Table 22 – Development Consent Conditions

Development Consent Conditions		
Condition No.	**Condition**	**Comments**
3.9	The Applicant shall design underground mining operations to ensure no direct hydraulic connection between the Bowmans Creek alluvium and the underground workings can occur through subsidence cracking. In order to achieve this criteria the Applicant shall assess levels of uncertainty in all subsidence predictions, and provide adequate contingency in underground mine design to ensure sufficient sound rock is maintained to provide an aquaclude between the Bowmans Creek alluvium, and the underground mine goaf.	Extensive investigations and consultation with relevant government agencies have been conducted to ensure the proposed mine plan meets this condition. Further details are provided in **Vol. 1 Appendices B, F,** and **G**.
3.10	The Applicant shall make every reasonable effort to ensure that any member of the public entering an area affected by subsidence in the mining area is made aware of any danger caused by the surface subsidence, including impacts on roads.	All anticipated subsidence is contained within private property. Signage at both Ashton & Macquarie Generation property entrances is proposed to warn of safety issues. Refer the Public Safety Management Plan **Vol. 2 Appendix H**.
3.11	The Applicant shall monitor and remediate any mine subsidence related impact including cracking, slumping, and erosion and provide stabilising structures in any areas that have significant risk of destabilisation occurring as a result of longwall panel mining, in accordance with DIPNR guidelines, to the satisfaction of DIPNR and in consultation with DECC and DPI - Fisheries.	Subsidence monitoring is being undertaken and will continue to be undertaken at Ashton Coal Mine.
3.12	The Applicant shall maintain an access road from the New England Highway to property No. 130 (refer EIS Volume 3, Figure 3.13). Any realignment of the existing access road shall be designed and constructed by the Applicant in consultation with the owner of property No. 130, Council, DPI - Minerals, the local Aboriginal community, and DEC, and to the satisfaction of the Director-General. The Applicant shall submit design and plans for any realignment to the Director-General for approval one month prior to commencement of construction of the realignment. The Applicant shall have prepared and registered by the Land Titles Office a right of way over any realignment of the access road in favour of the landowner of property No. 130. The Applicant shall be responsible for rehabilitation and revegetation of any disused sections of the access road after realignment.	This is being addressed as part of the Roads SMP. Refer to **Vol. 2 Appendix B**.
3.15	The Applicant shall monitor the condition of watercourses above longwall panels in the mining area, during mining and continue monitoring until completion of post mining rehabilitation to the satisfaction of DPI - Fisheries, to identify any impacts on aquatic habitats or fish passage, and implement appropriate actions if and when adverse impacts occur.	Monitoring includes aquatic ecology surveys, ground survey and riparian assessments. Refer to **Vol. 2**.
3.16	No tunnelling or mining shall occur directly underneath the piers or abutments of Bowmans Creek Bridge. The RTA must approve access tunnel layouts in the vicinity of the Bridge.	Consultation with RTA has been undertaken and is ongoing. SMP for the New England Highway has also been prepared. Refer to **Vol. 2 Appendix C**.

Development Consent Conditions		
Condition No.	**Condition**	**Comments**
3.17	The angle of draw for the mine subsidence after removal of the coal is to be kept outside of the New England Highway Road Reserve	Northern end of LW/MW 5 - 9 is well set back from the road reserve boundary and the road reserve is outside the Angle of Draw.
