

Type of Minutes of Meeting	Date of Minutes	Attendees	Information relating to delays to the opening of the AWRP
Progress Meeting	12 June 2018 at 09:30	Transport Scotland and ARL	<p>PTU 3 – CJV provided an update on progress to the repairs on PS46. CJV noted that four segments of the east backspan are to be broken out locally to realign the continuity prestress ducts in the east flange. CJV also noted that the wrong concrete had been supplied to one segment and had been replaced. CJV noted that two segments of the south edge of the east backspan are to be broken out locally. Ground Penetrating Radar (GPR) results for the west backspan are being reviewed by DJV, while GPR results for the centre span are awaited. CJV noted that it planned to break out any required segments from the west backspan in conjunction to the east backspan to minimise impact on programme.</p> <p>CJV advised that [REDACTED] is aware of repair work being</p>

			<p>undertaken to the east backspan, and are observing it with a view of potentially having to approve repair work on the west backspan, which lies within the [REDACTED]. [REDACTED]. CJV noted that it would like [REDACTED] to consider the repair work as low risk. CA noted that the best scenario would be that [REDACTED] would be content for CJV to carry out repair work using the protection already in place to construct the permanent works. CJV noted that [REDACTED] are content that the defects and repairs have no effect on the structural integrity. CA stressed that it is important to maintain the good dialogue that currently exists between the parties. CJV confirmed that there will be a fully certified and compliant design at the end of the repair process.</p> <p>PTU 3 – CJV noted that it expects all construction to be</p>
--	--	--	--

			completed by [REDACTED] which the exception of PS46.
Progress Meeting	10 July 2018 at 09:30	Transport Scotland and ARL	<p>PTU 3 – CJV advised that it estimates Substantial Completion to be achieved by [REDACTED] and PTU by the [REDACTED].</p> <p>CJV provided an update on progress to the repairs on PS46.</p> <p>CJV noted that CCTV surveys are now being carried out to determine the lateral position of the continuity pre-stress ducts in the centre span. The results may result in the requirement of repairs to further segments in the centre span. CJV noted that the information is expected to be available this week.</p> <p>CJV noted that several segments of the south span had been removed, and that the Designer is reviewing the data to determine if additional sections need removed.</p>

			<p>CJV noted that while it intends to ensure that Phase 3 road between PS36 and PS46 is substantially complete, in advance the additional work at PS46 is likely to have an impact on the date for Substantial Completion of the Phase. CJV would keep TS/CA informed of any revisions the currently proposed dates.</p>
Progress Meeting	7 August 2018 at 09:30	Transport Scotland and ARL	<p>The CJV responded that there had been a series of focussed workshops across the site, in particular in relation to PS46, and would continue to look at current issues</p> <p>CJV provided an update on progress to the repairs on PS46 and onward works programme as follows:</p> <ul style="list-style-type: none"> • Repairs to east back span to be complete by [REDACTED] • Report on investigations to west back span anticipated by [REDACTED]

			<ul style="list-style-type: none">• Segments 10 and 11 – investigations ongoing• Centre span – investigation and reanalysis ongoing• Segments 17 + 18 need repairs on both main spans• Centre span stitch – works anticipated [REDACTED]• Overall completion of bridgeworks – [REDACTED] <p>The CA asked the CJV if the shrinkage cracking found would be likely to affect the programme and waterproofing of the deck. The CJV replied that the cracks will be repaired by resin injection and a trial is to be carried out to look at the containment of overfilling of cracks and the effect on the performance of the deck waterproofing. [REDACTED] who will be applying the waterproofing will attend the trials to check suitability of substrate for waterproofing.</p>
--	--	--	---

			<p>TS asked if the cracks penetrated down to the level of the reinforcement. CJV confirmed that they did not. TS also inquired about low cover and the CJV confirmed they were not aware of any issue</p> <p>CA enquired if the cause of the cracking had been established. CJV stated that investigations into the cause were still ongoing. In the meantime they are progressing to expedite repairs.</p> <p>TS asked if the CJV intended to propose any form of post construction monitoring for all ongoing defects. The CJV stated that this has still to be decided.</p> <p>CJV noted that some surfacing will be laid to the backspans to allow the installation of the movement joints.</p> <p>The CA asked if there were any options to try and shorten</p>
--	--	--	--

