

Haweswater Aqueduct Resilience Programme - Proposed Marl Hill Section

Environmental Statement

Volume 4

Appendix 7.5: Earthworks Dewatering and Groundwater Flow Disruption

June 2021







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Haweswater Aqueduct Resilience Programme - Proposed Marl Hill Section Appendix 7.5: Earthworks Dewatering and Groundwater Flow Disruption

Location	Phase of works	Type of works	Name / Ref	Excavation works deeper than 1m (Y, N)	Depth excavation (m)	Max anticipated GW level (m BGL)	Dewatering expected (Y, N)	Zone of influence	SPZ identify	SPZ impact	SPZ Value	e SPZ Magnitude	SPZ Significance	PWS identify	PWS impact	PWS Value	PWS Magnitude	PWS Significance	GWDTE identify	GWDTE impact	GWDTE Value	GWD Magr
	Enabling works phase	Lagoon	Bonstone Compound Attenuation Pond	Y	2	1	Y	4.24	No SPZ identified within zone of influence.	n/a	n/a	n/a	n/a	No PWS identified within zone of influence.	n/a	n/a	n/a	n/a	No GWDTE identified within zone of influence.	n/a	n/a	n/a
	Enabling works phase	Access track	Bonstone Compound Access Track / Haul Road	N		1	N	0.00	No SPZ identified within zone of influence.	n/a	n/a	n/a	n/a	PWS4-1 located within the access roa envelope.	Assumed no dewatering d required for access road, therefore no dewatering impact expected, indirect effects possible due to ground disturbance and compaction.		Major Adverse r	Large	New Laithe north- downgradient of access road (High groundwater dependency).		medium (High gw dependence, not designated)	Mod Adve
																			New Laithe south- directly in footprint of access road (low groundwater dependency).	Interception of groundwater flows in the short term.	low (low gw dependence, not designated)	Majo
																			New Laithe north- downgradient of access road (High groundwater dependency).	Accidental leaks / spills, of fuels and chemicals, including cement and sewage.	medium (High gw dependence, not designated)	Mino
																			New Laithe south- directly in footprint of access road (low groundwater	Accidental leaks / spills, of fuels and chemicals, including cement and sewage.	low (low gw dependence, not designated)	Mod Adve
																			dependency). New Laithe north- downgradient of access road (High groundwater dependency).	Mobilisation of suspended solids.	medium (High gw dependence, not designated)	Mino
-																			New Laithe south- directly in footprint of access road (low groundwater dependency).	Mobilisation of suspended solids.	low (low gw dependence, not designated)	Mod adve
onnc																			Blue gates- Low groundwater dependency.	Interception of groundwater flows in the short term.	low (low gw dependence, not designated)	Mino
Bonstone Compound	Construction works phase	Open-cut	Bonstone Compound Connection - open cut section connecting the existing pipeline to the tunnel	Y	5	1	Ŷ	16.97	No SPZ identified within zone of influence.	n/a	n/a	n/a	n/a	No PWS identified within zone of influence.	n/a	n/a	n/a	n/a	No GWDT identified within zone of influence.	n/a	n/a	n/a
8	Construction	Compaction	Bonstone Compound Area	N		1	N	0.00	No SPZ identified	n/a	n/a	n/a	n/a	Closest is PWS4-1	Already affected by the	n/a	n/a	n/a	New Laithe north-	Interception of	medium (High gw	Mode
	works phase								within zone of influence.		.,				access road so impact would not differ.				downgradient of access road (High groundwater dependency).	groundwater flows in		Adve
																			New Laithe south- directly in footprint of access road (low groundwater dependency).	Interception of groundwater flows in the short term.	low (low gw dependence, not designated)	Majo
																			New Laithe north- downgradient of access road (High groundwater dependency).		medium (High gw dependence, not designated)	Mind
																			New Laithe south- directly in footprint of access road (low groundwater dependency).	spills, of fuels and chemicals, including cement and sewage.	dependence, not designated)	
																			New Laithe north- downgradient of access road (High groundwater dependency).		dependence, not designated)	
																			New Laithe south- directly in footprint of access road (low groundwater dependency).	Mobilisation of suspended solids.	low (low gw dependence, not designated)	Mod Adve
	Enabling works phase	Lagoon	Braddup Compound Attenuation Pond	Ŷ	2	1	Y	4.24	No SPZ identified within zone of influence.	n/a	n/a	n/a	n/a	PWS4-6 within the Braddup Compound i	Because the exact location of the spring is unknown, is s worst case scenario would be a direct impact on the spring.	a Sensitivity (fewe than 10	Major Adverse r	Large	No GWDTE identified within zone of influence.	n/a	n/a	n/a
Braddup Compound	Enabling works phase	Access track	Braddup Compound Access Track / Haul Road	N		1	N	0.00	No SPZ identified within zone of influence.	n/a	n/a	n/a	n/a	PWS4-6 within the Braddup Compound i	Because the exact location of the spring is unknown, is worst case scenario would be a direct impact on the spring.	a Sensitivity (fewe than 10	Major Adverse r	Large	Braddup House- Iow groundwater dependency.	Interception of groundwater flows in the short term.	low (low gw dependence, not designated)	Majo
Braddup																			Braddup House- low groundwater dependency.	Accidental leaks / spills, of fuels and chemicals, including cement and sewage.	low (low gw dependence, not designated)	Mod Adve
																			Braddup House- low groundwater dependency.	Mobilisation of suspended solids.	low (low gw dependence, not designated)	Mod Adve
																			Whinny Lane East- within works footprint (moderate groundwater dependency).	Interception of groundwater flows in the short term.	medium (moderate	Majo
			1	L										1		1	1				1	_



