Appendix 5.1 Option sifting tool

West Of England Transport Assessments Option Assessment and Sifting Template

Atkins

WP1 South East Bristol and Whitchurch

22/01/2018

Revision	Contents/Changes	Originated	Date	Checked	Date	Reviewed	Date	Authorised	Date
	0.1 Template Created for distribution	P Gilg	11/12/2017	' T Jarvis	11/12/2017	J Foster-Clark	11/12/2017	J Foster-Clark	11/12/207
	1 Final Draft: Template altered to remove average scores; summary page now text based	P Gilg	18/12/2017	' T Jarvis	18/12/2017	A Chaudhrey	19/12/2017	J Foster-Clark	20/12/207
	1.1 First draft of populating template	M Hansen	21/12/2017	7					
	1.2 Updated version	M Hansen	05/01/2018	3					
	1.3 Version shared during client meeting	M Hansen	11/01/2018	3					
	2 Version issued to client	M Hansen	19/01/2018	P Salvin	22/01/2018				
	3 Updated version with client comments	M Hansen	13/02/2018	P Salvin					

Small changes internally should be marked with a version increase of 0.1 When a document is issued externally, the version should increase by 1

Guide to using this workbook

Please read before using the workbook

Colour coding of cells in this workbook:

Note Information/Note input Input data result Do not amend - takes values using formulae

Guide to the contents of each sheet:

Sheet	Description						
Front cover and version	Includes version and QA information						
Guidance	These are intended for the worksheet user and do not need to be printed (right click o						
Assessment Guidance	These are intended for the worksheet user and do not need to be printed (right click						
#REF!	Options are assessed against Strategic and Management Cases.						
2nd Phase Assessment	Progressed options only are assessed against Economic and Financial Cases.						
#REF!	A summary of all options' case's assessment.						
#REF!	This displays only shortlisted options (which have passed both phases of assessment)						

Instructions:

Step	Action	Where	Further guidance
		1st Phase Assessment: Columns A	This should include all modes.
	1 Fill in a long list of options	and C	"Themes" refer to active travel/ metro bus / park and ride etc.
	Fill in corridor objectives under the Strategic Case		Up to five permitted (can be less if appropriate).
	2 heading.	1st Phase Assessment: D4 to H4	The first objective must relate to enabling or supporting SDL growth in SDL, as this is u
	Using the drop down menus, rate each option against		
	the Strategic and Management Cases. Add brief	1st Phase Assessment: Columns D to	
	3 comments to justify as appropriate.	М	See Assessment Guidance tab.
	Check you are satisfied with the pass/fail criteria (set at		
	the top of the column) for the Strategic and		
	4 Management Cases.	1st Phase Assessment: N5 to Q5	Criteria should be agreed with WECA Client Group.
	Populate the last two columns to indicate whether each	1st Phase Assessment: Columns S	Column R presents the overall result of the Pass/Fail tests, but there is the opportunity
	5 option will be taken forward and why.	and T	Only options with a 'Yes' input in Column S are taken through to the 2nd Phase Assess
	Options which pass the 1st Phase are automatically		
	populated on the 2nd Phase Assessment sheet. This will		
	need to be manually updated, by pressing the 'Reapply'		
	button on the Data ribbon (next to Filter button) or Ctrl +		The 2nd Phase Assessment sheet contains a hidden filter based on the output from 1s
	6 Alt + L.	button under Data / Sort & Filter	updated following any change to the values on the 1st Phase tab.
	Using the drop down menus, rate each option against		
	the Economic and Financial Cases. Add brief comments	2nd Phase Assessment: Columns E	
	7 to justify as appropriate.	to L	See Assessment Guidance tab.
	Check you are satisfied with the pass/fail criteria (set at		
	the top of the column) for the Economic and Financial		
	8 Cases.	2nd Phase Assessment: M5 to P5	Criteria should be agreed with WECA Client Group.
	Populate the last two columns to indicate whether each	2nd Phase Assessment: Columns R	
	9 option will be taken forward and why.	and S	Column Q presents the overall result of the Pass/Fail tests, but there is the opportunit
	10 Review overall assessment in the Summary tab.	Summary	Do not change any values here - go back to 1st / 2nd Phase tabs if required to update a
	Short-listed options appear in the Shortlist tab. Update		
	the filter as in Step 6, by pressing the Reapply button on		The Shortlist sheet contains a hidden filter based on the output from 2nd Phase (Colur
	11 the Data tab or Ctrl + Alt + L.	Summary Shortlist	any change to the values on the 2nd Phase tab.

on them and select 'hide' before printing).

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s used as part of the sifting criteria.

nity to over-ride this (with justification).

1st Phase (Column S). This needs to be manually

nity to over-ride this (with justification). te assessment

olumn R). This needs to be manually updated following

Options scoring criteria

Strategic Case

Each option is scored on 6-point system with respect to potential contribution to scheme objectives. The comments column should be used to briefly record any key points relevant to the Strategic Case.

Score	Summary	Impact						
0	Neutral / adverse	Not anticipated to have a beneficial impact / more likely to have an adverse impact						
1	Very small impact	Would have a very small beneficial impact, possibly with undesirable consequences						
2	Minor impact	Would have a modest overall impact						
3	Moderate impact	Expected to have a reasonably significant impact with respect to the identified objective or outcome						
4	Significant impact	Expected to have a very significant impact with respect to the identified objective or outcome						
5	Fully addressed	Expected to fully address the identified objective or outcome, without any undesirable consequences						

Management Case

The most likely timescales for implementation (5-year period) should be recorded, followed by an assessment of deliverability. The Key Risks / Issues column should be used to support the assessment - in particular any major risks or showstoppers leading to a score of 1 for deliverability should be identified. Equally, if the option is assessed as being unlikely to be delivered before 2036, brief explanation should be provided.

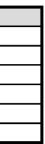
	Score	Summary
Estimated timescales	1	Unlikely to be before 2036
for implementation	2	Most likely to be between 2026 and 2036
(opening year)	3	Most likely to be before 2026
	1	Unlikely to be deliverable - i.e. not practically feasible (for technical or possibly environmental reasons)
Deliverability	2	Deliverable but relatively high complexity and risk - i.e. some significant technical/environmental risks but potential for these to
Deliverability	Z	be mitigated
	3	Deliverable with low complexity and risk - possibly some challenges but these can be overcome

	1	Unlikely to be deliverable - i.e. not practically feasible (for technical or possibly environmental reasons)
Deliverability	2	Deliverable but relatively high complexity and risk - i.e. some significant technical/environmental risks but potential for these t
Deliverability	Ζ	be mitigated
	3	Deliverable with low complexity and risk - possibly some challenges but these can be overcome

Economic Case

For each of economic growth, environment and well being, each option is scored on a 5-point scale. Where adverse impacts are likely, scoring should be based on the most adverse impact expected in each case post-mitigation (e.g. a minor adverse impact under air quality does not offset a major adverse impact under landscape). Where only beneficial impacts are likely, scoring should take into account the overall range of impacts rather than focusing on just one element. Any specific major adverse / beneficial impacts should be recorded in the comments column with brief justification provided.

	Score	Summary	Further information
	-2	Major adverse impact	This would indicate likelihood of a major adverse impact, which could not be satisfactorily mitigated.
	-1	Minor / Moderate adverse impact	Moderate / minor adverse impacts - which can probably be satisfactorily mitigated through the design process.
	0	Neutral	Only use if there is reasonable evidence that no beneficial or adverse impacts would occur.
	1	Minor / Moderate beneficial impact	Use these if there is reasonable evidence of minor / moderate beneficial impacts overall, and no risk of adverse impacts. Bewa
	T	Millor / Moderate beneficial impact	of optimism bias in scoring!
F	2		Would require strong evidence that the option would be genuinely transformative, and/or with regional-wide benefits, plus no
	2	Major beneficial impact	risk of adverse impacts to achieve this score.





Financial Case

Where possible, an estimate of likely capital costs including appropriate risk allowance should be made. Requirements for on-going revenue costs are assessed qualitatively, but could be entered into the comments column along with more detailed capital costs estimates if available. Finally, a qualitative assessment of overall affordability is made - primarily with the purpose of identifying any options that at this stage would be considered unaffordable - justification would be required for such an assessment and set out in the comments column.

	•	
	Score	Cost (current core costs including risk allowance)
	1	> £ 100m
	2	£ 50-100m
Capital cost	3	£ 25-50m
	4	£ 10-25m
	5	< £ 10m
	1	Likely requirement for ongoing revenue support for operation of transport services or facilities (e.g. over 5 years).
Revenue costs	2	Likely requirement for short-term revenue support for operation of transport services or facilities (e.g. up to 5 years).
	3	No requirement for revenue support / on-going costs limited to infrastructure maintenance only.
Affordability and	1	Not likely to be affordable, due to very high capital and/or revenue costs or associated financial risks.
Affordability and	2	Likely to be affordable, but with potentially high capital and/or revenue costs; manageable financial risks.
financial risk	3	Affordable with relatively low capital and/or revenue costs, and low financial risk.



1st Phase	1st Phase Assessment																	
					to which problems would be solve			4		Managemen	Case	Strate	gic Case		ement Case			
			Objective 1	Objective 2	Objective 3	Objective 4		-				Does it support SDL objective (Column D)?	Does it support overall	Timescales	Deliverability	-		
Themes	No.	Transport Option	Mitigate increased travel demand enabling planned growth (JSP and non-JSP)	Provide a range of convenient and attractive journey options for south-east Bristol to key destinations such as Bristol city centre and Keynsham, and for orbital movements, to enable mode shift	Increase orbital connectivity to improve access around south- east Bristol, reduce delays on the existing network and minimise inappropriate movements on local roads	Improve journey time reliability for public transport along the corridor and orbital movements	Overall Assessment	Comments (key points relevant to Strategic Case)	Estimated timescales for implementation (opening year)	: Deliverability	Key Risks / Issues affecting deliverability and timescales	Pass if >= 3, Moderate impact	objectives? Pass if >= 3, Moderate impact	Pass if >= 2, 2026-2036	2, Deliverable but high complexity/risk	Overall assessment (as calculated)	Taken forward to phase 2? (Manual entry)	Justification for option rejection or continuation to next stage
Orbital MetroBus	1	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrastructure (via new transport link around South East Bristol) - Gold standard.	4, Significant impact	4, Significant impact	3, Moderate impact	4, Significant impact	4, Significant impact	Gold standard: offline bus lanes for full length and priority at all junctions/bus gates will encourage mode shift and reduce car journeys by providing reliable public transport journeys. May not be sufficient evidence to suggest high enough demand for orbital MeroBus to immediately go to a full offline route option - journey to work data suggests there are orbital movements but these are small compared with journeys into Bristol, and with more in the Whitchurch - Emersons Green direction than vice versa. There is however no direct or full orbital bus service at the moment, thus with increased population from SDL growth there is potential for mode shift if one is available.	2, 2026-2036	2, Deliverable but high complexity/risk	Dependent on the building of new link road. Emersons Green to Whitchurch is a very long route, unlikely to be able to have an offline bus route for the entire route. Will likely take longer than the delivery of the new roads. Very high cost. May be difficult to deliver in terms of land acquisition / construction requirements.	Pass	Pass	Pass	Pass	Pass	Yes	May be potential hotspots where gold standard is not possible. Potential lack of sufficient evidence to suggest that it has the demand to justify it. Current A4174 Emersons Green to Hicks Gate is already dual carriageway - would require careful consideration of what is required above and beyond this.
Orbital MetroBus	2	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrestructure (via new transport link around South East Bristol) - Silver standard.	3, Moderate impact	4, Significant impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	Silver standard: offline bus lanes where width permits and prioritised junctions may encourage mode shift and reduce car journeys by providing more reliable public transport journeys. May not be sufficient evidence to suggest high enough demand for orbital MeroBus to immediately go to a full offline route option - journey to work data suggests there are orbital movements but these are small compared with journeys into Bristol, and with more in the Whitchurch - Emersons Green direct or full orbital bus service at the moment, thus with increased population from SDL growth there is potential for mode shift if one is available.	2, 2026-2036	2, Deliverable but high complexity/risk	Dependent on the building of new link road. Will potentially take longer than the delivery of the new roads. High osci. May be difficult to deliver in terms of land acquisition / construction requirements.	Pass	Pass	Pass	Pass	Pass	Yes	Unlikely to be able to deliver offline bus route for the entire route, but there will likely be sections where an offline bus route is possible and preferable. Current A4174 Emersons Green to Hicks Gate is already dual carriageway - would require careful consideration of what is required above and beyond this.
Orbital MetroBus	3	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrastructure (via new transport link around South East Bristol) - Bronze standard.	3, Moderate impact	3, Moderate impact	2, Minor impact	2, Minor impact	2, Minor impact	Bronze standard: priority junctions/bus gates may encourage mode shift and reduce car journeys by providing more reliable public transport journeys. There is evidence for bus priority at junctions, as these are the points where delay occurs. Evidence suggests that the current pinch points of congestion are at junctions where there is limited space for improvements - bronze standard MetroBus would likely not address this.	2, 2026-2036	3, Deliverable with low complexity/risk	Dependent on the building of new link roads, but could be delivered at a similar time.	Pass	Fail	Pass	Pass	Fail	No	The current ring road from Emersons Green to Hicks Gate is not a highly congested route, and the new A4-A37 link should provide sufficient highway capacity. It is the junctions that are the issue, and these are likely not to have space for 'easy' improvements as included in bronze standard.
Orbital MetroBus	4	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrastructure (on existing roads, e.g. Whitchurch Lane/Stockwood Ln).	1, Very small impact	0, Neutral / adverse	0, Neutral / adverse	0, Neutral / adverse	0, Neutral / adverse	Existing infrastructure only, with no new link roads, would not provide a sufficient orbital route.	2, 2026-2036	1, Unlikely to be deliverable	Undeliverable because constraints on the current roads (widths) are high - would not be able to build a MetroBus standard route.	Fail	Fail	Pass	Fail	Fail	No	Existing infrastructure only, with no new link roads, would not provide a sufficient orbital route, and would not be up to a MetroBus standard.
Orbital MetroBus	5	Improvements to city centre interchange between South Bristol and East Fringe bus services.	1, Very small impact	1, Very small impact	0, Neutral / adverse	0, Neutral / adverse	0, Neutral / adverse	Undesirable to have to go into the city centre to interchange - may be useful to improve city interchange but not for an orbital route.	3, Before 2026	3, Deliverable with low complexity/risk		Fail	Fail	Pass	Pass	Fail	No	Undesirable to have to go far out of the way into the city centre and change. This would not address the key issue of congestion on the route.
Orbital MetroBus	6	Enhanced bus service on new orbital transport link.	3, Moderate impact	2, Minor impact	2, Minor impact	2, Minor impact	2, Minor impact	There is not currently a bus route which caters for movements from Whitchurch to the East Fringe or vice versa without having to go into the centre and change, or even for shorter orbital movements such as Emersons Green to Hicks Gate, as there are no bus services on the ring road. Whilst the impact would not be as strong as MetroBus, it may be sufficient for the level of patronage to offer a new online fast bus connection from Whitchurch to Emersons Green along the ring road and new A4-A37 link.	2, 2026-2036	3, Deliverable with low complexity/risk	Deliverable as long as the new link road is built.	Pass	Fail	Pass	Pass	Fail	Yes	Passed as although the benefits aren't huge, they may be sufficient for the demands of the corridor and the level of bus patronage that could be achieved.
Whitchurch P&R	7	Increase the capacity of existing sites only.	1, Very small impact	1, Very small impact	0, Neutral / adverse	0, Neutral / adverse	0, Neutral / adverse	There is no current site at Whitchurch.	3, Before 2026	1, Unlikely to be deliverable	Failed as this site has been identified as an SDL site.	Fail	Fail	Pass	Fail	Fail	No	The Brislington P&R needs to be relocated to make space for a new SDL site. The site is also not the most ideal location in terms of removing the most efficient amount of traffic on the A4.
Hicks Gate P&R	8	Increase the capacity of existing site only.	2, Minor impact	3, Moderate impact	0, Neutral / adverse	3, Moderate impact	2, Minor impact	Expanding existing site as Brinslington would results in more traffic on the A4, and would increase congestion along that section.	3, Before 2026	1, Unlikely to be deliverable		Fail	Fail	Pass	Fail	Fail	No	Fail as this scheme is simply not deliverable due to this land being designated for housing.
A4-A37 Link	9	On-line widening of existing route via A4 Bath Rd, A4174 Callington Rd, Airport Rd.	0, Neutral / adverse	0, Neutral / adverse	1, Very small impact	1, Very small impact	0, Neutral / adverse	Unlikely to be sufficient to meet the demands on the corridor as congestion would remain poor. Many local roads would still be used and are generally unsuitable as strategic routes.	3, Before 2026	3, Deliverable with low complexity/risk	Deliverable but not strategically useful.	Fail	Fail	Pass	Pass	Fail	No	Unlikely to be sufficient to meet the demands on the corridor as congestion would remain poor, with conflicting movements in/out of Bristol and orbitally.
West of A37 Link	10	New orbital corridor between Whitchurch and A38 at Barrow Common.	4, Significant impact	3, Moderate impact	3, Moderate impact	4, Significant impact	3, Moderate impact	Would be a strategically significant route.	1, After 2036	2, Deliverable but high complexity/risk	Needs substantial work to take it to consideration, and is likely to take longer to complete than the A38 - Hicks Gate section.	Pass	Pass	Fail	Pass	Fail	No	This scheme has very significant delivery challenges, likely requiring a lengthy tunnel for both environmental and heritage/landscape reasons. Delivery within the plan period is unlikely. However, it is recognised that it remains a potential future aspiration, and would provide a suitable strategic link of higher quality than other options. At this stage the Whitchurch-Hicks Gate sections are the focus, however it is recognised that future profing the routes for potential expansion to the A38 is essential.
A4-A37 Link	11	North Alignment 1 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - southerly route from Hicks Gate to Stockwood Lane - improvement to Stockwood Lane - parallel route to Stockwood avoiding Stockwood Vale valley. (Yellow/Blue)	4, Significant impact	3, Moderate impact	4, Significant impact	4, Significant impact	4, Significant impact	Would be a strategically significant route. How it links with the new SDL, P&Rs, and caters for the orbital MetroBus are essential factors to consider.	2, 2026-2036	2, Deliverable but high complexity/risk	Will likely have engineering constraints and environmental impacts, and impacts on utilities requires further investigation. This alignment requires significant gradient works (600m long climbing lane).	Pass	Pass	Pass	Pass	Pass	Yes	Passes because this route would have demand, as shown in the modelling from the G-BATS4 model - further assessment of the routes would be required to determine alignments. Modelling indicates that single carriageway would be sufficient for the level of car use demand.

					Strate	egic Case				Management	Case	Strateg	ic Caro	Manage	ement Case		1	<u> </u>
			Objective 1	Degree Objective 2	to which problems would be solved Objective 3	d Objective 4	1	-					ic case	Timescales	Deliverability			
						objective 4		1				Does it support SDL objective (Column D)?	Does it support overall objectives? Pass if >=	Pass if >=	Pass if >=			
Themes	No.	Transport Option	Mitigate increased travel demand enabling planned growth (JSP and non-JSP)	Provide a range of convenient and attractive journey options for south-east Bristol to key destinations such as Bristol city centre and Keynsham, and for orbital movements, to enable mode shift	Increase orbital connectivity to improve access around south- east Bristol, reduce delays on the existing network and minimise inappropriate movements on local roads	Improve journey time reliability for public transport along the corridor and orbital movements	Overall Assessment	Comments (key points relevant to Strategic Case)	Estimated timescales for implementation (opening year)	Deliverability	Key Risks / Issues affecting deliverability and timescales	Pass if >= 3, Moderate impact	3, Moderate impact	2, 2026-2036	2, Deliverable but high complexity/risk	Overall assessment (as calculated)	Taken forward to phase 2? (Manual entry)	Justification for option rejection or continuation to next stage
A4-A37 Link	12	North alignment 2 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - southerly route from Hicks Gate to Stockwood Lane – paraller fourtle to Stockwood avoiding Stockwood Vale valley. (Yellow/Red/Blue)	4, Significant impact	3, Moderate impact	4, Significant impact	4, Significant impact	4, Significant impact	Would be a strategically significant route. How it links with the new SDL P&Rs, and caters for the orbital MetroBus are essential factors to consider.	2, 2026-2036	2, Deliverable but high complexity/risk	Will likely have engineering constraints and environmental impacts, and impacts on utilities requires further investigation. This alignment requires significant gradient works (600m long climbing lane).	Pass	Pass	Pass	Pass	Pass	Yes	Passes because this route would have demand, as shown in the modelling from the G-BATS4 model - further assessment of the routes would be required to determine alignments. Modelling indicates that single carriageaway would be sufficient for the level of car use demand.
A4-A37 Link	13	North Alignment 3 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - south westerly route from Hicks Gate following topography - parallel route to Stockwood avoiding Stockwood Vale valley. (Blue)	4, Significant impact	3, Moderate impact	4, Significant impact	4, Significant impact	4, Significant impact	Would be a strategically significant route. How it links with the new SDL, P&Rs, and caters for the orbital MetroBus are essential factors to consider.	2, 2026-2036	2, Deliverable but high complexity/risk	Will likely have engineering constraints and environmental impacts, and impacts on utilities requires further investigation.	Pass	Pass	Pass	Pass	Pass	Yes	Passes because this route would have demand, as shown in the modelling from the G-BATS4 model - further assessment of the routes would be required to determine alignments. Modelling indicates that single carriageway would be sufficient for the level of car use demand.
West of A37 Link	14	Connect from the A37 (at the roundabout with the routes to the east) to Washing Pound Lane, north of the junction with Church Road. Washing Pound Lane would be widened with an improved junction created at the junction with Ridgeway Lane and Whitchurch Lane. (Grey)	4, Significant impact	2, Minor impact	4, Significant impact	2, Minor impact	3, Moderate impact	Will cater for the new SDL, and potentially P&R site and bus link. Future-proofing should be considered in the long term, with how the section may connect onto a longer ring road route.	2, 2026-2036	2, Deliverable but high complexity/risk	To consider how route will interact with the local roads is important. Sensitivities with alignment through the village.	Pass	Pass	Pass	Pass	Pass	Yes	There is evidence of local roads being used instead of the main roads, and with the SDL and the new A4-A37 Link this is likely to only increase.
West of A37 Link	15	Connect from the A37 (at the roundabout with the routes to the east) to Stoneberry Road, which would connect via Half Arce Lane to Whitchurch Lane. It is assumed that Stoneberry Road and Half Acre Lane would be widened, with an improved junction at Whitchurch Lane. (Orange)	4, Significant impact	2, Minor impact	4, Significant impact	2, Minor impact	3, Moderate impact	Will cater for the new SDL, and potentially P&R site and bus link. Future-proofing should be considered in the long term, with how the section may connect onto a longer ring road route.	2, 2026-2036	2, Deliverable but high complexity/risk	Sensitivities with alignment through the village.	Pass	Pass	Pass	Pass	Pass	Yes	There is evidence of local roads being used instead of the main roads, and with the SDL and the new A4-A37 Link this is likely to only increase.
West of A37 Link	16	Connect around the east of Whitchurch to connect back to the A37 near the boundary between Bristoil and Bath & North East Somerset. Traffic towards Whitchurch Lane would then route along the A37 into Bristoi and turn west (then south west) into Ridgeway Lane, which then continues as Whitchurch Lane to the west. (Pink)	1, Very small impact	2, Minor impact	2, Minor impact	2, Minor impact	2, Minor impact	This alignment is not as suitable strategically as the others, as it would not capture a number of orbital movements (due to it being north of the SDL), and will likely result in increased traffic on some unsuitable local roads.	2, 2026-2036	2, Deliverable but high complexity/risk	Sensitivities with alignment through the village.	Fail	Fail	Pass	Pass	Fail	No	This option fails as would not stop traffic using residential roads in Whitchurch and thus scores poorly against objective 3. The issue being addressed here is not the north- south movement from the SDL but the orbital movement or the pink alignment does not address this. This alignment also does not cater for SDL movements to the west.
Hicks Gate Roundabout		At-grade junction improvement - link between A4 Keynsham and A4174.	3, Moderate impact	3, Moderate impact	3, Moderate impact	2, Minor impact	3, Moderate impact	Modelling suggests improvements to the right angle movement would reduce the congestion on the arms and allow more vehicles to pass through the junction. Furthermore the left turn filter lane from the A4174 to the bypass would be particuality beneficial in the evening peak. An at-grade junction may continue to result in congestion leading up to the roundabout arms.	3, Before 2026	3, Deliverable with low complexity/risk	Issues with land ownership.	Pass	Pass	Pass	Pass	Pass	Yes	The modelled level of demand needs to be assessed in line with projected development and other interventions scenarios (such as with A4-337 Link, with P&R, with enhanced bus consideration and how this changes the roundabout options) to determine which alignment would be preferable strategically.
Hicks Gate Roundabout	18	Grade separation with A4174 - A4 flyover.	3, Moderate impact	2, Minor impact	2, Minor impact	3, Moderate impact	2, Minor impact	Modelling suggests improvements to the right angle movement would reduce the congestion on the arms and allow more vehicles to pass through the junction. However this option doesn't include a left turn filter lare from the A4174 to the bypass, and modelling indicates this will result in much more queueing than an option with a left turn filter lane. Modelling suggests that by 2024, without a left turn filter lane, there will be a larger amount of queueing on the approach on the A4174, hindering movements in all directions.	2, 2026-2036	2, Deliverable but high complexity/risk	Issues with land ownership and engineering constraints.	Pass	Fail	Pass	Pass	Fail	No	Option fails as the lack of a left turn filter lane would result in substaintial queueing on the A4174 by 2024, thus hindering orbital movements.
Hicks Gate Roundabout	19	Grade separation with A4-A4 flyover.	3, Moderate impact	1, Very small impact	2, Minor impact	2, Minor impact	2, Minor impact	Although this option hasn't been modelled, modelling of the A4 throughabout suggests that it is not the vertical A4 movement that is the issue but the horizontal and perpendicular movements at the junction. Whilst this option would assist by removing some traffic from the roundabout so it could be optimised for other movements, it would not offer major benefits.	2, 2026-2036	2, Deliverable but high complexity/risk	Issues with land ownership and engineering constraints.	Pass	Fail	Pass	Pass	Fail	No	Failed as does not address the orbital movement issue sufficiently.
Hicks Gate Roundabout		At-grade junction improvement - A4 throughabout.	1, Very small impact	1, Very small impact	0, Neutral / adverse	1, Very small impact	1, Very small impact	Modelling suggests that a throughaout would offer little benefit, as it would still suffer from congestion due to the succeeding junctions, but would not offer improvements to orbital movement.	3, Before 2026	3, Deliverable with low complexity/risk		Fail	Fail	Pass	Pass	Fail	No	Failed as does not address the orbital movement issue sufficiently.
A37 Public Transport	21	MetroBus route from Whitchurch to the city centre - gold standard.	4, Significant impact	3, Moderate impact	2, Minor impact	4, Significant impact	3, Moderate impact	There is congestion along the corridor, however demand and predicted patronage are important factors to understand if the MetroBus would be required above and beyond enhanced bus services.	2, 2026-2036	1, Unlikely to be deliverable	Unlikely to be deliverable in places due to key width constraints along the corridor.	Pass	Pass	Pass	Fail	Fail	No	
A37 Public Transport	22	MetroBus route from Whitchurch to the city centre - silver standard.	4, Significant impact	3, Moderate impact	2, Minor impact	4, Significant impact	3, Moderate impact	There is congestion along the corridor, however demand and predicted patronage are important factors to understand if the MetroBus would be required above and beyond enhanced bus services.	2, 2026-2036	1, Unlikely to be deliverable	Unlikely to be deliverable in places due to key width constraints along the corridor.	Pass	Pass	Pass	Fail	Fail	No	
A37 Public Transport	23	MetroBus route from Whitchurch to the city centre - bronze standard.	3, Moderate impact	3, Moderate impact	2, Minor impact	3, Moderate impact	3, Moderate impact	There is congestion along the corridor, however demand and predicted patronage are important factors to understand if the MetroBus would be required above and beyond enhanced bus services.	2, 2026-2036	1, Unlikely to be deliverable	Unlikely to be deliverable in places due to key width constraints along the corridor.	Pass	Pass	Pass	Fail	Fail	No	
A37 Public Transport	24	Enhanced bus service on the A37 corridor or via Callington Road Link.	3, Moderate impact	3, Moderate impact	2, Minor impact	2, Minor impact	3, Moderate impact	There is congestion along the corridor however it is not as poor as similar corridors such as the A4, and it is possible that an enhanced bus service could encourage mode shift.	3, Before 2026	3, Deliverable with low complexity/risk	Some sections of the old railway path have	Pass	Pass	Pass	Pass	Pass	Yes	
Railway Path MetroBus and Cycle Route	25	Offline MetroBus route from Whitchurch to the city centre via the old Railway Path with strategic cycle route infrastructure.	4, Significant impact	3, Moderate impact	1, Very small impact	4, Significant impact	3, Moderate impact		1, After 2036	1, Unlikely to be deliverable	been built on, it is highly unlikely there will be space for a MetroBus route through these.	Pass	Pass	Fail	Fail	Fail	No	

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<table-container> here <t< th=""><th></th><th></th><th></th><th>Objective 1</th><th>-</th><th></th><th></th><th></th><th>-</th><th></th><th></th><th></th><th></th><th></th><th>-</th><th>•</th><th>-</th><th></th><th></th></t<></table-container>				Objective 1	-				-						-	•	-		
Image: Participant series and seri					Provide a range of convenient]				objective (Column D)?		Pass if >=	Pass if >=			
Name	Themes	No.	Transport Option	demand enabling planned	and attractive journey options for south-east Bristol to key destinations such as Bristol city centre and Keynsham, and for orbital movements, to enable	improve access around south- east Bristol, reduce delays on the existing network and minimise inappropriate movements on	reliability for public transport along the corridor and orbital	Overall Assessment		implementation (opening				3, Moderate impact	2, 2026-2036		assessment (as	to phase 2?	
CMP N Normal	MetroBus and	26	Strategic cycle route from Whitchurch to the city centre via the old Railway Path.	3, Moderate impact	3, Moderate impact	1, Very small impact	4, Significant impact	3, Moderate impact	for enabling mode shift to cycling. There is currently a cycle route with broadly follows this alignment however it is a mixture of on- road and traffic separated with a number of junction crossings required, so it is not that			been built on so there are width constraints, however a route with only a cycle path is	Pass	Pass	Pass	Pass	Pass	Yes	
Mer <td></td> <td>27</td> <td>Site 6 to the west of the A37 between Ridgeway Lane and Maggs Lane.</td> <td>3, Moderate impact</td> <td>3, Moderate impact</td> <td>2, Minor impact</td> <td>3, Moderate impact</td> <td>3, Moderate impact</td> <td>demand from the SDL, however being slightly north of the SDL this could lead to</td> <td>3, Before 2026</td> <td></td> <td>adjacent to the stream and existing viaduct, and is a mixture of woodland scrub and</td> <td>Pass</td> <td>Pass</td> <td>Pass</td> <td>Pass</td> <td>Pass</td> <td>Yes</td> <td></td>		27	Site 6 to the west of the A37 between Ridgeway Lane and Maggs Lane.	3, Moderate impact	3, Moderate impact	2, Minor impact	3, Moderate impact	3, Moderate impact	demand from the SDL, however being slightly north of the SDL this could lead to	3, Before 2026		adjacent to the stream and existing viaduct, and is a mixture of woodland scrub and	Pass	Pass	Pass	Pass	Pass	Yes	
Name				1, Very small impact	3, Moderate impact	1, Very small impact	2, Minor impact	2, Minor impact	and access would be through a residential area. It is unlikely to cater that well for the	3, Before 2026		be difficult due to it being through likely	Fail	Fail	Pass	Pass	Fail	No	and access would be through a residential area. It is unlikely to cater that well for the
N N N Normal N	Whitchurch P&R			2, Minor impact	3, Moderate impact	2, Minor impact	3, Moderate impact	3, Moderate impact	is likely to be seen as a good option by travellers, as should reduce stress on some	3, Before 2026		occupying school playing fields, which will probably be unacceptable as an option both	Fail	Pass	Pass	Fail	Fail	No	
Normal Part	Whitchurch P&R	30	Site 9 at industrial estate on the corner of Hengrove Lane and Petherton Road.	1, Very small impact	3, Moderate impact	1, Very small impact	2, Minor impact	2, Minor impact		3, Before 2026		highly unlikely it will be favourable to	Fail	Fail	Pass	Fail	Fail	No	
Name <	Whitchurch P&R	31	Site 10 at sports ground north of the A4174 to the west of Tesco Extra.	1, Very small impact	2, Minor impact	1, Very small impact	1, Very small impact	1, Very small impact	A4 and A37 direction - however its proximity to the city means that there is congestion leading up to this site, and this would only	3, Before 2026		This site lies within the corner of the sports ground at the junction of the ring road and A37. Some redevelopment has already occupied on the sports ground and it may not be possible to develop further within the	Fail	Fail	Pass	Pass	Fail		A4 and A37 direction - however its proximity to the city means that trips are still required to negotiate congested parts of the network. Short onward journey to P&R unlikely to be
No. S Section Matrix Section Matrix <th< td=""><td>Whitchurch P&R</td><td></td><td></td><td>3, Moderate impact</td><td>3, Moderate impact</td><td>2, Minor impact</td><td>3, Moderate impact</td><td>3, Moderate impact</td><td>demand from the SDL, however being slightly north of the SDL this could lead to congestion on the A37 running up the P&R. Also access is via a rural road which is</td><td>3, Before 2026</td><td></td><td>currently, and is around farms and houses.</td><td>Pass</td><td>Pass</td><td>Pass</td><td>Pass</td><td>Pass</td><td>Yes</td><td></td></th<>	Whitchurch P&R			3, Moderate impact	3, Moderate impact	2, Minor impact	3, Moderate impact	3, Moderate impact	demand from the SDL, however being slightly north of the SDL this could lead to congestion on the A37 running up the P&R. Also access is via a rural road which is	3, Before 2026		currently, and is around farms and houses.	Pass	Pass	Pass	Pass	Pass	Yes	
Let 2 3	Hicks Gate P&R	33	Site 1 NW quadrant of Hicks Gate roundabout.	2, Minor impact	3, Moderate impact	1, Very small impact	2, Minor impact	2, Minor impact	be from the Bath direction, and this would require these users to not only cross Hicks	3, Before 2026		southern part of the field is in Flood Zone 3 (high risk of flooding). Unknown land	Fail	Fail	Pass	Pass	Fail	No	from the Bath direction, and this would require users to cross Hicks Gate junction and the A4 to enter the site. Significant environmental risks as much of the southern part of the site is in Flood Zone 3 (high risk
Norm	Hicks Gate P&R	34	Site 2 NE quadrant of Hicks Gate roundabout.	3, Moderate impact	3, Moderate impact	1, Very small impact	2, Minor impact	2, Minor impact	Bath on the A4, however it would require a right hand turning lane and there potential	3, Before 2026		space for right turn lane into the site. There is also a motocross track which may have land required to build a site of a large size.	Pass	Fail	Pass	Pass	Fail	No	lane into the site, thus fails due to poor
Number Num Num Number Num Number Number Number Number Number N	Hicks Gate P&R	35	Site 3 SE quadrant of Hicks Gate roundabout.	3, Moderate impact	3, Moderate impact	2, Minor impact	3, Moderate impact	3, Moderate impact	some of the demand from the A4, with a left hand turn movement. It would however be	3, Before 2026		means it has little space to expand in the future and there are also potential access issues due to emergency vehicles. Unknown	Pass	Pass	Pass	Fail	Fail	No	
NUM_D VI Process All orders Process All orders Process	Hicks Gate P&R			3, Moderate impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	cross Hick's Gate roundabout, having a left turn into the site is more preferable than other sites. This option has more potential to	3, Before 2026		carefully in regards to its interaction with the A4-A37 Link, and could be affected by its chosen alignment. Unknown land acquisition	Pass	Pass	Pass	Pass	Pass	Yes	
And matrix A base is the Window show show show show show show show sh	Hicks Gate P&R	37	Site 5 SW quadrant of Hicks Gate roundabout, further from roundabout towards Bristol south of A4.	3, Moderate impact	3, Moderate impact	2, Minor impact	2, Minor impact	3, Moderate impact	roundabout. Would remove traffic from A4 towards Bristol, and could integrate with new	, 3, Before 2026		of the site is in Flood Zone 3 and close to a	Pass	Pass	Pass	Pass	Pass	Yes	
Product <		38 1	further from roundabout towards Bristol north of A4.	3, Moderate impact	3, Moderate impact	1, Very small impact	2, Minor impact	2, Minor impact	roundabout. Would remove traffic from A4 towards Bristol.	3, Before 2026			Pass	Fail	Pass	Pass	Fail	No	from the Bath direction, and this would require users to cross Hicks Gate junction and the A4 to enter the site. No direct access from Hicks Gate roundabout, requires more highway space as would need a filter lane into the site.
First Rame Rame Statistics for the merges	Hicks Gate P&R			3, Moderate impact	3, Moderate impact	1, Very small impact	2, Minor impact	2, Minor impact	roundabout. Awkward to get to if coming	3, Before 2026		Within Flood Zone 3.	Pass	Fail	Pass	Pass	Fail	No	roundabout. Would not serve potential
Nets of AST Single carrageway road converting the AST to bring out an adjusted to the set of AST to the dup of a lagge with the set of ast of the set of AST to the dup of a lagge with the set of ast of the set of AST to the dup of a lagge with the set of ast of the set of AST to the dup of a lagge with the set of ast of the set of AST to the dup of a lagge with the set of ast of the set of AST to the dup of a lagge with the set of ast of the set of AST to the set of AST to the set of AST to the set of AST to the dup of a lagge with the set of ast of the set of AST to the set of AST to the set of AST to the set of AST to the set of AST to the set of AST to the		40	Extension to North Fringe Hengrove MetroBus.	3, Moderate impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	This route would be a less direct route into the centre, however it would provide good orbital connectivity to the west. Need to consider whether their would be demand for this, or if current services direct into the	3, Before 2026			Pass	Pass	Pass	Pass	Pass	Yes	
Whitchurch 42 Site 1 west of A37, south of Norton Lane, south of Norton		41	Bishop Avenue and Hawkfield Road in the west		3, Moderate impact	4, Significant impact	3, Moderate impact	3, Moderate impact	as significantly as the other options as it is recognised that some vehicles would continue to use local roads in Whitchurch village - and orbital MetroBus, and potentially P&R site. Future-proofing should be considered in the long term, with how the section may connect onto a longer ring road route. Needs careful consideration of the suitability of Bishop Avenue and nearby roads for the additional traffic, and also the route vehicles	2, 2026-2036		the alignment may have engineering constraints. There are housing constraints either side of the point on Bishop Avenue	Pass	Pass	Pass	Pass	Pass	Yes	constraints, and would run close to residential areas, particularly where it joins with Bishop Avenue. Would require careful consideration of the traffic from this
Villation 1 2 Site 2 and all sources 1 2 Minor impact 3 Minor impa		42	Site 1 west of A37, south of Norton Lane, south of the cricket pitch.	2, Minor impact	2, Minor impact	2, Minor impact	3, Moderate impact	2, Minor impact	A37, so is unlikely to support the new SDL	3, Before 2026	2, Deliverable but high complexity/risk	proximity to the cricket pitch, plus how the site accesses the A37, and visual issues as the site is at the top of a hill. Site is in green	Fail	Fail	Pass	Pass	Fail	No	
	Whitchurch P&R	43	Site 2 east of A37, land adjacent to the Cemetery.	2, Minor impact	2, Minor impact	2, Minor impact	3, Moderate impact	2, Minor impact		3, Before 2026			Fail	Fail	Pass	Pass	Fail	No	

					Strat	tegic Case				Management	Case	-						
					e to which problems would be solve		1					Strate	gic Case	-	ement Case			
			Objective 1	Objective 2	Objective 3	Objective 4		-				Does it support SDL objective (Column D)?	Does it support overall	Timescales	Deliverability			
Themes	No.	Transport Option	Mitigate increased travel demand enabling planned growth (JSP and non-JSP)	destinations such as Bristol city		Improve journey time reliability for public transport along the corridor and orbital movements	Overall Assessment	Comments (key points relevant to Strategic Case)	Estimated timescales for implementation (opening year)	Deliverability	Key Risks / Issues affecting deliverability and timescales	Pass if >= 3, Moderate impact	objectives? Pass if >= 3, Moderate impact	Pass if >= 2, 2026-2036	Pass if >= 2, Deliverable but high complexity/risk	Overall assessment (as calculated)	Taken forward to phase 2? (Manual entry)	Justification for option rejection or continuation to next stage
Whitchurch P&R	44	Site 3 east of A37, north of Cemetery.	2, Minor impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	Site is south of the SDL, so is unlikely to support the new SDL as much as nearer site, however could link directly onto the new A4-A37 Link road (dependent on alignment).	3, Before 2026	2, Deliverable but high complexity/risk	Potential issues with land ownership, and proximity to the cernetery. Site is in green belt land. Dependent on alignment, deliverability of the access could be built in conjunction with the AA-A37 Link. Site is quite small and note much room for direct expansion.	Fail	Pass	Pass	Pass	Fail	No	
Whitchurch P&R	45	Site 4 west of A37, north of Norton Lane.	3, Moderate impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	Should help to cater for increased demand from the SDL, and capture some current Whitchurch demand. Could directly link to the new link road depending on alignment. Careful consideration of the demand for certain routings needs to be considered - e.g. an orbital route up the A37, up the A37 & A4174 & A4. The A37 currently only as a long distance half hourly service.	3, Before 2026	2, Deliverable but high complexity/risk	Potential issues with land ownership, and proximity to rugby club. Site is in green belt land, and new directly adjacent to the A37 so access deliverability would be more difficult.	Pass	Pass	Pass	Pass	Pass	Yes	Complexity of how this P&R site will fit in with the development of the SDL as it is to the west of the A37 and how it will provide service for this development. Would capture well the traffic coming up into Bristol from the south.
Whitchurch P&R	46	Site 5 west of A37, south of Church Road.	3, Moderate impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	3, Moderate impact	Should help to cater for the increased demand from the SDL, as although it is on the west side of the A37 it is directly adjacent. Could directly link to the new link road depending on alignment. Careful consideration of the demand for certain routings needs to be considered - e.g. an orbital route up the A37, up the A37 & A4174 & A4. The A37 currently only as a long distance half hourly service - suggests there is scope for another service.	3, Before 2026	2, Deliverable but high complexity/risk	Deliverable but there is the complexity of how this P&R site will fir in with the development of the SDL and how it will provide service for this development. Land is green belt land.	Pass	Pass	Pass	Pass	Pass	Yes	Complexity of how this P&R site will fit in with the development of the SDL as it is to the west of the A37 and how it will provide service for this development. Would capture well the traffic coming up into Bristol from the south.
A4-A37 Link	47	South Alignment 1 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - takes a direct alignment through the potential SDL. 40mph link providing access to the SDL and significant measures to provide connectivity across the link. Connecting to the A37 south of Staunton Lane. Not compatible with future dualling. (Purple)	4, Significant impact	3, Moderate impact	4, Significant impact	4, Significant impact	4, Significant impact	Would be a strategically significant route. How it links with the new SDL P&Rs, and caters for the orbital MetroBus are essential factors to consider.	2, 2026-2036	2, Deliverable but high complexity/risk	Will likely have engineering constraints and erwironmental impacts on utilities requires further investigation. This alignment requires significant gradient works (600m long climbing lane).	Pass	Pass	Pass	Pass	Pass	Yes	Passes because this route would have demand, as shown in the modelling from the G-BATS4 model. Modelling indicates that single carriageway would be sufficient for the level of car use demand.
A4-A37 Link	49	South Alignment 2 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - takes a direct alignment through the potential SDL. 50mph link with no access to the SDL and limited measures to provide connectivity across the link. Connecting to the A37 south of Staunton Lane. Potentially compatible with future dualling. (Purple)		3, Moderate impact	4, Significant impact	4, Significant impact	4, Significant impact	Would be a strategically significant route. How it links with the new SDL P&Rs, and caters for the orbital MetroBus are essential factors to consider.	2, 2026-2036	2, Deliverable but high complexity/risk	Will likely have engineering constraints and environmental impacts, and impacts on utilities requires further investigation. This alignment requires significant gradient works (600m long climbing lane).	Pass	Pass	Pass	Pass	Pass	Yes	Passes because this route would have demand, as shown in the modelling from the G-BATS4 model. Modelling indicates that single carriageway would be sufficient for the level of car use demand.
A4-A37 Link	49	South Alignment 3 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - takes an alignment around the southern eastern extent of the potential SDL. 50mph link with no access to the SDL and limited measures to provide connectivity across the link. Connecting to the A37 north of Gibbet Lane. Potentially compatible with future dualling. (Dotted green)	4, Significant impact	3, Moderate impact	4, Significant impact	4, Significant impact	4, Significant impact	Would be a strategically significant route. How it links with the new SDL, P&Rs, and caters for the orbital MetroBus are essential factors to consider.	2, 2026-2036	2, Deliverable but high complexity/risk	Will likely have engineering constraints and environmental impacts, and impacts on utilities requires further investigation.	Pass	Pass	Pass	Pass	Pass	Yes	Passes because this route would have demand, as shown in the modelling from the G-BATS4 model. Modelling indicates that single carriageway would be sufficient for the level of car use demand.
A4-A37 Link	50	Dual carriageway – all alignments	4, Significant impact	3, Moderate impact	4, Significant impact	4, Significant impact	4, Significant impact	At this stage modelling indicates that a dual carriageway would not be required - however demand way increase in the future.	2, 2026-2036	2, Deliverable but high complexity/risk	Will likely have engineering constraints and environmental impacts, and impacts on utilities requires further investigation.	Pass	Pass	Pass	Pass	Pass	Yes	At this stage modelling indicates that a dual carriageway would not be required to meet demand, however this does not include potential demand for this route if the full orbital corridor to Airport Road is realised, and it may be desirable to build or future proof for a dual route.

2nd Phase Assessment

2nd Pha	se Assessment	t		Economic Case						Financial Case								
				Economic Growth	Environment	Well being							Economic Case		Financial Case			
Phase 1 result	Themes	No.	Transport Option	Connectivity / Reliability /Wider economic impacts / Resilience/ Delivery of housing /	Air quality / Noise / Carbon emissions / Landscape & Townscape / Biodiversity / Heritage / Water environment	Physical activity / Journey quality / Accidents / Security / Access to services / Affordability / Severance	Comments - explain any specific major impacts (both adverse and beneficial)	Capital Costs	Revenue Costs	Affordability and financial risk	Comments - include capital / revenue cost estimates where known, plus explain affordability assessment	Economy. Pass if >= -1 , Minor /	Environment. Pass if >= -1 , Minor /	Well being. Pass if >= -1 , Minor /	Affordability. Pass if >= 2, Affordable, but	Overall assessment (as calculated)	To be taken forward?	Additional Justification for Pass or Fail
Yes	Orbital MetroBus	; 1	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrastructure (via new transport link around South East Bristol) - Gold standard.	2 , Major beneficial impact		1 , Minor / Moderate beneficial impact		2, £ 50-100m	1, Ongoing revenue support required (> 5 years)	1, Not affordable / very high financial risk	Likely to be very expensive to have a gold standard MetroBus on the entire orbital route, and this will be a high financial risk as the benefits it will bring will likely not be much greater than a silver standard MetroBus. Another key risk for orbital services is the potential level of subsidy required and whether there would be sufficient patronage to justify them.	Moderate Pass	Pass	Pass	<u>potentially high</u> Fail	Fail	No	High financial risk, as there does not seem to be the evidence to support that a gold standard MetroBus route is necessary and that it could support itself financially.
Yes	Orbital MetroBus	5 2	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrastructure (via new transport link around South East Bristol) - Silver standard.	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact		3, £ 25-50m	1, Ongoing revenue support required (> 5 years)	potentially high costs + financial risk	This assumes the A4-A37 is constructed. A key risk for orbital services is the potential level of subsidy required and whether there would be sufficient patronage to justify them.	Pass	Pass	Pass	Pass	Pass	Yes	MetroBus of silver standard would be preferable, as this aims for bus lanes in all locations where constraints aren't too high.
Yes	Orbital MetroBus	6	Enhanced bus service on new orbital transport link.	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact		5, < £ 10m	1, Ongoing revenue support required (> 5 years)	3, Affordable with relatively low costs + financial risk	This assumes the A4-A37 Link is constructed. Costs would relatively low as little infrastructure, aside from for example bus stop infrastructure, would be required to be built.	Pass	Pass	Pass	Pass	Pass		A strong orbital bus service may be sufficient to cater for the demands of the corridor if the new link road is built, although it depends on the level of congestion that is experienced at junctions.
Yes	A4-A37 Link		North Alignment 1 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 – southerly route from Hicks Gate to Stockwood Lane – improvement to Stockwood Lane – parallel route to Stockwood avoiding Stockwood Vale valley. (Yellow/Blue)	2 , Major beneficial impact	-2 , Major adverse impact	-1 , Minor / Moderate adverse impact	Fails on environment, as this would require a steep 600m climbing line with significant cutting, which is significant when compared with a different alignment that requires no climbing lane section.	3, £ 25-50m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk		Pass	Fail	Pass	Pass	Fail		Fails on the environment section of the economic case as this option alignment would require a climbing lane and significant cutting and earthworks.
Yes	A4-A37 Link		North alignment 2 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - southerly route from Hicks Gate to Stockwood Lane – parallel route to Stockwood avoiding Stockwood Vale valley. (Yellow/Red/Blue)	2 , Major beneficial impact	-2 , Major adverse impact	-1 , Minor / Moderate adverse impact	Fails on environment, as this would require a steep 600m climbing line with significant cutting, which is significant when compared with a different alignment that requires no climbing lane section.	3, £ 25-50m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk		Pass	Fail	Pass	Pass	Fail		Fails on the environment section of the economic case as this option alignment would require a climbing lane and significant cutting and earthworks.
Yes	A4-A37 Link		North Alignment 3 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 – south westerly route from Hicks Gate following topography – parallel route to Stockwood avoiding Stockwood Vale valley. (Blue)	2 , Major beneficial impact	-1 , Minor / Moderate adverse impact	-1 , Minor / Moderate adverse impact		3, £ 25-50m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk		Pass	Pass	Pass	Pass	Pass	Yes	Passes as this is the best option alignment in the economic case. The alignment however is still quite general and will require consideration of utilities when considering specific route.
Yes	West of A37 Link		Connect from the A37 (at the roundabout with the routes to the east) to Washing Pound Lane, north of the junction with Church Road. Washing Pound Lane would be widened with an improved junction created at the junction with Ridgeway Lane and Whitchurch Lane. (Grey)	1 , Minor / Moderate beneficial impact	-1 , Minor / Moderate adverse impact	-1 , Minor / Moderate adverse impact		4, £ 10-25m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk		Pass	Pass	Pass	Pass	Pass	Yes	Passes as there is the need for a route to the west of Whitchurch, as there is evidence of local roads being used instead of the main roads, and with the SDL and potential orbital route A4-A37 Link this issue could worsen. Careful consideration required of how Whitchurch Lane will be impacted by this option and the potential orbital route A4-A37 Link.
Yes	West of A37 Link		Connect from the A37 (at the roundabout with the routes to the east) to Stoneberry Road, which would connect via Half Acre Lane to Whitchurch Lane. It is assumed that Stoneberry Road and Half Acre Lane would be widened, with an improved junction at Whitchurch Lane. (Orange)	1 , Minor / Moderate beneficial impact	-1 , Minor / Moderate adverse impact	-1 , Minor / Moderate adverse impact		4, £ 10-25m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk		Pass	Pass	Pass	Pass	Pass	Yes	Passes as there is the need for a route to the west of Whitchurch, as there is evidence of local roads being used instead of the main roads, and with the SDL and potential orbital route A4-A37 Link this issue could worsen. Careful consideration required of how Whitchurch Lane will be impacted by this option and the potential orbital route A4-A37 Link.

				Economic Case						Financial Case								1
				Economic Growth	Environment	Well being							Economic Case		Financial Case			
Phase 1	Themes	No.	Transport Option	Connectivity / Reliability /Wider economic impacts /	Air quality / Noise / Carbon emissions / Landscape & Townscape /	Physical activity / Journey quality / Accidents / Security / Access to	Comments - explain any specific major impacts (both adverse and beneficial)	Capital Costs	Revenue Costs	Affordability and financial risk	Comments - include capital / revenue cost estimates where known, plus explain affordability assessment	Economy. Pass if >=	Environment. Pass if >=	Well being. Pass if >=	Affordability. Pass if >=	Overall assessment (as calculated)	To be taken forward?	Additional Justification for Pass or Fail
result				Resilience/ Delivery of housing /	Biodiversity / Heritage / Water environment	services / Affordability / Severance						-1, Minor / Moderate	-1, Minor / Moderate	-1 , Minor / Moderate	2, Affordable, but potentially high			
Yes	Hicks Gate Roundabout	17	At-grade junction improvement - link between A4 Keynsham and A4174.	1 , Minor / Moderate beneficial impact	-1 , Minor / Moderate adverse impact	0 , Neutral		5, < £ 10m	3, No revenue support required / maintenance only	3, Affordable with relatively low costs + financial risk		Pass	Pass	Pass	Pass	Pass	Yes	Need to consider potential interaction with new Hicks Gate P&R, Orbital MetroBus, A4 MetroBus and new A4-A37 link. The best option will likely be determined by which other schemes are progressed, and may change depending on the package of schemes taken forward.
Yes	A37 Public Transport	24	Enhanced bus service on the A37 corridor or via Callington Road Link.	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact		5, < £ 10m	3, No revenue support required / maintenance only	3, Affordable with relatively low costs + financial risk		Pass	Pass	Pass	Pass	Pass	Yes	With the development of the Whitchurch SDL, it is likely there is demand for more frequent direct services into the city centre. The exact route needs to be determined, also in the context of other schemes taken forward and how this impacts the level of traffic on different roads.
Yes	Railway Path MetroBus and Cycle Route	26	Strategic cycle route from Whitchurch to the city centre via the old Railway Path.	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact		Enabling mode shift to cycling - improving well-being, physical activity and journey quality	4, £ 10-25m	1, Ongoing revenue support required (> 5 years)	2, Affordable, but potentially high costs + financial risk	Cost is relative to the length and quality of the bus route. Potential higher cost depending on e.g. the cutting required, bridges required etc. Also potential high risk of not having the patronage expected.	Pass	Pass	Pass	Pass	Pass	Yes	This option is deliverable as there is already a cycle route along the Railway Path, it is just not of a consistent standard.
Yes	Whitchurch P&R	27	Site 6 to the west of the A37 between Ridgeway Lane and Maggs Lane.	1 , Minor / Moderate beneficial impact	-2 , Major adverse impact	1 , Minor / Moderate beneficial impact	The site has ecological value,. The site is highly visible from nearby properties, and would be seen as intrusive within the urban context.	5, < £ 10m	2, Short-term revenue support required (<5 years)	3, Affordable with relatively low costs + financial risk		Pass	Fail	Pass	Pass	Fail	No	Fails due to environmental factors, as the site has ecological value and generate significant townscape impact on nearby properties.
Yes	Whitchurch P&R	32	Site 11 south of Staunton Lane between Sleep Lane and Newlands.	1 , Minor / Moderate beneficial impact	-2 , Major adverse impact	1 , Minor / Moderate beneficial impact	The site is located immediately next to a number of frames and houses, and the access for these is via only a small road. This P&R would be very intrusive for these residents.	5, < £ 10m	2, Short-term revenue support required (<5 years)	3, Affordable with relatively low costs + financial risk		Pass	Fail	Pass	Pass	Fail	No	Fails due to environmental factors, as this site would be visible by a number of houses and farms in close proximity, and would be intrusive on these residents.
Yes	Hicks Gate P&R	36	Site 4 SW quadrant of Hicks Gate roundabout, next to Durley Hill.	1 , Minor / Moderate beneficial impact	0 , Neutral	1 , Minor / Moderate beneficial impact	Potential for disturbance of local farm and shop.	5, < £ 10m	2, Short-term revenue support required (<5 years)	3, Affordable with relatively low costs + financial risk	Relatively low cost, and as Brislington P&R runs well it could be assumed this one would provide successful revenue.	Pass	Pass	Pass	Pass	Pass	Yes	This area has the least constraints in terms of access to the site and environment (flood zones). There is also the potential for a direct link to any orbital route between the A4 and A37
Yes	Hicks Gate P&R	37	Site 5 SW quadrant of Hicks Gate roundabout, further from roundabout towards Bristol south of A4.	-1 , Minor / Moderate adverse impact	-1 , Minor / Moderate adverse impact	-1 , Minor / Moderate adverse impact	Potential for disturbance of local farm and garden centre.	5, < £ 10m	2, Short-term revenue support required (<5 years)	3, Affordable with relatively low costs + financial risk	Relatively low cost, and as Brislington P&R runs well it could be assumed this one would provide successful revenue.	Pass	Pass	Pass	Pass	Pass	Yes	This area has the least constraints in terms of access to the site and environment (flood zones). There is also the potential for a direct link to any orbital route between the A4 and A37
Yes	A37 Public Transport	40	Extension to North Fringe Hengrove MetroBus.	1 , Minor / Moderate beneficial impact	-1 , Minor / Moderate adverse impact	1 , Minor / Moderate beneficial impact	Route would be on a local road and pass through a residential area	5, < £ 10m	2, Short-term revenue support required (<5 years)	3, Affordable with relatively low costs + financial risk	Route would be relatively low cost, as it is only a short section, and as it is just an extension of another route, as long as that goes ahead it would not be low risk as an extension.	Pass	Pass	Pass	Pass	Pass	Yes	Requires further assessment to determine the relative attractiveness of this route compared to other route options. Engineering challenges to achieve MetroBus standard route to Hengrove, but remainder of route already a committed scheme.
Yes	West of A37 Link	41	Single carriageway road connecting the A37 to Bishop Avenue and Hawkfield Road in the west through an alignment south of Whitchurch village.	1 , Minor / Moderate beneficial impact	-2 , Major adverse impact	-1 , Minor / Moderate adverse impact	The road alignment would require significant cutting into an environmentally sensitive area, with significant negative impacts on the landscape and heritage. It would be visible from Maes Knoll, a scheduled ancient monument.	3, £ 25-50m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk	Likely to be significantly more expensive than the other options due to the length and cutting required, however could save money in the long run as being the first step to an A38 link.	Pass	Fail	Pass	Pass	Fail	No	Significant adverse environmental impacts, including negative noise and air quality impacts for the residential area it would pass through. This route has potential engineering constraints, and would run close to residential areas, particularly where it joins with Bishport Avenue. Would require careful consideration of the traffic from this alignment on the Bishport Avenue residential area. Likely to be significantly more expensive than the other options due to the length and cutting required, however could form part of a potential future A38 link.
Yes	Whitchurch P&R	45	Site 4 west of A37, north of Norton Lane.	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact		The site would have good access from the A37, although it isn't directly adjacent. Part of Whitchurch would be within walking distance of the site, and part of the SDL may well be as well, or there may be opportunity to link a service through the SDL with the P&R site. The site would be an extension of the current Whitchurch village, so would have smaller environmental impacts., although it would still have some visibility across the landscape.	5, <£10m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk		Pass	Pass	Pass	Pass	Pass	Yes	The site would be an extension of the current Whitchurch village, so would have smaller environmental impacts., although it would still have some negative impact on the landscape. Site has good access to the A37. Further discussion is still required with the Whitchurch masterplanners in regards to the the specific location of the Whitchurch P&R.
Yes	Whitchurch P&R	46	Site 5 west of A37, south of Church Road.	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact		The site would have excellent access direct from the A37. Part of Whitchurch would be within walking distance of the site, and part of the SDL may well be as well, or there may be opportunity to link a service through the SDL with the P&R site. The site would be an extension of the current Whitchurch village, so would have smaller environmental impacts., although it would still have some visibility across the landscape.	5, < £ 10m	2, Short-term revenue support required (<5 years)	3, Affordable with relatively low costs + financial risk		Pass	Pass	Pass	Pass	Pass	Yes	The site would be an extension of the current Whitchurch village, so would have smaller environmental impacts., although it would still have some negative impact on the landscape. Site has good access to the A37. Further discussion is still required with the Whitchurch masterplanners in regards to the the specific location of the Whitchurch P&R.

				Economic Case						Financial Case								
				Economic Growth	Environment	Well being							Economic Case		Financial Case			
Phase 1 result	Themes	No.	Transport Option	Connectivity / Reliability /Wider economic impacts /	Air quality / Noise / Carbon emissions / Landscape & Townscape /	Physical activity / Journey quality / Accidents / Security / Access to	Comments - explain any specific major impacts (both adverse and beneficial)	Capital Costs	Revenue Costs	Affordability and financial risk	Comments - include capital / revenue cost estimates where known, plus explain affordability assessment	Economy. Pass if >=	Environment. Pass if >=	Well being. Pass if >=	Affordability. Pass if >=	Overall assessment (as calculated)	To be taken forward?	Additional Justification for Pass or Fail
resure				Resilience/ Delivery of housing /	Biodiversity / Heritage / Water environment	services / Affordability / Severance						-1, Minor/ Moderate	-1, Minor / Moderate	-1, Minor / Moderate	2, Affordable, but potentially high			
Yes	A4-A37 Link	47	South Alignment 1 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - takes a direct alignment through the potential SDL. 40mph link providing access to the SDL and significant measures to provide connectivity across the link. Connecting to the A37 south of Staunton Lane. Not compatible with future dualling. (Purple)	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact	-1 , Minor / Moderate adverse impact		3, £ 25-50m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk		Pass	Pass	Pass	Pass	Pass	Yes	Passes as this is the best option alignment in the economic case. The detailed alignment will require consideration of utilities when considering specific route. Modelling indicates that single carriageway would be sufficient for the level of demand. Note this approach would include features to avoid greater severance of the SDL and would not be compatible with a future dual carriageway option.
Yes	A4-A37 Link	48	South Alignment 2 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - takes a direct alignment through the potential SDL. SOmph link with no access to the SDL and limited measures to provide connectivity across the link. Connecting to the A37 south of Staunton Lane. Potentially compatible with future dualling. (Purple)	1 , Minor / Moderate beneficial impact	1 , Minor / Moderate beneficial impact	-1 , Minor / Moderate adverse impact	If the route is going through the SDL, it would need to be seen as an urban road and not designed as a rural type A road otherwise would cause high severance.	3, £ 25-50m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk		Pass	Pass	Pass	Pass	Pass	Yes	Passes as this is the best option alignment across the cases. The detailed alignment will require consideration of utilities when considering specific route. This approach risks a degree of severance of the SDL, although appropriate design of crossing opportunities and adjacent land use could mitigate this. Strategically it offers good impact against objectives. Modelling indicates that single carriageway would be sufficient for the level of car use demand at this time – but this option allows for the future consideration of dual carriageway, although the risk of severance would increase.
Yes	A4-A37 Link	49	South Alignment 3 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - takes an alignment around the southern eastern extent of the potential SDL. 50mph link with no access to the SDL and limited measures to provide connectivity across the link. Connecting to the A37 north of Gibbet Lane. Potentially compatible with future dualling. (Dotted green)	2 , Major beneficial impact	: -2 , Major adverse impact	-1 , Minor / Moderate adverse impact	Significant environmental constraints to the south of the SDL, including steep gradients and valuable heritage land.	3, £ 25-50m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk		Pass	Fail	Pass	Pass	Fail	Yes	Fails as would be a much more expensive alignment, requiring a long and indirect route around the SDL with high environmental constraints. To achieve this alignment around the potential SDL, either the link, or SDL are required to be located where they result in significant environmental harm.
Yes	A4-A37 Link	50	Dual carriageway – all alignments	2 , Major beneficial impact	-2 , Major adverse impact	-2 , Major adverse impact	Dual carriageway route through the SDL would have a very high negative impact on severance, as it would split the new community. It may also increase accidents, and would have adverse air quality and noise impacts.	2, £ 50-100m	3, No revenue support required / maintenance only	2, Affordable, but potentially high costs + financial risk		Pass	Fail	Fail	Pass	Fail	No	At this stage modelling indicates that demand for a dual carriageway would be well below the expected level for a dual carriageway route. However this demand is only modelled with Local Plan committed development and therefore does not include SDL growth and does not include potential demand for this route if the full orbital corridor to the Airport is realised with M4 J18A – therefore there may be much greater demand in the future. The low demand for dual carriageway at this stage and the uncertainty about the level of demand in the future with potential development, results in this option failing on the financial case due to high risk costs which are not required. However it may be desirable to future proof for a dual carriageway route. Furthermore, there is concern that a dual carriageway route is not in line with the subsequent route to the west, e.g. would result in more usage of Whitchurch Lane.

