Memorandum

11 June 2021

To	Department of Planning Industry and Environment		
Copy to	BlueScope Steel (AIS) Ltd		
From	Simon Murphy – Environmental Planner, and Alexandria Yates – Ecologist.	Tel	0428 626 952
Subject	BDAR Waiver	Job no.	12541101

1 Background

BlueScope Steel (AIS) Pty Ltd (BlueScope) is one of Australia's leading manufacturers and is a global leader in finished and semi-finished steel products. Steelmaking operations are undertaken at the Port Kembla Steelworks (PKSW), within an industrial site of approximately 750 hectares located in the Wollongong Local Government Area. PKSW is the largest steel production facility in Australia, and comprises of the No. 1 Works, No. 2 Works, Steelhaven and the Recycling area.

PKSW includes two blast furnaces, No. 5 Blast Furnace (5BF) (currently operating), and the No. 6 Blast Furnace (6BF) which is in care and maintenance. The 5BF is currently used to manufacture molten iron on a continual basis, and will reach the end of life sometime between 2026 and 2030. Following the cessation of production from 5BF, BlueScope is considering a move to molten iron production from the 6BF.

6BF last manufactured iron in 2011, at which point it was placed into care and maintenance. In order to prepare the 6BF to become operational again, major maintenance works are required. To support this, BlueScope are now progressing a Critical State Significant Infrastructure (CSSI) approval process for the project. An environmental impact statement (EIS) is required to identify and assess the environmental issues associated with the project.

The projectaims to return 6BF to service through a reline process that will be carried out while 5BF continues to operate. A reline is a term used to describe major repair activities which are required every 20 years or so and requires the furnace to be out of service for an extended period. The maintenance work involves the replacement of the worn out or damaged internal linings of the blast furnace, which includes replacing some or all of the refractory lining, cooling elements and shell plate. Upgrade, repair and replacement of ancillary equipment necessary for blast furnace operation is also undertaken as part of the reline.

Traditionally, a blast furnace reline is carried out in a relatively short shutdown window (130 days), with around the clock construction activity, large numbers of people on site and a heightened risk profile. As 6BF is not currently operating, the reline can be executed over a longer time period in a measured way with minimal operational disruptions, limited after-hours work, reduced risks, and

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greater use of local contractors. If the reline is approved, 6BF will be commissioned and ramped up for operation, after 5BF has been ramped down and decommissioned.

The project is in the early stages of the comprehensive assessment and approval process. As part of the approval process, the *No. 6 Blast Furnace Reline and Operational Scoping Report* (GHD, 2021) has been completed to accompany BlueScope's request to the Secretary of DPIE for SEARs. This BDAR waiver requires should be read in conjunction with that report which provides a more detailed description of the project and potential environmental impacts.

2 Biodiversity Development Assessment Report waiver

The *Biodiversity Conservation Act* 2016 (BC Act) requires that an SSD or SSI application must be accompanied by a biodiversity development assessment report (BDAR) unless the Planning Agency Head (or delegate) and the Environment Agency Head (or delegate) determine that the proposed development is not likely to have any significant impact on biodiversity values. This determination is referred to as a BDAR waiver (DPIE, 2020). This report has been prepared to support the application for a BDAR waiver for the project in accordance with document *How to apply for a biodiversity development assessment report waiver* (DPIE, 2019).

The application of a BDAR waiver is considered appropriate due to the nature of the project being on a highly disturbed brownfield site which has been used for iron and steel production since 1928. The project will not involve the disturbance or removal of any native vegetation or exotic vegetation that could provide habitat for any listed species.

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3 Application for a BDAR waiver

Table 1 and Table 2 provide the information required for this application for a BDAR waiver for PKSW No. 6 Blast Furnace Reline and Operations.

