EMERGENCY ACTION PLAN — PETER FAUST DAM (ID 340)

ISSUE: 8.2 — September 2024 **Expiry:** 1 July 2026

Prepared by **Sunwater Limited**

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Approved by the delegate of the Chief Executive, Department of Regional Development, Manufacturing and Water until 1 July 2026.

Emergency activation quick reference

The Emergency Action Plan (EAP) for Peter Faust Dam covers dam hazards evaluated within Sunwater's Dam Safety Management Program.
Use the following table to select the relevant section of the EAP that deals with the dam hazard. **The Incident Coordinator (IC) is responsible for the decision to activate the EAP. Should the IC be unavailable, the Local Event Coordinator (LEC) or Dam Duty Officer (DDO) is responsible for the decision.**

Table 1: Emergency activation quick reference

Dam Hazards and section numbers	Activation Levels			
	Alert	Lean Forward	Stand Up	Stand Down
	• Locally managed (DDO)	• Locally managed (DDO and IC)	• Locally managed (DDO and IC) with advice from Owner's Rep/DSTDM	• Locally managed (DDO and IC) with advice from Owner's Rep/DSTDM
	Activation triggers for dam hazards			
Flood operations See *section 5*	• EL 85.50m and rising (0.1m below FSL)	• Storage above FSL 85.60m and rising	• Storage above EL 87.08m	• Storage level EL 85.70m and falling, no more rain observed in previous 12 hours
Piping: embankment, foundation, or abutments See *section 6*	• Increasing leakage through an embankment, the foundations, or abutments	• Increasing leakage through an embankment, the foundations, or abutments with cloudy water	• Piping condition has been established	• Risk assessment has determined that failure risk has reduced
Earthquake See *section 7*	• Earthquake reported or felt in the area, AND • Intensity less than 5 Modified Mercalli (MM)	• Earthquake reported or felt in the area, AND • Intensity greater than or equal to 5MM, OR • Intensity less than 5MM and change detected during surveillance inspection	• Earthquake reported or felt in the area, AND • A possible failure path has been identified	• Risk assessment has determined that failure risk has reduced
Terrorist threat/ activity or high energy impact See *section 8*	• Not applicable	• Not applicable	• Possible terrorist activity noticed at dam or threat received • Large explosion heard/observed at dam (e.g., bomb explosion, aircraft hit) • Failure in progress or likely due to impact or explosion • Sufficient water in storage to create a dam hazard	• Risk assessment has determined that failure risk has reduced

CONTINUED NEXT PAGE: EMERGENCY ACTIVATION QUICK REFERENCE

ALL ACTION MUST BE TAKEN WHEN IT IS SAFE TO DO SO
e.g., taking photographs/video, dam inspections, instrument readings

Emergency activation quick reference – Other Emergency Situations

The EAP for Peter Faust Dam covers one other emergency situation evaluated within Sunwater's Dam Safety Management Program. Use the following table to select the relevant section of the EAP that deals with the other emergency situation. **Note: The Incident Coordinator (IC) is responsible for the decision to activate the EAP. Should the IC be unavailable, the Local Event Coordinator (LEC) or Dam Duty Officer (DDO) is responsible for the decision.**

Table 1 (continued): Emergency activation quick reference

Other Emergency Situations and section numbers	Activation level		
	Communications Failure – Dam Site (DDO)	Communications Failure – Local Area (LEC/ORR)	Communications Failure – Brisbane (IC/DSTDM)
	• Site managed (DDO - becomes LEC)	• Brisbane managed by Incident Coordinator (IC)	• Locally managed by Local Event Coordinator (LEC)
	Activation triggers for other emergency situations		
Comms Failure See **section 9**	• Unable to communicate to or from dam site	• Unable to communicate to or from Local Area	• Unable to communicate to or from Sunwater Brisbane

Table of contents

List of tables

List of figures

Document control

Authorisation of document

Name	Position/role	Signature	Date
[redacted]	EAP Program Lead — Prepared for submission	[redacted]	24/09/2024

Document revision history

Issue	Date	Prepared by	Reason for change	Ref. no.
2	February 2008		Substantial review of Peter Faust Dam Emergency Action Plan to reflect Sunwater Management structure and updated inundation maps.	
3	October 2011		Significant changes to all sections of Peter Faust Dam Emergency Action Plan to reflect current Sunwater Management structure and other changes.	
4	October 2015		New Emergency Action Plan developed at expiry of 3E approval. Issued for consultation with Relevant Disaster Management groups.	HB # 1723409
5	September 2016		Updates to contact details and Emergency Alert section.	HB # 2023274
6	October 2017		New Emergency Action Plan with minor amendments including contact list updates.	HB # 2086319
7	October 2018		Revised and reviewed Emergency Action Plan developed at expiry of approval. Also includes: updates that reflect the Water Legislation (Dam Safety) Amendment Act 2017, implementation of changes to Sunwater management structure, new event management roles and addition of new Emergency Activation section (Other Emergency Situations).	HB # 2086319
7.1	September 2019		Amended contacts and associated sections, e.g., Organisation chart & Controlled Copy Holders list. Updated Downstream Notification map. Minor error corrections and other non-substantive changes.	HB # 2473244
7.2	September 2020		Amended contacts and associated sections, e.g., Organisation chart & Controlled Copy Holders list. Minor error corrections and other non-substantive changes.	HB # 2569977
7.3	September 2021		Amended contacts and associated sections, e.g., Organisation chart & Controlled Copy Holders list. Minor error corrections and other non-substantive changes such as removing Comprehensive Risk Assessments description (2.9) and simplifying FODM role in Activation triggers (5.2.1) including removing para 5.2.2.	HB # 2653238
7.4	September 2022		Amended contacts and associated sections. Minor error corrections and other non-substantive changes. The Chemical Hazard section has been removed as it is not a Dam Safety Hazard and is dealt with in other more relevant documents.	HB # 2726204
8.0	March 2023		Amendments to Document Control and section 3, including PAR and dam specifications. Appendix B Inundation maps updated. Amended emergency action levels throughout EAP to comply with AWS format. Various non-substantive changes such as minor error corrections and formatting. Chemical spill hazard removed from Section 1.3. Emergency alert updated to comply with AWS in Appendix A.	# 2743892

Issue	Date	Prepared by	Reason for change	Ref. no.
8.1	September 2023		Non-substantive updates as part of Annual Safety Statement. Minor error corrections and readability improvements.	# 2809742
8.2	September 2024		Wet season preparedness – contact updates	# 2865450

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1	Storage Supervisor	Sunwater, Peter Faust Dam
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Local Disaster Coordinator — Local Disaster Management Group (LDMG 1)	Whitsunday Regional Council
Senior Flood Forecaster	Bureau of Meteorology, Brisbane
Note: Communication information for each 'Electronic Copy Holder' is in Appendix A.	

1. References, abbreviations, and definitions

1.1 References/associated documents

Ref.	Document title	Reference/location
A	Water Supply (Safety and Reliability) Act 2008 — Current 08 March 2022	https://www.legislation.qld.gov.au/view/whole/pdf/inforce/current/act-2008-034
B	Guidelines on Selection of Acceptable Flood Capacity for Dams (ANCOLD, 2000)	ANCOLD
C	Guidelines on Consequence Categories for Dams (ANCOLD, 2012)	ANCOLD ISBN: 978-0-9808192-5-0
D	Australian Rainfall and Runoff (ARR) 2019	http://book.arr.org.au.s3-website-ap-southeast-2.amazonaws.com/
E	Guideline for Failure Impact Assessment of Water Dams (DNRME 2018)	https://www.resources.qld.gov.au/__data/assets/pdf_file/0005/78836/guidelines-failure-impact-assessment.pdf
F	Water Act 2000	https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2000-034
G	Queensland Dam Safety Management Guidelines (DNRME October 2020)	https://www.dnrme.qld.gov.au/__data/assets/pdf_file/0007/78838/dam-safety-management.pdf
H	Professional Engineers Act 2002 (RPEQ) (September 2013)	https://www.legislation.qld.gov.au/view/pdf/inforce/2013-09-23/act-2002-054
I	Queensland Disaster Management Act 2003 — Current 08 April 2022	https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2003-091
J	Queensland Emergency Alert Manual – M.1.174 (February 2022)	M.1.174 Queensland Emergency Alert Manual (disaster.qld.gov.au)
K	Queensland Government Communications and systems for public information and warnings	https://www.disaster.qld.gov.au/dmg/Response/Pages/5-6.aspx
L	Guidelines for the Development of Communication Education, Awareness and Engagement Programs (2010)	https://knowledge.aidr.org.au/media/1970/manual-45-guidelines-for-the-development-of-communication-education-awareness-and-engagement-programs.pdf
M	Sunwater (internal) Strategic Event Procedure	Strategic Event Procedure
N	Queensland State Disaster Management Plan 2018 (Queensland's Disaster Management Committee)	Interim-2023-QSDMP-V1.2.pdf (disaster.qld.gov.au)
O	Queensland Disaster Management Guidelines	https://www.disaster.qld.gov.au/dmg/Pages/DM-Guideline.aspx
P	Queensland Rainfall and River Conditions (BOM-Flood Warning)	http://www.bom.gov.au/qld/flood/index.shtml?ref=hdr
Q	Sunwater (internal) Emergency Alert Protocol	HB # 2156253
R	Sunwater (internal) Peter Faust Dam Operation and Maintenance Manual	Peter Faust Dam O&M Manual

Ref.	Document title	Reference/location
S	Sunwater (internal) Peter Faust Dam Safety Condition Schedule	HB # 2742396
T	Sunwater (internal) Peter Faust Dam Comprehensive Risk Assessment 2008	HB # 738941
U	Sunwater (internal) Peter Faust Dam Break Analysis 2006	HB # 322436
V	Sunwater Operations (internal) Peter Faust Dam — Hazard Management Toolkit (HMT)	Only available with Sunwater internal versions of EAPs
W	Standing Operating Procedure (SOP) 12 – Dam Logbooks (Sunwater internal)	SOP12 –- Dam Logbooks
X	Fatigue Management Procedure WHS42 (Sunwater internal)	Fatigue Management Procedure

1.2 Abbreviations and acronyms

AEP	Annual Exceedance Probability
AHD	Australian Height Datum
AMTD	Adopted Mean Thread Distance
ANCOLD	Australian National Committee on Large Dams
AWS	Australian Warning System
BOM	Bureau of Meteorology
CED	Chief Engineer Dams
CEO	Chief Executive Officer
CRA	Comprehensive Risk Assessment
CTG	Counter Terrorism Group
D/S	Downstream
DCF	Dam Crest Flood
DCL	Dam Crest Level
DDC	District Disaster Coordinator
DDMG	District Disaster Management Group
DDMP	District Disaster Management Plan
DDO	Dam Duty Officer
DDS	Director Dam Safety
DSR	Dam Safety Regulator
DSSC	Dam Safety Surveillance Coordinator
DSTDM	Dam Safety Technical Decision Maker
EAP	Emergency Action Plan
EA	Emergency Alert
EER	Emergency Event Report
EGMO	Executive General Manager Operations
EGME&WR	Executive General Manager Engineering & Water Resources
EL	Elevation Level
FCL	Fixed Crest Level
FODM	Flood Operations Decision Maker
FSL	Full Supply Level
GM	General Manager
IC	Incident Coordinator
IFHC	Incremental Flood Hazard Category
IGEM	Inspector-General Emergency Management
LB	Left Bank
LDC	Local Disaster Coordinator
LDMG	Local Disaster Management Group
LDMP	Local Disaster Management Plan
LEC	Local Event Coordinator
MAP	Manager Asset Planning
Max. OL	Maximum Operating Level
ME	Manager Environment
MM	Modified Mercalli
O&M	Operation & Maintenance
OB	Observation Bore
OC	Operations Centre
OCDO	Operations Centre Duty Operator
OCO	Operations Coordinator
OM	Operator Maintainer
OMGR	Operations Manager
OS	Operations Supervisor
ORR	Owner's Regional Representative
PAR	Population at Risk
PDSE	Principal Dam Safety Engineer
PFRM	Predictive Flood Routing Model
PLL	Probable Loss of Life
PMF	Probable Maximum Flood
PMP	Probable Maximum Precipitation
PMPF	Probable Maximum Precipitation Flood
PWRE	Principal Water Resources Engineer
QDMC	Queensland Disaster Management Committee
QFD	Queensland Fire Department
QPS	Queensland Police Service
RB	Right Bank
RC	Regional Council
RCC	Roller Compacted Concrete
RDMW	Department of Regional Development, Manufacturing and Water
ROC	Regional Operations Centre
RPEQ	Registered Professional Engineer of Queensland
RSL	Reduced Supply Level
SCED	Senior Civil Engineer Dams
SCTN	Security and Counter Terrorism Network
SDCC	State Disaster Coordination Centre
SDF	Sunny Day Failure
SDTE	Senior Dam Technical Engineer
SES	State Emergency Service
SMS	Short Message Service
SMT	Sunwater Media Team
SO	Standby Operator
SOP	Standing Operating Procedure
SRT	Strategic Response Team
SS	Storage Supervisor
SWL	Storage Water Level
SWRE	Senior Water Resources Engineer
U/S	Upstream
WHS	Workplace Health & Safety
WQ	Water Quality

1.3 Business terms and definitions

The meaning of terms used in this section are set out in accordance with relevant legislation or as defined by operator requirements.

Term	Definition
Terms defined with reference to the *Water Supply (Safety and Reliability) Act 2008* (ref A)	
Dam hazard	Means a reasonably foreseeable situation or condition that may: • cause or contribute to the failure of the dam, if the failure may cause harm to persons or property, OR • require an automatic or controlled release of water from the dam, if the release of the water may cause harm to persons or property.
Dam hazard event	Means an event arising from a *dam hazard* if: • persons or property may be harmed because of the event, AND • a coordinated response, involving 2 or more of the following relevant entities, is unlikely to be required; each local group and district group for the EAP, each local government whose area may be affected, the Chief Executive, another entity the owner of the dam considers appropriate, AND • the event is not an emergency event.
Disaster management plan	Of a *district group* or local government, means the group's or local government's disaster management plan under the Disaster Management Act.
District group (District Disaster Management Group)	For an emergency action plan (EAP), means a district group established under the Disaster Management Act, section 22 whose disaster district under that Act could, under the plan, be affected by a *dam hazard*.

Emergency event	Means an event arising from a *dam hazard* if:
	• persons or property may be harmed because of the event, AND
	• any of the following apply:
	  ○ a coordinated response, involving 2 or more of the following relevant entities, is likely to be required; each local group and district group for the EAP, each local government whose area may be affected, the Chief Executive, another entity the owner of the dam considers appropriate, OR
	  ○ the event may arise because of a disaster situation declared under the Disaster Management Act, OR
	  ○ an entity performing functions under the State disaster management plan may, under that plan, require the owner of the dam to give the entity information about the event.

Local group (Local Disaster Management Group)	For an EAP, means a local group established under the Disaster Management Act, section 29 whose local government area could, under the plan, be affected by a *dam hazard*.
Notice response	A dam owner's written response to a notice following an assessment of an EAP by a local government or *district group*.

Term	Definition
Referable dam	A dam, or a proposed dam after its construction, will be a referable dam if: • a failure impact assessment of the dam, or the proposed dam, is carried out under the Act, AND • the assessment states the dam has, or the proposed dam after its construction will have, a category 1 or category 2 failure impact rating, AND • the Chief Executive has, under section 349 of the Act, accepted the assessment. Also, a dam is a referable dam if: • under section 342B of the Act, the owner of a dam is given a referable dam notice and, before the effective day for the notice, does not give the Chief Executive a failure impact assessment for the dam, AND • the Chief Executive has not, under section 349 of the Act, accepted a failure impact assessment of the dam.
Relevant entity	Means each of the following under the EAP for the dam: • the persons who may be affected, or whose property may be affected, if a dam hazard event or emergency event were to happen for the dam, e.g., the owners of parcels of farmland adjacent to the dam or residents of a township • each local group and district group for the EAP • each local government whose local government area may be affected if a dam hazard event or emergency event were to happen • the Chief Executive • another entity the owner of the dam considers appropriate e.g., the Queensland Police Service.
Terms consistent with Queensland disaster management arrangements (ref N)	
Activation levels	The four levels of EAP activation are: • Advice: A heightened level of vigilance due to the possibility of an event occurring. No further action may be required; however, the situation should be monitored by someone capable of assessing the potential of the threat. Moving to an Advice level indicates the dam owner is getting ready to activate the Watch and Act level of the EAP if the situation deteriorates. • Watch and Act: An operational state characterised by a heightened level of situational awareness of an impending disaster event and a state of operational readiness. Disaster coordination centres are on standby and prepared but not activated. • Emergency Warning: The operational state where resources are mobilised, personnel are activated, and operational activities commenced. Disaster coordination centres are activated. The dam owner needs to provide an Emergency Event Report (EER) in accordance with the provision of the Act. • Stand Down: Transition from responding to an event back to normal core business and/or continuance of recovery operations. There is no longer a requirement to respond to the event and the threat is no longer present. The movement through these levels of activation is not necessarily sequential. It should be applied with flexibility and adaptability and be tailored to the location and event.

Term	Definition
	Triggering one of these levels of activation may not necessarily mean a similar activation of LDMGs or DDMGs.
Bureau of Meteorology flood level classifications	The three levels of flooding are: • **Minor flooding:** This causes inconvenience such as closing of minor roads and the submergence of low-level bridges and makes the removal of pumps located adjacent to the river necessary. • **Moderate flooding:** This causes the inundation of low-lying areas requiring the removal of stock and/or the evacuation of some houses. Main traffic bridges may be closed by flood waters. • **Major flooding:** This causes inundation of large areas, isolating towns and cities. Major disruptions occur to road and rail links. Evacuation of many houses and business premises may be required. In rural areas widespread flooding of farmland is likely.
Concurrent Flooding	Flood flows downstream of a dam that are not a result of dam outflows, for instance those from adjacent catchments or from the sea, and which occur in the same period as downstream releases or flooding from the dam.
Dam crest	The lowest elevation of the non-overflow crest section of the dam excluding handrails, parapets or wave walls that have not been designed to store water.
Dam crest flood	The flood event which, when routed through the reservoir, results in a still water reservoir level equivalent to the lowest dam crest level.
Dam failure	Dam failure is the physical collapse of all or part of a dam or the uncontrolled release of any of its contents.
Downstream releases	Downstream releases are outflows from the dam made through appurtenant structures such as spillways or outlet works that are in accordance with the design of the dam.
Earthquake	A sudden release of energy in the earth's crust or upper mantle, usually caused by movement along a fault plane or by volcanic activity, resulting in the generation of seismic waves that can be destructive. The potential consequences of an earthquake include: • settlement, sliding, or overturning of monoliths in the dam wall • initiation of seepage lines in the foundations or abutments that could lead to piping damage and potential inoperability of appurtenant works.
Flood release	A flood release from a dam occurs when catchment inflows raise the storage level above the Full Supply Level (FSL) resulting in a discharge from the spillway of the dam.
Piping	Internal scour caused by the water flow and seepage that occurs through earth dams, dam foundations, or dam abutments. The internal scour can lead to the formation of a pipe, which can lead to a failure of the dam.
Plane strike or other impact	The impact of a plane, meteorite, or other high energy item on or in close vicinity of a dam that could damage the dam structure or create a wave that could overtop the dam.
Probable maximum flood	The flood resulting from the probable maximum precipitation coupled with the worst flood-producing catchment conditions that can be realistically expected in the prevailing meteorological conditions.
Probable maximum precipitation	The theoretical greatest depth of precipitation for a given duration that is physically possible over a particular drainage basin.
Probable maximum precipitation flood	The flood resulting from the probable maximum precipitation coupled with typical catchment conditions.

Term	Definition
Stability, main embankment	High foundation pore pressure peaks may reduce the Factor of Safety against slip circle failure to an unacceptable level.
'Sunny day' failure	'Sunny day' dam failure is where the failure occurs at the full supply level and there is no concurrent rain associated flooding.
Terrorist activity	A deliberate attempt to damage or fail a dam.

Note: Sunwater has attempted to write the EAP to cope with all reasonably foreseeable emergency situations. However, there is considerable uncertainty about how any emergency might develop and progress. Factors such as the weather, the location, the mechanics, and the rate and size of any actual failure can considerably affect any resulting flood discharges. Therefore, a significant number of assumptions have had to be made in compiling sections of the EAP. Some variation in outcome should be expected where the event differs from the assumed behaviour.

2. Introduction

2.1 Context

Under the *Water Supply (Safety and Reliability) Act 2008* (the Act)(ref A), the owner of a referable dam must have an approved EAP for the dam. Referable dams, by definition, would put lives at risk if they were to fail.

This EAP has been prepared in accordance with Chapter 4 of the Act. The content requirements for EAPs are contained in section 352 H of the Act.

Summary of legal requirements – Section 352H

Section 352 H (1) of the Act requires that the EAP must identify each dam hazard for the dam

and for each of these dam hazard types (e.g. flood operations):

1. identify the area likely to be affected by a dam hazard event or emergency event arising from the dam hazard; and
2. identify each circumstance that indicates a material increase in the likelihood of the dam hazard event or emergency event happening; and
3. state when and how the owner of the dam plans to warn persons who may be harmed, or whose property may be harmed by an event caused by the dam hazard, if one happens, and/or there is a material increase in the likelihood of an occurrence, including the order of priority in which the persons or categories of persons are to be warned; and
4. state when and how the owner plans to notify the relevant entities for the dam, if a dam hazard event or emergency event happens or, there is a material increase in the likelihood of such an occurrence, including the order of priority in which the relevant entities are to be notified; and
5. state the actions the owner of the dam plans to take in response to a dam hazard event or emergency event.

In accordance with section 352 H (2) of the Act, the EAP may provide for the dam owner to make arrangements with a relevant entity for warnings to be given by the relevant entity on behalf of the dam owner in appropriate circumstances.

Section 352 H A of the Act states that before giving the Chief Executive an EAP, the owner of the dam must give a copy of the plan to each local government whose area may be affected by a dam hazard identified in the plan; and each district group for the plan.

Section 352 H B of the Act states that the local government must assess the EAP for consistency with its disaster management plan. In its assessment, the local government must consult with the local district group for the plan.

Within 30 business days of receiving the EAP, the local government must give the owner of the dam a notice, which states whether it considers the plan is consistent with its disaster management plan; and if not, give reason why it considers the EAP is not consistent. The EAP must include any such notices, provided to the owner of the dam by a local government (or district group); and any responses which the owner gives to these notices. Section 352 H (1) further stipulates that an EAP must include any other relevant matter prescribed by regulation.

The local government whose areas may be affected by a dam hazard for Peter Faust Dam have been determined as **Whitsunday Regional Council** (WRC) & **Mackay Regional Council** (MRC). Sunwater has provided both councils with a copy of the draft EAP for assessment.

Section 352 H C of the Act states that a district group may review the EAP for consistency with its disaster management plan. The district group for Peter Faust Dam is **Mackay District Disaster Management Group (DDMG)**. Sunwater has provided the DDMG with a copy of the draft EAP for review.

2.2 Purpose

The purpose of this EAP is:

- to minimise the risk of harm to persons or property if a dam hazard event or emergency event for the dam happens
- to identify dam hazards that could occur at Peter Faust Dam and the area likely to be affected for each hazard
- to prescribe emergency actions taken by the dam owners and operating personnel in identifying and responding to dam hazards and notifying relevant entities.

It is possible for more than one dam hazard to exist at Peter Faust Dam at the one time. In such a circumstance, it may be necessary to act on the procedures within separate sections simultaneously.

The focus of this EAP is the management of dam hazards at Peter Faust Dam by the owner of the dam (Sunwater) and the communication and notification of dam hazards to the LDMGs, DDMGs and broader community. However, the EAP sits within the broader emergency response framework. This EAP has been assessed and considered to be consistent with the Whitsunday and Mackay Local Disaster Management Plans.

2.3 Scope

The Peter Faust Dam EAP covers:

- dam hazards evaluated within Sunwater's Dam Safety Management Program
- details about the dam that are relevant to a dam hazard
- identification of circumstances that indicates a material increase in the likelihood of a dam hazard event and/or emergency event happening
- triggers for activation of a tiered response to dam hazard event and/or emergency event
- roles and responsibilities in responding to a dam hazard event and/or emergency event
- notification, warning, and communication protocols
- inspection, monitoring, and reporting protocols during emergencies
- other relevant information that may assist with identifying the area affected by a dam hazard event and/or emergency event, and the management of such.

2.4 Sunwater provides training

Training of the use and implementation of this EAP document is carried out at various times throughout the year, but specific pre- wet season training is undertaken in the months leading up to the wet season at each dam site.

During this time Sunwater staff have work instructions for site preparations, and during July to September carry out checks on stores, supplies of fuel, on the current EAP such as contact details for individuals and Dam information.

The EAP training that is carried out on-site includes walkthroughs of new changes, scenario (role play) and Q & A to check the knowledge and competency of all those who attended. This on-site training is presented to relevant Sunwater staff (DDO's, LECs and ICs) and disaster management stakeholders. DSTDM information sessions are carried out once a year with the same walkthrough of new changes and Q & A but this is not specific to any one Dam. New employees to these various roles would also have a walkthrough of the EAP to understand after they start at Sunwater.

