

PREPARED FOR:



PREPARED BY:



Environmental Site Sensitivity and Verification Report

Site ID:	Struisbult PV2 Grid Connection	Consultant	EIMS
Location:	Copperton, Northern Cape	EAP	GP Kriel
Client representative:	Ryan David-Andersen	Inspection Date:	9-10 December 2021

1 Background

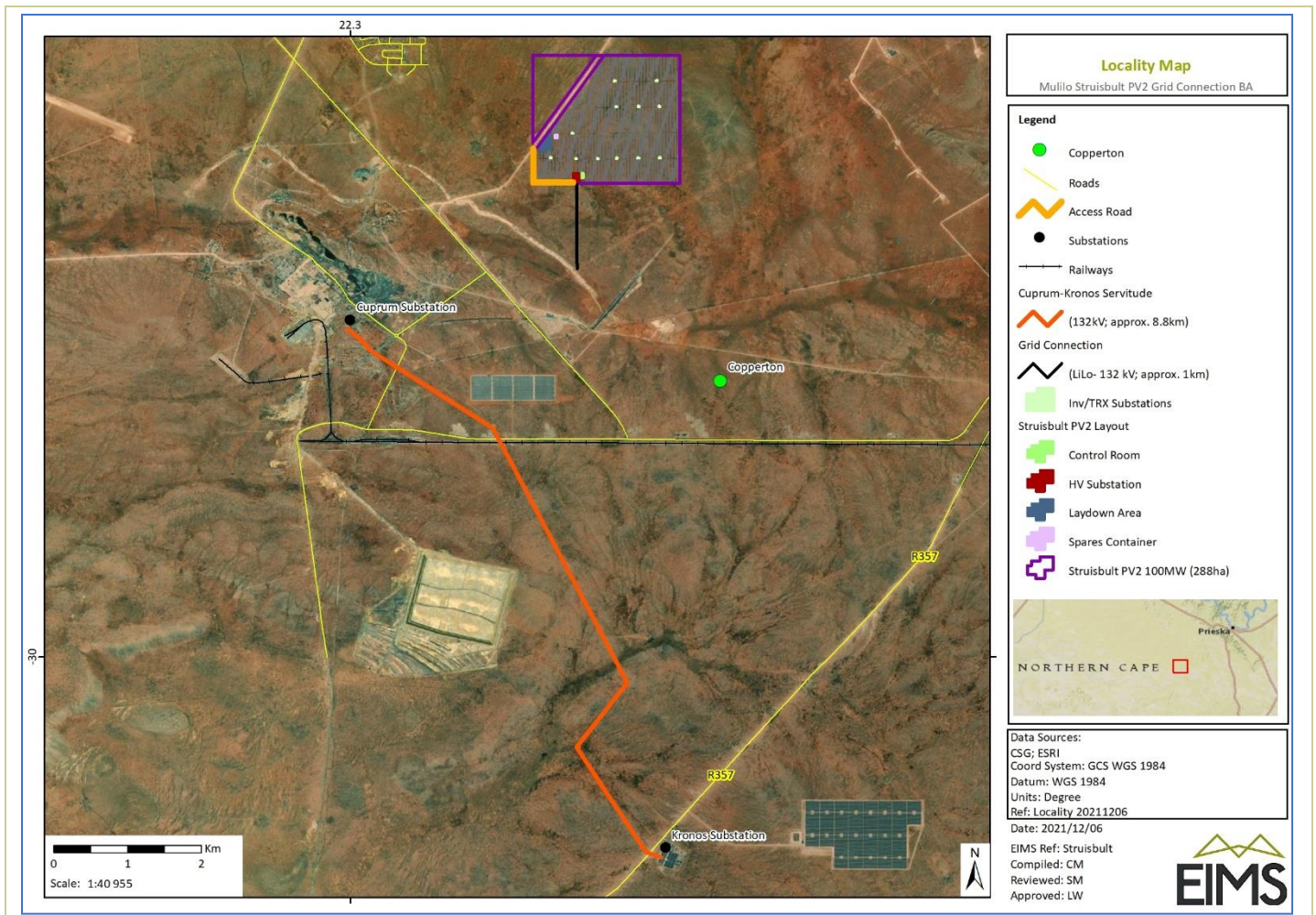
Background of the project:	<p>The Applicant is in the process of preparing Struisbult PV2 solar facility for a private off-taker. One of the Eskom conditions received for connecting the project to the grid is to build an additional 8.8 km 132 kV line between Kronos and Cuprum substations. The Applicant proposes construction of the required 132 kV line alongside an existing powerline servitude with associated grid connection infrastructure as follows:</p> <ul style="list-style-type: none"> • An access road to the Struisbult PV2 On-site Substation; <ul style="list-style-type: none"> ○ The On-site Substation consists of a 132 kV Switching Station (assessed here) back-to-back with the IPP substation • An approximately 1 km LILO; • 132 kV Feeder Bay at both Cuprum and Kronos Substations; and • An approximately 8.8 km 132 KV Transmission Line along the existing Kronos-Cuprum overhead line (OHL), which will be handed over to Eskom once completed. The OHL will consist of the following: <ul style="list-style-type: none"> ○ High Voltage (HV) Lines ○ The proposal is to construct the new line approximately 15 m to the eastern side of the current 1 and 2 Kronos-Cuprum OHL. This will not require a HV crossing (3 x rural Medium Voltage (MV) overpass crossings: 2 at Kronos Substation, 1 on route). <p>The proposed project site is within the following properties near Copperton, Siyathemba Local Municipality, Pixley ka Seme District Municipality, Northern Cape.</p>
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Project Aspects:	Yes	No	Details (provide specifications)	Location (DD MM SS) (Latitude; Longitude)
❖ 132 KV Transmission Line	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • An approximately 8.8 km 132 KV Transmission Line along the existing Kronos-Cuprum overhead line (OHL), which will be handed over to Eskom once completed. The OHL will consist of the following: <ul style="list-style-type: none"> ○ High Voltage (HV) Lines ○ The proposal is to construct the new line approximately 15 m to 	Start 30°01'25.43"S; 22°20'17.36"E Middle 29°59'24.65"S; 22°19'39.06"E End 29°57'33.45"S; 22°18'02.27"E.



