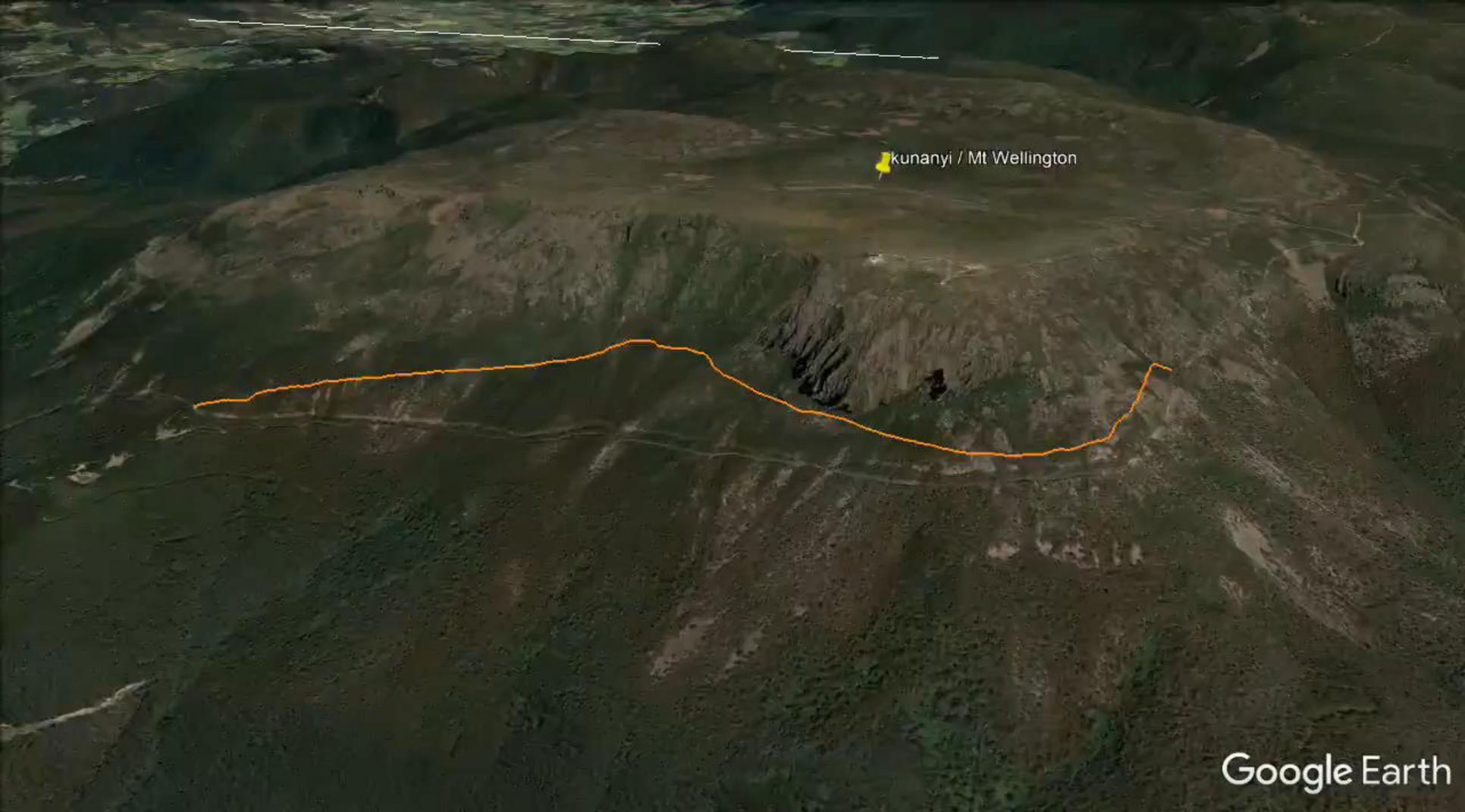


City of Hobart presents

Rejuvenating kunanyi / Mt Wellington's Great Short Walk

International Trails Symposium 2019, Syracuse, New York
Alister Clark, Project Manager, City of Hobart, Tasmania



Google Earth





Pinnacle Track 1907

(photograph from
the Weekly
Courier 19 Sept
1907 page 24).



Pinnacle Track c.1920s, MC Horden



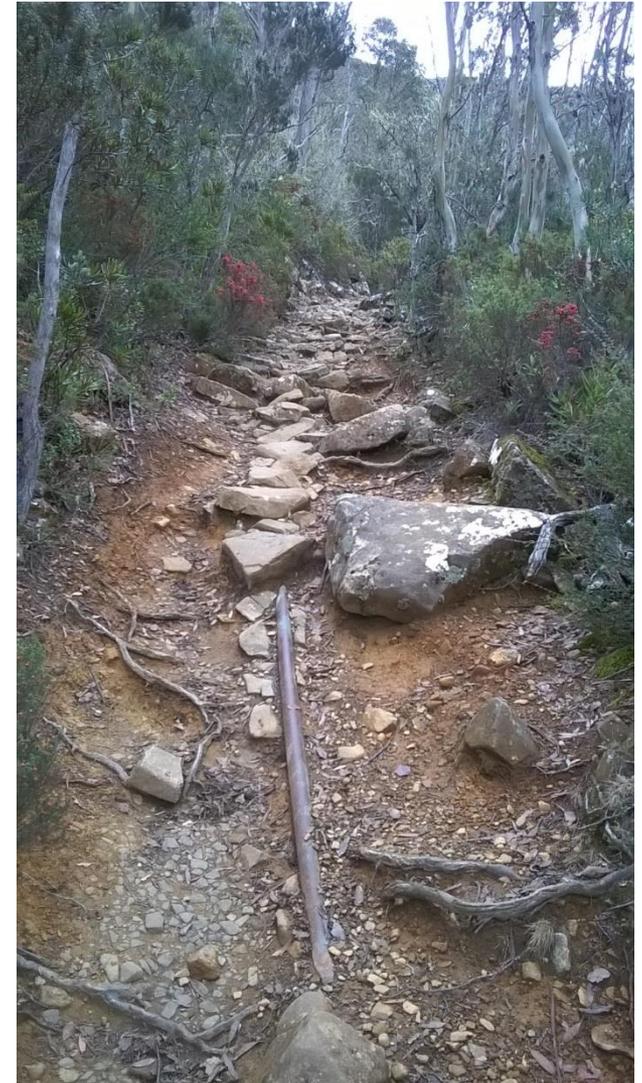
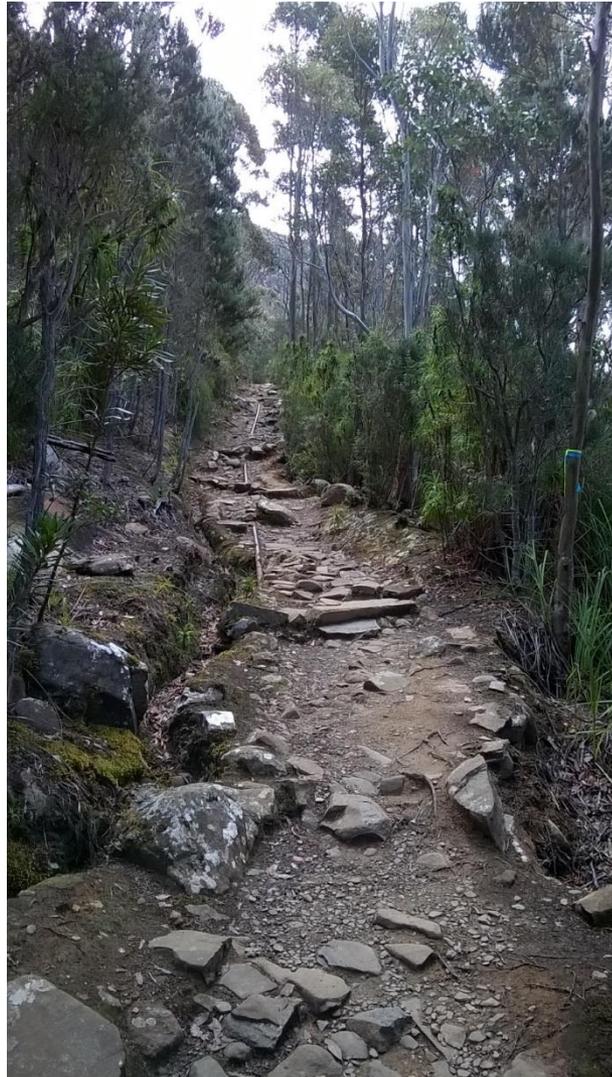
Prior condition – Organ Pipes Track

Collapsed embankments, unstable and uneven surface, poor drainage



Prior condition – PinnacleTrack

Intrusive services, massive erosion, poor drainage.



Challenges

Concept and design
The Mountain
Visitor Management

Safety
Environmental values
Heritage



Learning Outcomes

List and briefly describe 5 key issues to consider for heritage trail rejuvenation works in an Australian sub-alpine environment.

Analyze 3 different situations along a heritage trail in an Australian sub-alpine environment reserve and select appropriate construction solutions and techniques.

Concept and vision

A 2-3 hour walk suitable for most ages with some bushwalking experience, within half an hour of Hobart

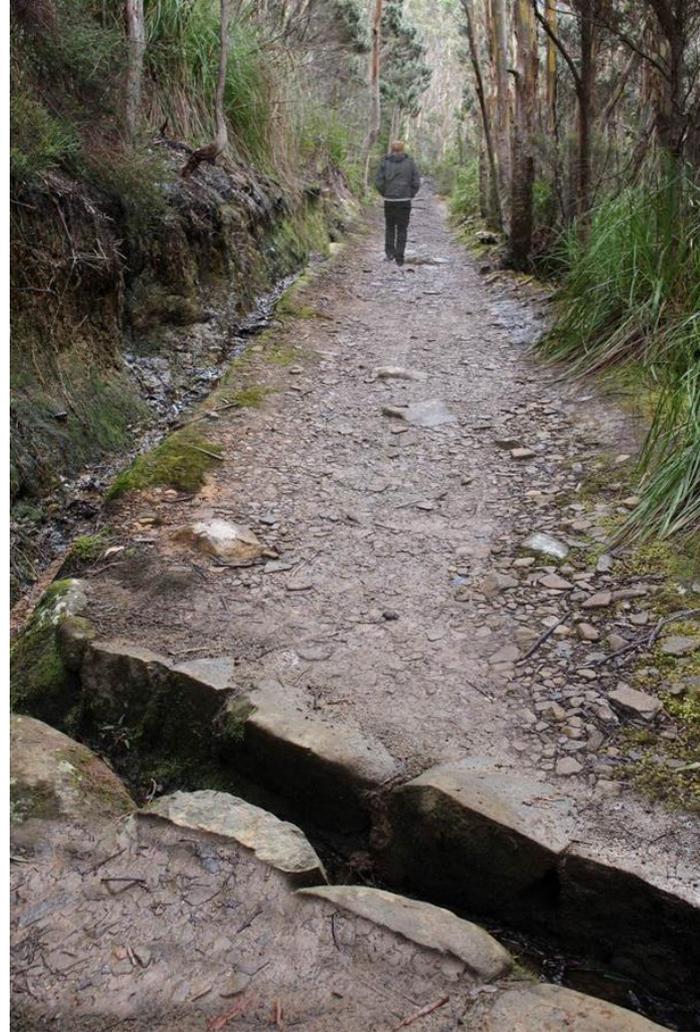


An historic track through the sub-alpine environment, with spectacular views of Hobart and the Organ Pipes. The tracks are well-maintained, but there are hills, steps and some uneven surfaces.

