

FLOOD EMERGENCY RESPONSE PLAN

ISSUE: 05 | DATE: 25 NOVEMBER 2022



Project Name: Tweed Valley Hospital

REVISION STATUS

			Prepared By	Checked By	Approved By
Rev	Date	Details / Description	Intl	Intl	Intl
01	03/09/2020	First revision – draft for review	MW	MZ	
02	06/10/2020	Feedback from BMT Flood Consultant Incorporated.	MW	MZ	
03	21/01/2021	Reviewed for Substructure Scope – No change	MW	MZ	GB
04	10/11/2021	General Revision Update	DC	DC	LB
05	25/11/2022	Review no changes	DC	PL	DC

State significant conditions	
Name of this plan (as per SSD conditions): Flood emergency Sub Plan (FERSP)	
B 19. The Flood Emergency Response Sub Plan (FERSP) must address, but not limited to the following;	
<p>(a) Be experienced by a suitably qualified and experienced person/s</p>	<p><u>Plan prepared by:</u></p> <p>██████████ – Lendlease site Environmental Engineer ██████████ – Lendlease EHS Coordinator ██████████ Lendlease Senior Site Manager</p> <p><u>Plan prepared in accordance with recommendations made in:</u> Tweed Valley Hospital- Flooding and coastal hazards assessment – BMT</p> <p><u>Plan reviewed by:</u> ██████████ – Principal at BMT (an international design, engineering, science and risk management consultancy) – Refer to review Appendix 10 for evidence of consultation.</p>
<p>(b) Address the provisions of the Flood plane Risk Management Guideline (OEH,2007);</p>	<p>BMT who prepared The Tweed Valley Hospital – Flooding and Coastal Hazards Assessment also have previously prepared flood models and mapping for the Tweed River. The models prepared in these prior studies were used to model the risk of flooding in their assessment.</p> <p><u>The following studies were used:</u></p> <ul style="list-style-type: none"> • Tweed Valley Flood Study Update (BMT WBM, 2009) and • Tweed Valley Floodplain Risk Management Study (BMT WBM 2014)
<p>(c) Include details of;</p> <ol style="list-style-type: none"> 1. The flood and emergency responses during the stage 1 and 2 works; 2. Flood warning time and flood notification; 3. Assembly points and evacuation routes for the contractors and employees 4. Evacuation and refuge protocols; and 5. Awareness training for employees and contractors 	<ol style="list-style-type: none"> 1. Refer to section 10. 2. Refer to section 10. 3. Refer to Appendix 3 4. Refer to section 10. 5. 6. Refer to section 13

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1. OVERVIEW

The Tweed Valley Hospital Project broadly consists of:

Construction of a new level 5 major regional referral hospital to provide the health services required to meet the needs of the growing population of the Tweed-Byron region (in conjunction with the other hospitals and community health facilities across the region);

Delivery of the supporting infrastructure required for the tweed valley hospital, including green space and other amenities, roads and car parking, external road upgrades and connections, utilities connections, and other supporting infrastructure.

Stage 2 Hospital Main Works and Operation

The Stage 2 SSD component is for the main works and operation of the tweed valley hospital, including:

- Construction of main hospital building
- Main entry and retail area
- Administration
- Community health
- In-patient units
- Outpatient clinics and day only units
- Child and adolescent services
- Intensive care unit
- Mental health unit
- Maternity unit and birthing suites
- Renal dialysis
- Pathology
- Pharmacy
- Radiation oncology as part of integrated cancer care
- Emergency department
- Perioperative services
- Interventional cardiology
- Medical imaging
- Mortuary
- Education, training, research back of house services
- Rooftop helipad
- Construction of support buildings, referred to as the 'health hub', containing:
 - Oral health
 - Community health
 - Aboriginal health
 - Administration
 - Education, training and research
- Internal roads and carparking, including multi-deck parking for staff, patients and visitors;
- Construction of a temporary building for the 'tweed valley skills centre'
- External road infrastructure upgrades and main site access
- Environmental and wetland rehabilitation, including rehabilitation of existing farm dam as outlined in the biodiversity development assessment report (BDAR) prepared for the concept proposal and stage 1 works
- Site landscaping
- Signage
- Utility and service works

The works outlined above comprise five key components, which are subject to various funding allocations and may be delivered independently to each other. Stage 2 has therefore been defined in the following sub-stages:

- Stage 2a – Main hospital building complete with supporting roads, services infrastructure and landscaping
- Stage 2b – Main hospital building incremental expansion areas
- Stage 2c – Health hub
- Stage 2d – Tweed valley skills centre
- Stage 2e – Multi-deck car park.

Refer to the staging report for details of staging.

