

out of scope

From: Kurt Grant (Vision Site Solutions)
Sent: Tuesday, 7 May 2024 4:39 pm
To: Mark Ware; section 9(2)(a)
Subject: Fw: E South/F Cut top down Work Instruction
Attachments: Work Instruction - Cut F - Rev4.docx; 20240502 - Slip Recovery Method Draft2.docx; 20240502 - Slip Recovery Method Draft2.pdf

Team

Am forwarding plan for moving ahead with the works at Area E/F...the middle document Mark is the word version of the map of the works

Hope this helps

Regards

Kurt Grant
Recovery & Resilience Program Manager

M section 9(2)(a)
E kurt.grant@nzta.govt.nz / w nzta.govt.nz

From: section 9(2)(a) @fultonhogan.com>
Sent: Tuesday, May 7, 2024 3:28 PM
To: Kurt Grant (Vision Site Solutions) <Kurt.Grant@nzta.govt.nz>
Subject: E South/F Cut top down Work Instruction

As requested.
FYI this is a work in progress.
Cheers,

section 9(2)(a)

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Fulton Hogan

Rev	Date	Description	Prepared	Checked	Checked	Approved
1	21/02/2024	Bulk Earthworks, Drainage Works, Environmental controls – Cut F	section 9(2)(a)			
2	26/02/2024	Bulk Earthworks, Drainage Works, Environmental controls – Cut F				
3	21/03/2024	Bulk Earthworks, Drainage Works, Environmental controls – Cut F				
4	06/05/2024	Bulk Earthworks – Bulk Earthworks and Slip Remediation works– Cut F				

Project:

Brynderwyn Hills Recovery SH1N Contract 8896

Document Title:

Bulk Earthworks – Bulk Earthworks and Slip Remediation works– Cut F

Document No.:

01

REV.:

Rev 4

Date: 21/02/2024

Prepared by Project Engineer:

section 9(2)(a)

Checked by Construction Manager/Project Director:

Health and Safety Checked By:

Approved by Designer:

Page No.

1

Contract Name:	Brynderwyn Hills Recovery SH1N Contract 8896
Work Instruction:	Bulk Earthworks – Slip remediation works – Cut F

1. Safety

The Living Safely Manual provides a single source of truth and encapsulates our health and safety system. It is the main reference point for current health and safety processes and information.

GoTo and KnowHow are pictorial and video-based information about our minimum requirements. They are simple reminders for field staff that can be accessed by anyone, anywhere who has a smart device.



1.1. Emergency Contacts

If someone has been hurt at work, immediately notify the Supervisor, Engineer & Health & Safety Manager.

- Project Director
- Construction Manager (North)
- Construction Manager (South)
- Project Engineer (North)
- Site Engineer (South)
- Site Engineer (South)
- Site Engineer (South)
- Site Engineer (South)
- Project Supervisor (North)
- Project Supervisor (South)
- Health & Safety Manager
- Health & Safety Advisor
- Stakeholder Communications Coordinator

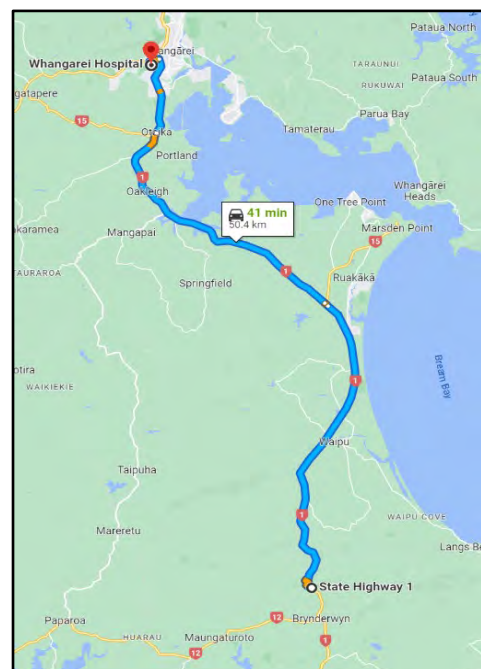
section 9(2)(a)

First aid trained persons on site are:

- **section 9(2)(a)**
- Goodmans Contractors - 2 Persons.
- Exaro Contracting x 2 Persons.



The closest medical centre is **Coast to Coast Health Care, 220 Rodney Street, Wellsford.**



The nearest Hospital is **Whangarei Hospital, Maunu Road, Private Bag 9742, Whangarei 0148.**

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1.2. Emergency Plan

The emergency plan will be displayed in each work Zone and be kept available and accessible to workers.
Internal communication within site will be facilitated by VHF Radio.

2. Scope of Works

This work instruction makes reference to the Personnel, Plant and Equipment that will be used in the works and takes into account the Safety, Environmental and Quality Issues that may occur as a result of the works being undertaken.

This Work Instruction covers the generic upslope earthwork, drainage methodology and environmental controls associated with Brynderwyn Hills slip – Upslope Cut F.

This Work Instruction applies to:

- Tree felling – Arborists 360
- Site Clearing – Goodmans Contractors
- Stripping of topsoil and unsuitable materials - Goodmans Contractors
- Bulk Earthworks - Goodmans Contractors
- Hydro seeding and revegetation – Goodmans Contractors & Enviro 360

