





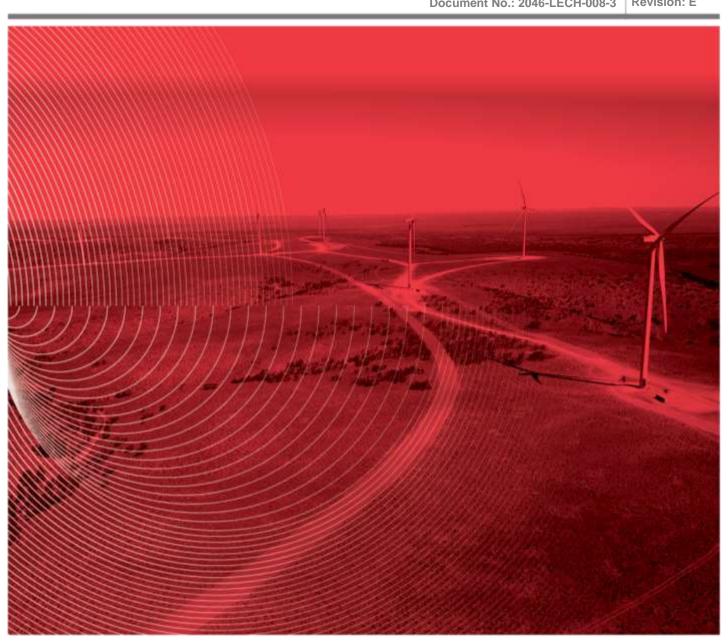
Prepared for Flyers Creek Wind Farm Pty Ltd by Nacap Pty Ltd

Flyers Creek Wind Farm Project

BUSHFIRE MANAGEMENT PLAN

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BUSHFIRE MANAGEMENT PLAN







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REVISION HISTORY

This table describes the primary reason for the production of each new revision after Rev 0

Date	Rev.	Reason for change

SIGNATURE BLOCK

Rev.	Description	BR	ВТ	NF		15 th June 2020
E	Issued for Approval	Prepared Brett Rodgers	Reviewed Brian Treacy	QA Nic Fusca	Approved Peter Logan	Approval Date

The first Issued for Use version of this plan will start Revision 0. Revision numbers shall use a sequential numbering system commencing at Rev. 01, 02, etc.

This document is considered uncontrolled when printed.

BUSHFIRE MANAGEMENT PLAN







Contents

1.	GI	ENERAL INFORMATION	5
	1.1	Purpose	5
	1.2	Conditions of Approval (CoA)	5
	1.3	CEMP Structure and relationship with sub-plans	5
	1.4	Scope	5
	1.5	Objectives and Targets	θ
	1.5	Consultation	6
	1.7	Certification and Approval	6
	1.8	Distribution	6
	1.9	Reference Documents	6
2.	DE	FINITIONS AND ABBREVIATIONS	е
3.	PF	ROJECT INFORMATION	7
	3.1	Project Background and Description	7
4.	EX	KISTING PROJECT ENVIRONMENT	8
	4.1	Legislation and Guidelines	8
	4.2	Conditions of Approval	9
	4.3	Canobolas Zone Climate and Fire Season	s
	4.4	Canobolas Zone Bushfire History and Hazards	9
	4.5	Canobolas Zone Bushfire Management Arrangements	10
	4.6	Canobolas Zone Bushfire Threat Map	10
	4.7	Canobolas Zone Bushfire Risk Treatment	11
	4.8	Planning for Bushfire Protection Guidelines	11
	4.9	Forestry Corporation NSW Fire Management	11
	4.10	Design Assessment of Bushfire Risk	12
	4.11	Recommendations and Agreed Management Measures	12
5.	cc	DNSTRUCTION BUSHFIRE MANAGEMENT ROLES AND RESPONSIBILITIES	15
6.	cc	ONSTRUCTION BUSHFIRE RISKS, IMPACTS, OBJECTIVES AND MANAGEMENT CONTROLS – CONSTRUCTION ACTIVITY BASED	15
7.	cc	DMMUNICATION, CONSULTATION AND INCIDENTS	18
	7.1	Internal Communications	18
	7.2	Communication with NSW Rural Fire Service Canobolas Zone	18
	7.3	Communication with FCNSW	18
	7.4	External and Third Party Communications	19
	7.5	Media Protocol	19
	7.6	Incident Management	19
8.	IN	SPECTIONS, MONITORING, AUDITS AND BMP REVIEW	19
	8.1	Inspections and Monitoring	19
	8.2	Audits	19
	8.3	Review	19
	8.4	Continuous Improvement	19
9.	RE	PORTING AND RECORD KEEPING	19
	9.1	Record Keeping	19
	9.2	Reporting	19
ΑP	PENDI	IX A – CONSULTATION	20
ΑP	PENDI	X B – PRELIMINARY PROJECT LAYOUT	21













ACTIV	VITY	DESCRIPTION	REFERENCES
	1. GENERAL INFOR	RMATION	
		The Flyers Creek Wind Farm (FCWF) is an approved 38 wind turbine wind farm located approximately 20 kilometres (km) south of Orange in the Blayney Shire and Cabonne Shire local government areas in Central West New South Wales.	
		Project Approval was granted on 14 th March 2014 (MP 08_0252) and there have been four subsequent planning modifications approved since this date.	
		This Bushfire Management Plan (BMP) has been prepared to satisfy the requirements of Condition F21 (h) of the Project Approval and incorporates related Conditions of Approval (CoA) and relevant commitments from the Flyers Creek Wind Farm Environmental Assessment (EA), 2011.	Project Approval (MP 08_0252) Construction Environmental Management Plan
1.1	Purpose	Section 63 of the Rural Fires Act 1997 (RF Act) states that:	_
	. a. pose	It is the duty of the owner or occupier of land to take the notified steps (if any) and any other practicable steps to prevent the occurrence of bushfires on, and to minimise the danger of the spread of bushfires on or from, that land.	
		This BMP has been prepared to ensure bushfire risk is managed and construction activities are carried out in accordance with the RF Act, CoA, relevant regulatory requirements, standards, procedures and current best practice to ensure that all reasonable and practical measures are implemented to minimise the potential for bushfire occurrence, and danger of spreading and related impacts.	
		This BMP adopts an integrated approach, considering and identifying management measures overarching the sequencing of construction related activities. All works are to be implemented in accordance with the management measures and strategies contained within this plan.	
1.2	Conditions of Approval (CoA)	This plan and its associated management measures have been prepared to comply with the following CoA: F21(h) Bushfire Management Plan, and D15, D16, D17, D18 and D19 Bushfire Risk.	
1.3	CEMP Structure and relationship with sub-plans	 This BMP forms one of the FCWF Construction Environment Management Plan (CEMP) sub plans. The FCWF CEMP (CoA F20) comprises three Sections: PART A: Provides background information and the overarching systems approach to environmental management and mitigation controls for the project PART B: Comprising Appendices in support of PART A, and PART C: Comprising the required series of environmental management sub-plans outlined in CoA F21 including; (a) Construction Compound and Ancillary Facilities Management Plan (b) Construction Noise and Vibration Management Plan (c) Construction Traffic and Access Management Plan (d) Construction Soil and Water Quality Management Plan (e) Construction Heritage Management Plan (f) Construction Flora and Fauna Management Plan (g) Construction Air Quality Management Plan, and (h) Bushfire Management Plan (this plan). 	Environmental
1.4	Scope	The BMP applies to all aspects of Bushfire Management for the project. This BMP will inform Project Managers, Supervisors, Construction Personnel, Subcontractors and relevant stakeholders for the management of bushfire risk and impacts during construction activities. This BMP forms part of the Construction Environmental Management Plan (CEMP) and describes the mitigation and management measures and protocols derived from the relevant Rural Fire Services guidelines and consultation and the EA. This BMP only applies to the construction phase of the proposed works.	-







