



GOLD FIELDS

ST IVES MINE SITE

St Ives Gold Mining Company Pty Ltd
ABN 44-098-386-273
ACN 098-386-273

PO Box 359
KAMBALDA WEST 6442
Western Australia

Tel +61 8 9088 1111
Fax +61 8 9088 1112
www.goldfields.com

08 May 2017

Dr Tom Hatton
Chairman
Office of the Environmental Protection Authority
Locked Bag 10
EAST PERTH WA 6892
Our Ref: LS080517-0015

Dear Sir

**Gold Fields Ltd St Ives Gold Mine – Beyond 2018 Project (Revised Proposal) (Case Number CMS16335)
Section 43A Application – Change to Proposal**

St Ives Gold Mining Company Pty Ltd (SIGMC), part of the Gold Fields Australia (GFA) group of companies, the ultimate parent company of which is Gold Fields Limited, submitted a Referral to the Environmental Protection Authority (EPA) under section 38 of the *Environmental Protection Act 1986* (EP Act) on 15 December 2016 regarding the Beyond 2018 (B2018) Project. The objective of the B2018 Project is to ensure continuation of operations on the site and involves the continued and additional development of open-cut and underground gold mining developments on and around Lake Lefroy. The proposal involves disturbance of up to an additional 3,000 hectares on land and up to 2,000 hectares on Lake Lefroy over a 10-year period.

The B2018 project has been discussed in detail with officers from the Office of the EPA (OEPA) and aims:

- To ensure operational security of the St Ives Gold Mine beyond 2018;
- To ensure the facilitation of maximum flexibility in key operational areas;
- To avoid piece-meal and fragmented approvals approach; and
- To reduce regulatory ambiguity between relevant decision making authorities and subsequently reduce the regulatory burden on both the regulator and proponent.

Subsequent to the Referral, the EPA set the level of assessment to 'Environmental Review – 6 week public review' pursuant to section 39(1) of the EP Act on 15 February 2017. The Environmental Scoping Document (ESD) is currently under preparation by the EPA and SIGMC has prepared a corresponding document for consideration by the OEPA.

As a result of discussions, SIGMC provided indicative development envelopes within which the additional disturbance would occur (refer to Figure 1). Subsequent consultation with the

OEPA has identified that the development envelope boundaries proposed and originally provided as part of the Referral documentation would require some changes to show their interconnectivity. As a result of this request from OEPA and to continue to ensure operational flexibility, SIGMC has opted to create one large Development Envelope around the originally proposed envelopes which have now been renamed as 'Indicative Disturbance Areas' in Figure 2 (attached). Further to this, preliminary technical studies undertaken to date have provided greater clarity on the B2018 Project design and potential environmental impacts and have also provided some further clarification around the expected maximum dewatering discharge volumes which are to be reflected in the Key Characteristics Table.

Consequently, SIGMC requests a Change to Proposal under section 43A of the EP Act to reflect these modifications to the proposal originally referred to the EPA. The proposed changes to the Development Envelope and Key Characteristics Table are detailed below. These are compared to those provided in the Referral documentation and assessment of significance and rationale for the change are provided in the following sections.

1. Changes to the Development Envelope

A revised Study Area and Development Envelope figure (Figure 2) along with the original Referral figure (Figure 1) are enclosed with this letter. As shown in the Figure 2, the revised Development Envelope covers a larger, continuous area including all the smaller Indicative Disturbance Areas provided as part of the Referral. As a result of this change the Development Envelope area has increased in size compared to that which was referred. This approach provides greater flexibility for the placement of miscellaneous linear infrastructure such as roads and dewatering discharge structures. Notwithstanding this altered presentation, the original scope of the proposal referred remains the same at up to 5,000 ha of disturbance, consisting of:

- Lake based disturbance up to 200 ha per year over a ten year period with a total maximum disturbance of up to 2,000 ha; and
- Land based disturbance up to 300ha per year over a ten year period with a total maximum disturbance of up to 3,000 ha.

SIGMC does not consider the proposed change to be significant in nature as the proposed disturbance area does not change and the scope of the proposal and total maximum disturbance is consistent with what was originally referred to the EPA. Consequently, the potential environmental impacts originating from the 'revised' B2018 Project are expected to remain the same as in the original Referral. SIGMC will also continue to endeavour to exclude areas with higher environmental values from the mine plan.