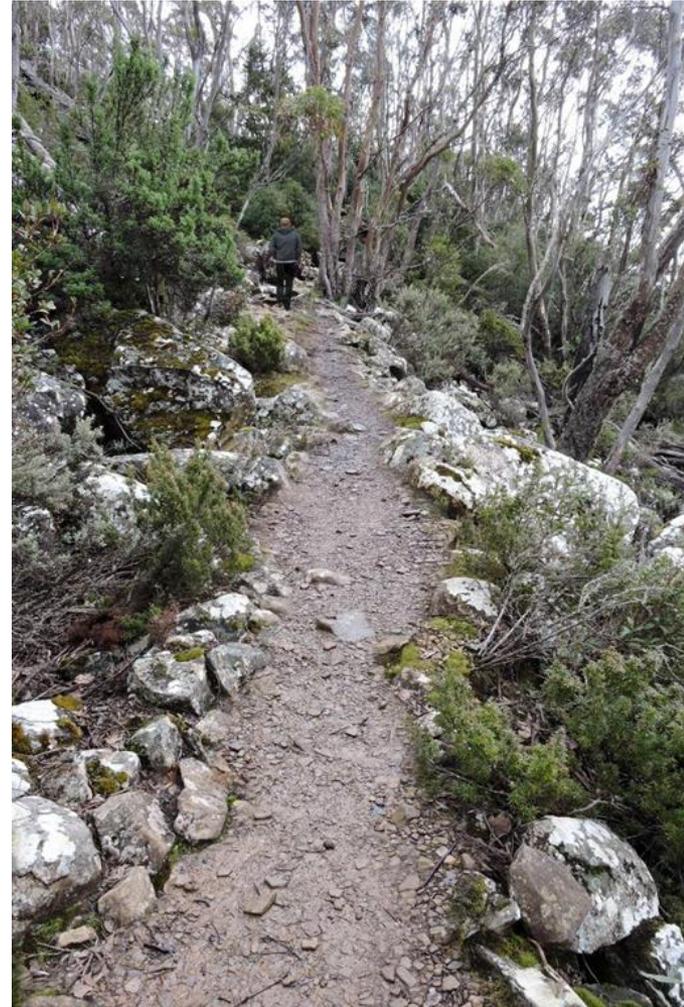
Objectives

- **Integrate** conservation of heritage values with a contemporary recreation experience and sustainable track management.
- **Address** track defects that are a safety risk to users, and a reputational risk to the City of Hobart and Wellington Park Management Trust.
- **Improve** the provision of short, entry level bushwalking opportunities on kunanyi / Mount Wellington accessible to most ages.
- **Minimise** adverse impacts upon the environment through sustainable construction techniques and processes.
- **Improve** long term financial efficiency through sustainable track construction techniques.

Conceptual design - mock-ups



Conceptual mock-up – boulder field



The Mountain

INACCESSIBILITY

- No direct vehicle access
- Narrow & uneven original track
- No excavators allowed
- Power carriers and hand tools



The Mountain

WEATHER

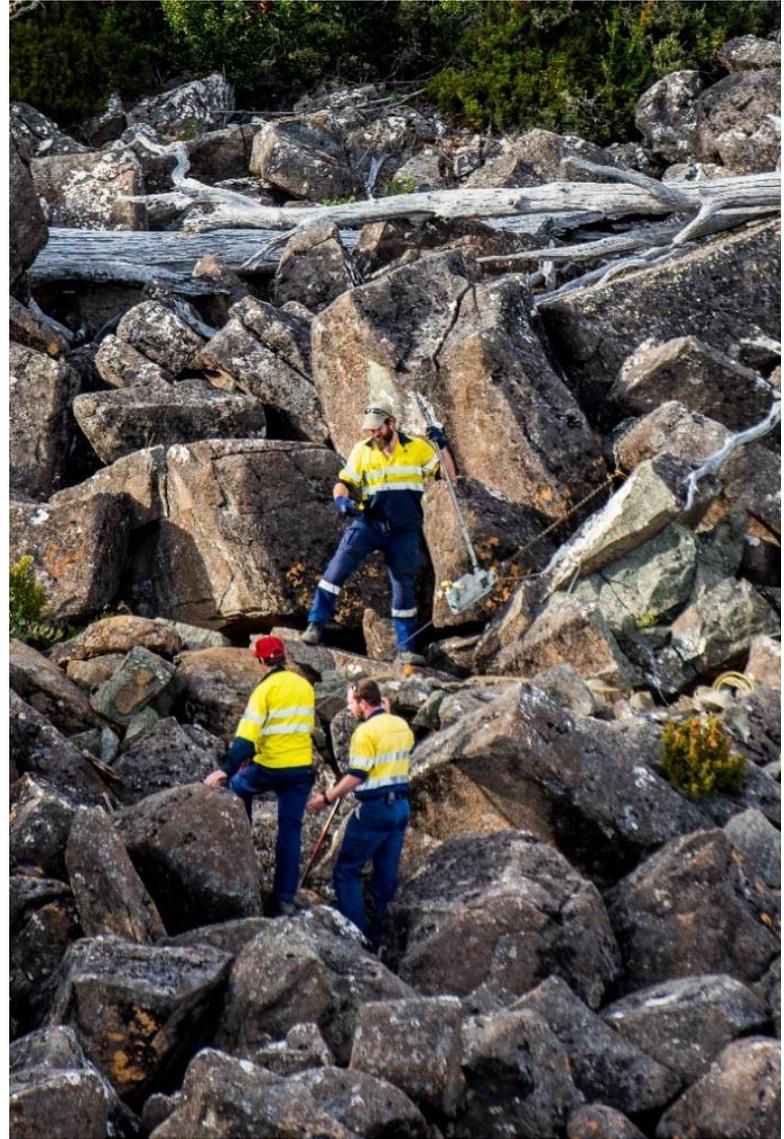
- Wind, cold, frost, snow, ice and fire
- Narrow windows for helicopter operations
- Increased operational overheads



The Mountain

BOULDER FIELDS

- Safe movement of large boulders
- Geo-technical assessments
- Guidelines for work



Visitor Management

ACCESS AND SAFETY

- Kunanyi / Mt Wellington is heavily used by locals and tourists
- Pressure to keep open roads and tracks
- Closures were unavoidable
- Communications crucial



Safety

- Safety management Plan
- Safe work Methods Statements
- Standard Operating Procedures
- Traffic Management Plans
- Meetings and Reviews

