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ROYAL BERMUDA REGIMENT DISASTER MANAGEMENT PLAN V6.6

References

A. Emergency Measures Organisation Standing Instructions dated 28 Apr 15.
B. Bermuda Regiment Standard Operating Procedures (SOPs) No 12 Emergency Measures. Organisation Operations updated June 2014.
C. Ministry of Public Works Internal Operations Orders dated 4 March 2013.
D. Department of Parks Emergency Measures Standing Instructions 2013.
E. Bermuda Department of Corrections Policy 507 dated 7 April 2009.
F. Marine Pollution Contingency Plan (MPCP) undated.
G. Hurricane FAY and GONZALO Post Operational Report (POR) dated 21 November 14.
H. NATO SOFA signed 4 April 1949.

INTRODUCTION

1. Version 6.6 of the Royal Bermuda Regiment Disaster Management Plan (DMP) updates and replaces all previous versions. There have been no wholesale changes and most amendments have been made for cosmetic reasons.

SITUATION

2. As per Reference A, the Royal Bermuda Regiment (RBR) is mandated to assist the civil authorities in the event of a major disaster (either natural or man-made) befalling the island. The Government of Bermuda uses the Emergency Measures Organisation (EMO) to co-ordinate government departments, utility services and private agencies to protect and preserve the community and its property prior to, during and after disaster[1]. The EMO will also be responsible as the primary organisation for the dissemination of information to the public. The Regiment is an integral part of the EMO, and the Commanding Officer (CO) and Staff Officer (SO) form part of the EMO Executive Committee. COMOPS is the nerve centre for all activity and should coordinate all tactical level responses once formed up and RBR will embed 2 x empowered LOs there.

[1] The EMO will co-ordinate activities before disaster (in the event of pre-warning of a likely natural disaster, such as a hurricane), during the disaster period and post disaster activities.

3. The Commissioner of Police may at any time, through the Executive Committee of the EMO, request the Governor to embody (in part or in whole) the RBR to provide support as necessary for the relief and recovery of the community. Specific Regiment capabilities for EMO operations are detailed in Reference B. These include pioneers (light engineering tasks with chainsaws, tarpaulins and shoring), transport (vehicles and small boats), first aid, communications, and additional disciplined labour. In the context of a hurricane, the likely Regiment tasks involve recovery operations which commence after the highest winds have abated to safe levels although specific tasks (such as joint Bermuda Police Service (BPS)/Regiment Reassurance and Anti-Looting Patrols) may commence prior to hurricane force winds striking the island. Though this DMP focuses primarily on the most likely threat – that of a major hurricane – the possibility of a tsunami affecting the island is not to be ruled out. The National Disaster Coordinator (NDC) is leading with the Tsunami Action Plan and once it is released this DMP will include relevant details of procedures where necessary.

THREAT

4. The table below details the forecast for this season's (2016) North Atlantic and Caribbean region storm/hurricane production, alongside historical 'norms'. The threat of damage comes from both tropical storms and hurricanes and historically most casualties are caused by flooding due to storm surges. A detailed Wind and Hurricane Effects Scale can be found at Annex G. For more information on 2015 storms please see https://en.wikipedia.org/wiki/2015_Atlantic_hurricane_season.

Ser (a)	Forecast Parameter (including windspeeds) (b)	Climatology Annual Average 2002-2011 for whole Region (c)	2015 Tally for whole Region/2015 predicted (d)	National Hurricane Centre Forecast for 2016 Season for whole Region (e)
1	Named Storms (35-63 kts)	15.7	11/7	7
2	Hurricanes (Cat 1-2, 64-95 kts)	7.5	6/0	3
3	Major Hurricanes (Cat 3-5, 96 kts and higher)	3.8	2/1	1

5. **El Niño/La Niña effect**. The recent El Niño conditions will abate this year giving way to its counterpart La Niña. This is suspected to create neutral conditions for storm formations in the early stages of the Hurricane Season. La Niña conditions favour less wind shear (disruptive to storms) and more favourable atmospheric conditions for hurricane activity.

6. **Threats, Watches and Warning**. The definitions of threats, watches and warnings according to the Bermuda Weather Service (BWS) are as follows:

Ser (a)	Type (b)	Definition (c)
1	Potential Threat	System centre is forecast to come within **400nm** of Bermuda within 72 hrs.
2	Threat	System centre is forecast to come within **100nm** of Bermuda within 72 hrs *or the effects of the system are possible within 72 hrs.*
3	TS or Hurricane Watch	Issued 48 hrs or less prior to possible onset of TS force winds (TS 24 – 63 kts) or hurricane force winds (64 kts+).
4	Hurricane Warning	Hurricane force winds expected within 36 hrs.

MISSION

7. The RBR is to support the Civil Authority with the security of Bermuda, its peoples, property, livelihood and interests in order to maintain normality.

EXECUTION

8. **Concept of Operations**.

a. **Intent**. The RBR will provide a rapid, flexible disaster relief contingency force at graduated NTM to support the EMO and emergency services to prepare, pre-empt and mitigate the effects of an emergency incident and facilitate a swift return to normality.

b. **Scheme of Manoeuvre**. The majority of the Regiment are part-time personnel and the ability to hold forces on graduated readiness and the plan for recall are critical for both a forecasted event (such as a hurricane) or for an unexpected event (such as a man-made disaster). Timely decisions on reducing NTM, pre-positioning supplies and equipment and embodiment of the Regiment will need to be made by EMO and Regiment commanders. For example, for an expected hurricane the final decision for a partial embodiment to pre-position a Regiment team across the Causeway must come into effect no less than 4 hours before its anticipated closure. In the event that no embodiment order is signed prior to hurricane strike (or in the event of an unforeseen disaster scenario), the delay in forming teams will be exacerbated by road blockages and other factors. On receipt of an embodiment order, the Regiment will form into 5 x Immediate Response Teams (IRT):

(1) **A Coy**. A Coy is responsible for ensuring the manning, training and readiness of IRT 1 and 2.

(2) **Sp Coy**. Sp Coy is responsible for ensuring the manning, training and readiness of IRT 3 and Boat Tp.

(3) **Trg Wg**. Trg Wg is responsible for ensuring the manning, training and readiness of IRT 4.

(4) **Band Coy**. Band Coy is responsible for ensuring the manning, training and readiness of IRT 5.

(5) **QM Coy**. QM Coy is responsible for enabling and sustaining the force.

c. **IRT formation**. The IRT formation is designed to provide best coverage and maximise support to EMO in the event of a 'most likely' disaster but also provides a flexible force available in the event of an unforeseen disaster. In addition to IRT, the Regiment will provide a command and liaison team to COMOPS; Ops Room (Callsign (C/S) 0) at Warwick Camp; a small reconnaissance team; maritime support; and personnel to assist with BPS Reassurance Patrols. Individuals or small teams may also be formed to provide liaison and communications for other agencies (such as the Royal Navy) and community support tasks[2]. A significant number of logistic support personnel and other enablers will also be required.

[2] During FAY and GONZALO soldiers were tasked with providing reassurance to the elderly at a number of locations across the island.

Specific advice on Regiment capabilities will be provided to the EMO dependent on the circumstances.

d. **Missions and Tasks**. Below are a list of outline missions and tasks. All taskings will be coordinated through 0. IRT or other Regimental personnel are not to accept tasking from any other source unless previously agreed.

(1) **IRT 1 (East) A Coy**. Located at Clearwater Fire Station. Clear, recover and repair ivo St. George's and St. David's.

(a) Be prepared to assist Ministry of Public Works in St George's and the Department of Parks Zone 1 Team.

(b) Provide feeding for duty crew at CLEARWATER fire station.

(2) **IRT 2 (East/Central) A Coy**. Located at Warwick Camp. Clear, recover and repair east of Warwick Camp.

(a) Be prepared to assist Ministry of Public Works Western Team 1 and the Department of Parks Zone 5 Team.

(3) **IRT 3 (West) Sp Coy**. Located at Warwick Camp. Clear, recover and repair west of Warwick Camp.

(a) Be prepared to assist Ministry of Public Works Western Team 2 and the Department of Parks Zone 6 Team.

(4) **IRT 4 (Regt Sp) Trg Wg**. Located at Warwick Camp. Support to Regiment personnel and their families only.

(a) Be prepared to assist in clearance efforts.

(5) **IRT 5 (Reserve) Band**. Located at Warwick Camp. Reserve, including immediate clearance of Warwick Camp and environs.

(a) Be prepared to support IRT 1 – 4 and assist in clearance efforts.

(6) **Boat Tp Sp Coy**. Be prepared to:

(a) Move key personnel as required.

(b) Provide Search and Rescue (SAR) capability post event.

(c) Conduct boat reconnaissance patrols.

(d) Transport patients from Lamb Foggo Urgent Care Centre in the event of any closure to the Causeway. All taskings are to be coordinated with the Dir Emergency Dept, Dr Roslyn Bascombe-Adams via 239 2009 or 331-7358.

(e) Assist in environmental protection including containing oil spills (see also para 11).

(7) **OSU A Coy**. Be prepared to support BPS with reassurance patrols.

(8) **Regtl Dive Team (Rescue Divers)**. The Regt has a number of Rescue Divers trained to recover items (including individuals) lost at sea (max operating depth 30m/100ft). In the event that a coordinated search is required personnel may be available to assist.

(9) **RHQ**. Stand up Regimental Ops Room (0) and detach teams as follows:

(a) EMO. CO and SO (in absence of the CO) to form part of the executive committee.

