Theme	Question	Response
Water Resources	In their zoom presentation, the quarry said that the estimated distance from which groundwater will be drawn into the quarry will most likely be 160 metres with worst case scenario 250 metres. It an ESTIMATE. In the next statement they say that there will be NO reduction in groundwater levels beyond this 160 / 250 metres distance. Yet they have just stated that it's only an estimate! Aren't the 2 statements a contradiction?	We consider the assessment to be conservative, although there is uncertainty due to the nature of geology, but any effects will develop gradually and monitoring will be put in place in order to give early warning of developing effects and to confirm the accuracy of the assessment. More on monitoring in subsequent responses below. We don't believe it is a contradiction to estimated a worst case.
Water Resources	In the pumping report, no boreholes or springs were considered further than 250m from the site boundary. How can Tarmac be confident that groundwater will not be affected further afield?	We are confident the effects wont spread further. However, it cannot absolutely be ruled out. Any effects will develop gradually and monitoring will be put in place in order to give early warning. More on monitoring in subsequent responses below.
Water Resources	The zoom presentation states that it is likely that there will be a licence condition to stop the abstraction when the water level in the Wye is low. Isn't this admitting that the consequence of their abstractions exceeds the 160 / 250 metre boundary? (that they estimate)	No. There are 2 separate elements here. The licence condition would apply to the full abstraction licence for use from the borehole. The condition is a catchment wide condition for most licensed abstractions in the catchment to ensure that water gets to the Wye SAC when it is most needed, during dry conditions. The condition would not apply to the abstraction licence for dewatering the quarry, as if this pumping stopped then the water will collect in the quarry and would not be feeding the Wye SAC when it most needs it, and this is not what NRW will want.
Water Resources	In their impact assessment findings, they say - when working below the water table, some groundwater will be drawn in from outside the site, reducing the volume of groundwater flow to surface features, but it will be discharged back to the surface water network where it would have ended up anyway. Their original presentation said that this was a slow process. How long will it take to return the water to where is should have been in the first place? How will they monitor this?	Groundwater does move through the rock slowly, but ultimately the daily loss of flow to the river network will be broadly the same as the inflows to the quarry (the waterwill not be used or consumed). The discharge will return the same volumes to the surface water network.
Water Resources	Page 35 of the quarry abstraction report says there will be a moderate degree of impact on the Breedon Concrete Plant in Dolyhir. Given this site is 0.7 km away, can you explain the impact?	This was an error in the report. The degree of impact should have read "negligible". Following the impact assessment methodology presented in Appendix F, a "Negligible" degree of effect will always result in a "Negligible" degree of impact (not significant).
Water Resources	Will Tarmac be entering into a Derrogation Agreement with existing local users of the groundwater resources? This agreement would restrict Tarmac's ability to abstract water to the point where it affects other people's water resources. If they are confident in the analysis, this would not be an issue.	Yes they will. Although no water users within the expected area of influence were initially identified through data requests to NRW, Powys and Herefordshire, a number have now come to light during this consultation process. Tarmac will ensure that any water source at risk of impact is protected or an additional source of water is provided. In fact, this is a requirements from NRW, and a licence would not be issued until derogation agreements are in place for all potentially affected sources.
Water Resources	This is question for NRW, not really tarmac. All people with an existing borehole have a right to at least 20m3 per day. How can NRW be confident that this right will not be restricted given the large volume of water involved in the proposed abstraction? Particularly given that NRW would be liable to legal action should it grant a license that impacted this right.	As per the response above, any source at risk of impact will need to have a derogation consent agreed between Tarmac and the water source owner.
Water Resources	How will the quarry extraction affect that done by Welsh Water at nearby Stanner Rock?	It has been confirmed in the liaison meeting that this relates to the Welsh Water Dunfield supply, which was discussed in Section 3.2.1 of the report; and shown in Figure 3.1. The same figures shows the area from which this source draws water as modelled by NRW. This source takes water from the superficial deposits of alluvium and fluvioglacial within the Gilern Brook valley, which sit above bedrock. It was discussed in the liaison meeting that it is thought locally that the Welsh Water source may pull water from the north, possibly impacting on Hindwell Pool. We can say with confidence that this is not the case. Additionally, the quarry dewatering wont affect the Welsh Water supply given the differing geology.