Summary																	
			Oliverity of	Children a	Strategic Case			Manager	nent Case			Economic Case			Financial Case		-
Themes	No.	Transport Option	Objective 1 Mitigate increased trave demand enabling	Objective 2 Provide a range of convenient and attractive	Objective 3 Increase orbital connectivity to improve	Objective 4 Improve journey time reliability for public	Overall Assessment	Estimated timescales for implementation	Deliverability	Taken forward to	Economic	Environment	Well being	Capital Costs	Revenue Costs	Affordability and financial risk	Taken forward for detailed
			planned growth (JSP and		- access around south-east	transport along the		(opening year)		Phase 2?	Growth					financial risk	assessment?
			non-JSP)	east Bristol to key	Bristol, reduce delays on	corridor and orbital											
Orbital MetroBus	1	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrastructure (via new transport link around South East Bristol) - Gold standard.	Significant impact	Significant impact	Moderate impact	Significant impact	Significant impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	£ 50-100m	Ongoing revenue support required (> 5 years)	Not affordable / very high financial risk	No
Orbital MetroBus	2	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrastructure (via new transport link around South East Bristol) - Silver standard.	Moderate impact	Significant impact	Moderate impact	Moderate impact	Moderate impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	£ 25-50m	Ongoing revenue support required (> 5 years)	Affordable, but potentially high costs + financial risk	
Orbital MetroBus	3	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrastructure (via new transport link around South East Bristol) - Bronze standard.	Moderate impact	Moderate impact	Minor impact	Minor impact	Minor impact	2026-2036	Deliverable with low complexity/risk	No							
Orbital MetroBus	4	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrastructure (on existing roads, e.g. Whitchurch Lane/Stockwood Ln).	Very small impact	Neutral / adverse	Neutral / adverse	Neutral / adverse	Neutral / adverse	2026-2036	Unlikely to be deliverable	No							
Orbital MetroBus	5	Improvements to city centre interchange between South Bristol and East Fringe bus services.	Very small impact	Very small impact	Neutral / adverse	Neutral / adverse	Neutral / adverse	Before 2026	Deliverable with low complexity/risk	No							
Orbital MetroBus	6	Enhanced bus service on new orbital transport link.	Moderate impact	Minor impact	Minor impact	Minor impact	Minor impact	2026-2036	Deliverable with low complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	<£10m	Ongoing revenue support required (> 5 years)	Affordable with relatively low costs + financial risk	Yes
Whitchurch P&R	7	Increase the capacity of existing sites only.	Very small impact	Very small impact	Neutral / adverse	Neutral / adverse	Neutral / adverse	Before 2026	Unlikely to be deliverable	No							
Hicks Gate P&R	8	Increase the capacity of existing site only.	Minor impact	Moderate impact	Neutral / adverse	Moderate impact	Minor impact	Before 2026	Unlikely to be deliverable	No							
A4-A37 Link	9	On-line widening of existing route via A4 Bath Rd, A4174 Callington Rd, Airport Rd.	Neutral / adverse	Neutral / adverse	Very small impact	Very small impact	Neutral / adverse	Before 2026	Deliverable with low complexity/risk	No							
		New orbital corridor between Whitchurch and A38 at Barrow							Deliverable but high			1					

	<u> </u>	1			Strategic Case			Mon-	ment Case			Economic Case			Financial Case		
			Objective 1	Objective 2	Objective 3	Objective 4		wanager		Taken		Economic Case			Financial Case		Taken forward for
Themes	No.	Transport Option	Mitigate increased travel	Provide a range of	Increase orbital	Improve journey time	0	Estimated timescales	Deliverability	forward to	Economic	Farrisonant	Mall hairs	Consider Consta	Deveryon Contra	Affordability and	detailed
			demand enabling planned growth (JSP and	convenient and attractive journey options for south	connectivity to improve access around south-east	reliability for public transport along the	Overall Assessment	for implementation (opening year)	Deliverability	Phase 2?	Growth	Environment	well being	Capital Costs	Revenue Costs	financial risk	assessment?
			non-JSP)	east Bristol to key	Bristol, reduce delays on	corridor and orbital											
A4-A37 Link	11	North Alignment 1 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 – southerly route from Hicks Gate to Stockwood Lane -improvement to Stockwood Lane – parallel route to Stockwood avoiding Stockwood Vale valley. (Yellow/Blue)	Significant impact	Moderate impact	Significant impact	Significant impact	Significant impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Major adverse impact	Minor / Moderate adverse impact	£ 25-50m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	No
A4-A37 Link	North alignment 2 - Single carriageway orbital corrido between Hicks Gate Roundabout and A37 - southerly i 12 from Hicks Gate to Stockwood Lane – parallel route to Stockwood avoiding Stockwood Vale valley. (Yellow/Red/Blue)		Significant impact	Moderate impact	Significant impact	Significant impact	Significant impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Major adverse impact	Minor / Moderate adverse impact	£ 25-50m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	NO
A4-A37 Link	13	North Alignment 3 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 – south westerly route from Hicks Gate following topography – parallel route to Stockwood avoiding Stockwood Vale valley. (Blue)	Significant impact	Moderate impact	Significant impact	Significant impact	Significant impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	Minor / Moderate adverse impact	£ 25-50m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	
West of A37 Link	14	Connect from the A37 (at the roundabout with the routes to the east) to Washing Pound Lane, north of the junction with Church Road. Washing Pound Lane would be widened with an improved junction created at the junction with Ridgeway Lane and Whitchurch Lane. (Grey)	Significant impact	Minor impact	Significant impact	Minor impact	Moderate impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	Minor / Moderate adverse impact	£ 10-25m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	
West of A37 Link	15	Connect from the A37 (at the roundabout with the routes to the east) to Stoneberry Road, which would connect via Half Acre Lane to Whitchurch Lane. It is assumed that Stoneberry Road and Half Acre Lane would be widened, with an improved junction at Whitchurch Lane. (Orange)	Significant impact	Minor impact	Significant impact	Minor impact	Moderate impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	Minor / Moderate adverse impact	£ 10-25m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	

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			Objective 1	Objective 2	Strategic Case Objective 3	Objective 4		Manager	nent Case			Economic Case			Financial Case	1	-
Themes	No.	Transport Option	Mitigate increased travel demand enabling	Provide a range of convenient and attractive journey options for south east Bristol to key	Increase orbital connectivity to improve	Improve journey time reliability for public transport along the corridor and orbital	Overall Assessment	Estimated timescales for implementation (opening year)	Deliverability	Taken forward to Phase 2?	Economic Growth	Environment	Well being	Capital Costs	Revenue Costs	Affordability and financial risk	Taken forward for detailed assessment?
West of A37 Link	16	Connect around the east of Whitchurch to connect back to the A37 near the boundary between Bristol and Bath & North East Somerset. Traffic towards Whitchurch Lane would then route along the A37 into Bristol and turn west (then south west) into Ridgeway Lane, which then continues as Whitchurch Lane to the west. (Pink)	Very small impact	Minor impact	Minor impact	Minor impact	Minor impact	2026-2036	Deliverable but high complexity/risk	No							
Hicks Gate Roundabout	17	At-grade junction improvement - link between A4 Keynsham and A4174.	Moderate impact	Moderate impact	Moderate impact	Minor impact	Moderate impact	Before 2026	Deliverable with low complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	Neutral	<£10m	No revenue support required / maintenance only	Affordable with relatively low costs + financial risk	Yes
Hicks Gate Roundabout	18	Grade separation with A4174 - A4 flyover.	Moderate impact	Minor impact	Minor impact	Moderate impact	Minor impact	2026-2036	Deliverable but high complexity/risk	No							
Hicks Gate Roundabout	19	Grade separation with A4-A4 flyover.	Moderate impact	Very small impact	Minor impact	Minor impact	Minor impact	2026-2036	Deliverable but high complexity/risk	No							
Hicks Gate Roundabout	20	At-grade junction improvement - A4 throughabout.	Very small impact	Very small impact	Neutral / adverse	Very small impact	Very small impact	Before 2026	Deliverable with low complexity/risk	No							
A37 Public Transport	21	MetroBus route from Whitchurch to the city centre - gold standard.	Significant impact	Moderate impact	Minor impact	Significant impact	Moderate impact	2026-2036	Unlikely to be deliverable	No							
A37 Public Transport	22	MetroBus route from Whitchurch to the city centre - silver standard.	Significant impact	Moderate impact	Minor impact	Significant impact	Moderate impact	2026-2036	Unlikely to be deliverable	No							
A37 Public Transport	23	MetroBus route from Whitchurch to the city centre - bronze standard.	Moderate impact	Moderate impact	Minor impact	Moderate impact	Moderate impact	2026-2036	Unlikely to be deliverable	No							
A37 Public Transport	24	Enhanced bus service on the A37 corridor or via Callington Road Link.	Moderate impact	Moderate impact	Minor impact	Minor impact	Moderate impact	Before 2026	Deliverable with low complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	< £ 10m	No revenue support required / maintenance only	Affordable with relatively low costs + financial risk	Yes
Railway Path MetroBus and Cycle Route	25	Offline MetroBus route from Whitchurch to the city centre via the old Railway Path with strategic cycle route infrastructure.	Significant impact	Moderate impact	Very small impact	Significant impact	Moderate impact	After 2036	Unlikely to be deliverable	No							
Railway Path MetroBus and Cycle Route	26	Strategic cycle route from Whitchurch to the city centre via the old Railway Path.	Moderate impact	Moderate impact	Very small impact	Significant impact	Moderate impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	£ 10-25m	Ongoing revenue support required (> 5 years)	Affordable, but potentially high costs + financial risk	
Whitchurch P&R	27	Site 6 to the west of the A37 between Ridgeway Lane and Maggs Lane.	Moderate impact	Moderate impact	Minor impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Major adverse impact	Minor / Moderate beneficial impact	<£10m	Short-term revenue support required (<5 years)	Affordable with relatively low costs + financial risk	No
Whitchurch P&R	28	Site 7 between Fortfield Road and Bamfield, south of Asda Whitchurch store.	Very small impact	Moderate impact	Very small impact	Minor impact	Minor impact	Before 2026	Deliverable but high complexity/risk	No							
Whitchurch P&R	29	Site 8 to the west of the A37 north of New Fossway Road.	Minor impact	Moderate impact	Minor impact	Moderate impact	Moderate impact	Before 2026	Unlikely to be deliverable	No							
Whitchurch P&R	30	Site 9 at industrial estate on the corner of Hengrove Lane and Petherton Road.	Very small impact	Moderate impact	Very small impact	Minor impact	Minor impact	Before 2026	Unlikely to be deliverable	No							

					Strategic Case			Manager	nent Case			Economic Case			Financial Case	9	
	1		Objective 1	Objective 2	Objective 3	Objective 4				Taken							Taken forward for
Themes	No.	Transport Option	Mitigate increased travel demand enabling planned growth (JSP and non-JSP)	Provide a range of convenient and attractive journey options for south	access around south-east	Improve journey time reliability for public transport along the	Overall Assessment	Estimated timescales for implementation (opening year)	Deliverability	forward to Phase 2?	Economic Growth	Environment	Well being	Capital Costs	Revenue Costs	Affordability and financial risk	detailed assessment?
Whitchurch P&R	31	Site 10 at sports ground north of the A4174 to the west of Tesco Extra.	Very small impact	east Bristol to key Minor impact	Bristol, reduce delays on Very small impact	corridor and orbital	Very small impact	Before 2026	Deliverable but high complexity/risk	No							
Whitchurch P&R	32	Site 11 south of Staunton Lane between Sleep Lane and Newlands.	Moderate impact	Moderate impact	Minor impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Major adverse impact	Minor / Moderate beneficial impact	<£10m	Short-term revenue support required (<5 years)	Affordable with relatively low costs + financial risk	, No
Hicks Gate P&R	33	Site 1 NW quadrant of Hicks Gate roundabout.	Minor impact	Moderate impact	Very small impact	Minor impact	Minor impact	Before 2026	Deliverable but high complexity/risk	No							
Hicks Gate P&R	34	Site 2 NE quadrant of Hicks Gate roundabout.	Moderate impact	Moderate impact	Very small impact	Minor impact	Minor impact	Before 2026	Deliverable but high complexity/risk	No							
Hicks Gate P&R	35	Site 3 SE quadrant of Hicks Gate roundabout.	Moderate impact	Moderate impact	Minor impact	Moderate impact	Moderate impact	Before 2026	Unlikely to be deliverable	No							
Hicks Gate P&R	36	Site 4 SW quadrant of Hicks Gate roundabout, next to Durley Hill.	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Neutral	Minor / Moderate beneficial impact	< £ 10m	Short-term revenue support required (<5 years)	Affordable with relatively low costs + financial risk	Yes
Hicks Gate P&R	37	Site 5 SW quadrant of Hicks Gate roundabout, further from roundabout towards Bristol south of A4.	Moderate impact	Moderate impact	Minor impact	Minor impact	Moderate impact	Before 2026	Deliverable with low complexity/risk	Yes	Minor / Moderate adverse impact	Minor / Moderate adverse impact	Minor / Moderate adverse impact	<£10m	Short-term revenue support required (<5 years)	Affordable with relatively low costs + financial risk	Yes
Hicks Gate P&R	38	Site 6 NW quadrant of Hicks Gate roundabout, further from roundabout towards Bristol north of A4.	Moderate impact	Moderate impact	Very small impact	Minor impact	Minor impact	Before 2026	Deliverable with low complexity/risk	No							
Hicks Gate P&R	39	Site 7 SE quadrant of Hicks Gate roundabout, further from roundabout towards Bath south of A4.	Moderate impact	Moderate impact	Very small impact	Minor impact	Minor impact	Before 2026	Deliverable but high complexity/risk	No							
A37 Public Transport	40	Extension to North Fringe Hengrove MetroBus.	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	Minor / Moderate beneficial impact	<£10m	Short-term revenue support required (<5 years)	Affordable with relatively low costs + financial risk	Yes
West of A37 Link	41	Single carriageway road connecting the A37 to Bishop Avenue and Hawkfield Road in the west through an alignment south of Whitchurch village.	Moderate impact	Moderate impact	Significant impact	Moderate impact	Moderate impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Major adverse impact	Minor / Moderate adverse impact	£ 25-50m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	y No
Whitchurch P&R	42	Site 1 west of A37, south of Norton Lane, south of the cricket pitch.	Minor impact	Minor impact	Minor impact	Moderate impact	Minor impact	Before 2026	Deliverable but high complexity/risk	No							
Whitchurch P&R	43	Site 2 east of A37, land adjacent to the Cemetery.	Minor impact	Minor impact	Minor impact	Moderate impact	Minor impact	Before 2026	Deliverable but high complexity/risk	No							
Whitchurch P&R	44	Site 3 east of A37, north of Cemetery.	Minor impact	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	No							
Whitchurch P&R	45	Site 4 west of A37, north of Norton Lane.	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	< £ 10m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	Yes
Whitchurch P&R	46	Site 5 west of A37, south of Church Road.	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	<£10m	Short-term revenue support required (<5 years)	Affordable with relatively low costs + financial risk	Yes
A4-A37 Link	47	South Alignment 1 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - takes a direct alignment through the potential SDL. 40mph link providing access to the SDL and significant measures to provide connectivity across the link. Connecting to the A37 south of Staunton Lane. Not compatible with future dualling. (Purple)	Significant impact	Moderate impact	Significant impact	Significant impact	Significant impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	£ 25-50m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	Yes

					Strategic Case			Manager	ment Case	-		Economic Case			Financial Case		-
Themes	No.	Transport Option	Objective 1 Mitigate increased travel demand enabling planned growth (JSP and non-JSP)	Objective 2 Provide a range of convenient and attractive journey options for south east Bristol to key	Objective 3 Increase orbital connectivity to improve access around south-east Bristol, reduce delays on	Objective 4 Improve journey time reliability for public transport along the corridor and orbital	Overall Assessment	Estimated timescales for implementation (opening year)	Deliverability	Taken forward to Phase 2?	Economic Growth	Environment	Well being	Capital Costs	Revenue Costs	Affordability and financial risk	Taken forward for detailed assessment?
A4-A37 Link	48	South Alignment 2 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - takes a direct alignment through the potential SDL. 50mph link with no access to the SDL and limited measures to provide connectivity across the link. Connecting to the A37 south of Staunton Lane. Potentially compatible with future dualling. (Purple)	Significant impact	Moderate impact	Significant impact	Significant impact	Significant impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	£ 25-50m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	Voc
A4-A37 Link	49	South Alignment 3 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - takes an alignment around the southern eastern extent of the potential SDL. 50mph link with no access to the SDL and limited measures to provide connectivity across the link. Connecting to the A37 north of Gibbet Lane. Potentially compatible with future dualling. (Dotted green)	Significant impact	Moderate impact	Significant impact	Significant impact	Significant impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Major adverse impact	Minor / Moderate adverse impact	£ 25-50m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	Voc
A4-A37 Link	50	Dual carriageway – all alignments	Significant impact	Moderate impact	Significant impact	Significant impact	Significant impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Major adverse impact	Major adverse impact	£ 50-100m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	No

Summary Shortlist

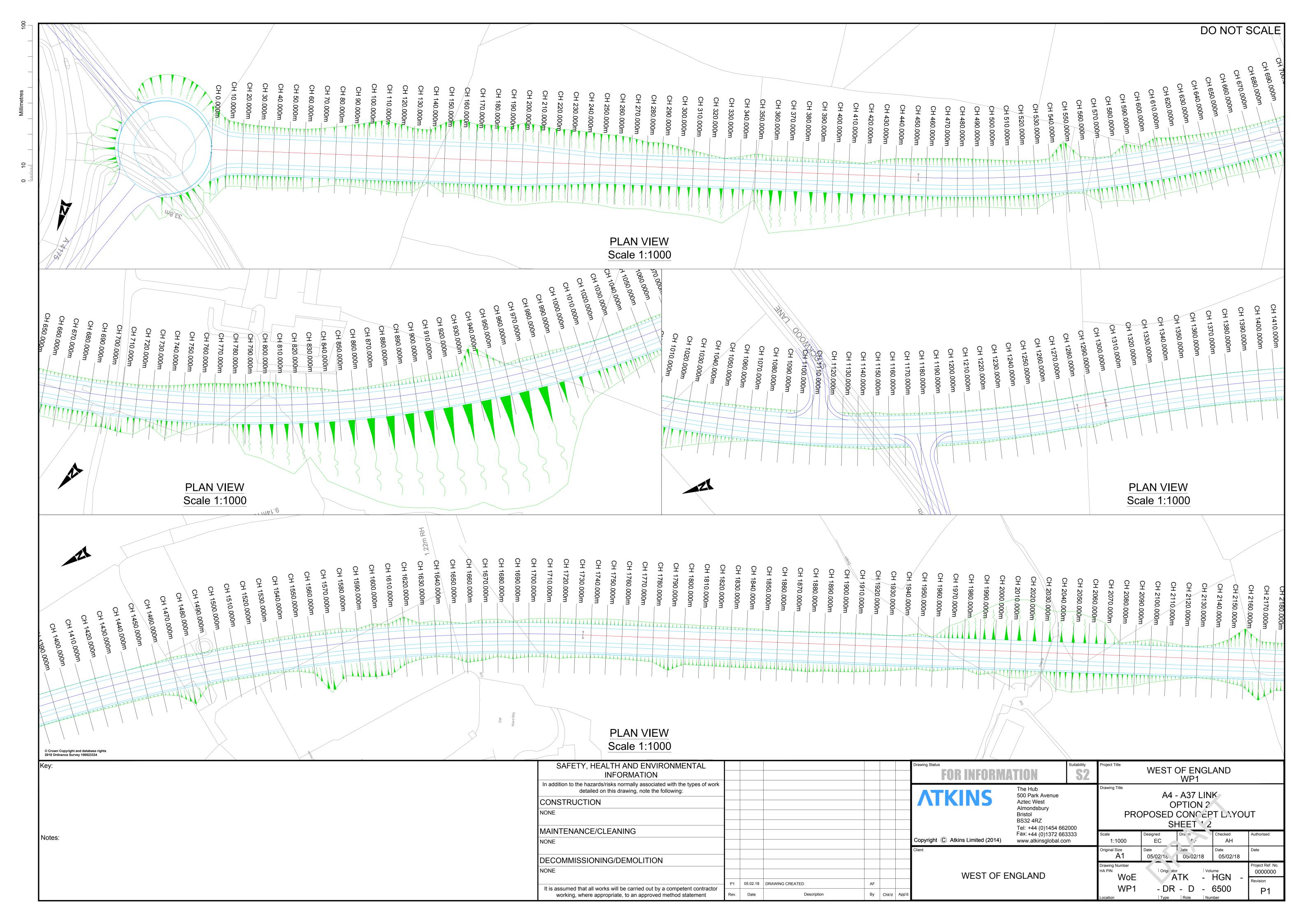
Summa	ry Shortlist					Strategic Case			Manager	nent Case			Economic Case			Financial Case		
				Objective 1	Objective 2	Objective 3	Objective 4		Wallager		Talaa		Leononne case			Financial Case		Talaa famaad faa
				Mitigate increased travel	Provide a range of	Increase orbital	Improve journey time		Estimated timescales		Taken forward to	Economic					Affordability and	Taken forward for detailed
				demand enabling	convenient and	connectivity to improve	reliability for public	Overall Assessment	for implementation	Deliverability	Phase 2?	Growth	Environment	Well being	Capital Costs	Revenue Costs	financial risk	assessment?
				planned growth (JSP and non-JSP)	attractive journey options for south-east	access around south-east Bristol, reduce delays on	transport along the corridor and orbital		(opening year)									
Yes	Orbital MetroBus	2	MetroBus route from Emersons Green to Whitchurch and beyond, connecting to existing MetroBus infrastructure (via new transport link around South East Bristol) - Silver standard.	Moderate impact	Significant impact	Moderate impact	Moderate impact	Moderate impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	£ 25-50m	Ongoing revenue support required (> 5 years)	Affordable, but potentially high costs + financial risk	Yes
Yes	Orbital MetroBus	6	Enhanced bus service on new orbital transport link.	Moderate impact	Minor impact	Minor impact	Minor impact	Minor impact	2026-2036	Deliverable with low complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	< £ 10m	Ongoing revenue support required (> 5 years)	Affordable with relatively low costs + financial risk	Yes
Yes	A4-A37 Link	13	North Alignment 3 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 – south westerly route from Hicks Gate following topography – parallel route to Stockwood avoiding Stockwood Vale valley. (Blue)	Significant impact	Moderate impact	Significant impact	Significant impact	Significant impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	Minor / Moderate adverse impact	£ 25-50m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	Yes
Yes	West of A37 Link	14	Connect from the A37 (at the roundabout with the routes to the east) to Washing Pound Lane, north of the junction with Church Road. Washing Pound Lane would be widened with an improved junction created at the junction with Ridgeway Lane and Whitchurch Lane. (Grey)	Significant impact	Minor impact	Significant impact	Minor impact	Moderate impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	Minor / Moderate adverse impact	£ 10-25m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	Yes
Yes	West of A37 Link	15	Connect from the A37 (at the roundabout with the routes to the east) to Stoneberry Road, which would connect via Half Acre Lane to Whitchurch Lane. It is assumed that Stoneberry Road and Half Acre Lane would be widened, with an improved junction at Whitchurch Lane. (Orange)	Significant impact	Minor impact	Significant impact	Minor impact	Moderate impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	Minor / Moderate adverse impact	£ 10-25m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	Yes
Yes	Hicks Gate Roundabout	17	At-grade junction improvement - link between A4 Keynsham and A4174.	Moderate impact	Moderate impact	Moderate impact	Minor impact	Moderate impact	Before 2026	Deliverable with low complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	Neutral	< £ 10m	No revenue support required / maintenance only	Affordable with relatively low costs + financial risk	Yes
Yes	A37 Public Transport	24	Enhanced bus service on the A37 corridor or via Callington Road Link.	Moderate impact	Moderate impact	Minor impact	Minor impact	Moderate impact	Before 2026	Deliverable with low complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	<£10m	No revenue support required / maintenance only	Affordable with relatively low costs + financial risk	Yes
Yes	Railway Path MetroBus and Cycle Route	26	Strategic cycle route from Whitchurch to the city centre via the old Railway Path.	Moderate impact	Moderate impact	Very small impact	Significant impact	Moderate impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	£ 10-25m	Ongoing revenue support required (> 5 years)	Affordable, but potentially high costs + financial risk	Yes
Yes	Hicks Gate P&R	36	Site 4 SW quadrant of Hicks Gate roundabout, next to Durley Hill.	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Neutral	Minor / Moderate beneficial impact	<£10m	Short-term revenue support required (<5 years)	Affordable with relatively low costs + financial risk	Yes
Yes	Hicks Gate P&R	37	Site 5 SW quadrant of Hicks Gate roundabout, further from roundabout towards Bristol south of A4.	Moderate impact	Moderate impact	Minor impact	Minor impact	Moderate impact	Before 2026	Deliverable with low complexity/risk	Yes	Minor / Moderate adverse impact	Minor / Moderate adverse impact	Minor / Moderate adverse impact	<£10m	Short-term revenue support required (<5 years)	Affordable with relatively low costs + financial risk	Yes
Yes	A37 Public Transport	40	Extension to North Fringe Hengrove MetroBus.	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate adverse impact	Minor / Moderate beneficial impact	< £ 10m	Short-term revenue support required (<5 years)	Affordable with relatively low costs + financial risk	Yes
Yes	Whitchurch P&R	45	Site 4 west of A37, north of Norton Lane.	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	< £ 10m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	Yes

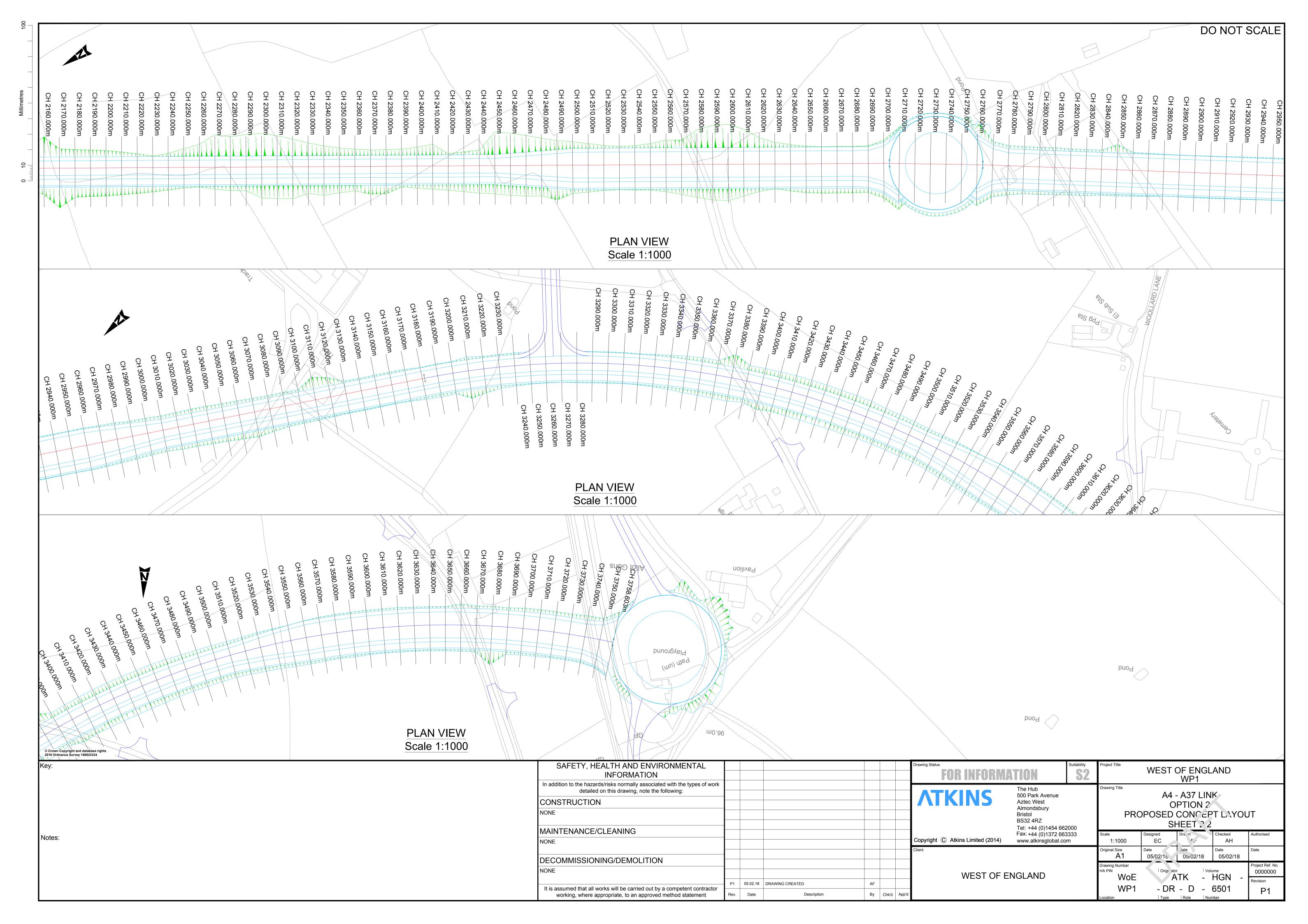
							Strategic Case			Manager	nent Case			Economic Case			Financial Case		
					Objective 1	Objective 2	Objective 3	Objective 4				Taken							Taken forward for
					Mitigate increased travel	Provide a range of	Increase orbital	Improve journey time		Estimated timescales		forward to	Economic					Affordability and	detailed
					demand enabling	convenient and	connectivity to improve	reliability for public	Overall Assessment	for implementation	Deliverability	Phase 2?	Growth	Environment	Well being	Capital Costs	Revenue Costs	financial risk	assessment?
					planned growth (JSP and	attractive journey	access around south-east	transport along the		(opening year)		Thuse 2.	Ciontin					manetarrisk	ussessment.
-					non-JSP)	options for south-east	Bristol, reduce delays on	corridor and orbital											
١	es	Whitchurch P&R	46	Site 5 west of A37, south of Church Road.	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Moderate impact	Before 2026	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	Minor / Moderate beneficial impact	< £ 10m	Short-term revenue support required (<5 years)	Affordable with relatively low costs + financial risk	Voc
Y	es	A4-A37 Link	49	South Alignment 3 - Single carriageway orbital corridor between Hicks Gate Roundabout and A37 - takes an alignment around the southern eastern extent of the potential SDL. 50mph link with no access to the SDL and limited measures to provide connectivity across the link. Connecting to the A37 north of Gibbet Lane. Potentially compatible with future dualling. (Dotted green)	Significant impact	Moderate impact	Significant impact	Significant impact	Significant impact	2026-2036	Deliverable but high complexity/risk	Yes	Minor / Moderate beneficial impact	Major adverse impact	Minor / Moderate adverse impact	£ 25-50m	No revenue support required / maintenance only	Affordable, but potentially high costs + financial risk	Yes

Appendix 6.1 Orbital highway schemes concept designs



WoE WP1 - Whitchurch v5 - 29.01.2018 Golocation Image Background

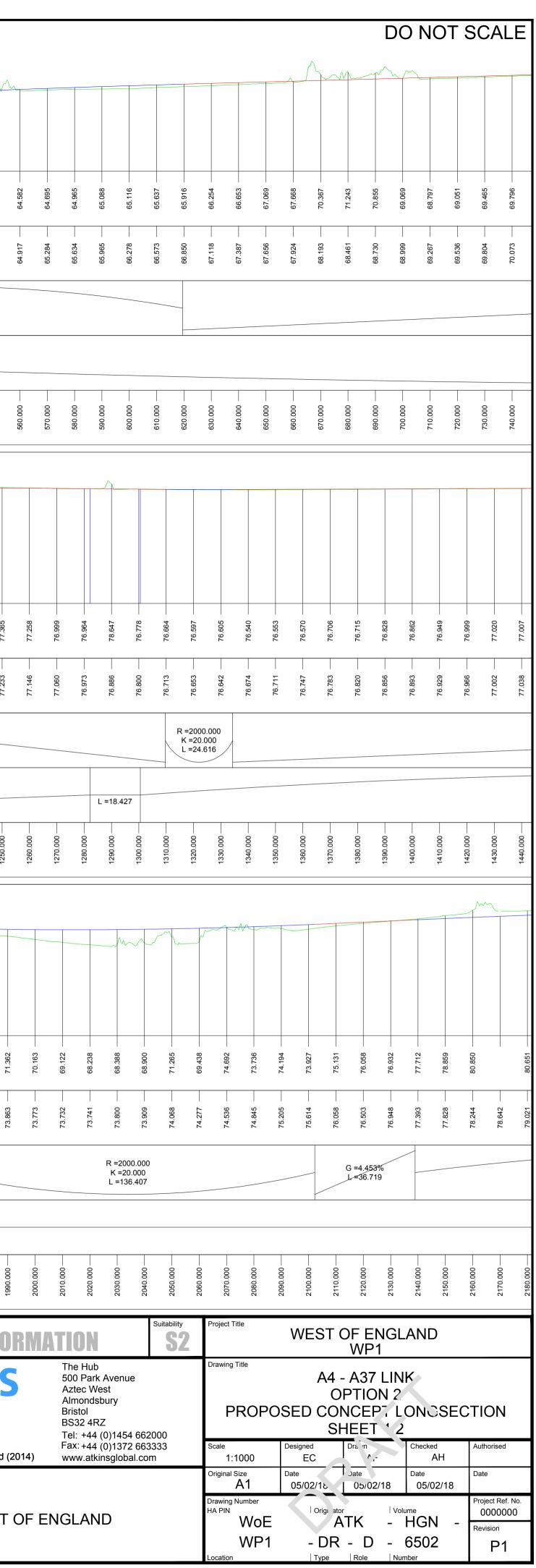


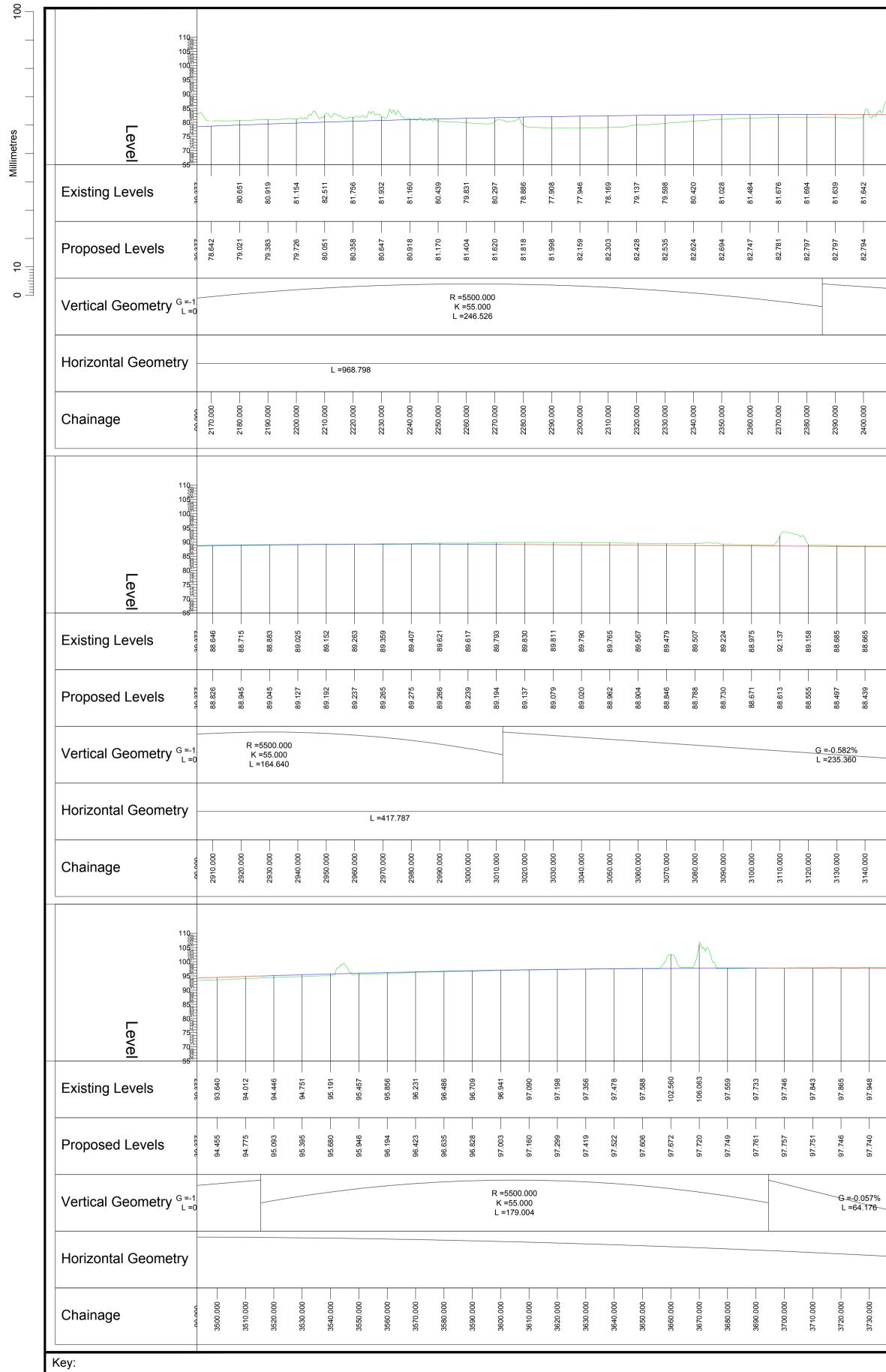


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Proposed Levels	39.377	39.265	39.204	39.192		39.230	39.319	39.457	39.645	39.884	40.172	40.510	40.899	41.337	41.824 —	42.325	42.826	43.326	43.827	44.328	44.829		45.330	45.831	46.332	46.832	
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Proposed Levels		60.267		69.536	69.804	70.073	70.342	70.610	70.879	71.147	71.416	71.685	71.953	72.222	72.490	72.759	73.028	73.296	73.565	CC0 CL	13.033	74.102	74.370	74.639	74.908	75 176	>
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75.445		75.713 —	75.982	76.250	76.507	76.745	76.965	77.167	77.350	77.516	77.663	77.792	77.903	77.995	78.070	78.126	78.164	78.184	78.186	78.170	78.135	78.082	78.012	77.926	77 839		77.753 —	77.666	77.579	77.493	77.406	77.320	77.233	
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82.791	82.788	82.785	82.782	82.779	82.776	82.773	82.770 —	82.767	82.764	82.761	82.758	82.755	82.752	82.749		82.746	82.743	82.740 —	82.737	82.734	82.731 —	82.730	82.763 —	82.846	82.978	83.161		83.392 83.633 83.633		83.874 — 84.115 —	84 356	04.300 100	84.597	84.839	85.080	85.321 —	85.562	85.803	86.045	86.286	86.527	86.768	87.009	87.250	87.492	87.732	87.960	88.170	88.361	88.534	88.689	88.826 —
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88.381	88.322	88.264	88.206	88.148	88.090	88.032	87.973	87.915	87.857	87.800	87.779	87.808	87 887	88 015	C10.00	88.194	88.423	88.702	89.019	89.339	89.659	89.978	90.298	90.618	90.938	91.257		91.577		92.217		92.856	93.176	93.496	93.816	94.136	94.455	94.775	95.093	95.395	95.680	95.946	96.194	96.423	96.635	96.828	97.003	97.160	97.299	97.419	97.522	909.26
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		8.603																																																		
		375		SAF	ETY,	HEA	ALTH	I AN	DEN	NVIR	ONI	MEN	TAL															Drawi	ng Statu									S	Suitability	y	Project ⊺	Fitle										_
			In add	dition t	o the ha deta	azards ailed o	INF( /risks r n this c	ORM	ATI Ily ass	ON ociate	d with	the ty																		FO FK		NF(		MA		Hub Park /	Avenue	e	S		Drawing	Title				WF	21 7 LI	IAN				_
				Ξ																													3		Azte Almo Bristo BS32	ondsb ol 2 4RZ	ury	6000	000		Ρ	'ROI	POS		0 100	PTIC NCE	ON 2	2 LON	CSE	ECTI	ION	
			MAII NONE		IANC	CE/CI	LEAN	NING	6																			Cop		t Ĉ Atl	kins Li	imited	(2014	4)	Fax:	+44 ((	0)1454 0)1372 sgloba	2 6633	333		Original	1000 Size	D	Designed EC Date	;	Dra`rn	<u>,</u>	Check	AH	Dat	thorised ite	
			DEC NONE		/ISSI	ONI	NG/E	DEM	OLIT	FION					 P1	05	.02.18								AF						W	'EST	ГОР	FEN	IGL/	AN	D					A1 ^{Number} Wo		7 ^	2/15 Origi ator A		l v	/olume HG	in -	Pro (	oject Ref. 000000	
			It is a	assum workir	ed that g, whe	all wor re app	ks will ropriat	be ca e, to a	rried o n app	out by a roved	a com methc	petent od state	contra ement	actor	– P1 Rev		.02.18 Date	UKAW	ING CRI		escriptio	n				Chk'd	App'o	'd													Location	WP	ʻ1		DR Type			650 Number	)3		P1	

- 10

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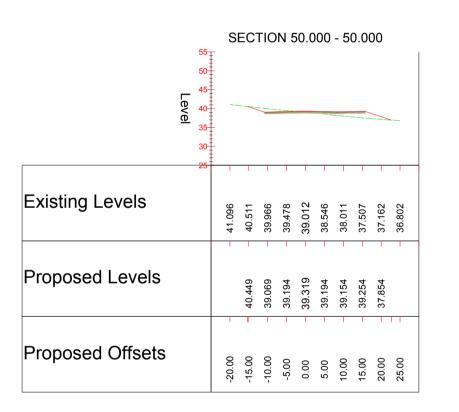
### CROSS SECTIONS Scale 1:1000

	6	30Ŧ	SE	СТ	ION	115	50.0	00	- 1	50.0	000	
	Level	55 50 15 10 35	\$ /	~	1_	$\sim$	\					
		30 [‡]	T	1	1	1	T	1	1		1	-
Existing Levels			48.337	46.085	44.665	46.039	43.487	42.757	42.188	41.628	40.923	40.313
Proposed Levels			45.622	43.956	42.576	42.701	42.826	42.701	42.661	42.761	41.361	
			I	1	1	I	I	I	I		11	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		⁶⁰ ∓	SE	СТ	ION	116	60.0	00	- 16	60.0	000	
	Level	55 50 45 40 35 30									~	
Existing Levels			46.722	45.719	44.868	44.271	43.685	43.112	42.573	42.056	41.468	40.816
Proposed Levels			46.123	44.456	43.076	43.201	43.326	43.201	43.161	43.261	41.861	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		55 _∓	SE	ст	ION	110	0.0	000	- 1(	00.0	000	I
	Level	50 45 40 35 30	/									
		25				1	1		1			-
Existing Levels			43.521	42.853	42.289	41.721	41.110	40.551	39.958	39.386	38.838	38.336
			1			I	I					1
Proposed Levels			43.307	41.640	40.260	40.385	40.510	40.385	40.345	40.445	39.045	
			T								П	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

			SE	СТ	ION	111	0.0	00	- 1	10.0	000	
	Level	55 50 45 40 35 30	1									
		-25		T	1	I	I	I	I	I	I	-
Existing Levels			44.185	43.432	42.645	41.931	41.248	40.624	40.041	39.457	38.926	38.445
			I		I	I	I		I	I	I	
Proposed Levels			43.695	42.029	40.649	40.774	40.899	40.774	40.734	40.834	39.434	
			I	I	1				I			1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00



		55	S	EC	τιο	N 6	60.0	00	- 60	0.00	00	
	Level	50 45 40 35 30										
		25	I									
Existing Levels			41.272	40.651	40.078	39.657	39.199	38.805	38.327	37.906	37.429	36.954
Proposed Levels			T	40.587	39.207	39.332	39.457	39.332	39.292	39.392	37.992	
			T	I				I		I		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

	(	³⁰ ∓	S	SEC	CTI	ON	0.0	00	- 0.	000	D	I
	Leve	55 50 45 40 35	< 11									×,
	:	30 25 20					-1					
Existing Levels			43.637	40.967	40.305	39.819	39.377	38.957	38.702	39.413	37.045	36.478
Proposed Levels			40.283	39.002	1	1	T	T	39.127	39.100	39.193	37.707
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Key:

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		0∓	SE	СТ	ION	117	'0.C	000	- 1	70.(	000	
	Level 4	0 5 5 5 5	ij									
Existing Levels			47.050	46.251	45.478	44.771	44.178	43.563	42.973	42.346	41.730	41.084
Proposed Levels			46.624	44.957	43.577	43.702	43.827	43.702	43.662	43.762	42.362	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

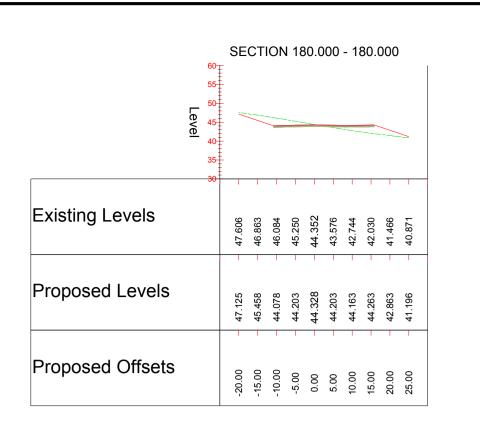
Proposed Offsets

SECTION 120.000 - 120.000

44.281 43.438 42.621 41.901 41.282 40.697 39.626 39.125 38.658

44.134 42.467 41.087 41.212 41.212 41.212 41.172 41.172 39.872 39.872

-20.00 -15.00 -5.00 0.00 5.00 15.00 25.00



	55		СТ	ION	113	30.C	00	- 1:	30.0	000	
	50 45 40 35 30										
		+	1	1	1	1		1	1	T	1
Existing Levels		44.395	43.570	42.819	42.158	41.551	40.962	40.414	39.931	39.532	39.773
			1	1	1	1			I		
Proposed Levels			42.954	41.574	41.699	41.824	41.699	41.659	41.759	40.359	
		TT	1					I	I	I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Proposed Levels		
Proposed Offsets		
	Le	1

	Level	55 50 45 40	SI	EC	τιο	N 8	30.C	000	- 8(	0.00	00			
	iel	35- 30- <del>25</del>	T			-	œ				+			
			T	41.588	41.038	40.552	40.138	39.720	39.343	38.905	38.431	37.876	_	
S					39.634	39.759	39.884	39.759	39.719	39.819				
					T									

		55-	S	EC	τιο	N S	90.0	000	- 9(	0.0	00	
	Level	50 45 40 35 30	-					-				
		25	T	I	I		T				T	
Existing Levels			42.812	42.175	41.622	41.081	40.615	40.130	39.693	39.188	38.672	38.133
			1	T	I	T	T	T	1	T	T	
Proposed Levels				41.302	39.922	40.047	40.172	40.047	40.007	40.107	38.707	
			П	I	I	I	I	I	I	I	T	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		55	S	EC	τιο	N 7	<b>'</b> 0.0	00	- 7(	0.00	00		1
	Level	50 45 40 35 30											
		25	1										1
Existing Levels			41.617	41.052	40.510	40.040	39.670	39.262	38.879		37.931	37.443	
				I	I					1			
Proposed Levels				40.775	39.395	39.520	39.645	39.520	39.480	39.580			
			1	11	1	I	1		1	Π			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	_	55 50 45										
	Level	40 35 30										
		-25			I	I	I					I
Existing Levels				41.588	41.038	40.552	40.138	39.720	39.343	38.905	38.431	37.876
			I	I	I	I	I					1
Proposed Levels					39.634	39.759	39.884	39.759	39.719	39.819		
				I	П	I	I		I	I		I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

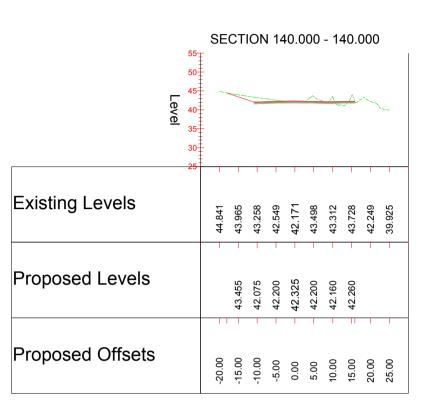
S	EC	ΓΙΟ	N 1	0.0	00	- 1(	0.0	00				55 50	SE
_											Level	45 40 35 30	-
	1	1				1			1			25	
41.504	40.921	40.310	39.782	39.241	38.635	38.200	37.700	37.163	36.801	Existing Levels			41.450
I	40.022	39.015	39.140	39.265	39.140	39.068	39.175	37.999	ſ	Proposed Levels			
0	0	0	-			0	0	0	0	Proposed Offsets			Q
-20.00	-15.0	-10.0	-5.0	0.0(	5.0(	10.00	15.0	20.0	25.00				-20.00

	55 50 45 40 35	SI	EC	ΓΙΟ	N 2	20.0	00	- 20	0.00	00		
	30	_										
ing Levels	25	41.450	40.784	40.182	39.623	39.091		- 38.079	37.512	37.006	36.582	
osed Levels			40.334	38.954	39.079	39.204	39.079	39.039	39.139	37.739		
osed Offsets		-20.00	-15.00	-10.00	-2.00	0.00	5.00	10.00	15.00	20.00	25.00	

	55-		ECT	ΓΙΟΙ	N 3	0.0	00 ·	- 30	0.00	00			55		EC	TIC	)N 4	0.0	00	- 40	0.00	0	
	50 45 Level 40 35 30							-					50 45 40 35 30										
Existing Levels		41.167	40.623	40.067	39.543	38.967	38.413	37.866	37.333	36.829	36.478	0/1-00	Existing Levels	41.136	40.540	39.962	39.376	38.824	38.328	37.823	37.361	36.886	140.00
Proposed Levels			40.322	- 38.942	39.067	39.192	39.067	39.027	39.127	37.727			Proposed Levels		40.360	- 38.980	39.105	39.230	39.105	39.065	39.165	37.765	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	00.62	Proposed Offsets	-20.00	-15.00	-10.00	-2.00	0.00	5.00	10.00	15.00	20.00	20.02

	-													
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status	TION	Suitability	Project Title	WEST C	F ENGL WP1	_AND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							ATVINC	The Hub 500 Park Avenue		Drawing Title		A37 LIN	IK	
CONSTRUCTION							<b>ATKINS</b>	Aztec West				PTION 2		
NONE								Almondsbury Bristol BS32 4RZ		PROPOS	ED CONC			CTIONS
MAINTENANCE/CLEANING								Tel: +44 (0)1454 66 Fax: +44 (0)1372 66	3333	Scale		Dra 'n	Checked	Authorised
NONE							Copyright © Atkins Limited (2014)	www.atkinsglobal.co	om	1:1000	EC	)ate	AH	Data
DECOMMISSIONING/DEMOLITION							Client			Original Size	Date 05/02/1δ	05/02/18	05/02/18	Date
NONE	_						WEST OF E	NGLAND		Drawing Number HA PIN WoE	Origi ator		HGN -	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor	– P1	05.02.18 DRAWING CRE	ATED	AF						WP1	- DR		6504	Revision
working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	Chk'd	App'd				Location	Туре	. –	imber	

	60 55 50 45 40 35		ECT	101	N 19	90.0	000	- 19	90.(	000	
Existing Levels		47 825	47.044	46.309	45.581	44.757	43.909	43.039	42.288	41.542	40.924
Proposed Levels		47 676	45.959	44.579	44.704	1	1	44.664	1	T	41.697
Proposed Offsets		00.00-	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



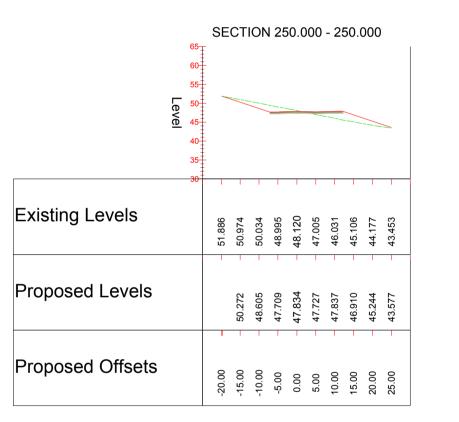
### CROSS SECTIONS Scale 1:1000

		70 <del></del>	SE	СТ	ION	1 35	50.C	000	- 3	50.0	000	)
	Level	65 60 55 50 45 40	-	M	A	$\sim \sim$	~~~	~	-	~~~~	Y	Ч
		35	I	I	1	I	T	I	I	T	T	I
Existing Levels			54.454	54.268	52.186	54.733	53.490	54.172	53.517	49.512	51.098	47.087
Proposed Levels			I	I	54.462	53.565	53.690 -	53.583	53.694	52.767	I	Ţ
			I	T	П	I	1	1	T	T	11	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Level	70 65 55 50 45 40	SE	CT	
Existing Levels		55	55.422	54.234	
Proposed Levels			I		
Proposed Offsets			-20.00	-15.00	000

		65-1	SE	ст	ION	1 30	0.0	00	- 30	0.00	000	
	Level	60 55 50 45 40 35										//
		-30			I	I	I					
Existing Levels			53.891	52.922	51.936	51.013	50.082	49.157	48.328	47.427	46.481	45.590
				1		1	1			T		
Proposed Levels					51.463	50.567	50.692	50.584	50.695	49.768	48.101	46.435
				П	T	T	T	I	I	T	T	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		65 _∓	SE	СТ	ION	131	0.0	00	- 3′	10.0	000	
	Level	60 55 50 45 40				_						/!
		35										
Existing Levels			54.240	53.216	52.260	51.312	50.435	49.557	48.669	47.737	46.878	46.052
			1	I		I	I			I	I	
Proposed Levels					52.063	51.167	51.292	51.184	51.295	50.368	48.701	47.034
			T		11							
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
	65 60		СТ	ION	126	60.C	000	- 20	60.0	000	
	55 55 50 45 40 35					_					//
Existing Levels		52.332	51.465	50.553	19.463	48.458	17.417	46.324	15.358	44.414	43.627
Proposed Levels		ц) —		1		T		48.346 4	1	1	44.086
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	60		ст	ION	120	0.0	000	- 2	00.	000	D					65 60	SE	СТ	ION	21	0.0	00
	60 55 45 40 35	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				~					/:				Level	55						
Existing Levels	<del></del>	48.768	47.842	46.910	46.187	45.299	44.464	43.604	42.853	42.155	41.554		1	Existing Levels		30	49.351	48.389	47.462	46.610	45.751	44.951
Proposed Levels		48.126	- 46.460	45.080	45.205	45.330	45.205	45.165	45.265	43.865	42.198		1	Proposed Levels			48.889	47.222	45.581	45.706	45.831	45.706
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		ł	Proposed Offsets			-20.00	-15.00	-10.00		0.00	5.00

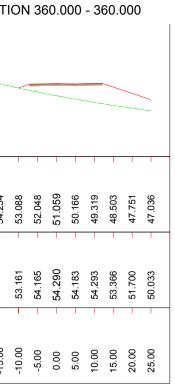
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Notes:



	Level	65 60 55 50 45 40	1									/ !
Existing Levels		-35	55.942	54.826	773 -	750 -	313 -	50.913	50.092	261 -	48.557	47.864
			- 55.	- 54.	53.	- 52.	- 51.8	- 50.	- 50.	49.	48.	47.
Proposed Levels						54.765	54.890	54.782	54.893	53.966	52.299	50.633
			I	I	I		I	I				l
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

SECTION 320.000 - 320.000

54.515 53.442 52.509 51.617 50.661 49.717 48.847 48.847 48.000 47.202 46.397

51.766 51.891 51.895 51.895 51.895 50.968 49.301 47.634

		70	SE	СТ	ION	138	30.0	000	- 38	30.0	000	
	Level	65 60 55 50 45 40			~~~							/ -
		35	I	T	I		I		1	1		1
Existing Levels			56.640	55.633	54.547	53.579	52.607	51.746	50.889	50.082	49.327	48.704
				1	I	I	I		1			
Proposed Levels						55.365	55.490	55.382	55.493	54.566	52.899	51.232
					I	I	I	T			I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	6	⁵ Ŧ	SE	СТ	ION	133	80.0	00	- 33	30.0	000		
	Level 4	0 5 	1				-					11	
Existing Levels		5	54.886	53.905	52.894	51.781	50.803	49.860	49.014	48.201	47.323	46.566	
Proposed Levels			T	ſ	I	52.366	52.491	52.383	52.494	51.567	49.901	48.234	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

Existing L
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	6 <b>!</b> 6(	Ŧ	SE	СТІ	ION	1 27	70.0	000	- 2	70.(	000	I
	5: Leve 4: 40											/!
		ţ.	1	-		-	-	1				
Existing Levels			52.663	51.755	50.764	49.772	48.696	47.713	46.716	45.849	44.973	44.187
			I		I				I	I	I	1
Proposed Levels				51.335	49.668	48.772	48.897	48.789	48.900	47.973	46.307	44.640
												1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		65	SE	ст	ION	1 28	80.0	00	- 28	80.0	000	
	Level	60 55 50 45 40 35	į									i/
Existing Levels		30	52.886	52.011	51.078	50.118	49.127	48.218	47.317	46.417	45.579	44.852
Proposed Levels			1	51.930	50.264	49.367	49.492	49.385	49.496	48.569	46.902	45.235
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		65 <u>-</u>	SE	СТ	ION	129	90.0	00	- 29	90.0	000		
	Level	60 55 50 45 40 35										i/	
		30	-	1	Т	1	1	I	1	1			-
Existing Levels			53.488	52.600	51.626	50.643	49.717	48.799	47.885	46.989	46.134	45.268	
				T	I	I	I	I		I	I		
Proposed Levels				52.530	50.863	49.967	50.092	49.985	50.095	49.168	47.502	45.835	
			T	11		1	1			1			-
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

000 - 210.000	Level	65 60 55 50 45 40	SE	СТ	ION	122	20.0	000	- 22	20.0	000	
44.951 44.170 43.491 42.842 42.206	Existing Levels	35 <u>30</u>	49.958	49.072	48.178	47.355	46.516	45.682	44.862	44.137	43.443	42.731 -
45.706 45.702 45.784 44.141 42.474	Proposed Levels		49.651	47.985	46.318	46.207	46.332	46.207	46.236	46.083	44.416	42.750
5.00 10.00 15.00 20.00 25.00	Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	- 2.00	10.00	15.00	20.00	25.00

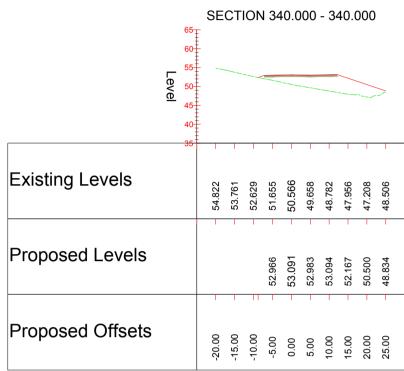
		65 60 55	SE	СТ	ION	123	80.0	00	- 23	30.0	000			
	Level	50 45 40 35										_		
Existing Levels		- 30	50.699	49.761 -	48.903	47.998	47.131	46.304	45.388	44.557	43.824	43.085		Existi
Proposed Levels			50.414	48.747	47.080	46.707	46.832	46.707	46.770	46.359	44.692			Propo
Proposed Offsets	5		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		Propo

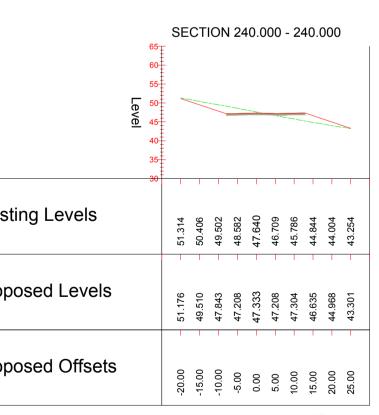
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION					Drawing Status FOR INFORMA	TION	Suitability	Project Title	WEST	OF ENG WP1	LAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:					ΛΤΚΙΝ	The Hub 500 Park Avenue		Drawing Title	Δ4	- A37 LIN		
CONSTRUCTION						Aztec West				PTION 2		
NONE						Almondsbury Bristol BS32 4RZ		PROPOS		CEPT (JF IEET 2/1		CTIONS
MAINTENANCE/CLEANING						Tel: +44 (0)1454 66 Fax: +44 (0)1372 66		Scale	Designed	Dra 'n	Checked	Authorised
NONE					Copyright ① Atkins Limited (2014)	www.atkinsglobal.co	om	1:1000	EC	+	AH	
DECOMMISSIONING/DEMOLITION	-				Client			Original Size	Date 05/02/1১	Date 05/02/18	Date 05/02/18	Date
NONE					WEST OF E	NGLAND		Drawing Number HA PIN WOE	Origi ato		olume HGN -	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 05.02.1 Rev. Date	8 DRAWING CREATED Description	AF By	Chk'd App'd				WP1	- DR	- D -	6505	Revision P1

-20.00 -15.00 -10.00 -5.00 0.00 5.00 110.00 15.00 25.00 25.00

	28	80.0	000	- 28	30.0	000				
							_			
	T		I	I			I			
	50.118	49.127	48.218	47.317	46.417	45.579	44.852			
	1									
	49.367	49.492	49.385	49.496	48.569	46.902	45.235			
-			-	-	-			_		

		70 65	SE	ст	ION	1 39	90.0	000	- 3	90.(	000	
	Level	60 55 50 45 40			~~~~							
Existing Levels		35	57.350	56.359	55.315	54.373	3.464	52.541	51.691	50.931	50.200	49.495
					-			1	T		-	
Proposed Levels						55.964	56.089	55.982	56.093	55.166	53.499	51.832
			I	T	П	I	I	1	I	I	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00





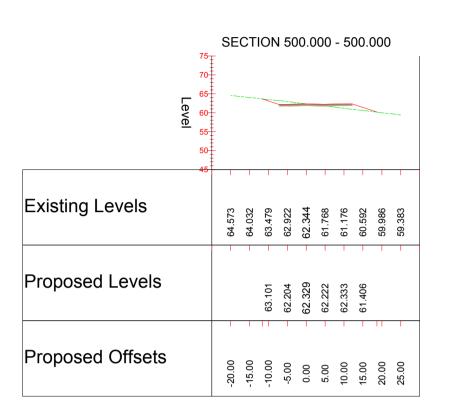
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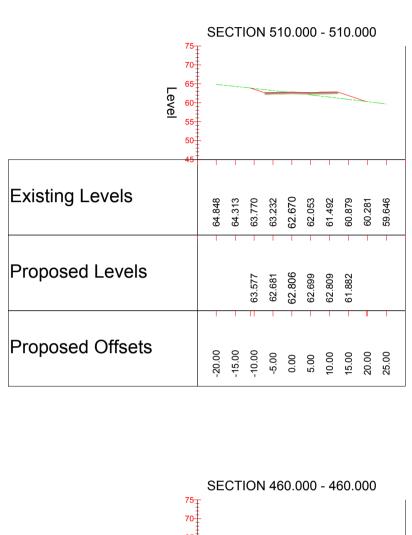
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### **CROSS SECTIONS** Scale 1:1000

		85		СТ	ION	1 55	50.0	000	- 5	50.	000				
	Level	80 75 70 65 60 55	//	$\checkmark$	N,		h		4	A	~	<u>^</u>			
Existing Levels		50	69.777	- 996	72.135	66.974	- 2007	64.143	66.735	63.203	64.376	66.236			Existing Levels
Proposed Levels			68.636	66.969	65.302	64.406	64.531	64.424	64.534	I	I			-	Proposed Levels
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00			Proposed Offsets

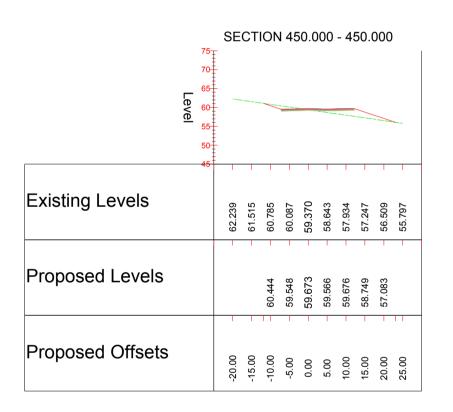




Existing Levels

Proposed Levels

Proposed Offsets



	e Lev	70 65 60 55	SE	СТ	ION	14(	00.0	000	- 4	00.0	000		
	2	50 45 40 35									1		
Existing Levels			58.030	57.014	- 56.153	55.225	54.380	53.533	52.665	51.862	51.138	50.481	Existing Levels
Proposed Levels						56.564	56.689	56.582	56.692	55.765	54.099	52.432	Proposed Levels
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	- 2.00	- 10.00	- 15.00	20.00	25.00	Proposed Offsets

Key:

Notes:

_	SE	СТ	ION	1 56	60.0	00	- 50	60.0	000		I
	-	``		<u> </u>		<u>. / </u>	<u>V</u>	2		_	
	-1		-1	-1	-		-	-1	-1		
	69.463	66.655	66.133	65.111	64.582	65.553	63.733	65.952	63.931	63.693	
	I	I	I	I	I	I	I	I	I	I	-
			65.688	64.792	64.917	64.809	64.920				
	T			I	I			11			
	-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

Existing Levels

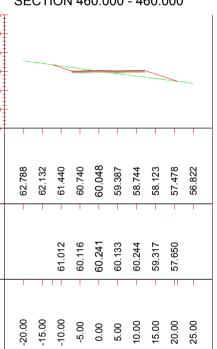
Proposed Levels

Proposed Offsets

Existing Levels

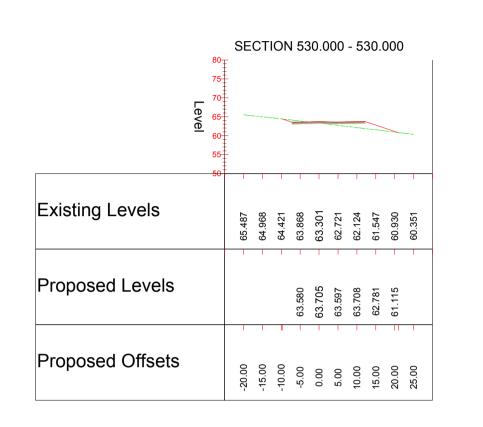
Proposed Levels

Proposed Offsets



	75	Ŧ	SE	ст	ION	147	70.0	000	- 4 [.]	70.(	000	
	Level 50						-					
		+				1		1			T	1
Existing Levels			63.364	62.754	62.109	61.440	60.759	60.150	59.514	58.935	58.370	57.784
Proposed Levels					61.561	60.665	60.790	60.683	60.793	59.866		
											П	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

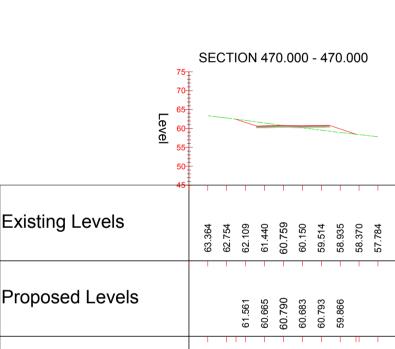
	Leve	80 75 70 65 60	SE	CT	ION	1 58	30.0	00	- 58	80.0	000	
	; ;	55 50	-1				-1	-1	1			
Existing Levels			68.026	66.385	65.899	65.432	64.964	64.552	64.019	63.399	62.848	62.291
Proposed Levels			I			65.509	65.634	65.526	65.637	64.710	63.044	I
Proposed Offsets			-20.00	.00	00.0	-5.00	00	00	- 00.	- 00.	00.	25.00



		75-		СТ	ION	148	30.C	000	- 48	80.0	000	
	Level	70 65 60 55 50										
		45				I	I	I				1
Existing Levels			63.860	63.276	62.663	62.024	61.412	60.808	60.204	59.619	59.048	58.478
			I				1					T
Proposed Levels					62.093	61.196	61.321	61.214	61.325	60.398		
												I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SECTION 410.000 - 410.000		SECTION 420.000 - 420.000		SECTION 430.000 - 430.000	75	SECTION 440.000 - 440.000
		70		70 65	70 65	
	Level	60	Level	60	e 60 e 55	
		50		50 45	50	
		40 ⁺		40 [±]	40	<del>.</del> 
58.973 58.020 57.150 56.304 55.442 55.442 55.728 53.728 53.728 52.938 52.137 51.448	Existing Levels	60.024 59.122 58.254 55.733 56.571 56.571 55.733 54.091 54.091 53.347 52.603	Existing Levels	60.903 60.115 59.265 58.412 57.616 56.825 55.977 55.225 54.470 53.741	Existing Levels	61.677 60.909 60.130 59.324 58.598 58.598 57.029 56.296 55.296 56.296 55.782
57.164 57.289 57.289 57.292 56.365 54.698 53.032	Proposed Levels	57.763 57.763 57.781 57.781 57.892 56.965 55.298 55.298 53.631	Proposed Levels	59.259 58.363 58.363 58.488 58.491 57.564 57.564 55.898 55.898 54.231	Proposed Levels	59.858 58.962 59.087 59.090 58.980 58.163 58.163 56.497 54.830
57. 57. 57. 57. 56. 56.		57. 57. 57. 57. 56. 53.		55 57 58 58 50 54 55 7		5         5         5         5         5           5         5         5         5         5
-20.00 -15.00 -10.00 -5.00 0.00 5.00 10.00 15.00 220.00 25.00	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 5.00 10.00 15.00 25.00 25.00	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00 10.00 15.00 25.00 25.00	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00 15.00 25.00 25.00
SAFETY	, HEALTH AND ENVIRON	MENTAL		Drawing Status		Suitability Project Title

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORMATION	Suitability	Project Title	WEST OF ENG WP1	LAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:						ATKINS ATKINS Aztec West	renue	Drawing Title	A4 - A37 LII	JK	
CONSTRUCTION									OPTION 2		
NONE						Almondsbu Bristol BS32 4RZ		PROPOS	SED CONCEPT (JF SHEET ()		CTIONS
MAINTENANCE/CLEANING							1454 662000 1372 663333	Scale	Designed Dra n	Checked	Authorised
NONE						Copyright C Atkins Limited (2014) www.atkins		1:1000	EC	AH	
DECOMMISSIONING/DEMOLITION						Client		Original Size	Date Jate 05/02/18	Date 05/02/18	Date
NONE						WEST OF ENGLAND		Drawing Number HA PIN WoE		HGN -	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 Rev.	05.02.18 DRAWING CREATED Date Description	AF By	Chk'd	App'd			WP1	- DR - D -	6506	Revision P1