(b) COMOPS. 2 x LO plus supporting staff (Signallers x 2).

(10) **QM Coy**. Provide essential EMO stores and specialist equipment to IRT and personnel as directed. Feed and sustain the Regiment.

(a) Be prepared to:

(i) Set up a tarpaulin distribution point.

(ii) Host OGDs including Ambulance, BPS and W&E plant in WC.

(11) **APT(N) (when tasked)**. When tasked APT(N) will assist in HADR and may fall under command of R for tasking. APT(N) will be operating under the existing NATO SOFA (Reference G).

(12) All c/s are additionally to be prepared to:

(a) Liaise and deconflict clearance routes and tasks.

(b) Conduct emergency route clearance.

(c) Conduct traffic control for NGDs.

(d) Assist commercial entities with debris clearance (Airport, Docks etc)

e. **Manpower surge**. Post hurricane strike, there may be a requirement to generate additional manpower in order to bolster IRT, form additional IRT or to sustain and provide an enduring capability. Individuals not embodied in the initial phase may be required to report to nominated RV locations (most likely Port Royal Fire Station, Hamilton Fire Station and Southside Fire Station)

f. **Main Effort (ME)**. The initial ME will be the preservation of life before switching to the restoration of normality (principally through the clearance of major vehicle routes). Priorities of effort will normally be based on:

(1) Preservation of life and limb.

(2) Clearance of route access for emergency vehicles and personnel with priority as follows:

(a) Arterial roads running east to west.

(b) Secondary access from capillary roads.

(c) Subsequent clearance of general access routes.

(3) Support to other agencies (i.e. BELCO).

(4) Emergency repair to government buildings and private property.

(5) Reassurance patrols in support of BPS.

(6) Movement of personnel or stores via boat.

(7) Reassurance to elderly and infirm.

(8) Emergency repairs to private property.

9. **Coordination of work and unity of effort**. Coordination is key to efficiency. In the last iteration of this document it was envisaged that works crews from various OGDs would work in conjunction with the RBR IRTs to provide a joint response to route clearance and repair and a coordinated scheme of manoeuvre. FAY and GONZALO saw aspects of this plan in action but it was not efficient. Coordination of work effort is one of the main functions of the LOs placed in COMOPS. As the main areas of concern following a major disaster are likely linked to the environment and clearance of debris RBR are likely to be intimately involved with the following departments:

a. **Ministry of Public Works (PW)**. Reference C is the detailed Operations Orders for PW. Section 3.1 outlines the Highways response to a hurricane strike which details 7 work crews of up to 10 personnel, dispersed across the island, with a clear focus on route clearance and repair. The following aspects should be considered to achieve maximum efficiency and avoid duplication and wasted effort post event:

(1) **Pre-positioning**. Pre-positioning of construction machinery (plant) and heavy equipment at Warwick Camp prior to the incident.

(2) **Designated working areas**. Pre-determined working areas agreed in advance and adhered to. Reference C details the following task groups (corresponding IRT are in brackets):

(a) **St George's PW team**. Work east of the Causeway (IRT 1).

(b) **Western PW teams 1 and 2**. Work the area from Trimingham Hill right through to Somerset bridge (IRT 2 and 3).

(3) **Liaison**. A Liaison Officer (LO) from PW must be embedded with 0 at Warwick Camp. Continuity is key and the LO needs to be empowered to make decisions on behalf of PW.

b. **Department of Parks (DP)**. Reference D is DP's Emergency Measures Standing Instruction. DP has teams with specific areas of responsibility across the island with the main aim of vegetation clearance to set priorities. Reference D details the Department of Parks work zones as follows (corresponding IRT are in brackets)

(1) Zone 1 team. Work east of Causeway (IRT 1).

(2) Zones 5 and 6 teams. Work the areas between Cobb's Hill and Watford Bridge (IRT 2 and 3).

10. **Communication**. Timely, prompt and effective communication between all departments is vital to avoid duplication of effort and provide an effective and efficient response to any hurricane/storm damage.

OTHER EMERGENCIES (NON HURRICANE)

11. **Tsunamis**. Bermuda faces a potential threat of inundation from tsunamis. Potential causes are earthquakes, landslides and volcanic eruptions and there is generally very little early warning. The frequency of tsunamis in Bermuda is historically low with only 30 estimated in the Atlantic and Caribbean regions during the last 400 years. This includes all events such as seismic generation and underwater landslides, many of which caused little recorded damage locally. The impact of a tsunami on Bermuda shores would be significant, especially on low lying areas, as crude modelling indicates a deep water tsunami would lead to 2-4 times that level of inundation on land (i.e. a 2m wave would equal 4-8m when impacting the shore, leading to coastal inundation in low lying areas). The largest tsunami wave to impact Bermuda as a result of the Lisbon Earthquake and Tele-tsunami in 1755 was estimated at 1.2m offshore and 3m inshore. The local impacts were experienced approximately 6 hours after the original earthquake. There are other origin points which are geographically closer such as the Puerto Rican trench and local impacts could be experienced as little as 2 hours after the initial earthquake. Further, challenges associated with dissemination of the warning occur when the event happens at night or on a busy summer weekend when people may not be close to a source of information. Tsunami waves typically come in series, called a "tsunami train" of waves. Each new tsunami wave is likely to compound earlier flooding and the flooding waters would behave differently each time due to debris and water volume changes. The after effects of a tsunami are likely to last a lot longer than the effects of a hurricane with mass flooding and inundation.

a. The time between tsunami waves can range between a few minutes to an hour. The official "all clear" will be sounded when it is confirmed that 2 hours have passed since the last tsunami wave and there is no data of further waves from the origin before they cautiously retreat from higher ground.

b. Direction from the NDC is likely to follow as part of a general awareness campaign, covering: likely notice, warning and alert systems and safe refuge heights (incl an inundation map). In the meantime the immediate action on receiving a tsunami alert is to make to high ground (in most cases the spine running along the length of Bermuda). Children at school should be evacuated by their school. Further, any evacuation must be in an orderly fashion

and on-foot where possible to avoid congestion and the risk of the evacuation causing causalities.

c. Reduced warning makes any anticipatory reduction of Regiment NTM or advance embodiment unlikely. In the wake of a moderate tsunami (noting the series of waves could last an hour or more) low lying roads and the causeway are likely to be impassable. Soldiers should assist locally (ideally from an emergency services location such as BPS, BFRS or medical facility) where they cannot make their way to Warwick Camp. Those that can reach Warwick Camp (which should be at a safe height from flooding) will be organised into work parties to assist emergency services. Capabilities that will be of a premium include Boat Troop, Medics, GAP, Comms Unit and MT, but general organised disciplined labour will be valuable too.

12. **Environmental (Oil Spills)**. The Marine Pollution Contingency Plan (MPCP) for Bermuda is managed by the Department of Environmental Protection together with direct input from the Department of Marine and Ports Services. The Ministry of the Environment would head any response operation with the Director of the Department of Environment Protection or his deputy acting as the On-Scene Commander (OSC). The Regional Coordination Centre (RCC), Bermuda Radio, would serve as a command post and operational base for the OSC and command team. In terms of potential RBR support, the RCC could potentially call on Boat Troop (via SO or Duty Officer) to provide assistance in oil booming and deployment of skimmers. For minor local spills, the operational base will be decided by the OSC and may include the Head Office of the Marine and Ports Services and the Department of Environment Protection. Reference F provides details of the command structure and procedure to respond to a marine oil spill and includes a comprehensive call-out list for Government assets, commercial organizations and international assistance. The Government maintains a range of oil spill equipment at Penno's Wharf, Dockyard and Coney Island that includes booms used to absorb, deflect or contain floating oil on the sea, skimmers that pick up and collect the floating oil and a range of boats, including RBR resources, personal protective and ancillary equipment necessary to support these activities. Oil spills are categorised into 3 tiers:

a. **Tier 1 Oil Spill**. This category of spill is contained on the same property as the oil storage and can be addressed by resources specific to that property.

b. **Tier 2 Oil Spill**. Under this category spills will move, or have the potential to move, outside of the immediate location of the spill and will require a coordinated response by additional organisations.

c. **Tier 3 Oil Spill**. This category has the potential to require all of the oil spill resources (equipment and trained personnel) available to Bermuda and could also require mobilization of international assistance under pre-arranged agreements.

13. **Support to Department of Corrections**. In accordance with Reference E, a potential task for the Regiment is emergency housing of inmates in the event that a natural disaster or other incident renders correctional detention facilities unusable. Under such a scenario it is likely that higher risk inmates would be housed within existing un-affected facilities and lower risk inmates re-housed in temporary holding facilities such as Warwick Camp. The Camp has 224 bed spaces in barrack blocks, a further 35 in messes (for staff) and the option to establish tented accommodation, as well as kitchen facilities and ablutions. Barrack blocks and other buildings however are not secure and it is likely a number of Regiment personnel would be required to augment Prison Officers in both a security and administrative capacity; further temporary wire

fencing would be required to contain or reinforce vulnerable areas. The Regiment holds no such contingency defence stores and the Ministry of National Security is therefore almost certain to request Ministry of Public Works support.

a. Other issues include: the initial transport of prisoners, separation of different categories of inmate (including rival gang members should they not be housed elsewhere), feeding, temporary surveillance equipment (including CCTV and portable lighting), and sustainability including: housing of staff, cleaning, laundry, food stocks (noting the Regiment holds 4 days rations for 400 people), medical support, office space, access to recreational facilities and the potential to cater for visitors to inmates.

b. In the event that the Regiment does provide such support it would look to recover costs from the Department of Corrections. It is recommended that the Department of Corrections leads on an MOU, noting that page 69, para 4 of the March 14 National Security and Defence Review report 'recommends a contingency plan for the relocation of inmates'. Such an MOU is likely to encompass support from the Regiment, BPS, Works and Engineering, Public Transportation and Health.