Theme	Question	Response
Water Resources	I farm at Hindwell, 1km from the Gore quarry. I am responsible for water supply to 8 properties, 2000 head of sheep and 200 head of cattle. In 2022 we drilled a borehole to ensure a reliable water supply. Ground level was 190m a.s.l. We found water at 182metres a.s.l. We then hit clay at 177 metres a.s.l. So we have 5 metres of aquifer water available to us. The proposed quarry floor is 164 metres a.s.l. This is 13 metres below the foot of our borehole. What assurances can Tarmac offer to us that our water supply is secure, given that private property and agricultural requirements are deemed a "low value receptor"? What compensation plans are in place should such assurances be unfounded?	We can say with confidence that this source will not be impacted given it's distance from the Site. Additionally, it's position on the opposite site of the Riddings and Summergil Brook will offer further protection. It is also likely to source water from the superficial deposits and not bedrock.
Water Resources	The more important springs on Old Radnor Hill, such as those at Jenkin's Well and Gore barn were not tested but they fall within in the 250 m area around the quarry boundary that will be potentially affected by abstraction, according to the survey. Currently the spring at Gore barn SO 25603 58756 is used to supply water to stock; if this spring were to be compromised then considerable infrastructure will be needed to continue a usable water supply. This is potentially very problematic; these springs have never dried, not even in 1976. Are Tarmac prepared to guarantee continued supply or provide for new infrastructure, to supply water to locations such as these?	We are now aware of the Gore Barn water supply and this will be assessed following receipt of all NRW comments. It is likely that this source will be impact. As per the comments above about derogations, Tarmac will agree mitigation such as provision of an alternative supply. A licence will not be issued by NRW until this is in place. We were not aware of the Jenkins Well as it did not come up in the searches. Can you please provide the location, and other information, for this source so that we can assess the potential impact and need for mitigation/provision of alternative source?
Water Resources	Will springs within the expected affected zone dry up?	Possibly yes; if deemed to be be significant then NRW will require mitigation, which could be via discharge of some of the quarry dewatering water. As discussed above, the Gorn Barn spring has now been identified as a supply and will need to be mitigated.
Water Resources	What facility is used for wheel washings at the site? Will any water be reused for the wheel washings rather than using valuable acquifer water? What rainwater collection systems are now on site to reduce dependence on acquifer water?	Wheel wash water recirculates water via a siltbuster (treatment) unit, and is topped up as water is lost. It is esimtate that it uses about 20 m3/d of top up water.
Water Resources	The licence application is seeking 15litres per second discharge - the maximum permitted under law. How will the site reduce their consumption of aquifer water over time?	The quarry does not have a large water need - wheel washing and dust suppression only. Tarmac are looking at ways to capture surface water for use as a preference over groundwater from the borehole.
Water Resources	"Recharge to groundwater below the Site will only be produced by means of rainfall. The fractured / weathered nature of the Strinds Formation at the surface around the Site is expected to induce recharge; however, given the steep topography, it is anticipated that a large percentage of rainfall will form surface water runoff, reducing infiltration to the aquifer." The water extraction by Tarmac will therefore result in persistent depletion of the aquifer.	There is a large runoff percentage due to the steep topography. However, if there is less infiltration then less water will be drawn into the quarry from dewatering. It does not mean greater aquifer depletion.
Discharge/Flooding	They say that they can switch the water off from going into Riddings if necessary. Where will they divert this water to? Where will they store such a vast amount of water? If it can't be stored, and can't be pumped out then will they stop production?	The quarry can simply stop pumping if water quality is too poor for a period or to provide additional flood protection during storm events for example. Tarmac would take the lead from NRW as to whether they want dewatering water to be pumped in dry periods, as NRW will likely prefer that it is pumped in order to provide water to the Wye SAC when it is needed.
Discharge/Flooding	The existing permit allows water to be discharged at 15L per second under normal conditions and over 15L per second during a storm event into a sacrificial area. But this is only until the current permit is changed. What could this discharge rate rise to? (Potentially / maximum)	The abstraction licence application was for 175 l/s (5,698 m3/d, but discharged over 9 hours. With 24 hr pumping instead this reduces to 66 l/s.

Theme	Question	Response
Discharge/Flooding	It says that a second discharge route may be sought in the future. This implies that the water volume will be too great for the current sacrificial area. So where will the additional water be sent to? Via?	A larger discharge volume will be required in the future as the quarry deepens. As indicated in the online presentation, a full review of discharge options is to be undertaken by Tarmac, and a second discharge route may be sought in the future. Tarmac recognise a separate application for a new discharge permit, or variation to the current discharge permit, will be required as the quarry deepening progresses. The preferred discharge route will depend on the finding of the review, but it may be the case that discharge of a portion of the water to the Gilwern catchment is preferred. The quarry discharge volume would be limited by the current discharge permit even if the abstracton licence has larger volumes. Abstraction licence and discharge permit applications are assessed by two different teams at NRW – water resources team (abstraction applications) and the water quality permitting team (discharge applications).