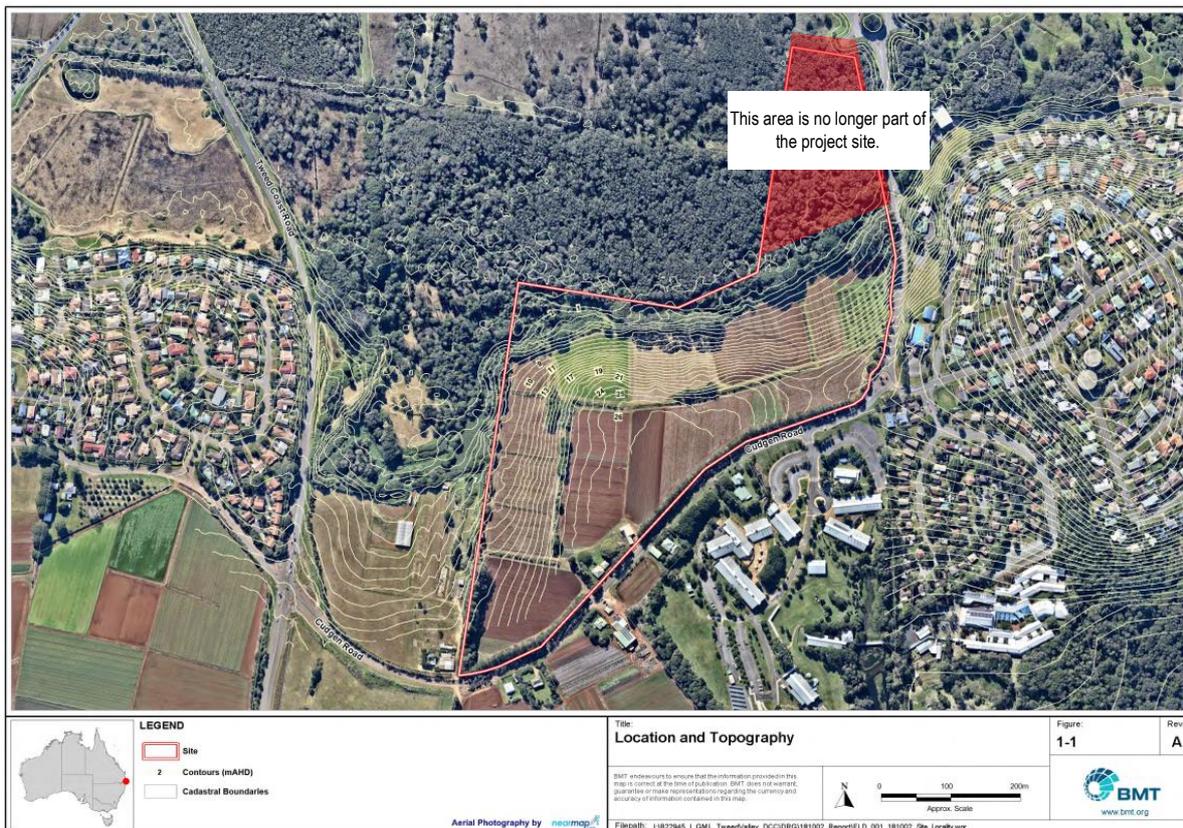
2. SCOPE OF PROJECT AND SUB PLAN

PROJECT DETAILS	
Scope of the Sub Plan	This Flood Emergency Response Sub Plan (FERSP) outlines the general requirements for initiating an emergency response that could occur as a result of a flood event. This plan also outlines the subsequent management and communications response planned for any potential and actual emergencies which may occur on or impact this Project/Workplace.
Objectives of the Sub Plan	<ul style="list-style-type: none"> • Educate staff and contractors working on the hospital site of the emergency response system in the nature of a flood • To dictate the flood warning time and notification procedure • Identify assembly points and evacuation routes for contractors and employees • Identify evacuation and refuge protocols • Outline awareness training for employees and contractors
Scope of Works	<p>This Sub Plan has been prepared based on scope covered by Stage 1 – 4 of the Staging Report:</p> <ul style="list-style-type: none"> • Site establishment including ATF, fixed temporary fence and hoarding installation, office and compound setup; • Civil Works, including carparks and roads for Stage 2; • Cudgen Road Widening • Monitoring and maintenance of existing Sedimentation Basins; • Construction of the multi-level Main Works Stage. This new build will include a new emergency department, helipad, IPUs, ICU, MAU, expanded rehab and ambulatory care facilities and operating theatres • Landscaping

3. THE SITE

Location: 771 Cudgen Road, Cudgen (Lot 102 DP 870722)

As defined in BMT’s flood Assessment Report the Project Site is located north of Cudgen Road and east of Tweed Coast Road. The Project Site is located on the north side of a ridge separating the Tweed River and Cudgen Creek catchments. The Project Site’s topography is varied with its boundary on Cudgen Road representing a high point with maximum elevations of approximately 27m AHD. The Project Site grades relatively evenly from this ridge towards its northern boundary where elevations are approximately 1m AHD.



3.1 EXTENT OF SITE PRONE TO FLOODING

As per the flood mapping diagrams within Appendix Six, there are sections of the project site and surrounds that are affected during Peak, 5% and 1% AEP events. These areas are to the North of the site within the bush-regeneration area and workforces numbers within this area are limited.

3.2 SITE ACCESS DURING A FLOOD EVENT

Access to the site however is quite restricted during Peak, 5% and 1% AEP. The Flood and Coastal Assessment for the Tweed Valley Hospital site – prepared by BMT, identified that whilst there are local access points off Cudgen Road that are flood free in events up to the PMF event many roads that connect to Cudgen are impacted (refer to Appendix 7). Most notable are the M1 and Tweed Coast Road which are severely inundated during the 5% AEP event, and broadly similar flood inundation pattern and predicted locations of road closures during 1%.