		<p>the works programme utilising extra resources. The CJV replied that the biggest risks of trying to expedite matters was the potential for delay in receiving approvals from ■ for changes to agreed submissions.</p> <p>TS acknowledged that the programme for the repairs was very linear and asked if there was scope to accelerate certain activities. The CJV acknowledged the need to keep on top of managing the programme and they think they have shortened the critical path to the minimum.</p> <p>TS asked if the CJV could provide a short paper explaining the cause of the defects, the investigations and repairs being undertaken. A programme was also requested to allow monitoring of progress. This would be useful in giving confidence in reporting of the progress to others.</p>
--	--	---

			<p>The CJV stated that they would provide this by [REDACTED] [REDACTED] once they had completed all their investigations. The CA suggested that they meet to discuss with the CJV before issuing. CJV agreed to this.</p>
Progress Meeting	11 September 2018 at 09:30	Transport Scotland and ARL	<p>CJV noted that they are focusing on engagement now that they are in a fairly changeable situation at PS46. CJV noted that as they move their workers between slightly different risk profiles they hold workshops, in English and Portuguese, across the site, particularly in relation to PS46.</p> <p>CJV provided an update on progress to the repairs on PS46 and onward works programme as follows:</p> <ul style="list-style-type: none"> • Repairs to east back span to be complete by [REDACTED]; • Report on investigations to west back span anticipated by [REDACTED]

			<ul style="list-style-type: none">• Segments 10 and 11 – investigations ongoing;• Centre span – investigation and reanalysis ongoing;• Segments 17 + 18 need repairs on both main spans;• Centre span stitch – works anticipated [REDACTED]; and• Overall completion of bridgeworks – [REDACTED]. <p>The CA asked the CJV if the shrinkage cracking found would be likely to affect the programme and waterproofing of the deck. The CJV replied that the cracks will be repaired by resin injection and a trial is to be carried out to look at the containment of overfilling of cracks and the effect on the performance of the deck waterproofing [REDACTED] who will be applying the waterproofing will attend the trials to check suitability of substrate for waterproofing.</p> <p>TS asked if the cracks penetrated down to the level of the reinforcement. CJV</p>
--	--	--	--

			<p>confirmed that they did not. TS also inquired about excess cover and the CJV advised they were not aware of any issue.</p> <p>CA enquired if the cause of the cracking had been established. CJV stated that investigations into the cause were still ongoing. In the meantime they are progressing to expedite repairs. Paper for deck cracking was issued on the [REDACTED].</p> <p>TS asked if the CJV intended to propose any form of post construction monitoring for all ongoing defects. The CJV stated that this has still to be decided.</p> <p>CJV noted that some surfacing will be laid to the backspans to allow the installation of the movement joints.</p> <p>The CA asked if there were any options to try and shorten</p>
--	--	--	--

			<p>the works programme utilising extra resources. The CJV replied that the biggest risks of trying to expedite matters was the potential for delay in receiving approvals from [REDACTED] for changes to agreed submissions</p> <p>TS acknowledged that the programme for the repairs was very linear and asked if there was scope to accelerate certain activities. The CJV acknowledged the need to keep on top of managing the programme and they think they have shortened the critical path to the minimum.</p> <p>TS asked if the CJV could provide a short paper explaining the cause of the defects, the investigations and repairs being undertaken. A programme was also requested to allow monitoring of progress. This would be useful in giving confidence in reporting of the progress to others. The CJV stated that they would provide this by [REDACTED]</p>
--	--	--	---

			<p>██████████ once they had completed all their investigations. The CA suggested that they meet to discuss with the CJV before issuing. CJV agreed to this.</p> <p>CJV proposed closing this item and asked the opinion of the CA. CA noted that they have received a paper covering the shrinkage cracking defects and have since provided comments on it and a response is awaited. CA noted that they don't have a paper on the deck itself and need comfort on cracking in relation to ducts. TS asked who the CJV have got working on the issues at PS46 and the CJV replied that it is ██████████</p> <p>██████████ CA offered to have representatives attend site for a joint site visit if that would be of assistance.</p> <p>CJV noted that waterproofing is weather dependant and that it is progressing this work</p>
--	--	--	---