3.18	The Applicant shall prepare and implement a Subsidence Environmental Management Plan (SEMP) to detail an environmental management framework, practices and procedures to be followed during longwall mining activity at the mine. This Plan shall include, but not necessarily be limited to: (a) demonstration of consistency with commitments made in documents listed in condition 1.2 and compliance with the conditions of this consent; (b) detailed description of the proposed underground mining operations, the existing surface and underground environment, and predicted subsidence impacts on the following: i. surface topography; ii. geological integrity; iii. surface water hydrology and erosion; iv. groundwater systems; v. Aboriginal cultural heritage; vi. terrestrial and aquatic ecosystems; vii. land capability and agricultural suitability; and, viii. any surface improvements, including roads, dams, transmission lines, pipelines, cables, fences, water gauging stations, and buildings; (c) a detailed remediation strategy to remediate potential impacts identified in subclause b); (d) consideration of the cumulative impacts of subsidence due to multiple seam extraction; (e) identification of all statutory and other obligations that the Applicant is required to fulfil in relation to management of subsidence, including all consents, licences, approvals and consultations; (f) a description of the roles and responsibilities for all relevant employees involved in the management of subsidence; (g) environmental policies and principles to be applied to the management of subsidence; (h) standards and performance measures to be applied to subsidence management, and a	Department of Planning have consent to the integration of the SEMP and SMP process. Compliance with the development consent with regard to subsidence management is demonstrated in this table. This report contains a detailed description of the existing surface and underground environment as required by (b) and the predicted subsidence impacts associated with LW/MW 5 – 9. Remediation strategies for the subsidence impacts to surface and subsurface features identified and are summarised in the SMP and detailed in the relevant specific SMPs. Refer to **Section 4.9**. Refer to **Section 5.0**. Responsibilities clearly defined within the **SMP Vol.2.** Detailed in SMP **Vol.2** and Ashton EMS. Detailed in SMP **Vol.2** and Ashton EMS.

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Condition No.	**Condition**	**Comments**
	means by which environmental performance can be periodically reviewed and improved; (i) management practices and procedures to ensure that environmental performance goals are met and to comply with the conditions of this consent; (j) detail actions to be taken in the event of an emergency leading to adverse environmental impacts; (k) a remediation strategy to address any identified damage to Bowmans Creek occurring through mining-induced subsidence. Any remediation strategy would involve works that would require approvals to be granted by DIPNR for implementation, and therefore must be submitted to DIPNR for approval. The remediation strategy is to include the following provisions: i. Identification of approval requirements for implementation of any works required; ii. Reporting of options to address degradation or obstruction to fish passage through the affected reach; iii. Vegetation re-establishment in affected areas of the creek banks, breakout points and submerged areas of the creek; iv. Locations for installation of any artificial bed controls which may be required to arrest actual or potential erosion along the affected reach; v. Timeframes to achieve remediation of each zone of degradation in the channel and sign off point for the entire affected corridor of creek affected by mining-induced subsidence; vi. Identification of Aboriginal heritage values an measures to minimise impacts on these values; vii. Rehabilitation works, particularly re-snagging in consultation with DPI -Fisheries and the Upper Hunter River Rehabilitation Initiative (managed by Macquarie University and DIPNR); viii. provision of compensatory habitat for subsidence impacts; (l) provision for forwarding the position of weekly workings to the RTA when underground mining occurs within 200 metres of the New England Highway road reserve; (m) m) specific consideration of measures to address any requirements of DEC, DIPNR, DPI - Fisheries, DPI - Minerals, MSB, DPI - Agriculture, RTA, and the Council; (n) results of consultation with the CCC, the local Aboriginal community, and affected landholders; and (o) the environmental monitoring requirements outlined under conditions 3.19-3.22 of this consent. The Applicant shall submit the SEMP for the approval of the Director- General at least one month	Detailed in SMP **Vol.2** and Ashton EMS. Detailed in SMP **Vol.2**, and Ashton EMS. Would be developed on a case by case basis depending on the nature, cuase, and extent of impact. Trigger Action Response Plans have been developed using groundwater, surface water, and aquatic health indicators to note early warning signs and provide the protocols by which increased monitoring, investigation or remediation should be carried out. Refer to the detail provided in SMP **Vol.2**. New England Highway SMP is being updated in consultation with RTA . Refer to **Section 7.0** – preparation of this SMP included extensive consultation with government and community stakeholders. Note: Combination of SEMP and SMP

Development Consent Conditions		
Condition No.	**Condition**	**Comments**
	prior to the submission of an application for secondary workings (longwall mining) under Section 138 of the Coal Mines Regulation Act 1982, or in such period otherwise agreed by the Director-General. An application for secondary workings (longwall mining) under section 138 of the Coal Mines Regulation Act 1982 shall not be made until written approval has been received from the Director-General. Upon receipt of the Director-General's approval, the Applicant shall supply a copy of the SEMP to Council, DEC, RTA, DPI - Fisheries, and DIPNR within 7 days. The Applicant shall make the SEMP available for public inspection on request.	requirements. Approval for this document under Condition 3.18 is being sought concurrently to SMP Approval.