ACTIV	/ITY	DESCRIPTION			REFERENCES
		The objectives and targetable 1 Objectives and 1	argets.	in relation to bushfire management are listed in	
		Objective	Table 1 Objectiv	Target	
			ushfire to the Project area as a activities.	Zero fires as a result of construction activities.	
		inducted, consulted a	subcontractors and visitors are and receive regular updates and tenvironmental aspects and on of works.	100% completion of Inductions Daily Pre-Start Inputs by Environment Team, and Monthly toolbox inputs by Environment Team.	
1.5	Objectives and Targets	bushfire risks associat	and subcontractors are aware of ed with construction activities work under the contract.	100% attendance recorded at Project Inductions and SWMS workshops.	-
			on activities in compliance with and environmental legislation.	100% compliance No regulatory infringements, including Provisional improvement notices and prosecutions.	
			porting culture to minimise the ty of bushfire and environmental ruction activities.	All incidents to be reported to the Project Manager within 2 hours and investigated appropriately.	
		Ensure all corrective a nominated due dates.	ctions are closed out by the	No corrective actions outstanding past due date >7 days.	
		Consultation on this Pla - Fire Control Centre.	n will be undertaken with Forestry	Corporation NSW and Canobolas Rural Fire Service	
1.5	Consultation	Comments and feedbac	k received during consultation will	be incorporated into this plan where appropriate.	Appendix A Consultation Record
		Details of the consultation associated with this Plan are available in Appendix A.			
1.7	Certification and Approval	The BMP required by CoA F21(h) is to be submitted for approval by the Secretary of the Department of Planning, Industry and Environment (DPIE) at least one month prior to commencement of construction or as otherwise agreed by the Secretary.			-
1.8	Distribution	A controlled hard copy Approved copies of this all relevant personnel a website: www.flyerscre	-		
1.9	Reference Documents	by the following: • Principal Project A		management for the Project and has been informed onfrastructure No MP 08_0252 dated 14 March 2014 2019	-
	Documents	•	ntal Impact Statement prepared by	y Aurecon, 2011, specifically:	
			r 16 – Safety.		
	2. DEFINITIONS AT	ND ABBREVIATIONS	An element of an organisation's	activities or products or service that can interact with the	
		Aspect Asset Protection Zone	environment.	activities or products or service that can interact with the	-
		(APZ)		rounding a built asset or structure.	
		Audit Client and or	A systematic review of managem	ent systems being applied on the Project.	-
		Proponent	Flyers Creek Wind Farm Pty Ltd		
2.1	Definitions	Form 2	Form 2) for each construction act and signed off by the various Pro- pre-commencement gateway for	m, which acts as a project control gateway (known as a civity to commence. The Form 2 is a document reviewed ject discipline leads and Project Manager. This form is a each construction activity within a discrete section of sof communicating to the activity supervisor en portion of the works.	-
		Impact	Any change to the environment versulting from an organisation's experience.	whether adverse or beneficial, wholly or partially	
		Incident	A set of circumstances that:causes or threatens to caus	e material harm to the environment; and/or	













ACTIVITY	DESCRIPTION	REFERENCES		
4. EXISTING PROJ	ECT ENVIRONMENT			
4.1 Legislation and Guidelines	The following legislation and guidelines provide the primary context for bushfire management in NSW: Rural Fires Act 1997; Forestry Act 2012; and National Parks and Wildlife Act 1974. Relevant Guidelines and Fact Sheets: Planning for Bushfire Protection NSW Rural Fire Service, 2006; Planning for Bushfire Protection A guide for councils, planners, fire authorities and developers Pre-Release Issue NSW Rural Fire Service August 2018; Standards for asset protection zones NSW Rural Fire Service; AS3959-2009 Construction of Buildings in Bushfire Prone Areas; Bushfire Risk Management Plan Canobolas Zone Bushfire Management Committee 2017; Fire Management Policy Forestry Corporation NSW 2016; Fire Management In State Forests Forestry Corporation NSW – Forest Fact No 15 Edition 1 2016; and Forest Management Plan Softwoods Division Forestry Corporation NSW 2016.	-		







