

Port Hills Incident Action Plans

Incident Action Plans are a tool commonly used during medium-large scale events to ensure that all relevant personnel are aware of the directions being issued by the Incident Management Team. They provide a valuable overview of the incident, what the objectives are for each day, tasks to be undertaken and the resources needed.

In addition to this they also provide a practical resource to our operational staff by including details on the command structure with contact information and health and safety plans.

Redactions

Redactions have been made to this report in line with section 9(2)(a) of the Official Information Act to protect the privacy of natural persons and 9(2)(g)(ii) to protect members of organisations and employees from improper pressure or harassment.



Jason Flewellen

From:	Douglas Marshall
Sent:	Monday, 13 February 2017 9:03 p.m.
To:	Jason Flewellen
Subject:	Fwd: Special fire weather forecast for western Port Hills area
Attachments:	image001.png
Importance:	High

Regards

Douglas Marshall

------ Original message ------From: "Woods, Darrin" <Darrin.Woods@______ Date: 13/02/17 8:46 PM (GMT+12:00) To: Douglas Marshall <Douglas.Marshall@______, Rural Fire <ruralfire@: Subject: Fwd: Special fire weather forecast for western Port Hills area

Hi Douglas

Update in light of SW on site.

Cheers Darrin

Sent from my Samsung device

------ Original message ------From: Michael Green </br>

 Mike.Green@

 Date: 13/02/2017 20:14 (GMT+12:00)

 To: "Woods, Darrin"

 Subject: RE: Special fire weather forecast for western Port Hills area

Darrin

What appears to be happening is that an orographic trough (that develops in the lee of the South Alps in westerly winds) is getting shoved off to east. This is doing two things....it is taking away the westerly gradient about and south of CHCH and turning the flow briefly southwest as it moves off.

These features are a bit un predictable but any southwest wind will not be strong - in fact speeds are light about and south of you. I would expect the westerlies to dominate again pretty quick but with the cooling that will occur this evening, the speeds are likely to remain lower than in the earlier forecast. So expect west-northwest still to dominate but gust speeds more likely max gusts 50 km/h to midnight. Otherwise forecast as earlier.

Mike

Emergency Coordination System Form 13 - Action Plan Template

ACTION PLAN

1. Action Plan Number	2, Action Plan as at:	ACTION PLAN
02	Date 7 13/02/17 2230 Time	COVER SHEET
3. ECC/EOC	4. Oridii	nator Record #
SDC EOC		
5. Operational Period cov	ered by this Action Plan	
2030 13/2/17 - 0600 14/2/		
0600 14/2/17 – 1200 mid da		
6. Approved for release I Name:		Date/Time:
Douglas Marshall	O	13/2/17 2338
estimates made. Attach map, draw An area of gorse broom and pine fire. A pine plantation has been sli This fire is separate from another radar station at Cass Peak. This is on top of it. There is a concern that the radar so One house has been lost while an Evacuations have been completed approximately four houses at Mark	fire which started at Marleys Hill at 1900 hrs and fire has possibly burnt around Marley's Hill but m station might be lost as well as the Kennedys Bus other is still under threat. d for the area of approximately 20 houses at Early	ould provide most of this.) Id has been destroyed by is heading towards the ay have burnt the aerials sh Scenic reserve. y Valley as well as
22.30 - 0600 Patrol and property	be done to achieve the Objectives.) protection where its safe to do so vith limited ground attack due to terrain & road ac	Cess
Protect life and property, specifica 0600 – 1200 confirm status of infr Protection of any I Valley and Holmes Rise. Further	d statements of the objectives for managing the lly the domestic dwellings in the area. astructure (radar station, pylons, aerials at Marle heavy fuels in the area – ie the forestry plantation protection of Kennedy's Bush Scenic Reserve. of the Air Attack with a possible 2 x Cresco fixed	y's Hill) running between Early
	onmental factors that need to be taken into accou /alley Rd to Summit Rd, several houses, Aircraft o crews.	

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Emergency Coordination System Form 13 - Action Plan Template

Weather: Refer to email of weather report from Darrin Woods and Mike Green.

Limited water sources in the area.

12. Specific Tasks

(Outline specific tasks, lead + support agencies, timelines, etc – where they are critical) Do not enter into detailed planning here. That is the role of Task Planning, lead by the Task Lead Agency.

Continue protection of all domestic dwellings and Cass Peak radar station, Scenic Reserve and Pine Plantation.

Protect Hoon Hay Reserve and mitigate spread of fire into this area on towards Governors Bay. Develop an Air Attack plan for 0600 – 1200 with a further air and ground attack plan being developed from 1200 onwards.

13. Resource Needs

(Outline management of critical resources) Catering for 10 x pers required at 0600 for crew at SFP at Early Valley and Tai Tapu Rd.

Reassess resource needs mid-morning.

14. Information Flow

(Who needs to know what, when and how will it be achieved.)

Next IAP to be prepared based on RIMT decisions when they commence at 0730 14 Feb 17. IC for RIMT is Rob Hands – key individuals to be briefed to be Mayors of SDC, CCC, CO's of SDC and CCC, PRFOS SDC, CCC and DOC.

15. Tele-Communications Plan

(Outline of objective/strategy/task critical communications systems, channels, phone/cell #s, etc.)

Cell phone coverage within Early Valley is limited but once on ridgelines there are no issues. Fire One for ground crews, Fire Four for air crews

16. Recovery

(Outline longer-term Recovery implications, planning, activities)

Reassess if Welfare Centre is required to be established again.

17. Prepared by: Jared Davidson

Date/Time 13 February 2017 1125hrs

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1. Incident Name	2. Operational Period	IAP COVER
Port Hills Complex	Date 14/02/17 Time 0600-2000	SHEET
IN	CIDENT ACTION PLAN	
The items checked be	low are included in the incider	nt Action Plan
Inclusion Inclusion	ATION REPORT DENT OBJECTIVES ANISATION LIST MUNICATIONS PLAN DPERATIONS PLAN TY PLAN HON ASSIGNMENT TOR ASSIGNMENT CAL PLAN MAP THER FORECAST GROUND ROADING PLAN	
3. Approved by Incident Controller: Name	Signed	Date/Time
Rob Hands		14/2/17 0600-1800 hrs

1. Incident Name	2. Operational Period	SITUATION		
Port Hills Complex	Date 14/02/17 Time 0600-2000	REPOR		
3. Location	4. Vegetation	5. NZ Topo50 Grid Ref.		
Rolleston EOC	Scrub/Tussock/Grass/Forestry	Nor.		
6. Assessment 2 significant fires located on the Port Hi assets in both locations.	lls between Sign of the Kiwi and Early Valley have	e compromised significant		
Assets at risk include communication re and significant recreation and ecologica	peaters, residential properties, Christchurch Adv I reserves.	venture Park infrastructure,		
Unconfirmed property losses in the Earl	y Valley area.			
	Hills between Sign of the Kiwi and Early Valley co tained at present and most activity is focussed or			
Early Valley fire has burnt over the ridge life and property at the head of Lyttelto	line above Governors Bay and Allandale, resultir n Harbour.	ng in the need to assess risk to		
	ructure have been destroyed in Early Valley, and	l another house has been		
partially damaged in the area.	ructure have been destroyed in Early Valley, and	l another house has been		
partially damaged in the area. 7. Action taken Regional Incident Management Team in	place, working with resources in the field on bot			
partially damaged in the area. 7. Action taken Regional Incident Management Team in Evacuation of properties in the vicinity c	place, working with resources in the field on bot of both fires.	th incidents.		
partially damaged in the area. 7. Action taken Regional Incident Management Team in Evacuation of properties in the vicinity of Road closures in place in the vicinity of b	place, working with resources in the field on bo of both fires. both fires – these will remain in place until reasse	th incidents. essment		
partially damaged in the area. 7. Action taken Regional Incident Management Team in Evacuation of properties in the vicinity of Road closures in place in the vicinity of t 14 helicopters including aerial platform	place, working with resources in the field on bot of both fires. ooth fires – these will remain in place until reasse plus 2 fixed wings have been deployed for fire su	th incidents. essment		
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 Partially damaged in the area. 7. Action taken Regional Incident Management Team in Evacuation of properties in the vicinity of the transmitter of tra	place, working with resources in the field on both of both fires. both fires – these will remain in place until reasse plus 2 fixed wings have been deployed for fire su s. assets to strengthen protection. at Christchurch international Airport – ground as mit Road. nity of both fires, although residents of Holmes F the Lincoln Events Centre for affected residents in over Governors Bay and Allandale initiated. a 3,500ft up until midday Friday 17 th February.	th incidents. essment ippression, structure pplication of retardant around Road have been allowed to		
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9. Predicted Incident Development

The Early Valley fire is continuing to require significant suppression efforts, particularly around the forested areas. Further property losses unlikely.

Further spread potential with daytime heating and increased winds is still possible later in the day and crews are remaining vigilant.

Consideration of release of some overhead assets from the Marleys Fire to support operations and rest relief for key fire management staff at Early Valley.

Road closures and suppression efforts still likely to be required in the foreseeable future until fires well contained.

10. Prepared by: Darrin Woods

Date/Time 14/2/17 1230

CC

1. Incident Name	2. Operational Period	INCIDENT
Port Hills Complex	Date 14/02/17 Time 0600-2000	OBJECTIVES
3. Overall Incident Objectives		
To protect life by ensuring the safety of Provide asset protection to all identified Contain, control and extinguish the fire	d values, where it is safe to do so. with minimum disruption to communit	y.
4. Objectives for specified Operation	nal Period	
Consolidate containment lines establish Focus on air attack during the morning in fire suppression across both fires no	with the intention of getting ground cr	ews actively engaged
		0.17 /
5. Prepared by: Darrin Woods	Date/Time 14/02/2	20177

1. Incident Name		2. Ope	erational Per	riod	ORG	ANISATION
Port Hill Complex	Date 14/02/17 Time 0600-2000			LIS		
3. Incident Control				Phone	Cell Phone	Radio Ch
Incident Controller	Rob Han	ds				
Information Officer	Stephen	Hill				
and the state	Allanah J	arman				
Safety Officer	Graeme	Knight				
Liaison Officer						
Fire Investigation	Graeme	Still				
	Roy Hoo	genraad				
4. Agency Representative				Phone	Cell Phone	Radio Ch
Lead Agency	SDC Dou	iglas Mar	shall			
5. Planning/Intell Section				Phone	Cell Phone	Radio Ch
Planning/Intell Manager	Darrin W	oods				
Management Support Unit	Christine	Tatterso	n			
Situation Unit	Rodney (Chamber	S			
Technical Specialists Unit	Fire Beha	aviour – C	Grant Pearce			7
6. Logistics Section				Phone	Cell Phone	Radio Ch
Logistics Manager	Don Ged	des				
Supply	Craig We	stley				
Finance Unit						
Comms						_
IT					3472808	
7. Operations Section				Phone	Cell Phone	Radio Ch
Operations Manager	Tim Shep	pard				7
Air Attack Supervisor	Paul Dev	lin				Fire4
Air Support Supervisor						DOCO XFORD
Ground Operations Marleys	Phil Crute	chley				
Ground Operations Early Valley	Brian Tay	/lor				
Ground Support						
8. Prepared by:				Date/Tin	ne 14/2/17 131	5 hrs
С						

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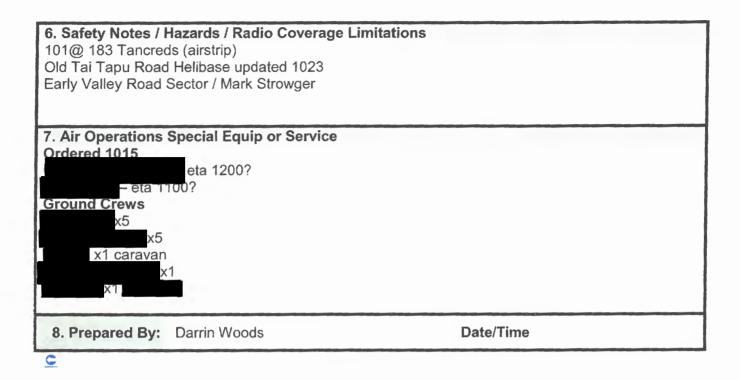
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1. Incident Name		2. Operational P	eriod	COMMUNICATIONS		
Port Hills Complex - MA	RLEYS		14/02/17 0600-2000			
3. Radio Channels Assigned To	Function	Channel	Frequency	System		
IMT	Command	Mt Benmore				
Air	Air Support	FIRE4				
5 Crew	Ground Ops	FIRE2				
2 chainsaw operators		FIRE2				
4. Telephone Assigned To Phil Crutchley	Landline	Cellphone	Fax	Comments Ground Ops Marleys		
Kirsty Percasky				Safe Forward Point, Sign of Kiwi		
6. Other (eg email, Sat	ohone, etc)					
7. Prepared by:	Don Geddes		Date	/Time		

1. Incident Name Port Hills Complex – EA	RLY VALLEY	2. Operational I Date 14/02/1 Time 0600-20	7	COMMUNICATIONS PLAN		
3. Radio Channels Assigned To	<i>Function</i> Command	<i>Channel</i> Mt Benmore	Frequency	System		
Air	Air Support	FIRE4				
Crew	Ground Ops	FIRE1				
4. Telephone Assigned ToLandlineBrian Taylor		Cellphone Fax		<i>Comments</i> Ground Ops Early Valley		
6. Other (eg email, Sat	ohone, etc)					
7. Prepared by:	Don Geddes		Date	e/Time		

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1. Incident Name		2. Ope	erational Period		AIR OPERATION
Port Hills Complex		Date Time	14/02/17 0600-2000	412.21	PLA
3. Personnel and Com Position	munications Nam	ne	Affiliation	Phone	Radio Chan
Air Attack Supervisor	Paul D	evlin	CCC		FIRE4
Air Support Supervisor					
4. Air Resource Assig Pilot Name/ Company	nments Aircraft Type	Reg or Callsign		Tactical Freq/ Chan	Telephone Numbers
			183 Tancreds Airstrip	Onboar Compa	
	Fixed wing x1				
	Squirrel	UQ			
	Iroquois	HUE		1	
	Squirrel	HOQ			
	Cabri				
	BU117	HJU			7
	Hughes 500	SD		1.2	
	EC120	HTV			-
	Squirrel	HPQ			
	Squirrel	HDQ			
	Squirrel	IBC		8.11	
	Squirrel	WK			
	BK117	HGU			
	BK117				
	500			Onboa Compa	
5. Location of Filling F Name 101@ 183 Tancreds (ai		Areas	Gr	id Reference	
Old Tai Tapu Road (Hel					



1. Incident Name Port Hills Complex	2. Operational Pe Date 14/02/17 Time 0600-200	PLA		
3. General Safety Points	19 a	28. 152.323		
ACES	Fire Orders	Watchouts		
L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)	 Fight fire aggressively but provide for safety first. Initiate all action based upon current and expected fire behaviour. Recognise current weather conditions and obtain forecasts. Ensure instructions are given and understood. Obtain current information on fire status. Remain in Communication with crew members, your supervisor and adjoining forces. Determine safety zones and escape routes. Establish lookouts in potentially hazardous situations. Retain control at all times. Stay alert, keep calm, think clearly, act decisively. 	 Fire not scouted and sized up. In country not seen in daylight. Safety zones and escape routes not identified. Unfamiliar with weather and local factors influencing fire behaviour. Uninformed on strategy, tactics and hazards. Instructions and assignments not clear. No communications link with crew members or supervisor. Constructing fireline without safe anchor point. Constructing fireline downhill with fir below. Attempting frontal assault on fire. Unburned fuel between you and the fire. Cannot see main fire, not in contact with anyone who can. On hillside where rolling material can ignite fuel below. Weather is getting hotter and drier. Wind increases and/or changes direction. Getting frequent spot fires across the line. Terrain and fuels make escape to safety zones difficult. Taking a nap near the fire line. 		
 Competent four whe Power lines/poles/py as yet. MAINTAIN S BECOME SLIPPER Maintain hydration a Wasps and bees pre Dust and smoke inha Steep terrain – poter Report all accident a Sun exposure/hypot 	SAFE DISTANCE FROM THESE S Y IF SHOWERS OCCUR nd nutrition levels esent alation ntial rockfalls, bluffs present and near misses hermia around heli operations and water b	een burnt but haven ot been assessed STRUCTURES FIRE GORUND WILL		
5 Prenared By:	Graeme Knight	Date/Time 14/2/2017 /		

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1. Incident Name		2. Operationa	al Period			SECTOR	
Port Hill Complex		Date 14/02 Time 0600	2/17 -2000		ASSIGNMENT		
3. Sector	4. Description		0.5	5.	Divisio	on Assigned	
Early Valley							
6. Sector Supervisor			Affiliation	Phor	ne i	Radio Ch	
Brian Taylor							
7. Resources Assign Resource/Crew 9 Helicopters	ed this period Leader	# Persons	Transport Required	Drop- Point/t		Pickup Point/time	
1 Fixed wing							
8. Sector Assignmen Structure protection Containment Extinguishment	t / Special Instruct	ions			- 11 -		
9. Sector Communica	ations			Phon	e	Radio Ch	
Air Attack Supervis	sor Dean Turner						
Safety Offic	cer Marcel Van Leur	wen					

1. Incident Name	÷	2. Oper	ationa	I Period	26.5		SECTOR
Port Hill Complex		Date 14/02/17 Time 0600-2000			Date 14/02/17 ASSIGNM		ASSIGNMENT
3. Sector4.Marley	Description		11			5. Divi	sion Assigned
6. Sector Supervisor		de <u>ta</u>		Affiliation	F	hone	Radio Ch
Phil Crutchley							FIRE2
7. Resources Assigned Resource/Crew	this period Leader	# Pe	rsons	Transport Required		op-off nt/time	Pickup Point/time
3 Heli on Marley 1 fixed wing			_				
 8. Sector Assignment / S Contain and extinguish fire Prevent fire escape Knock down hotspots 9. Sector Communicatio 	e – patrol road	ions			P	hone	Radio Ch
		Will Street			P	hone	Radio Ch
Air Attack Supervisor Safety Officer							
10. Prepared By:				Date/	Time	14/02/20)17 /

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1. Incident Name Port Hills Complex		2. Operat	ional Period	5		ME	DICAI
			4/02/17 600-2000				PLA
3. First Aid Station Name		ocation	Phone/Ra Channel			nedics at Stati	on
Stuart Larsen TL		ward Point	-	PHEC			
Vaughan Wiseman	Safe For	ward Point	-	PHEC	<u>`</u>		
Grant Coslett	Safe For	ward Point	-	PHEC	;		
4. Transportation Ambulance Service Westpac Rescue Helo	1	Address morial Ave	Phone/Ra Channel			nedics h Ambu	lance
5. Hospitals Hospital Name Christchurch Public Hospital	Hagley	Address	Phone	Trave Road	Air 20 min	Burn Unit	Hell Pac
Burwood Hospital		wood Road		1.5 hr	30 min		
ChCh Womens Hospital	_	n Avenue					
CDHB HPO Matt Willoughby	DDI						
6. Special Emergency Proce	edures						
7. Prepared I	By: Don (Geddes		Date/Tin	ne 12:00	14/02/ 1	7

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1. Incident Name Port Hills Complex	2. Operational PeriodIAP COVEDate14-15/02/17SHEEThe0200.0700
	Time 2000-0700
The items	checked below are included in the incident Action Plan
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	SITUATION REPORT INCIDENT OBJECTIVES
	ORGANISATION LIST COMMUNICATIONS PLAN
	SAFETY PLAN SECTOR ASSIGNMENT
	MEDICAL PLAN
	FIRE MAP WEATHER FORECAST
	FIRE GROUND ROADING PLAN
3. Approved by Incident Name	Controller: Signed Date/Time
	14/02/17
Rob Hands	hrs

Port Hills Complex	2. Operational Period Date 14-15/02/17 Time 2000-0700	SITUATION
3. Location	4. Vegetation	5. NZ Topo50 Grid
Rolleston EOC	Scrub/Tussock/Grass/Forestry	Ref.
6. Assessment 2 significant fires located on the Port Hills betwee assets in both locations. Assets at risk include of Adventure Park infrastructure, and significant research on the on the Port Hills between Sign of the appears to be well contained at present and more Early Valley fire has burnt over the ridgeline about life and property at the head of Lyttelton Harboo Confirmation that one house and one structure partially damaged in the area. No further struct A significant aviation incident, which resulted in activity escalated with the arrival of the hottest Marley Hill Fire remains contained, although group Suppression efforts commenced from downhill Significant effort has been put into the left flank high hazard fuels below Marleys Hill. Fire continues to burn downhill from the ridgeling that is likely to pose problems for any suppression Early Valley fire continues to burn. Significant effort has been put into the ridgeling that is likely fire remains contained - two 3 person Early Valley fire continues to burn. Significant effort has been put into the ridgeling that is likely fire continues to burn. Significant effort has been put into the ridgeling that is likely fire continues to burn. Significant effort has been put into the properties for any suppression fo	ommunication repeaters, residential pre- ecreation and ecological reserves. e Kiwi and Early Valley continue to bur ost activity is focussed on retardant to co- ove Governors Bay and Allandale, result ur. have been destroyed in Early Valley, ar cures have been lost. a fatality, saw aircraft grounded for a p part of yesterday. ound crews are monitoring activity alon in the forest. c of the Early Valley Fire where there is the above Governors Bay and Allandale. on efforts.	roperties, Christchurch n, although the Marleys Hill Fire consolidate asset protection. ting in the need to assess risk to nd another house has been period. As a consequence, fire g the Summit Road. the potential for fire to get into This is burning in steep terrain ing overnight.
afternoon. Three crews patrolling and monitori	ing overnight.	