14. **Mass Casualty Management (MCM)**. The Regt currently has a number of trained MCM personnel. These individuals are available to assist Govt agencies/KEMH in the event of a mass casualty scenario (such as an aircraft crash). In addition, the Regt currently has 2 x Regimental Medical Officers, 7 x trained medics (2 of which are EMT qualified) and an ambulance to support any medical emergency.

COORDINATING INSTRUCTIONS

15. **Notice to Move (NTM)**. The criteria for NTM will be followed, note that timings are 'report to camp':

Ser (a)	Event (b)	NTM Period (c)	Restrictions (d)	Remarks (e)
1	Routine NTM outside of hurricane season	3 days	No restriction	Leave between key staff to be coordinated (see para 15 below)
2	Routine NTM in hurricane season (1 Jun – 30 Nov)	48 hours	No restriction	Leave between key staff to be de-conflicted. OCs to populate IRT lists prior to start of hurricane season (see Annex C). SMS Texting service to be used as back up for NTM reductions
		Where possible 24 hrs notice should be given to reduce from 48 hrs to 24, with cascade action completed within 12 hrs		
3	Hurricane Advisory (Potential Threat or Threat) (Likely EMO meeting)	24 hours	Equipment packed	Cascade and Call-out lists final confirmation by RHQ/Coys. IRT lists to be updated and verified. No new off-island leave to be authorised. WngO 1 issued. Website message updated
		Where possible 12 hrs notice should be given to reduce from 24 hrs to 12, with cascade action completed within 6 hrs		
4	Hurricane Watch (Likely COMOPS stood up)	12 hours (G4 element and enablers – 6hrs)	G4 staff to begin hurricane preparations	Alcohol '2 can rule'. Equipment pre-positioned as required and IRT 1 box forward based at CLEARWATER BFRS. WngO 2/OpO issued. Regt website updated and all personnel to

				monitor website and weather service for updates. Liaison with W&E and DP ref any aspirations to forward base assets at Warwick Camp. LOs to COMOPS and potentially LO from W&E and DP to WC
5	Hurricane Warning	2 hours	No alcohol consumption. IRTs forward based as required in Warwick Camp (IRTs 2-5) or Clearwater BFRS (IRT 1) and maintain 2 hrs NTM	Ops Room activated. O Gp for commanders. Embodiment order signed. Website to be updated every 2 hours. Texting service to be used as back up for NTM reduction
6	In camp	2 hours to deploy	IRTs formed and maintain 2hrs NTM to deploy	

Note: In the event of a non-hurricane related disaster, RHQ will amend NTM as required. Actions related to NTM timings are to be followed as per table above, noting not all elements of RBR will necessarily have NTM reduced at the same time. Response to an unexpected event may necessarily break NTM and will be at 'best effort'.

16. **Pairing of Key Personnel**. In order to ensure key Regt personnel are available to support EMO operations, it is imperative that during the 'hurricane season' (Jun-Nov) certain appointments deconflict their absence from Bermuda. Pairings are to liaise with each other before submitting any leave/absence requests to RHQ. Senior commanders are responsible for ensuring this system is in place in their areas of responsibility where applicable. OIC IRTs are responsible for ensuring sufficient personnel are on call from his 'pool' of manpower and must actively manage their IRT during hurricane system. Examples of key personnel pairings are as follows: **CO/2IC, SO/Adjt, Coy Cdrs/2IC, Coy CSMs/CQMS, Chf Clk/SNCO Clk, QM/RQMS, TO/OCRBRJL and OC IRT/2IC IRT**.

SERVICE SUPPORT

a. Jan – Update SMS contact tel numbers (new recruits).
b. Mar – Update SMS contact tel numbers (remove discharged personnel).
c. Mar – Chainsaw kits inspected and serviced (prior to CO's inspection).
d. Apr – CO's initial EMO Inspection.
e. May – Cdr's Study Period on EMO procedures.
f. May – IRT manning lists reviewed and updated. IRT boxes packed.
g. May - Disaster Management Plan updated (including current season forecast).
h. NLT 1 Jun – Chainsaw training.
i. 1 Jun to 30 Nov - Hurricane Season.
j. Sep/Oct – Period of greatest historical hurricane threat.

17. **Dress and Equipment**. Soldiers are to report to Warwick Camp, or nominated assembly point, equipped as per 'Emergency Order' (BRAM page 17-2). Additional specialist equipment will be issued to IRT as shown at Annex B and in the event of being deploying on reassurance patrols.

18. **Arming Policy**. It is anticipated that weapons will not be carried. OSU may be authorized to be issued with batons (stowed in vehicles) or Officer Protective Equipment in the case of those Special Constable trained ranks. Use of Public Order equipment will be as per 'Green' card, Powers of Arrest will be as per 'Blue' card (before State of Emergency unless otherwise notified).

19. **Logistic Support**. Logistic support will be detailed as per the Service Support paragraph in the template Operation Order (OpO) at Annex A. In addition, there are 4 x ISO containers held by W&E at their quarry which contain a large amount of tarpaulins which could be used for weatherproofing houses etc, which were donated by the Foreign and Commonwealth Office in early 2014. Access to these emergency stores is via Mr Neville Dill (nedill@gov.bm) on 278-5355. Additionally, QM Coy currently has 13 x (18' x 24') and 1 x (12'x12') tents for use as required.

20. **Transport**. The Regt currently has the following lift capability:

a. 12 Land cruisers (120 pax).

b. 2 mini-buses (20 pax).

c. 1 mini-van (5 pax).

d. Additionally the Dept of Public Transportation can assist with the provision of buses to assist. During Fay and GONZALO PTB lent RBR 4 x buses and BPS lent 4 x LC in order to enable the sp from HMS ARGYLL. The main contact is Mr Derrick Trott (292-3854/292-3851).

21. **Medical**. Immediate medical support for the IRTs will be in the form of an attached Regiment medic. Each IRT is to have a suitably equipped medical pack. Serious injuries are to be treated through the civilian medical chain. As noted in para 13, the Regt currently has 2 x Regimental Medical Officers, 7 x trained medics (2 of which are EMT qualified) and an ambulance to support any medical emergency.

22. **Safety**. In order to minimize the risk of serious injury, personnel are to be aware of the inherent dangers when working in a storm damaged environment. Such dangers include, but are not limited to: electrical power cables, flooding, working with chainsaws, falling debris and working at height. Risk assessments (RA) are to be carried out prior to any potentially hazardous work being conducted. If there is no time to conduct a full RA (where there is risk to life) then a dynamic one must be made in order to establish any danger and prevent avoidable injury.

a. **Working at height**. There is a possibility that IRT will be required to operate at height. RBR has identified this training gap and working towards a solution. Until such time as there are trained working at height operators all tasks which include a working at height element are to be authorised via 0 before any work is to be carried out.

b. **Visibility**. RBR suffered one minor casualty over the period of FAY and GONZALO. The chance for accidental injury is high and steps must be taken to limit the liability to the public and to ourselves. Luminous vests are to be worn by all crews working on roads and where heightened visibility is required.

c. **Lighting**. There is a high possibility that work will need to be carried out during darkness. The Regiment has a number of lighting kits for this purpose. Where work is to be carried out at night suitable lighting of the area of work is to be achieved. If there are areas which cannot be lit (due to obstacles or otherwise) then a thorough RA is to be carried out and if necessary the work postponed until daylight.

d. **Overhead environment**. If a task requires one to operate with overhead hazards then appropriate equipment is to be worn. A combat helmet is the minimum for those working where trees or limbs of trees are being cut, similar if there is rubble or the possibility of falling debris then combat helmets are to be worn. The only exception is for chainsaw operators who must use the issued equipment in any case, unless their RA concludes otherwise.

e. **Electricity**. In some respects IRT may find that they reach a location before BELCO has been able to assess the damage and render electrical HT wires 'SAFE'. IRT are NOT to proceed in such cases until BELCO have confirmed that the cables are 'NOT LIVE'. In all cases authority is to be requested from 0 before proceeding. Extra vigilance should be observed when working near water where current from a downed electricity cable could be conducted. Remember where there are downed wires there is a potential for electrical shock, even if some distance away from the wires. If one finds themselves inadvertently close to an electrical hazard (within 20ft) then they should retire from the location using a series of 'bunny hops' – feet close together, to reduce 'step potential' – until they are at a safe distance. The area is to be cordoned off and 0 informed immediately.

f. **Driving**. Post disaster work is usually a drawn out business. Soldiers will become fatigued and there is a higher chance of accidents. Drivers' hours are to be monitored so as to ensure that those operating vehicle or machinery (chainsaws) are not putting themselves and their colleagues in avoidable danger. At all times drivers are to adhere to Bermuda's Highway Code; there is absolutely no excuse for speeding or dangerous driving.

g. **Cutting tools**. Only qualified and trained personnel according to the Regimental Chainsaw Qualified List are to operate chainsaws. The QM has procured a number of machetes and cutting tools for non-specialised cutting tasks. When operating chainsaws or blades operators are required to conduct a RA and to inform those working close-by of the possible risks.

