



COMMUNICATIONS PLAN

3. Radio Channels Assigned To				
Assigned To	Function	Channel	Frequency	System
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		

4. Telephone Assigned To				
Assigned To	Landline	Cell phone	Fax	Comments

6. Other (e.g. email, Sat phone, etc.)				
Began unit available for internet and phone redundancy				
FENZ SAT Phone		[REDACTED]		

7. Prepared by:	Kerry McSaveney
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AIR OPERATIONS PLAN

3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Support Supervisor				
Lead Helicopter Pilot	█	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
█ - Southern Helicopters	Squirrel B3	IRM	Support ground crews	Fire 4	
█ - Garden City		HGU		Fire 4	

5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with █

7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Steve Phillips

SAFETY PLAN		
3. General Safety Points		
<p style="text-align: center;">LACES</p> <p>L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)</p>	<p style="text-align: center;">Fire Orders</p> <ol style="list-style-type: none"> 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay alert, keep calm, think clearly, act decisively. 	<p style="text-align: center;">Watch out</p> <ol style="list-style-type: none"> 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. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.
<p>4. Specific Safety Points</p> <p>Weather – Crew boss and pilots to monitor - Rapid changes. Fatigue – Crew Boss to monitor with rest periods Slips, Trips and Falls – Crew briefings, made aware of burnt small stick (punji sticks) Air Operations – Crew pre-flight briefings, pilots and Air Ops monitoring Driving – All personnel briefed Dust – Air crews advised – ground crews supplied PPE and monitor Fuels and Foam – Correct handling and storage – crews briefed Poor communications – air ops to monitor radio, PLBs issued to crews PLB – RCCNZ notified of Chatham Islands activity Peat Bog – ground crews briefed and made aware of tomos Livestock- wild bulls and pigs Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel. Chainsaw only to be operated by unit standard qualified personnel</p>		
<p>5. Prepared By: Matt Abel</p>		



SECTOR ASSIGNMENT

6. Sector Supervisor	Affiliation	Phone	Radio Ch
Steve Joyce	FENZ	[REDACTED]	DOC 5

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A			
B			
C	DOC crew		4
D			
S	Hutt	Jason Sarich	5
Y			
Z			

8. Sector Assignment / Special Instructions ALL sectors <ul style="list-style-type: none"> Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground. Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment Establish and GPS drop points Develop and flag ground access Maintain reporting schedules, on commencement of work and twice during each day. Re-deployment to other sectors determined by fire behaviour Use helicopter for water if necessary Use helicopter to recon fire line. Thermal camera flight- [REDACTED] Doc crew on Charlie to prep landing site, GPS location and cut access track/escape route to fire edge. Move repeater- [REDACTED]

9. Sector Communications	Phone	Radio Ch
Operations Manager. Steve Joyce		DOC 5
Air Attack Supervisor Steve Phillips		Fire 4
Safety Officer Matt Able		DOC5

10. Prepared By: Steve Joyce



SECTOR ASSIGNMENT					
3. Sector		4. Description		5. Division Assigned	
		Incident Within Incident Response Plan		Safety	
Matt Abel		FENZ		DOC 5	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop off Point/time	Pickup Point/time
Air Ops	Steve Phillips	1 x B3 Squirrel 1 x BK			
Ground Crews	Steve Joyce	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
8. Sector Assignment / Special Instructions					
<p>Injury Accident Contingency</p> <ul style="list-style-type: none"> • Provide First Aid • Pass Priority message requesting assistance • Senior person "ON SCENE" assumes responsibility for the "New" incident • Advice Incident Controller of secondary incident. • Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident • Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations. <p>Aircraft Incident Contingency</p> <ul style="list-style-type: none"> • Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft. • If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene. • Advice Incident Controller of aircraft incident. 					
9. Sector Communications					
Operations Manager	Steve Joyce		Phone		Radio Ch
Air Attack Supervisor	Steve Phillips				Fire 4
Safety Officer	Matt Abel				DOC5
10. Prepared By: Matt Abel					



MEDICAL PLAN

3. First Aid Station		Phone/Radio	Paramedics
Name	Location	Channel	available at Station
Point 106	Staging	DOC 5	First Aiders
Crew Leaders	Alpha Sector	DOC 5	First Aiders

4. Transportation	Address	Phone/Radio	Paramedics
Ambulance Service		Channel	available with Ambulance
Air Operations (Emergency Evac only)			
St John Ambulance	1 Hospital Road		Yes
WestPac Rescue			Yes
Life Flight			

5. Hospitals		Travel Time			Burn	
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No

6. Special Emergency Procedures

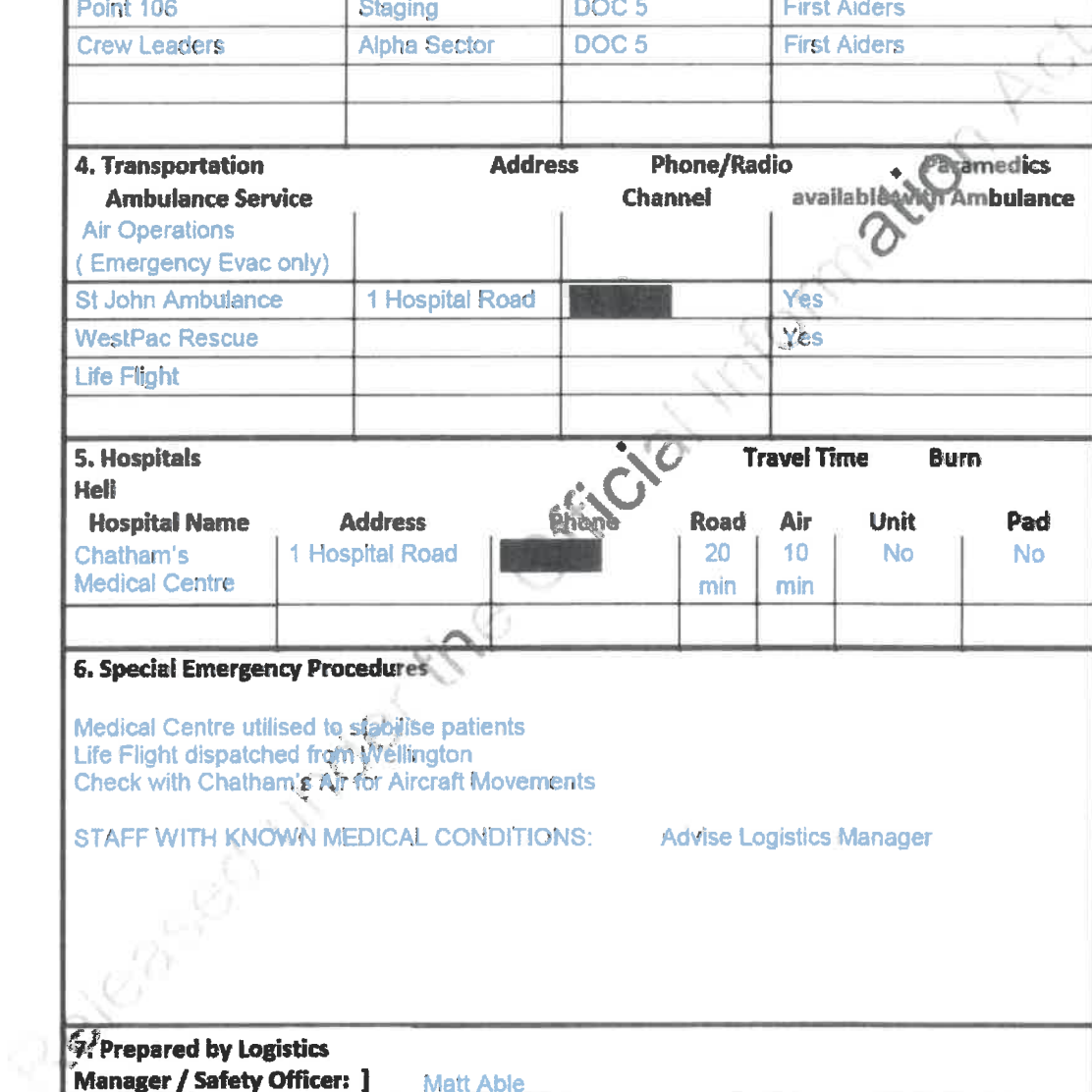
Medical Centre utilised to stabilise patients
Life Flight dispatched from Wellington
Check with Chatham's Air for Aircraft Movements

