



2020

To be reviewed no later than March 2025

LORD HOWE ISLAND LOCAL TSUNAMI PLAN

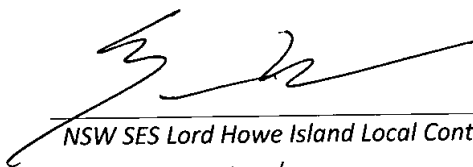
**A Sub-Plan of the Lord Howe Island Local Emergency Plan
(EMPLAN)**

Volume 1




AUTHORISATION

The Lord Howe Island Tsunami Emergency Sub Plan is a sub plan of the Lord Howe Island Local Emergency Management Plan (EMPLAN). It has been prepared in accordance with the provisions of the **State Emergency Service Act 1989 (NSW)** and is authorised by the Local Emergency Management Committee in accordance with the provisions of the **State Emergency and Rescue Management Act 1989 (NSW)**.



NSW SES Lord Howe Island Local Controller
Date: 22/5/13

Recommended



Chair, Local Emergency Management Committee
Date: 22/05/13

Approved

CONTENTS

AUTHORISATION	2
CONTENTS	I
DISTRIBUTION LIST.....	II
AMENDMENT LIST	III
LIST OF ABBREVIATIONS	IV
GLOSSARY	V
PART 1 - INTRODUCTION	1
1.1 Purpose	1
1.2 Definition.....	1
1.3 Area Covered By The Plan	1
1.4 Responsibilities	1
PART 2 - PREPAREDNESS	5
2.1 Maintenance Of This Plan	5
2.2 Development of Warning Systems	5
2.3 Public Education	5
2.4 Resources	5
PART 3 - RESPONSE	5
3.1 Control Arrangements	6
3.2 Operational Management	6
3.3 Operations Centres.....	7
3.4 Start of Response Operations.....	7
3.5 Response Strategies	8
3.6 Delivery of Evacuation Warnings and Evacuation Orders.....	9
3.7 Impact PHASE:	10
3.8 Post Impact Phase	10
3.9 All Clear	11
PART 4 - RECOVERY	12
4.1 Recovery Coordination at the Local level	12
4.2 Arrangements for Debriefs / After Action Reviews	12
Annex A - Tsunami Threat.....	A1
Annex B - Community Response Guidelines.....	B1
LORD HOWE ISLAND SECTOR MAP	1
LORD HOWE ISLAND EVACUATION MAP	I

DISTRIBUTION LIST

[illegible]

AMENDMENT LIST

Suggestions for amendments to this plan should be forwarded to:

NSW SES Northern Zone Deputy Commander
State Emergency Service
14 Arkwright Crescent
Taree NSW 2430

Amendments promulgated in the amendments list below have been entered in this plan.

Amendment Number	Description	Date	Amendment entered by	Date
1	Full Review	2013	Stephen Hart	March 2013
2	Administrative Review	2019	Anthony Day	2019
3	Administrative Review	2020	LHI LEMC	July 2020

LIST OF ABBREVIATIONS

The following abbreviations have been used in this plan:

AIIMS	Australasian Inter-service Incident Management System
ATWG	Australian Tsunami Working Group
ATWS	Australian Tsunami Warning Systems
Bureau	Australian Government Bureau of Meteorology
DECCW	Department of Environment, Climate Change and Water
DISPLAN	Disaster Plan
DVR	Disaster Victim Registration
EMA	Emergency Management Australia
GA	Geoscience Australia
GIS	Geographic Information System
GRN	Government Radio Network
LEMO	Local Emergency Management Officer
LEOCON	Local Emergency Management Controller
IAP	Incident Action Plan
LHI	Lord Howe Island
PMR	Private Mobile Radio
PMP	Probable Maximum Precipitation
PTWC	Pacific Tsunami Warning Centre
SEOCON	State Emergency Operations Controller
SERCON	State Emergency Recovery Controller
NSW SES	NSW State Emergency Service
SEWS	Standard Emergency Warning Signal

GLOSSARY

All Clear, An advice that danger to life and property has passed.

Combat Agency, Means the agency identified in the State Displan as the agency primarily responsible for controlling the response to a particular emergency.

Distant Tsunami, A tsunami generated from a distant source, generally outside the south-west pacific region. This type of tsunami may also be referred to as 'far field tsunami'.

Deep Ocean Tsunami Buoys (Deep Ocean Tsunameter). A tsunami detection Instrument capable of detecting tsunami in the deep ocean.

Effective Warning Time. The time likely to be available after a tsunami warning is issued and in which people at-risk can take action to leave an at-risk area or find a safe refuge.

Geographic Information System (GIS). A computerised database for the capture, storage, analysis and display of locationally defined information. Commonly, a GIS portrays a portion of the earth's surface in the form of a map on which this information is overlaid

Harbour Resonance. The continued reflection and interference of waves from the edge of a harbour or narrow bay. This interference can cause amplification of wave heights and extend the duration of wave activity from a tsunami.

Hazardous Material (HAZMAT), Means anything that when produced, stored, moved, used or otherwise dealt with without adequate safeguards to prevent it from escaping, may cause injury or death or damage to property (Source: Fire Brigades Act 1989 (as amended)).

Incident Action Plan (IAP). An action plan for managing a specific flood event. Information from the Local Tsunami Plan is used to develop the IAP.

Inundation, The maximum horizontal penetration of the tsunami from the shoreline measured in tens of metres or kilometres.

Local Tsunami, A tsunami that is generated close to the areas it floods, for example the 1998 PNG tsunami. This type of tsunami may also be referred to as 'near-field' tsunami.

Liaison Officer, A person nominated or appointed by an agency or functional area, to represent that agency or functional area at a control centre, emergency operations centre or coordination centre. A liaison officer maintains communications with and conveys directions/requests to their agency or functional area, and provides advice on the status, capabilities, actions and requirements of their agency or functional area. A liaison officer must have the authority to commit the resources of their parent agency.

Period, The length of time between two successive tsunami wave peaks or troughs. May vary due to complex interference of waves. Is usually measured in minutes.

Regional Tsunami, Tsunami generated within the South West Pacific Region.

Run-up The maximum vertical height, above mean sea level, that the sea attains during a tsunami (measured in metres).

Subduction Zone, The place where two tectonic plates come together, one being pushed below the other.

Tidal Wave, A common term for tsunami used in older literature, historical descriptions and popular accounts. Tides, caused by the gravitational attractions of the sun and moon, may increase or decrease the impact of a tsunami, but have nothing to do with their generation or propagation. However, most tsunami (initially) give the appearance of a fast rising or fast-ebbing tide as they approach shore, and only rarely appear as a near vertical wall of water.

Travel Time, Time that it takes the tsunami to travel from its source to a particular location that it floods.

Tsunami, A series of travelling waves generated by the sudden displacement of the sea by submarine earthquakes, volcanic eruptions, landslides or asteroid impacts. The word 'tsunami' is Japanese for 'harbour wave'.

Tsunami Bulletins, These are advice messages provided by the Pacific Tsunami Warning Centre indicating the likelihood of a tsunami generated in the Pacific Ocean.

Wave Height, Height of a tsunami wave is most important at shore and refers to the depth of water under the wave crest

PART 1 - INTRODUCTION

1.1 PURPOSE

- 1.1.1 As defined in the NSW Tsunami Emergency Sub-Plan the NSW State Emergency Service is the combat agency for Tsunami. The NSW Tsunami Emergency Sub-Plan outlines the arrangements for the preparedness, response and initiation of recovery of Tsunami in New South Wales and should be referred to when undertaking tsunami related operations
- 1.1.2 This plan supports the conduct of response operations and the coordination of immediate recovery measures from a tsunami within the Lord Howe Island area

1.2 DEFINITION

- 1.2.1 Tsunami are defined as sea waves produced by the sudden displacement of the ocean, often triggered by earthquake or landslides

1.3 AREA COVERED BY THE PLAN

- 1.3.1 The area covered by this plan includes the whole of the Lord Howe Island which has an area of 1,455 hectares and a population of 359 permanent residents and a maximum of 400 visitors at any one time.
- 1.3.2 The Lord Howe Island group is listed as a "World Heritage Property". The majority of the Marine Areas are protected by the LHI Marine Park.
- 1.3.3 Lord Howe is some 700 km remote from the mainland, and is part of the State of New South Wales, Australia. Due to its isolation, unique environment and social situation, it is administered by the Lord Howe Island Board.
- 1.3.4 In relation to coordination of support resources Lord Howe Island is within the NSW SES Northern Zone and the Mid North Coast Emergency Management District. It should also be noted that Health Services are coordinated through South East Sydney Local Health District (SESLHD).

1.4 RESPONSIBILITIES

- 1.4.1 The general responsibilities of emergency service organisations and supporting services (functional areas) are listed in the Local and State Emergency Management Plan (EMPLAN). Some specific responsibilities are expanded upon in the following paragraphs. The extent of their implementation will depend on the severity of flooding from the Tsunami.
- 1.4.2 **Australian Government Bureau of Meteorology (The Bureau):**
 - a. The Bureau NSW Regional Forecasting Centre is the official channel into NSW for receipt of Tsunami Bulletins and Warnings and will ensure consultation with NSW SES prior to issuing Tsunami Watches and Warnings, and will notify the NSW State Emergency Service (NSW SES), State Headquarters of their issue
 - b. The Bureau of Meteorology Lord Howe Island Field Office will notify the Lord Howe Island NSW SES Unit of any tsunami information received from

the BoM NSW Regional Forecasting Centre. If the NSW SES Unit cannot be contacted the Lord Howe Island Police Station is to be notified.

- c. In consultation with the NSW SES issue BoM NSW Tsunami Warnings based on information provided by the PTWC, Japanese Meteorological Agency, Geoscience Australia and National Tidal Centre
- d. A Tsunami Watch will **NOT** be Marine or Land specific
- e. The NSW Regional Office will issue Lord Howe Island Tsunami Warnings once a Tsunami Watch has been confirmed. Warnings will either be for a Marine Threat or Land Inundation Threat
- f. Both Lord Howe Island Tsunami Warnings and Australian Tsunami Bulletins – the potential threat will include travel time information.
- g. The Bureau website will provide more information on warning at: <http://www.bom.gov.au/tsunami>.

1.4.3 NSW State Emergency Service (Combat Agency)

- a. The NSW SES is responsible for directing the dissemination of the BoM Tsunami warnings at Regional and Local levels
- b. The NSW SES Mid North Coast Command will communicate Tsunami information to the Lord Howe Island NSW SES Unit.
- c. Develop and maintain this plan

1.4.4 **Lord Howe Island NSW SES Unit Commander.** The NSW SES Unit Commander is responsible for dealing with Tsunamis as detailed in the State Tsunami Plan, and will:

Preparedness

- a. Maintain a Local Headquarters in accordance with the NSW SES Controllers' Handbook and the NSW SES Operations Manual.
- b. Ensure that NSW SES members are trained to undertake operations in accordance with current policy as laid down in the NSW SES Controllers' Handbook and the NSW SES Operations Manual.
- c. Coordinate the development and operation of a tsunami warning service for the community.
- d. Coordinate a public education program
- e. Ensure that the currency of this plan is maintained.