SECTION 570.000 - 570.000

69.453 66.078 65.605 65.119 64.695 64.181 63.653 63.088 63.088 62.516 61.961

65.159 65.284 65.177 65.177 65.288 64.361 62.694

-20.00 -15.00 -5.00 0.00 5.00 10.00 15.00 25.00 25.00

SECTION 520.000 - 520.000

65.141 64.586 64.586 63.524 62.964 62.964 62.333 62.333 62.333 61.214 61.214 61.214 61.214

64.036 63.140 63.265 63.157 63.157 63.268 62.341 60.674

-20.00 -15.00 -10.00 -5.00 0.00 5.00 15.00 15.00 25.00

		85	SE	СТ	ION	1 59	90.0	00	- 59	90.0	000	1
	Level	80 75 70 65 60		- Je								
[		55- 		-				-	1	-		
Existing Levels			69.306	70.069	66.035	65.567	65.088	64.638	64.015	63.352	62.743	62.188
Proposed Levels					66.736	65.840	65.965	65.858	65.968	65.041	63.375	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		80- 75-	SE	СТ	ION	1 54	0.0	000	- 54	40.(	000	
	Level	75 70 65 60 55								~~.	~~~	~~~
		50		1	I	1	I	I	T	T	I	
Existing Levels			65.846	65.410	64.989	64.539	64.173	64.389	63.929	63.149	61.936	61.873
			I	T	I	1	I	I	I	I	I	
Proposed Levels					64.898	64.002	64.127	64.020	64.130	63.203		
			I		I			I				
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

		75	SE	ст	ION	149	90.0	00	- 49	90.0	000		
	Level	75 70 65 60 55 50											
		45			I	I							
Existing Levels			64.247	63.715	63.114	62.550	61.963	61.340	60.756	60.166	59.577	59.031	
				T	1	1	I	I	I	I		T	
Proposed Levels					62.606	61.709	61.834	61.727	61.838	60.911			
			I		1 1	1	I	I		I	П	1	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

# 10 Millimetres

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### CROSS SECTIONS Scale 1:1000

	85		СТ	ION	175	50.0	000	- 7	50.0	000	
	80 75 70 65 60									~	
				I			I		I	I	1
Existing Levels		72.862	72.143	71.451	70.760	70.087	69.459	69.067	68.471	68.389	66.054
			1	1	I	1	I		I	I	1
Proposed Levels				71.113	70.217	70.342	70.234	70.345	69.418		
			1	11	1	1		I	I	11	T
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

		90 85 80	SE	СТ	ION	170	0.0	000	- 7(	00.0	000	
	Level	75 70 65 60			~_			<u>η</u>				J
Existing Levels		55	72.749	69.999	69.719	69.148	69.075	71.918	67.126	67.020	71.236	66.537
Proposed Levels						68.874	68.999	68.891	69.002	69.975	71.642	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels	
Proposed Levels	
Proposed Offsets	

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Existing Levels
Proposed Levels
Proposed Offsets

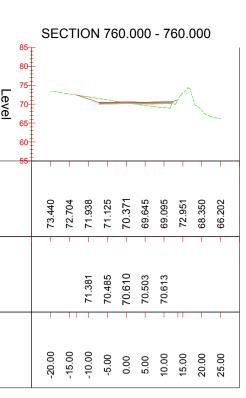
		85-	SE	СТ	ION	1 65	50.0	00	- 6	50.0	000	
	Level	80 75 70 65 60 55			2	4					<b></b> .	
		50		1	1	-	1	1		-		
Existing Levels			69.181	68.852	69.631	69.372	62.069	66.618	66.178	65.725	65.285	64.802
				I		1	I					
Proposed Levels					68.427	67.531	67.656	67.548	67.659	66.732		
			1		Π	T	T	T	I	I	П	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

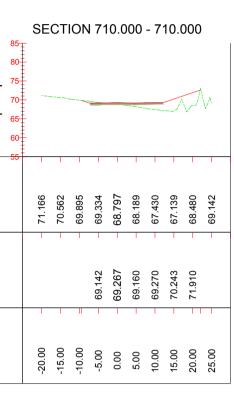
	Level	- - -
Existing Levels		
Proposed Levels		
Proposed Offsets		

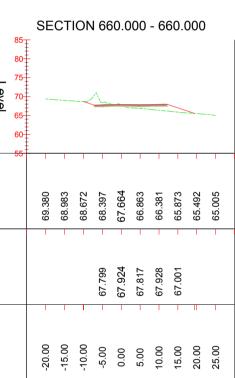
		85		ст	ION	160	0.0	000	- 6	00.0	000				
	Level	80 75 70 65 60 55		~~^								~			
Existing Levels		-50-	68.039	68.509	66.501	65.666	65.115	64.686	64.127	63.599	62.989	62.472		Existing Levels	3
Proposed Levels			I	I	67.050	66.153	66.278	66.171	66.282	65.355	63.688	I		Proposed Leve	els
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		Proposed Offs	ets

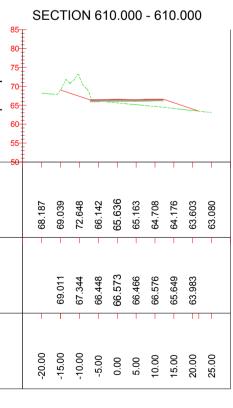
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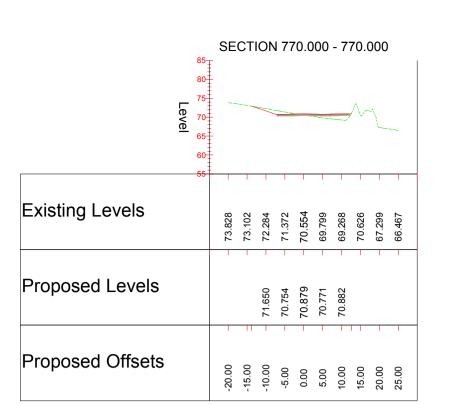
Notes:







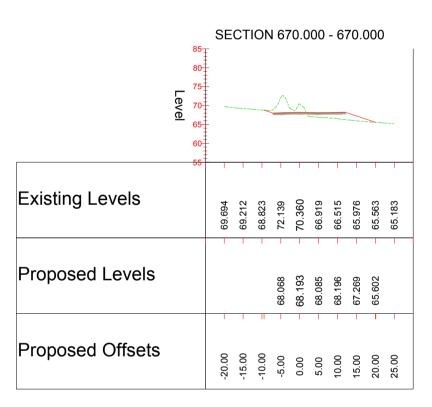




		85-1	SE	СТ	ION	172	20.0	00	- 72	20.0	000	
	Level	80 75 70 65 60	-									
		55	- 1	1	I				1	I		
Existing Levels			71.329	70.723	70.169	69.588	69.050	68.597	68.772	67.076	66.355	65.779
			I			I			I	I		
Proposed Levels						69.411	69.536	69.428	69.539	68.612	66.945	
			I	1	11	I						T
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

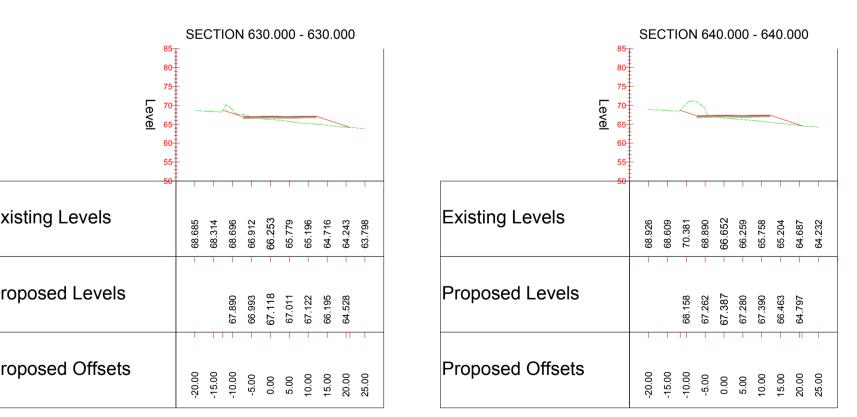
		85	SE	СТ	ION	178	80.0	000	- 78	80.0	000		
	Level	80- 75- 70- 65- 60-	-							2			
		55	1		I	I	I		I	I	I		
Existing Levels			74.190	73.393	72.514	71.624	70.823	70.191	72.371	67.961	67.199	66.303	
			1	I	I	I			I	I	I		
Proposed Levels					71.919	71.022	71.147	71.040	71.151				
				11			I	I	I	T	I		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

			SE	СТ	ION	173	80.0	00	- 7:	30.0	000	
	Level	90 85 80 75 65 60							<u>^</u>	1	<b>`</b> .	
Existing Levels		55	71.750	71.138	70.561	69.970	69.464	68.994	75.331	78.973	66.664	65.954
Proposed Levels			I			69.679	69.804	69.697	69.808	70.781		1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

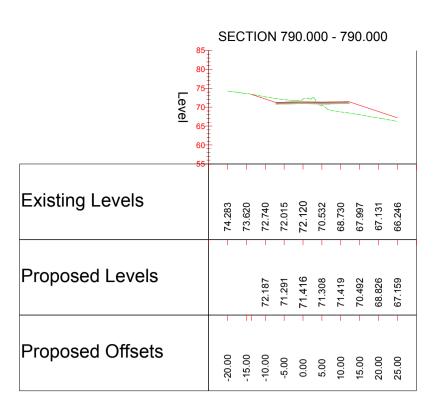


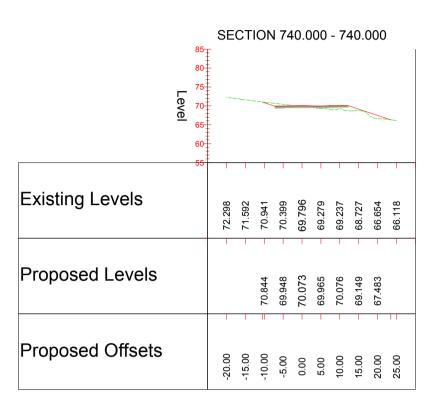
	8	5 <u>∓</u>	SE	ст	ION	1 68	80.0	000	- 68	80.0	000	
	8 7 7 6 6	5 0 5						\ 				
	5	5	1	1	I	1	1		I			
Existing Levels			69.944	69.489	69.039	68.736	71.250	67.160	66.654	66.180	65.733	65.375
Proposed Levels			I	ſ	I	68.336	68.461	68.354	68.465	67.538	65.871	
					П	I		I		1	11	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

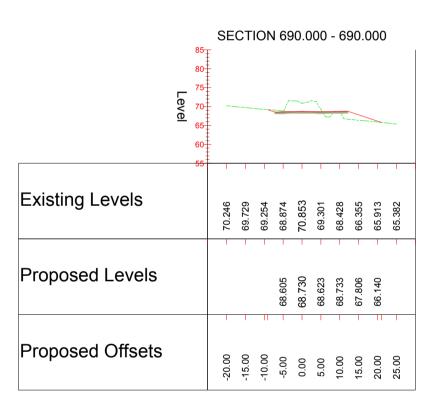
		85	SE	СТ	ION	162	20.0	000	- 62	20.0	000		I				
	Level	80 75 70 65 60 55		^	2	<u>M</u>											
Existing Levels		50	68.424	68.058	70.568	67.595	65.916	65.440	64.939	64.418	64.003	63.442		Ex	istin	g Le	Э.
Proposed Levels				I	67.621	66.725	66.850	66.742	66.853	65.926	64.259			Pr	opos	ed	L
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		Pr	opos	ed	(
														L			-



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION					Drawing Status FOR INFORMA	TION	Suitability	Project Title	WEST	OF ENGL WP1	LAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:					<b>ATKINS</b>	The Hub 500 Park Avenue		Drawing Title	A4 ·	- A37 LIN	1K	
CONSTRUCTION						Aztec West			0	PTION 2		
NONE						Almondsbury Bristol BS32 4RZ		PROPOS	ED CON		ROSC SEC	CTIONS
MAINTENANCE/CLEANING						Tel: +44 (0)1454 66 Fax: +44 (0)1372 66		Scale	Designed	Dra 'n	Checked	Authorised
NONE					Copyright © Atkins Limited (2014)	www.atkinsglobal.co		1:1000	EC	r	AH	
DECOMMISSIONING/DEMOLITION					Client			Original Size	Date 05/02/1と	J _{ate} 05/02/18	Date 05/02/18	Date
NONE								Drawing Number HA PIN	Origi ato	r Vol	blume	Project Ref. No.
NONE					WEST OF E	NGLAND		WoE			HGN -	0000000 Revision
It is assumed that all works will be carried out by a competent contractor	P1 05.02.18	DRAWING CREATED	AF					WP1	- DR		6507	
working, where appropriate, to an approved method statement	Rev. Date	Description	By Chk'd	App'd				Location	- DIX   Type		umber	P1

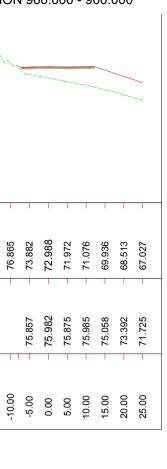




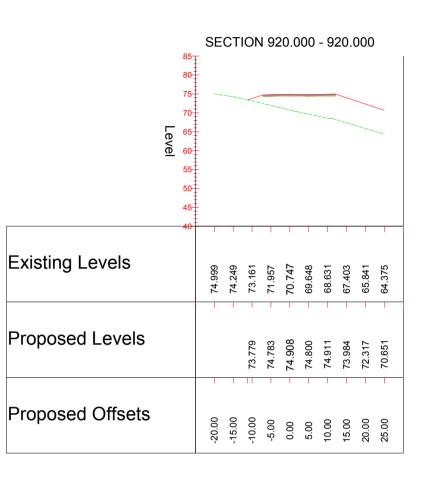


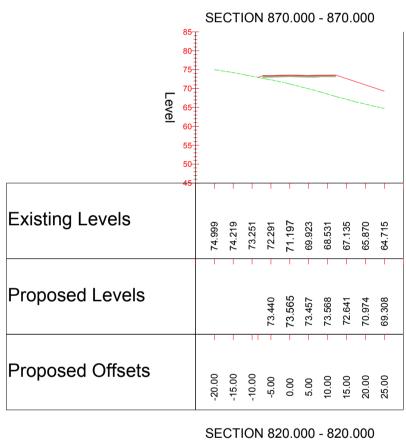
90 85 80 75 65 65	90 83 80 71 7	₽ <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>
70	7	
<u>è</u>	Le e	
50 50	61 54 50	
<b>G1</b> 75.810 75.810 75.810 73.468 73.468 71.209 69.992 69.992 69.023 67.726 66.251		76.207 75.736 75.736 76.865 76.865 73.882 73.882 73.882 71.972 71.972 69.936
78.151 76.485 75.588 75.713 75.606 75.717 74.790 73.123 71.456	Proposed Levels	75.857 75.982 75.985 75.985 75.058
ffsets	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00 110.00 115.00
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SECTION 900.000 - 900.000	8:	SECTION 910.000 - 910.00
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40 1 1 1 1 1 1 1 1	4	
<b>Gels</b> 68.127 64.226 64.226 64.226	Existing Levels	74.976 74.105 72.990 71.752 70.504 69.465 68.384 67.210 67.210
73.242 74.245 74.370 74.374 73.447 71.780 70.113	Proposed Levels	73.510 74.514 74.639 74.632 74.632 73.715 73.715
ffsets	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00 10.00 15.00
SECTION 850.000 - 850.000		SECTION 860.000 - 860.00
85	8: 81 7:	
<b>E</b> 70 65 60		
55 50 45	51 5( 44	5
75.041 74.284 73.373 72.435 71.334 67.519 66.320 66.320 65.259	Existing Levels	74.980 74.216 73.267 72.326 71.306 71.306 71.083 68.689 67.328
evels 920 920 770 770	Proposed Levels	73.171 73.296 73.189 73.299 73.299 72.372
ffeete	Proposed Offsets	
-20.0 -15.0 -10.0 -5.0 0.00 5.00 10.0 25.0		SECTION 810.000 - 810.00
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55- 50- 50- 50- 50- 50- 50- 50- 50- 50-	5: 5:	
<b>Cels</b> 74.167 73.065 73.600 71.191 69.666 67.903 67.026 66.099	Existing Levels	74.872 74.520 74.520 74.926 70.955 69.704 68.691 67.670 66.738
74.122 74.122 74.122 71.560 71.560 71.568 71.577 71.577 71.588 77.577 71.577 71.577 71.577 72.761 71.577 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.77777777777777777777	Proposed Levels	72.724 - 72.724 - 71.953 - 71.956 - 71.029 - 71.026 - 71.026 - 71.026 - 71.029 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 36
ffsets	Proposed Offsets	-20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00 - 20.00
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Notes:

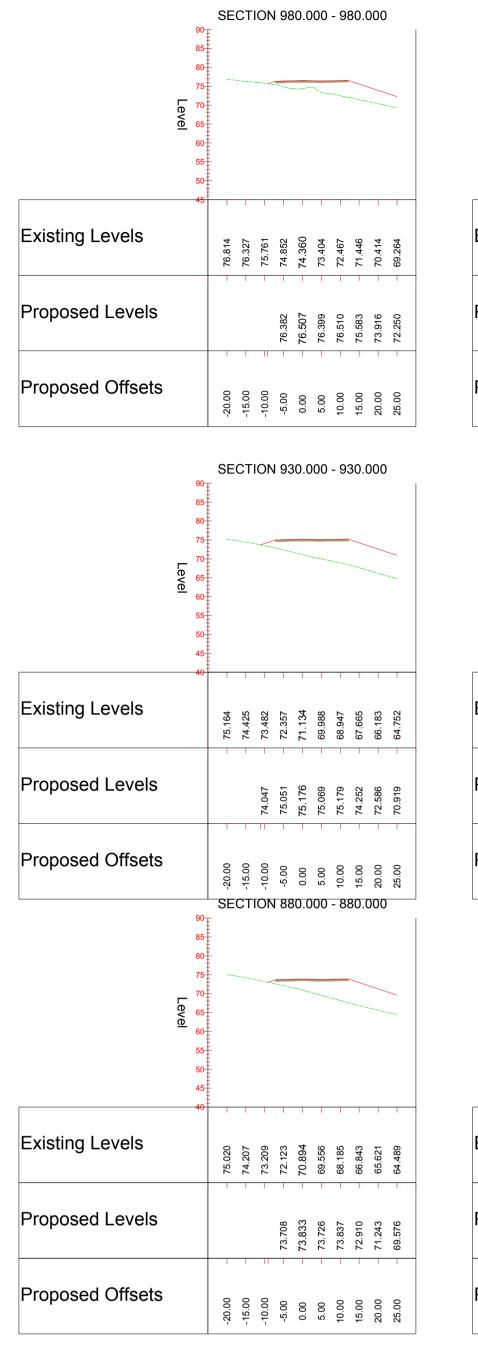


	Level	90 85 80 75 70 65	SE	СТ	ION	197	70.0	000	- 97	70.(	000	/ /
Existing Levels	/el	60 55 50 45 40	76.464	75.936 -	75.426 -	74.928	73.901 –	.254 –	72.486	.305 -	69.921 -	68.407
Proposed Levels			- 76.	- 75.	- 75.	76.125 - 74.	76.250 - 73.	76.143 73.	76.254 72.	1	73.660 - 69.	71.993 - 68.
Proposed Offsets			-20.00	-15.00	-10.00		0.00	1			T	25.00
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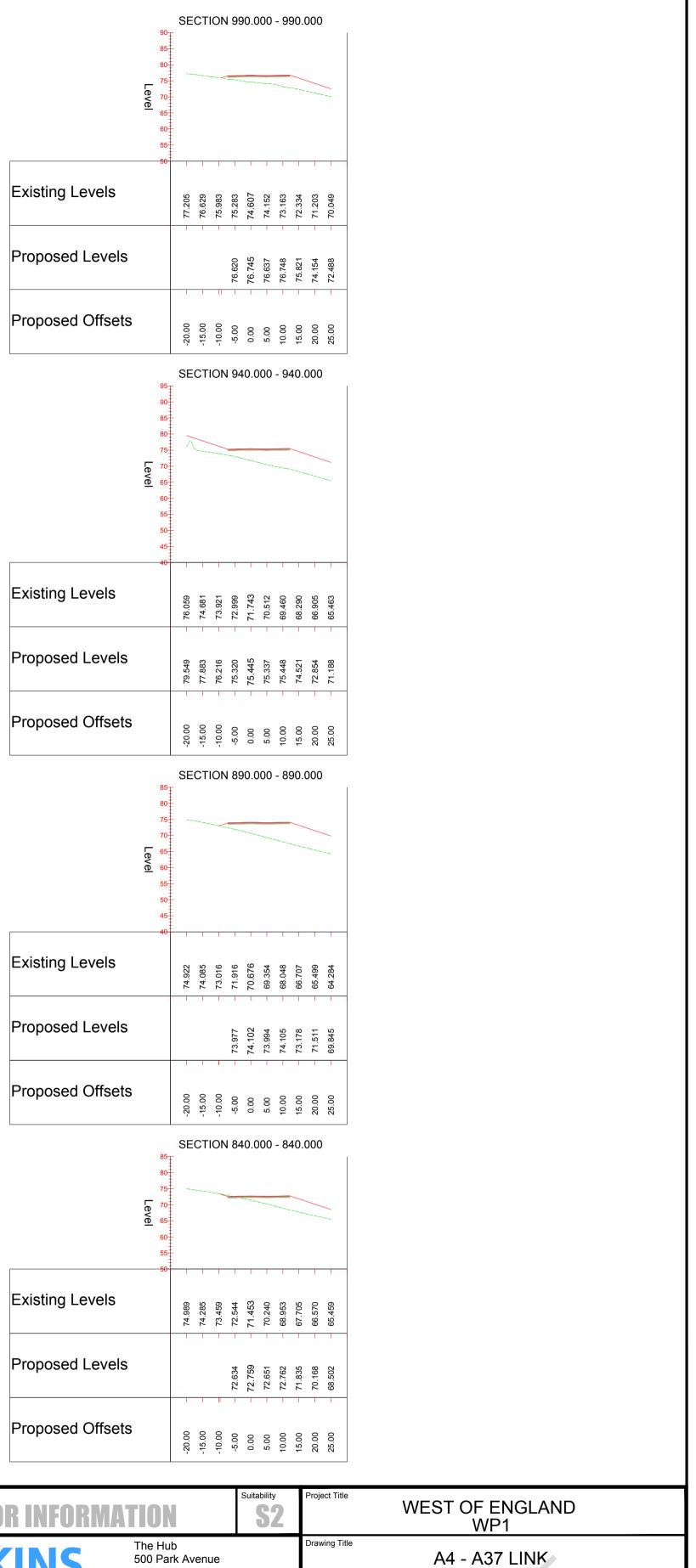


	88 75 70 60 60 55											
Existing Levels			/4./69	74.076	73.264	72.270	71.322	72.652	71.547	69.598	66.694	65.593
Proposed Levels			Ι	I	72.993	72.097	72.222	72.114	72.225	71.298	69.631	67.965
Proposed Offsets		0000	-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	8	³⁵ Ŧ	SE	СТІ	ION	183	30.0	000	- 8	30.0	000		1
	Level	30 75 70 35 30				-							
		55 [‡]	1				1					1	
Existing Levels			74.889	74.144	73.361	72.379	71.275	70.139	68.997	67.870	66.794	65.740	
					I		1	T	T	T	Ι	I	
Proposed Levels					73.262	72.365	72.490	72.383	72.494	71.567	006.69	68.233	
			T	T	П			I	I	I	I	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status
In addition to the hazards/risks normally associated with the types of wor detailed on this drawing, note the following:							ATVINC
CONSTRUCTION							<b>ATKINS</b>
NONE							
MAINTENANCE/CLEANING	_						
NONE							Copyright © Atkins Limited (20
DECOMMISSIONING/DEMOLITION							Client
NONE	P1	05.02.18	DRAWING CREATED	AF			WEST C
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	Chk'd	App'd	



5	The Hub 500 Park Avenue Aztec West Almondsbury Bristol BS32 4RZ Tel: +44 (0)1454 662000	Drawing Title	OI ED CONC	A37 LIN PTION 2 CEPT CR	OSC SEC	CTIONS
2014)	Fax: +44 (0)1372 663333 www.atkinsglobal.com	Scale 1:1000	Designed EC	Dra 'n	Checked AH	Authorised
		Original Size	Date 05/02/1δ	J _{ate} 05/02/18	Date 05/02/18	Date
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		WP1	- DR		6508 -	Revision
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### CROSS SECTIONS Scale 1:1000

	95-	SEC	стіс	NC	115	50.C	00	- 1	150	0.00	0	
	90- 85- 80- 75- 70-			~<	°			<u> </u>	>			
Existing Levels	65-	78.298	78.356 -	78.794	78.463	78.454	78.472	80.287	78.708	78.582	78.588	Existing Levels
Proposed Levels			I		77.957	78.082	77.975	78.086	1			Proposed Levels
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00 =	20.00	25.00	Proposed Offsets

		90 ‡	SEC	тю	N	110	0.0	00	- 1 ⁻	100	.00	0
	Level	85 80 75 70	- - -									
		65		1	1	1	1		1	1		-
Existing Levels			78.670	78.709	78.641	78.602	78.555	78.496	78.426	78.312	78.215	78.059
				I	I		I	I	I	I		
Proposed Levels						78.039	78.164	78.057	78.168			
			T		П							
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		90 85	SEC	стіс	N	111	0.0	000	- 1 ⁻	110	.00	0
	Level	80- 75- 70-						-				
		65	1	I		I	1	1	I		I	
Existing Levels			78.686	78.617	78.650	78.652	78.642	78.583	78.514	78.448	78.354	78.207
			Í									
Proposed Levels						78.059	78.184	78.077	78.188			
			I		П	1						I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

		90	SEC	тіс	NC	105	50.0	000	- 1(	050	.00	0
	Level	85 80 75 70										_
		05	I		1	I			I	I		
Existing Levels			78.436	78.386	78.225	78.004	77.685	77.339	76.949	76.493	75.992	75.392
						I	I			I	I	
Proposed Levels						77.667	77.792	77.684	77.795	76.868		
			1		П							
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		90 85	SEC	TIC	N	106	60.C	00	- 1(	060	.00	0
	Level	80 75 70 65										
Existing Levels			78.528	78.485	- 78.348	78.282	78.100	77.853	77.493	77.059	76.627	76.117
Proposed Levels						77.778	77.903	77.795	77.906			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
		90 85	SEC	тіс	N	101	0.0	00	- 1(	010	.00	0
	Le	80										

	Level	90 85 80 75 70 65 60	-										
Existing Levels				76.988	76.430	75.829	75.141	74.489	73.874	73.150	72.286	71.290	
Proposed Levels			T			76.840	76.965	76.857	76.968	76.041	74.374	72.708	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

SECTION 1000.000 - 1000.000

		90	SEC	тіс	ON	101	0.0	00	- 1(	010	.00	0
	Level	85 80 75 70 65										//
		60		I		1	I			I	I	
Existing Levels			77.618	77.333	76.902	76.428	75.769	75.151	74.547	73.786	73.094	72.262
			1		1	1	I		I	T	1	1
Proposed Levels						77.042	77.167	77.059	77.170	76.243	74.576	72.909
				I		1				I	I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

Key:

Notes:

SECTION 1160.000 - 1160.000

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/8.1/8	78.250	78.295	78.300	78.382	79.366	78.437	78.417	78.478	79.872
T	T	T	77.887	78.012	77.904	78.015		1	1
1	1	- 11					11		I
-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		90 85	SEC	тіс	N	117	<b>'</b> 0.0	000	- 1 ⁻	170	.00	0
	evel	80 <del>-</del> 75- 70-									~~	
Existing Levels		65	78.040	78.088	78.109	78.151	78.210	78.262	78.282	78.395	79.537	78.347
Proposed Levels			I			77.801	77.926	77.819	77.929		I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	90 85 Level 75		TIC	N	118	30.0	000	- 1 [.]	180	0.00	0
	70 	ŧ	1	1	1	1	1	1	1	1	
Existing Levels		77.948	78.036	78.094	78.100	78.171	78.210	78.288	78.302	78.350	78.388
Proposed Levels			I	1	7.714	77.839 -	7.732	7.843	1	1	I
			-	-11	12	- 17	12	12	11	-	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		90-T	SEC	тю	ΟN	112	20.0	000	- 1	120	.00	0
	Level	85 80 75 70										
		65		I	I	T	1		I	I		1
Existing Levels			78.730	78.651	78.640	78.605	78.627	78.629	78.629	78.516	78.497	78.406
				I	I		I	I	I	I	I	I
Proposed Levels						78.061	78.186	78.079	78.189			
			I	I	П					T	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		95 90	SEC	TIC	N	113	80.0	00	- 1 ⁻	130	.00	0
	Level	85 80 75 70		<u> </u>	·							
		65		T	I	I	T		I	T	T	
Existing Levels			78.484	80.501	78.733	78.727	78.626	78.538	78.542	78.587	78.585	78.495
Proposed Levels			1			78.045	78.170	78.062	78.173	1	1	I
				I	П	I	I		I	П	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

									1
78.484	80.501	78.733	78.727	78.626	78.538	78.542	78.587	78.585	78.495
		I	I	I		I	I	I	I
			78.045	78.170	78.062	78.173			
		11		I				I	
-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Level	90 85 80 75	SEC	тіс	ON	107	70.C	000	- 1	070	.00	0
		70										
			1	I				I.	1	1	1	1
Existing Levels			33	4	39	17	31	11	35	94	17	94
			78.583	78.504	78.43	78.37	78.2;	78.1	77.86	77.594	77.27	76.894
		+										T
Proposed Levels												
Filipused Levels						7.870	77.995	7.888	77.999			
						12	17	12	12			
				1	11			1	1	1.1	1	1
Proposed Offsets			0	0	0	~	_	_	~	~	0	0
			-20.00	-15.0	-10.0	-5.00	00.0	5.00	10.00	15.00	20.0(	25.00

	Level	90 85 80 75	SEC	TIC	NО	108	30.0	000	- 1	080	.00	0
		70 <del>65</del>		1	-	1	1	1	-	1	1	
Existing Levels			78.584	78.560	78.545	78.458	78.346	78.264	78.139	77.965	77.700	77.386
Proposed Levels			I			77.945	78.070	77.962	78.073			
			I	I	П			I				I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

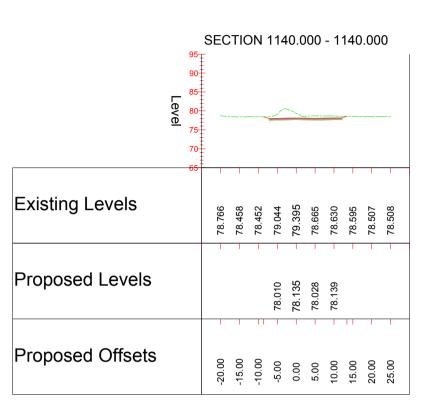
		90-	SEC	CTIC	ΟN	102	20.0	000	- 1(	020	.00	0
	Level	85 80 75 70 65									-	/
		<del>60</del>		T	1	1	T	1	1	1	1	-
Existing Levels			77.829	77.589	77.304	76.907	76.410	75.829	75.148	74.485	73.766	73.084
Proposed Levels					I	77.225	77.350	77.243	77.353	76.426	74.760	73.093
					I		I	I	I	I	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	SECTION 1030.000 - 1030.000	90 85	Ŧ
	Level 70	40 475 70 65	
Existing Levels	78.145 77.956 77.529 77.529 76.841 76.339 75.793 75.793 75.793 75.709 73.865 73.865	Existing Levels	78.131 78.027 77.883 77.594 77.294 76.908 76.382 75.803 75.803 75.803
Proposed Levels	77.391 77.516 77.408 77.519 76.592 74.925	Proposed Levels	77.538 77.663 77.666 77.666 77.555 77.566 77.666
Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00 10.00 15.00 220.00 25.00	Proposed Offsets	-20.00 -15.00 -5.00 0.00 0.00 15.00 15.00 220.00 -20.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION					D	FOR INFORMA	<b>FION</b>	Suitability	Project Title	WEST OF ENG WP1	_AND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:					_		The Hub 500 Park Avenue		Drawing Title	A4 - A37 LIN	IK	
CONSTRUCTION							Aztec West Almondsbury			OPTION 2		
NONE							Bristol BS32 4RZ		PROPOS	ED CONCEPT کF SHEET د' ۱		CTIONS
MAINTENANCE/CLEANING				_	_		Tel: +44 (0)1454 662 Fax: +44 (0)1372 663		Scale	Designed Dra 'n	Checked	Authorised
NONE					- 0	Copyright 🔘 Atkins Limited (2014)	www.atkinsglobal.co	om	1:1000	EC C	AH	
DECOMMISSIONING/DEMOLITION					— c	lient			Original Size	Date Jate 05/02/18	Date 05/02/18	Date
NONE	-					WEST OF EN			Drawing Number HA PIN WoE		HGN -	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor	P1	05.02.18 DRAWING CREATED	AF						WP1		6509	Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date Description	By Ch	k'd App	p'd				Location		umber	P1

# DO NOT SCALE

		90 85	SEC	тіс	N	119	90.0	00	- 1 ⁻	190	.00	0
	evel	80 75 70	_									
Existing Levels			77.843	77.904	77.929	- 77.971	78.063	78.129	78.204	78.211	78.240	78.263
Proposed Levels						77.628	77.753	77.645	77.756			I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	Lev	90 85 80 75	SEC	TIC	N	109	90.0	000	- 1(	090	.00	0
		70 65	1						-			
Existing Levels			78.655	78.582	78.591	78.542	78.508	78.402	78.319	78.182	77.975	77.751
Proposed Levels						78.001	78.126	78.019	78.130			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

# 10

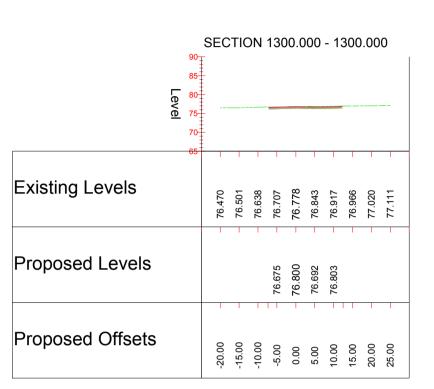
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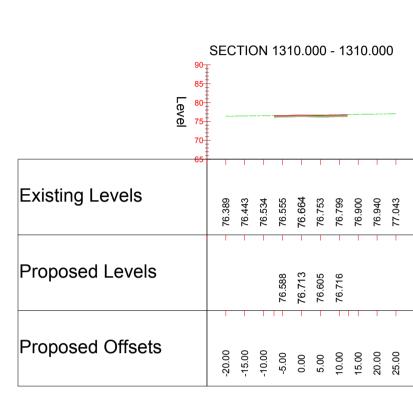
8

### CROSS SECTIONS Scale 1:1000

	90 85	Ŧ	стіс	N	135	50.0	00	- 1:	350	.00	0	
	Leve 75 70											
	65	<b>†</b>	I	T	1	T			I	T		-
Existing Levels		76.245	76.315	76.400	76.503	76.553	76.626	76.734	76.816	76.848	76.942	
			I			I					I	
Proposed Levels					76.586	76.711	76.603	76.714				
			T								I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

			s	EC	TIC	ON	13
	Level	90- 85- 80- 75- 70-					-
Existing Levels		<del>65</del>		76.237	76.383	76.427	76 545
Proposed Levels							76 677
Proposed Offsets				-20.00	-15.00	-10.00	200





	Leve	90 85 80	SEC	тю	ON	125	50.0	000	- 1:	250	.00	0
	<u>e</u>	75 70 65										
Existing Levels			77.001	77.085	77.157	77.271	77.365	77.431	77.491	77.528	77.614	77.721
Proposed Levels						77.108	77.233	77.125	77.236		1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	Level	90 85 80 75 70	SE	СТІ	NC	12
Existing Levels		<del>65</del>	76.949	76.978	- 77.081	77 164
Proposed Levels				I	1	10012
Proposed Offsets			-20.00	-15.00	-10.00	200

Existing Levels

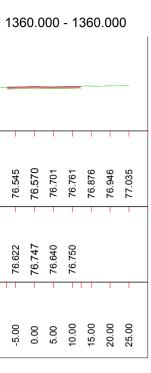
Proposed Levels

Proposed Offsets

	Le	90 85 80	SEC	TIC	N	120	0.0	00	- 12	200	.00	0
[	Level	75 70 <del>65</del>	-	1	1							
Existing Levels			77.640	77.725	77.778	77.883	77.945	78.007	78.083	78.173	78.144	78.170
Proposed Levels				1	1	- 77.541		77.559	77.669	1	1 -	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Key:

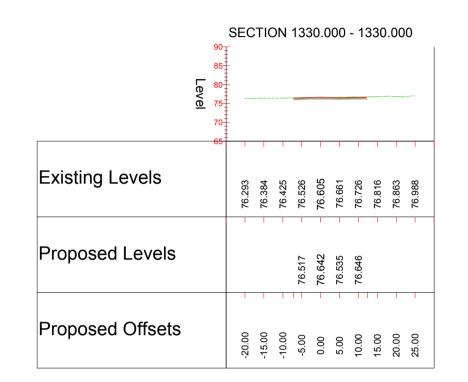
Notes:



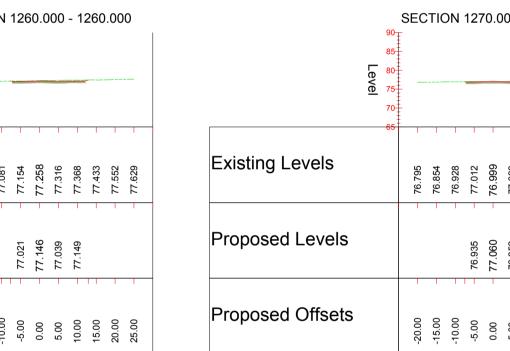
		90 85	SEC	тю	N	137	<b>'</b> 0.C	00	- 1:	370	.00	0
	Level	80 75 70	_									
		<del>65</del>	1	T	I	T	1	T	I	T	I	1
Existing Levels			76.339	76.379	76.492	76.602	76.706	76.781	76.879	76.997	77.067	77.150
Proposed Levels			I	I		76.658	76.783	76.676	76.787			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
			-20	-15	-10	-2.	Ö.	5.	10	15	20	25

	Level	90 85 80 75	SEC	стіс	N	132	20.0	000	- 1:	320	0.00	0
		70- 65										
Existing Levels			76.340	76.446	76.497	76.566	76.597	76.758	76.783	76.841	76.958	77.022
					T	T	T	T	I	I	I	1
Proposed Levels						76.528	76.653	76.545	76.656			
									1			I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Level	90 85 80 75 70	SEC	TIC	N	138	30.0	000	- 1:	380	.00	0
Existing Levels		65 [±]	76.293	76.449	76.541	76.660	76.715	76.836	76.878	77.025	77.118	77.189
Proposed Levels			I			76.695	76.820	76.712	76.823			I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	Level	90 85 80 75 70										
		65		I	T	I	I	T	T	T	I	
Existing Levels			76.205	76.300	76.395	76.488	76.540	76.623	76.728	76.824	76.899	76.951
						I		I				1
Proposed Levels						76.549	76.674	76.567	76.677			
				I				I	I		I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00



		90 85	SEC	тіс	N	127	0.0	00	- 12	270	.00	0	
	Level	80 75 70 65	_										
isting Levels			- 76.795	76.854	76.928	77.012	- 16.999	- 2003	77.142	77.203	77.269	77.438	
oposed Levels			1			76.935	- 22.060	76.952	77.063		I	1	
oposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

90Ŧ	SEC	тіс	N	121	0.0	00	- 12	210	0.00	0
85 80 75 70										
65 [†]	I		I	I	1	T	T	I	T	1
	77.515	77.536	77.627	77.715	77.791	77.883	77.955	78.031	78.014	78.095
1					I	1	I	I	I	
				77.454	77.579	77.472	77.583			
	1	I		I	I	T	T	11	T	I
	-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

		90 <del>]</del>	SEC	тю	ЛС	128	30.0	00	- 12	280	.00	0
	Level	85 80 75 70										~
		65		1	T	1	I	T	I	I	I	1
Existing Levels			76.637	76.740	76.860	76.940	76.964	77.049	77.109	77.243	77.420	77.546
			I	1			I	I	I		I	1
Proposed Levels						76.848	76.973	76.865	76.976			
			I	I			I	I	I	I I	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Fe	90 85 80	SEC	TIC	N	123	30.C	000	- 1:	230	.00	0	
[	Level	75 70 65											_
Existing Levels			77.264	77.345	77.434	77.616	77.632	77.652	77.714	77.787	77.840	77.909	
Proposed Levels					I	77.281	77.406	77.299	77.409			I	-
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	05		EC	тю	NC	129	90.0	00	- 12	290	.00	0
	95 90 85 80 90 85 80 75 70				<u>~_</u>		<u></u>	$\checkmark$	\/	<u></u>		
				I	I		I		I			
Existing Levels			76.731	76.903	77.250	76.904	78.647	79.207	76.825	77.105	76.939	77.032
					I							
Proposed Levels						76.761	76.886	76.779	76.889			
		1					I		I	П		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	Level	90 85 80 75	SEC	TIC	N	124	10.0	000	- 12	240	.00	0
		70 65	1	-	-				-	1	-	
Existing Levels			77.223	77.270	77.293	77.432	77.494	77.526	77.609	77.660	77.735	77.805
Proposed Levels			I			77.195	77.320	77.212	77.323			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status FOR INFORMATION	Suitability	Project Title	WEST OF ENGLAND WP1	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							The Hub 500 Park Aztec We	k Avenue /est	Drawing Title	A4 - A37 LINK OPTION 2	
NONE	-						Almondsl Bristol BS32 4R.	-	PROPOS	SED CONCEPT GROSE SECT SHEET 7/19	TIONS
MAINTENANCE/CLEANING NONE							Fax: +44	(0)1434 002000 (0)1372 663333 kinsglobal.com	Scale 1:1000	Designed Dra 'n Checked A EC AH	Authorised
DECOMMISSIONING/DEMOLITION	-						Client		Original Size A1 Drawing Number	05/02/1と 05/02/18 05/02/18	Date Project Ref. No.
NONE	P1	05.02.18	DRAWING CREATED	AF			WEST OF ENGLAN	ND	WoE	Origi ator Volume ATK - HGN - R	0000000 Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	Chk'c	App'd			WP1	- DR - D - 6510   Type   Role   Number	P1

## DO NOT SCALE

	90	_	SEC	тю	ЛС	139	90.0	00	- 1:	390	.00	0
	88 Leve 79 70		_			_						
	65	5	1	1	1	1	T	T	1	1	T	
Existing Levels			76.378	76.457	76.617	76.714	76.828	76.917	77.003	77.075	77.185	77.329
			I	I	I				I			
Proposed Levels						76.731	76.856	76.749	76.860			
					I							
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SECTION 1340.000 - 1340.000

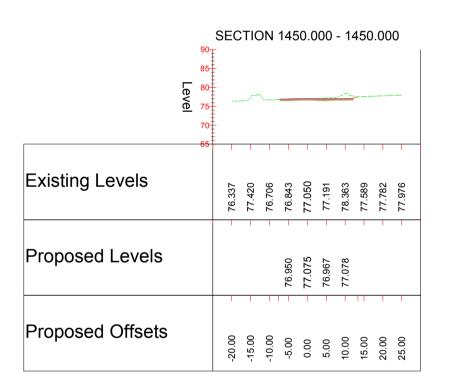
### **CROSS SECTIONS** Scale 1:1000

	SECTION 1550.000 - 1550.000 95 _T												
	Level	95 90 85 80 75 70							~~	<u>}</u>	A	~	
		<del>65</del>		T	1			I	T	T	T		
Existing Levels			75.968	76.235	76.522	76.751	76.977	78.012	78.471	78.063	84.214	78.867	
			I	I	I	I	1	I	I	I	I		
Proposed Levels						77.314	77.439	77.332	77.442				
				T	П	T	T	T	T	П	Ι	1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

	100		С	TIC	DN	156	60.C	000	- 1	560	.00	0
	95 90 <b>Leve</b> 80 75							/	Long	Δ		V
	70 	-	I			-	1		1		-	
Existing Levels		71 001	/D.904	76.256	76.498	76.746	77.010	77.351	80.006	81.474	78.315	85.738
Proposed Levels			I			77.350	77.475	77.368	77.479	78.452		1
Proposed Offsets		0000	-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

		90 ‡	SEC	тіс	N	150	0.0	000	- 1	500	.00	0
	Level	85 80 75 70 65										
Existing Levels			76.087	76.289	76.561	76.782	76.999	77.223	77.463	77.682	77.904	79.585
Proposed Levels			Ι	1	I	77.132	77.257	77.149	77.260			Ι
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		90-	SEC	стіс	ЛС	151	10.0	000	- 1	510	.00	0
	Level	85 80 75 70										
		<del>65</del>			1	1	1			I	1	1
Existing Levels			76.083	76.325	76.557	76.779	77.053	77.304	77.536	77.752	78.034	78.215
					I		I					1
Proposed Levels						77.168	77.293	77.186	77.297			
					П				I		I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	SECTION 1460.000 - 1460.000	SECTION 1470.000 - 1470.000	0
	85 80 <u>e</u> 75 70		
Existing Levels	76.947 76.947 78.896 76.610 76.796 77.038 77.038 77.430 77.430 77.430 77.430 77.430 77.847 77.847	Existing Levels	78.094
Proposed Levels	76.986 77.111 77.004 77.114	Arron 124 Proposed Levels 77.148 77.148 77.148 77.148 77.148 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.157.157.157.157.157.157.157.157.157.1	
Proposed Offsets	-20.00 -15.00 -5.00 0.00 0.00 10.00 10.00 15.00 220.00 25.00	Proposed Offsets	25.00
	-20.00 -15.00 -10.00 -5.00 10.00 10.00 22.00	- 20.00 - 15.00 - 5.00 - 10.00 - 5.00 - 20.00 - 20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

	Level	90 85 80 75 70	SEC	тіс	N	140	0.0	00	- 14	400	.00	0
		65		1	1		-	-	-	-	1	
Existing Levels			76.387	76.558	76.644	76.757	76.862	76.972	77.104	77.199	77.279	77.405
			I	1	1		1	1	1	1	1	
Proposed Levels						76.768	76.893	76.785	76.896			
			T	I	I	TT			T	TT	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

Level	90 35 30 75 70 55										
	75										
	ŧ										
(	55	1									
				1	I		T	1	1	1	1
		76.389	76.582	76.704	76.829	76.949	77.091	77.218	77.325	77.453	77.556
		T	T	T	T		Т	T		1	
					76.804	76.929	76.822	76.932			
		I					1	I	TT		
		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00
						76.804	76.929	76.929	76.804 76.804 76.329 76.332	76.929 76.929 76.932	76.932 76.932

Key:

Notes:

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100		EC	TIC	N	157	<b>'</b> 0.0	000	- 1	570	.00	0
95 90 Level 80								J		V	
	Ŧ	-1									
		75.942	76.210	76.482	76.827	77.084	77.475	77.926	81.334	83.127	89.330
		I			77.387	77.512	77.404	77.515	78.488	80.155	81.821
		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
	95 90 Leve 80 75	100 95 90	100 95 90 75 70 75 70 75 70 75 70 75 70 75 70 75 70 70 70 70 70 70 70 70 70 70 70 70 70	Level 012.92	Level 25 200 200 200 200 200 200 200 2	Level 100	<b>Fevel</b> 100 22 24 25.942 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 77.387 - 76.210 - 77.010 - 76.210 - 76.210 - 77.010 - 77.010 - 76.210 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.010 - 77.0100 - 77.0100 - 77.0100 - 77.0100 - 77.0100 - 77.01000 - 77.01000 - 77.01000 - 77.01000 - 77.01000 - 77.010000 - 77.01000 - 77.010000000000000000000	<b>Fend</b> 100 100 100 100 100 100 100 10	<b>Fevel</b> 100 222 240 240 240 25.94 240 25.94 25.94 25.94 25.95 25.95 20 25.95 25.95 26.210 25.95 26.250 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05 25.05	Tevel 100 422 42 42 42 42 42 42 42 42 42 42 42 42	Fend       99       02       52       98       96       56         -       75.942       -       75.942       -       76.210       -       76.210       -       76.210       -       76.212       7       -       76.212       -       76.212       -       77.512       -       77.512       -       77.512       -       77.512       -       77.512       -       77.512       -       77.512       -       -       77.512       -       17.512       -       -       77.512       -       -       77.512       -       17.512       -       -       77.512       -       -       77.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -

SECTION 1520.000 - 1520.000

76.015 76.246 76.531 76.600 77.290 77.290 77.290 78.014 78.463 78.449

77.205 77.330 77.222 77.333

-20.00 -15.00 -10.00 0.00 5.00 10.00 15.00 25.00 22.00

		05 ₁ 00+	SEC	тіс	N	158	80.C	000	- 1	580	.00	0
	Level	95 90 35 80 75 70	_				-			N	Y	N
	(	<del>55</del>	-	1	-	1	1	1	I	1	1	1
Existing Levels			75.930	76.195	76.447	76.750	77.135	77.487	78.128	81.070	82.989	88.169
Proposed Levels				I	1	77.423	77.548	- 77.441	77.552	78.525	80.191	
				I	I	I		I			Π	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

SECTION 1530.000 - 1530.000

76.094 76.311 76.594 77.072 77.346 77.351 77.551 77.831 77.831 77.831 81.326

77.241 77.366 77.259 77.369

-20.00 -15.00 -5.00 0.00 5.00 10.00 22.00 25.00

SECTION 1480.000 - 1480.000

_/	
Proc	

- 1	410	.00	0				Level	90 85 80 75 70	SEC	:TIC	N	142	20.0	000	- 14	420	.00	0
77.218	77.325	77.453	77.556		Existing Levels			65	76.492	76.610	76.753	76.871	76.999	77.168	77.379	77.378	77.556 -	77.665
76.932		I			Proposed Levels	5						76.841	76.966	76.858	76.969		I	
10.00	15.00	20.00	25.00		Proposed Offset	S			-20.00	-15.00	-10.00	-2.00	0.00	5.00	10.00	15.00	20.00	25.00

	Level	75- 70-					· • • • • • •	~				~
Existing Levels		65	76.173	76.504	76.663	76.736	78.725	77.695	79.934	81.117	81.612	79.728
Proposed Levels			I			77.059	77.184	- 77.077	77.187	78.160	79.827	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

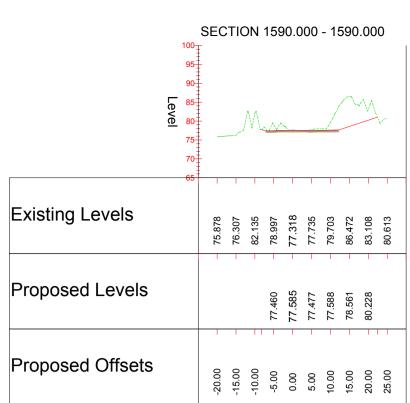
79.934 81.117 81.612 79.728	Existing Le
77.187 78.160 79.827	Proposed

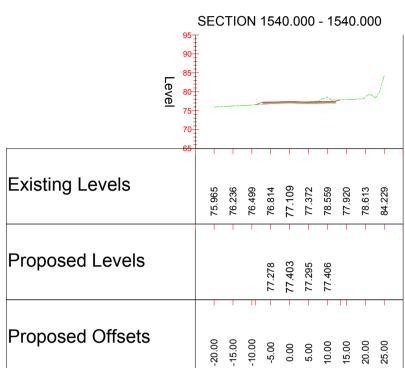
	Level	90 85 80 75 70	SEC	TIC	NC	143	80.0	000	- 14	430	.00	0
		65		1	1	1		I	I			T
Existing Levels			78.195	76.949	76.693	76.896	77.020	77.224	77.349	77.499	77.654	77.780
			I	1				I	I			T
Proposed Levels						76.877	77.002	76.894	77.005			
			I			11		I	I	П		I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION					Drawing Status FOR INFORMA	TION	Suitability	Project Title	WEST OF ENG WP1	LAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:					ΛΤΚΙΝ	The Hub 500 Park Avenue		Drawing Title	A4 - A37 LII	NK .	
CONSTRUCTION						Aztec West			OPTION 2		
NONE					-	Almondsbury Bristol BS32 4RZ		PROPOS	ED CONCEPT () SHEET ()		CTIONS
MAINTENANCE/CLEANING					-	Tel: +44 (0)1454 66 Fax:+44 (0)1372 66		Scale	Designed Dra n	Checked	Authorised
NONE					Copyright © Atkins Limited (2014)	www.atkinsglobal.co		1:1000	EC Ar	AH	
					Client			Original Size	Date Jate 05/02/18	Date 05/02/18	Date
DECOMMISSIONING/DEMOLITION					-			Drawing Number		00,02,10	Project Ref. No.
NONE					WEST OF E	NGLAND				HGN -	0000000
	- P1	05.02.18 DRAWING CREATED	AF					_		-	Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date Description	By Chk'd	App'd				WP1	- DR - D -	6511	P1

	76.986	77.111	77.004	77.114						PIO	
-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00			Pro	
N	141	0.0	000	- 14	410	.00	0				
1	1	1	1	1	1	1	1				

	75	-									
	70 65				-		1	1	-	-	1
Existing Levels		76.173	76.504	76.663	76.736	78.725	77.695	79.934	81.117	81.612	79.728
Proposed Levels					77.059	77.184	- 770.77	77.187	78.160	79.827	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00





		90 _∓	SEC	тю	ΟN	149	90.0	00	- 14	490	.00	0
	Level	85 80 75 70										~
		65	I		1	1	I	I		I	I	I
Existing Levels			76.133	76.378	76.657	76.753	76.940	77.183	77.489	77.860	78.148	78.629
			I			I	I		I	I	I	
Proposed Levels						77.096	77.221	77.113	77.224			
										11		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Level	90 85 80 75	SEC	TIC	ON	144	40.C	000	- 14	440	.00	0	
		70											
Existing Levels			76.876	76.842	76.707	76.882	- 700.77	77.230	77.385	77.510	77.689	77.895	
Proposed Levels			I		I	76.913	77.038	76.931	77.042	I	I		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

### CROSS SECTIONS Scale 1:1000

		90-	SEC	TIC	ΟN	175	50.0	000	- 1	750	.00	0
		85	-									
	Level	80										
	Se	75	-									
		70-										
		65		T	T	T	Т	Т	1	I	T	Т
Existing Levels			75.917	76.324	76.761	77.218	77.622	77.993	78.462	78.905	79.347	79.674
			I		I	Ι	T	T	T	I		I
Proposed Levels					76.957	77.961	78.086	77.978	78.089			
					П	I	I			П		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	9	ج 0	SEC	TIC	ΟN	170	0.0	000	- 1	700	.00	0	I
	8 Level 7	25 0 25 0	_		~								
Existing Levels	6	5	76.170	76.565		77.462	77.706	78.129	78.517	78.880	79.349	79.925	
Proposed Levels			1			77.860	77.985	77.878	77.989				
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	Level	90 85 80 75 70	SEC	:TIC	N	176	80.0	000	- 1	760	.0
		65	1	1	1	I	1	T	T		
Existing Levels			76.037	76.392	76.794	77.260	77.673	78.049	78.472	78.931	79.316
			1	1		1					
Proposed Levels					76.930	77.933	78.058	77.951	78.062		
					Ш					I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00

		90	SEC	тю	ΟN	171	0.0	00	- 1	710	.00	0
	_	85 80 75 70										
		65										
Existing Levels			76.216	76.579	76.908	77.256	77.607	77.997	78.360	78.901	79.293	79.832
												1
Proposed Levels						77.897	78.022	77.914	78.025			
			I	T	1	I	I	I		Π		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	SECTION 1650.000 - 1650.000 ⁹⁵ ∓												
	Level	90- 85- 80- 75- 70-	~	<u> </u>	mh	1	~	/					
Existing Levels		65	77.143	76.646	77.183	77.703	79.266	78.483	78.877	78.648	79.397	81.365	
Proposed Levels			I	I		77.678	77.803	77.696	77.806			1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

Existing Levels

Proposed Levels

Proposed Offsets

	Level	95 90 85 80	SEC	стю	N	166	\$0.0 ^~_	00
		75 70 <del>65</del>						
Existing Levels			76.541	77.085	76.895	77.745	79.737	70 023
Proposed Levels			1	1	1	77.715	77.840	064 44
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	00

00 _∓	SEC	TIC	N	160	0.0	00	- 1	600	00.00	0			ç	SEC		N	161	0 0	00.	- 16
95 90 85 80 75 70		)	N_	-A-	η		/		V	X/		Level	95 90 85 80 75 70	5EC				<u>.</u>		- 10
65	75.920	76.248	82.652	83.334	78.123	77.605	78.354	82.106	85.524	83.578	Existing Levels		<del>65</del>	75.947	76.306	76.770	77.794	77.191	77.555	78.038
	I	I	78.392	77.496	77.621	77.514	77.624	78.597	80.264	I	Proposed Levels			I	I	I	77.533	77.658	77.550	77.661
	-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	Proposed Offsets			-20.00	-15.00	-10.00	-2.00	0.00	5.00	10.00

Key:

Notes:

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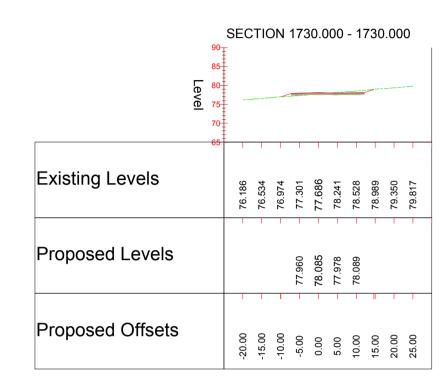
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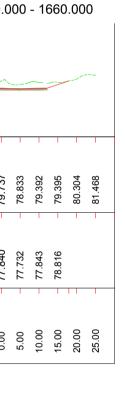
.000		95 90	Ŧ	стіс	N	177	0.0	00	- 17	770	.00	0
	Level	85										
		65		T	I	I	Ι	I	T	Ι	Ι	
79.316 79.693	Existing Levels		76.175	76.507	76.875	77.309	77.692	78.098	78.511	78.994	79.450	80.583
				1	I	T	1	T	1	1	1	
	Proposed Levels				76.884	77.888	78.013	77.905	78.016	78.989		
			I	T	I		I		I	T	I	
20.00 25.00	Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

	90	SE	сті	NC	172	20.0	000	- 1	720	.00	0
	85 Leve 75 70							<u></u>			
	65		I		1	1					
Existing Levels		76.135	76.528	76.879	77.257	77.655	78.121	79.164	79.151	79.522	79.945
				I	1	1			I	I	
Proposed Levels				76.929	77.933	78.058	77.951	78.061	79.034		
		T		T	T				11		1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	95 90 85		CTIC	NC	178	30.C	000	- 1	780	.00	0
	Level 80 75 70 65	-									
Existing Levels		76.189	76.524	76.907	77.322	77.714	78.145	78.599	79.062	79.513	80.213
Proposed Levels			I	1	77.824	- 77.949	77.842	77.953	78.926	1	1
				I					11		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Existing Levels
Proposed Levels
Proposed Offset



	95 90 6	EC	TIC	N	167	0.0	000	- 16	670	.00	0	
	Level 75 70											
Existing Levels		76.291	76.622	76.921	77.240	77.640	78.103	78.598	79.442	81.018	81.766	
Proposed Levels					77.751	77.876	77.769		78.852			
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	90 85	SEC	стю	NC	168	30.0	000	- 1(	680	.00	0
	evel 75 70										
	<del>65</del>			1		1	I			I	
Existing Levels		76.144	76.480	76.928	77.289	77.672	78.028	78.383	78.791	79.262	79.597
			I				I			I	
Proposed Levels					77.788	77.913	77.805	77.916			
			1	П					Π		
Proposed Offsets		- 76- 	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

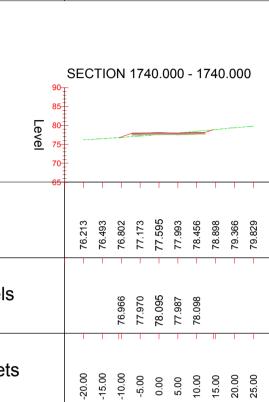
	Level	90 85 80 75 70	SEC	стіс	N	169	90.C	000	- 1(	690	.00	0
		65	1	1	1				I	T	I	1
Existing Levels			76.354	76.575	76.996		77.661	78.085	78.537	79.450	79.453	79.880
												1
Proposed Levels						77.824	77.949	77.841	77.952	78.925		
										11		1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

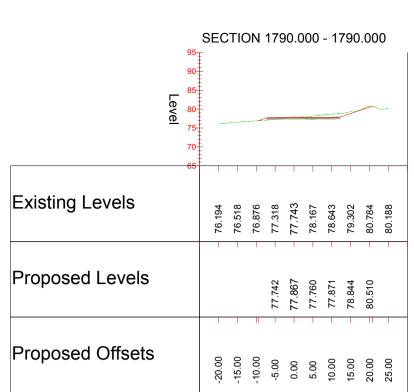
0.000 - 1610.000	SECTION 1620.000 - 1620.000
	90 85 80 75 70 65
77.191	Existing Levels
77.658 77.550 77.661 78.634 80.300	Proposed Levels
0.00 5.00 15.00 20.00 25.00	Proposed Offsets 22:00 00:00 10:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 0

	SECTION 1630.000 - 1630.000												
	Level	90 85 80 75 70	V	$\bigwedge$	Ą								
		65									1		
Existing Levels			77.015	81.697	81.185	76.758	77.184	77.709	77.922	78.481	79.479	79.828	
						T					1		
Proposed Levels						77.605	77.730	77.623	77.734				
		$\uparrow$	T	1	11	T	T	T	T	П	T	1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

	9	5 <u>∓</u>	SEC	тіс	N	164	40.C	000	- 10	640	.00	0
	<mark>8</mark> ھ	5 0 5 5	V	1	~							
	6	5	-	1		1	1	1	1	1	1	1
Existing Levels			79.570	77.992	76.703	76.601	76.983	77.359	77.867	78.341	79.044	79.906
Proposed Levels						77.642	77.767	77.659	77.770			
									I	11		I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

20.00 25.00	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00 10.00 15.00 25.00 25.00		Propose	ed Offsets	-20.00 -15.00 -5.00 0.00	5.00	15.00 20.00 25.00		Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00	15.00 20.00 25.00					
	SAFETY, HEALTH AND INFORM	ATION							Drawing St	FOR INFORM	ATION	Suitability	Project Title	WEST OF E WF		ND	
	In addition to the hazards/risks normall detailed on this drawing								Λ	TVINC	The Hub 500 Park Avenue		Drawing Title	A4 - A37			
	CONSTRUCTION									TKINS	Aztec West Almondsbury						
	NONE										Bristol BS32 4RZ		PROPOS	SED CONCEP ⁻ SHEET		SC SEC	CTIONS
	MAINTENANCE/CLEANING										Tel: +44 (0)1454 66 Fax:+44 (0)1372 66		Scale	Designed Dra n		ecked	Authorised
	NONE									ht C Atkins Limited (2014)	www.atkinsglobal.co	om	1:1000	EC ^	-	AH	
	DECOMMISSIONING/DEMC	OLITION							Client				Original Size A1 Drawing Number	Date Jate 05/02/16 05/0	Dat 2/18 C	te )5/02/18	Date Project Ref. No.
	NONE									WEST OF E	ENGLAND		HA PIN WOE	Origi ator	∣ Volume – H(	GN -	0000000
	It is assumed that all works will be car working, where appropriate, to ar		P1 Rev.	05.02.18 DR Date	RAWING CREATED Description		AF By	Chk'd App'd					WP1	- DR - D			Revision P1





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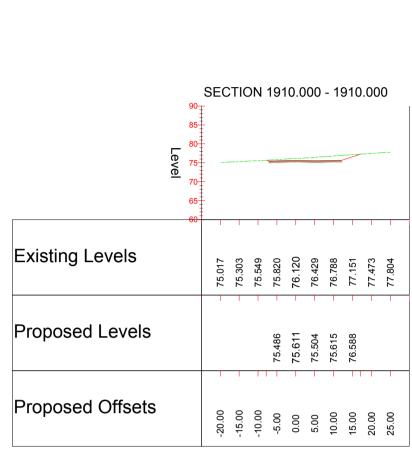
0

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### **CROSS SECTIONS** Scale 1:1000

		90-	SEC	TIC	ЛС	195	50.0	00	- 19	950	.00	0
	Level	85 80 75 70 65	^	ſ	Y,							
		60	- 1	1			1	1	T	I	1	
Existing Levels			75.102	79.375	77.375	74.440	74.636	74.958	75.320	75.390	75.642	76.053
				I	I				I	I		
Proposed Levels						74.539	74.664	74.557	74.668			
			1	T	П	T	T	I	I	П	T	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

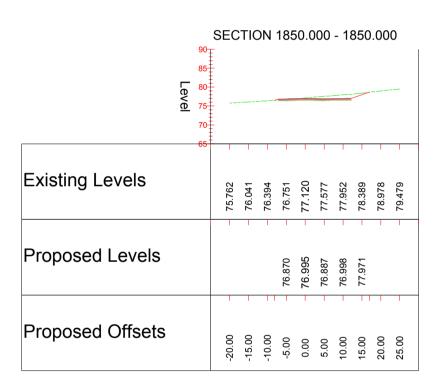
	Level	90 85- 80- 75- 70-	SEC		N	190	0.0	000	- 19	900	0.00	0
		65		-	1	1	1	1	-	-	-	
Existing Levels			75.228	75.469	75.746	76.068	76.355	76.723	77.119	77.411	77.760	78.218
Proposed Levels			ſ	I		75.723	75.848	75.741	75.851	76.824		I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Existing Levels

Proposed Levels

Proposed Offsets



		95 90	SEC	стіс	NC	180	0.0	000	- 18	800	.00	0
	Level	85 80 75 70										
Existing Levels			76.167	- 76.530	76.845	77.276	- 1691	78.138	78.742	- 79.092	- 19.598	80.094
Proposed Levels						77.642	77.767	77.660	77.77	78.744		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	evel	75	
Existing Levels		00	
Proposed Levels			
Proposed Offsets			

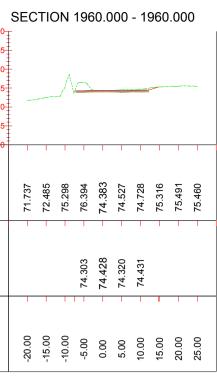
	Level	9 9 8 8 7
Existing Levels		7 -6

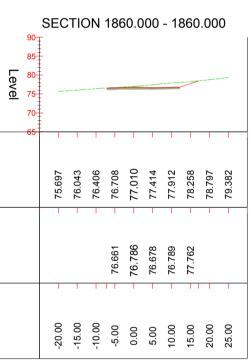
Proposed Levels

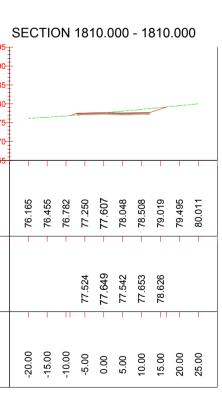
Proposed Offsets

Key:

Notes:







	90 83 Leve 71 65	SEC	TIC	ON	197	′0.0	00	- 19	970	.00	0
Existing Levels	6(	70.753	71.448	71.908	73.358	76.486	74.980	74.440	74.656	74.912	75.142
Proposed Levels				73.066	74.070	74.195	74.088	74.198		I	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	90 85	SEC	стіс	N	192	20.0	000	- 19	920	.00	0	
	Level 75 70 65											
Existing Levels		74.698	74.993	75.218	75.522	75.790	76.052	76.384	76.724	77.061	77.457	-
Proposed Levels			I		75.250	75.375	75.267	75.378	76.351			-
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	90	SEC	сті	N	187	70.0	000	- 18	370	.00	0
	85 Level 75 70										
		Ŧ		-	-	-	1	1	1	1	_
Existing Levels		75.636	75.945	76.290	76.700	77.061	77.384	77.796	78.197	78.613	79.057
				I		I	I	I	T	T	1
Proposed Levels					76.434	76.559	76.451	76.562	77.535		
				T		I			I		1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	!	ع ∓ ⁹⁰	SEC	TIC	N	198	80.0	000	- 19	980	.00	0
	Level	85 80 75 70 65					~	_	<u>~</u>			
		60	-	-	-		1	-	-		1	-
Existing Levels			69.827	70.410	71.062	71.670	73.458	75.573	77.337	74.085	74.473	74.757
Proposed Levels			1	ſ	ſ			1	ſ		1	1
				71.209	72.876	73.879	74.004	73.897	74.008			
Dranaged Offecto			11			I	I	I	I		I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

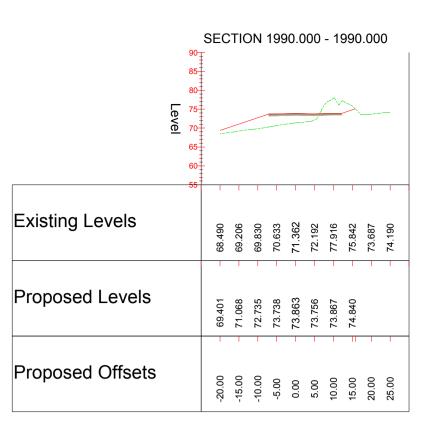
		90	SEC	стіс	N	193	80.0	000	- 19	930	.00	0	
	Level	85 80 75 70 65											
		60	: 	1	1	I	1	T	T	I	T	-	
Existing Levels			74.623	74.711	74.849	75.098	75.383	75.649	75.960	76.289	76.662	77.026	
			I		I	I	I				I	1	
Proposed Levels						75.013	75.138	75.030	75.141	76.114			
				1			I	I		11	I	1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

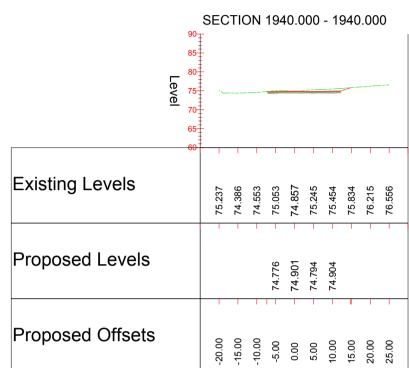
			SEC	тю	ΟN	188	80.0	000	- 18	880	.00	0
		90										
		85										
	Le	80										_
	Level	75				_						
		70										
		65										
Existing Levels			~	~	~	~	2	6	~	~	+	_
			75.528	.778	.103	.430	76.842	.286	.602	.050	.484	78.853
			75	75	76	76	76	77	77	78	78	78
Dranged Lovala												
Proposed Levels						197	76.322	214	325	298		
						76.`	76.3	76.2	76.3	17.2		
								-			11	-
Proposed Offsets			0	0	0	0	~	~	0	0	0	0
-			-20.00	-15.00	10.0	-5.0	00.0	5.0(	10.0	15.0	20.0	25.0
					'	·			<b>,</b> –	<b>,</b> –		

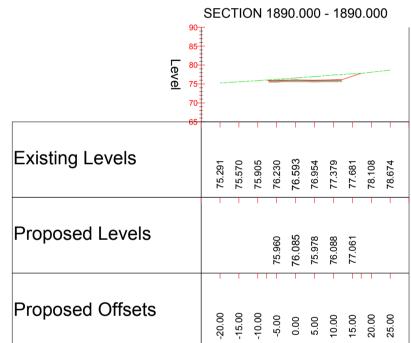
	Level	90 85 80 75	SEC	CTIC	N	182	20.0	000	- 18	820	0.00	0
		70 <del>65</del>	-			-						-
Existing Levels			76.149	76.387	76.725	77.175	77.505	77.890	78.452	78.960	79.418	79.893
Proposed Levels			ſ		I	77.388	77.513	77.405	77.516	78.489	1	
			T	T	11	I	I	1		11	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

			SEC	тіс	DN	183	30.0	000	- 18	830	.00	0
	Level	90 85 80 75 70	- - -									
		65	1	I	I	I	1	T	1	I	1	1
Existing Levels			76.065	76.335	76.688	76.982	77.400	77.835	78.301	78.809	79.269	77.67
			T			I	I				1	
Proposed Levels						77.233	77.358	77.251	77.362	78.335		
			I		11	1		I	I		1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION					Drawing Status FOR INFORM	TION	Suitability	Project Title	WEST	OF ENGI WP1	LAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:					ΛΤΚΙΝ	The Hub 500 Park Avenue		Drawing Title	Δ4	- A37 LIN	JK	
CONSTRUCTION						OPTION 2						
NONE					_	Almondsbury Bristol BS32 4RZ	PROPOSED CONCEPT GROSC SECTION SHEET 12:19					
MAINTENANCE/CLEANING						Tel: +44 (0)1454 66 Fax: +44 (0)1372 66	3333	Scale	Designed	Dra n	Checked	Authorised
NONE					Copyright C Atkins Limited (2014)	www.atkinsglobal.co	om	1:1000 Original Size	EC		AH	Date
DECOMMISSIONING/DEMOLITION					_			A1	05/02/1b	05/02/18	05/02/18	Duto
NONE					WEST OF E	NGLAND		Drawing Number HA PIN WOE	│ Origi ato		HGN -	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor	P1	05.02.18 DRAWING CREATED	AF					WP1			6513	Revision
working, where appropriate, to an approved method statement	Rev.	Date Description	Ву	Chk'd App'				Location	Туре		umber	







	90 85	Ŧ	EC	тіс	N	184	10.0	00	- 18	840	.00	0
	Leve 75 70											
	65	-	1	1	1	1	1		1	1	1	
Existing Levels			76.008	76.243	76.516	76.838	77.239	77.713	78.098	78.652	79.156	79.614
Proposed Levels						77.061	77.186	77.078	77.189	78.162		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

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### **CROSS SECTIONS** Scale 1:1000

SECTION 2150.000 - 2150.000 Existing Levels 78.914 79.008 81.047 78.677 78.677 78.697 78.697 78.697 78.697 78.535 Proposed Levels 78.599 77.703 77.828 77.720 77.720 Proposed Offsets -20.00 -15.00 -10.00 -5.00 0.00 5.00 115.00 25.00

Existing Level
Proposed Lev
Proposed Offs

	ç	5 90 _±	SEC	стіс	DN .	210	0.0	00	- 2 ⁻	100	.00	0
	Level	35 30 75 70	~		~					_		
		<del>1</del> 0	1	1		1						
Existing Levels			77.601	74.567	73.973	73.830	73.927	74.118	74.107	74.107	74.123	74.140
												1
Proposed Levels					74.485	75.489	75.614	75.506	75.617	74.690		
			T	T	П	T	T	I	T	П	T	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

Existing Leve
Proposed Lev

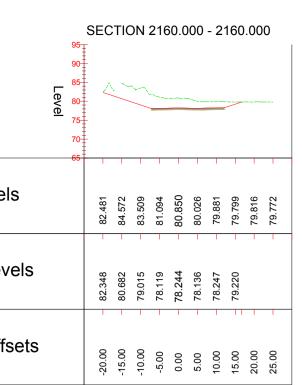
			SEC	тю	DN .	205	50.0	00	- 20	050	.00	0
		85										
		80										
	_	75			_							
	Level	70					/	$\sim$				>
	<u>w</u>	65	-									
		60	_									
		-55										
Existing Levels			0	•	~	~	10	10	-+	~		~
			67.430	67.589	.862	.058	.26	.735	68.684	69.917	69.507	69.883
			67	67	67	89	7	7	89	66	66	66
Proposed Lovels												
Proposed Levels			69.606	71.273	939	943	74.068	961	74.071	4	478	
			69.(	7	72.9	73.	74.(	73.	74.	73.	7	
												1
-												
Proposed Offsets			8	8	8	0	0	0	0	0	0	0
			-20.00	-15.00	-10.00	-5.0	0.0	5.0	10.0	15.0	20.00	25.0
											-	

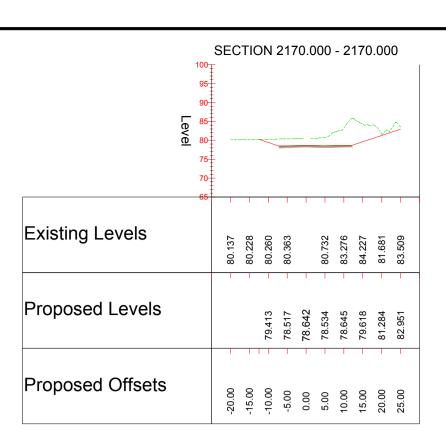
Existing Level
Proposed Lev
Proposed Offs

		90 _T	SEC	тю	)N	200	0.0	00	- 20	000	.00	0
	Level	85 80 75 70 65 60								7	2	
		55		T			T		I	T		
Existing Levels			67.347	68.018	68.677	69.446	70.163	70.937	71.585	75.246	74.227	73.625
				1	T	T	T	I	I		T	
Proposed Levels			69.310	70.977	72.644	73.648	73.773	73.665	73.776			
					I	T	I			П	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

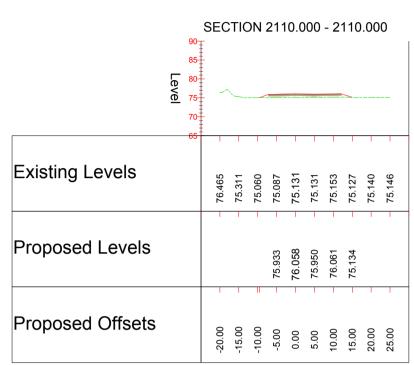
K	Δ	v

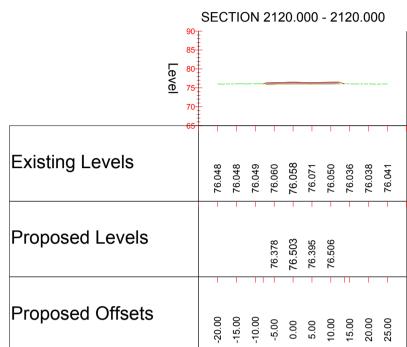
Notes:



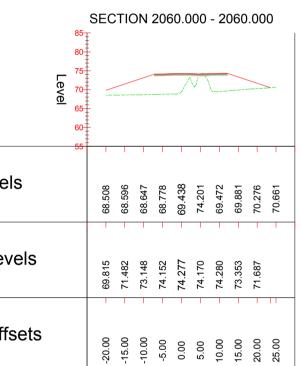


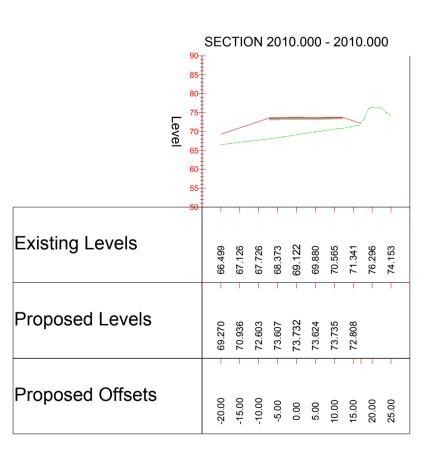
	95	SEC	стіс	Л	218	80.0	00	- 2′	180	.00	0
	90 85 80 75 70			<u> </u>					-		
	65	Ţ	T	1	I		I	1	I	I	1
Existing Levels		80.364	80.459	80.510	80.553	80.651	80.844	81.159	81.246	81.235	81.287
			I	1	I		I			I	T
Proposed Levels				79.792	78.896	79.021	78.914	79.024	79.997		
			I	11						11	T
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00





		90-1	SEC	TIC	ЭN	213	30.0	00	- 2 [′]	130	.00	0
	Level	85- 80- 75- 70-										
		65		I	I	I						I
Existing Levels			76.849	76.886	76.884	76.891	76.932	76.846	76.842	76.916	76.918	76.811
			I	T	T	I	I	I	I	I	I	I
Proposed Levels						76.823	76.948	76.841	76.951			
			I	1	T							I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00





		90 <del>_</del>	SEC	тіс	ON :	207	0.0	00	- 2(	070	.00	0	
	Level	85 80 75 70 65 60 55	2		~~~~	Ĵ					<u> </u>	_	
Existing Levels		55	69.817	69.749	69.728	70.428	74.692	72.818	70.706	70.838	71.201	71.374	
Proposed Levels			70.074	71.741	73.408	74.411	74.536	74.429	74.540	73.613	71.946		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	9	ج ∓	SEC	тю	ON :	202	20.0	00	- 20	020	.00	0
	8 7 7 6 6	0 5 0 5 5	1 -							$\geq$	$\mathcal{A}$	1
	5 	5 0	1	1		1	1	-1	-1	-		-
Existing Levels			65.921	66.451	67.086	67.636	68.238	68.765	69.354	69.969	71.076	75.496
Proposed Levels			69.279	70.945	72.612	73.616	73.741	73.633	73.744	72.817		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	90		EC	TIC	)N :	208	80.0	00	- 20	080	.00	0	
	85 80 75 70 65	****		/	Μ	<u>^</u>	<u></u>			<u> </u>			
Evicting Lovela	60	,	T	1		I	I	1		I			_
Existing Levels			71.096	71.024	76.078	73.072	73.736	72.386	71.670	71.948	72.001	72.245	
			I	I				I					
Proposed Levels						74.720	74.845	74.738	74.849	73.922	72.255		
			T	1							П		_
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

		90 -	SEC	тю	DN :	203	80.0	00	- 20	)30	.00	0
		85										
	_	80						٨				
	Level	75 <del>-</del> 70-			_		لم	$\mathbb{N}$	V	$\bigvee$	~~~	
	<u></u>	65										
		60										
		- <del>55</del>	T	1	1	Т	T	1	1	-	T	
Existing Levels			65.925	66.157	66.533	67.202	68.388	69.982	73.332	73.644	74.460	73.697
		_	-	1	T			1	1	1		
Proposed Levels			69.338	71.004	72.671	73.675	73.800	73.692	73.803			
			1	I	I			I				
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORMA	TION	Suitability	Project Title	WEST	OF ENGI WP1	_AND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:						<b>ATKINS</b>	The Hub 500 Park Avenue		Drawing Title	Α4	- A37 LIN	IK	
CONSTRUCTION							Aztec West				PTION 2		
NONE							Almondsbury Bristol BS32 4RZ		PROPOS	SED CON			CTIONS
MAINTENANCE/CLEANING							Tel: +44 (0)1454 662 Fax: +44 (0)1372 663		Scale	Designed	Dra 'n	Checked	Authorised
NONE						Copyright © Atkins Limited (2014)	www.atkinsglobal.co	m	1:1000	EC	t	AH	
DECOMMISSIONING/DEMOLITION						Client			Original Size	Date 05/02/1১	Date 05/02/18	Date 05/02/18	Date
NONE						WEST OF EI	NGLAND		Drawing Number HA PIN WoE	Origi atc		HGN -	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1     05.02.18     DRAWING       Rev.     Date	CREATED	AF By	Chk'd	App'd				WP1	- DR	- D -	6514	Revision P1

sed Offsets	-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	
90 85 80 <b>Fey</b> 75 <b>Ce</b> 75 65 60 55			<b>DN</b> :	207	70.0 	000	- 20	070	0.00	0	

	Level	90 85 80 75 70 65	SEC		ON :	203	30.0		- 20	<b>)30</b>	.00
Existing Levels		60 <del>-</del> 55	65.925	66.157	66.533	67.202	58.388	69.982	73.332	73.644	74.460
Proposed Levels			69.338	71.004	72.671			73.692	73.803		
Proposed Offsets			20.00	15.00	10.00	5.00	00.0	2.00	00.00	5.00	00.00

## DO NOT SCALE

	9	SEC	тю	DN .	219	90.0	00	- 2'	190	.00	0
	9 Level 7 7			~			~				
Existing Levels	U.	80.573	80.666	80.756	80.816	80.919	82.127	81.501	81.469	81.473	81.532
Proposed Levels				80.154	79.258	79.383	79.275	79.386	80.359		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

# SECTION 2140.000 - 2140.000 Existing Levels 77.900 77.878 77.858 77.712 77.712 77.676 77.714 77.714 77.729 77.695 77.695 Proposed Levels 77.268 77.393 77.286 77.397 Proposed Offsets -20.00 -15.00 -10.00 -5.00 5.00 11.00 15.00 25.00 25.00

		90⊤	SEC	тю	DN .	209	90.0	00	- 20	090	.00	0
	Level	85 80 75 70 65					~				×	
Existing Levels		60	73.210	6.953	76.272	4.839	4.194	2.752	2.895	2.815	2.884	73.137
			-	-	-	-	-	-	-	-	-	-
Proposed Levels						75.080	75.205	75.097	75.208	74.281		
				I	11	I	I			I	11	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

85		CTI	ΟN	204	10.C	000	- 20	040	.00	0
Level 65				~	~					
<del></del>		T	1	1		I				1
	66.595	67.218	67.589	68.613	68.900	67.706	69.898	70.219	70.739	69.996
		I	I	I	1	I	I	I	1	
	69.447	71.114	72.780	73.784	73.909	73.801	73.912	72.985	71.319	
		I			I	I	I	I	1	11
	-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00
	80- 75- 70- 65-	65 60 55 	Tevel         22         24         744.03           80         22         60         23         744.03           80         22         865.33         744.03         411.17	<b>Fevel</b>	<b>Feder</b> 80 12 10 12 12 12 12 12 12 12 12 12 12	<b>Fevel</b> 80 22 80 4 22 4 52 52 52 52 52 52 52 52 52 52	<b>FeAel</b> 80, 22, 20, 62, 99, 22, 20, 66, 595, 745, 66, 595, 74, 745, 66, 595, 74, 745, 757, 758, 758, 759, 759, 759, 759, 759, 759, 759, 759	<b>FeAel</b> 6 69.497 7 74.09 6 65.595 7 74.09 6 65.595 7 71.11 7 1.11 6 65.595 7 86.590 6 72.780 6 65.595 6 65.595 6 65.595 6 72.780 6 65.595 6 65.595 6 65.595 6 72.780 6 65.595 6 72.780 6 65.595 6 65.595 6 72.780 6 65.595 6 72.780 6 65.595 6 72.780 6 72.780 6 65.595 7 72.780 6 65.595 7 72.780 6 65.595 7 72.780 6 65.595 7 72.780 6 65.595 7 72.780 6 65.595 7 72.780 6 65.950 7 72.780 6 65.950 7 72.780 7 72.780 6 65.950 7 72.780 7 72.7800 7 72.7800 7 72.7800 7 72.7800 7 72.78000 7 72.7	<b>FeAel</b> 80, 422 10, 10, 10, 10, 10, 10, 10, 10, 10, 10,	<b>Feder</b> 80, 22, 20, 62, 69, 66, 595 1,11, 17 1,11, 1,

0 =

8

#### CROSS SECTIONS Scale 1:1000

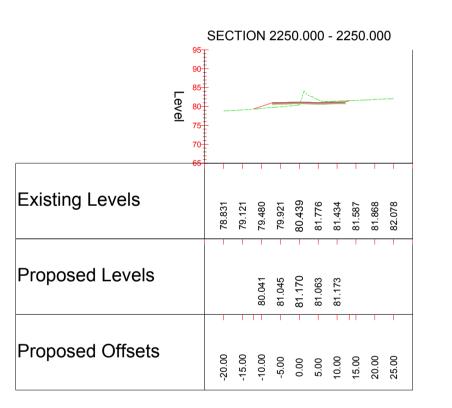
		95	SEC	TIC	DN :	235	50.C	00	- 23	350	.00	0
	Level	90 85 80 75								>		
		70	I	I	I	I	1	I	I	I	I	T
Existing Levels			80.819	80.887	80.909	80.966	81.028	81.052	81.105	81.120	81.187	81.220
			T	I	I	I	1		I	I	I	
Proposed Levels					81.566	82.569	82.694	82.587	82.698	81.771		
			T		П	T	T		I			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

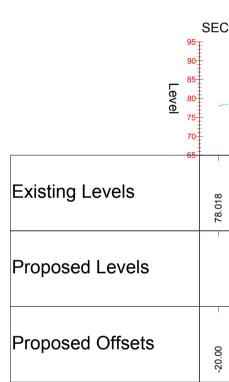
	100-	SECTION 2360.000 - 2360.000 €											
	95- 90- 85- 80- 75-								<u> </u>	/	/-		
	<del></del>		I	I	I	I	I	I		I			
Existing Levels		81.028	81.187	81.275	81.376	81.484	81.542	81.539	81.600	81.703	85.818		
			I	I	I		I			I			
Proposed Levels				81.618	82.622	82.747	82.639	82.750	81.823				
				11					II		1		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00		

SECTION 2310.000 - 2310.000

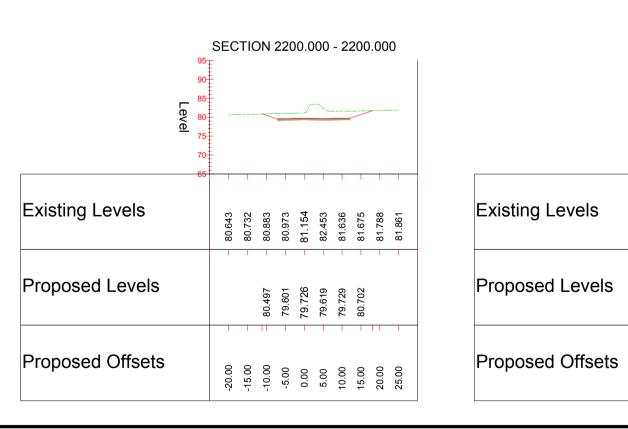
		SECTION 2300.000 - 2300.000											
	Level	90- 85- 80- 75- 70-	_										
		65		I	I								-
Existing Levels			77.173	77.262	77.464	77.717	77.946	78.291	78.781	79.229	79.681	80.177	
Proposed Levels			- 77.697	79.364	81.031	82.034	82.159	82.052	82.163	81.236		1	
			I	I	I								
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00	

	Level	95 90 85 80 75 70 65										
Existing Levels		05	77.819	78.649	77.607	77.930	78.169	78.463	78.765	79.185	79.519	79.973
Proposed Levels			77.841	79.507	81.174	82.178	82.303	82.195	82.306	81.379	79.712	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



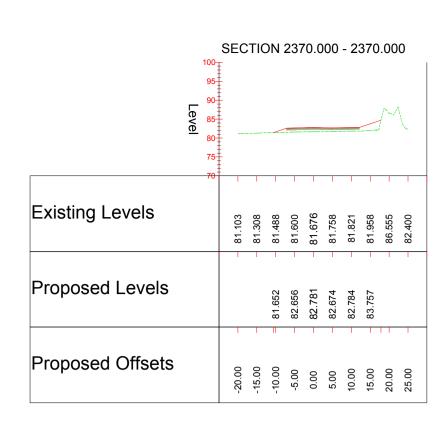


Lev 8



Key:

Notes:



Existing Levels

Proposed Levels

Proposed Offsets

SECTION 2320.000 - 2320.000

78.688 78.670 78.712 79.137 79.137 79.025 79.387 79.387 79.673

79.633 81.299 82.303 82.428 82.320 82.431 81.504 81.504 79.838

-20.00 -15.00 -10.00 -5.00 0.00 5.00 110.00 15.00 22.00

	Level	00 95 90 85 80	SEC	TIC	ON .	238	80.0	000	- 2:	380	.00	0
[	;	75 70	-1	-1			-1	-	-			
Existing Levels			81.082	81.319	81.474	81.638	81.694	81.838	82.003	86.335	82.437	82.471
Proposed Levels			1	1			82.797	1	I	83.773	T	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	100	SEC	тіс	)N	239	90.0	00	- 23	390	.00	0
	95 90 85 80 75						_/	$\mathcal{N}$	À		
	70	I	I	I	I	I	I	I	I	I	I
Existing Levels		80.913	81.211	81.386	81.534	81.639	81.856	87.055	82.233	82.373	82.480
		I	I	I	I			I	I		I
Proposed Levels				81.668	82.672	82.797	82.689	82.800			
		I	I	П					11		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		95 _±	SEC	SECTION 2330.000 - 2330.000											
	Level	90 85 80 75 70									~				
		65	T	1	I	I									
Existing Levels			79.662	79.668	79.670	79.591	79.598	79.641	79.766	79.993	80.718	80.377			
Proposed Levels			I	79.740	81.406	82.410	82.535	82.427	82.538	81.611					
				I	I	I	I	I	I			1			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	81.611 79.993 - 80.718 - 80.718 -	25.00				

Existing
Propos
Propos

С	TIC	)N	226	0.0	00	- 22	260	.00	0	
			_							
	T									
	78.690	78.943	79.409	79.831	80.700	81.090	81.330	81.637	81.932	
	78	78	79.	79	80	81.	81	81	81	
		1		1				1		
		80.276	81.279	81.404	81.297	81.408				
		80	81	8	81	81				
	-15.00	-10.00	5.00	00.0	2.00	0.00	5.00	20.00	25.00	
	-	-	ř			-	-	7	7	

	95-	‡											
	90- 85- 80- 75- 70-					2			<b></b>				
	65	-		1	I	I						_	
Existing Levels		76.928	77.908	78.244	78.728	80.297	80.512	80.939	81.049	81.331	81.609		
		1	1	1	T	I	I	I	1	I	I		
Proposed Levels		77.158	78.825	80.492	81.495	81.620	81.513	81.624					
		I					I	I	П	I			
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		

	Level	95 90- 85- 80- 75-	SEC		DN .	228	30.0	000	- 22	280	.00	0
Existing Levels		70- 65	77.561	77.456	77.710	77.888	78.886	81.594	81.270	80.845	81.092	81.385
Proposed Levels			1	79.023	80.690	81.693	81.818	81.711	81.822	80.895		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	2.00	10.00	15.00	20.00	- 25.00

95 _∓	SEC	TIC	DN .	221	0.0	000	- 22	210	.00	0		9
90 85 80 75 70						~	·				Level	9 8 8 7 7
65	80.502	80.688	80.894	80.998	82.511	82.935	81.760	81.755	81.848	81.990	Existing Levels	-6
			80.822	79.926	80.051	79.944	80.054	81.027	1		Proposed Levels	
	-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	Proposed Offsets	

		95 90	SEC	TIC	DN :	222	20.0	00	- 22	220	.00	0	
	Level	85 80 75 70	- - -							~			
xisting Levels			80.179	80.493	80.753	80.948	81.756	81.658	81.792	81.833	81.975	82.218	
roposed Levels						80.233	80.358	80.251	80.361	81.334	T		
roposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

Leve	95 90 85	SEC	тіс	Л	223	30.0	000	- 2:	230	0.00	0			
<u>0</u>	75 70 65	-											Г	
Existing Levels		79.855	80.097	80.473	80.757	81.932	82.057	81.743	81.813	82.052	82.243		I	Existi
Proposed Levels					80.522	80.647	80.540	80.650	81.623				ł	Propo
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		ł	Propo

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status	Suitability S2	Project Title	WEST OF ENGLAND WP1	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							The Hub 500 Park Avenue	Drawing Title	A4 - A37 LINK	
CONSTRUCTION							Aztec West Almondsbury		OPTION 2	
NONE						Bi Bi	Bristol BS32 4RZ	PROPOS	SED CONCEPT GROSE SEC SHEET 12 19	TIONS
MAINTENANCE/CLEANING						Fa	el: +44 (0)1454 662000 ax: +44 (0)1372 663333	Scale		Authorised
NONE							vww.atkinsglobal.com	1:1000	EC AH	Data
DECOMMISSIONING/DEMOLITION	-					Client		Original Size	Date         Date         Date           05/02/1&         05/02/18         05/02/18	Date
NONE	-					WEST OF ENG	GLAND	Drawing Number HA PIN WoE	Origi ator Volume	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor	P1	05.02.18 DRAWING CREATED	AF					WP1	- DR - D - 6515	Revision
working, where appropriate, to an approved method statement	Rev.	Date Description	Ву	Chk'd	App'd			Location	Type   Role   Number	P1

	Level	95 90 85 80 75	SEC	TIC	DN :	234	0.0	00	- 23	340	.00	0	
		70 [‡]	1				1	T	T	T			
ting Levels			80.342	80.394	80.383	80.374	80.420	80.396	80.476	80.518	80.609	80.775	
							1	1		1	I		
osed Levels					81.495	82.499	82.624	82.516	82.627	81.700			
				11	I	I	I	I	I	I	TT		
osed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	9!		SEC	тю	DN :	229	0.0	00	- 22	290	.00	0
	90 88 80 79 70									>	<u></u>	/
	6!	5		I	I							-
Existing Levels			77.240	77.394	77.465	77.660	77.908	78.521	79.054	80.788	84.097	82.018
				I	I	I	I	I	I	I	I	
Proposed Levels			77.536	79.203	80.869	81.873	81.998	81.890	82.001	81.074		
		1	1	I	I	I	I		I	I		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		95-	SEC	тю	DN :	224	0.0	00	- 22	240	.00	0	
	Level	90 85 80 75 70						~					
ng Levels		00	79.279	79.608	- 20.996	80.402	81.160	82.521	81.595	81.731	82.030	82.364	
sed Levels						80.793	80.918	80.810	80.921			I	
sed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00 =	20.00	25.00	

			SEC	сті	ΟN	255	50.0	00	- 2	550	.00	0
		95 90										
	Level	85										
	<u>/e</u>	80										
		75										
		/0			I	I	1	I	1	I	I	I
Existing Levels			81.293	81.491	81.675	81.843	81.990	82.184	82.370	82.505	82.627	82.824
			1		1	1					1	I
Proposed Levels					82.499	82.624	82.749	82.624	82.584	82.684		
			I		1	1	1		1	11		I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

SECTION 2500.000 - 2500.000

80.919 81.039 81.237 81.486 81.541 81.575 81.575 81.575 81.575 81.575

81.092 82.514 82.639 82.764 82.639 82.639 82.639 82.639

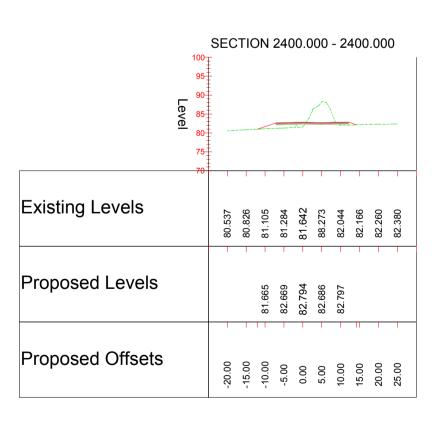
-20.00 -15.00 -10.00 0.00 5.00 110.00 15.00 25.00 25.00

	Level	95 90 85 80 75	SEC	TIC	ON	256	60.C	000	- 2	560	.00	0
		-70	: 	1	I	I	I		I	I	I	-
Existing Levels			80.574	80.848	81.055	81.251	81.478	81.679	81.876	82.046	82.236	82.328
			1	1	1	I	I	I	I	I	I	1
Proposed Levels				81.076	82.496	82.621	82.746	82.621	82.581	82.681		
			I	П			I	I	I	I		1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
			-20.(	-15.0	-10.6	-5.0	0.0	5.0	10.0	15.0	20.0	25.(

	95	EC	тю	DN :	251	0.0	000	- 2	510	.00	0
	90 Level 85 80 75			/							
	<del>70</del>			I	I				I		I
Existing Levels		81.285	81.439	81.623	81.705	81.852	81.949	82.083	82.088	82.218	82.396
Proposed Levels				82.511	82.636	82.761	82.636	82.596	82.696		
		T	П	I		I		T	I		I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		95 <del></del>	SEC	тю	ON :	245	50.0	00	- 24	450	.00	0
	Level	90 85 80 75 70	4	_	/	7	~	· · · · ·		<u> </u>		
		65	I		I			1		1		I
Existing Levels			77.804	77.940	78.346	80.897	82.453	81.037	80.425	80.722	80.847	81.082
Proposed Levels			78.317	79.984	81.650	82.654	82.779	82.672	82.782	81.855	I	1
					I			T		1	11	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00
		1_										

	1	100 _Ŧ	SEC	тю	ON	246	60.C	000	- 24	460	.00	0
	Level	95- 90- 85- 80- 75-	Ņ					/ 	\		<b></b>	
		70	1	1	1	-	1	-	1	1		T
Existing Levels			78.290	78.412	78.698	78.960	79.247	81.651	81.091	80.581	80.729	80.916
				I	I	I	I		I	I		I
Proposed Levels			78.537	80.203	81.870	82.651	82.776	82.651	82.747	82.075		
											11	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	10	5 00-1	SEC	TIC	ON	241	0.0	000	- 24	410	.00	0
	Level	25 20 35 30 					<u>`</u>					
Existing Levels			- 19.968	80.279	80.609	80.982	86.408	81.562	81.761	81.922	82.062	82.260
Proposed Levels			I		81.662	82.666	82.791	82.683	82.794	I	I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Notes:

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	95 90 Leve	EC	TIC	)N :	257	0.0	00	- 2	570	.00	0
	75 70 	1	1	1		-1	1	-1		1	-1
Existing Levels		79.945	84.448	81.539	80.490	80.704	80.910	81.152	81.348	81.555	81.797
Proposed Levels		T	83.873	82.493	82.618	82.743	82.618	82.578	82.678	1	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	95	SEC	стіс	ON	258	80.0	00	- 2	580	.00	0
	90 85 80 75 70						i vnc	·		>-	
	65		T	I	I		I	I	I		
Existing Levels		78.808	79.003	79.225	79.360	79.943	81.805	81.236	80.664	80.824	81.069
			1	I	I			I			
Proposed Levels		79.404	81.070	82.490	82.615	82.740	82.615	82.575	82.675	81.275	
			1			1	I	I		Π	-
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		95 <u>∓</u>	SEC	TIC	) N	253	80.0	00	- 2	530	.00	0
	Level	90 85 80 75			_							
		70	T	T		1	1		T		T	-
Existing Levels			81.867	82.026	82.141	82.278	82.355	82.509	82.568	82.683	82.758	82.932
Proposed Levels			1		82.505	2.630	82.755	2.630	2.590	82.690		
		_	1	1	∞ T T	~	80	~	~	~	1	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	,	ج 95	SEC	тіс	DN .	254	0.0	00	- 2	540	.00	0	
	Level	90 85 80 75			_					_			
		70		I	I			I		I		I	
Existing Levels			81.754	81.870	82.024	82.176	82.294	82.438	82.579	82.743	82.854	82.980	
				I	I								
Proposed Levels					82.502	82.627	82.752	82.627	82.587	82.687			
			I	I	П	I	I	T	I	П	I		-
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00	

		SEC	стіс	ΟN	248	80.0	00	- 24	480	.00	0
	100	Ŧ									
	95	ŧ									
	90	ŧ									
	e 85	Į.					~	$\wedge$			
	Level 80	ŧ	/				$\sim$			<u> </u>	
	75	ŧ									
	70	Ŧ									
	65	÷									
				1	1		1	1	1		
Existing Levels						~					-
		79.681	79.953	.185	.321	80.558	81.542	85.508	.958	81.003	81.100
		79	79	80	80	80	81	85	80	81	81
						I	I	I		I	I
Proposed Levels			348	314	345	70	345	375	519		
			80.648	82.3	82.6	82.7	82.6	82.675	82.519		
		T	П	1	1	1	T	T	T	П	1
Proposed Offsets		0	0	0	0	~	~	0	0	0	0
		20.00	-15.00	10.0	-5.0	0.0	5.00	10.00	15.0	20.0	25.00
		· ·	'	<u>'</u>				-			

	100-	SEC	стіс	DN .	249	90.0	00	- 24	490	.00	0
	95 90 Level 80 75										- ^ L
	<del>70 -</del>	-	1	I	I		I	1	I	I	
Existing Levels		82.748	80.613	80.808	81.058	81.158	81.191	81.347	81.386	82.300	87.731
		I	T	I	I		I	1	I	1	
Proposed Levels			80.870	82.517	82.642	82.767	82.642	82.639	82.721	84.366	
			П								
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	⁹ Level 7	95 10 15 15 10 10	SEC /		ON .	244	i0.0	000	- 24	440	.00	0
Existing Levels	6	5	77.810	79.371	81.623	79.924	81.063	80.090	80.426	80.744	81.101	81.395
Proposed Levels					81.653	82.657	82.782	82.674	82.785	81.858		I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status	ATION Suitability	Project Title	WEST OF ENGLAND WP1
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							<b>ATKINS</b>	The Hub 500 Park Avenue	Drawing Title	A4 - A37 LINK
CONSTRUCTION								Aztec West		OPTION 2
NONE								Almondsbury Bristol BS32 4RZ	PROPOS	SED CONCEPT GROSE SECTIONS SHEET 12 19
MAINTENANCE/CLEANING					_			Tel: +44 (0)1454 662000 Fax:+44 (0)1372 663333	Scale	Designed Dra n Checked Authorised
NONE	-						Copyright $\bigcirc$ Atkins Limited (2014)	www.atkinsglobal.com	1:1000	EC AH
							Client		Original Size	Date Date Date Date
DECOMMISSIONING/DEMOLITION									A I Drawing Number	05/02/18 05/02/18 Project Ref. No
NONE							WEST OF E	NGLAND	HA PIN WOE	Origi ator Volume 0000000
It is assumed that all works will be carried out by a competent contractor	P1	05.02.18	DRAWING CREATED	AF					WP1	
working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	C	Chk'd App'd				- DR - D - 6516 P1

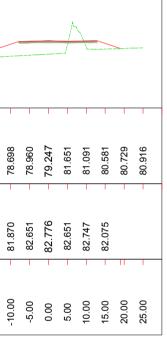
SECTION 2430.000 - 2430.000

78.253 78.876 84.700 80.038 80.260 80.263 80.563 80.563 80.563 81.231 81.553 81.859

82.660 82.785 82.677 82.788 82.788 81.861

-20.00 -15.00 -10.00 -5.00 0.00 5.00 110.00 15.00 25.00

		95 90	SEC	; IIC	)N :	252	:0.0	00	- 2:	520	.00	0
	Level	85	_									
	e	80 <del>-</del> 75-										
		70	T	Ι	I	T	1	1	I		T	T
Existing Levels			960	355	968	021	104	263	376	151	554	283
			81.696	81.855	81.9	82.0	82.1	82.2	82.376	82.4	82.554	87 683
							1					
Proposed Levels					82.508	.633	82.758	.633	.593	82.693		
					8	82	82	82	82	82		
			1				1					1
Proposed Offsets			20.00	-15.00	10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25,00



Biology     Biology       82.092     79.19       82.092     79.19       82.092     79.19       82.048     79.63       82.048     79.63       82.048     79.63       82.048     79.63       82.048     79.63       82.048     79.63       82.047     80.87       82.071     80.66       82.071     80.66       82.071     80.66       82.071     80.66       82.071     80.66		95		СТЮ	NC	247	70.0	000	- 24	470	.00	0	1
Existing Levels       80.426       79.194         80.426       79.194         80.426       79.194         80.428       79.388         80.648       79.388         82.043       80.873         82.043       80.873         82.043       80.873         82.043       80.873         82.043       80.873         82.043       80.741         80.741       80.873         80.741       80.873         80.741       80.873         80.741       80.866         80.741       80.864		Level 75					^^	V	\		<u> </u>		
Proposed Offsets		65	† ı		1	1	1	1		1	1		-
Proposed Offsets	Existing Levels		78.984	79.194	79.388	79.640	80.873	83.043	80.666	80.741	80.746	80.881	
Proposed Offsets					I	1	I					1	
Proposed Offsets	Proposed Levels			80.426	82.092	82.648	82.773	82.648	82.711	82.297			
Proposed Offsets						I	I				I	I	
	Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

	1	ج 100	SEC	TIC	DN :	242	20.0	00	- 24	420	.00	0
	Lev	95 90 85 80 75 70			/	<u>~~</u> ^						
Existing Levels		65	79.230	79.581	80.080	82.987	80.986	81.137	81.314	81.624	81.894	82.064
Proposed Levels			1			82.663	82.788	82.680	82.791	81.864	Ţ	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

					242	.u.c	,00	- 2.	+20	.00	0
10	⁰⁰ Ŧ										
9	95										
ę	90∰										
5 8	35				$\sim$						
8	30 <del>[</del>			/							
7	75										
7	70										
-	35										
							1				
		-	_	-		6					_
		79.230	.581	.080	.987	80.986	.137	.314	.624	.894	.064
		79	29	80	82	80	81	81	81	81	82
									I		
					63	88	80	791	364		
					82.663	82.788	82.6	82.791	81.8		
	+	1		1		1	1	T	П	1	1
		0	0	0	0	~	~	0	0	0	0
		20.00	15.0	10.0	5.0	0.00	5.00	0.0	5.0	0.0	5.00

		<b>95</b> ⊤	SEC	тю	DN .	259	90.0	00	- 2	590	.00	0
	Level	90 85 80 75 70	/									
		65		I	I	I						
Existing Levels			78.061	78.287	78.685	79.299	79.290	79.597	79.733	79.911	80.150	82.007
			I	I	I	I	I	I	I	I	I	
Proposed Levels			79.401	81.067	82.487	82.612	82.737	82.612	82.572	82.672	81.272	
												TT
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

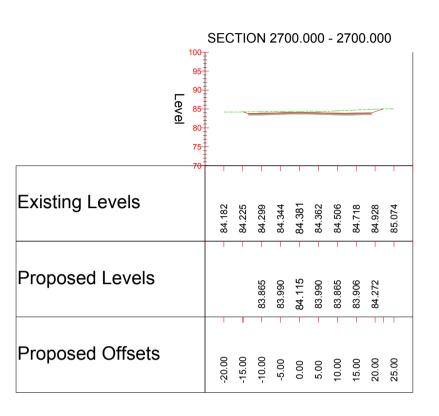
0

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#### CROSS SECTIONS Scale 1:1000

		100-	SEC	TIC	ON	275	50.0	00	- 2	750	.00	0
	Level	95 90 85 80 75										
		70		1	1	I	I	I	I		I	
Existing Levels			85.894	85.919	85.912	85.974	86.080	86.063	86.051	86.133	86.171	86.168
Proposed Levels			I		85.071	85.196	85.321	85.196	85.156	85.256	I	
				11	I	I	I	I	Ì	I	11	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Level	100 95 90 85 80 75 70
Existing Levels		10
Proposed Levels		
Proposed Offsets		

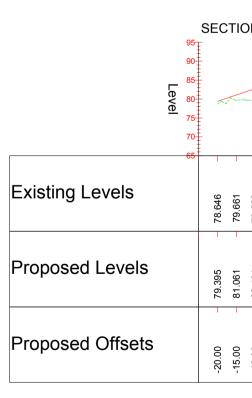


	95	SEC Ŧ	сті	NC	265	50.0	00	- 20	650	.00	0
	90- 85- 80- 75- 70-										
Existing Levels		81.936	82.286	82.594	82.831	83.061	83.282	83.498	83.700	83.884	84.100
Proposed Levels				82.728	82.853	82.978	82.853	82.813	82.913	I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	100 95 	EC	тіс	N	271	10.0	000	- 2	710	0.00	0
	Level 85	-									
Existing Levels		84.519	84.558	84.652	84.800	84.864	84.877	84.865	84.876	85.052	85.258
Proposed Levels			83.981	84.106	84.231	84.356	84.231	84.106	83.981	83.952	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00 =

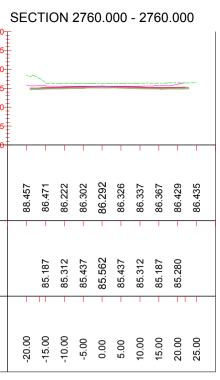
	Leve	95 90 85
Existing Levels		80 75 70
Proposed Levels		
Proposed Offsets		

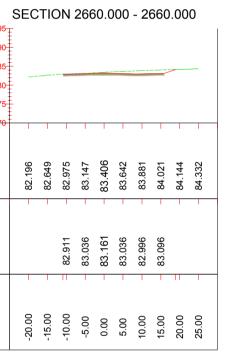
		95 90	SEC	тіс	DN :	260	0.0	000	- 20	600	.00	0
	Level	85 80 75 70	1		~						<u> </u>	
Existing Levels		<del>65</del>	- 777.77	77.969	79.607	79.377	79.504	79.847	79.769	80.047	79.993	80.144
Proposed Levels			79.398	81.064	82.484	82.609	82.734	82.609	82.569	82.669	81.269	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Key:

Notes:





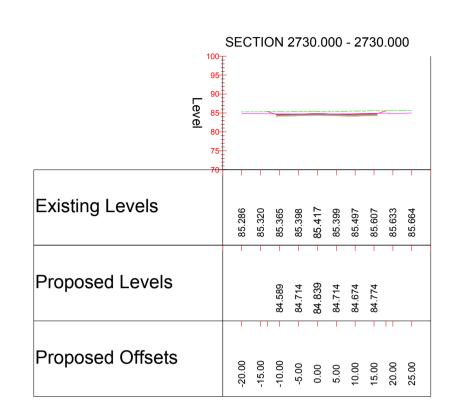
-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00			Propos
ON	266	60.0	000	- 26	660	.00	0			
82.975	83.147	83.406	83.642	83.881	84.021	84.144	84.332			Existin
-	6	1	9	9	9		1			Propos
82.911	83.03	- 83.161	83.03	82.99	83.09					· ·
								1		1

		100-	SEC	TIC	DN :	277	0.0	00	- 27	770	.00	0
	Level	95 90 85 80 75				4						
Existing Levels		70	86.208	86.221	86.277	88.815	86.862	86.804	86.713	86.702	86.710	86.680
Proposed Levels			ſ	86.155	85.553	85.678	85.803	85.678	85.555	85.668	86.543	I
				I		I				I	Π	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	100	SEC	тю	DN .	272	20.0	00	- 27	720	.00	0	
	100- 95- 90- 85- 80- 75-											
Existing Levels		84.889	84.854	84.975	84.984	85.092	85.186	85.252	85.363	85.438	85.461	
Proposed Levels			I	I	I	84.597		84.432	84.532	I	1	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

		95-	SEC	тю	DN .	267	0.0	00	- 20	670	.00	0
	Level	90 85 80 75 <del>70</del>										
Existing Levels			82.420	82.740	83.123	83.454	83.720	83.915	84.116	84.264	84.431	84.552
Proposed Levels					83.142	83.267	83.392	83.267	83.227	83.327		
					11						П	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	100	SEC	стіс	NC	278	30.C	000	- 2	780	0.00	0
	95 Level 85 80							~			
Existing Levels	75			I				I	I	I	
		86.428	86.403	86.480	86.489	89.263	89.340	89.273	87.083	86.928	86.916
				I	1	1	1	I	I	1	1
Proposed Levels				85.795	85.920	86.045	85.920	85.880	85.980		
			I		I	I	T	T	T	11	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	Level	95 90 85 80	SEC		NC	268	30.C	000	- 20	680	.00	0		
Existing Levels		75 	83.018	83.177	83.359	83.609	83.816	84.013	84.203	84.414	84.604	84.773	-	E
Proposed Levels			1		83.383	1	I	1	I	83.568		1		F
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		F

NC	261	0.0	000	- 20	610	.00	0	
		1	-	-				
79.602	79.808	80.074	80.335	80.580	80.827	81.085	81.168	Existing Leve
T		T	I		I		I	
82.481	82.606	82.731	82.606	82.566	82.666	81.266		Proposed Lev
			I		I	11		
-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	Proposed Off

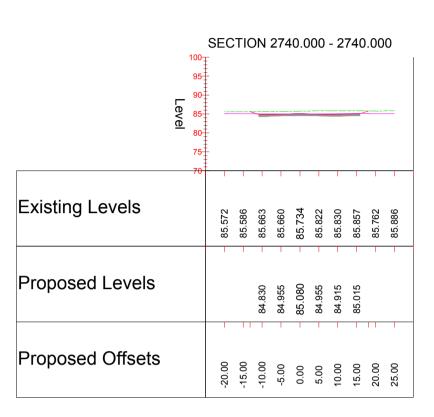
	_	95 90 85	SEC	TIC	ON .	262	20.0	000	- 20	620	.00	0	
	_	80 75 70											
sting Levels			80.427	80.420	80.568	80.844	81.090	81.339	81.687	81.960	82.104	82.341	
posed Levels				81.060	82.480	82.605	82.730	82.605	82.565	82.665	I		
oposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	
													_

	5 90 85 Level	ECI	TION	263	30.0	000	- 20	630	.00	0		95 90 Level	SEC	стіс	DN 2	264	0.0	00 -	- 26	40.(	000	
Existing Levels	<u>v</u> 80 75 70	81.064	81.328 – 81.640 –	81.837	82.021	82.165	82.405	82.634	82.764	82.951	Existing Levels	75- 70-	81.663	81.931	82.147 -	82.419	82.615	82.846	83.046	83.229	83.426	00.00
Proposed Levels			82.513	82.638	82.763	82.638	82.598	82.698			Proposed Levels				82.596	82.721	82.846	82.721	82.681	82.781		
Proposed Offsets		-20.00	-15.00 -10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	20.02

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORM	<b>TION</b>	Suitability	Project Title	WEST OF ENGL WP1	AND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:						ΛΤΚΙΝ	The Hub 500 Park Avenue		Drawing Title	A4 - A37 LIN	ĸ	
CONSTRUCTION							Aztec West			OPTION 2		
NONE						-	Almondsbury Bristol BS32 4RZ		PROPOS	ED CONCEPT GR SHEET 1.1 1		TIONS
MAINTENANCE/CLEANING						_	Tel: +44 (0)1454 66 Fax: +44 (0)1372 66		Scale	Designed Dra n		Authorised
NONE						Copyright © Atkins Limited (2014)	www.atkinsglobal.co		1:1000	EC ^,-	AH	
						Client			Original Size	Date Jate 05/02/18	Date 05/02/18	Date
DECOMMISSIONING/DEMOLITION									Drawing Number			Project Ref. No.
NONE						WEST OF E	NGLAND		HA PIN WoE	Origi ator   Volu ATK -	HGN -	000000
	P1	05.02.18	DRAWING CREATED	AF					_		-	Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date	Description	By Chk'd	App'd				WP1	- DR - D -  Type   Role   Nun	6517 ^{mber}	P1

### DO NOT SCALE

	Level	100 95 90 85 80	SEC	стіс	N	279	90.0	000	- 27	790	.00	0
		75	-		T	I	I				T	1
Existing Levels			86.572	86.595	86.671	86.756	86.720	86.827	86.867	86.894	86.826	89.093
					I	I					I	
Proposed Levels					86.036	86.161	86.286	86.161	86.121	86.221		
			I	I		I	I	I	I	I	Π	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	95	SEC	сті	NC	269	90.0	000	- 26	690	.00	0
	90 Leve 80 75			_							_
	70			I							
Existing Levels		83.649	83.699	83.784	83.873	84.070	84.189	84.417	84.560	84.655	84.854
				T	T	T	I		I	I	
Proposed Levels				83.624	83.749	83.874	83.749	83.692	83.798		
				П	T					П	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	100-	SEC	TIC	ON	295	50.0	000	- 29	950	.00	0
	100- 95- 90- EV E 85- 80-										
			T	-	I	1	1	I	I	T	1
Existing Levels		89.044	89.089	89.079	89.093	89.152	89.206	89.190	89.190	89.140	89.264
Proposed Levels			I	88.942	89.067	89.192	89.067	89.027	89.127	I	
		1	1	11		1			П		I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

SECTION 2900.000 - 2900.000

88.394 88.410 88.457 88.456 88.456 88.456 88.456 88.509 88.509 88.553 88.553

88.439 88.564 88.689 88.564 88.524 88.524 88.624

-20.00 -15.00 -5.00 0.00 5.00 110.00 15.00 25.00

95						
90 85 80						
75	89.157	89.189	89.156	89.214	89.263	89.256
	1		I	T	I	89.112
	-20.00	-15.00	-10.00	-5.00	0.00	5.00
	85 80	85 80 75 - -	80 80 80 80 80 80 80 80 80 80	82 88 88 88 88 88 88 88 88 88	88.987 89.157 - <u>94</u> 89.157 - <u>94</u> 89.156 - <u>89.156</u> 89.156 - <u>94</u>	89.157 - 94 89.157 - 94 89.156 - 89.156 89.189 - 89.156 89.214 - 89.214 89.237 - 89.213 - 89.263

	100-	SEC	стіс	DN .	291	0.0	000	- 29	910	.00	0
	95 90 85 80			_							
Existing Levels	75	88.513	88.493	88.610	88.630	88.646	88.609	88.570	88.613	88.661	88.696
Proposed Levels			I	88.576	88.701	88.826	88.701	88.661	88.761	T	I
		1	I	Π	I	I			П	I	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

		100-	SEC	стю	NC	286	60.C	000	- 28	860	.00	0	
	Level	95 90 85 80			-		~						
		75			1	1	T	1					
Existing Levels			87.892	87.882	87.958	88.842	88.280	88.160	88.159	88.186	88.179	88.171	
				1	I								
Proposed Levels					87.710	87.835	87.960	87.835	87.795	87.895			
				1	11							I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

75								
				1	1			
	87.065	87.100	87.224	87.120	87.157	87.193	87.261	87 362
			I	T				
			86.518	86.643	86.768	86.643	86.603	86 703
	1			I	I	I	I	
	-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00
		-20.00		86.518	86.643	86.518 86.518 86.643 86.768	86.518 86.518 86.643 86.643 86.643	86.603 86.643 86.643 86.643 86.643 86.603

		100 95 90	SEC	тю	N	285	50.0	000	- 28	850	.00	0
	Level	85 80 75		<u> </u>								
Existing Levels			87.786	89.109	87.959	87.949	87.987	88.021	88.027	88.019	87.982	87.978
Proposed Levels				88.862	87.482	87.607	87.732	87.607	87.567	87.667	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	1	100 95	SEC	тіс	DN .	280	0.0	00	- 28	300	.00	0
	Level	90 85 80	-									
Existing Levels		75		2	4	-	2	6	+	4		9
5			86.893	86.922	86.994	87.15	86.962	86.98	87.041	87.04	87.10	87.076
Proposed Levels			I	1	- 86.277	- 86.402	86.527	86.402	86.362	86.462		I
				1							II	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

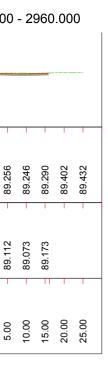
Key:

Notes:

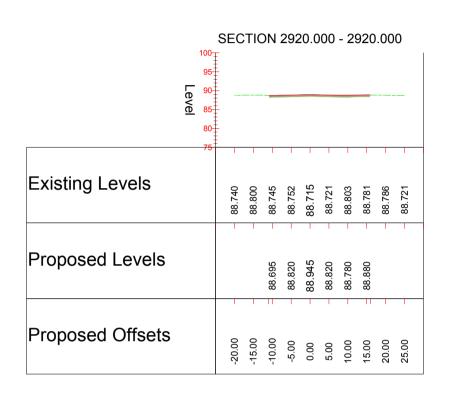
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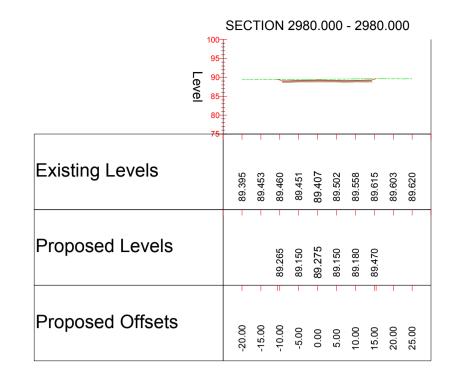
- 19

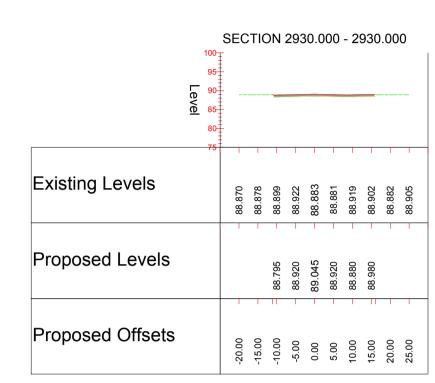
0 =



400		стіс	ON	297	0.0	00	- 29	970	.00	0
95- 90- Evel 85-								_		
	89.273	89.275	89.278	89.335	89.359	89.337	89.397	89.521	89.494	89.484
		T	89.015	89.140	89.265	89.140	89.137	89.219		I
	-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
	95-	100 95 90 80 75 75 80 52 68 1	Level 80 75 80 75 80 75 80 80 80 75 90 4 80 80 80 80 80 80 80 80 80 80 80 80 80	Level 252.68 - 210.68 = 200.61	Tevel 100 - 22 80, 122 80, 122 80, 122 100 - 2275 80, 122 80, 122 100 - 2275 80, 122 100 - 2275 80, 122 100 - 2275 100 - 2275	Tevel	Tevel         22         89.275         90.275         90.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42	Tevel       24       89.273       -         100       29       89.273       -       89.273         89.0140       89.275       -       89.275       -         89.140       89.335       -       -       89.335         89.140       89.335       -       89.335       -         89.140       89.335       -       89.335       -         89.140       89.335       -       89.337       -         89.137       -       89.337       -       -         89.130       -       89.337       -       -         89.130       -       89.337       -       -         89.130       -       89.337       -       -         89.130       -       89.337       -       -         89.130       -       89.337       -       -         89.131       -       89.337       -       -       -	Tendel       22       89.273       4       89.273       4       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.335       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9 <th< th=""><th>Tevel       22       89.273       24       89.283         89.015       89.275       89.275       89.275       89.275         89.015       89.275       89.275       89.275       89.275         89.015       89.275       89.275       89.275       89.275         89.137       89.359       89.359       89.359       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.521       89.521       89.521       89.521</th></th<>	Tevel       22       89.273       24       89.283         89.015       89.275       89.275       89.275       89.275         89.015       89.275       89.275       89.275       89.275         89.015       89.275       89.275       89.275       89.275         89.137       89.359       89.359       89.359       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.521       89.521       89.521       89.521







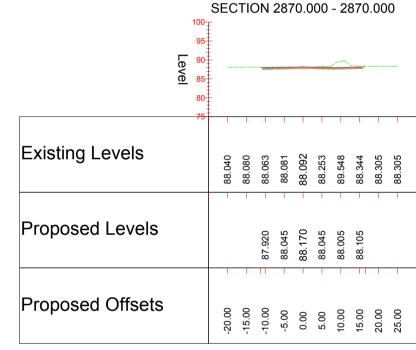
Existing Levels
Proposed Levels
Proposed Offsets

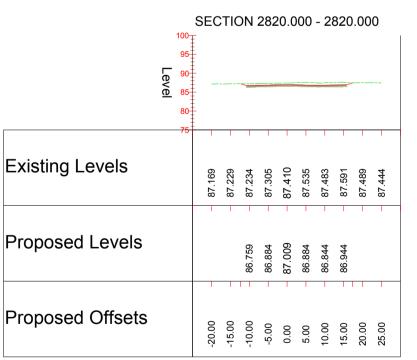
		ج 100	SEC	тю	DN :	288	30.0	00	- 28	880	.00	0
	Level	95 90 85 80	_		_						~	
		75	1	I	I	I	I	I		I		
Existing Levels			88.072	88.192	88.209	88.234	88.263	88.256	88.262	88.323	88.418	88.741
			1				I					
Proposed Levels					88.111	88.236	88.361	88.236	88.196	88.296		
			T	I	П	I	I	I		П	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

Existing Levels
Proposed Levels
Proposed Offsets

	100- 95- 90- 85- 80- 80-	SEC		N	284	40.C	000	- 28	840	.00	0
	75	- -	1	1	1	1	T	1	1	1	
Existing Levels		87.654	87.681	87.719	87.738	87.789	87.792	87.757	87.757	87.810	87.852
				1			1	1	1	I	
Proposed Levels				87.242	87.367	87.492	87.367	87.327	87.427		
			T	ТТ	T	T	T	T	П	T	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORMA	Suitability <b>S2</b>	Project Title	WEST OF E			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:						ATVINC	The Hub 500 Park Avenue	Drawing Title	A4 - A37			
CONSTRUCTION						<b>ATKINS</b>	Aztec West		OPTIO			
NONE							Almondsbury Bristol BS32 4RZ	PROPO	SED CONCEPT SHEET		SECTIO	ONS
MAINTENANCE/CLEANING							Tel: +44 (0)1454 662000 Fax: +44 (0)1372 663333	Scale	Designed Dra. 'n	Checke	d Autho	orised
NONE						Copyright © Atkins Limited (2014)	www.atkinsglobal.com	1:1000	EC ^,		λH	
DECOMMISSIONING/DEMOLITION	-					Client		Original Size A1 Drawing Number	Date Jate 05/02/18 05/02	Date /18 05/0		ect Ref. No.
NONE						WEST OF E	NGLAND		Origi ator	∣ _{Volume} - HGN	00	000000
It is assumed that all works will be carried out by a competent contractor	- P1	05.02.18 DRAWING CREATED	AF					WP1		- 6518	Revis	
working, where appropriate, to an approved method statement	Rev.	Date Description	Ву	Chk'd	App'd			VVF Location	Type Role	- OOTC	,	P1



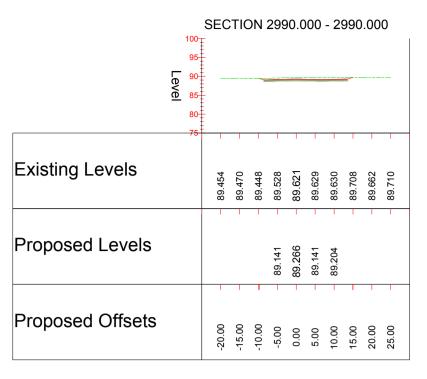


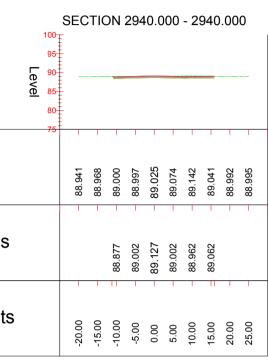
88.0	88.0	88.0	88.0	88.0	88.2	89.5	88.3	88.3	88.3			
I		87.920	88.045	88.170	88.045	88.005	88.105	I	I			Proposed Levels
-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00			Proposed Offset
ΞC	TIC	DN 2	282	20.0	00	- 28	320	.00	0			

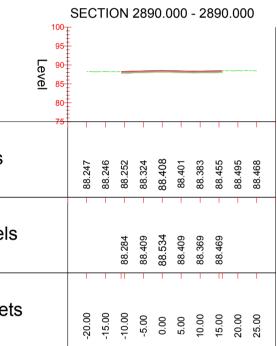
		100-	SEC	тю	ΟN	283	30.0	000	- 28	330	.00	0
	Level	95 90 85 80										
		75					1	I	I		I	1
Existing Levels			87.437	87.468	87.510	87.505	87.576	87.581	87.672	87.720	87.900	87,650
					I	I	I	I	I			1
Proposed Levels					87.000	87.125	87.250	87.125	87.085	87.185		
			1			T						I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	88.04(	88.08(	88.063	88.08	88.09	88.253	89.548	88.342	88.305	88.305			
		I	87.920	88.045	88.170	88.045	88.005	88.105	I	I			Proposed L
	-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00			Proposed (
100	SEC	TIC	ON	282	20.0	000	- 28	320	.00	0			

[
Existing Levels
Proposed Leve
Proposed Offs





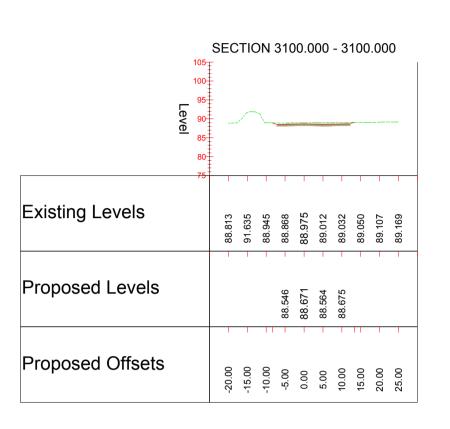


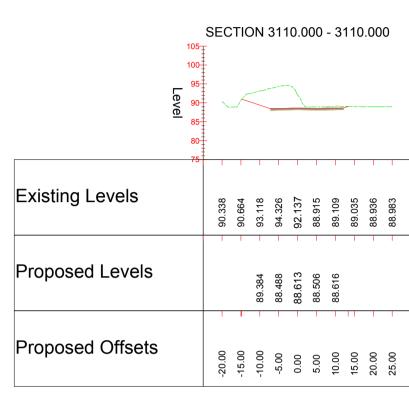
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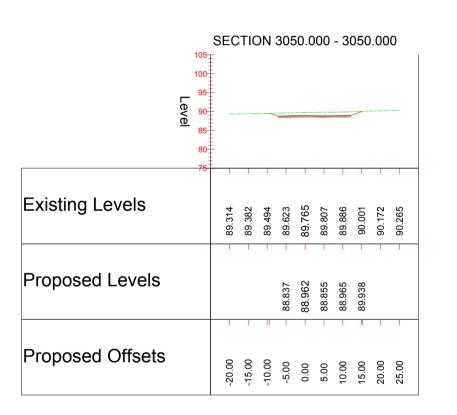
#### CROSS SECTIONS Scale 1:1000

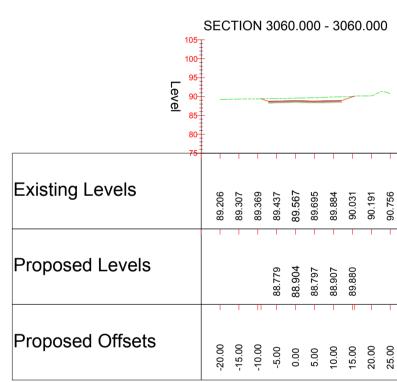
SECTION 3150.000 - 3150.000													
	Level	95 90 85 80											
		75	I	I	I	I	I	I	I			1	
Existing Levels			88.582	88.565	88.595	88.584	88.533	88.552	88.598	88.562	88.539	88.558	
			1	1	1	1	1	I	I	I	I	1	
Proposed Levels						88.256	88.381	88.273	88.384				
			I		11	I	I					1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	100	SEC	тю	N	316	60.0	00	- 3′	160	.00	0
	95 90 85 80										
	75	- 1	I	1	I		T	T	T		
Existing Levels		88.536	88.519	88.459	88.470	88.460	88.413	88.391	88.400	88.371	88.359
Proposed Levels		H			88.197	88.322	88.215	88.326	I		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

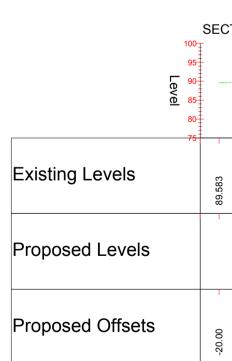








		00 <u>∓</u> 00	SEC	тіс	N	300	0.0	00	- 3(	000	.00	0
	Level	95 90 35 30	·									
		75 ^I	1	I	1	T	I	I	I	I	I	I
Existing Levels			89.600	89.599	89.655	89.671	89.617	89.687	89.701	89.720	89.781	89.788
			1	I	T	T	I			I	I	T
Proposed Levels						89.114	89.239	89.114	89.210			
		╡			I	I	I			П		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Key:

Notes:

8

	100 95		SEC	тіс	ON	317	'0.0	00	- 3	170	0.00	0
	Level 85 80 75	Ŧ								·		
Existing Levels			88.387	88.402	88.397	88.371	88.284	88.188	88.081	88.065	88.044	88.045
Proposed Levels						88.139	88.264	88.157	88.267	I	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SECTION 3120.000 - 3120.000