7. Action taken

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Regional Incident Management Team is working with resources in the field on both incidents.

Evacuation of properties in the vicinity of both fires.

14 helicopters including aerial platform plus 2 fixed wings were deployed for fire suppression, structure protection and supporting ground crews on Tuesday.

Fixed wings laying retardant around key assets to strengthen protection.

Retardant mixing operation established at Christchurch international Airport – ground application of retardant around key comms and structural assets on Summit Road.

Geotech assessment of rockfall hazard over Governors Bay and Allandale initiated. Restricted Air Space in place – extend to 3,500ft up until midday Friday 17th February.

Road closures remain in place in the vicinity of both fires, with careful consideration being given to when and where these could be lifted. Some closures likely to remain in place over next 24 hours, with extension of closures to popular mountain bike trails around Kennedys Bush.

Geotech assessment of rockfall hazard over Governors Bay and Allandale was completed.

8. Factors

Key factors are

- Multiple assets of value either compromised or destroyed by fire
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads mixtures scrub, tussocks and exotic and native forestry
- Predicted wind changes with development of strong NE winds late Wednesday
- Significant resource commitment in terms of personnel and equipment
- Possible actions required due to identified rockfall risk

9. Predicted Incident Development

The Early Valley fire is continuing to require significant suppression efforts, particularly around the forested areas. Further property losses unlikely provided containment lines hold around structures on Worsleys Hill.

Road closures and suppression efforts still likely to be required in the foreseeable future until fires well contained.

10. Prepared by: Darrin Woods

Date/Time 14/02/17

<u>CC</u>

1. Incident Name	2. Operational Period	INCIDENT
Port Hills Complex	Date 14-15/02/17 Time 2000-0700	OBJECTIVES
3. Overall Incident Objectives		
To protect life by ensuring the safety of all Provide asset protection to all identified va Contain, control and extinguish the fire wit	alues, where it is safe to do so.	r.
4. Objectives for specified Operational	Period	
Maintain watching brief on both Marley Hil Patrol perimeter and road verges, where s		tion report via 111.
5. Prepared by: Rob Hands	Date/Time 14/02/2	017
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1. Incident Name Port Hill Complex		2. Operational Period Date 14-15/02/17 Time 2000-0700			ORGANISATION LIST		
3. Incident Control Incident Controller Information Officer	Nigel Bur	se		Phone	Cell Phone	Radio Ch	
Safety Officer Liaison Officer RIMT IC	Rob Han	ds					
4. Agency Representative				Phone	Cell Phone	e Radio Ch	
Lead Agency 5. Planning/Intell Section Planning/Intell Manager Management Support Unit				Phone	Cell Phone	Radio Ch	
Situation Unit Technical Specialists Unit							
6. Logistics Section Logistics Manager Supply Finance Unit Comms	Don Ged	des		Phone	Cell Phone	Radio Ch	
7. Operations Section Operations Manager Air Attack Supervisor Air Support Supervisor Ground Operations Marleys				Phone	Cell Phone	Radio Ch	
Ground Operations Early Valley							
Ground Support 8. Prepared by:				Date/Tim	1e 14/2/17 hrs		

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1. Incident Name Port Hills Complex - MARLEYS		2. Operational Date 14-15/0 Time 2000-0	2/17	COMMUNICATIONS PLAN
3. Radio Channels Assigned To Nigel Burse	Function	Channel	Frequency	System
2 crew		FIRE2		
4. Telephone Assigned To	Landline	Cellphone	Fax	Comments
6. Other (eg email, Sat	phone, etc)			
Contact 111	If fire escalates	S.		
7. Prepared by:	Don Geddes		Date/Tin	ne 14/02/2017 /

1. Incident Name		2. Operational Period		COMMUNICATIONS
Port Hills Complex – EA	RLY VALLEY	Date 14-15/02/17 Time 2000-0700		PLAN
3. Radio Channels Assigned To	Function	Channel	Frequency	System
Nigel Burse	IC			
3 Crews	Ground Ops	FIRE2		
4. Telephone Assigned To	Landline	Cellphone	Fax	Comments
6. Other (eg email, Sat	phone, etc)		L	
Contact 111	If fire escalate	s.		
7. Prepared by:	Don Geddes		Date/Ti	me 14/02/2017 /

1. Incident Name Port Hills Complex		2. Operational Period SAFET				
		Date 14-15/02/17 Time 2000-0700				
3. General Safety Points						
Particular care around v Early Valley fire.	vestern edge of	Marleys H	ill fire wit	h regard to potent	ial fire runs from	
ACES	Fir	e Orders		Watc	houts	
L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)	 Initiate all a current and behaviour. Recognise conditions Ensure insi and unders Obtain curr fire status. Remain in crew membrand adjoini Determine escape rou Establish lo hazardous Retain com Stay alert, I clearly, act 	safety first. action based d expected fi current wea and obtain fo tructions are stood. rent informat Communicat bers, your su ng forces. safety zones ites. bokouts in po situations. trol at all time keep calm, th	upon re ther precasts. given ion on tion with pervisor s and ptentially es.	 Fire not scouted In country not see Safety zones and identified. Unfamiliar with w factors influencin Uninformed on st hazards. Instructions and a clear. No communication members or supples Constructing firel anchor point. Constructing firel below. Attempting fronta Unburned fuel be fire. Cannot see main with anyone who On hillside where ignite fuel below. Wind increases a direction. Getting frequent s line. Terrain and fuels safety zones diffi Taking a nap near 	en in daylight. d escape routes not reather and local ng fire behaviour. trategy, tactics and assignments not ons link with crew ervisor. ine without safe ine downhill with fire d assault on fire. tween you and the fire, not in contact can. rolling material can g hotter and drier. ind/or changes spot fires across the make escape to cult.	
	y – speed limit of neel drivers for of pylons within the I SAFE DISTANG RY IF SHOWER and nutrition lev present shalation cential rockfalls, b t and near misses	ff road fire ground CE FROM T S OCCUR tels	have bee	n burnt but haven o RUCTURES FIRE		

- Aircraft movements around heli operations and water bombing
- Heavy machinery operations

5. Prepared By: Graeme Knight

Date/Time 14/2/2017 /

1. Incident Name Port Hill Complex		2. Operational Period Date 14-15/02/17 Time 2000-0700			SECTOR ASSIGNMENT		
3. Sector	4. Description				5. Divis	sion Assigned	
Early Valley							
6. Sector Supervisor			Affiliation	F	Phone	Radio Ch	
7. Resources Assign Resource/Crew	ed this period Leader	# Persons		-	ehicles	Cellphone	
West Melton		2		4x4 ap			
Darfield VRFF		4		Tanker	101		
		2		Tanker			
8. Sector Assignmen Patrolling and monitor		ions					
9. Sector Communica	ations			F	Phone	Radio Ch	
Air Attack Supervis	SOF						
Safety Office	cer						
10. Prepared E	Ву:		Dat	e/Time	14/02/20	17 /	

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1. Incident Name		2. Operational Per	iod	SECTOR ASSIGNMENT			
Port Hill Complex		Date 14-15/02/17 Time 2000-0700					
3. Sector	4. Description	Description					
Marley							
6. Sector Supervisor		Affil	iation Phone	Radio Ch			
Barrie Hunt (HCFT)				FIRE2			
7. Resources Assign Resource/Crew	ed this period Leader	# Persons	Vehicles	Cellph			
High Country Fire Tm	Barry Hunt	3	4x4 appliance				
City Care Ltd	Dave Reese	3	Smokechaser & Tanker				
8. Sector Assignmen	t / Special Instruct	lions					
Patrolling and monitori							
9. Sector Communica	ations		Phone	Radio Ch			
Air Attack Supervis Safety Offic	1						
10. Prepared E	Sy:		Date/Time 14/02/20	17/			

1. Incident Name Port Hills Complex		2. Operational Period MEDIO					DICAL
		Date 14-15/02/17 Time 2000-0700			PLAN		
3. First Aid Station			Phone/Rac		Param	and the second se	
Name	1	cation	Channel		vailable	at Stati	on
	Safe Forwa	rd Point		PHEC			
4. Transportation Ambulance Service		dress	Phone/Rad Channel		Param able with		lance
Westpac Rescue Helicopter	515 Memor	rial Ave					
5. Hospitals Hospital Name	Add	dress	Phone	Trave Road	Air	Burn Unit	Heli Pad
Christchurch Public Hospital	Hagley Park			1 hr	20 min		
Burwood Hospital	300 Burwoo	od Road		1.5 hr	30 min		
CDHB HPO Matt Willoughby	DD						
6. Special Emergency Proced							
7. Prepared By	: Don Geo	ddes		Date/Tin	ne 14/02	/17 /	
8. Reviewed by Safety Officer	: Graeme				ne 14/02		

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FIRE BEHAVIOUR FORECAST NO: 1

FIRE NAME: PORT HILLS COMPLEX

PREDICTION PERIOD: Tuesday 14th 1500 to Wednesday 15th 1800, February 2017

Area: Port Hills Complex, Early Valley and Marley's Hill (Summit Road), Canterbury

Time & Date Forecast Issued: 1500, Feb 14th, 2017

R.Chambers: Fire Behaviour Officer

Weather Summary:

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Moderate north-westerlies with possible light southerly change for a few hours mid-Tuesday afternoon. Then turning Northnortheast into the evening. Light westerly early Wednesday and then strengthen north-easterly from midday. Overnight low of 8C, RH recovery to 60%. Wednesday maximum 22C and RH low of 25%.

Fire Behaviour General:

The fire ground covers a range of fuel types including cured ungrazed grasses and tussock lands, dense scrub and gorse, regenerating native bush and exotic forest plantations. The fire area encompasses multiple valley systems and ridge lines which include complex and steep terrain, and varying aspects.

Areas of active fire growth with back burning and flare ups are being observed. Rates of spread are slower under forest types while highest in scrub and grass fuels.

Potential exists for flare ups and increases in fire activity due to heavy pine plantation fuel types at both the Marley's Hill and Early Valley fires. The Early Valley fire is also burning in heavy scrub fuels with slopes of approximately 20% which has the potential for rapid upslope runs with rates of spread of around 2-4km/hr in gorse and 1-2km/hr in regenerating native bush. Flame lengths would be in excess of 10m.

Fire behaviour should ease overnight but expect a deterioration in conditions from midday onwards with the potential for extreme fire behaviour conditions developing again during the later afternoon.

FFMCs in the high 80s rising again to 90+ tomorrow mean fine fuels are vulnerable to easy ignition. The BUI (90+) and DC of 500 indicates large amounts of fuel available for combustion and deep seated burning in heavy fuels.

Pressure Points

- 1) The head of the Cashmere Stream: the flanking fire has the potential to cross the valley and run upslope to Worsley Spur and Marleys Hill, threatening properties and assets.
- 2) The two slop-over's across the Summit Road: these backing fires have the potential to spread rapidly down slope under favourable wind conditions threatening Governors Bay and Allandale.
- 3) The plantation sector of the southern flank of the Early Valley fire: the potential exists under fresh NE winds to spread towards the Holmes Valley area.
- 4) Forested sector of the Marleys Hill fire: also has the potential to flare-up and breach containment with strengthening winds.

Safety Considerations:

Tomorrow RH will again drop below 30%. Winds becoming variable and gusty with NW of 20-30km/hr and later becoming NE winds of 30km/hr. Fire spread will become erratic with flanks becoming head fires and threatening ground crews.

Potential exists for backing fires to become fast spreading, high intensity upslope runs with aspect and fuel changes.

Steep terrain requires awareness of rock fall hazard and rapid rates of spread which may be hazardous to ground staff.

Smoke conditions may interfere with aircraft operations during both early morning and changeable winds and slope enhanced fire activity. Smoke may also pose a health hazard to fire fighters and public.

High intensity runs producing ember transport have the potential to breach fire breaks such as roads and bare earth control lines and threaten properties. Uncontained sections of the perimeter also have the potential to continue perimeter growth.

Port Hills Complex - Fire Behaviour Estimates Prepared: Tue. 14th February 2017, 1500 hrs

Fuel types include: Cured grass, tussock, gorse and regenerating native scrub, mixed age exotic plantations.

Fire behaviour calculations based on mid-afternoon weather and FWI conditions, 14 Feb. 2017

Wind speed: 25 km/h average Noon FFMC: 90.5, Hourly FFMC (1500h): 90.0, Hourly ISI: 15.0, BUI: 92

Slopes: range from flat to 30+ deg, average 20 deg Upslope SCF: 2.8, Downslope SCF: 0.3

<u>Gorse (1.5-2.0 m tall)</u> : Flat: 20 deg upslope: 20 deg downslope	ROS 3370 m/h, 8650 m/h, 840 m/h,	AFL 25-30 t/ha,	HFI 51,000 kW/m, 150,000 kW/m, 15,000 kW/m,	19 m
<u>Hardwood Scrub (2.0 m tall)</u> Flat: 20 deg upslope: 20 deg downslope	: ROS 1685 m/h, 4330 m/h, 420 m/h,	AFL 15 t/ha,	HFI 12,500 kW/m, 32,000 kW/m, 3100 kW/m,	9 m
Immature Pine Plantation (1 Flat: 20 deg upslope: 20 deg downslope	<u>1-20 y.o.)</u> : ROS 652 m/h, 1863 m/h, 163 m/h,	AFL 25 t/ha,	HFI 8100 kW/m, 23,000 kW/m, 2000 kW/m,	FL 5 m 8 m 2.6 m
<u>Grass (100% cured, 0.3m ta</u> Flat: 20 deg upslope: 20 deg downslope	<u>ll & 80% cover)</u> : ROS 3275 m/h, 9360 m/h, 820 m/h,	AFL 4.9 t/ha,	HFI 8100 kW/m, 23,000 kW/m, 2000 kW/m,	FL 5 m 8 m 2.6 m

Firebreak construction along Cashmere Stream flank:

Approx.. 3 km break required

Estimated construction rate for dozer: 1500 m/h

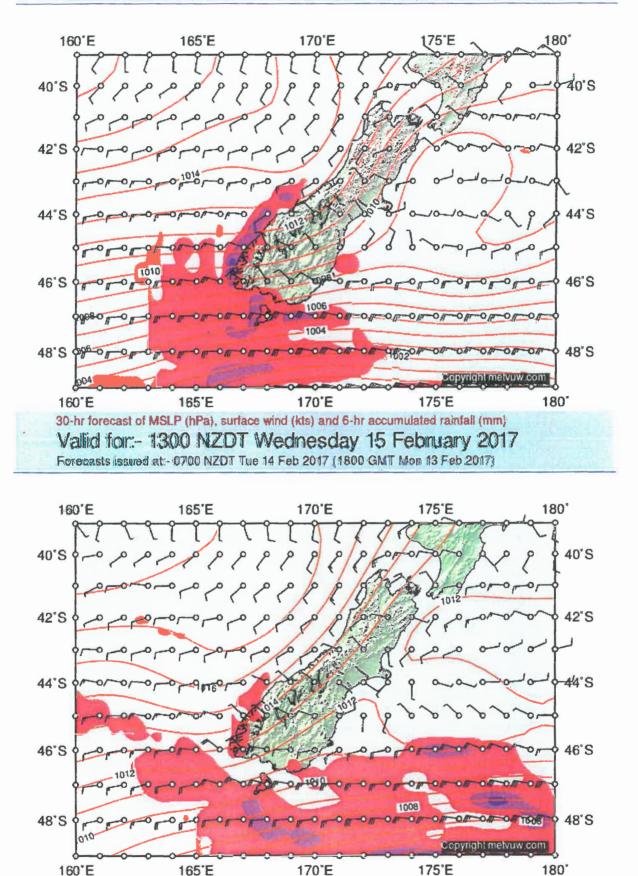
So, estimated 2-3 hours to complete break

Fire could take 30-60 mins to spread 200-400 m to track from estimated flank location

Downslope fire spread towards Governors Bay:

Approx.downslope -17 deg (rise 300 m over 1000 m run) Downslope fire behaviour in gorse: estimated 1059 m/h, 30 t/ha, 16,000 kW/m, 6.7 m FL Downslope fire behaviour in hardwood scrub: 530 m/h, 14 t/ha, 3640 kW/m, 3.4 m FL So, estimated time to travel 1 km downslope run: 1-2 hrs





Plotted by James McGregor

C Help

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1. Incident Name	2. Op	erational Period	IAP COVER
Port Hills Complex	Date Time	15/02/17 0730-1930	SHEET
INCI	DENT A	CTION PLAN	
The items checked belo	w are inc	cluded in the incident	Action Plan
Image:	NISATIO UNICATIO PERATIO Y PLAN OR ASSIC AL PLAN IAP IER FOF	ECTIVES N LIST IONS PLAN INS PLAN GNMENT	
3. Approved by Incident Controller: Name Si	gned		Date/Time
Rob Hands			15/02/17 2200hrs

1. Incident Name	2. Operational Period	SITUATION
Port Hills Complex	Date15/02/17Time0730-1930	REPORT
3. Location	4. Vegetation	5. NZ Topo50 Grid
Rolleston EOC	Scrub/Tussock/Grass/Fo	prestry
assets in both locations. Assets at risk Adventure Park infrastructure, and sig Fires on the on the Port Hills between appears to be well contained at presen Early Valley fire has burnt over the rid life and property at the head of Lyttelt Helicopter incident resulted in a fatalit Marley Hill fire remains contained with Early Valley fire continues to burn. Sig afternoon. Three crews patrolling and Refined area of the fires is approximat Confirmation that one house and one partially damaged in the area. No furt A significant aviation incident, which re	nt and most activity is focussed asset pro- geline above Governors Bay and Allanda con Harbour. ty, RIMT dealing with appropriate autho in two 3 person ground crews patrolling a spificant efforts into structure protection I monitoring overnight. ely 580 hectares. structure have been destroyed in Early M her structures have been lost. esulted in a fatality, saw aircraft grounde	dential properties, Christchurch ves. ue to burn, although the Marleys Hill Fire otection. ale, resulting in the need to assess risk to rities. and monitoring overnight. In around Governors Bay during Tuesday Valley, and another house has been
activity escalated with the arrival of th	e hottest part of yesterday.	
7. Action taken Regional incident Management team is	s working with resources in the field on	both incidents.
		ration being given to when and where irs, with extension of closures to popular
Resource planning for tomorrow is und up existing tracks as contingency lines.		otential use of heavy machinery to open
	over Governors Bay and Allandale was o I need reassessment if the fire breaches	completed and identified no immediate the summit further to the east.
Heavy machinery created breaks arour	nd structures on Worsleys Track on the N	Marley Hill fire.

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8. Factors

Key factors are

- Multiple assets of value either compromised or destroyed by fire
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads mixtures scrub, tussocks and exotic and native forestry
- Predicted wind changes with development of strong NE winds late Wednesday
- Significant resource commitment in terms of personnel and equipment
- Winds may pose difficulties for fire suppression above Governors Bay.

9. Predicted Incident Development

The Early Valley Fire still has the potential to join with the Marley Hill Fire if it breaches containment lines in the north east. This will compromise communication towers and further structures.

Forecast wind changes to NE late Wednesday could see fire activity spreading back towards populated areas in the Tai Tapu area.

Road closures and suppression efforts still likely to be required in the foreseeable future until fires well contained.