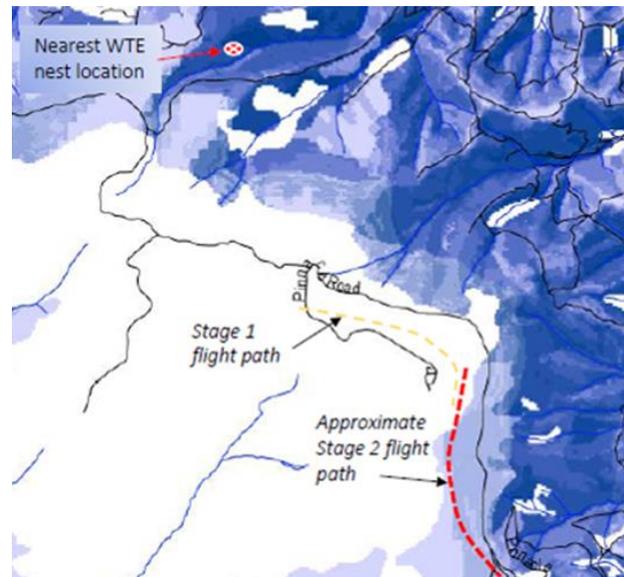


Environment

Tasmanian daisy tree



Avi-fauna



Silky snail



Heritage

Intact track sections

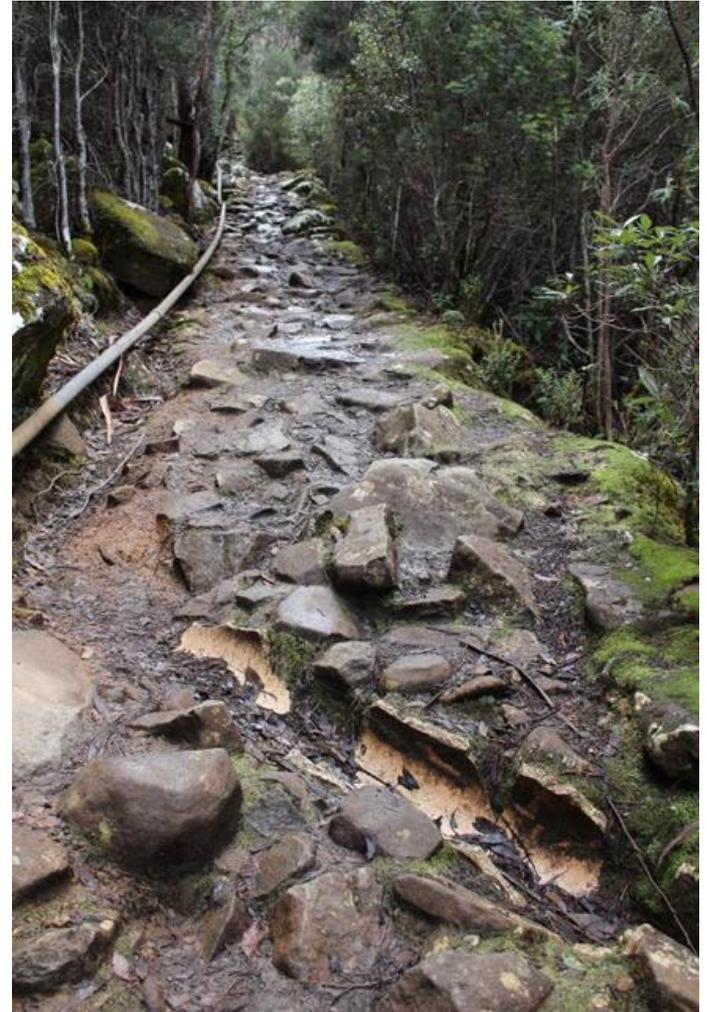


Original walling



Heritage

Original terracotta culverts



Heritage

Original construction on disused track sections

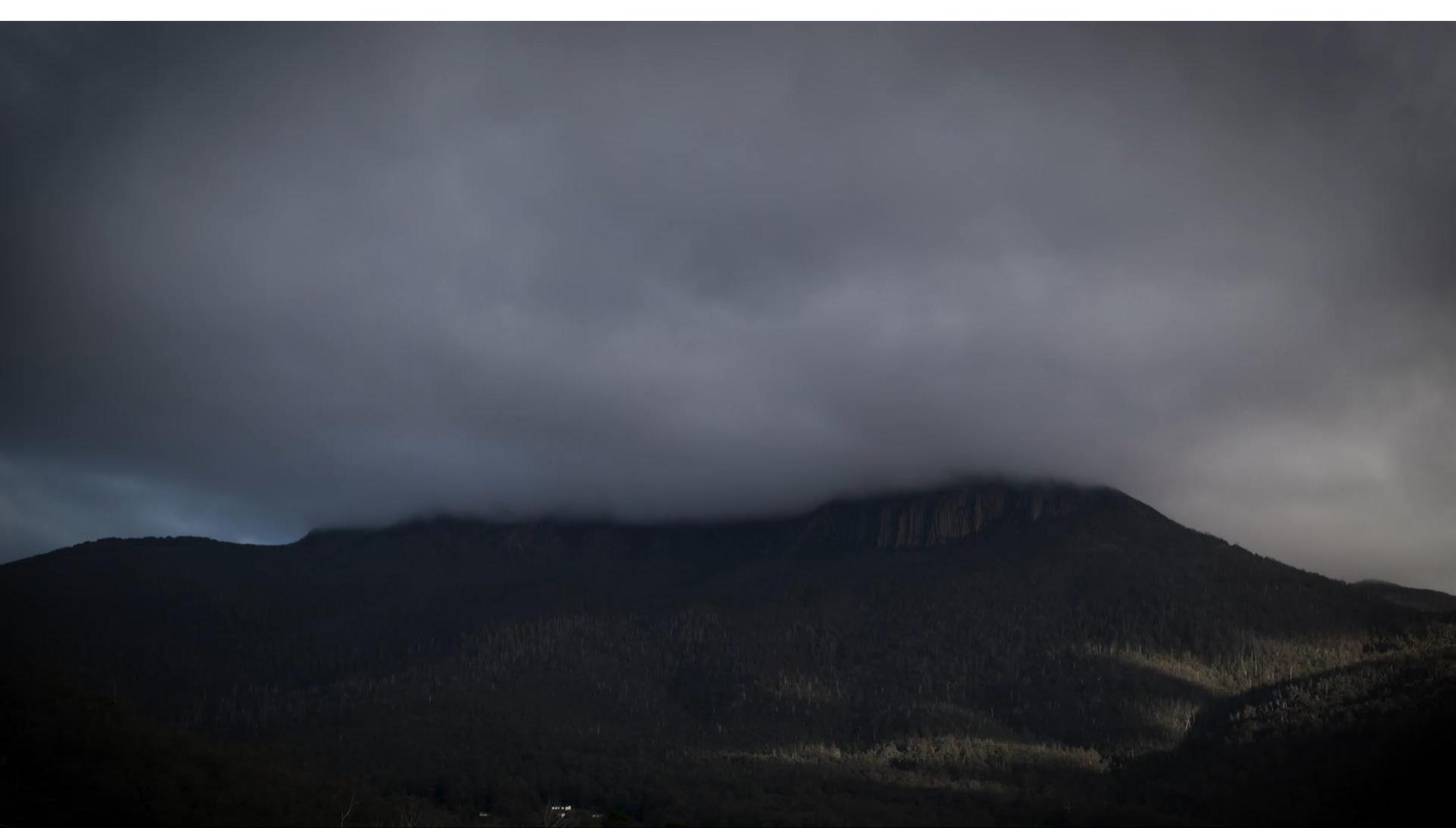


Heritage

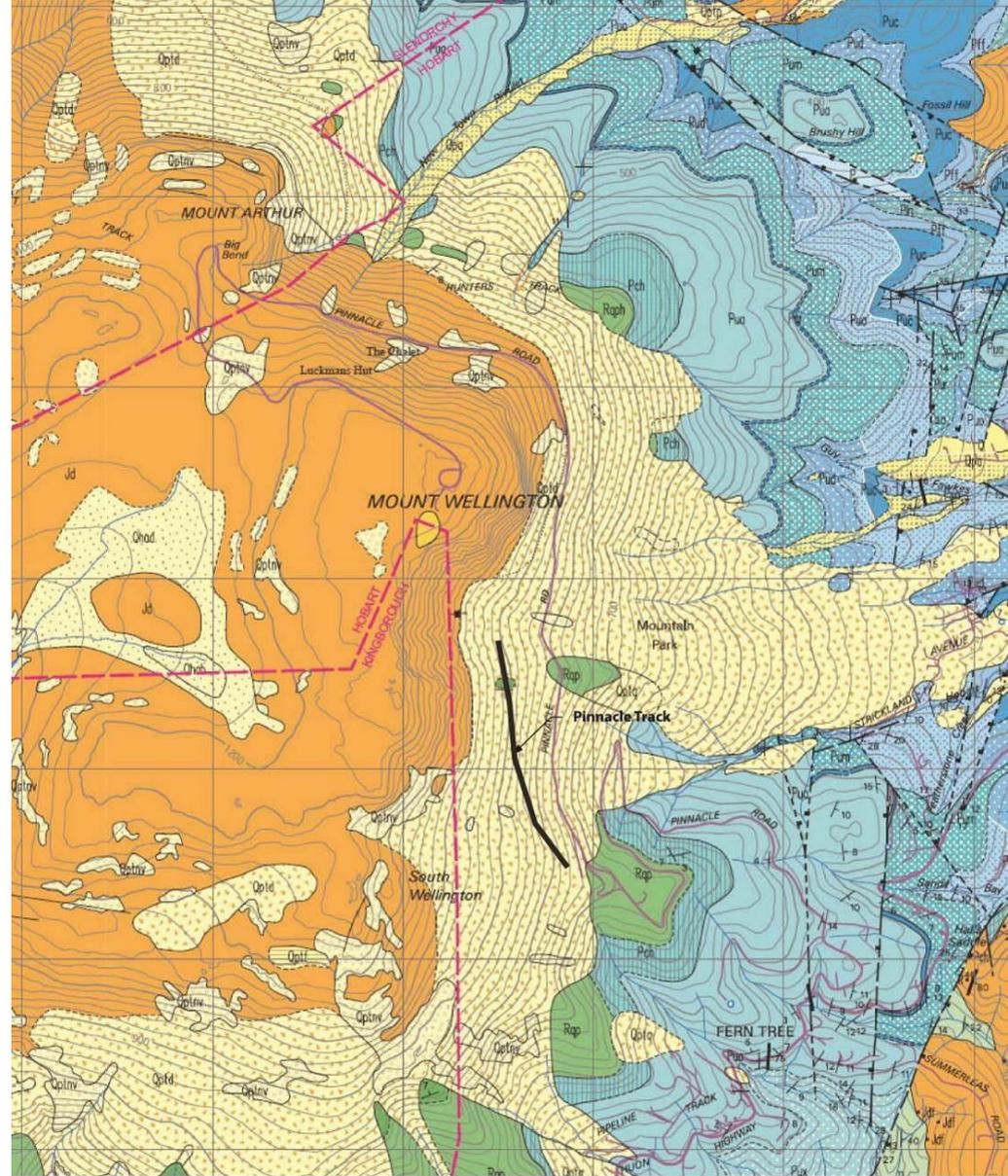
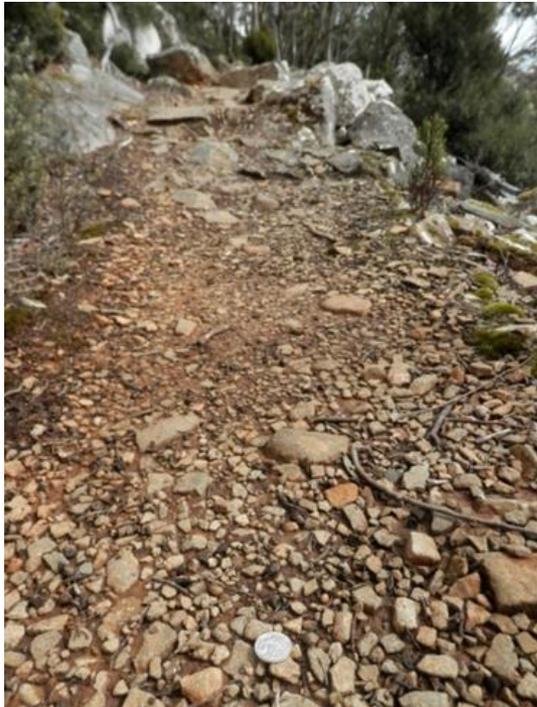
Track side borrow pits

Blasting





Geology and soils



QUATERNARY	Qptnv	Periglacial non vegetated scree deposits (Qptnv).
	Qpt	Talus and remobilised talus deposits (Qpt), talus consisting dominantly of dolerite boulders (Qptd), talus dominantly of Lower Parmeener Supergroup rocks and Jurassic dolerite (Qptdb), talus of dolerite with notable amounts of Upper Parmeener quartzose sandstone (Qptda), talus dominantly Lower Parmeener rocks (Qptp), talus dominantly Upper Parmeener quartz sandstone (Qptq), talus consisting of dolerite and subordinate Upper Parmeener rocks (Qptup).

Detailed Design

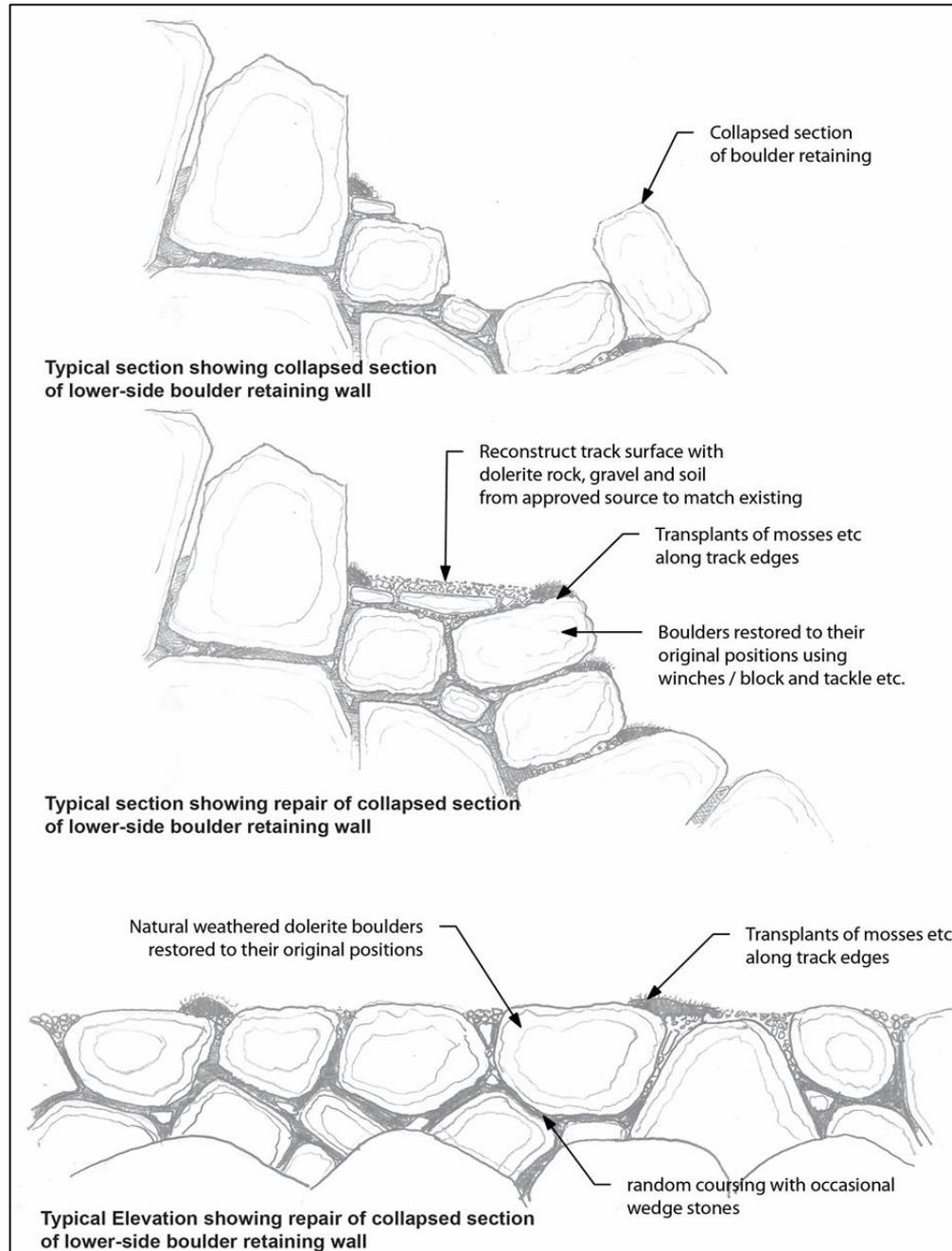


Figure 15: Mock-up of proposed track works across unstable and collapsed boulder field

 A photograph showing a narrow, winding path through a dense field of large, grey and brown boulders. The path is uneven and appears to be made of dirt and small stones, with many gaps and loose rocks. In the background, a valley with a body of water and distant hills is visible under a clear sky.	 A photograph showing a similar boulder field, but with a more defined and stable path. The path is wider and filled with coarse gravel and small rocks. A person is walking away from the camera on the path. The background is the same valley and hills as in the first image.
<p>Existing Existing boulder field crossing in poor condition. Aggregate has washed away leaving unstable base rocks and hazardous voids. Visitors report inability to appreciate surrounds and views as attention is consumed by navigating track.</p>	<p>Proposed Fill voids with rock and coarse gravel. Restore edge retaining boulders where these have collapsed. Re-gravel with matching material from the approved source. Stable and safe rocky sections may be left uncovered.</p>