2. Change to the Maximum Dewatering Volume

As part of the Project planning stage, SIGMC has undertaken preliminary hydrological investigations over the B2018 Study Area (refer to Figure 1) and over the wider region. A number of scenarios have been and continue to be modelled to better understand the possible B2018 Project impacts of dewatering on Lake Lefroy and the riparian zone.

Comparisons have been made between the current (~7.5 GL) and potential maximum (60 GL) dewatering scenarios, assessing summer and winter rainfall scenarios for 1:20 and 1:100 Average Recurrent Interval (ARI) events. The modelling undertaken has shown that the main impacts of dewatering operations relate to a rise in water levels seen next to the causeway, adjacent to the current operational areas. Due to the large surface area of Lake Lefroy, the impacts of the maximum dewatering discharge (60GL), relative to present day water levels, are insignificant at the positions compared thus far.

As expected, the flood extents resulting from the winter 1:100 rainfall scenario coupled with a 60GL dewatering discharge were the greatest within a number of locations along the fringe of the riparian vegetation areas. However, it was noted that no significant changes in the flood extents were observed between the scenario above and the 1:100 ARI winter scenario. This suggests that the impact of dewatering at and below the maximum 60GL annual dewatering volume is minimal compared to the natural flooding of Lake Lefroy. Consequently, increasing the maximum dewatering volume from 30GL to 40 GL annually to better cater for operational needs is not expected to significantly change the environmental impacts originating from B2018 Project.

Summary

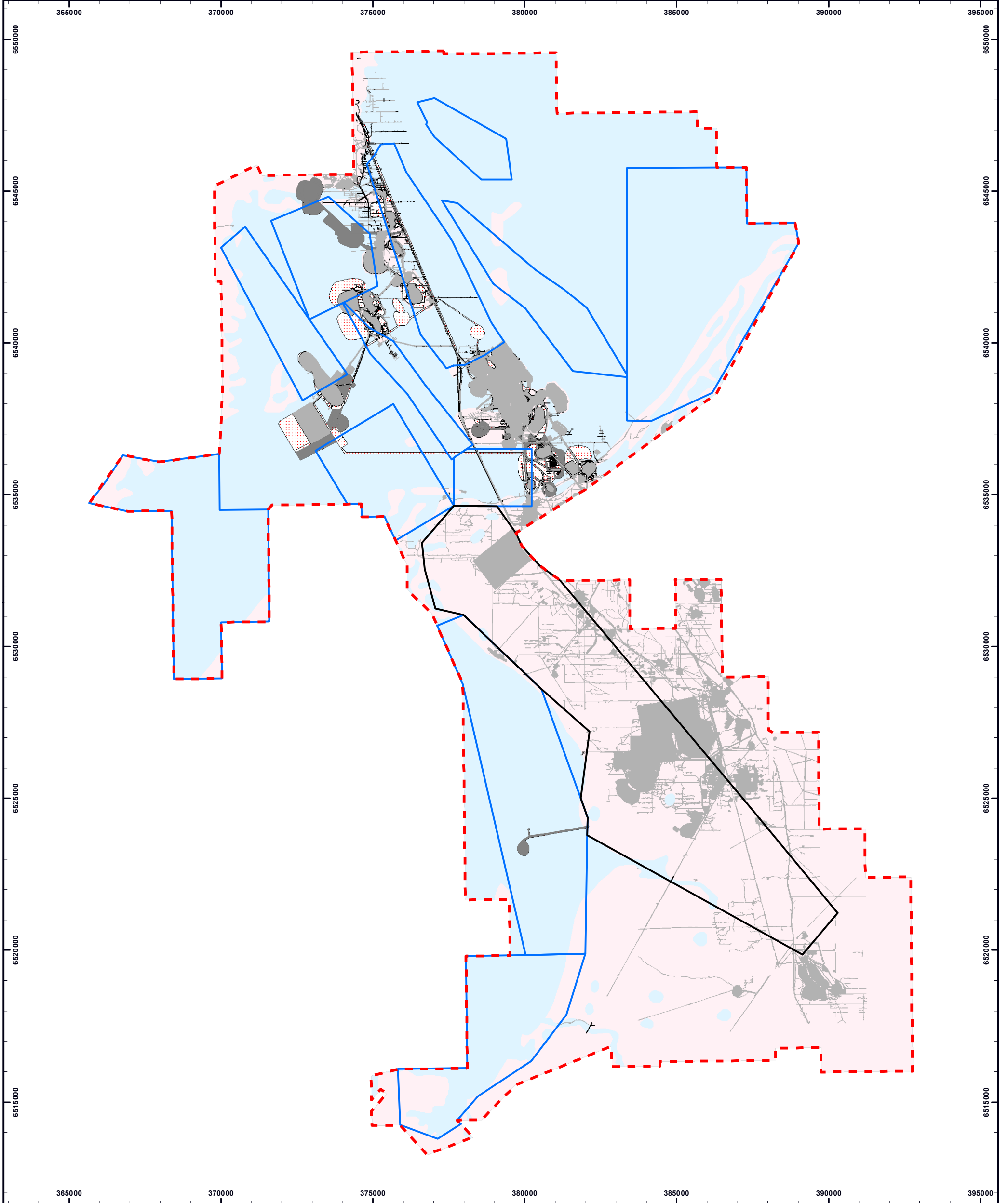
SIGMC trusts that the information in this letter provides an appropriate level of detail in order for the EPA to consider the Change to Proposal pursuant to section 43A of the EP Act. We look forward to working with the OEPA/EPA to progress this project. Should you have any questions or concerns regarding this letter, please do not hesitate to contact the undersigned or Alex Langley (phone: 08 9088 1025, email: alex.langley@goldfields.com).