88.733 88.901 94.108 92.971 89.158 88.936 88.936 88.866 89.034 89.034

		100 95	SEC	тіс	ON :	318	80.0	00	- 3 ⁻	180	.00	0
	Level	90 85 80 75										
Existing Levels			88.173	88.158	88.089	88.025	87.977	87.858	87.795	87.743	87.777	87.733
Proposed Levels			I	I	Ţ	88.081	88.206	88.099	88.209	I	I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	100 95 Leve 85	SEC	CTIC	N	313	30.0	000	- 3 ⁻	130	.00	0
	<u>(D</u> 85 80 		-1		-				-		
Existing Levels		88.636	88.622	88.695	88.819	88.685	88.626	88.684	88.744	88.732	88.844
Proposed Levels			1	I	88.372	88.497	88.389	88.500	1	I	I
Proposed Offsets		-20.00	-15.00	00	0	0	0	00	00	20.00	00

Existir
Propo
Propo

	105- 100- 95- 90- 85- 80-	SEC	тіс	N	307	'O.O	000	- 3(	070	.00	0
	<del>75</del>		1	I	I	I	I			I	1
Existing Levels		88.947	89.067	89.180	89.285	89.479	89.570	89.838	90.196	90.018	89.998
			1	I	I	I	T		I	I	T
Proposed Levels					88.721	88.846	88.738	88.849	89.822		
			1	11	I				11		T
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		105 _±	SEC	тіс	N	308	80.0	00	- 3(	080	.00	0
	Level	100 95 90 85 80	- - -							<u>&gt;-</u>		
		75	1	I	I	I						
Existing Levels			88.826	88.897	89.020	89.297	89.507	89.813	89.800	89.656	89.533	89.611
			1	T	T	T	T	I	T	T	1	
Proposed Levels						88.663	88.788	88.680	88.791			
					11	T	T	T	T			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

C	тіс	)N :	301	0.0	00	- 30	010	.00	0
			_						
	1	-1	-	-	-1	-1	-1		-1
	89.682	89.691	89.709	89.793	89.827	89.825	89.768	89.810	89.863
	Ţ		89.069	89.194	89.087	89.198			
	1	П					П		1
	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	SECTION 3020.000 - 3020.000													
	Level 90- 85- 80-													
	75		1	1	1		1	1		1				
Existing Levels		89.568	89.644	89.702	89.770	89.830	89.879	89.940	89.927	89.990	89.976			
			1				I				1			
Proposed Levels					89.012	89.137	89.029	89.140						
			T	П	T	T	T		П					
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00			

	105	SEC	TIC	DN 3	303	0.0	00	- 30	030	0.00	00			105-		CTI	ЛС	304	10.0	00	- 30	40.	.000
	100 95 90 85 80													100- 95- 90- 85- 80-									
Existing Levels	<del></del>	89.570	89.623	89.758	89.782	89.811	89.839	89.856	89.898	89.993	90.083		Existing Levels	<del></del>	89.455	89.590	89.693	89.714	89.790	89.841	89.873	89.963	90.020 - 90.913 -
Proposed Levels					88.954	89.079	88.971	89.082			1		Proposed Levels					88.895	89.020	88.913	89.024		
Proposed Offsets		-20.00	-15.00	-10.00	-2.00	0.00	5.00	10.00	15.00	20.00	25.00		Proposed Offsets		-20.00	-15.00	-10.00	-2.00	00.0	- 2:00	10.00	15.00	20.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION				Drawing Status FOR INFORMA	TION	Suitability	Project Title	WEST (	DF ENGL WP1	AND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:				ΛΤΚΙΝ	The Hub 500 Park Avenue		Drawing Title	A4 -	A37 LIN	IK	
CONSTRUCTION					Aztec West Almondsbury			0	PTION 2		
NONE					Bristol BS32 4RZ		PROPOS		CEPT CR EET 101		CTIONS
MAINTENANCE/CLEANING					Tel: +44 (0)1454 66 Fax: +44 (0)1372 66		Scale		Dra 'n	Checked	Authorised
NONE				Copyright © Atkins Limited (2014)	www.atkinsglobal.co	om	1:1000	EC	· _ · _ · _ · _ · _ · _ · _ · _ · _ · _	AH	
DECOMMISSIONING/DEMOLITION				Client			Original Size	Date 05/02/1δ	Jate 05/02/18	Date 05/02/18	Date
NONE							Drawing Number HA PIN	Origi ator	Vol	lume	Project Ref. No. 0000000
				WEST OF EI	NGLAND		WoE	A		HGN -	Revision
It is assumed that all works will be carried out by a competent contractor	P1 05.02.18 DRAWING CREATED	AF					WP1	- DR	- D -	6519	P1
working, where appropriate, to an approved method statement	Rev. Date Description	By Chk'd	App'd				Location				

Proposed Levels					89.326	88.430	88.555	88.448	88.558			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
	10 10	5 <u>∓</u>	EC	тіс	DN :	307	0.0	00	- 3(	070	.00	0
	Level 8	0										
	8	Ŧ		1	-	-	-	1	1	1	1	-1

Existing Levels

Proposed Levels

88.797 88.907	89.880			Proposed
1 1	П	I	1	
5.00 10.00	15.00	20.00	25.00	Proposed
	240	~~~		
00 - 30	J10.	000	J	

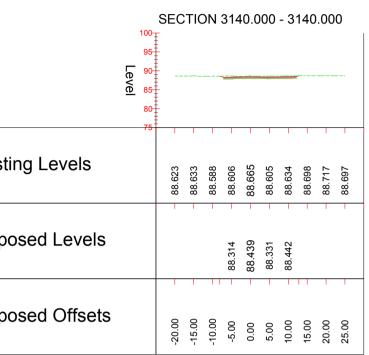
	гюр

Existing _____

Propos

Propos

	Level	100 95 90 85 80	SEC	TIC	NC	319	90.0	000	- 3	190	.00	0
Existing Levels		75	87.866	87.860	87.810	87.864	88.220	88.103	87.611	87.558	87.607	87.460
Proposed Levels						88.023	88.148	88.040	88.151		I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	105-	SEC	тю	DN :	309	90.0	00	- 3(	090	.00	0	
	100 95 90 85 80											
Existing Levels	<del>75</del> -	88.663	88.686	89.010	89.865	89.224	89.247	89.196	89.239	89.285	89.388	
Proposed Levels					88.605	88.730	88.622	88.733		1	1	-
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

0

8

#### **CROSS SECTIONS** Scale 1:1000

	100-	SEC	стіс	N	335	50.0	000	- 3	350	.00	0
	Level 85 80										
	75		I	I	I		I	1			
Existing Levels		88.728	88.758	88.798	88.838	88.879	88.933	88.948	88.948	89.049	89.153
			1		T	1	T	I			
Proposed Levels					89.534	89.659	89.551	89.662			
		1		11		I			II		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

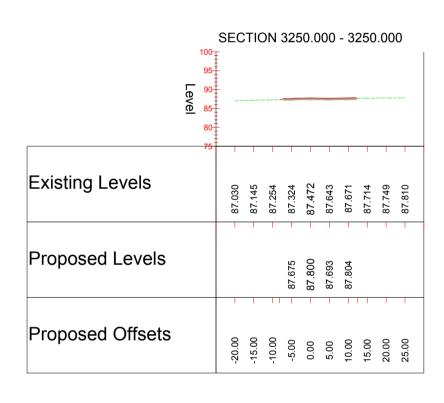
	100 99		SEC	TIC	N	330	0.0	000	- 3	300	.00	0
	Level 8:	Ŧ										
Existing Levels			87.976	88.105	88.115	88.205	88.177	88.234	88.275	88.344	88.462	88.534
Proposed Levels			I			88.069	88.194	88.087	88.197			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels
Proposed Levels

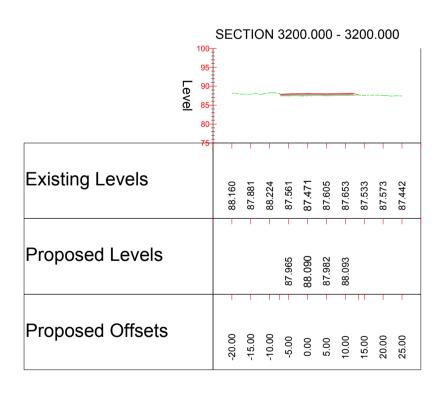
**Existing Levels** 

Proposed Levels

Proposed Offsets



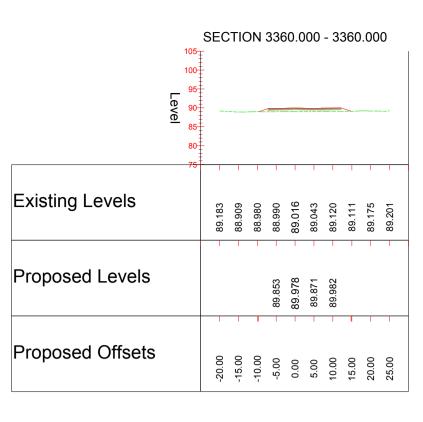
	100 95 Leve 85 80	Internetional	EC	:TIC	ON	326	60.0	000	- 32	260	.00	0
		Ť	I	I	I	I	I				I	1
Existing Levels			87.301	87.392	87.449	87.509	87.637	87.740	87.688	87.739	87.787	87.928
			I	1		I						1
Proposed Levels						87.654	87.779	87.672	87.782			
			I	I	I		I				I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

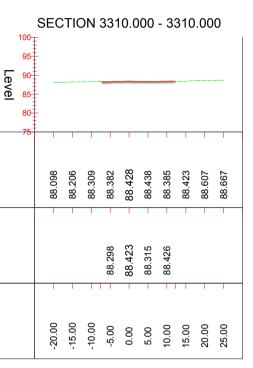


	105	SEC	стіс	ON	321	0.0	000	- 32	210	.00	0
	105 100 95 Level 85 80									~~^	<b>\</b>
			1	1	1	1	T		1	1	1
Existing Levels		87.301	87.343	87.263	87.943	87.250	87.400	87.349	88.673	88.024	87.859
Proposed Levels		T	1			1	87.924				
										ТТ	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Key:

Notes:





	105-	SEC	стіс	ON	337	'0.0	00	- 33	370	.00	0
	100- 95- 90- 85- 80-										
	75	† 	T	T	I	I	I	I	I	I	
Existing Levels			89.275	89.653	89.182	89.203	89.267	89.313	89.340	89.372	89.346
			I	I	I	I	I	I	I	I	
Proposed Levels					90.173	90.298	90.191	90.301	89.374		
			I	П					I		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		100	SEC	тю	ΟN	332	20.0	00	- 33	320	.00	0
		100 95										
	Level	90				-						
	/el	85										
[		80 										
				1	1	1	1	1			1	'
Existing Levels			88.247	88.380	444	88.508	88.520	88.492	88.593	88.605	88.625	88.787
			88.2	88.0	88.4	88.5	88.	88.4	88.	88.6	88.6	88.7
			I			I	I		I	I	I	
Proposed Levels						88.577	88.702	88.594	88.705			
				I	I	11	I	I	I		I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	Level	100 95 90 85	SEC	TIC	N	327	70.C	000	- 32	270	0.00	0	
		80 75		-	1	-	1	1	-	-			
Existing Levels			87.324	87.483	87.618	87.731	87.804	87.830	87.853	87.849	87.985	88.084	
Proposed Levels						87.683	87.808	87.700	87.811			I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

	105- 100-	SEC	тіс	N	338	80.0	00	- 3:	380	.00	0	
	95- 90- 85- 80-		<u></u>	~	<u></u>				<u> </u>			
			I	I	I	I	I	I	T	I	I	
Existing Levels		89.380	93.299	89.360	91.745	89.669	89.453	89.450	89.596	89.561	89.537	
Proposed Levels			93.056	91.389	90.493	90.618	90.510	90.621	89.694	I		
				I					I		I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

	100-	SEC	TIC	ON	333	80.0	000	- 33	330	.00	0
	95- Level 85- 80-										
		1	I	I	I	I	I		I	I	
Existing Levels		88.398	88.525	88.590	88.517	88.598	88.646	88.736	88.785	88.849	88.839
		1	I	I	I		I		I		_
Proposed Levels					88.894	89.019	88.911	89.022			
		T					I				1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	10	0∓	SEC	тіс	N	328	80.0	00	- 32	280	.00	0
	9 Level 8	0 5 5										
	7	5	I		T	T	T		I		T	_
Existing Levels			87.632	87.612	87.753	87.876	87.950	87.918	87.945	88.061	88.224	88.172
			I	I	1	I					I	
Proposed Levels						87.762	87.887	87.779	87.890			
			I	I			I		I		I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

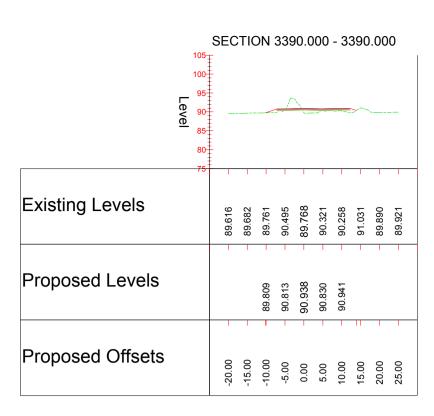
	105 ⁻ 100-		EC	тіс	N	323	80.0	000	- 32	230	.00	0
	Level 85		ŀ	لر ،	<u>_</u> .	<u>^_</u>				~		
	75	-	1	1	1	1			1	1		
Existing Levels			92.600	87.432	87.740	87.909	87.060	87.210	87.542	87.412	87.457	87.556
Proposed Levels			1		1	- 87.790	87.915	87.808	87.918	1		
			I	I						11		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORMA	TION	Suitability	Project Title	WEST (	OF ENGI WP1	LAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following: CONSTRUCTION NONE	_					<b>ATKINS</b>	The Hub 500 Park Avenue Aztec West Almondsbury Bristol BS32 4RZ		Drawing Title	O ED CONC		ROSC SE	CTIONS
MAINTENANCE/CLEANING NONE						Copyright ⓒ Atkins Limited (2014)	Tel: +44 (0)1454 66 Fax:+44 (0)1372 66 www.atkinsglobal.co	3333	Scale 1:1000	Designed EC		Checked AH	Authorised
DECOMMISSIONING/DEMOLITION NONE	_					Client WEST OF E	NGLAND		Original Size A1 Drawing Number HA PIN WOE	Date 05/02/15		Date 05/02/18 Dlume HGN -	Date Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 05.02.18	8 DRAWING CREAT	TED Description	AF By	Chk'd App'd				WP1	- DR	- D -	6520	Revision P1

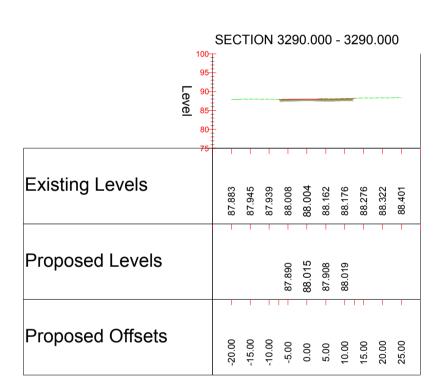
		5	SEC	тю	ON	327	'0.C	00	- 32	270	.00	0
	Level	100 95 90 85 80										
		75										I
Existing Levels			87.324	87.483	87.618	87.731	87.804	87.830	87.853	87.849	87.985	88.084
				I	I	I	I	I			I	1
Proposed Levels						87.683	87.808	87.700	87.811			
			1	I	I	I I	I	I		I	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

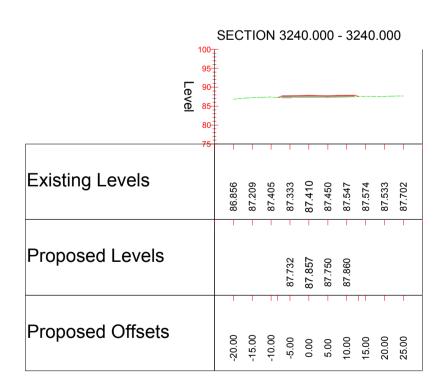
			S	EC	TIC	DN	322	20.0	00	- 32	220	.00	0
	Level	105 100 95 90 85 80			^	L-7	<u></u>		-	<u>~^</u>		L	
		75	-	1	I	I		I	I	I	I	I	1
Existing Levels				86.967	87.136	88.648	86.955	86.620	86.588	89.772	87.980	87.546	87.445
					I	I		I			I	I	1
Proposed Levels							87.848	87.973	87.866	87.977	88.950		
											1		1
Proposed Offsets				-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

#### DO NOT SCALE



SECTION 3340.000 - 3340.000 Existing Levels 88.536 88.588 88.701 88.729 88.729 88.732 88.755 88.755 88.810 88.810 88.869 88.978 89.088 Proposed Levels 89.214 89.339 89.231 89.342 Proposed Offsets -20.00 -15.00 -10.00 0.00 5.00 115.00 25.00





# Millimetres

10

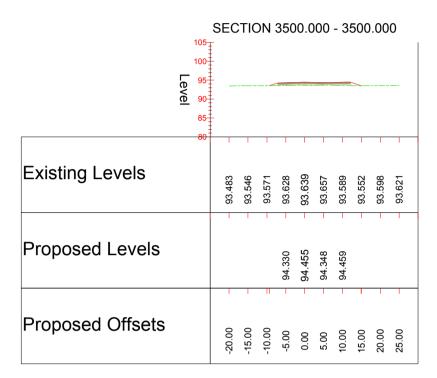
0

#### CROSS SECTIONS Scale 1:1000

	110- 105- Level 95-	SEC	сті	N	355	50.0	000	- 3	550	.00	0
[	90- <del>85</del>										
Existing Levels		95.669	95.569	95.860	95.564	95.457	95.398	95.364	95.309	95.228	95.238
Proposed Levels				1	95.821	95.946	95.821	95.810	95.895		
		T		T	I	I	I	I		1	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

Existing Levels	
Proposed Levels	

Proposed Offsets



	105- 100-	Ŧ	стіс	NC	351	10.0	000	- 3	510	.00	0
	Le 95- 90- 85-										
	80	-	T	1	1	Т	T	T	Т	T	
Existing Levels		93.861	93.941	93.969	94.020	94.012	94.063	94.027	93.946	93.887	93.886
			I								
Proposed Levels					94.650	94.775	94.667	94.778			
			T	П	T	T	I				
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	105 100	<b>±</b>	стіс	N	345	50.0	00	- 34	450	.00	0
	Level 95 85							_			
Existing Levels	<del></del>	91.322	91.419		91.530	91.562	91.604	91.650	91.700	91.747	91.875
Proposed Levels			I	91.728	92.731	92.856	92.749	92.860	91.933		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		110 105	SEC	стіс	N	340	0.0	000	- 34	400	.00	0
	Level	100 95 90 85							<u> </u>	Å	$\frown$	
		-75			-			-	-	1	-	-
Existing Levels			89.883	89.948	89.952	90.029		92.927	92.733	92.031	95.332	91.092
			I	T	T	1	T	T	T	T		
Proposed Levels					90.129	91.132	91.257	91.150	91.261	92.234		
			I	T	П	1	1	I	I	11	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	Level	105 100 95 90 85	SEC	тіс	N	346	60.0	00	- 34	460	.00	0
		80		T	1					1	1	
Existing Levels			91.738	91.776	91.832	91.884	91.931	91.940	91.993	92.054	92.136	92.241
						I				I	I	
Proposed Levels					92.048	93.051	93.176	93.069	93.180	92.253		
			1		П	1	I			П	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

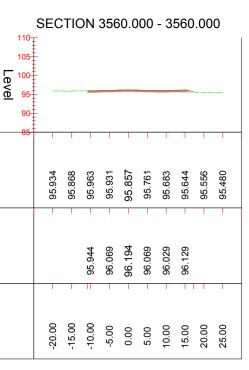
	Level	109 100 99 90 89
Existing Levels		81
Proposed Levels		
Proposed Offsets		

Key:

Notes:

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8



•	105 100 95	S	EC	TIC	DN :	341	0.0	00	- 34	410	.00	0
	90- 85-				_					S		~
	80	-	1	1	1	1	1	1	1	1	1	
			90.104	90.154	90.191	90.227	90.288	90.279	90.378	92.059	91.944	91.403
				1				T	1	1		I
					90.449	91.452	91.577	91.470	91.581	92.554		
			I	T	Π	T	T	T	T	I	1	T
			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	110 105 Leve 95 90	SEC	:тіс	N	357	70.0	000	- 3	570	.00	0
	85		1	1	1	1	I				1
Existing Levels		96.293	96.327	96.410	96.287	96.231	96.119	96.059	95.960	95.920	95.784
Proposed Levels				96.173	96.298	96.423	96.298	96.258	96.358		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	110	SEC	CTIC	NC	352	20.0	00	- 3	520	.00	0	I
	105 100 95 90 85	Ŧ										
	80	- -	I	T	1	I				T	T	
Existing Levels		94.340	94.344	94.390	94.412	94.446	94.443	94.398	94.339	94.297	94.248	
		1	1	I	1	I				I	I	
Proposed Levels					94.968	95.093	94.968	95.056	94.443			
		1	I	П		I	I		I	I	I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	105	SEC	стіс	N	347	'0.C	000	- 34	470	.00	0
	100 95 90 85 80			/							
Existing Levels	80	92.092	92.136	92.207	92.289	92.389	92.379	92.470	92.539	92.560	92.593
Proposed Levels				92.367	93.371	93.496	93.389	93.499	92.572	I	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	110-	SEC	тю	N	358	30.C	000	- 3	580	.00	0
	105 100 EVE 95 90							-			
	85		1					I			T
Existing Levels		96.684	96.762	96.658	96.527	96.486	96.417	96.330	96.240	96.167	96.125
											I
Proposed Levels				96.385	96.510	96.635	96.510	96.470	96.570		
		I	1	11	1		I		11	I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

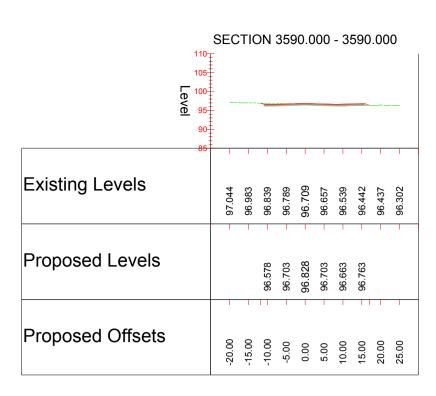
	110- 105-	SEC	стіс	NC	353	30.C	000	- 3	530	.00	0	
	Level 95- 90- 85-											
	80		1	1	1	1	1	I		I		-
Existing Levels		94.760	94.795	94.754	94.807	94.751	94.744	94.749	94.672	94.579	94.529	
			1	1	1		1	1				
Proposed Levels					95.270	95.395	95.270	95.329	94.953			
			1	1	1			I	11		T	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00	

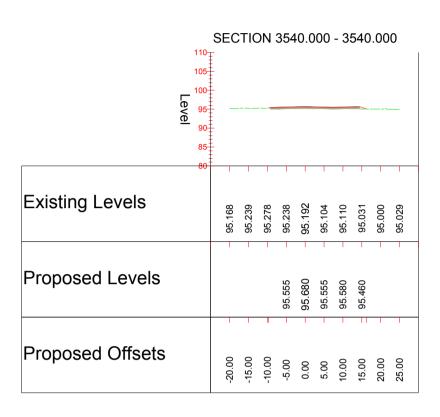
	10 10 Level 9 8	5 0 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SEC	тіс	ON	348	30.C	000	- 34	480	.00	0
Existing Levels	8	0	92.527	92.595	92.764	92.916	92.932	92.901	92.876	92.911	92.893	92.895
Proposed Levels						93.691	93.816	93.708	93.819		I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	105-	SEC	стіс	ON	342	20.0	000	- 34	420	.00	0
	100- 95- 90- 85-										
	80-		I	I	I	I	I			I	
Existing Levels		90.341	90.400	90.448	90.491	90.518	90.609	90.672	90.685	90.877	91.015
			1				I	I			1
Proposed Levels				90.768	91.772	91.897	91.790	91.900	90.973		
				П	T	I			П	I	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	105 100 Leve 90 85	SEC	тю	ON	343	80.0	000	- 34	430	.00	0
	80	-								1	T
Existing Levels		90.643	90.707	90.783	90.808	90.832	90.863	90.953	91.021	91.138	91.151
			1							1	1
Proposed Levels				91.088	92.092	92.217	92.109	92.220	91.293		
		1		Π	I	I			Π	I	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status FOR INFORMAT	<b>FION</b>	Suitability	Project Title	WEST	OF ENGI WP1	LAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							ΛΤΚΙΝΣ	The Hub 500 Park Avenue Aztec West		Drawing Title		- A37 LIN PTION 2		
								Almondsbury Bristol BS32 4RZ Tel: +44 (0)1454 662	2000	PROPOS	ED CON		ROSC SEC	CTIONS
MAINTENANCE/CLEANING NONE								Fax: +44 (0)1372 663 www.atkinsglobal.co	3333	Scale 1:1000 Original Size	Designed EC		Checked AH Date	Authorised
DECOMMISSIONING/DEMOLITION										A1 Drawing Number HA PIN	05/02/16		05/02/18	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 Rev.	05.02.18 Date	DRAWING CREATED Description	AF	Chk'd	App'd	WEST OF EN	GLAND		WoE WP1	- DR	- D -	HGN - 6521	Revision P1





	105	SEC	тю	)N	349	0.0	00	- 34	490	.00	0
	100 Level 90 85				_				<u> </u>		
	80	-	I	I	I	I	I	T	I		1
Existing Levels		93.114	93.111	93.152	93.222	93.236	93.277	93.165	93.220	93.226	93.261
			I								1
Proposed Levels					94.011	94.136	94.028	94.139			
		1		II							1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	105	SEC	тю	N	344	0.0	00	- 34	440	.00	0
	100 95 90 85									·	
	80	-	I	T	T	T	T	1		I	1
Existing Levels		90.975	91.057	91.136	91.170	91.178	91.214	91.303	91.298	91.454	91.554
			I	I	I		I				T
Proposed Levels				91.408	92.412	92.537	92.429	92.540			
		1	I	11						I	T
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

0

#### CROSS SECTIONS Scale 1:1000

SECTION 3750.000 - 3750.000 99.129 98.046 97.980 97.776 97.811 97.683 97.589 97.589 97.589

97.479 97.604 97.729 97.604 97.479

-20.00 -15.00 -10.00 0.00 5.00 10.00 115.00 25.00 25.00

Existing Levels

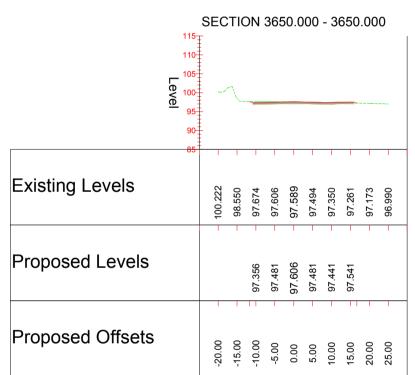
Proposed Levels

Proposed Offsets

Existing Levels
Proposed Levels

SECTION 3700.000 - 3700.000 Existing Levels 98.419 98.283 98.128 97.747 97.554 97.554 97.309 97.309 97.309 Proposed Levels 97.507 97.632 97.757 97.632 97.592 97.692 Proposed Offsets -20.00 -15.00 -5.00 0.00 5.00 110.00 115.00 25.00 25.00

Existing Levels



Proposed Levels
Proposed Offsets
Existing Levels
Proposed Levels

Proposed Offsets

	110-										
	105										
			2								
	<u>e</u> 95		1	-							
	90										
	85										
	00	1			1	1					
Existing Levels		0	-	_		•	_	_	_		_
		100.222	98.550	.674	.606	97.589	.494	.350	.261	97.173	066.96
		10(	86	97	97	97	97	97	67	67	96
		1									
Proposed Levels						6					
				.356	.481	97.606	.481	.441	.541		
				97	97	97	97	97	97		
				11					11		
Proposed Offsets											
		-20.00	-15.00	00.0	00	00.0	00	00.00	00.0	00.0	00
		-2(	-15	-1(	ч	0	2	10	15	20	25

	110	SEC	тю	ЛС	360	0.0	00	- 36	600	.00	0
	105 Level 95 90			_					_		
	85	-	1	T	1	1			I	1	
Existing Levels		97.327	97.196	97.150	97.055	96.941	96.846	96.755	96.686	96.624	96.498
			I	I	I	I			I		
Proposed Levels				96.753	96.878	97.003	96.878	96.838	96.938		
		Ţ	1	ТТ		1	I	I	П		T
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

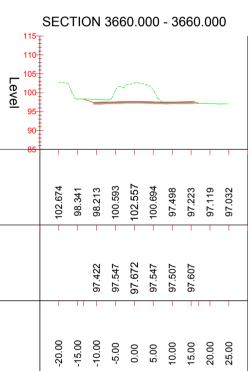
Key:

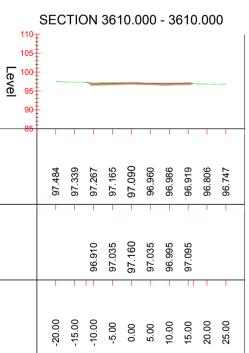
Notes:

8

	115	SEC	TIC	ON	375	58.6	603	- 37	758	.60	3
	110- 105- 100- 95- 90-			<u></u>	<u>M</u>					_	
	85		T	I	I	I	I	I	I	T	1
Existing Levels		98.270	060.86	100.248	100.756	97.724	97.484	97.357	97.241	97.171	97.236
			I	I	I					I	
Proposed Levels				97.474	97.599	97.724	97.599	97.474	97.399	97.507	
		T	П		I				I	П	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	110- 105- Leve 95- 90-	SEC	тю	ON	371	10.0	000	- 37	710	.00	0
	85		1	T	T	1		I	T		1
Existing Levels		98.454	98.313	98.200	98.011	97.844	97.689	97.536	97.348	97.165	97.034
			T	T	I	I	I	I		I	I
Proposed Levels				97.501	97.626	97.751	97.626	97.586	97.686		
			П	T	T	I	T	I	П	T	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00





	110- 105-										
	Level 95- 90-										
	85		T	1	T	T	1	1	1	1	1
Existing Levels		98.413	98.310	98.161	98.024	97.865	97.762	97.596	97.422	97.245	27.077
			1			I					
Proposed Levels				97.496	97.621	97.746	97.621	97.581	97.681		
		1	T								
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
		SEC			00-				070		0

SECTION 3720.000 - 3720.000

		SEC	TIC	)N	373	30.0	00	- 37	730	.00	0
	110 105 Leve 95 90 85										
Existing Levels	00	98.368	98.282	98.166	98.033	97.949	97.765	97.658	97.433	97.260	97.185
Proposed Levels				97.490	97.615	97.740	97.615	97.575	97.675		1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	120- 115-	SEC	тіс	N	367	<b>'</b> 0.0	000	- 3	670	.00	0
	110 Leve 100 95 90			~	Л	$\bigwedge$	\			$\mathcal{N}$	A.
	85		1	1	1	I	I	I	I	1	
Existing Levels		98.158	98.047	98.013	100.983	106.062	97.823	97.645	97.521	99.954	100.906
Proposed Levels		I	1	97.470	97.595	97.720	97.595	97.555	97.655	1	'
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	115-	SEC	тю	N	368	80.0	00	- 36	680	.00	0
	110 105 100 95 90									<u></u>	N
	85		1	1	1	1	1	-	1	1	1
Existing Levels		98.168	98.076	98.060	97.749	97.559	97.463	97.415	97.936	101.825	<b>09</b> .660
			I	1	I						
Proposed Levels				97.499	97.624	97.749	97.624	97.584	97.684	99.084	
						I				I	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	110	SEC	стіс	NC	362	20.0	000	- 3	620	.00	0
	105 100 Eevel 95 90			-							
Existing Levels		97.514	97.474	97.428	97.346	97.199	97.198	97.109	97.032	96.937	96.871
Proposed Levels				97.049	97.174	97.299	97.174	97.134	97.234		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

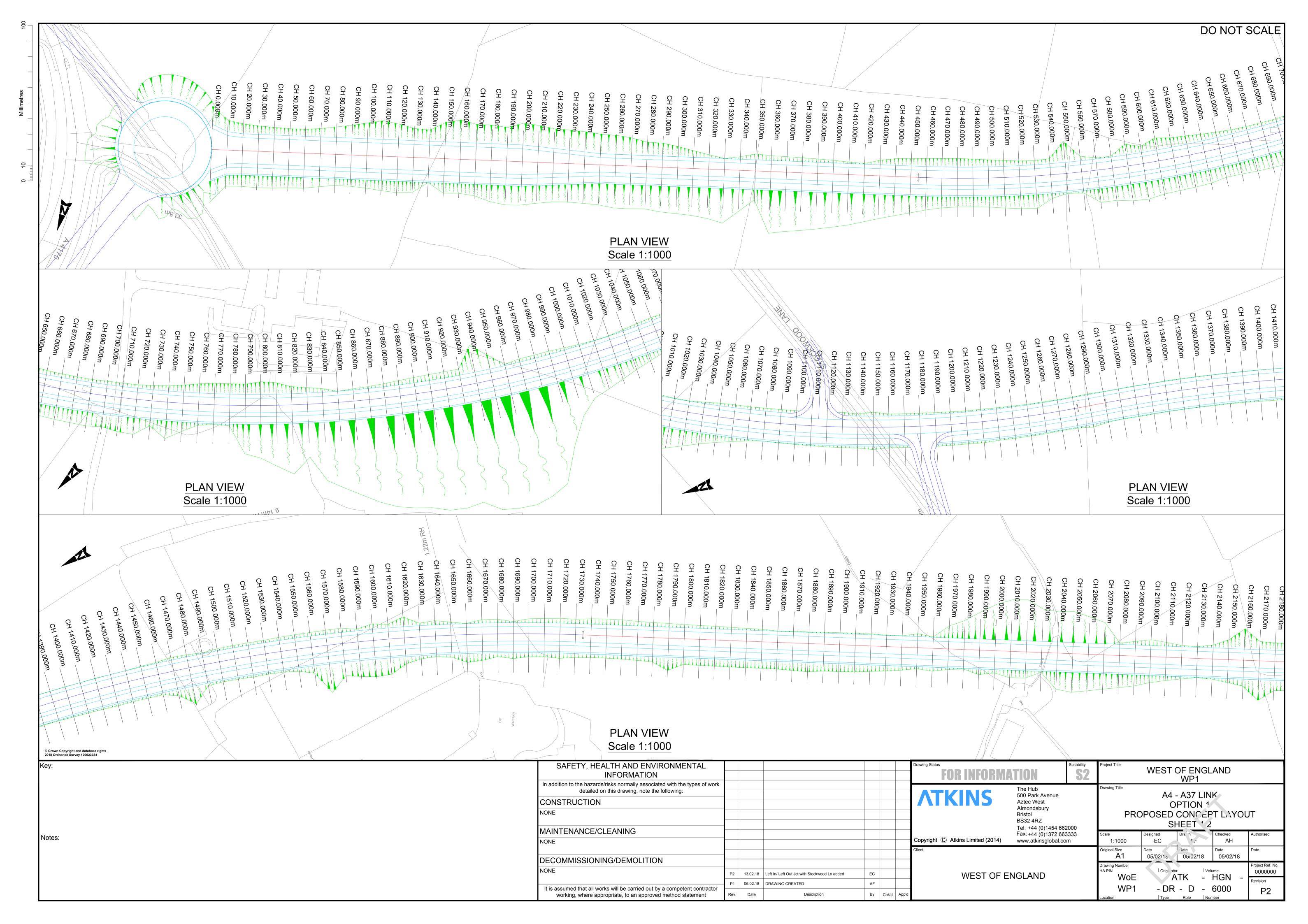
		110 105	SEC	стіс	NC	363	80.0	000	- 36	630	.00	0
	Level	100 95 90 85			_							
		05			I							
Existing Levels			97.605	97.592	97.469	97.384	97.356	97.318	97.230	97.179	97.084	96.991
											1	I
Proposed Levels					97.169	97.294	97.419	97.294	97.254	97.354		
					11		I	I		11	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

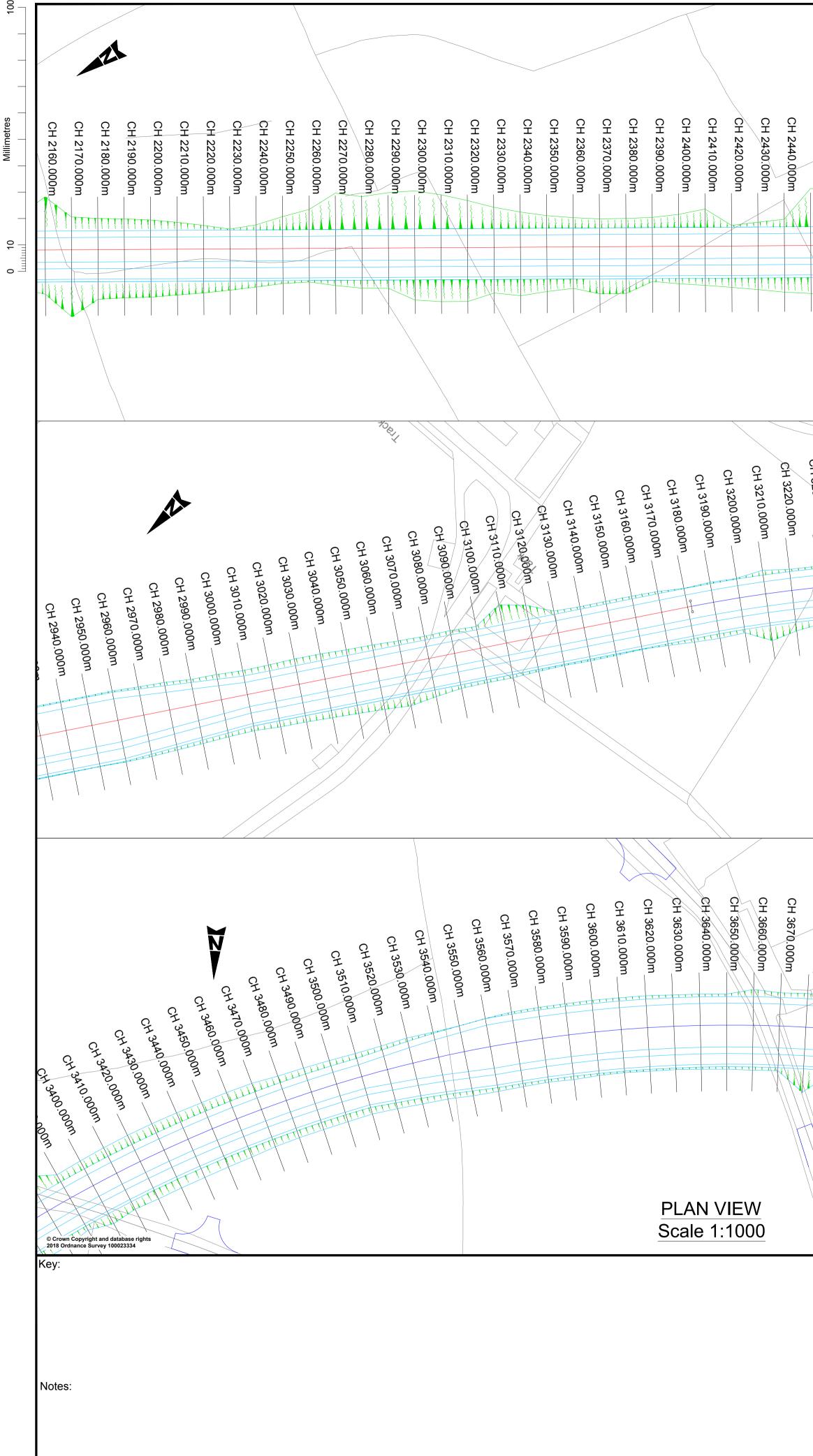
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORMATIO	DN	Suitability	Project Title	WEST OF EN WP1	GLAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							Hub Park Avenue		Drawing Title	A4 - A37 I		
CONSTRUCTION						Azte	ec West			OPTION		
NONE						Bristo BS32	32 4RZ		PROPOS	ED CONCEPT SHEET 1		CTIONS
MAINTENANCE/CLEANING						Fax:-	+44 (0)1454 662 +44 (0)1372 663	3333	Scale	Designed Dra 'n	Checked	Authorised
NONE							w.atkinsglobal.co	m	1:1000	EC 1 1-	AH	
DECOMMISSIONING/DEMOLITION						Client			Original Size	Date Jate 05/02/1	Date 8 05/02/18	Date
NONE	-					WEST OF ENGL	AND		Drawing Number HA PIN WOE	Origi ator	Volume - HGN -	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor	P1	05.02.18	DRAWING CREATED	AF					WP1		- 6522	Revision
working, where appropriate, to an approved method statement	Rev.	Date	Description	By Chk'd	App'd				Location	Type Role	Number	P1

	110-	SEC	тю	ON	374	0.0	00	- 37	740	.00	0
	105 100 Eev e 95 90							_			
	85	-	I	I	I	I	I	1	I	I	1
Existing Levels		98.574	98.438	98.303	99.216	98.904	97.799	97.568	97.365	97.236	97.103
		1									
Proposed Levels				97.484	97.609	97.734	97.609	97.563	92.666		
		I	П	I	I	I	I	T		I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	110-	SEC	тю	NC	369	90.0	00	- 36	690	.00	0
	105 100 <b>Leve</b> 95 90										
	85		1		I	I					1
Existing Levels		98.297	98.088	97.968	97.849	97.733	97.569	97.360	97.179	97.027	96.946
		I						I	I		1
Proposed Levels				97.511	92.636	97.761	97.636	97.596	969.76		
				11	I	I				1 1	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	110 105	Ŧ	EC	TIC	N	364	0.0	00	- 36	640	.00	0
	Le 100 95 90											
Existing Levels			97.630	97.582	97.555	97.554	97.478	97.403	97.330	97.221	97.122	97.007
Proposed Levels					97.272	97.397	97.522	97.397	97.357	97.457		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00





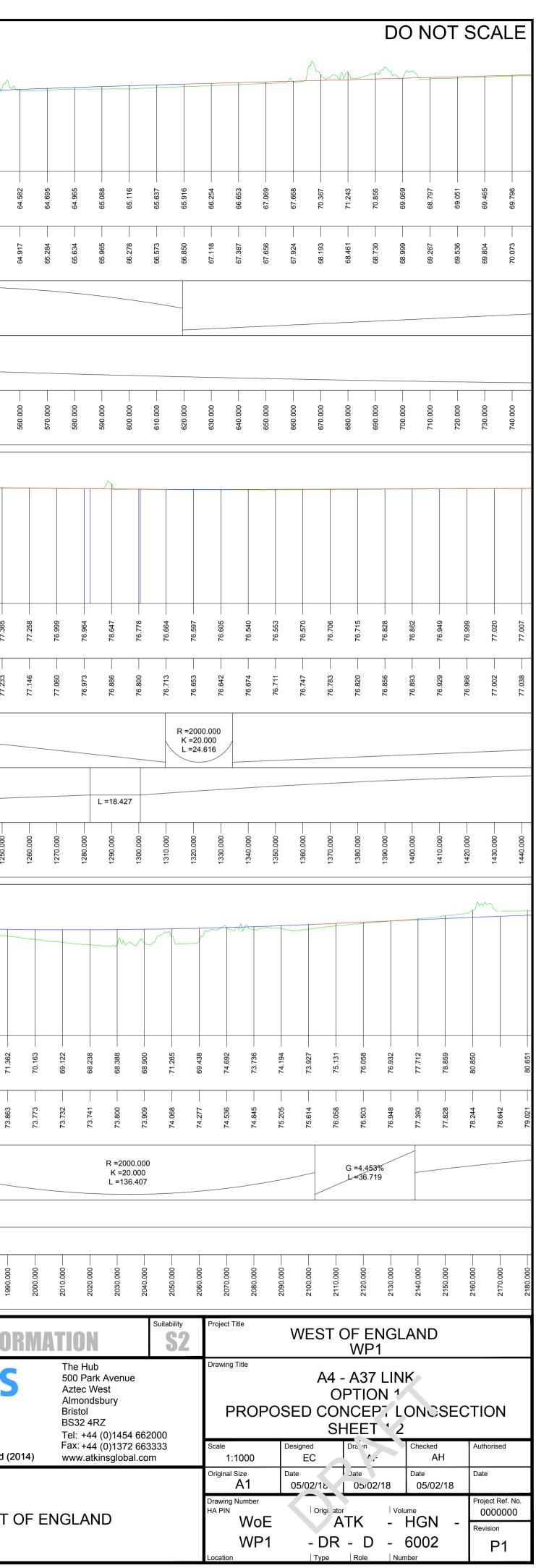
Ξ

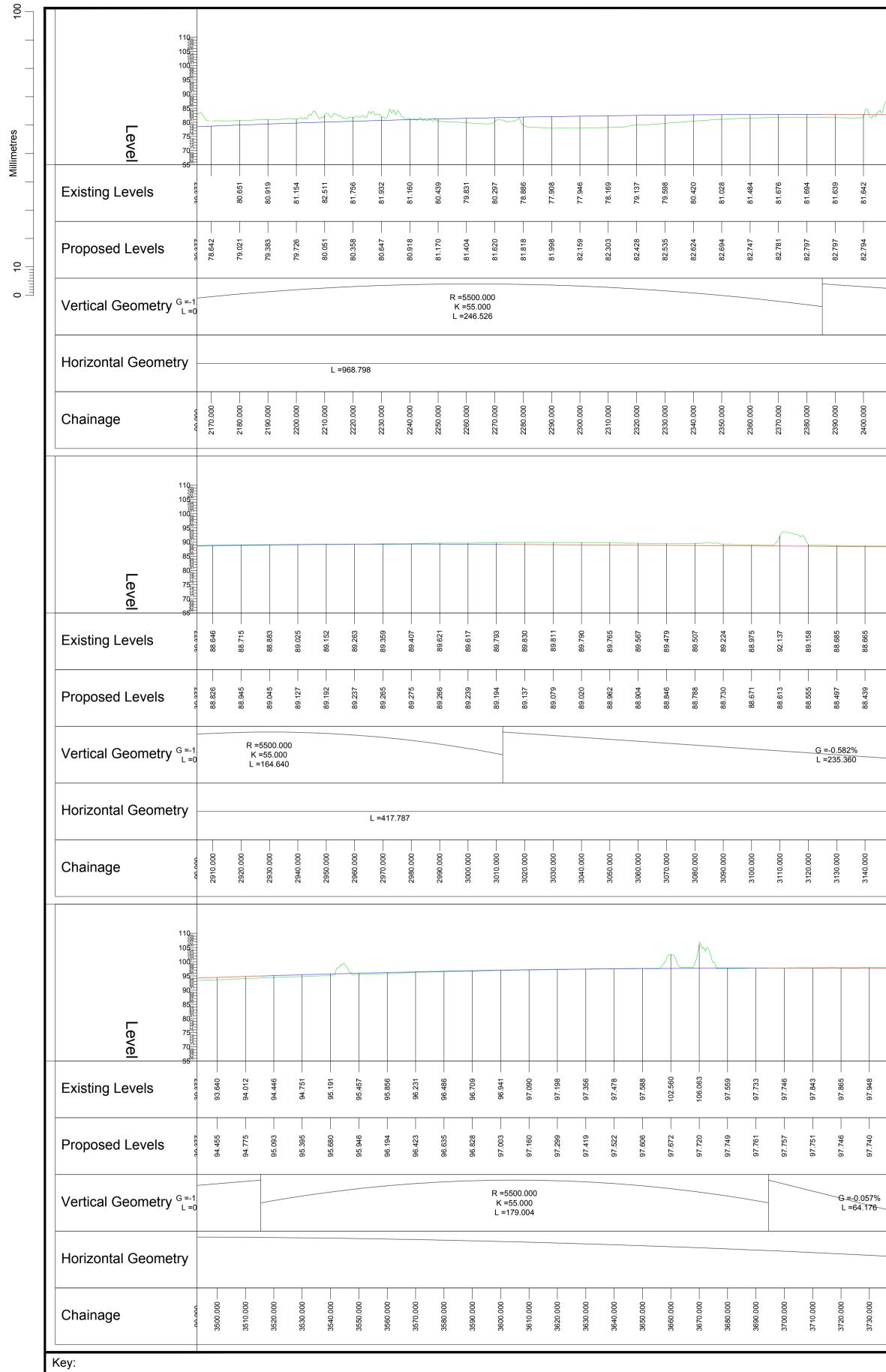
CH 2470.000m	CH 2590.000m CH 2570.000m CH 2570.000m CH 2550.000m CH 2550.000m CH 2500.000m CH 2500.000m CH 2500.000m CH 2490.000m CH 2490.000m CH 2490.000m CH 2490.000m	CH 2600.000m	CH 2650.000m CH 2640.000m CH 2630.000m CH 2620.000m CH 2610.000m	CH 2680.000m CH 2670.000m CH 2660.000m CH 2660.000m	CH 2690.000m	CH 2700.000m	CH 2710.000m	CH 2760.000m CH 2750.000m CH 2740.000m CH 2730.000m CH 2720.000m
	Scale 1:1000							
CH 3250.000m	CH 3360,000m CH 3350,000m CH 3330,000m CH 3320,000m CH 3320,000m CH 3290,000m CH 3290,000m CH 3290,000m CH 3290,000m CH 3270,000m CH 3270,000m	X		CH 3450.000m CH 3440.000m CH 3430.000m	۲ 	$CH \sim 000m$	Ch 3480.000m H H	CH 3490.000m CH 3490.000m CH 3490.000m
	PLAN VIEW Scale 1:1000						/	
CH 3700.000m	puno.j6/veld (um) uped		ilive ^q					
								Drawing Status
	SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							FOR INFO
	CONSTRUCTION							<b>ATKINS</b>
	MAINTENANCE/CLEANING NONE							Copyright C Atkins Limited (2
	DECOMMISSIONING/DEMOLITION NONE	P2	27.02.18 A37-Whitchurch Ln Link deleted		EC			WEST
	It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 Rev.	05.02.18 DRAWING CREATED Date Description	n	AF By	Chk'd	App'd	



85 80 75 70 70 65 60 55 50 45																~~	M										
Existing Levels	39.377	39.241	39.091	38.967		38.824	39.012	39.199	39.670	40.138	40.615	41.110	41.248	41.282	41.551	42.171	43.487	43.685	44.178	44.352	44.757		45.299	45.751	46.516	47.131	
Proposed Levels	39.377	39.265	39.204	39.192		39.230	39.319	39.457	39.645	39.884	40.172	40.510	40.899	41.337	41.824 —	42.325	42.826	43.326	43.827	44.328	44.829		45.330	45.831	46.332	46.832	
Vertical Geometry ^{G=}	-1.366 =0.016	%						R =2000 K =20.0 L =127.	000						_						G =5.0 L =126	) <u>08%</u> 5.858					
Horizontal Geometry																									L =4	54.834	
Chainage	00.000	10.000	20.000	30.000		40.000	50.000	60.000	70.000	80.000	000.06	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000		200.000	210.000	220.000	230.000	
90 85 80 75 65 60 55 50 45 40		~																	~								
Existing Levels	20 277 77 69.069	68 707	5.00	69.051	69.465	69.796	70.088	70.373	70.555	70.824	72.114	71.193	70.957	71.323	71.276	71.455	71.336	71.307	71.199	900 01	060.07	70.678	70.540	70.506	70.749	71 135	) )
Proposed Levels		60.267		69.536	69.804	70.073	70.342	70.610	70.879	71.147	71.416	71.685	71.953	72.222	72.490	72.759	73.028	73.296	73.565	CC0 CL	13.033	74.102	74.370	74.639	74.908	75 176	) ; ; ;
Vertical Geometry ^G =	-1. =0										G =2 L =3	2.686% 48.792															
Horizontal Geometry																		F	R: 720.0 _: 827.3	000 806							
Chainage	700.000	710.000		720.000	730.000	740.000	750.000	760.000	770.000	780.000		800.000	810.000	820.000	830.000	840.000	850.000	860.000	870.000		880.000	890.000	000.006	910.000	920.000	030,000	
85 80 Fee 75 70 65 60 55 50 45 40 35						~												~ M-7									
Existing Levels		700.77	77.049	77.038	80.655	78.727	76.940	76 000	77 053		010.77	77 100		0.9/0	77.011	//.084	cc1.1/	78 114		77.191	78.118	77.184	76.984	696.97	1 1 Z OZ	19.741	77.640
Proposed Levels	20.977	77.038	77.075	77.111 —	77.148	77.184	77 221	77 257	77.293		77 366	000-1 / 27 A03			77.475	216.77	77.585	77 621		77.658	77.694	77.730	77.767	77 803	010 27	1.840	77.876
Vertical Geometry ^{G=} L										R: 1050 L: 434.	G =0.36 L =385.0 0.000 304	<u>4%</u> 651															
Chainage		1440.000	1450.000	1460.000	1470.000	1480.000	1490.000		1510.000		1520.000				1560.000	000.0761	1590.000	1600 000		1610.000	1620.000	1630.000	1640.000	1650 000		1000.0001	1670.000
čey: lotes:																											

47.333	47.834	R	48.458	48.897 48.696	49.492 49.127	50.092	50.692	51.292 50.435 50.435	51.891 50.661	52.491 50.803	53.091 50.566	6 = 5.9	54.290 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51.059 51	54.890 - 51.813 - 51.813	55.490	56.089 53.464 53.464	56.689 54.380	57.289 55.442	57.888	58.488	59.087 58.598	59.673	60.241 60.049 60.049	60.790 60.759	61.321 61.413	61.834	62 320 62 344		62.806 62.671	62.966 62.966 62.966	63.301	64.127 — 64.172 —	64.531 66.922	R4 017 64 582
0			< =20.0 _ =19.7		0	0	0	0	0	0	0	L =163	.216	0	0	0				0	0		0		0				0	L =1	55.000 82.120			
240.000	250.000		260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	350.000	360.000	370.000	380.000	390.000	400.000	410.000	420.000	430.000	440.000	450.000	460.000	470.000	480.000	490.000	200 000	2000	510.000	520.000	530.000	540.000	550.000	560.000
71.745		72.368	72.989	73.902	74.359	74.607	75.143	75.770	76.410	76.842	77.295	77.685	78.101	78.230	78.346	78.508	78.555	78.642	78.627	78.627	29.396	78.454	78.381	78 210	78 171		78.063	77.944	77.791	77.791	77.632	77.494	77.365	
75.445		75.713 —	75.982	76.250	76.507	76.745	76.965	77.167	77.350	77.516	77.663	77.792	77.903	77.995	78.070	78.126	78.164	78.184	78.186	78.170	78.135	78.082	78.012	77.926	77 839		77.753 —	77.666	77.579	77.493	77.406	77.320	77.233	
													R =	5500.000 =55.000 =195.387																	G =	<u>=-0.867</u> =146.07	%	
940.000		950.000	960.000	970.000	980.000	000.066	1000.000	1010.000	1020.000	1030.000	1040.000	1050.000	1060.000	1070.000	1080.000	1090.000	1100.000	1110.000	1120.000	1130.000	1140.000	1150.000	1160.000	1170.000	1180 000		1190.000	1200.000	1210.000	1220.000	1230.000	1240.000	1250.000	
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	77.672	77.661	77.706	77 607		77.656	77 505	27 600	770.11	77 692	77.714	77.743	77 691	209.77	77.505	77.400	77.239	77.120	77.010	77 061	C18 37	76 503		ccr.o/	76.120	75.790	75.383	74.857	74.636	74.383	76.486	72 460	664.67	71.362
	77.913 —	77.949	77.985	78 022		78.058	78 095	20 096 78 096	0.000	/8.058 78.013	77.949	77.867	77 767	77.649	77.513	77.358	77.186	76.995	76.786	76.559	0.000 76 377	10.022 78.095		7.0.848	75.611	75.375	75.138	74.901	74.664	74.428	74,195		70.004	73.863
						-						K	5500.00 =55.000 :150.26	0											G =-2. L =95	368% 5.579								
	1680.000	1690.000	1700.000	1710 000		1720.000	1/30.000		000.00	60.000		000.00		10.000	1820.000	1830.000	40.000	250.000	000.086						1910.000	1920.000	1930.000	1940.000	1950.000	1960.000	1970,000		1980.000	1990.000
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			NONE       Image: Constraint of the second statement         DECOMMISSIONING/DEMOLITION       Image: Constraint of the second statement         NONE       Image: Constraint of the second statement         It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement       P1       05.02.18       DRAWING CREATED         Rev.       Date       Description													AF By		k'd A		Copy	right (	Ĉ Atl		imited EST										





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86.408	80.986	80.260	81.063	82.453 —	79.247 —	80.873	80.558	81.158 —	81.486 —	81 852 <u> </u>	N 00- - 0	82.104 —	82.355 —	82.294	81.990	81.478 —	80.704	79.943			79.504	80.074	81.090	82.021 —	82.615 —	83.061	83.406		83.720 — 83.816 —		84.070 — 84.381 —	84.864	85.092	85 417 <u></u>	85 734		80.080	86.292	86.862	89.263	86.720 —	86.962	87.157 —	87.410 —	87.576	87.789	87.987	88.280	88.092	88.263	88.408	88.456	88.646 —
82.791	82.788	82.785	82.782	82.779	82.776	82.773	82.770	82.767	82.764	82 761		82.758 —	82.755 —	82.752	82.749	82.746	82.743	82.740		82./3/	82.734 —	82.731 —	82.730	82.763 —	82.846	82.978	83.161		83.392 83.633 83.633		83.874 84.115	84.356	84.597	84 830	85.080	85 321	1.26.68	85.562	85.803	86.045	86.286	86.527	86.768	87.009	87.250 —	87.492	87.732	87.960	88.170	88.361	88.534	88.689	88.826
									<u>G</u> =-0 L =23	.030% 32.344															R =2000 K =20. L =48.	.000											G =2.4 L =180	4 <u>12%</u> 0.965									_						
																							_											L =	=59.986																		
2410.000	120.000		40.000	150.000		000.071		000.061	000.003		0000	520.000	330.000	540.000	550.000	000.003	.20.000			000.060	000.000	.10.000	320.000	330.000	340.000	20.000	960.000		570.000		000.000	10.000	20.000	000 023			000.06	60.000		80.000	000.067	000.008	310.000	320.000	330.000	340.000	350.000	960.000	270.000	380.000	000.068	000.006	2910.000
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1 88.533		4		8	0	2	3	87.060				9	8 87.804	7	88.004	4		88.520			9 88.732	9	8 89.016	89.203	89.668	8			90.288		7 90.832						6 93.235	93.640	94.012	3	94.75	95.191	6 95.457	95.856	3	96.4	8	96	60.79	97.1	6	2 97.47	6 97.588
88.381	88.322	88.26	88.20	88.14	88.09	88.032	87.97	87.915	87.857		008.78	87.779	87.808	87.887	88.015	88.19	88.42	88.702		89.019	89.339	89.659	89.97	90.29	90.618	90.938	91.25		91.57	<u>.</u>	92.217	92.856	93.176		90.490	0.00	94.136	94.455	94.77	95.09	95.39	95.68	95.946	96.194	96.423	96.635	96.82	97.003	97.160	97.29	97.419	97.522	97.606
														K =2	000.000 20.000 75.592														G =3. L =192	1 <u>98%</u> 2.219																		R =55 K =55 L =17	500.000 55.000 79.004				
																																		R: 51 L: 57	0.000 7.159																		
3150.000 -	3160.000 -	170	3180.000 -	3190.000 -	3200.000 -	3210.000 -	3220.000 -	3230.000 -	3240.000 -		- 000.003	3260.000 -	3270.000 -	3280.000 -	3290.000 -	3300.000 -	3310.000 -	3320.000 -	0000	3330.000 -	3340.000 -	3350.000 -	3360.000 -	3370.000 -	3380.000 -	3390.000 -	3400.000 -		3410.000 -	000.0710	3430.000 - 3440.000 -	3450 000 -	3460.000 -		- 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000 - 000		3490.000	3500.000 -	3510.000 -	3520.000 -	3530.000 -	3540.000 -	3550.000 -	3560.000 -	3570.000 -	3580.000 -	3590.000 -	3600.000 -	3610.000 -	3620.000 -	3630.000 -	3640.000 -	3650.000 -
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			NONE																										Cop		© Atl	kins Lii	nited (	2014)		Fax: +4 www.a	44 (0)	)1372	66333	33		icale 1:1 Driginal Si		Dat			Dra 'n Jate 05/02		Date	ed AH 02/18	Autho Date	orised	_
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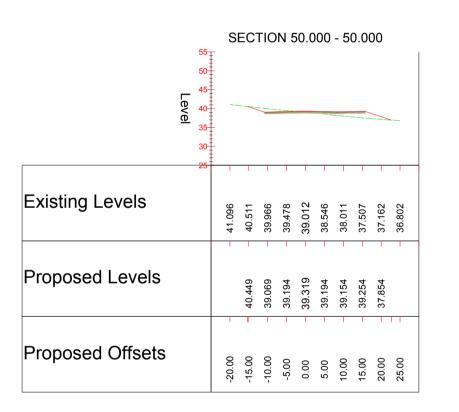
#### CROSS SECTIONS Scale 1:1000

	SECTION 150.000 - 150.000												
	Level	55 50 15 10 35	\$ /	~	1_	$\sim$	\						
		30 [‡]	T	1	1	1	T	1	1		1	-	
Existing Levels			48.337	46.085	44.665	46.039	43.487	42.757	42.188	41.628	40.923	40.313	
Proposed Levels			45.622	43.956	42.576	42.701	42.826	42.701	42.661	42.761	41.361		
			I	1	1	I	I	I	I		11	1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	SECTION 160.000 - 160.000													
	Level	55 50 45 40 35 30									~			
Existing Levels			46.722	45.719	44.868	44.271	43.685	43.112	42.573	42.056	41.468	40.816		
Proposed Levels			46.123	44.456	43.076	43.201	43.326	43.201	43.161	43.261	41.861	I		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		

		55 _∓	1												
	Level	50 45 40 35 30	/												
		25				1	1		1			-			
Existing Levels			43.521	42.853	42.289	41.721	41.110	40.551	39.958	39.386	38.838	38.336			
						I	I					1			
Proposed Levels			43.307	41.640	40.260	40.385	40.510	40.385	40.345	40.445	39.045				
			T								П				
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00			

			SECTION 110.000 - 110.000 55∓												
	Level	55 50 45 40 35 30	1												
		-25		T	1	I	I	I	I	I	I	-			
Existing Levels			44.185	43.432	42.645	41.931	41.248	40.624	40.041	39.457	38.926	38.445			
			I		I	I	I		I	I	I				
Proposed Levels			43.695	42.029	40.649	40.774	40.899	40.774	40.734	40.834	39.434				
			I	I	1				I			1			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00			



		55	S	EC	τю	N 6	60.0	00	- 60	0.00	00	
	Level	50 45 40 35 30										
		25	I									-
Existing Levels			41.272	40.651	40.078	39.657	39.199	38.805	38.327	37.906	37.429	36.954
Proposed Levels			T	40.587	39.207	39.332	39.457	39.332	39.292	39.392	37.992	
			T	I				I		I		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

	(	SECTION 0.000 - 0.000												
	Leve	55 50 45 40 35	< 11									×,		
	:	30 25 20					-1							
Existing Levels			43.637	40.967	40.305	39.819	39.377	38.957	38.702	39.413	37.045	36.478		
Proposed Levels			40.283	39.002	1	1	T	T	39.127	39.100	39.193	37.707		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		

Key:

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	Level 4	0 5 5 5 5	ij											
Existing Levels			47.050	46.251	45.478	44.771	44.178	43.563	42.973	42.346	41.730	41.084		
Proposed Levels			46.624	44.957	43.577	43.702	43.827	43.702	43.662	43.762	42.362	1		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		

Existing Levels

Proposed Levels

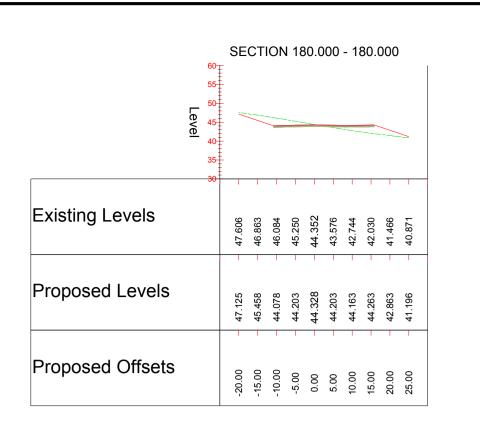
Proposed Offsets

SECTION 120.000 - 120.000

44.281 43.438 42.621 41.901 41.282 40.697 39.626 39.125 38.658

44.134 42.467 41.087 41.212 41.212 41.212 41.172 41.172 39.872 39.872

-20.00 -15.00 -5.00 0.00 5.00 15.00 25.00



	55	SECTION 130.000 - 130.000												
	50 45 40 35 30													
		+	1	1	1	1		1	1	T	1			
Existing Levels		44.395	43.570	42.819	42.158	41.551	40.962	40.414	39.931	39.532	39.773			
			1	1	1	1			I					
Proposed Levels			42.954	41.574	41.699	41.824	41.699	41.659	41.759	40.359				
		TT	1					I	I	I				
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00			

Proposed Levels		
Proposed Offsets		
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	Level	55 50 45 40	SI	EC	τιο	N 8	30.C	000	- 8(	0.00	00			
	iel	35- 30- <del>25</del>	T			-	œ				+			
			T	41.588	41.038	40.552	40.138	39.720	39.343	38.905	38.431	37.876	_	
S					39.634	39.759	39.884	39.759	39.719	39.819				
					T									

		55-	S	EC	τιο	N S	90.0	000	- 9(	0.0	00	
	Level	50 45 40 35 30	-					-				
		25	T	I	I		T				T	
Existing Levels			42.812	42.175	41.622	41.081	40.615	40.130	39.693	39.188	38.672	38.133
			T	T	I	T	T	T	1	T	T	
Proposed Levels				41.302	39.922	40.047	40.172	40.047	40.007	40.107	38.707	
			П	I	I	I	I	I	1	I	T	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		55	SECTION 70.000 - 70.000													
	Level	50 45 40 35 30														
		25	1										1			
Existing Levels			41.617	41.052	40.510	40.040	39.670	39.262	38.879		37.931	37.443				
				I	I					1						
Proposed Levels				40.775	39.395	39.520	39.645	39.520	39.480	39.580						
			1	11	1	I	1		1	Π						
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00				

	_	55 50 45										
	Level	40 35 30										
		-25			I	I	I					I
Existing Levels				41.588	41.038	40.552	40.138	39.720	39.343	38.905	38.431	37.876
			I	I	I	I	I					1
Proposed Levels					39.634	39.759	39.884	39.759	39.719	39.819		
				T	П	I	I		I	I		I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

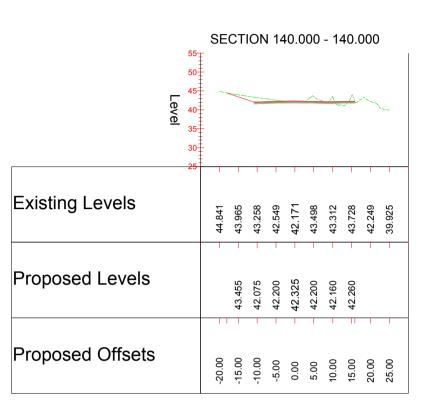
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_											Level	45 40 35 30	-
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41.504	40.921	40.310	39.782	39.241	38.635	38.200	37.700	37.163	36.801	Existing Levels			41.450
I	40.022	39.015	39.140	39.265	39.140	39.068	39.175	37.999	ſ	Proposed Levels			I
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	55 50 45 40 35	SI	ΞC	ΓΙΟ	N 2	20.0	00	- 2(	0.00	00		
	30	_										
ing Levels	25	41.450	40.784	40.182	39.623	39.091		- 38.079	37.512	37.006	36.582	
osed Levels			40.334	38.954	39.079	39.204	39.079	39.039	39.139	37.739		
osed Offsets		-20.00	-15.00	-10.00	-2.00	0.00	5.00	10.00	15.00	20.00	25.00	