STAFF WITH KNOWN MEDICAL CONDITIONS: Advise Logistics Manager

7. Prepared by Logistics
Manager / Safety Officer:] Matt Able

8. Reviewed by Incident
Controller: Craig Cottrill

982





WEATHER AND FIRE BEHAVIOUR PREDICTION										
		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Tuesday	13/02	23	80	5	30	NNW	52	0	Negligible	Negligible
Wednesday	14/02	20	65	0	20	W to SW	75	2	50	400
Thursday	15/02	20	65	0	20	SE	82	4	150	1000 E
Prepared By: [REDACTED]										

Updated forecast – 12 February 4:30 pm NZDT

Tuesday (midnight to midnight):

- NNW wind becoming WNW to NW in the afternoon. Sustained winds 20-30 km/h, increasing to 25-35 near midday, then easing to near 20 km/h after 6 pm. Gusts up to 45 km/h, then decreasing quickly after 6 pm. Thereafter, sustained wind tending W through to midnight and easing to 20 km/h or less.
- Morning minimum temperature near 18-19 degrees, increasing to near 24 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 85% in the afternoon.
- Showers likely, mainly through to about sunrise. Rainfall of 10 mm or less (mainly before 6 am).

Wednesday (midnight to midnight):

- Wind veering with time going from west near midnight to south near midday to east by/after 6 pm, sustained at 20 km/h or less.
- Morning minimum temperature near 16-17 degrees, increasing to 21-22 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
No rainfall expected.

Thursday Outlook:

- Wind east to southeast, sustained at 10-25 km/h.
- Morning minimum temperature near 16 degrees, increasing to 21 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected.

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Incident Action Plan

MAKARA FIRE



1st to see the sun!

1. Approved by Incident Controller:

Name

Craig Cottrill

Signed

Date/Time

13/2/18 18:00



SITUATION REPORT

3. Location

South Western end Chatham Island

4. Vegetation

Tarehinau Scrub / peat /

5. NZTM Grid Ref.

6. Assessment

Vegetation in Tarahinau scrub (*Dracophyllum*) fuels with areas of Peat, started on the 1st Feb and ran until rain stopped the spread of fire late on the night of the 2nd burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera flights are still identifying numerous small hot spots on or near the perimeter in most sectors.

Low visibility yesterday kept the crews off the fireground. 38mm of rain in the past 72 hours.

7. Action taken

Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.

Local machinery has mulched fuel breaks in Sector Zulu Sierra, for protection of structures.

Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.

The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10th. 2nd IMT is in place until about Friday of this week.

Crew stood down due to bad weather for the second day on 13th February.

8. Factors

Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides.

Obtaining resources that are not available on the island will take 2-4 days to arrive.

Weather – See separate weather / fire behaviour predictions at back of IAP.

Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.

9. Predicted Incident Development

There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.

Possible cyclone approaching the Chathams next week.

10. Prepared by:

██████████



INCIDENT OBJECTIVES AND STRATEGIES

3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 30m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: [REDACTED]

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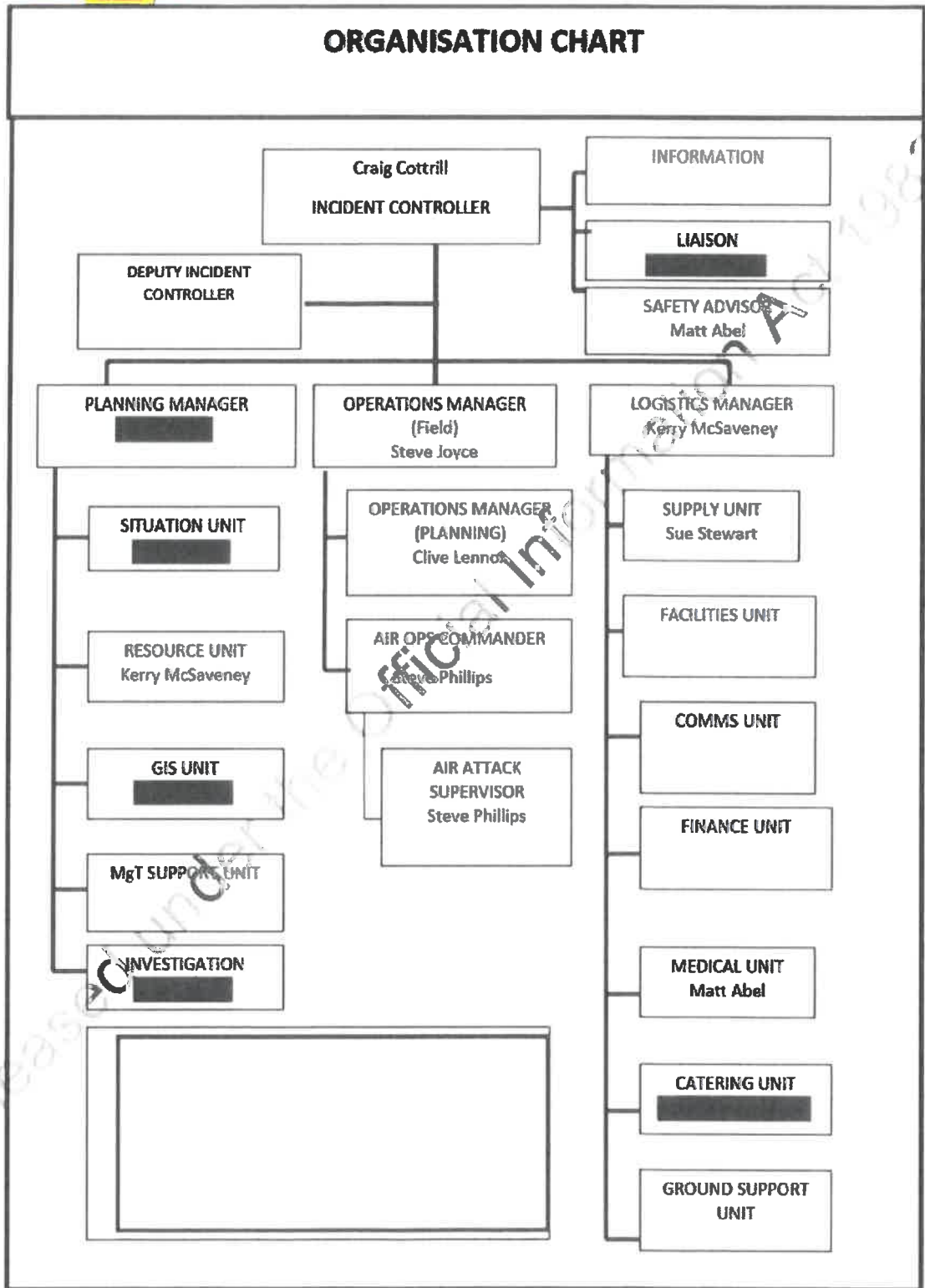


ORGANISATION LIST

3. Incident Control			
		Phone	Cell Phone Radio Ch
Incident Controller	Craig Cottrill	[REDACTED]	Doc 5
Safety Officer	Matt Able	[REDACTED]	Doc 5
Liaison Officer	[REDACTED]	[REDACTED]	Doc 5
4. Agency Representative			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	[REDACTED]	Doc 5
Agency	Chatham Islands Council	[REDACTED]	
Agency	Enterprise Trust	[REDACTED]	
5. Planning/Intel Section			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	[REDACTED]	[REDACTED]	Doc 5
Situations Unit	[REDACTED]		
Resources Unit	Kerry McSaveney	[REDACTED]	Doc 5
6. Logistics Section			
		Phone	Cell Phone Radio Ch
Logistics Manager	Kerry McSaveney	[REDACTED]	Doc 5
Supply Unit	Sue Stewart (NZ based)		[REDACTED]
Catering Unit	[REDACTED]	[REDACTED]	
Facilities Unit			
Finance Unit		[REDACTED]	[REDACTED]
Communications Unit	Kerry McSaveney		
Medical Unit	Matt Able	[REDACTED]	Doc 5
7. Operations Section			
		Phone	Cell Phone Radio Ch
Operations Manager	Steve Joyce	[REDACTED]	Doc 5
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor	Colin Robinson	[REDACTED]	Doc 5
8. Prepared by:		[REDACTED]	