For southern coastal populations access to site in this eventuality can be via Casuarina Way/Tweed Coast Road, or via M1/Clothiers Creek Road/Farrants Road/Eviron Road/Duranbah Road and Cudgen Road. However access from the North will be very limited and as such Northern Living Workers would be advised to leave prior to flood event. TMR have confirmed that the flood prone areas (M1 near Exit 87 and 82) are subject to current upgrade projects which may improve their existing flood immunity. Lendlease site staff will regularly monitor the Road Conditions via RTA Live Traffic and will utilise the information platform to notify the staff in line with the other notification websites as per the list identified Section 14 of this plan.

3.3 FORECASTED WEATHER EVENTS

According to the Bureau of Meteorology, there is potential of a La Nina event forming this year which may increase rainfall on the site. Furthermore, during the previous La Nina period, there seemed to have a number of cyclones which brought cyclones closer to the site.

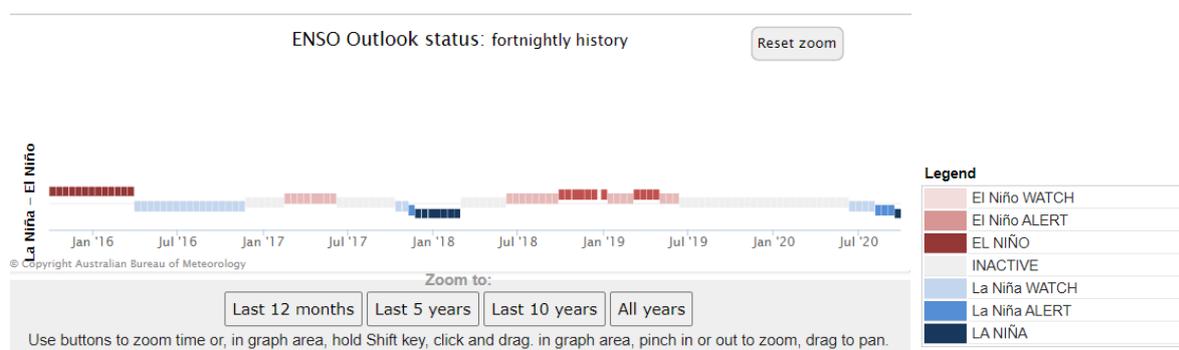


Figure 1: Fortnightly ENSO Outlook values (BOM, 2020)

4. EVACUATION DIAGRAM, ROUTES AND ASSEMBLY AREAS

An emergency Evacuation Diagram that complies with AS3745 must be displayed in prominent locations where workers and visitors can view the diagram. An example of this Evacuation Diagram for the Lendlease Site Office is contained in Appendix Two of this Plan. Please refer to the Emergency Response plan for the checklist to which this diagram was created.

Evacuation Diagrams shall be reviewed at maximum monthly intervals for all construction workplaces and updated to reflect any change. The Main Works future configuration is shown in Appendix Three.

It shall be noted that the muster point, Lendlease, Client and Worker accommodation is located on the higher level of site towards the south.

5. EMERGENCY RESPONSE

To assist with defining the types of scenarios the following stages of flooding are defined:

- White – Normal Operations
- Yellow –Flooding of the site or surrounding site accesses possible within the next 24 hours
- Orange – Local Flooding of the site or surrounding site accesses possible within the next 2 hours
- Red - Regional Flooding of the site or surrounding site accesses possible within the next 2 hours
- Black - Flooding of the site or surrounding site accesses possible within the next 1 hour
- Green – All clear after flooding event, floodwaters have withdrawn and there is flood free access to or from the site

5.1 White Event

The site will remain operational in a White Alert Mode and will remain in White Alert mode until there is evidence that a flood might occur with the next 24 hours.

Actions during a white event:

- Review of FERP annually or after any flood event or site evacuation to reflect any lessons learnt or changes in the site layout, features or operations or to incorporate new data on flood behaviour as this becomes available;
- Include FERP details in inductions and training
- Organise a drill of the flood emergency response procedures annually;

5.2 Yellow Event

The Yellow Alert Mode will be called by the Site Manager if any alerts suggesting a flood event either within site or surrounding areas could occur within the next 24-hour period or floodwaters are sighted in the bush regeneration area or along the road corridors between the M1 motorway and the site. Under the Yellow Alert Mode, a flood affecting the site is possible in the next 24 hours. The management actions to be undertaken will depend on when the Yellow Alert Mode is called and are reported below.

Actions during a yellow event:

- Site Manger to communicate to the ECO that the site has escalated to yellow alert mode;
- Communicate to the Area Wardens and Wardens who are on site that the site has escalated to yellow alert mode and tell them that a flood affecting the site is possible in the next 24 hours;
- Every four hours monitor the sources of information for the triggers of the upper alert modes.
- Using this FERP, rehearse the management actions to be undertaken should the Alert Mode escalate to Orange;

5.1 Orange Event

The Orange Alert Mode is called by the Site Manager if any if any localised alerts suggesting a flood event either within surrounding areas could occur within the next 2 hour period or floodwaters are sighted in the bush regeneration area or along the road corridors between the M1 motorway and the site. The management actions to be undertaken will depend on when the Orange Alert Mode is called and are reported below.