ACTIV	/ITY	DESCRIPTION		REFERENCES
		This Plan has be of Approval.	een prepared to comply with the CoA and specifically the requirements of CoA F21 (h) as listed in Table	e 2 Conditions
			onstruction Environmental Management Plan for the Project required under Condition F20 the Propor plement this BMP.	nent shall
			Table 2 Conditions of Approval	
		СоА	Condition	Refer to Section within This Plan
			A Bushfire Management Plan to detail measures to prevent fires during the construction phase. This Plan shall be developed in consultation with the Forestry Corporation NSW and shall include:	This Plan
			i) work involving risk of ignition that should not be carried out during a total fire ban	Section 6 MM09 MM12
		F21 (h)	ii) availability of fire suppression equipment	Section 6 MM13-16
4.2	Conditions of Approval		iii) storage and maintenance of fuels and other flammable materials, and	Section 6 MM16
			iv) notification of the NSW Rural Fire Service Canobolas Zone Control Centre for works proposed to be carried out during high fire danger periods to ensure weather conditions are appropriate.	Section 6 MM07-08 Section 7.2
		D15	The Proponent shall ensure that all Project components on site are designed, constructed and operated to minimise ignition risks, provide for asset protection consistent with relevant RFS design guidelines (Planning for Bushfire Protection 2006 and Standards for Asset Protection Zones) and provide for necessary emergency management including appropriate fire-fighting equipment and water supplies on site to respond to a bushfire.	Section 6 MM05
		D16	The Proponent shall ensure that the substation and any other new buildings shall be constructed to comply with the Australian Standard AS3959-2009 Construction of buildings in bushfire-prone areas.	Section 6 MM06
		D17	A 10 metre Asset Protection Zone (APZ) shall be provided around the proposed turbines, substation and control building to the standard of an Inner Protection Area (IPA) as outlined within section 4.1.3 and Appendix 5 of Planning for Bushfire Protection 2006 and Standards for Asset Protection Zones.	Section 6 MM03
		D18	Sufficient water storage (determined in consultation with the NSW Rural Fire Service Canobolas Zone) shall be provided for firefighting purposes.	Section 6 MM14
		D19	Throughout the operational life of the Project, the Proponent shall regularly consult with the NSW Rural Fire Service Canobolas Zone about details of the Project, including the construction timetable and the final location of all infrastructure on the site. The Proponent shall comply with any reasonable request of the NSW Rural Fire Service Canobolas Zone to reduce the risk of bushfire and to enable fast access in emergencies.	Section 6 Section 7.2
4.3	Canobolas Zone Climate and Fire Season	the Canobolas 2 rainfall and late and there is no c each year with conditions asso accompanied by	Zone Bushfire Risk Management Plan (BFRMP) identifies that the typical / average climate in Zone BFRMP area is split into two distinct areas. The eastern tablelands country has a higher or growing season compared to the slopes to the west. Rainfall is spread throughout the year clear pattern of winter or summer dominance. The bushfire season runs from October to March the main danger period occurring between December and February. Prevailing weather ciated with the bushfire season in the Canobolas Zone BFRMP area are north-westerly winds y high daytime temperatures and low relative humidity. There are also frequent dry lightning g during the bushfire season.	Canobolas Zone Bushfire Risk Management Plan
4.4	Canobolas Zone Bushfire History and Hazards	approximately 2 are usually cont based on their p	Zone BFRMP reports that there is on average 300 to 500 incidents per year. Of these incidents, 200 are bush and grass fires. All these have the potential to be major fires, however around 95% tained to less than 10 hectares. Approximately 10 fires each year are considered major fires potential and the fire danger rating applicable on the day.	Canobolas Zone Bushfire Risk Management Plan
		_	rning strikes; rrical infrastructure failures;	







ACTIV	VITY	DESCRIPTION		REFERENCES		
		• Arson;				
		Machinery;				
	 Vehicles; and Welding / grinding activities (Hot works). 					
		,				
		The objectives of the Canobolas Zone BFRMP is to:				
		 Reduce the number of human-induc environment; 	ed bushfire ignitions that cause damage to life, property or the			
		,	spread and intensity of bushfires while minimising			
		environmental/ecological impacts;				
			ty to bushfires by improving its preparedness; and ntial to cause damage to life, property and the environment.			
		,	dentified within the Canobolas Zone BFRMP area and mapped			
		(refer to Appendix C). These zones in	dentify the fire management intent for a specific area.			
		The four categories of Bushfire Management Zo	ones are presented in the following table:			
		Table 3 – Bushfir	e Management Zones Canobolas Zone			
		Category of Bushfire Management Zone	Purpose			
		Asset Protection Zone (APZ)	To protect human life, property and highly valued public assets and values.			
			To provide strategic areas of fire protection advantage			
			which will reduce the speed and intensity of bush fires,			
		Strategic Fire Advantage Zone (SFAZ)	and reduce the potential for spot fire development; To aid containment of wildfires to existing management			
			boundaries.			
4.5		Land Management Zone (LMZ)	To meet relevant land management objectives in areas where APZs or SFAZs are not appropriate.	Canobolas Zone		
		Fire Exclusion Zone (FEZ)	To exclude bush fires.	Bushfire Risk		
			the 132-kV transmission line passing through APZ which consists of ated coniferous forest on the eastern side of Cadia Road.	Management Plan		
		In the Canobolas Zone BFMC area, LMZs have b	een classified into three separate categories which include:			
		 LMZ General; 				
		LMZ Agricultural; and				
		LMZ Pine.				
		LMZ Agricultural covers non-timbered agricultu	ural land within the BFMC area that is not identified as APZ or SFAZ.			
		This LMZ is managed for primary production minimise the impact and threat of fire. Typically	and treatment strategies reflect normal agricultural practices that y, suppression objectives are:			
		As per the land management and fi	re protection objectives of the responsible land management			
	agency;	agency;To reduce the likelihood of spread o	f fires, and			
		 To undertake mosaic burning. 	i ilies, aliu			
		IM7 Pine applies to all commercial sine plants:	ions throughout the REMC area that are not identified as AD7 or SEA7			
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ions throughout the BFMC area that are not identified as APZ or SFAZ. rporation NSW Plans of Management and has been incorporated into			
		this BFRMP to create strong linkages between	en the two documents and ensure a consistent approach to the			
		management of pine plantations.				
		Some retained native vegetation within the pin Environmental Assessment Code.	e plantations are identified as SFAZ for the purposes of the Bushfire			
		The Canobolas Zone Bushfire Threat map (Appe	endix C), provides an indication of the relative level of bushfire threat			
	Carabala 7	for the different brigades within the Canobolas	Zone Bushfire Management Committee area. The ratings are based	Appendix C		
4.6	Canobolas Zone Bushfire Threat	=	ithin each brigade area as identified in the Canobolas Zone Bushfire ion of forested land and historic fire paths. The information contained	Canobolas Zone		
	Мар	on this map simply outlines the potential bushfi	re threat within a brigade area and should not be applied to individual	Bushfire Threat Map		
		properties within the Canobolas Zone. A more provided in Appendix 2 of the Canobolas Bushfi	e detailed assessment of various assets within Canobolas Zone are	тар		
		provided in Appendix 2 of the Callobolds Bushill	пе пак минадентенет ши.			