Project Aspects:	Yes	No	Details (provide specifications)	Location (DD MM SS) (Latitude; Longitude)
			the eastern side of the current 1 and 2 Kronos-Cuprum OHL. This will not require a HV crossing (3 x rural Medium Voltage (MV) overpass crossings: 2 at Kronos Substation, 1 on route).	
❖ An approximately 1 km LILO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> An approximately 1 km LILO; 	Start 29°56'31.94"S; 22°19'38.99"E Middle 29°56'49.14"S; 22°19'39.43"E End 29°57'9.54"S; 22°19'39.64"E
❖ An access road to the Struisbult PV2 On-site Substation;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> An access road to the Struisbult PV2 On-site Substation; <ul style="list-style-type: none"> The On-site Substation consists of a 132 kV Switching Station (assessed here) back-to-back with the IPP substation 	Start 29°56'16.91"S; 22°19'20.32"E Middle 29°56'31.73"S; 22°19'20.36"E End 29°56'31.76"S; 22°19'37.80"E

2 Site Layout Plan





3 DFFE Screening Tool Assessment

Aspect	Very High	High	Medium	Low
Agriculture Theme				X
Animal Species Theme		X		
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme		X		
Defence Theme				X
Palaeontology Theme			X	
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

4 Site Assessment

4.1 Gradient (indicate the general gradient characteristics of site)

Aspect									
Study area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Is the site located on or in the immediate vicinity of any of the following:

	Yes	No	Comment
Erosion Channels or areas of severe erosion/ destabilized soils	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetlands (within 32m)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The powerline will traverse a riparian area, however, this will not directly affect the Riparian area.
Unstable slopes or geological features (rocky outcrops)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bare areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Some bare areas in the form of agricultural lands occur within the study area.



	Yes	No	Comment
Other Sensitive or risk areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing roads, powerlines, and mining areas occur within the study area.
Are any existing servitudes and structures directly or indirectly affected by the proposed sites and routes (e.g. Eskom, public road servitudes and restrictions- 60m from National Road, farmer's water/irrigation supplies, etc.)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Existing roads, powerlines, and mining areas occur within the study area.