10. Prepared by: Darrin Woods

Date/Time 15/02/17 2000hrs

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1. Incident Name	2. Operational Period	INCIDENT
Port Hills Complex	Date 15/02/17 Time 0730-1930	OBJECTIVES
3. Overall Incident Objectives		
To protect life by ensuring the safety of Provide asset protection to all identified Contain, control and extinguish the fire 4. Objectives for specified Operation	l values, where it is safe to do so. with minimum disruption to communi	ty.
Consolidate containment lines on all se Focus on air attack during the morning of favourable conditions before forecase Strengthen fire breaks around key struct	on burning zones above Governors E t strengthening NE winds	Bay to make best use
5. Prepared by: Rob Hands	Date/Time 15/02/	2017 2200hrs
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1. Incident Name	2. Operational P	eriod	ORG	ANISATIO
Port Hill Complex	Date 15/02/17 Time 0730-193	0		LIS
3. Incident Control		Phone	Cell Phone	Radio C
Incident Controller	Rob Hands			
Information Officer	Stephen Hill			
	Allanah Jarman			
Safety Officer	Graeme Knight			
Liaison Officer				
Fire Investigation	Graeme Still			
	Roy Hoogenraad			
4. Agency Representative		Phone	Cell Phon	e Radio Ch
Lead Agency	SDC Douglas Marshall			
5. Planning/Intell Section		Phone	Cell Phone	Radio Ch
Planning/Intell Manager	Darrin Woods			
Management Support Unit	Christine Tatterson			
Situation Unit	Rodney Chambers			
Advanced Planning Unit	Brian Keown			
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Don Geddes			
Supply	Craig Westley		(
Finance Unit				
Comms				
7. Operations Section		Phone	Cell Phone	Radio C
Operations Manager	Tim Sheppard			7
Air Attack Supervisor	Richard Macnamara			Fire4
Air Support Supervisor	Atila deOliveria			
Ground Operations Marleys	Danny Kimber			
Ground Operations Early Valley	Al Hutt			
Ground Support				
8. Prepared by:		Date/Tir	ne 15/2/17 / 22	200hrs

1. Incident Name		Period	COMMUNICATIONS	
IARLEYS	Date 15/02/17 Time 0730-1930		PLAN	
Function	Channel	Frequency	System	
Command	ESB164			
Air Support	FIRE4			
Ground Ops	FIRE2			
(DOC)	FIRE2			
Landline	Cellphone	Fax	Comments Ground Ops Marleys	
			Safe Forward Point, Sign of Kiwi	
			/Time 15/02/2017 /	
	Command Air Support Ground Ops (DOC)	Date 15/02/1 Function Channel Command ESB164 Air Support FIRE4 Ground Ops FIRE2 (DOC) FIRE2 Landline Cellphone Image: Commanic of the state of the stat	Time 0730-1930 Function Channel Frequency Command ESB164 Image: Second se	

1. Incident Name	2. Operational Period			COMMUNICATION		
Port Hills Complex – E	EARLY VALLEY	Date 15/02/1 Time 0730-19		PLAN		
3. Radio Channels Assigned To	<i>Function</i> Command	<i>Channel</i> ESB164	Frequency	System		
Air	Air Support	FIRE4				
Crew	Ground Ops	FIRE3				
4. Telephone Assigned To Danny Kimber	Landline	Cellphone	Fax	<i>Comments</i> Ground Ops Early Valley		
6 Other (or email St						
6. Other (eg email, Sa	atphone, etc)					

1. Incident Name		2. Ope	rational Period		All	R OPERATION
Port Hills Complex – Se	ector Delta	Date Time	15/02/17 0730-1930		PL	
3. Personnel and Com			Affiliation	Dha		Radio Chan
Position Air Attack Supervisor	Nam Richard Ma		Affiliation MKRFA	Pho	ne	FIRE4
				-		
Air Support Supervisor	Atila deO	liveria	Buller DC			FIRE4
4. Air Resource Assig	nments					
Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactica Freq/ Chan	1	Telephone Numbers
			183 Tancreds Airstrip		Onboard: Company	:
	Fixed wing x1					
	Squirrel	UQ				
	Squirrel	HOQ				
-	Cabri					
-	BU117	HJU			C. S.	
	Hughes 500	SD			1612	
au 	EC120	HTV			- PLAN	
-	Squirrel	HPQ			-	
	Squirrel	HDQ				
-	Squirrel	IBC				
-	BK117	HGU				
	Iroquois					
	Iroquois					
	BK117					
	500					
5. Location of Filling P Name		Areas	Gri	id Referei	nce	
101@ 183 Tancreds (ai						
Old Tai Tapu Road (He	ibase)					

6. Safety Notes / Hazards / Radio Coverage Limitations 101@ 183 Tancreds (airstrip) Old Tai Tapu Road Helibase Early Valley Road Sector

7. Air Operations Special Equip or Service

Ground Crews ChCh Heli x5 NZFSC Lincoln x5 Mt Hutt x1 caravan Beck x 2 CSI x1? Tekapo x 1?

8. Prepared By: Don Geddes

Date/Time 15/02/2017 /

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1. Incident Name		2. Operational Period				SECTOR	
Port Hill Complex		Date 15/02 Time 0730-			ASSIGNMENT		
3. Sector	4. Description				5. Division Assigne		
Alpha	Marleys						
6. Sector Supervisor		All and a second	Phone	Radio Ch			
Danny Kimber		[FIRE2			
7. Resources Assign Resource/Crew	ed this period Leader	# Persons	Transp ort Reguir ed		op-off int/time	Pickup Point/time	
MSCRFA		5					
MSCRFA		5					
Bottle Lake RFA		3					
HCFT		4					
3 Helicopters							
8. Sector Assignmen Protect life and proper Strengthen containmen Patrol road edge, prev Prevent fire breaching	ty. nt lines. ent from crossing ro			4.15			
9. Sector Communica	ations				Phone	Radio	
Air Attack Supervis	sor Richard Macha	amara				FIRE4	
Safety Offic	ser Steve Oshner						
10. Prepared E	sy:		Dat	e/Tin	ne 15/02/	2017 /	

1. Incident Name		2. Operationa	al Period		SECTO		
Port Hill Complex		Date 15/02 Time 0730	2/17 -1930		ASSIGNME		
3. Sector 4	. Description			5. Divis	sion Assigned		
Bravo	arly Valley Left Fla	ank			of the state of th		
6. Sector Supervisor			Affiliation	Phone	Radio Ch		
Al Hutt		SDC		. none	FIRE3		
7. Resources Assigned	this period				TIKES		
Resource/Crew 5 Helicopters	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time		
1 Fixed wing					+		
DOC Aoraki		5			+		
CCC Coastal		4					
ECan		10					
DOC		4					
8. Sector Assignment / Protect life and property. Strengthen containment l Run hose lines. Patrol Summit Road. Direct attack as required.		ns					
9. Sector Communication				Phone	Radio Ch		
Air Support Supervisor	Carrie Lakin	· · · · · · · · · · · · · · · · · · ·			Fire4		
Safety Officer	Graeme Knight						
10. Prepared By:			Date/Ti	me 15/02/201	7 /		

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2. Operational Period 1. Incident Name SECTOR ASSIGNMENT Port Hill Complex Date 15/02/17 Time 0730-1930 5. Division Assigned 3. Sector 4. Description Early Valley Right Flank Charlie Radio Ch Affiliation Phone 6. Sector Supervisor FIRE3 CCL **Dale Wilhelm** 7. Resources Assigned this period Transport **Drop-off** Pickup Point/time Leader # Persons Required Point/time **Resource/Crew 5** Helicopters 1 Fixed wing 5 **HCFT** 4 HEB CCL 5 CCL 5 8. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Run hose lines. Patrol Summit Road. Direct attack as required. Phone Radio Ch 9. Sector Communications Fire4 Carrie Lakin Air Support Supervisor Safety Officer Graeme Knight Date/Time 15/02/2017 / 10. Prepared By:

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1. Incident Name		2. Operat	ional Period	1		ME	DICAL
Port Hills Complex			5/02/17 730-1930				PLAN
3. First Aid Station			Phone/Ra		Param		
Stu Larsen TL	Safe Forwa	rd Point	Channel	PHEC	ailable	at Stati	on
Neil Franklin	Safe Forwa			PHEC			
4. Transportation Ambulance Service Westpac Rescue Helo	515 Memor	dress rial Ave	Phone/Rac Channel 03 358 244		Param able with		lance
5. Hospitals Hospital Name	Add	dress	Phone	<u>Trave</u> Road	el Time Air	Burn Unit	Heli Pad
Christchurch Public Hospital	Hagley Park	<		1 hr	20 min		
Burwood Hospital	300 Burwoo	od Road		1.5 hr	30 min		
CDHB HPO Matt Willoughby	DDI						
6. Special Emergency Proce	edures						
7. Prepared E	3y: Don Ge	ddes		Date/Tin	ne 15/02	/17 /	

FIRE BEHAVIOUR FORECAST NO: 1

FIRE NAME: PORT HILLS COMPLEX

PREDICTION PERIOD: Tuesday 14th 1500 to Wednesday 15th 1800, February 2017

Area: Port Hills Complex, Early Valley and Marley's Hill (Summit Road), Canterbury

Time & Date Forecast Issued: 1500, Feb 14th, 2017

R.Chambers: Fire Behaviour Officer

Weather Summary:

Moderate north-westerlies with possible light southerly change for a few hours mid-Tuesday afternoon. Then turning Northnortheast into the evening. Light westerly early Wednesday and then strengthen north-easterly from midday. Overnight low of 8C, RH recovery to 60%. Wednesday maximum 22C and RH low of 25%.

Fire Behaviour General:

The fire ground covers a range of fuel types including cured ungrazed grasses and tussock lands, dense scrub and gorse, regenerating native bush and exotic forest plantations. The fire area encompasses multiple valley systems and ridge lines which include complex and steep terrain, and varying aspects.

Areas of active fire growth with back burning and flare ups are being observed. Rates of spread are slower under forest types while highest in scrub and grass fuels.

Potential exists for flare ups and increases in fire activity due to heavy pine plantation fuel types at both the Marley's Hill and Early Valley fires. The Early Valley fire is also burning in heavy scrub fuels with slopes of approximately 20% which has the potential for rapid upslope runs with rates of spread of around 2-4km/hr in gorse and 1-2km/hr in regenerating native bush. Flame lengths would be in excess of 10m.

Fire behaviour should ease overnight but expect a deterioration in conditions from midday onwards with the potential for extreme fire behaviour conditions developing again during the later afternoon.

FFMCs in the high 80s rising again to 90+ tomorrow mean fine fuels are vulnerable to easy ignition. The BUI (90+) and DC of 500 indicates large amounts of fuel available for combustion and deep seated burning in heavy fuels.

Pressure Points

- 1) The head of the Cashmere Stream: the flanking fire has the potential to cross the valley and run upslope to Worsley Spur and Marleys Hill, threatening properties and assets.
- 2) The two slop-over's across the Summit Road: these backing fires have the potential to spread rapidly down slope under favourable wind conditions threatening Governors Bay and Allandale.
- 3) The plantation sector of the southern flank of the Early Valley fire: the potential exists under fresh NE winds to spread towards the Holmes Valley area.
- 4) Forested sector of the Marleys Hill fire: also has the potential to flare-up and breach containment with strengthening winds.

Safety Considerations:

Tomorrow RH will again drop below 30%. Winds becoming variable and gusty with NW of 20-30km/hr and later becoming NE winds of 30km/hr. Fire spread will become erratic with flanks becoming head fires and threatening ground crews.

Potential exists for backing fires to become fast spreading, high intensity upslope runs with aspect and fuel changes.

Steep terrain requires awareness of rock fall hazard and rapid rates of spread which may be hazardous to ground staff.

Smoke conditions may interfere with aircraft operations during both early morning and changeable winds and slope enhanced fire activity. Smoke may also pose a health hazard to fire fighters and public.

High intensity runs producing ember transport have the potential to breach fire breaks such as roads and bare earth control lines and threaten properties. Uncontained sections of the perimeter also have the potential to continue perimeter growth.

Port Hills Complex - Fire Behaviour Estimates Prepared: Tue. 14th February 2017, 1500 hrs

Fuel types include: Cured grass, tussock, gorse and regenerating native scrub, mixed age exotic plantations.

Fire behaviour calculations based on mid-afternoon weather and FWI conditions, 14 Feb. 2017

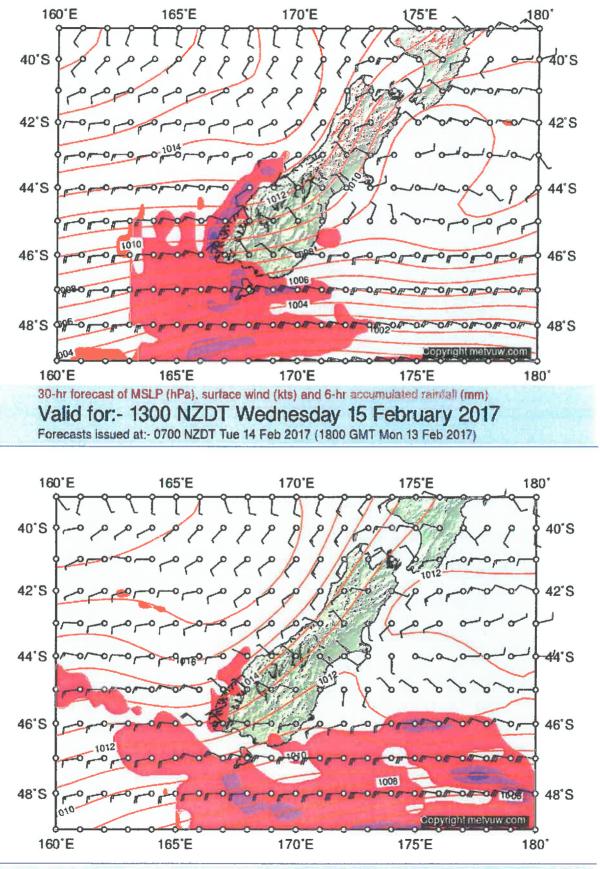
Wind speed: 25 km/h average Noon FFMC: 90.5, Hourly FFMC (1500h): 90.0, Hourly ISI: 15.0, BUI: 92

Slopes: range from flat to 30+ deg, average 20 deg Upslope SCF: 2.8, Downslope SCF: 0.3

Gorse (1.5-2.0 m tall): Flat: 20 deg upslope: 20 deg downslope m	ROS 3370 m/h, 8650 m/h, 840 m/h,	AFL 25-30 t/ha,	HFI 51,000 kW/m, 150,000 kW/m, 15,000 kW/m,	19 m
Hardwood Scrub (2.0 m t	all):			
Flat:	ROS 1685 m/h,	AFL 15 t/ha,	HFI 12,500 kW/m,	FL 6 m
20 deg upslope:	4330 m/h,		32,000 kW/m,	9 m
20 deg downslope	420 m/h,		3100 kW/m,	3.1
m				
Immature Pine Plantation	(11-20 y.o.):			
Flat:	ROS 652 m/h,	AFL 25 t/ha,	HFI 8100 kW/m,	FL 5 m
20 deg upslope:	1863 m/h,		23,000 kW/m,	8 m
20 deg downslope	163 m/h,		2000 kW/m,	2.6 m
Grass (100% cured, 0.3m	tall & 80% cover):			
Flat:	ROS 3275 m/h,	AFL 4.9 t/ha,	HFI 8100 kW/m,	FL 5 m
20 deg upslope:	9360 m/h,		23,000 kW/m,	8 m
20 deg downslope	820 m/h,		2000 kW/m,	2.6 m

Firebreak construction along Cashmere Stream flank: Approx.. 3 km break required Estimated construction rate for dozer: 1500 m/h So, estimated 2-3 hours to complete break Fire could take 30-60 mins to spread 200-400 m to track from estimated flank location

Downslope fire spread towards Governors Bay: Approx.downslope -17 deg (rise 300 m over 1000 m run) Downslope fire behaviour in gorse: estimated 1059 m/h, 30 t/ha, 16,000 kW/m, 6.7 m FL Downslope fire behaviour in hardwood scrub: 530 m/h, 14 t/ha, 3640 kW/m, 3.4 m FL So, estimated time to travel 1 km downslope run: 1-2 hrs 18-hr forecast of MSLP (hPa). surface wind (kts) and 6-hr accumulated rainfall (mm) Valid for:- 0100 NZDT Wednesday 15 February 2017 Forecasts issued at:- 0700 NZDT Tue 14 Feb 2017 (1800 GMT Mon 13 Feb 2017)



Plotted by James McGregor

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1. Incident Name	2. Op	erational Period	IAP COVER
Port Hills Complex	Date Time	15-16/02/17 2000-0800	SHEET
INC	IDENT A	CTION PLAN	
The items checked belo	w are in	cluded in the incident A	Action Plan
Incide ORGA ORGA COMM SAFET SAFET SECTO MEDIO FIRE M WEATH FIRE G Incide Incin Incin <td>NISATIO UNICAT Y PLAN OR ASSI AL PLAN IAP HER FOI</td> <td>ECTIVES N LIST IONS PLAN GNMENT</td> <td></td>	NISATIO UNICAT Y PLAN OR ASSI AL PLAN IAP HER FOI	ECTIVES N LIST IONS PLAN GNMENT	
3. Approved by Incident Controller: Name S	igned		Date/Time
Rob Hands			15/02/17 hrs

1. Incident Name	2. Operational Period	SITUATION
Port Hills Complex	Date 15-16/02/17 Time 2000-0800	REPORT
3. Location	4. Vegetation	5. NZ Topo50 Grid Ref.
Rolleston EOC	Scrub/Tussock/Grass/Forestry	

6. Assessment

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2 significant fires located on the Port Hills between Sign of the Kiwi and Early Valley have now joined and have compromised significant assets in both locations. Assets compromised include communication repeaters, infrastructure, residential properties, Christchurch Adventure Park infrastructure, and significant recreation and ecological reserves.

At 6:05pm on the 15th February a State of Local Emergency was declared for the Christchurch City Council and Selwyn District Council Areas. CDEM Group staff are co-locating with Christchurch City Council CDEM EOC.

The Regional Incident Management Team (RIMT) for Rural Fire will remain located at the Selwyn District Council and they will continue to manage the fire response. A liaison officer from Canterbury CDEM Group will be located at the RIMT.

NZ Police will manage the evacuation of people and Christchurch City Council will manage the welfare support for Christchurch City residents currently being evacuated. 40-50 strong combined Police and Military team patrolling tonight, and are ready to initiate evacuations.

Road closures remain in place in the vicinity of both fires.

The Marleys Hill fire has spread extensively down Worsley Spur, causing extensive vegetation burning in the Christchurch Adventure Park. The fire is approaching the residential area of Westmoreland.

Three further structures have been lost in Hoon Hay Valley Road and one on Old Tai Tapu Road.

Refined area of the fires is approximately 1655 hectares.

7. Action taken

Regional Incident Management Team has been working with resources in the field on both incidents.

Evacuation of properties in the vicinity of both fires.

16 helicopters including aerial platform plus 2 fixed wings were deployed for fire suppression, structure protection and supporting ground crews on Wednesday.

NZ Fire Service with Forestry crews have worked on containing the fire that has burnt downhill from the ridgeline above Governors Bay and Allandale. This is burning in steep terrain that is likely to pose problems for any suppression efforts. Earlier evacuation of Allandale has been lifted.

Evacuations are happening in Worsley Road, Hoon Hay Valley Road and Kennedys Bush Road above Cashmere Rd, Dyers Pass Road has been evacuated from Sign of the Takahe, Early Valley Rd. Approx 300 people evacuated to date. Welfare centres have been opened at Te Hapua Halswell Centre and Lincoln Events Centre for people displaced by the fires.

Road closures remain in place in the vicinity of both fires.

Geotech assessment of rockfall hazard over Governors Bay and Allandale was completed.

Restricted Air Space in place – extend to 3,500ft up until midday Friday 17th February.

8. Factors

Key factors are

- Extreme Fire Behavour
- Property evacuations
- Multiple assets of value either compromised or destroyed by fire
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads mixtures scrub, tussocks and exotic and native forestry
- Predicted wind changes with development of strong NE winds late Wednesday
- Significant resource commitment in terms of personnel and equipment
- Possible actions required due to identified rockfall risk
- Orion remains on full alert to respond to any issues with power supply which poses some threat to continuity of power supply to the Port Hills and the greater city.

9. Predicted Incident Development

The Early Valley fire is continuing to require significant suppression efforts, particularly around the forested areas. Further property losses unlikely provided containment lines hold around structures on Worsleys Hill.

Road closures and suppression efforts still likely to be required in the foreseeable future until fires well contained.