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ORGANISATION CHART



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Makara Fire, Chatham Island.
Shift period: 14th Feb 2018 0600-2000

COMMUNICATIONS PLAN				
3. Radio Channels				
Assigned To	Function	Channel	Frequency	System
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
4. Telephone				
Assigned To	Landline	Cell phone	Fax	Comments
6. Other (e.g. email, Sat phone, etc.)				
7. Prepared by: Kerry McSaveney				

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Makara Fire, Chatham Island.
Shift period: 14th Feb 2018 0600-2000

AIR OPERATIONS PLAN

3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Support Supervisor				
Lead Helicopter Pilot	█	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
█ - Southern Helicopters	Squirrel B3	IRM	Support ground crews	Fire 4	
█ - Garden City	BK117	HGU		Fire 4	

5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with █

7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Steve Phillips

SAFETY PLAN

3. General Safety Points

LACES	Fire Orders	Watch outs
<p>L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)</p>	<ol style="list-style-type: none"> 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay alert, keep calm, think clearly, act decisively. 	<ol style="list-style-type: none"> 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. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.

4. Specific Safety Points

Weather – Crew boss and pilots to monitor - Rapid changes.
 Fatigue – Crew Boss to monitor with rest periods
 Slips, Trips and Falls – Crew briefings, made aware of burnt small stick (punji sticks)
 Air Operations – Crew pre-flight briefings, pilots and Air Ops monitoring
 Driving – All personnel briefed
 Dust – All Crews advised – ground crews supplied PPE and monitor
 Fuels and Foam – Correct handling and storage – crews briefed
 Poor Communications – air ops to monitor radio, PLBs issued to crews
 PPE – RCCNZ notified of Chatham Islands activity
 Heat Bog – ground crews briefed and made aware of tomos
 Livestock- wild bulls and pigs
 Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored
 Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.
 Chainsaw only to be operated by unit standard qualified personnel

5. Prepared By:

Matt Abel



SECTOR ASSIGNMENT

6. Sector Supervisor	Affiliation	Phone	Radio Ch
Steve Joyce	FENZ	[REDACTED]	DOC 5

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A			
B			
C			
D			
S	Hutt and Doc crew.	Jason Sarich	5 + 4
Y			
Z			

<p>8. Sector Assignment / Special Instructions</p> <p>ALL sectors</p> <ul style="list-style-type: none"> • Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground. • Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment • Establish and GPS drop points • Develop and flag ground access • Maintain reporting schedules, on commencement of work and twice during each day. • Re-deployment to other sectors determined by fire behaviour • Use helicopter for water if necessary • Use helicopter to recon fire line. • Thermal camera flight - [REDACTED] • Move repeater - [REDACTED]

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Steve Joyce		DOC 5
Air Attack Supervisor	Steve Phillips		Fire 4
Safety Officer	Matt Able		DOC5

10. Prepared By: Steve Joyce



SECTOR ASSIGNMENT					
3. Sector		4. Description		5. Division Assigned	
		Incident Within Incident Response Plan		Safety	
Matt Abel		FENZ		DOC 5	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Steve Phillips	1 x B3 Squirrel 1 x BK			
Ground Crews	Steve Joyce	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
8. Sector Assignment / Special Instructions					
<p>Injury Accident Contingency</p> <ul style="list-style-type: none"> • Provide First Aid • Pass Priority message requesting assistance • Senior person "ON SCENE" assumes responsibility for the "New" incident • Advice Incident Controller of secondary incident. • Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident • Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations. <p>Aircraft Incident Contingency</p> <ul style="list-style-type: none"> • Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft. • If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene. • Advice Incident Controller of aircraft incident. 					
9. Sector Communications			Phone	Radio Ch	
Operations Manager	Steve Joyce			DOCS	
Air Attack Supervisor	Steve Phillips			Fire 4	
Safety Officer	Matt Abel			DOC5	
10. Prepared By:			Matt Abel		



MEDICAL PLAN

3. First Aid Station						
Name	Location	Phone/Radio Channel	Paramedics available at Station			
Point 106	Staging	DOC 5	First Aiders			
Crew Leaders	Alpha Sector	DOC 5	First Aiders			
4. Transportation						
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance			
Air Operations (Emergency Evac only)						
St John Ambulance	1 Hospital Road	██████████	Yes			
WestPac Rescue			Yes			
Life Flight						
5. Hospitals						
Heli		Travel Time		Burn		
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chatham's Medical Centre	1 Hospital Road	██████████	20 min	10 min	No	No
6. Special Emergency Procedures						
<p>Medical Centre utilised to stabilise patients Life Flight dispatched from Wellington Check with Chatham's AT for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS: Advise Logistics Manager</p>						
7. Prepared by Logistics						
Manager / Safety Officer:]		Matt Able				
8. Reviewed by Incident						
Controller:		Craig Cottrill				

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WEATHER AND FIRE BEHAVIOUR PREDICTION										
		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Wednesday	14/02	20	80	2	20	W to S	40	1	Negligible	Negligible
Thursday	15/02	20	70	5	20	SE	50	1	Negligible	Negligible
Friday	16/02	20	65	0	20	W to NW	70	2	50	400
Prepared By:										

Updated forecast – 13 February 4:15 pm NZDT

Wednesday (midnight to midnight):

- Wind veering with time going from NW near midnight to S by early afternoon, then ESE after about 6 pm, sustained at 15-25 km/h. Gusts up to 35 km/h on Wednesday evening.
- Morning minimum temperature near 18 degrees, increasing to 21-22 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80-85% in the afternoon.
- Showers possible late in the evening, rainfall less than 5 mm.
- Visibility below 1 km remains likely until about 8-9 am, then improving. Visibility below 1 km once again possible after 8-9 pm.

Thursday (midnight to midnight):

- Wind E to SE, sustained at 15-25 km/h with gusts 35-40 km/h. Shifting to W in the evening.
- Morning minimum temperature near 16 degrees, increasing to 21 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- Pre-dawn showers possible, with amounts 10 mm or less.
- Visibility below 1 km possible until 7-8 am.

Friday outlook:

- Wind W becoming NNW in the afternoon. Sustained 15-20 km/h with gusts up to 40 km/h by the evening.
- Morning minimum temperature near 16 degrees, increasing to 21 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected.



Makara Fire, Chatham Island.
Shift period: 15th Feb 2018 0600-2000

Incident Action Plan

MAKARA FIRE



1. Approved by Incident Controller:

Name

Signed

Date/Time

Craig Cottrill

14/2/18 19:00



SITUATION REPORT

3. Location South Western end Chatham Island	4. Vegetation Tarehinau Scrub / peat /	5. NZTM Grid Ref.
6. Assessment Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1 st Feb and ran until rain stopped the spread of fire late on the night of the 2 nd burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. No Thermal camera data has been gathered in the past 3 days due to bad weather. Limited number of hotspots are still visible on the perimeter and crews are currently cold trailing the edge and digging up hotspots. Smoking. 38 mm of rain earlier this week.		
7. Action taken Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour. Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures. Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 90m from the perimeter. All tracks have been marked and helipads cut. The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10 th . 2 nd IMT is in place until about Friday of this week.		
8. Factors Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Early thermal camera monitoring revealed a much higher number of hot areas than previously estimated. This led to a revision of the objectives especially the completion time.		
9. Predicted Incident Development There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved. Possible cyclone approaching the Chathams next week.		
10. Prepared by: [REDACTED]		



INCIDENT OBJECTIVES AND STRATEGIES

3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 30m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: [REDACTED]

