INTEGRA UNDERGROUND

GLENCORE

Extraction Surface Water

Assessment

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1 Introduction

1.1 Extraction Plan Area

Integra Underground Mine (Integra Underground) is seeking an Extraction Plan approval for longwall (LW) panels 17 to 20 (the Extraction Plan Area). **Figure 1-1** outlines the extents of the Extraction Plan Area and predicted subsidence envelope.

1.2 Purpose and Scope

The purpose of this Extraction Surface Water Assessment for LWs 17 to 20 (ESWA LW17-20) is to outline the management strategies, controls and monitoring programs to be implemented for the management of surface water regarding potential environmental impacts, as a result from longwall mining within the Extraction Plan Area.

The scope of this ESWA LW17-20 applies to surface water resources potentially impacted as a result of mining within the Extraction Plan Area (**Figure 1-2**).

The appointed team of suitably qualified and experienced experts which included representatives from Engeny Water Management (Engeny) relevant to this plan, were endorsed by the Department of Planning, Industry and Environment (DPIE) on 25 May 2020 (Appendix J of the *Extraction Plan Main Document*).

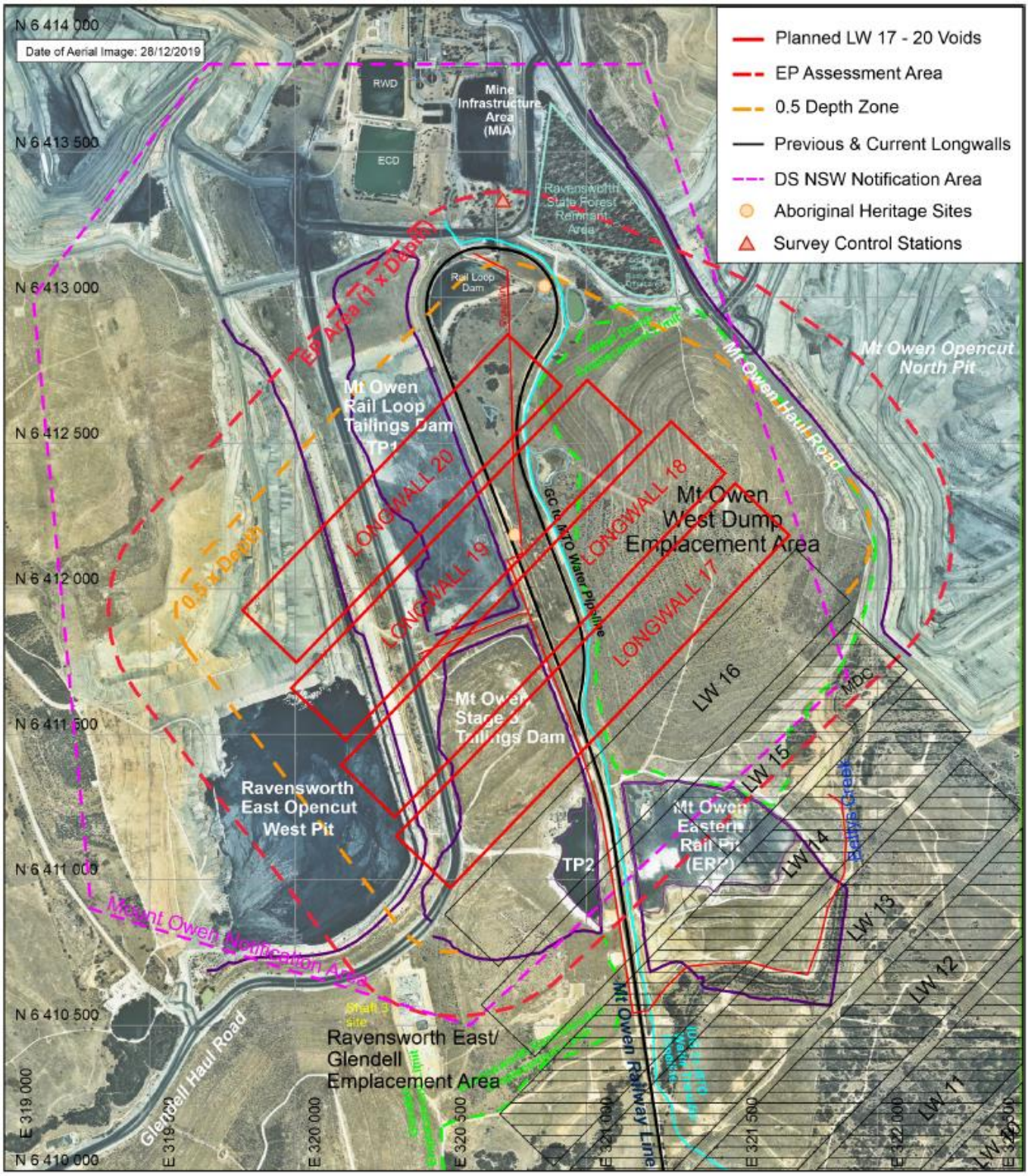


Figure 1-1 – Extraction Plan Area (SCT 2020)