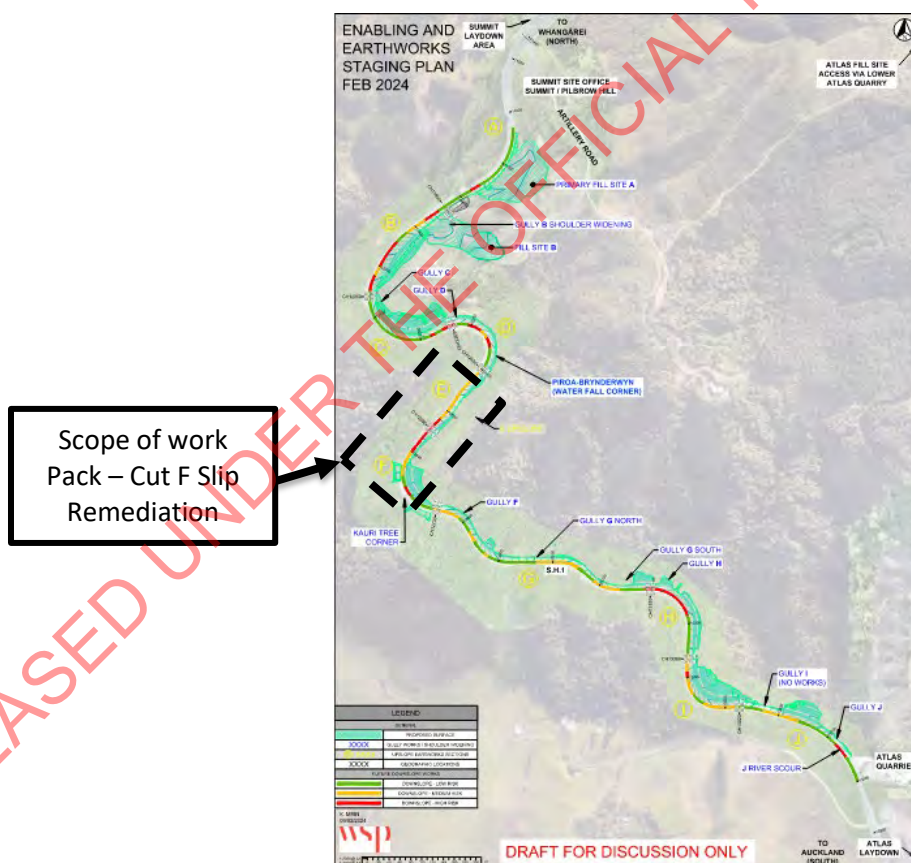


Figure 1. Location Overview Plan for Brynderwyn Hill Recovery Project

3. Drawings

- 1-11264.01-WSP-SDUE-SF-DR-EW-3001-EW3001 Rev 1
- 1-11264.01-WSP-SDUE-SF-DR-EW-3101-EW3101 Rev 1

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- 1-11264.01-WSP-SDUE-SF-DR-EW-3102-EW3102 Rev 1
- 1-11264.01-WSP-SDUS-SE-DR-GT-GT3007 Rev 1 (**New- Slip Remediation Plan View**)
- 1-11264.01-WSP-SDUS-SE-DR-GT-GT3121 to GT3129 Rev 1 (**New - Slip Remediation Cross Sections**)

4. Environmental

Prior to construction, and during construction measures will be undertaken as outlined in the Project Erosion and Sediment Control Management Plan to ensure any harm to the environment is eliminated or minimised. These include silt socks, Lamellas and silt fences installed to the best the site will enable.

Weekly audits will be undertaken to ensure compliance with applicable management plans and consent conditions.

5. Quality Documentation

Quality Control will be in accordance with the Quality Management Plan, this Work Instruction, associated Check-sheets/forms, and the relevant specifications, Principal's Requirements, and Site-Specific Drawings.

Check sheet:

- Batter Slopes
- Drainage
- Survey Set out.

6. Subcontractors & Suppliers

Subcontractor/s & Supplier Name	Service	Terms of Engagement
Goodmans Contractors Limited	Earthworks Subcontractor	Sub-contract agreement
Atlas Quarries	Material Supply & Fill site	Supply-contract and License to occupy
Exaro Contracting	Earthworks and Drainage Sub-contractor	Sub-contract agreement
Enviro 360	Landscaping	Sub-contract agreement
Arborist 360	Landscaping & Tree Felling	Sub-contract agreement

7. Work Methodology

7.1. Objective

The purpose of this methodology is to define the procedures to ensure the cut slopes are constructed safely and efficiently, and the workmanship is being used, at the site are complying with the conditions/ requirements as stipulated by the client.

Update 6th May 2024 – This Methodology has been updated to incorporate the methodology to be followed for remediation of the Cut E/F Instability and landslides which occurred 26/04/2024 and 30/04/2024.

Contract Name:	Brynderwyn Hills Recovery SH1N Contract 8896
Work Instruction:	Bulk Earthworks – Slip remediation works – Cut F

7.2. Work Scope Overview

The sequence of work is:

- Permits Approval from Ecological, Clearing Ecological Constraints (Cultural, Environmental, Wildlife)
- Vegetation Clearing and Tree Felling
- Site Establishment – Erosion and Sediment Control and site access.
- Bulk Earthwork – Upslope Cut
- Construction of stormwater diversion bund and subgrades
- Hydroseeding with approved seed mix

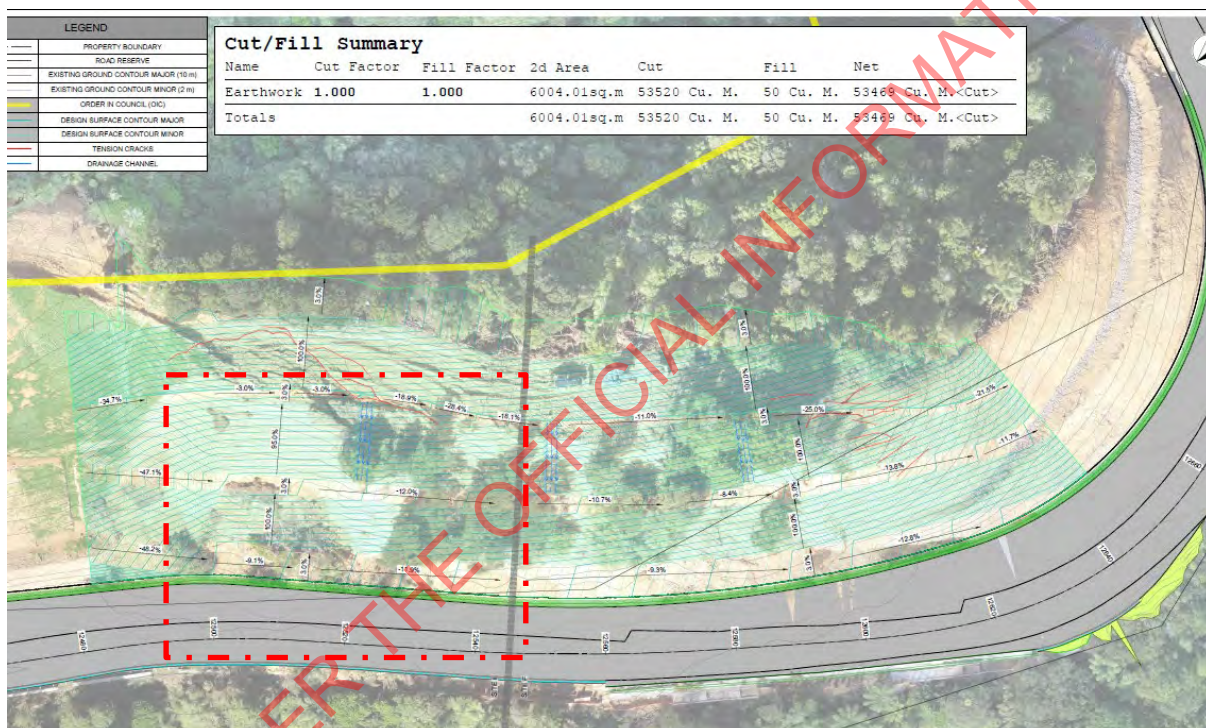


Figure 2. Close-Up on-Site F – Draft Slip Remediation Design (Between CH12550 – CH12700)

7.3. Pre-construction sign offs

In the following sections, the methodology is broken into a series of hold points and monitoring points. These have the following meanings:

Hold Point: Involves a review and sign off of QA check sheets for the subsequent task or a task required to be complete prior to moving onto the subsequent task.