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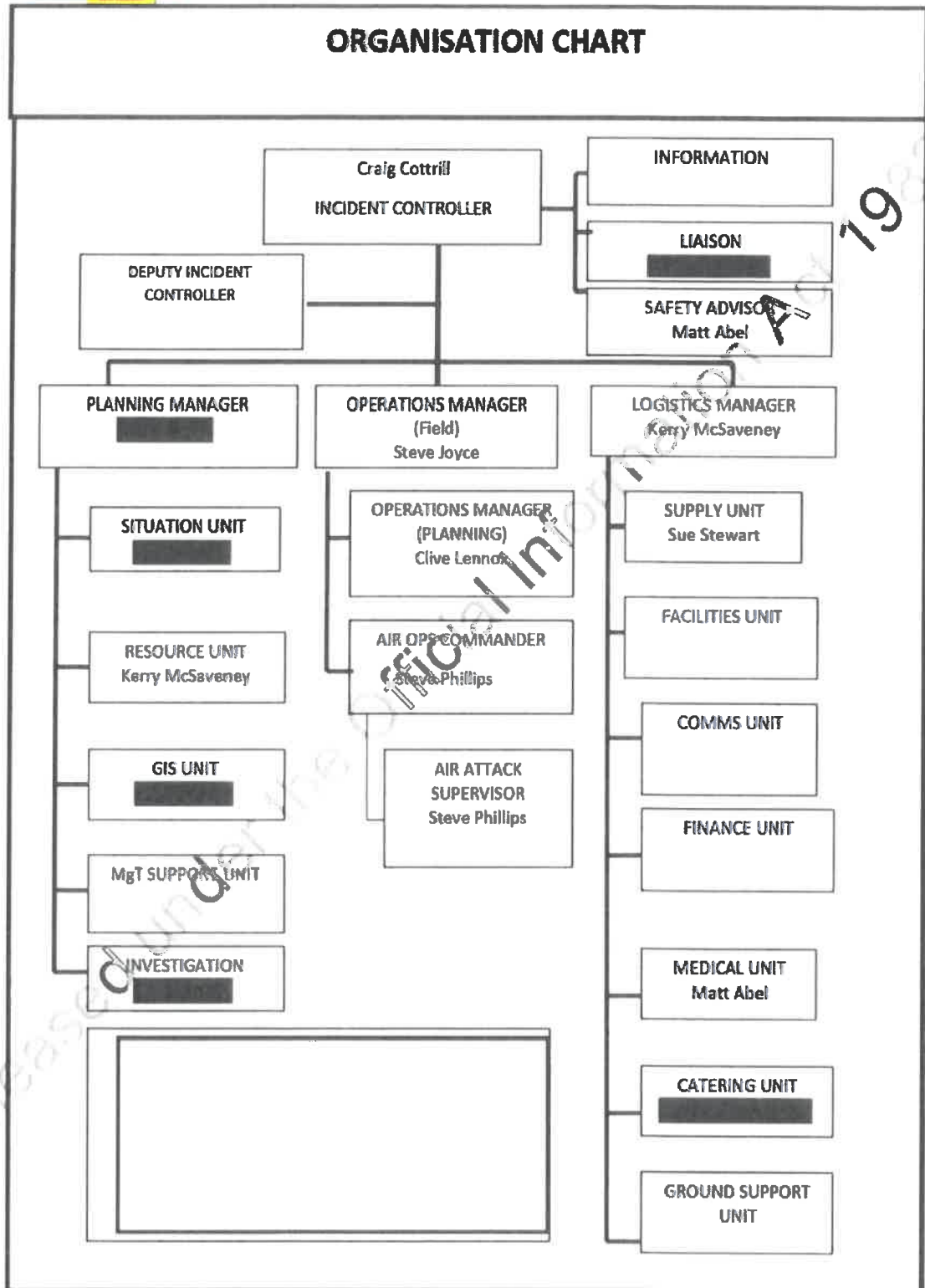


ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	Craig Cottrill	[REDACTED]		Fire RPT 1
Safety Officer	Matt Able	[REDACTED]		Fire RPT 1
Liaison Officer	[REDACTED]	[REDACTED]		Fire RPT 1
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	[REDACTED]		Fire RPT 1
Agency	Chatham Islands Council	[REDACTED]		
Agency	Enterprise Trust	[REDACTED]		
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	[REDACTED]	[REDACTED]		Fire RPT 1
Situations Unit	[REDACTED]			
Resources Unit	Kerry McSaveney	[REDACTED]		Fire RPT 1
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Kerry McSaveney	[REDACTED]		Fire RPT 1
Supply Unit	Sue Stewart (NZ based)		[REDACTED]	
Catering Unit	Debbie G / Debbie K	[REDACTED]		
Facilities Unit				
Finance Unit		[REDACTED]	[REDACTED]	
Communications Unit	Kerry McSaveney			
Medical Unit	Matt Able	[REDACTED]		Fire RPT 1
7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Steve Joyce	[REDACTED]		Fire RPT 1
Sector Alpha Supervisor				
Sector Zulu Supervisor				
Sector Sierra Supervisor				
Air Attack Supervisor	Colin Robinson	[REDACTED]		Fire RPT 1
8. Prepared by:		[REDACTED]		

Released under the Official Information Act 1982

ORGANISATION CHART





COMMUNICATIONS PLAN				
3. Radio Channels				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire RPT 1		
Tactical	Crew Coms	VHF Fire 1		
Ground to Air	Air Ops	VHF Fire 4		
Air to Air	Pilots	119.1		
Radio channels versus frequency for VHF Fire RPT 1				
Agency	Radio	Channel	Comments	
Pumicelands	ICOM	CH 16		
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone 1 CH 15		
6. Other (e.g. email, Sat phone, etc.)				
7. Prepared by: Kerry McSaveney				

Released under the Official Information Act 1982



Makara Fire, Chatham Island.
Shift period: 15th Feb 2018 0600-2000

AIR OPERATIONS PLAN

3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander				
Air Attack Supervisor	Steve Phillips	FENZ - Wellington		Fire 4 Fire RPT 1
Air Support Supervisor				
Lead Helicopter Pilot	█	Southern Helicopters		Fire 4 Fire RPT 1
Lead Fixed-Wing Pilot				

4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
█ - Southern Helicopters	Squire IB3	IRM	Support ground crews	Fire 4	
█ - Garden City	BK117	HGU		Fire 4	

5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport front Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal light with █

7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards. Landowner has confirmed no stock will be in the staging area until operations finish.

8. Prepared By: Steve Phillips

SAFETY PLAN

3. General Safety Points

LACES	Fire Orders	Watch outs
<p>L - Lookout(s)</p> <p>A - Anchor Point(s)</p> <p>C - Communication(s)</p> <p>E - Escape Route(s)</p> <p>S - Safety Zone(s)</p>	<ol style="list-style-type: none"> 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor, and adjoining forces. 7. Determine safety zone and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay calm, keep calm, think clearly, act decisively. 	<ol style="list-style-type: none"> 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. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.

4. Specific Safety Points

Weather - Air Ops, pilots and crews briefed and monitoring for rapid change.

Fatigue - Hydrate and Crew Boss to monitor, rest periods.

Slips, Trips and Falls - Crew briefed, made aware "punji sticks", cliffs, deep water and bogs.

Air Operations - Crew briefings, pilots and Air Ops monitoring

Driving - All personnel briefed 60kph speed limit, stock on road.

Dust - Air Crews briefed, ground crews supplied PPE and monitor

Fuels and Foam - Correct handling and storage, crews briefed. Helos now fuelling at staging

Poor Communications - Air ops to monitor radio

Pigs - RCCNZ notified of Chatham Islands activity

Livestock wild bulls and pigs - Ground crews briefed

Non FENZ resources - Operating on the fire ground. Assistance provided, welfare monitored

Off road driving (4x4 and LUV) - restricted to DOC and other qualified personnel.

Chainsaws - Only to be operated by unit standard qualified personnel, FULL PPE TO BE USED

Hygiene - Wash hands before eating and after toilet breaks

5. Prepared By:

Matt Abel

Reviewed Under the Official Information Act 1982



SECTOR ASSIGNMENTS

NB- All sectors on one page.