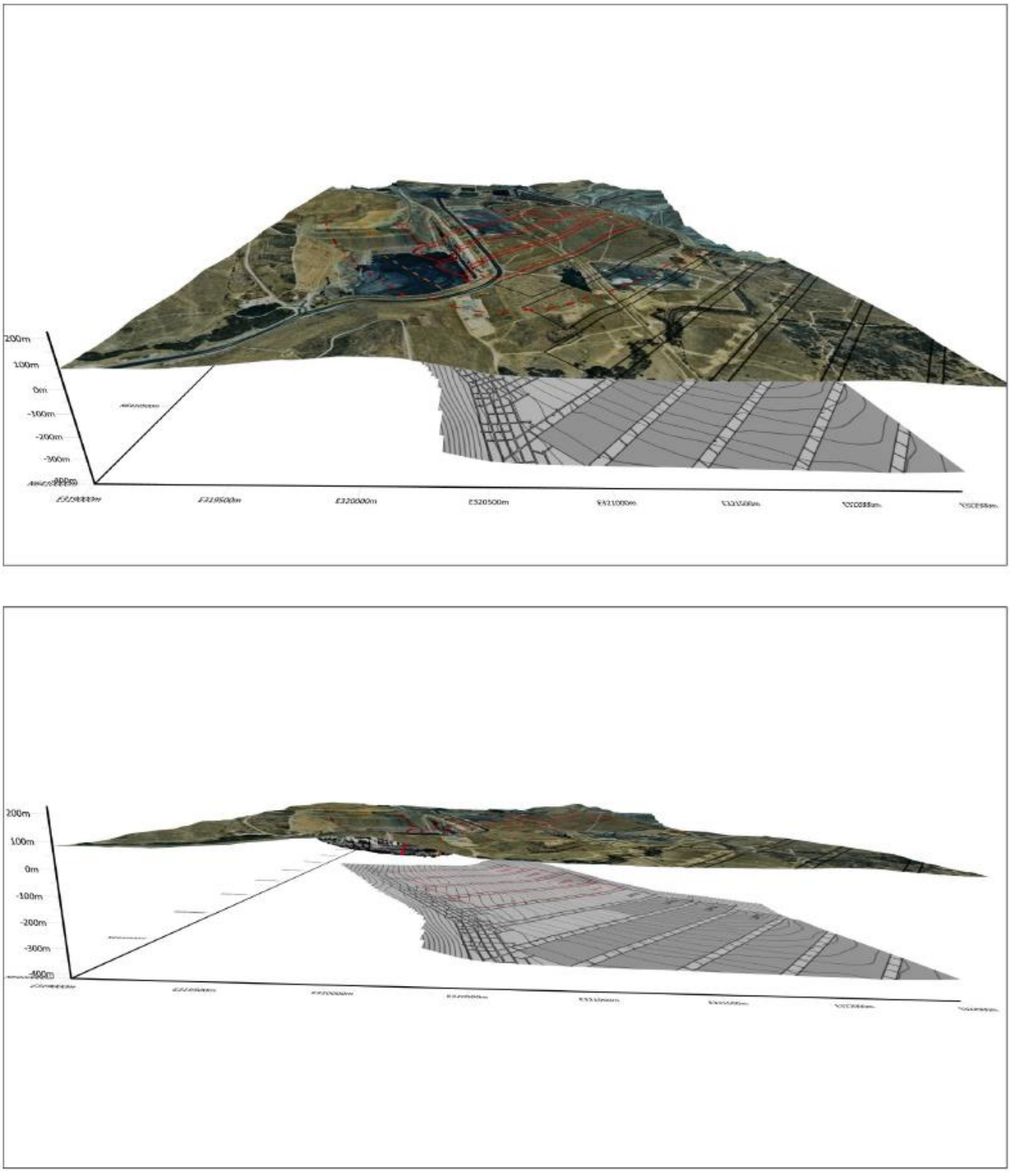


Figure 1-2 – View from 3D Model at Natural Scale (Surface and Middle Liddell Seam) (SCT 2020)

1.3 Description of Watercourses within the Project Area

LWs 17 to 20 are located below an area of the Glencore Mt Owen Complex (MOC) which includes the Glendell, Ravensworth East and Mt Owen open cut mines. Almost all of the area above the planned longwalls has been significantly modified by the MOC surface mining activities. The major surface water features of significance to the mining of LWs 17 to 20 above, or in the vicinity to, the planned longwalls are the drainage systems on the rehabilitated emplacement areas and the Middle Bettys Creek Diversion.