10. Prepared by: Darrin Woods

Date/Time 15/02/17 / hrs

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1. Incident Name	2. Operational Period	INCIDENT
Port Hills Complex	Date 15-16/02/17 Time 2000-0800	OBJECTIVES
3. Overall Incident Objectives		
To protect life by ensuring the safety of a Provide asset protection to all identified Contain, control and extinguish the fire w	values, where it is safe to do so.	ty.
4. Objectives for specified Operationa	Il Period	
Maintain watching brief on both Marley H Patrol perimeter and road verges, where NZFS Command Unit is situated at the S Maintain public presence around the fire do so.	safe to do so. In event of fire escal Sign of the Takahe.	
5. Prepared by: Craig Alexander	Date/Time 15/02	/17 / hrs

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1. Incident Name	2	. Ope	erational Pe	eriod	ORG	ANISATION
Port Hill Complex)ate ïme	15-16/02/1 2000-0800			LIST
3. Incident Control Incident Controller	Barry Hunt			Phone	Cell Phone	Radio Ch
Information Officer						
Safety Officer						
Liaison Officer				_/	1	
RIMT IC	Rob Hands					
4. Agency Representative				Phone	Cell Phone	Radio Ch
Lead Agency	Selwyn Dist	trict Co	uncil, DOC	_		
5. Planning/Intell Section				Phone	Cell Phone	Radio Ch
Planning/Intell Manager						
Management Support Unit						
Situation Unit						
Technical Specialists Unit						
6. Logistics Section				Phone	Cell Phone	Radio Ch
-	Don Gedde	S			-	
Supply						
Finance Unit	2 Q				-	+
Comms 7. Operations Section	-	_		Phone	Cell Phone	Radio Ch
	Tim Sheppa	ard				
Air Attack Supervisor				_		
Air Support Supervisor				_		_
	DOC West	Coast	 (6			
	High Countr	_				
	City Care Lt	-				
	Rob Lambie				1	
Crews	Pines Beacl	n (til 22	2:00 hrs)		1	
8. Prepared by:	Craig Alexa	nder		Date/Tin	ne 15/02/17 / h	rs
C						

1. Incident Name		2. Operational	Period	COMMUNICATIONS
Port Hills Complex		Date 15-16/0 Time 2000-0		PLAN
3. Radio Channels Assigned To	Function	Channel	Frequency	System
Barry Hunt	IC	FIRE2		
4 Crews		FIRE2		
		FIRE2		
4. Telephone Assigned To	Landline	Cellphone	Fax	Comments
NZFS ComCen	1			
6. Other (eg email, Sat	phone, etc)			
Contact 111	If fire escalates	s.		
				ne 15/02/17 / hrs

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1. Incident Name		2. Operational Pe	ariod SAFETY
Port Hills Complex		Date 15-16/02/ Time 2000-080	
3. General Safety Points Particular care around w Early Valley fire.	 structure pro Fight fire a provide for Initiate all a current and behaviour. Recognise conditions Ensure ins and unders Obtain cur fire status. Remain in crew mem and adjoin Determine escape rou Establish le hazardous 	Time 2000-080 Marleys Hill fire with tection above Gove re Orders aggressively but r safety first. action based upon d expected fire current weather and obtain forecasts. structions are given stood. rent information on Communication with bers, your supervisor ing forces. safety zones and utes. ookouts in potentially	 Anth regard to potential fire runs from Anthermore Bay and Allendale. Anternore Bay and Allendale. Watchouts 1. Fire not scouted and sized up. 2. In country not seen in daylight. 3. Safety zones and escape routes not identified. 4. Unfamiliar with weather and local factors influencing fire behaviour. 5. Uninformed on strategy, tactics and hazards. 6. Instructions and assignments not clear. 7. No communications link with crew members or supervisor. 8. Constructing fireline without safe anchor point. 9. Constructing fireline downhill with fire below. 10. Attempting frontal assault on fire. 11. Unburned fuel between you and the fire. 12. Cannot see main fire, not in contact with anyone who can.
	10. Stay alert,	keep calm, think decisively.	 On hillside where rolling material can ignite fuel below. Weather is getting hotter and drier. Wind increases and/or changes direction. Getting frequent spot fires across the line. Terrain and fuels make escape to safety zones difficult. Taking a nap near the fire line.

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4. Specific Safety Points

- · Off and on highway speed limit of 30km, headlights on
- Competent four wheel drivers for off road
- Power lines/poles/pylons within the fire ground have been burnt but have not been assessed as yet. MAINTAIN SAFE DISTANCE FROM THESE STRUCTURES
- FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR
- Maintain hydration and nutrition levels
- Wasps and bees present
- Dust and smoke inhalation
- Steep terrain potential rockfalls, bluffs present
- Report all accident and near misses
- Sun exposure/hypothermia/hyperthermia
- · Aircraft movements around heli operations and water bombing
- Heavy machinery operations
- Potential rootballs dislodging
- Unstable trees with damaged root structures
- Main transmission lines, 30 metre setback due to potential arcing in the thick smoke.
- Beware of public, farmers, recreational users, and stock.

5. Prepared By: Graeme Knight

Date/Time 15/2/2017 /

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1. Incident Name		2. Operational	Period	Real Providence	SECTOR
Port Hill Complex	Date 15-16/ Time 2000-0			ASSIGNMENT	
3. Sector	4. Description			5. Divi	sion Assigned
6. Sector Supervisor		,	Affiliation	Phone	Radio Ch
7. Resources Assigne Resource/Crew West Melton	ed this period Leader	# Persons		Vehicles	Cellphone
		2		4 appliance	
High Country Fire Tm	Barry Hunt	3		4 appliance	
City Care Ltd	Dave Reese	4	Sr	nokechaser 8 anker) X
DOC West Coast		6			-
Pines Beach (til 22:00)	Rob Lambie	4			
8. Sector Assignment Patrolling and monitorin Maintain watching brief Patrol perimeter and ro NZFS Command Unit is Maintain public present so.	ng. on both Marley Hill ad verges, where s s situated at the Sig	and Early Valley afe to do so. In e n of the Takahe.	event of fire e		
9. Sector Communica Air Attack Supervis Safety Offic	or			Phone	Radio Ch
10. Prepared B	y:		Date/1	ime 15/02/1	7 / hrs

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1. Incident Name		2. Ope	ration	al Period			ME	DICAL
Port Hills Complex		Date Time		6/02/17 -0800				PLAN
3. First Aid Station				Phone/Rac			nedics	
Name		cation		Channel		vailable		on
Antz	Safe Forwa	rd Point			PHEC	c (til 21:3	30)	
Paddy	Safe Forwa	rd Point			PHEC	c (til 21:3	0)	
4. Transportation Ambulance Service Westpac Rescue Helicopter	Ad 515 Memo	dress rial Ave		Phone/Rad Channel		Param able with		ılance
5. Hospitals Hospital Name Christchurch Public Hospital	Ad Hagley Parl	dress		Phone	Trave Road	Air 20 min	Burn Unit	Heli Pad
Burwood Hospital	300 Burwo				1.5 hr	30 min		
CDHB HPO Matt Willoughby	DDI							
6. Special Emergency Proce	dures							
7. Prepared B	y: Don Ge	ddes			Date/Tin	ne 15/02	2/17 / hr	S
8. Reviewed by Safety Office	er: Graeme	Knight			Date/Tin	ne 15/02	2/17 / hr	S
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FIRE BEHAVIOUR FORECAST NO: 2

FIRE NAME: PORT HILLS COMPLEX

PREDICTION PERIOD: Wednesday 15th 1300 to Wednesday 16th 2000, February 2017

Area: Port Hills Complex; Early Valley, Marleys Hill and Governors Bay (Summit Road), Canterbury

Time & Date Forecast Issued: 1300, Feb 15th, 2017

R.Chambers: Fire Behaviour Officer

Weather Summary:

Wednesday: Light westerlies, changing to north-east and freshening into the afternoon. Winds 060/070, rising 30km/hr, Gusting 40km/hr. Max 22C and RH low of 30%.

Overnight: North-easterlies persisting fresh at higher levels and easing at lower levels. RH recovering to 80%.

Thursday: NE 20-30km/hr, Temp Max 20C, RH Min 50%.

Fri/Sat: Computer models indicates keen northeast winds during this period. Average speeds likely reach 40 to 45 km/h with gusts 55 km/h at times. The good news is that the northeast flow brings in low cloud and higher RH. Patchy light rain/drizzle is expected at times, esp. from Fri evening through to Sat morning. Top temps stay in the teens. RH could be 100% at times at higher elevations.

Fire Behaviour General:

The fire ground covers a range of fuel types including cured ungrazed grass and tussock lands, dense scrub and gorse, regenerating native bush and various aged exotic forest plantations. The fire area encompasses multiple valley systems and ridge lines which include complex and steep terrain, and varying aspects.

Areas of active fire growth with back burning and flare ups are being observed. Rates of spread are slower under forest types while highest in scrub and grass fuels.

Potential continues for flare ups and increases in fire activity due to heavy pine plantation fuel types at both the Marley's Hill and Early Valley fires. The Early Valley fire is also burning in heavy scrub fuels with slopes of approximately 20% which has the potential for rapid upslope runs with rates of spread of around 2-4km/hr in gorse and 1-2km/hr in regenerating native bush. Flame lengths would be in excess of 10m.

The backing fire above Governors Bay in regenerating native hardwoods has the potential to become a head fire as the NE develops in the Lyttelton Harbour basin.

A general deterioration in fire behaviour conditions is expected from early afternoon onwards with the potential for extreme fire behaviour under fresh to strong north-easterlies.

STATION	FOREST	SCRUB	GRASS	FFMC	ISI	FWI	темр	RH	DIR	WSP	RN24	DMC	DC	BUI	GC%
Bottle Lake	Н	E	H	89	5	20	19.1	28	209.0	5.4	0	71	711	114	75
Burnham	H	E	H	89	5	18	19.5	26	189.0	4.7	0	61	484	93	80
Motukarara	Н	E	Н	91	6	22	18.3	25	202.0	5.0	0	61	469	92	70

Observed FDC/FWI for Port Hills - 1100hrs 15/02/2017

FFMCs in the high 80s rising again to 90+ mean fine fuels are vulnerable to easy ignition. The BUI (90+) and DC of 500 indicates large amounts of fuel available for combustion and deep seated burning in heavy fuels.

Pressure Points under Fresh NE wind change

- Sector A Marleys Hill fire: the potential exists for south-easterly spread with strengthening winds and breach containment under Marleys Hill and risk of encirclement of assets such as residences and communications arrays.
- Sector B on the northern flank of the Early Valley fire at the head of the Cashmere Stream: the flanking fire has the potential to continue cross the valley and run upslope to Worsley Spur and Marleys Hill, threatening properties and assets.
- 3) Sector C on the southern flank of the Early Valley fire: the potential exists under fresh NE winds for escape into dense forestry fuels and spread towards the Holmes Valley area.
- 4) Sector D Governors Bay and Allandale: Backing fires have the potential to become head fire and move southward under Cass Peak towards Living Springs conference complex.

Safety Considerations:

Winds becoming fresh NE of 30km/hr. Fire spread will become erratic with flanks becoming head fires and threatening ground crews.

Potential exists for backing fires to become fast spreading, high intensity upslope runs with aspect and fuel changes.

Steep terrain requires awareness of rock fall hazard and rapid rates of spread which may be hazardous to ground staff.

Smoke conditions may interfere with aircraft operations and may also pose a health hazard to fire fighters and public.

High intensity runs producing ember transport have the potential to breach fire breaks such as roads and bare earth control lines and threaten properties. Uncontained sections of the perimeter also have the potential to continue perimeter growth.

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1. Incident Name Port Hills Complex	2. Operational Period Date 16/02/17	IAP COVER SHEET
	Time 0730-1930 INCIDENT ACTION PLAN	
The items checked	d below are included in the incident Act	ion Plan
	ITUATION REPORT ICIDENT OBJECTIVES RGANISATION LIST OMMUNICATIONS PLAN IR OPERATIONS PLAN AFETY PLAN ECTOR ASSIGNMENT EDICAL PLAN IRE MAP /EATHER FORECAST IRE GROUND ROADING PLAN	
3. Approved by Incident Control Name Rob Hands	Signed	Date/Time 15/02/17 2200hrs

1. Incident Name	2. Operational Period	SITUATION
Port Hills Complex	Date 16/02/17 Time 0730-1930	REPORT
3. Location	4. Vegetation	5. NZ Topo50 Grid Ref.
Rolleston EOC	Scrub/Tussock/Grass/Forestry	4

6. Assessment

2 significant fires located on the Port Hills between Sign of the Kiwi and Early Valley have compromised significant assets in both locations. Assets compromised include communication repeaters, electricity infrastructure, residential properties, the Christchurch Adventure Park, and significant recreation and ecological reserves.

There has been significant fire development during the afternoon and continuing into the evening on Wednesday. Estimated area of the fire is now in excess of 1850 hectares and still growing.

Fire has crossed Dyers Pass Road below Sign of the Kiwi and is developing in Victoria Park without suppression efforts. It has also spread to within close proximity of the dense residential housing of Westmoreland.

Indications are that there have been a significant number of properties affected. At least 3 additional houses have been destroyed in the area of Worsleys Road.

At 6.05pm on the 15th February a State of Local Emergency was declared for the Christchurch City Council and Selwyn District Council Areas. CDEM Group staff are co-locating with Christchurch City Council CDEM EOC.

The Regional Incident Management Team (RIMT) for Rural Fire will remain located at the Selwyn District Council and they will continue to manage the fire response. A liaison officer from Canterbury CDEM Group will be located at the RIMT.

NZ Police will manage the evacuation of people and Christchurch City Council will manage the welfare support for Christchurch City residents currently being evacuated. 40-50 strong combined Police and Military team patrolling tonight, and are ready to initiate evacuations.

Road closures remain in place in the vicinity of both fires. Some closures likely to remain in place over next 24 hours, with extension of closures to popular mountain bike trails around Kennedys Bush in place.

Ground crews are patrolling and monitoring the fireground overnight.

7. Action taken

Regional incident Management team remains in place and is working with resources in the field.

Works during the day focussed on establishing containment lines with heavy machinery, while continuing to use aircraft to contain breakouts. Rural and urban crews worked to provide asset protection and to strengthen controls lines where safe to do so.

A number of evacuations have been undertaken as the fire has compromised properties in the Worsleys, Hoon Hay Valley and Kennedys Bush Roads. Plans have been prepared to extend evacuation cordons overnight if the need arises.

Road closures have been extended.

Welfare Centres have been opened at Halswell Library and Lincoln Event Centre and are being managed by Civil Defence.

Restricted Air Space remains in place – extend to 3,500ft up until midday Friday 17th February. Power authorities are working to maintain service.

8. Factors

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Key factors are

- Extreme fire behaviour
- Multiple property evacuations
- Multiple assets of value either compromised or destroyed by fire
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads mixtures scrub, tussocks and exotic and native forestry
- Smoke reducing visibility
- Continued significant resource commitment in terms of personnel and equipment
- Limited water supplies close to the fire ground are being exhausted.
- Damage to power infrastructure
- Heavy traffic volumes with bystanders

9. Predicted Incident Development

Potential for fires to continue to spread towards residential properties, with fresh easterly winds continuing. Fire east of Dyers Pass will continue to develop with no active suppression – reassessment will be required in the morning.

Incident Management Team is being escalated to support this complex, with support from multiple agencies. Road closures and suppression efforts will continue for at least the next couple of days.

10. Prepared by: Darrin Woods

Date/Time 15/02/17 2200hrs

1. Incident Name	2. Operational Period	INCIDENT
Port Hills Complex	Date 16/02/17 Time 0730-1930	OBJECTIVES
3. Overall Incident Objectives		THE CONTRACT
To protect life by ensuring the safety of Provide asset protection to all identifie Contain, control and extinguish the fire	d values, where it is safe to do so.	ity.
4. Objectives for specified Operatio	nal Period	
Comprehensive assessment of the fire deployment. Reestablish containment lines on all s Strengthen fire breaks around key stru Crews supported by heavy machinery as prioritised.	ectors. Priorities to be set by the IMT. actures as required.	
5. Prepared by: Rob Hands	Date/Time 15/02	/2017 2200hrs

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1. Incident Name	2. Operatio	nal Period	ORG	ANISATION	
Port Hill Complex)2/17 0-1930	LIST		
3. Incident Control		Phone	Cell Phone	Radio Ch	
Incident Controller	Rob Hands				
Information Officer	Stephen Hill				
Safety Officer	Graeme Knight				
Liaison Officer					
Fire Investigation	Graeme Still				
4. Agency Representative		Phone	Cell Phone	e Radio Ch	
Lead Agency	SDC Douglas Marshall				
Lead Agency	DOC Andy Thompson		U.		
5. Planning/Intell Section		Phone	Cell Phone	Radio Ch	
Planning/Intell Manager	Darrin Woods				
Dept Planning/Intell Manager	Allan Grigg				
Management Support Unit	Gavin Treadgold				
Management Support Unit	Christine Tatterson				
Situation Unit	Rodney Chambers			1	
Advanced Planning Unit	Tony Teeling				
	Terry O'Neil, Nathan Ke	eoghan	Ī		
6. Logistics Section		Phone	Cell Phone	Radio Ch	
Logistics Manager	Don Geddes				
Supply	Angela Chisnall				
Finance Unit					
Comms					
7. Operations Section		Phone	Cell Phone	Radio Ch	
Operations Manager	Bruce Janes (Trevor Ti	dey)	1	7	
Deputy Operations Manager	Brian Keown				
Air Attack Supervisor	Richard Macnamara			Fire4	
Air Support Supervisor	Atila deOliveria			Fire4	
Air Support Supervisor	Dean Turner			Fire4	
Ground Support					
8. Prepared by:		Date/Tim	e 15/2/17 / 22	00hrs	

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1. Incident Name		2. Operational	Period	COMMUNICATIONS
Port Hills Complex – Al	PHA Marleys	Date 16/02/1 Time 0730-1	PLAN	
3. Radio Channels				
Assigned To	<i>Function</i> Command	Channel ESB164	Frequenc	y System
Air	Air Support	FIRE4		
Alpha Marleys	Crews	FIRE2	-	
Bravo Early Valley	Crews	FIRE3		
Charlie Early Valley	Crews	FIRE3		
Echo Governors Bay	NZFS Crew	FIRE1		
4. Telephone Assigned To	Landline	Cellphone	Fax	Comments
Kirsty Percasky				SFP Sign of Kiwi
Sarah Ensor				SFP Sign of Kiwi
Colleen Cooper				SFP Sign of Kiwi
Rachel Pelvin				SA Marleys
Sasha Roselli				SA Marleys
6. Other (eg email, Sat	phone, etc)			

Port Hills Complex – Sector Delta Date 16/02/17 Time 0730-1930 PLA	<u>C</u>				100	C. A. Starting	
Time 0730-1930 a. Personnel and Communications Afriliation Phone Radio Chan Air Attack Supervisor Richard Macnamara MKRFA 0272332693 FIRE4 Air Support Supervisor Atila deOliveria Buller DC 0272460952 FIRE4 Air Resource Assignments Reg or Topport Tactical Freq/ Chen Telephone Numbers Pilot Name/ Company Aircraft Type Reg or Callsign Tactical Assignment Telephone Freq/ Chen Pilot Name/ Company Aircraft Type Reg or Callsign Tactical Assignment Telephone Freq/ Chen Pilot Name/ Company Aircraft Type Reg or Callsign Tactical Assignment Telephone Freq/ Chen Pilot Name/ Company Aircraft Type Reg or Callsign Telephone Freq/ Chen Telephone Numbers Filed wing x1 Aircraft Squirrel Reg or HUQ Fire4 Onboard: Company: Fixed wing x1 Retardant/ Water Bornbing Fire4 Onboard: Company: Company: Squirrel HOQ Fire4 Dia Fire4 Dia Squirrel HOQ Fire4	1. Incident Name						AIR OPERATIONS
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x5 NZFSC Lincoln x5 x1 caravan x 2	7. Air Operations Spec	cial Equip or S					
x 2	x5 NZFSC Lincoln x5						
8. Prepared By: Don Geddes Date/Time 15/02/2017 /							
	8. Prepared By: Do	n Geddes			Date/Tin	ne 15/02/2	2017 /

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1. Incident Name	2. Operat	2. Operational Period SAFET					
Port Hills Complex		6/02/17 PLAN 0730-1930					
3. General Safety Points Extreme fire behaviour Extreme caution as smole ACES L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)	 ce will compromise visibil Fire Orders 1. Fight fire aggressively b provide for safety first. 2. Initiate all action based current and expected fir behaviour. 3. Recognise current weat conditions and obtain for 4. Ensure instructions are and understood. 5. Obtain current informati fire status. 6. Remain in Communicat crew members, your su and adjoining forces. 7. Determine safety zones escape routes. 8. Establish lookouts in po hazardous situations. 9. Retain control at all time 10. Stay alert, keep calm, th 	Ity at times. out Watchouts upon 1. Fire not scouted and sized up. ther 2. In country not seen in daylight. ther 3. Safety zones and escape routes not identified. ther 4. Unfamiliar with weather and local factors influencing fire behaviour. ther 5. Uninformed on strategy, tactics and hazards. given 6. Instructions and assignments not clear. ion on 7. No communications link with crew members or supervisor. s and 9. Constructing fireline without safe anchor point. s and 10. Attempting frontal assault on fire. thetatially 11. Unburned fuel between you and the fire. ses. 12. Cannot see main fire, not in contact with anyone who can.					
 Competent four whee Power lines/poles/pyl MAINTAIN SAFE DIS SLIPPERY IF SHOW Maintain hydration ar Wasps and bees press Dust and smoke inhat Steep terrain – poten Report all accident ar Sun exposure/hypoth 	ons within the fire ground have STANCE FROM THESE STRU ERS OCCUR Id nutrition levels sent lation tial rockfalls, bluffs present id near misses ermia round heli operations and wat	e been burnt but haven ot been assessed as yet. UCTURES FIRE GORUND WILL BECOME					