6. Operations Manager			
Steve Joyce	Affiliation FENZ	Phone [REDACTED]	Radio Ch Fire RPT 1
7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	#Persons
A	Hutt crew	Jason Sarich	5
B	Pumicelands	Andy Uhl	5
C	Taranaki plus Wigs	Matt Hickmott-Balks	5 + 1
D	Doc Crew	[REDACTED]	3
S	Monitor by helo		
Y	Monitor by helo		
Z	Monitor by helo		
8. Sector Assignment / Special Instructions			
<p>ALL sectors</p> <ul style="list-style-type: none"> Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground. Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment Develop and flag ground access Maintain reporting schedules, on commencement of work and twice during each day. Use helicopter for water if necessary. Use helicopter to recon fire line. Delta requires wajax and 2 hose packs (Sling in). Drop off HP 2 and work hot spot north of HP1. Dig up and drown Charlie drop into HP 4 and work south. Bravo drop to HP 10 and work south Alpha drop to SW hut or nearest drop point and work north Thermal camera flight- [REDACTED] 			
9. Sector Communications			
Operations Manager.	Steve Joyce	Phone	Radio Ch Fire RPT 1
Air Attack Supervisor	Steve Phillips		Fire 4
Safety Officer	Matt Able		Fire RPT 1
10. Prepared By: Steve Joyce			



MEDICAL PLAN

3. First Aid Station						
Name	Location	Phone/Radio Channel	Paramedics available at Station			
Point 106	Staging	Fire RPT 1	First Aiders			
Crew Leaders	Alpha Sector	Fire RPT 1	First Aiders			
4. Transportation						
Ambulance Service		Address	Phone/Radio Channel			
Air Operations (Emergency Evac only)						
St John Ambulance		1 Hospital Road	305 0035			
WestPac Rescue			Yes			
Life Flight						
5. Hospitals						
Heli			Travel Time	Burn		
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chatham's Medical Centre	1 Hospital Road	305 0035	20 min	10 min	No	No
6. Special Emergency Procedures						
<p>Medical Centre utilised to stabilise patients Life Flight dispatched from Wellington Check with Chatham's Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS: Advise Logistics Manager</p>						
7. Prepared by Logistics						
Manager / Safety Officer:]		Matt Able				
8. Reviewed by Incident		Craig Cottrill				
Controller:						

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WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Thursday	15/02	20	70	5	20	E	50	1	Negligible	Negligible
Friday	16/02	20	65	0	20	W to NW	70	2	50	400
Saturday	17/02	20	65	0	30	NW	82	6	300	1600 E

Prepared By: Jamie Cowan

Updated forecast – 14 February 4:15 pm NZDT

Thursday (midnight to midnight):

- Wind E to SE becoming NE after 8 pm, sustained at 15-25 km/h with gusts 35-40 km/h.
- Morning minimum temperature near 16 degrees, increasing to 21 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 85% in the afternoon.
- Rain or showers tapering off by about 9 am with clouds giving way to sun.
- Visibility below 5 km possible in moderate rain, although the chance for visibility to be below 1 km is low.

Friday (midnight to midnight):

- Wind W becoming NW, then N possible by evening. Sustained 15-25 km/h with gusts up to 35-40 km/h by the evening.
- Morning minimum temperature near 16 degrees, increasing to 22 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 75% in the afternoon.
- No rainfall expected.

Saturday outlook:

- Wind N-NW and increasing. Sustained 20-25 km/h during the morning, increasing to 30-35 km/h during the afternoon. Gusts up to 50 km/h by the afternoon and evening.
- Morning minimum temperature near 18 degrees, increasing to 23 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected during the day; slight chance for a shower at night.

Incident Action Plan

MAKARA FIRE



1. Approved by Incident Controller:

Name

Craig Cottrill

Signed

Date/Time

17/2/18 19:00



SITUATION REPORT

3. Location South Western end Chatham Island	4. Vegetation Tarehinau Scrub / peat /	5. NZTM Grid Ref.
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6. Assessment
Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1st Feb and ran until rain stopped the spread of fire late on the night of the 2nd burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera data was gathered yesterday, limited number of hotspots are still visible on the perimeter and crews are currently cold trailing the edge and digging up hotspots. 50 mm of rain has fallen so far this week.

7. Action taken
Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.

Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.

Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.

The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10^h. The 3rd IMT started on the IAP

8. Factors
Access around fire ground difficult due to risk of peat. Tomo's meaning access restricted to tracks with assistance of local guides.
Obtaining resources that are not available on the island will take 2-4 days to arrive.
Weather – See separate weather / fire behaviour predictions at back of IAP.
Early thermal camera monitoring revealed a much higher number of hot areas than previously estimated. This led to a revision of the objectives especially the completion time. However the latest thermal run indicated that crews had been making great progress; the completion date has not been adjusted.

9. Predicted Incident Development
There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.

Possible cyclone approaching the Chathams next week, expecting rain, poor visibility and disruptions to flights, resource arrivals/departures.

10. Prepared by: GLENN THOMPSON

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INCIDENT OBJECTIVES AND STRATEGIES

3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

1. Ensure safety of all responders
2. Protect life of residents
3. Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)
4. Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaka Reserve)
5. To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

1. Appoint a dedicated safety officer.
2. Continue to liaise with all effected parties/agencies
3. Dedicate resources to the appropriate flank/sector as weather dictates
4. Treatment of all burning material within 30m of perimeter will be achieved by:
 - Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
 - Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.
 - Monitor sectors not being patrolled by helicopter.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Glenn Thompson