Monitoring Point: Onsite checks that will be required before moving onto the next step of the task.

HOLD POINT: Ecologists sign off to commence works within the area clearing all ecological constraints (Green Card issued).

HOLD POINT: Plant inducted in accordance with FH Minimum Requirements.

HOLD POINT: All Personnel must be inducted by Fulton Hogan Brynderwyn Project. Personnel working in the Double Handling and North Fill site in Atlas Quarries must also be inducted by the Quarry.

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HOLD POINT: Erosion and sediment controls must be established in-place prior to earthwork according to the Site-Specific Erosion and Sediment Control Plan (ESCP).

HOLD POINT: A prestart discussion and RCP must be prepared prior to any physical works and agreed and signed onto by anyone wanting to work/enter the work area.

HOLD POINT: For any works requiring a permit (including, but not limited to Digging and Excavation checklist), the permit must be issued by Fulton Hogan and accepted by the permit receiver prior to those works commencing.

HOLD POINT: Stop work immediately if there is a change in ground conditions that may indicate instability, or if any instability identified, unsafe activities observed and report directly to the site supervisor and/or Site Engineer.

HOLD POINT: All plant operators working in the Cut E/Cut F work area must be equipped with a VHF radio and maintain constant communication with the other operators, spotters, and personnel on foot within the work area.

HOLD POINT: All other people entering the Cut E/F work area must either have and be competent operating a VHF Radio or be escorted by someone with a VHF handheld radio, and notify the works crew and spotters and obtain all clear before entering the work area.

7.4. Vegetation Clearing and Tree Felling

1. Prior to commencement of any vegetation clearing and tree felling; cultural, environmental and wildlife permits all in the form of green card must be issued by the Ecologist. This may include Lizard management which requires ecological monitoring or stand over during the construction process. Refer to WSP document Brynderwyns Recovery Work Ecological Management Plan Suite for detail. **Hold Point – No Green Card = No Work**
2. Due to the hazardous nature, and instability of the Cut E/F work area – it is unlikely any pre-work searches can be completed by the ecology team, and due to nature of the works – material will be buried/missed with soil prior to be loaded off the cut – so unable to be checked for wildlife.
3. After green card has been issued, clearing all ecological constraints within Upslope F section. An access track to the proposed work area will be cleared for vegetation and trees to be felled. Some work areas may require minor trimming or cut; the super-reach excavator will be used. However, most of cut F requires extensive clearing. Set out push out and load out areas. Mobilise excavators to cut and bulldozer to pushing. **Hold Point – Green Card will make it clear if an Ecologist needs to be on-site to supervise the vegetation clearing and tree felling. If bats (or any other ecological constraints) are detected, work must stop in a safe matter and notify the Ecologist. Tree permits to be issued to arborist.**
4. Material will be directed to the load out area, loaded onto a dump truck, carted, and tipped into a fill site – and buried to prevent attraction to other wildlife.
5. Tree felling and vegetation clearing is to be carried out once the earthwork extents have been established. Removal of vegetation to be minimised as far as practicable to the earthwork footprint only.