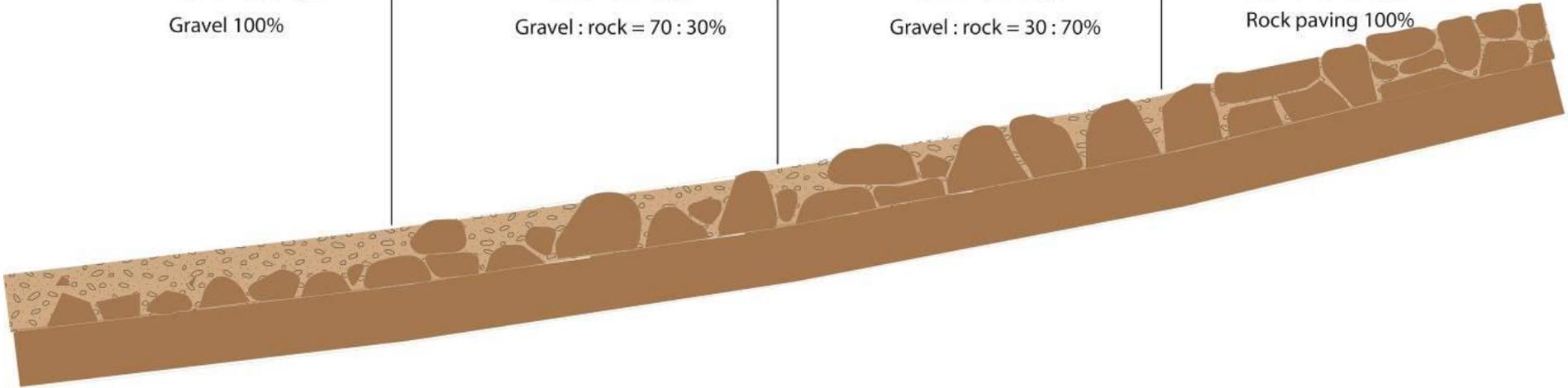
Slope and Surface Treatments

12 % or less slope
Gravel 100%

13% to 15% slope
Gravel : rock = 70 : 30%

16% to 18% slope
Gravel : rock = 30 : 70%

above 18% slope
Rock paving 100%



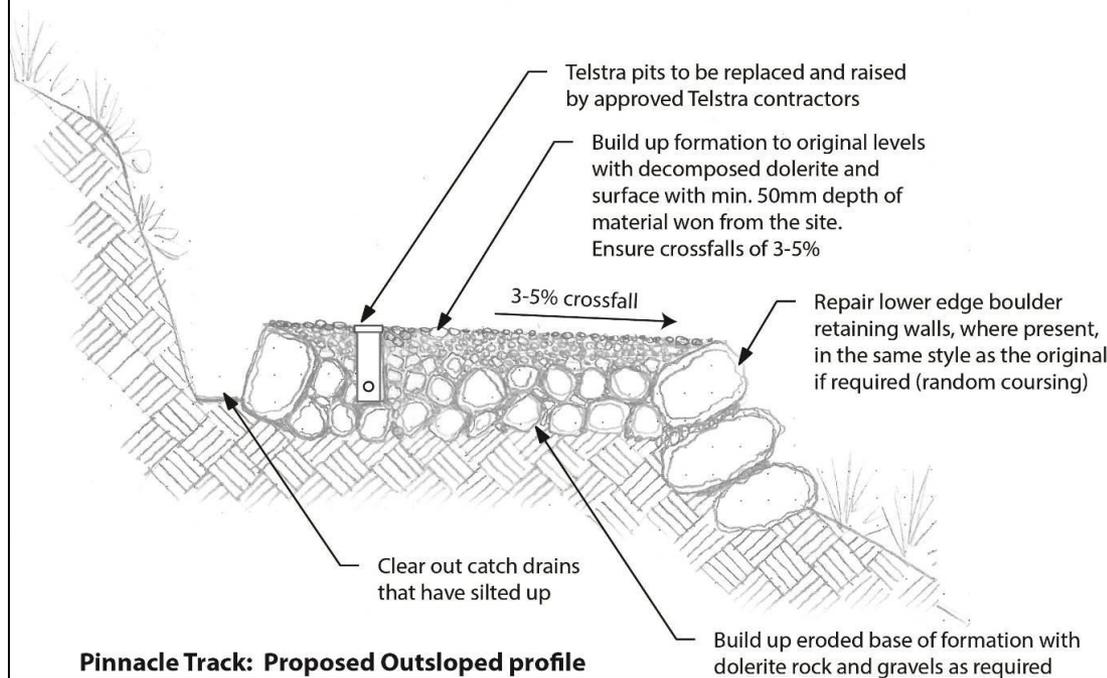
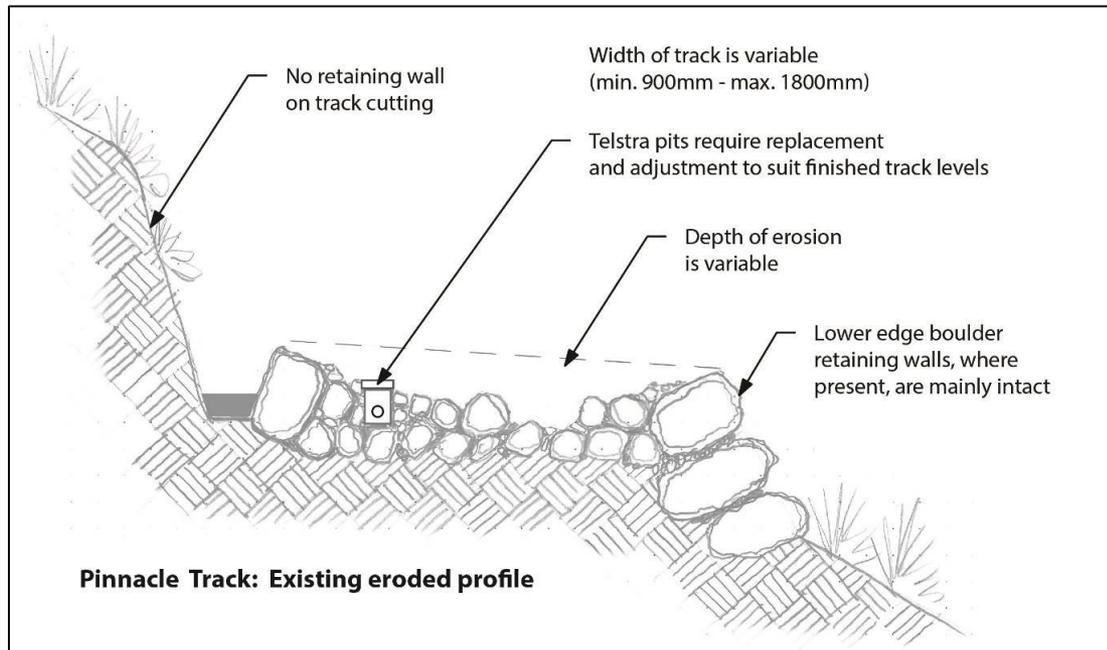


Figure 36: Mock-up of repair works along section with steep grade, water pipe and conduit



Existing: Steep, rocky section with intrusive pipe supplying water to The Springs amenities



Proposed: Water pipe to be relocated away from the track. Harden steep track section with informal dolerite paving.

Cross drain detail

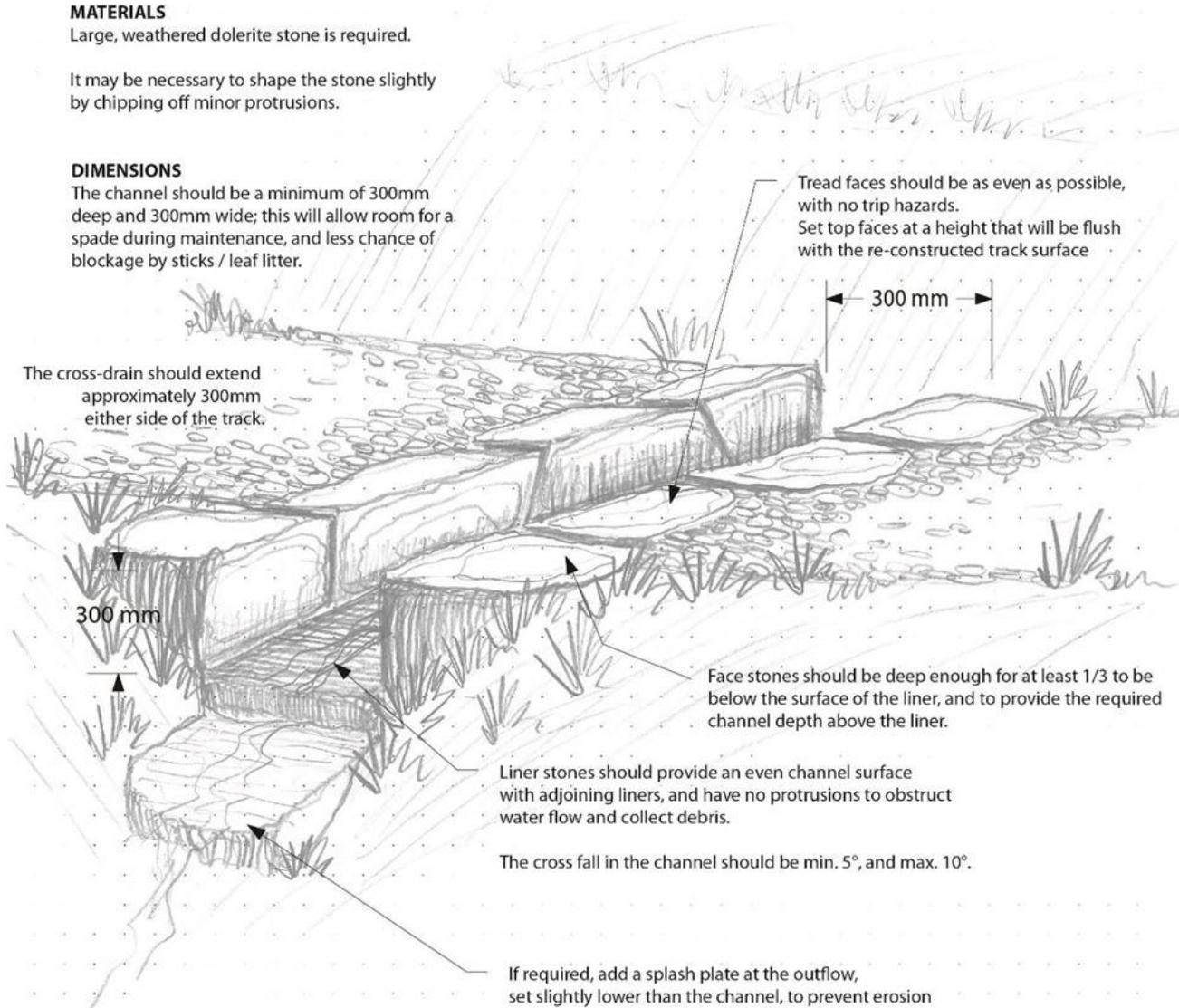
MATERIALS

Large, weathered dolerite stone is required.

It may be necessary to shape the stone slightly by chipping off minor protrusions.

DIMENSIONS

The channel should be a minimum of 300mm deep and 300mm wide; this will allow room for a spade during maintenance, and less chance of blockage by sticks / leaf litter.



The cross-drain should extend approximately 300mm either side of the track.

300 mm

Tread faces should be as even as possible, with no trip hazards.
Set top faces at a height that will be flush with the re-constructed track surface

300 mm

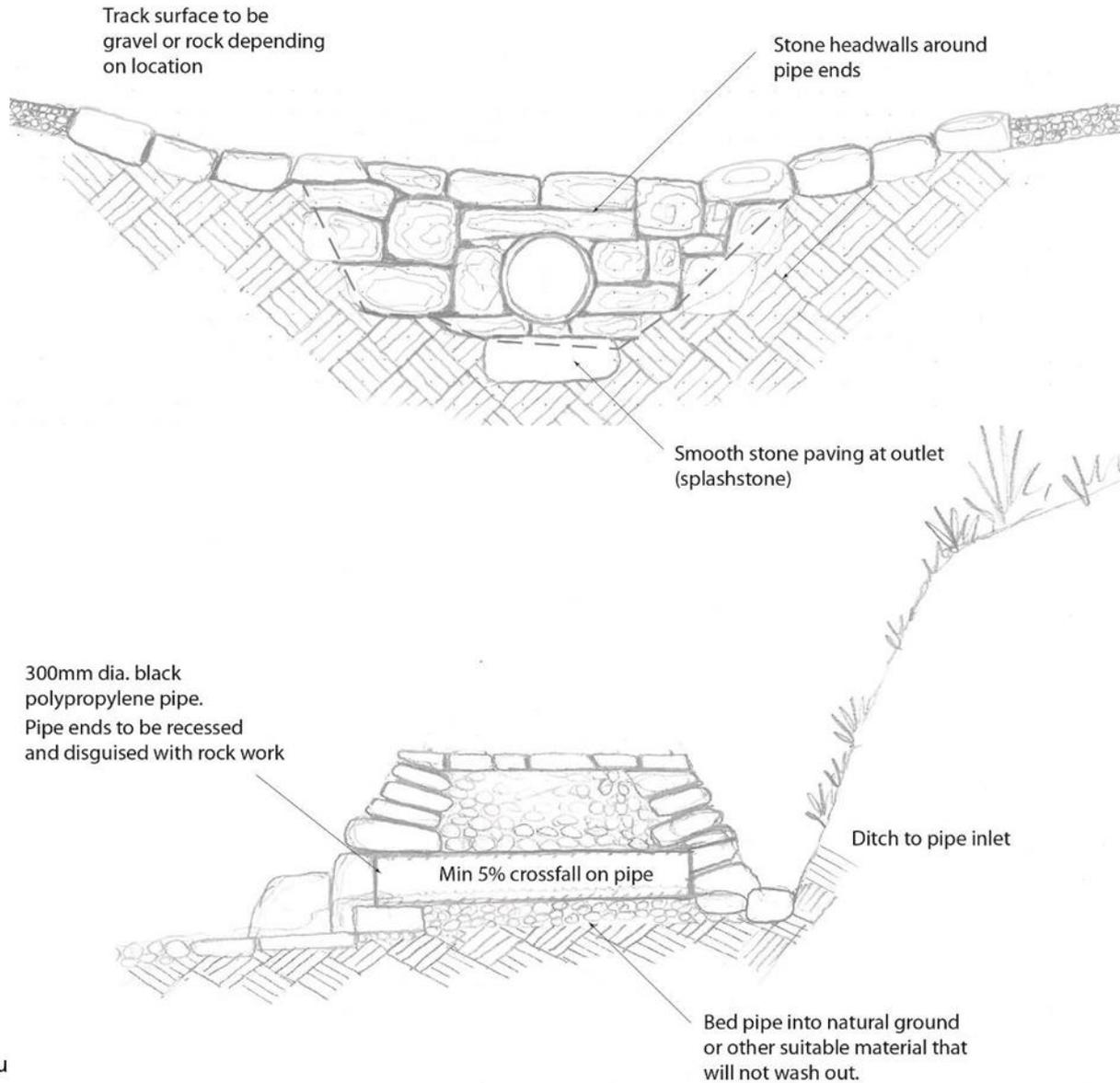
Face stones should be deep enough for at least 1/3 to be below the surface of the liner, and to provide the required channel depth above the liner.