Table 1 BDAR waiver request information requirements

Section	Details	Information
Admin	Proponent	BlueScope Steel Ltd Key contact: Anita Rojas Senior Environmental Advisor T: +61 2 4240 1453 M: +61 (0) 412 400 378 Email: Anita.Rojas@bluescopesteel.com
	Project ID	Port Kembla Steelworks No. 6 Blast Furnace Reline and Operations Assessment Process: Pursuant to clause 26 of schedule 5 of *State Environmental Panning Policy (State and Regional Development) 2011,* has been nominated as Critical State Significant Infrastructure.
	Person preparing this form	Simon Murphy – Msoc Sc (Env & Plan), GHD. Alexandria Yates - BEnvScMgt (Hons)Ecologist, GHD.
Site details	Address	Five Islands Rd, Port Kembla NSW 2505 (Refer Figure 1)

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Section	Details	Information
		Lot 1 DP 606434 Wollongong City Council
	Description	The PKSW site (Lot 1 DP606434) is zoned IN3 – Heavy Industrial under the Three Ports SEPP. The project site is generally flat and resides upon a base of artificial fill, including dredged sand and mud, rocks and local soil materials. The site is generally sealed, with small areas of exposed soil. Soils on site are classified as disturbed terrain, and have a low probability of acid sulphate soils, and are generally susceptible to erosion, subsidence and lack permeability. The site is predominantly cleared and provides minimal habitat value. Vegetation on site comprises of planted species and opportunistic weed species.
	Maps	Refer to: • Figure 1 – Regional locality plan • Figure 2 – Site layout • Figure 3 – Key features of the project
Proposed development	Project description	The project involves the reline of 6BF over a period of approximately 3 years to return it to service and commence ironmaking after 5BF ceases operation. The reline of the furnace initially involves removal of remaining burden material and iron skull, followed by stripping of the staves, refractories and hearth from inside the shell. In places, repairs to the furnace shell will be required. Once stripped, installation of the new hearth, sidewall refractories and staves will be completed, together with repairs/replacement of the tuyeres, tapholes, furnace cooling systems and instrumentation. Significant work will also be required to prepare each of the 6BF ancillary systems for continuous operation across the length of the new campaign. Following construction, and after the 5BF has been ramped down and decommissioned, 6BF will be commissioned and ramped up for operation.

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		6BF previously operated for a period of 15 years and has been in care and maintenance since 2011. As a result, the site is ready for work to commence with a minimum of preparatory works. Preparation works in advance of reline activities will include condition assessments of existing equipment, potentially including in-situ testing or removal for off-site assessment, completion of engineering, planning, contract finalisation and procurement of new and replacement equipment and items.
		
		Major construction work will be required within the blast furnace and surrounding facilities and will involve removing the remaining burden materials, refractory bricks and blocks and staves within the interior of the blast furnace for replacement. Any required repairs or replacement of ancillary equipment or structures will also be carried out. Construction activities will indicatively involve the following tasks:
		
		• Removal of the remaining burden materials
		• Removal of the iron skull
		• Removal of worn carbon block refractories in the hearth
		• Removal of worn refractories in the remainder of the vessel
		• Demolition of other equipment including:
		  ○ Cooling staves which protect the blast furnace shell
		  ○ Hot blast main refractory lining where required, including the expansion joints
		  ○ Clarifier tank and associated equipment where required
		• Repairs to the blast furnace shell where required
		• Installation of a new clarifier tank and associated equipment
		• Installation of the new hearth, sidewall refractories and staves

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		• Repair/replacement of tuyeres, tapholes and instrumentation
		• Repair, maintenance and/or upgrade of ancillary equipment including:
		  ○ Furnace cooling systems
		  ○ Hot blast system including the stoves, with the addition of stove waste gas heat recovery (WGHR) system
		  ○ Gas system, with addition of a top gas recovery turbine (TRT)
		  ○ Furnace top, including the charging equipment, bleeder valves and outrigger crane
		  ○ Casthouse floors and associated equipment
		  ○ Stockhouse (raw materials feed system)
		  ○ Automation and power systems
		  ○ Services
		• Installation of a new slag granulation system
		• Commissioning, ramp up and operation of 6BF
		Laydown areas for construction equipment and materials is anticipated to be within the already highly modified PKSW site. The delivery of materials and equipment to the work sites will be staged as required with minimal storage close to 6BF. Indicative laydown areas are shown on Figure 3-1.