ACTI	VITY	DESCRIPTION	REFERENCES
4.7	Canobolas Zone Bushfire Risk Treatment	Standard BFMC wide treatments which occur on an ongoing basis within the BFMC area are: Reviewing the bushfire prone land map; Ensuring developments in the bushfire prone land comply with Planning for Bushfire Protection; Using the Local Environment Plan/s (LEPs) to control development in areas with a bushfire risk; Varying the standard bushfire danger period as required; Requiring permits during bushfire danger periods; Prosecution of arsonists/offenders; Investigation of bushfire cause; Normal fire suppression activities; Assessing and managing compliance with strategic fire-fighting resource allocation management systems; Preparation of a S52 Operations Coordination Plan; Fire management plans or plans of management; and Bushfire hazard complaints and management.	Canobolas Zone Bushfire Risk Management Plan
4.8	Planning for Bushfire Protection Guidelines	The RFS Planning for Bushfire Protection (PBP) guideline provides standards for: Strategic land use planning to ensure that new development is not exposed to high bushfire risk; Specific provisions for creating new residential and rural residential subdivision allotments; Specific provisions for special fire protection purpose (SFPP) development taking account of occupant vulnerability; Bushfire protection measures (BPMs) for new buildings; and Guidance in upgrading and maintaining existing development. PBP is applicable to all development on Bushfire Prone Land (BFPL) in NSW. The general principles underlying this document are that: BPMs are required to reduce the impact of a bushfire; Protection measures are governed by the degree of threat posed to a development and the vulnerability of occupants; Reducing the interface of a development to the hazard reduces the bushfire risk to the development; and Good practice in planning, building and management reduces the risk to developments and their occupants, and increases their resilience. The aim of PBP is to provide for the protection of human life and minimise impacts on property from the threat of bushfire, while having due regard to development potential, site characteristics and protection of the environment. The objectives are to: Afford buildings and their occupants protection from exposure to a bushfire; Provide for a defendable space to be located around buildings; Provide for a defendable space to be located around buildings; Provide for ongoing management and maintenance of BPMs; and Ensure that appropriate operational access and egress for emergency service personnel and residents is available; Provide for ongoing management and maintenance of BPMs; and Ensure that utility services are adequate to meet the needs of firefighters. In relation to Wind Farm development the PBP guidelines identify that this type of development requires special consideration and should be provided with adequate clearances to combustible vegetation as well as firefigh	Planning for Bushfire Protection — A Guide for Councils, Planners, Fore Authorities and Developers RFS NSW Pre-Release issues August 2018
4.9	Forestry Corporation NSW Fire Management	Forestry Corporation NSW (FCNSW) Softwood Plantation Division Forest Management Plan identifies that FCNSW is committed to protecting human life, property, biodiversity and cultural values from high-intensity fire and, as one of the four fire authorities in NSW, Forestry Corporation also has legal fire management obligations under the Rural Fires Act 1997. FCNSW is one of four fire authorities under the Rural Fires Act 1997 and is subject to the coordinated fire management provisions of that act. Forestry Corporation is also a member of the NSW Bushfire Coordinating Committee. Forestry Corporation works collaboratively with other fire agencies to: • Develop bushfire risk management and operations plans and implement programs for bushfire prevention, mitigation, preparedness, response and recovery; and • Respond to bushfires protect life and property and to minimise adverse impacts on social, economic and environmental values. FCNSW: • Uses fire under appropriate conditions as a risk reduction strategy and to promote ecosystem health, diversity and resilience in native forests; • Maintains appropriate levels of fire management capability to effectively discharge its	-







ACTIVITY	DESCRIPTION		REFERENCES
ACTIVITY	Reforestation (P&R) Code. In achieving this, FCNSW: Makes the safety of the public and our staff and Uses ecologically sustainable fire regimes; Protects cultural and heritage values; and Is sensitive to the needs of local communities. In executing its fire management responsibilities, FCNSW: Develops fuel management plans and fire stoordinated NSW Bushfire Risk Management Plans and subsequent of wildfire with and with Produces annual fuel management plans that environmental impact of wildfire with and with Produces annual fuel reduction plans and subsequent estates the provides details of each proposed burn into the and ensure areas burnt are updated monthly; Develops a corporate fire management implementation and cooperation with other aland; Prepares site-specific operational plans for each	uppression plans, which are consistent with the an; include a comparative assessment of the potential out fuel management burning; mit them as a map to each Bushfire Management uction burning in the ensuing year; Rural Fire Service (RFS)'s fire management systems strategy to guide fire management planning, agencies wherever Forestry Corporation manages ach fuel reduction burning operation that specify spacts on the environment, reduce the risk of fire ment; and formance annually. ea, which is responsible for Forestry management within evention Measures.	REFERENCES
4.10 Design Assessment of Bushfire Risk	The EA 2011, identified that the fire threat to proposed wo development, the wind turbine locations are in mostly scattered trees being in proximity to wind turbine generat and associated works are considered to have a low risk of the As described in Section 4.5, the 132kv transmission line Forestry Land categorised as APZ. Bushfire prevention means below. Despite the low overall risk, where WTGs are located adjact cover, there can be a greater risk than those further distant Based on the current layout (Appendix B and consideration provides a ranking of the WTG and Ancillary Infrastructure damage than others during construction activities. Table 4 Relative risk of individual Relative risk of damage from bushfire Very Low Low Low Low Low Low Low Low	cleared grazing land or in areas with occasional ors (WTGs). Accordingly, during construction WTGs bushfire threat. will be constructed within a cleared easement of asures applicable to Forestry are presented in Table tent to steep slopes that have considerable vegetation t from slopes that include woodland areas. of effective slope and vegetation) Table 4 below sites to indicate those that may present a greater risk of	Appendix B Project Layout
4.11 Recommendations	The EA 2011 Statement of Commitments which are relevan		Pafar to Saction in
and Agreed Management Measures	SoC Commitment		Refer to Section in this plan