Discharge/Flooding	The Licence Application is for the discharge of 633cubic metres of water an hour which equates to 10 .76cubic metres a MINUTE of water to be discharged into the drain leading into the RIDDINGS BROOK which floods whenever we have heavy rain, exacerbated by culverts and bridges at maximum capacity. MY QUESTION IS What research has been undertaken by Tarmac Trading Ltd into the impact of this huge proposed additional discharge on the Riddings and the drain, what are the results of that investigation and were there any consultations with the local community relating to the Riddings.	same answer as above (No 11, original order)
Discharge/Flooding	the Riddings brook (with the quarry waste) discharges into the Hindwell in these OR parish fields. Approx 400 m away is the Knill ford. This is used a lot in the summer for wild swimming and children paddling and picnic-ing. I would like to know if the quarry is confident with the lower flow of the Hindwell in the summer together with the higher flow of the Riddings that it will still be safe to use as a recreational facility. I believe the area is Hereford Council owned.	Thanks for this information. The ford is at NGR SO 29408 60440. Yes, it will be safe. Flows will be about the same overall (no net loss). The work for the discharge as discussed above can take this receptor into account in more detail and ensure no impact.
Discharge/Water Quality	The settling lagoons at the Gore have been used to treat circa 20,000 tonnes of wash water per annum. Have they been designed to cope with 1.3 million tonnes per annum? Is the maintenance plan in place to ensure their continued function? How will their performance be monitored? What boreholes are currently being used for abstraction in the quarry? How much water do they draw? From what depth do they draw it?	The treatment system currently deals with surface water runoff that runs by gravity to the NE of the site near the office areas. This needs to be captured and treated to prevent uncontrolled gravity discharge of poor quality water from the site. As the quarry is deepened then this provides significant storage, and water can be held within the quarry void itself for sufficient time for settlement prior to discharge. Therefore, control and treatment of the water discharge actually becomes easier compared to current. As the quarry develops, the infrastructure needed to be compliant with the discharge requirements will be reviewed, and upgraded if necessary.
Discharge/Water Quality	Regular independent monitoring of the discharge volume and sampling of the discharge, including temperature, must be established to avoid harmful impacts on watercourse ecosystems. While wheel washings sounds a benign practice, tyre dust contains unknown particulates and chemicals and the full impact on the ecosystem is unquantified so harms cannot be evaluated to clearly determine risks and the appropriate course of action to address them.	Tarmac have an automatic control system with continous monitoring of the discharge rate, pH and suspended solids. The quarry wheel wash water recirculates water via a siltbuster (treatment) unit, and is topped up as water is lost. It is estimate that it uses about 20 m3/d of top up water.
Discharge/Water Quality	5 - could deoxygenated water be entering the local streams ?	No. Nothing is added to the water that may result in this. Tarmac can take periodic samples for dissolved oxygen to confirm this.
Monitoring	What will they do to monitor and measure the distance from which groundwater will be drawn? What will they do it it exceeds 250 metres?	Once we have a complete picture of all of the water supply sources the impact assessment will be updated to take account of these. A monitoring scheme will then be completed and agreed with NRW as part fo the application process, which will be appropriate for identify effects early so that receptors can be protects and mitigated. Additional monitoring wells are likely to be proposed as part of this scheme. This will also include reporting requirements.

Theme	Question	Response
Monitoring	Will the quarry guarantee to keep the Community council informed of the results from all tests and monitoring carried out?	Yes. We anticipate regular reporting will be required by NRW (probably annual) and we envisage this will be summarised during the liaison meetings through a regular agenda item.
Monitoring	2 - has NRW any plan to monitor the levels of the Riddings , Hindwell and Knobley brooks regularly before and after the proposed extraction extension ?	NRW will give a view on this. Effects wont extend as far as Hindwell/Knobley Brooks. Groundwater level monitoring information will give a good indicated of potential effects on the Ridding Brook.
Monitoring	What systems does the site have to ensure sediment does not find its way into nearby water courses, both under normal operating procedures and in emergency conditions?	Surface water runoff runs to the NE towards the quarry offices area. This is put through settlement lagoons. It is then pumped to the top of the quarry for further settlement in 2 large settlement lagoons. Water is then piped from here for discharge off site at the permitted location. There is an automated system which shuts down the discharge if the suspended solids is above the discharge limit of 80 mg/l.