The MOC Water Management System (WMS) catchment covers an area of approximately 24 km^2 and comprises open cut pits, overburden emplacement areas, mine infrastructure and rehabilitated surfaces associated with the approved mining activities at the MOC. Runoff from the MOC WMS catchment is contained and managed in accordance with the approved MOC Water Management Plan. The MOC WMS also forms of the Greater Ravensworth Area Water and Tailings Scheme (GRAWTS).

The dominant land-uses within the receiving surface water catchments are agriculture (grazing) and mining.

1.3.1 Watercourses within the Extraction Plan Area

Surface water features within the Extraction Plan Area include the Middle Bettys Creek diversion and surface water management systems associated with MOC.

The Middle Bettys Creek diversion originates within the Project Approval (PA) 08_0101 Modification (MOD) 8 Underground Extraction Area within the MOC water management system catchment. The Middle Bettys Creek Diversion traverses the MOD 8 Underground Extraction Area for approximately 300 m from north to south (in the area undermined by LW 15. The Middle Bettys Creek Diversion has a low sinuosity and is gently sloping as it traverses the MOD 8 Underground Extraction Area. This reach of the diversion is managed as part of the approved WMS, and is proposed to be modified as part of the approved operations at the MOC and subsequent MOC final landform and mine closure arrangements.

1.4 Structure of the ESWA LW 17-20

This ESWA LW17-20 references key components of the existing approved Water Management Plan (WMP).

The main text sections and attachments of this ESWA LW17-20 are:

Section 1 Introduction, purpose and scope of the ESWA LW17-20 and the document structure.

Section 2 Describes the regulatory requirements, project approval and the subsidence performance measures relevant to this ESWA LW17-20.

Section 3 Summarises the predicted subsidence impacts and environmental consequences resulting from the extraction of LW17-20.

Section 4 Describes the management, monitoring and evaluation measures that will be implemented and how monitoring data will be used to assess the relevant performance indicators and performance measures.

Section 5 Provides a Contingency Plan to manage any unpredicted impacts and their consequences. Provides a Trigger Action Response Plan (TARP) for this ESWA LW17-20 which is a simple and transparent snapshot of the monitoring of environmental performance and where required the implementation of management and/or contingency measures.

Section 6 Provides a summary of the review and improvement process.

Section 7 Outlines the roles and responsibilities.

Section 8 Lists the documents referred to in **Sections 1** to **6**.

2 Regulatory Requirements

2.1 Project Approval

This ESWA LW17-20 is a component of the Integra Underground Extraction Plan for LW17 to 20 and has been prepared specifically to address the surface water component of Schedule 3, Condition 20 of PA 08_0101 which states:

> *20. The Proponent must prepare an Extraction Plan for all second workings on site. This plan must:*
>
> *…*
>
> *(g) include a:*
>
> - Water Management Plan, which has been prepared in consultation with EPA and DoI Water, to manage the potential impacts and consequences of subsidence on surface water and groundwater resources, flooding and existing and proposed creek diversion; and which includes:
> - surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality;
> - a program to monitor and report groundwater inflows to the underground workings;
> - a program to manage and monitor impacts on groundwater bores on privately-owned land;
> - include Trigger Action Response Plans, or equivalent, to address potential subsidence impacts and environmental consequences that may result from mining subsidence;

- include a contingency plan that expressly provides for adaptive management where monitoring indicates that there has been an exceedance of any performance measures in Table10 (see below), or where any such exceedance appears likely; and
- include a program to collect sufficient baseline data for future Extraction Plans.

This ESWA LW17-20 outlines the management strategies, controls and monitoring programs to be implemented for the management of surface water regarding potential environmental impacts from the proposed secondary extraction workings within the Extraction Plan Area as described in the Extraction Plan. Table 10 of PA 08_0101 requires Integra Underground to ensure that the project does not cause any exceedance of the subsidence performance measures **(Section 4.3).** The subsidence performance measures relevant to this SWA are shown in **Table 2-1**.

Table 2-1 – Project Approval 08_0101 Subsidence Performance Measures

Water	
Glennies Creek alluvial aquifer	Negligible impact
Natural watercourses on site	No greater environmental consequences than predicted in the Underground Project Environmental Assessment
Mt Owen Bettys Creek Diversions	No greater than the environmental consequences predicted in the Underground Project Environmental Assessment, unless the owner agrees otherwise in writing
Underground Project Creek Diversions	Remain hydraulically and geomorphologically stable
Other water storages and drainage lines	No greater than the environmental consequences predicted in the Underground Project Environmental Assessment
Biodiversity	
Threatened species, populations, habitat or ecological communities	Negligible impact
Built Features	
All built features (except those fully covered by an operative contractual arrangement with another mine owner or other owner of the relevant built feature)	Safe, serviceable and repairable, unless the owner agrees otherwise in writing, including: • serviceability should be maintained wherever practicable; • loss of serviceability must be fully compensated; and • damage must be fully repaired or replaced, or else compensated
Public Safety	
Public Safety	No additional risk due to mining

This ESWA LW17-20 covers the surface water aspects of the Extraction Plan. The groundwater aspects are covered in the Extraction Plan Groundwater Assessment (Volume 3 of the Extraction Plan)(AGE, 2020).