ACTIVITY	DESCRIPTION		REFERENCES
ACTIVITY AND ADDRESS OF THE PROPERTY OF THE PR	Bushfire Risk Management Sub Plan	As part of the Construction and Operation EMPs, Proponent will prepare, in consultation with the Rural Fire Service, a Bushfire Risk Management Sub Plan based on the guidelines 'Planning for Bushfire Protection' (RFS, 2006 or its latest edition). The sub plan will include the following: (a) details of the bushfire hazards and risks associated with the Development; (b) mitigation measures including contingency plans; (c) procedures and programs for liaison and regular drills with the Rural Fire Service; (d) procedures for regular fire prevention inspections by the Rural Fire Service and implementation of any recommendations; (e) include the mitigation measures in Chapters 16 of the EA; and (f) During the construction phase the following measures will be implemented to manage any bushfire risk: The contractor will be required to comply with all relevant sections of the Rural Fires Act and the Fire Brigade Act and all Regulations thereto and will be required to liaise with the Rural Fire Service; Where necessary, access tracks and work sites will be slashed to remove vegetation in excess of 100 mm high; All construction vehicles will use diesel fuel; A mobile 1,000 litre tanker unit complete with motor-driven pump, hose and nozzle will remain at the site during construction work; Knapsack sprays (minimum 16L capacity) and / or 9L pressurised water fire extinguisher and McLeod tools will be kept on hand at each actual work site; In the event of welding, flame cutting or grinding being carried out in the open during periods of fire danger, an observer holding a knapsack spray will be on hand; The contractor will be required to maintain the exhaust systems of all vehicles on site in sound condition and to avoid any build-up of dry vegetation under vehicles; and The use of explosives will not be allowed during periods of high bushfire risk. (g) The potential fire risk associated with electrical failure will be managed by the following measures: Use of fully enclosed electrical equipment on turbine structures and	This Plan Section 6
		ations and Management Measures (EA 2011)	Refer to Section
	EA 2011 Chapter 16 16.5.1 Bushfire risks associated with construction activities	 Recommendation Fires may eventuate from 'hot work' activities, fires within engines or from sparks from friction igniting dry-grass. Accordingly, during the construction phase the following measures will be implemented to manage any bushfire risk: The contractor will be required to comply with all relevant sections of the Rural Fires Act and the Fire Brigade Act and all Regulations thereto and will be required to liaise with the Rural Fire Service; Where necessary, access tracks and work sites will be slashed to remove vegetation in excess of 100 mm high; All construction vehicles will use diesel fuel; A mobile 1,000 litre tanker unit complete with motor-driven pump, hose and nozzle will remain at the site during construction work; Knapsack sprays (minimum 16L) and / or 9L pressurised fire extinguisher and McLeod tools will be kept on hand at each actual work site; In the event of welding, flame cutting or grinding being carried out in the open during periods of fire danger, an observer holding a knapsack spray will be on hand; The contractor will be required to maintain the exhaust systems of all vehicles on site in sound condition and to avoid any build-up of dry vegetation under vehicles; and The use of explosives will not be allowed during periods of high bushfire risk. 	in this plan Section 6
	16.5.2 Bushfire risks associated with operational activities	The potential fire risk associated with electrical failure will be managed by the following measures: Use of fully enclosed electrical equipment on turbine structures and padmount transformers; Extensive use of underground cabling between turbines; Design of any overhead lines in accordance with industry standards; Exclusion of vegetation from within the substation enclosure; Use of circuit breakers and fuses to interrupt any electrical fault; and	Section 6







DESCRIPTION		REFERENCES
	Adoption of the lightning protection measures described in 16.4.	
16.4 Electrical safety	As with any tall structure in an exposed location it can be anticipated that, from time to time, the wind turbines could be struck by lightning and lightning protection is a standard design feature of all modern wind turbines including: • Metallic conductors running throughout the turbine blades and electrically connected to the metalwork of the structure; • Supporting structures sufficiently well earthed to limit the voltage rise during a lightning strike; and • Internal electrical equipment protected against voltage rises due to lightning. In addition, the 33,000/ 132,000-volt substation will be protected by surge diverters, lightning masts and an underground earth grid.	Section 6
		I
	Planning for Bushfire Protection Guidelines – Recommended Bushfire Prevention Measures - V	1
Source	Recommendation	Refer to Section in this plan
	 10m APZ from the structures/associated buildings/ infrastructure; and The APZ must be maintained to the standard of an inner protection area (IPA) for the life of the development to provide adequate access for firefighting purposes. Infrastructure (for the purposes of applying APZ) excludes: Road access to the site; and Power or other services to the site and associated fencing. 	Section 6
	 Essential equipment should be designed and housed in such a way as to minimise the impact of bushfires on the capabilities of the infrastructure during bushfire emergencies. It should also be designed and maintained so that it will not serve as a bushfire risk to surrounding bush. 	Section 6
PBP Guidelines RFS 2018	 A bushfire emergency management and operation plan should detail measures to prevent fires igniting during the construction phase and the operation of the wind farm, and cover: Work involving risk of ignition that should not be carried out during total fire bans; Availability of fire-suppression equipment; Storage and maintenance of fuels and other flammable materials; Notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during the bush-fire fire danger period to ensure weather conditions are appropriate; and Bushfire emergency management planning. 	Section 6 Section 7
	 It is important to be aware of operations that may be carried out on days of Total Fire Ban and any prohibited activities or exemptions that are notified by the Commissioner of the NSW RFS under section 99 of the Rural Fires Act 1997. 	Section 6 Section 7
transmission lines red adhered too.	prestry Corporation Land associated with the easement required for locating the switching station quires consideration of Forestry Corporation NSW bushfire restrictions presented in Table 8 belo Table 8 Forestry Corporation NSW – Bushfire Restrictions	w and must be
Source	Recommendation	Refer to Section in this plan
	 FCNSW Fire Danger Rating (FDR) ≤ 14 - YELLOW Chainsaws can only be used after 1pm on approved cleared areas provided Category 2 requirements are met and the actual FDR is below 30; and No other restrictions apply. 	Section 6
	 FDR 15-29 - ORANGE Chainsaws can only be used after 1pm on approved cleared areas provided Category 2 requirements are met and the actual FDR is below 30. 	Carting C
Northern Softwood Region, Bathurst Management Area Fire Restrictions	If only Category 1 requirements met: Chainsaw use to cease at 1pm; Trenching/ripping or other earthworks in rock to cease at 1pm; and Vegetation clearing/mulching with exposed rock to cease at 1pm.	Section 6