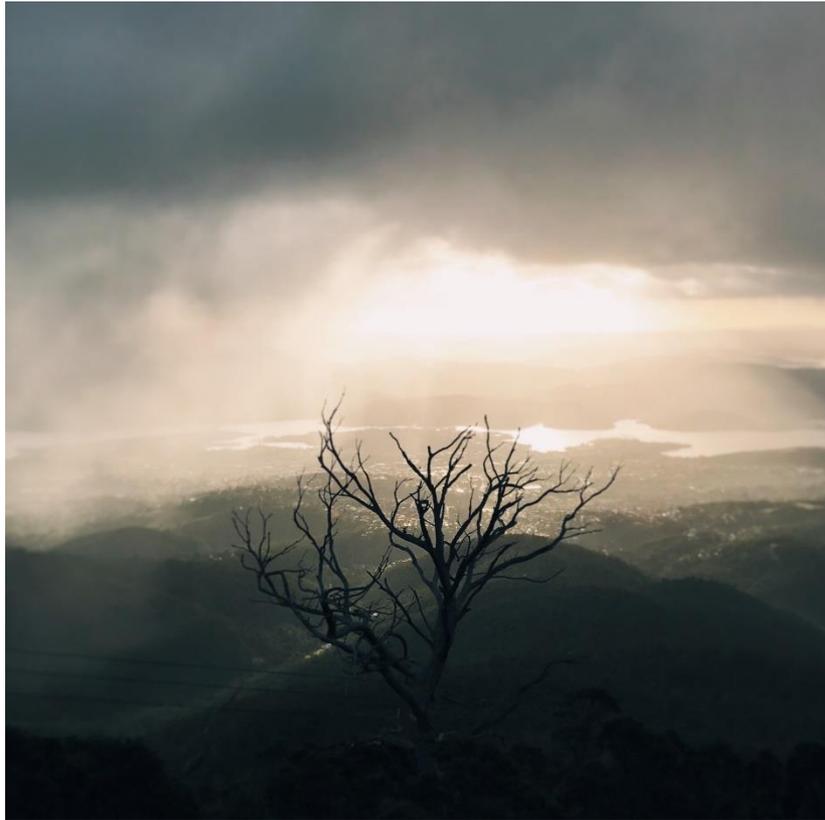
Liner stones should provide an even channel surface with adjoining liners, and have no protrusions to obstruct water flow and collect debris.

The cross fall in the channel should be min. 5°, and max. 10°.

If required, add a splash plate at the outflow, set slightly lower than the channel, to prevent erosion

Repair of culverts





End of part one

City of Hobart presents

Rejuvenating kunanyi / Mt Wellington's Great Short Walk

Part 2

by Lindsay Ashlin, Tracks Supervisor





















Planning- Weekly Run Sheet

WEEKLY RUN SHEET – GREAT SHORT WALK											
Section	start	end	gradient	treatment	notes	Section	start	end	gradient	treatment	notes
P1	0	50	20%	Rock		P16	750	800	14-15%	70:30 R:G	Major slope variations
P2	50	100	>20%	Rock	just past rock fall, lower section has top drain	P17	800	850	16-17%	70:30 R:G	Major slope variations, up to 23%
P3	100	150	17-20%	70:30 R:G	some flat areas, 1 telstra pit	P18	850	900	14	30:70 R:G	Slope variations, very rocky, Telstra pit
P4	150	200	17-18%	70:30 R:G	20m @ 21%, 1 flatter area	P19	900	950	18-23%	70:30 R:G	Large dip at 930m, 30-40m=7%, then 23%
P5	200	250	15-16%	70:30 R:G		P20	950	1000	18-19%	70:30 R:G	Telstra pit at 950, dip at 966, 8m flat - gravelling, 18-19% to dip, same after. Causeway
P6	250	300	15-16%	70:30 R:G	1 Telstra pit, top drain	P21	1000	1050	17%	70:30 R:G	Weir for water intake. Cross bar. Telstra pit.
P7	300	350	10-12%	G	in good condition, mostly local gravel topping	P22	1050	1100	19%, 7-8%	70:30 R:G	19% for 15m then flat, culver / french drain?
P8	350	400	18%	Rock	lots of fill needed	P23	1100	1150	16-17%	70:30 R:G	Varies within, 15m flat
P9	400	450	14-17%	70:30 R:G	14% to bottom of dip at 428m, slight 2% rise for 5-10m and then 17% drop. 1 Pit	P24	1150	1200	13-14%	30:70 R:G	Top drain? Telstra pit, section is 10-11%
P10	450	500	15%	30:70 R:G	Even grade last section is good condition	P25	1200	1250	13-19%	70:30 R:G	Broken culvert, starts flatter at 13% then 19% slumped top drain. Ends at culvert in good condition
P11	500	550	15%	30:70 R:G	Even grade mostly all good condition, ends at the monument 550m	P26	1250	1300	16%	70:30 R:G	Flatter for last 10m
P12	550	600	17-18%	70:30 R:G	a few ups and downs	P27	1300	1350	12-13%	30:70 R:G	2 culverts intact, top drain, inslope
P13	600	650	15-18%	70:30 R:G		P28	1350	1400	17-19%	70:30 R:G	Water bar, includes existing good section, ends at cross bar
P14	650	700	14-15%	70:30 R:G	can be sections with less rock?	P29	1400	1450	8%	g	CVA section, 5m rock at start, some culvert cleaning
P15	700	750	15-16%	70:30 R:G	Large telstra pit, Minor slope variations						

Checklist – PROMPT, ENSURE DAILY TOOLBOX IS COMPLETED EVERY MORNING TO DISCUSS THE DAYS ACTIVITIES COVERING WHS, Environmental & Quality				Yes	No	N/A
WHS	SWMS, SOP and SDS on site and correct versions? Any updates required? Site secure/signage in place? Site clean and tidy? Fire Danger Index, Fire suppression equipment on site? Hazards Geo-Hazards - known locations marked and shown to staff, Hangers, Other? Additional equipment required?					
Environmental	General <ul style="list-style-type: none"> Tools and equipment washed down to entry on site? Heritage <ul style="list-style-type: none"> Permit conditions being followed? – identify heritage features (remember as much necessary, as little as possible) Water crossing <ul style="list-style-type: none"> Sediment control required Flora & Fauna considerations? <ul style="list-style-type: none"> Permit conditions being followed <ul style="list-style-type: none"> Tasmanian Daisy Tree – known locations marked and shown to staff Any disturbance to surrounding area from the tasks undertaken i.e. vegetation, rocks etc.? <ul style="list-style-type: none"> When sourcing local materials (rocks, gravel etc) are existing sites being re-habilitated as you go to preserve the natural appearance of the area? 					
Quality (Construction Task/Type)	Track construction standards/guidelines in place <ul style="list-style-type: none"> Construction requirements (as much necessary, as little as possible) Work undertaken in a sensitive manner Additional equipment required? Any updates/new required? Material requirements <ul style="list-style-type: none"> Local – (excess to share with other teams?) Imported - if yes quantities required (red gravel, red gravel spalls, red gravel rubble) Helicopter Operations <ul style="list-style-type: none"> Drop zones confirmed? Gravel requirements confirmed? 					



Weekly Run Sheet – Tool Box Meeting

WEEKLY RUN SHEET – GREAT SHORT WALK

City of HOBART Team: *Quiet & Grumpy*
 Job Number: BT2090 Location: **Pinnacle Track**
 Site Team Leader: *Pete* Signed Site Team Leader: *Pete*
 Week Ending Friday *15* / *6* / 2018 Signed Site Supervisor:

Task Numbers	Misc - W00 Tech Features - W73		Gravelling Imported - W53 Track Surface - W75		Site Tidy/Rehab - W55 Traffic Control - W76		Heli Ops - X73 Wall > 400mm, Pave - W77		Meeting - BT0003 007 Boulder Fields - O73		Training - BT0003 007 Emergency Tree Work - T39		TOTAL HOURS	Notes
	Monday	Tuesday	Wednesday	Thursday	Friday									
Names														
Peter Schieck	<i>PH</i>	<i>3 5 1/2</i>	<i>5 1/2</i>	<i>3</i>	<i>8</i>					<i>8 1/2</i>				
Mischa Pringle														
Andrew Evans		<i>3 5 1/2</i>	<i>6 1/2</i>		<i>8</i>									
Cameron Davey		<i>3 5 1/2</i>	<i>6 1/2</i>		<i>8</i>									
-Stewart														
TOTAL HOURS		<i>9 16 1/2</i>	<i>18 1/2</i>	<i>3</i>	<i>24</i>					<i>8 1/2</i>	<i>8 1/2</i>		<i>79 1/2</i>	