Response

- f. The NSW SES Northern Zone Commander will appoint an appropriate Local Incident Controller to undertake the following response roles.
- g. Control Tsunami response operations on Lord Howe Island. This includes:
 - Directing the activities of the NSW SES units operating within the Islands area.
 - Coordinating the activities of supporting agencies and organisations and ensuring that liaison is established with them.
 - Contribute to the preparation of the IAP
- h. Provide an information service in relation to:

- Tsunami behaviour around Island.
- Confirmation of evacuation warnings and evacuation orders.
- i. Direct the conduct of rescue operations.
- j. Direct the evacuation of people and/or communities.
- k. Provide immediate welfare support for evacuated people.
- l. Coordinate the provision of emergency food and medical supplies to isolated people and/or communities.
- m. Arrange for support (for example, accommodation and meals) for emergency service organisation members and volunteers assisting them.
- n. Submit Situation Reports to the NSW SES Incident Control these will contain information on:
 - Airport Runway conditions and closures.
 - Current operational activities.
 - Rapid Impact assessment
 - Likely future operational activities.
 - Probable resource needs.
- o. Keep the Local Emergency Operations Controller advised of the situation and the operational response.
- p. Issue the 'All Clear' when operations have been completed.

Recovery

- q. Ensure that appropriate After-Action Reviews are held.
- r. Assist in the establishment and deliberations of the Recovery Coordinating Committee.

1.4.5 **Geoscience Australia**

- a. Work with the NSW SES, EMA and the BoM in the development of tsunami warning systems for NSW.
- b. Provide specialist scientific advice to assist the NSW SES, other State Government Agencies and Local Government Councils on tsunami-related matters.
- c. Provide national seismic detection capabilities.

1.4.6 Lord Howe Island Port Operations

- a. Assist with the evacuation of people from port facilities on receipt of a tsunami evacuation warning.
- b. Encourage all commercial vessels to undertake appropriate measures to secure themselves before the arrival of a tsunami.
- c. Disseminate tsunami warnings to shipping in or near port, anchorage and in the Lord Howe Island area

1.4.7 Marine Parks Authority NSW

- a. Assist with evacuations within marine park boundaries.

1.4.8 NSW Police Force, North Coast Local Area Command (LAC):

- a. Assist the NSW SES with the delivery of evacuation warnings and evacuation orders.
- b. Assist the NSW SES with the conduct of evacuation operations.
- c. Coordinate the registration of all evacuees.

1.4.9 Welfare Services Functional Area:

- a. When requested by NSW SES;
 - Establish and manage evacuation centres and provide disaster welfare services from recovery centres; and
 - Administer the Personal Hardship and Distress component of the NSW Disaster Relief Scheme established to provide financial assistance to people affected by emergencies.

1.4.10 Lord Howe Island Local Emergency Management Officer (LEMO):

- a. Provide executive support to the Local Emergency Operations Controller in accordance with the Lord Howe Island Local Emergency Management Plan.
- b. At the request of the Lord Howe Island NSW SES Unit Commander, advise appropriate agencies and officers of the activation of this plan.

1.4.11 Lord Howe Island Board:

Preparedness

- a. Maintain a plant and equipment resource list for the council area.
- b. Contribute to the development and implementation of a public education program.

Response

- c. At the request of the Local NSW SES Commander, deploy personnel and resources for Tsunami related activities.
- d. Provide information on the status of Critical Infrastructure
- e. In the event of evacuations, assist with making facilities available for the domestic pets and companion animals of evacuees.
- f. Assist the NSW SES with reconnaissance of at-risk areas

Recovery-Post Impact

- g. Provide for the management of health hazards associated with flooding. This includes removing debris and waste.
- h. Ensure premises are fit and safe for reoccupation and assess any need for demolition.
- i. Impact assessment
- j. Arrange for storage of evacuees' furniture as required.

PART 2 - PREPAREDNESS

2.1 MAINTENANCE OF THIS PLAN

2.1.1 The Lord Howe Island NSW SES Unit Commander will maintain the currency of this plan by:

- a. Ensuring that all agencies, organisations and officers mentioned in it are aware of their roles and responsibilities.
- b. Conducting exercises to test arrangements.
- c. Reviewing the contents of the plan:
 - After each operation.
 - When new information from Tsunami studies become available.
 - When there are changes that alter agreed plan arrangements.

2.1.2 In any event, the plan is to be reviewed no less frequently than every five years.

2.2 DEVELOPMENT OF WARNING SYSTEMS

2.2.1 The NSW SES and Lord Howe Island Board will establish a warning system to communicate warnings for areas that may be affected. This requires:

- a. Identification of required actions and the amounts of time needed to carry them out.
- b. Appropriate means of disseminating warnings.

2.3 PUBLIC EDUCATION

- a. The Lord Howe Island NSW SES Unit Commander, with the assistance of the Lord Howe Island Board the Mid North Coast NSW SES Region, is responsible for ensuring that the residents are aware of the Tsunami threat in their vicinity and how to protect themselves from it.

2.3.2 Specific strategies to be employed include:

- a. Dissemination of Tsunami-related brochures and booklets.
- b. Identification markers on the roadside
- c. Talks and displays orientated to community organisations, business and schools.

2.4 RESOURCES

2.4.1 The Lord Howe Island NSW SES Unit Commander is responsible for maintaining the condition and state of readiness of NSW SES equipment and the Lord Howe Island NSW SES Local Headquarters.

PART 3 - RESPONSE

CONTROL

3.1 CONTROL ARRANGEMENTS

- 3.1.1 The NSW SES is the legislated Combat Agency for Tsunami and is responsible for the control of operations. This includes the coordination of other agencies and organisations for Tsunami management tasks.
- 3.1.2 The Local EMPLAN will operate to provide support as requested by the NSW SES Local Incident Controller.

3.2 OPERATIONAL MANAGEMENT

- 3.2.1 The NSW SES utilises the Australasian Inter-service Incident Management System (AIIMS).
- 3.2.2 The Island is divided into two divisions, North and South using the airport runway as the dividing line.
- 3.2.3 The Lord Howe Island has also been divided into operational sectors:

		Sector Name	Sector Risk	Properties at Risk	Risk
North Division	Sector A	Kim's Look Out	Low Risk	Nil	This sector is the Northern end of the Island and climbs to heights of 160meters. The area is generally forest\Bushland with tracks for walkers.
	Sector B	Community Hall – Old Settlement Site	High Risk	15	This sector commences below the 10 m contour and up to the 20 m contour line. There are a number of Lodges and business in this area. The area is open and covers from the beach to the crash site of the Catalina aircraft
	Sector C	Ned's beach Rd - Lorhiti	High-risk	18	This sector starts below the 10 m contour and is a raising road to above the 20 m contour line. The lower part of this sector contains many small business and shops for the Island.
	Sector D	Middle Beach Rd to Post Office	High Risk	33	This sector is below the 10m contour line and is at high risk.
	Sector E	Pine Trees to middle beach road	High Risk	21	This sector is below the 10m contour line and is at high risk. The ILHIB Administration and Depot is located here along with the Hospital
	Sector F	Middle Beach Rd.	Medium Risk	15	This Sector is between the 10m contour and the 20 m contour, it covers the centre of the Island living area that feeds off Middle Beach rd.
	Sector G	Top Blocks	Low Risk	Nil	This sector is above the 20 m contour line and holds two Assembly points for the northern end of the Island.
	Sector H	Transit Hill	Low Risk	Nil	This Sector is between the 10m contour and the 20 m contour. The area is generally forest\Bushland with tracks for walkers

South Division	Sector I	Airport Strip	High Risk	11	This sector sits below the 10m contour line and is at high risk. This sector is the main transport into and off the Island. The airport is located here and access would be lost for any incoming support.
	Sector J	South to Cobbys corner	High Risk	11	This sector commences below the 10 m contour line and raise to above the 20 m contour line. The at-risk sector contains a number of residents and the Evacuation point is at the Golf Club hose which is above the 10m line.
	Sector K	Intermediate hill	Low Risk	Nil	This Sector is between the 10m contour and the 250 m contour. The area is generally forest\Bushland with tracks for walker
	Sector L	Mt Lidgbird	Low Risk	Nil	This Sector is between the 10m contour and the 777m contour. The area is generally forest\Bushland with tracks for walkers.
	Sector M	Mt Gower	Low Risk	Nil	This Sector is between the 10m contour and the 875m contour. The area is generally forest\Bushland with tracks for walkers.

3.3 OPERATIONS CENTRES

3.3.1 The Lord Howe Island NSW SES Operations Centre is located next to the Island Board

3.3.2 Supporting EOCs are located at:

- a. The Lord Howe Island Emergency Operations Centre is located at Lord Howe Board Offices.
- b. The alternative site is the Power House Site (Anderson Rd).

3.4 START OF RESPONSE OPERATIONS

3.4.1 Response operation will begin:

- a. On receipt of a Bureau of Meteorology Tsunami Bulletin.
 - Tsunami Watch
 - Marine Threat - **Blue**
 - Land Threat - **Red**

3.4.2 The following persons and organisations will be advised of the start of response operations regardless of the severity of the warning:

- a. Lord Howe Island NSW SES Unit Commander.
- b. Lord Howe Island Local Emergency Operations Controller (for transmission to the NSW Police Force Local Area Command Headquarters).
- c. Lord Howe Island Local Emergency Management Officer (LEMO). For transmission to
 - Lord Howe Island Board

- Lord How Island Hospital
 - Lord Howe Island Port Operations Manager
 - Lord Howe Island Central School
 - Qantas Link – LHI Agents
- d. Other agencies listed in this plan will be advised by the LEMO on the request of the Lord Howe Island NSW SES Local Incident Commander and as appropriate to the location and nature of the threat.
 - e. The EOC is to be opened at the LHIB Administration office.
 - f. Lord Howe Island Port Operations Manager to notify vessels of possible Tsunami threat.
 - g. Lord Howe Island residents to be advised of Tsunami Watch Bulletin, via voice reach and encouraged to be prepared to act if directed.
 - h. If a possible Tsunami may arrive within 2 hours and land inundation is likely, consideration should be given to evacuating low-lying areas and undertaking actions listed under the land inundation warnings.
 - i. Lord Howe Island NSW SES Unit to establish and maintain liaison with the NSW SES Incident Control and all agencies on Island.

3.5 RESPONSE STRATEGIES

3.5.1 The main response strategies for NSW SES Tsunami operations include:

- a. Information Provision and Warning
 - Provision of warnings, information and advice to the community
 - Inform the community regarding the potential impacts of a Tsunami and what actions to undertake in preparation.
- b. Evacuation
 - The temporary movement (relocation) of people from a dangerous or potentially dangerous place to a safe location, and their eventual return. It is a safety strategy which uses distance to separate people from the danger created by the hazard.
- c. Rescue
 - The rescue or retrieval of persons trapped by floodwaters caused by a Tsunami.

3.5.2 Tsunami Warning Strategies – (Marine and Immediate Foreshore Threat):

- a. In addition to those actions undertaken following receipt of the Tsunami *Watch*, the Lord Howe Island NSW SES Unit should ensure the following actions are now taken: Advice immediately:
 - Close access to all beaches and foreshores.
 - Lord Howe Island Port Operations Manager to notify vessels of warning and action statements
 - Notification to Lord Howe Island Board

3.5.3 Warning Strategies – (Land Inundation Threat)

- a. In addition to all of those tasks undertaken above (Marine Based warning only), the Lord Howe Island NSW SES Unit should ensure the following actions are now taken
- Emergency resources are removed to Old Met Site.
 - Lord Howe Island Board to relocate fire truck, pumps, NSW SES trailer, marquee, satellite telephone and necessary vehicles
 - Relocate EOC to the Power House Site (Anderson Road)
 - Establish Communication system with Satellite phone to Oxley Region NSW SES
 - Warn and evacuate low-lying areas via voice reach, doorknocking and mobile public address
 - Relocate aviation fuel and refuelling tractor and tank to a helicopter landing zone located at the Golf Course
 - Hospital to relocate Patient Transfer vehicle with pre-prepared EM grab box to LHI Environmental Tours Shed (Muttonbird Drive). Any in-patients will be transferred to the PTV and managed under the Hospitals standard operating procedures.