ACTIVITY	DESCRIPTION		REFERENCES
	Category 1 Equipment Requirements: A knapsack (minimum capacity of 16L water) and / or (9L pressuris extinguisher); A dry chemical fire extinguisher; and At least 1 rakehoe.	ed water fire	Section 6
	Category 2 Equipment Requirements: All category 1 requirements, PLUS Communication device e.g. radio/phone; 400L of water with a pump unit of 2.2kw minimum capacity; Minimum 60m of hose; Nozzle capable of delivering a fog spray and jet stream; and Fully fuelled pump motor.		Section 6
5. CONSTRUCTION	BUSHFIRE MANAGEMENT ROLES AND RESPONSIBILITIES		
	be the responsibilities specific to positions on the Project. The Project Managers with support fro dequate resourcing to implement this Plan.	om the Project	-
6. CONSTRUCTION	BUSHFIRE RISKS, IMPACTS, OBJECTIVES AND MANAGEMENT CONTROLS – CONSTRUCTION ACT	IVITY BASED	
Fire Impacts	 Damage to surrounding land, third party assets and habitats from fire Disturbance to flora, fauna and heritage Degradation of air quality resulting from fire and smoke 		
Fire Prevention Performance Objectives and Standards	To have zero fire events resulting from construction activities To minimise impacts to flora and fauna and heritage To minimise impacts to air quality		
Measurement Criteria	surement Criteria • Compliance with bushfire prevention management measures as presented below		
Management Measures		Responsibility	Reference
MM01	All construction personnel and subcontractors are required to undertake a Project induction which will incorporate information on bushfire risk and preventative measures and shall include the following: Legislation and penalties relating to fire; Roles and Responsibilities in relation to fire prevention and management; Identification and awareness regarding construction activities likely to cause a fire; Fire Danger ratings and TOBAN day requirements and exemptions; Fire prevention and management measures; and Incident reporting and record keeping. A register attendance at all inductions will be maintained.		F21(h)
MM02	All construction personnel and subcontractors will participate in Safe Work Method Statement (SWMS) development that will include specific management measures relating to fire prevention and management. Principal Contractor/ Subcontractor		F21(h)
MM03	During construction maintain a 10m APZ around WTGs, the Substation, Control Building and the Switching Station. Maintain APZs throughout the construction period. Principal Contractor/ Subcontractor		D17
MM04	Essential equipment should be designed and housed in such a way as to minimise the impact of bushfires on the capabilities of the infrastructure during bushfire emergencies. It should also be designed and maintained so that it will not serve as a bushfire risk to surrounding bush.	D17	
ММ05	All Project components on site shall be designed, constructed and operated to minimise ignition risks, provide for asset protection consistent with relevant RFS design guidelines (Planning for Bushfire Protection 2006 and Standards for Asset Protection Zones) and provide for necessary emergency management including appropriate fire-fighting equipment and water supplies on site to respond to a bushfire.		D15
MM06	The substation and any other new buildings shall be constructed to comply with the Australian Standard AS3959-2009 Construction of buildings in bushfire-prone areas. Principal Contractor/ Subcontractor		
MM07	Provide NSW Rural Fire Service Canobolas Zone and FCNSW, commencement date, locations of proposed activities and site emergency contact telephone numbers as per Principal Contractor/ Subcontractor		







ACTIVITY	DESCRIPTION		REFERENCES
	the project or site-specific Emergency Response Plan.		
MM08	Local weather warning and bushfire ratings shall be monitored daily during the Fire Danger Season. Maintain contact with NSW Rural Fire Service Canobolas Zone and FCNSW particularly during periods of high fire danger rating. Site personnel to check Rural Fire Service website or mobile application (www.rfs.nsw.gov.au) at least twice daily during the fire season (October 1st – March 31st). Note that FCNSW operate a different colour code for restrictions applicable to State forest lands under FCNSW management. Site personnel to contact FCNSW nominated contact daily during the fire season for updates on restrictions for works on State forest lands.	Principal Contractor/ Subcontractor	F21(h)(i) (iv) D19
ММ09	Unerational restrictions arising from the declaration of IUBAN days will be I Contractor/		F21(h) (i)(iv) D19
MM10	Limit site access to works crews during RFS Severe and above Fire Danger Rating to essential works only. Abide by all FCNSW directives and restrictions as these may differ to NSW RFS.		F21(h) (i)
MM11	There will be no use of explosives during periods of high fire risk unless a Risk Assessment has been undertaken in advance. Principal Contractor, Subcontract		F21(h) (i)
MM12	 Approval to undertake construction activities during periods of NSW RFS TOBAN will be obtained as required. Conditions of the NSW RFS TOBAN exemption will be discussed at daily pre-starts during TOBAN days. A SWMS review will be undertaken to consider and implement measures with regards to changes to works scope, methodology, crew configuration or environment arising from NSW RFS TOBAN days. A copy of the TOBAN Exemption will be carried by the Supervisor at all times. Abide by all FCNSW directives and restrictions as these may differ to NSW RFS. A SWMS review will be undertaken to consider and implement measures with regards to changes to works scope, methodology, crew configuration or environment arising from FCNSW Restrictions. A copy of the FCNSW restrictions will be carried by the Supervisor at all times. 	Principal Contractor/Subco ntractor	F21(h) (i)
Ensure during construction that personnel available for emergency response have as a minimum: Reliable radio or mobile telephone communications to enable contact from site to emergency services; Crews receive bushfire and other emergency reporting training, and have available at all times the ERP; and Supervisors have a working knowledge of reporting and notification tools and contacts for TOBAN requirements and FCNSW Restrictions. The Project shall maintain a training register identifying those personnel whom receive bushfire and other emergency reporting training.		Principal Contractor/ Subcontractor	F21(h) (ii)







ACTIVITY	DESCRIPTION		REFERENCES
	Precautions will be taken to prevent the ignition of fire during hot works, including:		
	 There will be no combustible material within 50 metres of hot works activities, hot works activities must cease when refuelling plant and equipment. Appropriate fire-fighting equipment will be made available for the works and personnel trained in its use: 		
	Work Crews will carry the following equipment (Category 1) during the fire season: A knapsack (minimum capacity of 16L water) and / or 9L pressurised water fire extinguisher A dry chemical fire extinguisher At least 1 rakehoe, and Radio and/or mobile phone		
MM14	During NSW RFS high fire rating or above or during exempt works on TOBAN days, crews shall also have the following equipment (Category 2): o Furphy trailer tanker or 1000L of water with a pump unit of 2.2kw minimum capacity o Minimum 60m of hose o Nozzle capable of delivering a fog spray and jet stream, and o Fully fuelled pump motor	Principal Contractor/ Subcontractor	F21(h) (ii)
	 Maintain vigilance (spotters) during hot works or other works with higher fire risk, Water truck(s) will be operational during the construction phase of works (for dust suppression purposes) and will serve as an emergency water source if required. Additional water storage for firefighting will be provided in consultation with NSW Rural Fire Service Canobolas Zone, and Locate and map any supplies of water present on site that could assist to meet the needs of fire fighters (and others assisting in bushfire-fighting) and to ensure the location of these water sources is known Abide by all FCNSW directives and restrictions as these may differ to NSW RFS (Refer to MM15 below). 		
MM15	FCNSW will provide daily SMS advising of Fire Danger Colour Codes. The following restriction apply to State Forest lands under FCNSW management: FCNSW Fire Danger Rating (FDR) ≤ 14 - YELLOW Chainsaws can only be used after 1pm on approved cleared areas provided Category 2 requirements are met and the actual FDR is below 30, and No other restrictions apply FDR 15-29 - ORANGE Chainsaws can only be used after 1pm on approved cleared areas provided Category 2 requirements are met and the actual FDR is below 30 If only Category 1 requirements met: Chainsaw use to cease at 1pm Trenching/ripping or other earthworks in rock to cease at 1pm, and Vegetation clearing/mulching with exposed rock to cease at 1pm FDR 30+ - RED Category 2 requirements met Operations are located in low fire-risk areas Operations are prohibited where significant amounts of slash have been cured for more than one week No grinding, welding or other activities involving a naked flame, sparks or with the potential to cause ignition (including dozer work), and All mechanical work must cease by 1pm, unless specifically approved by FCNSW	Principal Contractor/ Subcontractor	F21(h) (ii)
MM16	Fire-fighting equipment will also be present wherever flammable chemicals and combustible materials are stored. Incompatible chemicals will not be stored together. Refuel and service vehicles, plant and equipment offsite or on hardstand areas whenever practicable. Use double-hulled fuel trucks or trailers to refuel vehicles, plant and equipment Ensure refuelling is done using containment controls such as spill mats. Refuelling shall not be unattended, and Report and contain all spills		F21(h) (ii) (iii)