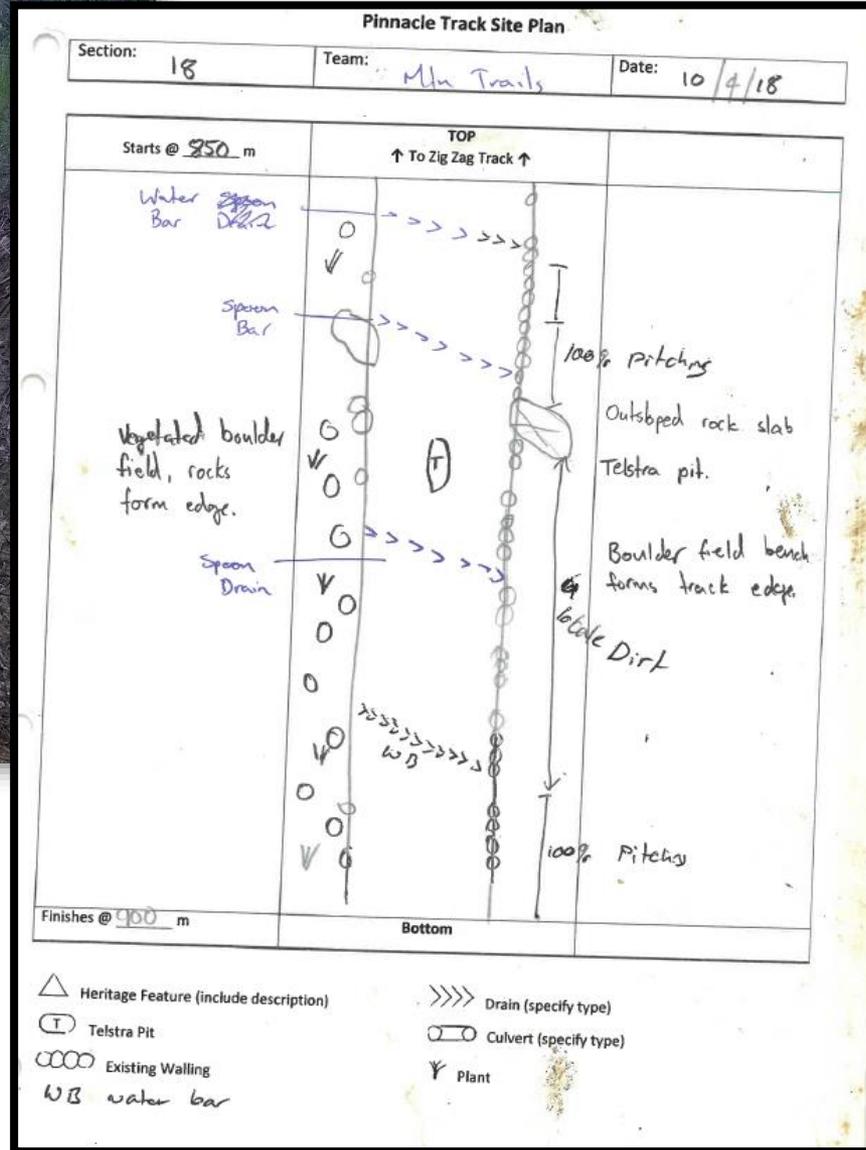
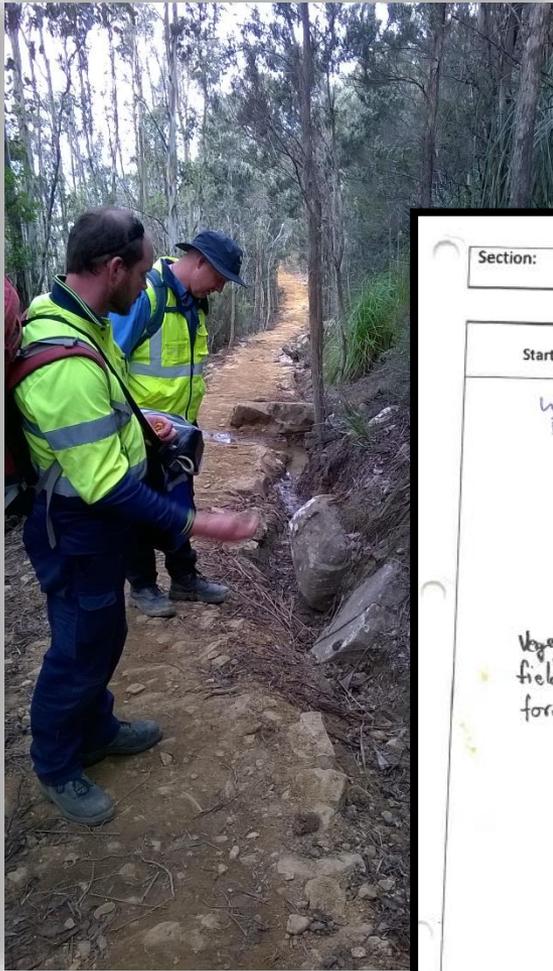
MATERIALS USED	Mon	Tue	Wed	Thu	Fri	TOTAL
Red Gravel (Bags)						
Red Gravel Spalls (Bags)						
Red Gravel Rubble						
TRACK SECTION						
Metres completed (start m & end m)		<i>2x15 1x14</i>	<i>2x15 1x14</i>	<i>2x15 2x14</i>		
- Gravelling		<i>mark of 15 / 14</i>				
- Armouring						

Daily Toolbox Discussion - Safety (SWMS, SOPs etc), Quality (specs etc.), Environmental (Heritage, Flora/Fauna, Erosion etc.)	Mon	Tue	Wed	Thu	Fri
		<i>SOP Review - Track work, Signework, Manual etc..</i>			
		<i>moving material, wheel borrow limits etc</i>			
		<i>combination stretching, vehicle check procedure</i>			

NOTES - Tools required, damaged equipment etc.

Wed: Storm Review BT0003 441 (P) Pete 3hrs
Andrew & Co - left early
Poly tray wheel borrow broken
- Pete B started work on section 14 (water box)
- Walker coming through Pinnacle Track (from Ice house)
- Andrew Friday on 441 (Pete will be on Monday)

Heritage Site Audit



Learning Outcome

Analyse three different situations along a heritage trail, in an Australian sub alpine environment reserve and select appropriate construction solutions and techniques.

Surface Treatments for Different Gradients

Gravel

Gravel/Rock

Rock /Gravel

Rock



12 % or less slope
Gravel 100%



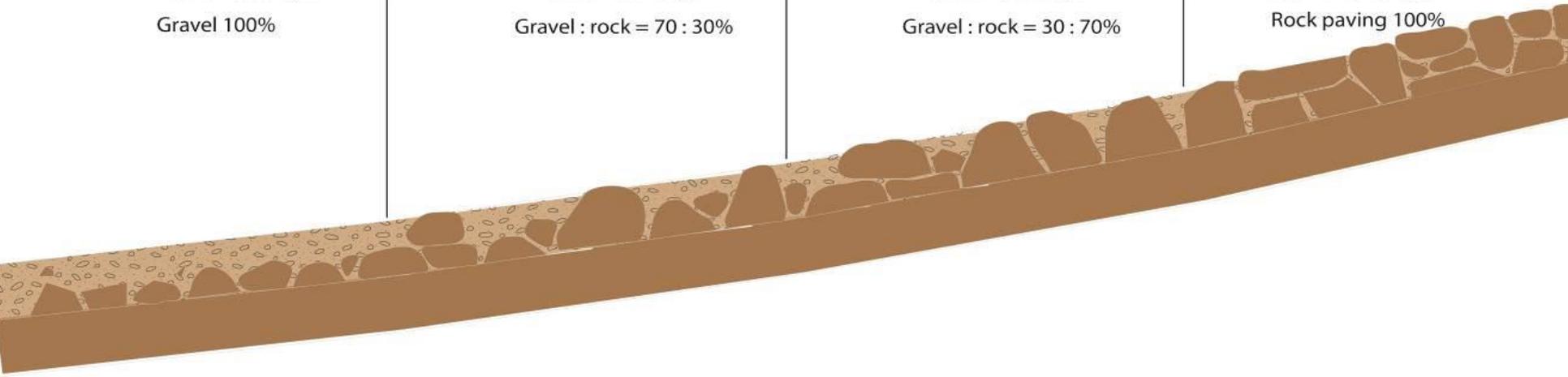
13% to 15% slope
Gravel : rock = 70 : 30%



16% to 18% slope
Gravel : rock = 30 : 70%



above 18% slope
Rock paving 100%

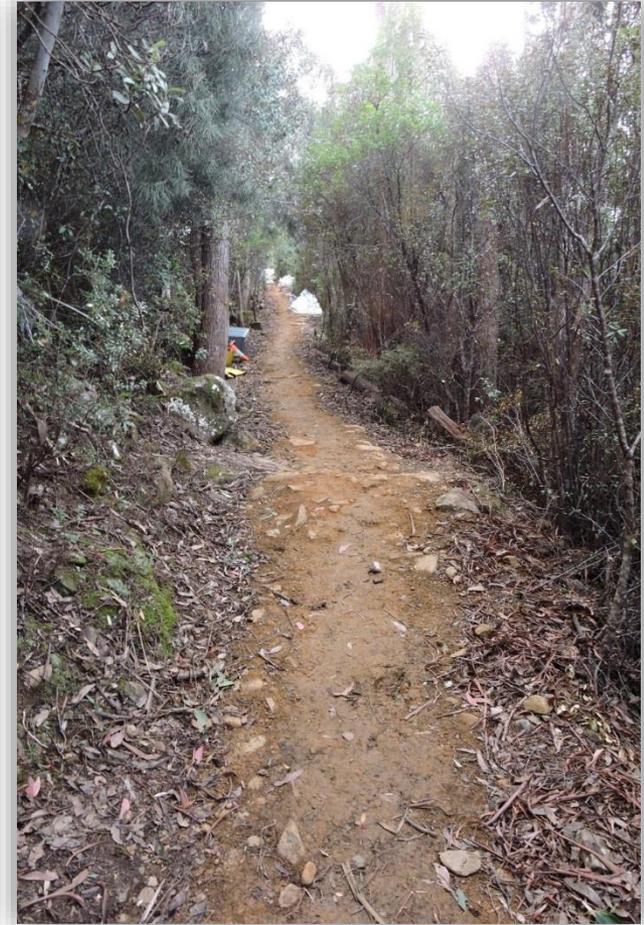
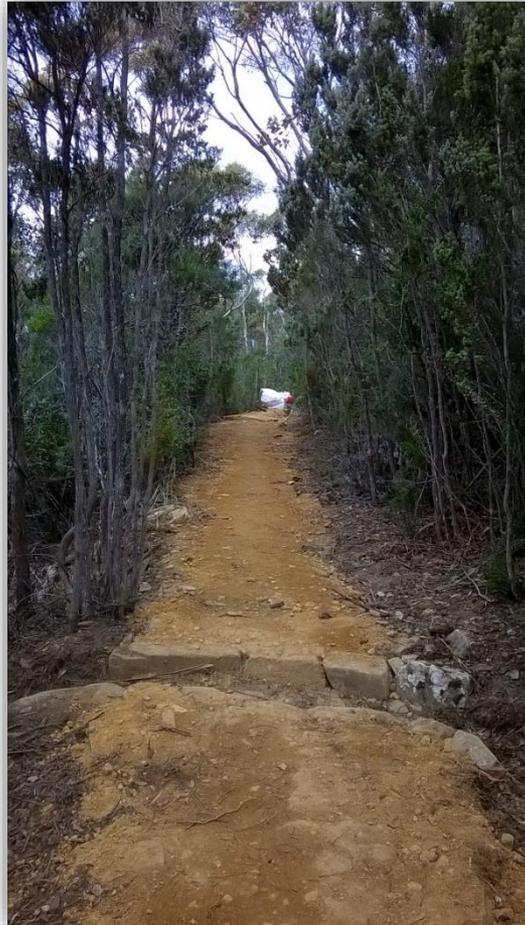


Local Gravel

- Natural appearance
- Various fragment sizes
- Binding properties
- Thickness >2"
- Conditions when laying

12 % or less slope

Gravel 100%



Gravelling – Surface Curing

- **Muddy surface**



Attention

Work on the Pinnacle Track has been completed.

This track has been surfaced with local material. While fresh, and after rain, this material may be muddy and slippery. It will settle and compact over time.

For further information, please call 6238 2886
or email parks@hobartcity.com.au

Borrow Pits

- Check for cultural heritage
- Area out of site
- Vegetation clearance
- Rehabilitation



Imported Materials

- **Dolerite spalls**
- **Dolerite decomposed red gravel**

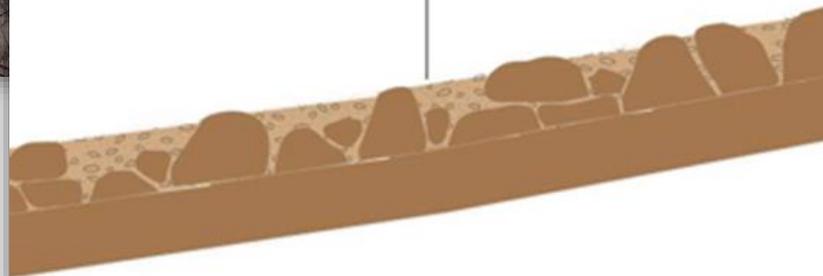


Gravel / Rock



13% to 15% slope
Gravel : rock = 70 : 30%

16% to 18% slope
Gravel : rock = 30 : 70%



Local Rock

- **Won from track surface**
- **Collected from surrounds**
- **Maintain natural appearance**



