APPENDIX E2

Construction Flood Emergency Management Plan

William Clarke College Bryson Building

Prepared for William Clarke College

Document Control

REV	DATE	DETAILS
0	6 September 2024	Issue for client
1	6 February 2025	Review including additional doc control;

	NAME	DATE	SIGNATURE
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Reviewed by:	Stuart Longman	29/08/2024	
Approved by:	Nicholas Savas	30/08/2024	

Contents

2.0 Introduction

Rohrig has been appointed Head Contractor by superintendent Mostyn Copper and William Clarke College to construct the Bryson Building on the William Clarke College Campus, at 1 Morris Grove, Kellyville NSW 2155. Rohrig have prepared a Flood Emergency Management Plan (FEMP) to be implemented during the construction of the Bryson Building.

The purpose of this FEMP is to summarise the flood risks within the site during construction, identify preparation measures that should be undertaken, and provide an action plan with steps to be completed during a flood event.

2.1 Reference Documents

The FEMP has been prepared with reference to the following:

- NSW Government Floodplain Development Manual (2005);
- NSW Government Floodplain Risk Management Guidelines;
- NSW State Emergency Service (SES) guidelines, and;
- FloodSafe guidelines and the relative FloodSafe Tool Kits.

2.2 SSDA Conditions of Consent

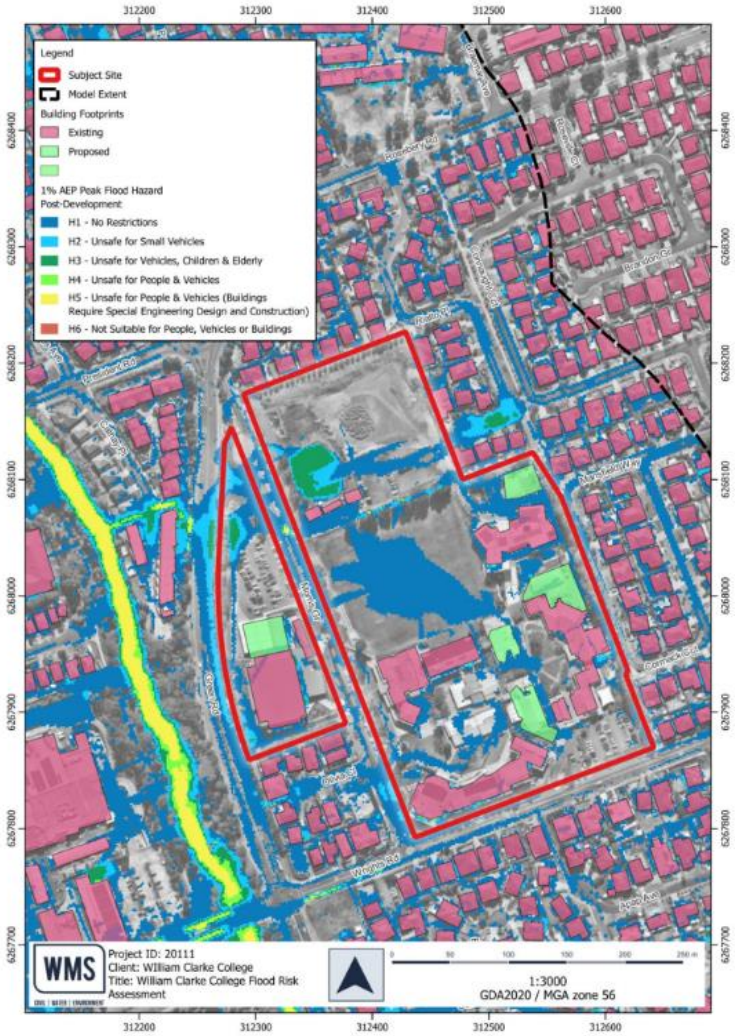
Item	Condition
C24	Prior to the commencement of any construction, the Applicant must prepare and implement for the duration of construction: (a) Flood warning and notification procedures for construction workers on site; and Evacuation and refuge protocols.
	(b) Evacuation and refuge protocols.