Yours faithfully

A handwritten signature in black ink, appearing to read 'J. Donald', written in a cursive style.

Jarrad Donald
Superintendent: Environment
St Ives Gold Mine
08 9088 1823
Jarrad.donald@goldfields.com

Encl. Figure 1 Original Development Envelope Approach
 Figure 2 Revised Development Envelope
 Figure 3 Development Envelope and Existing Approved Disturbance



LEGEND

- B2018 Study Area
- Indicative Development Envelope
- Lake-based Operations
- Land-based Operations
- Existing Disturbance
- Beyond 2016 Project Application
- MS879 Footprint
- Surface**
- Lake Lefroy
- Land

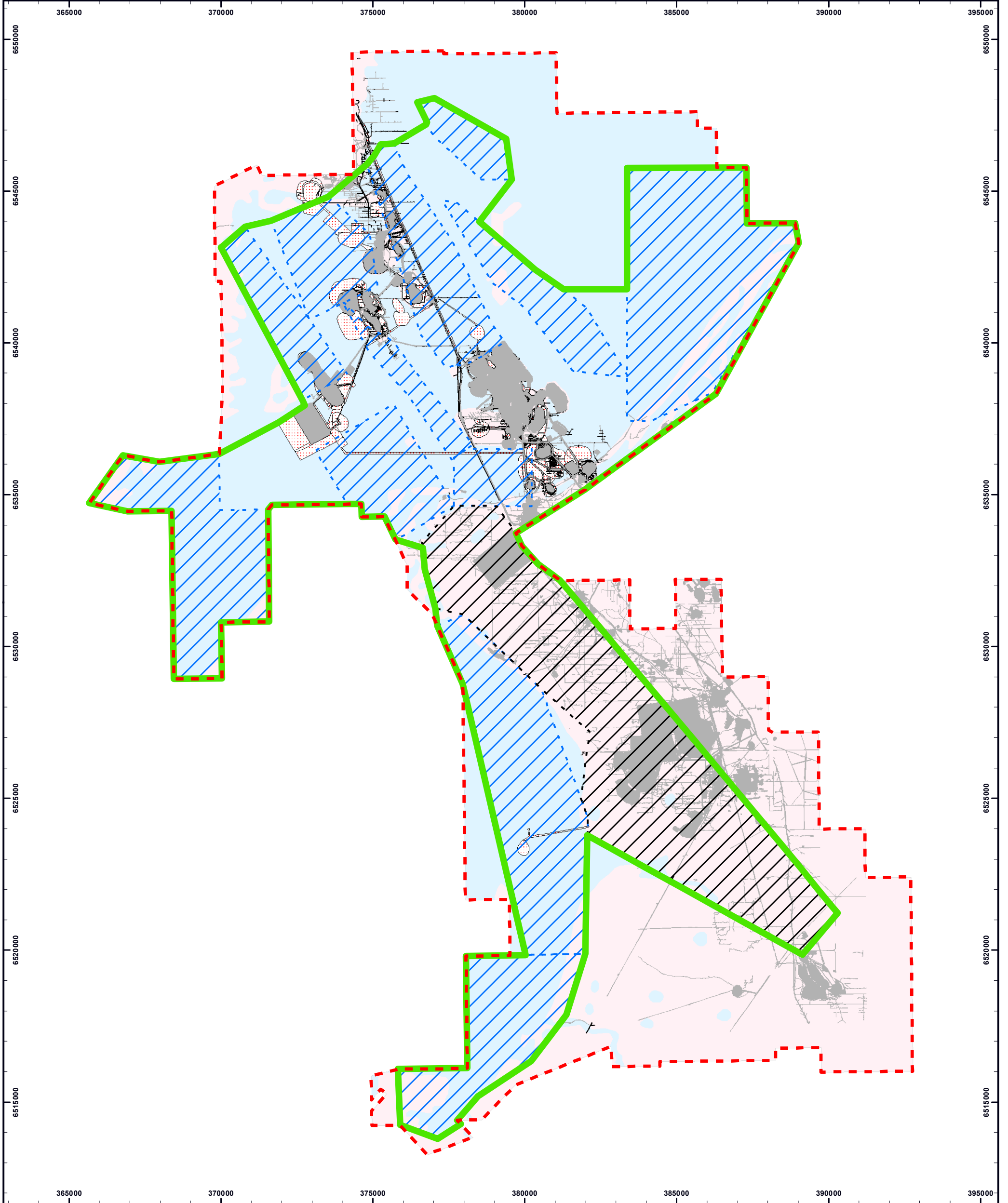
© Talis Consultants Pty Ltd ("Talis") Copyright in the drawings, information and data recorded in this document ("the information") is the property of Talis. This document and the information are solely for the use of the authorised recipient and this document may not be used, transferred or reproduced in whole or part for any purpose other than that which it is supplied by Talis without written consent. Talis makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information.



**B2018 STUDY AREA AND
INDICATIVE DEVELOPMENT ENVELOPES**
St Ives Gold Mine

Scale @ A3: 1:120,000
Coordinate System: GDA 1994 MGA Zone 51, Projection: Transverse Mercator, Datum: GDA 1994

Prepared: H Dalla-Costa	
Reviewed: N King	
Checked: E Vuorenmaa	
Project No: TE16034	
Revision: G	Figure 01
Date: 8/05/2017	



LEGEND

- B2018 Study Area
- Existing Disturbance
- Land
- MS879 Footprint
- Development Envelope