23. **Communications**. Primary communications will be via the Regiment's 'Sepura' radio system. Commanders are to be aware that there is likely to be interruption to the island mobile phone system and internet. Secondary communications should be via landline until the mobile service is restored. A generic C/S card for EMO operations is at Annex F. A SATPHONE is to be bid for from the 'spares' pool located at Cabinet Office.

24. **Vehicles**. Vehicle allocation will be controlled by MTWO (including any additional vehicles that may be 'loaned' to the Regiment, such as coaches) as per direction in the OpO.

25. **Humanitarian Assistance and Disaster Relief (HADR)**. The Royal Navy Atlantic Patrol Task (North) (APT(N)) ships, which in recent years have included HMS Argyll and Lancaster, spend 6 months on station in the Caribbean, transiting via Bermuda. For information, these ships are capable of providing the following assets and support in their HADR role should the need arise.

a. Emergency relief stores which include 4 x portable 5KW generators, tents/tarpaulins, tools, temporary building repair materials, water carriers and water purification systems. In addition, the ship's tanks hold 70 tonnes of fresh water.

b. On-board fire-fighting equipment.

c. Up to 105 x trained personnel ashore to provide a wide range of specialist support, including medical, search, light/heavy rescue, electrical/engineering repair, catering and communications.

d. 2 x 24ft Sea boats that can carry 6 x passengers and 1 x tonne of stores.

e. When carried, a Lynx Mk8 helicopter (wheels). Note: this is likely to be the most useful capability to the EMO.

26. **Movement of Heavy Equipment**. In the event of road/vehicle movement being restricted post hurricane or other disaster, heavy equipment can be transported via barge, for example to the east end of the island. The primary/secondary pick up points are:

Ser (a)	Pick Up Points (b)	Drop Off Points (c)
1	Penhurst Park	Stonecrusher Corner
2	Smiths and South Basin Dock	Ferry Reach and Marginal Wharf
3	Dockyard	St David's

Note: The max lift capability is 200 ton gross weight. There are presently 2 x companies capable of supporting such lifts:

a. Crisson Construction Ltd (296-0826, cell 734-7616).

b. Correia Construction Ltd (236-4273).

COMMAND AND SIGNAL

27. **Regimental Headquarters (HQ).** The following HQs will operate with the listed personnel:

a. **Warwick Camp (C/S 0).** Bn 2IC, SO (Operations Officer), Adjt (as primary watchkeeper), 2IC Sp Coy, RSO, Chief Clerk and clerical staff, MT Rep, Comms Unit element (incl RSWO).

b. **BPS COMOPS**. LO (TO who will act as secondary National Disaster Coordinator), 1 x watchkeeper (OC JL), 2 x Signallers.

c. **CO Tactical HQ (CO TAC)**. CO TAC will be available as required by CO and will normally consist of CO, RSM, 1 x Regimental Police (RP) and 1 x Signaller.

28. **IRT zone command**. Whilst IRT Commanders will remain in tactical command of their teams, Coy Comds are responsible for oversight of those IRTs and ensuring the IRTs are fit for role. The aim is to ensure OC IRTs brief their troops, maintain contact lists and manage leave to ensure IRTs maintain min manning and capabilities:

29. **Advance Recce**. The RBR Advance Recce will be the DOM as available. If required he will be supported by FTS who are deemed at Annex C as 'available for tasking.

30. **IRT manning**. Annex C shows IRT manning lists prior to commencement of hurricane season. Coys are responsible for maintaining contact lists for those within the cascade system and personnel allocated to IRTs, Reassurance Patrols, LOs and other key individuals/groups such as Boat Troop. IRT lists and contact details are to be reviewed fortnightly and any changes are to be forwarded to the Chief Clerk **IMMEDIATELY AND WITHOUT DELAY**.

31. **Callout/Cascade/SMS Text Messaging System**. Annex E details in full the RBR Callout and Cascade procedures, along with detailed procedures and protocols for the new SMS Text Messaging System. All personnel are to note that in the cascade system in the run up to and in the aftermath of FAY and GONZALO was not failsafe. There are bound to be issues and therefore it is incumbent on everyone to ensure that they maintain comms with their IRT commanders in the event of a storm warning or similar. In the event of a major system developing out of a lesser one, or a sudden change in direction, catching Bermuda by surprise, all IRT members are to make their way as soon as is practicable to their muster location as detailed in Annex C (Warwick Camp or Clearwater BFRS). IRT commanders are responsible to the SO for reporting numbers available following a callout.

32. **Key Telephone Numbers and Useful Websites**. In addition to those details at Annex E, below are the main contact telephone numbers and useful websites.

a. BPS COMOPS. 247-1622/1623/1624/1625.

b. RBR Duty Contact. 335-8212.

c. RBR Operations Room. 238-3880 Ext 233/234/235. This is also the number for families requesting support from the reserve IRTs.

d. RBR HQ. 238-1045.

e. BELCO. 295-5111 (Electricity Power Outages call 955).

f. Clearwater Fire Station. via 292-5555 (Fire HQ).

g. KEMH Emergency Dept (for Boat taskings). 239-2009/331-7358.

h. DP Senior Superintendent. 533-2337.

i. W&E Chief Engineer. 501-3112.

j. Maritime Rescue Co-ordination Centre (RCC). 297-1010.

k. Dept of Public Transportation. 292-3854/292-3851.

l. RBR Website. www.bermudaregiment.bm.

m. Bermuda Weather Service. www.weather.bm.

AJ CLARKE
Major
Staff Officer

Annexes:

A. Template Operations Order.
B. IRT Specialist Equipment.
C. IRT Manning.
D. IRT Operation Zones.
E. Cascade List, Callout Details and Contact Numbers.
F. Generic C/S card.
G. Wind and Hurricane Effects Scale.

Distribution:

External:

Deputy Governor
Commissioner of Police (as Director Operations)
Commissioner of Corrections
National Disaster Co-ordinator (Insp Steve Cosham, BPS)
Director of Parks (FAO Mr Craig Burt)
Director of Works and Engineering (FAO Mr Peter Havlicek)
Director of Marine and Ports
PS to Minister of Public Safety
Assistant Director, Emergency Department & Hyperbaric Services (FAO Dr Roslyn Bascome-Adams)
Director of BWS

Internal:

CO
2IC
SO
TO
Coy Comds
Adjt
DOM
QM
IRT Comds
RSM

Chf Clk

Copy to:

RBR Ops Room

TEMPLATE OPERATIONS ORDER

DTG: XXXX

From: Bn Ops Offr

To: Coy Comds
IRT Coms

Copy to: Govt Hse
COMOPS
AMA BDSUS
FCO (Crises Manager)

G3/304/HURRICANE XXXX

Time Zone Used Throughout the Order: LOCAL

References:

A. Government of Bermuda EMO Order.
B. Bermuda Weather Service – HURRICANE XXXX Advisory.
C. Bermuda Regiment Disaster Management Plan.

1. **SITUATION**

a. General Outline. Hurricane XXXX is a threat to Bermuda and is predicted to pass closest to the island, as a CAT X Hurricane, at approximately XXXXhrs on XXXX.

b. Current Weather Service Prediction. Updates of Reference A should be accessed at http://www.weather.bm/tropical.asp or www.nhc.noaa.gov. All personnel are advised to maintain regular update of the weather situation.

2. **MISSION**. The Bermuda Regiment mission is to assist the EMO as directed in Hurricane recovery efforts in order to restore normality.

3. **EXECUTION**

a. **Concept of Operations**. Generate sufficient military capability by early embodiment of troops in the form of Immediate Response Teams (IRTs), Reassurance Patrols, Command and Control elements and Reconnaissance capability to facilitate immediate post storm recovery, and subsequent main embodiment if required.

b. **Scheme of Manoeuvre**. It may be helpful to break this section down into meaningful phases/stages. Phase1: Pre-storm (Prepare); before the storm strikes Bermuda a pre-embodiment of Sp Coy, QM Coy, Trg Wing, and all the FTS will be likely, with possible pre-deployment of plant from Parks and W&E. These elements will conduct full embodiment preparation, complete preparatory moves and preparatory deployments. Phase 2: Post-storm (CLEAR); preparations for a full embodiment will continue following assessment of the

need. Phase 3: Continuity (RESTORE); being poised to respond to the changing needs with a focus on the restoration effort required to return Bermuda to normality.

c. **Main Effort**. An east – west route clearance remains the immediate ME. Clearance of at least one lane of South road from Warwick Camp (WC) east to Paget lights junction and from WC west to Barnes Corner by IRTs, with potential to move east to KEMH and west to Port Royal BFRS if resources allow. Regiment should remain flexible for change of ME to other tasks as directed by EMO.

d. Task Organisation. See orbat attached, however, the following is the initial task organisation for pre-strike:

(1) **Immediate Reaction Teams**. IRT x 5 as follows:

(a) Composition (see Annex C to Ref C). Each IRT made up of:

(i) Team HQ.
(ii) Medic.
(iii) GAP.
(iv) Sig.
(v) MT.
(vi) A/C Company (general manpower).

(b) Locations. 5 x IRTs to deploy as follows:

(i) IRT 1 (St George's). Located at Clearwater Fire Station.
(ii) IRT 2 (East/Central). Located at WC x Warwick Camp.
(iii) IRT 3 (West). Located at WC.
(iv) IRT 4 (Regt Sp). Located at WC.
(v) IRT 5 (RES). Located at WC

(c) Support and enabled by:

(i) Boats. 2 x crews on stand-by at WC and 1 x crew with IRT 1.
(ii) LO. 2 x LO detached and located with COMOPS with signallers.
(iii) Recce. 1 x recce officer (DOM).
(iv) Medical. As per DMP.
(v) QM Coy. Chefs, MT etc.