Sunwater is also working towards carrying out a full test once annually involving each local authority and disaster management stakeholders. Where there is more than one referable dam in a local area, the exercise could involve more than one dam, or the location will be rotated. This full test would involve the SDCC and include the (non- live) testing of Emergency Alerts. The test results relating to numbers of alerts generated will be shared with local authority and disaster management stakeholders.

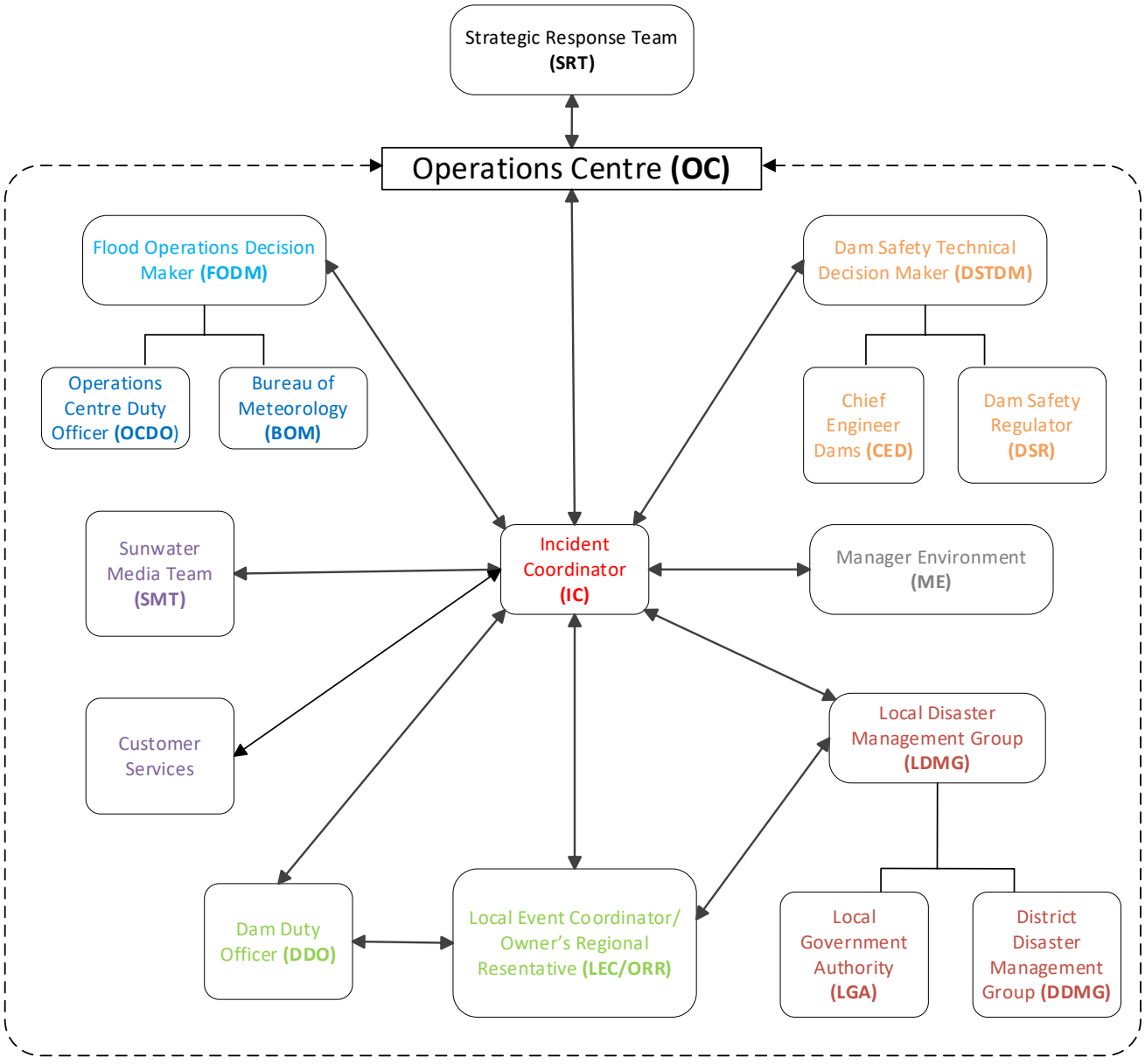
2.5 Fatigue Management Plan

Sunwater has a Fatigue Management Procedure (ref X). This document recognises fatigue as an important workplace hazard and has identified and outlined control processes to mitigate the risk of fatigue impaired HSE incidents. A copy of Sunwater's Fatigue Management Procedure can be provided upon request.

2.6 Dam emergency organisation within Sunwater

The Sunwater emergency management framework generally utilises the organisation's hierarchy and in-house experts as illustrated in Figure 1 below.

Figure 1: Sunwater emergency response organisation



Key aspects of the emergency management framework are:

- Central to the framework is the role of Incident Coordinator (IC) for any dam hazard at a dam. The IC will maintain overall responsibility for coordination of the EAP when activated.
- The DSTDM is primarily responsible for analysing dam safety and providing expert technical advice in this regard. They will be expected to discuss dam hazards with peers and other technical experts and make sound decisions to mitigate risks and to determine a response to incidents and emerging issues. The DSTDM is the key communication contact with the Dam Safety Regulator.

- The FODM has responsibility for all matters involving flood modelling and forecasting and determining the associated impact to Sunwater storages/infrastructure and EAP actions. The FODM may pre-emptively advise the IC to activate the EAP in accordance with available hydrology forecast information. For example, if an EAP trigger level is predicted to be exceeded based on forecast dam inflows derived from observed rainfall and streamflow conditions upstream of the dam, the EAP may be activated to the predicted level. Regarding the operation of the OC, the FODM must liaise with the IC as necessary to inform of decisions made.
- The IC is responsible for the decision to activate the EAP and subsequent activation levels. The IC is the lead coordinator in the implementation of any EAP in events for Sunwater. Should the IC be unavailable, the Local Event Coordinator (LEC) followed by the Dam Duty Officer (DDO) is responsible for the implementation of the EAP decision. If the IC loses all communications during a dam hazard, then as a fail-safe position, the LEC followed by the DDO will assume the duties and responsibility of the IC. However, loss of communications could result in some communication processes defined in this EAP not being carried out.
- These FODM and DSTDM roles are filled by Registered Professional Engineers of Queensland (RPEQ) and are suitably qualified professionals who are able to make engineering decisions and provide engineering decisions as defined in the *Professional Engineers Act of Queensland*

2.7 Community information

Sunwater with the assistance of local councils will ensure community education around messaging and impacts of the EAP and its related events is undertaken and continually improved by incorporating actions from Lessons Learnt (section 2.8).

Sunwater currently provides information externally to customers, downstream residents and the community in a range of ways or channels in relation to dam hazards and emergency situations. Individuals can access information through Facebook, Twitter, the Sunwater web page, Sunwater App and at several regional show/field days across regional Queensland where Sunwater may have stalls and information available.

Immediate D/S residents of Peter Faust Dam are also provided information in text message/phone calls in the event of an activation of this EAP.

In the event of an emergency event or when otherwise required, Sunwater and the affected local government also have the use of the National Emergency Alert System to send a voice message and SMS. This service is provided by Telstra and managed by the State Disaster Coordination Centre. The process Sunwater follows is documented in Appendix A9.

A copy of all Sunwater approved EAPs are available to the public on the Sunwater website: https://www.sunwater.com.au/community/preparing-for-emergencies/emergency-management/

These copies are redacted to protect people's personal details.

2.8 Lessons learnt

Sunwater carries out Lessons Learnt workshops as part of its post event management. These Lessons Learnt can result in changes to the EAP. These are captured and if applicable to this document are implemented at the earliest opportunity and are made available in the next EAP update to the regulator as part of Sunwater's continual improvement of its EAPs. The Lessons Learnt actions if relevant are provided to stakeholders, such as the LDMGs, DDMGs, other dam owners and RDMW as appropriate.

In addition, Sunwater requests any post event learnings be communicated regarding operational effectiveness and areas for improvement.

2.9 Downstream notifications lists

Sunwater has compiled the notification lists through an iterative process. At least every three years Sunwater writes to all lot on plan landholders that are impacted in the downstream zones. In addition to individual letters, advertisements are placed yearly in local papers to capture any new residents in the areas. All year, applicable individuals can register to receive notifications for this EAP and are able to register either through the Sunwater website or by calling Sunwater Customer Enquiries on 13 15 89.

3. Dam details

3.1 General dam information

Location: The dam is located about 25km west of Proserpine town.

Catchment: The catchment area is 270km^2.

Storage capacity: The storage capacity at FSL is 491,400ML.

Construction: Peter Faust Dam is a zoned, earth and rock-fill embankment dam with a central clay core. It was built in 1990 on the Proserpine River at AMTD 57.7km. The dam was built mainly for irrigation to sugar cane areas and urban water supply. However, the dam also provides flood mitigation effect to Proserpine and Cannonvale towns.

The dam's spillway is located on the right abutment. The spillway and chute are fully concreted and has a flip bucket and plunge pool at the bottom of the spillway.

Specification: The table below lists general specifications of Peter Faust Dam.

Table 2: Peter Faust Dam specifications

Description	Specification
Dam type	**Zoned earth and rock-fill**
Full Supply Level (FSL)	EL 85.60 m
Historical recorded max storage—Mar 2011	EL 87.08 m
Storage capacity at FSL	491,400 ML
Storage area at FSL	4,325 ha
Catchment area	270 km^2
Minimum operation level	EL 53.10 m
Dam length	534 m
Embankment crest width	10 m
Height of dam (from lowest general foundation level)	51 m
Dam Crest Level (DCL)	EL 94.30 m (nominal) EL 94.45 m (including camber) EL 94.23 m (surveyed 2014)
Dam Crest Flood (DCF)	Rarer than 1 in 3,700,000 AEP (PMPF)
Spillway type	**Ungated ogee crest concrete-lined chute, flip bucket, and pre-excavated plunge pool**
Spillway crest level	EL 85.60 m
Spillway design capacity (at DCL)	2,201 m^3/s at EL 94.45 m (2022 CRA)
Spillway crest length	38.90 m
Outlet works	**Inlet tower, diversion conduit, valve house, and outlet structure**
Outlet control	Cone valves—2/750 mm dia. fixed cone dispersal vales each with a 1200 mm dia. butterfly guard valve
Outlet capacity	Diversion conduit at FSL=92 m^3/s Twin 750 mm diameter cone valves=20 m^3/s

All levels are to Australian Height Datum (AHD).

3.2 Population at risk

Peter Faust Dam has been assessed as a Category 2 dam in accordance with Queensland *Guidelines for Failure Impact Assessment of Water Dams (Apr. 2002)*, having a Population at Risk (PAR) of more than 100.

The dam has Sunny Day Failure and Flood Failure consequence categories of 'Extreme' in accordance with *Guidelines on the Consequence Categories for Dams* (ref C). Based on the 2022 CRA, the total PAR for the SDF is 3113 and the total PAR for the Flood Failure (PMF) is 4398.

3.3 General Arrangement

The general arrangement drawings are in Appendix B.

3.4 Emergency inspections and monitoring

Peter Faust dam has been designed to conform to modern design standards, so that its failure is highly unlikely. To maintain the dam in a safe condition and detect any dam hazard, as soon as it begins to develop, or becomes apparent, the following is applicable to Peter Faust Dam.

3.4.1 Inspections

The following inspections are to be carried out:

- **Routine Visual Inspection**: Conducted as per the ANCOLD Guidelines or as directed by the DSTDM
- **Detailed Inspection:** Conducted annually
- **Comprehensive Inspection**: Conducted five-yearly

3.4.2 Instrumentation and monitoring

To confirm the structural behaviour and safety of the embankment, the following instrumentation was installed, and is monitored, at Peter Faust Dam.

- **Settlement/movement measurement**
  - 61 surface settlement points—see Instrumentation Layout for details (Section 3.5.3)
  - 31 are located on the main embankment, either side of the crest, with 2 points—1 upstream and 1 downstream
  - 12 are located on the spillway bridge
  - 16 are located on the inlet tower bridge
  - 2 strain gauges are located in the outlet conduit (6 were originally installed).
- **Pore pressure measurement**
  - 13 hydraulic piezometers—2 are in the foundation at EL 37.5m (approx.) and the remainder are in one cross-section at distance 375m (approx.)
  - 2 electric piezometers are located in the foundation at EL 37.5m (approx.)
  - 6 total pressure cells—3 are in the embankment at distance 375m (approx.) and 3 are in the outlet conduit.
- **Seepage measurement**
  - 1 v-notch weir is located on the left abutment side of the river, downstream of the valve house.

3.4.3 Instrumentation layout

The instrumentation layout is in Appendix B.

4. Roles and responsibilities

Roles and responsibilities	Position holder

Owner (Sunwater)
• Liaise with the Board and Minister
• Activate Sunwater Strategic Response and Business Continuity Plans, if required
• Ensure necessary resources are available to manage any event
• Maintain an up-to-date list of immediate D/S residents of Peter Faust Dam. The downstream limit is shown in Figure B2 by the zone labelled *Limit of downstream notification area*
• At all times, aim to provide timely advice and support to the LDMGs in the affected local government areas and the DDMGs in the affected disaster districts
• During a dam hazard event that occurs with little or no warning, undertake the following actions to ensure the community is informed as soon as possible:
  ○ notify the immediate D/S residents via SMS
  ○ contact SDCC Watch Desk to request an Emergency Alert campaign throughout the Peter Faust Dam Emergency polygon
• During a dam hazard event that occurs with adequate warning; notify the immediate D/S residents via SMS, **unless otherwise agreed with the LDMGs**
• Record communications, notifications and observations as required
	CEO
	EGMO
	EGM E&WR

Owner's Head Office Representative • Authorise the issuing of EAPs, SOPs and O&M Manuals and Amendments • Facilitate Dam Safety Training Courses for Service Managers, Operations Supervisor, Dam Operators and other staff as appropriate and ensure that all staff required to undertake Dam Safety work are trained and accredited • Ensure that risks identified in CRAs or other technical reports undertaken in relation to dam safety are Included in the EAP • Ensure visual inspections and instrumentation monitoring frequencies conform to ANCOLD Guidelines • Ensure all dam safety work orders, work instructions and lesson learned outcomes are fully implemented. • Ensure requirements of the Dam Condition Schedule are met • Ensure the work instructions are correct and the Logbooks, SOPs, Data Books, and EAPs are reviewed annually as per the Condition Schedule • Undertake and prepare the five yearly Comprehensive Inspection Reports with suitably qualified personnel within the time specified in the Condition Schedule and that work orders are created for recommendations and work is undertaken as required • Undertake Annual Inspections and prepare reports within the time frames specified in the Condition Schedule and that work orders are created for recommendations and work is undertaken as required • Review the Dam Safety Instrumentation Database and evaluate data to verify the structural integrity of the dams on a regular basis and maintain a spread sheet for verification for audit and quality control • Record communications, notifications and observations as required	GM Asset Integrity GM Asset Management

Roles and responsibilities	Position holder
Owner's Regional Representative (ORR) • Liaise with the Storage Supervisor/Operator Maintainer • Arrange dam specific training and accreditation for relevant staff • Ensure competent, trained and accredited personnel operate the storages • Undertake the role of LEC as required • Ensure all work orders, work instructions and lesson learned outcomes are fully implemented. • Record communications, notifications and observations as required	GM North OCO OS
Technical Advisor • Analyse the situation and provide expert technical advice • Discuss issue with peers and other technical experts and make sound decisions to mitigate the risk • Determine response to incidents and emerging issues • Record communications, notifications and observations as required	GM Environment
Dam Safety Technical Decision Maker (DSTDM) • Maintain current RPEQ accreditation • Analyse the situation and provide expert technical advice in relation to Dam Safety • Discuss dam hazard with peers and other technical experts and make sound decisions to mitigate the risk • Determine response to incidents and emerging issues • Issue warning on dam failure and advise on protective measures • Ensure the EAP is implemented appropriately and carry out the DSTDM role as required • Liaise with Regulator as required • Record communications, notifications and observations as required	Various personnel as per DSTDM roster
Flood Operations Decision Maker (FODM) • Maintain current RPEQ accreditation • Provide hydrological advice in relation to predicted and actual dam outflows including assessment of weather and flood warnings, and other related matters as identified in the OC SOP • Interpret and apply rainfall data in accordance with the OC SOP, including, as required under the OC SOP, liaising with BOM • Ensure the EAP is implemented appropriately and carry out the FODM role as required • Record communications, notifications and observations as required	Various personnel as per FODM roster
Operations Centre Duty Officer (OCDO) • Decide if a flood is imminent and record modes of operation • Extract data relative to the event from available sources • Utilise this data in predictive flood models and determine results from these models for approval by FODM • Liaise with the FODM or IC to update current flood situation and routing data • Record communications, notifications and observations as required	Various personnel as per OC roster

Roles and responsibilities	Position holder
Sunwater Media Team (SMT) • Analyse sensitive issues, discuss with the Owner and issue media releases • Handle public and customer comments (including social media) and advise the Owner if necessary • Liaise with the IC and update SDMG of flood events • Record communications, notifications and observations as required	Various personnel as per Media Team roster
Incident Coordinator (IC) • Notify LDMG/s, or council/s if LDMG is not at Emergency Warning level, of intent to use the Emergency Alert (EA) • Activate the EAP • Ensure the EAP is implemented appropriately and carry out the IC role as required • Arrange Situation Reports and determine frequency, as required • Record communications, notifications and observations as required	Various personnel as per IC roster
Local Event Coordinator (LEC) • Liaise with the Local Disaster Coordinator or proxy • Activate the EAP, when necessary • Ensure the EAP is implemented appropriately and carry out the LEC role as required • Record communications, notifications and observations as required	Various personnel as per LEC roster
Dam Duty Officer (DDO) • Complete accreditation to operate and maintain relevant storage • Ensure the EAP is implemented appropriately and carry out the DDO role as required • Take direction from the DSTDM and IC as requested • Arrange immediate site inspection and make informed assessment of the situation • Escalate any issue not covered in the EAP or where actions are not clear • Record communications, notifications and observations as required	SOM SS OM
Whitsunday Regional Council & Mackay Regional Council Councils have legislated local government functions, as per Section 80 of the *Disaster Management Act (2003)*. These include: • Ensure it has a disaster response capability • Approve its Local Disaster Management Plan • Ensure information about an event or a disaster in its area is promptly given to the District Disaster Coordinator for the disaster district in which area it is situated • Perform other functions given to the local government under the Act And as per Section 352HB of the *Water Legislation (Dam Safety) Amendment Act (2017)*: • Must assess (in consultation with its LDMG) the EAP for consistency with the Local Disaster Management Plan	

Roles and responsibilities	Position holder
Disaster Management Groups/Personnel - (In addition to requirements outlined in the *Disaster Management Act (2003)*). LDMG • As per IGEM review recommendation, work together with Sunwater and the councils to ensure community education around messaging and impacts of EAP related events is undertaken and continually improves • Work with the councils and Sunwater to ensure the EAP is regularly exercised • Identify and coordinate the use of resources and support services that may be required for an EAP event, noting that for safety events unique to the dam Sunwater will approach councils to initiate • During a dam hazard event, **providing they are at Emergency Warning level**, the LDMGs in the affected local government areas will take the lead role in notifying the broader community • Identify and provide advice to the relevant DDMGs about support services required by the LDMG to manage an EAP event • Provide reports and make recommendations to the relevant DDMG about matters relating to EAP events QFD • Work with dam owner and LDMG to ensure Emergency Alert polygons are prepared, stored and tested at the State Watch Desk And as per Section 352HC of the *Water Legislation (Dam Safety) Amendment Act (2017)*: DDMG • May review the EAP for consistency with the District Disaster Management Plan	LDMG QFD DDMG
Dam Safety Regulator (DSR) • Liaise with relevant Minister on necessary actions. • Approve this document as required under legislation • Liaise with Chief Executive as required in administering (regulating) the *Water Supply (Safety and Reliability) Act 2008*	DDS

5. Dam Hazard—flood operations

5.1 Overview

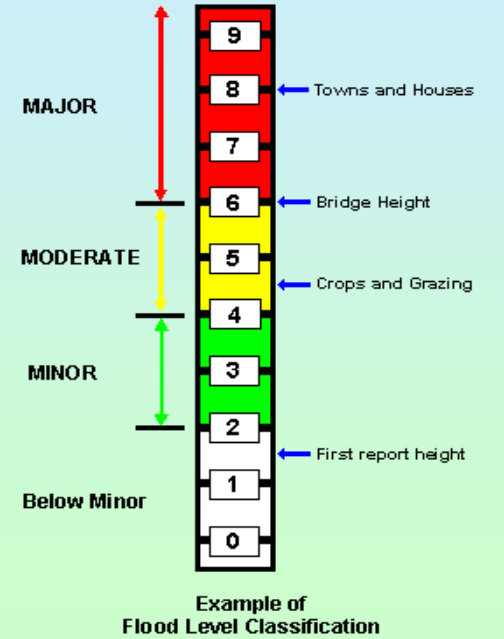
The emergency action described in this section (Dam Hazard—Flood Operations) relates to:

- A dam hazard where natural catchment inflows fill Peter Faust Dam to FSL 85.60m and the rate of inflow exceeds the capacity of the outlet works. The spillway will then discharge water downstream into the Proserpine River. These flood flows can create a dam hazard event. Inflows will also cause the storage to temporarily rise to above the full supply level of the storage. Note:
  - The greater the rate of inflow, the higher the storage will rise.
  - The higher the storage level rises, the greater the loads on the dam structure.
  - Although unlikely, the greater the loading, the higher the likelihood of a dam failure.
  - Typically, the level of surveillance is increased during flood operations (refer tables in this section).

Table 3 provides the Bureau of Meteorology flood classification triggers for Peter Faust Dam, described as:

- As the rate of discharge increases, there will be an impact on low-level road crossings of the Proserpine River and other infrastructure in the river such as pump sites.
- When the storage height exceeds minor flood level (3.5m over the spillway) EL 89.1m, low-lying areas next to water courses are inundated. Minor roads may be closed, and low-level bridges submerged. In urban areas, inundation may affect some backyards and buildings below the floor level as well as bicycle and pedestrian paths. In rural areas, removal of stock and equipment may be required.
- When the storage height exceeds major flood level (8.0m over the spillway) EL 93.6 m, in addition to the above, extensive rural areas and/or urban areas are inundated. Many buildings may be affected above the floor level. Properties and towns are likely to be isolated and major rail and traffic routes closed. Evacuation of flood affected areas may be required. Utility services may be impacted.

Table 3: Flood classification triggers

	Flood classification level	Depth over spillway (m)	Storage elevation (m AHD)
	Major	8.00	93.6
	Moderate	6.00	91.6
	Minor	3.50	89.1

Source: Bureau of Meteorology

The following table shows historical floods experienced at Peter Faust Dam.

Table 4: Historical floods experienced at Peter Faust Dam

Flood rank	Date	Peak height EL	Peak height (m over crest)
1	March 2011	87.08	1.48
2	December 2010	86.54	0.94
3	February 2011	86.31	0.71
4	March 2012	86.08	0.48
5	March 2013	85.64	0.04

5.2 Emergency actions

In Table 5 below, each level of activation includes both its own actions and the actions of any lower level, unless those lower level actions are superseded.

5.2.1 Activation triggers

Table 5: Flood emergency activation trigger summary

Alert	• EL 85.50m and rising (0.1m below FSL)
Lean Forward	• Storage above FSL 85.60m
Stand Up — greater than flood of record	• Storage above EL 87.08m (flood of record—March 2011)
Stand Up — 2	• Storage above EL 89.85m (1 in 2,000 AEP)
Stand Up — 3	• Storage above EL 93.00m (top of clay core)
Stand Down	• Storage level EL 85.70m and falling with no forecast increase in EL

While this EAP is not triggered until Peter Faust Dam reaches EL 85.50m, Sunwater, Mackay and the Whitsunday Regional Councils and their respective LDMGs will work cooperatively and will endeavour to share intelligence of any rainfall event as and when either organisation becomes aware of a situation that could result in the activation of the EAP.

In respect of forecast rainfall, as is identified in the roles and responsibilities of the FODM, regard must be had to the OC SOP.