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6. ESCP Installation

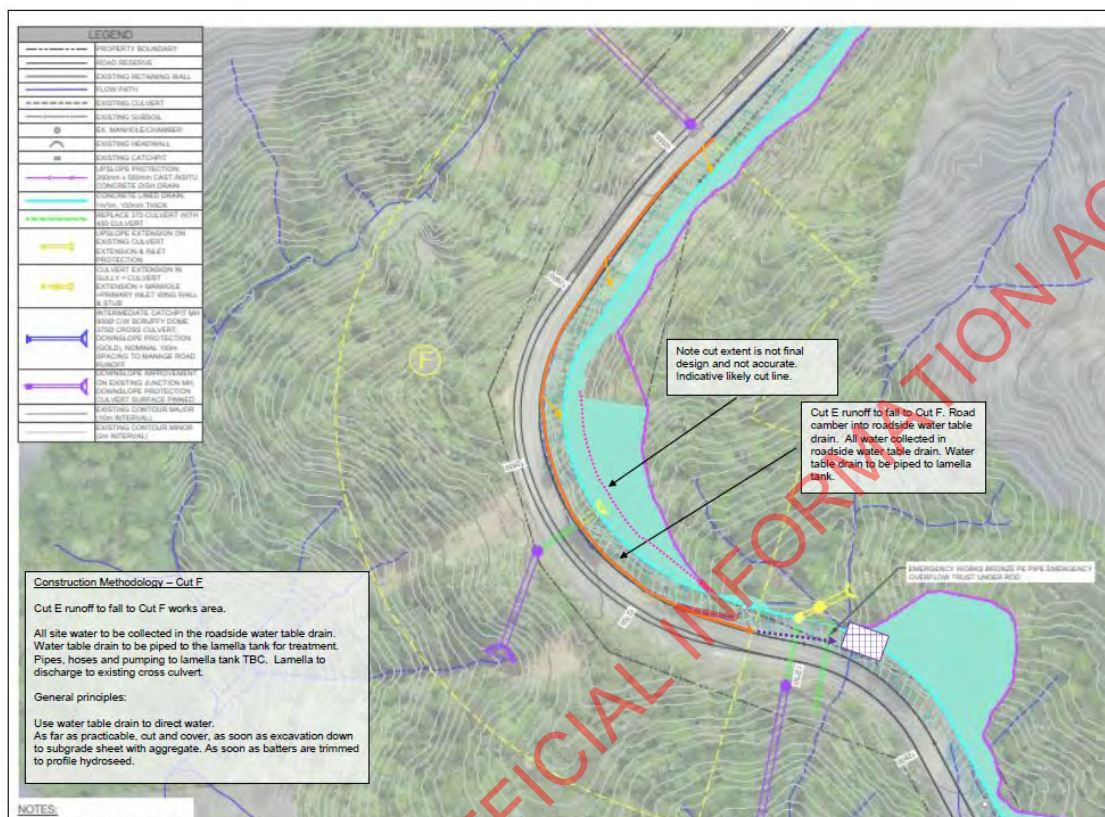


Figure 3. SSES CP for Cut F

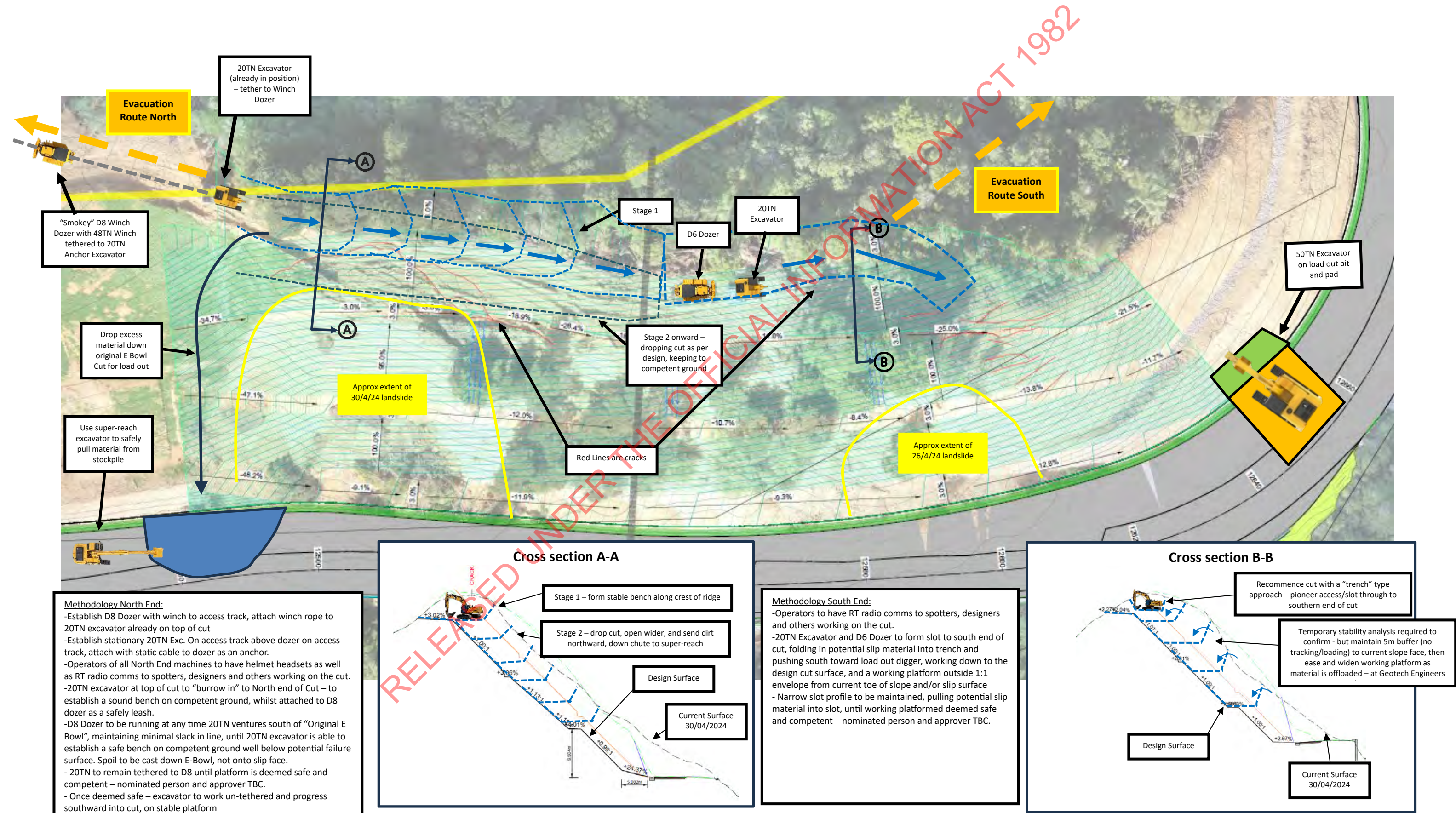
7.5. Upslope Earthworks - Slope instability/Landslide remedial works.

1. Prior to commencement of upslope earthwork, the following shall be checked:

- Sediment and Erosion control must be in-place. Refer to ESCP for each work areas. Lamella to be installed (relocate if needed) and connect to existing SH1 roadside drain for treatment and divert treated water into existing culvert.
- Re-Design and stability assessments (WSP)
 - Drone footage and scan to assess slip and inform re-design
 - Comparison actual ground vs design model
 - Assessment for cracks/imminent instability and calculate safety factor of cut
 - Physical inspection for cracks/onsite indicators of instability – and stability assessment of south side of the cut.
 - Determination of revised design factoring all the above – and appropriate risk assessment and mitigation through design
 - Monitoring equipment to be installed on the cut – including tilt sensors.
- Temporary case stability assessment
 - Temporary slope stability assessment to be carried out to inform where is safe for earthworks machinery to work during the remaining excavation works, and where exclusion zones and monitoring need to be installed.

2. See the following schematic for the re-commencement of Cut F

STAGE 1 – “Recommencement”