Actions during an orange event:

- Site Manger to communicate to the ECO that the site has escalated to orange alert mode;
- Communicate to the Area Wardens and Wardens who are on site that the site has escalated to orange alert mode and tell them that a flood affecting the site is possible in the next 2 hours;
- Communicate to all staff and visitors on site that bush regeneration area, sedimentation basins, and northern areas of site may flood within 2 hours and that the area may become restricted.
- Communicate to all staff and visitors on site that care is to be taken to avoid flooded roads when driving to or leaving the site and alternate paths should be taken.
- Every four hours monitor the sources of information for the triggers of the upper alert modes.
- Using this FERP, rehearse the management actions to be undertaken should the Alert Mode escalate to Red;
- Within 10 minutes from receiving communication from the Site Manager that the orange alert mode was triggered, decide whether an evacuation message for the bush regeneration area will be issued. If time

allows, consult with the NSW Police Force and/or NSW SES regarding the evacuation of the bush regeneration area or northern extents of site;

5.2 Red Event

The Red Alert Mode is called by the Site Manager if any alerts suggesting a regional flood event either within surrounding areas could occur within the next 2-hour period or floodwaters are sighted in the bush regeneration area or along the road corridors between the M1 motorway and the site. Under the Red Alert Mode, a regional flood affecting the site is possible within the next 2 hours. The management actions to be undertaken will depend on when the Red Alert Mode is called and are reported below.

- Site Manger to communicate to the ECO that the site has escalated to red alert mode;
- Communicate to the Area Wardens and Wardens who are on site that the site has escalated to red alert mode and tell them that a regional flood affecting the site is possible in the next 2 hours;
- Ask Area Wardens and Wardens to close vehicular and pedestrian access to the northern side of site until further notice;
- Using this FERP, rehearse the management actions to be undertaken should the Alert Mode escalate to Black or change to Green;
- Every 30 minutes monitor the sources of information for the triggers of the upper alert modes.
- Communicate to all staff and visitors on site that the northern region (as per Appendix Six) of site is flooding or is at high risk of imminent flooding and that both vehicular and pedestrian access to that area of site are now closed until further notice.
- Northern Living Workers would be advised to leave prior to flood events as the M1 is flooded at Chinderah in the 5% flood, and the M1 is potentially flood prone near Exit 87 and 82 in the 1% AEP flood.
- Within 10 minutes from receiving communication from the Site Manager that the orange alert mode was triggered, decide whether an evacuation message for the bush regeneration area will be issued. If time allows, consult with the NSW Police Force and/or NSW SES regarding the evacuation of the bush regeneration area or northern extents of site;

5.3 Black Event

The Black Alert Mode is called by the Site Manager if any alerts suggesting a regional flood event either within surrounding areas could occur within the next hour period or floodwaters are sighted on the road between the M1 motorway and the site. Under the Back-Alert Mode, a flood affecting the site is possible within the next 1 hour. The management actions to be undertaken will depend on when the Black Alert Mode is called and are reported below.

- Site Manger to communicate to the ECO that the site has escalated to black alert mode and the site should be evacuated;
- Communicate to the Area Wardens and Wardens who are on site that the site has escalated to black alert mode and tell them that a regional flood affecting the site is possible in the next 1 hour;
- Ask Area Wardens and Wardens to close vehicular and pedestrian access to their work areas and cease all works immediately;
- Using this FERP, rehearse the management actions to be undertaken should the Alert Mode change to Green.
- Contact the NSW SES and communicate that the site has entered the Black Alert Mode. Explain that this equates to a potential risk of floodwaters affecting the site within the next hour.

- Ask the NSW SES to provide regular updates on the flood emergency and to provide an “all clear” notice as soon as the emergency has passed.
- Ensure that the CCTV network can be accessed remotely to monitor the premises after these have been evacuated
- Ensure all gates are closed to prevent access to site.

5.4 Green Event

The Green Alert Mode is called by the Site Manager upon receiving notification from the NSW SES that the flood emergency has now passed. The management actions to be undertaken are reported below.

Actions during an orange event:

- Communicate to the ECO that the NSW SES has provided the “all clear” and the flood emergency has now passed;
- Every hour, keep monitoring the sources of information;
- If the site has experienced any flooding, coordinate a hazard assessment, prepare safe work methods statements and supply staff with personal protective equipment consistent with the known hazards which can be associated with floods: - Slips, trips and falls; - Sharp debris; - Venomous animals; and - Contaminated water and sediments.
- • Communicate the “all clear” to staff/workers

6. PLANNING FOR A FLOODING EMERGENCY

The following steps should be taking in preparation for a flood emergency:

- Contact the local council / shire and confirm flooding risk and planning requirements
- Check Geoscience Australia website: <http://www.ga.gov.au/flood-study-web/#/searchApp/searchBasic>
- Download the flooding planning guide appropriate to your region/state and implement requirements
- Ensure flood response materials are available for immediate use e.g. sand and sandbags, plastic sheeting, loudhailer first aid kit
- Ensure all workers are briefed on flooding risk during workplace inductions and at other appropriate times
- Subscribe to the National Alert System: <http://www.emergencyalert.gov.au/>
- Ensure the dangerous goods and hazardous materials register is up to date and all storage is in non-flood prone areas
- Ensure the workplace can be effectively secured from intruders if abandoned during a flood event
- Ensure all IT systems are backed up regularly to off-site servers
- Ensure all isolation points for water, electricity and gas are communicated to all ECO members and included on the Evacuation Diagram or Emergency Equipment Diagram
- Gather and reviewing background information of the location of the site – refer to Appendix B Flood Assessment
- Determining and assessing the waterway entrance type to site which will lead to the appropriate modelling approach used for determining an ocean water level boundary condition.
- Establish a methodology to determine ocean boundary conditions.
- Create relative timing of catchment flooding and oceanic inundation
- Determination of design flood levels – refer to Appendix A
- Conduct sensitivity testing for key flood events.
- Testing the implications of sea level rise on the location of the site.

7. NOTIFICATION AND WARNING

Notifications and warning will be managed on site via the following:

- Site staff are to subscribe to the Bureau of Meteorology (BoM) for regular updates on weather events.
- EHS Regional Managers sends alerts to Site Manager and Safety Committee organised to address actions required.
- Site Manager is to perform daily checks on BoM and State Emergency Services (SES) – New South Wales
- Notification and Warnings to be included in Daily Builders Briefs to all Construction Workers
- Regular monitoring of the Tweed Shire Council Emergency Dashboard.

8. RELATED DOCUMENTS

Whilst only a Flood Emergency Response Plan is required from the SSD10353 condition, Lendlease's other plans should be referenced in addition to this management plan.

- Emergency Response Plan
- Background documents that support the detail outlined in this Flood Emergency Response Plan are:
- Emergency Response Procedure
- Emergency Call Ambulance Poster
- Evacuation / Emergency Drill Evaluation form / Enablon App
- Emergency Planning Committee Charter
- AS3745 Planning for Emergencies in Facilities
- First Aid in the Workplace – Code of Practice (Safe Work Australia)
- Floodplain Risk Management Guideline

9. DEFINITIONS

Emergency Control Organisation (ECO)

Workplace Manager and nominated representative(s) responsible to direct and control the implementation of the emergency response plan

Emergency Response Team (ERT)

Specialist personnel appointed to attend specific incidents, to contain, control or eliminate the emergency using emergency response equipment, e.g. fire brigade, ambulance service or paramedic.

Emergency Planning Committee (EPC)

HOSF persons responsible for the documentation and maintenance of the pro-forma emergency plan.

HOSF

Means the EHS Head Office Service Function located within the LLB head office.

Workplace Manager

Means Construction Manager (construction site), Project Manager, General Manager, Practice Manager (Applied Insight), or any other workplace or department specific manager of Lendlease Building with the responsibility for day-to-day management or control of a workplace(s).

10. PROTECTION PRIORITIES

Lendlease have the following protection priorities in the event of an emergency:

- Safety of People; then
- Protection of the Environment; and finally
- Safeguarding of commercial considerations

11. EMERGENCY RESPONSE

Lendlease Tweed Valley Hospital Project has a Flood Emergency Response Sub Plan and Emergency Response Management Plan which have a nominated Emergency Control Organisation Leader in its workplace. The primary role of the workplace ECO Leader is to direct and control the implementation of the emergency response plan and render personnel and facilities safe by the application of local resources and liaison with the Emergency Response Team, i.e. external emergency services.

The initial response to an emergency and the implementation of the emergency response plan may include the following actions:

- R Remove** workers from immediate danger (if safe to do so)
- A** Raise the **Alarm** by contacting appropriate emergency services advising the nature, status and exact location of the incident/condition/external threat and advise what action has been taken or is underway
- C Contain** the incident and its effects and make the area safe – preserve the scene for investigation; and
- E Evacuate** workers if required and undertake a head count

12. RESPONSIBILITIES

Various sections of this ERP detail roles and responsibilities allocated to specific position holders for different activities to be undertaken at a specific time or in response to specific events. Principal responsibilities are as follows:

Role	Responsible Person
Emergency Planning Committee (EPC)	Chaired and managed by HOSF
Emergency Control Organisation (ECO)	Chaired and managed by the Workplace Manager
Emergency Response Team (ERT)	Emergency Services e.g. fire brigade, ambulance service or paramedic.

13. OTHER RESULTANT EMERGENCY SCENARIOS

The Project/Workplace Impacts and Hazards Risk Assessment has identified emergency response at this Project/Workplace as high risk in the likelihood of a flood see below:

Type of emergency	Credible Emergency	
	Yes	No
Contact with in-ground services	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Excavation failure, e.g. partial collapse, ingress of water, contaminated air	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Failure of temporary containment structure (e.g. erosion and sediment control)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Ground or other major subsidence	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Immersion of a person(s) in water or a waterbody	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Internal emergency - electrical power failure, water supply failure, hoist/lift/plant failure or structural collapse, odour/gas leak/toxic emission	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Natural disaster (e.g. cyclone, bushfire, earthquake);	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pollution or the potential for pollution, e.g. leaks or spills	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Roll over of mobile plant	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Storage of dangerous goods and hazardous substances	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stretcher access/ egress and first aid	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Structural collapse, e.g. tilt up/precast high winds/prop failure or formwork partial collapse;	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Vehicular/plant collision (public or project)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other (List) – Rescue from excavations	<input checked="" type="checkbox"/>	<input type="checkbox"/>

14. TRAINING & PERIODIC DRILLS

Refer to the Emergency Response Plan for training requirements and periodic drills.