(d) **Reassurance Patrols**. Reassurance patrols as requested by BPS in order to reassure population and deter opportunist theft/looting. To be deployed self-sufficient, as required, to nominated Police Stations to provide joint patrolling capability prior to and post hurricane strike. OSU will provide this capability with backfill from the Cadre.

(e) **Reserves**. Those personnel not allocated to specific IRT or other task are to remain on stand-by at xxxx NTM to report to nominated RV sites post hurricane strike to provide additional manpower and reserve as required.

(f) **OSU**. May be called to assist BPS operating out of Prospect, Somerset and St Davids. Consider logistic support and tasks so that teams are properly prepared.

(g) **Bn Ops Rm**. Minimum manning will be as follows:

(i) 2IC
(ii) SO (Ops Officer)
(iii) Adjt (Senior Wkeeper)
(iv) 2IC Sp Coy (Wkeeper)
(v) OPSWO (Senior clerk)
(vi) G4 Rep (Min CSgt rank)
(vii) MT Rep
(viii) RSWO and Signallers x 4
(ix) Clerical staff
(x) Additional staff and watchkeepers as required – noting that these may be drawn from other sub-units

(h) **FTS**. The FTS are to thoroughly prepare for both the pre-strike embodiment and any subsequent embodiment by confirming contact phone numbers, preparing embodiment documentation including strength returns, being fully conversant with SOPs 2 and 12 and identifying issues to the chain of command.

(i) **Atlantic Patrol Task Ship North (APT(N)).** The APT(N) may be called upon to provide Humanitarian Assistance and Disaster Relief (HADR) assistance. The Bermuda Regiment will provide administrative support and co-ordinate taskings for aviation and HADR teams as required.

e. Anticipated initial tasks.

(1) **COMOPS Team (Liaison)**. Based at Prospect. TO to act as RBR lead to Joint Agencies in conjunction with BPS staff.

(a) Maintain communications with c/s 0 at WC.

(b) Liaise with BPS at GOLD level and other agencies in the joint operations cell to provide advice and relay potential taskings.

(c) Work with DCI and BPS PR Office in disseminating information to the public during and after the storm.

(2) **IRT 1 (East) A Coy**. Located at Clearwater Fire Station. Clear, recover and repair ivo St. George's and St. David's.

(a) Be prepared to assist Ministry of Public Works in St George's and the Department of Parks Zone 1 Team.

(b) Provide feeding for duty crew at CLEARWATER fire station.

(2) **IRT 2 (East/Central) A Coy**. Located at Warwick Camp. Clear, recover and repair east of Warwick Camp.

(a) Be prepared to assist Ministry of Public Works Western Team 1 and the Department of Parks Zone 5 Team.

(3) **IRT 3 (West) Sp Coy**. Located at Warwick Camp. Clear, recover and repair west of Warwick Camp.

(a) Be prepared to assist Ministry of Public Works Western Team 2 and the Department of Parks Zone 6 Team.

(4) **IRT 4 (Regt Sp) Trg Wing**. Located at Warwick Camp. Support to Regiment personnel and their families only.

(a) Be prepared to assist in clearance efforts.

(5) **IRT 5 (Reserve) Band**. Located at Warwick Camp. Reserve, including immediate clearance of Warwick Camp and environs.

(a) Be prepared to support IRT 1 – 4 and assist in clearance efforts.

(6) **Boat Tp Sp Coy**. Be prepared to:

(a) Move key personnel as required.

(b) Provide Search and Rescue (SAR) capability post event.

(c) Conduct boat reconnaissance patrols.

(d) Transport patients from Lamb Foggo Urgent Care Centre in the event of any closure to the Causeway. All taskings are to be coordinated with the Dir Emergency Dept, Dr Roslyn Bascombe-Adams via 239 2009 or 331-7358.

(e) Assist in environmental protection including containing oil spills (see also para 11).

(7) **OSU A Coy**. Be prepared to support BPS with reassurance patrols.

(8) **Regtl Dive Team (Rescue Divers)**. The Regt has a number of Rescue Divers who are trained to recover items (including individuals) lost at sea (max operating depth 30m/100ft). In the event that a coordinated search is required then personnel may be available to assist.

(9) **RHQ**. Stand up Regimental Ops Room (0) and detach teams as follows:

(a) EMO. CO and SO (in absence of the CO) to form part of the executive committee.

(b) COMOPS. 2 x LO plus supporting staff (Signallers x 2).

(10) **QM Coy**. Provide essential EMO stores and specialist equipment to IRT and personnel as directed. Feed and sustain the Regiment.

(a) Be prepared to:

(i) Set up a tarpaulin distribution point.

(ii) Host OGDs including Ambulance, BPS and W&E plant in WC.

(11) **APT(N) (when tasked)**. When tasked APT(N) will assist in HADR and may fall under command of RBR for tasking. APT(N) will be operating under the existing NATO SOFA (Reference G).

n. **Post-Strike Reorganisation**. After the initial route clearance tasks are complete there may be a requirement for an embodiment of the whole Regiment to carry out subsequent recovery tasks and troop rotation. Individuals not embodied in the initial phase are to report to nominated RV points for onwards tasking. On orders the Regiment would re-form into task teams by platoon/company and likely secondary tasks would include shoring up buildings, rigging tarpaulins and general clear-up.

4. **COORDINATING INSTRUCTIONS**

a. **Safety**. Safety of Regimental personnel and the public is a factor. Operating conditions may be hazardous and commanders and operators are to conduct dynamic risk assessments prior to commencing any work unless doing so represents an unacceptable danger to life.

(1) **Movement**. No one is to deploy from secure locations unless cleared through WC Ops. ALL movement outside of WC by ALL personnel needs to be sanctioned by WC Ops. Personnel are to take particular care in high winds due to possible injury from flying debris. IRT Commanders are to ensure that bridges are recced prior to vehicle movement in order to determine structural integrity. Driving through flooded areas should be avoided where possible.

(2) **Electrical power cables**. The status of electrical power infrastructure will be confirmed by COMOPS. Crews are not to start work where there are wires without a qualified BELCO operator giving the ‘ALL CLEAR’.

(3) **Chainsaw ops**. Chainsaw operators must be “Qualified” or “Authorised”. Qualified in that the operator has received instruction from a recognised external instructor. Authorised in that the operator has attended the Regiment’s Authorisation Cadre.

(4) **Risk assessments**. All IRTs crews are to ensure that they put Health and Safety first. Commanders and chainsaw operators are responsible for conducting local risk assessments. As a general rule where there are downed wires IRTs are NOT to operate unless a BELCO engineer has deemed the environment SAFE to operate in.

b. Vegetation/debris disposal. Vegetation and debris blocking emergency vehicle routes is to be removed from the road in 5-6ft lengths or of a size which can be moved by 1-2 persons into a dump truck. Vegetation must be deposited at one of the authorised dumps.

c. CASEVAC RVs. In the event that the closure of the causeway impedes casualty extraction from the east there must be agreed CASEVAC points.

(1) Penno's Wharf, St George's.

(2) Grotto Bay.

(3) Marginal Wharf.

d. HLS list. A comprehensive HLS list is available from WC Ops; initial LS are likely to be:

(1) PRC Playing Fields (for COMOPS).

(2) WC parade square (for WC Ops).

(3) Airport (for refuel and pick up).

e. **Key timings**. Key timings may include:

(1) Onset wind timings.

(a) Onset Tropical storm force winds (30 hrs).
(i) Marine Area. Likely fm XXXX.
(ii) Island. Likely fm XXXX.

(b) Onset 50 knot (SE) winds (15 hrs).
(i) Marine Area. Likely fm XXXX.
(ii) Island. Likely fm XXXX.

(c) Onset Hurricane force winds (8 – 10 hrs).
(i) Marine Area. Likely fm XXXX.
(ii) Island. Likely fm XXXX.

(2) Cessation wind timings.

(a) Cessation hurricane force winds.
(i) Marine Area. Likely fm XXXX.
(ii) Island. Likely fm 172300LOCT.

(b) Cessation 50 knot (SE) winds.
(i) Marine Area. Likely fm XXXX.
(ii) Island. Likely fm 180100LOCT.

(c) Cessation tropical storm force winds.
(i) Marine Area. Likely fm 180600LOCT.
(ii) Island. Likely fm 180400LOCT.

(3) Battle rhythm. Proposed daily timings in WC:

(a) Reveille. 0600
(b) Breakfast. 0630 – 0800
(c) Morning update. 0800
(d) Lunch. 1230 – 1400

(e) Dinner. 1830 – 2000
(f) Evening update. 2000

(4) Other key timings:

(a) All personal preparations to be complete. Confirm NTM timing.
(b) Anticipated NMB.
(c) Initial embodiment of commanders and IRT1 commence move to Clearwater BFRS.
(d) CO O Gp.
(e) Remaining embodied troops arrive WC. Confirm NTM timing.
(f) 0 and COMOPS to be stood-up.
(g) IRT 1 to be in place at Clearwater Fire Station, with G4 support in place (normally Pre-strike).