	Site plan	Refer to: • Figure 1 – Regional locality plan • Figure 2 – Site layout

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Section	Details	Information
		• Figure 3 – Key features of the project
Impacts on biodiversity values		The entire PKSW, within which 6BF is located has been subject to heavy disturbance from the initial construction of the PKSW starting in 1928. The construction and continued operation of 6BF currently operates under development consent No. D93/16 granted by Wollongong City Council. This development consent was approved in 1993; 65 years after the site was initially cleared. The scoping report (GHD, 2021) has identified that the project site has limited biodiversity values due to the modified nature of the site. It is considered that the project is unlikely to have a significant impact on biodiversity values and BlueScope seeks confirmation that preparation of a BDAR is not required. Refer to Table 2 - Impacts of the proposed development on biodiversity values.

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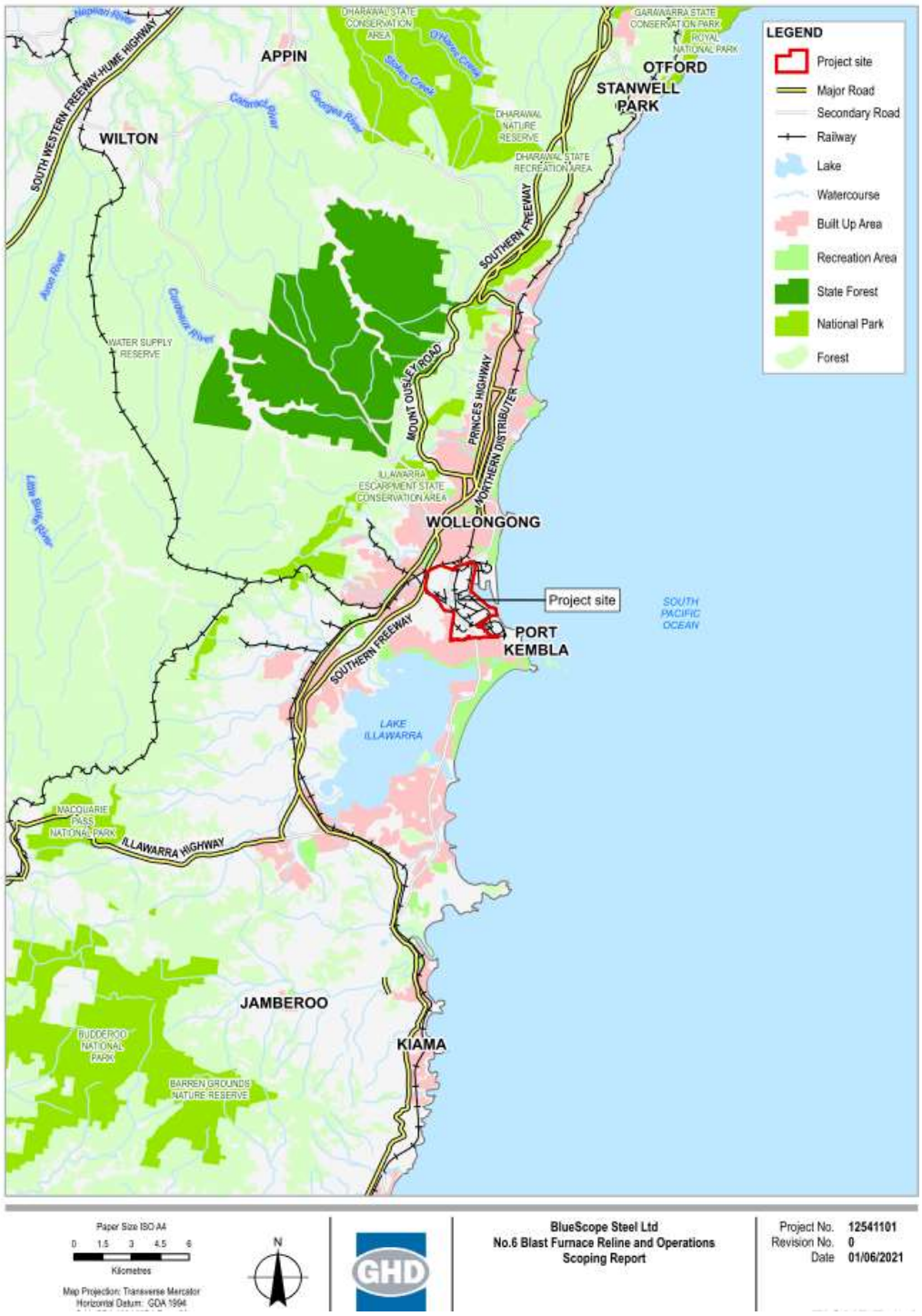