3.6 DELIVERY OF EVACUATION WARNINGS AND EVACUATION ORDERS

- 3.6.1 Due to limited ability for Mainland NSW to communicate through media outlets warnings from the Bureau the NSW SES will advise the community of the requirements to evacuate. The NSW SES will issue an **Evacuation Warning** when the intent of an NSW SES Incident Controller is to warn the community of the need to prepare for a possible evacuation.
- 3.6.2 The NSW SES will issue an **Evacuation Order** when the intent of the NSW SES Incident Controller is to instruct a community to immediately evacuate in response to an imminent threat.
- 3.6.3 The NSW SES will undertake the following arranged process to warn the Lord Howe Island Community
- a. Activate Phone tree as per Volume 2 – Response Actions
 - b. Doorknock to properties that have not responded
- 3.6.4 Refusal to evacuate. Field teams cannot afford to waste time dealing with people who are reluctant or refuse to comply with any Evacuation Order. These cases are to be referred to the NSW Police Liaison Officer.
- 3.6.5 Evacuation centres / assembly areas. The usual purpose of evacuation centres is to meet the immediate needs of disaster affected people following evacuation from an emergency situation, not to provide them with accommodation. Evacuees will be advised to go to or be taken to the nearest accessible evacuation centre, which may initially be established at the direction of the NSW SES Lord Howe Island Local Incident Controller, but managed as soon as possible by Welfare Services.
- 3.6.6 The following locations are suitable for use as evacuation Assembly Centres:
- a. Northern End of Island

- Southern end of Skyline Drive also known as the Old Met site
- b. Southern End of Island
 - Golf Club

Note – Additional suitable evacuation centres/assembly areas are identified in the LHI EMPLAN

- 3.6.7 Registration: The NSW Police Force will ensure that all evacuees are registered on arrival at the designated evacuation centres.

3.7 IMPACT PHASE:

- 3.7.1 All emergency service personnel are to move to high ground no less than 20 min before the Tsunami estimated time to arrival.
- 3.7.2 During the impact phase of a tsunami extreme care should be taken when considering the undertaking of any actions within the likely impact areas and should be limited to continued monitoring, welfare provision and public information provision.
- 3.7.3 The NSW SES Mid North Coast Command and the LEOCON are to be provided regular information regarding the size of the tsunami impact.

3.8 POST IMPACT PHASE

- 3.8.1 Following the impact of a Tsunami, reconnaissance should be conducted to assess the extent of damage. Reconnaissance is to be coordinated by the Lord Howe Island NSW SES Unit. Reconnaissance may be conducted by NSW SES, Lord Howe Island Board, NSW Police Force and RFS.
- 3.8.2 The Mid North Coast NSW SES Region HQ and the LEOCON are to be informed regarding the size of the tsunami impact
- 3.8.3 If the damage has occurred consideration should be given to the following actions:
- a. Search and rescue
 - b. Treatment of sick and injured persons
 - c. Damage control
 - d. Initiation of recovery processes
 - e. Public information provision
 - f. Disease control
 - g. Disaster Victim Identification
- 3.8.4 If substantial damage to infrastructure has occurred it may be necessary for all residents of Lord Howe Island to be evacuated to the mainland. Depending upon damage to the Airport this could be conducted by aircraft. Evacuation would be to either Sydney or Port Macquarie.
- 3.8.5 If damage to the airport has occurred and has been assessed as unrepairable, consideration should be given to evacuation via sea. Note that defence assistance would likely be required in this event.
- 3.8.6 It should be noted that a tsunami impact on Lord Howe Island and resultant damage may also cause similar impact to the east coast of NSW. As result the

response/coordination of support resources to Lord Howe Island may have to be prioritised based on assessment of all the impact areas.

3.9 ALL CLEAR

- 3.9.1 The BoM is responsible for the official notification and cancellation of Tsunami Warning in New South Wales
- 3.9.2 Prior to the issue of any cancellation message, the NSW SES should confirm damage and inform the Mid North Coast NSW SES Region HQ of damage assessment.
- 3.9.3 If damage has occurred, a separate all clear message will be required and communicated to residents
- 3.9.4 When the immediate danger to life and property has passed the NSW SES Incident Controller or the NSW SES Local Incident Controller will issue an 'all clear' message signifying that response operations have been completed. Upon notification the Lord Howe Island NSW SES Unit will notify the following.
 - a. NSW Police Force (Lord Howe Island)
 - b. Lord Howe Island Board
 - c. Lord Howe Island Hospital
 - d. Lord Howe Island Port Operations Manager
- 3.9.5 The relevant Controller will also advise details of recovery coordination arrangements, arrangements made for clean-up operations prior to evacuees being allowed to return to their homes, and stand-down instructions for agencies not required for recovery operations.

PART 4 - RECOVERY

4.1 RECOVERY COORDINATION AT THE LOCAL LEVEL

- 4.1.1 Recovery will be coordinated as described in the Part 6 of the State Tsunami Plan (www.emergency.nsw.gov.au or www.NSW.SES.nsw.gov.au) and or the Recovery arrangements described in the Lord Howe Island Local DISPLAN.
- 4.1.2 The Lord Howe Island NSW SES Unit Commander will ensure that planning for long-term recovery operations begins at the earliest opportunity, initially through briefing the Local Emergency Management Committee (LEMC). As soon as possible the LEMC will meet to discuss recovery implications including the need for a Local Recovery Committee. The LEMC will consider any impact assessment in determining the need for recovery arrangements. This is conveyed in the first instance to the State Emergency Operations Controller (SEOCON) for confirmation with the State Emergency Recovery Controller (SERCON).
- 4.1.3 The Lord Howe Island NSW SES Unit Commander and Local Emergency Operations Controller (LEOCON) attend recovery meetings to provide an overview of the emergency response operation.
- 4.1.4 The NSW SES Region Incident Controller, the Region Emergency Management Officer (REMO) and appropriate District Functional Area Coordinators will be invited to the initial local meeting and to subsequent meetings as required.

4.2 ARRANGEMENTS FOR DEBRIEFS / AFTER ACTION REVIEWS

- 4.2.1 As soon as possible after any tsunami warnings have abated, the Lord Howe Island NSW SES Unit Commander will advise participating organisations of details of response operation after action review arrangements.
- 4.2.2 The Lord Howe Island NSW SES Unit Commander will ensure that adequate arrangements are in place to record details of the after-action review and each item requiring further action is delegated to an organisation or individual to implement.
- 4.2.3 Follow-up to ensure the satisfactory completion of these actions will be undertaken by the Lord Howe Local Emergency Management Committee.

ANNEX A - The Tsunami Threat

1. **Offshore source** - Offshore earthquakes generated close to the Lord Howe coast can produce tsunami. Available warning time from generation to the initial point of impact may be as short as five minutes. If a strong earthquake is felt in a coastal area (i.e. ground shaking lasting 20 seconds or longer), consideration should be given to the immediate local warning and evacuation of potentially affected communities. Another environmental signal may be a noticeable rise or retreat of coastal waters.
2. **Local source** - Local tsunami can also be produced by submarine or coastal landslides for which there will be no warning time for communities immediately adjacent to the landslide. Some warning time may be available for communities north and south of the initial point of impact depending upon how quickly the event is recognised as a tsunami.
3. **Regional sources** – Regional earthquake sources are major contributors to the tsunami threat facing NSW. The largest sources are the Vanuatu Trench, Tonga-Kermadec Trench and the Puysegur Trench
4. **Distant sources** – Distant earthquakes from Chile have the potential to generate tsunami which can affect Lord Howe Island. The subduction zones of Japan and South East Asia do not appear to be capable of generating very large (greater than magnitude 8.5) subduction earthquakes, and their locations and orientations tend to reduce tsunami wave amplitudes.

WARNING TIME

- a) Lord Howe Island will have shorter warning time than the NSW coast for tsunami generated closer to the Island than the NSW coast.
- b) Both marine and land-based elements are vulnerable to tsunami. It is likely that all significant tsunami (i.e. those that are noticeable) will affect marine based elements and cause damage to land based elements.
- c) Indirect affects as a result of tsunami impact may include loss of essential services, communication failures, supply shortages, isolation of Island, loss of agricultural productivity, business disruption, social effects and disease

TRAVEL TIMES

Epicentre	Approx. Travel time (Hrs.)
Macquarie Islands	2
New Zealand	3
Tonga	9
Chile	13
Alaska	17

CATEGORIES OF THREAT LEVELS WITHIN TSUNAMI WARNINGS

- a. In order to assist the community, tsunami threat levels in Regional Tsunami warnings are categorised into three levels with required community responses; these have been determined in consultation with emergency management authorities.
- b. These Threat are:

No Threat	Marine and Immediate Foreshore Threat	Land Inundation Threat
An undersea earthquake has been detected; however it has not generated a tsunami, or the tsunami poses no threat to Australia and	Warning of potentially dangerous waves, strong ocean currents in the marine environment and the possibility of only some localised overflow onto the immediate foreshore.	Warning for low-lying coastal areas of major land inundation, flooding, dangerous waves and strong ocean currents.

d)

ANNEX B - Community Response Guidelines



TSUNAMI RESPONSE GUIDELINES for the Lord Howe Island Community

The purpose of these guidelines is to inform you what to do and where to go if a Tsunami Warning Notice is issued. The chance of a tsunami is remote but if it should occur it can result in dangerous currents, unexpected tidal activity and severe flooding with dangerously fast-flowing water. To ensure your safety please read these guidelines carefully, keep them in a visible location and refer to them periodically. Ensure that all members of your household including children and the elderly understand these guidelines.

Marine Warning - Blue

- The local emergency authority will advise people in threatened areas to get out of the water and move away from the immediate water's edge.
- **Marine warnings will be broadcast by VHF radio via channel 12, by phone to businesses involved in marine activities, by fax to lodges and in person by emergency service personnel and volunteers to people in the foreshore areas.**
- Assist the emergency services by checking that your neighbours have received the advice.
- Boats in shallow water should return to shore. Secure your boat and move away from the waterfront.
- Vessels at sea should stay offshore in deep water until further advised.
- Do not go to the foreshore to watch for a tsunami as there is the possibility of dangerous localised land inundation of the immediate foreshore.