	I	I			
GWDTE Magnitude	GWDTE Significance	Surface Water identify	Surface Water impact	Surface Water Value	Surface Water Magnitude
n/a	n/a	No surface water features identified within zone of	n/a	n/a	n/a
Moderate Adverse	Moderate	influence. Watercourse 1365 located <10m south of access road at the Slaidburn Road end.	Assumed no dewatering required for access road construction, therefore no dewatering impact is expected.	Low	n/a
Major Adverse	Large	n/a	n/a	n/a	n/a
Minor Adverse	Slight	n/a	n/a	n/a	n/a
Moderate Adverse	Slight	n/a	n/a	n/a	n/a
Minor Adverse	Slight	n/a	n/a	n/a	n/a
Moderate adverse	Slight	n/a	n/a	n/a	n/a
Minor Adverse	Neutral	n/a	n/a	n/a	n/a
n/a Moderate	n/a Moderate	Watercourse 402 located approx. 9m north of the connection excavation. Watercourse 402	Watercourse 402 is within radius of influence of groundwater drawdown, reduced contribution to baseflow expected during dewatering. However, abstracted water expected to be returned to Watercourse immediately downgradient, resulting in very localised impact on a small reach of the watercourse. Assumed no dewatering	Low	Negligible
Adverse			required during construction of compound area, no dewatering impact expected, but indirect effects possible due to ground disturbance and compaction.		
Major Adverse	Large	n/a	n/a	n/a	n/a
Minor Adverse	Slight	n/a	n/a	n/a	n/a
Moderate adverse	Slight	n/a	n/a	n/a	n/a
Minor Adverse	Slight	n/a	n/a	n/a	n/a
Moderate Adverse	Slight	n/a	n/a	n/a	n/a
n/a	n/a	No surface water feature identified within zone of influence. Closest surface water feature approx. 60m east.	n/a	n/a	n/a
Major Adverse	Large		Assumed no dewatering required during construction of access road, herefore no dewatering impact expected, but indirect effects possible due to ground disturbance and compaction. Access road already exists so minimal impact expected from widening works.	n/a	n/a
Moderate Adverse	Slight	n/a	n/a	n/a	n/a
Moderate Adverse	Slight	n/a	n/a	n/a	n/a
Major Adverse	Large	n/a	n/a	n/a	n/a