Figure 1 Regional location

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Figure 2 Site layout and locality plan

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Figure 3 Project key features

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Table 2 Impacts of the proposed development on biodiversity values

Biodiversity value	Meaning	Relevant (✓ or NA)	Description
Vegetation abundance – 1.4(b) BC Regulation	Occurrence and abundance of vegetation at a particular site	NA	The project site is mapped as cleared- urban/industrial within regional vegetation mapping (DPIE, 2015; 2016). Remaining vegetation within the project site is limited to planted street trees and opportunistic weed species. All planted trees will be retained within the project site to avoid impacts to any potential cultivated native street trees. Therefore impacts to native vegetation are not anticipated. No clearing of native vegetation would be required to construct the project. The project site includes laydown areas, clean down areas, carparks and existing infrastructure. Existing vegetation within the project site is limited to small, marginal areas, generally restricted to edges of the project site.
Vegetation integrity – 1.5(2)(a) BC Act	Degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near-natural state	NA	The planted street trees within the project site and remaining exotic vegetation do not reflect a historical near-natural state due to the highly disturbed nature of the project site. The vegetation within the project site is not a native plant community type due to the high cover of exotic species throughout the project site. No threatened ecological communities or threatened flora species occur or would occur in the project site. Stockpile and compound sites shown in Figure 3 would be within previously disturbed areas owned by BlueScope and would not generate impacts to native flora or impact vegetation integrity in surrounding lots. The project is unlikely to alter the vegetation integrity found within the project site or alter surrounding vegetation integrity to adjacent lots.

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Biodiversity value	Meaning	Relevant (✓ or NA)	Description
Habitat suitability - 1.5(2)(b) BC Act	Degree to which the habitat needs of threatened species are present at a particular site	NA	No threatened ecological communities occur within the project site. No karst, caves, crevices, cliffs and other geological features of significance occur within the project site. The Port Kembla key population of the Green and Golden Bell Frog (*Litoria aurea*) is known to be associated with unnatural habitats in the local area. The site has recorded sightings of the endangered Green and Golden Bell Frog (*Litoria aurea*). The presence of the Green and Golden Bell Frog is managed across PKSW in accordance with site manual MA-ENV-03-03 Management of Threatened Species, the Green and Golden Bell Frog (BlueScope, 2021). No artificial ponds will be removed. The project site is also located within the PKSW and surrounding industrial district would provide only limited foraging habitat for bat species. The relining works may impact industrial buildings that could provide roosting habitat for microbat species. 6BF has been in care and maintenance for approximately 10 years, including being used as a storage facility. The ongoing use and disturbance of the building would likely reduce the suitability of roosting habitat for microbats. Due to the high noise environment of 6BF in the middle of the PKSW site it is unlikely the site would be used by microbats. Despite the fact that 6BF has been in care and maintenance the structure has been used for the storage of various materials plant and machinery. This has required the periodic movement of light and heavy vehicles through the structure providing further disturbance. This coupled with the availability of higher quality roosting habitat and foraging opportunities regionally make it highly unlikely that any microbats are present. As the project site occurs within the existing PKSW, threatened species are unlikely to