Land Warning - Red

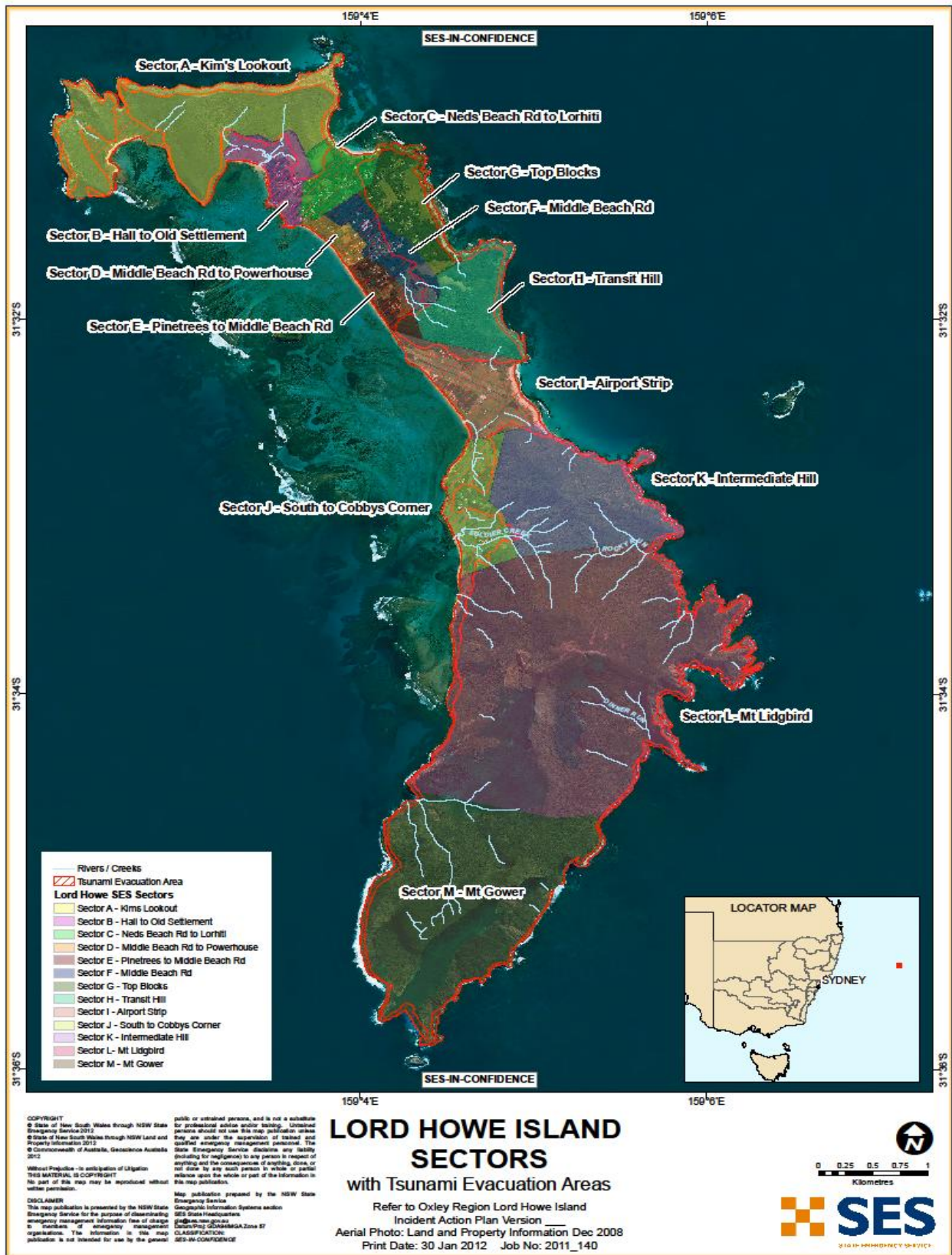
- The local emergency authority will order the evacuation of low-lying parts of the Island.
- **Land warnings will be broadcast by VHF radio via channel 12, by phone to residents and businesses, by fax and in person by emergency service personnel and volunteers. In the event of a land warning emergency vehicle sirens will be employed and other vehicle horns sounded intermittently –vehicles owners are encouraged to assist with this method of audible warning during the evacuation period.**
- Assist the emergency services by checking that your neighbours have received the advice.
- All residents and visitors should immediately make their way to the nearest evacuation Assembly Area (identified overleaf). Visitors refer to your accommodation provider's evacuation plan.
- Take with you only essential items including medical needs, warm clothing, important papers etc.
- If you are unable to make way to one of the identified evacuation Assembly Area's evacuate to the nearest high ground, preferably at least 10 meters above sea level.
- Carry out instructions issued by authorities and under no circumstances attempt to return to low lying areas until the Warning has been officially cancelled

Further Advice

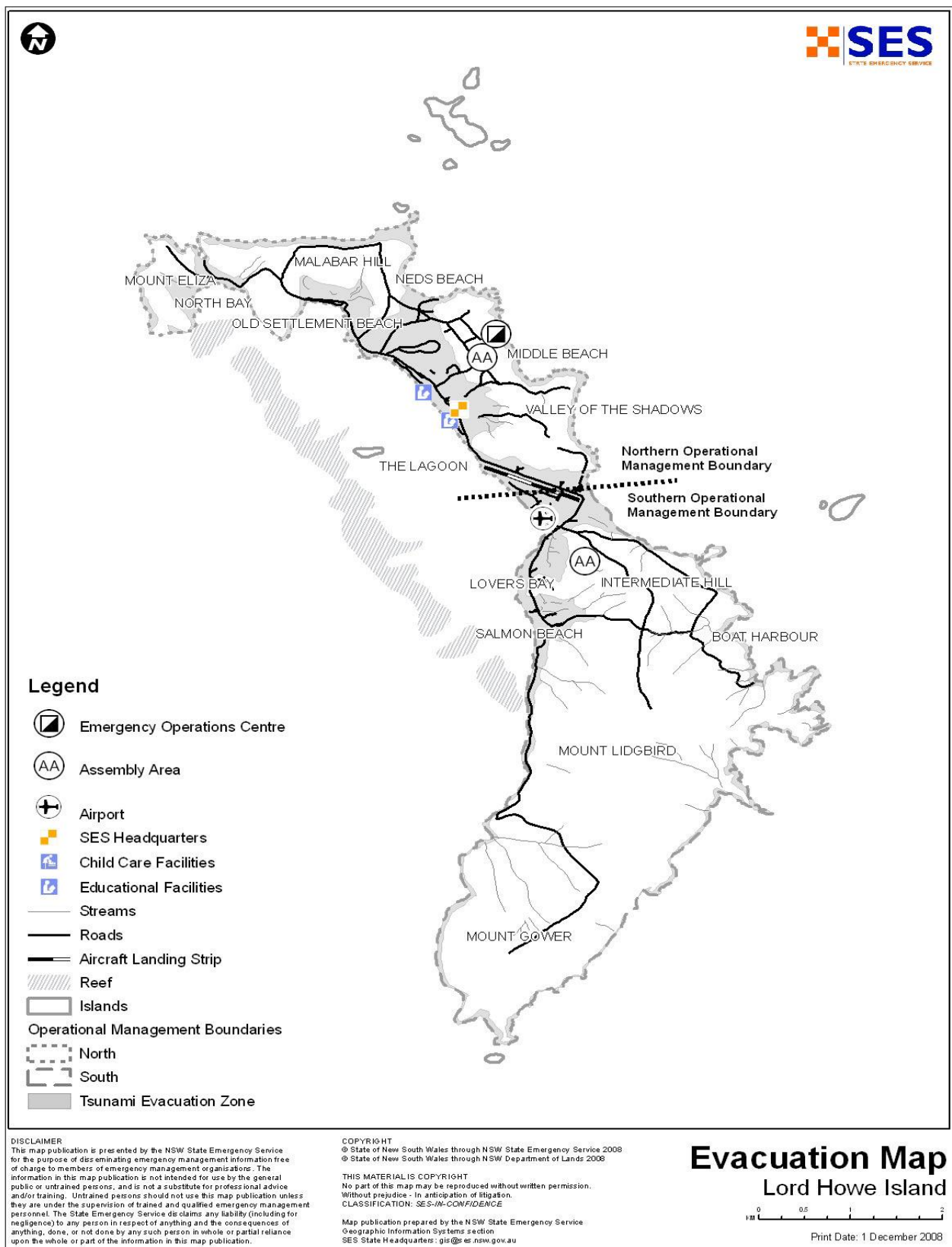
- Warnings are published online at the BOM website at www.bom.gov.au/tsunami.
- In the event of a Tsunami Warning on Lord Howe Island DO NOT rely on television /radio broadcasts for information as it may be misleading.
- The BOM is responsible for cancellation of Tsunami Warnings. The Lord Howe Island emergency authorities will confirm cancellation of a tsunami warning for Lord Howe Island.

CAUTION: Tsunami waves are more powerful than the same size beach waves, with the first wave not necessarily being the largest

LORD HOWE ISLAND SECTOR MAP



LORD HOWE ISLAND EVACUATION MAP



LORD HOWE ISLAND NSW SES TSUNAMI RESPONSE ARRANGEMENTS

Volume 2

(NSW SES Response Arrangements for Lord Howe Island Tsunami Plan)

AUTHORISATION

NSW SES Response Arrangements in LHI Tsunami Plan has been prepared by the NSW State Emergency Service (NSW SES) as part of a comprehensive planning process.

Approved

Manager Emergency Risk Management

Date:



Approved

NSW SES Mid North Coast Region Controller

Date:

Tabled at LEMC

Date: 22/05/2013

CONTENTS

AUTHORISATION	1
CONTENTS	2
LIST OF TABLES	2
1. RESPONSE ACTIONS	3
2. SECTOR OVERVIEW	4

LIST OF TABLES

TABLE 1: OVERVIEW OF SECTORS IN THE LORD HOWE ISLAND.	5
--	---

1. RESPONSE ACTIONS

Tsunami Watch

Upon Receipt of Watch

1. Put all personnel on Standby only
2. Obtain briefing from Region Operations
3. Brief LEMO & CEO
4. Undertake further actions as directed by Region Operations

Request to LEOC LO

5. Advise possible closure of beaches

Marine and Immediate Foreshore Threat

Upon Receipt of Warning

6. Activate Unit Operations Centre
7. Activate all personnel
8. Obtain briefing from Region Operations
9. Brief Police, LEMO & CEO and request activation of LEOC
10. Request a LEOC LO at SES HQ
11. Call vulnerable facilities list and provide advice as per CSA on warning
12. Notify Region Operations of actions taken and provide situation report
13. Undertake further actions as directed by Region Operations
14. Establish VHF channel 12
15. Prepare Forward Command Post Equipment if needed.

Request to LEOC LO

16. Closure of all beaches
17. Restrict access to beach and estuary areas
18. Securing of all moorings
19. Dissemination of warning to vessels
20. Put evacuation Centre on Standby

Land Inundation Threat

Upon Receipt of Warning

21. Activate Unit & Board
22. Activate all personnel
23. Relocate & Establish Command post at old met Site with Command Tent
24. Obtain briefing from Region Operations
25. Brief Police and LEMO, CEO
26. Call vulnerable facilities & Priority 1 properties and request they evacuate to high land
27. Within the hour notify Region Operations of actions taken and provide SITREP
28. Undertake further actions as directed by Region Operations
29. Establish Communication system with Satellite phone to MNR Region NSW SES.