ACTIVITY	DESCRIPTION		REFERENCES
		Principal	
MM17	All project vehicles will be diesel fuelled and fitted with spark arrestors Project vehicles, plant, equipment and materials will be contained within approved works areas and not in areas with grass over 100mm high.	Contractor/ Subcontractor	D15
MM18	Work areas will be managed to avoid the build-up of vegetation or other flammable material. No billy fires or similar, or other unapproved open flames, will be lit / used on the Project area. Ensure all electrical tools to be tested and tagged monthly. Required servicing on all electrical equipment to be carried out as per product manuals and standard procedures.	Principal Contractor/ Subcontractor	D15
MM19	The construction worksite is a limited smoking workplace. This means that smoking is only allowed in designated areas as agreed during SWMS review for each crew.	Principal Contractor/ Subcontractor	D15
MM20	Report improperly managed sources of ignition or accidental fires for investigation and corrective action.	Principal Contractor/ Subcontractor	D15
MM21	In the event, there is a fire on-site during the project, assist local fire emergency services as much as possible and as directed by FCWFPL. Commandeer construction equipment (grader, dozer, water truck) for firefighting (clearing firebreaks, pushing up bunds, wetting surfaces, etc.) where directed and practicable and safe to do so.	Principal Contractor/ Subcontractor	F21(h)(ii)
MM22	During erection of WTG towers, met masts, OHL towers and ancillary equipment, adequate earthing shall be provided to reduce the risk of fire from lightning strikes.	Principal Contractor/ Subcontractor	D15
7. COMMUNICAT	TION, CONSULTATION AND INCIDENTS	<u> </u>	
7.1 Internal Communications			-
	 Field based awareness talks regarding fire protection measures relative to works activities Regular toolbox meetings (project workforce), and Weekly construction management team meetings. 		
Communication protocols will be established with NSW Rural Fire Service Canobolas Zone during the consultation phase during the development of this plan. Ongoing communication will include: Notification of commencement of works Notification of specific works activities and location of works Emergency Response Planning and communication arrangements, and Communication required in accordance with Fire Danger Rating and as a result of the issue of TOBAN Exemption permits. Contact details for the Canobolas Zone RFS; Street Address: 1385 Forest Road, Orange, 2800 Phone Number: 02 6363 6666		-	
Email Address: canobolas@rfs.nsw.gov.au Communication protocols will be established with FCNSW during the consultation phase during the development of this plan. Ongoing communication will include: Notification of commencement of works in State forest lands under management of FCNSW Notification of specific works activities and location of works in State forest lands under management of FCNSW Emergency Response Planning and communication arrangements, and Communication required in accordance with the FCNSW Colour Code works approvals and other conditions in accordance with access and works in State forest. During the bushfire danger period FCNSW send out a daily a daily text message with the colour code.		-	







ACTI	VITY	DESCRIPTION	REFERENCES	
7.4	External and Third Party Communications	Regular consultation with stakeholders/landholders is expected to be undertaken during construction activities. All significant stakeholder/landholder issues not readily resolved by construction personnel shall be directed to the Supervisor who will notify the Project Manager who will escalate to the FCWFPL Representative.	-	
7.5	 If any Project personnel have any contact with a media representative, they will: Respond in a polite and courteous manner, and Inform the media representative that they are not the authorised spokesperson and provide contact details of the FCWFPL Project spokesperson or media contact 		-	
7.6	Incident Management	Report all occurrence of fires on the Project or adjoining lands directly to NSW RFS using 000. Any fire on the Project will be considered an incident. In the event of an incident involving a fire, after notification to NSW RFS and FCNSW, the next reporting step will be the provision of a Heads-Up Notification (an Initial Report and Notification via email) detailing brief facts about the incident to be circulated to an agreed list of contractor and FCWFPL project personnel. This will be done as soon as practicable but no later than two (2) hours after the incident. The subsequent Incident Report will include: Date, time and location details A description of the incident and root cause Whether the incident resulted in harm or regulatory Non-Compliance and requires reporting to Regulator or Third Party Actions for resolution / close out, and Corrective actions to assist in preventing recurrence. Upon completion of an investigation, the findings and recommendations shall be distributed to NSW RFS, FCNSW and the relevant work crews for discussion at prestart meetings. If the root cause analysis provides justification for amended work practices or processes a review and reissue of relevant documents (such as this BMP, CEMP, SWMS and Form 2) will be undertaken.	-	
	8. INSPECTIONS, M	ONITORING, AUDITS AND BMP REVIEW		
8.1	Inspections and Monitoring	The contractors LECH Manager or delegate shall coordinate inspections and monitoring of works during construction activities to check and record compliances with works procedures, fire prevention measures and this BMP. Inspections and Monitoring will include: Monitoring of the active works area to ensure works are conducted in compliance with this BMP.	-	
8.2	Audits	Internal environmental audits shall be conducted by non-site based Project personnel at an agreed frequency during performance of the works. It is envisaged that the Proponent and or regulatory authorities may undertake environmental auditing during the performance of the works. Where deficiencies are observed or corrective actions, the person responsible for the corrective action, and timing for correction to be completed shall be noted in the audit records sheet and confirmation of close out will be undertaken in any subsequent monitoring/inspection/audit. All corrective actions will also be recorded in the Corrective Actions Register.	-	
8.3	Review	A review of this BMP will be undertaken annually and whenever there are significant changes in the scope of work, subsequent changes to construction methodologies and/or as a result of a fire related incident. A copy of the updated plan and changes will be distributed to all relevant stakeholders and regulatory authorities.	-	
8.4	Continuous Improvement	This BMP will be subject to ongoing evaluation and continuous improvement as outlined in Section 10.7 of the CEMP.		
	9. REPORTING AND RECORD KEEPING			
9.1	Record Keeping	The contractor shall maintain a documentation and record system in support of this BMP and monthly Project reporting requirements to enable review and auditing of management systems and procedures. The following records to be maintained: Site Inspection Records Incident Reports Incident Register, and Consultation Log.	-	
9.2	Reporting	Monthly Reporting includes information on relevant data, summary and includes the reporting of any incidents and non-conformance.	-	

BUSHFIRE MANAGEMENT PLAN







APPENDIX A – CONSULTATION

The following table provides a detailed record of the consultation activities associated with this Plan.