5.2.2 Emergency action roles

Table 6 to Table 11 specify emergency actions for the following roles:

- Dam Duty Officer (DDO)
- Local Event Coordinator (LEC)
- Incident Coordinator (IC)
- Dam Safety Technical Decision Maker (DSTDM)
- Flood Operations Decision Maker (FODM)

Table 6: Flood operations—DDO emergency action

Activation level	Alert	Lean Forward	Stand Up—greater than flood of record	Stand Up—2	Stand Up—3	Stand Down
Activation trigger	• EL 85.50m and rising (0.1m below FSL)	• Storage above FSL 85.60m	• Storage above EL 87.08m	• Storage above EL 89.85m	• Storage above EL 93.00m	• Storage Level EL 85.70m and falling with no forecast increase in EL
Actions	• Inspect the dam daily (or as instructed by the DSTDM) and photograph/video and record using the approved forms SOP 12 and send to IC & DSTDM • Undertake site preparations (if not already complete) including but not limited to: – check fuel – check operations of sump pump – check communication systems (including satellite, phones, fax, and internet) • Monitor catchment conditions • Notify the SO • Record the Storage Level twice daily (or as instructed by the DSTDM) using gauge boards. Confirm accuracy of gauging station • Record rainfall daily • Record all communication • Update Dam Logbook as per SOP 12	• As per previous activation level, AND • Inspect the dam daily (or as instructed by the DSTDM) and photograph/video and record using the approved forms SOP 12 and send to IC & DSTDM. Attention should be given to: – visual inspection of flow patterns over spillway and dissipater for evidence of scouring – inspection of embankment for leaks, deformation, and erosion – obvious signs of seepage • Report any unusual readings or observations to the DSTDM and IC as soon as practical	• As per previous activation level, AND • Inspect the dam 6-hourly (or as instructed by the DSTDM) and photograph/video and record using the approved forms SOP 12 and send to IC & DSTDM • Photograph spillway flow and tailwater D/S	• As per previous activation level	• As per previous activation level, AND • Remotely inspect the dam 6-hourly (or as instructed by the DSTDM) and photograph/video and record using the approved forms SOP 12 and send to IC & DSTDM	• Return to routine surveillance activities and frequencies and inspect the dam for any damage identified • Forward EER information to IC email • Update Dam Logbook as per SOP 12
Internal notifications	• IC • SO	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• As required	• As required	• As required	• As required	• As required	• As per previous activation level

Table 7: Flood operations—LEC emergency action

Activation level	Alert	Lean Forward	Stand Up—greater than flood of record	Stand Up—2	Stand Up—3	Stand Down
Activation trigger	• EL 85.50m and rising (0.1m below FSL)	• Storage above FSL 85.60m	• Storage above EL 87.08m	• Storage above EL 89.85m	• Storage above EL 93.00m	• Storage Level EL 85.70m and falling with no forecast increase in EL
Actions	• Liaise with the DDO, IC and LDMG re: situation • Record all communication • Develop/implement staff roster	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level	• Forward EER information to IC email • Return to routine activities
Internal notifications	• IC • DDO	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• LDMG 1	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level

Table 8: Flood operations—IC emergency action

Activation level	Alert	Lean Forward	Stand Up—greater than flood of record	Stand Up—2	Stand Up—3	Stand Down
Activation trigger	• EL 85.50m and rising (0.1m below FSL)	• Storage above FSL 85.60m	• Storage above EL 87.08m	• Storage above EL 89.85m	• Storage above EL 93.00m	• Storage Level EL 85.70m and falling with no forecast increase in EL
Actions	• Liaise with Sunwater Customer Support to send SMS to D/S residents • Liaise with the DSTDM • Record all communication • Obtain catchment conditions from the DDO • Create Incident Report Record • **Update Sunwater intranet with dam status** **NOTE**: IC to carry out LEC actions unless LDMG1 is at Emergency Warning level	• As per previous activation level, AND • Ensure all abnormal observations or damage has been reported to DSTDM	• As per previous activation level	• As per previous activation level, AND • When approaching EL 93.00m ensure staff are relocated to a safe location	• As per previous activation level	• Deactivate EAP • Compile EER and deliver to DSR if required • Close Incident Report Record • **Update Sunwater intranet with dam status** • Return to routine activities
Internal notifications	• DDO • DSTDM • LEC • ORR • SMT • SRT	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• D/S Residents • DDMG	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level, AND • SDCC Watch Desk	• As per previous activation level

Table 9: Flood operations—LEC & IC communication plan

Activation level	Trigger for communications	Group to contact	Method	Message text
Alert	• When EL 85.50m and rising (preparedness)	• LDMG 1		Describe current situation with dam—What is the event? What is the status? Advise of current storage level
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.
Lean Forward	• Storage above FSL 85.60m	• LDMG 1 • DDMG	• Phone	Describe current situation with dam—What is the event? What is the status? Advise of current storage level and whether any flood releases are due to commence Discuss any potential road/bridge closures
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.
Stand Up—greater than flood of record	• Storage above EL 87.08m	• LDMG 1 • DDMG	• Phone	Describe current situation with dam—What is the event? What is the status? (Storage is greater than flood of record) Advise of current storage level Advise of any forecasts you are aware of
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.
Stand Up—2	• Storage above EL 89.85m	• LDMG 1 • DDMG	• Phone	Describe current situation with dam—What is the event? What is the status? Advise of current storage level Advise of any forecasts you are aware of
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.

Table 9 (Continued): Flood operations—LEC & IC communication plan

Activation level	Trigger for communications	Group to contact	Method	Message text
Stand Up—3	• Storage above EL 93.00m	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? What is the status? Advise of current storage level Advise of any forecasts you are aware of
		• SDCC Watch Desk	• Phone & Email	**Complete Emergency Alert Request Form as per instructions (copies in Appendix A9) and email to SDCC Watch Desk to send.**
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.
Stand Down	• Storage level EL 85.70m and falling with no forecast increase in EL	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? What is the status? Advise of current storage level Advise EAP has been deactivated
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.

Table 10: Flood operations—DSTDM emergency action

Activation level	Alert	Lean Forward	Stand Up—greater than flood of record	Stand Up—2	Stand Up—3	Stand Down
Activation trigger	• EL 85.50m and rising (0.1m below FSL)	• Storage above FSL 85.60m	• Storage above EL 87.08m	• Storage above EL 89.85m	• Storage above EL 93.00m	• Storage Level EL 85.70m and falling with no forecast increase in EL
Action	• Provide technical advice to DDO and IC on a needs basis • Review surveillance reports and determine if any additional responses are required • Record all communication • Notify DSR	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level	• Forward information for EER to IC email • Return to routine activities
Internal notifications	• DDO • IC	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level, AND • CEO (if time permits)	• As per previous activation level
External notifications	• DSR	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level

Table 11: Flood operations—FODM emergency action

Activation level	Alert	Lean Forward	Stand Up—greater than flood of record	Stand Up—2	Stand Down
Activation trigger	• EL 85.50m and rising (0.1m below FSL)	• Storage above FSL 85.60m	• Storage above EL 87.08m	• Storage above EL 89.85m	• Storage Level EL 85.70m and falling with no forecast increase in EL
Action	• Provide technical advice to DDO, DSTDM and IC on a need basis. • Inform IC of any EAP decisions made. • Review SDCC reports and determine if any additional responses are required. • Undertake inflow assessment as per the OC SOP and update as necessary. • Update and issue Status Updates if required. • Record all communication and decisions made	• As per previous activation level	• As per previous activation level	• As per previous activation level,	• Forward information for EER to IC email • Return to routine activities
Notifications	• IC • DDO • DSTDM • BOM	• As per previous activation level	• As per previous activation level	• As per previous activation level,	• As per previous activation level

6. Dam Hazard—piping: embankment, foundation, or abutments

6.1 Overview

The emergency action described in this section relates to a potential dam hazard due to a piping condition through the embankment (Main Dam or Saddle Dams), foundations, or dam abutment. An early indicator of a piping condition can be an increase in seepage or a new area of seepage. If the seepage water is cloudy or has become cloudy, this may indicate that material is being transported and a pipe is being established.

If a pipe is established and progresses, then a dam failure may result. If a potential pipe is detected early, remedial repairs maybe possible in the form of constructing a filter and weighting zone over the pipe exit if safe to do so.

The flood outlines in Appendix B are there to provide indicative outlines of the maximum potentially affected area of a dam hazard caused by piping. The use of these flood outlines is prescribed below:

- Use the Sunny Day Failure (SDF) outline when a dam failure is in progress or likely due to piping and no concurrent flooding or downstream releases are occurring or expected to occur, or
- Use the Probable Maximum Flood (PMF) outline when a dam failure is in progress or likely due to piping and concurrent flooding or downstream releases are occurring or expected to occur.

Notes: Definitions for *Concurrent Flooding* and *Downstream Releases* are provided in Section 1.3

6.1.1 Assessment of circumstances that indicate an increase in the likelihood of piping

An increase in seepage or a new area of seepage is a circumstance that could indicate an increase likelihood of piping. This circumstance is the trigger for the Alert status for piping.

Cloudy seepage water is a circumstance that could indicate an increase likelihood of piping. This circumstance is the trigger for the Lean Forward status for piping.

6.2 Emergency action roles

Table 12 to Table 16 specify emergency actions for the following roles:

- Dam Duty Officer (DDO)
- Local Event Coordinator (LEC)
- Incident Coordinator (IC)
- Dam Safety Technical Decision Maker (DSTDM).

Figure 2: Piping: embankment, foundation, or abutments flowchart

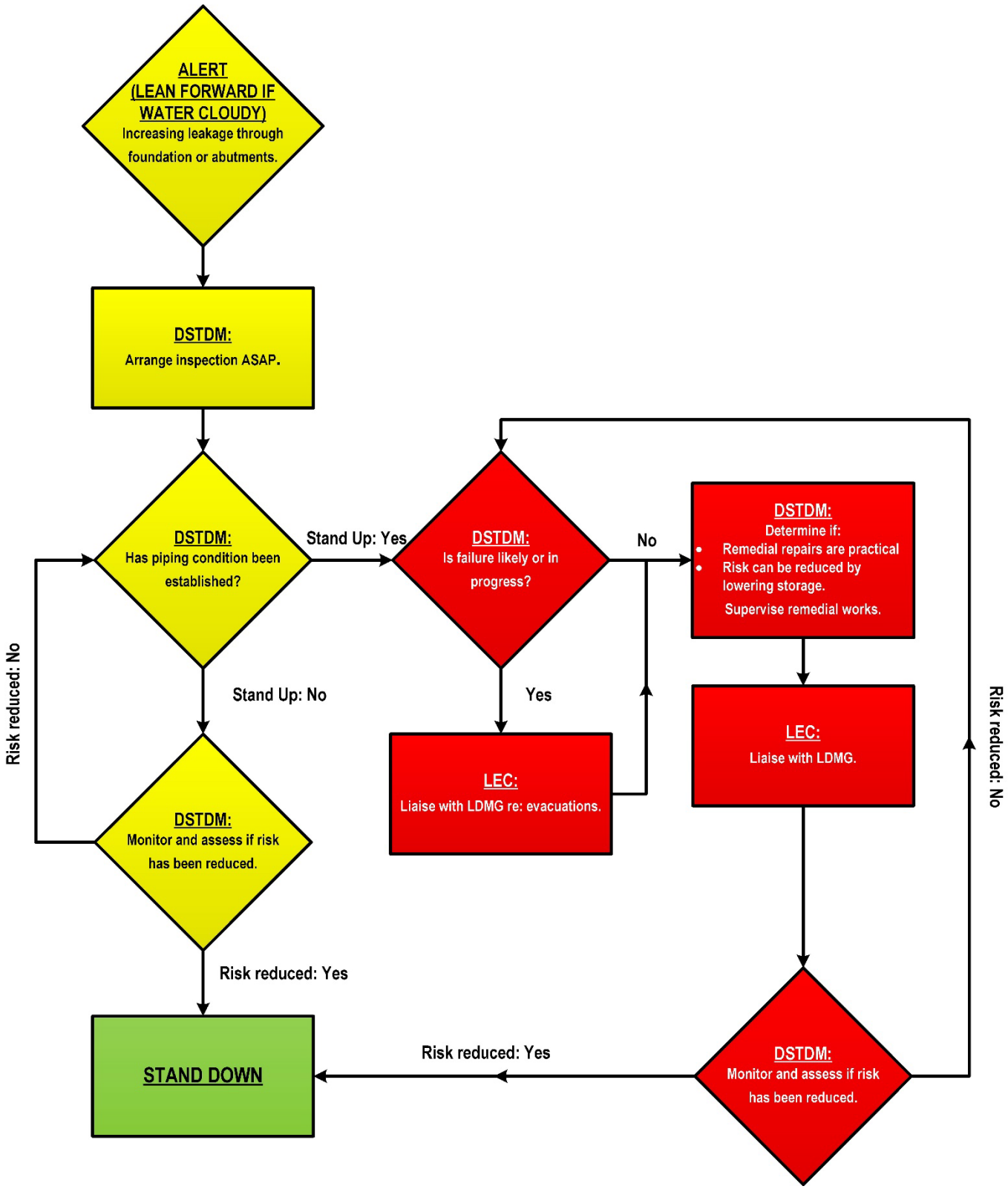


Table 12: Piping: embankment, foundation, or abutments—DDO emergency action

Activation level	Alert	Lean Forward	Stand Up—1	Stand Up—2	Stand Down
Activation trigger	• Increasing leakage through the embankment, the foundations, or abutments	• Increasing leakage through the embankment, the foundations, or abutments with cloudy water	• Piping condition has been established	• Failure in progress or likely due to piping, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has determined that piping risk has reduced
Actions	• Monitor flows every 6 hours (or as otherwise instructed by the DSTDM) until a decreasing trend is observable, or as directed by the IC • Photograph/video the piping from a safe point and record using the approved forms and SOP 12 send to IC & DSTDM • Notify SO • Update Dam Logbook as per SOP 12 • Record all communication	• As per previous activation level	• As per previous activation level, AND • Support/supervise remedial works as required • Lower the storage if directed • Close any affected roads if not already closed by others • Maintain surveillance of area immediately downstream of dam (if safe to do so) and move on any members of the public • Evacuate office and staff housing	• As per previous activation level, AND • Ensure remedial works cease and plant and personnel have been moved to a safe location • Vacate the immediate vicinity of the piping condition • Record/photograph the piping damage and/or dam failure from a safe point	• Forward information for EER to IC • Update Dam Logbook as per SOP 12 • Return to routine activities
Internal notifications	• DSTDM • IC • SO	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• As required	• As required	• As required	• As required	• As per previous activation level

Table 13: Piping: embankment, foundation, or abutments—LEC emergency action

Activation level	Alert	Lean Forward	Stand Up—1	Stand Up—2	Stand Down
Activation trigger	• Increasing leakage through the embankment, the foundations, or abutments	• Increasing leakage through the embankment, the foundations, or abutments with cloudy water	• Piping condition has been established	• Failure in progress or likely due to piping, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has determined that piping risk has reduced
Actions	• Liaise with DDO and IC re: situation • Record all communication	• As per previous activation level, AND • Liaise with LDMG re: situation	• As per previous activation level, AND • Liaise with relevant Council(s) regarding potential road/bridge closures	• As per previous activation level	• Forward information for EER to IC email • Return to routine activities
Internal notifications	• DDO • IC	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• LDMG 1	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level

Table 14: Piping: embankment, foundation, or abutments—IC emergency action

Activation level	Alert	Lean Forward	Stand Up—1	Stand Up—2	Stand Down
Activation trigger	• Increasing leakage through the embankment, the foundations, or abutments	• Increasing leakage through the embankment, the foundations, or abutments with cloudy water	• Piping condition has been established	• Failure in progress or likely due to piping, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has determined that piping risk has reduced
Actions	• Liaise with DSTDM, DDO and LEC re: situation • Create Incident Report Record • **Update Sunwater intranet with EAP status** • Record all communication **NOTE**: IC to carry out LEC actions unless LDMG1 is at Emergency Warning level	• As per previous activation level, AND • Investigate availability of machinery and materials (if insufficient stockpiles available) • Place machinery operators on standby if directed by DSTDM • Consider the need to appoint a Sunwater Recovery Coordinator. The Sunwater Recovery Coordinator is then responsible for the follow through on actions to close out all matters and works outstanding after the initial emergency is over.	• As per previous activation level, AND • Liaise with Sunwater Customer Support to send SMS to D/S residents and phone those without mobiles • Mobilise resources to undertake remedial works if directed by DSTDM	• As per previous activation level, AND • Liaise with the DSTDM to confirm that dam failure is in progress • Confirm that remedial works have ceased if directed by the DSTDM and plant and personnel have been moved to a safe location • Liaise with DDO and DSTDM re: potential for evacuations	• Deactivate EAP • Compile EER and deliver to DSR if required • Close Incident Report Record • **Update Sunwater intranet with dam status** • Return to routine activities
Internal notifications	• DSTDM • DDO • LEC/ORR • SMT • SRT	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• Not Applicable	• As per previous activation level	• D/S Residents • SDCC Watch Desk	• As per previous activation level	• As per previous activation level

Table 15: Piping: embankment, foundation, or abutments—LEC & IC communication plan

Activation level	Trigger for communications	Group to contact	Method	Message text
Alert	• Increasing leakage through an embankment, the foundations, or abutments	• LDMG 1	• Phone	Describe current situation with dam—What is the event? *(Unconfirmed piping risk)* What is the status? *(Unconfirmed leakage—Investigation continues)* Advise of current storage level Advise any issues you are aware of Standby for further advice
Lean Forward	• Increasing leakage through an embankment, the foundations, or abutments with cloudy water	• LDMG 1 • DDMG	• Phone	Describe current situation with dam—What is the event? *(Unconfirmed piping risk)* What is the status? *(Unconfirmed leakage—Investigation continues)* Advise of current storage level Advise any issues you are aware of Standby for further advice
Stand Up—1	• Piping condition has been established	• LDMG 1 • DDMG	• Phone	Describe current situation with dam—What is the event? *(Confirmed piping risk).* What is the status? *(Confirmed piping/leakage)* Advise of current storage level Advise any issues you are aware of. Discuss any potential road/bridge closures Prepare for possible evacuations
		• SDCC Watch Desk	• Phone & Email	**Complete Emergency Alert Request Form as per instructions and email to SDCC Watch Desk to send.**
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.

Table 15: (Continued): Piping: embankment, foundation, or abutments—LEC & IC communication plan

Activation level	Trigger for communications	Group to contact	Method	Message text
Stand Up—2	• Failure likely due to piping, AND • Sufficient water in storage to create a dam hazard	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? *(Confirmed piping risk)* What is the status? *(Possible Dam Failure)* Advise of current storage level Prepare coordinated evacuations
		• SDCC Watch Desk	• Phone & Email	**Complete Emergency Alert Request Form as per instructions and email to SDCC Watch Desk to send.**
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.
	• Dam failure in progress	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? *(Confirmed piping risk)* What is the status? *(Dam Failure In Progress)* Advise of current storage level Coordinate evacuations of affected Downstream Residents and move people to higher ground
		• SDCC Watch Desk	• Phone & Email	**Complete Emergency Alert Request Form as per instructions and email to SDCC Watch Desk to send.**
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.
Stand Down	• Risk assessment has determined that piping risk has reduced	• **LDMG 1** • DDMG (if from Emergency Warning level)	• Phone	Describe current situation with Dam—What is the event? *(Dam Safety Risk—piping)* What is the status? *(Dam Hazard Stood Down)* Advise risk assessment has determined that piping risk has reduced, and EAP has been deactivated
		• D/S Residents (if from Emergency Warning level)	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.

Table 16: Piping: embankment, foundation, or abutments—DSTDM emergency action

Activation level	Alert	Lean Forward	Stand Up—1	Stand Up—2	Stand Down
Activation trigger	• Increasing leakage through the embankment, the foundations, or abutments	• Increasing leakage through the embankment, the foundations or abutments with cloudy water	• Piping condition has been established	• Failure in progress or likely due to piping, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has determined that piping risk has reduced
Action	• Arrange an inspection of the dam to assess its condition as soon as possible, when safe to do so • Determine if piping condition has been established • Monitor situation and assess risks • Record all communication • Notify DSR	• As per previous activation level	• As per previous activation level, AND • Assess risk and determine if failure likely or in progress • Liaise with the IC • Determine if remedial repairs are practical • Determine if risks can be reduced by lowering storage • Supervise* remedial repairs (if applicable) • Monitor situation and assess risks	• Liaise with the IC and advise on need to recommend evacuations • Determine if remedial repairs are practical • Determine if risks can be reduced by lowering storage • Supervise* remedial repairs (if applicable) • Monitor situation and assess risks	• Forward information for EER to IC email • Return to routine activities
Internal notifications	• DDO • IC	• As per previous activation level	• As per previous activation level	• As per previous activation level, AND • CEO—if time permits	• As per previous activation level
External notifications	• DSR	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level

* Supervision means provide technical oversight to the work. It does not necessarily mean on-site supervision.

7. Dam Hazard—earthquake

7.1 Overview

The emergency action described in this section relates to a potential dam hazard due to an earthquake causing damage to the dam embankment (Main Dam or Saddle Dams), foundations, dam abutment, or spillway. Damage could take the form of cracking or slumping of the embankment, deformation or land slip, or increased seepage.

If damage does occur, then a dam failure may result. If damage is detected early, remedial repairs may be possible depending on the nature of the damage.

The flood outlines in Appendix B are there to provide indicative outlines of the maximum potentially affected area of a dam hazard caused by earthquake damage. The use of these flood outlines is prescribed below:

- Use the Sunny Day Failure (SDF) outline when a dam failure is in progress or likely due to earthquake damage and no concurrent flooding or downstream releases are occurring or expected to occur, or
- Use the Probable Maximum Flood (PMF) outline when a dam failure is in progress or likely due to earthquake damage and concurrent flooding or downstream releases are occurring or expected to occur.

Note: Definitions for *Concurrent Flooding* and *Downstream Releases* are provided in Section 1.3

7.2 Emergency action roles

Table 17 to Table 21 specify emergency actions for the following roles:

- Dam Duty Officer (DDO)
- Local Event Coordinator (LEC)
- Incident Coordinator (IC)
- Dam Safety Technical Decision Maker (DSTDM).

Figure 3: Earthquake flowchart

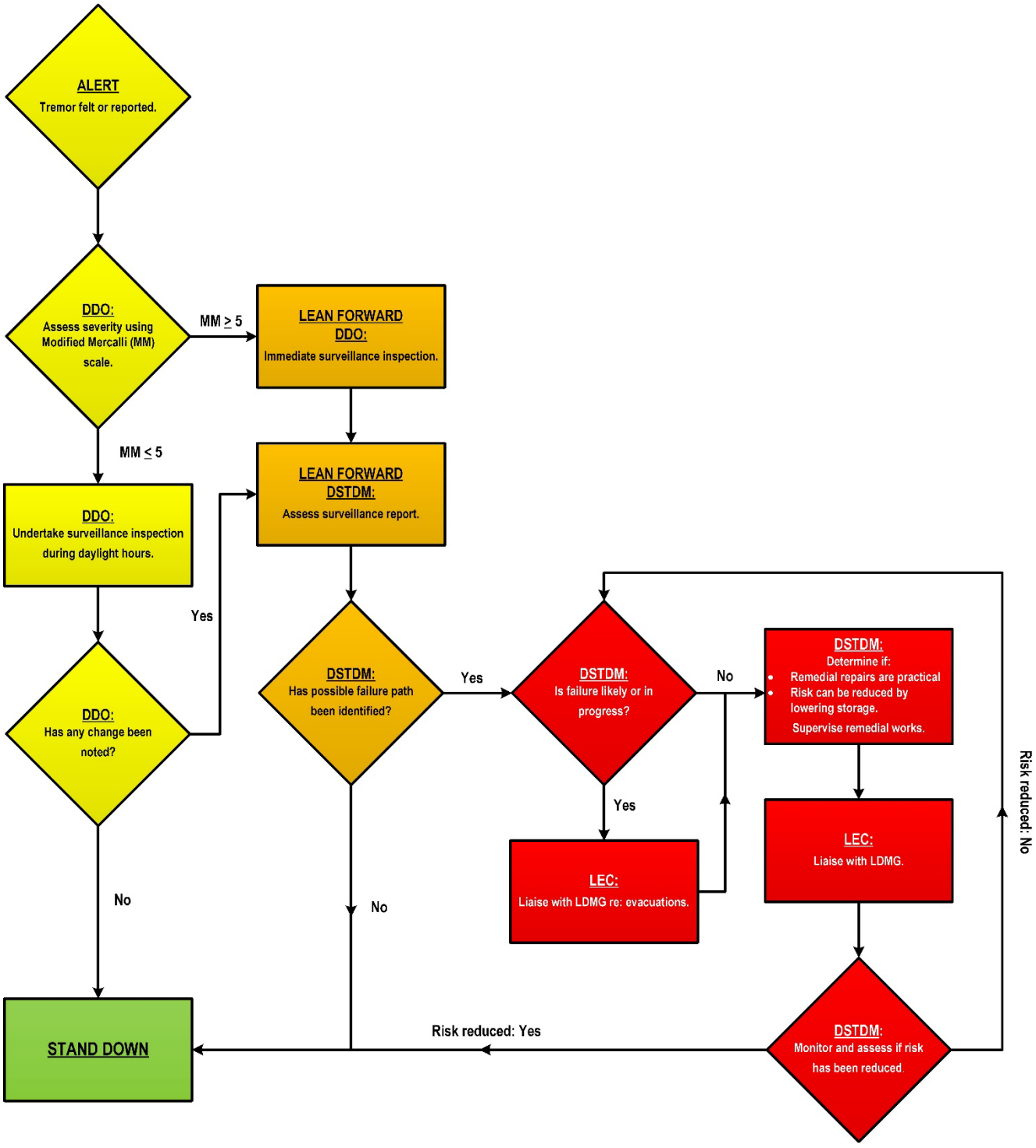


Table 17: Earthquake—DDO emergency action

Activation level	Alert	Lean Forward	Stand Up—1	Stand Up—2	Stand Down
Activation trigger	• Earthquake confirmed (by DSTDM) or felt in the area, AND • Intensity less than 5MM*	• Earthquake confirmed (by DSTDM) or felt in the area, AND • Intensity greater than or equal to 5MM*, OR • Intensity less than 5MM* and change detected during surveillance inspection	• Earthquake confirmed (by DSTDM) or felt in the area, AND • A possible failure path has been identified	• Failure in progress or likely due to earthquake, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has been determined that failure risk has reduced
Actions	• Inspect the dam wall, spillway structure and abutments in daylight hours (if safe to do so) and report to the DSTDM and IC—photograph/video and record using the approved forms SOP 12 and send to IC & DSTDM • Check for leaks, deformation, erosion, and concrete damage • Maintain photographic record • Update Dam Logbook as per SOP 12 Record all communication **NOTE:** 'Confirmed' is defined as an alert received from Geoscience Australia or other source that advises an Earthquake >4.9ML (Richter Scale) has occurred within a 200km radius of the Dam.	• As per previous activation level, AND • Repeat the inspection as directed	• As per previous activation level, AND • Support/supervise remedial work as required • Lower the storage if directed • Close any affected roads, if not already closed by others • Maintain surveillance of area immediately downstream of dam (if safe to do so) and move on any members of the public • Sound siren • Vacate the immediate vicinity of the embankment	• As per previous activation level, AND • Ensure remedial works cease and plant and personnel have been moved to a safe location • Record/photograph the earthquake damage and/or dam failure from a safe point	• Inspect the dam for any damage and photograph any damage identified during the event. • Forward information for EER to IC email • Update Dam Logbook as per SOP 12 • Return to routine activities
Internal notifications	• DSTDM • IC • LEC • SO	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• As required	• As required	• As required	• As required	• As per previous activation level

* DDO to assess magnitude (MM scale) at dam location.