Request to LEOC LO

30. Closure of all beaches
31. Evacuation required in areas identified in tsunami evacuation map
32. Allocate evacuation sectors to agencies
33. Allocate required transport to highest risk areas
34. Restrict access to beach and estuary areas
35. Securing of all moorings
36. Dissemination of warning to vessels
37. Open evacuation centre
38. Emergency resources are removed to Old Met Site
39. Lord Howe Island Board to relocate fire truck, pumps, NSW SES trailer, marquee, satellite telephone and necessary vehicles
40. Relocate aviation fuel and refuelling tractor and tank to helicopter landing zone located at the Golf Course
41. Warn and evacuate low-lying areas via voice reach, doorknocking and mobile public address

2. SECTOR OVERVIEW

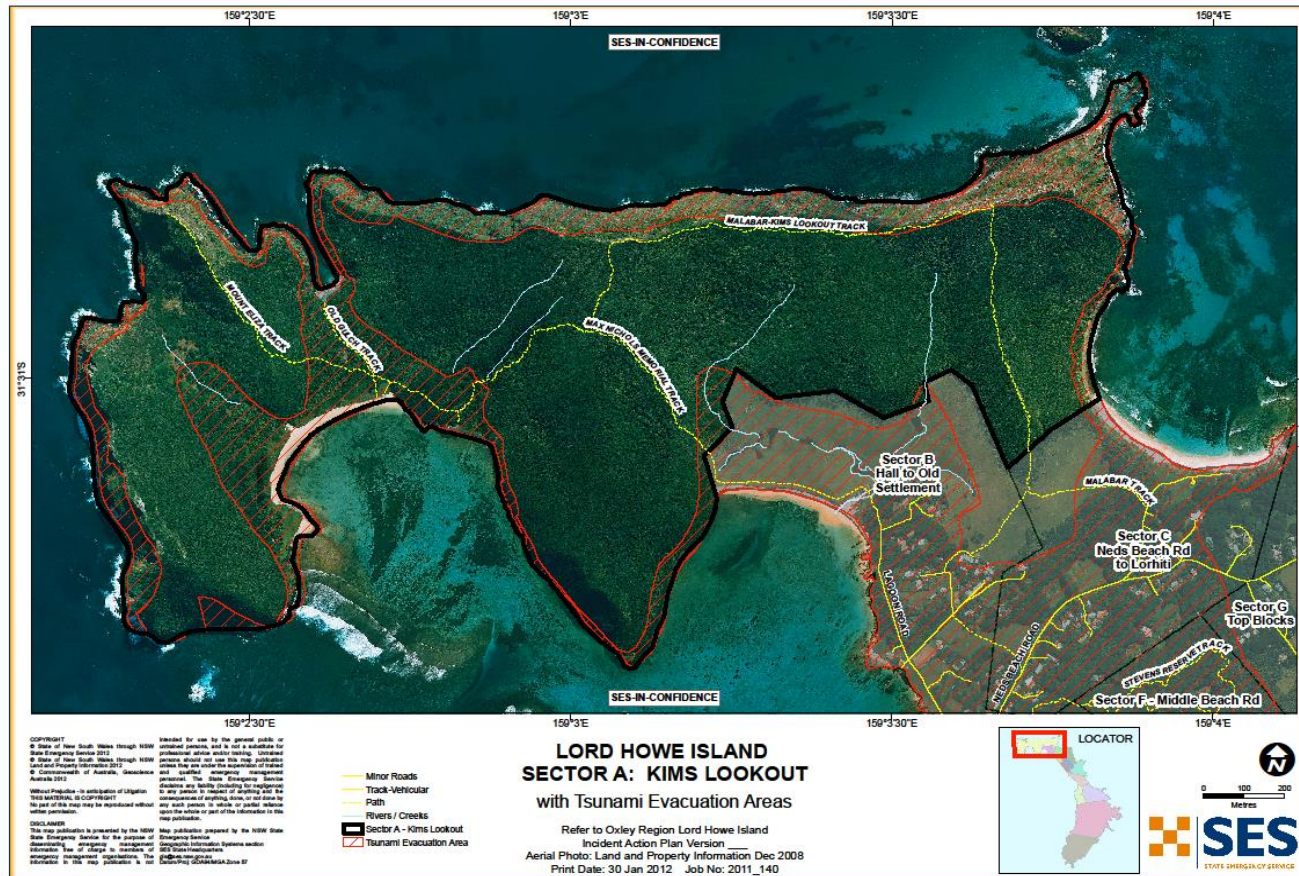
	Sector	Sector Name	Sector Risk	Property at Risk	Risk
North Division	A	Kim's Look Out	Low Risk	Nil	This sector is the Northern end of the Island and climbs to heights of 160meters. The area is generally forest\Bushland with tracks for walkers.
	B	Community Hall – Old Settlement Site	High Risk	15	This sector commence below the 10 m contour and up to the 20 m contour line. There are a number of Lodges and business in this area. The area is open and covers from the beach to the crash site of the Catalina aircraft
	C	Ned's beach Rd - Lorhiti	HighRisk	18	This sector starts below the 10 m contour and is a raising road to above the 20 m contour line. The lower part of this sector contains many small business and shops for the Island.
	D	Middle Beach Rd – Power House	High Risk	33	This sector is below the 10m contour line and is at high risk. The Island power generators room is located here
	E	Pine trees to middle beach road	High Risk	21	This sector is below the 10m contour line and is at high risk. The Island main office is located here along with the Hospital
	F	Middle Beach Rd.	Medium Risk	15	This Sector is between the 10m contour and the 20 m contour, it covers the centre of the Island living area that feeds off Middle Beach rd.
	G	Top Blocks	Low Risk	Nil	This sector is above the 20 m contour line and holds two Assembly points for the northern end of the Island.
	H	Transit Hill	Low Risk	Nil	This Sector is between the 10m contour and the 20 m contour. The area is generally forest\Bushland with tracks for walkers
South Division	I	Airport Strip	High Risk	11	This sector sits below the 10m contour line and is at high risk. This sector is the main transport into and off the Island. The airport is located here and access would be lost for any incoming support.
	J	South to Cobbys corner	High Risk	11	This sector commences below the 10 m contour line and raise to above the 20 m contour line. The at risk sector contains a number of residents and the Evacuation point is at the Golf Club hose which is above the 10m line.
	K	Intermediate hill	Low Risk	Nil	This Sector is between the 10m contour and the 250 m contour. The area is generally forest\Bushland with tracks for walker
	L	Mt Lidgbird	Low Risk	Nil	This Sector is between the 10m contour and the 777m contour. The area is generally forest\Bushland with tracks for walkers.

	M	Mt Gower	Low Risk	Nil	This Sector is between the 10m contour and the 777m contour. The area is generally forest\Bushland with tracks for walkers.
Table 1: Overview of Sectors on Lord Howe Island. These Sectors provide further detail of the planned response strategies within Communities.					

Sector A– Kim's Lookout

Community: Lord Howe Island North
 Management Sector: Sector A
 At Risk Population: Nil
 Flood Affect Classification: High Flood Island – Low Risk Sector

Sector Description:	
This sector is the Northern end of the Island and climbs to heights of 160meters. The area is generally forest\Bushland with tracks for walkers.	
Key Risks / Consequences	
Hikers using trails Swimmers at North beach Access is difficult to this area	
Evacuation/Assembly Point	Evacuation Routes
Evacuate to high ground	Pathways only
Accommodation within Sector – Isolated/Inundated	
Nil	
At Risk Properties – Critical Infrastructure	
Nil	



SECTOR B- HALL TO OLD SETTLEMENT

Community: Lord Howe Island North
 Management Sector: Sector B
 At Risk Population: 15 properties
 Tsunami Affect Classification: Low Flood Island - **High Risk Sector**

Sector Description:

This sector starts below the 10 m contour and is a raising road to above the 20 m contour line. The lower part of this sector contains many small business and shops for the Island.

Key Risks / Consequences

Most Commercial business are in this sector

Evacuation/ Assembly Point

Ocean View
 Lodge
 Old met Site –

Evacuation Routes

Ocean View Rd
 Skyline Drive

Accommodation within Sector – Isolated/Inundated

Blue lagoon - At Risk of Inundation

At Risk Properties – Critical Infrastructure

Commercial businesses



Sector B - Properties Contact:

Rick Rating & Zone

- 1 RED** = Below 10m Contour Line
2 YELLOW = Between 10m & 20m Contour Line
3 GREEN = Above 20m Contour Line

Property Classification (Class)

- R= Residential**
B = Business
L = Lodge
C = Commercial

Zone	PHONE	NAME/PREMISES	CLASS
1	2018	LARRY & LIZ WILSON	R
1	2280	WILSON FLAT - GUSSY FOOTE	R
1	2002	BILL & JANN SHEAD - ARAJILLA	L
1	2249	ARAJILLA STAFF	R
1	2012	BRIAN & ANNETTE YOUNG - MILKY WAY	L
1	2338	JOZETTE YOUNG	R
1	2305	WESLEY YOUNG	R
1		MILKY WAY - STAFF ACCOMMODATION	R
1	2052	JOHN GREEN - WHISPERING HILLS other dwellings??	R
1	2447	ZOE LM MURRAY - IAN HUTTON & JEANNIE BARTRAM	R
1		P&N THOMPSON - MANAGERS FLAT	R
1		P&N THOMPSON - PACKING SHED	C
1	2268	ADRIAN SKEGGS - ANTHONY & EMILY RIDDLE	R
1	2123	RADIO STATION	C
1	2009	JETTY SHED	C

Zone	PHONE	NAME/PREMISES	CLASS
2	2221	KATHERINE DIGNAM & BARRIE WISE	R
2	2041	OCEANVIEW	L
2	2312	OCEANVIEW STAFF - D CRSIP	R
2	2383	EVE WILSON	R
2	2130	JOHN WILSON	R
2	2425	SCOTT WILSON	R
2	2278	GRANT & MAGS DEVINE	R
2	2182	KEVIN WILSON	R
2	2375	CHAD WILSON - ANTHONY & LIZ WRIGHT	R
2	2446	CHAD WILSON	R
2	2443	SUE WILSON - KEITH & KELLY GALLOWAY	R
2	2189	BRUCE STACEY	R
2	2292	PAULINE SKEGGS	R
2	2337	P SKEGGS FLAT - KEN LEES	R
2	2233	RA WILSON & E GOWAN	R
2	2404	GEORGE & ROBYN WARNER	R

SECTOR C- NEDS BEACH ROAD TO LORHITI

Community: Lord Howe Island North
 Management Sector: Sector C
 At Risk Population: 18 properties
 Tsunami Affect Classification: Low Flood Island – **Medium Risk Sector**

Sector Description:

This sector starts below the 10 m contour and is a raising road to above the 20 m contour line. The lower part of this sector contains many small business and shops for the Island.