3. Specific Temporary works/Slope Stability requirements to re-commence the cut

OUTLINE HERE – PASTE MEMO FROM IAN MANLEY ONCE RECIEVED

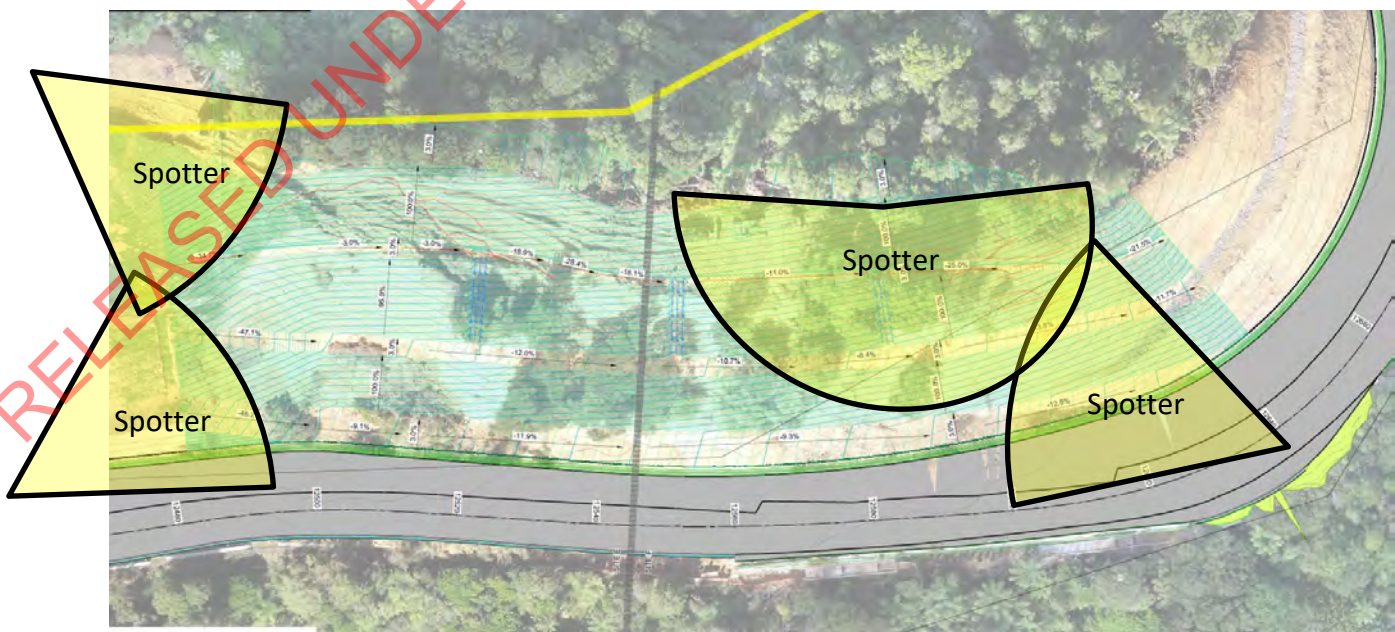
4. Monitoring equipment communication

- Once deemed where is safe to access, and a redesign issued for the works – monitoring equipment to be installed at potential trigger points.
- Anyone on the cut is to have access to alert system or have live radio comms to someone with access to the alert system.
- Geotech spotter on the ground – radio comms etc.

5. Refer to the specific North and South Methodologies outlined on the previous page for detail on how the cut will re-commence, and safely transform to a production cut, and allow bulk load out of material. Excavators will form the top of cut, then trim from top down, with support from a Bulldozer, which will follow and push the material out to another excavator at the base of the cut at either end. Excavator positioned at the base of the cut is then able to load materials onto trucks or ADTs carted to the Atlas Quarries Double Handling Site or Fill Site A or Fill Site B at the summit. Refer to the site vehicle movement plan for the planned truck movements.

6. Communication and Access throughout works

- Fuel – while excavators are landlocked to the top of cut – fuel and adblue will be delivered in fuel pods via. Helicopter. Protocols and risk assessment for fueling activities detailed in separate documentation.
- Access – access will be strictly via the Northern Ridge, or Southern approach from Gully F via defined access routes. When accessing the cuts – personnel are required to call up from bottom of hill, machines to stop works and isolate machines. All practicable efforts need to be made to keep site visits/inspections to smoko breaks (10-10:30am and 2-2:30pm) and contact operators ahead of arrival on site – so they can prepare for their arrival.
- Spotters and evacuation routes
 - Refer methodology schematic above for Evacuation routes
 - Refer below schematic for spotter location during the works – spotters to have radio comms to all workers on the cut. Lead spotter to maintain a sign in/out for the cut – so at anytime it is known who is within the Cut E/F works area.



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7. Additional materials may require extra excavation and benches to be cut to improve geometrics and stability. Refer to the relevant drawing set for each site. **Hold Point - Any signs of unplanned movement from the slip must be reported immediately to engineer and site evacuated.**
8. The final slope will be trimmed using GPS excavator to achieve the correct lines and levels as per the approved drawings and design – and using a rock bucket/bucket with teeth to leave a textured surface acceptable for landscaping/hydroseeding.
9. Hydroseeding to be completed with approved mix once final batter has been approved by the designers. Refer to NTC-000025 for approved mix design.

7.6. Plant & Labour

Prior to commencement of earthworks, a meeting will be held with Goodman's to confirm key responsibilities.

Bulk earthworks will be carried out by Goodman's with guidance from the Fulton Hogan management team.

Plant and equipment will be operated by those who are authorised, trained, and deemed competent to use. The operator will also be responsible for the correct, safe use and maintenance of their item of plant/ equipment in accordance with best practice.

Excavators responsible for the cut face will be fitted with GPS control systems sufficient to achieve the design intent.

Before entering site, personnel, and subcontractors (including plant) will be Fulton Hogan inducted and be familiarised with the current site conditions including the safety and environmental hazards associated with their activities. Internal site communications will be facilitated by VHF Radio.

Following machines to be used during the operation:

- Excavator 25 Tonne to 20 Tonne
- ADT 30Tonne and 40Tonne
- Bulldozers (D8 Dozer Winch Only and D6 Blade Dozer)

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8. Permits

Permits are to manage certain high-risk activities in conjunction with our primary risk management tool, the risk control plan. The following may be internal or external permits required please consult the Living Safely Manual for More information.

Permit Type	Required (Y/N)
Digging and excavation	Y
Wildlife permit	Y
Environmental permit	Y
Lift Plan/ critical lift Plan	
Permit to Load (Temporary works)	
Traffic Management Plan	Y
Work at height	
Hot / hazardous atmosphere work	
Confined space entry	
Bitumen	
Blasting	
Asbestos work	
Tree felling	Y
Temporary works	
Kiwi Rail	
Close proximity	

9. Roles & Responsibilities

Role	Responsibility
Supervisor	The Supervisor is responsible for the overall organisation of labour resources and productivities on the job including compliance with all statutory requirements, quality, safety and environmental compliance
Site Engineer	The site engineer is responsible for monitoring the construction of the physical works as outlined in this work instruction and ensuring that it meets project specifications with regards to quality, safety and environmental compliance.
Geotechnical Engineer	The geotechnical engineer is responsible for undertaking the geotechnical investigation and testing to ensure work meets project specifications.

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Construction Crew	Individual members of the construction crew are responsible for undertaking the physical works for the physical works as outlined in this work instruction safety and with quality. All statutory requirements such as quality safety and environmental compliance are to be met.
Surveyor	The surveyor is responsible for setting out all required works. The surveyor is also responsible for the timely as-building of all constructed works.