				_																						
Location	Phase of works	Type of works	Name / Ref	Excavation works deeper than 1m (Y, N)	Depth excavation (m)	Max anticipated GW level (m BGL)		Zone of influence	SPZ identify	SPZ impact SPZ	Value SPZ N	Magnitude SPZ Significance	PWS identify	PWS impact	PWS Value	PWS Magnitude	PWS Significance	GWDTE identify	GWDTE impact	GWDTE Value	GWDTE Magnitude	GWDTE Significance	Surface Water identify	Surface Water impact	Surface Water Val	Surface Water Nagnitude
																		Whinny Lane East- within works footprint (low groundwater dependency).	Interception of groundwater flows in the short term.	low (low gw dependence, not designated)	Major Adverse	Moderate	n/a	n/a	n/a	n/a
																		Whinny Lane East- sour area (moderate groundwater	th Interception of groundwater flows in the short term.	medium (moderate gw dependence, not designated)	e Moderate Adverse	Moderate	n/a	n/a	n/a	n/a
																		dependency). Whinny Lane East- sout area (low groundwater dependency).	th Interception of groundwater flows in the short term.	low (low gw dependence, not designated)	Moderate Adverse	Slight	n/a	n/a	n/a	n/a
																		Whinny Lane East- nort and upgradient (moderate groundwate dependency).	h Interception of groundwater flows in	medium (moderate	Minor Adverse	Slight	n/a	n/a	n/a	n/a
																		Whinny Lane East- nort and upgradient (low groundwater dependency).	h Interception of groundwater flows in the short term.	low (low gw dependence, not designated)	Minor Adverse	Neutral	n/a	n/a	n/a	n/a
																		Whinny Lane East-with works footprint (moderate groundwate	in Accidental leaks / spills, of fuels and r chemicals, including cement and sewage.	medium (moderate gw dependence, not designated)	Moderate Adverse	Moderate	n/a	n/a	n/a	n/a
																		Whinny Lane East-with works footprint (low groundwater dependency).		designated)		Slight	n/a	n/a	n/a	n/a
																		Whinny Lane East- sout area (moderate groundwater dependency). Whinny Lane East- sout	spills, of fuels and chemicals, including cement and sewage.	medium (moderate gw dependence, not designated)	Minor Adverse		n/a	n/a n/a	n/a n/a	n/a n/a
																		whinny Lane East- Sour area (low groundwater dependency). Whinny Lane East-		dependence, not designated) medium (moderate		Moderate	n/a	n/a	n/a	n/a
																		within works footprint (moderate groundwate dependency).		gw dependence, not designated)	Adverse	Clicht	2/2	n/a	n/2	0/2
																		Whinny Lane East- within works footprint (low groundwater dependency). Whinny Lane East- sout	suspended solids.	low (low gw dependence, not designated) medium (moderate	Adverse	Slight	n/a n/a	n/a	n/a n/a	n/a n/a
																		area (moderate groundwater dependency). Whinny Lane East- sout area (low groundwater		gw dependence, not designated) low (low gw dependence, not	Minor Adverse	Neutral	n/a	n/a	n/a	n/a
puno																		dependency). Slaidburn road west-	Interception of groundwater flows in	designated) medium (moderate	Major Adverse	Large	n/a	n/a	n/a	n/a
o Compound																		(moderate groundwate dependency). Slaidburn road west-	r the short term.	not designated)	Major Adverse	Moderate	n/a	n/a	n/a	n/a
Braddup																		(low groundwater dependency). Slaidburn Road West-	groundwater flows in the short term. Interception of groundwater flows in	designated) medium (moderate	Minor Adverse	Slight	n/a	n/a	n/a	n/a
																		groundwater dependency). Slaidburn Road West-	Interception of	not designated)	Minor Adverse	Neutral	n/a	n/a	n/a	n/a
																		centre of site (low groundwater dependency). Slaidburn road west- within works footprint	groundwater flows in the short term. Accidental leaks / spills, of fuels and	dependence, not designated) medium (moderate gw dependence,	Moderate Adverse	Moderate	n/a	n/a	n/a	n/a
																			cement and sewage.	not designated)	Moderate	Slight	n/a	n/a	n/a	n/a
																		within works footprint (low groundwater dependency). Slaidburn road west- within works footprint	chemicals, including cement and sewage. Mobilisation of	dependence, not designated) medium (moderate gw dependence,	Adverse Moderate Adverse	Moderate	n/a	n/a	n/a	n/a
																		(moderate groundwate dependency). Slaidburn road west-		not designated) low (low gw	Moderate	Slight	n/a	n/a	n/a	n/a
	Construction	Overflow	New Ribblesdale North	Y	5	1	Y	16.97	No SPZ identified	n/a n/a	n/a			n/a	n/a	n/a	n/a	within works footprint (low groundwater dependency). Braddup House-north	Overflow dewatering		Adverse Major Adverse	Large		Cow Hey Brook is within range	Medium	Minor Adverse
	works phase		Well Overflow (Overflow at Braddup)						within zone of influence.				within zone of influence.					east part of site directly within works footprint (low groundwater dependency).	y (groundwater levels / flows).	dependence, not designated)			approx. 10m west.	of the radius of influence of groundwater drawdown, a reduced contribution to baseflow would be expected during dewatering. However it would be expected that the abstracted water be returned to Cow Het Brook immediately downgradient, resulting in a very localised impact on a small stretch of th watercourse.		
	Construction works phase	Open-cut	Braddup Compound Connection - open cut section connecting the existing pipeline to the tunnel	Y	5	1	Y	16.97	No SPZ identified within zone of influence.	n/a n/a	n/a		PWS4-6 within the Braddup Compound is	Because the exact location of the spring is unknown, a worst case scenario would be a direct impact on the spring.	Sensitivity (fewer than 10	Major Adverse	Large	Braddup House- east of site directly within wor footprint (low groundwater dependency).	f Open-cut connection ks dewatering (groundwater levels / flows).	low (low gw dependence, not designated)	Major Adverse	Large	No surface water feature identified withir zone of influence. Closest surface water feature approx. 60m southwest.	n/a	n/a	n/a