			<p>while the weather remain favourable.</p> <p>ARL suggested marking duct positions and recording cracks on site and noted that there is a need to get that agreed as a record of what is physically there.</p> <p>CJV noted that top slab ducts are tensioned, 4 back spans are completed and only tensioning left to do is soffit on central span.</p> <p>CA noted that it is critical that feedback is provided confirming work is being carried out to required standard, and asked ARL what its views were of the issues associated with this structure. ARL noted that they have a separate bridge specialist sub-consultant coming from [REDACTED] to visit the site to advise on durability. ARL mentioned that they have been in discussion with him.</p>
--	--	--	--

			<p>CJV noted that the paper is still to be prepared but the programme has been provided. Item Ongoing.</p> <p>CJV noted that they are aiming for Substantial Completion on [REDACTED] [REDACTED] CA noted that there needs to be a focus on achieving Substantial Completion and PTU will follow quickly thereafter. CA hopes to be in a position to conclude at an early date that Substantial Completion has been achieved for Phase 3 with the exception of ongoing works at PS46.</p>
Progress Meeting	9 October 2018 at 09:30	Transport Scotland and ARL	<p>It was noted that the RSA3 for PTU 3 (PS36 to PS46, PS46 to Goval, excl. PS46) had been undertaken and should be issued shortly. CJV advised that only one finding had been recorded.</p> <p>CJV provided an update on progress to the repairs on PS46 and onward works programme as follows:</p>

			<ul style="list-style-type: none">• Repairs to east back span to be complete by [REDACTED]• Report on investigations to west back span anticipated by [REDACTED];• Segments 10 and 11 – investigations ongoing;• Centre span – investigation and reanalysis ongoing;• Segments 17 + 18 need repairs on both main spans;• Centre span stitch – works anticipated [REDACTED]; and• Overall completion of bridgeworks – [REDACTED]. <p>The CA asked the CJV if the shrinkage cracking found would be likely to affect the programme and waterproofing of the deck. The CJV replied that the cracks will be repaired by resin injection and a trial is to be carried out to look at the containment of overfilling of cracks and the effect on the</p>
--	--	--	--

			<p>performance of the deck waterproofing. [REDACTED] who will be applying the waterproofing will attend the trials to check suitability of substrate for waterproofing.</p> <p>TS asked if the cracks penetrated down to the level of the reinforcement. CJV confirmed that they did not. TS also inquired about excess cover and the CJV advised they were not aware of any issue.</p> <p>CA enquired if the cause of the cracking had been established. CJV stated that investigations into the cause were still ongoing. In the meantime they are progressing to expedite repairs. Paper for deck cracking was issued on the [REDACTED]</p> <p>TS asked if the CJV intended to propose any form of post construction monitoring for all ongoing defects. The CJV</p>
--	--	--	---

			<p>stated that this has still to be decided.</p> <p>CJV noted that some surfacing will be laid to the backspans to allow the installation of the movement joints.</p> <p>The CA asked if there were any options to try and shorten the works programme utilising extra resources. The CJV replied that the biggest risks of trying to expedite matters was the potential for delay in receiving approvals from [REDACTED] for changes to agreed submissions</p> <p>TS acknowledged that the programme for the repairs was very linear and asked if there was scope to accelerate certain activities. The CJV acknowledged the need to keep on top of managing the programme and they think they have shortened the critical path to the minimum.</p>
--	--	--	--

			<p>TS asked if the CJV could provide a short paper explaining the cause of the defects, the investigations and repairs being undertaken. A programme was also requested to allow monitoring of progress. This would be useful in giving confidence in reporting of the progress to others. The CJV stated that they would provide this by [REDACTED] once they had completed all their investigations. The CA suggested that they meet to discuss with the CJV before issuing. CJV agreed to this.</p> <p>CJV proposed closing this item and asked the opinion of the CA. CA noted that they have received a paper covering the shrinkage cracking defects and have since provided comments on it and a response is awaited. CA noted that they don't have a paper on the deck itself and need comfort on cracking in relation to ducts. TS asked who the CJV have got working</p>
--	--	--	--