Table 18: Earthquake—LEC emergency action

Activation level	Alert	Lean Forward	Stand Up—1	Stand Up—2	Stand Down
Activation trigger	• Earthquake confirmed (by DSTDM) or felt in the area, AND • Intensity less than 5MM*	• Earthquake confirmed (by DSTDM) or felt in the area, AND • Intensity greater than or equal to 5MM*, OR • Intensity less than 5MM* and change detected during surveillance inspection	• Earthquake confirmed (by DSTDM) or felt in the area, AND • A possible failure path has been identified	• Failure in progress or likely due to earthquake, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has been determined that failure risk has reduced
Actions	• Liaise with DDO and IC re: situation • Record all communication	• As per previous activation level, AND • Liaise with LDMG re: situation	• As per previous activation level, AND • Liaise with relevant Council(s) regarding potential road/bridge closures	• As per previous activation level	• Forward information for EER to IC email • Return to routine activities
Internal notifications	• DDO • IC	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• LDMG 1	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level

* DDO to assess magnitude (MM scale) at dam location.

The Modified Mercalli (MM) Scale is in the HMT (ref V).

Table 19: Earthquake—IC emergency action

Activation level	Alert	Lean Forward	Stand Up—1	Stand Up—2	Stand Down
Activation trigger	• Earthquake confirmed (by DSTDM) or felt in the area, AND • Intensity less than 5MM*	• Earthquake confirmed (by DSTDM) or felt in the area, AND • Intensity greater than or equal to 5MM*, OR • Intensity less than 5MM* and change detected during surveillance inspection	• Earthquake confirmed (by DSTDM) or felt in the area, AND • A possible failure path has been identified	• Failure in progress or likely due to earthquake, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has been determined that failure risk has reduced
Actions	• Liaise with DDO and DSTDM re: situation • Record all communication • Create Incident Report Record • **Update Sunwater intranet with dam status** **NOTE**: IC to carry out LEC actions unless LDMG1 is Stood Up.	• As per previous activation level, AND • Investigate availability of machinery and materials (if insufficient stockpiles available) • Place machinery operators on standby if directed by DSTDM	• As per previous activation level, AND • Liaise with Sunwater Customer Support to send SMS to D/S residents and phone those without mobiles • Mobilise resources to undertake remedial works if directed by DSTDM	• As per previous activation level • Liaise with the DSTDM to confirm that dam failure is in progress • Confirm that remedial works have ceased if directed by the DSTDM and plant and personnel have been moved to a safe location • Liaise with DDO and DSTDM re: potential for evacuations	• Deactivate EAP • Compile EER and deliver to DSR if required • Close Incident Report Record • **Update Sunwater intranet with dam status** • Return to routine activities
Internal notifications	• DDO • DSTDM • LEC/ORR • SMT • SRT	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• As required	• DDMG	• D/S Residents • SDCC Watch Desk	• As per previous activation level	• As per previous activation level

* DDO to assess magnitude (MM scale) at dam location.

Table 20: Earthquake—LEC & IC communication plan

Activation level	Trigger for communications	Group to contact	Method	Message text
Alert	• Earthquake confirmed (by DSTDM) or felt in the area, AND • Intensity less than 5MM	• **LDMG 1**	• Phone	Describe current situation with dam—What is the event? *(Dam Safety Risk—Earthquake damage)* What is the status? *(Under investigation)* Advise of current storage level Advise EAP has been activated Stand by for further information
Lean Forward	• Earthquake confirmed (by DSTDM) or felt in the area, AND • Intensity greater than or equal to 5MM, OR • Intensity less than 5MM and change detected during surveillance inspection	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? *(Dam Safety Risk—Earthquake damage)* What is the status? *(Under investigation)* Advise of current storage level Advise EAP has been activated Stand by for further information
Stand Up—1	• Earthquake confirmed (by DSTDM) or felt in the area, AND • A possible failure path has been identified	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? *(Dam Safety Risk—Earthquake felt or reported in area)* What is the status? *(Possible earthquake damage to dam)* Advise of current storage level. Discuss any potential road/ bridge closures Activate emergency response
		• SDCC Watch Desk	• Phone & Email	**Complete Emergency Alert Request Form as per instructions and email to SDCC Watch Desk to send.**
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.

Table 20 (Continued): Earthquake—LEC & IC communication plan

Activation level	Trigger for communications	Group to contact	Method	Message text
Stand Up—2	• Failure likely due to earthquake, AND • Sufficient water in storage to create a dam hazard	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? *(Dam Safety Risk—Earthquake damage)* What is the status? *(Dam Failure Likely)* Advise of current storage level. Discuss any potential road/bridge closures (if not discussed at Emergency Warning level) Prepare coordinated evacuation
		• SDCC Watch Desk	• Phone & Email	**Complete Emergency Alert Request Form as per instructions and email to SDCC Watch Desk to send.**
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.
	• Dam failure in progress	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? *(Dam Safety Risk—Earthquake damage)* What is the status? *(Dam Failure In Progress)* Advise of current storage level Coordinate evacuation of Downstream Residents and move people to higher ground
		• SDCC Watch Desk	• Phone & Email	**Complete Emergency Alert Request Form as per instructions and email to SDCC Watch Desk to send.**
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.
Stand Down	• Risk assessment has been determined that failure risk has reduced	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? *(Dam Safety Risk—Earthquake damage)* What is the status? *(Dam Hazard Stood Down)* Advise risk assessment has been determined that failure risk has reduced, and that EAP has been deactivated
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.

Table 21: Earthquake—DSTDM emergency action

Activation level	Alert	Lean Forward	Stand Up—1	Stand Up—2	Stand Down
Activation trigger	• Earthquake confirmed (by DSTDM) or felt in the area, AND • Intensity less than 5MM	• Earthquake confirmed (by DSTDM) or felt in the area, AND • Intensity greater than or equal to 5MM, OR • Intensity less than 5MM and change detected during surveillance inspection	• Earthquake confirmed (by DSTDM) or felt in the area, AND • A possible failure path has been identified	• Failure in progress or likely due to earthquake, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has been determined that failure risk has reduced
Action	• Monitor situation and assess risks • Review surveillance inspection of the dam and assess its condition as soon as possible • Review instrumentation data and determine if any additional responses are required • Liaise with DDO & IC • Record all communication • Notify DSR **NOTE:** 'Confirmed' is defined as an alert received from Geoscience Australia or other source that advises an Earthquake >4.8ML (Richter Scale) has occurred within a 200km radius of the Dam.	• As per previous activation level, AND • Determine if there are any possible failure paths from reported damage	• As per previous activation level, AND • Arrange an inspection of the dam and assess its condition as soon as possible, when safe to do so • Assess risk and determine if failure likely or in progress • Determine if remedial repairs are practical • Determine if risks can be reduced by lowering storage • Supervise* remedial repairs (if applicable) • Monitor situation and assess risks	• As per previous activation level	• Forward information for event report to IC • Return to routine activities
Internal notifications	• DDO • IC	• As per previous activation level	• As per previous activation level, AND • CEO—if time permits	• As per previous activation level, AND • CEO—if time permits (if not from Emergency Warning level)	• As per previous activation level
External notifications	• DSR	• As per previous activation level	• As per previous activation level	• As per previous activation level	• As per previous activation level

* Supervision means provide technical oversight to the work. It does not necessarily mean on-site supervision.

8. Dam Hazard—terrorist threat/activity or high energy impact

8.1 Overview

The emergency action described in this section relates to a potential dam hazard due to a terrorist threat or activity or a high energy impact on the dam such as a plane crash or meteorite.

The vulnerability of Peter Faust Dam to a terrorist attack is low.

The flood outlines in Appendix B are there to provide indicative outlines of the maximum potentially affected area of a dam hazard caused by a terrorist attack or a high energy impact. The use of these flood outlines is prescribed below:

- Use the Sunny Day Failure (SDF) outline when a dam failure is in progress or likely due to a terrorist attack or a high energy impact and no concurrent flooding or downstream releases are occurring or expected to occur, or
- Use the Probable Maximum Flood (PMF) outline when a dam failure is in progress or likely due to a terrorist attack or a high energy impact and concurrent flooding or downstream releases are occurring or expected to occur.

Notes: Definitions for *Concurrent Flooding* and *Downstream Releases* are provided in Section 1.3

8.1.1 Assessment of circumstances that indicate an increase in the likelihood of terrorist activity or high energy impact

Advice from authorities of a specific risk to water infrastructure is a circumstance that could indicate increased likelihood a terrorist threat. If this were specific enough to name a dam, this circumstance would trigger Emergency Warning activation level.

8.2 Emergency action roles

Table 22 to Table 26 specify emergency actions for the following roles:

- Dam Duty Officer (DDO)
- Local Event Coordinator (LEC)
- Incident Coordinator (IC)
- Dam Safety Technical Decision Maker (DSTDM).

Figure 4: Terrorist threat/activity or high energy impact flowchart

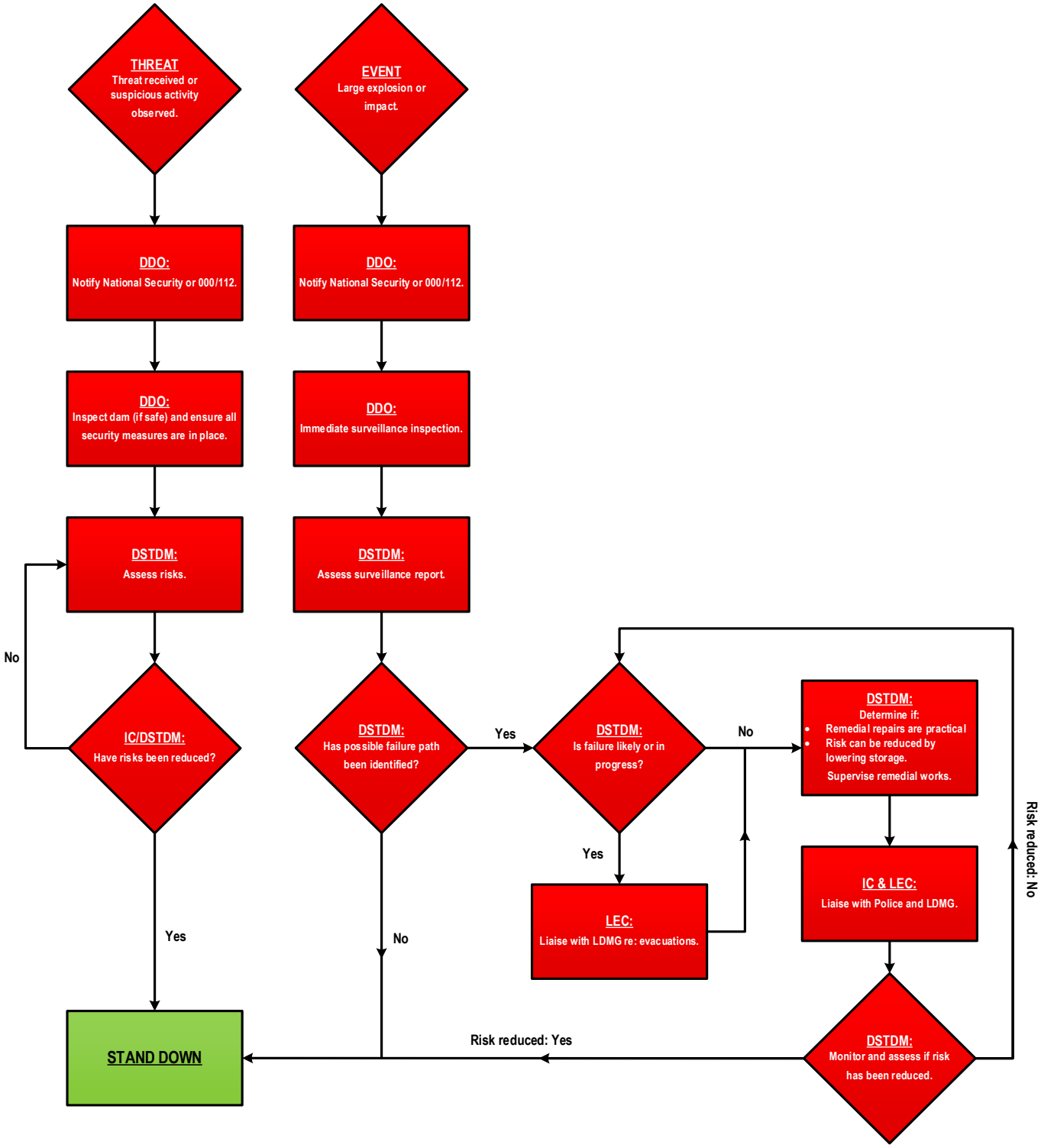


Table 22: Terrorist threat/activity or high energy impact—DDO emergency action

Activation level	Alert/Lean Forward	Stand Up—1	Stand Up—2	Stand Up—3	Stand Down
Activation trigger	• Not applicable	**THREAT** • Possible terrorist activity/suspicious behaviour noticed at the dam, OR • Threat received	**EVENT** • Large Explosion heard/observed at dam (e.g., bomb explosion, aircraft hit)	**RESPONSE** • Failure in progress or likely due to impact or explosion, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has determined that failure risk has reduced
Actions	• Not applicable	• **In an emergency call 000.** • Record all communication • If any suspicious behaviour noticed, contact DSTDM for advice. If instructed by DSTDM, of if threat received, complete the following: • Inspect dam (if safe) and ensure all security measures in place (locked gates, etc.) • Photograph/video suspicious items from a safe point and record using approved forms and send to IC & DSTDM • If Police appoint Incident Manager, support and follow instructions • Close any affected roads as directed • Notify SO • Update Dam Logbook as per SOP 12	• As per previous activation level, AND • Undertake surveillance inspect dam (if safe) • Vacate the immediate vicinity of the affected area	• As per previous activation level, AND • Lower reservoir level, if directed • Sound siren	• Forward information for EER to IC email • Update Dam Logbook as per SOP 12 • Return to routine activities
Internal notifications	• Not applicable	• DSTDM • IC • LEC • SO	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• Not applicable	• **#000 Emergency**	• As per previous activation level	• As per previous activation level	• As per previous activation level

ALL ACTION MUST BE TAKEN WHEN IT IS SAFE TO DO SO
e.g. taking photographs/video, dam inspections, instrument readings

Table 23: Terrorist threat/activity or high energy impact—LEC emergency action

Activation level	Alert/Lean Forward	Stand Up—1	Stand Up—2	Stand Up—3	Stand Down
Activation trigger	• Not applicable	**THREAT** • Possible terrorist activity/suspicious behaviour noticed at the dam, OR • Threat received	**EVENT** • Large explosion heard/observed at dam (e.g., bomb explosion, aircraft hit)	**RESPONSE** • Failure in progress or likely due to impact or explosion, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has determined that failure risk has reduced
Actions	• Not applicable	• Liaise with DDO, IC, and LDMG re: situation • If DDMG appoint Incident Manager support and follow instructions • Liaise with relevant Council(s) regarding possible road/bridge closures • Record all communication	• As per previous activation level	• As per previous activation level, AND • Liaise with DDO, IC, and LDMG re: potential for evacuations	• Forward information for EER to IC email • Return to routine activities
Internal notifications	• Not applicable	• DDO • IC	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• Not applicable	• LDMG 1	• As per previous activation level	• As per previous activation level	• As per previous activation level

Table 24: Terrorist threat/activity or high energy impact—IC emergency action

Activation level	Alert/Lean Forward	Stand Up—1	Stand Up—2	Stand Up—3	Stand Down
Activation trigger	• Not applicable	**THREAT** • Possible terrorist activity/suspicious behaviour noticed at the dam, OR • Threat received	**EVENT** • Large explosion heard/observed at dam (e.g., bomb explosion, aircraft hit)	**RESPONSE** • Failure in progress or likely due to impact or explosion, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has determined that failure risk has reduced
Actions	• Not applicable	• Record all communication • Liaise with DDO, DSTDM and LEC • Contact National Security • If Police appoint Incident Manager support and follow instructions • Create Incident Report Record • **Update Sunwater intranet with dam status** **NOTE**: IC to carry out LEC actions unless LDMG1 is at Emergency Warning level	• As per previous activation level	• As per previous activation level, AND • Liaise with DDO, DSTDM and LEC re: potential for evacuations • Mobilise resources to undertake remedial works if directed by DSTDM	• Deactivate EAP event • Compile EER and deliver to DSR if required • Close Incident Report Record • **Update Sunwater intranet with dam status** • Return to routine activities
Internal notifications	• Not applicable	• DDO • DSTDM • LEC/ ORR • SMT • SRT	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• Not applicable	• CTG • DDMG	• As per previous activation level, AND • D/S Residents • SDCC Watch Desk	• As per previous activation level	• As per previous activation level

Table 25: Terrorist threat/activity or high energy impact—LEC & IC communication plan

Activation level	Trigger for communications	Group to contact	Method	Message text
Alert	'ADVICE' NOT APPLICABLE			
Lean Forward	'WATCH AND ACT' NOT APPLICABLE			
Stand Up—1	THREAT • Possible terrorist activity/suspicious behaviour notice at the dam, OR • Threat received	• **LDMG 1** • DDMG • CTG	• Phone	Describe current situation with dam—What is the event? *(Dam Safety Risk—Security threat/ impact/explosion, etc.)* What is the status? *(Received/noted terrorist threat)* Discuss any potential road/bridge closures Activate emergency response
Stand Up—2	EVENT • Large explosion heard/observed at dam (e.g., bomb explosion, aircraft hit)	• **LDMG 1** • DDMG • CTG (if not at Emergency Warning level)	• Phone	Describe current situation with dam—What is the event? *(Dam Safety Risk—Security threat/ impact/explosion, etc.)* What is the status? *(Under Investigation)* Discuss any potential road/bridge closures (if not discussed at Emergency Warning level) Prepare coordinated evacuation
		• SDCC Watch Desk	• Phone & Email	**Complete Emergency Alert Request Form as per instructions and email to SDCC Watch Desk to send.**
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.
Stand Up—3	RESPONSE • Failure in progress or likely due to impact or explosion, AND • Sufficient water in storage to create a dam hazard	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? *(Dam Safety Risk—Security threat/ impact/ explosion, etc.)* What is the status? *(Dam Failure Likely/In Progress)* Initiate evacuations
		• SDCC Watch Desk	• Phone & Email	**Complete Emergency Alert Request Form as per instructions and email to SDCC Watch Desk to send.**
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.
Stand Down	• Risk assessment has determined that failure risk has reduced	• **LDMG 1** • DDMG	• Phone	Describe current situation with dam—What is the event? (Dam Safety Risk—Security threat/ impact/explosion, etc.) What is the status? (Dam Hazard Stood Down) Advise that failure risk has been reduced and EAP has been deactivated
		• D/S Residents	• SMS (Phone for those without mobiles)	Liaise with Sunwater customer support and communications to send appropriate messaging via SMS.

Table 26: Terrorist threat/activity or high energy impact—DSTDM emergency action

Activation level	Alert/Lean Forward	Stand Up—1	Stand Up—2	Stand Up—3	Stand Down
Activation trigger	• Not applicable	**THREAT** • Possible terrorist activity/suspicious behaviour noticed at the dam, OR • Threat received	**EVENT** • Large explosion heard/observed at dam (e.g., bomb explosion, aircraft hit)	**RESPONSE** • Failure in progress or likely due to impact or explosion, AND • Sufficient water in storage to create a dam hazard	• Risk assessment has determined that failure risk has reduced
Action	• Not applicable	• Record all communication • Liaise with IC and DDO • Assess risks • Liaise with SRT • Notify DSR	• As per previous activation level, AND • Arrange an inspection of the dam and assess its condition as soon as possible, when safe to do so • Assess risk and determine if failure likely or in progress • Determine if remedial repairs are practical • Determine if risks can be reduced by lowering storage • Supervise* remedial repairs (if applicable) • Monitor situation and assess risks	• As per previous activation level, AND • Liaise with the IC and advise on need to recommend evacuations	• Forward information for EER to IC email • Return to routine activities
Internal notifications	• Not applicable	• IC • DDO • SRT	• As per previous activation level	• As per previous activation level	• As per previous activation level
External notifications	• Not applicable	• DSR	• As per previous activation level	• As per previous activation level	• As per previous activation level

* Supervision means provide technical oversight to the work. It does not necessarily mean on-site supervision.

9. Other emergency situation—communications failure

9.1 Overview

The emergency action described in this section (Other emergency situation—communications failure) relates to either:

- An emergency situation where all means of communication at the dam site have been lost.
- An emergency situation where all means of communication with the local area have been lost.
- An emergency situation where all means of communication with Brisbane site have been lost.

This section specifies actions and provides guidance for the three situations.

9.2 Emergency actions

Due to the large number of different possible scenarios, the table below only covers the most common or likely conditions.

9.2.1 Activation triggers

Table 27: Communications failure emergency activation trigger summary

Comms Failure – Site	• Unable to communicate to or from dam site (usually affects DDO)
Comms Failure – Local area	• Unable to communicate to or from local area (likely to affect LEC, OMGR or OS)
Comms Failure – Brisbane	• Unable to communicate to or from Sunwater Brisbane (could affect DSTDM or FODM & will affect IC)

9.2.2 Assessment of circumstances that indicate the likelihood of communications failure escalating the activation level of a current Dam Hazard

The Operations Centre Duty Officer (OCDO) will assess the weather and flood warnings on a daily basis in accordance with the Operations Centre (OC) SOP. The OCDO will escalate to the Flood Operations Decision Maker (FODM) any warnings that have the potential to cause a significant communications failure.

The on-call IC will escalate to the FODM any local intelligence on conditions that could increase the probability of a significant communications failure.

The FODM will determine whether it is reasonably likely that there will be a significant communications failure within the subsequent 24 hours and assess the likely effect on current Dam Hazards. If required, the FODM will instruct the IC to escalate the activation level of any current Dam Hazards.