Key Risks / Consequences

Most Commercial business are in this sector

Evacuation / Assembly Point

Ocean View Lodge
 Old met Site
 –

Evacuation / Assembly Point

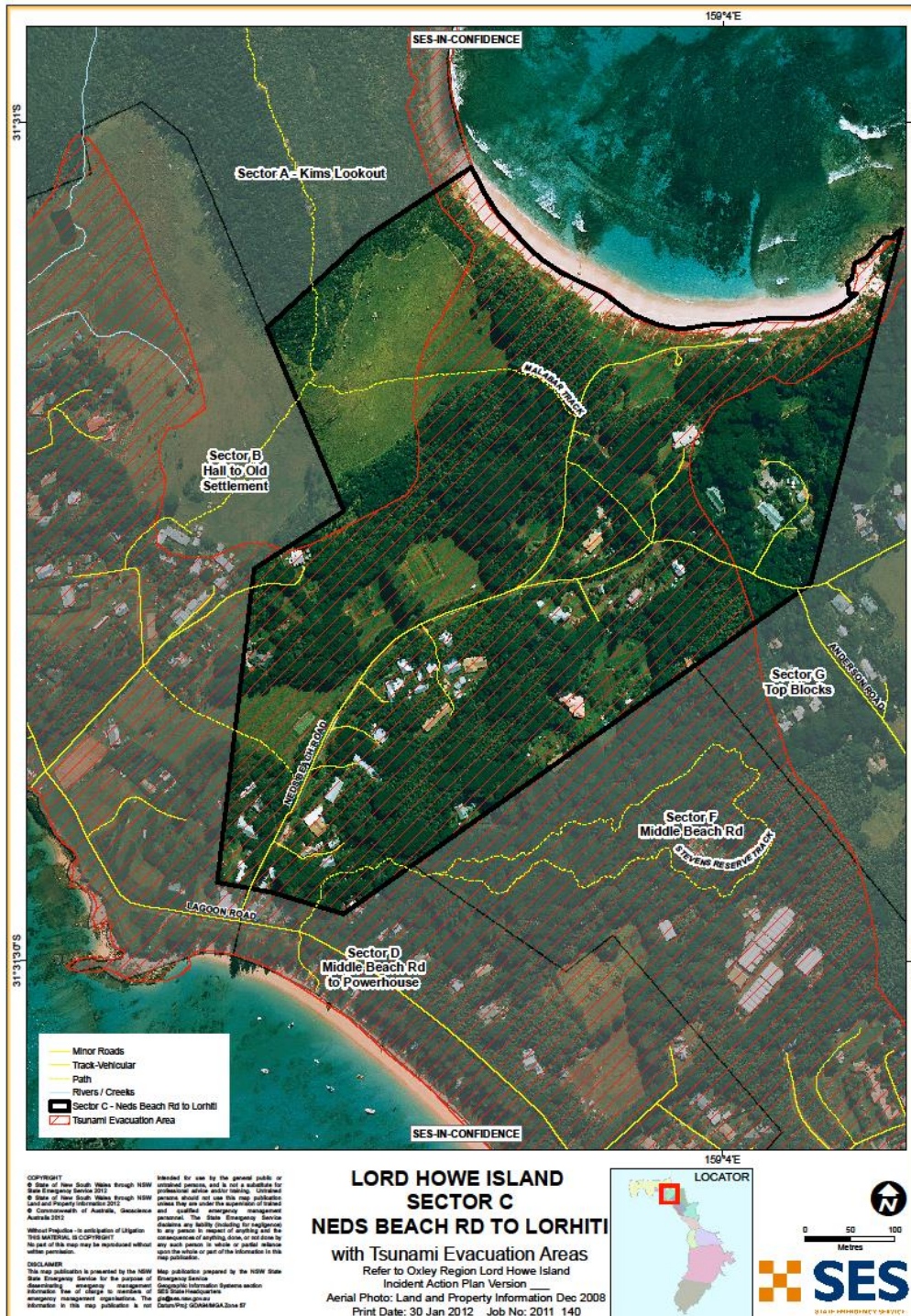
Ocean View Lodge
 Old met Site
 –

Accommodation within Sector – Isolated/Inundated

Blue Lagoon - At Risk of Inundation

At Risk Properties – Critical Infrastructure

Commercial Businesses
 Post office
 General Store



Sector C - Properties Contact:

Rick Rating & Zone

- 1 RED** = Below 10m Contour Line
2 YELLOW = Between 10m & 20m Contour Line
3 GREEN = Above 20m Contour Line

Property Classification (Class)

- R= Residential**
B = Business
L = Lodge
C = Commercial

Zone	PHONE	NAME/PREMISES	CLASS
1	2361	P&N THOMPSON - KIM & SCOTT ALLAN	R
1	2006	BLUE LAGOON	L
1	2155	THOMPSONS STORE	C
1	2102	BLUE LAGOON - CRAIG THOMPSON	R
1		CA WILLIAMS & SF MEDWELL	R
1	2219	BRUCE THOMPSON - BOTTOM HOUSE	R
1	2152	DES & BETTY THOMPSON	R
1	2163	RODNEY & HEATHER THOMPSON	R
1	2269	ROB & CAROL RATHGEBER	R
1	2043	MICHAEL & DEBRA THOMPSON	R
1	2287	HUMPTY MICKS	C
1	2086	LARRUPS	C
1	2235	NATHAN THOMPSON	R
1	2235	NATHAN THOMPSON - GHETTO	R
1	2033	POST OFFICE	C
1	2373	COOP	C
1	2140	NOT JUST A SALON	C
1	2417	SIGNAL	C

Zone	PHONE	NAME/PREMISES	CLASS
2	2283	ROSEANNE & WARREN O'BRIEN	R
2	2061	SOMERSET APARTMENTS	L
2	2082	BARRY & MARIE THOMPSON	R
2	2247	PETER & JANINE PHILLIPPS	R
2		BRUCE THOMPSON - TOP HOUSE	R
2	2364	TONY CAMERON	R
2	2464	GAIL CAMERON	R
2	2475	TIM & ANNE KENNEDY	R
2		KENNEDY - FLAT	R
2	2257	JAMES THOMPSON	R
2	2085	SEO RESIDENCE - GREG & LEONIE HIGGINS	R
3	2081	GARY & DIANE OWENS - LORHITI	L
3	2345	LORHITI CARETAKER	R
3	2106	LORHITI - STEVEN & JANET SIA	R

SECTOR D- MIDDLE BEACH ROAD TO POWERHOUSE

Community: Lord Howe Island North
 Management Sector: Sector D
 At Risk Population: 33 properties
 Tsunami Affect Classification: Low Flood Island – **High Risk Sector**

Sector Description:

This sector is below the 10m contour line and is at high risk. The Island power generators room is located here.

Key Risks / Consequences

Evacuation / Assembly Point	Evacuation / Assembly Point
Ocean View Lodge	Ocean View Rd
Old met Site -	Skyline Drive

Accommodation within Sector – Isolated/Inundated

Howeana Apartments – At Risk of Inundation

At Risk Properties – Critical Infrastructure

Power house
 Museum
 All tourist operators' offices.



Sector D - Properties Contact:

Rick Rating & Zone

- 1 RED** = Below 10m Contour Line
2 YELLOW = Between 10m & 20m Contour Line
3 GREEN = Above 20m Contour Line

Property Classification (Class)

- R= Residential**
B = Business
L = Lodge
C = Commercial

Zone	PHONE	NAME/PREMISES	CLASS
1	2147	JAMES & KARA LONERGAN - TENANTS?	R
1	2134	J RIDDLE - LUKE & AMY HICKEY	R
1	2026	TAS & VERONICA DOUGLASS SNR	R
1		DOUGLASS - FLAT	R
1		BILL & JANN SHEAD - BLUE PETERS	C
1	2203	PATRICIA DIGNAM	R
1	2075	HAZEL & VICKY PAYTEN	R
1	2236	HAZEL PAYTEN - KEVIN WYBORN	R
1	2045	CAMPBELL & MICHELLE WILSON	R
1	2035	NORM & DAPH SIMPSON	R
1	2342	STEPHEN SIMPSON	R
1	2036	JOYCE AND GARRY PETHERICK	R
1	2034	JAMIE & BETTY ELLIOTT	R
1	2016	JAMES LONERGAN SNR.	R
1	2142	LOIS WHISTLER	R
1	2158	LOIS WHITLER - HOWEANA APARTMENTS ??	L
1	2363	BERT & YVETTE SIMPSON	R

Zone	PHONE	NAME/PREMISES	CLASS
1	2396	MTS RESIDENCE	R
1	2424	PRINCIPALS RESIDENCE - MOSTERT	R
1	2462	TEACHER FLAT - MORRIS	R
1	2442	TEACHER FLAT - TILBROOK	R
1	2046	BOM OIC RESIDENCE	R
1	2199	POLICE RESIDENCE	R
1	2298	BUSTEED'S BOAT SHED	C
1	2326	LHI ENVIRO TOURS BOATSHED	C
1	2448	MARINE ADVENTURES BOATSHED	C
1	2253	PRO-DIVE BOATSHED	C
1	2080	POWERHOUSE	C
1	2065	BRIAN & SHIRLEY SIMPSON	R
1	2255	KENNY SIMPSON	R
1	2111	MUSEUM	C
1	2114	VIC	C
1		DOLLS HOUSE	R
1			

SECTOR E – PINETREES TO MIDDLE BEACH ROAD

Community: Lord Howe Island North
 Management Sector: Sector E
 At Risk Population: 21 properties
 Tsunami Affect Classification: Low Flood Island – **High Risk Sector**

Sector Description:

This sector is below the 10m contour line and is at high risk. The Island main office is located here along with the Hospital

Key Risks / Consequences

Tsunami Inundation
 Loss of Key agencies buildings.

Evacuation / Assembly Point	Evacuation / Assembly Point
Ocean View Lodge Old met Site -	Ocean View Rd Skyline Drive

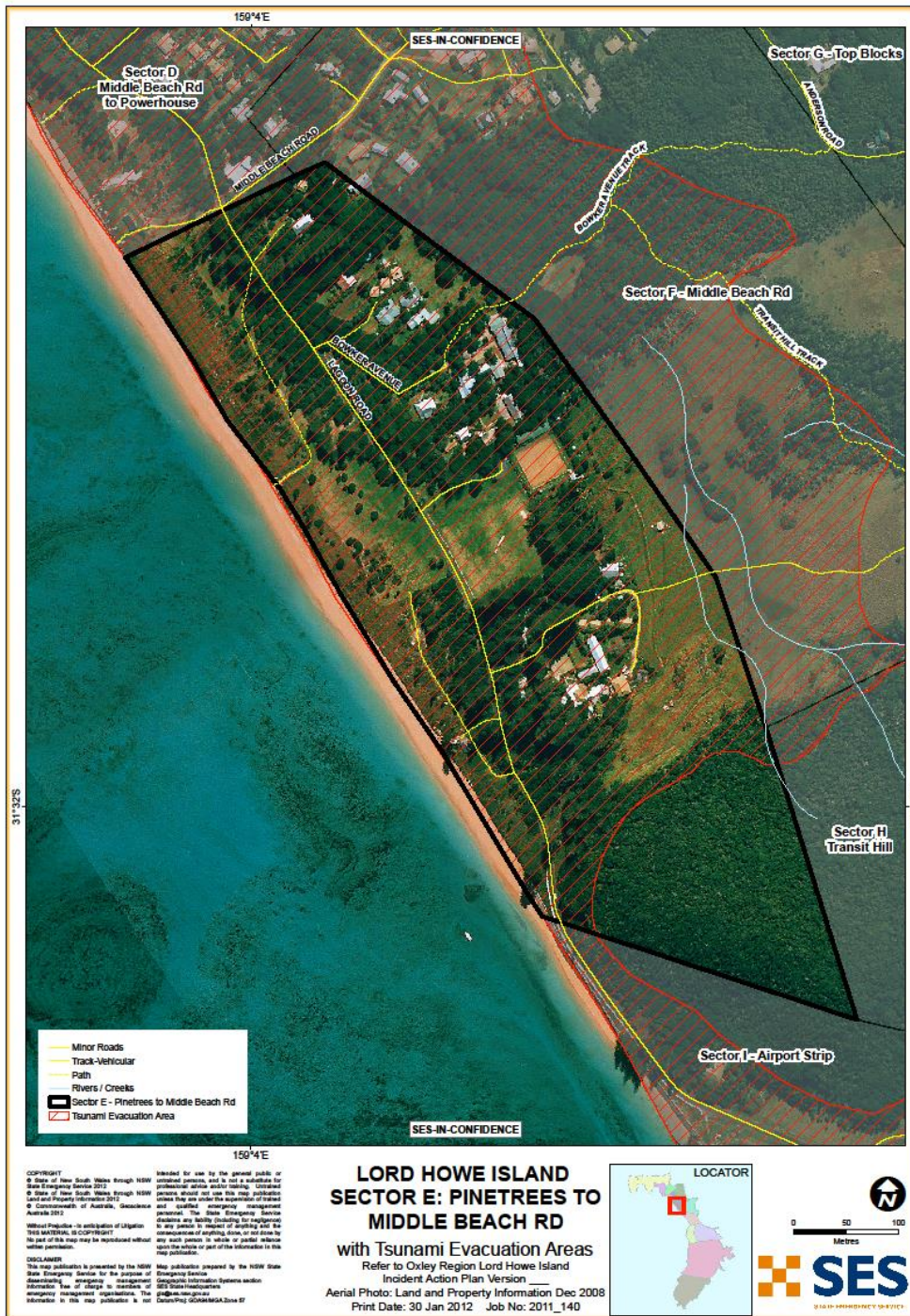
Accommodation within Sector – Isolated/Inundated