1. Incident Name Port Hill Complex		2. Operational Period Date 16/02/17 Time 0730-1930			SECTOR ASSIGNMENT			
3. Sector	4. Description	Description						
Alpha	Marleys							
6. Sector Supervisor			Affiliation	Phone	a second and the second as			
Brian Taylor		[DOC		FIRE2			
7. Resources Assign Resource/Crew	ed this period <i>Leader</i>	# Persons	Transp ort Requir ed	Drop-off Point/time	Pickup Point/time			
CCL		4						
CCL		4						
CCL		4						
HCFT		5						
NZRT12		8						
MSCRFA		5						
MSCRFA		6						
DOC Otago		4						
DOC Canterbury		4						
DOC Aoraki		5						
5 Helicopters								
Fixed wing as required								
8. Sector Assignment Protect life and propert Strengthen containmer Run hose lines. Direct attack where rec	y. It lines.	ions						
9. Sector Communica	tions		and Almond Almon	Phone	Radio Ch			
Air Attack Supervis	and the second	amara			FIRE4			
Safety Offic	er Steve Oshner			0274740163				
10. Prepared B	y:		Dat	e/Time 15/02	/2017 /			

1. Incident Name		2. Operationa	l Period	10.50	SECTOR	
Port Hill Complex		Date 16/02/17 Time 0730-1930			ASSIGNMENT	
3. Sector 4. Description				5. Di	5. Division Assigned	
Bravo	Early Valley Left Fla	ank				
6. Sector Supervisor			Affiliation	Phone	Radio Ch	
Al Hutt			SDC		FIRE3	
7. Resources Assign	ed this period		_			
Resource/Crew 3 Helicopters	Leader	# Persons	Transport Required	Drop-of Point/tim		
Fixed wing as required	1					
Sefton		3				
Makeriri Silvi		4				
Darfield		13				
HEB		3				
Mayfield		4				
Alford Forest		5				
8. Sector Assignmen Protect life and proper Strengthen containmer Run hose lines. Direct attack as require	ty. nt lines.	ons				
9. Sector Communica	ations			Phone	Radio Ch	
Air Support Supervis	sor Atila deOliveria				Fire4	
Safety Offic	cer Graeme Knight					
10. Prepared E	By:	Date/Time 15/02/2017 /				

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1. Incident Name		2. Operationa	Period	to all	SECTOR	
Port Hill Complex		Date 16/02			ASSIGNMENT	
		Time 0730-	1930	125 120		
3. Sector	4. Description	Description		5. Divis	sion Assigned	
Charlie	Holmes Road					
6. Sector Supervisor			Affiliation	Phone	Radio Ch	
Dale Wilhelm			CCL		FIRE3	
7. Resources Assign	ed this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time	
2 Helicopters						
1 Fixed wing as requir	ed					
Makeriri Silvi		4				
Hanmer		6				
Hawarden/Waikari		6				
HCFT		4				
8. Sector Assignmen Protect life and proper Strengthen containme Run hose lines as require Direct attack as require	ty. nt lines. uired.	ons				
9. Sector Communica	ations			Phone	Radio Ch	
Air Support Supervis	sor Atila deOliveria				Fire4	
Safety Offic	cer Graeme Knight					
10. Prepared E	Зу:		Date/T	ime 15/02/20	17 /	

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1. Incident Name		2. Operationa	l Period		SECTOR	
Port Hill Complex		Date 16/02 Time 0730-			ASSIGNMEN	
3. Sector 4. Description				5. Divis	5. Division Assigned	
Echo	Governors Bay					
6. Sector Supervisor			Affiliation	Phone	Radio Ch	
Des Irving	NZFS			FIRE1		
7. Resources Assign Resource/Crew 2 Helicopters (Iriquois)	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time	
1 Fixed wing as require	ed					
NZFS Crews						
8. Sector Assignmen Protect life and proper Strengthen containmen Run hose lines as require Direct attack as require	ty. nt lines. uired.	ions				
9. Sector Communica	ations			Phone	Radio Ch	
Air Support Supervis	sor Atila deOliveria		1		Fire4	
Safety Offic	cer Graeme Knight	t				
				Time 15/02/20		

EDICA PLA		
PHEC 1700 - 2130		
lio Paramedics available with Ambulance		
Hel		
t Pad		

FIRE BEHAVIOUR FORECAST NO: 1

FIRE NAME: PORT HILLS COMPLEX

PREDICTION PERIOD: Tuesday 14th 1500 to Wednesday 15th 1800, February 2017

Area: Port Hills Complex, Early Valley and Marley's Hill (Summit Road), Canterbury

Time & Date Forecast Issued: 1500, Feb 14th, 2017

R.Chambers: Fire Behaviour Officer

Weather Summary:

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Moderate north-westerlies with possible light southerly change for a few hours mid-Tuesday afternoon. Then turning Northnortheast into the evening. Light westerly early Wednesday and then strengthen north-easterly from midday. Overnight low of 8C, RH recovery to 60%. Wednesday maximum 22C and RH low of 25%.

Fire Behaviour General:

The fire ground covers a range of fuel types including cured ungrazed grasses and tussock lands, dense scrub and gorse, regenerating native bush and exotic forest plantations. The fire area encompasses multiple valley systems and ridge lines which include complex and steep terrain, and varying aspects.

Areas of active fire growth with back burning and flare ups are being observed. Rates of spread are slower under forest types while highest in scrub and grass fuels.

Potential exists for flare ups and increases in fire activity due to heavy pine plantation fuel types at both the Marley's Hill and Early Valley fires. The Early Valley fire is also burning in heavy scrub fuels with slopes of approximately 20% which has the potential for rapid upslope runs with rates of spread of around 2-4km/hr in gorse and 1-2km/hr in regenerating native bush. Flame lengths would be in excess of 10m.

Fire behaviour should ease overnight but expect a deterioration in conditions from midday onwards with the potential for extreme fire behaviour conditions developing again during the later afternoon.

FFMCs in the high 80s rising again to 90+ tomorrow mean fine fuels are vulnerable to easy ignition. The BUI (90+) and DC of 500 indicates large amounts of fuel available for combustion and deep seated burning in heavy fuels.

Pressure Points

- 1) The head of the Cashmere Stream: the flanking fire has the potential to cross the valley and run upslope to Worsley Spur and Marleys Hill, threatening properties and assets.
- 2) The two slop-over's across the Summit Road: these backing fires have the potential to spread rapidly down slope under favourable wind conditions threatening Governors Bay and Allandale.
- 3) The plantation sector of the southern flank of the Early Valley fire: the potential exists under fresh NE winds to spread towards the Holmes Valley area.
- 4) Forested sector of the Marleys Hill fire: also has the potential to flare-up and breach containment with strengthening winds.

Safety Considerations:

Tomorrow RH will again drop below 30%. Winds becoming variable and gusty with NW of 20-30km/hr and later becoming NE winds of 30km/hr. Fire spread will become erratic with flanks becoming head fires and threatening ground crews.

Potential exists for backing fires to become fast spreading, high intensity upslope runs with aspect and fuel changes.

Steep terrain requires awareness of rock fall hazard and rapid rates of spread which may be hazardous to ground staff.

Smoke conditions may interfere with aircraft operations during both early morning and changeable winds and slope enhanced fire activity. Smoke may also pose a health hazard to fire fighters and public.

High intensity runs producing ember transport have the potential to breach fire breaks such as roads and bare earth control lines and threaten properties. Uncontained sections of the perimeter also have the potential to continue perimeter growth.

Port Hills Complex - Fire Behaviour Estimates Prepared: Tue. 14th February 2017, 1500 hrs

Fuel types include: Cured grass, tussock, gorse and regenerating native scrub, mixed age exotic plantations.

Fire behaviour calculations based on mid-afternoon weather and FWI conditions, 14 Feb. 2017

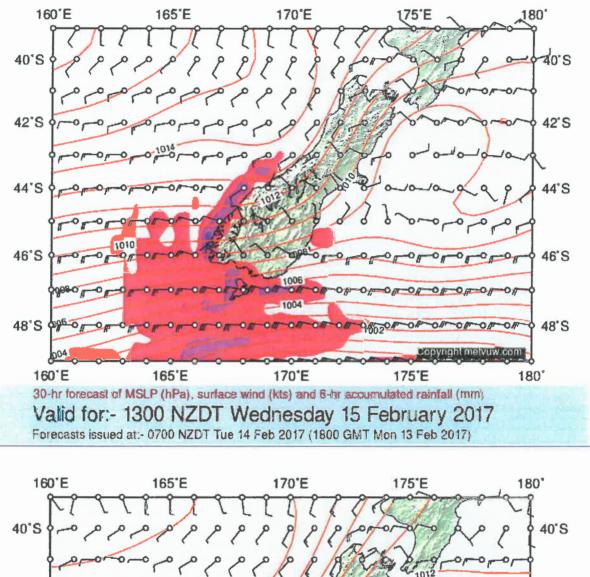
Wind speed: 25 km/h average Noon FFMC: 90.5, Hourly FFMC (1500h): 90.0, Hourly ISI: 15.0, BUI: 92

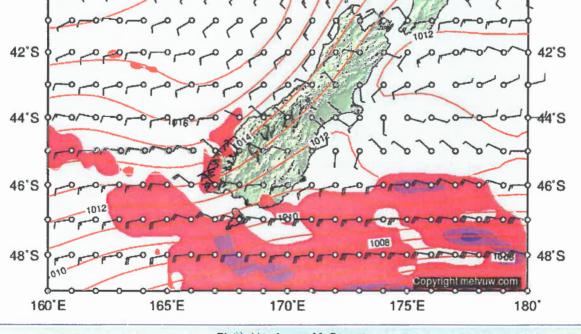
Slopes: range from flat to 30+ deg, average 20 deg Upslope SCF: 2.8, Downslope SCF: 0.3

Gorse (1.5-2.0 m tall):			
Flat:	ROS 3370 m/h,	AFL 25-30 t/ha,	HFI 51,000 kW/m, FL 11 m
20 deg upslope:	8650 m/h,		150,000 kW/m, 19 m
20 deg downslope	840 m/h,		15,000 kW/m, 6.5
m			
Hardwood Scrub (2.0 m	tall):		
Flat:	ROS 1685 m/h,	AFL 15 t/ha,	HFI 12,500 kW/m, FL 6 m
20 deg upslope:	4330 m/h,		32,000 kW/m, 9 m
20 deg downslope	420 m/h,		3100 kW/m, 3.1
m			
Immature Pine Plantatio	on (11-20 y.o.):		
Flat:	ROS 652 m/h,	AFL 25 t/ha,	HFI8100 kW/m, FL5 m
20 deg upslope:	1863 m/h,		23,000 kW/m, 8 m
20 deg downslope	163 m/h,		2000 kW/m, 2.6 m
Grass (100% cured, 0.3r	n tall & 80% cover):		
Flat:	ROS 3275 m/h,	AFL 4.9 t/ha,	HFI 8100 kW/m, FL 5 m
20 deg upslope:	9360 m/h,		23,000 kW/m, 8 m
20 deg downslope	820 m/h,		2000 kW/m, 2.6 m

Firebreak construction along Cashmere Stream flank: Approx.. 3 km break required Estimated construction rate for dozer: 1500 m/h So, estimated 2-3 hours to complete break Fire could take 30-60 mins to spread 200-400 m to track from estimated flank location

Downslope fire spread towards Governors Bay: Approx.downslope -17 deg (rise 300 m over 1000 m run) Downslope fire behaviour in gorse: estimated 1059 m/h, 30 t/ha, 16,000 kW/m, 6.7 m FL Downslope fire behaviour in hardwood scrub: 530 m/h, 14 t/ha, 3640 kW/m, 3.4 m FL So, estimated time to travel 1 km downslope run: 1-2 hrs 18-hr forecast of MSLP (hPa), surface wind (kts) and 6-hr accumulated rainfall (mm) Valid for:- 0100 NZDT Wednesday 15 February 2017 Forecasts issued at:- 0700 NZDT Tue 14 Feb 2017 (1800 GMT Mon 13 Feb 2017)





Plotted by James McGregor

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1. Incident Name	2. Operational Period	SITUATION	REPORT
Port Hills Complex	Date: 16 February 2017		RF201
	Time: 1900hrs		
3. Location Marleys Hill and Early Valley	4. Vegetation Forest/Scrub/Grass/Slash	5. NZ Topo50 Grid Ref.	

6. Assessment

The Port Hill fires (Early Valley & Summit Road) have now merged into one following the significant escalation of the fire during the afternoon and evening of the 15 February. The area of the fire is now 2075ha and this area has been contained during the day time operational period of the 16th. This containment was confirmed when the fire perimeter was re-flown at 1600. Locations requiring continued suppression efforts include the area above Dyers Pass Road below Sign of the Kiwi into Victoria Park, in and around Sugar Loaf, area around Marleys Hill and the southern flank of the fire which potentially could blow out into unburnt fuel. The fire runs on the 15th took the fire into close proximity of the dense residential housing of Westmoreland.

There have been a significant number of properties affected.

At this moment the confirmed number destroyed structures is 11 houses and 2 large sheds.

Metservice weather Port Hills 19:10; 17 degree, 85% RH and average wind E 39km/hr.

7. Action taken

Regional incident Management team remains in place, while a State of Emergency has been declared over both Christchurch and Selwyn.

Works during the day has focussed on establishing containment lines with heavy machinery, while continuing to use aircraft to contain breakouts. Rural and urban crews worked to provide asset protection and to strengthen controls lines where safe to do so, there are 20 crews working.

A number of evacuations were undertaken yesterday as the fire has compromised properties in the Worsleys, Hoon Hay Valley and Kennedys Bush Roads. Many other households have self-evacuated. Actual number of people affected is unknown. Operations are working through a process to assess homes so people can return to their homes.

Road closures have been extended with police and defence manning road blocks.

There is a Welfare Centre at the Halswell Library being managed by Civil Defence.

Restricted Air Space remains in place – extend to 3,500ft up until midday Friday 17th February. Power authorities are working to maintain service.

Total Fire Ban put into place from Waimate/McKenzie District to Hurunui District by the National Fire Authority. Effective 17th February until further notice. This has been done to reduce the potential for further fire outbreaks while regional resources are concentrating on the Port Hills fire.

8. Factors

Key factors are

- Smoke reducing visibility
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads mixtures scrub, tussocks and exotic and native forestry
- Continued significant resource commitment in terms of personnel and equipment
- Limited water supplies close to the fire ground are being exhausted.
- Damage to power infrastructure
- Fire crews, helicopter personnel and management staff fatigue. Rotation with resources from outside the region need to be considered.

9. Predicted Incident Development

Tomorrow (17 Feb) NE winds are expected to increase to 40-45 km/hr and gusting to 55km/hr. The RH is also expected to increase 100/% as drizzle develops in the evening. These conditions are expected have fire behaviour similar to today with increased wind maybe flaring up hot spots and high RH making new fires less likely to develop. On Saturday the drizzle is expected to turn to light rain with continued NE winds, these will be good conditions for blacking out the fire perimeter. Areas of concern are the land around Victoria Park and east of Dyers Pass Road, Marleys Hill electronic assets and the southern flank of the fire which has terrain and vegetation suitable for fire spread.

10. Prepared by: Terry O'Neill	Date/Time 16/02/2017 2000 hrs
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1. Incident Name Port Hills Complex	2. Operational Period Date 17/02/17 Time 0730-1930	IAP COVER SHEET
	INCIDENT ACTION PLAN	
The items check	ed below are included in the incident Action	Plan
	SITUATION REPORT INCIDENT OBJECTIVES ORGANISATION LIST COMMUNICATIONS PLAN SAFETY PLAN SECTOR ASSIGNMENT MEDICAL PLAN FIRE MAP WEATHER FORECAST SMOKE PROPAGATION MODELLING	
3 Approved by Incident Contro Name Richard McNamara	Signed Date 16/0	e/Time)2/17)0 hrs
	VII TUMAN 200	

1. Incident Name
Port Hills Complex Date 17/02/17 OBJECTIVE
-3. Overall Incident Objectives
 To protect life by ensuring the safety of all personnel and the public. Provide asset protection to all identified values under threat, where it is safe to do so. Ensure all required preparations for next operational period are completed Undertake risk assessment to enable the public to return to buildings. Strengthen containment line and join methodically to existing completed/safe cold line around the fire perimeter.
4 Strategies for specified Operational Period
 1a) Clearly identify fireground and any other areas of risk 1b) Ensure access to fireground is restricted to trained, competent and assigned personnel only 1c) Ensure Safety Officer/s are appointed, briefed and actively managing safety risks 1d) Provide clear briefings ad command and control and communications
 2a) Identify all assets that may be at threat within the operational period 2b) Assess each asset for likelihood of successful protection 2c) Assess resources available over operational period 2d) Prioritise sites or secure more resources if insufficient for protection of all assets 2e) Ensure security of evacuated areas is maintained
 3a) Ensure IMT has been briefed by night Ops before departing the fire ground to ensure any required activities or preparations for following operational period are understood 3b) Sector Supervisor to confirm crew availability to Operations Manager no later than 1100 hours
 4a) Undertake thermal imaging assessments of buildings once environment cools 4b) Using Council systems to identify and contact landowners/occupants to inform them as to whether they can return home. 4c) Undertake public messaging to support this action
 5a) Starting from anchor points or safety zones, methodically work the perimeters with either hand tools, water or machinery to reinforce perimeter fire breaks. 5b) Initially establish 1 to 5 metre fire breaks as above. In areas of concern or heavy vegetation increase the width to 20 metres. 5c) Where possible GPS all completed line to be downloaded by situation at the end of shift. 5d) Sector supervisors to liaise with Ops regarding helicopter water drops onto their sectors.
5: Prepared by: Trevor Tidey Date/Time 16/02/17 2000 hrs

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1. Incident Name	2: Operational Period	ORGANISATION
Port Hill Complex	Date 17/02/17	LIST
	Time 0730-1930	
	Phone Phone	Cell Phone Radio Ch
Incident Controller		
Information Officer		
Safety Officer		
PIM		
Safety Officer		
Liaison Officer	Tim Mitchell-NRFA	
	Major Peter-NZDF	
	lan Rex-St John	
and the second s	Gavin Treadgold-CDEM Group	
	Andy Thompson-DOC	
and the second	Chris Scott-Police	
RIMT IC	Rob Hands	
4 Agency Representative	Phone	Cell Phone Radio Ch.
Lead Agency	SDC Douglas Marshall	
Lead Agency	DOC Andy Thompson	
5. Planning/Intell Section	Phone	Cell Phone Radio Ch
5. Planning/Intell Section Planning/Intell Manager		Cell Phone: Radio Ch.
的复数形式 化合理 化合理 化合理 化合理 化合理	Tony Teeling	Cell Phone: Radio Ch
Planning/Intell Manager Dept Planning/Intel Manager	Tony Teeling Allan Grigg	Cell Phone: Radio Ch
Rianning/Intell Manager	Tony Teeling Allan Grigg Jeanette Clark	Cell Phone Radio Ch
Rlanning/Intell Manager Dept Planning/Intel Manager Management Support Unit	Tony Teeling Allan Grigg Jeanette Clark Veronica Clifford	Cell-Phone Radio Ch
Rlanning/Intell Manager Dept Planning/Intel Manager Management Support Unit Situation Unit	Tony TeelingAllan GriggJeanette ClarkVeronica CliffordGrant Pearce	Cell-Phone: Radio.Ch
Rlanning/Intell Manager Dept Planning/Intel Manager Management Support Unit Situation Unit Situation Unit Situation Unit	Tony TeelingAllan GriggJeanette ClarkVeronica CliffordGrant PearceTerry O'Neil	Cell Phone: Radio Ch
Rlanning/Intell Manager Dept Planning/Intel Manager Management Support Unit Situation Unit Situation Unit Resources Team Leader	Tony TeelingAllan GriggJeanette ClarkVeronica CliffordGrant PearceTerry O'NeilJulie Woodward	Cell Phone Radio Ch
Rlanning/Intell Manager Dept Planning/Intel Manager Management Support Unit Situation Unit Situation Unit Situation Unit Resources Team Leader. Resources	Tony TeelingAllan GriggJeanette ClarkVeronica CliffordGrant PearceTerry O'NeilJulie WoodwardJohn Skilton	Cell-Phone Radio Ch
Rianning/Intell Manager Dept Planning/Intel Manager Management Support Unit Situation Unit Situation Unit Resources Team Leader Resources	Tony TeelingAllan GriggJeanette ClarkVeronica CliffordGrant PearceTerry O'NeilJulie WoodwardJohn SkiltonJo Clark	Cell-Phone: Radio:Oh
Rlanning/Intell Manager Dept Planning/Intel Manager Management Support Unit Situation Unit Situation Unit Situation Unit Resources Team Leader. Resources	Tony TeelingAllan GriggJeanette ClarkVeronica CliffordGrant PearceTerry O'NeilJulie WoodwardJohn SkiltonJo ClarkJo Harkerss	Celli Phone: Radio: Oh
Dept Planning/Intel Manager Management Support Unit Situation Unit Situation Unit Situation Unit Resources Team Leader Resources Resources Resources Resources	Tony TeelingAllan GriggJeanette ClarkVeronica CliffordGrant PearceTerry O'NeilJulie WoodwardJohn SkiltonJo ClarkJo HarkerssPete Johnson	Celli Phone: Radio: Oh
Rianning/Intell Manager Dept Planning/Intel Manager Management Support Unit Situation Unit Situation Unit Situation Unit Resources Team Leader Resources Resources Resources Fire Behaviour	Tony TeelingAllan GriggJeanette ClarkVeronica CliffordGrant PearceTerry O'NeilJulie WoodwardJohn SkiltonJo ClarkJo HarkerssPete JohnsonNathan Keegan	Cell-Phone: Radio: Oh
Rianning/Intell Manager Dept Planning/Intel Manager Management Support Unit Situation Unit Situation Unit Situation Unit Resources Team Leader Resources Resources Resources Fire Behaviour	Tony TeelingAllan GriggJeanette ClarkVeronica CliffordGrant PearceTerry O'NeilJulie WoodwardJohn SkiltonJo ClarkJo HarkerssPete JohnsonNathan KeeganRory Hoogenraad	Cell-Phone: Radio:Oh
Rianning/Intell Manager Dept Planning/Intel Manager Management Support Unit Situation Unit Situation Unit Situation Unit Resources Team Leader Resources Resources Resources Fire Behaviour	Tony TeelingAllan GriggJeanette ClarkVeronica CliffordGrant PearceTerry O'NeilJulie WoodwardJohn SkiltonJo ClarkJo HarkerssPete JohnsonNathan KeeganRory HoogenraadWarren Hunt	Celli Phone: Radio: Oh