Rock / Gravel

Before



During

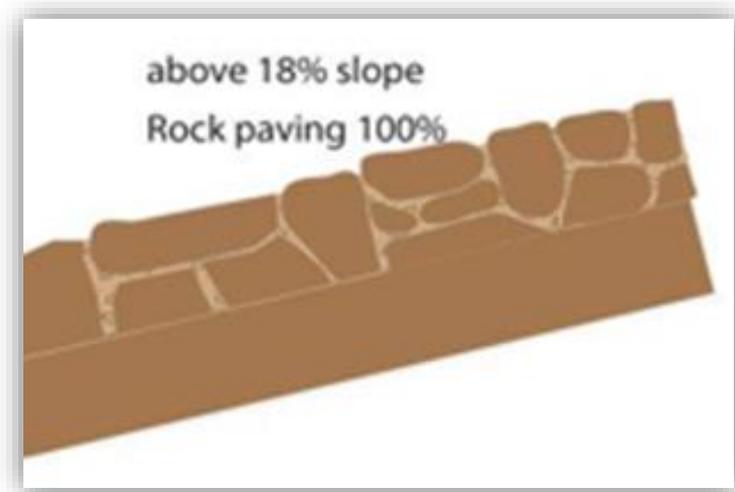


After



Paving / Pitching

- Paving <20%
- Pitching >20%



Pitching

Before



During



After



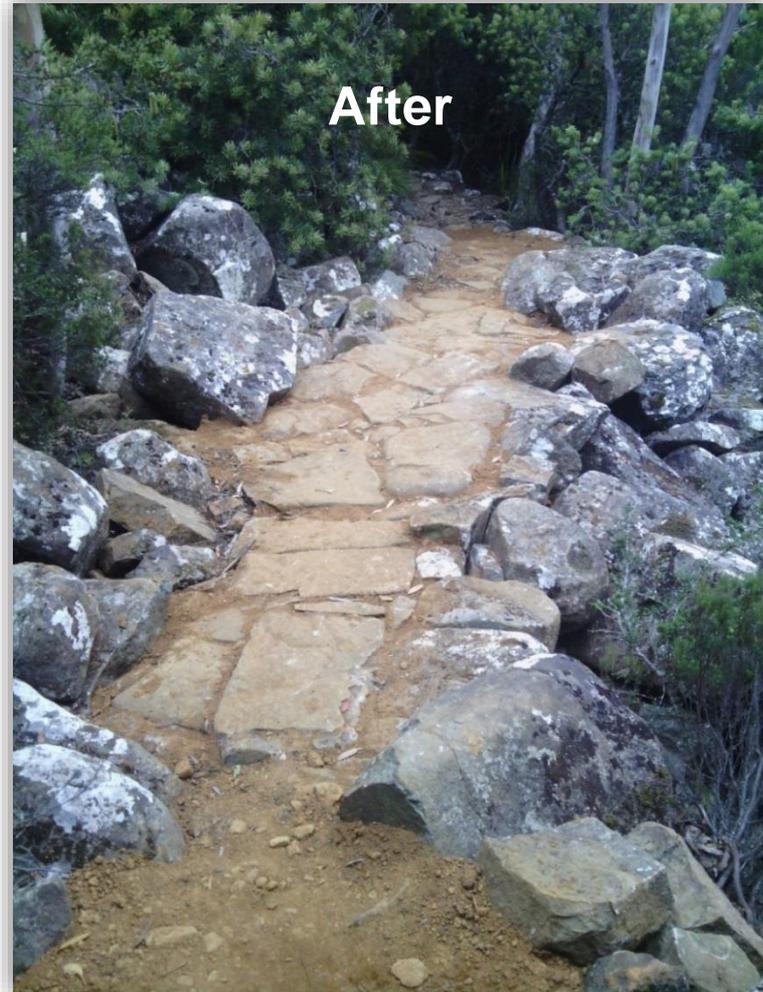


Hazardous Boulders

- Assessment of site
- Stabilization



Boulders Fields



Boulder Fields- *Getting it Right*



Photo 2



Photo 1



Learning Outcome

Outline a management plan for helicopter operations in a public park in an Alpine environment.







Pre-Flight Planning


→
Helicopter Operations WEEKLY PLANNING TASKS
Ops Date:/...../2018

Day Prior to Operation

Track Supervisor -- Lindsay Ashlin

Time	Task	Completed
☐	Contact Chief Pilot -- Paul Sutton (0400-657-249) or Dave Lomas (0407-575-312) to discuss weather and confirm operation go ahead. Base manager Peter Arthur (0407-373-577) if no answer from the chief pilot.	☐
If proceeding, complete the following:		
☐	Contact Project Site Supervisor -- Bushland Project Team to: <ul style="list-style-type: none"> • → Flying confirmed • → Information signs informing users of closed walking tracks (Pinnacle/Grays FT. Feeder Tracks -- At culvert top of Radford's & off Old Hotel site car park. Zig Zag/South Wellington Climbers Tracks) tomorrow and contact staff • → close Old Hotel Site road 	☐
☐	Media -- update Helicopter Operations at the Springs email and Facebook notice -- add date, located here P:\P&CS-Bushland and Reserves_BUSHLAND-PROJECT-OFFICER-MASTER\Alister\Great-Short-Walk-1718\Communications. Email the following staff with the updated notice <ul style="list-style-type: none"> • → burdickg@hobartcity.com.au - Grace Burdick 2729 or 0438-520-162 to update Facebook as needed. • → Parks@hobartcity.com.au or 2886 (Bianca Kleine is the main contact) to send out Pinnacle Road Rd Status update email and update website. (should show up on top of CoH webpage.) • → clarka@hobartcity.com.au (Bushland Project Officer) • → black@hobartcity.com.au 	☐
☐	Contact Rob Watchorn to install the two trailer mounted VMS to inform drivers of operations i.e. Helicopter Operations Wed 17 Jan. Drive with caution	☐
☐	Ensure Drop Sheet is prepared by Project Site Supervisor / Team Leaders	☐
☐	Fill in Daily Preparation Sheet with assigned roles, check with Site Supervisor	☐
☐	Print Role Assignment & Tasks Sheet x 9	☐

Project Site Supervisor -- Jeram Cowley

Time	Task	Completed
☐	Contact ALL STAFF to confirm operation go ahead. Inform operational staff. Assign out of area tasks for contractors and labour hire staff or change work hours.	☐
☐	<ul style="list-style-type: none"> • → Uncover and update information signs informing users of closed walking tracks (permanent marker i.e. Wed 10 @ 7am -- Wed 10 @ 4pm) <ul style="list-style-type: none"> ○ → Feeder Tracks -- <ul style="list-style-type: none"> ▪ → At culvert top of Radford's ▪ → off Old Hotel site car park ○ → Pinnacle/Grays FT. 	☐
☐	Close Old Hotel Rd -- corrflute signs etc. are kept in the container	☐
☐	Prepare and sign out radios for following day -- check batteries are charged	☐

Date: 3/01/2018
Author: Track Supervisor
TRIM Reference: F18/1678



Helicopter "Drop Sheet"

Start operation 12:02

DROP SHEET					Date:	6/4/18, 12:00	
Drop No	Time/Complete Post 12:04	Type	Tag No	Origin	Destination	Fuel/Slings	Other
1	12:09	R	1	Boulder F	#5		Post delivery
2	12:12	R		Springs			+ Emphes & wunch gear out
3	12:15	R	2	Boulder F			
4	12:17	R		Springs			
5	12:20	R	3	Boulder F	Pete		Waste out.
6	12:22	R		Boulder F			Slings returned.
7	12:25	R	4	Springs			
8	12:27	R		Boulder F			Dirt out
9	12:30	A	5	Boulder F			
10	12:32	R		Boulder F	#5		Slings return
11	12:35	G	6	Springs	P6		Twist down / out
12	12:38	SP			TWS		
13	12:41	R		Boulder F			
14	12:44	R		Boulder F			Slings return.
15	12:47	SP	7	Springs		Refuel	
16	12:54	SP					
17	12:57	R		Boulder F			
18	12:59	R		Boulder F			Slings return
19	1:01	SP	8	Springs			
20	1:05	SP					
21	1:07	R		Boulder F			
22	1:09	R		Boulder F			Slings return.
23	1:12	SP	9	Springs			
24	1:15	G					
25	1:17	G	10				Slings return.
26	1:20	SP	11				
27	1:24	G	12				Add toilet slings
28	1:26	R		Boulder F			
29	1:28	R		Boulder F			Slings return
30	1:31	G	13	Springs			Toilet transfer.
31	1:34	G					
32	1:40	G	14				
33	1:43	G					
34	1:46	G	15				Refuel.
35	1:53	G					Slings return.
36	1:56	G	16				
37	2:01	G					Stee kids
38	2:05	G	17				
39	2:05	G			P7 TWS		
40	2:09	G	18		P8 Mtn TWS		
41	2:12	G			Mtn TWS		
42	2:14	G	19				
43	2:16	G					
44	2:21	G	20				
45	2:24	G					
46	2:27	SP					Slings return
47	2:29	G	21				
48	2:32	G					
49	2:36	SP					
50		G	22				

2:47 finish



Safe Work Method Statement



City of HOBART

SAFE WORK METHOD STATEMENT (Word Version)

WORKER ACKNOWLEDGMENT

This SWMS has been developed in consultation with and has been read, understood and signed by all workers undertaking the scope of works:

Print Name:	Organisation:	Signature:	Date:
Peter Schieck	COH	<i>[Signature]</i>	22/1
Cameron Davy-Ste	Cott CWS	<i>[Signature]</i>	22/1
Mischa Pingle	COH	<i>[Signature]</i>	22.1.18
Rosin Prunty	CWS	<i>[Signature]</i>	24.1.18
Andrew Evans	CWS	<i>[Signature]</i>	29.1.18
Alister Clark	Cott	<i>[Signature]</i>	1/2/18



Safety: Hazards & Controls

Task	Hazard	Effect	Controls	Daily SWMS Review	Who
Conduct helicopter slinging operations	Limbs knocked out of trees by bulk bags	Injury to staff	<ul style="list-style-type: none"> - Workers must have completed Helicopter Resources training in helicopter safety and sling load operations. - All workers must wear appropriate PPE - Be aware of your surrounds at all time - Ground crew to maintain situational awareness 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Ground Crew
	Uneven terrain.	slips, trips and falls	<ul style="list-style-type: none"> - Suitable Footwear to be worn - Be aware of your surrounds at all time - Ground crew to maintain situational awareness 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	All workers
	Public entry into flight path	Death/injury, loss of flight time	<ul style="list-style-type: none"> - Have workers stationed at all key closure points for the duration of the helicopter operation - Make sure all workers can communicate with Operation Leader (VHF Radio or mobile phone) 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Closure point crew members
Movement of materials by power carrier, barrows and buckets	Carrier roll over, trip hazards,	Damage to machine, personal, injury	<ul style="list-style-type: none"> - Operators must follow the SOPs - Mechanical Power Carrier (F15/78572) and Manual handling (F17/7234) - Face carrier downhill when emptying gravel or seek assistance from others. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	All workers



Safest Method

Task	Hazard	Effect	Controls	Daily SWMS Review	Who
Loading bulk bags for movement by helicopter	<ul style="list-style-type: none"> - Incorrect manual handling or hand tool use, - Unexpected rock movement 	<ul style="list-style-type: none"> - Back injury or muscle strain - Crush injuries 	<ul style="list-style-type: none"> - Operators must follow the SOP - Manual handling (F17/7234) - Check bulk bags for damage during and after loading. Do not use if damaged. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	All workers
	<ul style="list-style-type: none"> - Overloading of bulk bags 	<ul style="list-style-type: none"> - Bulk bag failure. - Death/injury, - Loss of flight time 	<ul style="list-style-type: none"> - If unsure of loaded bag weight, weigh loaded bags with a load cell, Tripod and chain block. Follow the SOPs – Tripod Lifting (F1732096) and Chain Block and Lever Hoists (F15/40044). 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	All workers
	<ul style="list-style-type: none"> - Sharp stones in bulk bags 	<ul style="list-style-type: none"> - Bulk bag failure. - Death/injury 	<ul style="list-style-type: none"> - Check bulk bags for damage during and after loading. Do not use if damaged. - Use two bulk bags when transporting rock. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	All workers
Road closures at Springs during heli ops	<ul style="list-style-type: none"> Vehicle strikes staff or public. 	<ul style="list-style-type: none"> Injury to staff or public and/or damage to equipment 	<ul style="list-style-type: none"> -Workers must have 'Control Traffic with Stop-Slow Bat RIIWHS205D' & 'Implement Traffic Management Plan RIIWHS302D' qualifications. - Workers to follow City of Hobart - Traffic Management Procedure (F16/125943) 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Traffic controllers

Identifying Risks

Task	Hazard	Effect	Controls	Daily SWMS Review	Who
Conduct helicopter slinging operations	Flying debris	Injury to staff or public and/or damage to equipment	<ul style="list-style-type: none"> - Workers must have completed Helicopter Resources training in helicopter safety and sling load operations. - All workers must wear appropriate PPE - Inspect site prior to operation for loose or light objects. - Remove or weigh down any loose or light objects that could become flying debris. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Ground Crew
	Overhead loads	Injury to staff or public and/or damage to equipment	<ul style="list-style-type: none"> - Workers must have completed Helicopter Resources training in helicopter safety and sling load operations. - Track and road closures must be in place to prevent public access. - Workers must clear / walk all tracks under flight path prior to the heli operation beginning. - All workers must wear high visibility clothing - Pilot to keep aircraft within allocated flight path and be aware of staff positions - Ground crew must maintain situational awareness - No track works within flight path unless prior approval obtained from pilot. - No worker vehicles to be parked in flight path. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	All workers