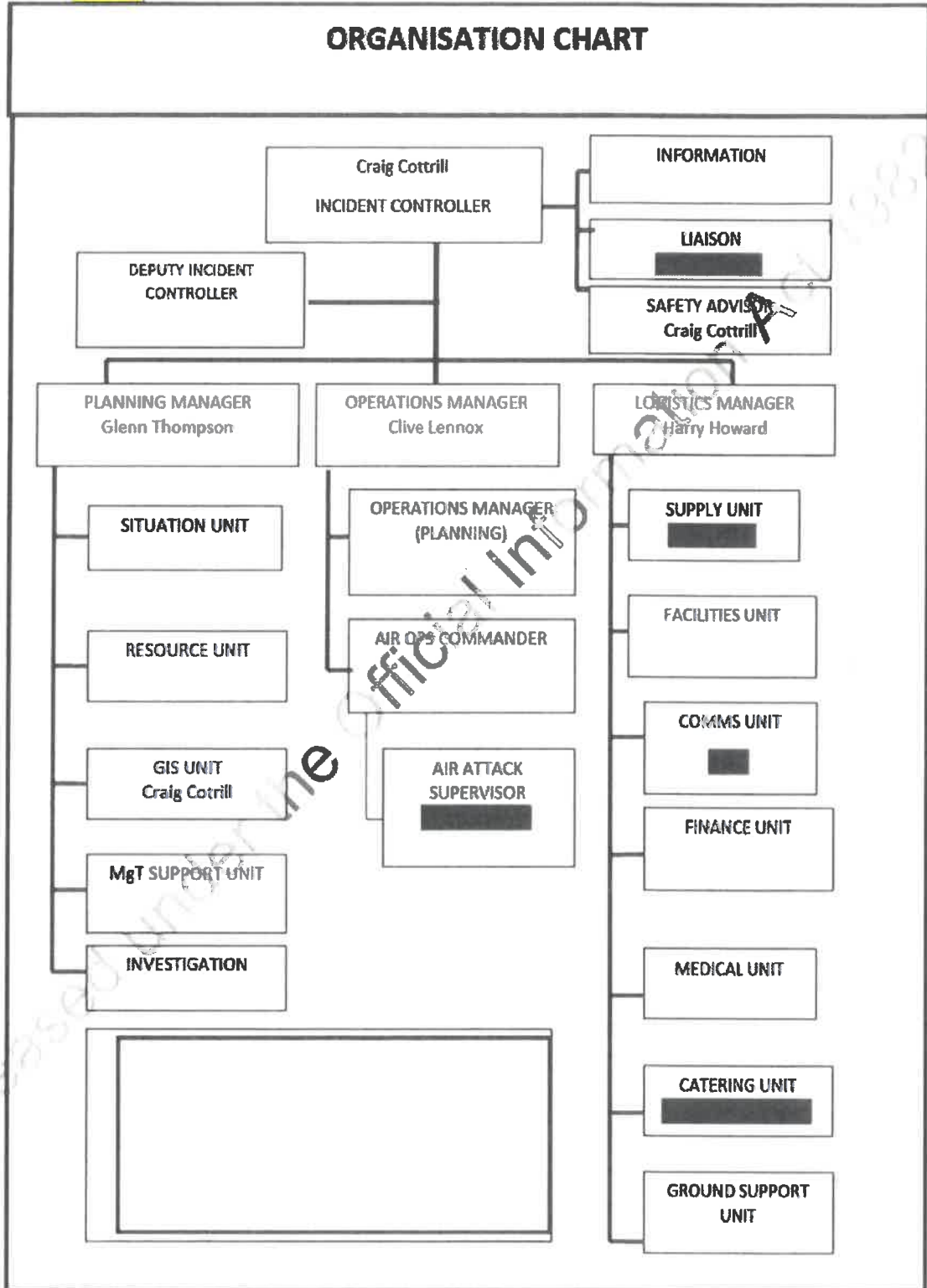


ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	Craig Cottrill	██████		Fire RPT 1
Safety Officer	Craig Cottrill	██████		Fire RPT 1
Liaison Officer	██████████	██████		Fire RPT 1
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	██████		Fire RPT 1
Agency	Chatham Islands Council	██████		
Agency	Enterprise Trust	██████		
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	Glenn Thompson	██████		Fire RPT 1
Situations Unit				
Resources Unit	Harry Howard	██████		Fire RPT 1
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Harry Howard	██████		Fire RPT 1
Supply Unit	Sue Steven (NZ based)		██████	
Catering Unit	██████████	██████		
Facilities Unit				
Finance Unit				
Communications Unit				
Medical Unit				
7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Clive Lennox	██████		Fire RPT 1
Sector Alpha Supervisor				
Sector Zulu Supervisor				
Sector Sierra Supervisor				
Air Attack Supervisor	██████████	██████		Fire RPT 1
8. Prepared by:		Glenn Thompson		

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ORGANISATION CHART





Makara Fire, Chatham Island.
Shift period: 17th Feb 2018 0700-1900

COMMUNICATIONS PLAN

3. Radio Channels Assigned To				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire RPT 1		
Tactical	Crew Coms	VHF Fire 1		
Ground to Air	Air Ops	VHF Fire 4		
Air to Air	Pilots	119.1		
Radio channels versus frequency for VHF Fire RPT 1				
Agency	Radio	Channel	Comments	
Pumicelands	ICOM	CH 16		
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
6. Other (e.g. email, Sat phone, etc)				
7. Prepared by:				
		Harry Howard		

Released under the Official Information Act 1982



AIR OPERATIONS PLAN

3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander				
Air Attack Supervisor		GRWC		Fire 4 Fire RPT 1
Air Support Supervisor				
Lead Helicopter Pilot		Southern Helicopters		Fire 4 Fire RPT 1
Lead Fixed-Wing Pilot				

4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
Southern Helicopters	Squirrel B3	IRM	Support ground crews	VHF Fire 4	
Garden City	BK117	HGU		VHF Fire 4	

5. Location of Filling Points/Service Areas

Name	Grid Reference
Staging Area	Various dipping points within fire ground

6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport Tom Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with [redacted]

7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards. Landowner has confirmed no stock will be in the staging area until operations finish.

8. Prepared By: [redacted]

SAFETY PLAN

3. General Safety Points

LACES	Fire Orders	Watch out
<p>L - Lookout(s) A - Anchor Point(s) C - Communication(s) E - Escape Route(s) S - Safety Zone(s)</p>	<ol style="list-style-type: none"> 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay alert, keep calm, think clearly, act decisively. 	<ol style="list-style-type: none"> 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. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.

4. Specific Safety Points

Weather - Air Ops, pilots and crews briefed and monitoring for rapid change.
 Fatigue - Hydrate and Crew Boss to monitor, rest periods.
 Slips, Trips and Falls - Crew briefed, made aware "punji sticks", cliffs, deep water and bogs.
 Air Operations - Crew briefings, pilots and Air Ops monitoring
 Driving - All personnel briefed 60kph speed limit, stock on road.
 Dust - Air crews briefed, ground crews supplied PPE and monitor
 Fuels and Foam - Correct handling and storage, crews briefed. Helos now fuelling at staging
 Radio Communications - Air ops to monitor radio
 RLB - RCCNZ notified of Chatham Islands activity
 Livestock wild bulls and pigs - Ground crews briefed
 Non FENZ resources - Operating on the fire ground. Assistance provided, welfare monitored
 Off road driving (4x4 and LUV) - restricted to DOC and other qualified personnel.
 Chainsaws - Only to be operated by unit standard qualified personnel, FULL PPE TO BE USED
 Hygiene - Wash hands before eating and after toilet breaks

5. Prepared By:

Craig Cottrill



SECTOR ASSIGNMENTS

NB- All sectors on one page.

6. Operations Manager	Affiliation	Phone	Radio Ch
Steve Joyce	FENZ	[REDACTED]	Fire RPT 1

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Monitor by helo		
B	Monitor by helo		
C	Taranaki	[REDACTED]	5
D	Monitor by helo		
S	Wellington	[REDACTED]	5
X	Pumiclands	[REDACTED]	5
Z	Monitor by helo		

8. Sector Assignment / Special Instructions ALL sectors <ul style="list-style-type: none"> Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground. Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment Develop and flag ground access Maintain reporting schedules, on commencement of work and twice during each day. Use helicopter for water if necessary. Use helicopter to recon fire line. X-Ray requires wajax and 2 hose packs (Sling in). Drop off HP and work hot spot. Dig up and drown

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Clive Lennox		Fire RPT 1
Attack Supervisor	[REDACTED]		Fire 4
Safety Officer	Craig Cottrill		Fire RPT 1

10. Prepared By:	Clive Lennox
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MEDICAL PLAN

3. First Aid Station						
Name	Location	Phone/Radio Channel	Paramedics available at Station			
Point 106	Staging	Fire RPT 1	First Aiders			
Crew Leaders	Various sectors	Fire RPT 1	First Aiders			
4. Transportation						
Ambulance Service		Address	Phone/Radio Channel			
Paramedics available with Ambulance						
Air Operations (Emergency Evac only)						
St John Ambulance	1 Hospital Road		Yes			
WestPac Rescue			Yes			
Life Flight						
5. Hospitals						
Heli		Travel Time		Burn		
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No
6. Special Emergency Procedures						
<p>Medical Centre utilised to stabilise patients Life Flight dispatched from Wellington Check with Chatham's Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS: Advise Logistics Manager</p>						
<p>7. Prepared by Logistics Manager / Safety Officer: } Harry Howard</p>						
<p>8. Reviewed by Incident Controller: Craig Cottrill</p>						

1982

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WEATHER AND FIRE BEHAVIOUR PREDICTION										
		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Saturday	17/02	20	80	0	30	NW	67	3	70	500 E
Sunday	18/02	20	80	0	20	NW	76	3	70	500 E
Monday	19/02	20	80	0	25	NW	80	3	95	700 E

Prepared By: Glenn Thompson

Updated forecast – 16 February 1630 NZDT

Friday (through to midnight):

- Wind N to NW sustained 15-30 km/h, with gusts to 36 km/h possible.
- Temperature decreasing to near 17°C by midnight.
- Humidity increasing to near 100% before midnight.
- No rainfall expected.
- Chance for visibility below 1 km increasing after 10 pm.