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Location	Phase of works	Type of works	Name / Ref	Excavation works deeper than 1m (Y, N)	Depth excavation (m)	Max anticipated GW level (m BGL)	Dewatering expected (Y, N)	Zone of influence	SPZ identify	SPZ impact	SPZ Value	SPZ Magnitude	SPZ Significant	ce PWS identify	PWS impact	PWS Value	PWS Magnitude	PWS Significance	GWDTE identify	GWDTE impact	GWDTE Value	GWDTE Magnitude	GWDTE Significance	Surface Water identify	Surface Water impact	Surface Surface Water Water Value Magnitude
	Construction works phase	Compaction	Braddup Compound Area	N		1	N		No SPZ identified within zone of influence.	-	n/a	n/a	n/a	PWS4-6 within the	Because the exact location of the spring is unknown, a s worst case scenario would be a direct impact on the spring.	Sensitivity (few than 10	Major Adverse	Large	Braddup House- within works footprint (low groundwater dependency).	Interception of groundwater flows in the short term.	low (low gw dependence, not designated)	Minor Adverse		the compound in the west. Sandy Ford Brook and Watercourse 444 are close to compound	Assumed no dewatering required during construction compound area, therefore no dewatering impact expected, but indirect effects possible du to ground disturbance and compaction.	Medium / n/a High / Low
																			Braddup House- downgradient of access track (moderate groundwater dependency).	Interception of groundwater flows in the short term.	medium (moderate gw dependence, not designated)	e Minor Adverse	Neutral	n/a	n/a	n/a n/a
																			Braddup House- downgradient of access track (low groundwater dependency).		low (low gw dependence, not designated)	Minor Adverse	Neutral	n/a	n/a	n/a n/a
																			Braddup House- within works footprint (moderate groundwater dependency).	spills, of fuels and	medium (moderate gw dependence, not designated)	e Minor Adverse	Neutral	n/a	n/a	n/a n/a
																			Braddup House- within works footprint (low groundwater dependency).	Accidental leaks / spills, of fuels and chemicals, including cement and sewage.	low (low gw dependence, not designated)	Minor Adverse	Neutral	n/a	n/a	n/a n/a
																			Braddup House- within works footprint (moderate groundwater dependency).	suspended solids.	medium (moderate gw dependence, not designated)				n/a	n/a n/a
																			Braddup House- within works footprint (low groundwater dependency).	Mobilisation of suspended solids.	low (low gw dependence, not designated)	Minor Adverse	Neutral	n/a	n/a	n/a n/a
																			Whinny Lane East- centre of site (moderate groundwater dependency).	Interception of groundwater flows in the short term.	medium (moderate gw dependence, not designated)	e Major Adverse	Large	n/a	n/a	n/a n/a
Compound																			Whinny Lane East- centre of site (low groundwater dependency). whinny lane east- downgradient of access		designated) medium (moderate gw dependence,	Major Adverse Moderate Adverse	Moderate Moderate		n/a n/a	n/a n/a n/a n/a
lup Com																			track (moderate groundwater dependency). whinny lane east- downgradient of access	the short term.	not designated)	Moderate Adverse	Slight	n/a	n/a	n/a n/a
Braddup																			track (low groundwater dependency). Whinny Lane East- centre of site (moderate	the short term. Accidental leaks /	designated) medium (moderate gw dependence,		Slight	n/a	n/a	n/a n/a
																			groundwater dependency). Whinny Lane East-	chemicals, including cement and sewage. Accidental leaks /	not designated)	Minor Adverse	Neutral	n/a	n/a	n/a n/a
																			groundwater dependency).	spills, of fuels and chemicals, including cement and sewage. Mobilisation of suspended solids.			Slight	n/a	n/a	n/a n/a
																			Whinny Lane East- centre of site (low groundwater dependency).	Mobilisation of suspended solids.	low (low gw dependence, not designated)	Minor Adverse			n/a	n/a n/a
																			Slaidburn road- west within works footprint (moderate groundwater dependency). Slaidburn road west-	groundwater flows in the short term.	medium (moderate gw dependence, not designated)	Major Adverse			n/a	n/a n/a
																			within works footprint (low groundwater dependency). Slaidburn road west- within works footprint (moderate groundwater	the short term. Accidental leaks / spills, of fuels and	designated) medium (moderate gw dependence,		Slight	n/a	n/a	n/a n/a
																			dependency). Slaidburn road west- within works footprint (low groundwater	cement and sewage. Accidental leaks / spills, of fuels and chemicals, including	low (low gw dependence, not	Minor Adverse	Neutral	n/a	n/a	n/a n/a
																			dependency). Slaidburn road west- within works footprint (moderate groundwater dependency).	suspended solids.	medium (moderate gw dependence, not designated)	e Minor Adverse	Slight	n/a	n/a	n/a n/a
																			Slaidburn road west- within works footprint (low groundwater dependency).		medium (moderate gw dependence, not designated)	e Minor Adverse	Neutral	n/a	n/a	n/a n/a