Pine Trees – At Risk of Inundation

Mary Challis - At Risk of Inundation

At Risk Properties – Critical Infrastructure

School
 LHI Board Depot
 Hospital – Relocate to Earls Anchorage.
 SES HQ
 RFS HQ
 Various Govt. businesses



Sector E - Properties Contact:

Rick Rating & Zone

- 1 RED** = Below 10m Contour Line
2 YELLOW = Between 10m & 20m Contour Line
3 GREEN = Above 20m Contour Line

Property Classification (Class)

- R= Residential**
B = Business
L = Lodge
C = Commercial

Zone	PHONE	NAME/PREMISES	CLASS
1	2177	MCFADYEN/ROURKE - PINETREES	L
1	2097	PINETREES GENERAL MANAGER	C
1	2330	LISA MAKIITI & ROD OXLEY	R
1	2076	BILL & GINNY RETMOCK - MARY CHALLIS	L
1	2010	RON & SAM MATTHEWS	R
1		BRUCE & KERRY McFADYEN	R
1	2096	SCHOOL	C
1	2066	LHI BOARD DEPOT	C
1	2412	LHIB LIQUOR STORE	C
1	2359	MARINE PARKS	C
1	2166	COMMONWEALTH BANK	C
1	2169	GOVERNMENT HOUSE	R
1	2000	HOSPITAL	C
1	2291	HOSPITAL FLATS	R
1	2225	MGR EWH RESIDENCE	R
1	2056	DOCTORS RESIDENCE	R
1	2049	SDA CHURCH RESIDENCE	R

SECTOR F – MIDDLE BEACH ROAD

Community: Lord Howe Island North
 Management Sector: Sector F
 At Risk Population: 15
 Tsunami Affect Classification: Raising Road Access – **Medium Risk Sector**

Sector Description:

This Sector is between the 10m contour and the 20 m contour; it covers the center of the Island living area that feeds off Middle Beach Rd.

Key Risks / Consequences

Congestion

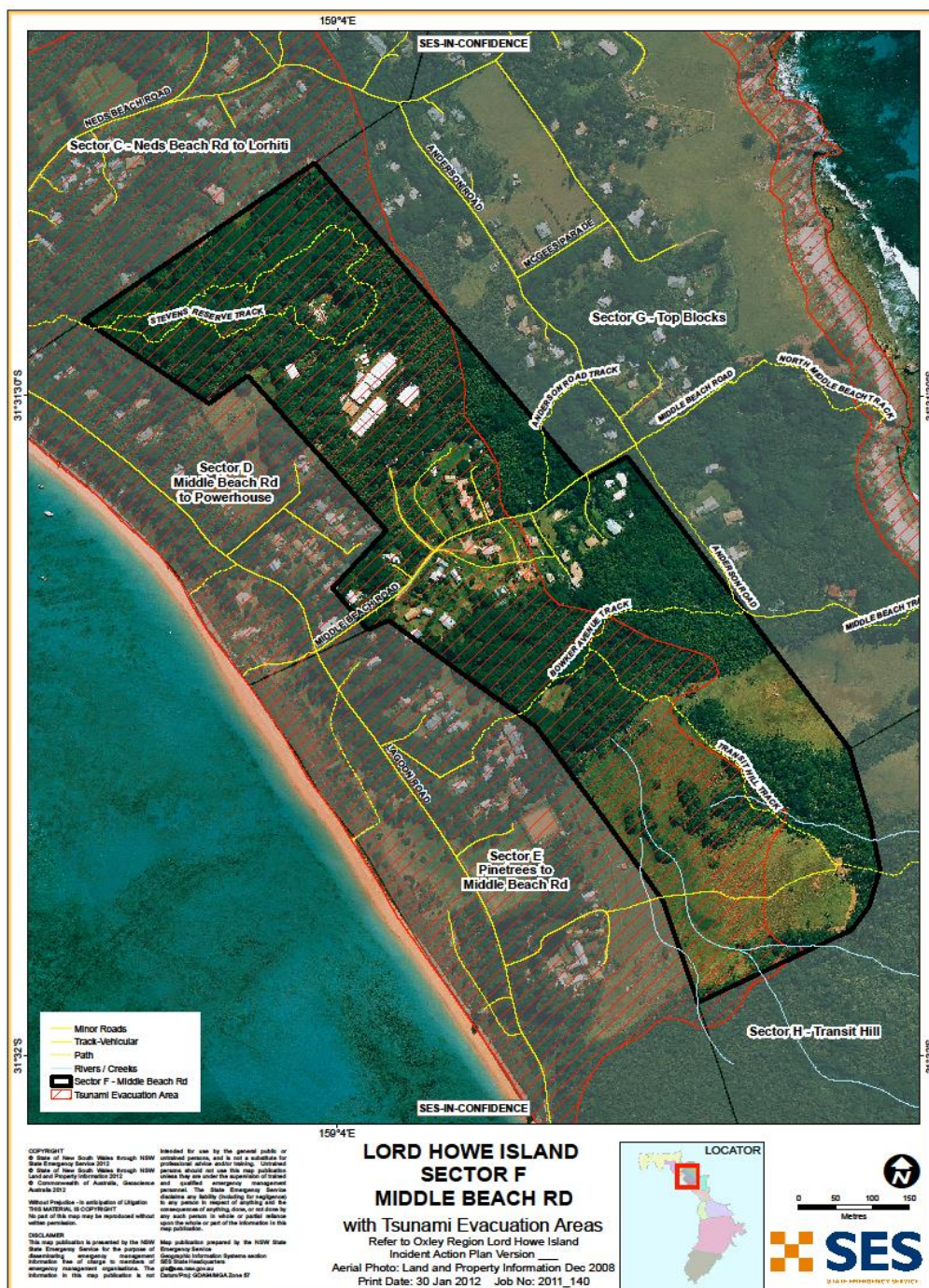
Evacuation / Assembly Point	Evacuation / Assembly Point
Ocean View Lodge Old met Site -	Ocean View Rd Skyline Drive

Accommodation within Sector – Isolated/Inundated

N/A

At Risk Properties – Critical Infrastructure

N/A



Sector F - Properties Contact:

Rick Rating & Zone

1 RED = Below 10m Contour Line

2 YELLOW = Between 10m & 20m Contour Line

3 GREEN = Above 20m Contour Line

Property Classification (Class)

R= Residential

B = Business

L = Lodge

C = Commercial

Zone	PHONE	NAME/PREMISES	CLASS
2	2094	JOY DAVIES	R
2	2121	JOYS SHOP	C
2		SYBILLA HUNZIGER	R
2	2084	NEIL & LORRAINE DERUSETT	R
2	2290	DERUSETT FLAT - BRIAN BUSTEED	R
2	2241	DERUSETT FLAT - ELEISHA THOMPSON	R
2	2362	COREY DAVIES	R
2	2477	DEANNA & ROSS HARVEY	R
2	2270	ANDREW WILSON	R
2	2195	LEANDA LEI	L
2	2161	LHIB NURSERY	
2	2417	RESEARCH FACILITY	R/C
3	2399	LOUISE WILSON & REX BYRNE - TIM & HONOR NORTHAM	R
3	2154	JEFF & CAROL DEACON	R

SECTOR G- TOP BLOCKS

Community: Lord Howe Island North
 Management Sector: Sector G
 At Risk Population: Nil
 Tsunami Affect Classification: High Ground -Low Risk Sector

Sector Description:

This sector is above the 20 m contour line and holds the two evacuation points for the northern end of the Island.

Key Risks / Consequences

Congestion

Evacuation / Assembly Point	Evacuation / Assembly Point
-----------------------------	-----------------------------

Ocean View Lodge Old met Site -	Ocean View Rd Skyline Drive
---------------------------------------	--------------------------------

Accommodation within Sector - Isolated/Inundated

N/A

At Risk Properties - Critical Infrastructure

Nil



Sector G - Properties Contact:

Rick Rating & Zone

1 RED = Below 10m Contour Line

2 YELLOW = Between 10m & 20m Contour Line

3 GREEN = Above 20m Contour Line

Property Classification (Class)

R= Residential

B = Business

L = Lodge

C = Commercial

Zone	PHONE	NAME/PREMISES	CLASS
3	2135	GOWER & THELMA WILSON	R
3	2445	MICHAEL & CAROL NOBBS	R
3		DEON NOBBS	R
3	2133	MAY SHICK RES 2 - DEBBIE & PAUL SMITH	R
3		MAY SHICK RES 2 FLAT - GRANT & STEVE	R
3	2185	GARY & VIVIENNE CROMBIE	R
3	2263	CROMBIE STAFF FLAT - AUDREY & DAMIEN BALL	R
3	2434	CROMBIE STAFF FLAT - JODI BILLS	R
3		CROMBIE STAFF FLAT - ?	R
3	2266	CLIVE & BETH WILSON	R
3	2013	TIA & JANELLE MAKIITI	R
3	2441	MAKIITI FLAT - ASH & BUSHY	R
3	2112	YSOBEL HEFFERNAN	R
3	2265	GAI WILSON	R
3	2268	PETER & JUDY RIDDLE	R
3		RIDDLE - FLAT	R
3	2091	UNA PAYTEN	R
3	2224	PETER & THERESE TURNER	R
3	2208	JOHN GREEN - DAVE & GLENYS GARDINER	R
3		JOHN GREEN FLAT - STAFF	R
3		JOHN GREEN FLAT - STAFF	R
3	2029	EARLS ANCHORAGE	L
3	2192	M & J MAXWELL, J & C BABCOCK - LIZ STEVENSON PANDANUS APARTMENTS	L
3	2318	STUART KING - DIANE PARTRIDGE	R
3		STUART KING FLAT - Dominic & Janice	R
3	2365	STUART KING FLAT - RODNEY SWAIN	R
3	2024	BARBARA ARDILL - BROKEN BANYAN	L
3	2202	GEOFF & JULIA THOMPSON	R
3	2054	NEIL & VAL TURK - HIDEAWAY	L
3	2202	GEOFF & JULIA THOMPSON	R

Zone	PHONE	NAME/PREMISES	CLASS
3	2325	JANN GARTON	R
3	2284	GARTON FLAT FLAT - DOMINIC & JANICE CHIA	R
3	2063	LES & DULCIE KING	R
3	2204	LES KING - JOHN & BRONWYN TOFAEONO	R
3	2064	WALLY WOOLNOUGH	R
3	2023	JULIE BRETNALL - EBBTIDE	L
3	2311	EMMA CROMBIE & SEAN O'HEHIR	R
3	2021	PETER & VICKY BUSTEED	R
3	2346	BUSTEED FLAT - BOB & ROBBIELEE PHELAN	R
3	2387	DECC - IAN & KATHY KERR	R
3	2214	DEAN & ROSLYN HISCOX	R
3	2326	JILL & KEN HISCO	R
3	2120	TERRY & MERJE WILSON - KATHY SHERWOOD	R
3	2194	T WILSON FLAT - PAM GOYEN	R
3	2042	DICK & NOELLE HOFFMAN	R
3	2015	CHRIS & MARGARET MURRAY	R
3	2403	NONI LOW	R
3	2282	JEMIMA SPIVEY & CHRIS HASELDEN	R
3	2324	ELIZABETH PITTAR	R
3	2032	GARY PAYTEN - BEACHCOMBER	L
3	2229	GARY PAYTEN	R
3	2307	STEVE & GRACEY KRICK	R
3	2395	LINDA RETMOCK - AVRIL MOORES	R
3	2430	DANIEL & ANDREA YOUNG	R
3	2226	JAI SHICK	R
3	2117	NEVILLE PROUT	R
3	2025	DARRIN NOBBS	R
3	2119	GARY & VIVIENNE CROMBIE - DENISE TOKALAGI	R
3	2263	AUDREY & DAMIEN BALL	R
3	2332	MANGER OPERATIONS RESIDENCE	R
3	2242	MBCS RESIDENCE	R

SECTOR I – AIRPORT STRIP

Community: Lord Howe Island South
 Management Sector: Sector I
 At Risk Population: 11 Properties
 Tsunami Affect Classification: Low Flood Island – **High Risk Sector**

Sector Description:

This sector sits below the 10m contour line and is at high risk. This sector is the main transport into and off the Island. The airport is located here and access would be lost for any incoming support.