3.19	The Applicant shall undertake a detailed and ongoing monitoring program of subsidence resulting from mining to the satisfaction of the Director-General and the DPI - Minerals and in consultation with DIPNR, DEC, DPI - Fisheries and according to the recommendations of any independent expert review [refer to Conditions 8.3- 8.7]. The monitoring program shall extend from commencement of construction throughout the life of the mine and for a period of at least five years after the completion of mining, or other such period as determined by the Director-General in consultation with DIPNR, DEC, DPI - Fisheries and DPI - Minerals. Monitoring shall be supported by visual as well as technical records. Monitoring shall include, but not be limited to, the following: (a) monitoring of all relevant subsidence parameters including vertical subsidence and ground strain; (b) results of detailed inspections of underground workings and coal seams noting any changes in roof or floor conditions, or any water inflows which may indicate the presence of geological features such as faults, dykes or joints; (c) records of surface geological mapping or subsurface investigation which may indicate the presence of geological structures, and assessment of any possible correlation between surface features and features in underground workings at seam level; (d) monitoring of the propagation and extent of subsidence-induced cracking including: i. plotting exact location, depth, and characteristics of surface cracks; and, ii. monitoring the extent of cracking connecting surface cracks to the collapsed goaf area; (e) regular monitoring of all water inflows to the underground mine including location and flowrate of inflows. Water quality analysis should be conducted if a significant change in water flow or discolouration is observed at any time to identify the possible source; (f) monitoring of groundwater levels and quality; (g) a survey of affected stream channel systems, including monitoring of rainfall, surface water flows, water ponding, and water quality; (h) monitoring of Bowmans Creek as required by condition 3.20; (i) monitoring of changes to surface water run-off and erosion; (j) monitoring of cultural heritage sites;	These monitoring requirements have been accounted for in the preparation of environmental management plans and subsidence management plans for the site. Monitoring results for the items listed are regularly forwarded to the relevant government agency and/or reported in the AEMR.

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Condition No.	**Condition**	**Comments**
	(k) monitoring of impacts to agricultural land; (l) monitoring of impact of subsidence on existing vegetation and terrestrial/aquatic ecosystems; (m) monitoring and evaluation of subsidence management and remediation techniques identified in the SEMP; and (n) a comparison of predicted subsidence impacts with actual impacts, and updating of predicted impacts for future longwalls and long-term impacts, particularly on groundwater systems and salinity. (o)	
3.20	The Applicant is to conduct a detailed Stream Monitoring Program on Bowmans Creek developed in consultation with DIPNR and DPI - Fisheries. This monitoring is to commence at commencement of construction, or as otherwise directed by the Director-General, and is to be supported with visual records as well as technical records. The River monitoring program shall include, but not be limited to: (a) a detailed benchmark survey of the affected length of Bowmans Creek, and the reaches from the nearest upstream bedrock control point from the effective zero point of subsidence to the nearest downstream control point from the effective zero point of subsidence (usually measured by the 20 mm limit of subsidence). This survey is to be completed at least one year prior to mining affecting the stream channel system, or as otherwise directed; (b) pre-mining assessment including: i. identification of stable bedrock control points along the affected reach, and the nature and extent of bedrock control points. ii. identification of stable cross sectional survey control points along the affected reach. iii. identification of chain pillar survey control points to establish the change in vertical reduced levels and bed gradient change. iv. identification of stable control monitoring points to establish bedload transport through the affected reach. v. assessment of the extent of existing pool-riffle sequences, rock bar and cobble chute pools and bed gradient steepening through riffle sequences. vi. assessment of bank stability provision by existing vegetation galleries along the affected reach of Bowmans Creek. vii. the extent, floristics and structure of any existing wetlands or standing pools along the length of the affected reach of Bowmans Creek. viii. existing water quality and exchange/discharge rates of local groundwaters (both alluvial and underlying bedrock) to Bowmans Creek; and,	A detailed benchmark survey by Pegasus Technical and a pre-mining assessment of Bowmans Creek by ERM was completed in 2006. This work was reviewed and updated in 2008 (refer to **Vol.1 Appendix E**). Ongoing monitoring program, including immediate post-mining and long-term monitoring is described in Vol.2. Aquatic aspects have been subject to ongoing baseline assessment as described in **Section 2.2.3** and **Appendix D**.