9.2.3 Emergency action roles

Table 28 to Table 33 specify emergency actions for the following roles:

- Dam Duty Officer (DDO)
- Local Event Coordinator (LEC)
- Incident Coordinator (IC)
- Dam Safety Technical Decision Maker (DSTDM)
- Flood Operations Decision Maker (FODM)

Table 28: Communications failure—DDO emergency action

Activation level	Comms Failure – Local Area	Comms Failure – Brisbane
Activation trigger	• Unable to communicate to local area including LEC or ORR	• Unable to communicate to Sunwater Brisbane including IC or DSTDM or FODM
Actions	• As much as practicable, assume the role of LEC • Continue tasks in accordance with any other current emergency action • Every hour, attempt communications noting the following: – Mobile phone - try texting instead of voice, much higher probability of success – Satellite phone - needs to access open sky unless external antenna fitted – Fax - generally uses fixed landline and is therefore less likely to have failed – Social media - e.g. Facebook (Internet may be available via landline) • Record all communication and attempts via Dam Logbook entries as per SOP 12 and communications log if EAP event is current	• Determine if LEC is in communication and if not, assume the LEC role as much as is practicable • Continue tasks in accordance with any other current emergency action • Every hour, attempt communications noting the following: – Mobile phone - try texting instead of voice, much higher probability of success – Satellite phone - needs to access open sky unless external antenna fitted – Fax - generally uses fixed landline and is therefore less likely to have failed – Social media - e.g. Facebook (Internet may be available via landline) • Record all communication and attempts via Dam Logbook entries as per SOP 12 and communications log if EAP event is current
Internal notifications	• IC • SO (if available)	• LEC • SO (if available)
External notifications	• As required	• As required

Table 29: Communications failure—LEC emergency action

Activation level	Comms Failure – Dam Site	Comms Failure – Brisbane
Activation trigger	• Unable to communicate to dam site	• Unable to communicate to Sunwater Brisbane including IC or DSTDM or FODM
Actions	• Every hour, attempt communications noting the following: – Mobile phone - try texting instead of voice, much higher probability of success – Satellite phone - needs to access open sky unless external antenna fitted – Fax - generally uses fixed landline and is therefore less likely to have failed – Social media - e.g. Facebook (Internet may be available via landline) • Record all communication and attempts • Assume that the DDO is carrying out LEC role at site as much as practicable • Liaise with IC • Liaise with DSTDM • As much as is practicable continue other tasks associated with the role in accordance with any other current emergency action	• Issue Sunwater Incident Alert • Every hour, attempt communications noting the following: – Mobile phone - try texting instead of voice, much higher probability of success – Satellite phone - needs to access open sky unless external antenna fitted – Fax - generally uses fixed landline and is therefore less likely to have failed – Social media - e.g. Facebook (Internet may be available via landline) • Record all communication and attempts • Liaise with the DDO and assume IC role • As much as is practicable continue other tasks associated with the role in accordance with any other current emergency action
Internal notifications	• IC • DSTDM • SO (if available)	• DDO • DSTDM (if available) • SO
External notifications	• LDMGs	• LDMGs • DDMG

Table 30: Communications failure—IC emergency action

Activation level	Comms Failure – Dam Site	Comms Failure – Local Area
Activation trigger	• Unable to communicate to dam site	• Unable to communicate to local area including LEC and ORR
Actions	• Issue Sunwater Incident Alert • Every hour, attempt communications noting the following: – Mobile phone - try texting instead of voice, much higher probability of success – Satellite phone - needs to access open sky unless external antenna fitted – Fax - generally uses fixed landline and is therefore less likely to have failed – Social media - e.g. Facebook (Internet may be available via landline) • Record all communication and attempts • Liaise with LEC • Liaise with DSTDM • As much as is practicable continue other tasks associated with the role in accordance with any other current emergency action	• Issue Sunwater Incident Alert • Every hour, attempt communications noting the following: – Mobile phone - try texting instead of voice, much higher probability of success – Satellite phone - needs to access open sky unless external antenna fitted – Fax - generally uses fixed landline and is therefore less likely to have failed – Social media - e.g. Facebook (Internet may be available via landline) • Record all communication and attempts • Liaise with the DDO and carry out functions of the LEC as much as practicable • As much as is practicable continue other tasks associated with the role in accordance with any other current emergency action
Internal notifications	• LEC • DSTDM • SO (if available)	• DDO (if available) • DSTDM • SO (if available)
External notifications	• DDMG	• LDMGs (if available) • DDMG (if available)

Table 31: Communications failure—LEC and IC communication plan

Activation level	Trigger for communications	Group to contact	Method	Message code	Message text
Comms Failure – Site	• Unable to communicate to or from dam site, AND • DDO is at dam site	• IC/LEC • DSTDM • SO (if available) • **LDMGs** • DDMG	• Phone		Describe current situation with dam communications. What is the status – estimated time to restore communications?
Comms Failure – Local Area	• Unable to communicate to or from local area including LEC and ORR	• DDO (if available) • DSTDM • SO (if available) • **LDMGs** (if available) • DDMG (if available)	• Phone		Describe current situation with dam communications. What is the status – estimated time to restore communications?
Comms Failure – Brisbane	• Unable to communicate to or from Sunwater Brisbane	• DSTDM (if available) • **LDMGs** • DDMG	• Phone		Describe current situation with dam communications. What is the status – estimated time to restore communications?

Table 32: Communications failure—DSTDM emergency action

Activation level	Comms Failure – Site	Comms Failure – Local Area
Activation trigger	• Unable to communicate to dam site	• Unable to communicate to local area including LEC and ORR
Actions	• Provide technical advice to IC/LEC on a needs basis • Record all communication • As much as is practicable continue other tasks associated with the role in accordance with any other current emergency action	• Provide technical advice to IC on a needs basis • Record all communication • Assume that the DDO is assisting IC with LEC role • As much as is practicable continue other tasks associated with the role in accordance with any other current emergency action
Internal notifications	• IC • LEC • CEO (if time permits)	• IC • DDO (if available) • CEO (if time permits)
External notifications	• DSR (if applicable)	• DSR (if applicable)

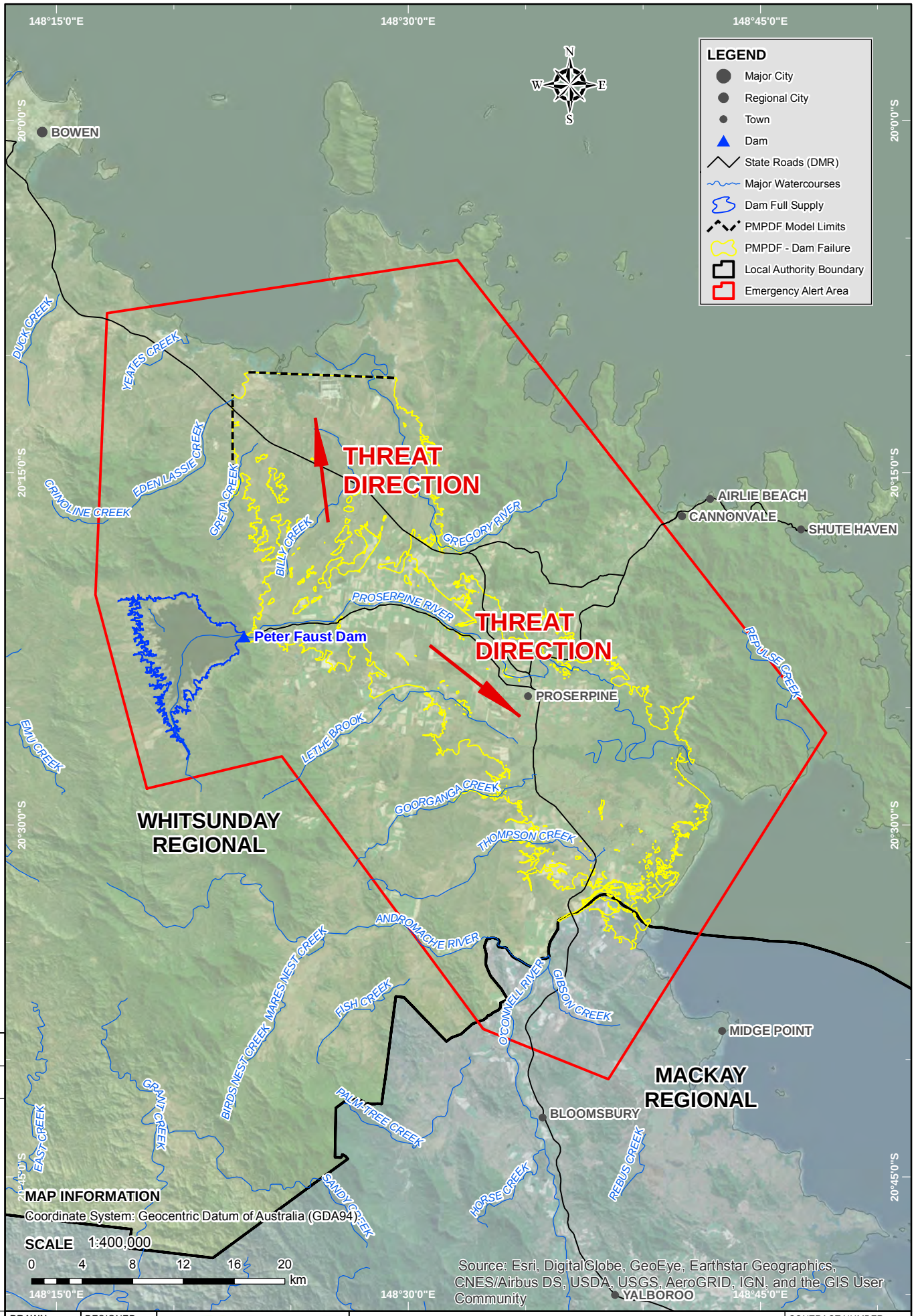
Table 33: Communications failure—FODM emergency action

Activation level	Comms Failure – Site	Comms Failure – Local Area
Activation trigger	• Unable to communicate to dam site	• Unable to communicate to local area including LEC and ORR
Actions	• Liaise with IC • Record all communication • As much as is practicable continue other tasks associated with the role in accordance with any other current emergency action	• Liaise with IC • Record all communication • Assume that the DDO is assisting IC with LEC role • As much as is practicable continue other tasks associated with the role in accordance with any other current emergency action
Internal notifications	• IC • LEC • DSTDM	• IC • DDO (if available) • DSTDM
External notifications	• Not applicable	• Not applicable

APPENDIX A Notification and communication lists

A1 Sunwater regional notification list
A2 Sunwater Brisbane notification list
A3 External notification list
A4 D/S residents' notification list
A5 Other D/S residents' notification list (outside area—requested messaging)
A6 D/S irrigators notification list
A7 Other reference contacts
A8 Emergency alert polygon
A9 Dam failure emergency alert request

Appendix A1 to Appendix A7 have been redacted



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Printed: Tuesday, 23/01/2018 11:32:19 AM

MAP PRODUCED BY:
ASSET DELIVERY
TEL: (07)3120 0000

REVISION	DATE	REMARKS		
A	23/01/18	ISSUED FOR USE	MB	MH

DRAWN IDH | DESIGNED
CHECKED MB | CHECKED
APPROVED M. HUGHES 23/1/2018

PETER FAUST DAM
EMERGENCY ACTION PLAN
EMERGENCY ALERT AREA

CONTRACT NUMBER
DRAWING NUMBER 249585
REV. A
SHEET 1 OF 1
DATE JANUARY 2018

Appendix A9: Dam failure emergency alert request

Queensland emergency alert request guidelines

An Emergency Alert Request form should be completed, if required (see Sections 5 to 8 for actions) and sent to the SDCC Watch Desk to activate the Peter Faust Dam Emergency Polygon.

Instructions

- This form is not to be used for flood UNLESS a flood has triggered an Emergency Event.
- Print off the following Queensland Emergency Alert Request form.
- Telephone the SDCC Watch Desk on [redacted] and tell them your intention to use the Emergency Alert for an Emergency Event for Peter Faust Dam.
- A KML Polygon for this dam is stored in the Sunwater area of the Disaster Management Portal in the Emergency Alert area. Ask the SDCC operative to locate the polygon. It will be a KML file called [redacted]
- Give them your phone number, confirm their name, and end the call after advising the form will be sent shortly.
- IC and DSTDM will work together to craft a message relevant to the hazard and discuss with the LDMG, if there is time.
- Fill in the form and send to SDCC watch desk email: [redacted] This form must come from the IC, DSTDM, or member of the Executive.
- Phone back to check the message has been sent and ask for an email to confirm.
- Send an internal Incident Alert to advise of completion.
- This form MUST be sent from a Sunwater email address. If Sunwater email is not functional, they can confirm identification through the RDMW (Regulator), if required.
- Use the following text to complete the emergency alert request:

Filename:	Voice Message:	SMS:
[redacted]	Flood emergency warning from Sun Water. People downstream of the Proserpine River and the Proserpine community must leave immediately. Peter Faust Dam possible failure/is failing. Major flooding is happening now. Water in the Proserpine River is rising fast. Your life is at risk. Go now to a safe place away from the flood. Get full warnings and what you should do at Whitsunday Regional Council disaster dot whitsunday r c dot qld dot gov dot ay you, disaster dot mackay dot q l d dot gov dot ay you and Mackay Regional Council at disaster dot mackay dot q l d dot gov dot ay you or call triple oh if your life is in danger.	FLOOD EMERGENCY WARNING from Sunwater: People downstream of the Proserpine River and the Proserpine community must LEAVE IMMEDIATELY. Peter Faust Dam possible failure/is failing. Major flooding is happening now. Water in the Proserpine River is rising fast. Your life is at risk. Go now to a safe place away from the flood. Get full warnings and what you should do at Whitsunday Regional Council http://disaster.whitsundayrc.qld.gov.au / and Mackay Regional Council http://disaster.mackay.qld.gov.au/ Call 000 if your life is in danger.

The Peter Faust Dam Emergency Alert request form is presented on the next two pages.

Queensland Government

PHONE THE SDCC WATCH DESK [redacted] – ADVISE EA IS BEING DEVELOPED

EMERGENCY ALERT REQUEST

Location of Alert: Peter Faust Dam
(e.g. Suburb, Town)

Date:

LGA/Agency requesting:

Time:

Requesting Officer (e.g. Disaster Coordinator/Incident Controller)
Name:
Agency/Position:

Telephone:
(SDCC Watch Desk may telephone you)

Email:

Advised **LDC/LDMG**: ☐ YES **DDC/DDMG**: ☐ YES **Neighbouring LDMG/LGA**: ☐ YES ☐ N/A

Send Alert **Immediately**: ☐ YES **Scheduled**: ☐ YES Date & Time / / : hrs

Event Type
☐ Cyclone ☐ Storm Tide ☐ Flash Flood ☐ Flood
☐ Bushfire ☐ Fire Incident ☐ Smoke / Toxic Plume ☐ Chemical Spill
☐ Tsunami (Sent as Location Based Text Message ONLY)
☒ Other (please specify): Catastrophic Dam Failure

Distributed by: (Channel)
☒ Voice (Landline only) ☒ SMS – Location Based (Location of phone at time of distribution) ☐ SMS – Service Address Based (Registered billing address)

Message Severity
☒ Emergency Warning (Activates SEWS) ☐ Watch & Act ☐ Advice

Threat Direction Required? (e.g. Fire, Chemical Spill, Dam Spill) ☐ YES ☐ N/A

Threat location indicated on map? Only For Emergency Warning Voice & Service Address SMS ☒ YES ☐ N/A

EA Messaging Filename (Doc, Pdf):

Polygon Filename, (Kml, Kmz, Gml, GeoJSON):

Number of polygons ___ (if multiple, attach list in order of priority)

Supplied via: ☒ DM Portal ☐ Email ☐ Verbal ☐ Other
Other (please specify):

Supplied via: ☒ DM Portal ☐ Email ☐ Verbal ☐ Other
Other (please specify):

Voice: Type or handwrite, max 4000 characters incls spaces. (Ideally message should be < 450 characters)

This is a flood emergency warning from Sun Water. People downstream of the Proserpine River and the Proserpine community must leave immediately. Peter Faust Dam possible failure/is failing. Major flooding is happening now. Water in the Proserpine River is rising fast. Your life is at risk. Go now to a safe place away from the flood. For more information go to disaster dot whitsunday rc dot qld dot gov dot ay you, disaster dot mackay dot q l d dot gov dot ay you or call Triple 0 if your life is in danger

SMS: Type or handwrite, use capitals for clarity, max 612 characters incls spaces. (Ideally should be < 160 characters incl. spaces)

FLOOD EMERGENCY WARNING from Sunwater: People downstream of Proserpine River and the Proserpine community must LEAVE IMMEDIATELY. Peter Faust Dam possible failure/is failing. Major flooding happening now. Water in the Proserpine River is rising fast. Your life is at risk. Go now to a safe place away from the flood. More info: http://disaster.whitsundayrc.qld.gov.au, http://disaster.mackay.qld.gov.au. Call 000 if your life is in danger.

Remove EA from websites:
☐ 12 hrs ☐ 24 hrs ☐ 48 hrs ☐ Specify Date & Time: ☐ Check back in 12 hrs:
☐ Replace previous EA message / / : hrs Contact #:_____

Requesting Officer: **Signature:** **Date:** / /

Send to [redacted] to confirm receipt

FOR USE BY SDCC

EA Request Form completed by: SDCC Watch Desk ☐ Requesting Officer ☐

Notification of any delays provided to Requestor: ☐ YES ☐ NO

EA User Name:
Signature: Date: / /

Emergency Alert No:

Authorising Officer Name:
Signature: Date: / /

EMS EA Campaign Report ID:

Report provided to Requestor on EA outcomes: ☐ YES ☐ NO

The EA Manual, EA Quick Reference Guide, EA Request Form Template are available at: www.disaster.qld.gov.au

DO NOT SEND THIS PAGE

GUIDE TO COMPLETE STEPS 1 – 4	
STEP 1.	EA Polygon Area (e.g. detailed description and location reference to allow positive identification of message area, including street names with cross street, areas of interest such as parks, rivers, dams, coastal areas) it is preferable to attach a map identifying the message area. If a Threat Direction has been requested, please clearly indicate it on the map.
STEP 2.	Tick applicable box and note the file name.
STEP 3.	Voice Message: type or handwritten the required message. As the message will be translated by a text-to-speech process it is important that words are not unintelligible when translated e.g. "qld" used in a web site address must be entered as "q l d", similarly the word "dot" must be entered into a web address instead of a full stop. Voice Message ideally should have no more than 450 characters including spaces. Do not use special characters – refer to EA Manual for details. Warning message must start with "Emergency Emergency"
STEP 4.	SMS Is restricted to a maximum of 160 characters including spaces and punctuation. Either type the message or handwrite the characters into the boxes.

Example: *SMS Flash Flood Warning from SES for Opal Valley-immediate threat to life/property-Warn others-Leave area/prepare NOW or seek higher ground-Listen to local radio*

If using template EA messages, please provide the appropriate variables that are in the template message guides. Refer to the Queensland Emergency Alert Manual for copies of the template message guides.

//RELEVANTAUTHORITY//

//DIRECTIONANDAREA//

//NAME//

//NUMBER//

//TIME//

//TIMEandDAY//

//DIRECTIONandPLACE//

//HOURSMINUTES//

//PLACE//

//PLACEPLACE//

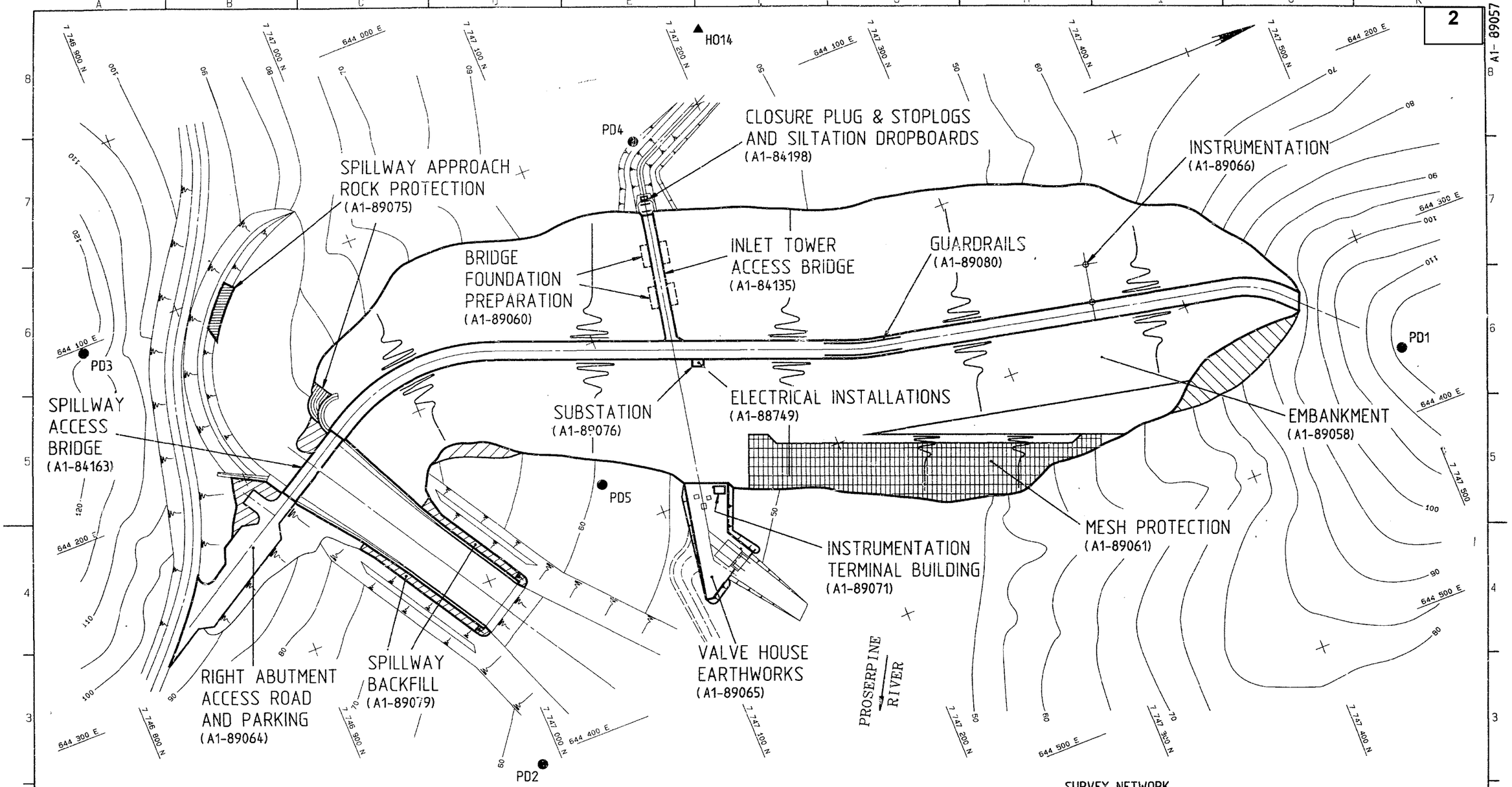
//EXTERNAL/INTERNAL//

//SUBURBS//

//FireIncident//

Appendix B Drawings, inundation maps and emergency control measures

NOTE: Actual levels may differ from those shown in flood inundation maps due to variations in assumptions made in the models to actual flood events.