Table 2-2 identifies where the requirements of PA 08_0101 are addressed in this ESWA LW17-20. There is an approved overarching WMP (September 2019) covering the entire site which has been prepared to satisfy Schedule 3, Condition 31 of the Project Approval. The WMP satisfies the requirement to prepare a WMP for the Extraction Plan (Schedule 3, Condition 20).

Table 2-2 – Project Approval 08_0101 Reference Summary

PA 08_0101 Schedule 3 Condition 20	ESWA for LW17-20 Reference
– surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality;	**Section 4** Refer to Extraction Plan Groundwater Assessment
– a program to monitor and report groundwater inflows to the underground workings;	Refer to Extraction Plan Groundwater Assessment Refer to approved Water Management Plan
– a program to manage and monitor impacts on groundwater bores on privately-owned land;	Refer to Extraction Plan Groundwater Assessment Refer to approved Water Management Plan
• include Trigger Action Response Plans, or equivalent, to address potential subsidence impacts and environmental consequences that may result from mining subsidence;	**Section 5.2**
• include a contingency plan that expressly provides for adaptive management where monitoring indicates that there has been an exceedance of any performance measures in Table10, or where any such exceedance appears likely; and	**Section 5**
• include a program to collect sufficient baseline data for future Extraction Plans.	**Section 4.2**

3 Predicted Subsidence Impacts & Environmental Consequences

The approved subsidence impacts and environmental consequences relating to surface water and groundwater are described in the Project Environmental Assessment (EA) (ERM, 2009) and subsequent modifications to PA 08_0101.

A revised Subsidence Assessment was completed by SCT Operations Pty Ltd (SCT) in May 2020 specifically for the Extraction Plan Area. The Subsidence Assessment concluded that subsidence impacts will be less than or consistent with those described in the MOD 8 Environmental Assessment for LWs 15 to 20.

Section 3.1.1 provides a summary of approved subsidence impacts from the MOD 8 Environmental Assessment and subsequent modifications describing Bettys Creek and ephemeral flow lines within the Project Area, relevant to this ESWA LW17-20.

Section 3.1.2 provides a summary from the revised Subsidence Assessment by SCT (May 2020) describing Bettys Creek and ephemeral flow lines within the Extraction Plan Area.

Figure 3-1 shows an overview of key storages and watercourses within the Extraction Plan Area.