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Ground Observers	Steve Pemberton	
Ground Observers	Brad Edwards	
6 Logistics Section		Phone Cell Phone Radio Ch
Logistics Manager	Janet Walsh (Don Geddes)	
Logistics		
Supply	Craig Westley	
Finance Unit	Pam Stephens	
Comms	SDC	
7. Operations: Section	and the second second	Phone Cell Phone Radio Ch
Operations Manager	Trevor Tidey	
Deputy Operations Manager	John Hays-NZDF	
Air Attack Supervisor.	Graeme Still	
Air Support Supervisor	Atila deOliveria	
Assistant Air Support	Carrie Lakin	
Supervisor		
Ground Support		
8: Prepared by:	Allan Grigg	Date/Time 16/02/17 / 2000hrs

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1. Incident Name		2. Operational Period	COMMUNICATIONS
Port Hills Complex – ALPHA MARLEYS		Date 17/02/17 Time 0730-1930	PLAN
3. Radio Channels	Function	Channels and Ju	equency System
IMT	Command	ESB164	027 534 1742
Air	Air Support	FIRE4	
Alpha Marleys	Crews	Fire2	
Bravo Early Valley	Crews	Fire3	
Charlie Early Valley	Crews	Fire3	
Echo Governors Bay	NZFS Crew	Fire1	
4. Telephone Assigned To Kirsty Percasky	Landline	Cellphone F	ax Comments SFP Sign of Kiwi
Sarah Ensor			SFP Sign of Kiwi
Colleen Cooper			SFP Sign of Kiwi
Rachel Pelvin			SA Marleys
Sasha Roselli			SA Marleys
5. Other (eg email Sat	phone (etc)	a la contra da contra	Email
Logistics			logistics@selwyn.govt.nz
Operations	*		operations@selwyn.govt.nz
Public Information	1		pim@selwyn.govt.nz
Planning			Eoc.plan@selwyn.govt.nz
Welfare			welfare@selwyn.govt.nz
Contact 111	If fire escalates		
6 Prepared by:	Don Geddes		Date/Time 16/02/17 / 2000hrs

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1: Incident Name Port Hills Complex		2. Or Date Time		d .	AIR	OPERATIONS PLAN
3. Personnel and Com Position	munications Nar	ne	Affiliation	P	ione	Radio Chan
Air Attack Supervisor			CCC			FIRE4
Air Support Supervisor	Atila de0	Oliveria	Buller DC			FIRE4
Assistant Air Support Supervisor	Carrie	Lakin	Mid-South Canterbury			FIRE4
4. Air Resource Assig Pilot Name/ Company	Aircraft	Callsi	or gn. Assignmen	t Frei	¶/	Telephone Numbers
	Cressco Fixed Wing	тв	Christchurch International	FIRE4	Onboard: Company:	
	Fixed wing x1		Retardant/ Water bombing	FIRE4		
_	Fixed wing x 1		Retardant/ Water bombing	FIRE4		
	Squirrel	HUQ		FIRE4		
	Squirrel	HOQ		FIRE4		
	Cabri		GPS Plotting	FIRE4	Land South No.	
	BK117	HJU		FIRE4		
	EC120	HTV		FIRE4		
	Squirrel	HPQ		FIRE4	24	
	Squirrel	HDQ		FIRE4		
	Squirrel	IBC		FIRE4	的影響	
	BK117	HGU		FIRE4	这种信号	
	Iroquois UH1	ННВ	Gov Bay	FIRE4		
	Iroquois UH1	HHB	Gov Bay	FIRE4		
Air Retardant Crew						
Based at Christchurch Airport						

Christchurch International Airport	Grays Rd, Harewood
Old Tai Tapu Rd (Helibase)	
6. Safety notes/Hazards/Radio Cov	erage Limitations,
NOTAM in place	
Aviation Security at Christchurch Airport	
7. Air Operations Special Equip or	Service
10K Jet A1 Tanker x 5	
NZFSC Lincoln x 5	
x 1 caravan	
x 2	

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1 Incident Name Port Hills Complex	2. Operational Pe Date 17/02/17 Time 0730-193	PLAN
Early Valley fire.	vestern edge of Marleys Hill fire wi ny structure protection above Gove Fire Orders 1. Fight fire aggressively but	Watchouts 1. Fire not scouted and sized up.
 A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s) 	 provide for safety first. Initiate all action based upon current and expected fire behaviour. Recognise current weather conditions and obtain forecasts. Ensure instructions are given and understood. Obtain current information on fire status. Remain in Communication with crew members, your supervisor and adjoining forces. Determine safety zones and escape routes. Establish lookouts in potentially hazardous situations. Retain control at all times. Stay alert, keep calm, think clearly, act decisively. 	 In country not seen in daylight. Safety zones and escape routes not identified. Unfamiliar with weather and local factors influencing fire behaviour. Uninformed on strategy, tactics and hazards. Instructions and assignments not clear. No communications link with crew members or supervisor. Constructing fireline without safe anchor point. Constructing fireline downhill with fire below. Attempting frontal assault on fire. Unburned fuel between you and the fire. Cannot see main fire, not in contact with anyone who can. On hillside where rolling material can ignite fuel below. Keather is getting hotter and drier. Wind increases and/or changes direction. Getting frequent spot fires across the line. Terrain and fuels make escape to safety zones difficult. Taking a nap near the fire line.

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4. Specific Safety Points

- Off and on highway within cordon speed limit of 30km, headlights and seatbelts on at all times
- Competent four wheel drivers for off road
- Power lines/poles/pylons within the fire ground have been assessed.
- MAINTAIN A SAFE DISTANCE OF 30M FROM THESE STRUCTURES
- FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR
- Maintain hydration and nutrition levels
- Wasps and bees present
- Dust and smoke inhalation
- Steep terrain potential rockfalls, bluffs present
- Report all accident and near misses
- Sun exposure/hypothermia
- Aircraft movements around heli operations and water bombing
- Heavy machinery operations
- Potential rootballs dislodging
- Unstable trees with damaged root structures
- Beware of public, farmers, recreational users, and stock contact line manager if issues arise.
- Pink ribbons tied around dangerous trees unsafe stay 2 times the height of the tree away

5. Prepared By: Graeme Knight

Date/Time 16/2/2017 / 2000

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Incident Name		2. Operationa Date 17/02 Time 0730	2/17		SECTOR ASSIGNMENT
3. Sector	Description		1 A 12 3	5.1	Division Assigned
Alpha	Marleys and Worsle	ys Spur			
6. Sector Supervisor			Affiliation	Phon	e Radio Ch
Nick Singleton (Summit FIRE3 + 164	Rd) and Brian Tayl	or (Worsleys S	pur)	SDC	BT
NS					
7. Resources/Assigne Resource/Crew		# Persons	Transport Required	Drop-i Point/ti	off Pičkup me Point/time
Crew 1- DOC Aoraki + medic		4			
Crew 2- CCC Coastal		4			
Crew 3- DOC Geraldine		5			
Crew 4- DOC Mahaanu	i	4			
Crew 5- DOC Otago		4			
Crew 6 –Ashburton Rural		4			
Crew 7- Alford Forest		3			
8 Sector Assignment/Special Instructions Protrans tanker plus one other to continue to fill sugar loaf pond. Helicopter to apply retardant around houses at junction of Worsleys Spur and Summit Road south of Marleys peak Protect life and property. Strengthen containment lines. Direct attack where required.					
9. Sector Communities	ions	1. A. S. L. L. L.		e selation	e Radio Ch
Air-Support-Superviso	Dean Turner AA Atila deOliveria				Fire4
Safety Office					
10. Prepared By	Bruce Jane		Date/	Time 16/02	2/2017 / 2000

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1. Incident Name Port Hill Complex		2 Operational Period Date 17/02/17 Time 0730-1930			SECTOR ASSIGNMENT		
3. Sector	4. Description	tan an a			5. Divisi	on Assigned	
Bravo	Early Valley area						
6. Sector Supervisor			Affiliation		Phone	Radio Ch	
Al Hutt			DOC			FIRE3 + 164	
7. Resources Assigne			T			Merece and	
Resource/Crew	Leader	# Persons	ort Reguir	Poin	p-on Utime	Pickup Point/time	
Crew 1- HCFT		5					
Crew 4- Darfield VRFF		10					
Crew 5 - HEB x 4		4					
Crew 6 -Maekerikeri Silviculture x 4 + chainsaws		4					
Safety - Steve Ochsne	r						
8. Sector Assignment Protect life and propert Strengthen containmen Patrol road edge, preve Prevent fire breaching	y. it lines. ent from crossing roa						
9. Sector Communica Ch	tions				Phones	Radio	
Air Attack Supervis	Atila deOliveria					FIRE4	
Safety Offic	er Graeme Knight Safety – Steve	Oschner					
10 Prepared B	ya Bruce Jane		Dat	te/Time	16/02/2	017 / 2000	

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1 Incident Name		Date 17/0 Date 0730			SECTOR ASSIGNMENT
3. Sector	4. Description		de the car	5. Divis	ion Assigned
Charlie	Early Valley Right Fla	nk			
6. Sector Supervisor			Affiliation	Phone	Radio Ch
Dale Wilhelm			CCL	027 228 528	B FIRE3
7 Resources Assign Resource/Crew Bill Stevenson Heavy Machinery	ed this period Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Crew 1- Bottle Lake		5			
Crew 2- ECan		6			
Crew 4 – Hurunui		6			
Crew 5 – Hurunui		6			
Protect life and proper Strengthen containme Run hose lines. Patrol Summit Road, a Direct attack as requin	nt lines. assist with fire break be ed.		l right up to Sur	l nmit Road	
9. Sector Communic	A REAL PROPERTY AND A REAL			Phone	Radio Ch
Air Support Supervi	Sinth and				Fire4
Safety Offi					
10. Prepared B	(Salaria)		Date/	Time 16/02/20	17 / 2000
C	- 1 - 1,0077				

1. Incident Name Port Hill Complex		2. Operational Date 17/02/ Time 0730-	/17		SECTOR ASSIGNMENT
3. Sector	4. Description			5. D	vision Assigned
Echo	Governors Bay				
6. Sector Supervisor		Cardena de Cardena	Affiliation	Phone	Radio Ch.
Gavin Dumphy	NZFS Area	a Commander H	lutt Valley		FIRE1
7. Resources Assign	and Sharehoust & Conservation and a state of the second		Transport	Drop-of	f Pickup
Resource/Crew	Leader	# Persons	Required	Point/tin	
NZFS Crews		4			
8. Sector Assignmen Protect life and proper	tv.	ons			
Overwatch only.					
9 Sector Communic				Na Alanone	Radio Ch
. Air Support Supervi	sor Dean Turner A Atila deOliveria				Fire4
Safety Offi					
10. Prepared	By. Bruce Jane		Date/	Time 16/02/	2017 / 2000

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1 Incident Name	2. Oper	ational Period		No.	ME	DICAL
Port Hills Complex	Date Time	17/02/17 0730-1930				PLAN
3. First Aid Station	Location	Phone/Rad Channel				on
Stu			Carlo Internet Social		1.12 1.4 S. 4. TO. 42 Law	
Kurt						
Paddy						
Fiona						
4. Transportation Ambulance Service Westpac Rescue Helicopter	Address 515 Memorial Ave	Phone/Rad Channel	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Param able witi		lance
5 Hospitals Hospital Name Christchurch Public Hospital	Address Hagley Park	Phone		Air 20 min		
Burwood Hospital	300 Burwood Road		1.5 hr	30 min		
CDHB HPO Matt Willoughby	DDI	_				
6: Special Emergency Proced Notify line supervisor immediat		ury or emergency	call being	g made.		
7. Prepared B	Don Geddes		Date/Tin	ne 16/02	2/17 / 20	000hrs
8. Reviewed by/Satety/Office	Graeme Knight		Date/Tin	ne 16/02	2/17 / 20	000hrs

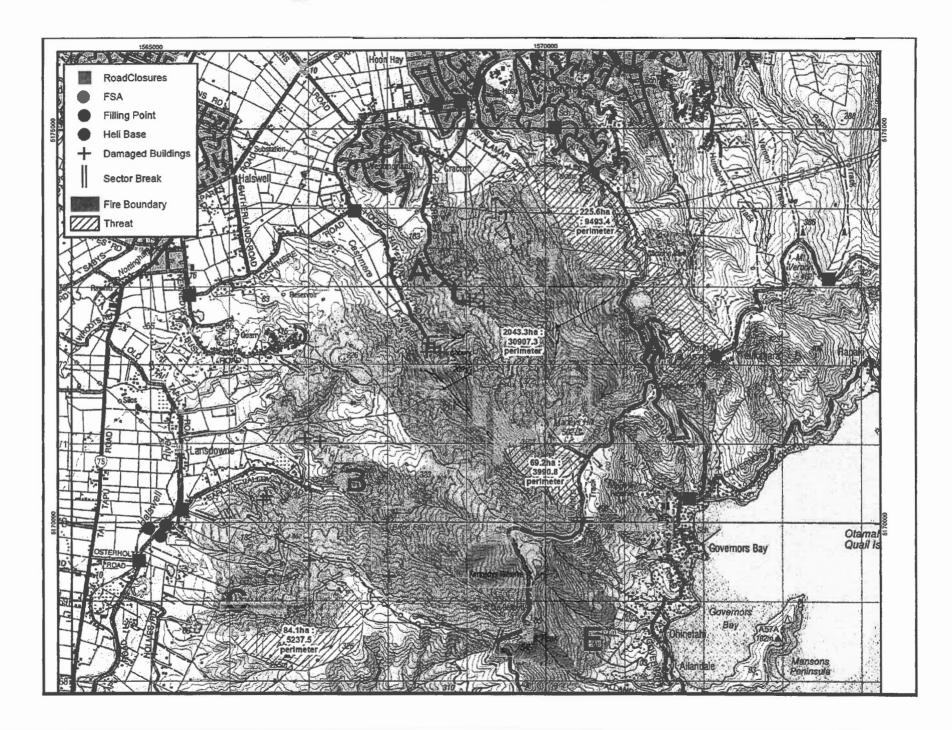
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Incident Action Plan Ver: Oct 2001

National Rural Fire Authority



Port Hills Complex - Fire Breakout Behaviour Scenarios – Part 2 Prepared: Thu. 16th February 2017, 1700 hrs

Fuel types include: Cured grass, gorse and regenerating native scrub, mixed age exotic plantations.

Fire behaviour calculations based on late-afternoon weather and FWI conditions 16 Feb. 2017

Wind speed: 30 km/h average ENE Noon FFMC: 90, Hourly FFMC (1600h): 90.0, Hourly ISI: 19, BUI: 99

Slopes: range from flat to 20+ deg, average +/- 15 deg Upslope SCF: 1.9-2.3, Flat SCF: 1.0, Backing SCF: 0.3-0.4

1) Below Dyers Rd (Adventure Park) Mature pine plantation: NB. all pine fires exhibit crown fire potential ROS 940 m/h. AFL 26 t/ha, HFI 12,300 kW/m, FL 6 Flat: m Flanking (cross-slope) 470 m/h, 6,000 kW/m, 4.5 m Upslope: 1790 m/h. 23.500 kW/m. 8 m Backing upslope (into wind) 360 m/h, 4,800 kW/m, 3.5 m Distance to Dyers Rd approx. 700 m 2) Adventure Park to Worsleys Rd (below Shalamar Dr) Grazed grass (100% cured, 0.3 m tall, 70% cover): Flat: ROS 3730 m/h. AFL 3 t/ha. HFI 5.300 kW/m. FL4m

Distance to Worsleys Rd approx. 700 m

3) Below Dyers Rd (Shalamar Rd to Sign of the Kiwi) Hardwood scrub (2 m tall): Flat: AFL 15 t/ha, HFI 14,400 kW/m, FL 6.5 ROS 1945 m/h, m 1000 m/h, 7,000 kW/m, 4.5 m Flanking (cross-slope) Upslope: 4470 m/h. 33,000 kW/m, 9.5 m Backing upslope (into wind) 600 m/h. 4,500 kW/m, 3.5 m

Distance to Dyers Rd approx. 400 m

Smoke Hazard Issued: 2000hrs, Feb 16th 2017 Prediction period: Thursday, 16th Feb to Saturday, 18th Feb

Despite the reduced fire activity, smoke hazard still remains high.

- Smoke modelling for the Port Hills fire indicates the potential for high smoke hazard to public health.
- Smoke hazard levels are highest during daylight hours, especially morning and evening, and decline overnight.
- For this evening and again throughout the day on Friday, likely areas affected include Lincoln and Leeston. Particulate matter concentrations (PM2.5) are close to or exceed safe health levels.
- Smoke hazard is forecasted to decrease on Saturday, but some long range effects are forecasted as far as Timaru.

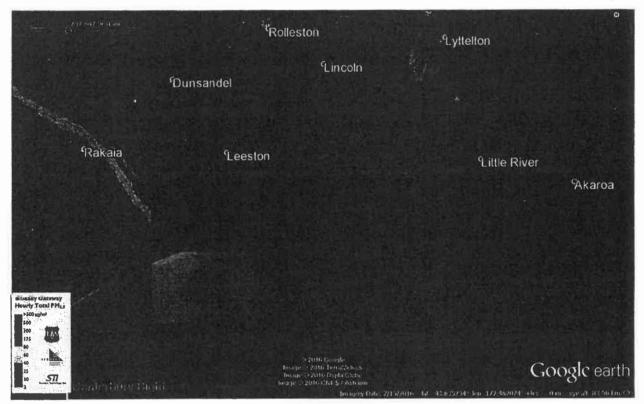


Image: Smoke prediction for Friday 17th at 9am.

1. Incident Name Port Hills Complex	2. Operational Period Date: 17-18/02/2017 Time: 1930 hours to 0730 hours	AP COVER SHEET
	ACTION PLAN	
The item	s checked below are included in th	e Action Plan
	EPORT	
INCIDENT OB	JECTIVES	
	DNAL LIST	
	TIONS PLAN	
SECTOR ASSIG	GNMENT	
SAFETY PLAN		
MEDICAL PLA	N	
G FIRE MAPS		
WEATHER FO		
SMOKE PROP	AGATION MODELLING	
3. Approved by Incident	Signed	Date/Time
Controller:		Date: 17/02/2017 Time:
Richard McNamara		

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1. Incident Name	2. Operational Period	SITUATION
Port Hills Complex	Date: 17 February 2017	REPORT
	Time: 1530hrs	RF201
3. Location	4. Vegetation	5. NZ Topo50 Grid Ref.
Marleys Hill and Early Valley	Forest/Scrub/Grass/Slash	

6. Assessment

The Port Hill fires (Early Valley & Marleys Hill) merged into one following the significant escalation of the fire during the afternoon and evening of the 15 February. The area of the fire is now 2075ha and this area was contained during the day time operational period of the 16th. This containment was confirmed when the fire perimeter was flown early morning of the 16th and was then re-flown in the afternoon with no detectable change. Fire ground observers have identified locations requiring continued suppression efforts and they include the area above Dyers Pass Road below Sign of the Kiwi into Victoria Park, in and around Sugar Loaf, the area around Marleys Hill and the southern flank of the fire which potentially could blow out into unburnt fuel. The fire runs on the 15th took the fire into close proximity of the dense residential housing of Westmoreland.