Details on potential site flooding is included within the Tweed Valley Hospital Induction Presentation for all employees and sub-contractors. Presentation includes the likelihood of the site flooding, assembly points and evacuation procedure if required.

15. EMERGENCY CONTACT NUMBERS

Emergency contact numbers are listed in Appendix One of this plan and must be displayed in prominent locations at this Project/Workplace.

APPENDIX ONE: EMERGENCY CONTACT NUMBERS

Site:

Name	ECO Position	Contact Details
██████████	EH&S Coordinator ECO leader- TVH Main Pad	██████████
██████████	Project Director	██████████
██████████	Senior Project Engineer Communications	██████████
Refer to the emergency response plan for more details on individual roles		

Other:

Discipline	Company	Contact Number
SES		132 500
Gas	LPG	13 11 61
Electricity	Essential Energy	13 20 80
Hospital	Tweed Heads Hospital	(07) 5536 1133
Fire rescue	Tweed Heads Fire Station	000 07 5536 2222
Fire rescue	Kingscliff Fire Station	000 (02) 6674 1271
Police	Tweed Heads Police	000 (07) 5506 9499
Police	Kingscliff Police	000 (02) 6674 9399
Poisons Information		131 126
EPA		131 555

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Water and Sewer	Tweed Shire Council	1800 818 326
LLB Injury Management Hotline		1800 825 055

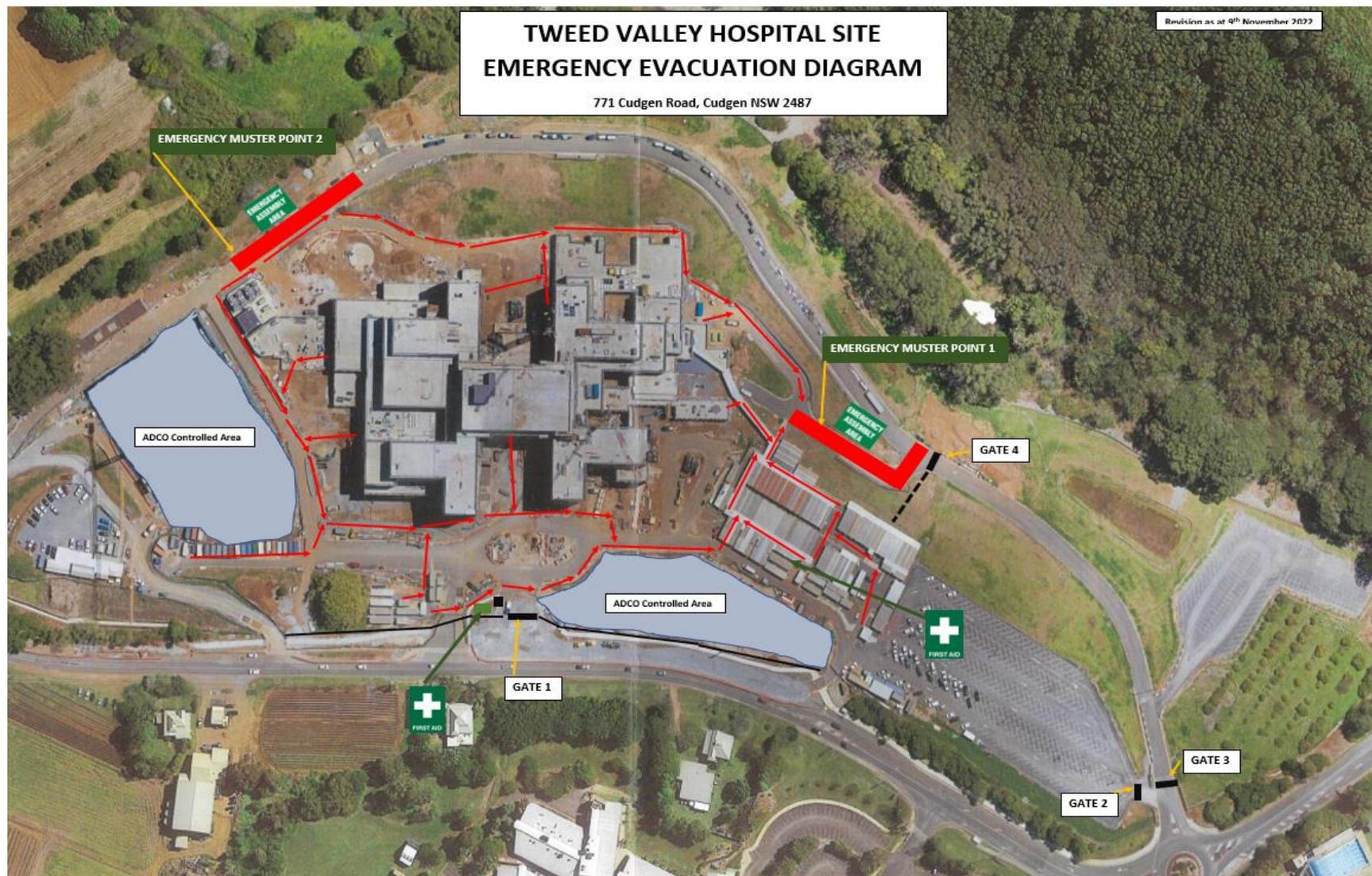
APPENDIX TWO: EMERGENCY CONTROL ORGANISATION (ECO) RESPONSIBILITIES & MEMBERSHIP