10. Risk Matrix

Final risk rating: If **RED**- PAUSE and check with the foreman / supervisor and responsible manager.

risk matrix		reasonably foreseeable outcome		
		low potential event	medium potential event	high potential event
risk category	health and safety	- proactive intervention - no treatment - first aid	- MTI or LTI resulting in up to 3 days off work	- admitted to hospital - life changing injury - loss of function eg hearing loss
	environment	- able to be contained and cleaned up on site	- impact offsite - council / regulator notified - region / project able to contain and clean up	- visible impact offsite - council / regulator attends - external clean up support
	quality	- remediation cost <\$50k - processes mainly followed	- remediation cost \$50k > \$100k - minor process failings	- remediation cost >\$100k - major process failings
	plant and property damage	- repair cost <\$50k	- repair cost \$50k > \$100k	- repair cost >\$100k

RISK RATING	PARAMETERS
HIGH	If the post-control risk is High the activity MUST NOT proceed. Alternate controls must be put in place to reduce the risk rating to LOW or MEDIUM
MEDIUM	The activity can proceed so long as the highest level and most appropriate risk control measures have been identified and implemented. Check with your manager if unsure
LOW	Activity may proceed with normal supervision after implementing control measures

Contract Name: Brynderwyn Hills Recovery SH1N Contract 8896


Work Instruction: **Bulk Earthworks, Environmental Controls and Drainage Works – Cut F**

11. Risk Assessment

This is an assessment considering the scope of works and the methodology with focus upon the critical risks, such as plant and machinery or working at height.



No life changing injuries

What am I doing? (List the steps required to perform the task in the sequence they are carried out)	What could go wrong? (What are the risks created at each step)	Who / what is affected? (Consider neighbours, subcontractors, public, environment, reputation, contract conditions)	Initial risk score (Risk score without controls in place)	How can I do it safely? (What do we need to do to protect everyone affected? Use above the line controls where possible)	Residual risk score (Risk score with controls in place)	Person responsible for the controls (Nominate who will check the controls are in place & effective)
Tree felling and Vegetation clearing	Tree vs Plant/Machines/People	Environment, Subcontractors, Contract condition	Medium	<ul style="list-style-type: none"> Prior to any vegetation clearance on the Project, the appropriate permits (wildlife and environmental permits) must be obtained and signoff from the Supervisor. Traffic Management plan should be in place before work commence and communicate with STMS. No unauthorized entry to the work site. No plant, equipment or materials parked or stored under protected trees unless on hardstand. Take care and ensure Kaitiaki are present and on site when undertaking works around drip zones of protected trees. Refer Fulton Hogan Know How- Chain saw document. QR code attached below. Ensure Plant, machinery and boots are clean prior to entering site and follow the KEEP IT CLEAN – Machinery hygiene guidelines and logbook to prevent the spread of pests and weeds. Cleaning stations for boots are to be set up at the office, and to be used prior and 	Low	Supervisor

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				<p>following entering any bush where Kauri are present. Where Kauri trees are near the cut a cleaning station is to be set up at the base of the cut for use prior and following access to the cut.</p> <ul style="list-style-type: none"> • Ensure no personnel is nearby when a tree is being felled. Use positive communication as required to enforce this. 		
Bulk Earthworks	Plant vs people/property	Subcontractors, Contract condition, Reputation	High	<ul style="list-style-type: none"> • Subcontractor Plant to be inducted to site and meet FH minimum requirements. • Warning alarms and flashing lights / beacons operating. • Haul road protocols need to be followed by all Moxxy drivers (VMP) and any other vehicles/plant using the haul road. • Speed limit is restricted within work zone, refer to haul road induction. • Load out platform is managed by Excavator operator via VHF Radio communication. • Have a plan to keep people and plant / vehicles + heavy and light vehicles separate e.g., walkways, turning / parking areas, exclusion zones, barriers, designated light vehicle parking areas. There is to be no pedestrian movement between zones and shuttle van is to be used. • ROPs and FOPs fitted as required for task and seat belts worn if fitted. • Spotter for reversing trucks, beepers and/or cameras to be working. Only reverse when necessary and check surroundings first. • Eye contact with operators and positive communication before proceeding. If eye contact is unachievable, VHF radio communication shall be used. 	Medium	Supervisor

Contract Name: Brynderwyn Hills Recovery SH1N Contract 8896

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	Tip-over (plant), Truck roll away	Subcontractors, Contract condition, Reputation	High	<ul style="list-style-type: none"> • All rollers to have limb containment. • Plant fitted with ROPS protection. • Follow the Haul Road protocols. • Safety restraints (Seat belts/Lap belts/Harnesses) must be worn by plant operators – FH Life Saving Rule • Do not work across slopes and warn operators of any site gradient. • Soft spots need to be identified throughout construction and investigated by geotechnical engineer. If deemed unsafe, supervisor is to be alerted and a plan shall be implemented ensuring no personnel are put in an unsafe position. • Overloading is not allowed on site. This is to be a regular visual inspection by the engineer when out on-site. • Identify flat areas for loading/unloading and keep clear and tidy. • Bunding required where there is a significant risk of driving off road/tipping. Steel barriers shall be installed as required to the outside of the haul road in high-risk areas. 	Medium	Supervisor
	Refuelling- Spillage	Environment, Contract condition, Reputation	Medium	<ul style="list-style-type: none"> • Appropriately sized extinguishers present for flammable materials. • Purchase and store only the amount required. Keep SDS on site, follow directions and keep inventories up to date. • Ensure adequate ventilation for gases, fumes, and vapours. • Turn off engine before refuelling 	Low	Supervisor
	Service strikes - Underground	Subcontractors, Contract condition, Reputation	Medium	<ul style="list-style-type: none"> • Digging and Excavation Permit will be issued with service plans available to the construction crew. These will all be given as printouts to the crew onsite. If unknown service appears, stop work and 	Low	Supervisor, Site Engineer

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Work Instruction: **Bulk Earthworks, Environmental Controls and Drainage Works – Cut F**

				start cable locate. Ensure permit process is always followed.		
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12. Environmental

All works will be conducted under the site-specific erosion and sediment control plan. Any changes to the plan are to be communicated and approved with the Environmental Advisor/ Manager.