	55-		ECT	ΓΙΟΙ	N 3	0.0	00 ·	- 30	0.00	00			55		EC	TIC	)N 4	0.0	00	- 40	0.00	0	
	50 45 Level 40 35 30							-					50 45 40 35 30										
Existing Levels		41.167	40.623	40.067	39.543	38.967	38.413	37.866	37.333	36.829	36.478	0/1-00	Existing Levels	41.136	40.540	39.962	39.376	38.824	38.328	37.823	37.361	36.886	140.00
Proposed Levels			40.322	- 38.942	39.067	39.192	39.067	39.027	39.127	37.727			Proposed Levels		40.360	- 38.980	39.105	39.230	39.105	39.065	39.165	37.765	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	00.62	Proposed Offsets	-20.00	-15.00	-10.00	-2.00	0.00	5.00	10.00	15.00	20.00	20.02

	-													
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status	TION	Suitability	Project Title	WEST O	F ENGL WP1	_AND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							<b>ATKINS</b>	The Hub 500 Park Avenue		Drawing Title		A37 LIN	IK	
CONSTRUCTION							ΛΙΚΙΝΟ	Aztec West				TION 1		
NONE								Almondsbury Bristol BS32 4RZ		PROPOS	ED CONC			CTIONS
MAINTENANCE/CLEANING								Tel: +44 (0)1454 662 Fax: +44 (0)1372 663	3333	Scale		Dra n	Checked	Authorised
NONE							Copyright © Atkins Limited (2014)	www.atkinsglobal.co	om	1:1000	EC	<u> </u>	AH	
DECOMMISSIONING/DEMOLITION							Client			Original Size		05/02/18	Date 05/02/18	Date
NONE							WEST OF E	NGLAND		Drawing Number HA PIN WoE	Origi ator		HGN -	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor	P1	05.02.18 DRAWING CR	REATED	AF						WP1	- DR -		6004	Revision
working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	Chk'd	App'd				Location			imber	P1

	60 55 50 45 40 35		ECT	101	N 19	90.0	000	- 19	90.(	000	
Existing Levels		47 825	47.044	46.309	45.581	44.757	43.909	43.039	42.288	41.542	40.924
Proposed Levels		47 676	45.959	44.579	44.704	1	1	44.664	1	T	41.697
Proposed Offsets		00.00-	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

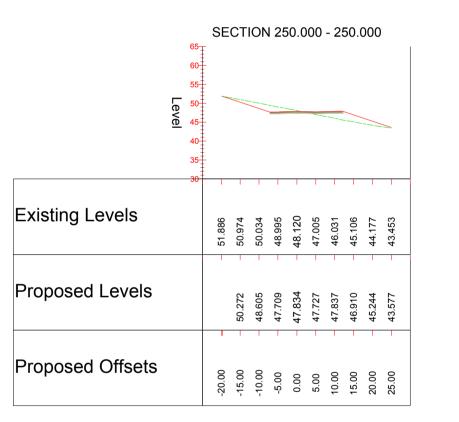


		70 <del></del>	SE	СТ	ION	1 35	50.C	000	- 3	50.0	000	)
	Level	65 60 55 50 45 40	-	M	A	$\sim \sim$	~~~	~	-	~~~~	Y	Ч
		35	I	I	T	I	T	I	I	T	T	I
Existing Levels			54.454	54.268	52.186	54.733	53.490	54.172	53.517	49.512	51.098	47.087
Proposed Levels			I	I	54.462	53.565	53.690 -	53.583	53.694	52.767	I	Ţ
			I	T	П	I	1	1	T	T	11	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Level	70 65 55 50 45 40	SE	CT	
Existing Levels		55	55.422	54.234	
Proposed Levels			I		
Proposed Offsets			-20.00	-15.00	000

		65-1	SE	ст	ION	1 30	0.0	00	- 30	0.00	000	
	Level	60 55 50 45 40 35										//
		-30			I	I	I					
Existing Levels			53.891	52.922	51.936	51.013	50.082	49.157	48.328	47.427	46.481	45.590
				1		1	1			T		
Proposed Levels					51.463	50.567	50.692	50.584	50.695	49.768	48.101	46.435
				П	T	T	T	I	I	T	T	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		65 _∓	SE	СТ	ION	131	0.0	00	- 3′	10.0	000	
	Level	60 55 50 45 40				_						/!
		35										
Existing Levels			54.240	53.216	52.260	51.312	50.435	49.557	48.669	47.737	46.878	46.052
			1	I		I	I			I	I	
Proposed Levels					52.063	51.167	51.292	51.184	51.295	50.368	48.701	47.034
			T		11							
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
	65 60		СТ	ION	126	60.C	000	- 20	60.0	000	
	55 55 50 45 40 35					_					//
Existing Levels		52.332	51.465	50.553	19.463	48.458	17.417	46.324	15.358	44.414	43.627
Proposed Levels		ц) —		1		T		48.346 4	1	1	44.086
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	60		ЕСТ	ION	120	0.0	000	- 2	00.	000	D					65 60	SE	СТ	ION	21	0.0	00
	60 55 45 40 35	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				~					/:				Level	55						
Existing Levels	<del></del>	48.768	47.842	46.910	46.187	45.299	44.464	43.604	42.853	42.155	41.554		1	Existing Levels		30	49.351	48.389	47.462	46.610	45.751	44.951
Proposed Levels		48.126	- 46.460	45.080	45.205	45.330	45.205	45.165	45.265	43.865	42.198		1	Proposed Levels			48.889	47.222	45.581	45.706	45.831	45.706
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		ł	Proposed Offsets			-20.00	-15.00	-10.00		0.00	5.00

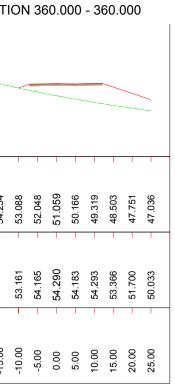
Key:

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Notes:



	Level	65 60 55 50 45 40	1									/ !
Existing Levels		-35	55.942	54.826	773 -	750 -	313 -	50.913	50.092	261 -	48.557	47.864
			- 55.	- 54.	53.	- 52.	- 51.8	- 50.	- 50.	49.	48.	47.
Proposed Levels						54.765	54.890	54.782	54.893	53.966	52.299	50.633
			I	I	I		I	I				l
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

SECTION 320.000 - 320.000

54.515 53.442 52.509 51.617 50.661 49.717 48.847 48.847 48.000 47.202 46.397

51.766 51.891 51.895 51.895 51.895 50.968 49.301 47.634

		70	SE	СТ	ION	138	30.0	000	- 38	30.0	000	
	Level	65 60 55 50 45 40			~~~							/ -
		35	I	T	I		I		1	1		1
Existing Levels			56.640	55.633	54.547	53.579	52.607	51.746	50.889	50.082	49.327	48.704
				1	I	I	I		1			
Proposed Levels						55.365	55.490	55.382	55.493	54.566	52.899	51.232
					I	I	I	T			I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	6	⁵ Ŧ	SE	СТ	ION	133	80.0	00	- 33	30.0	000		
	Level 4	0 5 	1				-					11	
Existing Levels		5	54.886	53.905	52.894	51.781	50.803	49.860	49.014	48.201	47.323	46.566	
Proposed Levels			I	ſ	I	52.366	52.491	52.383	52.494	51.567	49.901	48.234	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

Existing L
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	6 <b>!</b> 6(	Ŧ	SE	СТІ	ION	1 27	70.0	000	- 2	70.(	000	I
	5: Leve 4: 40											/!
		ţ.	1	-		-	-	1				
Existing Levels			52.663	51.755	50.764	49.772	48.696	47.713	46.716	45.849	44.973	44.187
			I		I				I	I	I	1
Proposed Levels				51.335	49.668	48.772	48.897	48.789	48.900	47.973	46.307	44.640
												1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		65	SE	ст	ION	1 28	80.0	00	- 28	80.0	000	
	Level	60 55 50 45 40 35	į									i/
Existing Levels		30	52.886	52.011	51.078	50.118	49.127	48.218	47.317	46.417	45.579	44.852
Proposed Levels			1	51.930	50.264	49.367	49.492	49.385	49.496	48.569	46.902	45.235
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		65-	SE	СТ	ION	1 29	90.0	000	- 29	90.0	000	I
	Level	60 55 50 45 40										ļļ
		35 30										
Existing Levels			53.488	- 22.600	51.626	50.643	49.717	48.799	47.885	46.989	46.134	45.268
Proposed Levels				52.530	50.863	49.967	50.092	49.985	50.095	49.168	47.502	45.835
Proposed Offsets			-20.00	-15.00 =	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

000 - 210.000	Level	65 60 55 50 45 40	SE	СТ	ION	122	20.0	000	- 22	20.0	000	
44.951 44.170 43.491 42.842 42.206	Existing Levels	35 <u>30</u>	49.958	49.072	48.178	47.355	46.516	45.682	44.862	44.137	43.443	42.731 -
45.706 45.702 45.784 44.141 42.474	Proposed Levels		49.651	47.985	46.318	46.207	46.332	46.207	46.236	46.083	44.416	42.750
5.00 10.00 15.00 20.00 25.00	Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	- 2.00	10.00	15.00	20.00	25.00

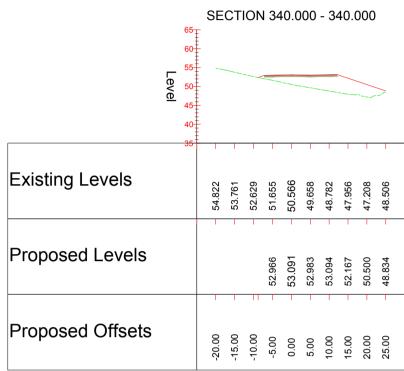
		65 60 55	SE	СТ	ION	123	80.0	00	- 23	30.0	000			
	Level	50 45 40 35										_		
Existing Levels		- 30	50.699	49.761 -	48.903	47.998	47.131	46.304	45.388	44.557	43.824	43.085		Existi
Proposed Levels			50.414	48.747	47.080	46.707	46.832	46.707	46.770	46.359	44.692			Propo
Proposed Offsets	5		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		Propo

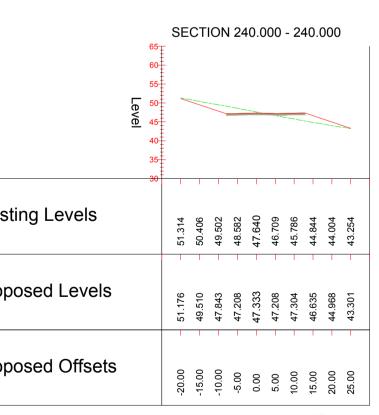
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION					Drawing Status FOR INFORMA	TION	Suitability	Project Title	EST OF ENGLA WP1	AND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:					ΛΤΚΙΝ	The Hub 500 Park Avenue		Drawing Title	A4 - A37 LINK	(	
CONSTRUCTION					ΛΙΚΙΝΟ	Aztec West			OPTION 1		
NONE						Almondsbury Bristol BS32 4RZ		PROPOSED (	CONCEPT GRC SHEET 2/19		TIONS
MAINTENANCE/CLEANING						Tel: +44 (0)1454 66 Fax: +44 (0)1372 66		Scale Designe			Authorised
NONE					Copyright © Atkins Limited (2014)	www.atkinsglobal.co	om			AH	
DECOMMISSIONING/DEMOLITION					Client				02/1δ 05/02/18	05/02/18	Date
NONE					WEST OF E	NGLAND		Drawing Number HA PIN WOE	Origi ator Volum	HGN -	Project Ref. No. 0000000 Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 05.02.18 Rev. Date	DRAWING CREATED Description	AF	Chk'd App'd					- DR - D - 6	6005	P1

-20.00 -15.00 -10.00 -5.00 0.00 5.00 110.00 15.00 25.00 25.00

	28	80.0	000	- 28	30.0	000				
							_			
	T		I	I			I			
	50.118	49.127	48.218	47.317	46.417	45.579	44.852			
	1									
	49.367	49.492	49.385	49.496	48.569	46.902	45.235			
-			-	-	-			_		

		70 65	SE	ст	ION	139	90.C	000	- 39	90.0	000	
	Level	60 55 50 45 40			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		-					
		35		T	1	I	I	1	I	I	I	
Existing Levels			57.350	56.359	55.315	54.373	53.464	52.541	51.691	50.931	50.200	49.495
				I	I	I	I	1	I	I	I	
Proposed Levels						55.964	56.089	55.982	56.093	55.166	53.499	51.832
				T	П	I		1	I	T	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



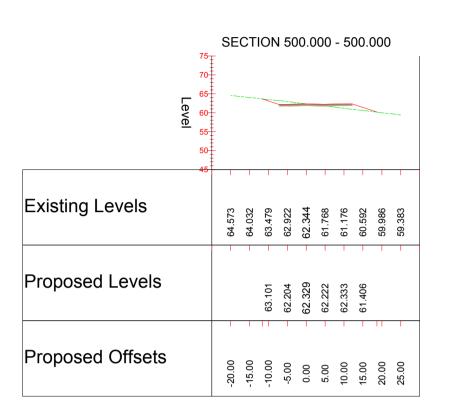


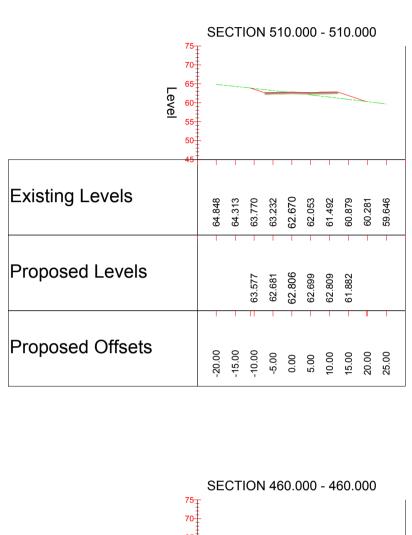
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#### **CROSS SECTIONS** Scale 1:1000

		85		СТ	ION	1 55	50.0	000	- 5	50.	000				
	Level	80 75 70 65 60 55	//	$\checkmark$	M,		h		4	A	~	<u>^</u>			
Existing Levels		50	69.777	- 996	72.135	66.974	- 2007	64.143	66.735	63.203	64.376	66.236			Existing Levels
Proposed Levels			68.636	66.969	65.302	64.406	64.531	64.424	64.534	I	I			-	Proposed Levels
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00			Proposed Offsets

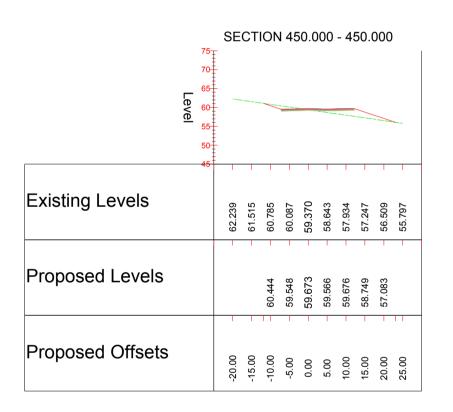




Existing Levels

Proposed Levels

Proposed Offsets



	e Lev	70 65 60 55	SE	СТ	ION	14(	00.0	000	- 4	00.0	000		
	2	50 45 40 35									1		
Existing Levels			58.030	57.014	- 56.153	55.225	54.380	53.533	52.665	51.862	51.138	50.481	Existing Levels
Proposed Levels						56.564	56.689	56.582	56.692	55.765	54.099	52.432	Proposed Levels
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	- 2.00	- 10.00	- 15.00	20.00	25.00	Proposed Offsets

Key:

Notes:

_	SE	СТ	ION	1 56	60.0	00	- 50	60.0	000		I
	-	``		<u> </u>		<u>. / </u>	<u>V</u>	2		_	
	-1		-1	-1	-		-	-1	-1		
	69.463	66.655	66.133	65.111	64.582	65.553	63.733	65.952	63.931	63.693	
	I	I	I	I	I	I	I	I	I	I	-
			65.688	64.792	64.917	64.809	64.920				
	T				I			11			
	-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

Existing Levels

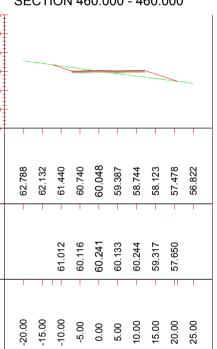
Proposed Levels

Proposed Offsets

Existing Levels

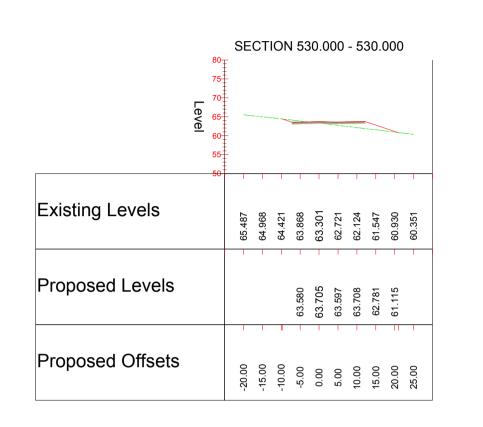
Proposed Levels

Proposed Offsets



	75	Ŧ	SE	ст	ION	147	70.0	000	- 4 [.]	70.(	000	
	Level 50						-					
		+						1			T	1
Existing Levels			63.364	62.754	62.109	61.440	60.759	60.150	59.514	58.935	58.370	57.784
Proposed Levels					61.561	60.665	60.790	60.683	60.793	59.866		
											П	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

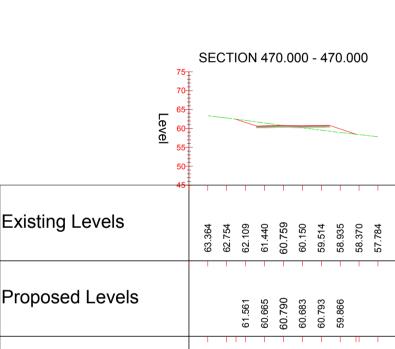
	Leve	80 75 70 65 60	SE	CT	ION	1 58	30.0	00	- 58	80.0	000	
	; ;	55 50	-1			-1	-1	-1	1			
Existing Levels			68.026	66.385	65.899	65.432	64.964	64.552	64.019	63.399	62.848	62.291
Proposed Levels			I			65.509	65.634	65.526	65.637	64.710	63.044	I
Proposed Offsets			-20.00	.00	00.0	-5.00	00	00	- 00.	- 00.	00.	25.00



		75-		СТ	ION	148	30.C	000	- 48	80.0	000	
	Level	70 65 60 55 50										
		45				I	I	I				1
Existing Levels			63.860	63.276	62.663	62.024	61.412	60.808	60.204	59.619	59.048	58.478
			I				1					T
Proposed Levels					62.093	61.196	61.321	61.214	61.325	60.398		
												I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SECTION 410.000 - 410.000		SECTION 420.000 - 420.000		SECTION 430.000 - 430.000	75	SECTION 440.000 - 440.000
		70		70 65	70 65	
	Level	60	Level	60	e 60 e 55	
		50		50 45	50	
		40 ⁺		40 [±]	40	<del>.</del> 
58.973 58.020 57.150 56.304 55.442 55.442 55.728 53.728 53.728 52.938 52.137 51.448	Existing Levels	60.024 59.122 58.254 55.733 56.571 56.571 55.733 54.091 54.091 53.347 52.603	Existing Levels	60.903 60.115 59.265 58.412 57.616 56.825 55.977 55.225 54.470 53.741	Existing Levels	61.677 60.909 60.130 59.324 58.598 58.598 57.029 56.296 55.296 56.296 55.782
57.164 57.289 57.289 57.292 56.365 54.698 53.032	Proposed Levels	57.763 57.763 57.781 57.888 57.892 56.965 56.965 55.298 53.631	Proposed Levels	59.259 58.363 58.363 58.488 58.491 57.564 57.564 55.898 55.898 54.231	Proposed Levels	59.858 58.962 59.087 59.090 58.980 58.163 58.163 56.497 54.830
57. 57. 57. 57. 56. 56.		57. 57. 57. 57. 56. 53.		55 57 58 58 50 54 55 7		5         5         5         5         5           5         5         5         5         5
-20.00 -15.00 -10.00 -5.00 0.00 5.00 10.00 15.00 220.00 25.00	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 5.00 10.00 15.00 25.00 25.00	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00 10.00 15.00 25.00 25.00	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00 15.00 25.00 25.00
SAFETY	, HEALTH AND ENVIRON	MENTAL		Drawing Status		Suitability Project Title

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORMATION	Suitability	Project Title	WEST OF ENG WP1	LAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:						The Hub 500 Park A Aztec West	renue	Drawing Title	A4 - A37 LII	NK .	
CONSTRUCTION									OPTION (		
NONE						Almondsbu Bristol BS32 4RZ		PROPOS	SED CONCEPT () SHEET ()	ROSC SE	CTIONS
MAINTENANCE/CLEANING							1454 662000 1372 663333	Scale	Designed Dra n	Checked	Authorised
NONE						Copyright © Atkins Limited (2014) www.atkins		1:1000	EC ^	AH	
DECOMMISSIONING/DEMOLITION						Client		Original Size	Date Jate 05/02/18	Date 05/02/18	Date
NONE						WEST OF ENGLAND		Drawing Number HA PIN WoE		olume HGN -	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 Rev.	05.02.18 DRAWING CREATED Date Description	AF By	Chk'd	App'd			WP1		6006	Revision P1



SECTION 570.000 - 570.000

69.453 66.078 65.605 65.119 64.695 64.181 63.653 63.088 63.088 62.516 61.961

65.159 65.284 65.177 65.177 65.288 64.361 62.694

-20.00 -15.00 -5.00 0.00 5.00 10.00 15.00 25.00 25.00

SECTION 520.000 - 520.000

65.141 64.586 64.586 63.524 62.964 62.964 62.333 62.333 62.333 61.214 61.214 61.214 61.279 60.579

64.036 63.140 63.265 63.157 63.157 63.268 62.341 60.674

-20.00 -15.00 -10.00 -5.00 0.00 5.00 15.00 15.00 25.00

		85-	SE	СТ	ION	1 59	90.0	000	- 59	90.0	000	
	Level	80 75 70 65 60 55	·   · · · · · · · · · · · · · · · · · ·	-f								
		50					-		-	-	-	
Existing Levels			69.306	70.069	66.035	65.567	65.088	64.638	64.015	63.352	62.743	62.188
Proposed Levels					66.736	65.840	65.965	65.858	65.968	65.041	63.375	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		80- 75-	SE	СТ	ION	1 54	0.0	000	- 54	40.(	000	
	Level	75 70 65 60 55								~	~~~	~~~
		50		1	I	1	I	I	T	T	I	
Existing Levels			65.846	65.410	64.989	64.539	64.173	64.389	63.929	63.149	61.936	61.873
			I	T	I	1	I	I	I	I	I	
Proposed Levels					64.898	64.002	64.127	64.020	64.130	63.203		
			I		I			I				
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

		75	SE	ст	ION	149	90.0	00	- 49	90.0	000		
	Level	75 70 65 60 55 50											
		45			I	I							
Existing Levels			64.247	63.715	63.114	62.550	61.963	61.340	60.756	60.166	59.577	59.031	
				T	1	1		I	I	I		T	
Proposed Levels					62.606	61.709	61.834	61.727	61.838	60.911			
			I	1	1 1	1	I	I		I	П	1	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

# 10 Millimetres

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8

#### CROSS SECTIONS Scale 1:1000

	85		СТ	ION	175	50.0	000	- 7	50.0	000	
	80 75 70 65 60									~	
				I			I		I	I	1
Existing Levels		72.862	72.143	71.451	70.760	70.087	69.459	69.067	68.471	68.389	66.054
			1	1	I	1	I		I	I	1
Proposed Levels				71.113	70.217	70.342	70.234	70.345	69.418		
			1	11	1	1		I	I	11	T
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

		90 85 80	SE	СТ	ION	170	0.0	000	- 7(	00.0	000	
	Level	75 70 65 60			~_			<u>η</u>				J
Existing Levels		55	72.749	69.999	69.719	69.148	69.075	71.918	67.126	67.020	71.236	66.537
Proposed Levels						68.874	68.999	68.891	69.002	69.975	71.642	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels	
Proposed Levels	
Proposed Offsets	

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Existing Levels
Proposed Levels
Proposed Offsets

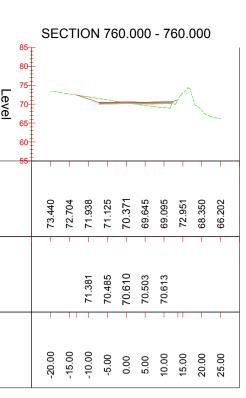
		85-	SE	СТ	ION	1 65	50.0	00	- 6	50.0	000	
	Level	80 75 70 65 60 55			2	4					<b></b> .	
		50		1	1	-	1	1		-		
Existing Levels			69.181	68.852	69.631	69.372	62.069	66.618	66.178	65.725	65.285	64.802
				I		1	I					
Proposed Levels					68.427	67.531	67.656	67.548	67.659	66.732		
			1		Π	T	T	T	I	I	П	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

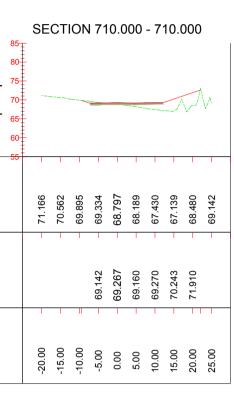
	Level	- - 
Existing Levels		
Proposed Levels		
Proposed Offsets		

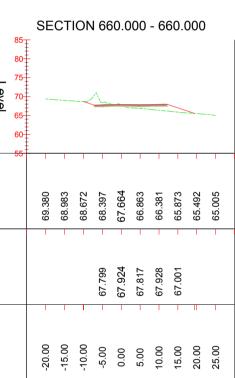
		85		ст	ION	160	0.0	000	- 6	00.0	000			
	Level	80 75 70 65 60 55		~~^								~		
Existing Levels		-50-	68.039	68.509	66.501	65.666	65.115	64.686	64.127	63.599	62.989	62.472	Existing Levels	3
Proposed Levels			I	I	67.050	66.153	66.278	66.171	66.282	65.355	63.688	I	Proposed Leve	els
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	Proposed Offs	ets

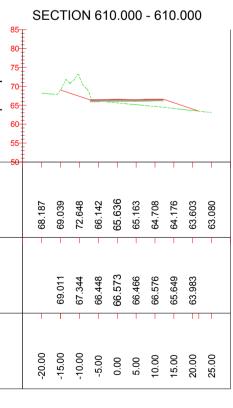
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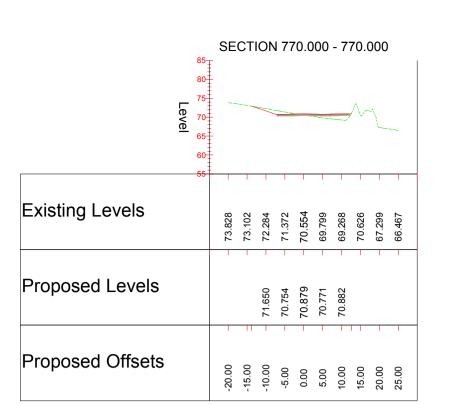
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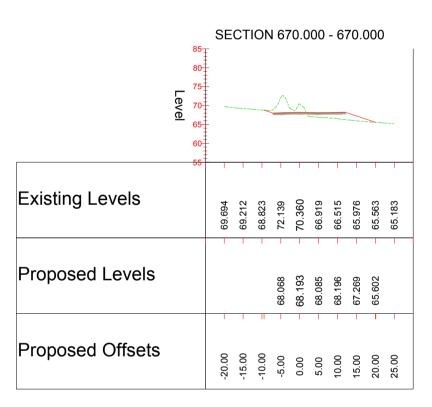




		85-1	SE	СТ	ION	172	20.0	00	- 72	20.0	000	
	Level	80 75 70 65 60	-									
		55	- 1	1		1			1	I		
Existing Levels			71.329	70.723	70.169	69.588	69.050	68.597	68.772	67.076	66.355	65.779
			I			I			I	I		
Proposed Levels						69.411	69.536	69.428	69.539	68.612	66.945	
			I	1	11	I						T
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

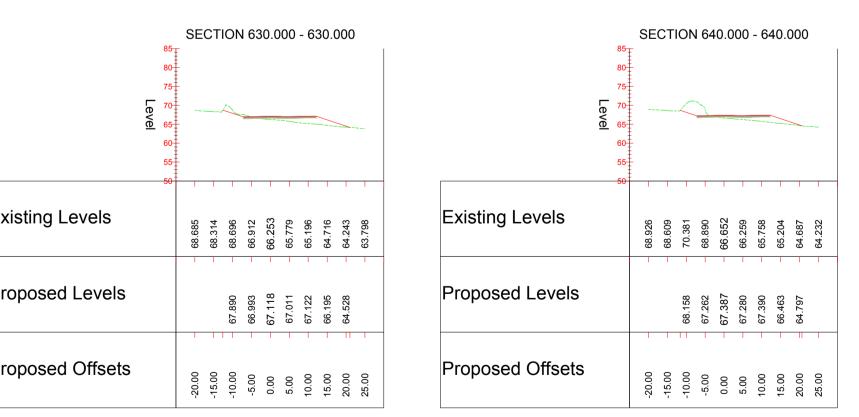
		85	SE	СТ	ION	178	80.0	000	- 78	80.0	000		
	Level	80- 75- 70- 65- 60-	-							2			
		55	1		I	I	I		I	I	I		
Existing Levels			74.190	73.393	72.514	71.624	70.823	70.191	72.371	67.961	67.199	66.303	
			I	I	I	I			I	I	I		
Proposed Levels					71.919	71.022	71.147	71.040	71.151				
				11			I	I	I	T	I		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

			SE	СТ	ION	173	80.0	00	- 7:	30.0	000	
	Level	90 85 80 75 65 60							<u>^</u>	1	<b>`</b> .	
Existing Levels		55	71.750	71.138	70.561	69.970	69.464	68.994	75.331	78.973	66.664	65.954
Proposed Levels			I			69.679	69.804	69.697	69.808	70.781		1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

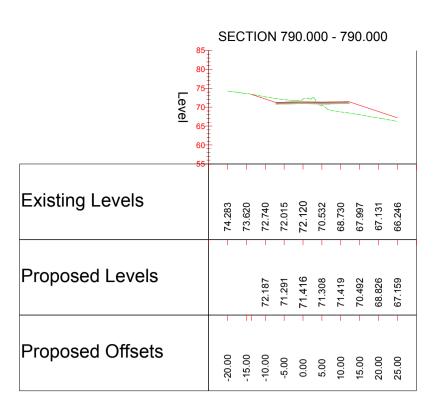


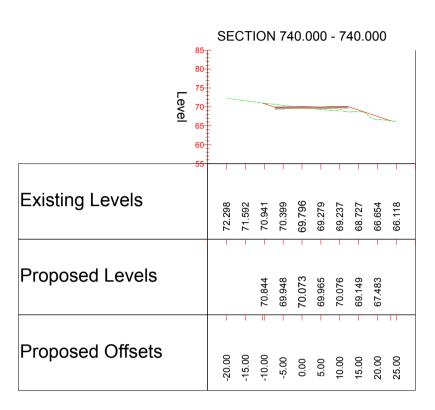
	8	SECTION 680.000 - 680.000											
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	5	5	1	1	I	1			I				
Existing Levels			69.944	69.489	69.039	68.736	71.250	67.160	66.654	66.180	65.733	65.375	
Proposed Levels			I	ſ	I	68.336	68.461	68.354	68.465	67.538	65.871		
					П	I		I		1	11	1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

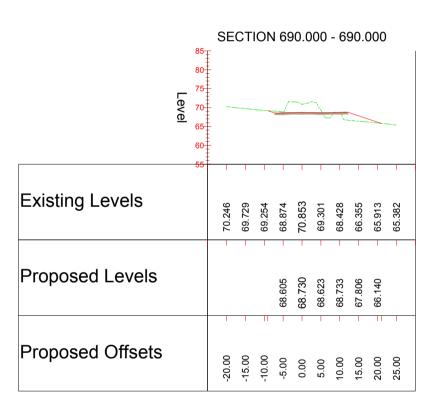
		85	SE	СТ	ION	162	20.0	000	- 62	20.0	000		I				
	Level	80 75 70 65 60 55		^	2	<u>M</u>											
Existing Levels		50	68.424	68.058	70.568	67.595	65.916	65.440	64.939	64.418	64.003	63.442		Ex	istin	g Le	Э.
Proposed Levels				I	67.621	66.725	66.850	66.742	66.853	65.926	64.259			Pr	opos	ed	L
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		Pr	opos	ed	(
														L			-



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION					Drawing Status FOR INFORMA	TION	Suitability	Project Title	WEST	OF ENGL	AND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:					ΛΤΚΙΝ	The Hub 500 Park Avenue		Drawing Title	Α4	- A37 LINI	ĸ	
CONSTRUCTION						Aztec West				PTION 1		
NONE						Almondsbury Bristol BS32 4RZ		PROPOS		CEPT GRO		CTIONS
MAINTENANCE/CLEANING						Tel: +44 (0)1454 66 Fax: +44 (0)1372 66		Scale	Designed		Checked	Authorised
NONE					Copyright © Atkins Limited (2014)	www.atkinsglobal.co	om	1:1000	EC	+	AH	
DECOMMISSIONING/DEMOLITION					Client			Original Size	Date 05/02/1১	Jate 05/02/18	Date 05/02/18	Date
NONE								Drawing Number HA PIN	Origi ato	or Volu	ume	Project Ref. No. 0000000
	54 05 00 40				WEST OF E	NGLAND		WoE		\TK - I	HGN -	Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1         05.02.18           Rev.         Date	DRAWING CREATED Description	AF By Chk'd	App'd				WP1	- DR	<b>- D - (</b>   Role   Num	6007	P1

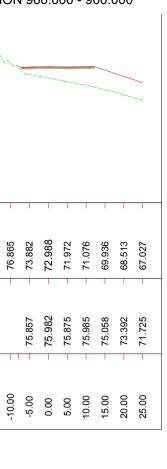




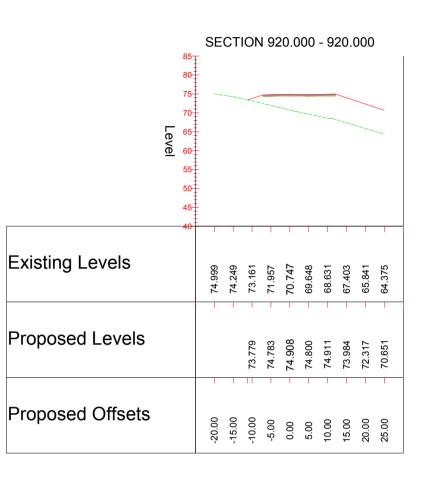


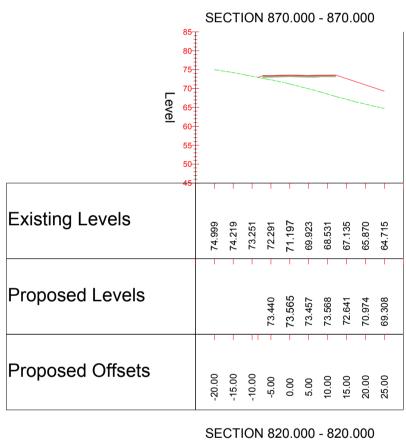
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<u>è</u>	Le e	
50 50	61 54 50	
<b>G1</b> 75.810 75.810 75.810 73.468 73.468 71.209 69.992 69.992 69.023 67.726 66.251		76.207 75.736 75.736 76.865 76.865 73.882 73.882 73.882 71.972 69.936 69.936
78.151 76.485 75.588 75.713 75.606 75.717 74.790 73.123 71.456	Proposed Levels	75.857 75.982 75.985 75.985 75.058
ffsets	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00 110.00 115.00
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40 1 1 1 1 1 1 1 1	4	
<b>Gels</b> 68.127 64.226 64.226 64.226	Existing Levels	74.976 74.105 72.990 71.752 70.504 69.465 68.384 67.210 67.210
73.242 74.245 74.370 74.374 73.447 71.780 70.113	Proposed Levels	73.510 74.514 74.639 74.632 74.632 73.715 73.715
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<b>E</b> 70 65 60		
55 50 45	51 5( 44	5
75.041 74.284 73.373 72.435 71.334 67.519 66.320 66.320 65.259	Existing Levels	74.980 74.216 73.267 72.326 71.306 71.306 71.083 68.689 67.328
evels 920 920 770 770	Proposed Levels	73.171 73.296 73.189 73.299 73.299 72.372
ffeete	Proposed Offsets	
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55- 50- 50- 50- 50- 50- 50- 50- 50- 50-	5: 5:	
<b>Cels</b> 74.167 73.065 73.600 71.191 69.666 67.903 67.026 66.099	Existing Levels	74.872 74.520 74.520 74.926 70.955 69.704 68.691 67.670 66.738
74.122 74.122 74.122 71.560 71.560 71.568 71.577 71.577 71.588 77.577 71.577 71.577 71.577 72.761 71.577 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.761 72.77777777777777777777777777777777777	Proposed Levels	72.724 - 72.724 - 71.953 - 71.956 - 71.029 - 71.026 - 71.026 - 71.026 - 71.029 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 363 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 360 363 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 365 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660 - 660
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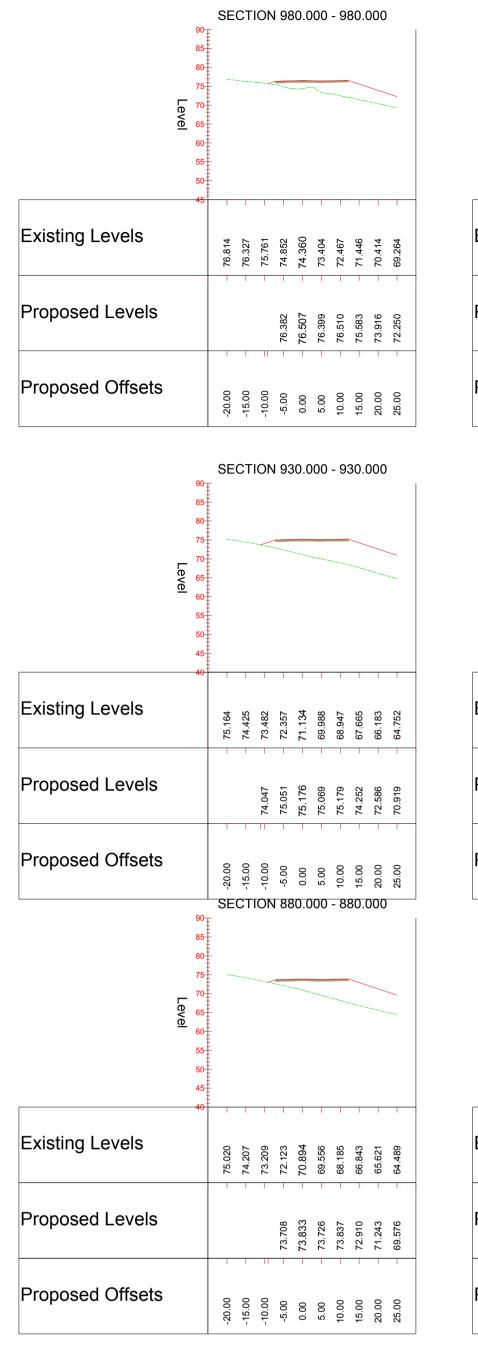


	Level	90 85 80 75 70 65	SE	СТ	ION	197	70.0	000	- 97	70.(	000	/ /
Existing Levels	/el	60 55 50 45 40	76.464	75.936 -	75.426 -	74.928	73.901 –	.254 –	72.486	.305 -	69.921 -	68.407
Proposed Levels			- 76.	- 75.	- 75.	76.125 - 74.	76.250 - 73.	76.143 73.	76.254 72.	1	73.660 - 69.	71.993 - 68.
Proposed Offsets			-20.00	-15.00	-10.00		0.00	1			T	25.00
L												



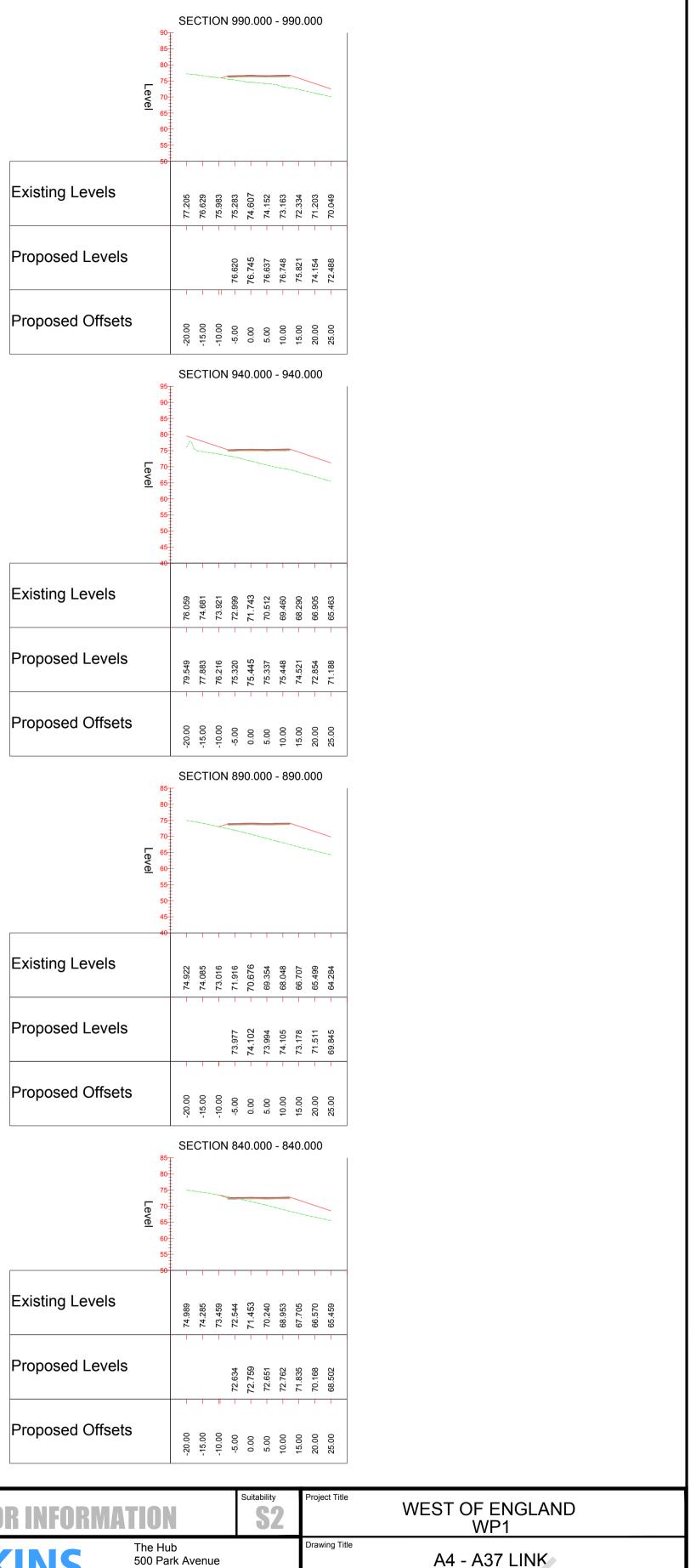


	88 75 70 60 60 55										
Existing Levels		/4./69	74.076	73.264	72.270	71.322	72.652	71.547	69.598	66.694	65.593
Proposed Levels		Ι	I	72.993	72.097	72.222	72.114	72.225	71.298	69.631	67.965
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	8	³⁵ Ŧ	SE	СТІ	ION	183	30.0	000	- 8	30.0	000		1
	Level	30 75 70 35 30				-							
		55 [‡]	1				1					1	
Existing Levels			74.889	74.144	73.361	72.379	71.275	70.139	68.997	67.870	66.794	65.740	
					I		1	T	T	T	Ι	I	
Proposed Levels					73.262	72.365	72.490	72.383	72.494	71.567	006.69	68.233	
			T	T	П			I	I	I	I	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status
In addition to the hazards/risks normally associated with the types of wor detailed on this drawing, note the following:							ATVINC
CONSTRUCTION							<b>ATKINS</b>
NONE							
MAINTENANCE/CLEANING	_						
NONE							Copyright © Atkins Limited (20
DECOMMISSIONING/DEMOLITION							Client
NONE	P1	05.02.18	DRAWING CREATED	AF			WEST C
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	Chk'd	App'd	



		UZ			WP1		
5	The Hub 500 Park Avenue Aztec West Almondsbury Bristol BS32 4RZ Tel: +44 (0)1454 662	2000	Drawing Title	OI ED CONC	A37 LIN PTION 1 CEPT GR EET C'1	OSC SEC	CTIONS
(2014)	Fax: +44 (0)1372 663 www.atkinsglobal.com		Scale 1:1000	Designed EC	Dra n	Checked AH	Authorised
			Original Size	Date 05/02/1δ	Jate 05/02/18	Date 05/02/18	Date
	IGLAND		Drawing Number HA PIN		TK -	Iume HGN -	Project Ref. No. 0000000
			WoE WP1	- DR	- D -	HGN - 6008	Revision P1

0

8

#### CROSS SECTIONS Scale 1:1000

	95-	SEC	стіс	NC	115	50.C	00	- 1	150	0.00	0	
	90- 85- 80- 75- 70-			~<	°			<u>^</u>	>			
Existing Levels	65-	78.298	78.356 -	78.794	78.463	78.454	78.472	80.287	78.708	78.582	78.588	Existing Levels
Proposed Levels			I		77.957	78.082	77.975	78.086	1			Proposed Levels
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00 =	20.00	25.00	Proposed Offsets

		90 ‡	SEC	стіс	N	110	0.0	00	- 1 ⁻	100	.00	0
	Level	85 80 75 70	- - -									
		65		1	1	1	1		1	1		-
Existing Levels			78.670	78.709	78.641	78.602	78.555	78.496	78.426	78.312	78.215	78.059
				I	I		I	I	I	I		
Proposed Levels						78.039	78.164	78.057	78.168			
			T		П							
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		90 85	SEC	стіс	N	111	0.0	000	- 1 ⁻	110	.00	0
	Level	80- 75- 70-						-				
		65	1	I		I	1	1	I		I	
Existing Levels			78.686	78.617	78.650	78.652	78.642	78.583	78.514	78.448	78.354	78.207
			Í									
Proposed Levels						78.059	78.184	78.077	78.188			
			I		П	1						I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

		90	SEC	тіс	NC	105	50.0	000	- 1(	050	.00	0
	Level	85 80 75 70										_
		05	I		1	I			I	I		
Existing Levels			78.436	78.386	78.225	78.004	77.685	77.339	76.949	76.493	75.992	75.392
						I	I			I	I	
Proposed Levels						77.667	77.792	77.684	77.795	76.868		
			1		П					11		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		90 85	SEC	TIC	N	106	60.C	00	- 1(	060	.00	0
	Level	80 75 70 65										
Existing Levels			78.528	78.485	- 78.348	78.282	78.100	77.853	77.493	77.059	76.627	76.117
Proposed Levels						77.778	77.903	77.795	77.906			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
		90 85	SEC	тіс	N	101	0.0	00	- 1(	010	.00	0
	Le	80										

	Level	90 85 80 75 70 65 60	-										
Existing Levels				76.988	76.430	75.829	75.141	74.489	73.874	73.150	72.286	71.290	
Proposed Levels			T			76.840	76.965	76.857	76.968	76.041	74.374	72.708	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

SECTION 1000.000 - 1000.000

		90	SEC	тіс	ON	101	0.0	00	- 1(	010	.00	0
	Level	85 80 75 70 65										//
		60		I		1	I			I	I	
Existing Levels			77.618	77.333	76.902	76.428	75.769	75.151	74.547	73.786	73.094	72.262
			1		1	1	I		I	T	1	1
Proposed Levels						77.042	77.167	77.059	77.170	76.243	74.576	72.909
				I		1				I	I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

Key:

Notes:

SECTION 1160.000 - 1160.000

					~				$\sim$
T								-	1
/8.1/8	78.250	78.295	78.300	78.382	79.366	78.437	78.417	78.478	79.872
T	T	T	77.887	78.012	77.904	78.015		1	1
1	1	- 11					11		I
-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	SECTION 1170.000 - 1170.000											
	evel	80 <del>-</del> 75- 70-									~~	
Existing Levels		65	78.040	78.088	78.109	78.151	78.210	78.262	78.282	78.395	79.537	78.347
Proposed Levels			I			77.801	77.926	77.819	77.929		I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	90 85 Level 75		TIC	N	118	30.0	000	- 1 [.]	180	0.00	0
	70 	ŧ	1	1	1	1	1	1	1	1	
Existing Levels		77.948	78.036	78.094	78.100	78.171	78.210	78.288	78.302	78.350	78.388
Proposed Levels			I	1	7.714	77.839 -	7.732	7.843	1	1	I
			-	-11	12	- 17	12	17	11	-	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	SECTION 1120.000 - 1120.000 ⁹⁰ Ŧ											
	Level	85 80 75 70										
		65		I	I		1		I	I		1
Existing Levels			78.730	78.651	78.640	78.605	78.627	78.629	78.629	78.516	78.497	78.406
				I	I		I	I	I	I	I	I
Proposed Levels						78.061	78.186	78.079	78.189			
			I	I	П					T	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		95 90	SEC	TIC	N	113	80.0	00	- 1 ⁻	130	.00	0
	Level	85 80 75 70		<u> </u>	·							
		65		T	I	I	T		I	T	T	
Existing Levels			78.484	80.501	78.733	78.727	78.626	78.538	78.542	78.587	78.585	78.495
Proposed Levels			1			78.045	78.170	78.062	78.173	1	1	I
				I	П	I	I		I	П	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

									1
78.484	80.501	78.733	78.727	78.626	78.538	78.542	78.587	78.585	78.495
		I	I	I		I	I	I	I
			78.045	78.170	78.062	78.173			
		11		I				I	
-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Level	90 85 80 75	SEC	тіс	ON	107	70.C	000	- 1	070	.00	0
		70										
			1	I				I.	1	1	1	1
Existing Levels			33	4	39	17	31	11	35	94	17	94
			78.583	78.504	78.43	78.37	78.2;	78.1	77.86	77.594	77.27	76.894
		+										T
Proposed Levels												
Filipused Levels						7.870	77.995	7.888	77.999			
						12	17	12	12			
				1	11			1	1	1.1	1	1
Proposed Offsets			0	0	0	~	_	_	~	~	0	0
			-20.00	-15.0	-10.0	-5.00	00.0	5.00	10.00	15.00	20.0(	25.00

	Level	90 85 80 75	SEC	TIC	NО	108	30.0	000	- 1	080	.00	0
		70 <del>65</del>		1	-	1	1	1	-	1	1	
Existing Levels			78.584	78.560	78.545	78.458	78.346	78.264	78.139	77.965	77.700	77.386
Proposed Levels			I			77.945	78.070	77.962	78.073			
			I	I	П			I				I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

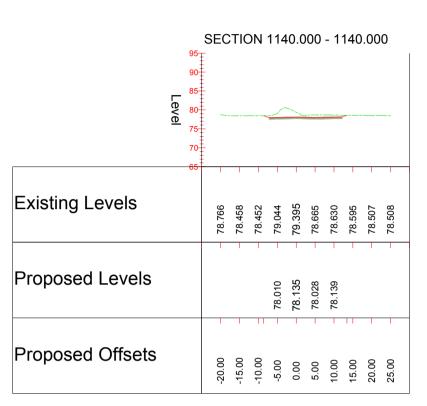
		90-	SEC	CTIC	ΟN	102	20.0	000	- 1(	020	.00	0
	Level	85 80 75 70 65									-	/
		<del>60</del>		T	1	1	T	1	1	1	1	-
Existing Levels			77.829	77.589	77.304	76.907	76.410	75.829	75.148	74.485	73.766	73.084
Proposed Levels					I	77.225	77.350	77.243	77.353	76.426	74.760	73.093
					I		I	I	I	I	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	SECTION 1030.000 - 1030.000	90 85	Ŧ
	Level 70	40 475 70 65	
Existing Levels	78.145 77.956 77.529 77.529 76.841 76.339 75.793 75.793 75.793 75.709 73.865 73.865	Existing Levels	78.131 78.027 77.883 77.594 77.294 76.908 76.382 75.803 75.803 75.803
Proposed Levels	77.391 77.516 77.408 77.519 76.592 74.925	Proposed Levels	77.538 77.663 77.666 77.666 77.555 77.566 77.666
Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00 10.00 15.00 220.00 25.00	Proposed Offsets	-20.00 -15.00 -5.00 0.00 0.00 15.00 15.00 220.00 -20.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORMA	TION	Suitability	Project Title	WEST (	DF ENGI WP1	LAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:					_	ΛΤΚΙΝ	The Hub 500 Park Avenue		Drawing Title	Α4 -	A37 LIN	JK	
CONSTRUCTION							Aztec West				PTION 1		
NONE							Almondsbury Bristol BS32 4RZ		PROPOS				CTIONS
MAINTENANCE/CLEANING							Tel: +44 (0)1454 662 Fax: +44 (0)1372 663		Scale	Designed	Dra 'n	Checked	Authorised
NONE						Copyright $\bigcirc$ Atkins Limited (2014)	www.atkinsglobal.co	om	1:1000	EC	· · · · · · · · · · · · · · · · · · ·	AH	
DECOMMISSIONING/DEMOLITION						Client			Original Size	Date 05/02/1১	Jate 05/02/18	Date 05/02/18	Date
NONE						WEST OF EI			Drawing Number HA PIN WoE	│ Origi⊃ator		HGN -	Project Ref. No. 0000000
It is provided that all works will be partial and by a party start souther the	P1	05.02.18 DRAWING CREATED	AF						_			-	Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date Description	By Cł	nk'd A	vpp'd				WP1	- DR   Type		6009 umber	P1

#### DO NOT SCALE

	F	90 85 80	SEC	TIC	N	119	0.0	000	- 1 ⁻	190	.00	0
	Level	75 70 65										
Existing Levels			77.843	77.904	77.929	77.971	78.063	78.129	78.204	78.211	78.240	78.263
Proposed Levels				I		77.628	77.753	77.645	77.756			T
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	9	°∓	SEC	тю	N	109	90.0	00	- 1(	090	.00	0
	8 Level 7 7	5						_				
	0					I					I	
Existing Levels			78.655	78.582	78.591	78.542	78.508	78.402	78.319	78.182	77.975	77.751
			T	I		I				I	I	
Proposed Levels						78.001	78.126	78.019	78.130			
				I	П	I					I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

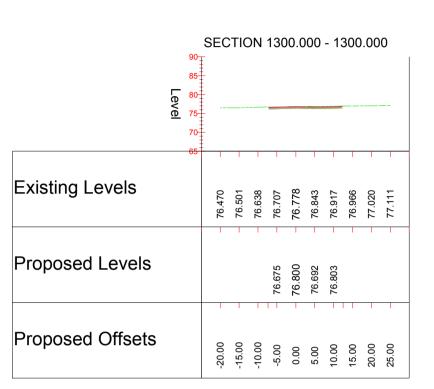
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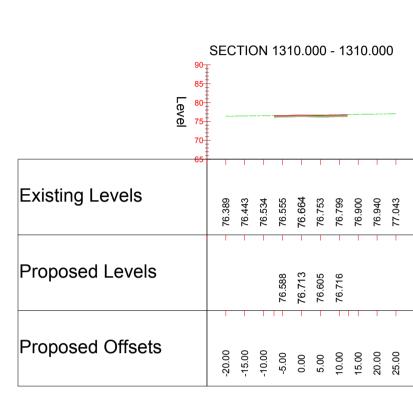
8

#### CROSS SECTIONS Scale 1:1000

	90 85	Ŧ	стіс	N	135	50.0	00	- 1:	350	.00	0	
	Leve 75 70											
	65	<b>†</b>	T	T	1	T			I	T		-
Existing Levels		76.245	76.315	76.400	76.503	76.553	76.626	76.734	76.816	76.848	76.942	
			I			I					I	
Proposed Levels					76.586	76.711	76.603	76.714				
			T								I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

			s	EC	TIC	ON	13
	Level	90- 85- 80- 75- 70-					-
Existing Levels		65		76.237	76.383	76.427	76 545
Proposed Levels							76 677
Proposed Offsets				-20.00	-15.00	-10.00	200





	Leve	90 85 80	SEC	тю	ON	125	50.0	000	- 1:	250	.00	0
	<u>e</u>	75 70 65										
Existing Levels			77.001	77.085	77.157	77.271	77.365	77.431	77.491	77.528	77.614	77.721
Proposed Levels						77.108	77.233	77.125	77.236		1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	Level	90 85 80 75 70	SE	СТІ	NC	12
Existing Levels		<del>65</del>	76.949	76.978	- 77.081	77 164
Proposed Levels				I	1	10012
Proposed Offsets			-20.00	-15.00	-10.00	200

Existing Levels

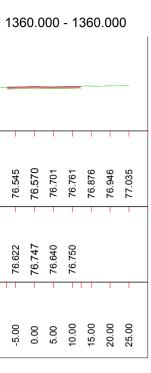
Proposed Levels

Proposed Offsets

	Le	90 85 80	SEC	TIC	N	120	0.0	00	- 12	200	.00	0
[	Level	75 70 <del>65</del>	-	1	1							
Existing Levels			77.640	77.725	77.778	77.883	77.945	78.007	78.083	78.173	78.144	78.170
Proposed Levels				1	1	- 77.541		77.559	77.669	1	1 -	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Key:

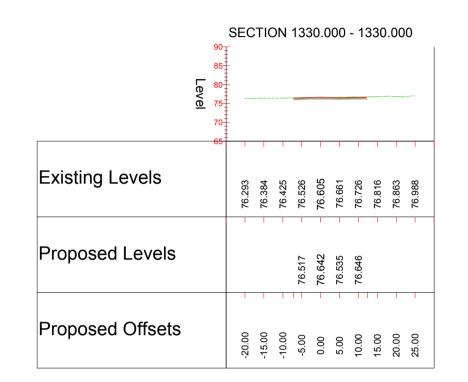
Notes:



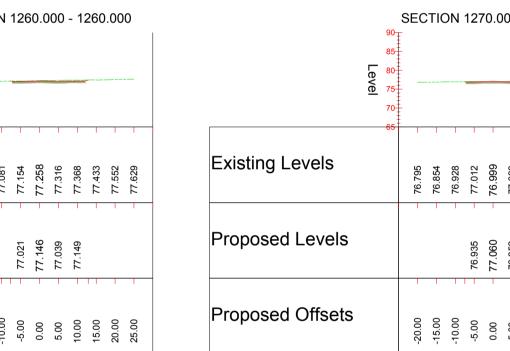
		90 85	SEC	тіс	N	137	<b>'</b> 0.C	00	- 1:	370	.00	0
	Level	80 75 70	_									
		<del>65</del>	1	T	I	T	1	T	I	T	I	1
Existing Levels			76.339	76.379	76.492	76.602	76.706	76.781	76.879	76.997	77.067	77.150
Proposed Levels			I	I		76.658	76.783	76.676	76.787			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
			-20	-15	-10	-2.	Ö.	5.	10	15	20	25

	Level	90 85 80 75	SEC	стіс	N	132	20.0	000	- 1:	320	0.00	0
		70- 65										
Existing Levels			76.340	76.446	76.497	76.566	76.597	76.758	76.783	76.841	76.958	77.022
					T	T	T	T	I	I	I	1
Proposed Levels						76.528	76.653	76.545	76.656			
									1			I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Level	90 85 80 75 70	SEC	TIC	N	138	30.0	000	- 1:	380	.00	0
Existing Levels		65 [±]	76.293	76.449	76.541	76.660	76.715	76.836	76.878	77.025	77.118	77.189
Proposed Levels			I			76.695	76.820	76.712	76.823			I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	Level	90 85 80 75 70										
		65		I	T	I	I	T	T	T	I	
Existing Levels			76.205	76.300	76.395	76.488	76.540	76.623	76.728	76.824	76.899	76.951
						I		I				1
Proposed Levels						76.549	76.674	76.567	76.677			
								I	I		I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00



		90 85	SEC	тіс	N	127	0.0	00	- 12	270	.00	0	
	Level	80 75 70 65	_										
isting Levels			- 76.795	76.854	76.928	77.012	- 16.999	- 2003	77.142	77.203	77.269	77.438	
oposed Levels			1			76.935	- 22.060	76.952	77.063		I	1	
oposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

90Ŧ	SEC	тіс	N	121	0.0	00	- 12	210	0.00	0
85 80 75 70										
65 [†]	I		I	I	1	T	T	I	T	1
	77.515	77.536	77.627	77.715	77.791	77.883	77.955	78.031	78.014	78.095
-					I	1	I	I	I	
				77.454	77.579	77.472	77.583			
	1	I		I	I	T	T	11	T	I
	-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

		90 <del>]</del>	SEC	тю	ЛС	128	30.0	00	- 12	280	.00	0
	Level	85 80 75 70										~
		65		T	T	1	I	T	I	I	I	1
Existing Levels			76.637	76.740	76.860	76.940	76.964	77.049	77.109	77.243	77.420	77.546
			I	1			I	I	I		I	1
Proposed Levels						76.848	76.973	76.865	76.976			
			I	I			I	I	I	I I	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Fe	90 85 80	SEC	TIC	N	123	30.C	000	- 1:	230	.00	0	
[	Level	75 70 65											_
Existing Levels			77.264	77.345	77.434	77.616	77.632	77.652	77.714	77.787	77.840	77.909	
Proposed Levels					I	77.281	77.406	77.299	77.409			I	-
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	9		SEC	тю	ΟN	129	90.0	00	- 12	290	.00	0
	9 Level 7 7	0 5 0 5 0 5			~_	-	<u>_</u>	$\sim$	\2	<u></u>		
	6	5			I		1	I	I	I		
Existing Levels			76.731	76.903	77.250	76.904	78.647	79.207	76.825	77.105	76.939	77.032
				I	I		I		I			
Proposed Levels						76.761	76.886	76.779	76.889			
			I				I			П		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	Level	90 85 80 75 70	SEC	:TIC	N	124	0.0	000	- 12	240	.00	0
		65	1	1	1		1		1	1	1	-
Existing Levels			77.223	77.270	77.293	77.432	77.494	77.526	77.609	77.660	77.735	77.805
					T	T		T	T	T		
Proposed Levels						77.195	77.320	77.212	77.323			
						I		I	T	П		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status FOR INFORMATION	Suitability	Project Title	WEST OF ENG WP1	BLAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							The Hub 500 Park Aven Aztec West	le	Drawing Title	A4 - A37 LI OPTION		
NONE	-						Almondsbury Bristol BS32 4RZ Tol: 144 (0)144	4 662000	PROPOS	SED CONCEPT (3 SHEET ()	ROSC SE	CTIONS
MAINTENANCE/CLEANING NONE							Tel: +44 (0)14           Fax: +44 (0)13           Copyright © Atkins Limited (2014)         www.atkinsglo	2 663333	Scale 1:1000	Designed Dra 'n EC	Checked AH	Authorised
DECOMMISSIONING/DEMOLITION	-						Client		Original Size A1 Drawing Number	Date Jate 05/02/18	Date 05/02/18	Date Project Ref. No.
NONE	P1	05.02.18	DRAWING CREATED	AF			WEST OF ENGLAND		WoE	ATK -	HGN -	0000000 Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	Chk'c	App'd			WP1	- DR - D -	6010 Number	P1

#### DO NOT SCALE

	90	_	SEC	тю	ЛС	139	90.0	00	- 1:	390	.00	0
	88 Leve 79 70		_			_						
	65	5	1	1	1	1	T	T	1	1	T	
Existing Levels			76.378	76.457	76.617	76.714	76.828	76.917	77.003	77.075	77.185	77.329
			I	I	I				I			
Proposed Levels						76.731	76.856	76.749	76.860			
					I							
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

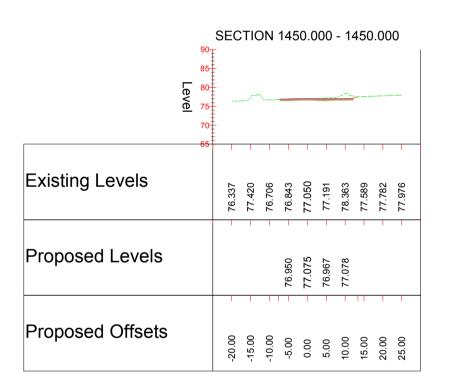
SECTION 1340.000 - 1340.000

		05	SEC	TIC	ΟN	155	50.C	000	- 1	550	.00	0
	Level	95 90 85 80 75 70							~~	<u>}</u>	A	~
		<del>65</del>		T	1			I	T	T	T	
Existing Levels			75.968	76.235	76.522	76.751	76.977	78.012	78.471	78.063	84.214	78.867
			I	I	I	I	1	I	I	I	I	
Proposed Levels						77.314	77.439	77.332	77.442			
				T	П	T	T	T	T	П	Ι	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	100		С	TIC	DN	156	60.C	000	- 1	560	.00	0
	95 90 <b>Leve</b> 80 75							/	Long	Δ		V
	70 	-	I			-	1		1		-	
Existing Levels		71 001	/D.904	76.256	76.498	76.746	77.010	77.351	80.006	81.474	78.315	85.738
Proposed Levels			I			77.350	77.475	77.368	77.479	78.452		1
Proposed Offsets		0000	-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

		90 ‡	SEC	тіс	N	150	0.0	000	- 1	500	.00	0
	Level	85 80 75 70 65										
Existing Levels			76.087	76.289	76.561	76.782	76.999	77.223	77.463	77.682	77.904	79.585
Proposed Levels			Ι	I	I	77.132	77.257	77.149	77.260			Ι
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		90-	SEC	стіс	ЛС	151	10.0	000	- 1	510	.00	0
	Level	85 80 75 70										
		<del>65</del>			1	1	1			I	1	1
Existing Levels			76.083	76.325	76.557	76.779	77.053	77.304	77.536	77.752	78.034	78.215
					I		I					1
Proposed Levels						77.168	77.293	77.186	77.297			
					П				I		I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	SECTION 1460.000 - 1460.000	SECTION 1470.000 - 1470.000	0
	85 80 <u>e</u> 75 70		
Existing Levels	76.947 76.947 78.896 76.610 76.796 77.038 77.038 77.430 77.430 77.430 77.430 77.430 77.847 77.847	Existing Levels	78.094
Proposed Levels	76.986 77.111 77.004 77.114	Arron 124 Proposed Levels 77.148 77.148 77.148 77.148 77.148 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.151 77.157.157.157.157.157.157.157.157.157.1	
Proposed Offsets	-20.00 -15.00 -5.00 0.00 0.00 10.00 10.00 15.00 220.00 25.00	Proposed Offsets	25.00
	-20.00 -15.00 -10.00 -5.00 10.00 10.00 22.00	- 20.00 - 15.00 - 5.00 - 10.00 - 5.00 - 20.00 - 20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

	Level	90 85 80 75 70	SEC	тіс	N	140	0.0	00	- 14	400	.00	0
		65		1	1		-	-	-	-	1	
Existing Levels			76.387	76.558	76.644	76.757	76.862	76.972	77.104	77.199	77.279	77.405
			I	1	1		1	1	1	1	1	
Proposed Levels						76.768	76.893	76.785	76.896			
			T	I	I	TT			T	TT	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