Role	Responsibilities
Emergency Control Organisation Team Leader	<ul style="list-style-type: none"> ▪ Ensure this Plan is completed, regularly reviewed, implemented and tested. ▪ Review and approve all modifications to the emergency response system, facilities and ECO team members (including action on any post incident or exercise report recommendations) ▪ Establish and maintain an Emergency Control Centre (ECC) and support facilities ▪ Establish an emergency response exercise schedule as required by this plan. ▪ Integrate the emergency response exercise schedule with the Lendlease ECO and workplace EHS Committee/EHS Consultation Group in order to ensure the effectiveness of site - ECO communications interface ▪ Ensure any third party (non-Lendlease) personnel who may be co-opted in an emergency response are fully aware of expectations on them and are prepared to become immediately effective in an Emergency ▪ Promote the Lendlease Emergency Response arrangements to all site personnel ▪ Maintain familiarisation with obligations under this plan including reporting requirements, notifications etc. ▪ Ensure that all Lendlease Project Managers, Supervisors and ECO members receive an awareness session on their roles, responsibilities and requirements of this plan ▪ Provide single point of contact with the Emergency Response Team; i.e. Emergency Services and any related Client ▪ Other
Deputy ECO Team Leader	<ul style="list-style-type: none"> ▪ Undertake duties delegated by the ECO Team Leader; and ▪ In the absence of the ECO Team Leader, fulfil the role of ECO Team Leader ▪ Other
Communications Officer	<ul style="list-style-type: none"> ▪ Responsible for managing all incoming calls ▪ Responsible for managing outgoing calls as delegated by ECO Team Leader ▪ Completing log of events ▪ Other
Area Warden(s)	<ul style="list-style-type: none"> ▪ Ensuring the safe evacuation of all site personnel in the event of an emergency. ▪ Conduct a head count and advise the ECO Team Leader/Deputy of the results ▪ Establish a watch for arriving emergency vehicles and provide an initial brief to the responding agency Emergency Response Team Controller ▪ Undertake traffic control duties ▪ Other
First Aider	<ul style="list-style-type: none"> ▪ Proceed to the Emergency Assembly Area/Muster Point and provide first aid as required ▪ Other