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Biodiversity value	Meaning	Relevant (✓ or NA)	Description
			utilise the site other than for temporary visits from threatened or migratory bird species (as discussed in Section 5.3.2 of the Scoping Report).
Threatened species abundance - 1.4(a) BC Regulation	Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site	NA	The project is located within a highly modified industrial setting and retains limited biodiversity values. Impacts to native vegetation are not anticipated and fauna habitat at the site is expected to be limited. Green and Golden Bell Frog (*Litoria aurea*) have been recorded within the southern area of the PKSW site and the species is known to inhabit highly disturbed areas. A management plan was prepared for the species and included habitat construction at Greenhouse Park, north of the BlueScope rail loop; installation of frog-proof fences to discourage frogs from entering PKSW, and discouraging use of stormwater basins by keeping them clear of vegetation and removing shelter habitat (Bluescope, 2020). The presence of the Green and Golden Bell Frog is managed across PKSW in accordance with site manual MA-ENV-03-03 Management of Threatened Species, the Green and Golden Bell Frog (BlueScope, 2021). The nearest records of this species are approximately 800 metres from the project site. No artificial ponds will be removed or modified. It is therefore expected that impacts to this species as a result of the project are unlikely. Listed threatened or migratory bird species have also been recorded in the vicinity of the project site and may visit the site temporarily while moving between offsite foraging areas in the locality. Given the disturbed nature of the site and lack of suitable foraging or breeding habitat, these species would not to be impacted by the project.

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Biodiversity value	Meaning	Relevant (✓ or NA)	Description
Habitat connectivity - 1.4(c) BC Regulation	Degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range	NA	The project site is not connected to any habitat which may be utilised as corridors for flora and fauna species. The project site does not contribute to habitat connectivity due to being located within the centre of the PKSW industrial site. The project is located within built up areas approximately 6 kilometres from large patches of native vegetation. A known population of Green and Golden Bell Frog occurs within the greater PKSW site, approximately 800 metres from the project site. Known Green and Golden Bell Frog habitat and associated corridors within the PKSW are shown in Section 6 of the Management of threatened species, the Green and Golden Bell Frog, *Litoria aurea*- Environmental Management Manual (Green and Golden Bell Frog Environmental Management Manual) (Bluescope, 2020). The corridors for this population include the rail line from Coniston to Port Kembla railway station; Plate Mill and the Steelhaven site. The project site is not located within the rail line and is highly unlikely to impact on these known habitats or corridors.
Threatened species movement - 1.4(d) BC Regulation	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	NA	The project is not located in or within close proximity to known threatened species corridors (see habitat connectivity above). The project would not impact movement of Green and Golden Bell Frogs, microbats or migratory or threatened waders between foraging and breeding areas.
Flight path integrity - 1.4(e) BC Regulation	Degree to which the flight paths of protected animals over a particular site are free from interference	NA	Any species which may use flight paths over the project site would be limited to bird and bat species which are accustomed with the existing noise and light from the active PKSW and associated works in the surrounding industrial area. The project will

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Biodiversity value	Meaning	Relevant (✓ or NA)	Description
			temporarily increase impacts from noise and light, however is unlikely to interfere with existing flight paths used by protected animals over the project site.
Water sustainability - 1.4(f) BC Regulation	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site	NA	The project site does not have any water bodies or associated water habitat features which may sustain threatened species or ecological communities. Known Green and Golden Bell Frog habitat (including waterbodies) occur approximately 1.5 kilometres from the project site, within the wider PKSW site. The entire PKSW area (including the project site) is subject to existing protocols and mitigation measures outlined within the Green and Golden Bell Frog Environmental Management Manual (Bluescope, 2020). This manual recognises that seasonal changes in ponds are expected. The project is unlikely to alter these waterbodies. Tom Thumbs Lagoon is located approximately 500 metres from the project site. Threatened bird species may forage in the bay on occasion. The marine environment is unlikely to be directly impacted during construction as mitigation measures will be implemented to prevent sediment or contaminants entering waterways. During operation discharges to the harbour are expected to be generally consistent with current operations and therefore impacts to aquatic species are not anticipated.

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4 Conclusion

Due to the highlight disturbed nature of the PKST site, the lack of native vegetation or habitat for threatened communities, flora or fauna it is considered appropriate that a BDAR waiver be issued for the BlueScope 6BF reline project.

Regards

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5 References

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