Monitoring	How does Tarmac sample discharge water from Gore Quarry?	There is continued monitoring of discharge rates, pH and suspended solids. Daily visual inspection is undertaken for hydrocarbons. Random site visits are completed by NRW each quarter to collect samples from the discharge outlet.
Monitoring	There is reference to the water usage being metered to determine extraction rates. When was the water meter installed and by whom? How frequently are readings taken? Who verifies them?	There is currently no quarry groundwater dewatering, so this is not measured yet. Discharge rates (surface water) off site are continuously monitored. The volumes from the borehole are measured regularly. Readings are taken from a flow meter by site staff, and the meter is certified for accuracy.
Monitoring	If it starts to affect neighbouring areas, will they stop? Who are they obliged to notify if this happens?	As mentioned above, effects from dewatering will develop slowly as the quarry progresses slowly. Monitoring will provide an early warning prior to effects at identified receptors occuring. All significant impacts will be mitigated, including provision of alternative supplies. If impacts could not be mitigated then the quarry would need to stop, or alter approach.
Other	Can the numbers be clarified re the volumes involved and what would be the maximum level that could be retained on site.	The volumes applied for are as follows: Annual - 1,230,415 m3/yr (average 40 l/s, 3371 m3/d) Daily max - 5,698 m3/d (66 l/s) - accounts for period after heavy rainfall. Peak rate – 175 l/s - same as above but assumed pumping for 9 hrs. With 24 hr pumping instead this reduces to 66 l/s. There will be a large voulme available for temporary storage in the quarry void, so dewatering could cease temporarily during a storm event if needed to reduce flood risk for the area.
Other	The inflow into a 6/8 borehole is miniscule when compared to the whole of the quarry floor and exposed quarry wall. With each meter down the water pressure is rising	Correct, and this is reflected in the water voulme applied for from the borehole - only 100 m3/d.
Other	The quarry have said that they don't intend to extract this water for 4 - 5 years, so why are they applying for the licence so far in advance? (should be no rush in making an extremely difficult and far reaching decision).	It was recognised that the application process may take a long period, and to ensure the permission is delivered in good time. As a wider point, this is important to ensure the medium-long-term security of the quarry operations at Gore and to ensure supply of the nationally-important mineral products from the quarry.
Other	As the Gore will deepen to 164 maod. Does this mean the quarry floor will end up 20 metres below the Riddings Brook in Walton?	Yes that's correct. Walton is at about 187 mAOD, so 23 m above the final quarry level.
Other	The owner company CRH prides itself on the sustainability credentials of Tarmac. While Tarmac has an EMS covering multiple sites and specific operations, Gore Quarry is noticeable by its absence. Why is there no certified EMS covering the site?	Gore Quarry does have an EMS in place.
Other	When were the boreholes planned, approved and commissioned? Was any independent Environmental Impact Assessment completed prior to commissioning the boreholes, or was the engineering firm who secured the contract responsible for the survey? Why did the site manager choose not to consult with key stakeholders during the planning phase?	4 boreholes were drilled and installed in 2017 for purpose of groundwater monitroing and no permission was required for this. The abstraction borehole is historic and the pumping test was undertaken in 2023 usign this borehole with NRW permission.

Theme	Question	Response
Other	This retrospective application is a planned non-conformity with their agreed operating licence. Why should the local community have any confidence in the operator abiding by the terms of the extraction licence it is now applying for?	This is not the case for the quarry dewatering as a licence is not required at the current floor level. It will be required for working of the next bench in the next 4-5 years. The need for a licence for the use of water >20 m3/d from the borehole was identified following an internal audit based on future quarry water need.
Other	How much has road transport to and from the site increased since aquifer extraction began? Who at board level at Tarmac plc knew of the plans to extract from the aquifer and when?	Groundwater abstraction has not commenced. Quarry output willl continue in-line with planning permission and will not increase due to the abstraction.
Other	Who at board level at Tarmac plc knew of the plans to extract from the aquifer and when?	Planning permission in place to go to 164maOD including dewatering of groundwater. An abstraction licence is now required; it was previously exempt. This is acknowledged at relevent levels within Tarmac.
Other	1- would the proposed additional pumping of the water from the quarry when the mineral extraction deepens to below the water table be noisy? Would it be heard by local residents adding to noise pollution ?	No, site has noise limits within planning permission that will be adhered to.
Other	3 - some Old Radnor residents were worried that the further deepening of Gore Quarry would effect their properties' values and insurance costs. Could this be the case.	We have existing planning permission to go down to 164maOD, no further comment.
Other	4 - what effect on the geology of the area would the proposed extraction of the water extraction have? Could there be any subsidence?	There is no plausible risk of subsidence due to the competent nature of the bedrock.