5. **SERVICE SUPPORT**

a. **QM Department**. QM Department is to ensure all pre-strike activity is complete as per orders. This is to include (but not exclusively) – prep of Hurricane stores, prep of vehicles, ordering sufficient fuel, checking of generators, prep of Warwick Camp buildings (in particular accommodation and married quarters) and stockpiling of sufficient rations. BPT support W&E and Park clearance teams with feeding and parking spaces.

b. **Dress/Equipment**.

(1) **Chainsaws**. Each IRT is to deploy with a Hurricane Box and road clearance equipment. In addition, Comd IRT 1 is to draw 4 x smoke grenades (NOT red) for signalling purposes should aviation Medevac be required. Chain Saw Kits will be issued as follows:

(a) IRT 1 x 2
(b) IRT 2 x 2
(c) IRT 3 x 2
(d) IRT 4/5 x 2 each
(e) Spare x 9

(2) **Dress**. Dress is multi-terrain pattern combat dress (MTP) with jungle hat and luminous vests and issue boots. In conditions of high humidity/heat, local commanders may authorise T-Shirt order (issued green/brown T Shirts only) for manual labour tasks as required. Protective safety equipment must be worn at all times when handling chainsaws or other equipment. All personnel deploying from WC are to ensure they have sufficient water, dry clothing and equipment for a full day out in the field.

c. **CSups**.

(1) **Fresh rations**. Hot meals will be served where possible. Each individual in WC will be issued 1 x 24 hr ORP. Individuals/teams in remote locations are to take 3 x 24 hr ORP for use in extremis as they should be fed by the hosting unit. QM is to deploy a chef to Clearwater Fire Station to feed both IRT 1 and any other emergency services personnel based at that location.

(2) **POL**. Each team commander is responsible for ensuring that vehicles and chainsaws are refuelled and oiled at the end of each day.

(3) **Water**. Potable or preferably bottled water must be available and each individual should deploy with 2 x issue water bottles as a minimum.

(4) **Medical**. A small medical detachment is located at WC. Its primary role is the preservation of life. WC has a small medical centre which can deal with minor cases and can be used stabilise patients but transfer to a purposed facility as soon as is practicable is advisable. Initially the team's movement/tasking will be coordinated by BFRS which may later switch to WC Ops acting as dispatch. The composition is likely to be as follows:

(1) Ambulance x 2.

(2) Emergency Medical Technician Intermediate/Advanced Emergency Medical Technician x 2.

(3) Medical First Aider (MFA) x 2.

(4) Advanced medics x 4.

d. **Transport**. MTWO will allocate vehicles as per requirements. MTWO to request 4 x PTB buses to be based in Warwick Camp ASAP after "Hurricane Watch" announced. Remaining Regimental vehicles will operate on a 'pool' system and be allocated as prioritised and required. 2 x vehicles to remain with IRT 1 east of Causeway.

e. **Tentage**. QM currently has 13 x 18'x24' and 1 x 12'x12' tents for use as required.

6. **COMMAND AND SIGNAL**

a. **Ops Room**. OPSO remains the principal POC for urgent enquiries. During embodiment he can be reached at the Ops Rm on +1-441-238-3880 or mobile +1-441-705-8207.

b. **COMOPS**. COMOPS team will form part of COMOPS tasking cell and inform Regiment regarding potential tasks. The CO will determine the Regimental priority list given existing commitments. Once approved 0 will allocate troops to task.

c. **Alt comd**. Alternate commander is Regiment 2IC.

d. **Liaison**. Liaison Officers to be provided to (TBC):

(1) Royal Navy Atlantic Patrol Task (North) Ship.
(2) BPS Gold Command.
(3) Other Government Agencies as required.

e. **Comms concept**. The Regiment will operate on handheld UHF Sepura radios and VHF IMO. The Regiment can be reached by SATPHONE on 0881622452194. A comprehensive list of key telephone numbers is located at WC Ops.

(1) Duty Officer Mobile: 335-8212
(2) WC Ops Room: 238-3880 Ext 233/234/235
(3) COMOPS: 247-1622/1623/1624/1625
(4) Clearwater Fire Station: via 292-5555 (Fire HQ)
(5) KEMH Emergency Dept (for Boat taskings): 239-2009/331-7358
(6) Maritime Rescue Co-ordination Centre (RCC) – 297-1010
(7) IMO VHF – Channel 10 for initial comms with helo

Acknowledge

XXXX
Lt Col
CO

Authenticate

XXXX
Maj
SO

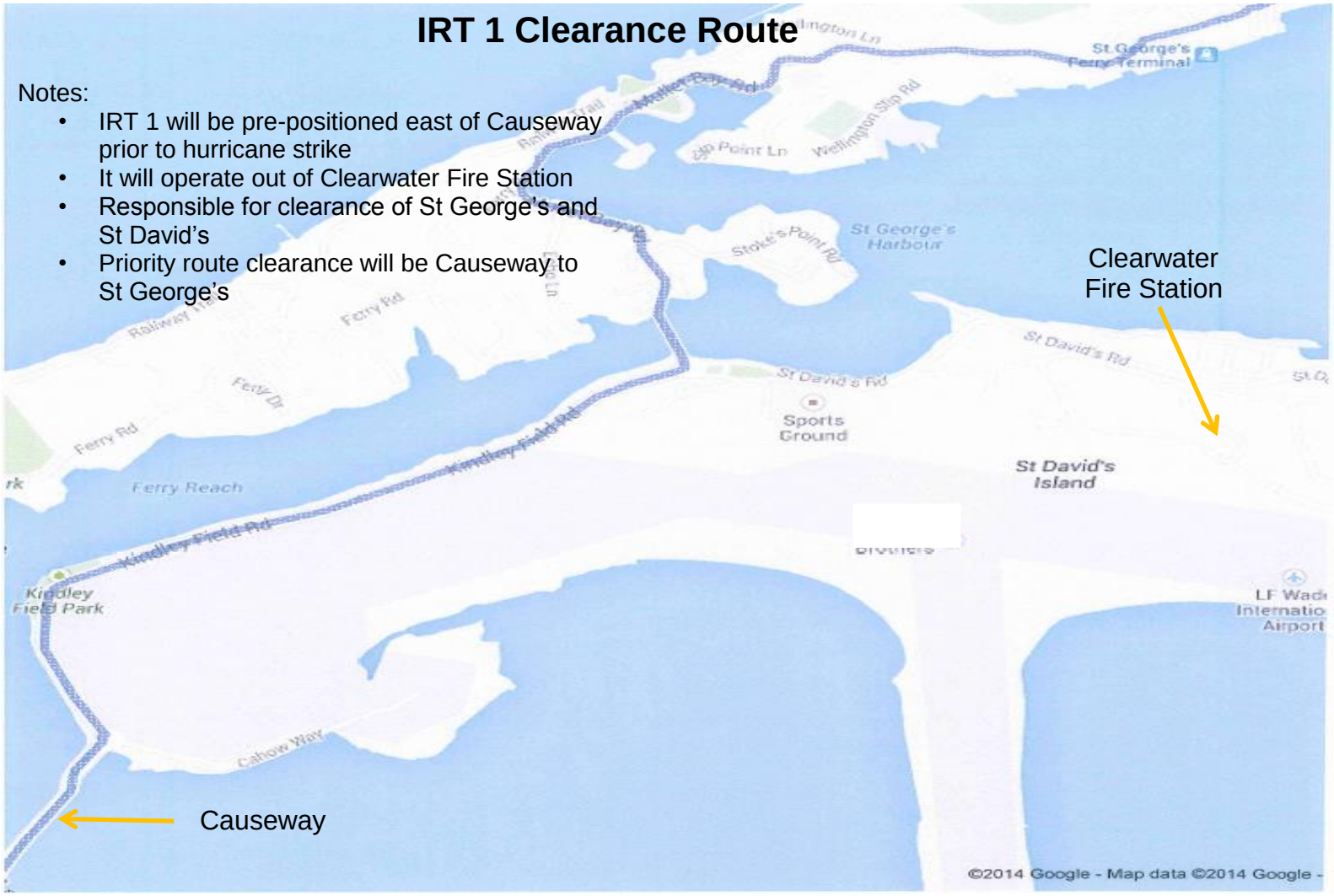
IRT SPECIALIST EQUIPMENT

Ser	Item	Qty	Remarks
1	Large Tool Box	1	
2	Mallet	2	
3	Road Sweeping Broom	1	Included in Sp Coy's total allocation of 8 Brooms.
4	Heavy Duty Rake	1	Included in Sp Coy's total allocation of 8 rakes.
5	Hoe	2	
6	Mattock	2	
7	Axe (Felling)	1	Included in Sp Coy's total allocation of 3 axes.
8	Square Faced Shovel & Spades	2	Included in Sp Coy's total allocation of 8 shovels.
9	Machete	2	Included in Sp Coy's total allocation of 8 machetes.
10	Crowbar	1	
11	Claw Hammer	1	
12	Bow Saw	1	Included in Sp Coy's total allocation of 2 bow saws.
13	Chain Saw	2	Held by Equipment Stores and only issued when required.
14	Chainsaw Equipment Pack	2	Held by Equipment Stores and issued with chainsaw.
15	First Aid Pack	1	
16	Bolt Cutters	1	
17	Sepura Handheld Radio	1	• Complete, including spare battery. • Held by Signal Platoon and issued when required.
18	Flashlight	2	
19	Stretcher	1	
20	Blanket	1	
21	Wirecutters	1	
22	100' Length of Rope	1	
23	Sandbags	25	
24	Luminous Vests	15	One per IRT member
25	Gloves (Heavy Duty)	20	One pair per IRT member plus 5 x spare