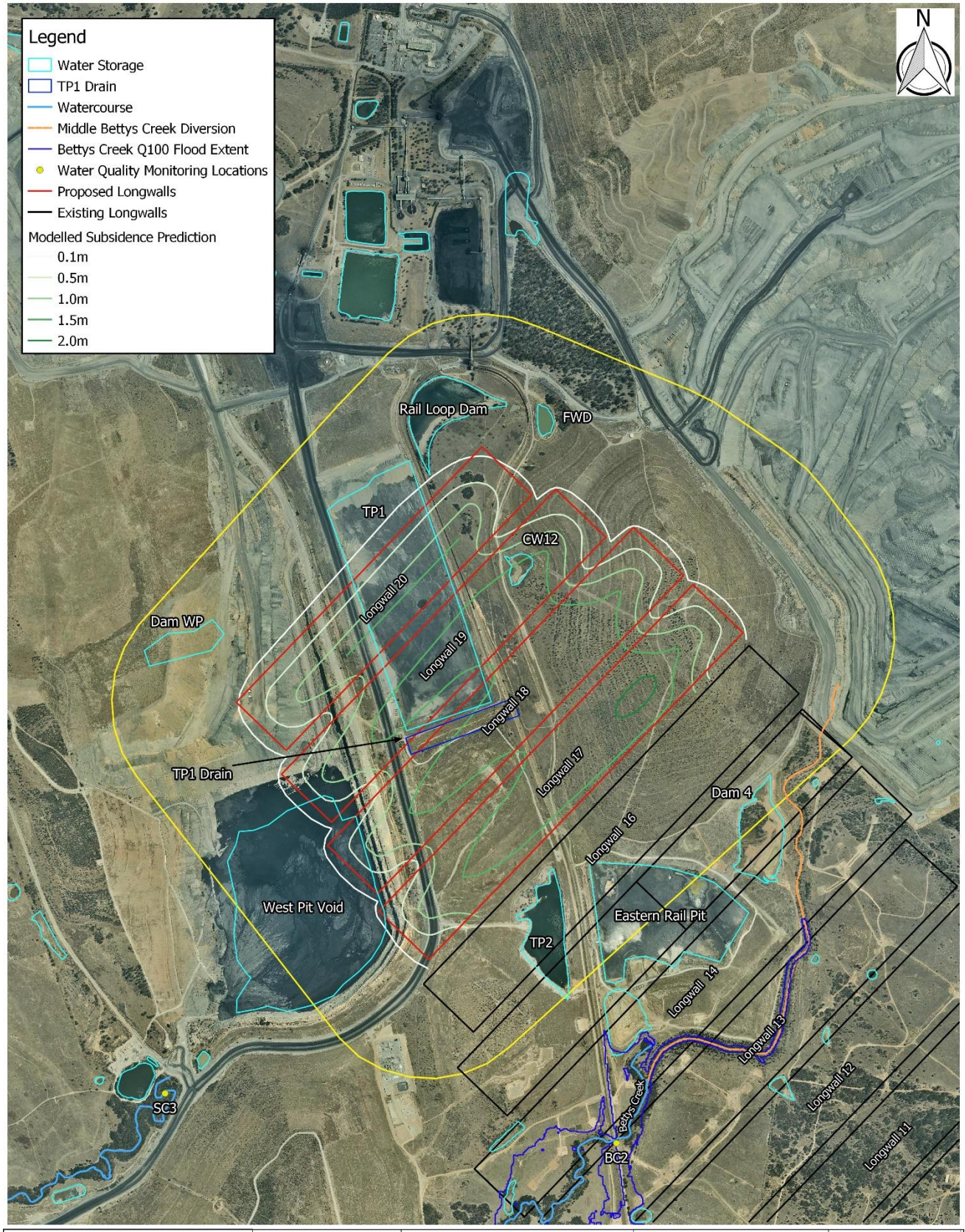
3.1 Surface Water

3.1.1 Approved Subsidence Impacts and Environmental Consequences

The Environmental Assessment for the Proposed Integra Underground Coal Project (ERM, 2009) describes the impacts from subsidence to surface water features, in relation to Bettys Creek as follows:

> "The mine subsidence impacts on Bettys Creek, including the Mt Owen Diversions of Bettys Creek and its first order streams are summarised as follows:
>
> - *The bed slope of the Mt Owen diversion of Bettys Creek will increase from 0.25% to 0.95% as it drains into the mine subsidence zone. The increase in bed slope could potentially increase bed erosion at this location.*
> - *The middle reach of Bettys Creek along the Mt Owen Diversion downstream of this bed slope change is generally unaffected by the mine subsidence.*
> - *In the lower reach, immediately downstream of the rail, the differential settlement will create a negative slope within the Bettys Creek channel causing water to pond. The ponded water will break out of the Bettys Creek channel and flow south, abandoning a section of the existing Bettys Creek channel.*
> - *Water will pond on the eastern over bank area about 1 km to the south of this due to local catchment runoff and overflows from Bettys Creek.*
> - *The first order watercourses of Bettys Creek that cross the mine subsidence zone are generally unaffected.*
>
> *Without appropriate mitigation measures in place, mine subsidence is likely to create a major channel avulsion along the toe of the subsidence zone along this reach."*

The outcomes of the subsequent Surface Water Impact Assessment for MOD 8 (Hansen Bailey, 2017) associated with the mining of LW17-20 were consistent with the findings of the Environmental Assessment (EMR, 2009).



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300 0 300 m
Scale in metres (1:12,000 @ A3)
Map Projection: Tranverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 56

Integra Underground - Extraction Surface Water Asessment
Figure 3
Engeny does not give any warranty nor accept any liability in relation to the completeness or accuracy of the maps, which may be inherently reliant upon the completeness and accuracy of the input data and the agreed scope of works.

Job Number: N1000_060
Revision: 1
Drawn: MB
Checked: SS
Date: 20 /7 /2020

Figure 3-1 – Overview of WMS Features within the Extraction Plan Area

3.1.1.1 Bettys Creek (including diversion)

A portion of the middle Bettys Creek Diversion (approximately 330 m) falls within a distance equal to the overburden depth around the proposed mining voids (i.e. a 45° angle of draw) but is outside the half depth zone (26.5° angle of draw). The SCT Subsidence Assessment (May, 2020) notes that no significant impacts are expected to occur outside the half depth zone.

The bed of the Middle Bettys Creek Diversion was predicted to be lowered by undermining from LW13 to 15. This was expected to result in a shallow depression within the channel of up to approximately 1 m deep and 400 m long. The previous assessment concluded that this section of the diversion would likely be removed and/or substantially modified as part of the approved operations at MOC (resulting from final landform and mine closure arrangements).

The previous assessment also concluded that the impacts would likely be short term due to the likely infilling of these depressions during flow events. As such it was concluded that the predicted subsidence would be expected to have limited or no regional impact on geomorphic processes in Bettys Creek and that impacts would be short term and limited to a local scale.