Levels on this drawing are in metres
based on PM 206629 = EL 94.431 m (AHD Registered)

NOTES

1. LEVELS DATUM: AHD
2. AZIMUTH DATUM: AMG ORIENTATED AT CENTRE OF CONSTRUCTION AREA
3. CO-ORDINATES ARE PLANE CO-ORDINATES AT MEAN ELEVATION 75 METRES AHD (DERIVED)
4. CONTOUR INFORMATION OBTAINED FROM P: MMETRIC BASE PLAN A1-85478

SURVEY NETWORK

	ADJUSTED COORDINATES				ABSOLUTE ERROR ELLIPSES		
STN	EASTING	NORTHING	EL	MAJOR	MINOR	ORIENTATION
PD1	644 364.337	7 747 501.462	115.922	0.0	0.0	90°
PD2	644 403.503	7 746 989.561	58.564	4.2mm	3.3mm	141°
PD3	644 103.200	7 746 844.862	117.516	0.0	0.0	90°
PD4	644 106.331	7 747 160.721	54.668	3.3mm	2.9mm	121°
PD5	644 273.944	7 747 075.465	59.438	2.9mm	2.1mm	27°
✳ HO14	644 061.88	7 747 215.69	50.987	-	-	-

✳ BENCH MARK (DATUM)

REVISION	DATE	REMARKS	ZONE	CKD	PSD

SCHEDULE DRAWING		
	A1-88749	AREA SERVICES-CABLEWAYS - ARRANGEMENT
	A1-84198	CLOSURE PLUG & SILTATION DROPBOARDS
	A1-84163	SPILLWAY BRIDGE - ARRANGEMENT
	A1-84135	INLET TOWER BRIDGE - ARRANGEMENT
	A1-89066	INSTRUMENTATION - ARRANGEMENT
	A1-89058	EMBANKMENT - ARRANGEMENT

SCALES — RATIOS BEFORE REDUCTION

0 50 100 METRES
1: 1000

DESIGN	DRAFTING
PREP	DR AN
CKD	CKD
SUPV	SUPV
SUBMITTED	SUBMITTED
EXEC ENGINEER	DRAFTING MANAGER

Water Resources Commission

RECOMMENDED	APPROVED
SENIOR ENGINEER	SEN ENGINEER CIVIL DESIGN AND DAM SURVEILLANCE

PETER FAUST DAM - CONSTRUCTION

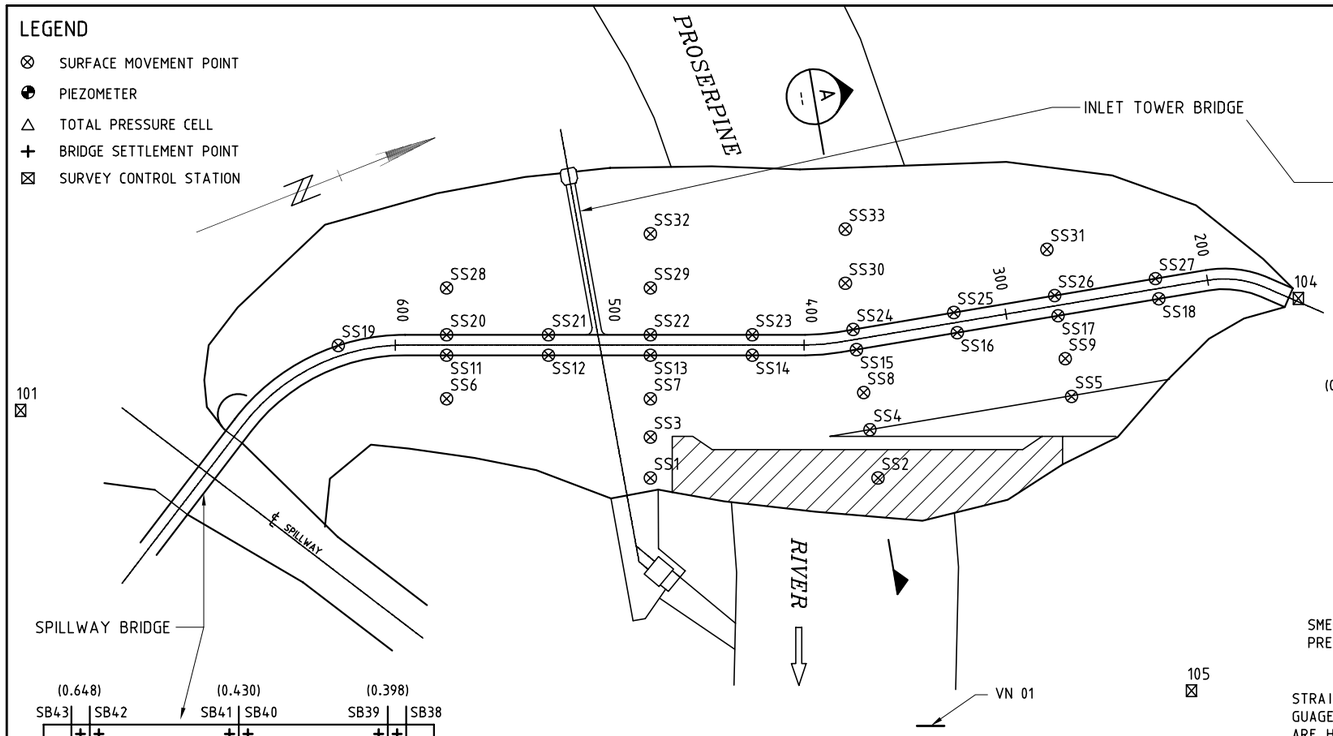
GENERAL ARRANGEMENT

CONTRACT NUMBER 2592
DRAWING NUMBER A1- 89057
DATE 22 · 2 · 85

89057.TIF

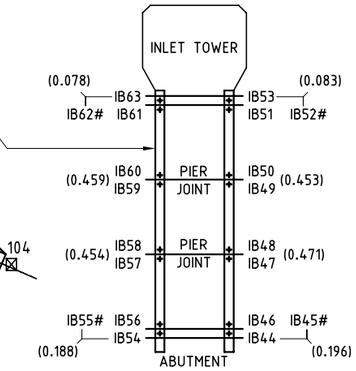
LEGEND

- ⊗ SURFACE MOVEMENT POINT
- ◕ PIEZOMETER
- △ TOTAL PRESSURE CELL
- \+ BRIDGE SETTLEMENT POINT
- ⊠ SURVEY CONTROL STATION



PLAN

SCALE A

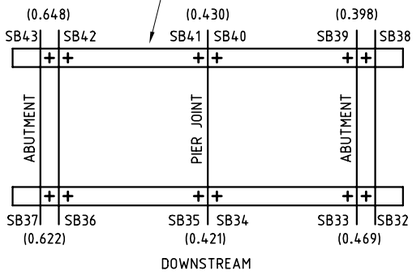


INLET BRIDGE

NOT TO SCALE

 # = HORIZ. (TAPE) MEASUREMENT ONLY

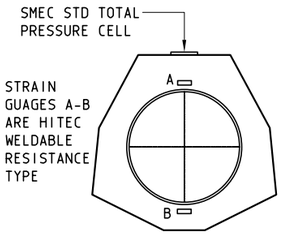
DIMENSIONS IN (BRACKETS) = DISTANCE BETWEEN BOLTS



DIMENSIONS IN (BRACKETS) = DISTANCE BETWEEN BOLTS

SPILLWAY BRIDGE

NOT TO SCALE



DIVERSION CONDUIT SECTION

STRAIN GUAGES

NOT TO SCALE

Levels on this drawing are in metres
based on PM 206629 = EL 94.431 m (AHD Registered)

STRAIN GAUGES OUTLET CONDUIT

No	AXIS DISTANCE	
ST 1A	500.05	
ST 1B	500.05	
ST 2A	527.15	
ST 2B	527.15	
ST 3A	554.71	
ST 3B	554.71	

SURFACE SETTLEMENT POINTS

TIP No	EASTING	NORTHING	ELEVATION	
SS 1	44289.44	747137.2	57.73	FIRST OBSERVED APRIL 1991 (RECORDED IN FIELD RECORDS REG NO 24653)
SS 2	44330.77	747240.5	58.06	
SS 3	44270.38	747144.9	70.87	
SS 4	44305.83	747246.5	71.05	
SS 5	44327.09	747344.4	71.15	
SS 6	44216.84	747058.9	81.96	
SS 7	44254.34	747151.4	81.66	
SS 8	44288.55	747250.1	81.94	
SS 9	44309.88	747347.3	81.72	
SS10	44182.87	747020.2	94.92	
SS11	44196.79	747066.6	95.02	
SS12	44215.32	747113.0	95.04	
SS13	44233.87	747159.3	95.10	
SS14	44252.50	747205.8	95.11	
SS15	44267.33	747254.3	95.10	
SS16	44277.95	747303.2	95.16	
SS17	44288.58	747352.0	95.09	
SS18	44299.05	747401.0	94.96	
SS19	44172.91	747021.0	94.95	
SS20	44187.48	747070.3	94.98	
SS21	44206.01	747116.8	95.05	
SS22	44224.62	747163.1	95.09	
SS23	44243.29	747209.5	95.11	
SS24	44257.64	747256.4	94.96	
SS25	44268.16	747305.1	95.10	
SS26	44278.86	747354.1	95.05	
SS27	44289.36	747403.0	95.05	
SS28	44165.63	747078.8	81.09	FIRST OBSERVED SEPT 1998
SS29	44203.02	747172.0	81.16	
SS30	44234.81	747261.2	81.09	
SS31	44256.38	747359.4	81.19	
SS32			BELOW EL 67.0	NOT CONNECTED
SS33				

INLET TOWER BRIDGE SETTLEMENT POINTS

TIP No.	ELEV.	
IB44	94.268	FIRST OBSERVED NOV 2003
IB46	94.592	
IB47	94.518	
IB48	94.513	
IB49	94.492	
IB50	94.502	
IB51	94.496	
IB53	94.399	
IB54	94.274	
IB56	94.595	
IB57	94.517	
IB58	94.521	
IB59	94.494	
IB60	94.494	
IB61	94.499	
IB63	94.389	

SPILLWAY BRIDGE SETTLEMENT POINTS

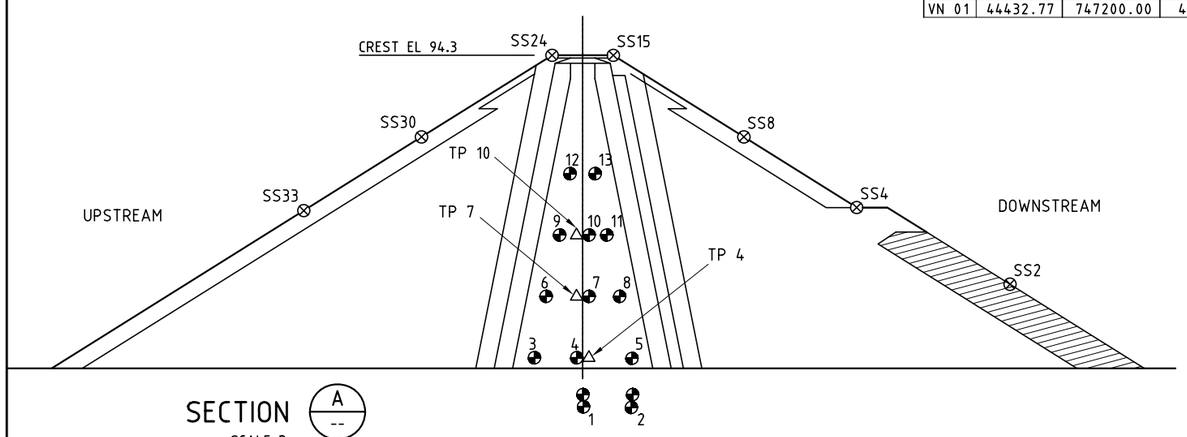
TIP No	EASTING	NORTHING	ELEVATION	
SB32			94.511	FIRST OBSERVED SEPT 1998
SB33			94.511	
SB34			94.507	
SB35			94.509	
SB36			94.514	
SB37			94.515	
SB38	44192.12	746953.0	94.511	
SB39			94.510	
SB40			94.506	
SB41			94.514	
SB42			94.515	
SB43			94.518	

V-NOTCH WEIRS

No	EASTING	NORTHING	ELEVATION	REMARKS	
VN 01	44432.77	747200.00	45.651	NOTCH	(LOCATED SEPT 2001)
VN 01	44432.77	747200.00	45.982	CREST	

SURVEY CONTROL STATIONS

No	EASTING	NORTHING	ELEVATION	REMARKS
101	44140.575	746858.521	113.491	PILLAR
104	44322.317	747459.202	97.458	PILLAR
105	44480.872	747339.343	79.827	PILLAR
106	44487.519	747041.808	55.747	PILLAR



SECTION

SCALE B

NOTES:

1. THE INLET TOWER BRIDGE PIER SETTLEMENTS WERE ALSO MONITORED DURING CONSTRUCTION.
2. THE WEIR LOCATION DIFFERS FROM THAT DESCRIBED IN THE DESIGN REPORT.
3. ORIGINAL PLANS INDICATE 6 STRAIN GAUGES (A, B, C, D, X, Y) AT 3 LOCATIONS ALONG THE CONDUIT. HOWEVER, THE RECORDS REFER TO A & B ONLY.
4. LEVELS DATUM : AHD.
5. AZIMUTH DATUM : AMG.
6. COORDINATES ARE PLANE AGD84 ZONE 55
   EASTING + 600 000
   NORTHING + 7 000 000
7. TOP OF PILLAR AND SETTLEMENT MARKS ARE 0.055m LOWER THAN LEVELS SHOWN IN TABLES.

TOTAL PRESSURE CELL INSTALLATIONS - EMBANKMENT

TIP No	AXIS DISTANCE	OFFSET FROM AXIS	ELEVATION
TP 4	375.50	0.09 U/S	45.96
TP 7	375.80	0.10 U/S	54.96
TP 10	375.00	0.02 U/S	64.96

TOTAL PRESSURE CELL INSTALLATIONS - OUTLET CONDUIT

TIP No	CONDUIT DISTANCE	ELEVATION
TP 14	500.05	51.63
TP 15	527.15	51.45
TP 16	554.71	51.17

HYDRAULIC / ELECTRIC PIEZOMETER INSTALLATIONS

TIP No	TYPE HYD	TYPE ELEC	AXIS DISTANCE	OFFSET FROM AXIS	ELEVATION
1		X	374.80	1.96 D/S	37.64
	X		374.80	1.96 D/S	37.94
2		X	375.03	8.13 D/S	37.50
	X		375.03	8.13 D/S	37.80
3	X		375.00	8.31 U/S	46.03
4	X		374.22	0.06 D/S	45.95
5	X		374.15	8.08 D/S	46.00
6	X		374.99	6.29 U/S	54.94
7	X		374.99	0.08 D/S	54.84
8	X		375.00	5.84 D/S	55.00
9	X		375.08	4.05 U/S	64.97
10	X		375.18	0.54 U/S	64.81
11	X		374.93	4.10 D/S	64.93
12	X		* 375	2.04 U/S	75.00
13	X		* 375.00	2.04 D/S	75.00

* INDICATED

REVISION	DATE		REMARKS	CKD	PSD
	24.01.06	D	V-NOTCH WEIR TABLE OF COORDINATES	DNH	
	09.02.04	C	INLET BRIDGE SETTLEMENT PTS AND TABLE ADDED	DNH	
	02.04.03	B	CONTROL STNS ADDED, SETTLEMENT STNS AS BUILT	DNH	
	18.05.01	A	GENERAL REVISION.	MG	

REFERENCE DRAWINGS

SCALES

A 0 50 100 150 METRES 1:1500

B 0 10 20 30 40 50 METRES 1:500

DRAFTING	DESIGN
AJN	M G
DRAFTING CHK	DESIGN CHK
APPROVED	
K. EHM 31/5/01	

DAM SAFETY INVESTIGATION

PETER FAUST DAM

INSTRUMENTATION LAYOUT

CONTRACT NUMBER

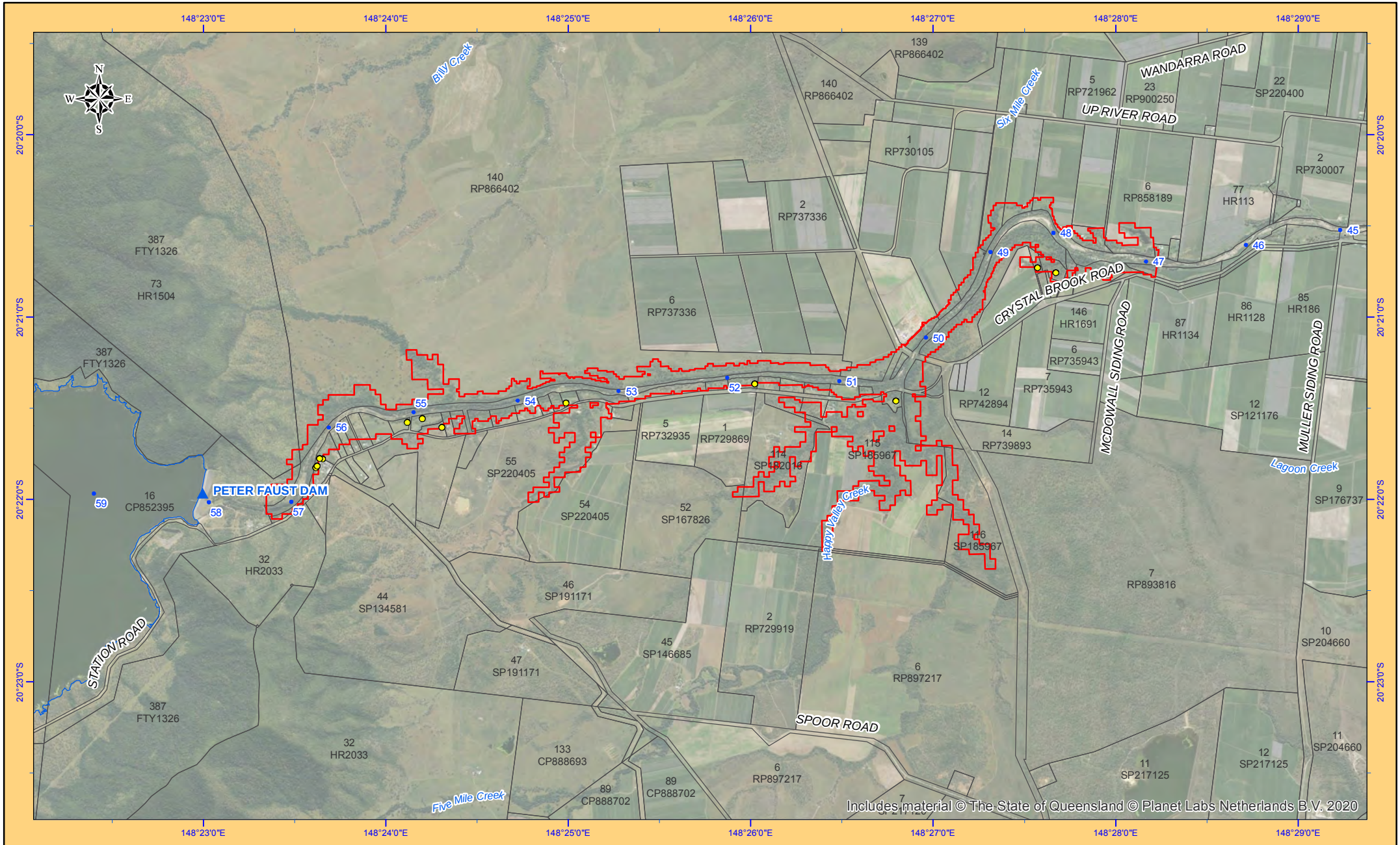
DRAWING NUMBER 102271

DATE

A B C D

P:\G Projects\G-10007_Proserpine River WSS\01_Proserpine River\07_Peter Faust Deformation\04_Peter Faust Deformation 05-06\Drafting\102271D.dwg

24 Jan 2006 11:04 AM



MAP INFORMATION

Coordinate System: Geocentric Datum of Australia (GDA2020).

SCALE (A4 SIZE)

0 500 1,000 1,500 2,000 2,500 m 1:50,000

LEGEND

- AMTD (Markers)
- PAR - No Dam Failure
- Peter Faust Dam FSL
- Limit of Downstream Notification Area

PETER FAUST DAM DOWNSTREAM NOTIFICATION AREA

NOTES

Areas further downstream will become progressively more impacted by other rainfall and inflows that occur downstream of the dam (not shown here).

sunwater

DRAWING No. 250720 D

Document: S:\BW_WaterResources\GIS_Data\SW_Proserpine River WSS\PeterFaustDam_CRA2022\Drawings\ArcMap\250720-D.mxd
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Appendix B3: Inundation maps

Drawings:

- Key Map
- Sunny Day Failure (SDF)
- Probable Maximum Flood (PMF)

Disclaimer: Every effort has been made to ensure the currency of the flood inundation maps reproduced in this EAP. However, as the maps have been extracted from external sources, their accuracy cannot be guaranteed. Please refer to the Local Disaster Management Plan for the most current information.

Document: S:\BW_WaterResources\GIS_Data\SW_Proserpine River WSS\PeterFaustDam_CRA2022\Drawings\ArcMap\256930-B.pagx
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620000 640000 660000 680000 700000

7760000 7740000 7720000

BRUCE HIGHWAY

SHEET 3 OF 7

SHEET 2 OF 7

SHEET 1 OF 7

SHEET 4 OF 7

SHEET 5 OF 7

SHEET 6 OF 7

SHEET 7 OF 7

WHITSUNDAY REGIONAL COUNCIL

MACKAY REGIONAL COUNCIL

AIRLIE BEACH

CANNONVALE

SHUTE HAVEN

PRETTY BEND

PETER FAUST DAM

PROSERPINE

GREGORY - CANNON VALLEY ROAD

CRYSTAL BROOK ROAD

PROSERPINE - SHUTE HARBOUR ROAD

PROSERPINE RIVER

DON RIVER

O'CONNELL RIVER

N W E S

LEGEND

- State Road (DTMR)
- Qld Rail Network
- Major Watercourse
- Minor Watercourse
- Built Up Area
- Qld Local Government Area
- Maximum Flood Event

Sunwater Storages

- Dam
- Weir
- Dam Reservoir

REVISION				
19/09/24	B	UPDATED SHEET NUMBERS	JS	MGH
13/12/22	A	ISSUED FOR USE	LH	MGH
DATE		REMARKS	CKD	PSD

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020), Zone 55.

DRAWING REFERENCE
256931 - Sunny Day Failure
256932 - Probable Maximum Flood

SCALES (A3 SIZE)
0 2.5 5 7.5 10 12.5 km
1:250,000

DRAWN IDH | DESIGNED
CHECKED | CHECKED LH
APPROVED M.G. HUGHES 13/12/2022
RPEQ: 18351

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
INUNDATION PLANS
KEYMAP

CONTRACT NUMBER
DRAWING NUMBER 256930 | REV. B
SHEET 1 OF 1
DATE DECEMBER 2022

MAP PRODUCED BY:
SUNWATER LTD
TEL: (07) 3120 0000

Document: S:\BW_WaterResources\GIS_Data\SW_Proserpine River WSS\PeterFaustDam_CRA2022\Drawings\ArcMap\256931-A.mxd
Printed: Tuesday, 13/12/2022 02:47:58 PM

Map Produced By:
Water Resources and Dam Safety
Tel: (07) 3120 0000

645,000 650,000 655,000

7,745,000 7,740,000

UP RIVER ROAD
PROSERPINE RIVER
CRYSTAL BROOK ROAD
MCDOWALL SIDING ROAD
MULLER SIDING ROAD
PRATT SIDING ROAD
READ ROAD
ROAD
Lagoon Creek
Gap Creek
PETER FAUST DAM
STATION ROAD
Happy Valley Creek
Five Mile Creek
SPOOR ROAD
Tailing Gully
TAILING GULLY ROAD
KELSEY CREEK ROAD
Three Mile Creek
RANGEMORE ROAD
WOOTTEN ROAD
Macartys Creek
THOROGOOD ROAD
Spring Creek
La-Di-Da Creek
OXFORD ROAD
HADLOW ROAD
Lethe Brook
Kelsey Creek
SILVER CREEK ROAD
Slater Creek
DITTMER ROAD
Kelsey Creek
COOPER ROAD
Dittmer

AMTD (Marker) 40 41 42 43 44 46 47 49 50 51 52 53 54 55 56 57 58 59 60 61

LEGEND
- Major Road
- Secondary Road
- Qld Rail Network
- Cadastral Lot Boundary

Flood Modelling
- PAR - Dam Failure
- Model Limits
- Sunny Day Failure

Sunwater Storages
- Dam
- Peter Faust Dam FSL

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH

APPROVED
M.G. HUGHES
13/12/2022
RPEQ: 18351

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
SUNNY DAY FAILURE (PIPING FAILURE) INUNDATION PLAN

CONTRACT NUMBER

DRAWING NUMBER	REV.
256931	A

SHEET 1 OF 7

DATE DECEMBER 2022

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Map Produced By:
Water Resources and Dam Safety
Tel: (07) 3120 0000

645,000 650,000 655,000

7,760,000 7,755,000 7,750,000

LEGEND

- AMTD (Marker)
- Major Road
- Secondary Road
- Qld Rail Network
- Cadastral Lot Boundary

Flood Modelling

- PAR - Dam Failure
- Model Limits
- Sunny Day Failure

Sunwater Storages

- Dam
- Peter Faust Dam FSL

Rocky Creek
Ten Mile Creek
Dingo Creek
Billy Creek
Gregory River
Vine Creek
Stony Creek
Six Mile Creek
Scrubby Creek
Greta Creek
Bell Creek
PROSERPINE RIVER

BRUCE HIGHWAY
DINGO BEACH ROAD
ROAD
COLLINGVALE ROAD
KOOLACHU ROAD
PARKINSON ROAD
RED HILL ROAD
WANDARRA ROAD
BLAIR ROAD
UP RIVER ROAD
SPRUCE ROAD
RILEY ROAD
ARMIT ROAD