Creating a better planet

12.1. Work Specific Environmental Risks (chemicals, concrete, sediment discharge, tracking, contamination)

Tree and Vegetation clearing	Tree / wildlife damage	Environment, reputation, contract conditions	Medium	<ul style="list-style-type: none"> • Prior to any vegetation clearance on the Project, the appropriate permits must be obtained and signoff from the Environmental Manager. • Hold detailed and specific crew briefings and site walkover for all people involved in the tree clearance program to ensure they are very familiar with the specific requirements in each area of clearance. • Any trees to be protected are clearly marked prior to clearance activities taking place. Follow Brynderwyns ecology cheat sheet for colour coding used onsite. • Any subbies know the status of trees, vegetation, cultural requirements, critical habitats and protected species in and around the work site (e.g. heritage trees / roosting trees/lizard habitat). • No plant, equipment or materials shall be parked or stored under protected trees unless on hardstand. Take care and ensure Kaitiaki are present and on site when undertaking works around drip zones of protected trees. • Ensure Plant and machinery are clean prior to entering site, and follow the KEEP IT CLEAN – Machinery hygiene guidelines and logbook to prevent the spread of pests and weeds. 	Low	Supervisor, Site Engineer
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Work Instruction: **Bulk Earthworks, Environmental Controls and Drainage Works – Cut F**

Digging / ground disturbance	Archaeological Damage	Environment, reputation, contract conditions	Medium	<ul style="list-style-type: none"> Detailed and specific archaeological site briefings prior to ground disturbance works where extra archaeological attention is required Cordon off high-risk archaeological zones and be aware of and follow Accidental Discovery Protocol. Ensure supervisors and operators working in archaeological significant areas have a copy of the accidental discovery protocol and understand the procedures to be followed in the event of an unexpected find. For potential archaeological / heritage discoveries, stop works in immediate area, isolate the area and notify the Environmental Manager, Kaiarahi and Project Archaeologist. Ensure any accidental archaeological finds are clearly marked off to avoid any damage until Archaeologist has given all clear to recommence work. 	Low	Supervisor
	Ecological findings	Environment, reputation, contract conditions	Medium	<ul style="list-style-type: none"> Investigations are underway, and every effort is being made to establish presence, to find and potentially relocate species which could include, lizards and frog's, snails from the areas before we disturb - vegetation and earth, areas that interface with water. Ecology personnel to work around 15m clear of any plant. If you see any wildlife while undertaking your works, then please stop and tell Ecologists or Kaitiaki Monitors so we can ensure suitable actions can be made. This is not only a Fulton Hogan commitment to our environment but also a legal requirement under our consent. Please help us find them! 	Low	Supervisor
	Not Involving Kaitiaki/Cultural involvement	Environment, reputation, contract conditions	Medium	<ul style="list-style-type: none"> Kaitiaki monitors will be present at all times during topsoil stripping and any invasive activities. Stop all works within a 20m radius and make area safe & secure. 	Low	Supervisor

Contract Name: Brynderwyn Hills Recovery SH1N Contract 8896

Work Instruction: **Bulk Earthworks, Environmental Controls and Drainage Works – Cut F**

				<ul style="list-style-type: none"> • Contact FH management. Te Uri o Hau will follow archaeological procedure of photographing and relaying information to archaeologist. • Project Archaeologist Geometria will be notified. • Give at least two weeks' notice prior to disturbance or digging works to ensure correct Kaitiaki resource can be secured if required. 		
	Contaminated land exposure	Environment, reputation, contract conditions	Medium	<ul style="list-style-type: none"> • Check if the area is in the Contaminated Land Management Plan before work starts, consult the Environmental Manager. • If required, ensure the correct specialist are on site to monitor contaminated land remedial works. • Plant and Machinery to be cleaned before leaving site for the final time to reduce the spread of Kauri Die Back. • Be aware of and follow the accidental contaminated land discovery protocol. 	Low	Supervisor
	Erosion and Sediment	Environment, reputation, contract conditions		<ul style="list-style-type: none"> • Any earthworks on site have a Site Specific Erosion and Sediment Control Plan (SSESCP) which has been certified by council. • Where required, a pre-construction meeting has been held with council prior to commencing works on site • Ensure all erosion and sediment controls (ESCs) are installed as per the SSESCP. • Ensure a copy of the relevant SSESCP as well as the overarching ESCP are kept on site at all times. 		Supervisor, Site Engineer
	Fuel Spill / Hazardous materials uncontained	Environment, reputation, contract conditions	Medium	<ul style="list-style-type: none"> • Refuelling to occur at least 10m from a waterway, open excavations, storm water infrastructure, exposed groundwater or surface waterbodies. • Appropriately sized fire extinguisher and spill kit present. • All chemicals on site will be suitably stored, labelled, and secured, with adequate provision for bunding (or similar) controls and drip trays during refuelling works. • Chemicals including fuels shall be securely stored on site in bunded containers (or removed from site overnight). 	Low	

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				<ul style="list-style-type: none"> Ensure a copy of the CEMP and the Spill Management Plan are kept on site at all times. 		
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13. Quality Control

Quality Control will be in accordance with this Work Instruction and the relevant specifications, principal requirements & site-specific drawings. All completed Quality Assurance Documentation related to this Work Instruction shall be given to the Quality Manager for final approvals & sign offs. All documentation will be stored in the project folder.



Delivering good work

13.1. Work Specific Quality Risks (remedial, failed/ missed testing, incorrect levels, missed inspections)

Tasks- What am I doing?	Risks- What could go wrong?	Controls- How can I do it safely?	Risk Rating After: Red, Yellow or Green
Project scope	Standard not met.	<ul style="list-style-type: none"> Inspections planned & completed as required. Testing undertaken where required & checked for compliance. Work is signed off before moving to the next stage (where required) Clear specification / requirements agreed with the client before the job starts. 	Green
	Reputation or customer relationship damage	<ul style="list-style-type: none"> Ensure work is delivered as agreed with customer or stakeholder. Raise concerns that could impact the wider brand or reputation of the project as a CAMs case and escalate to manager 	Green

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14. Stakeholder / Public Relations

Liaise with affected property owners. The Stakeholder Manager is to be made aware of works at least one week prior to start of work so that the affected residents can be given advanced notice as per contract requirement. The Contractor & Sub-Contractor shall not make statements to the media regarding policy, road conditions or contractual matters, unless as permitted or directed by the Principal. All media enquiries are to be directed to the Project Manager who will in turn feedback through the appropriate channels.

The Contractor & Sub-Contractor shall not make any public communication or announcement at any time to any third party, including any section of the media, about the contract or the program without gaining written approval from the Principal beforehand. The Contractor & Sub-Contractor shall only release information or detail of the Contract Documents “In Confidence” to those who have a legitimate need to know or whom they need to consult to carry out the Contract Works. The Contractor & Sub-Contractor may not erect promotional or publicity signage on any part of the Site without gaining written approval of the Principle beforehand.