Indicative Disturbance Areas

- Lake-based Operations
- Land-based Operations

Surface

- Lake Lefroy

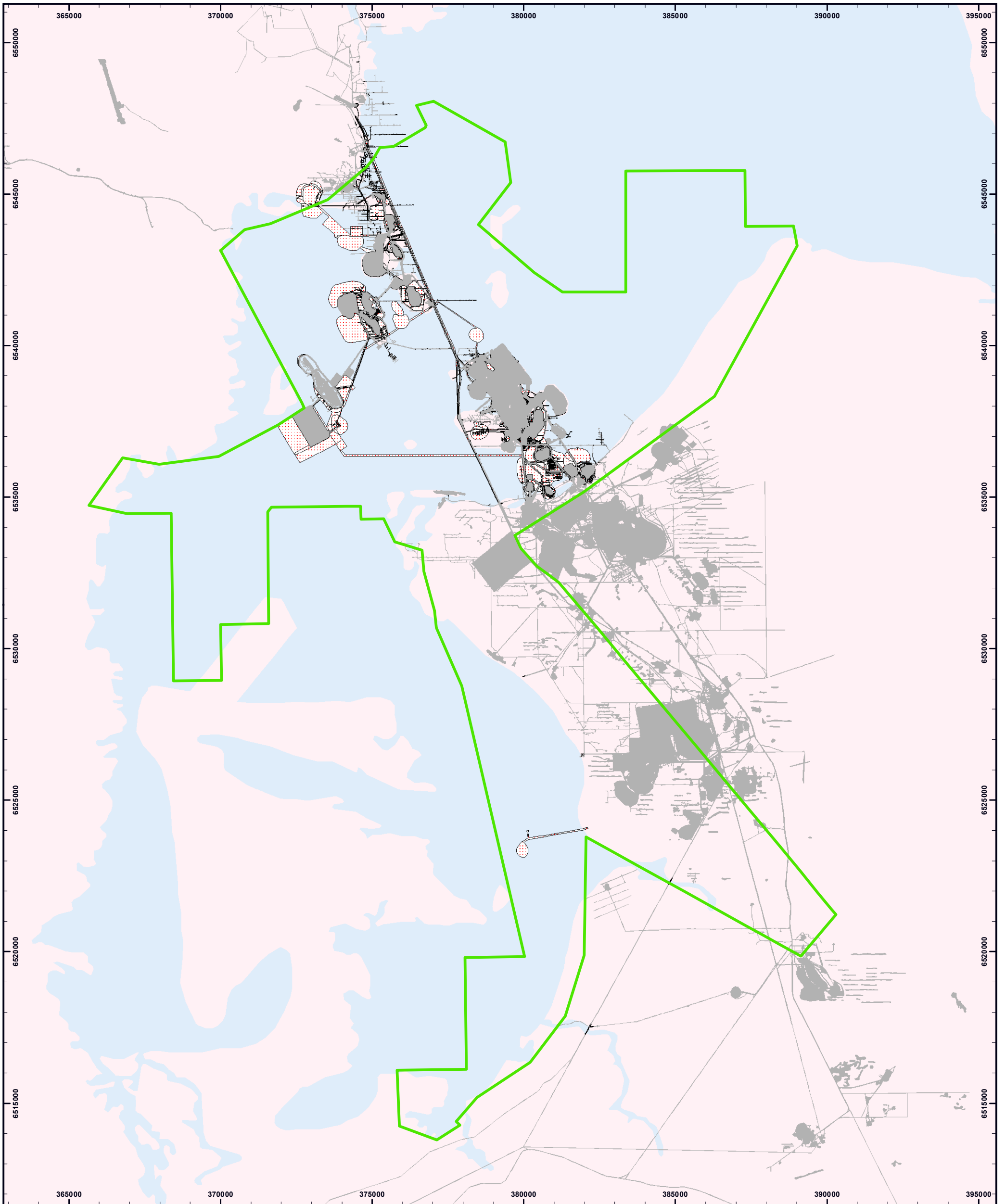


B2018 STUDY AREA AND DEVELOPMENT ENVELOPE
St Ives Gold Mine

Scale @ A3: 1:120,000
Coordinate System: GDA 1994 MGA Zone 51, Projection: Transverse Mercator, Datum: GDA 1994

Prepared: H Dalla-Costa	
Reviewed: N King	
Checked: E Vuorenmaa	
Project No: TE16034	
Revision: B	Figure 02
Date: 8/05/2017	

© Talis Consultants Pty Ltd ("Talis") Copyright in the drawings, information and data recorded in this document ("the information") is the property of Talis. This document and the information are solely for the use of the authorised recipient and this document may not be used, transferred or reproduced in whole or part for any purpose other than that which it is supplied by Talis without written consent. Talis makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information.



LEGEND

- Existing Approved Disturbance
- MS879 Footprint
- Development Envelope
- Lake Lefroy



© Talis Consultants Pty Ltd ("Talis") Copyright in the drawings, information and data recorded in this document ("the information") is the property of Talis. This document and the information are solely for the use of the authorised recipient and this document may not be used, transferred or reproduced in whole or part for any purpose other than that which it is supplied by Talis without written consent. Talis makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information.

LOCALITY

0 150300450600 km

B2018 DEVELOPMENT ENVELOPE AND EXISTING APPROVED DISTURBANCE
St Ives Gold Mine

Scale @ A3: 1:120,000
Coordinate System: GDA 1994 MGA Zone 51, Projection: Transverse Mercator, Datum: GDA 1994

Prepared: F Walker	 
Reviewed: N King	
Checked: E Vuorenmaa	
Project No: TE16034	
Revision: A	Figure 03
Date: 8/05/2017	