Bubialo
Koolachu

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

N W E S

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH

APPROVED
M.G. HUGHES
13/12/2022
RPEQ: 18351

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
SUNNY DAY FAILURE
(PIPING FAILURE)
INUNDATION PLAN

CONTRACT NUMBER

DRAWING NUMBER	REV.
256931	A

SHEET 2 OF 7
DATE DECEMBER 2022

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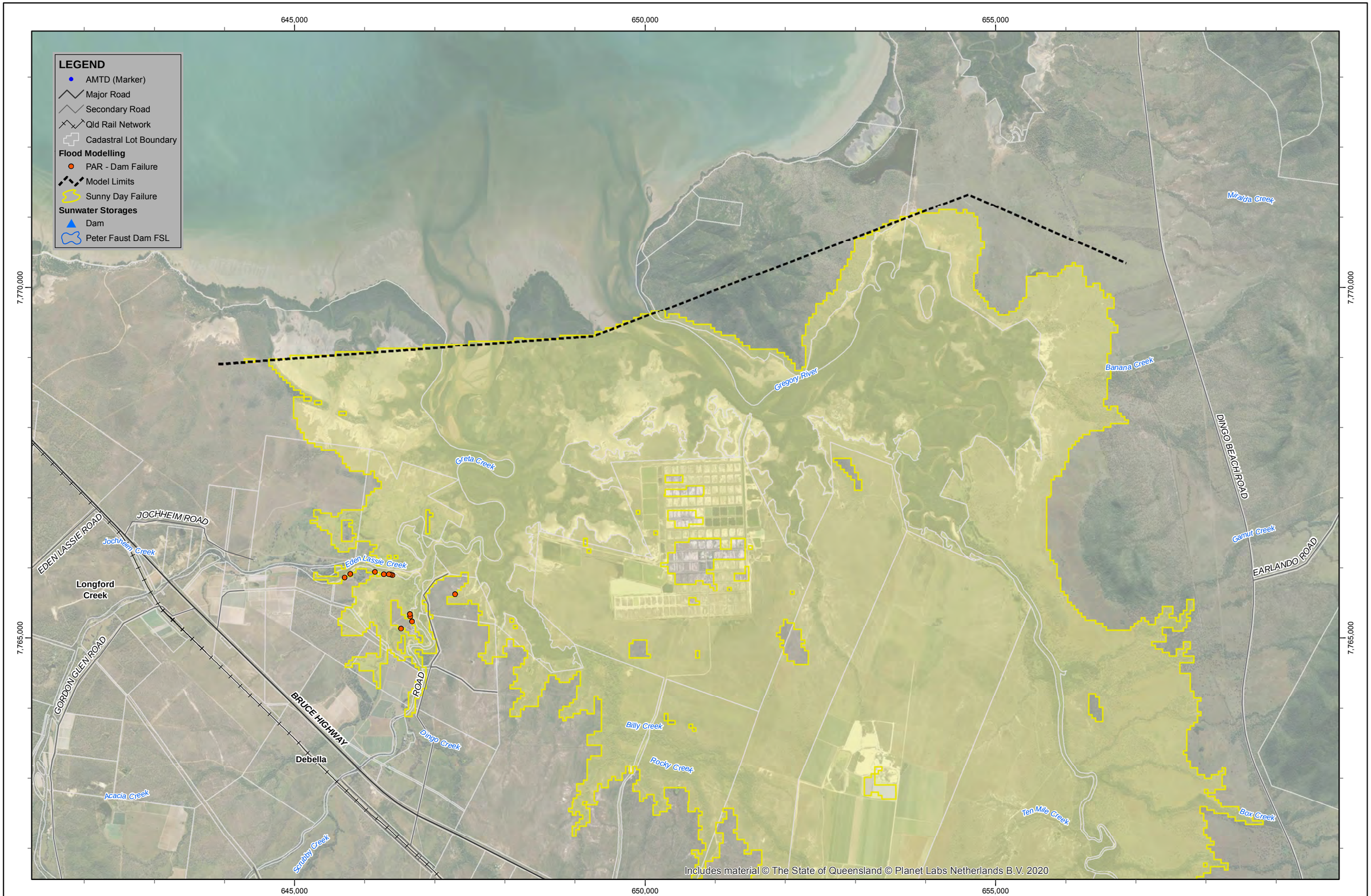

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN	DESIGNED
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CHECKED	CHECKED
	LH
APPROVED	
M.G. HUGHES 13/12/2022	
RPEQ: 18351	

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
SUNNY DAY FAILURE
(PIPING FAILURE)
INUNDATION PLAN

CONTRACT NUMBER	
DRAWING NUMBER	REV.
256931	A
SHEET 3 OF 7	
DATE DECEMBER 2022	

MAP PRODUCED BY:
WATER RESOURCES AND DAM SAFETY
TEL: (07) 3120 0000

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Map Produced By:
Water Resources and Dam Safety
Tel: (07) 3120 0000

660,000 665,000 670,000 675,000

7,755,000 7,750,000 7,745,000

BEE BONI ROAD
WILSON ROAD
ASHTON ROAD
Cow Creek
Deep Creek
Gregory River
GREGORY RIVER ROAD
PATULLO ROAD
DINGO BEACH ROAD
GREGORY CANNON VALLEY ROAD
Myrtle Creek
MULLER ROAD
BRUCE HIGHWAY
PARKINSON ROAD
BLAIR ROAD
MORANINO ROAD
MYRTLEVALE ROAD
OSSIE DRIVE
BORELLINI ROAD
UP RIVER ROAD
Foxdale
PROSERPINE RIVER
READ ROAD
NELSON ROAD
CRYSTAL BROOK ROAD
KELSEY CREEK ROAD
Lagoon Creek
DINNIE ROAD
BATES ROAD
STANILAND DRIVE
HARRIS ROAD
Palm Tree Creek
GIA ROAD
GILLIES ROAD
WRIGHTS ROAD
CAMILLE DRIVE
STRATHDICKIE ROAD
JORGENSEN ROAD
AITKEN ROAD
CAMM ROAD
Mount Julian
Emmerson Creek
TELFORD ROAD
MOODY ROAD
MOUNTNEY ROAD
WINDERMERE DRIVE
Clofton Creek
Brandy Creek
PLEMENUK ROAD
JANSEN ROAD
RIFLE RANGE ROAD
ECKER ROAD
palm Creek
Dry Creek
COWAN ROAD
CONWAY ROAD
DUVAL ROAD
SALTWATER CREEK ROAD
Saltwater Creek
SHUTE HARBOUR ROAD
BRANDY CREEK ROAD
FORESTRY ROAD
KOOKABURRA DRIVE
STANLEY DRIVE
ORCHID ROAD
RIORDANVALE ROAD
DUNNING ROAD
SUGARLOAF ROAD
Bullock Creek
Native Dog Creek
Spring Creek
RICHARDSON ROAD
Fox Creek
TUCKER ROAD
TURNER ROAD
PALUMA ROAD
Waite Creek
Catbalm Creek
VALLEY DRIVE
CANNONVALE
40 39 38 37 36 35 29 28 27

LEGEND
- AMTD (Marker)
- Major Road
- Secondary Road
- Qld Rail Network
- Cadastral Lot Boundary

Flood Modelling
- PAR - Dam Failure
- Model Limits
- Sunny Day Failure

Sunwater Storages
- Dam
- Peter Faust Dam FSL

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
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1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH
APPROVED	
M.G. HUGHES 13/12/2022	RPEQ: 18351

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
SUNNY DAY FAILURE (PIPING FAILURE) INUNDATION PLAN

CONTRACT NUMBER

DRAWING NUMBER	REV.
256931	A

SHEET 4 OF 7

DATE DECEMBER 2022

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Water Resources and Dam Safety
Tel: (07) 3120 0000

660,000 665,000 670,000 675,000

7,740,000 7,735,000

KELSEY CREEK ROAD
Lagoon Creek
FAUST STREET
ANZAC ROAD
BOUNDARY ROAD
PROSERPINE
RENWICK ROAD
DUDLEY ROAD
Pig Creek
TOBIN ROAD
GLEN ISLA ROAD
MCGREGOR ROAD
CASSWELL ROAD
GRAY ROAD
Bonavista
Palm Creek
Dry Creek
FISHER ROAD
SALTWATER CREEK ROAD
Saltwater Creek
ORCHID CREEK ROAD
EVANS ROAD
VITANZA ROAD
Rocky Creek
Orchid Creek
Lethe Brook
PROSERPINE RIVER
CONWAY ROAD
Slater Creek
ROAD
BRUCE HIGHWAY
Albert Creek
Deadman Creek
LASCELLES AVENUE
GUNYARRA ROAD
Goorganga Creek

27 30 25 26 23 24 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 34 33 32 31

LEGEND

- AMTD (Marker)
- Major Road
- Secondary Road
- Qld Rail Network
- Cadastral Lot Boundary

Flood Modelling

- PAR - Dam Failure
- Model Limits
- Sunny Day Failure

Sunwater Storages

- Dam
- Peter Faust Dam FSL

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
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1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH
APPROVED	
M.G. HUGHES 13/12/2022	
RPEQ: 18351	

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
SUNNY DAY FAILURE
(PIPING FAILURE)
INUNDATION PLAN

CONTRACT NUMBER

DRAWING NUMBER	REV.
256931	A

SHEET 5 OF 7

DATE DECEMBER 2022

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MAP PRODUCED BY:
WATER RESOURCES AND DAM SAFETY
TEL: (07) 3120 0000

660,000 665,000 670,000 675,000

7,730,000

7,725,000

Gunyarra
Thoopara
Deadman Creek
Thompson Creek
Billie Creek
ROAD
GUNYARRA ROAD
BRUCE HIGHWAY
LETHEBROOK ROAD
MAGEE ROAD
Lethebrook
BELL ROAD
Oconnell River
COWAN ROAD
ESPLANADE
OCONNELL RIVER
COWANS ROAD
MAGEES ROAD
Bromby Creek
THOOPARA ROAD
MALONEY ROAD
KUNAPIPI ROAD
THOMSETTS ROAD
CAPING ROAD
Corvering Creek

LEGEND
- AMTD (Marker)
- Major Road
- Secondary Road
- Qld Rail Network
- Cadastral Lot Boundary

Flood Modelling
- PAR - Dam Failure
- Model Limits
- Sunny Day Failure

Sunwater Storages
- Dam
- Peter Faust Dam FSL

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH
APPROVED	
M.G. HUGHES 13/12/2022	
RPEQ: 18351	

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
SUNNY DAY FAILURE (PIPING FAILURE) INUNDATION PLAN

CONTRACT NUMBER

DRAWING NUMBER	REV.
256931	A

SHEET 6 OF 7

DATE DECEMBER 2022

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MAP PRODUCED BY:
WATER RESOURCES AND DAM SAFETY
TEL: (07) 3120 0000

680,000 685,000 690,000 695,000

7,740,000 7,735,000 7,730,000

Rocky Creek
Cedar Creek
Boulder Creek
Repulse Creek
The Inlet
CONWAY ROAD
ALLAN ROAD
ROAD
Wilson
Conway
2
1
0

LEGEND
- AMTD (Marker)
- Major Road
- Secondary Road
- Qld Rail Network
- Cadastral Lot Boundary

Flood Modelling
- PAR - Dam Failure
- Model Limits
- Sunny Day Failure

Sunwater Storages
- Dam
- Peter Faust Dam FSL

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH
APPROVED	
M.G. HUGHES 13/12/2022	
RPEQ: 18351	

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
SUNNY DAY FAILURE (PIPING FAILURE) INUNDATION PLAN

CONTRACT NUMBER

DRAWING NUMBER	REV.
256931	A

SHEET 7 OF 7

DATE DECEMBER 2022

Document: S:\BW_WaterResources\GIS_Data\SW_Proserpine River WSS\PeterFaustDam_CRA2022\Drawings\ArcMap\256932-A.mxd
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Map Produced By:
Water Resources and Dam Safety
Tel: (07) 3120 0000

645,000 650,000 655,000

7,745,000 7,740,000

UP RIVER ROAD
CRYSTAL BROOK ROAD
MCDOWALL SIDING ROAD
MULLER SIDING ROAD
PRATT SIDING ROAD
READ ROAD
PROSERPINE RIVER
Lagoon Creek
Gap Creek
PETER FAUST DAM
STATION ROAD
Happy Valley Creek
Five Mile Creek
SPOOR ROAD
ROAD
Tailing Gully
TAILING GULLY ROAD
Three Mile Creek
RANGEMORE ROAD
WOOTTEN ROAD
Macartys Creek
THOROGOOD ROAD
Spring Creek
La-Di-Da Creek
KELSEY CREEK ROAD
OXFORD ROAD
HADLOW ROAD
Leithe Brook
Kelsey Creek
SILVER CREEK ROAD
Slater Creek
DITTMER ROAD
Kelsey Creek
COOPER ROAD
Dittmer

AMTD (Marker): 40, 41, 42, 43, 44, 46, 47, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61

LEGEND
- AMTD (Marker)
- Major Road
- Secondary Road
- Qld Rail Network
- Cadastral Lot Boundary

Flood Modelling
- PAR - No Dam Failure
- Additional PAR - Dam Failure
- Model Limits
- PMF - No Dam Failure
- PMF - Dam Failure

Sunwater Storages
- Dam
- Peter Faust Dam FSL

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH
APPROVED	
M.G. HUGHES 13/12/2022	RPEQ: 18351

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
PROBABLE MAXIMUM FLOOD (OVERTOPPING FAILURE) INUNDATION PLAN

CONTRACT NUMBER

DRAWING NUMBER	REV.
256932	A

SHEET 1 OF 7
DATE DECEMBER 2022

Document: S:\BW_WaterResources\GIS_Data\SW_Proserpine River WSS\PeterFaustDam_CRA2022\Drawings\ArcMap\256932-A.mxd
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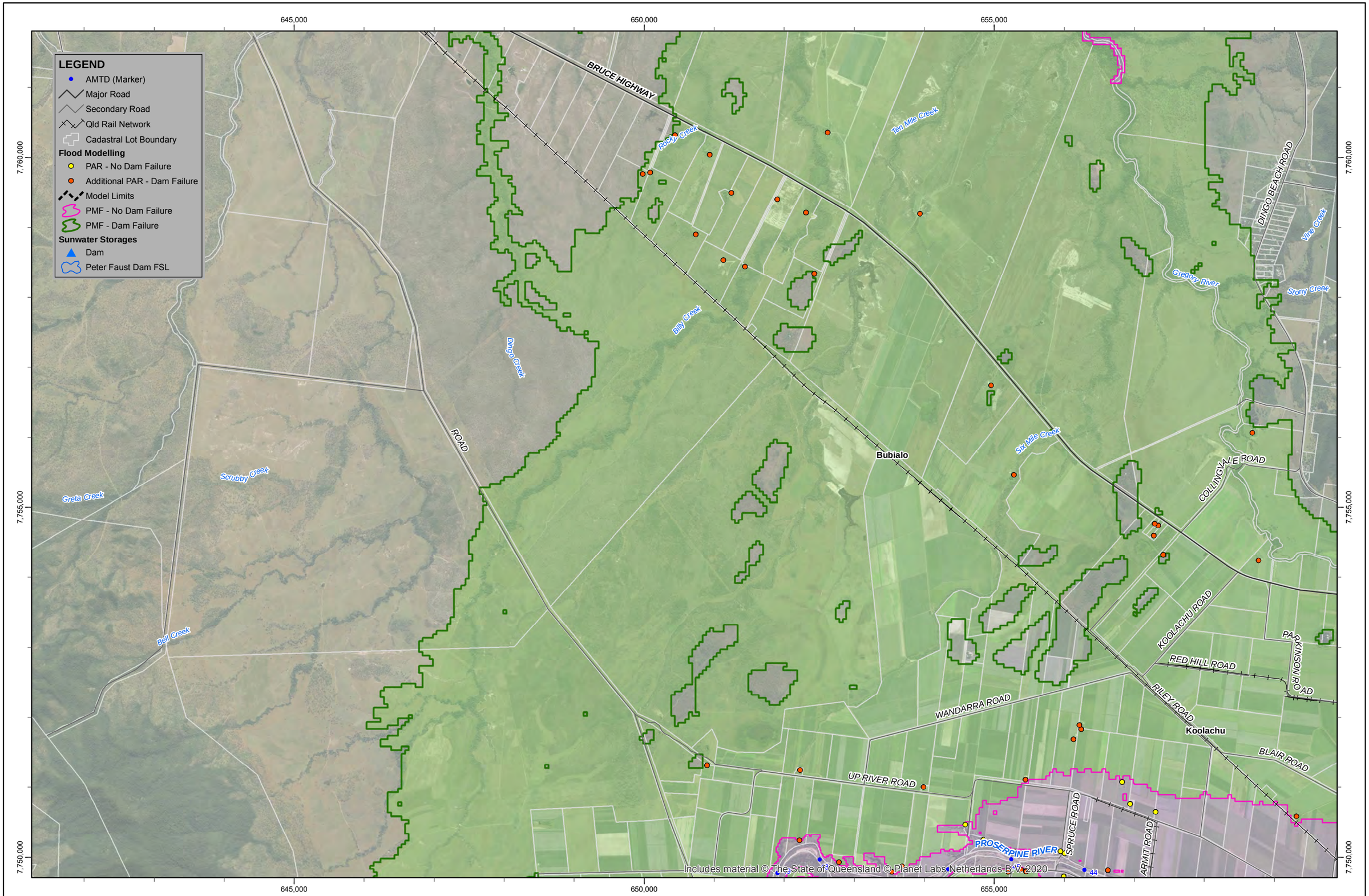

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH

APPROVED
M.G. HUGHES
13/12/2022
RPEQ: 18351

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
PROBABLE MAXIMUM FLOOD (OVERTOPPING FAILURE) INUNDATION PLAN

CONTRACT NUMBER

DRAWING NUMBER	REV.
256932	A

SHEET 2 OF 7
DATE DECEMBER 2022

MAP PRODUCED BY:
WATER RESOURCES AND DAM SAFETY
TEL: (07) 3120 0000

Document: S:\BW_WaterResources\GIS_Data\SW_Proserpine River WSS\PeterFaustDam_CRA2022\Drawings\ArcMap\256932-A.mxd
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645,000 650,000 655,000

7,770,000

7,765,000

LEGEND

- AMTD (Marker)
- Major Road
- Secondary Road
- Qld Rail Network
- Cadastral Lot Boundary

Flood Modelling

- PAR - No Dam Failure
- Additional PAR - Dam Failure
- Model Limits
- PMF - No Dam Failure
- PMF - Dam Failure

Sunwater Storages

- Dam
- Peter Faust Dam FSL

EDEN LASSIE ROAD
JOCHHEIM ROAD
Jochheim Creek
Eden Lassie Creek
Longford Creek
GORDON GLEN ROAD
BRUCE HIGHWAY
Debella
Dingo Creek
Criela Creek
Acacia Creek
Scrubby Creek
Billy Creek
Rocky Creek
Gregory River
Banana Creek
Miarda Creek
DINGO BEACH ROAD
Canuri Creek
EARLANDO ROAD
Ten Mile Creek
Box Creek

MAP PRODUCED BY:
WATER RESOURCES AND DAM SAFETY
TEL: (07) 3120 0000

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH
APPROVED	
M.G. HUGHES 13/12/2022	
RPEQ: 18351	

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
PROBABLE MAXIMUM FLOOD (OVERTOPPING FAILURE) INUNDATION PLAN

CONTRACT NUMBER	
DRAWING NUMBER	REV.
256932	A
SHEET 3 OF 7	
DATE DECEMBER 2022	

Document: S:\BW_WaterResources\GIS_Data\SW_Proserpine River WSS\PeterFaustDam_CRA2022\Drawings\ArcMap\256932-A.mxd
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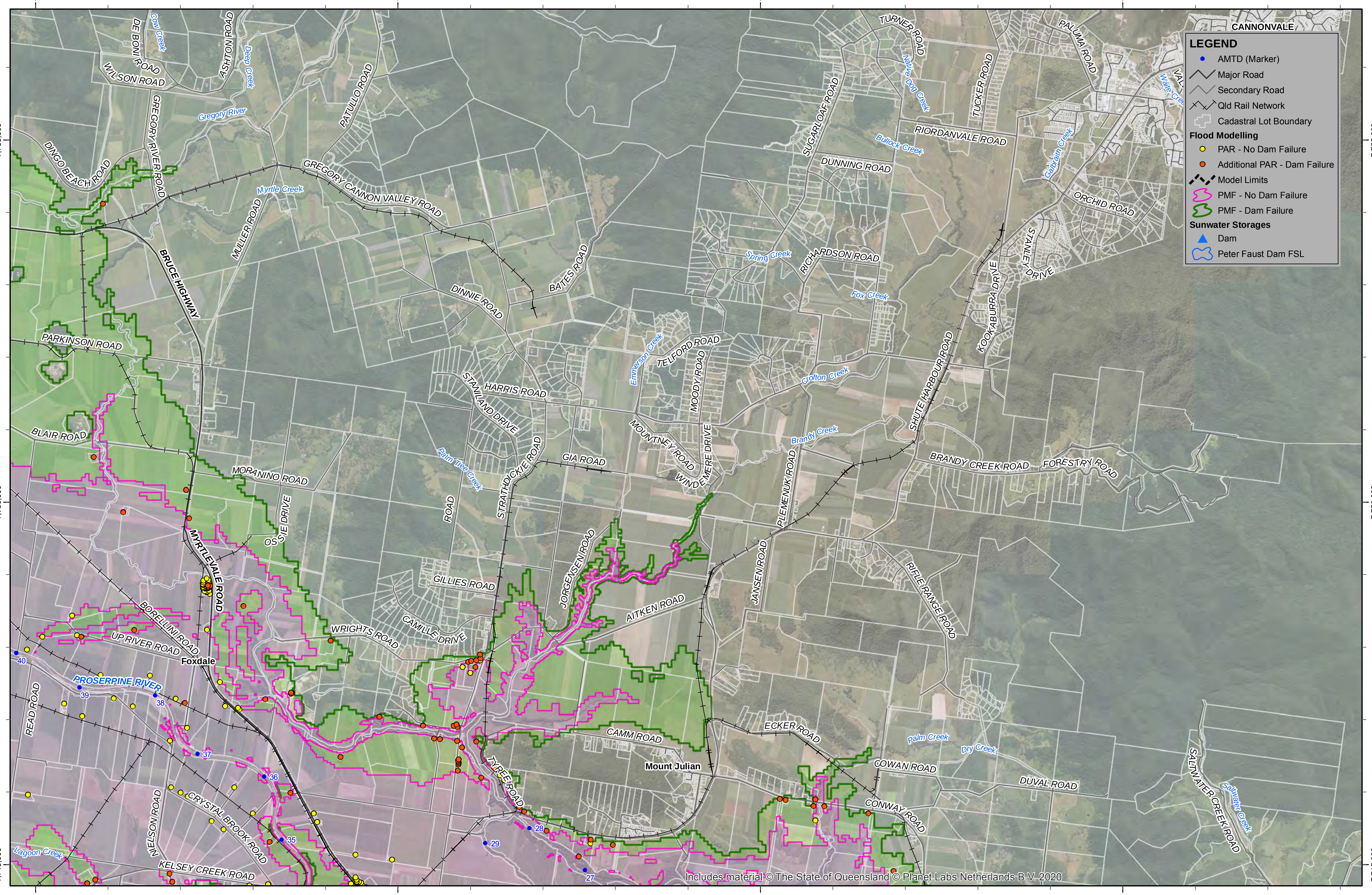

660,000
665,000
670,000
675,000
7,755,000
7,750,000
7,745,000
LEGEND
AMTD (Marker)
Major Road
Secondary Road
Qld Rail Network
Cadastral Lot Boundary
Flood Modelling
PAR - No Dam Failure
Additional PAR - Dam Failure
Model Limits
PMF - No Dam Failure
PMF - Dam Failure
Sunwater Storages
Dam
Peter Faust Dam FSL
CANNONVALE
DE BONI ROAD
ASHTON ROAD
WILSON ROAD
GREGORY RIVER ROAD
PATULLO ROAD
Cow Creek
Deep Creek
Gregory River
DINGO BEACH ROAD
Myrtle Creek
GREGORY CANNON VALLEY ROAD
MULLER ROAD
BRUCE HIGHWAY
TURNER ROAD
Native Dog Creek
TUCKER ROAD
PALUMA ROAD
SUGARLOAF ROAD
RIORDANVALE ROAD
Bullock Creek
DUNNING ROAD
Galbraith Creek
ORCHID ROAD
Spring Creek
RICHARDSON ROAD
STANLEY DRIVE
Fox Creek
DINNIE ROAD
BATES ROAD
KOOKABURRA DRIVE
PARKINSON ROAD
Emmerson Creek
TELFORD ROAD
MOODY ROAD
Crofton Creek
SHUTE HARBOUR ROAD
HARRIS ROAD
STANILAND DRIVE
BLAIR ROAD
MOUNTNEY ROAD
WINDERMERE DRIVE
Brandy Creek
BRANDY CREEK ROAD
FORESTRY ROAD
GIA ROAD
Palm Tree Creek
MORANINO ROAD
STRATHDICKIE ROAD
ROAD
PLEMENUK ROAD
MYRTLEVALE ROAD
JORGENSEN ROAD
JANSEN ROAD
RIFLE RANGE ROAD
GILLIES ROAD
AITKEN ROAD
BORELLINI ROAD
WRIGHTS ROAD
CAMILLE DRIVE
UP RIVER ROAD
Foxdale
PROSERPINE RIVER
READ ROAD
CAMM ROAD
ECKER ROAD
Palm Creek
Dry Creek
Mount Julian
COWAN ROAD
DUVAL ROAD
TYREE ROAD
CONWAY ROAD
SALTWATER CREEK ROAD
Saltwater Creek
CRYSTAL BROOK ROAD
NELSON ROAD
KELSEY CREEK ROAD
Lagoon Creek
40
39
38
37
36
35
29
28
27
Includes material © The State of Queensland © Planet Labs Netherlands B.V. 2020

REVISION				
13/12/22	A	ISSUED FOR USE	LH	MGH
DATE		REMARKS	CKD	PSD

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN: IDH
DESIGNED:
CHECKED:
CHECKED: LH
APPROVED: M.G. HUGHES 13/12/2022 RPEQ: 18351

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
PROBABLE MAXIMUM FLOOD (OVERTOPPING FAILURE) INUNDATION PLAN

CONTRACT NUMBER
DRAWING NUMBER: 256932
REV.: A
SHEET 4 OF 7
DATE DECEMBER 2022

MAP PRODUCED BY:
WATER RESOURCES AND DAM SAFETY
TEL: (07) 3120 0000

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Printed: Tuesday, 13/12/2022 02:59:57 PM