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Work Instruction: **Bulk Earthworks, Environmental Controls and Drainage Works – Cut F**

15. Work Instruction Acknowledgment

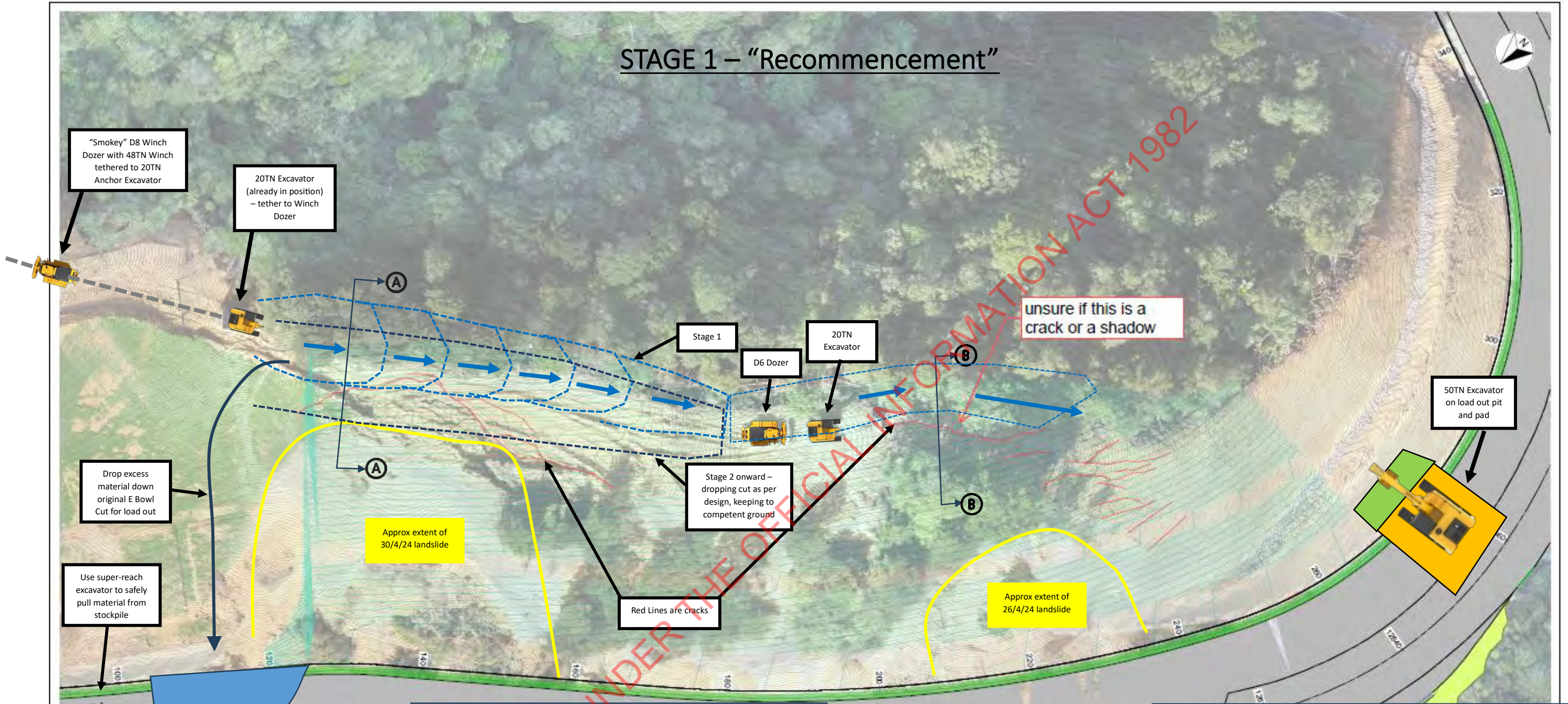
Name	Date	Employer	Site Induction Complete	I have read and understood the work instruction
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Signature</i>
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Signature</i>
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Signature</i>
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Signature</i>
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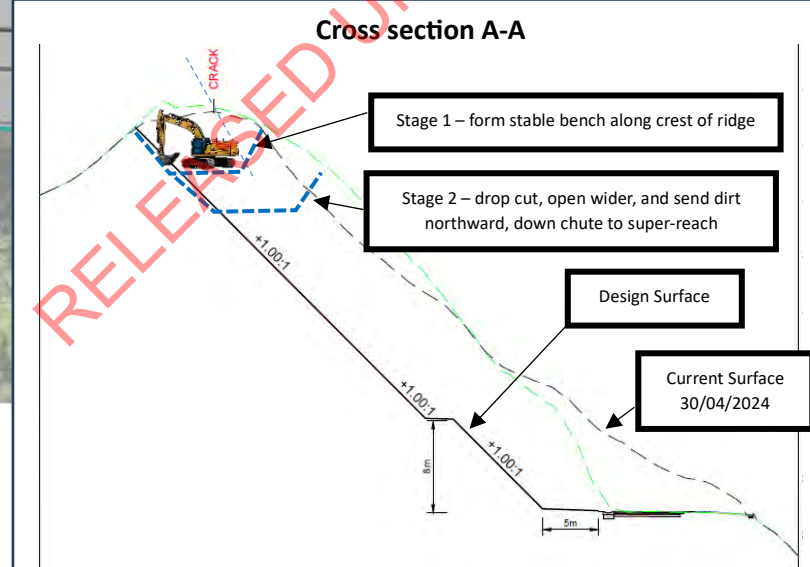
STAGE 1 – “Recommencement”



Methodology North End:

- Establish D8 Dozer with winch to access track, attach winch rope to 20TN excavator already on top of cut
- Establish stationary 20TN Exc. On access track above dozer on access track, attach with static cable to dozer as an anchor.
- Operators of all North End machines to have helmet headsets as well as RT radio comms to spotters, designers and others working on the cut.
- 20TN excavator at top of cut to “burrow in” to North end of Cut – to establish a sound bench on competent ground, whilst attached to D8 dozer as a safely leash.
- D8 Dozer to be running at any time 20TN ventures south of “Original E Bowl”, maintaining minimal slack in line, until 20TN excavator is able to establish a safe bench on competent ground well below potential failure surface. Spoil to be cast down E-Bowl, not onto slip face.
- 20TN to remain tethered to D8 until platform is deemed safe and competent – nominated person and approver TBC.
- Once deemed safe – excavator to work un-tethered and progress southward into cut, on stable platform

Cross section A-A



Methodology South End:

- Operators to have RT radio comms to spotters, designers and others working on the cut.
- 20TN Excavator and D6 Dozer to form slot to south end of cut, folding in potential slip material into trench and pushing south toward load out digger, working down to the design cut surface, and a working platform outside 1:1 envelope from current toe of slope and/or slip surface
- Narrow slot profile to be maintained, pulling potential slip material into slot, until working platformed deemed safe and competent – nominated person and approver TBC.

Cross section B-B