3.1.1.2 Bettys Creek Floodplain

There are no significant areas of the Bettys Creek Floodplain within the Extraction Plan Area.

3.1.1.3 Cumulative Impacts

The predicted subsidence was considered unlikely to generate additional cumulative impacts within the MOC or the IUG areas due to the minor influence of subsidence from MOD 8 on surface drainage at a catchment scale.

3.1.2 Revised Subsidence Impacts and Environmental Consequences

The revised subsidence impacts and environmental consequences are addressed in the Subsidence Assessment for the LW17-20 Extraction Plan (SCT, 2020) which states:

> *"Estimates of conventional subsidence effects for the Longwalls 17-20 EP are consistent with or less than the maximum values forecast in the IUG Project MOD8 EA for the 257m wide longwalls.*

The following sections of the Subsidence Assessment are relevant to this SWIA:

Section 5.4.6:

> *"The lowest point in the rail loop is on the western incoming track adjacent to the northern edge of the filled section of TP2 near the southern end of TP1. This point is above Longwall 18 and is expected to be lowered by up to 1.8m at the completion of mining Longwalls 18–20. This change in reduced level may affect drainage to the west and around the rim of the West Pit to the dam above the southern western corner of this pit. If a suitable gradient cannot be re-established, pumping equipment in conjunction with the adjacent TP1 and TP2 installations may need to be installed at the low point to avoid temporary ponding."*

Section 5.4.12:

> *"The subsidence effects from the planned mining are not expected to have any practical or significant impacts to the tailings, capping or any exposed highwall edges and pit surrounds. Similarly, TP1 is not expected to have any practical impacts or pose an inrush risk to the mining of Longwalls 17-20."*

Section 5.4.13:

> *"The forecast subsidence movements are likely to result in further settlement of the fill material and expected to induce cracking particularly at the top of the filled areas and steeper sections of fill material. Impacts in the form of cracks, steps and potholes may form along the interface between fill material and natural ground surface around the buried perimeter of the pit*

(highwalls). The additional settlement and impacts are generally not expected to have any significant consequence other than the potential impacts to the Glendell haul road."

An impact assessment was undertaken by Engeny to consider the potential effects of subsidence on the grade of the TP1 drain. This assessment found that the grade for the drain will potentially be reduced by between 0.09% and 0.18% with the downstream section of the drain being more greatly affected than the upstream. It should be noted that, with the direction of mining of LW 19 proceeding generally from North East to South West the upstream section of the TP1 drain will be affected by subsidence prior to the downstream section. Therefore, there is potential for the subsidence impacts on the drain to be initially greater than the ultimate impact and should be monitored during the progress of the mining of the longwalls in this area.

4 Management, Monitoring & Evaluation

4.1 Subsidence Management Measures

4.1.1 Surface Water

Management measures of potential subsidence related impacts on drainage lines are provided in Section 2.2 of the WMP. The WMP provides details of surface water management measures and responses as a result of subsidence related impacts.

Section 3.6 of the *Extraction Plan Main Document* also describes the rehabilitation management strategies to be implemented for the management of subsidence induced impacts on surface features from the proposed secondary extraction workings as described in the Extraction Plan within the Extraction Plan Area.

4.2 Subsidence Monitoring and Evaluation

4.2.1 Surface Water Monitoring Program

The components of the surface water monitoring program for the Extraction Plan Area include monitoring of:

- Surface water quality
- Channel stability
- Ponding
- Erosion
- Riparian vegetation
- Dams

The complete description of surface water monitoring locations, frequency and parameters measures for each of these components of the monitoring program are provided in the WMP.

4.2.2 Surface Water Monitoring Program within Extraction Plan Area

The surface water program is provided in **Table 4-1**. The location of identified monitoring points can be found in **Figure 3-1.**

Table 4-1 – Surface Water Monitoring within the Extraction Plan Area

Surface Water Monitoring	Site	Parameter	Frequency
Surface Water Quality Monitoring	BC2, BC3	As per WMP Section 5.3	Monthly
Channel Stability Monitoring	Middle Bettys Creek Diversion	As per WMP Section 5.3	Minor monitoring – triggered by bankfull flow events. Major Monitoring – Annually and following completion of each LW panel.
Ponding Monitoring	Middle Bettys Creek Diversion	As per WMP Section 5.3	Minor monitoring – triggered by bankfull flow events.

Surface Water Monitoring	Site	Parameter	Frequency
			Major Monitoring – Annually and following completion of each LW panel.
Erosion Monitoring	Mt Owen Complex WMS	Subsidence impacts	Weekly during active subsidence.
Riparian Vegetation Monitoring	Middle Bettys Creek Diversion	As per WMP Section 5.3	Minor monitoring – triggered by bankfull flow events. Major Monitoring – Annually and following completion of each LW panel.
WMS Drain Monitoring	TP1 drain	As per WMP Section 5.3	Monthly.
Dam Monitoring	Eastern Rail Pit Tailings Storage, TP2 Water Storage, Dam 4, TP1, West Pit Void, Dam WP, CW 12, Rail Loop Dam, FWD	Dam integrity due to subsidence impacts	Monthly, during active subsidence

4.3 Assessment of Subsidence Performance Measures

The subsidence impact performance measures listed in Table 10 of PA 08_0101 relevant to water are provided in **Table 4-2** and define the criteria for which the performance measures will be assessed.