3.0 Flood Behaviour

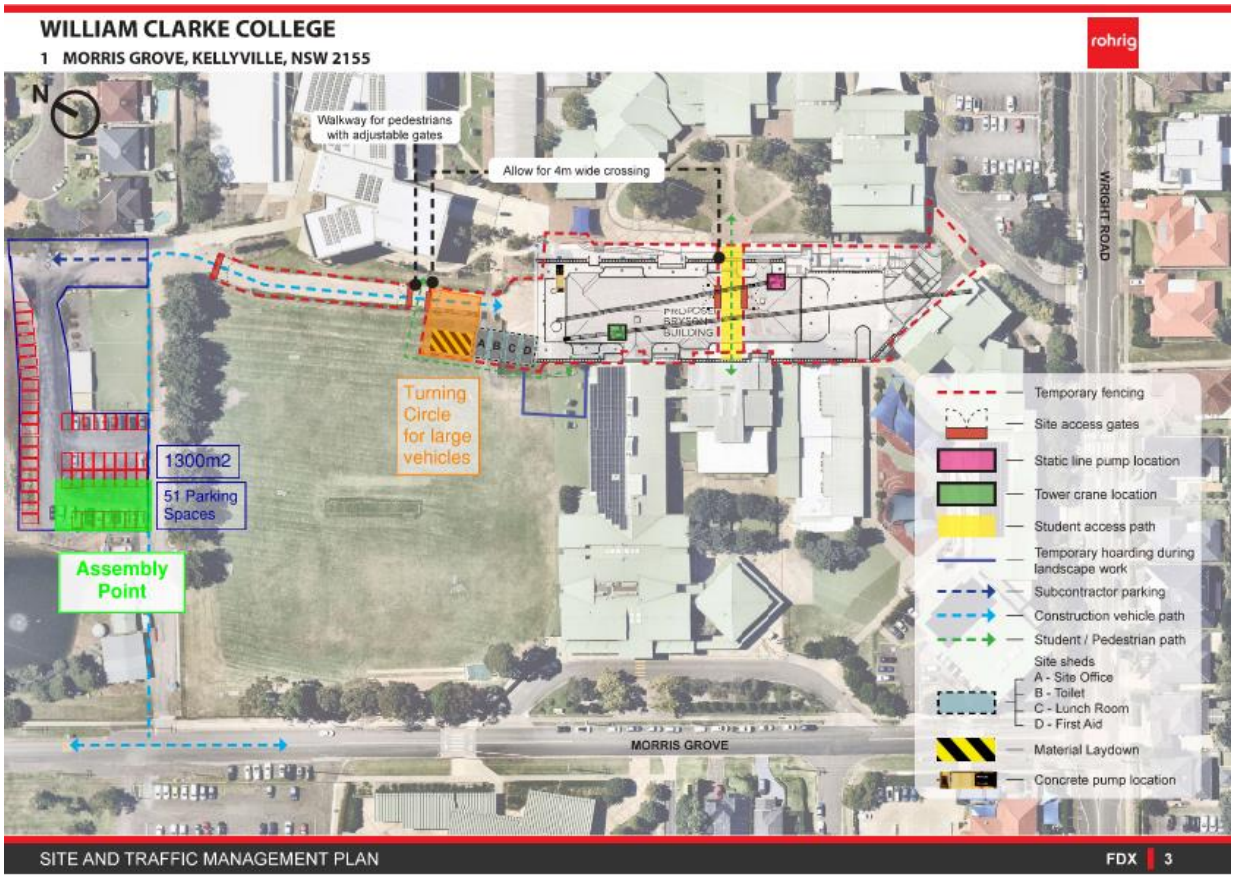
3.1 Peak Flood Levels

There will be sufficient time prior to a flood event to
- Prepare for a flood
- Respond when a flood is likely to occur
- Respond during a flood
- Recover after a flood
- Close the site
- Notify workers to stay home