Level	90 35 30 75 70 55										
	75										
	ŧ										
(	55	1									
				1	I		T	1	1	1	1
		76.389	76.582	76.704	76.829	76.949	77.091	77.218	77.325	77.453	77.556
		T	T	T	T		Т	T		1	
					76.804	76.929	76.822	76.932			
		I					1	I	TT		
		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00
						76.804	76.929	76.929	76.804 76.804 76.329 76.332	76.929 76.929 76.932	76.932 76.932

Key:

Notes:

8

10

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100		EC	TIC	N	157	<b>'</b> 0.0	000	- 1	570	.00	0
95 90 Level 80								J		V	
	Ŧ	-1									
		75.942	76.210	76.482	76.827	77.084	77.475	77.926	81.334	83.127	89.330
		I			77.387	77.512	77.404	77.515	78.488	80.155	81.821
		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
	95 90 Leve 80 75	100 95 90	100 95 90 75 70 75 70 75 70 75 70 75 70 75 70 75 70 70 75 70 70 70 70 70 70 70 70 70 70 70 70 70	Level 012.92	Level 25 200 200 200 200 200 200 200 2	Level 100	<b>Fevel</b> 100 22 24 25.942 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.210 - 76.282 - 76.210 - 76.272 - 76.272 - 76.272 - 76.272 - 76.272 - 76.272 - 76.272 - 76.270 - 76.272 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.387 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.577 - 77.5777 - 77.5777 - 77.5777 - 77.5777 - 77.5777 - 77.5777 - 77.5777 - 77.5	<b>Fend</b> 100 100 100 100 100 100 100 10	<b>Fevel</b> 100 222 240 240 240 25.94 240 25.94 25.94 25.94 25.95 25.95 26.210 25.95 26.210 25.35 26.257 26.282 27.387 26.282 27.387 27.387 27.387 27.387 27.387 27.387 27.387 27.387 27.387 27.387 27.37 27.387 27.37 27.37 27.37 27.37 27.37 27.37 27.37 27.37 27.37 27.37 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.432 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.75 27.	Tevel 100 422 42 42 42 42 42 42 42 42 42 42 42 42	Fend       99       02       52       98       96       56         -       75.942       -       75.942       -       76.210       -       76.210       -       76.210       -       76.212       7       -       76.212       -       76.212       -       77.512       -       77.512       -       77.512       -       77.512       -       77.512       -       77.512       -       77.512       -       17.512       -       -       77.512       -       -       77.512       -       17.512       -       -       77.512       -       77.512       -       17.512       -       -       77.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512       -       17.512

SECTION 1520.000 - 1520.000

76.015 76.246 76.531 76.600 77.290 77.290 77.290 78.014 78.463 78.449

77.205 77.330 77.222 77.333

-20.00 -15.00 -10.00 0.00 5.00 10.00 15.00 25.00 22.00

		05 105 100	SEC	тіс	N	158	80.C	000	- 1	580	.00	0
	Level	95 90 35 80 75 70	_				-			N	Y	N
	(	<del>55</del>	-	1	-	1	1	1	I	1	1	1
Existing Levels			75.930	76.195	76.447	76.750	77.135	77.487	78.128	81.070	82.989	88.169
Proposed Levels				I	1	77.423	77.548	- 77.441	77.552	78.525	80.191	
				I	I	I		I			Π	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

SECTION 1530.000 - 1530.000

76.094 76.311 76.594 77.072 77.346 77.351 77.551 77.831 77.831 77.831 81.326

77.241 77.366 77.259 77.369

-20.00 -15.00 -5.00 0.00 5.00 10.00 22.00 25.00

SECTION 1480.000 - 1480.000

_/	
Proc	

- 1	410	.00	0				Level	90 85 80 75 70	SEC	:TIC	N	142	20.0	000	- 14	420	.00	0
77.218	77.325	77.453	77.556		Existing Levels			65	76.492	76.610	76.753	76.871	76.999	77.168	77.379	77.378	77.556 -	77.665
76.932		I			Proposed Levels	5						76.841	76.966	76.858	76.969		I	
10.00	15.00	20.00	25.00		Proposed Offset	S			-20.00	-15.00	-10.00	-2.00	0.00	5.00	10.00	15.00	20.00	25.00

	Level	75- 70-					· • • • • • •	~				~
Existing Levels		65	76.173	76.504	76.663	76.736	78.725	77.695	79.934	81.117	81.612	79.728
Proposed Levels			I			77.059	77.184	- 77.077	77.187	78.160	79.827	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

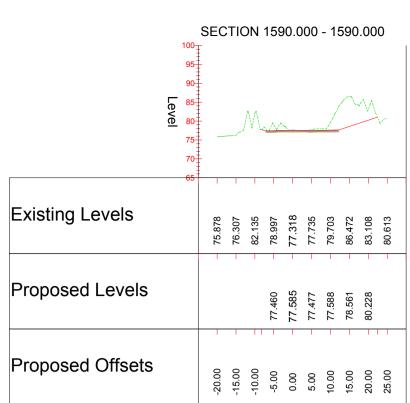
79.934 81.117 81.612 79.728	Existing Le
77.187 78.160 79.827	Proposed

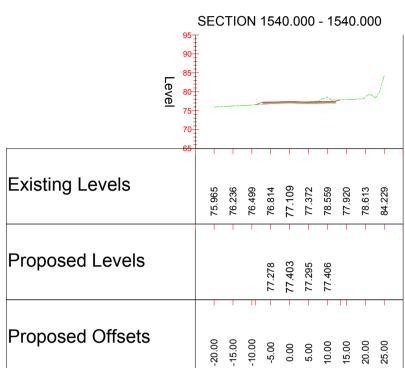
	Level	90 85 80 75 70	SEC	TIC	NC	143	80.0	000	- 14	430	.00	0
		65		1	1	1		I	I			T
Existing Levels			78.195	76.949	76.693	76.896	77.020	77.224	77.349	77.499	77.654	77.780
			I	1				I	I			T
Proposed Levels						76.877	77.002	76.894	77.005			
			I			11		I	I	П		I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORM	Suitability	Project Title	WEST OF ENGL WP1	AND		
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:						ΛΤΚΙΝ	The Hub 500 Park Avenue		Drawing Title	A4 - A37 LIN	ĸ	
CONSTRUCTION							Aztec West			<b>OPTION 1</b>		
NONE						_	Almondsbury Bristol BS32 4RZ		PROPOS	ED CONCEPT CR SHEET 2/19		CTIONS
MAINTENANCE/CLEANING						_	Tel: +44 (0)1454 66 Fax: +44 (0)1372 66		Scale	Designed Dra n	Checked	Authorised
NONE						Copyright © Atkins Limited (2014)	www.atkinsglobal.co		1:1000	EC	AH	
						Client			Original Size	Date Jate 05/02/1と 05/02/18	Date 05/02/18	Date
DECOMMISSIONING/DEMOLITION						-			Drawing Number	03/02/10	03/02/10	Project Ref. No.
NONE						WEST OF E			HA PIN WOE	Origi ator Volu	ume HGN -	000000
	- P1	05.02.18	DRAWING CREATED	AF					_		-	Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date	Description	By Chk'd	App'o	'd			WP1	- DR - D - (   Type   Role   Num	6011 ^{nber}	P1

	76.986	77.111	77.004	77.114						PIO	
-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00			Pro	
N	141	0.0	000	- 14	410	.00	0				
1	1	1	1	1	1	1	1				

	75	-									
	70 65				-		1	1	-	-	1
Existing Levels		76.173	76.504	76.663	76.736	78.725	77.695	79.934	81.117	81.612	79.728
Proposed Levels					77.059	77.184	- 770.77	77.187	78.160	79.827	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00





		90 _∓	SEC	тю	ΟN	149	90.0	00	- 14	490	.00	0
	Level	85 80 75 70										~
		65	I		1	1	I	I		I	I	I
Existing Levels			76.133	76.378	76.657	76.753	76.940	77.183	77.489	77.860	78.148	78.629
			I			I	I		I	I	I	
Proposed Levels						77.096	77.221	77.113	77.224			
										11		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	Level	90 85 80 75	SEC	TIC	ON	144	40.C	000	- 14	440	.00	0	
		70											
Existing Levels			76.876	76.842	76.707	76.882	- 700.77	77.230	77.385	77.510	77.689	77.895	
Proposed Levels			I		I	76.913	77.038	76.931	77.042	I	I		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

		90-	SEC	TIC	ΟN	175	50.0	000	- 1	750	.00	0
		85	-									
	Level	80										
	Se	75	-									
		70-										
		65		T	T	T	Т	Т	1	I	T	Т
Existing Levels			75.917	76.324	76.761	77.218	77.622	77.993	78.462	78.905	79.347	79.674
			I		I	Ι	T	T	T	I		I
Proposed Levels					76.957	77.961	78.086	77.978	78.089			
					П	I	I			П		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	SECTION 1700.000 - 1700.000												
	8 Level 7	25 0 25 0	_		~								
Existing Levels	6	5	76.170	76.565		77.462	77.706	78.129	78.517	78.880	79.349	79.925	
Proposed Levels			1			77.860	77.985	77.878	77.989				
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	Level	90 85 80 75 70	SEC	:TIC	N	176	80.0	000	- 1	760	.0
		65	1	1	1	I	1	T	T		
Existing Levels			76.037	76.392	76.794	77.260	77.673	78.049	78.472	78.931	79.316
			1	1		1					
Proposed Levels					76.930	77.933	78.058	77.951	78.062		
					Ш					I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00

	SECTION 1710.000 - 1710.000 90 _T											
	_	85 80 75 70										
		65										
Existing Levels			76.216	76.579	76.908	77.256	77.607	77.997	78.360	78.901	79.293	79.832
												1
Proposed Levels						77.897	78.022	77.914	78.025			
			I	T	1	I	I	I		Π		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	SECTION 1650.000 - 1650.000 ⁹⁵ Ŧ											
	Level	90- 85- 80- 75- 70-	~	<u> </u>	mh	1	~	/				
Existing Levels		65	77.143	76.646	77.183	77.703	79.266	78.483	78.877	78.648	79.397	81.365
Proposed Levels			I	I		77.678	77.803	77.696	77.806			1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

	Level	95 90 85 80	SEC	стю	N	166	\$0.0 ^~_	00
		75 70 <del>65</del>						
Existing Levels			76.541	77.085	76.895	77.745	79.737	70 023
Proposed Levels			1	1	1	77.715	77.840	064 44
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	00

SECTION 1600.000 - 1600.000								
100 95 90 85 80 75 70	95 90 85 80 75 70	SECT	TIO	N 1	61	0.0	00	- 1
75.920 76.248 82.652 83.334 78.123 77.605 77.605 77.605 82.106 82.106 83.578 83.578	Existing Levels	75.947	76.306	76.770	77.794	77.191	77.555	78.038
7. 592 77. 496 77. 521 77. 514 77. 514 77. 554 78. 597 80. 264	Proposed Levels	1	I	I	77.533	77.658	- 77.550	77.661
-20.00 -15.00 -10.00 -5.00 0.00 5.00 10.00 15.00 25.00	Proposed Offsets	-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00

Key:

Notes:

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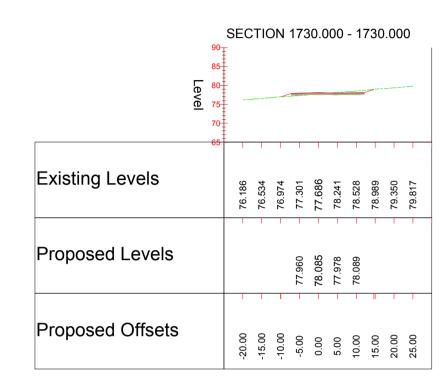
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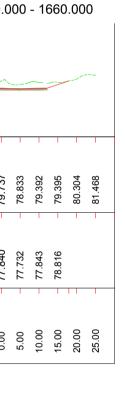
.000		95 90	Ŧ	стіс	N	177	0.0	00	- 17	770	.00	0
	Level	85										
		65		Ι	I	I	Ι	I	T	Ι	Ι	
79.316 79.693	Existing Levels		76.175	76.507	76.875	77.309	77.692	78.098	78.511	78.994	79.450	80.583
				1	I	T	1	T	1	1	1	
	Proposed Levels				76.884	77.888	78.013	77.905	78.016	78.989		
			I	T	I		I		I	T	I	
20.00 25.00	Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	90	SE	сті	NC	172	20.0	000	- 1	720	.00	0
	85 Leve 75 70							<u></u>			
	65		I		1	1					
Existing Levels		76.135	76.528	76.879	77.257	77.655	78.121	79.164	79.151	79.522	79.945
				I	1	1			I	I	
Proposed Levels				76.929	77.933	78.058	77.951	78.061	79.034		
		T		T	T				11		1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	95 90 85		CTIC	NC	178	30.C	000	- 1	780	.00	0
	Level 80 75 70 65	-									
Existing Levels		76.189	76.524	76.907	77.322	77.714	78.145	78.599	79.062	79.513	80.213
Proposed Levels			I	1	77.824	- 77.949	77.842	77.953	78.926	1	1
				I					11		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



			.,	`ı	`ı	'	-		-	-	2	2
	ł	90 85	SEC	тіс	ЭN	174	0.0	000	- 17	740	.00	0
	evel	80 <del>1</del> 75 <del>1</del> 70 <del>1</del>										
	(	65 ^T	1	T	I	T				T	I	
Existing Levels			76.213	76.493	76.802	77.173	77.595	77.993	78.456	78.898	79.366	79.829
			1						T			T
Proposed Levels					76.966	77.970	78.095	77.987	78.098			
			I	I	Π	T	T	T	1	П	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	95 90 6	EC	TIC	N	167	0.0	000	- 16	670	.00	0	
	Level 75 70											
Existing Levels		76.291	76.622	76.921	77.240	77.640	78.103	78.598	79.442	81.018	81.766	
Proposed Levels					77.751	77.876	77.769	- 77.879	78.852			
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	90 85	SEC	стю	NC	168	30.0	000	- 1(	680	.00	0
	Level 75 70										
	<del>65</del>			1		1	I			I	
Existing Levels		76.144	76.480	76.928	77.289	77.672	78.028	78.383	78.791	79.262	79.597
			I				I			I	
Proposed Levels					77.788	77.913	77.805	77.916			
			1	П					Π		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

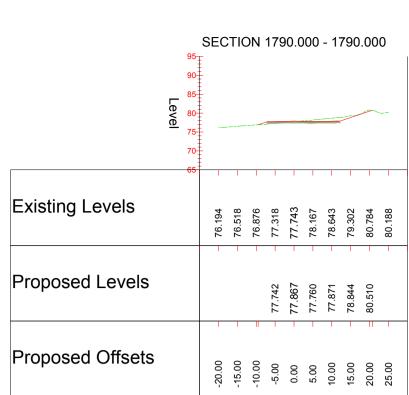
	90 85 Leve 75		EC	TIC	ON	169	90.0	000	- 16	690	.00	0
	70 65	Ŧ	1	-								
Existing Levels			76.354	76.575	76.996		77.661	78.085	78.537	79.450	79.453	79.880
Proposed Levels						77.824	77.949	77.841	77.952	78.925	I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

0.000 - 1610.000	SECTION 1620.000 - 1620.000
	90 85 80 75 70 65
77.191	Existing Levels
77.658 77.550 77.661 78.634 80.300	Proposed Levels
0.00 5.00 15.00 20.00 25.00	Proposed Offsets 22:00 00:00 10:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 00:00 0

		95 _∓	SEC	тю	N	163	80.0	00	- 10	630	.00	0
	Level	90 85 80 75 70	V	$\bigwedge$	Ą							
		65									1	
Existing Levels			77.015	81.697	81.185	76.758	77.184	77.709	77.922	78.481	79.479	79.828
						T					1	
Proposed Levels						77.605	77.730	77.623	77.734			
		$\uparrow$	T	1	11	T	T	T	T	П	T	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

		95 90	SEC	TIC	ON	164	40.C	000	- 1(	640	.00	0
	Level	85 80 75 70	V	1	~							
		65	T	I	I	T	T	T	I	T	I	1
Existing Levels			79.570	77.992	76.703	76.601	76.983	77.359	77.867	78.341	79.044	906.62
												1
Proposed Levels						77.642	77.767	77.659	77.770			
			1	I						11		1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	working, where appropriate, to an approve		Rev.	Date Description	n	Ву	Chk'd App'd				VVF I			mber	P1
	It is assumed that all works will be carried out by		P1 (	05.02.18 DRAWING CREATED		AF					WP1	- DR -		6012	Revision
Ν	IONE							WEST OF E	NGLAND		WoE	Origi ator		HGN -	0000000
	DECOMMISSIONING/DEMOLITIO	N									Drawing Number		00,02,10	00,02/10	Project Ref. No.
								Client			Original Size		Date 05/02/18	Date 05/02/18	Date
Ν	IONE							Copyright © Atkins Limited (2014)	www.atkinsglobal.co		1:1000	EC	•	AH	
Ν	MAINTENANCE/CLEANING								Tel: +44 (0)1454 66 Fax: +44 (0)1372 66		Scale	-		Checked	Authorised
N	IONE	_							Bristol BS32 4RZ		PROPOS	ED CONC	EPT GR EET 5/19		CTIONS
	CONSTRUCTION								Aztec West Almondsbury			OF	TION 1		
	In addition to the hazards/risks normally associate detailed on this drawing, note the							<b>ATKINS</b>	The Hub 500 Park Avenue		Drawing Title	A4 -	A37 LIN	IK	
_	INFORMATION							FOR INFORMA	TION	<b>S2</b>		WEST O	F ENGL WP1	AND	
20.0	SAFETY, HEALTH AND ENVI	·			-20.0 -15.0 -10.0 -5.0 0.00	5.00	15.0 20.0 25.0	Drawing Status	-20.0 -15.0 -10.0 -5.0 0.00 5.00	Suitability	Project Title				
20.00	Proposed Offsets	-10.00 -5.00 0.00 5.00 110.00 15.00 20.00 25.00		Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00	5.00 10.00	15.00 20.00 25.00	Proposed Offsets	-20.00 -15.00 -10.00 -5.00 0.00 5.00	20.00 20.00 25.00					



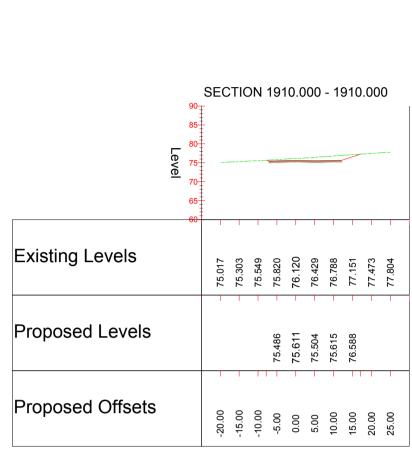
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#### **CROSS SECTIONS** Scale 1:1000

		90-	SEC	TIC	ЛС	195	50.0	00	- 19	950	.00	0
	Level	85 80 75 70 65	1	ſ	Y,							
		60	- 1	1			1	1	T	I	1	
Existing Levels			75.102	79.375	77.375	74.440	74.636	74.958	75.320	75.390	75.642	76.053
				I	I				I	I		
Proposed Levels						74.539	74.664	74.557	74.668			
			1	T	П	T	T	I	I	П	T	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

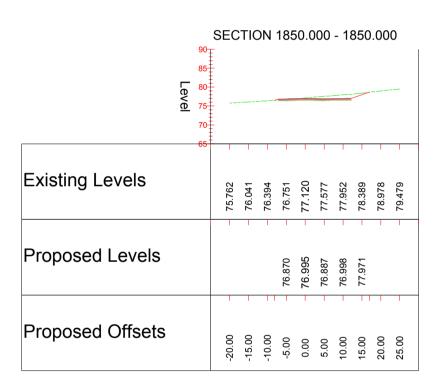
	Level	90 85- 80- 75- 70-	SEC		N	190	0.0	000	- 19	900	0.00	0
		65		-	1	1	1	1	-	-	-	
Existing Levels			75.228	75.469	75.746	76.068	76.355	76.723	77.119	77.411	77.760	78.218
Proposed Levels			ſ	I		75.723	75.848	75.741	75.851	76.824		I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Existing Levels

Proposed Levels

Proposed Offsets



		95 90	SEC	стіс	NC	180	0.0	000	- 18	800	.00	0
	Level	85 80 75 70										
Existing Levels			76.167	- 16.530	76.845	77.276	- 1691	78.138	78.742	- 79.092	- 19.598	80.094
Proposed Levels						77.642	77.767	77.660	77.77	78.744		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	evel	75	
Existing Levels		00	
Proposed Levels			
Proposed Offsets			

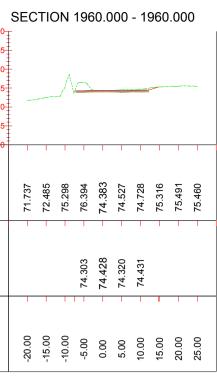
	Level	9 9 8 8 7
Existing Levels		7 -6

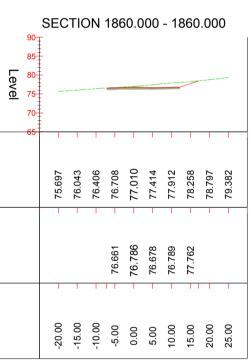
Proposed Levels

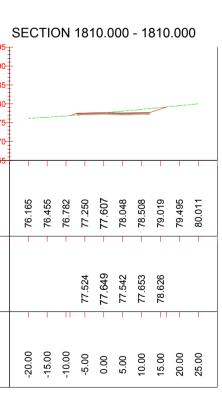
Proposed Offsets

Key:

Notes:







	90 83 Leve 71 65	SEC	TIC	ON	197	′0.0	00	- 19	970	.00	0
Existing Levels	6(	70.753	71.448	71.908	73.358	76.486	74.980	74.440	74.656	74.912	75.142
Proposed Levels				73.066	74.070	74.195	74.088	74.198		I	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	90 85	SEC	стіс	N	192	20.0	000	- 19	920	.00	0	
	Level 75 70 65											
Existing Levels	60	74.698	74.993	75.218	75.522	75.790	76.052	76.384	76.724	77.061	77.457	-
Proposed Levels			I		75.250	75.375	75.267	75.378	76.351			-
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	90	SEC	сті	N	187	70.0	000	- 18	370	.00	0
	85 Level 75 70										
		Ŧ		-	-	-	1	1	1	1	_
Existing Levels		75.636	75.945	76.290	76.700	77.061	77.384	77.796	78.197	78.613	79.057
				I		I	I	I	T	T	1
Proposed Levels					76.434	76.559	76.451	76.562	77.535		
				1		I			I		1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	!	ع ∓ ⁹⁰	SEC	TIC	N	198	80.0	000	- 19	980	.00	0
	Level	85 80 75 70 65					~	_	<u>~</u>			
		60	-	-	-		1	-	-		1	-
Existing Levels			69.827	70.410	71.062	71.670	73.458	75.573	77.337	74.085	74.473	74.757
Proposed Levels			1	ſ	ſ			1	ſ		1	1
				71.209	72.876	73.879	74.004	73.897	74.008			
Dranaged Offecto			11			I	I	I	I		I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

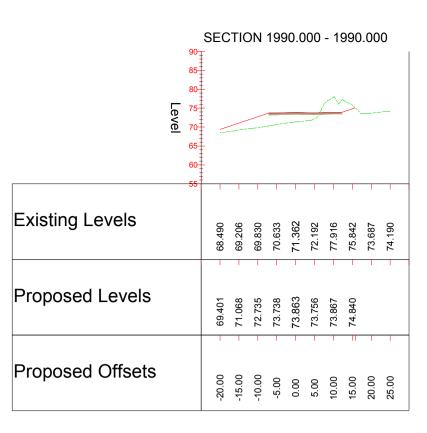
		90	SEC	стіс	N	193	80.0	000	- 19	930	.00	0	
	Level	85 80 75 70 65											
		60	: 	1	1	I	1	T	T	I	T	-	
Existing Levels			74.623	74.711	74.849	75.098	75.383	75.649	75.960	76.289	76.662	77.026	
			I		I	I	I				I	1	
Proposed Levels						75.013	75.138	75.030	75.141	76.114			
				1			I	I		11	I	1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

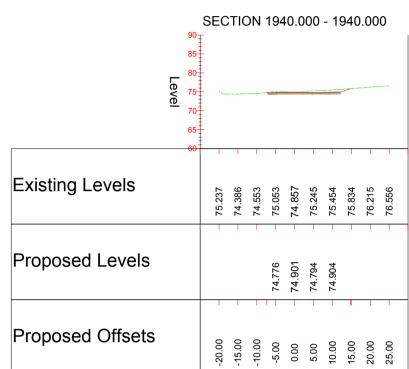
			SEC	тю	ΟN	188	80.0	000	- 18	880	.00	0
		90										
		85										
	Le	80										_
	Level	75				_						
		70										
		65										
Existing Levels			~	~	~	~	2	6	~	~	+	_
			75.528	.778	.103	.430	76.842	.286	.602	.050	.484	78.853
			75	75	76	76	76	77	77	78	78	78
Dranged Lovala												
Proposed Levels						197	76.322	214	325	298		
						76.`	76.3	76.2	76.3	17.2		
								-			11	-
Proposed Offsets			0	0	0	0	~	~	0	0	0	0
-			-20.00	-15.00	10.0	-5.0	00.0	5.0(	10.0	15.0	20.0	25.0
					'	·			<b>,</b> –	<b>,</b> –		

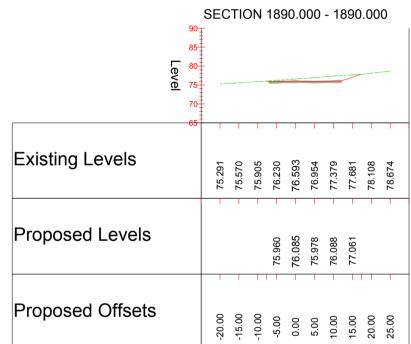
	Level	90 85 80 75	SEC	CTIC	N	182	20.0	000	- 18	820	0.00	0
		70 <del>65</del>	-									-
Existing Levels			76.149	76.387	76.725	77.175	77.505	77.890	78.452	78.960	79.418	79.893
Proposed Levels			ſ		I	77.388	77.513	77.405	77.516	78.489	1	
			T	T	11	I	I	1		11	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

			SEC	тіс	ON	183	30.0	000	- 18	830	.00	0
	Level	90 85 80 75 70	- - -									
		65	1	I	I	I	1	T	1	I	1	1
Existing Levels			76.065	76.335	76.688	76.982	77.400	77.835	78.301	78.809	79.269	77.67
			T			I	I				1	
Proposed Levels						77.233	77.358	77.251	77.362	78.335		
			I		11	1		I	I		1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION				Drawing Status FOR INFORMATION	WEST OF ENGLAND WP1								
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:				The Hub	ub ark Avenue		Drawing Title	Δ4.	- A37 LIN	IK			
CONSTRUCTION				ATKINS 500 Park Aztec W Almonds	West								
NONE				Bristol BS32 4F	1RZ		PROPOSED CONCEPT GROSC SECTIONS SHEET 12 19						
MAINTENANCE/CLEANING				Fax:+44	4 (0)1454 662000 4 (0)1372 663333	2 663333 Scale Designed Dra 'n Checked							
NONE				Copyright C Atkins Limited (2014) www.atk	tkinsglobal.com		1:1000 Original Size	EC		AH	Date		
DECOMMISSIONING/DEMOLITION				- Chent			A1	05/02/1b	05/02/18	05/02/18	Date		
NONE				WEST OF ENGLAN		Drawing Number HA PIN WOE ATK - HGN - Project Re 00000							
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 Rev.	AF By	Chk'd App'd			WP1 - DR - D - 6013 Location							







	90 85	Ŧ	EC	тіс	N	184	10.0	00	- 18	840	.00	0
	Leve 75											
	65	-	1	1	1	1	1		1	1	1	
Existing Levels			76.008	76.243	76.516	76.838	77.239	77.713	78.098	78.652	79.156	79.614
Proposed Levels						77.061	77.186	77.078	77.189	78.162		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

- 19

0

#### **CROSS SECTIONS** Scale 1:1000

SECTION 2150.000 - 2150.000 Existing Levels 78.914 79.008 81.047 78.677 78.677 78.697 78.697 78.697 78.697 78.535 Proposed Levels 78.599 77.703 77.828 77.720 77.720 Proposed Offsets -20.00 -15.00 -10.00 -5.00 0.00 5.00 115.00 25.00

Existing Level
Proposed Lev
Proposed Offs

	ç	5 90 _±	SECTION 2100.000 - 2100.000										
	Level	35 30 75 70	~		~					_			
		<del>1</del> 0	1	1		1							
Existing Levels			77.601	74.567	73.973	73.830	73.927	74.118	74.107	74.107	74.123	74.140	
												1	
Proposed Levels					74.485	75.489	75.614	75.506	75.617	74.690			
			T	T	П	T	T	I	T	П	T		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

Existing Leve
Proposed Lev

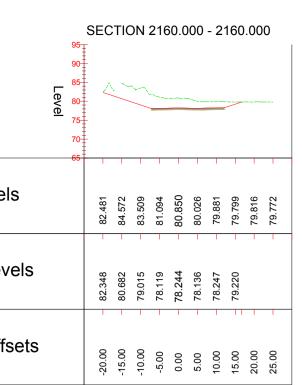
	SECTION 2050.000 - 2050.000												
		85											
		80											
	_	75			_								
	Level	70					/	$\sim$				>	
	<u>w</u>	65	-										
		60	_										
		-55											
Existing Levels			0	•	~	~	10	10	-+	~		~	
			67.430	67.589	.862	.058	.26	.735	68.684	69.917	69.507	69.883	
			67	67	67	89	7	7	89	66	66	66	
Proposed Lovels													
Proposed Levels			69.606	71.273	939	943	74.068	961	74.071	4	478		
			69.(	7	72.9	73.	74.(	73.	74.	73.	7		
												1	
-													
Proposed Offsets			8	8	8	0	0	0	0	0	0	0	
			-20.00	-15.00	-10.00	-5.0	0.0	5.0	10.0	15.0	20.00	25.0	
											-		

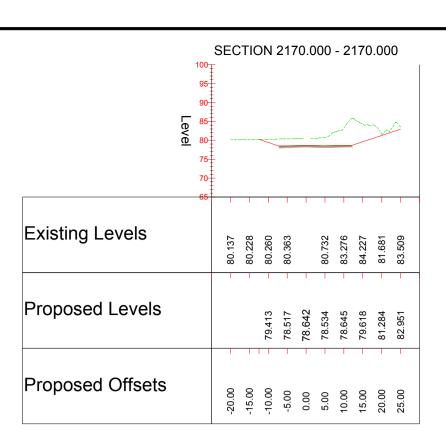
Existing Level
Proposed Lev
Proposed Offs

		SECTION 2000.000 - 2000.000 ⁹⁰ Ŧ											
	Level	85 80 75 70 65 60								7	2		
		55		T			T		I	T			
Existing Levels			67.347	68.018	68.677	69.446	70.163	70.937	71.585	75.246	74.227	73.625	
				1	T	T	T	I	I		T		
Proposed Levels			69.310	70.977	72.644	73.648	73.773	73.665	73.776				
					I	1	I			П	I	1	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

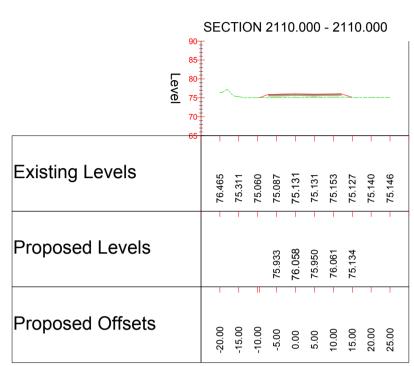
K	Δ	v

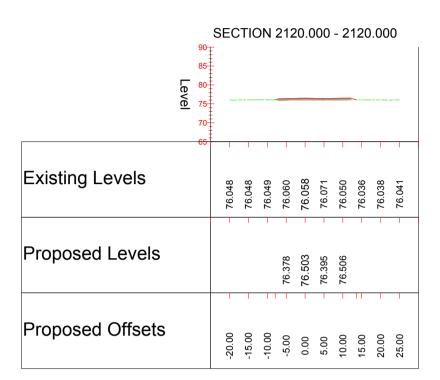
Notes:



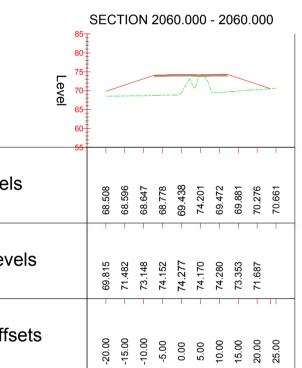


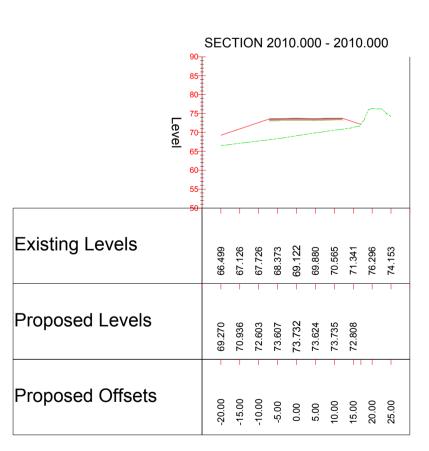
	95	SEC	стіс	Л	218	80.0	00	- 2′	180	.00	0
	90 85 80 75 70			<u> </u>					-		
	65	Ţ	T	1	I		I	1	I	I	1
Existing Levels		80.364	80.459	80.510	80.553	80.651	80.844	81.159	81.246	81.235	81.287
			I	1	I		I			I	T
Proposed Levels				79.792	78.896	79.021	78.914	79.024	79.997		
			I	11						11	T
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00





	SECTION 2130.000 - 2130.000												
	Level	80 75 70											
Existing Levels		65		1		1		I			I		
			76.849	76.886	76.884	76.891	76.932	76.846	76.842	76.916	76.918	76.811	
					1	1							
Proposed Levels						76.823	76.948	76.841	76.951				
			I	I				I					
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	





		SECTION 2070.000 - 2070.000												
	Level	85 80 75 70 65 60			~	Ĵ	·				>			
		55	1	T	I	I			T	T		1	1	
Existing Levels			69.817	69.749	69.728	70.428	74.692	72.818	70.706	70.838	71.201	71.374		
Proposed Levels			70.074	71.741	73.408	74.411	74.536	74.429	74.540	73.613	71.946	I		
						1	1							
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00		

	90		C	ГIС	)N :	202	20.0	00	- 20	020	.00	0
	88 80 75 70 65 60									$\geq$		
	55	Ŧ	I	1	1			-	-			
Existing Levels		0010	1.76.00	66.451	67.086	67.636	68.238	68.765	69.354	69.969	71.076	75.496
Proposed Levels		020 03	67.20	70.945	72.612	73.616	73.741	73.633	73.744	72.817		
Proposed Offsets		00	- 20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		90 <del></del>	SEC	тю	DN :	208	80.0	00	- 20	080	.00	0
	Level	85 80 75 70 65			M	-M	<u></u>			<u> </u>		
		60							I			
Existing Levels			71.096	71.024	76.078	73.072	73.736	72.386	71.670	71.948	72.001	72.245
							I					1
Proposed Levels						74.720	74.845	74.738	74.849	73.922	72.255	
			T						I		П	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

			SEC	тю	DN :	203	80.0	00	- 20	030	.00	0
	Level	90 85 80 75 70 65 60						$\overline{\mathbf{A}}$	$\checkmark$	\	~^^	/
		<del>55</del>		1	1			1	1			
Existing Levels			65.925	66.157	66.533	67.202	68.388	69.982	73.332	73.644	74.460	73.697
Proposed Levels			69.338	71.004	72.671	73.675	73.800	73.692	73.803			
					I					I		T
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	Chk'd	App'd				VVP I	- DR - D		P1
It is assumed that all works will be carried out by a competent contractor	P1	05.02.18	DRAWING CREATED	AF						WP1		_	Revision
NONE							WEST OF E	NGLAND			Origi ator	- HGN	0000000
DECOMMISSIONING/DEMOLITION										A1 Drawing Number	05/02/18 05/0	02/18 05/02/	Project Ref. No.
							Client			Original Size ∧ 1	Date Jate	Date	Date
NONE							Copyright $\bigcirc$ Atkins Limited (2014)	www.atkinsglobal.com		1:1000	EC	AH	
MAINTENANCE/CLEANING								Tel: +44 (0)1454 662 Fax: +44 (0)1372 663		Scale		Checked	Authorised
NONE								Bristol BS32 4RZ		PROPOS	ED CONCEP SHEET		SECTIONS
CONSTRUCTION								Aztec West Almondsbury			OPTI	ON 1	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							<b>ATKINS</b>	The Hub 500 Park Avenue		Drawing Title	A4 - A3	7 LINK	
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status FOR INFORMA		Suitability	Project Title	WEST OF E WF	-	

#### DO NOT SCALE

	9		SEC	тю	ΟN	219	90.C	00	- 2'	190	.00	0
	9 Level 7 7	5 0 5 5			-			~				
Existing Levels	U		80.573	80.666	80.756	80.816	80.919	82.127	81.501	81.469	81.473	81.532
Proposed Levels			I	1	80.154	79.258	79.383	79.275	79.386	80.359		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

### SECTION 2140.000 - 2140.000 Existing Levels 77.900 77.878 77.858 77.712 77.712 77.676 77.714 77.714 77.729 77.695 77.695 Proposed Levels 77.268 77.393 77.286 77.397 Proposed Offsets -20.00 -15.00 -15.00 0.00 5.00 10.00 115.00 25.00 25.00

		90⊤	SEC	тю	DN .	209	90.0	00	- 20	090	.00	0
	Level	85 80 75 70 65					~				×	
Existing Levels		60	73.210	6.953	6.272	4.839	4.194	72.752	2.895	2.815	2.884	73.137
			-	-	-	-	-	-	-	-	-	-
Proposed Levels						75.080	75.205	75.097	75.208	74.281		
				I	11	1	I			I	11	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

			~						•
			T			-			
					1	I		1	
66.595	67.218	67.589	68.613	68.900	67.706	69.898	70.219	70.739	69.996
		I	I	I	I	I	I		
69.447	71.114	72.780	73.784	73.909	73.801	73.912	72.985	71.319	
		I	I	I	1	I			TT
-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
	69.447	69.447 71.114	69.447 71.114 72.780	69.447 69.447 71.114 72.780 72.784	69.447 71.114 72.780 73.784 73.909	69.447 71.114 72.780 73.784 73.909 73.801	69.447 71.114 72.780 73.784 73.809 73.801 73.801	69.447 71.114 72.780 73.784 73.909 73.909 73.912 73.912	69.447 71.114 72.780 73.784 73.801 73.801 73.801 73.912 73.912 73.912 73.912 72.985

0 =

8

#### CROSS SECTIONS Scale 1:1000

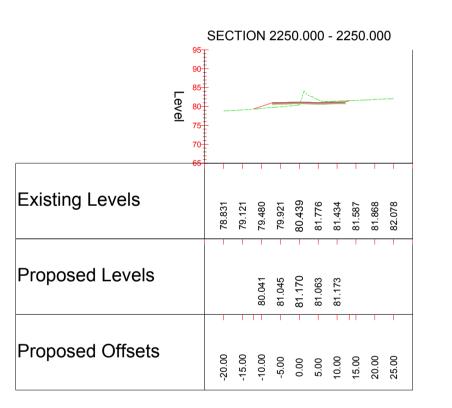
		95	SEC	TIC	DN :	235	50.C	00	- 23	350	.00	0
	Level	90 85 80 75								>		
		70	I	I	I	I	1	I	I	I	I	T
Existing Levels			80.819	80.887	80.909	80.966	81.028	81.052	81.105	81.120	81.187	81.220
			T	I	I	I	1		I	I	I	
Proposed Levels					81.566	82.569	82.694	82.587	82.698	81.771		
			T		П	T	T		I			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

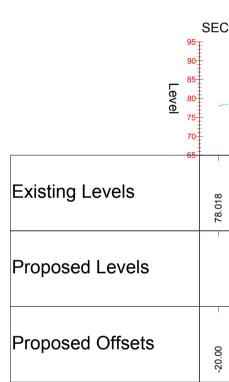
	100-	SEC	тіс	DN :	236	60.0	00	- 23	360	.00	0
	95- 90- 85- 80- 75-								<u> </u>	/	/-
	<del></del>		I	I	I	I	I	I		I	
Existing Levels		81.028	81.187	81.275	81.376	81.484	81.542	81.539	81.600	81.703	85.818
			I	I	I		I			I	
Proposed Levels				81.618	82.622	82.747	82.639	82.750	81.823		
				11					II		1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

SECTION 2310.000 - 2310.000

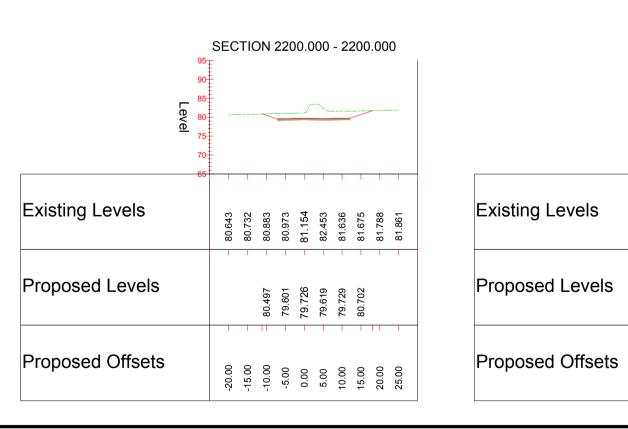
		ج 95	SEC	тю	DN :	230	0.0	00	- 23	300	.00	0	1
	Level	90- 85- 80- 75- 70-	_										
		65		I	I								-
Existing Levels			77.173	77.262	77.464	77.717	77.946	78.291	78.781	79.229	79.681	80.177	
Proposed Levels			- 77.697	79.364	81.031	82.034	82.159	82.052	82.163	81.236		1	
			I	I	I								
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00	

	Level	95 90 85 80 75 70 65										
Existing Levels		05	77.819	78.649	77.607	77.930	78.169	78.463	78.765	79.185	79.519	79.973
Proposed Levels			77.841	79.507	81.174	82.178	82.303	82.195	82.306	81.379	79.712	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



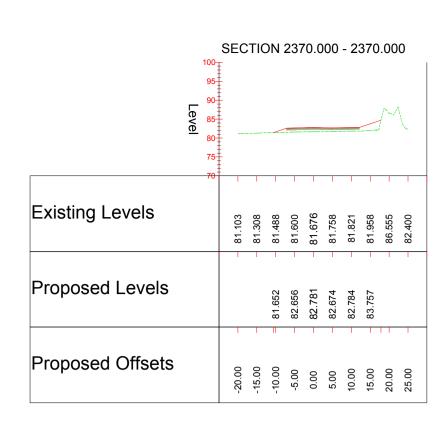


Lev 8



Key:

Notes:



Existing Levels

Proposed Levels

Proposed Offsets

SECTION 2320.000 - 2320.000

78.688 78.670 78.712 79.137 79.137 79.025 79.387 79.387 79.673

79.633 81.299 82.303 82.428 82.320 82.431 81.504 81.504 79.838

-20.00 -15.00 -10.00 -5.00 0.00 5.00 110.00 15.00 22.00

	Level	00 95 90 85 80	SEC	TIC	ON .	238	80.0	000	- 2:	380	.00	0
[	;	75 70	-1	-1			-1	-	-			
Existing Levels			81.082	81.319	81.474	81.638	81.694	81.838	82.003	86.335	82.437	82.471
Proposed Levels			1	1			82.797	1	I	83.773	T	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	100-	SEC	тю	) N	239	90.0	00	- 23	390	.00	0
	95 90 85 80 75						/	$\mathcal{N}$	À		
	70	1	I	I	I	I	I	I	I	I	I
Existing Levels		80.913	81.211	81.386	81.534	81.639	81.856	87.055	82.233	82.373	82.480
		1	I	I	I	I	I	I	I	I	1
Proposed Levels				81.668	82.672	82.797	82.689	82.800			
			I	П				I	11		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	SECTION 2330.000 - 2330.000											0
	Level	90 85 80 75 70									~	
		65	T	1	I	I						
Existing Levels			79.662	79.668	79.670	79.591	79.598	79.641	79.766	79.993	80.718	80.377
Proposed Levels			I	79.740	81.406	82.410	82.535	82.427	82.538	81.611		
				I	I	I	I	I	I			1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

Existing
Propos
Propos

С	TIC	)N	226	0.0	00	- 22	260	.00	0	
			_							
	T									
	78.690	78.943	79.409	79.831	80.700	81.090	81.330	81.637	81.932	
	78	78	79.	79	80	81.	81	81	81	
		1		1				1		
		80.276	81.279	81.404	81.297	81.408				
		80	81	8	81	81				
	-15.00	-10.00	5.00	00.0	2.00	0.00	5.00	20.00	25.00	
	-	-	ř			-	-	7	7	

	95-	SEC	тіс	DN .	227	<b>'</b> 0.0	000	- 22	270	.00	0	
	90- 85- 80- 75- 70-					2			<b></b>			
	65	-		1	I	I						_
Existing Levels		76.928	77.908	78.244	78.728	80.297	80.512	80.939	81.049	81.331	81.609	
		1	1	1	T	I	I	I	1	I	I	
Proposed Levels		77.158	78.825	80.492	81.495	81.620	81.513	81.624				
		I					I	I	П	I		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	Level	95 90- 85- 80- 75-	SEC		DN .	228	30.0	000	- 22	280	.00	0
Existing Levels		70- 65	77.561	77.456	77.710	77.888	78.886	81.594	81.270	80.845	81.092	81.385
Proposed Levels			1	79.023	80.690	81.693	81.818	81.711	81.822	80.895		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	2.00	10.00	15.00	20.00	- 25.00

95 _∓	SEC	TIC	DN .	221	0.0	000	- 22	210	.00	0		9
90 85 80 75 70						~	·				Level	9 8 8 7 7
65	80.502	80.688	80.894	80.998	82.511	82.935	81.760	81.755	81.848	81.990	Existing Levels	-6
			80.822	79.926	80.051	79.944	80.054	81.027	1		Proposed Levels	
	-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	Proposed Offsets	

		95 90	SEC	TIC	DN :	222	20.0	00	- 22	220	.00	0	
	Level	85 80 75 70	- - -							~			
xisting Levels			80.179	80.493	80.753	80.948	81.756	81.658	81.792	81.833	81.975	82.218	
roposed Levels						80.233	80.358	80.251	80.361	81.334	T		
roposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

Leve	95 90 85	SEC	тіс	Л	223	30.0	000	- 2:	230	0.00	0			
<u>0</u>	75 70 65	-											Г	
Existing Levels		79.855	80.097	80.473	80.757	81.932	82.057	81.743	81.813	82.052	82.243		I	Existi
Proposed Levels					80.522	80.647	80.540	80.650	81.623				ł	Propo
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		ł	Propo

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORMATION	Suitability	Project Title	WEST OF ENGLAND WP1	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:						<b>ATKINS</b> The Hub 500 Park Avenue Aztec West		Drawing Title	A4 - A37 LINK	
CONSTRUCTION									OPTION 1	
NONE						Almondsbury Bristol BS32 4RZ		PROPOS	ED CONCEPT GROSS SEC SHEET 12, 19	TIONS
MAINTENANCE/CLEANING						Tel: +44 (0)1454 6 Fax: +44 (0)1372 6	63333	Scale		Authorised
NONE						Copyright C Atkins Limited (2014) www.atkinsglobal.	com	1:1000	EC AH	
DECOMMISSIONING/DEMOLITION						Client		Original Size	Date         Date         Date           05/02/18         05/02/18         05/02/18	Date
NONE						WEST OF ENGLAND		Drawing Number HA PIN WOE	Origi ator Volume	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor	P1	05.02.18 DRAWING CREATED	AF					WP1	- DR - D - 6015	Revision
working, where appropriate, to an approved method statement	Rev.	Date Description	Ву	Chk'd	App'd			VVF I Location	- DR - D - 0013   Type   Role   Number	P1

	Level	95 90 85 80 75	SEC	TIC	DN :	234	0.0	00	- 23	340	.00	0	
		70 [‡]	1				1	T	T	T			
ting Levels			80.342	80.394	80.383	80.374	80.420	80.396	80.476	80.518	80.609	80.775	
							1	1		1	1		
osed Levels					81.495	82.499	82.624	82.516	82.627	81.700			
				11	I	I	I	I	I	I	TT		
osed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	95		СТІС	NC	229	90.0	000	- 22	290	.00	0
	90 85 80 75 70	····							>		/
	65	Ť,			1			1	1		1
Existing Levels		77.240	77.394	77.465	77.660	77.908	78.521	79.054	80.788	84.097	82.018
					1		1	1			
Proposed Levels		77.536	79.203	80.869	81.873	81.998	81.890	82.001	81.074		
					1	1	T		I	1	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		95-	SEC	тю	DN :	224	0.0	00	- 22	240	.00	0	
	Level	90 85 80 75 70						~					
ng Levels		00	79.279	79.608	- 20.996	80.402	81.160	82.521	81.595	81.731	82.030	82.364	
sed Levels						80.793	80.918	80.810	80.921			I	
sed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00 =	20.00	25.00	

			SEC	сті	ΟN	255	50.0	00	- 2	550	.00	0
		95 90										
	Level	85										
	<u>/e</u>	80										
		75										
		70			I	I	I	I	1	I	I	I
Existing Levels			81.293	81.491	81.675	81.843	81.990	82.184	82.370	82.505	82.627	82.824
			1		1	1					1	I
Proposed Levels					82.499	82.624	82.749	82.624	82.584	82.684		
			I		I	1	1		1	11		I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

SECTION 2500.000 - 2500.000

80.919 81.039 81.237 81.486 81.541 81.575 81.575 81.575 81.575 81.575

81.092 82.514 82.639 82.764 82.639 82.639 82.639 82.639

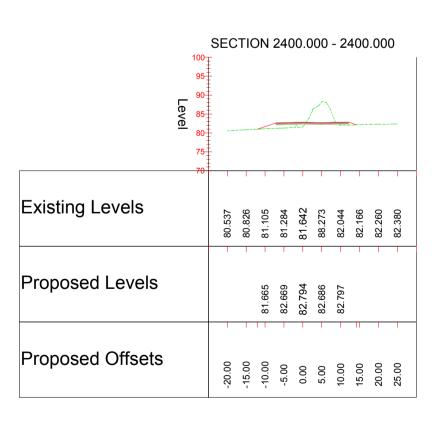
-20.00 -15.00 -10.00 0.00 5.00 110.00 15.00 25.00 25.00

	Level	95 90 85 80 75	SEC	TIC	ON	256	60.C	000	- 2	560	.00	0
		-70	: 	1	I	I	I		I	I	I	-
Existing Levels			80.574	80.848	81.055	81.251	81.478	81.679	81.876	82.046	82.236	82.328
			1	1	1	I	I	I	I	I	I	1
Proposed Levels				81.076	82.496	82.621	82.746	82.621	82.581	82.681		
			I	П			I	I	I	I		1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
			-20.(	-15.0	-10.6	-5.0	0.0	5.0	10.0	15.0	20.0	25.(

	95	EC	тю	DN :	251	0.0	000	- 2	510	.00	0
	90 Level 85 80 75			/							
	<del>70</del>			I	I				I		I
Existing Levels		81.285	81.439	81.623	81.705	81.852	81.949	82.083	82.088	82.218	82.396
Proposed Levels				82.511	82.636	82.761	82.636	82.596	82.696		
		T	П	I		I		I	I		I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		95 <del></del>	SEC	тю	ON :	245	50.0	00	- 24	450	.00	0
	Level	90 85 80 75 70	4	_	/	7	~	· · · · ·		<u> </u>		
		65	I		I			1		1		I
Existing Levels			77.804	77.940	78.346	80.897	82.453	81.037	80.425	80.722	80.847	81.082
Proposed Levels			78.317	79.984	81.650	82.654	82.779	82.672	82.782	81.855	I	1
					I			T		1	11	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00
		1_										

	1	100 _Ŧ	SEC	тю	ON	246	60.C	000	- 24	460	.00	0
	Level	95- 90- 85- 80- 75-	Ņ					/ 	\		<b></b>	
		70	1	1	1	-	1	-	1	1		T
Existing Levels			78.290	78.412	78.698	78.960	79.247	81.651	81.091	80.581	80.729	80.916
				I	I	I	I		I	I		I
Proposed Levels			78.537	80.203	81.870	82.651	82.776	82.651	82.747	82.075		
											11	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	10	5 00-1	SEC	TIC	ON	241	0.0	000	- 24	410	.00	0
	Level	25 20 35 30 					<u>`</u>					
Existing Levels			- 20.968	80.279	80.609	80.982	86.408	81.562	81.761	81.922	82.062	82.260
Proposed Levels			I		81.662	82.666	82.791	82.683	82.794	I	I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Notes:

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	95 90 Leve	EC	TIC	)N :	257	0.0	00	- 2	570	.00	0
	75 70 	1	1	1		-1	1	-1		1	-1
Existing Levels		79.945	84.448	81.539	80.490	80.704	80.910	81.152	81.348	81.555	81.797
Proposed Levels		T	83.873	82.493	82.618	82.743	82.618	82.578	82.678	1	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	95	SEC	стіс	ON	258	80.0	00	- 2	580	.00	0
	90 85 80 75 70						i vnc	·		>-	
	65		T	I	I		I	I	I		
Existing Levels		78.808	79.003	79.225	79.360	79.943	81.805	81.236	80.664	80.824	81.069
			1	I	I			I			
Proposed Levels		79.404	81.070	82.490	82.615	82.740	82.615	82.575	82.675	81.275	
			1			1	I	I		Π	-
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		95 <u></u>	SEC	TIC	) N	253	80.0	00	- 2	530	.00	0
	Level	90 85 80 75			_							
		70	T	T		1	1		T		T	-
Existing Levels			81.867	82.026	82.141	82.278	82.355	82.509	82.568	82.683	82.758	82.932
Proposed Levels			1		82.505	2.630	82.755	2.630	2.590	82.690		
		_	1	1	∞ T T	~	80	~	~	~	1	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	,	ج 95	SEC	тіс	DN .	254	0.0	00	- 2	540	.00	0	
	Level	90 85 80 75			_					_			
		70		I	I			I		I		I	
Existing Levels			81.754	81.870	82.024	82.176	82.294	82.438	82.579	82.743	82.854	82.980	
				I	I								
Proposed Levels					82.502	82.627	82.752	82.627	82.587	82.687			
			I	I	П	I	I	T	I	П	I		-
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00	

		SEC	стіс	ΟN	248	80.0	00	- 24	480	.00	0
	100	Ŧ									
	95	ŧ									
	90	ŧ									
	e 85	Į.					~	$\wedge$			
	Level 80	ŧ	/				$\sim$			<u> </u>	
	75	ŧ									
	70	Ŧ									
	65	÷									
				1	1			1	1		
Existing Levels						~					-
		79.681	79.953	.185	.321	80.558	81.542	85.508	.958	81.003	81.100
		79	79	80	80	80	81	85	80	81	81
						I	I	I		I	I
Proposed Levels			348	314	345	70	345	375	519		
			80.648	82.3	82.6	82.7	82.6	82.675	82.519		
		T	П	1	1	1	T	T	T	П	1
Proposed Offsets		0	0	0	0	~	~	0	0	0	0
		20.00	-15.00	10.0	-5.0	0.0	5.00	10.00	15.0	20.0	25.00
		· ·	'	<u>'</u>				-			

	100-	SEC	стіс	DN .	249	90.0	00	- 24	490	.00	0
	95 90 Level 80 75										- ^ L
	<del>70 -</del>	-	1	I	I		I	1	I	I	
Existing Levels		82.748	80.613	80.808	81.058	81.158	81.191	81.347	81.386	82.300	87.731
		I	T	I	I		I	1	I	1	
Proposed Levels			80.870	82.517	82.642	82.767	82.642	82.639	82.721	84.366	
			П								
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	⁹ Level 7	95 10 15 15 10 10	SEC /		ON .	244	i0.0	000	- 24	440	.00	0
Existing Levels	6	5	77.810	79.371	81.623	79.924	81.063	80.090	80.426	80.744	81.101	81.395
Proposed Levels					81.653	82.657	82.782	82.674	82.785	81.858	I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status FOR INFORMA	Suitability <b>S2</b>	Project Title	WEST OF ENGLAND WP1
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							ΛΤΚΙΝ	The Hub 500 Park Avenue	Drawing Title	A4 - A37 LINK
CONSTRUCTION								Aztec West		OPTION 1
NONE								Almondsbury Bristol BS32 4RZ	PROPOS	SED CONCEPT GROSE SECTIONS SHEET 12 19
MAINTENANCE/CLEANING					-			Tel: +44 (0)1454 662000 Fax: +44 (0)1372 663333	Scale	Designed Dra n Checked Authorised
NONE					-		Copyright © Atkins Limited (2014)	www.atkinsglobal.com	1:1000	EC AH
					-		Client		Original Size	Date Date Date Date
DECOMMISSIONING/DEMOLITION									A1	05/02/18 05/02/18 Deviced Ref. No.
NONE							WEST OF E	NGLAND	Drawing Number HA PIN WoE	Origi ator Volume ATK - HGN -
It is assumed that all works will be carried out by a competent contractor	- P1	05.02.18	DRAWING CREATED	AF					WP1	
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	0	Chk'd App'd				- DR - D - 6016 P1

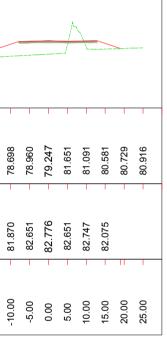
SECTION 2430.000 - 2430.000

78.253 78.876 84.700 80.038 80.260 80.263 80.563 80.563 80.563 81.231 81.553 81.859

82.660 82.785 82.677 82.788 82.788 81.861

-20.00 -15.00 -10.00 -5.00 0.00 5.00 110.00 15.00 25.00

		95 90	SEC	; IIC	)N :	252	:0.0	00	- 2:	520	.00	0
	Level	85	_									
	e	80 <del>-</del> 75-										
		70	T	Ι	I	T	1	1	I		T	T
Existing Levels			960	355	968	021	104	263	376	151	554	283
			81.696	81.855	81.9	82.0	82.1	82.2	82.376	82.4	82.554	87 683
							1					
Proposed Levels					82.508	.633	82.758	.633	.593	82.693		
					8	82	82	82	82	82		
			1				1					1
Proposed Offsets			20.00	-15.00	10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25,00



Biology     Biology       82.092     79.19       82.092     79.19       82.092     79.19       82.048     79.63       82.048     79.63       82.048     79.63       82.048     79.63       82.048     79.63       82.048     79.63       82.047     80.87       82.071     80.66       82.071     80.66       82.071     80.66       82.071     80.66       82.071     80.66		95		СТЮ	NC	247	70.0	000	- 24	470	.00	0	1
Existing Levels       80.426       79.194         80.426       79.194         80.426       79.194         80.428       79.388         80.648       79.388         82.043       80.873         82.043       80.873         82.043       80.873         82.043       80.873         82.043       80.873         82.043       80.741         80.741       80.873         80.741       80.873         80.741       80.873         80.741       80.866         80.741       80.864		Level 75					^^	V	\		<u> </u>		
Proposed Offsets		65	† ı		1	1	1	1		1	1		-
Proposed Offsets	Existing Levels		78.984	79.194	79.388	79.640	80.873	83.043	80.666	80.741	80.746	80.881	
Proposed Offsets					I	1	I					1	
Proposed Offsets	Proposed Levels			80.426	82.092	82.648	82.773	82.648	82.711	82.297			
Proposed Offsets						I	I				I	I	
	Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

	1	ج 100	SEC	TIC	DN :	242	20.0	00	- 24	420	.00	0
	Lev	95 90 85 80 75 70			/	<u>~~</u> ^						
Existing Levels		65	79.230	79.581	80.080	82.987	80.986	81.137	81.314	81.624	81.894	82.064
Proposed Levels			1			82.663	82.788	82.680	82.791	81.864	Ţ	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

					242	.u.c	,00	- 2.	+20	.00	0
10	⁰⁰ Ŧ										
9	95										
ę	90∰										
5 8	35				$\sim$						
8	30 <del>[</del>			/							
7	75										
7	70										
-	35										
							1				
		-	_	-		6					_
		79.230	.581	.080	.987	80.986	.137	.314	.624	.894	.064
		79	29	80	82	80	81	81	81	81	82
									I		
					63	88	80	791	364		
					82.663	82.788	82.6	82.791	81.8		
	+	1		1		1	1	T	П	1	1
		0	0	0	0	~	~	0	0	0	0
		20.00	15.0	10.0	5.0	0.00	5.00	0.0	5.0	0.0	5.00

		<b>95</b> ⊤	SEC	тю	DN .	259	90.0	00	- 2	590	.00	0
	Level	90 85 80 75 70	/									
		65		I	I	I						
Existing Levels			78.061	78.287	78.685	79.299	79.290	79.597	79.733	79.911	80.150	82.007
			I	I	I	I	I	I	I	I	I	
Proposed Levels			79.401	81.067	82.487	82.612	82.737	82.612	82.572	82.672	81.272	
												TT
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

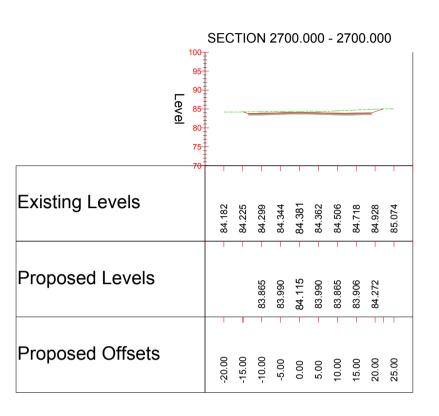
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#### CROSS SECTIONS Scale 1:1000

	SECTION 2750.000 - 2750.000												
	Level	95 90 85 80 75											
		70		1	1	I	I	I	I		I		
Existing Levels			85.894	85.919	85.912	85.974	86.080	86.063	86.051	86.133	86.171	86.168	
Proposed Levels			I		85.071	85.196	85.321	85.196	85.156	85.256	I		
					I	I	I	I	Ì	I	11		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

	Level	100 95 90 85 80 75 70
Existing Levels		10
Proposed Levels		
Proposed Offsets		

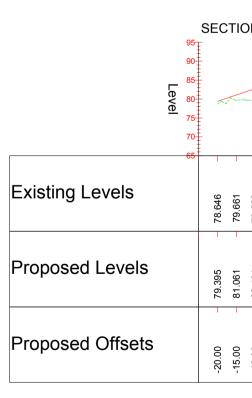


	95	SEC Ŧ	сті	NC	265	50.0	00	- 20	650	.00	0
	90- 85- 80- 75- 70-										
Existing Levels		81.936	82.286	82.594	82.831	83.061	83.282	83.498	83.700	83.884	84.100
Proposed Levels				82.728	82.853	82.978	82.853	82.813	82.913	I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	100 95 	EC	тіс	N	271	10.0	000	- 2	710	0.00	0
	Level 85	-									
Existing Levels		84.519	84.558	84.652	84.800	84.864	84.877	84.865	84.876	85.052	85.258
Proposed Levels			83.981	84.106	84.231	84.356	84.231	84.106	83.981	83.952	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00 =

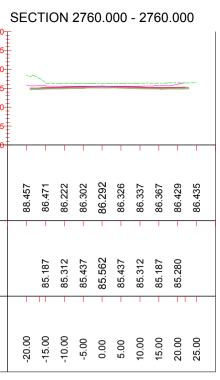
	Leve	95 90 85
Existing Levels		80 75 70
Proposed Levels		
Proposed Offsets		

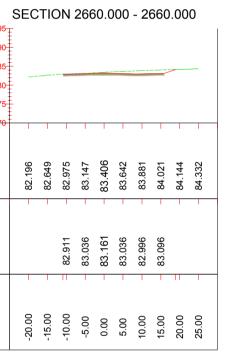
		95 90	SEC	тіс	DN :	260	0.0	000	- 20	600	.00	0
	Level	85 80 75 70	1		~						<u> </u>	
Existing Levels		<del>65</del>	- 777.77	77.969	79.607	79.377	79.504	79.847	79.769	80.047	79.993	80.144
Proposed Levels			79.398	81.064	82.484	82.609	82.734	82.609	82.569	82.669	81.269	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Key:

Notes:





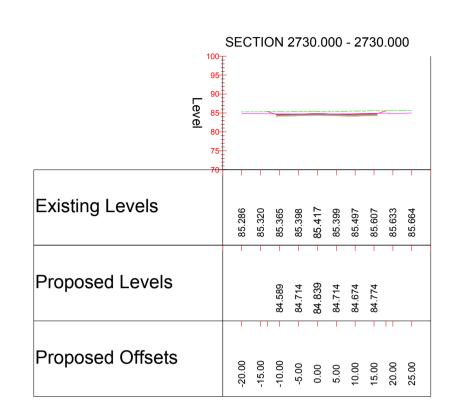
-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00			Propos
ON	266	60.0	000	- 26	660	.00	0			
82.975	83.147	83.406	83.642	83.881	84.021	84.144	84.332			Existin
	6	1	9	9	9		1			Propos
82.911	83.03	- 83.161	83.03	82.99	83.09					· ·
								1		1

	SECTION 2770.000 - 2770.000 ¹⁰⁰ Ŧ												
	Level	95 90 85 80 75											
Existing Levels		70	86.208	86.221	86.277	88.815	86.862	86.804	86.713	86.702	86.710	86.680	
Proposed Levels			ſ	86.155	85.553	85.678	85.803	85.678	85.555	85.668	86.543	I	
				I		I				I	Π	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	SECTION 2720.000 - 2720.000												
	95 90- 85 80- 75-												
Existing Levels		84.889	84.854	84.975	84.984	85.092	85.186	85.252	85.363	85.438	85.461		
Proposed Levels			I	I	I	84.597		84.432	84.532	I	1		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00		

		95-	SEC	тю	DN .	267	0.0	00	- 20	670	.00	0
	Level	90 85 80 75 <del>70</del>										
Existing Levels			82.420	82.740	83.123	83.454	83.720	83.915	84.116	84.264	84.431	84.552
Proposed Levels					83.142	83.267	83.392	83.267	83.227	83.327		
					11						П	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	SECTION 2780.000 - 2780.000										
	95 90 85 80							~			
Existing Levels	75			I				I	I	I	
		86.428	86.403	86.480	86.489	89.263	89.340	89.273	87.083	86.928	86.916
				I	1	1	1	I	1	1	1
Proposed Levels				85.795	85.920	86.045	85.920	85.880	85.980		
			I		I	I	T	T	T	11	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	Level	95 90 85 80	SEC		NC	268	30.C	000	- 20	680	.00	0		
Existing Levels		75 	83.018	83.177	83.359	83.609	83.816	84.013	84.203	84.414	84.604	84.773	-	E
Proposed Levels			1		83.383	1	I	1	I	83.568	I	-		F
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	-	F

NC	261	0.0	000	- 20	610	.00	0	
		1	-	-				
79.602	79.808	80.074	80.335	80.580	80.827	81.085	81.168	Existing Leve
1		T	I		I		I	
82.481	82.606	82.731	82.606	82.566	82.666	81.266		Proposed Lev
					I	11		
-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	Proposed Off

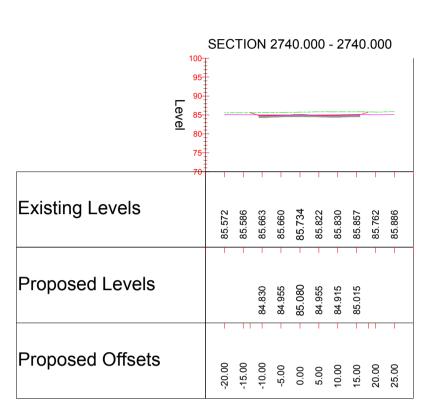
	_	95 90 85	SEC	TIC	ON .	262	20.0	000	- 20	620	.00	0	
	_	80 75 70											
sting Levels			80.427	80.420	80.568	80.844	81.090	81.339	81.687	81.960	82.104	82.341	
posed Levels				81.060	82.480	82.605	82.730	82.605	82.565	82.665	I		
oposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	
													_