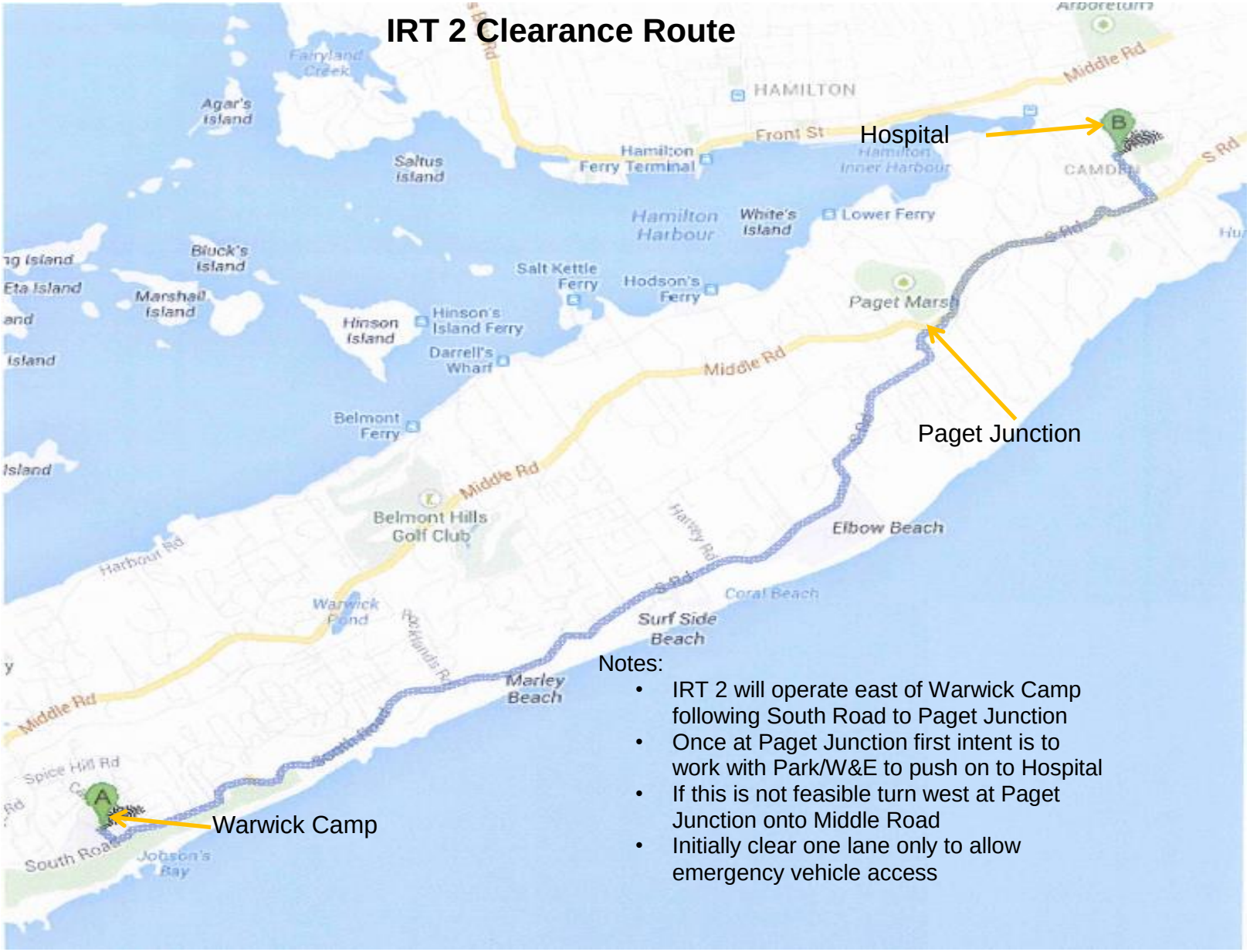
Notes:

- IRT Boxes are to be packed prior to Hurricane Season.
- Each man is to have a hard hat (held in QM stores) and a foul weather suit consisting of jacket with hood and trousers.
- Shoring equipment (wood, tarpaulins, nails, tools etc) are held separately in RBR Stores and will be issued as required.

IRT OPERATION ZONES IN THE EVENT OF A HURRICANE



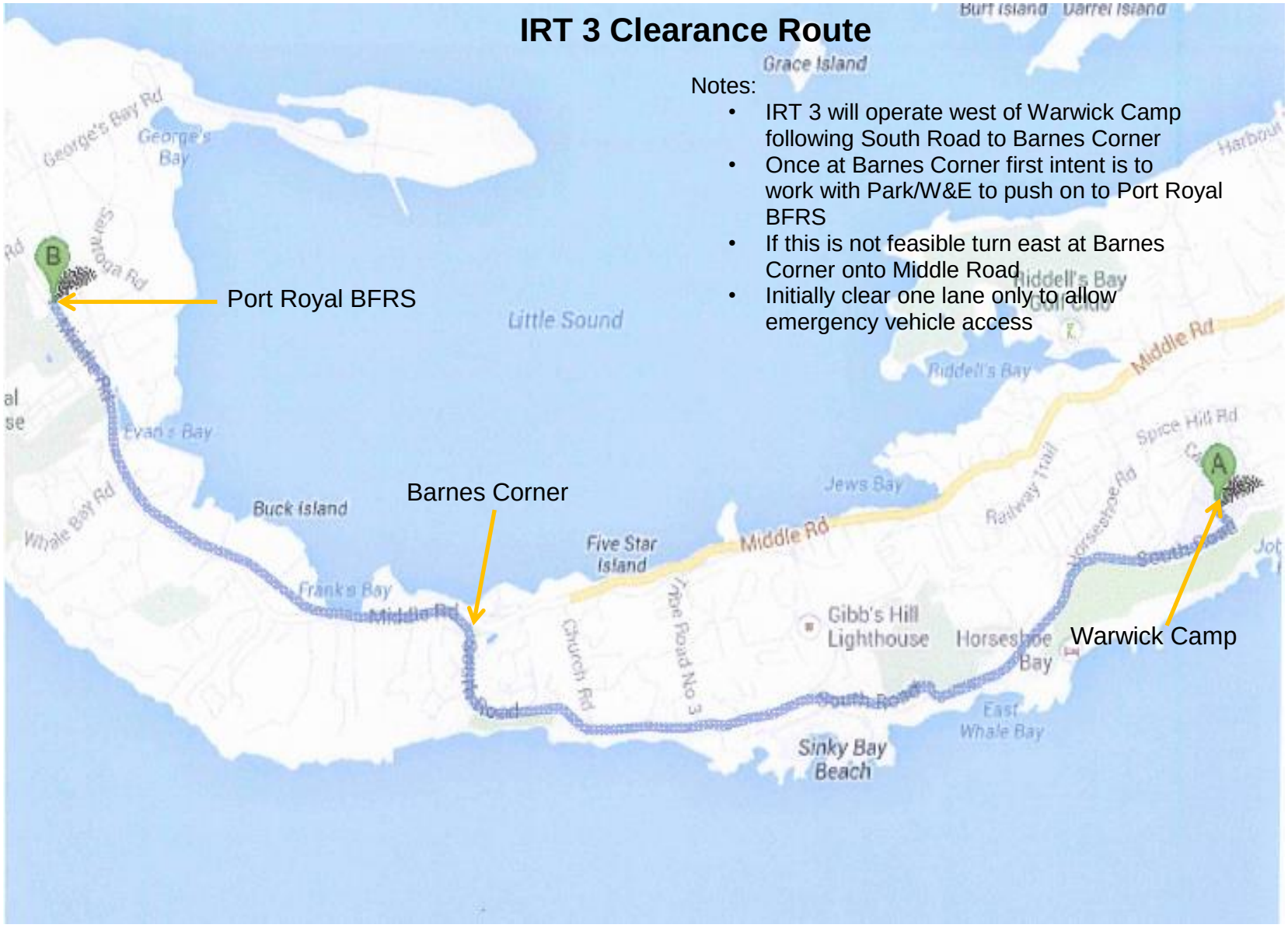
IRT 2 Clearance Route



Notes:

- IRT 2 will operate east of Warwick Camp following South Road to Paget Junction
- Once at Paget Junction first intent is to work with Park/W&E to push on to Hospital
- If this is not feasible turn west at Paget Junction onto Middle Road
- Initially clear one lane only to allow emergency vehicle access

IRT 3 Clearance Route



Notes:

- IRT 3 will operate west of Warwick Camp following South Road to Barnes Corner
- Once at Barnes Corner first intent is to work with Park/W&E to push on to Port Royal BFRS
- If this is not feasible turn east at Barnes Corner onto Middle Road
- Initially clear one lane only to allow emergency vehicle access

Annex F to
G3/304
Dated 26 May 15

EMO REGIMENT CALLSIGN CARD

C/S	CONTROL
0	Ops Room
0A	
0B	CO
0C	
0D	
0E	
0F	
0G	ALT COMD

0 callsigns do not have nicknames

UNIT	NICKNAME
IRT 1 RED	ARES
IRT 2 BLUE	SPARTAN
IRT 3 GREEN	MARS
IRT 4 YELLOW	HYDRA
QMs	DEMETER
IRT 5 ORANGE	APOLLO
RECCE	HAWK
RHQ	ZEUS
OSU	ATHENA
Medics	STARLIGHT
Boats	NEPTUNE
MT	HERMES