Table 4-2 – Performance Measures and Performance Indicators

Aspect	Subsidence Performance Measures	Performance Indicators
Natural watercourses on site	No greater environmental consequences than predicted in the Underground Project Environmental Assessment	No deterioration in channel stability as a result of subsidence Measured surface water quality is within the triggers (and investigation process) presented in Table 7-3 of the WMP
Mt Owen Bettys Creek Diversions	No greater than the environmental consequences predicted in the Underground Project Environmental Assessment, unless the owner agrees otherwise in writing	No deterioration in channel stability as a result of subsidence No ponding as a result of subsidence No significant weed growth or vegetation death
Underground Project Creek Diversions	Remain hydraulically and geomorphologically stable	No deterioration in channel stability as a result of subsidence
Other water storages and drainage lines	No greater than the environmental consequences predicted in the Underground Project Environmental Assessment	No deterioration in dam integrity as a result of subsidence
Aquatic and riparian ecosystems	Maintain or improve baseline channel stability	No deterioration in channel stability as a result of subsidence

Table 4-3 provides a summary of the analysis of the monitoring data that will be undertaken to evaluate the potential impacts using the performance indicators.

Table 4-3 – Monitoring of Environmental Consequences against Performance Indicators and Measures

Performance Measure	Monitoring of Environmental Consequence			Data Analysis to Assess against Performance Indicator(s)	Performance Indicator(s)	Assessment of Performance Indicator(s)	Assessment of Performance Measure	Relevant Management and Contingency Measure Site
	Site	Parameter	Frequency					
No greater environmental consequences than predicted in the Underground Project Environmental Assessment	Eastern Rail Pit Tailings Storage, TP2 Water Storage, Dam 4, TP1, West Pit Void, Dam WP, CW 12, Rail Loop Dam, FWD	Dam Monitoring	In accordance with Table 4	Dam integrity and storage capacity	No deterioration in dam integrity or storage capacity as a result of subsidence	Performance indicators will be considered to have been triggered if monitoring results identify changes in dam integrity or storage capacity due to subsidence.	The performance measure is exceeded if the assessment of performance indicators indicates that the exceedance is due to subsidence related impacts.	If the assessment of performance indicators determines an exceedance of the performance measures is due to subsidence related impacts as a result of mining within the Extraction Plan Area, the Contingency Plan would include: Implementation of actions as per Table 5.1 of the WMP
	WMS Drain	Channel Stability		Monitoring to identify from subsidence	No deterioration in channel stability as a result of subsidence	Performance indicators will be considered to have been triggered if monitoring results from the channel stability monitoring programs identify a deteriorating trend in channel stability due to subsidence. The assessment of the performance indicators will consider other factors that might influence stream stability such as rainfall events and natural processes etc. in considering whether the exceedance is subsidence related.		
No greater than the environmental consequences predicted in the Underground Project Environmental Assessment, unless the	Middle Bettys Creek Diversion	Channel Stability		Monitoring to identify natural erosion and erosion from subsidence	No deterioration in channel stability as a result of subsidence	Performance indicators will be considered to have been triggered if monitoring results from the channel stability monitoring programs identify a deteriorating trend in channel stability due to subsidence. The assessment of the performance indicators will consider other factors that might influence stream stability such as rainfall events and natural processes etc. in considering whether the exceedance is subsidence related.		

Performance Measure	Monitoring of Environmental Consequence			Data Analysis to Assess against Performance Indicator(s)	Performance Indicator(s)	Assessment of Performance Indicator(s)	Assessment of Performance Measure	Relevant Management and Contingency Measure Site
	Site	Parameter	Frequency					
owner agrees otherwise in writing		Ponding		Monitoring to identify progression of erosion headcuts or evidence of channel degradation downstream of ponded area	No ponding as a result of subsidence	Performance indicators will be considered to have been triggered if monitoring results from the ponding monitoring program progression of erosion headcuts or degradation of channel downstream of ponded area due to subsidence.		
		Riparian Vegetation Monitoring		Increase in weed growth or evidence of significant death of established vegetation following subsidence	No weed growth or significant vegetation death	Performance indicators will be considered to have been triggered if riparian vegetation monitoring results indicate increase in weed growth or significant death of established vegetation due to subsidence.		
Remain hydraulically and geomorphologically stable	Middle Bettys Creek Diversion	Channel Stability		Monitoring to identify natural erosion and erosion from subsidence	No deterioration in channel stability as a result of subsidence	Performance indicators will be considered to have been triggered if monitoring results from the channel stability monitoring programs identify a deteriorating trend in channel stability due to subsidence. The assessment of the performance indicators will consider other factors that might influence stream stability such as rainfall events and natural processes etc. in considering whether the exceedance is subsidence related.		
Maintain or improve baseline channel stability	Middle Bettys Creek Diversion	Channel Stability				Performance indicators will be considered to have been triggered if monitoring results from the channel stability monitoring programs identify a deteriorating trend in channel stability due to subsidence. The assessment of the performance indicators will consider other factors that might influence stream stability such as rainfall events and natural processes etc. in considering whether the exceedance is subsidence related.		