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Condition No.	**Condition**	**Comments**
	ix. monitoring to benchmark fish, macroinvertebrates and aquatic habitat; water velocities and flow rates; and current geomorphological design and stability of the creek. (c) immediate post-mining monitoring (at least twice in the period within one year of each longwall pass under Bowmans Creek), including: i. extent of change in level and gradient from each control point identified in the pre-mining survey. ii. extent of change in cross section between each survey control point identified in the pre-mining survey. iii. change in pool-riffle sequence, depth and width of pools, location of breakout points for flood waters from the subsided troughs overlying each extracted longwall panel. iv. change in stream power relations through each chain pillar and chute/riffle sequence along the extent of the affected stream. v. obstruction to fish passage through reverse gradient slopes on the downstream face of each subsidence trough. vi. cumulative changes in stream power and tractive stress along the affected reach. vii. impacts on existing vegetation communities along Bowmans Creek from subsidence or other impacts, and potential impacted areas from potential breakout points along the channel (such as the southern length of subsidence overlying longwall panels 5, 6 and 7 beyond the incised meander of Bowmans Creek); and viii. monitoring to assess impacts to fish, fish passage, macroinvertebrates and aquatic habitat; water velocities and flow rates; and geomorphological design and stability of the creek. (d) long term monitoring on a bi-annual basis extending for at least five years after longwall mining has been completed under Bowmans Creek; i. changes in bed gradients, control point locations, pool/riffle locations and chute depths and energies along the affected reach of the creek. ii. changes in bedload transport rates, bed material sorting/imbrication, bedrock control exposure and energy relations in the affected reach of the creek. iii. drainage of local groundwaters into and water quality changes in each pool of Bowmans Creek, including an assessment of pool maintenance periods during dry periods resulting from discharge of local groundwaters into Bowmans Creek. iv. vegetation community changes along the length of the affected channel. v. long term changes in biological communities within the affected reach of the creek; and	Monitoring methodology and schedule detailed in SMP **Vol.2**.

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Condition No.	**Condition**	**Comments**
	vi. monitoring to assess impacts to fish, fish passage, macroinvertebrates and aquatic habitat; water velocities and flow rates; and geomorphological design and stability of the creek.	
3.21	A detailed survey of the New England Highway road corridor is to be undertaken. Permanent monitoring stations must be installed as part of the initial survey. The initial survey is to be undertaken jointly with the RTA.	This requirement is captured by the New England Highway SMP (**Vol2. Appendix C**).
3.22	Subsidence monitoring on the New England Highway is to be undertaken on a 3 monthly basis until the cessation of the mining process and pending ground movement.	This requirement is captured by the New England Highway SMP (**Vol2. Appendix C**).
3.23	The Applicant shall report on monitoring conducted and provide a full interpretation of the results in the SMIAR (Condition 3.24) and the AEMR.	Summaries of relevant monitoring and technical assessments are presented in the technical documents supporting this application (**Appendices B** to **I**)
3.24	The Applicant shall prepare and implement a Subsidence Monitoring and Impact Assessment Report (SMIAR) for each longwall panel or group of panels for which an application for secondary workings approval under s.138 of the *Coal Mines Regulation Act 1982* will be sought. This report is to be submitted for approval to the Director- General, in consultation with and taking into account requirements of the Director-General of the DPI-Minerals, the DEC, DIPNR and DPI-Fisheries at least one month prior to the submission of the s.138 application to the DPI – Minerals. The Director-General may require Independent Expert Review (Conditions 8.3-8.7) of an SMIAR prior to approval. No application for secondary workings approval under s.138 of the Coal Mines Regulation Act 1982 longwall panels in the SMIAR shall be made until written approval is received from the Director-General.	As noted in the development consent, the requirements for an SMIAR and the new SMP process overlap. Department of Planning has agreed to the integration of reporting /management plan requirements.
