Summary Notes of Meeting: piling mitigation options and pumping tests

Project:	HS2 MWCC Lot C1
Document number:	1MC05-ALJ-EV-MRC-C001-110009
Meeting Date:	22/05/2018, 09:00 – 13:30
Meeting Title:	Piling and Shaft Mitigation Assessment
Location:	Affinity Water, Rickmansworth

Attendees

Name	Organisation
Reg. 13 (phone)	HS2
Reg. 13	HS2
Reg. 13	Affinity Water
Reg. 13	Affinity Water
Reg. 13	Affinity Water
Reg. 13	Align

Apologies

Name	Organisation
Reg. 13	Affinity Water

Distribution

Name	Organisation
Attendees & Reg. 13	Align

Notes

#	Actions and Notes	Action	Date
1	**Objectives** To discuss the piling and draft shaft mitigation reports Marked up versions of the report were provided to Align by Affinity Water.		

#	Actions and Notes	Action	Date
2	**Piling report** Reg. 12(4)(d) Main concerns discussed: 1. Reg. 12(4)(d) 2. Reg. 12(4)(d) 3. Reg. 12(4)(d) 4. Reg. 12(4)(d) 5. Reg. 12(4)(d) 6. Reg. 12(4)(d) 7. Reg. 12(4)(d) 8. Reg. 12(4)(d) 9. Reg. 12(4)(d) 10. Reg. 12(4)(d) 11. Reg. 12(4)(d)		

#	Actions and Notes	Action	Date
	The document sign-off procedure was discussed and Affinity Water confirmed provision of a redacted version of the APA to Align. The validation and verification process would form part of the sign-off process.		
3	**Ground investigation** What geophysics is being undertaken ? Gamma would be good to look at clay/marl bands that could result in aquifer layering. It would be useful to get data loggers in at strategic locations to look for any "signal" from changes in PWS abstraction rates. Ilias to ask operations if it is possible to have distinct signals (e.g. pumping at peak rate for a set period). Particularly look at this at the Reg. 12(5)(a) shafts, although a signal is not anticipated.		
4	Shaft Mitigation Report Note that Reg. 12(5)(a) shaft was not in the ES as the tunnel was shorter at that time. At the upper end of the Misbourne valley there are artesian wells that feed the Grand Union Canal.		
5	Overall conclusion is that we are in general agreement regarding the aquifer hydrogeology, but some differences in terminology and particularly the nature and extent of conduit flow – Align think far less conduit flow than MWH suggest. Affinity water is in general agreement with the proposed approach to mitigation, albeit that some additions (as outlined above) are required. Align to update the reports based on Affinity Water comments.		
6	**Next meeting** No date set		

Attachments: Marked up copy of Piling Mitigation report and Shaft Mitigation report provided to Align. Affinity Water also provided Align with a copy of the NEP report (phase 3).