Flood Hazard Classification



Building	Existing/Proposed	No. of Storeys	Entrance Location	Ground Floor FFL [mAHD]	Flood Level [mAHD] (Inundation Above Floor [m])				Ground Floor Flood Event Immunity (i.e., floor level is above X event)	First Floor Flood Event Immunity (i.e., floor level is above X event)
					1% AEP	0.5% AEP	0.2% AEP	PMF		
Bryson Building	Proposed	4	20	96.4	Not affected	Not affected	Not affected	Not affected	PMF	PMF
			21		Not affected	Not affected	Not affected	96.5 (0.1)	PMF*	PMF
			22		Not affected	Not affected	Not affected	Not affected	PMF	PMF
			23	98.0	Not affected	Not affected	Not affected	Not affected	PMF	PMF
			24	97.2	Not affected	Not affected	Not affected	97.3 (0.1)	PMF*	PMF


WILLIAM CLARKE COLLEGE
1 MORRIS GROVE, KELLYVILLE, NSW 2155
rohrig
N
Walkway for pedestrians with adjustable gates
Allow for 4m wide crossing
WRIGHT ROAD
PROPOSED REVSONE BUILDING
A B C D
Turning Circle for large vehicles
1300m2
51 Parking Spaces
Assembly Point
MORRIS GROVE
Temporary fencing
Site access gates
Static line pump location
Tower crane location
Student access path
Temporary hoarding during landscape work
Subcontractor parking
Construction vehicle path
Student / Pedestrian path
Site sheds
A - Site Office
B - Toilet
C - Lunch Room
D - First Aid
Material Laydown
Concrete pump location
SITE AND TRAFFIC MANAGEMENT PLAN
FDX 3

4.0 Flood Warnings and Notifications

4.1 Flood Watches and Warnings

Severe weather and thunderstorm warnings are issued by the Bureau of Meteorology (BoM). These warning are continually updated with descriptions of the likely conditions, including predicted extreme rainfall depths.

Flood warnings are issued by the BoM when flooding is occurring or is expected to occur in an area. Warmings may include specific predictions of flood depths dependent on real-time rainfall and river level data. These warnings are distributed BoM councils, police and the relevant local State Emergency Services (SES), as well as being available on the BoM website.

A **Standard Emergency Warning Signal** (SEWS) will be used by SES to precede all *Top Priority* Flood Warnings and all Evacuation Warnings. Once activated Evacuation Orders are broadcast over the radio stations.

A ***Flood watch*** is issued by the BoM up to four days prior to a flood event. A watch is generally updated daily and may be issued before, during or after rainfall has occurred.

Flood warnings are issued by the BoM when flooding is occurring or expected to occur in a particular area. Warnings may include specific predictions of flood depths dependent on real-time rainfall and river level data. These warnings are distributed to Council, Police and the relevant local SES, as well as being available on the BoM website, through telephone weather warnings and radio broadcasts.

SES Evacuation Warning is a warning message from SES advising the community to prepare for likely evacuation. The warning advises people what to do and what to prepare to take with them.

A ***Flood Evacuation Order*** is a notification to the community, authorised by the SES, when the intent of an Incident Controller is to instruct a community to immediately evacuate in response to an imminent threat. It also advises where people should go and may advise which evacuation route to take.

Visual Observation **-** Site management must visually monitor the flood levels on Morris Grove during severe rainfall events and initiate flood response procedures in the event of flood levels appearing to approach inundation.

4.2 Coordination of Flood Evacuation Warnings and Orders

The overall coordination of the road evacuation routes will be conducted by the SES. The head contractor is to communicate warning messages and orders from the SES to personnel and workers on site.

4.3 Public Address System

The site will have an alert system for workers on site in the event of an emergency. The site will have an Evacuation Procedure with one or multiple assembly points as part of the Emergency Management Plan. As the quadrangle is to be at RL 4.0m AHD, this is a suitable assembly point location. The location of the assembly point is subject to change throughout the course of construction.

The majority of external areas are located above the PMF flood level. As such, the assembly point can be anywhere within the site after earthworks have been completed. Before this point, the assembly point shall be set at the high point of the site.

5.0 Flood Response

5.1 Contractor Responsibilities

Once the site is in operation the roles and responsibilities in Table 2 below will need to be delegated to specific personnel. In the event of a severe flood, it is the responsibility of the head contractor to ensure these tasks are undertaken.