Key Risks / Consequences

Loss of airport and access to Island if runway compromised.

6 x Residential Properties
 5 x Commercial properties

Evacuation / Assembly Point

Golf Club

Evacuation / Assembly Point

Head South along lagoon road to Golf Club

Accommodation within Sector – Isolated/Inundated

N/A

At Risk Properties – Critical Infrastructure

Airport
 BOM Site
 Waste Management Facility



Sector I - Properties Contact:

Rick Rating & Zone

- 1 RED** = Below 10m Contour Line
2 YELLOW = Between 10m & 20m Contour Line
3 GREEN = Above 20m Contour Line

Property Classification (Class)

- R= Residential**
B = Business
L = Lodge
C = Commercial

Zone	PHONE	NAME/PREMISES	CLASS
1	2028	R SINCLAIR & R CURTIN	R
1	2017	MAY SHICK & DICK DAVIS	R
1	2206	MAY SHICK FLAT - TRACEY MILLS	R
1	2230	MAY SHICK - EASTERN AIRLINES	C
1	2087	STANLEY FENTON	R
1	2048	AIRPORT	C
1	2437	AIRPORT - QANTASLINK	C
1	2083	BOM	C
1	2309	WASTE MANAGEMENT FACILITY	C

Zone	PHONE	NAME/PREMISES	CLASS
2	2037	GARTH & SUE NICHOLS	R
2	2125	BARNEY NICHOLS	R
2	2474	BARNEY NICHOLS FLAT - DAVID NICHOLS	R
2	2146	IAN FITZGERALD	R
2	2220	DAPHNE NICHOLS	R
2	2072	DAPHNE NICHOLS FLAT - PETER HECK	R
2	2297	MATTHEW RETMOCK - SALLY ANN GUDGE	R
2	2304	SHARON & PETER VAN GELDEREN	R
2		SUZY GILLETTE -	R
2	2057	JIM AND MAVIS FITZGERALD - WAIMARIE	L
2	2239	FITZGERALD FLAT - TAS & LAUREN	R
3	2028	R SINCLAIR & R CURTIN	R
3	2017	MAY SHICK & DICK DAVIS	R
3	2206	MAY SHICK FLAT - TRACEY MILLS	R

SECTOR J – SOUTH TO COBBY CORNER

Community: Lord Howe Island South
 Management Sector: Sector J
 At Risk Population: 11 properties
 Tsunami Affect Classification: **High Risk Sector**

Sector Description:

This sector commences below the 10 m contour line and raise to above the 20 m contour line. The at risk sector contains a number of residents and the Evacuation point is at the Golf Club hose which is above the 10m line.

Key Risks / Consequences

11 x Properties at risk of Tsunami inundation
 Southern end at risk of Land slippage

Evacuation / Assembly Point	Evacuation / Assembly Point
Golf Club	Lagoon Rd

Accommodation within Sector – Isolated/Inundated

Capella Lodge– Isolated

At Risk Properties – Critical Infrastructure



Sector J - Properties Contact:

Rick Rating & Zone

- 1 RED** = Below 10m Contour Line
2 YELLOW = Between 10m & 20m Contour Line
3 GREEN = Above 20m Contour Line

Property Classification (Class)

- R= Residential**
B = Business
L = Lodge
C = Commercial

Zone	PHONE	NAME/PREMISES	CLASS
1		GOWER WILSON (EVIES) - CAPELLA STAFF	R
1	2143	RODNEY & KAREN GILES	R
1		LEON BRYCE & DOUG SPEEDY	R
1	2070	RAY & JUDY SHICK	R
1	2218	JACK & CINDY SHICK	R
1	2196	KEN & DOROTHY RYAN	R
1	2068	JUDY WILSON	R
1		JUDY WILSON - FLAT	R
1	2027	G MILLMAN & SA DOOGOOD	R
1	2067	MILLMAN/DOOGOOD FLAT - HELEN TIFFIN	R
1	2190	LANCE & DOROTHEA WILSON	R

Zone	PHONE	NAME/PREMISES	CLASS
2	2037	GARTH & SUE NICHOLS	R
2	2125	BARNEY NICHOLS	R
2	2474	BARNEY NICHOLS FLAT - DAVID NICHOLS	R
2	2008	JAMES & HAYLEY BAILLIE - CAPELLA LODGE	L
2	2126	NORMA WHITFIELD	R
2	2115	GREG & SHARON WHITFIELD	R
2	2173	GOLF CLUB - WRIGHTIES SHED	C
2	2179	GOLF CLUB	C
2	2008	JAMES & HAYLEY BAILLIE - CAPELLA LODGE	L
2	2126	NORMA WHITFIELD	R
2		ED & PIXIE ROURKE	R
3	2157	ESVEN FENTON	R
3	2101	RON & BEV OWENS	R
3	2390	OWENS FLAT - RON & JANET HUGHES	R
3	2258	SANDRA BEAUMONT	R
3	2184	DARYL & LYNDY SHICK	R
3		D & L SHICK FLAT	R

SECTOR K- INTERMEDIATE HILL

Community: Lord Howe Island South
 Management Sector: Sector K
 At Risk Population: Nil
 Tsunami Affect Classification: Raising Road access – **Low Risk Sector**

Sector Description:

This Sector is between the 10m contour and the 250 m contour. The area is generally forest\Bushland with tracks for walkers.

Key Risks / Consequences

Injured, Lost or stranded hikers

Evacuation / Assembly Point

Golf Club

Evacuation / Assembly Point

Lagoon Rd

Accommodation within Sector – Isolated/Inundated

Nil

At Risk Properties – Critical Infrastructure

Nil



SECTOR L– MT LIDGBIRD

Community: Lord Howe Island South
 Management Sector: Sector L
 At Risk Population: Nil
 Tsunami Affect Classification: Raising Ground – **Low Risk Sector**

Sector Description:

This Sector is between the 10m contour and the 777m contour, . The area is generally forest\Bushland with tracks for walkers

Key Risks / Consequences

Injured, Lost or stranded hikers

Evacuation
/
Assembly
Point

Golf Club

Evacuation
/
Assembly
Point

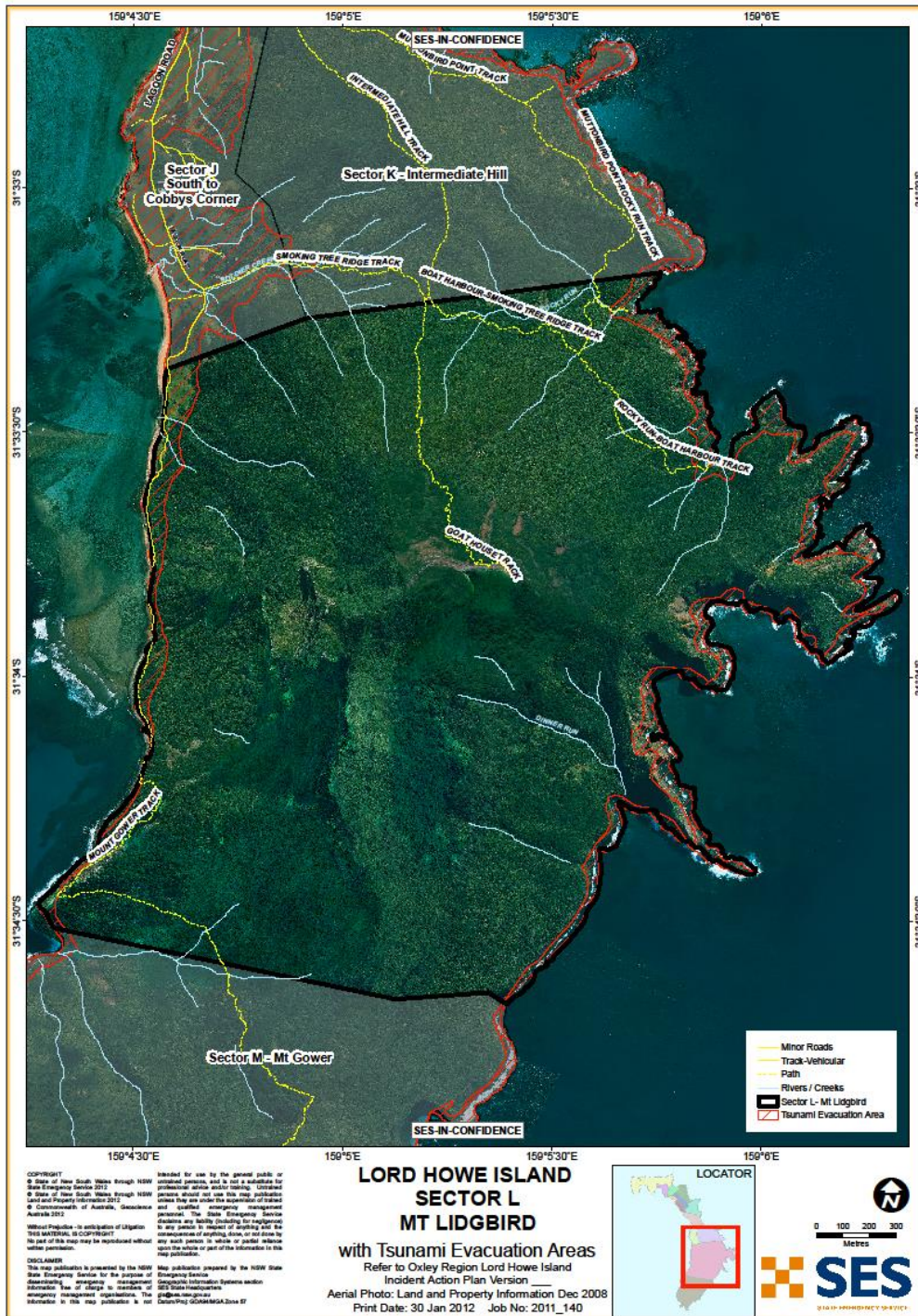
Lagoon Rd

Accommodation within
Sector –
Isolated/Inundated

Nil

At Risk Properties –
Critical Infrastructure

Nil



SECTOR M- MT GOWER

Community: Lord Howe Island South
 Management Sector: Sector M
 At Risk Population: Nil
 Tsunami Affect Classification: Raising Ground – Low Risk Sector

Sector Description:

This Sector is between the 10m contour and the 875 m contour. The area is generally forest\Bushland with tracks for walkers

Key Risks / Consequences

Injured, Lost or stranded hikers

Evacuation
/ Assembly
Point

Golf Club

Evacuation
/ Assembly
Point

Lagoon Rd

Accommodation within
Sector –
Isolated/Inundated

Nil

At Risk Properties –
Critical Infrastructure

Nil