5 Contingency Plan

5.1 Adaptive Management

In the event the subsidence performance measures for water as summarised in **Table 4-2** are considered to have been exceeded, response and management will be undertaken in accordance with protocols for incident reporting as identified in Section 8.1 of the *Extraction Plan Main Document* and Section 9.1 of the *Water Management Plan*.

Section 9 of the *Water Management Plan* describes the process for handling and investigating unforeseen impacts, including allocation of responsibility, external and internal reporting requirements, and initiating and completing corrective and preventative actions.

5.2 Trigger Action Response Plan

Trigger action response plans or TARPs identify appropriate response measures for unpredicted subsidence impacts on surface water are outlined in Section 5.3.4 and Section 9 of the *Water Management Plan*.

Table 5-1 displays how the various predicted subsidence impacts, monitoring components, performance measures and responsibilities are structured to achieve compliance with the relevant statutory requirements and the framework for management and contingency actions.

6 Review and Improvement

Ongoing monitoring and review on the performance and implementation of this ESWA LW 17-20 will be undertaken in accordance with Section 8 of the Extraction Plan and Section 13 of the *Water Management Plan*. Any changes made to this ESWA LW 17-20 will be made in consultation with DPIE. A copy of the revised management plan will be submitted to the Secretary of the DPIE for approval.

Table 6-1 outlines the different sections of these documents which relate to ongoing review and improvement.

Table 6-1 – Review and Improvement

Item	Reference
Community complaints	Section 7. 3 of the Extraction Plan for LW17-20
Incident Reporting Requirements	Section 8.1 of the Extraction Plan for LW17-20
Review of extraction plan and this sub plan	Section 8.2 of the Extraction Plan for LW17-20
Health and safety reporting	Section 7.1.4 of the Extraction Plan for LW17-20

Table 6-2 – Trigger Action Response Plan

Normal State	*No deterioration as a result of subsidence* *Continue monitoring in accordance with Section 4.2 of this ESWMP.* *Continue monitoring in accordance with the Subsidence Monitoring Program (refer to Extraction Plan). (Environment and Community Manager)*

Trigger Action Response Plan	**Level 1 Trigger – Alert / Investigate**	**Level 2 Trigger – High Alert / Rectify**
	Deterioration in channel stability OR Deterioration in surface water quality relative to upstream reference site OR Ponding in diversion channel OR Weed growth or significant vegetation death OR Deterioration in dam integrity or storage capacity	If investigations identify the cause of performance measures exceedances are related to mining activities.

Persons affected	**Action / Response**	**Action / Response**
Environment and Community Manager	Continue monitoring in accordance with ***Section 4.2*** of this ESWMP. Continue monitoring in accordance with the Subsidence Monitoring.	Implementation of management actions in Table 5.1 and Section 9 of WMP. Implement Contingency Plan. Review monitoring methodology and frequency in accordance with Contingency Plan. Review this ESWA.
Integra Underground Technical Services Manager	Continue monitoring in accordance with the Subsidence Monitoring. Implementation of management actions in Table 5.1 and Section 9 of WMP.	Implement Contingency Plan. Review monitoring methodology and frequency in accordance with Contingency Plan.

7 Document Information

Relevant legislation, standards and other reference information must be regularly reviewed and monitored for updates and should be included in the site management system. Related documents and reference information in this section provides the linkage and source to develop and maintain site compliance information.

7.1 Related Documents

Related documents, listed in **Table 7-1** below, are *documents* directly related to or referenced from within this document. Other related documents are provided in Section 9.1 of the *Extraction Plan Main Document*.

Table 7-1 – Change information

Number	Title
INTUG-793190785-3013	Extraction Plan LW 17-20

7.2 Reference Information

Reference documents are provided in Section 9.2 of the *Extraction Plan Main Document*.

7.3 Change Information

Full details of the document history are recorded in the document control register, by version. A summary of the current change is provided in **Table 7-2**.

Table 7-2 – Change information

Version	Date	Change Summary
1.0	August 2020	New document Prepared by Engeny Water Management Reviewed by Integra Underground, SLR and MTO