Map Produced By:
Water Resources and Dam Safety
Tel: (07) 3120 0000

660,000 665,000 670,000 675,000

7,740,000 7,735,000

Lagoon Creek
IKELSEY CREEK ROAD
FAUST STREET
ANZAC ROAD
BOUNDARY ROAD
PROSERPINE
RENWICK ROAD
DUDLEY ROAD
BRUCE HIGHWAY
TOBIN ROAD
GLEN ISLA ROAD
MCGREGOR ROAD
CASSWELL ROAD
GRAY ROAD
Pig Creek
Slater Creek
ROAD
Bonavista
Palm Creek
Dry Creek
Saltwater Creek
SALTWATER CREEK ROAD
Orchid Creek
FISHER ROAD
ORCHID CREEK ROAD
EVANS ROAD
VITALZA ROAD
Rocky Creek
CONWAY ROAD
Lethe Brook
PROSERPINE RIVER
Deadman Creek
LASCELLES AVENUE
GUNYARRA ROAD
Morgans Creek

30 27 25 26 23 24 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 34 33 32 31

LEGEND

- AMTD (Marker)
- Major Road
- Secondary Road
- Qld Rail Network
- Cadastral Lot Boundary

Flood Modelling

- PAR - No Dam Failure
- Additional PAR - Dam Failure
- Model Limits
- PMF - No Dam Failure
- PMF - Dam Failure

Sunwater Storages

- Dam
- Peter Faust Dam FSL

REVISION					
DATE		REMARKS	CKD	PSD	
13/12/22	A	ISSUED FOR USE	LH	MGH	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

N W E S

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH

APPROVED
M.G. HUGHES
13/12/2022
RPEQ: 18351

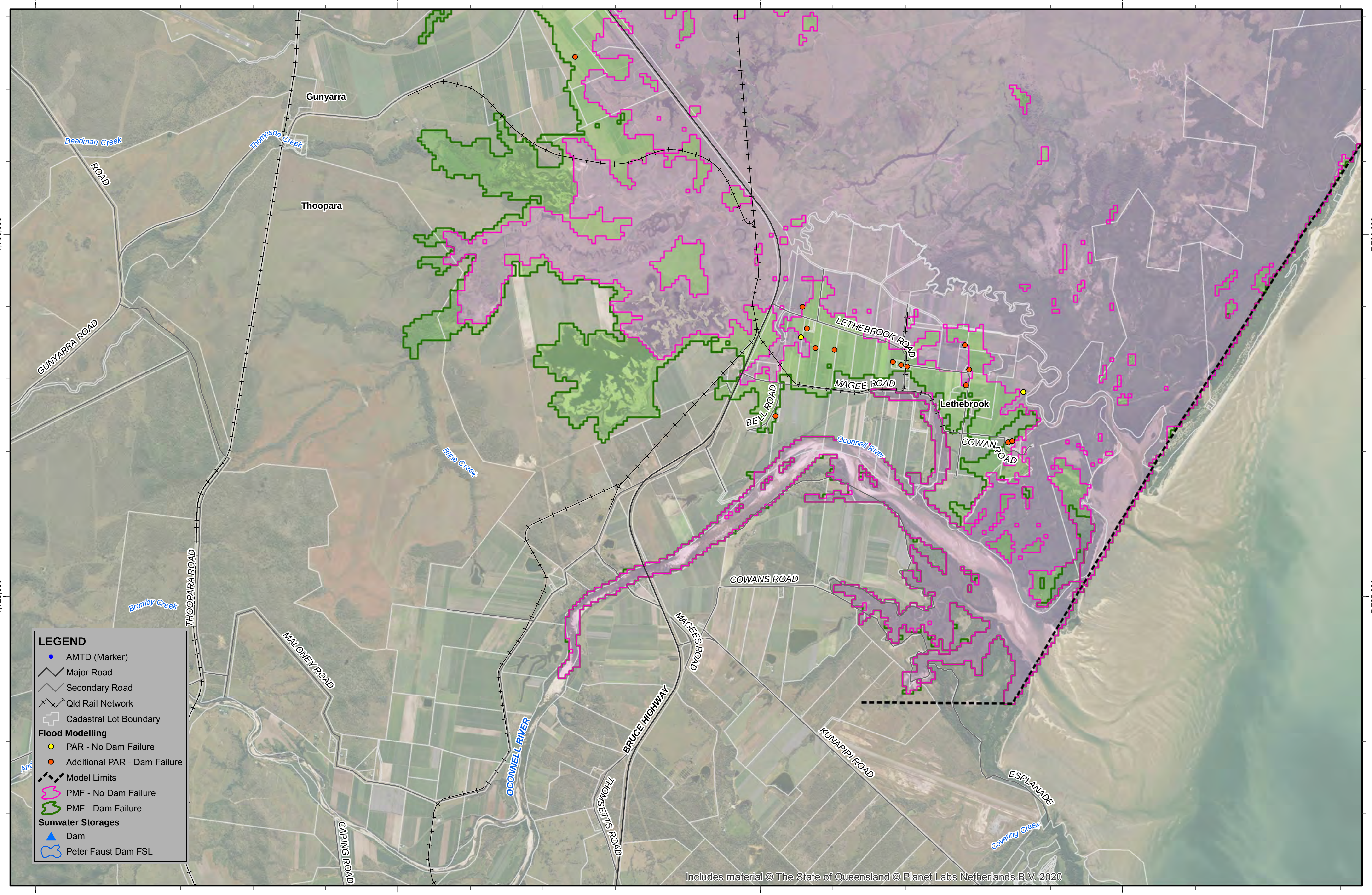
sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
PROBABLE MAXIMUM FLOOD (OVERTOPPING FAILURE) INUNDATION PLAN

CONTRACT NUMBER

DRAWING NUMBER	REV.
256932	A

SHEET 5 OF 7
DATE DECEMBER 2022



Document: S:\BW_WaterResources\GIS_Data\SW_Proserpine River WSS\PeterFaustDam_CRA2022\Drawings\ArcMap\256932-A.mxd
Printed: Tuesday, 13/12/2022 02:59:57 PM

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
PROBABLE MAXIMUM FLOOD (OVERTOPPING FAILURE) INUNDATION PLAN

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

REVISION				
13/12/22	A	ISSUED FOR USE	LH	MGH
DATE		REMARKS	CKD	PSD

DRAWN: IDH	DESIGNED
CHECKED	CHECKED: LH
APPROVED: M.G. HUGHES 13/12/2022	RPEQ: 18351

sunwater

CONTRACT NUMBER	
DRAWING NUMBER: 256932	REV.: A
SHEET 6 OF 7	
DATE: DECEMBER 2022	

Map Produced By: Water Resources and Dam Safety
Tel: (07) 3120 0000

Document: S:\BW_WaterResources\GIS_Data\SW_Proserpine River WSS\PeterFaustDam_CRA2022\Drawings\ArcMap\256932-A.mxd
Printed: Tuesday, 13/12/2022 02:59:57 PM

Map Produced By:
Water Resources and Dam Safety
Tel: (07) 3120 0000

680,000 685,000 690,000 695,000

7,740,000 7,735,000 7,730,000

Rocky Creek
Cedar Creek
Boulder Creek
Repulse Creek
The Inlet
CONWAY ROAD
ALLAN ROAD
ROAD
Wilson
Conway
2
1
0

LEGEND
- AMTD (Marker)
- Major Road
- Secondary Road
- Qld Rail Network
- Cadastral Lot Boundary

Flood Modelling
- PAR - No Dam Failure
- Additional PAR - Dam Failure
- Model Limits
- PMF - No Dam Failure
- PMF - Dam Failure

Sunwater Storages
- Dam
- Peter Faust Dam FSL

REVISION					
13/12/22	A	ISSUED FOR USE	LH	MGH	
DATE		REMARKS	CKD	PSD	

MAP INFORMATION
Projected Coordinate System: Mapping Grid of Australia (MGA2020) Zone 55.

REFERENCE DRAWINGS
256930 - Keymap

SCALES (A3 SIZE)
0 500 1,000 1,500 2,000 2,500 m
1:50,000

DRAWN	DESIGNED
IDH	
CHECKED	CHECKED
	LH

APPROVED
M.G. HUGHES
13/12/2022
RPEQ: 18351

sunwater

PETER FAUST DAM
DAM BREAK ANALYSIS 2022
PROBABLE MAXIMUM FLOOD (OVERTOPPING FAILURE) INUNDATION PLAN

CONTRACT NUMBER
DRAWING NUMBER 256932
REV. A
SHEET 7 OF 7
DATE DECEMBER 2022

Appendix B4 Locality plan

Figure B3: Peter Faust Dam locality plan

MAP PRODUCED BY:
SUNWATER LTD
TEL. (07)3120 0000

Document: S:\BW Asset Delivery\GIS_Data\Enterprise_GIS\Water_Supply_Schemes\Proserpine River\Drawings\ArcMap\253511-A.mxd
Printed: Tuesday, 27/10/2020 07:14:46 AM

148°15'0"E
148°20'0"E
20°20'0"S
20°25'0"S
20°30'0"S

ROMA PEAK AL
EMU CREEK AL
LAKE PROSERPINE NW TBR
PETER FAUST DAM
PETER FAUST DAM HW TM
PETER FAUST DAM TW TM
HECATE TM

GAP CREEK
BROWN CREEK
RANGE CREEK
PROSPECT CREEK
THISTLE CREEK
TEA-TREE CREEK
PANDANUS CREEK
CEDAR CREEK
CATTLE CREEK
REEDY CREEK
MICA CREEK
BELLOMOND CREEK
SUGARBAG CREEK
PROSERPINE RIVER
CHARLEYS CREEK
SPRING CREEK
MACARTYS CREEK
GYPSY CREEK
IRONBARK CREEK
QUANDONG CREEK
CRYSTAL BROOK ROAD

N
W
E
S

LEGEND

- Rainfall Station
- Rainfall & River Station
- River Station
- Creek
- State Roads (DTMR)

Sunwater Storage Infrastructure

- Dam

sunwater

PETER FAUST DAM
PROSERPINE RIVER CATCHMENT
CATCHMENT MAP

MAP INFORMATION
Coordinate System: Geocentric Datum of Australia (GDA94).

SCALES (A3 SIZE)
0 1 2 3 4 km
1:80,000

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

DRAWING No. 253511 A

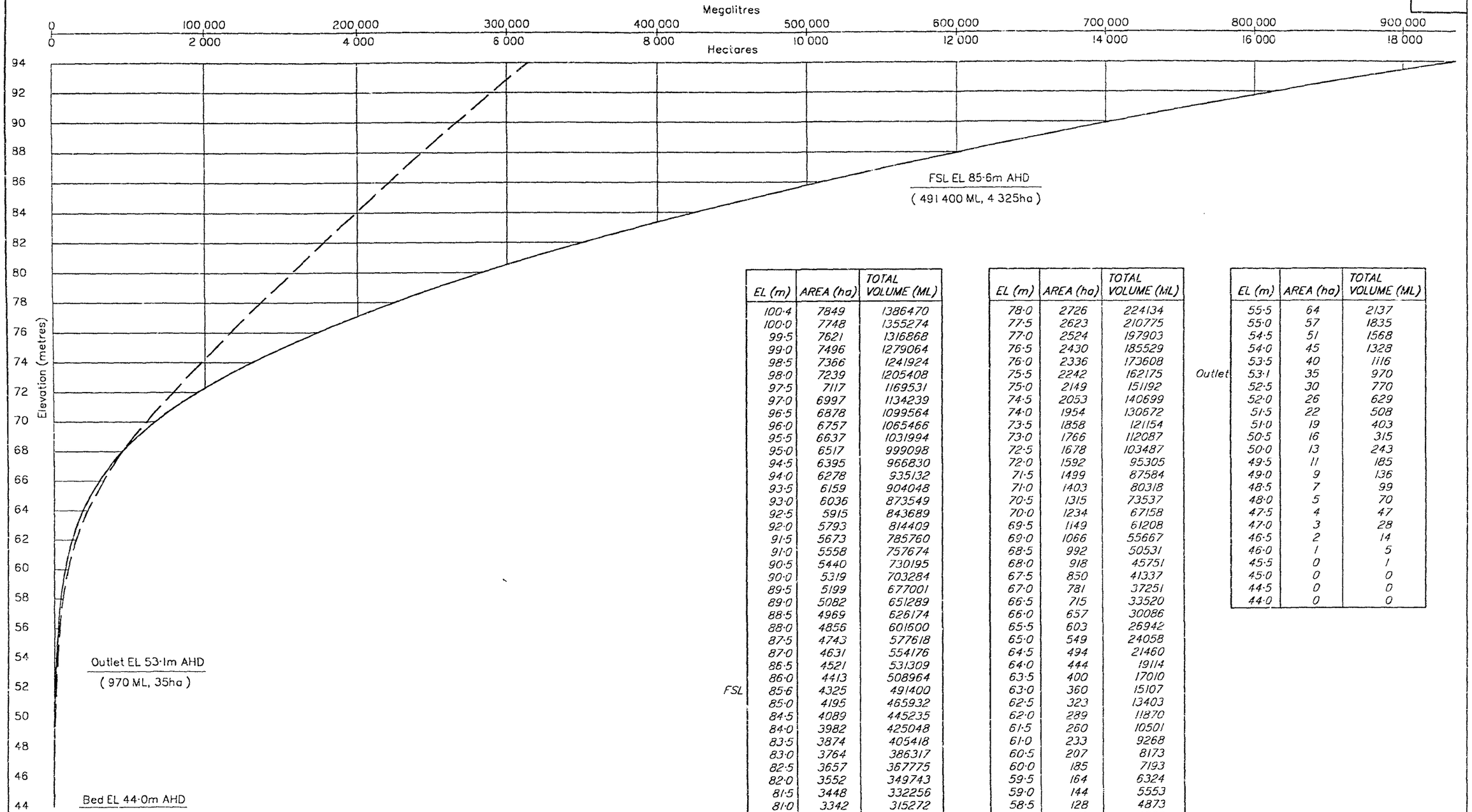
APPENDIX C Equipment and technical information

C1 List of equipment available during an emergency

C2 Peter Faust Dam storage curve

C3 Peter Faust Dam spillway rating curve

Appendix C1 has been redacted



EL (m)	AREA (ha)	TOTAL VOLUME (ML)	
100·4	7849	1386470	
100·0	7748	1355274	
99·5	7621	1316868	
99·0	7496	1279064	
98·5	7366	1241924	
98·0	7239	1205408	
97·5	7117	1169531	
97·0	6997	1134239	
96·5	6878	1099564	
96·0	6757	1065466	
95·5	6637	1031994	
95·0	6517	999098	
94·5	6395	966830	
94·0	6278	935132	
93·5	6159	904048	
93·0	6036	873549	
92·5	5915	843689	
92·0	5793	814409	
91·5	5673	785760	
91·0	5558	757674	
90·5	5440	730195	
90·0	5319	703284	
89·5	5199	677001	
89·0	5082	651289	
88·5	4969	626174	
88·0	4856	601500	
87·5	4743	577618	
87·0	4631	554176	
86·5	4521	531309	
86·0	4413	508964	
85·6	4325	491400	FSL
85·0	4195	465932	
84·5	4089	445235	
84·0	3982	425048	
83·5	3874	405418	
83·0	3764	386317	
82·5	3657	367775	
82·0	3552	349743	
81·5	3448	332256	
81·0	3342	315272	
80·5	3240	298830	
80·0	3142	282866	
79·5	3043	267413	
79·0	2940	252447	
78·5	2831	238031	

EL (m)	AREA (ha)	TOTAL VOLUME (ML)
78·0	2726	224134
77·5	2623	210775
77·0	2524	197903
76·5	2430	185529
76·0	2336	173608
75·5	2242	162175
75·0	2149	151192
74·5	2053	140699
74·0	1954	130672
73·5	1858	121154
73·0	1766	112087
72·5	1678	103487
72·0	1592	95305
71·5	1499	87584
71·0	1403	80318
70·5	1315	73537
70·0	1234	67158
69·5	1149	61208
69·0	1066	55667
68·5	992	50531
68·0	918	45751
67·5	850	41337
67·0	781	37251
66·5	715	33520
66·0	657	30086
65·5	603	26942
65·0	549	24058
64·5	494	21460
64·0	444	19114
63·5	400	17010
63·0	360	15107
62·5	323	13403
62·0	289	11870
61·5	260	10501
61·0	233	9268
60·5	207	8173
60·0	185	7193
59·5	164	6324
59·0	144	5553
58·5	128	4873
58·0	112	4269
57·5	100	3740
57·0	89	3268
56·5	79	2848
56·0	71	2472

	EL (m)	AREA (ha)	TOTAL VOLUME (ML)
	55·5	64	2137
	55·0	57	1835
	54·5	51	1568
	54·0	45	1328
	53·5	40	1116
Outlet	53·1	35	970
	52·5	30	770
	52·0	26	629
	51·5	22	508
	51·0	19	403
	50·5	16	315
	50·0	13	243
	49·5	11	185
	49·0	9	136
	48·5	7	99
	48·0	5	70
	47·5	4	47
	47·0	3	28
	46·5	2	14
	46·0	1	5
	45·5	0	1
	45·0	0	0
	44·5	0	0
	44·0	0	0

Level Datum: Australian Height Datum derived levelled from PM29208 at EL 40·727m
Computed from photogrammetric DTM produced in 1999 from 1974 photography
Digital data & volumes computed to EL 100·4m AHD
Latitude: 20°22'10" Longitude: 148°23'10"
Catchment Area: 270 km²

REVISION				
DATE	REMARKS	CKD	PSD	

REFERENCE DRAWINGS	
A1-212449	KEY TO TOPOGRAPHIC MAPPING
A1-212450/53	TOPOGRAPHIC MAPPING 1: 10 000

SCALES

SURVEY	
SURVEY CHK	
DRAFTING	GWP
DRAFTING CHK	
RECOMMENDED	
APPROVED	DCH
	Principal Surveyor

Services Engineering — NATURAL RESOURCES

PROSERPINE RIVER - BASIN 122
PETER FAUST DAM - AMTD 57.7 KM
TOTAL STORAGE

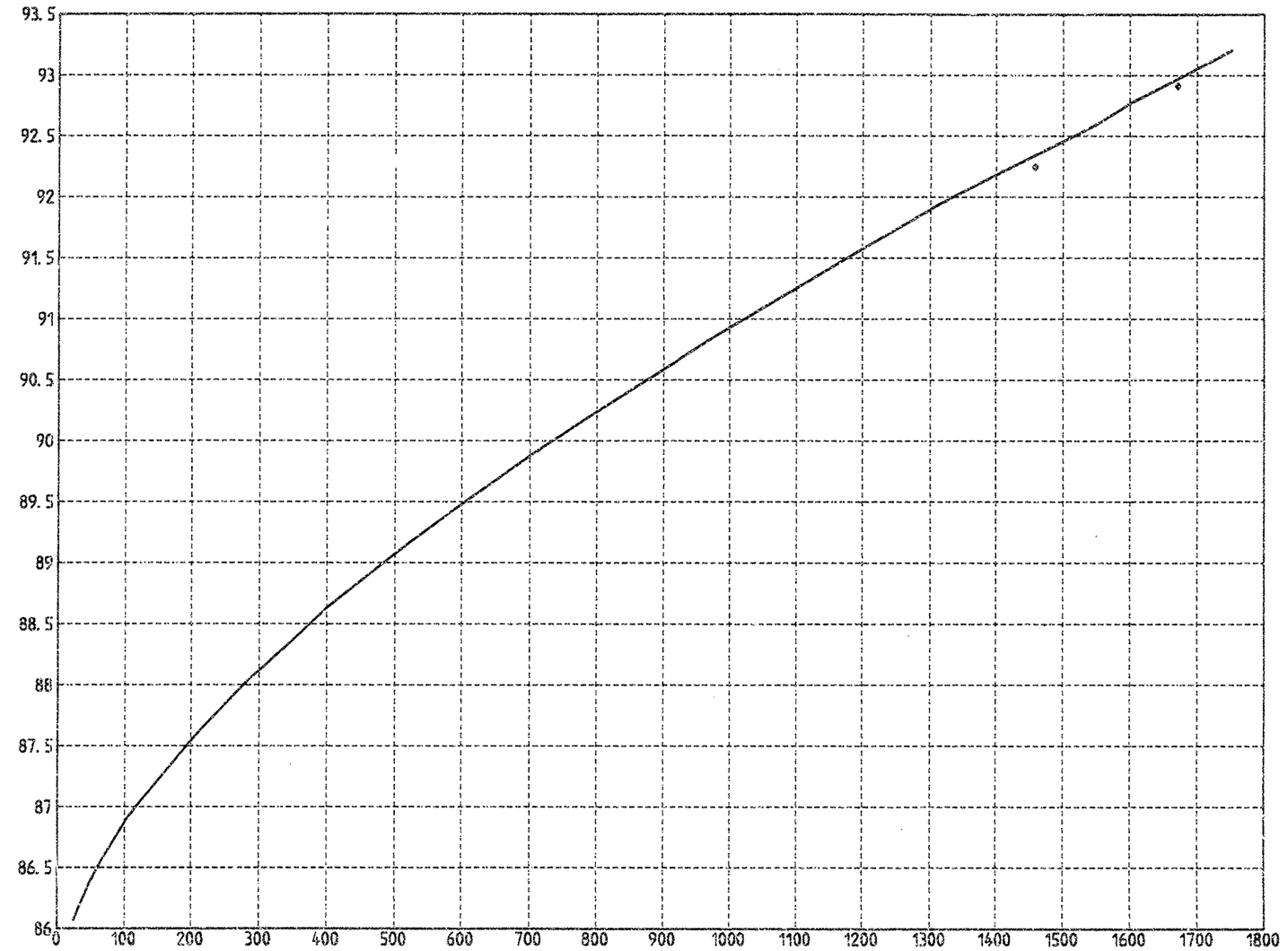
STORAGE CURVE

CONTRACT NUMBER
DRAWING NUMBER
A3-213324
DATE 31/08/1999

213324 (tif)

HEADWATER RATING

ELEVATION (m)	DISCHARGE (m /s)
86. 07	22. 87
86. 35	44. 22
86. 54	62. 35
86. 66	75. 89
86. 90	105. 24
86. 92	101. 19
87. 63	212. 50
88. 04	283. 34
88. 36	348. 10
88. 64	400. 72
89. 08	500. 90
89. 48	599. 10
89. 89	703. 29
90. 29	814. 60
90. 58	897. 58
90. 84	971. 45
91. 23	1092. 88
91. 95	1315. 50
92. 24	1457. 20
92. 59	1548. 30
92. 77	1600. 00
92. 91	1669. 70
93. 20	1750. 60



REVISION	DATE	REMARKS	ZONE	CKD	PSD	DRAWING SCHEDULE

SCALES — RATIOS BEFORE REDUCTION

THINK SAFETY – WORK SAFELY

Water Resources

DRAFTING	DESIGN
DR B.K.	PREP
CKD A.L.	CKD
SUPV L.L.	SUB

RECOMMENDED — SENIOR ENGINEER

APPROVED — MANAGER CIVIL DESIGN

PROSERPINE DAM

SPILLWAY RATING CURVE

CONTRACT NUMBER

DRAWING NUMBER A3- 101613

DATE

A3-101613

DWG 101613.TIF

Appendix D Interaction with local government and district groups

To be populated when EAP next completes a substantive review

Annexe — Peter Faust Dam SMS Messages

	Advice Stay informed 	**Watch and Act** Prepare to leave 	**Emergency** Leave immediately 
SMS	ADVICE from Sunwater. Peter Faust Dam is spilling excess water into the Proserpine River. People downstream of the Proserpine River should STAY INFORMED. Water flows from Peter Faust Dam expected to remain within beds and banks of river / may contribute to widespread/ localised/ overland flooding. Expect increased river flows in 6-12 hours / later today/ overnight/ tomorrow. There is no danger yet. Call Triple Zero (000) if your life is in danger. Call the SES on 132 500 for flood help. Get full warnings and what you should do at https://bit.ly/RecandSafety	FLOOD WATCH AND ACT from Sunwater. Excess water spilling from Peter Faust Dam into the Proserpine River has increased significantly. Water flows from Peter Faust Dam may contribute to dangerous/widespread flooding downstream of the Proserpine River. Expect increased river flows in 6-12 hours / later today/ overnight/ tomorrow. People downstream of the Proserpine River must PREPARE TO LEAVE in case the flood gets worse. Tell others. Call Triple Zero (000) if your life is in danger. Call the SES on 132500 for flood help. Get full warnings and what you should do at https://bit.ly/RecandSafety	FLOOD EMERGENCY WARNING from Sunwater: People downstream of the Proserpine River and the Proserpine community must LEAVE IMMEDIATELY. Peter Faust Dam possible failure/is failing. Major flooding is happening now. Water in the Proserpine River is rising fast. Your life is at risk. Go now to a safe place away from the flood. Get full warnings and what you should do at Whitsunday Regional Council https://disaster.whitsundayrc.qld.gov.au/ and Mackay Regional Council http://disaster.mackay.qld.gov.au/ Call 000 if your life is in danger.