3.25	Subsidence Monitoring and Impact Assessment Reports shall be consistent with the conditions of this consent, the Environmental Management Strategy and relevant environmental management plans	The SMP has been prepared to fit within Ashton's existing management framework. This table aims to demonstrate that the SMP is consistent with the conditions of consent.
3.26	The Applicant shall not apply, under s.138 of the Coal Mines Regulation Act 1982 for any longwall panels involving mining that may impact the Bowmans Creek alluvium until at least three longwall panels in the Pikes Gully Seam have been completed (panels 1, 2 and 3) as described in document referenced in 1.2v) and the first SMIAR has been approved by the Director-General.	LW3 is currently under extraction. SMP SMP Assessment timeframes are approximately 6 months. Completion of LW3 will occur prior to determination of this application.

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Condition No.	**Condition**	**Comments**
3.27	SMIARs and s138 applications are to be prepared and submitted in the following sequence: **SMIAR No / To be submitted at completion of panel No / Panel currently being extracted / Panels in s138 Application** 1 / 3 / 4 / 5, 6, 7 (PGS) 2 / 6 / 7 / 8, 9, 10, 11 (ULS) 3 / 10 / 11 / 12, 13, 14 (ULS) 4 / 13 / 14 / 15, 16, 17, 18 (ULLS) 5 / 17 / 18 / 19, 20, 21 (ULLS) 6 / 20 / 21 / 22, 23, 24, 25 (LBS) 7 / 24 / 25 / 26, 27, 28 (LBS) Note: PGS – Pikes Gully Seam ULS – Upper Liddell Seam ULLS – Upper Lower Liddell Seam LBS – Lower Barrett Seam Panel numbers as described in document referenced in 1.2v)	See note above.
3.28	Subsidence Monitoring and Impact Assessment Reports shall include, but not be limited to: a) detailed description of the proposed group of longwall panels and workings to be applied for in the section 138 application; b) comparison of subsidence impacts predicted for completed sections of the underground mine with actual impacts recorded through subsidence monitoring; c) update information describing the existing environment in the area to be mined including geology, groundwater, surface water, surface topography, aboriginal heritage, land capability, and aquatic and terrestrial ecosystems based on monitoring results from programs under conditions 3.19-3.23 and 4.26, current knowledge and incorporating cumulative impacts from any mining completed on other seams in the area; d) revise subsidence impact predictions for the area to be mined taking into account the results of the above review; e) Groundwater Management Report prepared by an independent expert to the satisfaction of DIPNR, addressing: i. work done under and the level of compliance with, the groundwater management measures defined in the Groundwater Management Plan; and ii. identification of trends in groundwater monitoring data and comparison with predictions, in documents referred to in condition 1.2 and any previous SMIARs, over the life of mining operations. f) For SMIAR No. 1, an independent audit of groundwater conditions in panels 1, 2, and 3, and	Described in **Section 1.0** Described in **Section 3.3** Described in **Section 2.0** Described in **Section 3.5** Contained as **Appendix F** and **G**. Contained as **Appendix F** and **G**,

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Condition No.	**Condition**	**Comments**
	any current monitoring on panel 4, conducted by an independent expert. The audit brief and independent expert is to be approved by DIPNR prior to audit commencement. g) revise the assessment of the impacts of subsidence on geology, groundwater, surface water, surface topography, aboriginal heritage, agricultural suitability, and aquatic and terrestrial ecosystems in the area proposed to be mined; h) detailed assessment of assumptions and uncertainty in predictions and demonstration that sufficient contingency has been built into in the proposal to address this uncertainty; i) demonstrate compliance of the proposal with the conditions of this consent, particularly condition 3.9, and relevant licences, approvals, standards and policies; j) review of the Mine Plan should excessive subsidence occur on the New England Highway so as to ensure that the Highway is maintained in a safe, serviceable and repairable condition; k) details of feasible options to appropriately avoid, minimise and remediate impacts from subsidence; l) specific consideration of any requirements of DEC, DIPNR, DPI - Fisheries, DPI - Minerals, MSB, RTA, and the Council, m) results of consultation with CCC, the local Aboriginal community, and affected landholders; n) justification of the proposed longwall extraction plan; o) review the implementation of the SEMP (condition 3.18) and identify any parts of the plan that require modification. If the SEMP requires modification a copy of the revised SEMP shall be submitted with the SMIAR.	prepared by independent expert and includes additional peer review. Described in **Section 5.0**. Described in **Section 3.0**, **Appendix B**, **Appendix F** and **G**. Described in **Section 5.0** and **Appendix J**. No subsidence to highway proposed. Described in SMP **Volume 2**. Described in **Section 7.3** Described in **Section 7.3** Described in **Section 1.4** & **Section 3.2** Note combined SMP/SEMP requirements. SMP mechanisms have been reviewed.