Saturday (midnight to midnight):

- Wind NNW to NW and increasing. Sustained 15-25 km/h during the morning, increasing to 25-35 km/h during the afternoon. Gusts up to 50 km/h by the afternoon and evening.
- Morning minimum temperature near 17°C, increasing to 23°C in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected during the day; slight chance for a shower at night.
- Chance for visibility below 1 km through 8-9 am.

Sunday (midnight to midnight):

- W to NW wind before sunrise becoming variable for a time after sunrise, then tending N to NW in the afternoon. Sustained wind increasing to 20 km/h in the morning, increasing to 15-25 km/h thereafter. Gusts up to 40 km/h possible in the afternoon and evening.
- Morning minimum temperature near 18°C, increasing to 23-23°C in the afternoon.
- Morning relative humidity near 100%, falling to near 85% in the afternoon.
- Slight chance for a morning shower; otherwise, no rainfall expected.

Monday (outlook):

- NW wind 20-25 km/h during the morning increasing to 25-35 km/h during the afternoon and evening. Gusts up to 50 km/h possible in the afternoon and evening.
- Morning minimum temperature near 18°C, increasing to 22-23°C in the afternoon.



Makara Fire, Chatham Island.
Shift period: 17th Feb 2018 0700-1900

- Morning relative humidity near 100%, falling to 85% in the afternoon.
- No rainfall expected during the day. Showers possibly developing toward midnight.

On the potential impact of Tropical Cyclone Gita

Rain from (ex) Tropical Cyclone will most likely begin late Monday night or early Tuesday and peak in the late Tuesday-Wednesday timeframe. There is a chance for a significant rainfall in excess of 50 mm. However, there still exists some uncertainty on the storm's track and placement of heavy rainfall. Wind gusts near or above 75 km/h are possible as well, especially Wednesday into Thursday.

On the potential impact of Tropical Cyclone Gita

Rain from (ex) Tropical Cyclone could begin as early as late Monday and peak in the Tuesday-Wednesday timeframe. However, there still exists some uncertainty on the storm's track and placement of heavy rainfall.

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Incident Action Plan

MAKARA FIRE



1. Approved by Incident Controller:

Name	Signed	Date/Time
Craig Cottrill	_____	17/2/18 19:00

SITUATION REPORT

3. Location South Western end Chatham Island	4. Vegetation Tarehinau Scrub / peat /	5. NZTM Grid Ref.
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6. Assessment
Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1st Feb and ran until rain stopped the spread of fire late on the night of the 2nd burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera data was gathered yesterday, limited number of hotspots are still visible on the perimeter and crews are currently cold trailing the edge and digging up hotspots. 50 mm of rain has fallen so far this week.

7. Action taken
Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.
Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.
Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.
The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10^h. The 3rd IMT started on the IAP.

8. Factors
Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides.
Obtaining resources that are not available on the island will take 2-4 days to arrive.
Weather – See separate weather / fire behaviour predictions at back of IAP.
Early thermal camera monitoring revealed a much higher number of hot areas than previously estimated. This led to a revision of the objectives especially the completion time. However the latest thermal run indicated that crews had been making great progress; the completion date has not been adjusted.

9. Predicted Incident Development
There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.
Possible cyclone approaching the Chathams next week, expecting rain, poor visibility and disruptions to flights, resource arrivals/departures.

10. Prepared by: GLENN THOMPSON

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INCIDENT OBJECTIVES AND STRATEGIES

3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measurable, Achievable Relevant, Time bound)

1. Ensure safety of all responders
2. Protect life of residents
3. Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)
4. Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaka Reserve)
5. To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

1. Appoint a dedicated safety officer.
2. Continue to liaise with all effected parties/agencies
3. Dedicate resources to the appropriate flank/sector as weather dictates
4. Treatment of all burning material within 30m of perimeter will be achieved by:
 - Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
 - Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.
 - Monitor sectors not being patrolled by helicopter

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Glenn Thompson

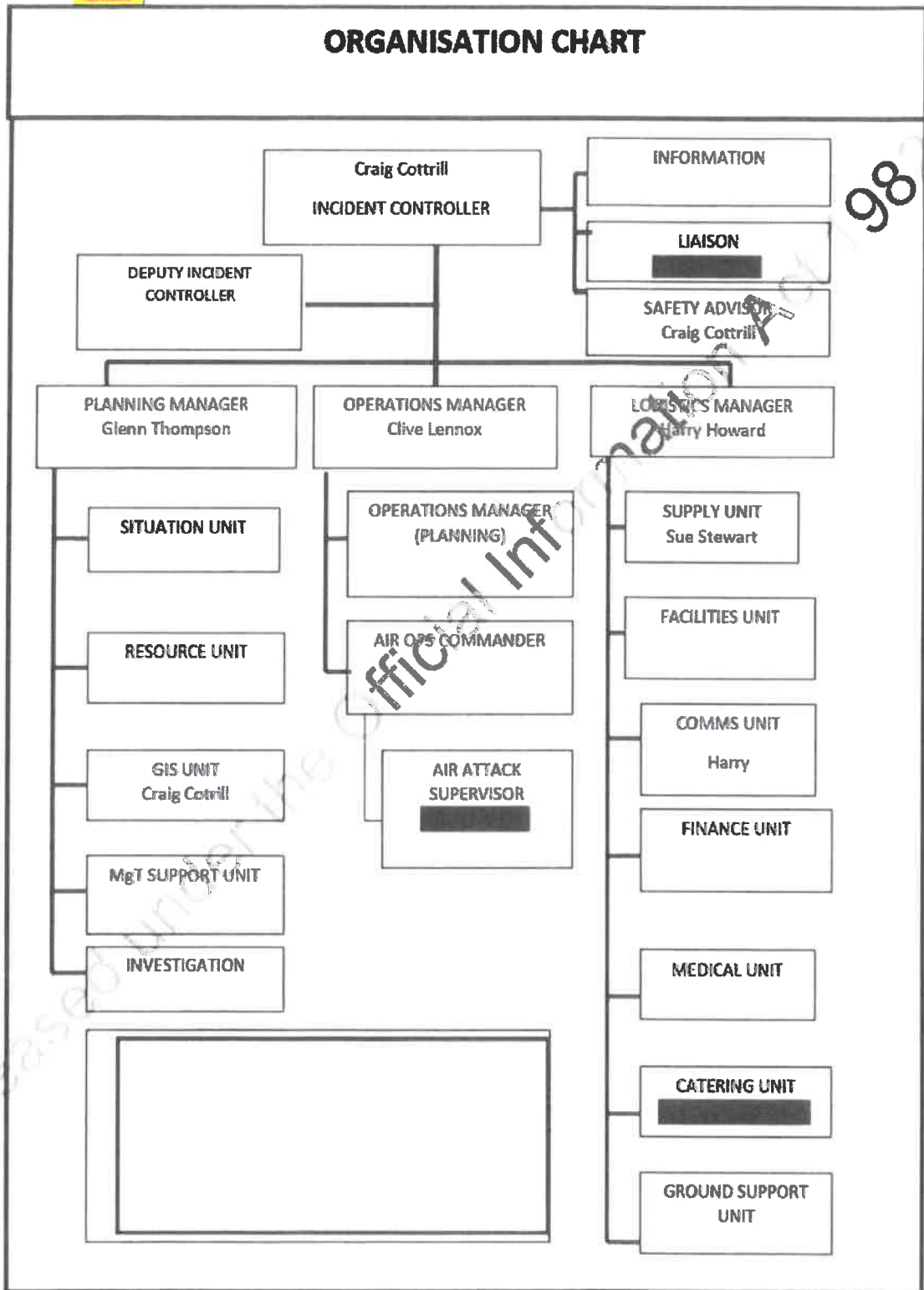


ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	Craig Coltrill	[REDACTED]		Fire RPT 1
Safety Officer	Craig Coltrill	[REDACTED]		Fire RPT 1
Liaison Officer	[REDACTED]	[REDACTED]		Fire RPT 1
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	[REDACTED]		Fire RPT 1
Agency	Chatham Islands Council	[REDACTED]		
Agency	Enterprise Trust	[REDACTED]		
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	Glenn Thompson	[REDACTED]		Fire RPT 1
Situations Unit				
Resources Unit	Harry Howard	[REDACTED]		Fire RPT 1
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Harry Howard	[REDACTED]		Fire RPT 1
Supply Unit	Sue Stewart (NZ based)		[REDACTED]	
Catering Unit	[REDACTED]	[REDACTED]		
Facilities Unit				
Finance Unit				
Communications Unit				
Medical Unit				
7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Clive Lennox	[REDACTED]		Fire RPT 1
Sector Alpha Supervisor				
Sector Zulu Supervisor				
Sector Sierra Supervisor				
Air Attack Supervisor	[REDACTED]	[REDACTED]		Fire RPT 1
8. Prepared by:		Glenn Thompson		