There have been a significant number of properties affected.

The confirmed number of destroyed structures is 11 houses and 2 large sheds.

The perimeter which is over 29km has 21% confirmed as controlled which has been defined as bare earth or blacked out ground for at least 10 metres. The actual percentage of perimeter that is controlled is expected to be more than 21% and the state of the perimeter is currently being assessed by ground staff.

Metservice Port Hills 1515; 16 degree, 99% RH, rain 0.2mm and average wind NE 22km/hr.

7. Action taken

Regional incident Management team remains in place, while a State of Emergency has been declared over both Christchurch and Selwyn.

Works during yesterday focussed on maintaining and installing control lines with heavy machineries and crews, while continuing to use aircraft to contain breakouts. Rural and urban crews worked to provide asset protection and to strengthen controls lines where safe to do so, there are 20 crews working. The night shift continued suppression efforts and utilised thermal imaging cameras.

A number of evacuations were undertaken on Wednesday as the fire has compromised properties in the Worsleys, Hoon Hay Valley, Kennedys Bush Roads and Dyers Pass Road. Many other households have self-evacuated. Actual number of people affected is unknown.

Assessment of properties under way so that people can be provided with information regarding their homes. As at 1500 the cordon for Westmorland had been lifted and residents have been allowed to return to their homes. In the meantime road closures continue at Hoon Hay Valley Road, Kennedys Bush Road and Dyers Pass Road with police and defence manning road blocks. There is a Welfare Centre at the Halswell Library being managed by Civil Defence.

Restricted Air Space remains in place – extend to 3,500ft up. Power authorities are working to repair damaged infrastructure. An total Fire Ban is in places.

8. Factors

Key factors are

- Residents are wishing to return to their houses ASAP.
- Smoke reducing visibility
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads mixtures scrub, tussocks and exotic and native forestry
- Continued significant resource commitment in terms of personnel and equipment
- Limited water supplies close to the fire ground are being exhausted.
- Damage to power infrastructure.
- Powerlines and Adventure Park zip lines pose a hazard to aircraft.
- Fire crews, helicopter personnel and management staff fatigue.
- Damp weather and high humidity's will have safety implications with regard to ground operations, slip hazards and vehicle access, and air operations will be affected by the low cloud.

9. Predicted Incident Development

Today NE winds are expected to increase to 35 km/hr and gusting to 50km/hr. The RH is also expected to increase 85-95% as drizzle develops in the afternoon. Most intense precipitation is expected mid-afternoon but less than 2mm expected until 2400. These conditions are expected to result in moderate fire behaviour although increasing wind may flare up hot spots. The high RH and drizzle will make new fires less likely to develop. On Saturday the drizzle is expected to turn to light rain with continued NE winds, these will be good conditions for blacking out the fire perimeter. Areas of concern are the land around Victoria Park and east of Dyers Pass Road, Marleys Hill electronic assets and the southern flank of the fire which has terrain and vegetation suitable for fire spread.

10. Prepared by: Patrik Eschenmoser	Date/Time 17/02/2017 1530 hrs

1. Incident Name Port Hills Complex	2. Operational Perio Date: 17-18/02/2017 Time: 1930 hours to 0		INCIDENT OBJECTIVES
3. Overall Incident Objective	S		
 To protect life by ensulation Protect all identified value Patrol and maintain control 	alues/assets under thre	at, where it is safe	
4. Objectives for the specifie	d Operational Period		
 1a) Clearly identify fireground 1b) Ensure access to firegrou only 1c) Ensure Safety Officer/s ar 1d) Provide clear briefings and 	nd is restricted to traine e appointed, briefed ar	ed, competent and and and actively managin	g safety risks
 2a) Identify all assets that may 2b) Assess each asset for like 2c) Assess resources available 2d) Prioritise sites or secure n 2e) Ensure security of evacuation 	elihood of successful pr le over operational peri nore resources if insuff	otection od icient for protection	
3a) Crews to have LACES in 3b) Crews patrol control lines			0.
5. Prepared by: Patrik Escher	nmoser	Date/Time 17/02	/2017 17:30

1. Incident Name Port Hills Complex	2. Operational Period Date: 17-18/02/2017 Time: 1930 hours to 0730 hours	ORGANISATION
3. Incident Control		
Incident Controller	Pete Scarlet	
Internal Comms Officer		
External Comms Officer		
Liaison Officer		
Safety Officer		
RIMT IC	Richard McNamara	
CCC PRFO	Darryn Woods	
DOC	Craig Alexander	
4. Planning Section		
Planning Manager		
Dept Planning/Intel Manager		
Management Support		
Situation Unit		
Resource Leader		
Resources		
Fire Behaviour		
Fire Investigation		
Ground Observers		
Ground Observers		
5.Operations Section		
Operations Manager	Kerry O'Neill	
Deputy Operations Manager		
Air Attack Supervisor		

Air Support Supervisor				
Assistant Air Support Supervisor				
Agency Representatives				
NZFS				
6. Logistics Section				
Logistics Manager				
Logistics				
Supply				
Finance Unit				
Comms				
8. Prepared by: Patrik E	schenmoser	D	ate/Time 17	//02/2017 17:30

 Incident Name Port Hills Complex 		Date: 17-1	t ional Period 8/02/2017 D hours to 0730	0 hours		
3. Radio Channels		I		l		
Assigned To	Function	Channel	Frequencey		System	
IMT	Command	ESB164				
Air	Air Support	FIRE4				
Alpha Marleys	Crews	Fire2				
Bravo Early Valley	Crews	Fire3				
Charlie Early Valley	Crews	Fire3				
Echo Governors Bay	NZFS Crew	Fire1				
4. Telephone						
Assigned To	Landline	Cellphone	Fax		Comments	
Kirsty Percasky				SFP Sign of Kiv		
Sarah Ensor				SFP Sign of Kiv		
Colleen Cooper	1			SFP Sign of Kiv	vi	
Rachel Pelvin				SA Marleys		
Sasha Roselli				SA Marleys		
5. Other (eg, ema	ail, Satphone, etc	c)				
Logistics				logistics@selwyr	.govt.nz	
Operations				operations@selw	yn.govt.nz	
Public Information				pim@selwyn.gov	t.nz	
Planning				Eoc.plan@selwy	n.govt.nz	
Welfare				welfare@selwyn.	govt.nz	
Contact 111	lf fire escalates.					
10. Prepared By:			Date/Time		·····	

1. Incident Na Port Hills Comp		Date: 1	2. Operational Period Date: 17-18/02/2017 Time: 1930 hours to 0730 hours			SECTOR ASSIGNMENT		
3. Sector	4. Descripti	on						
	Patrol							
5. Sector Super	visor: Barry Hunt							
6. Resources As	signed this period							
Resource Crew	Leader	# Persons	Vehicles	Cell pho	nes	Radio		
City Care Ltd	Dave Reese	3	Smokechaser & Tanker					
DOC West Coast	Gavin Collis	4	4x4 & Handtools					
NZFS	Mike Dombrowski	2	Command unit					
NZFS	James Weston	4	Pump					
7. Sector Assig	nment / Special Ins	structions						
	sessments of all sig							
	al imaging camera	s to assess hots	pots within 50 m	etres of stru	ictures and r	ecord		
results as per sh	eet provided							
10 Propored By	: Patrik Eschenmo		Date/Time	e 17/02/20	47.47.20			

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1. Incident Name	2. Operational Period	
Port Hills Complex	Date: 17-18/02/2017	SAFETY PLAN
	Time: 1930 hours to 0730 hours	

6. General Safety Points

Particular care around dangerous trees within the fire perimeter. Trees marked as dangerous (two pink tapes around trunk) require a two tree length safety cordon.

Extreme caution with any structure protection above Governors Bay and Allendale.

ACES	Fire Orders	Watchouts
L - Lookout(s) A - Anchor Point(s) C Communication(s) E - Escape Route(s) S - Safety Zone(s)	 Fight fire aggressively but provide for safety first. Initiate all action based upon current and expected fire behaviour. Recognise current weather conditions and obtain forecasts. Ensure instructions are given and understood. Obtain current information on fire status. Remain in Communication with crew members, your supervisor and adjoining forces. Determine safety zones and escape routes. Establish lookouts in potentially hazardous situations. Retain control at all times. Stay alert, keep calm, think clearly, act decisively. 	 Fire size is unknown. Unfamiliar territory. No escape route. Don't know local weather. Uninformed on strategy, tactics and hazards. Instructions and assignments not clear. No communications link with crew members or supervisor. Constructing fireline without safe anchor point. Constructing fireline downhill with fire below. Attempting frontal assault on fire. Unburned fuel between you and the fire. Cannot see main fire, not in contact with anyone who can. On hillside where rolling material can ignite fuel below. Weather is getting hotter and drier. Wind increases and/or changes direction. Getting frequent spot fires across the line. Terrain and fuels make escape to safety zones difficult. Taking a nap near the fire line. Working with machinery Working with aircraft Working around trees

4. Specific Safety Points

- Off and on highway within cordon speed limit of 30km, headlights and seatbelts on at all times
- Competent four wheel drivers for off road
- Power lines/poles/pylons within the fire ground have been assessed.
- MAINTAIN A SAFE DISTANCE OF 30M FROM THESE STRUCTURES
- FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR
- Maintain hydration and nutrition levels
- Wasps and bees present
- Dust and smoke inhalation
- Steep terrain potential rockfalls, bluffs present
- · Report all accident and near misses
- Sun exposure/hypothermia
- Aircraft movements around heli operations and water bombing
- Heavy machinery operations
- Potential rootballs dislodging
- Unstable trees with damaged root structures
- Beware of public, farmers, recreational users, and stock contact line manager if issues arise.
- Pink ribbons tied around dangerous trees unsafe stay 2 times the height of the tree away

5. Prepared By: Patrik Eschenmoser	Date/Time 17/02/2017 17:30	

1. Incident Name	2. Oper	ational Period				
Port Hills Complex	Date: 1 Time:	17/02/17 - 2000	0 to 0800		MED P	ICAL LAN
3. First Aid Station Name	Location	Phone/F Channel		Para	medics at Stati	on
Stu						
Kurt						
Paddy						
Fiona						
4. Transportation Ambulance Service	Address	Phone/R Channel		Para ilable wit	medics th Ambu	lance
Westpac Rescue Helicopter	515 Memorial Ave					
5. Hospitals Hospital Name	Address	Phone	<u>Tra</u> Road	<u>vel Time</u> d Air	Burn Unit	Heli Pad
Christchurch Public Hospital	Hagley Park		1 hr	20 min		
Burwood Hospital	300 Burwood Road		1.5 hr	30 min		
CDHB HPO Matt Willoughby	DDI					
 6. Special Emergency Procedure Notify line supervisor immed 7. Prepared By: 		injury or emerg	ency call	being ma	ade,	
PatrikEschenmoser 8. Reviewed by Safety Office	r: N/A			Date/Tin	пе	

Weather Forecast

Now to 6 pm today

- Sustained wind: E to NE 10-20 km/h.
- Wind gusts: 30-45 km/h, with the strongest gusts during the afternoon and evening as well as over higher terrain.
- Minimum relatively humidity: 75-85% during the late afternoon.
- Precipitation: threat for passing light rain showers. Rainfall ending 6 pm today of 2 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

6 pm today to 6 am Saturday

- Sustained wind: E to NE 15-25 km/h, perhaps easing a bit to 10-20 km/h after midnight.
- Wind gusts: to 40-50 km/h, with the strongest gusts over higher terrain. Gusts may decrease to 30-40 km/h after about 3-4 am.
- Maximum relatively humidity: 85-95%.
- Precipitation: threat for passing light rain showers. Rainfall, ending 6 am Saturday, of 2 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

6 am to 6 pm Saturday

- Sustained wind: NE 10-20 km/h, possibly becoming E and increasing to 15-25 km/h during the afternoon. Wind gusts 35-45 km/h (highest in the afternoon)
- Minimum relatively humidity: 80-90%.
- Precipitation: threat for passing light rain showers or drizzle. Rainfall of 3 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

Outlook for Sunday

- Sustained wind: Northeast 10-20 km/h with gusts 30-45 km/h (highest in the afternoon).
- Minimum relative humidity: 65-75%.
- Slight chance of a passing light shower or two. Any rainfall 1 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

Outlook for Monday

- Sustained wind: Northeast 15-30 km/h with gusts 40-50 km/h (highest in the afternoon).
- High temperature: 24-25 degrees.
- Minimum relative humidity: 65-75%.
- No precipitation expected at this time.

Outlook for Tuesday

- Sustained wind: Northeast 15-25 km/h with gusts 35-45 km/h (highest in the afternoon).
- High temperature: 24-25 degrees.
- Minimum relative humidity: 60-70%.
- No precipitation expected at this time.

10. Prepared by: Seth Carrier (NIWA)	Date/Time	
	17/02/2017 - 1140	

Sector/Crew Log Event Name Port Hills Complex		g ills Complex Date: 18 November 2016	
Time.	Action		
	the second se		

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1. Incident Name Port Hills Complex	2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours	AP COVER SHEET			
ACTION PLAN					
The item:	checked below are included	in the Action Plan			
 SITUATION REPORT INCIDENT OBJECTIVES ORGANISATIONAL LIST COMMUNICATIONS PLAN SECTOR ASSIGNMENT SAFETY PLAN MEDICAL PLAN FIRE MAPS WEATHER FORECAST SMOKE PROPAGATION MODELLING 					
3. Approved by Incident Controller: Richard McNamara	Signed	Date/Time Date: 17/02/2017 Time:			

1. Incident Name	2. Operational Period	SITUATION
Port Hills Complex	Date: 17 February 2017	REPORT
	Time: 1800 hrs	RF201
3. Location Port Hills	4. Vegetation Forest/Scrub/Grass/Slash	5. NZ Topo50 Grid Ref.

6. Assessment

The Port Hill fires (Early Valley & Summit Road) have now merged into one following the significant escalation of the fire during the afternoon and evening of the 15 February. The area of the fire is now 2075ha and this area has been contained during the day time operational period of the 16th. This containment was confirmed when the fire perimeter was re-flown on the afternoon of the 16th. Fire ground observers have identified locations requiring continued suppression efforts and they include the area above Dyers Pass Road below Sign of the Kiwi into Victoria Park, in and around Sugar Loaf, the area around Marleys Hill and the southern flank of the fire which potentially could blow out into unburnt fuel. The fire runs on the 15th took the fire into close proximity of the dense residential housing of Westmoreland.

There have been a significant number of properties affected.

At this moment the confirmed number of destroyed structures is 11 houses and 2 large sheds. Metservice weather Port Hills 0835; 17 degree, 88% RH and average wind E 20km/hr.

7. Action taken

Regional incident Management team remains in place, while a State of Emergency has been declared over both Christchurch and Selwyn.

Works during yesterday focussed on establishing containment lines with heavy machinery, while continuing to use aircraft to contain breakouts. Rural and urban crews worked to provide asset protection and to strengthen controls lines where safe to do so, there were 20 crews working. The night shift continued suppression efforts and utilised thermal imaging cameras.

A number of evacuations were undertaken on Wednesday as the fire has compromised properties in the Worsleys, Hoon Hay Valley, Kennedys Bush Roads and Dyers Pass Road. Many other households have self-evacuated. Actual number of people affected is unknown.

Operations are working through a process to assess homes so people can return to their homes. Road cordons have been reviewed during Friday with some disestablished and others moved to allow some residents back to their homes.

There is a Welfare Centre at the Halswell Library being managed by Civil Defence.

Restricted Air Space remains in place – extend to 3,500ft up until midday Monday 20th February. Power authorities are working to maintain service.

8. Factors

Key factors are

- Smoke reducing visibility
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads mixtures scrub, tussocks and exotic and native forestry
- Continued significant resource commitment in terms of personnel and equipment
- Limited water supplies close to the fire ground are being exhausted.
- Damage to power infrastructure
- Fire crews, helicopter personnel and management staff fatigue. Rotation with resources from outside the region need to be considered.
- Damp weather and high humidity's will moderate fire behaviour and potentially aid fire suppression efforts. It will also have safety implications with regard to ground operations, slip hazards and vehicle access, and air operations will be affected by the low cloud.

9. Predicted Incident Development

On Saturday the drizzle is expected to turn to light rain with continued NE winds, these will be good conditions for blacking out the fire perimeter. Areas of concern are the land around Victoria Park and east of Dyers Pass Road, Marleys Hill electronic assets and the southern flank of the fire which has terrain and vegetation suitable for fire spread.

10. Prepared by: Bruce Pryor D	Date/Time 17/02/2017 2137 hrs
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 Incident Name Port Hills Complex 	2. Operational Period Date: 18/02/2017 Time: 0700 hours to1930 hours	INCIDENT OBJECTIVES
3. Overall Incident Objective	S	

- 1. To protect life by ensuring the safety of all personnel and the public.
- 2. Provide asset protection to all identified values under threat, where it is safe to do so.
- 3. Ensure all required preparations for next operational period are completed
- 4. Fire risk assessment to enable the public to return to buildings.
- 5. Strengthen control line and join methodically to existing completed/safe cold line around the fire perimeter.

4. Objectives for the specified Operational Period

1a) Clearly identify fireground and any other areas of risk

1b) Ensure access to fireground is restricted to trained, competent and assigned personnel only

1c) Ensure Safety Officer/s are appointed, briefed and actively managing safety risks

1d) Provide clear briefings ad command and control and communications

2a) Identify all assets that may be at threat within the operational period

2b) Assess each asset for likelihood of successful protection

2c) Assess resources available over operational period

2d) Prioritise sites or secure more resources if insufficient for protection of all assets

2e) Ensure security of evacuated areas is maintained

3a) Ensure IMT has been briefed by night Ops before departing the fire ground to ensure any required activities or preparations for following operational period are understood 3b) Sector Supervisor to confirm crew availability to Operations Manager no later than 1100 hours

4a) Continuous fire risk assessment of buildings throughout the day.

4b) Risk assessment results to CDEM

5a) Starting from anchor points or safety zones, methodically work the perimeters with either hand tools, water or machinery to reinforce perimeter fire breaks.

5b) Establish 10 metre control lines. In areas of concern or heavy vegetation increase the width to 20 metres.

5c) Where possible GPS all completed line to be downloaded by situation at the end of shift.

5d) Sector supervisors to liaise with Ops regarding helicopter water drops onto their sectors. 5e) Perimeter containment to be extended to '20-metre black inside edge', right around the fire.