Location	Surface Water Significance	Infrastructure / Building identify	Infrastructure / Building impact	Infra / Building Value	Infra / Building Magnitude	Infra / Building Significance	Cultural Heritage identify	Cultural Heritage impact	Heritage Value	Heritage Magnitude	Heritage Significance	Contaminated Land identify	Contaminated Land impact	Aquifer Value	Contamination Magnitude	Contamination Significance
	n/a	No infrastructure / buildings within zone	n/a	n/a	n/a	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a
		of influence.														
	n/a	already exists, but will	n/a	n/a	n/a	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a
		be widened.														
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
							-				-	-	-		-	
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
g				,		,			,					,		
uno	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bonstone Compound	Neutral	No infrastructure / buildings within zone	n/a	n/a	n/a	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a
S		of influence.														
ene.																
onst																
B																
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Compound has a slight overlap with	Assumed no excavation works will	n/a	n/a	n/a
												historical Stockpile A to the south.	be undertaken during compound			
													construction, therefore no			
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	dewatering or related impacts.	n/a	n/a	n/a
	iya	liya	11/ d	iiya	liya	iiya	iya	liya	li/d	ii/a	iiya	iiya	n/a	iy a	iiya	iiya
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a
	n/a	The access track already exists, but will	n/a	n/a	n/a	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a	None identified within zone of influence.	n/a	n/a	n/a	n/a
p		be widened.					zone of initiaence.					zone of mildence.				
uno																
du																
ů S																
Braddup Compound	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
srad																
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a



4

Location	Surface Water Significance		Infrastructure / Building impact		Infra / Building Magnitude		Cultural Heritage identify		Heritage Value		Heritage Significance	Contaminated Land identify	Contaminated Land impact		Contamination Magnitude	Contamination Significance
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	iiya	iiya	iiya	ii/d	iiya	ii/d	iiy d	11/d	iiy a	ii/d	iiya	iiy a	liya	iiy d	iiya	iiya
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	174	11/1	17.0	178	178	1/1	11/10	1/1	17 8	11/0	11/0	iy a	11/8	11/ 0	11/10	1/10
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
													-			
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
pu																
noc	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ē																
Braddup Compound	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Inp																
rad	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
8																
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Slight		the open cut crossing	Low (farm track serving a single	Negligible	Neutral	None identified within zone of influence.	n/a	n/a	n/a	n/a	None in zone of influence.	n/a	n/a	n/a	n/a
		the north and southern extents.	after the works.	property)												
			Dewatering effects would create no													
			noticeable differential settlement.													
	n/a	Open cut section cuts		Low (farm track	Negligible	Neutral	None identified within	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
		the north and	the open cut crossing would be made good after the works.	serving a single property)			zone of influence.					influence.				
		southern extents.	Dewatering effects would create no													
			noticeable differential settlement.													
		1		1			1					1	1	1	1	1



Location	Surface Water Significance		Infrastructure / Building impact	Infra / Building Value		Infra / Building Significance	Cultural Heritage identify	Cultural Heritage impact		Heritage Magnitude	Heritage Significance	Contaminated Land identify	Contaminated Land impact	Aquifer Value	Contamination Magnitude	Contamination Significance
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	None in zone of influence.	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	iiya	ii/a	iiya	iiya	11/ d	iiya	iiy d	iiya	iiya	iiya	iya	iiya	iiya	ца	iiya	iiya
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
									,					,		
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
pu																
Braddup Compound	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
E O																
d O	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
qqr																
Bra				-												
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a



6