APPENDIX THREE: SITE EVACUATION PLAN – EARLY WORKS CONFIGURATION



APPENDIX FOUR: SITE EVACUATION PLAN – MAIN WORKS CONFIGURATION



APPENDIX SIX: PROJECT SITE FLOOD PLAINS



**TWEED VALLEY HOSPITAL
FLOOD EMERGENCY RESPONSE PLAN**



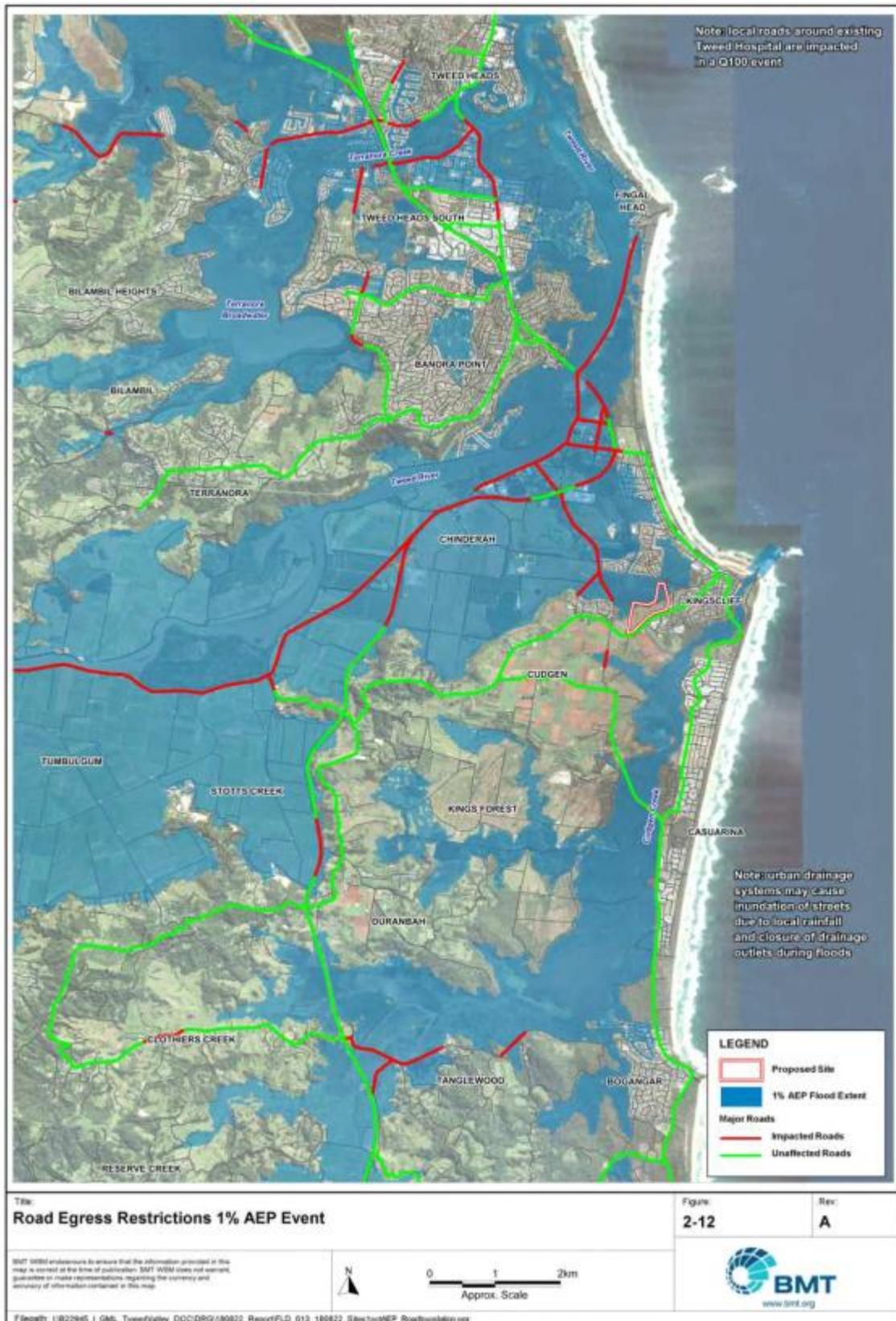
**TWEED VALLEY HOSPITAL
FLOOD EMERGENCY RESPONSE PLAN**



APPENDIX SEVEN: ROADS CLOSED DUE TO FLOODING SURROUNDING SITE



TWEED VALLEY HOSPITAL
FLOOD EMERGENCY RESPONSE PLAN



APPENDIX EIGHT: CONSULTATION WITH FLOOD CONSULTANT

[REDACTED]

From: [REDACTED]
Sent: Friday, 11 September 2020 3:59 PM
To: [REDACTED]
Subject: RE: [EXT]:RE: [External] SSD Stage 2 - Tweed Valley Hospital - Flood Plan

Hi [REDACTED]

I have had a chance to review the document. I have the following general comments.

- There is potential of a La Nina event forming this year which may increase rainfall on the site, we also seemed to have a number of cyclones during the previous La Nina periods <http://www.bom.gov.au/cyclone/history/tracks/beta/> which brought cyclones closer to the site.
- Section 6 – emergency response. I haven't been able to review the Emergency Response Management Plan. Generally the focus appears correct, but there is little detail in this section to comment on. I would like to see more specific detail on what the actual emergency response is, rather than what is may include. Perhaps you could break it down by scenario types for flooding, ie. local event (i.e. high intensity, short duration event) which may see lots of stormwater flows through the site, or a long lead time event such as a regional event which will occur over the period of a day(s). Emergency responses will be different for both. Given the mobility of the workforce, early warning, site closure and prevention of workers trying to access the site is a good course of action. Access to the site is possible via local roads during large events but access is severely limited due to loss of the M1 at Chinderah for the 5% AEP events and above. This prevents highway access to from the north and south and pushes access to local roads which may be subject to local flooding, congestion and the like.
- In terms of periodic drills, s10. It would be good to see that flood emergency management is discussed at the start of the project and that at the regulated periods thereafter.
- No specific details on flood warning time. Simply references to website, flood planning guides, National Alert Systems. There may be further information in the Tweed Floodplain Risk Management Study and Plan which provides information on flood risk planning. This level of information will assist in decision making about what is scenarios, for instance, flood waters are rising at Murwillumbah, how long before the M1 is flooded. This should link with the SES and I would like to see more engagement with them on the flood plan.
- How does the Site Manager communicate rainfall flood risks to the ECO team leader (is the Site manger also Workplace Manager?). As flooding and site access/egress in times of flood is a risk, there needs to be clarity around who monitors rainfall and flood risk at the site and that they have the capacity to manage the situation appropriately. As outlined above, a decision may need to be made in line the flood warning times (identified above as a gap) to either cease work immediately, or close the site to allow risks to pass. During 2017, a major flood in Murwillumbah due to upper catchment flooding resulted in a 5% AEP flood at the site which would have caused extensive access issues for workers (for a period of 3 or 4 days), for instance.
- In section 20, this wording may be more appropriate, "Northern Living Workers would be advised to leave prior to flood events as the M1 is flooded at Chinderah in the 5% flood, and the M1 is potentially flood prone near Exit 87 and 82 in the 1% AEP flood"
- You could update your cyclone tracks here <http://www.bom.gov.au/cyclone/history/tracks/beta/>
- The Evacuation Diagram is very hard to read, suggest it is remade, it is confused with a number of arrows and symbols and a poor quality background image. Please check that it meets the minimum requirements.

I hope this helps, I am happy to discuss the points above.

Kind Regards
[REDACTED]