3.29	The Applicant shall investigate and undertake to the satisfaction of the Director-General, and in consultation with DEC, DIPNR and DPI - Fisheries, alternative mine plans if subsidence impacts, such as impacts on groundwater systems, and potential long-term salinity impacts, as a result of the mine are demonstrated to be greater than those predicted in the EIS or SMIARs. This may include altering mining methods or restricting longwall mining in certain areas.	Mine plan has been altered to ensure compliance with Condition 3.9, and as a result subsidence impacts are generally less than EIS predictions.
4.10	The Applicant shall obtain a licence from DIPNR under Part 5 of the Water Act 1912 for the bores and wells which intersect the groundwater table, including monitoring bores, dewatering bores, longwalls, and other excavations which intersect the groundwater table.	Ashton hold a number of existing groundwater licences and will continue to maintain these, including applications for additional licences where required.
4.11	The Applicant shall obtain a permit under Part 3A of the Rivers and Foreshores Improvement Act 1948 or the Water Management Act 2000, as appropriate, for works within forty metres of a river as defined under the Act, prior to commencing any works for which the Approval is required.	This requirement is discussed in **Section 5.8** and addressed in the Land Management Plan
4.13	All surface and underground operations including long wall mining shall be conducted to minimise potential impacts on groundwater flow and quality of the alluvial groundwater resource, integrity of the alluvial aquifer and to minimise off-site effects.	The mine plan has been designed specifically to protect the alluvial aquifer.

Development Consent Conditions		
Condition No.	**Condition**	**Comments**
4.14	The Applicant shall undertake regular assessments of the accuracy of the groundwater model against the predictions outlined in the EIS, to the satisfaction of DIPNR. The scope of the assessment shall be determined in consultation with DIPNR and shall include the consideration of the establishment of trigger levels via sensitivity testing, drawdown, pit seepage and river leakage. Should an assessment identify significant differences between the model and EIS predictions, the Applicant shall revise the assessment of the potential impacts on groundwater systems to the satisfaction of DIPNR and implement any further mitigation measures to the satisfaction of DIPNR. The trigger levels for re-assessment of groundwater impacts shall be included in the Groundwater Management Plan required in condition 4.24.	An assessment of the observed groundwater impacts against the current groundwater model and EIS predictions is contained within **Appendix G**.
4.15	The Applicant shall develop contingency measures to manage any impacts identified by monitoring that the management strategies have failed to predict or control, particularly relating to groundwaters associated with the alluvial aquifers of Bowmans Creek, Glennies Creek and the Hunter River, to the satisfaction of DIPNR. The implementation of contingency measures shall be linked to performance and cut-off criteria as determined in consultation with DIPNR and specified in the Site Water Management Plan, and shall include both water quality and aquifer pressure levels, should agreed standards or performance indicator levels not be achieved.	The mechanisms for this are addressed in the Groundwater Management Plan and associated TARP. Refer to **Volume 2** for more detail.
4.16	The Applicant shall prepare a statistical assessment to the satisfaction of DIPNR to initially benchmark the pre-mining natural variation in groundwater quality and quantity and to set trigger levels for accepting accountability. Assessment is to be documented in the SWMP (Condition 4.24).	The mechanisms for this are addressed in the Groundwater Management Plan and associated TARP.
4.17	In the event that the development adversely affects groundwater users the Applicant shall, to the satisfaction of the DIPNR, liaise with the users to provide a replacement water supply of similar quality and quantity to that affected, until such time as the development ceases to impact on the users' water supply. The cut-off levels for depressurization of the alluvial aquifer and water quality parameters shall be determined in consultation with the DIPNR.	The mechanisms for this are addressed in the Groundwater Management Plan and associated TARP.