BPS	TITAN
BFRS	SATURN
KEMH	PONTUS
Mar&Ports	ADONIS
CUSTOMS	VENUS
CORRECT	CRONUS
SPARE	PLUTO

C/S	IRT 1 RED
10	HQ
10A	IRT COMD
10B	IRT 2IC
10C	
10D	
10E	SIGNALER
10F	
10G	MEDIC

C/S	IRT 3 GREEN
20	HQ
20A	IRT COMD
20B	IRT 2IC
20C	
20D	
20E	SIGNALER
20F	
20G	MEDIC

C/S	IRT 2 BLUE
30	HQ
30A	IRT COMD
30B	IRT 2IC
30C	
30D	
30E	SIGNALER
30F	
30G	MEDIC

C/S	IRT 4 YELLOW
40	HQ
40A	IRT COMD
40B	IRT 2IC
40C	
40D	
40E	SIGNALER
40F	
40G	MEDIC

C/S	IRT 5 ORANGE
50	HQ
50A	IRT COMD
50B	IRT 2IC
50C	
50D	
50E	SIGNALER
50F	
50G	MEDIC

C/S	RECCE
70	HQ
70A	RECCE COMD
70B	RECCE 2IC
70C	
70D	
70E	SIGNALER
	OSU
80	OSU
80A	OSU COMD
80B	OSU SGT
80C	1 SECT CMDR
80D	1 SECT 2IC
80E	2 SECT CMDR
80F	2SECT 2IC
80G	3 SECT CMDR
80H	3 SECT 2IC
80I	4 SECT CMDR
80J	4 SECT 2IC
	BOATS
41	BOATS
41A	OC BOATS
41B	2IC BOATS
41C	BOAT1
41D	BOAT2
41E	BOAT3
41F	BOAT4
41G	BOAT5
41H	BOAT6
41I	BOAT7
	MT
43	MT
43A	MT SNCO
43B	MT SGT
43C	MT 1
43D	MT 2
43E	MT 3
43F	MT 4
43G	MT 5
43H	MT 6
	QMs
60	QMs
61C	EQ Stores SNCO
61D	Kitchen SNCO
69A	RQMS

C/S	RHQ
90	RHQ
90A	2IC
90B	ADJT
90C	
90D	
90E	SIGS NCO
90F	ADC/HE
90G	BPS LO
91	Staff Officer
91A	Chief Clerk
91B	Clerk 1
91C	Clerk 2
91D	
91E	
92	RSO
92A	RS SNCO
92B	RS SGT
92C	Signaler 1
92L	Rebro 1
92M	Rebro 2
92N	Rebro 3
92O	Rebro 4
93	RAP
93A	RM SNCO
93B	AMB
93C	
94	PRO
94A	
94B	PRO SGT
94C	UNIT PHOTOG
95	COY CMDRs
95A	OC A COY
95B	OC C COY
95C	OC TRG WING
95D	OC SP COY
92M	OC BAND COY
92N	OC QM COY
92O	OC JNR LDRS
99	RSM
99A	PADRE
19A	CQMS A COY
29A	CQMS C COY
39A	CQMS TRG WING
49A	CQMS SP COY

WIND AND HURRICANE EFFECTS SCALES

Beaufort Wind Scale[3]					
Beaufort Number or Force	**Wind Speed**			**Description**	**Effects Land / Sea**
	mph	**km/hr**	**knots**		
8	39-46 mph	62-74 kph	34-40 knots	Gale or Fresh Gale	Twigs and small branches are broken from trees, walking is difficult. Moderately large waves with blown foam.
9	47-54 mph	75-88 kph	41-47 knots	Strong Gale	Slight damage occurs to buildings, shingles are blown off of roofs. High waves (6 meters), rolling seas, dense foam, Blowing spray reduces visibility.
10	55-63 mph	89-102 kph	48-55 knots	Whole Gale or Storm	Trees are broken or uprooted, building damage is considerable. Large waves (6-9 meters), overhanging crests, sea becomes white with foam, heavy rolling, reduced visibility.
11	64-72 mph	103-117 kph	56-63 knots	Violent Storm	Extensive widespread damage. Large waves (9-14 meters), white foam, visibility further reduced.
12	73+ mph	118+ kph	64+ knots	**Hurricane** (see Saffir-Simpson Scale)	Extreme destruction, devastation. Large waves over 14 meters, air filled with foam, sea white with foam and driving spray, little visibility.

Saffir-Simpson Hurricane Scale[4]		
Hurricane Category	**Wind Strength - Pressure**	**Generic Effects**
1 Minimal	65 to 83 knots 74 to 95 mph 119 to 153 kph > 980 mb	Storm surge generally 4-5 ft above normal. No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Some damage to poorly constructed signs. Some coastal road flooding and minor pier damage. Hurricane Emily in Sep 1987.[5] Hurricane Igor in Sep 2010.[6] Hurricane Fay Oct 14[7].
2 Moderate	84 to 95 knots 96 to 110 mph 154 to 177 kph	Storm surge generally 6-8 feet above normal. Some roofing material, door, and window damage of buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes,

[3] http://www.marinewaypoints.com/marine/wind.shtm.
[4] The Saffir-Simpson Hurricane Scale was developed in the early 1970s by Herbert Saffir, a consulting engineer in Coral Gables, Florida, and Dr. Robert Simpson, then director of the National Hurricane Center. The scale is based primarily on wind speeds and includes estimates of barometric pressure and storm surge associated with each of the five categories. It is used to give an estimate of the potential property damage and flooding expected along the coast from a hurricane landfall.
[5] http://en.wikipedia.org/wiki/Hurricane_Emily. Unexpectedly strong on arrival with 90 mph (150 km/h) winds (and gusts to 112 mph). Caused $50 million ($95M in 2009 prices) in damage. 230 buildings lost their roofs and 16 people were injured (no fatalities). Airport closed, some cars and boats flipped and a cruise ship carrying 700 people slipped from its moorings. Before the storm's landfall, BELCO cut power to roughly 90% of the island to protect the grid.
[6] http://en.wikipedia.org/wiki/Hurricane_Igor. Sustained winds reached 91 mph (146 km/h) with gusts to 117 mph. Damage was less than $500,000. Against initial fears, Igor caused relatively little damage across Bermuda.
[7] FAY - http://en.wikipedia.org/wiki/Hurricane_Fay_%282014%29 GONZALO - http://en.wikipedia.org/wiki/Hurricane_Gonzalo

	980 - 965 mb	poorly constructed signs, and piers. Coastal and low-lying routes flood 2-4 hours before arrival of the hurricane centre. Small craft in unprotected anchorages break moorings. Hurricane Bertha of 1996 was a Category Two hurricane when it hit the North Carolina coast, while Hurricane Marilyn of 1995 was a Category Two Hurricane when it passed through the Virgin Islands.
3 **Extensive**	96 to 113 knots 111 to 130 mph 178 to 209 kph 964 - 945 mb	Storm surge generally 9-12 ft above normal. Some structural damage to small residences and utility buildings with a minor amount of curtain-wall failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed. Low-lying routes are cut by rising water 3-5 hours before arrival of the hurricane centre. Flooding near the coast destroys smaller structures with larger structures damaged by battering of floating debris. Flat Terrain lower than 5 ft above mean sea level may be flooded inland 8 miles (13 km) or more. Evacuation of low-lying residences with several blocks of the shoreline may be required. Hurricane Fabian in Aug 2003 was the strongest hurricane to hit Bermuda since Hurricane Arlene in 1963.[8] Hurricane Gonzalo Oct 14 (CAT 2/3).
4 **Extreme**	114 to 134 knots 131 to 155 mph 210 to 249 kph 944- 920 mb	Storm surge generally 13-18 ft above normal. More extensive curtain-wall failures with some complete roof structure failures on small residences. Shrubs, trees, and all signs are blown down. Major erosion of beaches. Complete destruction of mobile homes. Extensive damage to doors and windows. Low-lying routes may be cut by rising water 3-5 hours before arrival of the hurricane centre. Major damage to lower floors of structures near the shore. Terrain lower than 10 ft above sea level may be flooded requiring massive evacuation of residential areas as far inland as 6 miles (10 km). Hurricane Andrew of 1992 was a Category Four hurricane when it hit the Bahamas. Hurricane Luis of 1995 was a Category Four hurricane while moving over the Leeward Islands.
5 **Catastrophic**	135+ knots 155+ mph 249+ kph < 920 mb	Storm surge generally greater than 18 ft above normal. Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees, and signs blown down. Major erosion of beaches. Complete destruction of mobile homes. Severe and extensive window and door damage. Low-lying routes are cut by rising water 3-5 hours before arrival of the hurricane centre. Major damage to lower floors of all structures located less than 15 ft above sea level and within 500 yards of the shoreline. Massive evacuation of residential areas on low ground within 5-10 miles (8-16 km) of the shoreline may be required. There were no Category 5 hurricanes in 1995, 1996, or 1997. Hurricane Gilbert of 1988 was a Category 5 hurricane at peak intensity and is the strongest Atlantic tropical cyclone on record. Hurricane Mitch was a Category 5 hurricane when it made landfall between Nicaragua and Honduras in 1998 with sustained winds of 180mph.

[8] http://en.wikipedia.org/wiki/Hurricane_Fabian. Sustained 120 mph winds, with gusts to 164 mph and 11 ft Storm Surges, led to $300M in costs, 4 deaths and 78% power shortages.