Date	Consultation	Comments
11/03/2020	Forestry Corporation NSW	Bushfire Management Plan (BMP) issued for comment
11/03/2020	NSW Rural Fire Service, Canobolas Zone	Bushfire Management Plan (BMP) issued for comment.
01/04/2020	NSW Rural Fire Service Canobolas Zone	Received email outlining NSW RFS Canobolas Zone recommendations for updating the BMP. Recommendations and incorporations as follows: References to Canobolas Zone Rural Fire Service – Change to "NSW Rural Fire Service Canobolas Zone" Page 9 F21(h), D19 Page 15 MM07 Page 16 MM08 Page 17 MM14 & 7.2 Page 20 Appendix A Page 13, Table 5 (f) – Change "Bush Fires Act" to Rural Fires Act" and consider addition of an alternative Knapsack Spray or 9L pressurised Fire Extinguisher Page 13, Table 6 - Change "Bush Fires Act" to Rural Fires Act" and consider addition of an alternative Knapsack Spray or 9L pressurised Fire Extinguisher Page 14, Table 8 - "A Knapsack (or fire extinguisher) min Capacity 15L water" I think Forestcorp intent here is to have a 16L Knapsack spray available however there aren't commercially available 15L extinguishers so will need to maybe clarify the extinguisher as 9L water to head off confusion. This is repeated Page 16 MM14.
02/04/2020	Forestry Corporation NSW	Received email outlining Forestry Corporation NSW recommendations for updating the BMP. Recommendations and incorporations as follows: Page 14 Forestry Corporation rules and restrictions must be adhered to, they are not recommendations. Page 16 MM09 - When working on state forest, our colour code system is different to the RFS ratings, we may require restrictions and work to cease even if it's not a TOBAN. Page 16 MM12 - As above. Page 16 MM13 - All state forest supervisors must understand our colour code requirements and notifications (daily SMS). Page 16 MM14 - When on state forest, work as per the colour code restrictions. The RFS 'high' fire danger does not align with our colour codes. Page 18 - Section 7.2 Change FCNSW Lands to State Forest. Page 18 - Section 7.6 Updated to notify RFS as the first step in the event of an active fire even if not on state forest land.

BUSHFIRE MANAGEMENT PLAN

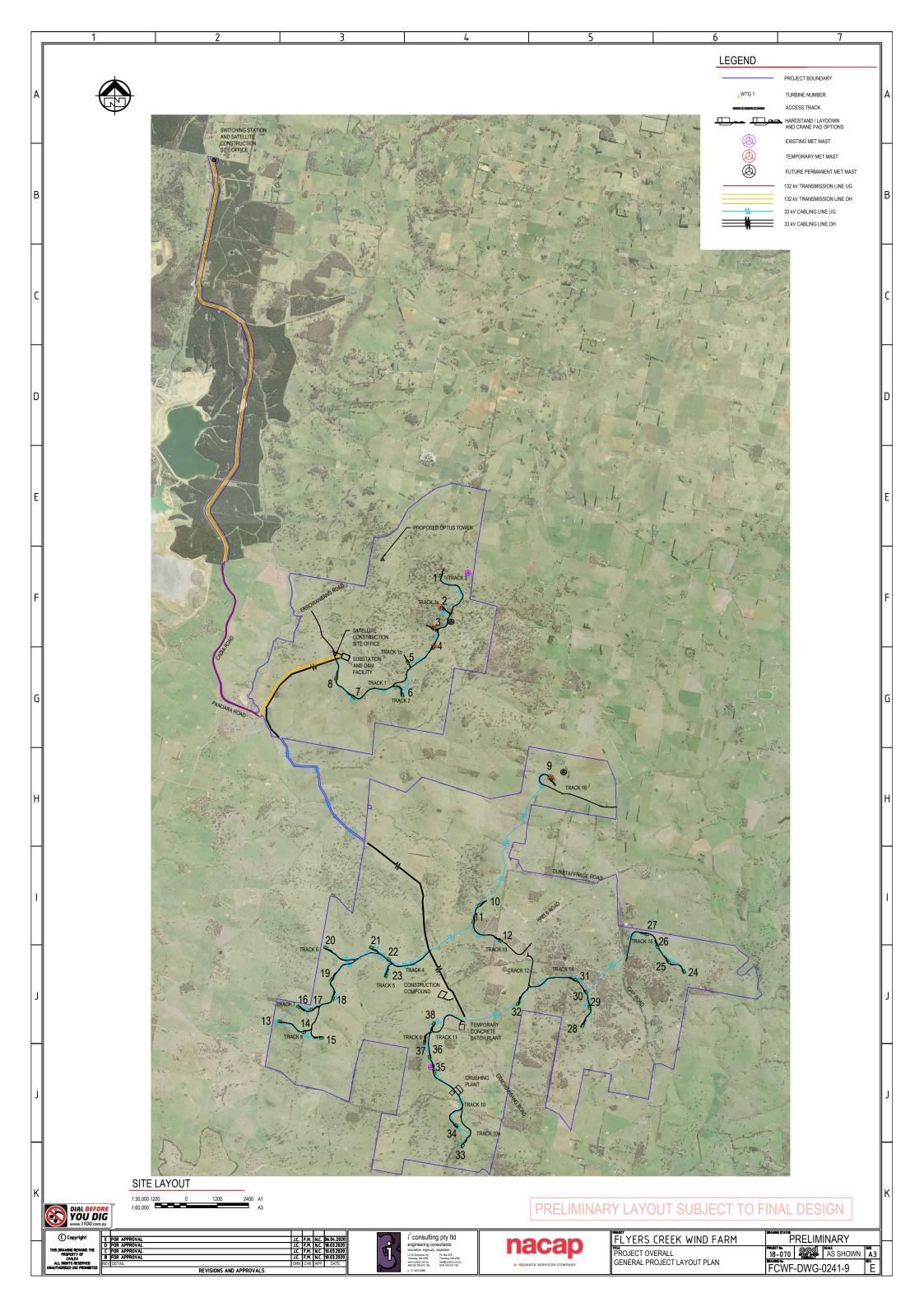






APPENDIX B - PRELIMINARY PROJECT LAYOUT

Note – Preliminary layout subject to minor amendments during detailed design and consultations



BUSHFIRE MANAGEMENT PLAN







APPENDIX C - CANOBOLAS ZONE BUSHFIRE THREAT MAP

