
3. All diversions are to be monitored for erosion; check dams or stabilisation is to be installed as appropriate.
4. Contour Drains are to be installed as appropriate.
5. Locations shown are indicative and are to be confirmed on site.

					BY	DATE
				DESIGNED		
				SURVEYED		
				AUTOCAD		
A	For Consent	DMM	26-09-24	APPROVED		
AMENDMENT		APP'D	Date			

Watercare

May Road - Central Interceptor Site Ecological Enhancements

McConnell Consultancy Ltd
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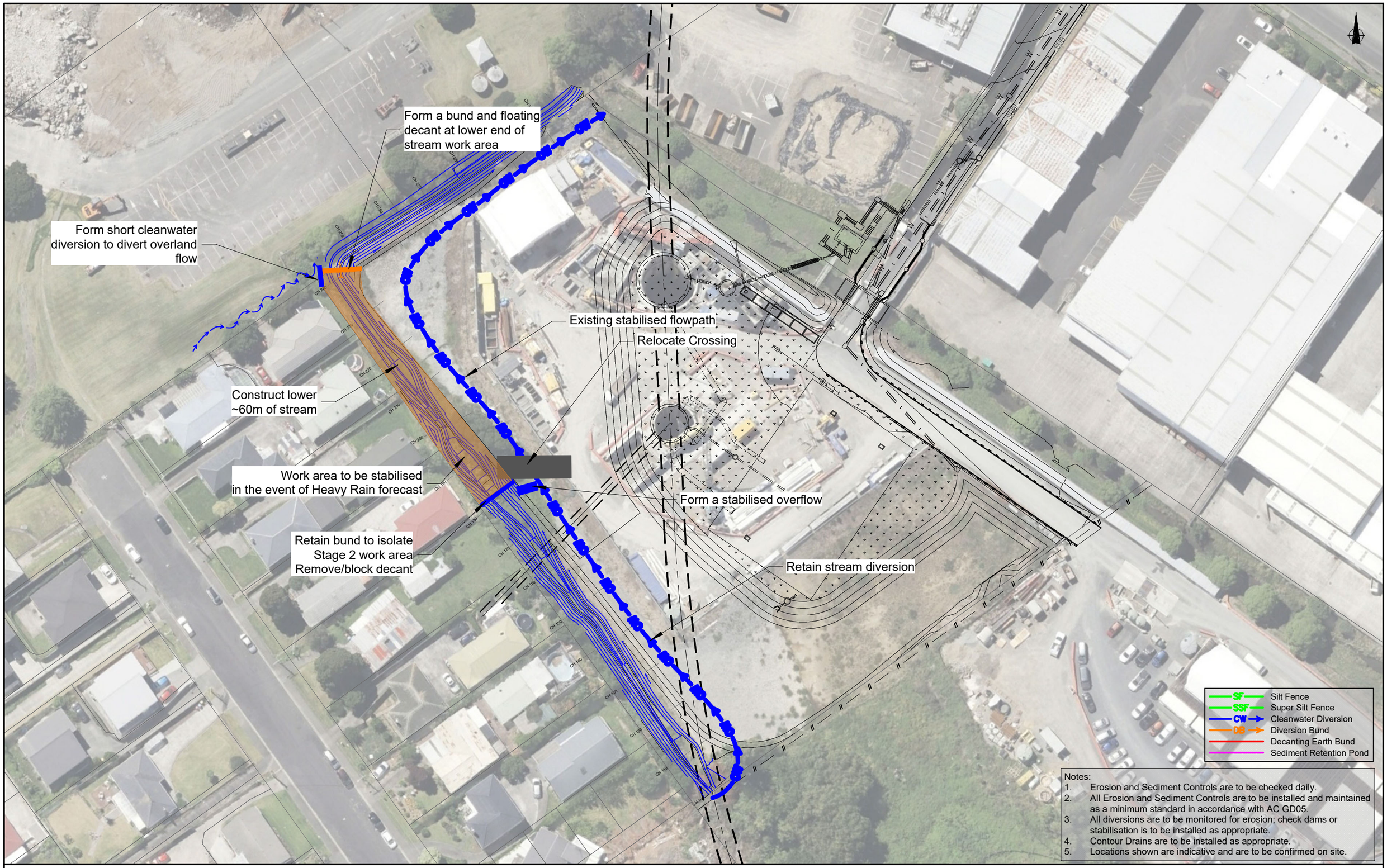
Streamworks Methodology
TITLE: Stage 1

Client: WaterCare

Plot Date	Scale: 1:750 @ A3	Job No.: 2024 - 459	
File Number	Drawing No.	Rev. No.	Sheet No.
459	459 - 001	A	1



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	AMENDMENT	APP'D	Date			

Watercare

May Road - Central Interceptor Site Ecological Enhancements

McConnell Consultancy Ltd
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Streamworks Methodology
TITLE: Stage 2
Client: WaterCare

Plot Date	Scale: 1:750 @ A3	Job No.: 2024 - 459	
File Number	Drawing No.	Rev. No.	Sheet No.
459	459 - 002	A	1

Work area to be stabilised in the event of Heavy Rain forecast

Construct lower ~70m of stream

Relocate Crossing

Form short cleanwater diversion to divert overland flow

Divert all flows to the existing stabilised flowpath

Form a bund and floating decant at lower end of stream work area

Existing stabilised flowpath

Divert Stream to new stream channel

Remove upstream diversion bund

SF Silt Fence
SSF Super Silt Fence
CW Cleanwater Diversion
DB Diversion Bund
Decanting Earth Bund
Sediment Retention Pond

Notes:
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A	For Consent	DMM	26-09-24		
AMENDMENT		APP'D	Date	APPROVED		

Watercare

May Road - Central Interceptor Site Ecological Enhancements

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Streamworks Methodology
TITLE: Stage 3
Client: WaterCare

Plot Date	Scale: 1:750 @ A3	Job No.: 2024 - 459	
File Number	Drawing No.	Rev. No.	Sheet No.
459	459 - 003	A	1

Notes:
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4. Contour Drains are to be installed as appropriate.
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			SURVEYED		
			AUTOCAD		
A	For Consent	DMM	26-09-24		
AMENDMENT		APP'D	Date	APPROVED		

Watercare

May Road - Central Interceptor Site Ecological Enhancements

McConnell Consultancy Ltd
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Streamworks Methodology
TITLE: Completion
Client: WaterCare

Plot Date	Scale: 1:750 @ A3	Job No.: 2024 - 459	
File Number	Drawing No.	Rev. No.	Sheet No.
459	459 - 004	A	1