4.2 Vegetation

Which of the listed descriptions best describes the general groundcover on and around the site?				
Natural veld - good condition <input checked="" type="checkbox"/>	Natural veld with scattered aliens <input checked="" type="checkbox"/>	Natural veld with heavy alien infestation <input type="checkbox"/>	Veld dominated by alien species <input type="checkbox"/>	Gardens <input type="checkbox"/>
Sport field <input type="checkbox"/>	Cultivated land <input type="checkbox"/>	Paved surface <input checked="" type="checkbox"/>	Building or other structure <input type="checkbox"/>	Bare soil <input checked="" type="checkbox"/>
Comments on vegetation composition:	<p>The proposed OHL alignment follows the existing Kronos-Cuprum OHL alignment and runs from the Kronos to Cuprum substations. The surrounding land use is mainly electrical infrastructure, renewable developments (solar photovoltaic and wind), old mining infrastructure and farmland.</p> <p>The Ecosystem Threat Status is an indicator of an ecosystem's wellbeing, based on the level of change in structure, function or composition. Ecosystem types are categorised as Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT) or Least Concern (LC), based on the proportion of the original extent of each ecosystem type that remains in good ecological condition. According to the spatial dataset the proposed project overlaps with a LC ecosystem.</p> <p>The species composition of the assessment area was consistent with typical Bushmanland Basin Shrubland and Bushman Arid Grassland vegetation types. Distinctive vegetation communities were observed within these vegetation types and can be classified into shrubland, grassland and drainage lines. The grassland vegetation type occurred in small patches within the shrubland vegetation community and is therefore not mapped separately. The plant species list recorded is by no means comprehensive, and repeated surveys during different phenological periods are not covered, which may likely yield up to 40% additional flora species for the project area. However, floristic analysis conducted to date is regarded as a sound representation of the local flora for the project area, with specific focus on SCCs.</p> <p>The following vegetation units were identified on-site:</p> <ul style="list-style-type: none"> • <i>Rhigozum trichotomum</i> Shrubland; • Asteraceous Shrubland; • Bushmanland Arid Grassland; <ul style="list-style-type: none"> ○ <i>Stipagrostis</i> Grassland; and ○ <i>Lycium cinereum</i> – <i>Galenia africana</i> Watercourse Shrub Community. 			
Comments on weed species/type	<p>One (1) IAP species were recorded within the project area, namely <i>Prosopis glandulosa</i>. These species are listed under the Alien and Invasive Species List 2020, Government Gazette No. GN1003 as Category 1b. Category 1b species must be controlled by implementing an IAP Management Programme, in compliance of section 75 of the NEMBA, as stated above.</p>			

4.3 Land Cover/ Use

<p>The proposed OHL alignment follows the existing Kronos-Cuprum OHL alignment and runs from the Kronos to Cuprum substations. The surrounding land use is mainly electrical infrastructure, renewable developments (solar photovoltaic and wind), old mining infrastructure and farmland.</p>
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4.4 General Comments and Recommendations

<p>As the project spans large areas of various current uses, a detailed impact assessment will be undertaken which will be supplemented by various specialist studies.</p>
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4.5 Site Photos





Riparian Crossing



End



Start

Aspect: LILLO Line



Middle



End



Aspect: Access Road

Start



Middle



End





5 Verification Findings and Motivation

Screening Tool Specialist Study Required:	Level of Sensitivity:	Suggested Sensitivity:	Required level of Assessment		Motivation
Agriculture Theme	Low	Low	None	<input checked="" type="checkbox"/>	
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other		
Animal Species Theme	High	High	None	<input type="checkbox"/>	A detailed species assessment was undertaken as part of the Terrestrial Ecological Assessment.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input checked="" type="checkbox"/>	
			Other		
Aquatic Biodiversity	High	Low	None	<input type="checkbox"/>	An Aquatic Specialist Statement has been included in the Basic Assessment Report and it was found that the site was not sensitive and that all the impacts could be mitigated.
			Compliance Statement	<input checked="" type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other		
Archaeological and Cultural Heritage Theme	Low	Low	None	<input type="checkbox"/>	A detailed Heritage Impact Assessment was conducted and no Archaeological and Cultural Heritage features were identified.
			Compliance Statement	<input checked="" type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other		
Civil Aviation Theme	High	Low	None	<input checked="" type="checkbox"/>	The site infrastructure will be built within an existing powerline corridor and is surrounded by similar infrastructure.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other		
Defence Theme	Low	Low	None	<input checked="" type="checkbox"/>	No defence assessment required.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other		
Palaeontology Theme	Low	Low	None	<input type="checkbox"/>	A desktop Paleontological Impact Assessment was conducted, and no Archaeological and Cultural Heritage features were identified.
			Compliance Statement	<input checked="" type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other		
Plant Species Theme	Low	Low	None	<input type="checkbox"/>	A detailed species assessment was undertaken as part of the Terrestrial Ecological Assessment.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input checked="" type="checkbox"/>	
			Other		
	High	Medium	None	<input type="checkbox"/>	



Screening Tool Specialist Study Required:	Level of Sensitivity:	Suggested Sensitivity:	Required level of Assessment		Motivation
Terrestrial Biodiversity Theme			Compliance Statement	<input type="checkbox"/>	A detailed Terrestrial Ecological Assessment was undertaken.
			Full Assessment	<input checked="" type="checkbox"/>	
			Other		