4.23	The Applicant is to negotiate relocation of the stream gauging station located on Bowmans Creek (formally known as stream gauge 210130,Foybrook downstream of Bowmans Bridge) with DIPNR, prior to commencement of underground mining. The relocation of the gauging station will be at the Applicant's cost and will include all aspects of design, replacement, installation, commissioning, and any costs associated with correlation of data between the existing gauge and the new gauge. In line with NSW Government policy, the relocated gauging station is to accommodate fish passage. Any unforeseen cost associated with relocation of the gauging station will also be at the Applicant's cost.	Negotiations with DWE regarding the status of this station and future requirements are ongoing. With the reduced subsidence impacts associated with miniwalls, this station is likely to remain operational with some minor repairs and recalibration.
4.26	Prior to the commencement of underground mining and subject to DIPNR approval, the licence holder shall develop and implement a surface and subsurface investigation and monitoring program to assess the likely fracturing of geological strata and hydraulic property changes above each longwall panel. The monitoring program shall provide an interpreted comparison of the results from	ACOL have held a number of 'Aquaclude' meetings with DPI, DWE with respect to surface and subsurface investigation and monitoring. These meetings also

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	all longwall panels against pre-mining baseline geological conditions, in order to assess the level of variability of fracture, changes in hydraulic properties between panels, and the impact on groundwater resources and surface expression from underground mining at varying depths. This investigation shall be repeated for each seam as it is mined from the site. The monitoring plan shall: a) measure the level of surface water flows, groundwater elevations and water quality prior to mining; b) assess the influence of mine-induced fracturing on aquifers and groundwater quantity; c) assess the influence of mine-induced fracturing and cross aquifer connection on groundwater quality; d) identify sampling locations, monitoring wells/bores along the mine path, to assess the impact of mining in mid goaf and at the predicted points of tension fracturing, at the edge of each long wall panel e) prescribe sampling and observation depths, monitoring frequency and parameters for monitoring; and f) specify the compilation, interpretation and reporting of groundwater data and analyses.	included ACOL specialist subconsultants from SCT and Aquaterra. Refer to detailed investigations in **Appendix B**, **Appendix F**, and **Appendix G**. A detailed Groundwater Management Plan is also in development in consultation with relevant government agencies.
4.28	The licence holder shall develop a reporting mechanism, for inclusion in the EMP, in order to: a) verify the predictions of the groundwater modelling used in the Environmental Impact Statement; and b) assess the potential long term changes in groundwater flow and quality which may occur as a result of mining operations and changes to hydraulic properties, as a result of subsidence of the hard rock strata underlying the alluvium.	Groundwater monitoring and ongoing verification of the groundwater impacts is currently being undertaken. Groundwater Impact Assessment provided as **Appendix G**.
7.11	The Applicant shall pay to the RTA the cost incurred by the RTA of making good any damage to the New England Highway and its associated structures caused by activities associated with this consent. Provide however that the amount to be paid by the Applicant as aforesaid shall be reduced by such sum of money, if any, as may be paidt to the RTA from the Mine Subsidence Compensation Fund constituted under the Mine Subsidence Compensation Act 1961, in the form of a claim for compensation for the same damage.	An SMP for the New England Highway, prepared in consultation with the RTA is provided in **Vol.2 Appendix C**.
7.23	The Applicant shall to the satisfaction of EnergyAustralia and at its own cost, undertake the relocation and/or construction of any electrical transmission lines which may be required as a result of the development. The Applicant shall also bear any costs associated with relocation of Registered Easements for relocated or new transmission lines required as a result of the development. Such work shall be completed prior to any existing line being affected by mining activity from ACP.	Consultation with EnergyAustralia is undertaken regularly and joint assessment/mitigation measures detailed in the Electricity Transmission Lines SMP (**Vol. 2 Appendix D**)
7.24	The Application shall, to the satisfaction of telecommunications providers and at its own cost, or by agreement with relevant parties, undertake the relocation of any telecommunications cables which may be required as a result of the development.	Currently, no relocation is required. A Telecommunications SMP is provided in **Vol. 2 Appendix E**.