10. Prepared by: Bruce Pryor

Date/Time 17/02/2017 2137 hrs

1. Incident Name Port Hills Complex	2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours	ORGANISATION
3. Incident Control		
Incident Controller	Richard McNamara	
Internal Comms Officer	Stephen Hill	
Liaison Officer	CDEM Group	
Safety Officer	Graeme Knight	
RIMT IC	Richard McNamara	
4. Planning Section		
Planning Manager	Tony Teeling	
Dept Planning/Intel Manager	Bruce Janes	
Management Support	Pat Eschenmoser	
	Bruce Pryor	
	Emma Crampton	
Situation Unit	Grant Pearce	
	Brian Keown	
Resource Leader	Julie Woodward	
Resources	John Skilton	
	Karen Lowry	
Plans	Allan Grigg	
Fire Behaviour	Nathan Keoghan	
Ground Observers	Shaun Tivers	
Ground Observers	Paul Grover	
Ground Observers	Steve Pemberton	
Ground Observers	Brad Edwards	
5.Operations Section		
Operations Manager	Trevor Tidey	
Deputy Operations Manager	Bruce Janes	
Air Attack Supervisor	Steve Oschner	

Air Support Supervisor	Paul Fechney	
Air Support Supervisor	Dale Wilhelm	
Assistant Air Support Supervisor	Carrie Lakin	
Agency Representatives		
SDC	Douglas Marshall	
DOC	Andy Thompson	
RF/CCC/CDEM	Darrin Woods	
5. Logistics Section		
Logistics Manager	Janet Walsh	
Supply	Craig Westley	
	NZDF	
Finance Unit	Chris Tatterson	
Comms	AM Leanne and Jason	
	PM Heather and Ann Marie	
Princess Margaret Staging Area - Alpha	Kirsty Percasky - DOC	
	Colleen Cooper	
	Sam, Maggie and Craig	
Halswell Quarry Park Staging	AM Pam Stevens & Christine	
	PM Deb Webb & Rowell des Forges	
Catering	Ready Response Team (Doug Watt) until 1500	
	NZDF after 1500	
8. 10. Prepared by: Bruce Pry	/or	Date/Time 17/02/2017 2137 hrs

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Port Hills Complex		Date:	Perational Period 18/02/2017 0700 hours to 1930	COMMUNICATIONS PLAN
3. Radio Channels		J		
Assigned To	Function	Chann	el Frequencey	System
IMT	Command	ESB164		027 534 1742
Air	Air Support	FIRE3 CIMS 164		
Alpha port Hills	Crews	Fire3 CIMS164		
Bravo Early Valley	Crews	Fire3 CIMS 164	3	
Charlie Southern Flank	Crews	Fire3 CIMS 164	5	
Deltas Air Ops				
Echo Governors Bay	NZFS Crew	Fire1		
1. Telephone				
Assigned To	Landline	Cellphor	e Fax	Comment
Assigned To Kirsty Percasky	Landline	Cellphon	e Fax	Comment: SA Princess Margaret
	Landline	Cellphon	Fax	Comments SA Princess Margaret SA Princess Margaret
Kirsty Percasky	Landline	Cellphon	Fax	SA Princess Margaret
Kirsty Percasky Sarah Ensor	Landline	Cellphon	Fax	SA Princess Margaret SA Princess Margaret
Kirsty Percasky Sarah Ensor Colleen Cooper	Landline	Cellphon	Fax	SA Princess Margaret SA Princess Margaret SA Princess Margaret
Kirsty Percasky Sarah Ensor Colleen Cooper Sam	Landline	Cellphon	Fax	SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret
Kirsty Percasky Sarah Ensor Colleen Cooper Sam Maggie	Landline	Cellphon	Fax	SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret
Kirsty Percasky Sarah Ensor Colleen Cooper Sam Maggie Craig	Landline	Cellphon	Fax	SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret
Kirsty Percasky Sarah Ensor Colleen Cooper Sam Maggie Craig AM Pam Stevens	Landline	Cellphon	Fax	SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Halswell
Kirsty Percasky Sarah Ensor Colleen Cooper Sam Maggie Craig AM Pam Stevens Christine	Landline	Cellphon	Fax	SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Halswell SA Halswell
Kirsty Percasky Sarah Ensor Colleen Cooper Sam Maggie Craig AM Pam Stevens Christine Debb Webb			Fax	SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Halswell SA Halswell SA Halswell
Kirsty Percasky Sarah Ensor Colleen Cooper Sam Maggie Craig AM Pam Stevens Christine Debb Webb Rowell des Forges			re Fax	SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Halswell SA Halswell SA Halswell
Kirsty Percasky Sarah Ensor Colleen Cooper Sam Maggie Craig AM Pam Stevens Christine Debb Webb Rowell des Forges 2. Other (eg, ema			re Fax	SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Princess Margaret SA Halswell SA Halswell SA Halswell SA Halswell

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Planning		Eoc.plan@selwyn.govt.nz
Welfare		welfare@selwyn.govt.nz
Contact 111	If fire escalates.	
10. Prepared By:		Date/Time
Patrik Eschenmos	er	17/02/2017 17:30

	2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hour	SECTOR ASSIGNMENT		
4. Description Port Hills				
Affiliatio	n Phone	Radio Channel		
DOC		Fire 3		
DOC		CIMS164		
erty. ent lines.				
	Port Hills Affiliatio DOC DOC A Special Instruction erty. ent lines. vent from crossing ro g retardant line.	Date: 18/02/2017 Time: 0700 hours to 1930 hour 4. Description Port Hills Affiliation Phone DOC DOC DOC Prot Special Instructions ent lines. vent from crossing road. g retardant line.		

Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time	
Crew 1 - NZRT		4				
Crew 2 - CCC		3 Plus				
		plus				
Crew 3 - NZDF		8 (C/W 4 appliances)				
Crew 4 – DOC Geraldine		6				
Crew 5 - Ashburton		5				
Crew 6 – Scott Bowie		1				
Crew 7 - Waihaorunga		3 (C/W appliance)				
Crew 8 - Aorangi		5 (C/W 4x4 appliance)				
Crew 9 - Lauriston		3 (C/W medium tanker)				
Crew 10 - Pendarves		4 (C/W tanker)				
Crew 11 – CCC		6				
9. Sector Communications		Pho	ne	Radio C Fire 3 / C		
Steve Oschner ASS Dale Wilhelm ASS Paul Fechney ASS				Fire 4 CIMS164		

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1. Incident Name Port Hills Complex		2. Operation Date: 18/02/ Time: 0700 h	SECTOR SIGNMENT				
3. Sector B	4. Description	L					
	Early Valley						
5. Sector Supervisor	Affiliatio	n Pho	ne	e Radio Channel			
Al Hutt	SDC				Fire 3	3	
6. Sector Assignment	/ Special Instruction	15					
Protect life and proper Strengthen containme Patrol road edge, prev Prevent fire breaching Extend perimeter blac	nt lines. /ent from crossing ro retardant line.	ad.				2:4	
Resource/Crew	Leader	# Persons	Transport Required	Drop Point/		Pickup Point/time	
Crew 1 – HCFT		5					
Crew 2 – Darfield VRFF		11					
Crew 3 – HEB		5					
Crew 4 – Makeriri Fore	stry	4 (Chainsaw crew)					
Crew 5 – Swannanoa		6					
SAFETY	Steve Oschner -	1					
SAFETY	Graeme Knight						
Equipment :							
Bottle Lake 4x4 tanker							
West Melton Large Tank	ker						
4x4 tanker plus 6 persor	nnel						
2 tankers							
1 smoke chaser							
9. Sector Communic	ations	Pho	ne		adio C re 3 / C	h CIMS 164	
Steve Oschner ASS Dale Wilhelm ASS				Fi	re 4		
Paul Fechney ASS				CI	MS164		

1. Incident Name Port Hills Complex		2. Operation Date: 18/02/ Time: 0700 h	2017	hours	ASSI	SECTOR GNMENT
3. Sector C	4. Description Southern Flank	L				
5. Sector Supervisor	Affiliatio	n Pho	ne		Radio	Channel
Simon Woods	CCL				Fire 3	CIMS164
6. Sector Assignment Protect life and proper Strengthen containme Patrol road edge, prev Prevent fire breaching Extend perimeter blac	ty. nt lines. rent from crossing ro retardant line.					
Resource/Crew	Leader	# Persons	Transport Required	Drop- Point/		Pickup Point/time
Crew 1 – Duvauchelles		6				
Crew 2 – ECAN		6				
SAFETY	Graeme Knight					
9. Sector Communic	ations	Pho	ne		adio Ch re 3 / Cll	
Steve Oschner ASS Dale Wilhelm ASS Paul Fechney ASS					re 4 MS164	

1. Incident Name		2. Op	erati	ional Period			AIR O	PERATIONS
Port Hills Complex Sector D		Date Time						PLAN
3. Personnel and Comr	nunications							
Position	Nam	e		Affiliation	Phone			Radio Chan
Air Attack Supervisor	Steve Oc	hsner	sner CCC					FIRE4
Air Support	Daryl Wi	lhelm		CCC	?1	?		FIRE4
Supervisor	Paul Fec	hney		DOC				
		,		Rangiora				
Assistant Air Support Liaison	Carrie L	Carrie Lakin		SDC Timaru				FIRE4
4. Air Resource Assignr	nents							
Pilot Name/ Company	Aircraft Type	Reg or Callsig	1	Assignment	Tactica Freq/ Chan			Telephone Numbers
	Cressco Fixed Wing	ТВ		ristchurch ernational	FIRE4		nboard: ompany:	
	Fixed wing x1 Cressco	AS	Wa	tardant/ ater mbing	FIRE4			
	Fixed wing x 1 Air tractor	SKF	Wa	tardant/ ater mbing	FIRE4			
	Squirrel	HUQ			FIRE4			
	Squirrel	HDQ			FIRE4			
- -	Cabri	LU	GP	S Plotting	FIRE4			
	BK117	НЈК			FIRE4			
	EC120	HTV			FIRE4			
	Squirrel	HPQ			FIRE4			
	Squirrel	HDQ			FIRE4			
	Squirrel	IBC			FIRE4			

	BK117	HGU		FIRE4		
	BK117	HYB			 	
	Iroquois UH1	ННВ	Gov Bay	FIRE4		
	Iroquois UH1	HHF	Gov Bay	FIRE4		
	Squirrel	HBD				
	Squirrel	НВІ				
	Thermal imaging	HIY				
Air Retardant Crew						
Based at Christchurch						
Airport						
			(
5. Location of Filli	ng Points/Ser	vice Area	s			
			1		 	
Christchurch Internatio	nal Airport		Grays Rd, Hai	rewood	 	
Old Tai Tapu Rd (Heliba					 	
6. Safety notes/Ha	azards/Radio	Coverage	Limitations			
NOTAM in place until M	,					
Aviation Security at Chr					 	
7. Air Operations	Special Equip	or Servic	e			
Jet A1	 Tanker				 	
2007 (L						

د 5 NZFSC Lincoln x 5 x 1 caravan

x 2

10. Prepared by: Bruce Pryor Date/Time 17/02/2017 2137 hrs

1. Incident Name Port Hills Complex			2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours					SECTOR SIGNMENT		
	3. Sector E	4. Desc	ription							
Governor			ors Bay							
	5. Sector Supervisor		Affiliation	n Phor		ne	Radio C		io Channel	
	Gavin Dumphy		NZFS Hut	t Valley	XXXX	XXXXXX		Fire 1 CIMS164		
	Protect life and proper Strengthen containme Patrol road edge, prev Prevent fire breaching Extend perimeter blac	nt lines. ent from retardar	nt line.	ad.						
	Resource/Crew		Leader	# Per	sons	Transport Required	Drop Point/		Pickup Point/time	
	Crew 1 – NZFS			4						
	SAFETY		Graeme Knight							
	9. Sector Communications				Pho	ne			ch CIMS 164	
	Steve Oschner ASS Dale Wilhelm ASS Paul Fechney ASS							re 4 MS164	1	
	Crew 1 – NZFS SAFETY 9. Sector Communica Steve Oschner ASS		Graeme		Pho		Ra Fii Fi	adio C re 1 / C	ch CIMS 164	

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2. Operational Period Date: 18/02/2017	SAFETY PLAN
Time: 0700 hours to 1930 hours	

3. General Safety Points

Particular care around dangerous trees within the fire perimeter. Trees marked as dangerous (two pink tapes around trunk) require a two tree length safety cordon.

Extreme caution with any structure protection above Governors Bay and Allendale.

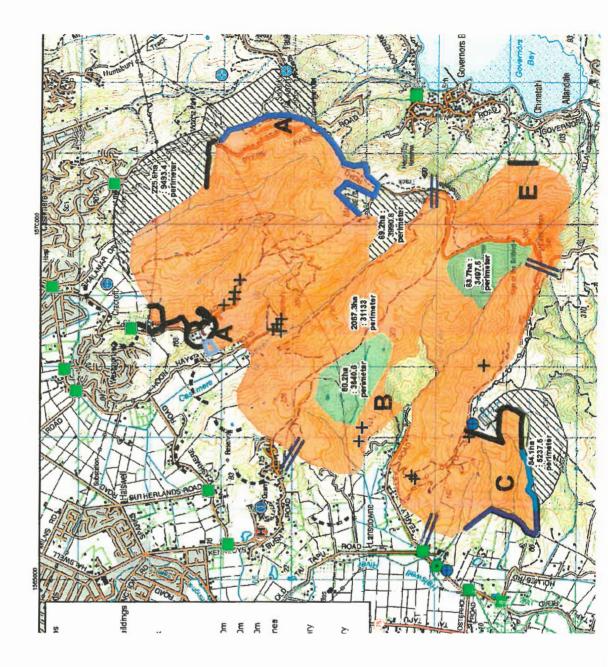
LACES	Fire Orders	Watchouts
L - Lookout(s) A - Anchor Point(s) C - Communication(s) E - Escape Route(s) S - Safety Zone(s)	 Fight fire aggressively but provide for safety first. Initiate all action based upon current and expected fire behaviour. Recognise current weather conditions and obtain forecasts. Ensure instructions are given and understood. Obtain current information on fire status. Remain in Communication with crew members, your supervisor and adjoining forces. Determine safety zones and escape routes. Establish lookouts in potentially hazardous situations. Retain control at all times. Stay alert, keep calm, think clearly, act decisively. 	 Fire size is unknown. Unfamiliar territory. No escape route. Don't know local weather. Uninformed on strategy, tactics and hazards. Instructions and assignments not clear. No communications link with crew members or supervisor. Constructing fireline without safe anchor point. Constructing fireline downhill with fire below. Attempting frontal assault on fire. Unburned fuel between you and the fire. Cannot see main fire, not in contact with anyone who can. On hillside where rolling material can ignite fuel below. Weather is getting hotter and drier. Wind increases and/or changes direction. Getting frequent spot fires across the line. Terrain and fuels make escape to safety zones difficult. Taking a nap near the fire line. Working with machinery Working with aircraft Working around trees

4. Specific Safety Points

- Off and on highway within cordon speed limit of 30km, headlights and seatbelts on at all times
- Competent four wheel drivers for off road
- Power lines/poles/pylons within the fire ground have been assessed.
- MAINTAIN A SAFE DISTANCE OF 30M FROM THESE STRUCTURES
- FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR
- Maintain hydration and nutrition levels
- Wasps and bees present
- Dust and smoke inhalation
- Steep terrain potential rockfalls, bluffs present
- Report all accident and near misses
- Sun exposure/hypothermia
- Aircraft movements around heli operations and water bombing
- Heavy machinery operations
- Potential rootballs dislodging
- Unstable trees with damaged root structures
- Beware of public, farmers, recreational users, and stock contact line manager if issues arise.
- Pink ribbons tied around dangerous trees unsafe stay 2 times the height of the tree away

1. Incident Name		2. Operational Period								
Port Hills Complex			18,	/02/17 - 0700	MEDICAL					
		Time:							P	PLAN
3. First Aid Station			Phone/Radio					Paramedics		
Name	Loc	ation		Channel		(vailable at Station			
Stu										
Kurt										
Paddy										
Fiona										
4. Transportation	Ad	dress		Phone/R	Radi	0	Paramedics			
Ambulance Service				Channel		ava	ailable with Ambulance			
Westpac Rescue Helicopter	515 Men	norial A	ve							
5. Hospitals						<u>Tra</u>	vel Tin	ne	Burn	Heli
Hospital Name	Add	dress		Phone		Roa	d A	ir	Unit	Pad
Christchurch Public Hospital	Hagley Pa	ark			1	hr	20 min			
Burwood Hospital	300 Burw Road	/ood			1.	5 hr	30 min			
CDHB HPO Matt Willoughby	DDI									
6. Special Emergency Procedures Notify line supervisor immediately in the event of injury or emergency call being made,										
7. Prepared By: Patrik Eschenmoser	me:									
8. Reviewed by Safety Officer:							Date/	Tim	е	

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Weather Forecast @1700 17 Feb 2017

6 pm today to 6 am Saturday

- Sustained wind: E to NE 15-25 km/h, perhaps easing a bit to 10-20 km/h after midnight.
- Wind gusts: 40-50 km/h, with the strongest gusts over higher terrain. Gusts may decrease to 30-40 km/h after about 12-1 am.
- Maximum relatively humidity: 90-95%.
- Precipitation: Light rain showers and drizzle likely, with the best chance for rain through about midnight. Rainfall during the period 4 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

20170218 Port Hills Complex IAP 0700 to 1930 18 Feb 2017 (bp) 4/05/2017 7:51 a.m.

6 am to 6 pm Saturday

- Sustained wind: NE 10-20 km/h, possibly becoming E and increasing to 15-25 km/h during the afternoon.
- Wind gusts 35-45 km/h (highest in the afternoon)
- Minimum relatively humidity: 80-90%.
- Precipitation: Occasional light showers and drizzle likely. Rainfall of 5 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

6 pm Saturday to 6 am Sunday

- Sustained wind: East to Northeast 15-25 km/h, decreasing to 10-20 km/h after 2-3 am.
- Wind gusts 35-45 km/h, decreasing to 30-40 km/h after midnight.
- Maximum relative humidity: 95-100%
- Precipitation: A couple showers possible in the evening, then drying. Any rainfall 2 mm or less.
- Note: **High** risk for low cloud and fog reducing visibility, particularly over the higher terrain.

Outlook for Sunday

- Sustained wind: Northeast 10-20 km/h with gusts 30-45 km/h (highest in the afternoon).
- Minimum relative humidity: 65-75%.
- Slight chance of a passing light shower or two. Any rainfall 1 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

Outlook for Monday

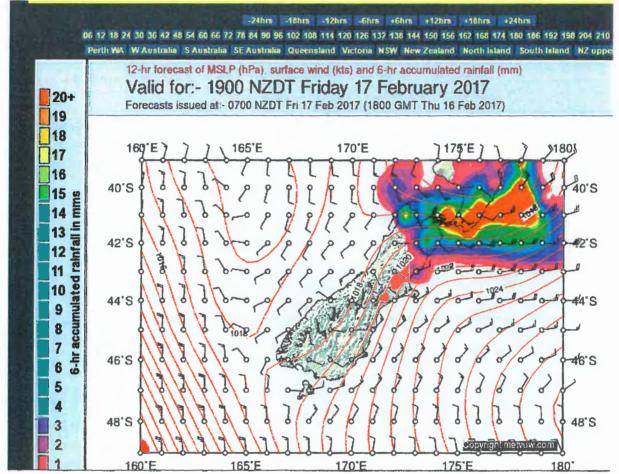
- Sustained wind: Northeast 15-30 km/h with gusts 40-50 km/h (highest in the afternoon).
- High temperature: 24-25 degrees.
- Minimum relative humidity: 65-75%.
- No precipitation expected at this time.

Outlook for Tuesday

- Sustained wind: Northeast 15-25 km/h with gusts 35-45 km/h (highest in the afternoon).
- High temperature: 24-25 degrees.
- Minimum relative humidity: 60-70%.
- No precipitation expected at this time.

20170218 Port Hills Complex IAP 0700 to 1930 18 Feb 2017 (bp) 4/05/2017 7:51 a.m.

To ensure compliance with legal requirements and to maintain cyber security standards, NIWA's IT systems are subject to ongoing monitoring, activity logging and auditing. This monitoring and auditing service may be provided by third parties. Such third parties can access information transmitted to, processed by and stored on NIWA's IT systems.



FIRE BEHAVIOUR FORECAST

Fire name: Port Hills Complex					Prediction for: 0800-0800 18/19 Feb-17					
Prepared by: N Keoghan					Time a	nd date i	ssued:	1800 17	-02-17	
Forecast	no . 6					and the second			And the second sec	
Assumptions:			Yesterday	vs or today	's forecas	st – circl	e one			
Temp	RH	Wind	Slope *	FFMC	DMC	DC	ISI	BUI	FWI	
17	80	30	20	68	57	494	2.8	88	11.5	

Rates of spread are the equilibrium rate of spread, not the build-up phase, and continuous fuel and similar fuel type.

Fire Weather Forecast:

Forecast is for a moderate wind, with low air temp and high fuel moisture.

20170218 Port Hills Complex IAP 0700 to 1930 18 Feb 2017 (bp) 4/05/2017 7:51 a.m.

Fire Behaviour General:

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Expected fire behaviour (no slope)	Forecast extreme 1400-1800			
Fuel type: Mature Pine – 5m pruned	Fuel type: Mature Pine – 5m pruned			
Expect HF rate of spread of 13m/hr	Expect HF rate of spread of 38m/hr			
HF Intensity 153kw/m	HF Intensity 438kw/m			
Flame lengths 0.8m	Flame lengths 1.3m			
Fuel type: Scrub/gorse	Fuel type: Scrub/ gorse			
Expect HF rate of spread of 555m/hr	Expect HF rate of spread of 1586m/hr			
HF Intensity 9875kw/m	HF Intensity >10000kw/m			
Flame lengths 5.3m	Flame lengths 8.6m			
Fuel type: Grass-70% GC, 100% cover, 0.1m	Fuel type: Grass -70% GC, 100% cover, 0.1m			
height	height			
Expect HF rate of spread of 131m/hr	Expect HF rate of spread of 374m/hr			
HF Intensity 128kw/m	HF Intensity 316kw/m			
Flame lengths 0.7m	Flame lengths 1.1m			
Safety Considerations:				
Head Fire intensity within threshold for	Scrub fuels exceed head fire intensity for safe			
direct attack in all fuels.	threshold for direct attack in all fuels.			
Lookouts must have trigger points pre-set for tactical withdrawal to safety zones, when conditions exceed assumptions.				

Sector/Crew Log Event Name Port Hills Complex		Date:	
Times	Action		

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