Table 2 - Contractor Flood Responsibilities

Role	Location	Responsibilities
Head Contractor **Site Manager / Foreman**	On site	- Inform site personnel of flood risk - Coordinate flood evacuation drills - Decide if evacuation is required prior to warnings from SES - Liaise with SES
Head Contractor **Site Manager /** **Foreman**	On site	- Coordinate assistance for less able workers and personnel during evacuation
Head Contractor **Site Personnel**	On site	- Coordinate evacuation of workers and assist in evacuation

5.2 Key Contact Details

In the event of a severe flood, key telephone numbers have been listed in Table 3.0 below.

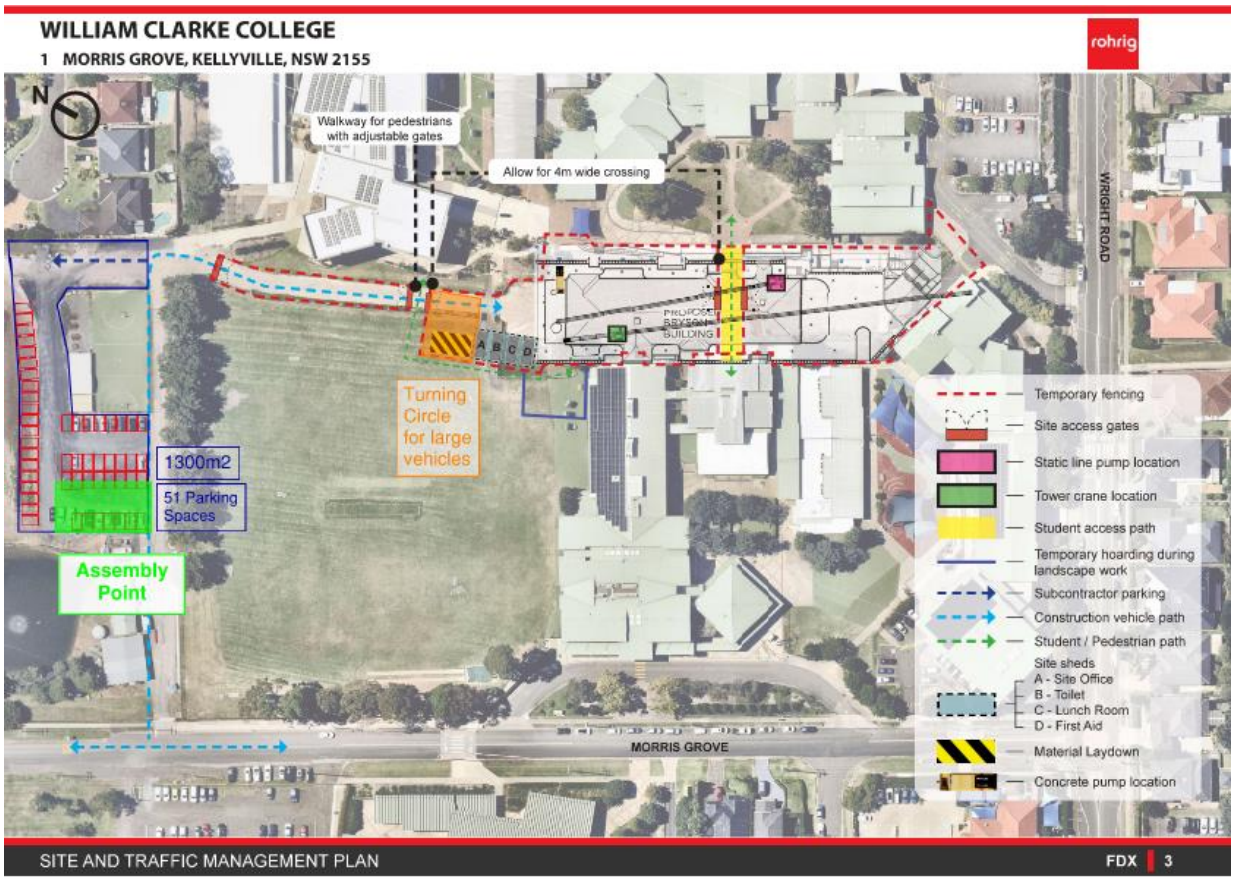
Table 3 - Key Contact Numbers

IMPORTANT TELEPHONE NUMBERS	
Contractor **Foreman** **Site Office** **First Aid Officer**	**Refer to CEMP for details**
OUTSIDE SITE CONTACTS ***** Ambulance / Fire – Call Office numbers shown above to contact***	
State Emergency Services **Busways** **Westmead Hospital** **Police – The Hills PAC**	**132 500** **1300 692 929** **8890 5555** **9608 5377**