Visitor Management Communication

Track Closures

Pinnacle Track Construction Work

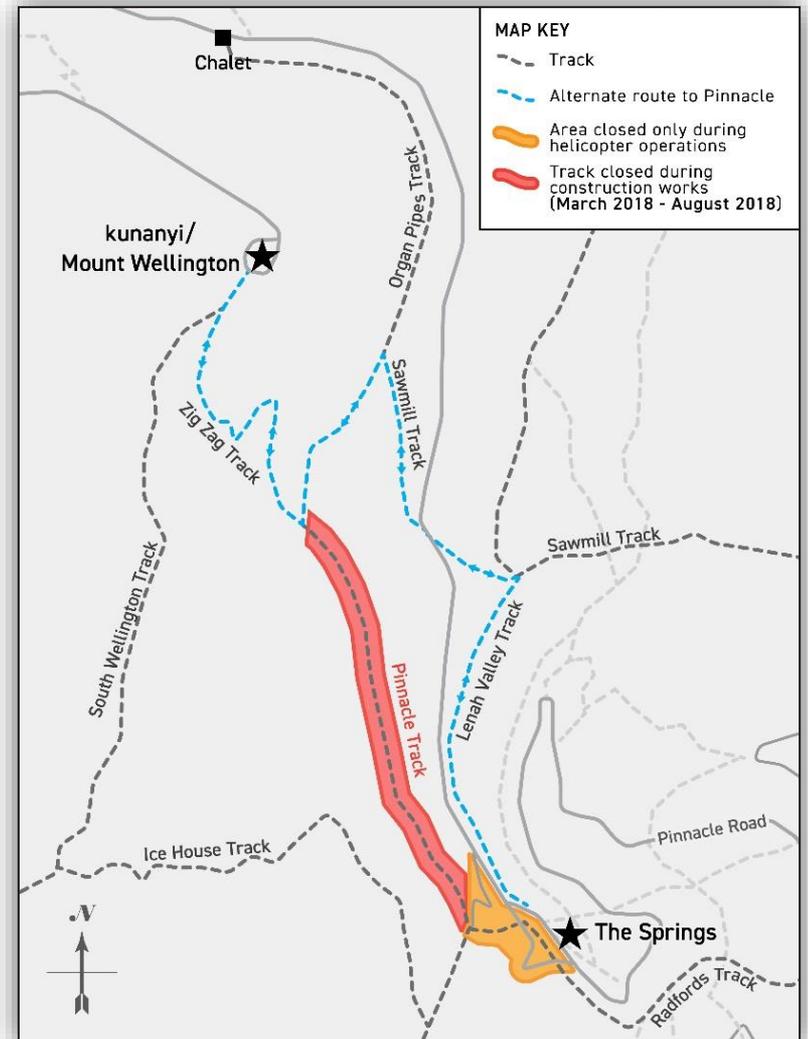
Date of notice: March 2018

Pinnacle Track works:

- Commence **March 2018**
- Due to finish **August 2018**
- Pinnacle Track **CLOSED** during works
- Walker access to the Pinnacle from The Springs is via Lenah Valley Track to Sawmill Track, then Organ Pipes Track to Zig Zag Track.

Additional short term closure of the Old Hotel site at The Springs is required during helicopter operations. Notice of helicopter operations will be placed on the City of Hobart website after 3pm, the day prior.

Further information:
City of Hobart
hobartcity.com.au/projects
Tel. 6238 2886

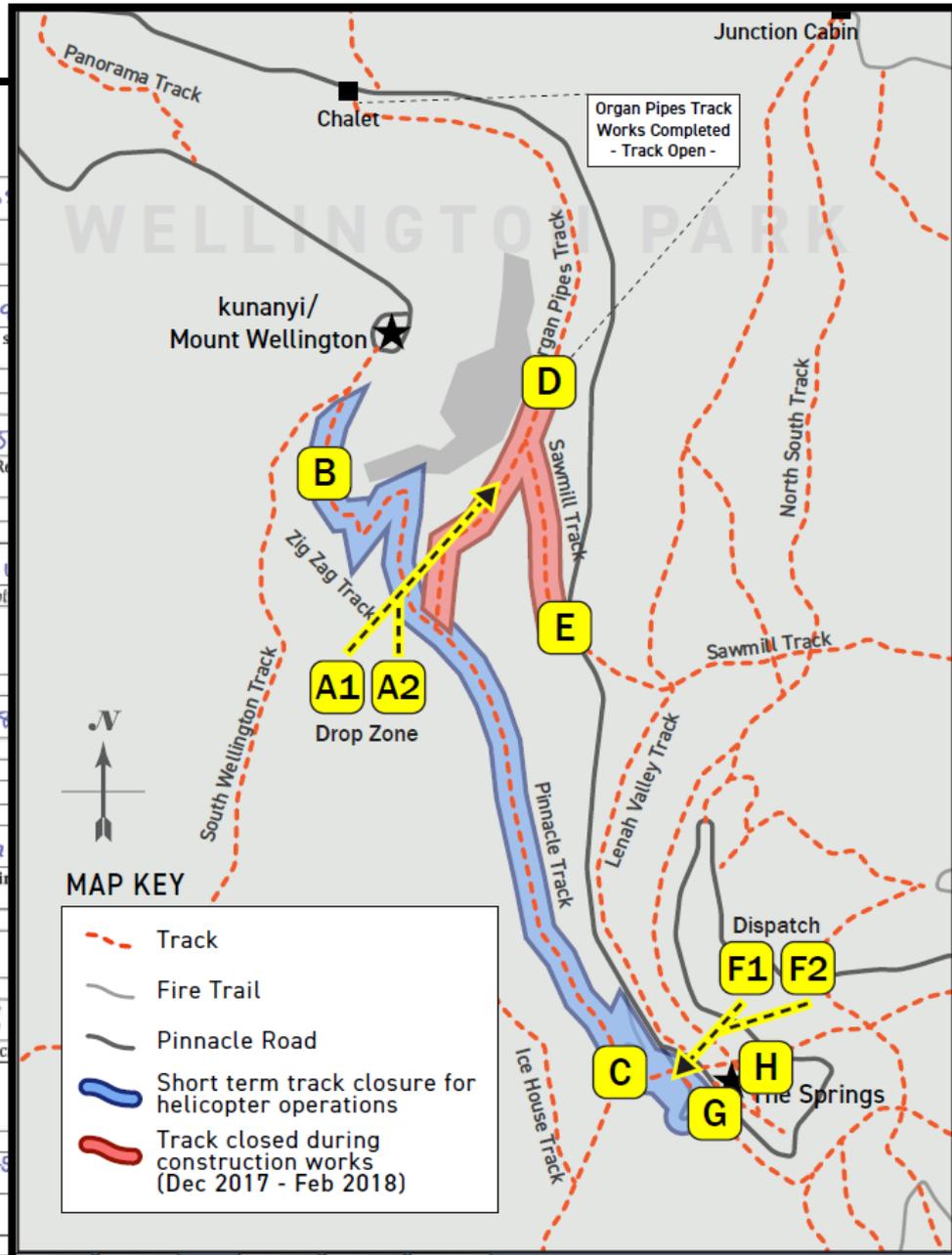






Briefing

 Helicopter Operations ROLE ASSIGNMENT & TASKS	
PILOT: Paul Sutton	Contact: 0400 6...
Vehicle 1 - No. _____	
A.1 - DROP ZONE - Team Leader	
Person: Peter Schieck	Contact: 0409 719...
Task: Parks at Old Hotel Site car park, proceeds to drop zone with A.2. Coordinates bag drops with Heli Res staff & Dispatch crew.	
A.2 - DROP ZONE - Team Leader	
Person: Logan Higgitt	Contact: 0400 175...
Task: Dropped at Old Hotel Site car park, proceeds to drop zone with A.1. Coordinates bag drops with Heli Res staff & Dispatch crew.	
B. PINNACLE	
Person: Tara Kille	Contact: 0498...
Task: Dropped at Old Hotel Site, sweeps Pinnacle Track. Positions at Pinnacle/OP/ZZ junction closure point.	
Vehicle 2 - No. _____	
C. MILLES	
Person: Cameron Dwyer-Stewart	Contact: 0487...
Task: Parks at Old Hotel Site. Sweeps Upper Feeder Track, then positions at Milles closure.	
D. Radfords	
Person: Mischa Pringle	Contact: 0467 67...
Task: Dropped at Old Hotel Site. Sweeps Upper Radfords, closes top of Radfords Track (below stone stairs). Positions at top of Radfords Track stairs. Traffic training required for this role.	
DISPATCH - Site Supervisor + 1 (keeps track of bags delivered etc)	
Person: Lindsay Ashlin & Al Clark	Contact: 0417 305... 0428 997...
Task: Dropped at dispatch position at Old Hotel Site. Coordinates bag drops with Heli Res staff & Drop Zone crew.	
Vehicle 3 - No. _____ Vehicle two-way required	
F. SPRINGS (May be a member of Visitor Services in own vehicle?).	
Person: Nicole Gill	Contact: 0458 348...
Task: Dropped at Springs, handles customer service. Ensure they have copies of the Wellington Park Bushwalking maps to hand out as needed.	



Prepared & Ready



Helicopter Operations WEEKLY PLANNING TASKS

Ops Date: 6 / 4 / 2018

Helicopter Operations RUN SHEET

	Name	Vehicle number - fuel level above 1/2 tank	Allocated Task/s (Traffic mgt, Track clearance and closure, Drop zone, Staging area)	In vehicle with ...	Helmet	Ear muffs	Orange vest	Radio	Radio Check	Phone number	Warm clothes	Food and drink	Track closure - Time clear	Docs signed (SWMS, SOP, TMP etc)	Start time	Finish time	Signed
1	P. Schreck		A.1 Drop Zone & track clearance		✓	✓	(✓)	✓	✓	✓	✓	✓	10:58	✓	11:30am	3:30pm	[Signature]
2	L. Higgins		A.2 Drop Zone & track clearance		✓	✓		✓	✓	✓	✓	✓	11:51	✓	"	"	[Signature]
3	T. Kulla		B. Track clearance (Pinnacle Track)		✓	✓		✓	✓	✓	✓	✓	11:50	✓	"	"	[Signature]
4	C. Dewey-Stewart		C. Track clearance (Milles Tr - Pinnacle/Grays FT /cn)		-	-		✓	✓	✓	✓	✓	11:50	✓	"	"	[Signature]
5	M. Pangle		D. Track clearance (Radford's)					✓	✓	✓	✓	✓	11:49	✓	"	"	[Signature]
6	L. Ashlin		E.1 Dispatch/ Track clearance SUPERVISOR		✓	✓		✓	✓	✓	✓	✓		✓	"	"	[Signature]
7	A. Clark		E.2 Dispatch/ Track clearance (records flight details etc.)		✓	✓		✓	✓	✓	✓	✓	-	✓	"	"	[Signature]
8	N. Gill		F. Springs - visitor interaction					✓	✓	✓	✓	✓	-	✓	11AM	"	[Signature]
9	D. Lawler		Standby		✓	✓		✓	✓	✓	✓	✓	-	✓			[Signature]
GENERAL INFORMATION/COMMENTS i.e. weather forecast, expectations for the day, monitor hours worked (anyone over 7 days straight), other tasks?													LOAD DELIVERY Bag contents & quantities				
													49 loads				
FOLLOW UP TASKS													REFUELING DETAILS				

Signed - Supervisor or Team leader

[Signature]

Helicopter Operations

- 78 Flight Hours | 21 Flight Days
- Over 1100 Loads
- Total Cost : \$135,000 US
- \$121 US per Load
- 4 min per load



Helicopter Operations Summary

- **Safety**
- **Visitor Management**
- **Pre Flight Planning & Preparation**
- **Flight Day**







Summary

- **Planning & Design** **2016 - 2017**
- **Construction Time** **2017- 2019**
- **Length:** **2.58 Miles**
- **Cost:** **\$1.43 Million US**
- **Rate:** **\$105 US per foot**
- **Track Building Labour:** **Approx. 35,000 hours**

Questions





Advancing Trails



For those who build,
maintain, use,
and dream of trails...

American Trails



City of HOBART

Thank you American Trails