			<p>on the issues at PS46 and the CJV replied that it is [REDACTED]</p> <p>[REDACTED] CA offered to have representatives attend site for a joint site visit if that would be of assistance.</p> <p>CJV noted that waterproofing is weather dependant and that it is progressing this work while the weather remain favourable.</p> <p>CJV suggested marking duct positions and recording cracks on site and noted that there is a need to get that agreed as a record of what is physically there.</p> <p>CJV noted that top slab ducts are tensioned, 4 back spans are completed and only tensioning left to do is soffit on central span.</p> <p>CA noted that it is critical that feedback is provided confirming work is being carried out to required standard, and asked ARL</p>
--	--	--	---

			<p>what its views were of the issues associated with this structure. ARL noted that they have a separate bridge specialist consultant coming from [REDACTED] to visit the site. ARL mentioned that they have been in discussion with him.</p> <p>CJV noted that the paper is still to be prepared but the programme has been provided.</p> <p>PS46 Update at meeting of 9 October 2018:</p> <p>CJV noted that paper on shrinkage cracking had been issued to the CA on [REDACTED], and had been reissued on [REDACTED] in response to comments from the CA. CA is reviewing the revised report and will advise of any further comments.</p> <p>CA noted that it had still not received a report on the issue with the soffit ducts. CJV indicated that this was</p>
--	--	--	---

			<p>expected to be issued in [REDACTED] and noted that all of the repairs were detailed within TQ's. CA acknowledged this, but indicated its concern that it remained unsighted on the technical assessment that had been carried out to determine the extent of repair work required. CJV advised that 12 out of 36 tendons had been stressed on the centre space between [REDACTED].</p> <p>A crack in the deck soffit was observed on [REDACTED] which is believed to have occurred during or shortly after these stressing operations. Subsequent stressing operations in this span had been suspended pending an investigation. An initial partial investigation, limited due to the access equipment available and the need to obtain approval from [REDACTED] had indicated the presence of delamination, the extent and depth of which was not certain. Further access is</p>
--	--	--	--

			<p>being arranged to allow the extent and depth of delamination to be determined.</p> <p>CJV noted that the crack appeared stable at this point, and indicated that if the investigation concluded that the delamination was shallow, it would expect to proceed with stressing operations of tendons 7 and 8, which were the last tendons located in an area that did not have shear link reinforcement. If this is achieved successfully the remaining stressing operations will continue, and the affected area will be repaired in parallel with the completion of other works on the structure.</p> <p>CJV noted that the investigation of the cause of the original defect had not been able to be conducted in the affected segment in the same manner as in other segments, due to the concrete blister within this segment. CA noted its concern that damage</p>
--	--	--	---

			<p>had occurred in an area that had been assessed as not requiring rectification and considered that this raised questions around similar decisions taken for other areas assessed as not requiring rectification, noting also that the structure had not yet been subjected to operational live loads. CJV indicated that it had issued a statement on the issues occurring at this location and CA will review and advise of any comments/queries in relation to that statement. and CA noted</p> <p>TS noted that it had major concerns about the structure, noting that when an area previously reported as not requiring works was now seen to be defective, this had a further impact on its confidence. TS indicated they were in the dark, and ARL confirmed the CJV was in dialogue with the CA on a daily basis, and this was confirmed by the CA.</p>
--	--	--	--

			<p>CA asked ARL whether its independent advisor had offered any views on the issue. ARL stated that its advisor had not raised any concerns regarding the previously remedial works, and had not yet had the opportunity to consider the implications of the damage observed on [REDACTED]</p> <p>CA suggested that a technical discussion with the Designer may be required to explore the issue further. CJV would arrange this discussion. CA noted the importance of restoring confidence in the long-term durability of the structure.</p> <p>The consequences of this issue on programme were discussed in outline. CJV indicated that if the investigation established that the delamination was limited in extent and shallow in depth it expected to be able to</p>
--	--	--	--

			<p>maintain overall programme, but that this was subject to review and the conclusions of the investigation</p> <p>CJV noted that for Phase 3 it was aiming for Substantial Completion [REDACTED]</p> <p>[REDACTED] CA noted that there needs to be a focus on achieving Substantial Completion and PTU will follow quickly thereafter. CA hopes to be in a position to validate a condition of substantial Completion has been achieved for Phase 3 works other than PS46 an early date.</p>
Monthly Progress Statement Minutes	June – November 2018	CA and ARL	All information is deemed commercially sensitive which is explained within the FOI response.