6.0 Assembly Point and Evacuation Routes

6.1 Emergency Assembly Point

An Emergency Assembly Point will be nominated that is within the site. Before earthworks have been completed on site, the assembly point will be the high point of the site. Once earthworks have been completed, the site will be higher than the PMF level and the assembly point can therefore be nominated anywhere within the site.



6.2 Evacuation Routes

The following information is provided for information only. For "Flood Response Actions" – refer to Section 7 of this FEMP for details.

As per consultation with SES, if necessary, evacuation to higher ground is the most appropriate route in such proximity to the river. As shown in Figure 1 above and Figure 3 below, all workers or personnel on site are to assemble at the carpark and evacuate to higher ground.

7.0 Preparation for Flood Response

7.1 Education

7.1.1 Site Personnel

As part of the preparation for a flood event, those with responsibilities within this Plan should review and be familiar with their roles. Inductions should be held to educate personnel on their role during a flood event.

7.1.2 Workers

To increase awareness on site, it is recommended that all inducted workers are made aware of the potential flood risk and actions that will be undertaken during a flood event. Evacuation drills should be undertaken regularly to ensure that all workers are aware of the procedures for evacuation.

7.2 Evacuation Drills

It is recommended that evacuation drills be held at a minimum of twice yearly to ensure all personnel and workers are aware of and familiar with their flood response actions, the sound of the alert and the location of the assembly point.

8.0 Flood Response Actions

8.1.1 When A Flood Watch Is Issued

The following actions should be undertaken:

1. Ensure the emergency kit is ready to use.
2. Listen to the local radio station for updates on forecasted flood heights and timings.
3. Call SES for an update and possible evacuation advice.
4. Notify all workers of the flood watch and assist availability of workers to assist with emergency actions if required.
5. Ensure workers are familiar with the safe flood evacuation route.

8.1.2 When A Flood Warning Is Issued

The following actions should be undertaken:

1. Undertake the actions nominated under the “flood watch”.

2. During Site Hours:

    - For life-threatening emergencies phone 000 immediately.
    - Coordinate the safe return of workers in consultation with SES and transport operators to their homes.
    - Call Busway (Bus Operator is to be confirmed) and coordinate the required transport resources for evacuation of non-able-bodied personnel/workers.
    - Send SMS to emergency contacts
    - Direct All workers to the Assembly point within the site before the property is flooded.
    - Evacuate workers and personnel

NOTE: Avoid driving or walking through floodwaters. These are the main causes of death during flooding. Although the site may not be flooded, safe travel arrangements for workers to go home is likely to be disrupted by flooding and/or road closures.

3. Outside of Site Hours:

    - Close the site and notify workers of the temporary closure of the site.

9.0 Limitations and Revision of the Flood Emergency Response Plan

This FEMP only addresses the evacuation strategies during extreme flooding events for workers on site during construction and is considered a guide only. It does not cover individual safe travel for workers when their safe travel arrangements may be disrupted by flooding and/or road closures.

It is the head contractor’s responsibility to ensure this FEMP is current and updated as necessary to be in line with relevant standards, directorate, legislation, and the Regional’s State Emergency Management Plan to ensure the health, safety and welfare of all personnel, workers and others.

10.0 Recommendations

1) Head contractor to liaise with The Transport Services Functional Area for Buses resources allocation and arrangement for non-able-bodied personnel prior to commencing construction on site.

2) Prepare Emergency Management Plan that addresses the recommendations of this FEMP for the ongoing requirements of the site, particularly Section 4.0.

3) Include and update the important telephone numbers in Section 4 of this Report and include in the Emergency Management Plan for the operation of the site.

4) Flood-educate personnel and workers through Education and Evacuation Drills as detailed in the Section 6 of this FEMP.

5) All personnel and workers to be familiar with Flood Response Actions as detailed in the Section 7 of this FEMP.

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