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ORGANISATION CHART





COMMUNICATIONS PLAN				
3. Radio Channels				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire RPT 1		
Tactical	Crew Coms	VHF Fire 1		
Ground to Air	Air Ops	VHF Fire 4		
Air to Air	Pilots	119.1		
Radio channels versus frequency for VHF Fire RPT 1				
Agency	Radio	Channel	Comments	
Pumicelands	ICOM	CH 16		
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
6. Other (e.g. email, Sat phone, etc.)				
7. Prepared by: Harry Howard				

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AIR OPERATIONS PLAN

3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander				
Air Attack Supervisor		GRWC		Fire 4 Fire RPT 1
Air Support Supervisor				
Lead Helicopter Pilot		Southern Helicopters		Fire 4 Fire RPT 1
Lead Fixed-Wing Pilot				

4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
█ - Southern Helicopters	Squirrel B3	IRM	Support ground crews	VHF Fire 4	
█ - Garden City	BK117	HGU		VHF Fire 4	

5. Location of Filling Points/Service Areas

Name	Grid Reference
Staging Area	Various dipping points within fire ground

6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport near Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal light with █

7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards. Landowner has confirmed no stock will be in the staging area until operations finish.

8. Prepared By: █

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SAFETY PLAN

3. General Safety Points

LACES	Fire Orders	Watch out
<p>L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)</p>	<ol style="list-style-type: none"> 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay alert, keep calm, think clearly, act decisively. 	<ol style="list-style-type: none"> 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 in 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. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.

4. Specific Safety Points

Weather – Air Ops, pilots and crews briefed and monitoring for rapid change.
 Fatigue – Hydrate and Crew Boss to monitor, rest periods.
 Slips, Trips and Falls – Crew briefed, made aware “punji sticks”, cliffs, deep water and bogs.
 Air Operations – Crew briefings, pilots and Air Ops monitoring
 Driving – All personnel briefed 60kph speed limit, stock on road.
 Dust – Air crews briefed, ground crews supplied PPE and monitor
 Fuels and Foam – Correct handling and storage, crews briefed. Helos now fuelling at staging
 Radio communications – Air ops to monitor radio
 PLB – RCCNZ notified of Chatham Islands activity
 Livestock wild bulls and pigs – Ground crews briefed
 Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored
 Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.
 Chainsaws- Only to be operated by unit standard qualified personnel, FULL PPE TO BE USED
 Hygiene- Wash hands before eating and after toilet breaks

5. Prepared By:

Craig Cottrill



SECTOR ASSIGNMENTS

NB- All sectors on one page.

6. Operations Manager		Affiliation	Phone	Radio Ch
Steve Joyce		FENZ	[REDACTED]	Fire RPT 1
7. Resource Allocation				
Sector	Crew / Resource	Leader (s)	# Persons	
A	Monitor by helo			
B	Monitor by helo			
C	Taranaki	[REDACTED]	5	
D	Monitor by helo			
S	Wellington	[REDACTED]	5	
X	Pumiclands	[REDACTED]	5	
Z	Monitor by helo			
8. Sector Assignment / Special Instructions				
<p>ALL sectors</p> <ul style="list-style-type: none"> • Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground. • Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment • Develop and flag ground access • Maintain reporting schedules, on commencement of work and twice during each day. • Use helicopter for water if necessary. • Use helicopter to recon fire line. • X-Ray requires wajax and 2 hose packs (Sling in). Drop off HP and work hot spot. No up and down 				
9. Sector Communications				
Operations Manager.	Clive Lennox			Fire RPT 1
Attack Supervisor	[REDACTED]			Fire 4
Safety Officer	Craig Cottrill			Fire RPT 1
10. Prepared By: Clive Lennox				

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MEDICAL PLAN

3. First Aid Station						
Name	Location	Phone/Radio Channel	Paramedics available at Station			
Point 106	Staging	Fire RPT 1	First Aiders			
Crew Leaders	Various sectors	Fire RPT 1	First Aiders			
4. Transportation						
Ambulance Service		Address	Phone/Radio Channel			
Air Operations (Emergency Evac only)						
St John Ambulance	1 Hospital Road		Yes			
WestPac Rescue			Yes			
Life Flight						
5. Hospitals						
Heli		Travel Time		Burn		
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No
6. Special Emergency Procedures						
<p>Medical Centre utilised to stabilise patients Life Flight dispatched from Wellington Check with Chatham's Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS: Advise Logistics Manager</p>						
<p>7. Prepared by Logistics Manager / Safety Officer:] Harry Howard</p>						
<p>8. Reviewed by Incident Controller: Craig Cottrill</p>						

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WEATHER AND FIRE BEHAVIOUR PREDICTION										
		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Saturday	17/02	20	80	0	30	NW	67	3	70	500 E
Sunday	18/02	20	80	0	20	NW	76	3	70	500 E
Monday	19/02	20	80	0	25	NW	80	3	95	700 E
Prepared By: Glenn Thompson										

Updated forecast – 16 February 1530 NZDT

Friday (through to midnight):

- Wind N to NW sustained 15-30 km/h, with gusts to 35 km/h possible.
- Temperature decreasing to near 17°C by midnight.
- Humidity increasing to near 100% before midnight.
- No rainfall expected.
- Chance for visibility below 1 km increasing after 10 pm.

Saturday (midnight to midnight):

- Wind NNW to NW and increasing. Sustained 15-25 km/h during the morning, increasing to 25-35 km/h during the afternoon. Gusts up to 50 km/h by the afternoon and evening.
- Morning minimum temperature near 17°C, increasing to 23°C in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected during the day; slight chance for a shower at night.
- Chance for visibility below 1 km through 8-9 am.

Sunday (midnight to midnight):

- W to NW wind before sunrise becoming variable for a time after sunrise, then tending N to NW in the afternoon. Sustained wind increasing to 20 km/h in the morning, increasing to 15-25 km/h thereafter. Gusts up to 40 km/h possible in the afternoon and evening.
- Morning minimum temperature near 18°C, increasing to 23-23°C in the afternoon.
- Morning relative humidity near 100%, falling to near 85% in the afternoon.
- Slight chance for a morning shower; otherwise, no rainfall expected.

Monday (outlook):

- NW wind 20-25 km/h during the morning increasing to 25-35 km/h during the afternoon and evening. Gusts up to 50 km/h possible in the afternoon and evening.
- Morning minimum temperature near 18°C, increasing to 22-23°C in the afternoon.



Makara Fire, Chatham Island.
Shift period: 17th Feb 2018 0700-1900

- Morning relative humidity near 100%, falling to 85% in the afternoon.
- No rainfall expected during the day. Showers possibly developing toward midnight.

On the potential impact of Tropical Cyclone Gita

Rain from (ex) Tropical Cyclone will most likely begin late Monday night or early Tuesday and peak in the late Tuesday-Wednesday timeframe. There is a chance for a significant rainfall in excess of 50 mm. However, there still exists some uncertainty on the storm's track and placement of heavy rainfall. Wind gusts near or above 75 km/h are possible as well, especially Wednesday into Thursday.

On the potential impact of Tropical Cyclone Gita

Rain from (ex) Tropical Cyclone could begin as early as late Monday and peak in the Tuesday-Wednesday timeframe. However, there still exists some uncertainty on the storm's track and placement of heavy rainfall.

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Incident Action Plan

MAKARA FIRE



1. Approved by Incident Controller:

Name

Signed

Date/Time

Craig Cottrill

17/2/18 19:00