Table 23 – Mining Lease No. 1533 Conditions

Mining Lease No. 1533 Conditions		
Condition No.	**Condition**	**Comments**
11	The lease holder unless with the consent of the Minister and subject to such conditions as the minister may impose, shall not work or cause to be worked any seam of coal by underground methods within the subject area within the barrier defined as follows: The land within the zone beneath and adjacent to the Great Northern Railway enclosed by an angle of draw of 35 degrees from the vertical plane of the boundary parallel to a thirty (30) metres horizontally distant from either side of the railway lands, such angle of draw being measured outwards from the point on the vertical plan of the said boundary at the surface or at the level of the horizontal plane of the railway track, whichever may be the higher, to the floor of the coal seam in which mining operations are being carried out.	The SMP Application Area and angle of draw for LW/MW 5 – 9 complies with this condition.
14	(Shafts, drifts, adits) Operations shall be conducted in such a manner as not to cause any danger to persons or stock and the leaseholder shall provide and maintain adequate protection to the satisfaction of the Minister around each shaft or excavation opened up or used by the lease holder.	Mechanisms to ensure the safety of people and stock are included in the Public Safety Management Plan (**Vol.2 Appendix H**).
18	The lease holder shall not interfere in any way with fences on or adjacent to the subject area unless with the prior written approval of the owner thereof or the Minister and subject to such conditions and the Minister may stipulate.	Majority of landholdings are owned by Ashton. Consultation with other affected landowners undertaken as described in the Fences SMP (**Vol.2 Appendix F**).
19	The lease holder shall observe any instruction given or which may be given by the Minister with a view to minimising or preventing public inconvenience or damage to public or private property.	
20	If required to do so by the Minister and within such time as may be stipulated by the Minister, the lease holder shall carry out to the satisfaction of the Minister, surveys of structures, buildings, and pipelines on adjacent landholdings to determine the effect of operations on any such structures, buildings and pipelines	Survey monitoring has been included as part of the overall SMP framework.
21	If so directed by the Minister, the lease holder shall rehabilitate to the satisfaction of the Minister and lands within the subject area which may have been disturbed by the lease holder.	
25	The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion, or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse, or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion, or siltation of any river, stream, tributary, lake, dam,	Mechanisms by which to monitor and prevent impacts to Bowmans Creek are detailed in SMP **Vol. 2**.

Mining Lease No. 1533 Conditions		
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	reservoir, watercourse, or catchment area or any undue interference to fish or their environment.	
27	If so directed by the Minister, the leaseholder shall ensure that operations are carried out ins such a manner so as to minimise disturbance to flora and fauna within the subject area.	Minimal impacts to flor and fauna are anticipated. Refer to **Section 4.2.6** – **Section 4.2.7**
30	The lease holder shall conduct operations in such a manner as not to cause or aggravate soil erosion and the lease holder shall observe and perform any instructions given or which may be given by the Minister with a view to minimising or preventing soil erosion.	Mechamisms to monitor for surface cracking and remediation of erosion are documented in the Ashton Erosion and Sediment Control Plan and Land Management Plan.
41	The lease holder shall as far as practicable so conduct operations as not to interfere with or impair the stability or efficiency of any transmission line, communication line, or pipeline traversing the surface or the excepted surface of the subject area and shall comply with any direction given or which may be given by the Minister in this regard.	Impacts to infrastructure has been assessed (**Section 4.3** – **4.5**) and appropriate management actions developed in consultation with owners (SMP **Vol. 2**).
42	Unless with the consent of Energy Australia, the lease holder shall not carry out any operations within any easement for power transmission line traversing the subject area.	Impacts to EA infrastructure has been assessed (**Section 4.3** – **4.5**) and appropriate management actions developed (SMP **Vol. 2**).
43	The lease holder shall not knowingly destroy, deface, or damage any Aboriginal place or relic within the subject area except in accordance with an authority issued under the *National Parks & Wildlife Act 1974* and shall take every precaution in drilling, excavating, or disturbing the land against any such destruction, defacement, or damage.	Impacts to Aboriginal relics or places has been assessed in consultation with the local indigenous community (**Section 4.6**). Impacts will be managed in accordance with the Ashton Archaeology & Cultural Heritage Management Plan and are described in SMP **Vol.2**.