	5 90 85 Level	ECI	TION	263	30.0	000	- 20	630	.00	0		95 90 Level	SEC	стіс	DN 2	264	0.0	00 -	- 26	40.(	000	
Existing Levels	<u>v</u> 80 75 70	81.064	81.328 – 81.640 –	81.837	82.021	82.165	82.405	82.634	82.764	82.951	Existing Levels	75- 70-	81.663	81.931	82.147 -	82.419	82.615	82.846	83.046	83.229	83.426	00.00
Proposed Levels			82.513	82.638	82.763	82.638	82.598	82.698			Proposed Levels				82.596	82.721	82.846	82.721	82.681	82.781		
Proposed Offsets		-20.00	-15.00 -10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	20.02

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORMATION	Suitability	Project Title	WEST OF ENGLAND WP1	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:						ATKINS The Hub 500 Park / Aztec Wes		Drawing Title	A4 - A37 LINK	
CONSTRUCTION							est		OPTION 1	
NONE						Almondsb Bristol BS32 4RZ	Z	PROPOS	ED CONCEPT GROSC SEC SHEET 1.1 19	CTIONS
MAINTENANCE/CLEANING							(0)1454 662000 (0)1372 663333	Scale	Designed Drain Checked	Authorised
NONE							insglobal.com	1:1000	EC AH	
DECOMMISSIONING/DEMOLITION	_					Client		Original Size	Date         Date         Date           05/02/18         05/02/18         05/02/18	Date
NONE								Drawing Number HA PIN	Origi ator   Volume	Project Ref. No. 0000000
						WEST OF ENGLAN	ID	WoE	ATK - HGN -	Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 Rev.	05.02.18 Date	DRAWING CREATED Description	AF By Chk'd	App'd	-		WP1	- DR - D - 6017   Type   Role   Number	P1

### DO NOT SCALE

	Level	100 95 90 85 80	SEC	TIC	ON .	279	0.0	00	- 27	790	.00	0
		75			1							1
Existing Levels			86.572	86.595	86.671	86.756	86.720	86.827	86.867	86.894	86.826	89.093
			I	1	1			1	T		I	I
Proposed Levels					86.036	86.161	86.286	86.161	86.121	86.221		
			Ì	1					I			I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00



	9	5 5 T	SEC	тю	DN .	269	90.0	00	- 20	690	.00	0
	9 Level 8 7	5 0 5			-					_		
	7	0				I	I		I	I	I	I
Existing Levels			83.649	83.699	83.784	83.873	84.070	84.189	84.417	84.560	84.655	84.854
			I			1						I
Proposed Levels					83.624	83.749	83.874	83.749	83.692	83.798		
					11	I	I				П	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	100-	SEC	TIC	ON	295	50.0	000	- 29	950	.00	0
	100- 95- 90- EV E 85- 80-										
			T	-	I	1	1	I	I	T	1
Existing Levels		89.044	89.089	89.079	89.093	89.152	89.206	89.190	89.190	89.140	89.264
Proposed Levels			I	88.942	89.067	89.192	89.067	89.027	89.127	I	
		1	1	11		1			П		I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels

Proposed Levels

Proposed Offsets

SECTION 2900.000 - 2900.000

88.394 88.410 88.457 88.456 88.456 88.456 88.456 88.509 88.509 88.553 88.553

88.439 88.564 88.689 88.564 88.524 88.524 88.624

-20.00 -15.00 -5.00 0.00 5.00 110.00 15.00 25.00

95						
90 85 80						
75	89.157	89.189	89.156	89.214	89.263	89.256
	1		I	T	I	89.112
	-20.00	-15.00	-10.00	-5.00	0.00	5.00
	85 80	85 80 75 - -	80 80 80 80 80 80 80 80 80 80	82 88 88 88 88 88 88 88 88 88	88.987 89.157 - <u>94</u> 89.157 - <u>94</u> 89.156 - <u>89.156</u> 89.156 - <u>94</u>	89.157 - 94 89.157 - 94 89.156 - 89.156 89.189 - 89.156 89.214 - 89.214 89.237 - 89.213 - 89.263

	100-	SEC	стіс	DN .	291	0.0	000	- 29	910	.00	0
	95 90 85 80			_							
Existing Levels	75	88.513	88.493	88.610	88.630	88.646	88.609	88.570	88.613	88.661	88.696
Proposed Levels			I	88.576	88.701	88.826	88.701	88.661	88.761	T	I
		1	I	Π	I	I			П	I	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

		100-	SEC	стю	NC	286	60.C	000	- 28	860	.00	0	
	Level	95 90 85 80			-		~						
		75	-		1	1	T	1					
Existing Levels			87.892	87.882	87.958	88.842	88.280	88.160	88.159	88.186	88.179	88.171	
				1	I								
Proposed Levels					87.710	87.835	87.960	87.835	87.795	87.895			
				1	11			1				I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

75								
				1	1			
	87.065	87.100	87.224	87.120	87.157	87.193	87.261	87 362
				T				
			86.518	86.643	86.768	86.643	86.603	86 703
	1			I	I	I	I	
	-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00
		-20.00		86.518	86.643	86.518 86.518 86.643 86.768	86.518 86.518 86.643 86.643 86.643	86.603 86.643 86.643 86.643 86.643 86.603

		100 95 90	SEC	тю	N	285	50.0	000	- 28	850	.00	0
[	Level	85 80 75		<u> </u>								
Existing Levels			87.786	89.109	87.959	87.949	87.987	88.021	88.027	88.019	87.982	87.978
Proposed Levels				88.862	87.482	87.607	87.732	87.607	87.567	87.667	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	1	100 95	SEC	тіс	DN .	280	0.0	00	- 28	300	.00	0
	Level	90 85 80	-									
Existing Levels		75		2	4	-	2	6	+	4		9
5			86.893	86.922	86.994	87.15	86.962	86.98	87.041	87.04	87.10	87.076
Proposed Levels			I	1	- 86.277	- 86.402	86.527	86.402	86.362	86.462		I
				1	1 1						II	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

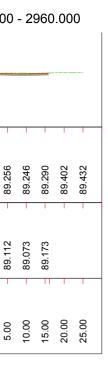
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Notes:

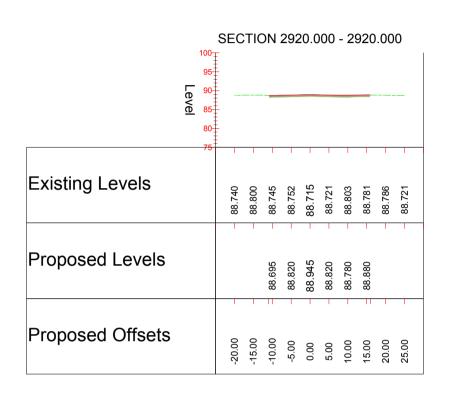
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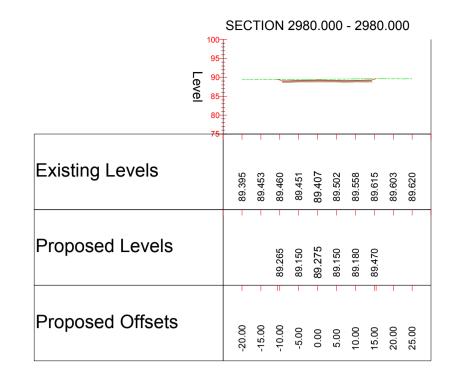
- 19

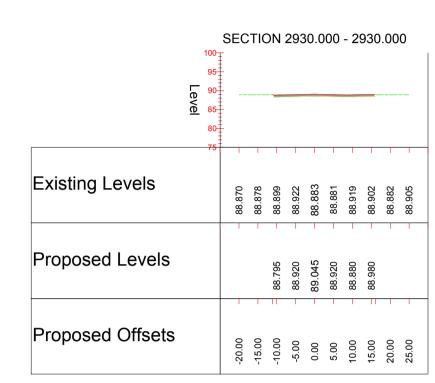
0 =



400		стіс	ON	297	0.0	00	- 29	970	.00	0
95- 90- Evel 85-								_		
	89.273	89.275	89.278	89.335	89.359	89.337	89.397	89.521	89.494	89.484
		T	89.015	89.140	89.265	89.140	89.137	89.219		I
	-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
	95-	100 95 90 80 75 75 1 80 5 80 75 75 1	Level 80 75 80 75 80 75 80 80 80 75 90 4 80 80 80 80 80 80 80 80 80 80 80 80 80	Level 252.68 - 210.68 = 200.61	Tevel 100 - 22 80, 122 80, 122 80, 122 100 - 2275 80, 122 80, 122 100 - 2275 80, 122 100 - 2275 80, 122 100 - 2275 100 - 2275	Tevel	Tevel         22         89.275         90.275         90.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         89.275         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42         90.42	Tevel       24       89.273       -         100       29       89.273       -       89.273         89.0140       89.275       -       89.275       -         89.140       89.335       -       -       89.335         89.140       89.335       -       89.335       -         89.140       89.335       -       89.335       -         89.140       89.335       -       89.337       -         89.137       -       89.337       -       -         89.130       -       89.337       -       -         89.130       -       89.337       -       -         89.130       -       89.337       -       -         89.130       -       89.337       -       -         89.130       -       89.337       -       -         89.131       -       89.337       -       -       -	Tendel       22       89.273       4       89.273       4       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.275       89.335       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9 <th< th=""><th>Tevel       22       89.273       24       89.283         89.015       89.275       89.275       89.275       89.275         89.015       89.275       89.275       89.275       89.275         89.015       89.275       89.275       89.275       89.275         89.137       89.359       89.359       89.359       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.521       89.521       89.521       89.521</th></th<>	Tevel       22       89.273       24       89.283         89.015       89.275       89.275       89.275       89.275         89.015       89.275       89.275       89.275       89.275         89.015       89.275       89.275       89.275       89.275         89.137       89.359       89.359       89.359       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.357       89.357       89.357       89.357         89.137       89.521       89.521       89.521       89.521







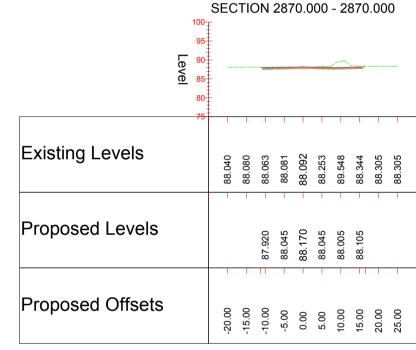
Existing Levels
Proposed Levels
Proposed Offsets

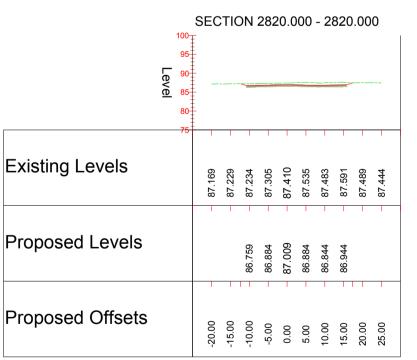
		ج 100	SEC	тю	DN :	288	30.0	00	- 28	880	.00	0
	Level	95 90 85 80	_		_						~	
		75	1	I	I	I	I	I		I		
Existing Levels			88.072	88.192	88.209	88.234	88.263	88.256	88.262	88.323	88.418	88.741
			1				I					
Proposed Levels					88.111	88.236	88.361	88.236	88.196	88.296		
			T	I	П	I	I	I		П	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

Existing Levels
Proposed Levels
Proposed Offsets

	100- 95- 90- 85- 80- 80-	SEC		N	284	40.C	000	- 28	840	.00	0
	75	- -	1	1	1	1	T	1	1	1	
Existing Levels		87.654	87.681	87.719	87.738	87.789	87.792	87.757	87.757	87.810	87.852
				1			1	1	1	I	
Proposed Levels				87.242	87.367	87.492	87.367	87.327	87.427		
			T	ТТ	T	T	T	T	П	T	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			Drawing Status FOR INFORM	Suitability <b>S2</b>	Project Title	WEST OF ENGLAND WP1	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:			<b>ATKINS</b>	The Hub 500 Park Avenue	Drawing Title	A4 - A37 LINK	
CONSTRUCTION				Aztec West		OPTION 1	
NONE				Almondsbury Bristol BS32 4RZ	PROPOS	SED CONCEPT GROSS SECT SHEET 15,19	TIONS
MAINTENANCE/CLEANING			-	Tel: +44 (0)1454 662000 Fax: +44 (0)1372 663333	Scale		Authorised
NONE			Copyright © Atkins Limited (2014)	www.atkinsglobal.com	1:1000	EC AH	
DECOMMISSIONING/DEMOLITION			Client		Original Size	05/02/18 05/02/18	Date
NONE			WEST OF E	NGLAND	Drawing Number HA PIN WoE	Origi ator Volume	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor	P1 05.02.18 DRAWING CREATED	AF			WP1	- DR - D - 6018	Revision
working, where appropriate, to an approved method statement	Rev. Date Description	By Chk'd App'd			VVF I	Type Role Number	P1



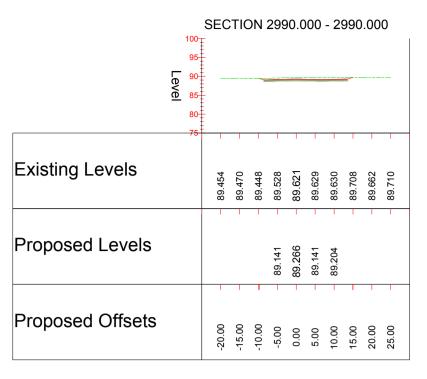


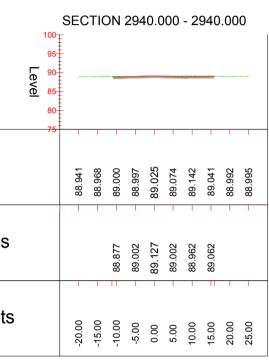
88.0	88.0	88.0	88.0	88.0	88.2	89.5	88.3	88.3	88.3			
I		87.920	88.045	88.170	88.045	88.005	88.105	I	I			Proposed Levels
-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00			Proposed Offset
ΞC	TIC	DN 2	282	20.0	00	- 28	320	.00	0			

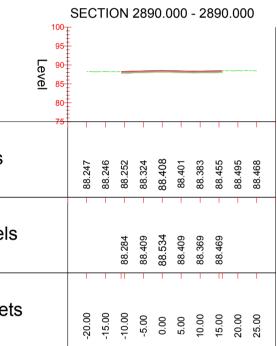
		100-	SEC	тю	ΟN	283	30.0	000	- 28	330	.00	0
	Level	95 90 85 80										
		75					1	I	I		I	1
Existing Levels			87.437	87.468	87.510	87.505	87.576	87.581	87.672	87.720	87.900	87,650
					I	I	I	I	I			1
Proposed Levels					87.000	87.125	87.250	87.125	87.085	87.185		
			1			T						I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	88.04(	88.08(	88.063	88.08	88.09	88.253	89.548	88.342	88.305	88.305			
		1	87.920	88.045	88.170	88.045	88.005	88.105	I	I			Proposed L
	-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00			Proposed (
100	SEC	TIC	ON	282	20.0	000	- 28	320	.00	0			

[
Existing Levels
Proposed Leve
Proposed Offs





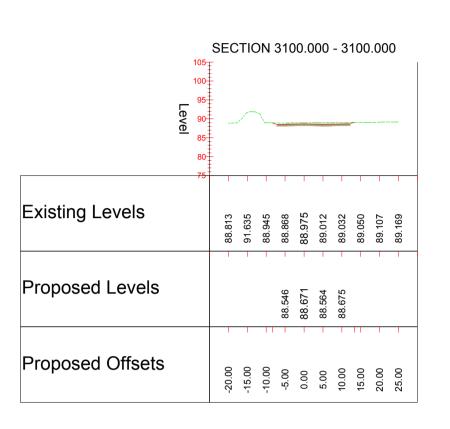


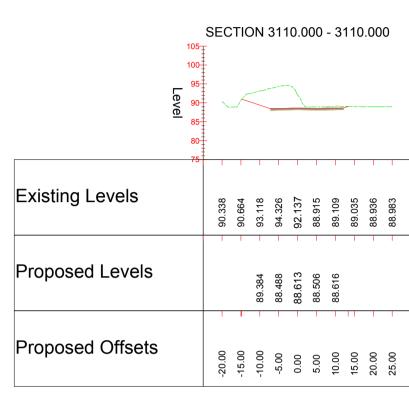
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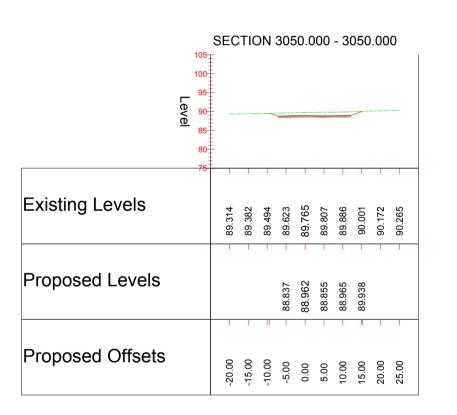
#### CROSS SECTIONS Scale 1:1000

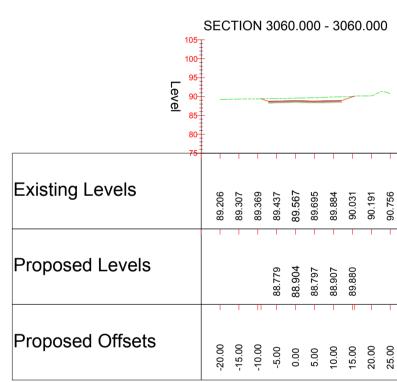
		₹ 100∓	SEC	TIC	ΟN	315	50.0	000	- 3	150	.00	0
	Level	95 90 85 80										
		75	I	I	I	I	I	I	I			1
Existing Levels			88.582	88.565	88.595	88.584	88.533	88.552	88.598	88.562	88.539	88.558
			1	1	1	1	1	I	I	I	I	1
Proposed Levels						88.256	88.381	88.273	88.384			
			I		11	I	I					1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	100	SEC	тю	N	316	60.0	00	- 3′	160	.00	0
	95 90 85 80										
	75	- 1	I	1	I		T	T	T		
Existing Levels		88.536	88.519	88.459	88.470	88.460	88.413	88.391	88.400	88.371	88.359
Proposed Levels		H			88.197	88.322	88.215	88.326	I		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

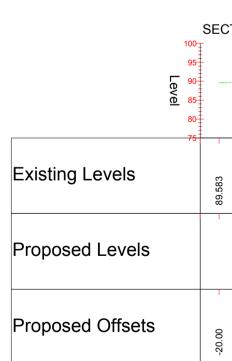








		00 <u> </u>	SEC	тю	N	300	0.0	00	- 3(	000	.00	0
	Level	95 90 35 30	·									
		75 ^I	1	I	1	T	I	I	I		I	I
Existing Levels			89.600	89.599	89.655	89.671	89.617	89.687	89.701	89.720	89.781	89.788
			1	I	T	T	I			T	I	T
Proposed Levels						89.114	89.239	89.114	89.210			
		╡			I	I	I			П		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



Key:

Notes:

8

	100 95		SEC	тіс	ON	317	'0.0	00	- 3	170	0.00	0
	Level 85 80 75	Ŧ								·		
Existing Levels			88.387	88.402	88.397	88.371	88.284	88.188	88.081	88.065	88.044	88.045
Proposed Levels						88.139	88.264	88.157	88.267	I	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SECTION 3120.000 - 3120.000

88.733 88.901 94.108 92.971 89.158 88.936 88.936 88.866 89.034 89.034

		100 95	SEC	тіс	ON :	318	80.0	00	- 3 ⁻	180	.00	0
	Level	90 85 80 75										
Existing Levels			88.173	88.158	88.089	88.025	87.977	87.858	87.795	87.743	87.777	87.733
Proposed Levels			I	I	Ţ	88.081	88.206	88.099	88.209	I	I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	100 95 Leve 85	SEC	CTIC	N	313	30.0	000	- 3 ⁻	130	.00	0
	<u>(D</u> 85 80 		-1		-				-		
Existing Levels		88.636	88.622	88.695	88.819	88.685	88.626	88.684	88.744	88.732	88.844
Proposed Levels			1	I	88.372	88.497	88.389	88.500	1	I	I
Proposed Offsets		-20.00	-15.00	00	0	0	0	00	00	20.00	00

Existir
Propo
Propo

	105- 100- 95- 90- 85- 80-	SEC	тіс	N	307	'O.O	000	- 3(	070	.00	0
	<del>75</del>		1	I	I	I	I			I	1
Existing Levels		88.947	89.067	89.180	89.285	89.479	89.570	89.838	90.196	90.018	89.998
			1	I	I	I	T	I	I	I	T
Proposed Levels					88.721	88.846	88.738	88.849	89.822		
			1	11	I				11		T
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		105 _±	SEC	тіс	N	308	80.0	00	- 3(	080	.00	0
	Level	100 95 90 85 80	- - -							<u>&gt;-</u>		
		75	1	I	I	I						
Existing Levels			88.826	88.897	89.020	89.297	89.507	89.813	89.800	89.656	89.533	89.611
			1	T	T	T	T	I	T	T		
Proposed Levels						88.663	88.788	88.680	88.791			
				1	11	1	T	T	T			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

C	тіс	)N :	301	0.0	00	- 3(	010	.00	0
			_						
	1	-1	-	-	-1	-1	-1		-1
	89.682	89.691	89.709	89.793	89.827	89.825	89.768	89.810	89.863
	Ţ		89.069	89.194	89.087	89.198			
	1	П					П		1
	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	105- 100-	SEC	стіс	N	302	20.0	00	- 3(	020	.00	0
	Level 90- 85- 80-										
	75		1	1	1		1	1			
Existing Levels		89.568	89.644	89.702	89.770	89.830	89.879	89.940	89.927	89.990	89.976
			1				I				1
Proposed Levels					89.012	89.137	89.029	89.140			
			T	П	T	T	T		П		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	105	SEC	TIC	DN 3	303	0.0	00	- 30	030	0.00	00			105-		CTI	ЛС	304	10.0	00	- 30	40.	.000
	100 95 90 85 80													100- 95- 90- 85- 80-									
Existing Levels	<del></del>	89.570	89.623	89.758	89.782	89.811	89.839	89.856	89.898	89.993	90.083		Existing Levels	<del></del>	89.455	89.590	89.693	89.714	89.790	89.841	89.873	89.963	90.020 - 90.913 -
Proposed Levels					88.954	89.079	88.971	89.082			1		Proposed Levels					88.895	89.020	88.913	89.024		
Proposed Offsets		-20.00	-15.00	-10.00	-2.00	0.00	5.00	10.00	15.00	20.00	25.00		Proposed Offsets		-20.00	-15.00	-10.00	-2.00	00.0	- 2:00	10.00	15.00	20.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION				Drawing Status FOR INFORMA	TION	Suitability	Project Title	WEST (	OF ENGL WP1	AND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:				ΛΤΚΙΝ	The Hub 500 Park Avenue		Drawing Title	A4 -	- A37 LIN	IK	
CONSTRUCTION					Aztec West Almondsbury			-	PTION 1		
					Bristol BS32 4RZ Tel: +44 (0)1454 66	2000	PROPOS		SEPT SR EET 13 1		CHONS
MAINTENANCE/CLEANING				Copyright $\bigcirc$ Atkins Limited (2014)	Fax: +44 (0)1372 66 www.atkinsglobal.co	3333	Scale 1:1000	Designed EC	Dra n	Checked AH	Authorised
				Client	5		Original Size	Date 05/02/1১	) 	Date 05/02/18	Date
DECOMMISSIONING/DEMOLITION							Drawing Number HA PIN	Origi ator		lume	Project Ref. No. 0000000
	P1 05.02.18 DRAWING CREATED	AF		WEST OF EI	NGLAND		WoE	A	TK -	HGN -	Revision
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev. Date Description	By Chk'd	App'd				WP1	- DR		6019 ^{Imber}	P1

Proposed Levels					89.326	88.430	88.555	88.448	88.558			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
	10 10	5 <u>∓</u>	EC	тіс	DN :	307	0.0	00	- 3(	070	.00	0
	Level 8	0										
	8	Ŧ		1	-	-	-	1	1	1	1	-1

Existing Levels

Proposed Levels

88.797 88.907	89.880			Proposed
1 1	П	I	1	
5.00 10.00	15.00	20.00	25.00	Proposed
	240	~~~		
00 - 30	J10.	000	J	

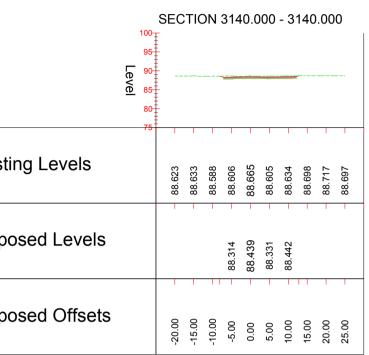
	гюр

Existing _____

Propos _____

Propos

	Level	100 95 90 85 80	SEC	TIC	NC	319	90.0	000	- 3	190	.00	0
Existing Levels		75	87.866	87.860	87.810	87.864	88.220	88.103	87.611	87.558	87.607	87.460
Proposed Levels						88.023	88.148	88.040	88.151		I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00



	105- 100-	SEC	тіс	N	309	90.0	00	- 3(	090	.00	0	
	Level 95- 90- 85- 80-											
			1		I	I		I	I	I	I	
ng Levels		88.663	88.686	89.010	89.865	89.224	89.247	89.196	89.239	89.285	89.388	
				I	I	I		I	I	I		
sed Levels					88.605	88.730	88.622	88.733				
				11	I	I			11			
sed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

0

8

#### **CROSS SECTIONS** Scale 1:1000

	100-	SEC	стіс	N	335	50.0	000	- 3	350	.00	0
	Level 85 80										
	75		I	I	I		I	1			
Existing Levels		88.728	88.758	88.798	88.838	88.879	88.933	88.948	88.948	89.049	89.153
			1		T	1	T	I			
Proposed Levels					89.534	89.659	89.551	89.662			
		1		11		I			II		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

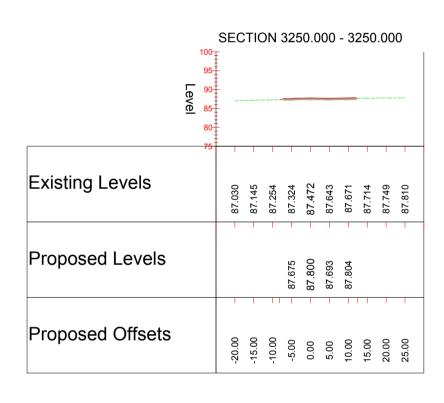
	100 99		SEC	TIC	N	330	0.0	000	- 3	300	.00	0
	Level 8:	Ŧ										
Existing Levels			87.976	88.105	88.115	88.205	88.177	88.234	88.275	88.344	88.462	88.534
Proposed Levels			I			88.069	88.194	88.087	88.197			
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Existing Levels
Proposed Levels

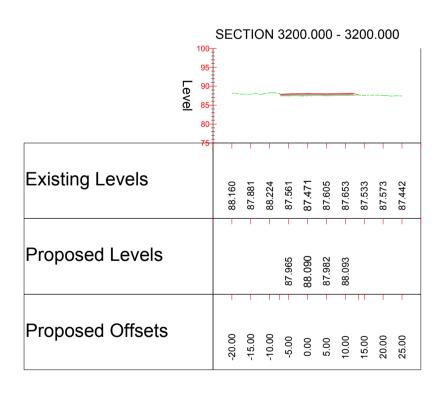
**Existing Levels** 

Proposed Levels

Proposed Offsets



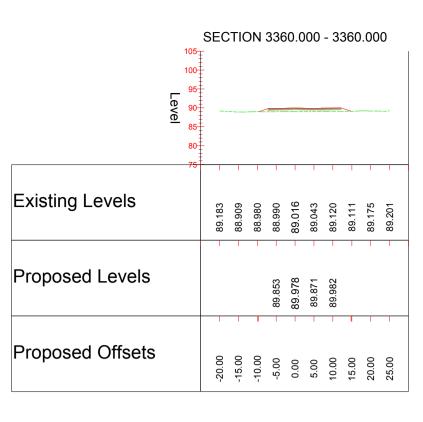
	100 95 Leve 85 80	International	EC	:TIC	ON	326	60.0	000	- 32	260	.00	0
		Ť	I	I	I	I	I				I	
Existing Levels			87.301	87.392	87.449	87.509	87.637	87.740	87.688	87.739	87.787	87.928
			I	1		I						1
Proposed Levels						87.654	87.779	87.672	87.782			
			I	I	I		I				I	I
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

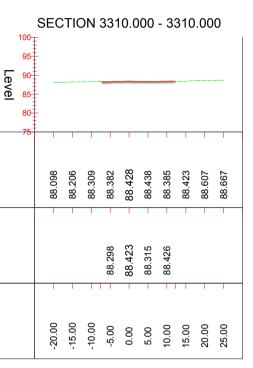


	SECTION 3210.000 - 3210.000										
	105 100 95 Level 85 80									~~^	<b>\</b>
			1	1	1	1	T		1	1	1
Existing Levels		87.301	87.343	87.263	87.943	87.250	87.400	87.349	88.673	88.024	87.859
Proposed Levels		T	1			1	87.924				
										ТТ	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

Key:

Notes:





	105-	SEC	стіс	ON	337	'0.0	00	- 33	370	.00	0
	100- 95- 90- 85- 80-										
	75	† 	T	T	I	I	I	I	I	I	
Existing Levels			89.275	89.653	89.182	89.203	89.267	89.313	89.340	89.372	89.346
			I	I	I	I	I	I	I	I	
Proposed Levels					90.173	90.298	90.191	90.301	89.374		
			I	П					I		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		100	SEC	тю	ΟN	332	20.0	00	- 33	320	.00	0
		100 95										
	Level	90				-						
	/el	85										
[		80 										
				1	1	1	1	1			1	'
Existing Levels			88.247	88.380	444	88.508	88.520	88.492	88.593	88.605	88.625	88.787
			88.2	88.0	88.4	88.5	88.	88.4	88.	88.6	88.6	88.7
			I			I	I		I	I	I	
Proposed Levels						88.577	88.702	88.594	88.705			
				I	I	11	I	I	I		I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	Level	100 95 90 85	SEC	TIC	N	327	70.C	000	- 32	270	0.00	0	
		80 75		-	-	-	1	1	-	-			
Existing Levels			87.324	87.483	87.618	87.731	87.804	87.830	87.853	87.849	87.985	88.084	
Proposed Levels						87.683	87.808	87.700	87.811			I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

	105- 100-	SEC	тіс	N	338	80.0	00	- 3:	380	.00	0	
	95- 90- 85- 80-		<u></u>	~	<u></u>				<u> </u>			
			I	I	I	I	I	I	T	I	I	
Existing Levels		89.380	93.299	89.360	91.745	89.669	89.453	89.450	89.596	89.561	89.537	
Proposed Levels			93.056	91.389	90.493	90.618	90.510	90.621	89.694	I		
				I					I		I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00	

	100-	SEC	TIC	ON	333	80.0	000	- 33	330	.00	0
	95- Level 85- 80-										
		1	I	I	I	I	I		I	I	
Existing Levels		88.398	88.525	88.590	88.517	88.598	88.646	88.736	88.785	88.849	88.839
		1	I	I	I		I		I		_
Proposed Levels					88.894	89.019	88.911	89.022			
		T					I				1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	10	0∓	SEC	тіс	N	328	80.0	00	- 32	280	.00	0
	9 Level 8	0 5 5										
	7	5	I		T	T	T		I		T	_
Existing Levels			87.632	87.612	87.753	87.876	87.950	87.918	87.945	88.061	88.224	88.172
			I	I	1	I					I	
Proposed Levels						87.762	87.887	87.779	87.890			
			I	I			I		I		I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

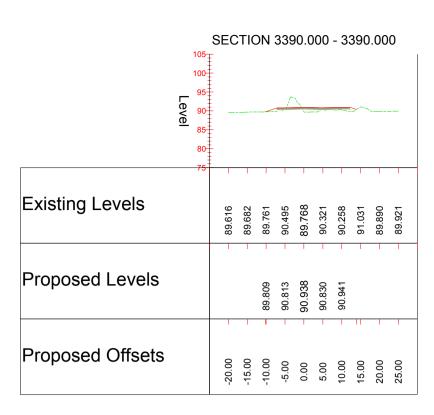
	105 ⁻ 100-		EC	тіс	)N	323	80.0	000	- 32	230	.00	0
	Level 85		ŀ	لر ،	<u>_</u> .	<u>^_</u>				~		
	75	-	1	1	1	1			1	1		
Existing Levels			92.600	87.432	87.740	87.909	87.060	87.210	87.542	87.412	87.457	87.556
Proposed Levels			1			- 87.790	87.915	87.808	87.918	1		
			I	I						11		
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORM/	TION	Suitability	Project Title	WEST (	OF ENGI WP1	LAND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following: CONSTRUCTION NONE	-					<b>ATKINS</b>	The Hub 500 Park Avenue Aztec West Almondsbury Bristol		Drawing Title	0	A37 LIN PTION 1 CEPT GR		CTIONS
MAINTENANCE/CLEANING						Copyright © Atkins Limited (2014)	BS32 4RZ Tel: +44 (0)1454 66 Fax: +44 (0)1372 66 www.atkinsglobal.cc	3333	Scale 1:1000	SHI			Authorised
DECOMMISSIONING/DEMOLITION	-								Original Size A1 Drawing Number HA PIN	Date 05/02/15		Date 05/02/18	Date Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 05.02.18 Rev. Date	DRAWING CREATE	Description	AF	Chk'd App'd	WEST OF E	NGLAND		WoE WP1	- DR	- D -	HGN - 6020	Revision P1

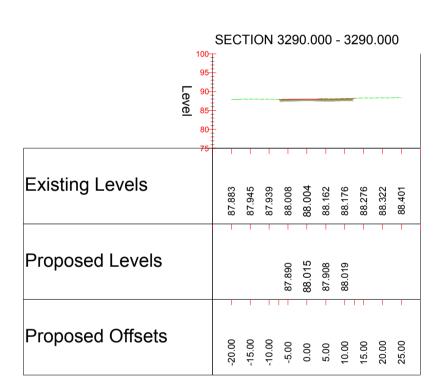
		5	SEC	тю	ON	327	'0.C	00	- 32	270	.00	0
	Level	100 95 90 85 80										
		75										I
Existing Levels			87.324	87.483	87.618	87.731	87.804	87.830	87.853	87.849	87.985	88.084
				I	I	I	I	I			I	1
Proposed Levels						87.683	87.808	87.700	87.811			
			1	I	I	11	I	I		I	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

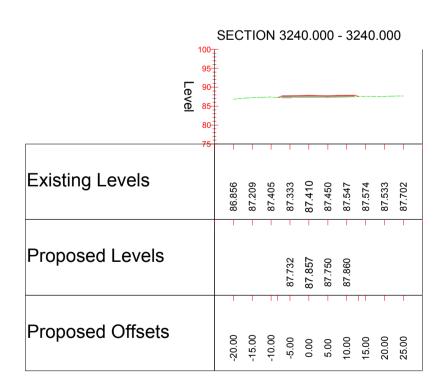
			S	EC	TIC	DN	322	20.0	00	- 32	220	.00	0
	Level	105 100 95 90 85 80			^	L-7	<u></u>		-	<u>~^</u>		L	
		75	-	1	I	I		I	I	I	I	I	1
Existing Levels				86.967	87.136	88.648	86.955	86.620	86.588	89.772	87.980	87.546	87.445
				I	I	I		I			I	I	1
Proposed Levels							87.848	87.973	87.866	87.977	88.950		
											1		1
Proposed Offsets				-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

#### DO NOT SCALE



SECTION 3340.000 - 3340.000 Existing Levels 88.536 88.588 88.701 88.729 88.729 88.732 88.755 88.755 88.810 88.810 88.869 88.978 89.088 Proposed Levels 89.214 89.339 89.231 89.342 Proposed Offsets -20.00 -15.00 -10.00 0.00 5.00 110.00 15.00 25.00





# Millimetres

10

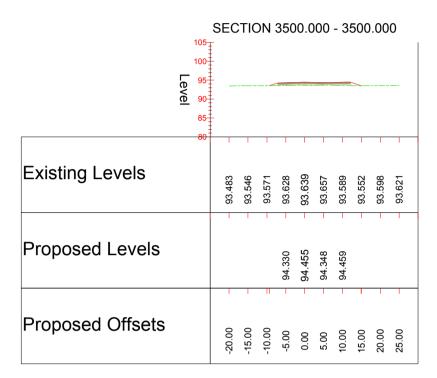
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#### CROSS SECTIONS Scale 1:1000

	110- 105- Level 95-	SEC	сті	N	355	50.0	000	- 3	550	.00	0
[	90- <del>85</del>										
Existing Levels		95.669	95.569	95.860	95.564	95.457	95.398	95.364	95.309	95.228	95.238
Proposed Levels				1	95.821	95.946	95.821	95.810	95.895		
		T		T	I	I	I	I		1	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

Existing Levels	
Proposed Levels	

Proposed Offsets



	105- 100-	Ŧ	стіс	NC	351	10.0	000	- 3	510	.00	0
	Le 95- 90- 85-										
	80	-	T	1	1	Т	T	T	Т	T	
Existing Levels		93.861	93.941	93.969	94.020	94.012	94.063	94.027	93.946	93.887	93.886
			I								
Proposed Levels					94.650	94.775	94.667	94.778			
			T	П	T	T	I				
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	105 100	<b>±</b>	стіс	N	345	50.0	00	- 34	450	.00	0
	Level 95 85							_			
Existing Levels	<del></del>	91.322	91.419		91.530	91.562	91.604	91.650	91.700	91.747	91.875
Proposed Levels			I	91.728	92.731	92.856	92.749	92.860	91.933		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		110 105	SEC	стіс	N	340	0.0	000	- 34	400	.00	0
	Level	100 95 90 85							<u> </u>	Å	$\frown$	
		-75			-			-	-	1	-	-
Existing Levels			89.883	89.948	89.952	90.029		92.927	92.733	92.031	95.332	91.092
			I	T	T	1	T	T	T	T		
Proposed Levels					90.129	91.132	91.257	91.150	91.261	92.234		
			I	T	II	1	1	I	I	11	I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	Level	105 100 95 90 85	SEC	тіс	N	346	60.0	00	- 34	460	.00	0
		80		T	1					1	1	
Existing Levels			91.738	91.776	91.832	91.884	91.931	91.940	91.993	92.054	92.136	92.241
						I				I	I	
Proposed Levels					92.048	93.051	93.176	93.069	93.180	92.253		
			1		П	1	I			П	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

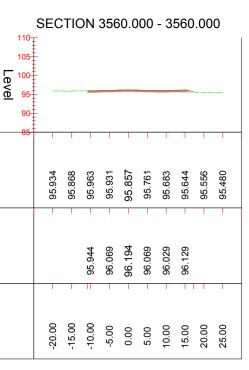
	Level	109 100 99 90 89
Existing Levels		81
Proposed Levels		
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	90- 85-				_					S		~
	80	-	1	1	1	1	1	1	1	1	1	
			90.104	90.154	90.191	90.227	90.288	90.279	90.378	92.059	91.944	91.403
				1				T	1	1		I
					90.449	91.452	91.577	91.470	91.581	92.554		
			I	T	Π	T	T	T	T	I	1	T
			-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	110 105 Leve 95 90	SEC	:тіс	N	357	70.0	000	- 3	570	.00	0
	85		1	1	1	1	I				1
Existing Levels		96.293	96.327	96.410	96.287	96.231	96.119	96.059	95.960	95.920	95.784
Proposed Levels				96.173	96.298	96.423	96.298	96.258	96.358		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	110	SEC	CTIC	NC	352	20.0	00	- 3	520	.00	0	I
	105 100 95 90 85	Ŧ										
	80	- -	I	T	1	I				T	T	
Existing Levels		94.340	94.344	94.390	94.412	94.446	94.443	94.398	94.339	94.297	94.248	
		1	1	I	1	I				I	I	
Proposed Levels					94.968	95.093	94.968	95.056	94.443			
		1	I	П		I	I		I	I	I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	

	105	SEC	стіс	N	347	'0.C	000	- 34	470	.00	0
	100 95 90 85 80			/							
Existing Levels	80	92.092	92.136	92.207	92.289	92.389	92.379	92.470	92.539	92.560	92.593
Proposed Levels				92.367	93.371	93.496	93.389	93.499	92.572	I	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

	110-	SEC	тю	N	358	30.C	000	- 3	580	.00	0
	105 100 EVE 95 90							-			
	85		1					I			T
Existing Levels		96.684	96.762	96.658	96.527	96.486	96.417	96.330	96.240	96.167	96.125
											I
Proposed Levels				96.385	96.510	96.635	96.510	96.470	96.570		
		I	1	11	1		I		11	I	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

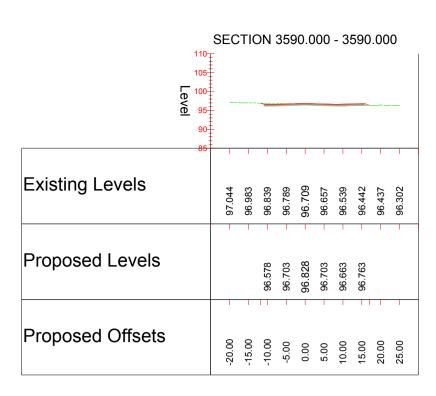
	110- 105-	SEC	стіс	NC	353	30.C	000	- 3	530	.00	0	
	Level 95- 90- 85-											
	80		1	1	1	1	1	I		I		-
Existing Levels		94.760	94.795	94.754	94.807	94.751	94.744	94.749	94.672	94.579	94.529	
			1		1		1	1				
Proposed Levels					95.270	95.395	95.270	95.329	94.953			
			1	1	1			I	П		T	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00	

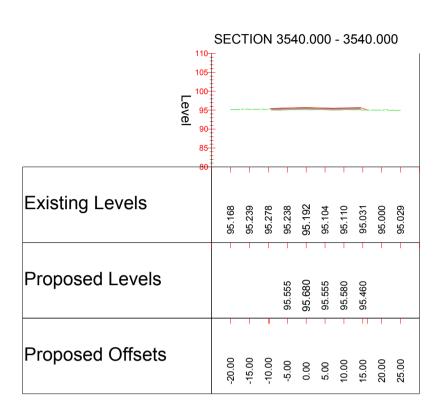
	10 10 Level 9 8	5 0 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SEC	тіс	ON	348	30.C	000	- 34	480	.00	0
Existing Levels	8	0	92.527	92.595	92.764	92.916	92.932	92.901	92.876	92.911	92.893	92.895
Proposed Levels						93.691	93.816	93.708	93.819		I	
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	105-	SEC	стіс	ON	342	20.0	000	- 34	420	.00	0
	100- 95- 90- 85-										
	80-		I	I	I	I	I			I	
Existing Levels		90.341	90.400	90.448	90.491	90.518	90.609	90.672	90.685	90.877	91.015
			1				I	I			1
Proposed Levels				90.768	91.772	91.897	91.790	91.900	90.973		
				П	I	I			П	I	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	105 100 Leve 90 85	SEC	тю	ON	343	80.0	000	- 34	430	.00	0
	80	-								1	T
Existing Levels		90.643	90.707	90.783	90.808	90.832	90.863	90.953	91.021	91.138	91.151
			1							1	1
Proposed Levels				91.088	92.092	92.217	92.109	92.220	91.293		
		1		Π	I	I			Π	I	I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status FOR INFORMAT	ΓΙΟΝ	Suitability	Project Title	WEST	OF ENGL WP1	AND	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							ΛΤΚΙΝΣ	The Hub 500 Park Avenue Aztec West		Drawing Title		- A37 LINI PTION 1	ĸ	
								Almondsbury Bristol BS32 4RZ Tel: +44 (0)1454 662	2000	PROPOS	ED CON			CTIONS
MAINTENANCE/CLEANING NONE								Fax: +44 (0)1372 663 www.atkinsglobal.co	3333	Scale 1:1000 Original Size	Designed EC	Dra m	Checked AH Date	Authorised Date
DECOMMISSIONING/DEMOLITION								~		A1 Drawing Number HA PIN	05/02/16		05/02/18	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1 Rev.	05.02.18 Date	DRAWING CREATED Description	AF	Chk'd	App'd	WEST OF EN	GLAND		WoE WP1	- DR		HGN - 6021	Revision P1





	105-	SEC	тю	) N	349	0.0	00	- 34	490	.00	0
	105 100 95 90 85								<b>&gt;</b>		
	80										1
Existing Levels		93.114	93.111	93.152	93.222	93.236	93.277	93.165	93.220	93.226	93.261
											1
Proposed Levels					94.011	94.136	94.028	94.139			
		1	I	II	I	I	T		I		1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	105	SEC	тю	N	344	0.0	00	- 34	440	.00	0
	100 95 90 85									·	
	80	-	I	T	T	T	T	1		I	1
Existing Levels		90.975	91.057	91.136	91.170	91.178	91.214	91.303	91.298	91.454	91.554
			I	I	I	I					T
Proposed Levels				91.408	92.412	92.537	92.429	92.540			
		1	I	11						I	T
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

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#### CROSS SECTIONS Scale 1:1000

SECTION 3750.000 - 3750.000 99.129 98.046 97.980 97.776 97.811 97.683 97.589 97.589 97.589

97.479 97.604 97.729 97.604 97.479

-20.00 -15.00 -10.00 5.00 10.00 11.00 25.00 25.00

Existing Levels

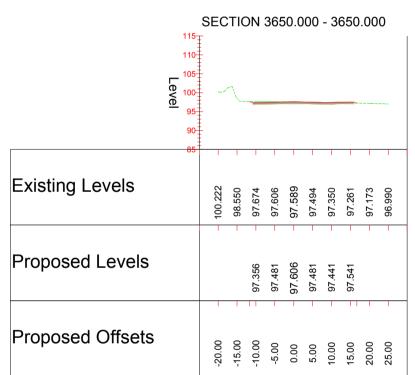
Proposed Levels

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Existing Levels
Proposed Levels

SECTION 3700.000 - 3700.000 Existing Levels 98.419 98.283 98.128 97.747 97.554 97.554 97.309 97.309 97.309 Proposed Levels 97.507 97.632 97.757 97.632 97.592 97.692 Proposed Offsets -20.00 -15.00 -5.00 0.00 5.00 110.00 115.00 25.00 25.00

Existing Levels



Proposed Levels
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		100.222	98.550	.674	.606	97.589	.494	.350	.261	97.173	066.96
		10(	86	97	97	97	97	97	67	67	96
		1									
Proposed Levels						6					
				.356	.481	97.606	.481	.441	.541		
				97	97	97	97	97	97		
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	85	-	1	T	1	1			I	1	
Existing Levels		97.327	97.196	97.150	97.055	96.941	96.846	96.755	96.686	96.624	96.498
			I	I	I	I			I		
Proposed Levels				96.753	96.878	97.003	96.878	96.838	96.938		
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Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.00	5.00	10.00	15.00	20.00	25.00

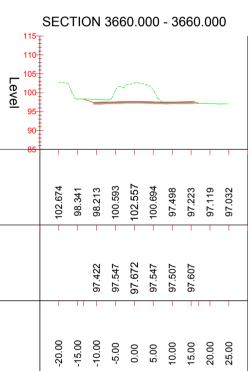
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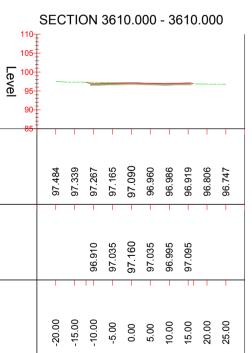
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	115	SEC	TIC	ON	375	58.6	603	- 37	758	.60	3
	110- 105- 100- 95- 90-			<u></u>	<u>M</u>					_	
	85		T	I	I	I	I	I	I	T	1
Existing Levels		98.270	060.86	100.248	100.756	97.724	97.484	97.357	97.241	97.171	97.236
			I	I	I					I	
Proposed Levels				97.474	97.599	97.724	97.599	97.474	97.399	97.507	
		T	П		I				I	П	
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	110- 105- Leve 95- 90-	SEC	тю	ON	371	10.0	000	- 37	710	.00	0
	85		1	T	T	1		I	T		1
Existing Levels		98.454	98.313	98.200	98.011	97.844	97.689	97.536	97.348	97.165	97.034
			T	T	I	I	I	I	I	I	I
Proposed Levels				97.501	97.626	97.751	97.626	97.586	97.686		
			П	T	T	I	T	I	П	T	1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00





	110- 105-										
	Level 95- 90-										
	85		T	1	T	T	1	1	1	1	1
Existing Levels		98.413	98.310	98.161	98.024	97.865	97.762	97.596	97.422	97.245	27.077
			1			I					
Proposed Levels				97.496	97.621	97.746	97.621	97.581	97.681		
		1	T								
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00
		SEC			00-				070		0

SECTION 3720.000 - 3720.000

		SEC	TIC	)N	373	30.0	00	- 37	730	.00	0
	110 105 Leve 95 90 85										
Existing Levels	00	98.368	98.282	98.166	98.033	97.949	97.765	97.658	97.433	97.260	97.185
Proposed Levels				97.490	97.615	97.740	97.615	97.575	97.675		1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	120- 115-	SEC	тіс	N	367	<b>'</b> 0.0	000	- 3	670	.00	0
	110 Leve 100 95 90			~	Л	$\bigwedge$	\			$\mathcal{N}$	A.
	85		1	1	1	I	I	I	I	1	
Existing Levels		98.158	98.047	98.013	100.983	106.062	97.823	97.645	97.521	99.954	100.906
Proposed Levels		I	1	97.470	97.595	97.720	97.595	97.555	97.655	1	'
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

	115-	SEC	тю	N	368	80.0	00	- 36	680	.00	0
	110 105 100 95 90									<u></u>	N
	85		1	1	1	1	1	-	1	1	1
Existing Levels		98.168	98.076	98.060	97.749	97.559	97.463	97.415	97.936	101.825	<b>09</b> .660
			I	1	I						
Proposed Levels				97.499	97.624	97.749	97.624	97.584	97.684	99.084	
						I					I
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	110	SEC	стіс	NC	362	20.0	000	- 3	620	.00	0
	105 100 Eevel 95 90			-							
Existing Levels		97.514	97.474	97.428	97.346	97.199	97.198	97.109	97.032	96.937	96.871
Proposed Levels				97.049	97.174	97.299	97.174	97.134	97.234		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

		110 105	SEC	стіс	NC	363	80.0	000	- 36	630	.00	0
	Level	100 95 90 85			_							
		05			I							
Existing Levels			97.605	97.592	97.469	97.384	97.356	97.318	97.230	97.179	97.084	96.991
											I	I
Proposed Levels					97.169	97.294	97.419	97.294	97.254	97.354		
					11		I	I		11	I	1
Proposed Offsets			-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						Drawing Status FOR INFORMA	TION	Suitability	Project Title	WEST OF W		)
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:						ΛΤΚΙΝς	The Hub 500 Park Avenue		Drawing Title	A4 - A3	7 LINK	
CONSTRUCTION							Aztec West			OPTI		
NONE							Almondsbury Bristol BS32 4RZ		PROPOS	ED CONCEP SHEET		SECTIONS
MAINTENANCE/CLEANING						-	Tel: +44 (0)1454 66 Fax: +44 (0)1372 66		Scale	Designed Dra r		d Authorised
NONE						Copyright © Atkins Limited (2014)	www.atkinsglobal.co		1:1000	EC	r /	ЧН
DECOMMISSIONING/DEMOLITION						Client			Original Size	Date Jate 05/02/16 05/	Date 02/18 05/0	Date 2/18
NONE						WEST OF EN	IGLAND		Drawing Number HA PIN WoE	Origi ator	Volume - HGN	Project Ref. No. 0000000
It is assumed that all works will be carried out by a competent contractor	P1	05.02.18	DRAWING CREATED	AF					WP1		) - 6022	Revision
working, where appropriate, to an approved method statement	Rev.	Date	Description	By Chk'd	App'd				VVF I Location	- DIN - I		2 P1

	SECTION 3740.000 - 3740.000										
	105 100 EVE 95 90			<u> </u>		~					
	85	-	I					I			-
Existing Levels		98.574	98.438	98.303	99.216	98.904	97.799	97.568	97.365	97.236	97.103
			I	I	I		I	I	I	I	
Proposed Levels				97.484	97.609	97.734	97.609	97.563	97.666		
		1	П					I			1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	SECTION 3690.000 - 3690.000										
	105 105 100 95 90									-	
	85	-	1	1		I		I			1
Existing Levels		98.297	98.088	97.968	97.849	97.733	97.569	97.360	97.179	97.027	96.946
			T	T	T	I	T	T	T	I	
Proposed Levels				97.511	97.636	97.761	97.636	97.596	969.76		
			I	1 1							1
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	00.0	5.00	10.00	15.00	20.00	25.00

	110- 105-	SEC	стіс	N	364	40.C	000	- 36	640	.00	0
	Leve 95 90										
Existing Levels		- 05.630	97.582	97.555	97.554	97.478	97.403	97.330	97.221	97.122	97.007
Proposed Levels		I		97.272	97.397	97.522	97.397	97.357	97.457		
Proposed Offsets		-20.00	-15.00	-10.00	-5.00	0.00	5.00	10.00	15.00	20.00	25.00

#### Appendix 6.2 Modelling methodology



### **Technical note**

Project:	West of England JSP	То:	Helen Young, Kevin O'Connor. Claire Cornelius, Chris Mason, Jodi Savickas
Subject:	Modelling and Economics Methodology Appendix for WP1/3/6a OARs	From:	Tracey Poole
Date:	10 th October 2018	Reviewed by:	Josie Drath, Sheng Peng, Pete Knightbridge (highway modelling)

### 1. Introduction

This appendix sets out the scope and methodology for the modelling and cost-benefit analysis of the schemes presented in the Options Assessment Report (OAR). The OAR presents the results of the assessments.

#### 1.1. Economic Scope

Figure 1 illustrates the full range of economic impacts anticipated from transport interventions, in line with the latest Department for Transport (DfT) guidance and Value for Money (VfM) framework¹.

The monetised impacts captured in the cost-benefit analysis are supported by non-monetised assessments presented in the OAR. This document focusses on the cost-benefit analysis.

Modelling and economic appraisal activities undertaken to date have been focused on quantifying and monetising scheme costs and the majority of Level 1 impacts (Types A and B in Figure 1) as follows:

- Public transport (PT) user benefits generalised journey time savings for passengers;
- Highway user benefits time and vehicle operating cost savings to highway users as a result of decongestion impacts from highway enhancements, or reduction in road trips due to mode shift from highway to MetroBus and / or cycling;
- Health benefits to slow mode users as a result of increases in cycling;
- Capital costs and an appropriate allowance for maintenance and renewal of new infrastructure; and
- MetroBus and Park & Ride service operating costs and generated revenues from new passengers.

For the OARs the non-user impacts in Level 1 (such as accident savings, air quality and noise impacts) and all Levels 2 and 3 (i.e. reliability and wider economic impacts) have not been quantified or monetised. The Level 3 impacts have been assessed as part of the WECA Outline Business Cases (OBC) (quantified or qualitatively, depending on the impact).

¹¹ DfT Value for Money Framework (July 2017)

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/630704/value-for-moneyframework.pdf



### **Technical note**

Figure 1	Illustration of the full range of economics impa	cts from transport interventions
Туре о	f economic impacts	Description

Type of economic impacts		ccononne impacts	Description										
Costs	Α	Impact on Govt's Broad	Public sector cost of scheme delivery, operation and renewal										
COStS	A	Transport Budget	Changes in revenues to public sector providers / operators										
		User impacts	Journey time and operating cost savings										
Level 1			Disruption impacts during construction and maintenance										
impacts	В	Non user impacts	Related air quality and noise impacts										
impacts		Non user impacts	Reductions in accidents										
		Private provider impacts	Costs and revenue impacts										
		Additional (lower	improved journey reliability										
	certainty) impacts on												
Level 2	С	Transport Network	improved network resilience										
impacts		Wider economic impacts	Agglomeration (static)										
									(no land use changes)	Labour supply impacts (tax wedge on more people working)			
		(no lana use changes)	Increased econmic output in imperfect competitive market										
			Agglomeration (dynamic)										
Level 3	D	Wider economic impacts	Moves into more productive jobs										
impacts	U	U	U	(with land use changes)	Welfare impact of induced increase in housing or commercial								
			supply - dependent development										
Non-		Economic impacts	option value										
monetised	Е	Environmental	landscape, townscape, heritage, natural habitats, water										
impacts		Social	improved security, reduced severance, access to services,										
impacts		Social	health impacts, impact distribution by social groups										

#### 1.2. The Models and Analysis

This note sets out the models and assumptions that have been used to estimate the impact of the schemes presented in the OAR. It explains the approach taken to combining model outputs with an appropriate treatment of scheme costs into the cost-benefit analysis of the schemes, which helps to inform VfM.

The following models have been used:

- A **PT mode choice** model has been developed to test PT schemes ad output PT user benefits, forecast mode shift to PT from car and the resulting generated revenue;
- The **Greater-Bristol Area Transport Study (G-BATS4) Strategic model** together with TUBA has been used as the basis for modelling the impact on highways testing the impact of the highway schemes, and also, using outputs from the PT mode choice model and the DfT's Propensity to Cycle Tool², to capture the highway user benefits from mode shift to PT and cycle;
- Highways England's (HE) **VISSIM** model has been used to model one of the key junctions in the Thornbury Corridor;
- The DfT's **Propensity to Cycle Tool**³ has been used to forecast mode shift to cycle as a result of increased facilities for cyclists;
- The **HEAT** (Health Assessment Tool)⁴ has been used to estimate health benefits derived from increases in cycling; and
- Atkins' **PT operating cost model** has been used to estimate operating costs.

² Propensity to Cycle Tool <u>https://www.pct.bike/</u>

³ Propensity to Cycle Tool <u>https://www.pct.bike/</u>

⁴ HEAT <u>http://www.heatwalkingcycling.org/</u>



### **Technical note**

In each of the models the impact of the scheme has been tested compared to a 'Do-Minimum' scenario which includes underlying growth and other committed transport schemes. The benefits, operating costs and revenues from these models have been bought together with capital costs and an allowance for maintenance and renewal with appropriate allowances for inflation, growth, risk and discounting to 2010 present values in accordance with WebTAG.

The rest of this note gives details of the highway modelling, the PT mode choice model and of the assumptions and collation of inputs into the economic analysis.



### Technical note 2. Highway Modelling Overview

#### 2.1. Introduction

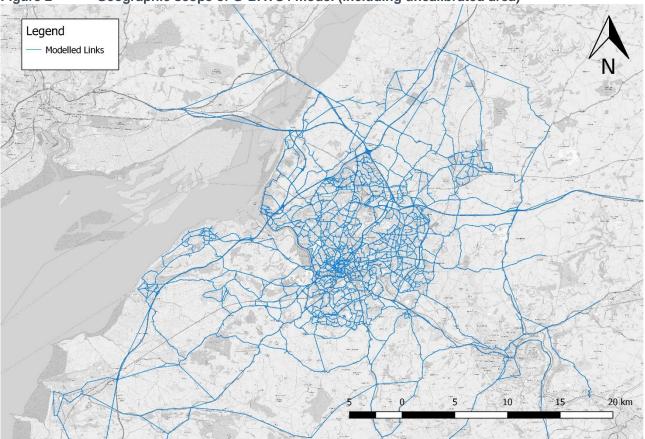
G-BATS4 has been used for Work Package 1 (Whitchurch) and Work Package 3 (Yate) highway schemes, and provided flows for the VISSM modelling in Work Package 6a (Thornbury).

G-BATS4 model represents the highway network covering the Bristol urban area and wider sub-region, as seen in Figure 2. The base model has been developed and validated using traffic count, road side interview surveys and travel time data collected in 2013. It is important to note that the model has been specifically calibrated on the urbanised area within the M4/M5 box. Outside this area, whilst the network and travel demand is included, there is a limitation around the level of detail for specific corridors and junctions.

As the scheme designs progress, a more detailed appraisal and assessment of the G-BATS4 model functionality in these regions is recommended. Nevertheless, the G-BATS4 model is able to provide strategic analysis of current and expected future issues at the sub-regional level and has helped inform analysis of the potential for mode shift from the private car and the overall performance of the transport network⁵.

#### 2.2. Geographic Scope

The area covered is shown in Figure 2. Outside the Bristol urban area, the G-BATS4 model becomes increasingly less detailed, however for a strategic overview of the interventions the model is still adequate.





⁵ West of England Joint Transport Study, Final Report (October 2017)



### 2.3. Time Periods

Highway schemes were modelled in all three time periods, AM peak (between 0800 and 0900), inter peak (1000-1600) and PM peak (1700-1800), with annualisation factors utilised in the economic assessment to expand to a 12-hour weekday and all year.

The impact on highways of the PT schemes (decongestion impacts) are modelled for the peak hour only, with a different annualisation factor applied. Note that the PT mode choice model is a 3-hour model (both AM and PM Peaks), and the PT mode choice model supplies a percentage change in car trips, which becomes the basis for decongestion modelling in G-BATS4.

Further details on PT mode choice modelling periods can be found in Section 3.2.3.

### 2.4. Forecast Spatial Planning Scenarios

There are two forecast spatial planning variants considered in this study: The 'core' forecast for the OARs is described as 'Spatially Neutral' (to align with WebTAG) with a 'Joint Spatial Plan' (JSP) sensitivity test.

#### **Spatially Neutral**

The core forecast scenario was updated in January 2018 by CH2M/Jacobs using current WebTAG values of time and the DfT's National Trip End Model (NTEM 7.2) to represent the expected traffic on the network in 2036. Whilst this scenario includes projected demographic, employment and car ownership changes within the region, a large amount of growth will be classified as uncertain hence it is assumed to be spread across the region as per the base distribution of travel demand. This core scenario is therefore described as **Spatially Neutral**.

The Spatially Neutral scenario is consistent with the DfT WebTAG Unit M4 (Forecasting and Uncertainty) which recommends the establishment of an uncertainty log. This classifies future land development and infrastructure by the likelihood that they will occur. Only specific changes which are considered 'near certain' or 'more than likely', are to be included.

This scenario was created using a Variable Demand Model (VDM). The VDM process modifies the Reference Case demand forecasts to reflect the impact of vehicle operating costs, value of travel time and cost of alternative PT travel, resulting in a without-scheme (Do-Minimum) scenario.

The schemes and land use assumptions included in the Spatially Neutral model are consistent with the uncertainty log, which is included within the traffic forecast report provided by CH2M/Jacobs.

#### **JSP Scenario**

Sensitivity testing was undertaken which assumes proposed housing and employment in the JSP, the 'With JSP' scenario. This was undertaken to demonstrate the impact of adding more demand to the specific development areas and therefore capturing an increased benefit of improving the transport network on some of the short listed schemes/packages given they are designed to directly relate to the JSP developments.

This scenario more accurately reflects the expected highway trip generation and distribution for each Strategic Development Location (SDL) and the changes in housing and employment quanta expected in the JSP. Whilst these SDLs are not yet committed and hence have insufficient certainty to be included in the Core tests, this JSP scenario seeks to provide evidence of the impact of the JSP development on the network and the proposed schemes.

The DfT TEMPro software has a function which allows the user to project trip growth resulting from alternate planning assumptions. These revised growth assumptions, combined with projected SDL trip generation, provided an estimate, within each Unitary Authority, of trip growth compared to the Spatially Neutral highway matrices.⁶

⁶ The 2036 Spatially Neutral highway matrices were based on the outputs from the updated multi-modal variable demand model. The JSP highway matrices are derived from these outputs rather than a full re-run of the VDM.



The planning assumptions for the JSP are detailed in the JSP Transport Topic Paper⁷, Section 3.3.3. The assumptions behind the changes in households and jobs for the JSP are summarised in Table 1.

						0				
	2013	2036				Increase 2013-2036				
Households	Base TEMPRO 7.2	TEMPRO 7.2	2036 Excl JSP	2036 Incl JSP		2036 Excl JSP	2036 Incl JSP	Difference with JSP		
West of England	460,482	560,927	534,925	577,580	1	74,443	117,098	42,655		
B&NES	74,620	85,893	86,645	91,156		12,025	16,536	4,512		
Bristol	185,375	221,583	207,583	· 223,284		22,208	37,910	15,702		
North Somerset	90,265	116,631	106,249	117,016	1	15,984	26,751	10,767		
South Gloucs	110,222	136,820	134,449	146,124		24,227	35,901	11,675		
Jobs	Base TEMPRO 7.2	TEMPRO 7.2	2036 Excl JSP	2036 Incl JSP		2036 Excl JSP	2036 Incl JSP	Difference with JSP		
West of England	598,619	665,334	642,788	693,498	1	44,169	94,880	50,711		
B&NES	97,930	109,435	102,752	108,103		4,822	10,173	5,350		
Bristol	256,166	284,175	266,151	286,282		9,984	30,116	20,132		
North Somerset	90,537	101,412	99,703	109,807		9,166	19,270	10,104		
South Gloucs	153,985	170,312	174,181	189,306		20,196	35,321	15,125		

#### Table 1 Planning Assumptions for Transport Modelling

WoE JSP Transport Topic Paper / NTEM 7.2

Before applying constraints, the expected highway trip demand from the specific SDL was added to the 2036 VDM matrix. This is detailed in the Topic Paper section 3.3.4. A summary of the SDL trip generation is found in Table 2. These SDLs are specific zones: 900XX (see Table 2). The trip distribution was based on nearby zones which match the land use characteristics.

#### Table 2 Trip generation of SDLs

				AMI	Peak	Inter	Peak	PM F	Peak
Location Name	Residential Dwellings	Employmen t (Ha)	Highway Zone	Out	In	Out	In	Out	In
North Keynsham	1,400	14.0	90021	555	923	454	423	796	458
Whitchurch	1,600	0.0	90020	466	193	215	218	249	412
Brislington	500	0.0	90019	142	59	65	66	76	126
Backwell	700	10.5	90022	1,065	961	639	621	943	917
Nailsea	2,575	-	90022	1,005	901	039	021	943	917
Churchill Garden Village	2,675	7.4	90024	857	721	500	487	722	741
Banwell Garden Village	1,900	5.0	90023	606	499	350	342	502	525
Buckover Garden Village	1,500	11.0	90028	553	773	410	387	688	463
Charfield	1,200	5.0	90026	402	414	256	246	393	344
Coalpit Heath	1,800	5.0	90025	577	487	337	328	487	499
Northwest Yate	1,000	0.0	90027	291	121	134	136	156	258
West Yate	-	30.0	90030	316	1,615	569	497	1,240	209
Thornbury	500	5.0	90029	198	330	162	151	284	164
SDL Total	17,350	92.9	-	6,028	7,095	4,092	3,903	6,536	5,116

October 2017 Housing Trajectory and TRICS database

The 2036 matrix, including SDLs was then constrained, by unitary authority, to match the projected NTEM alternate (i.e. JSP scenario) assumption growth. The matrix was furnessed to fit as closely as possible the absolute estimated projected JSP growth rather than percentage change. The overall matrix totals for the AM, IP and PM are shown in Table 3.

⁷ JSP Transport Topic Paper



Table 3	3 Highway Matrix Totals and NTEM Growth									
	AM Peak Model Matrix AM Peak NTEM							EM		
	_			_				Car OD		
	Base	VD	M	Exc	JSP	Inc	JSP	(Raw)	Exc JSP	Inc JSP
	2013	2036	vs Base	2036	vs Base	2036	vs Base	203	36 vs Bas	e
WoE	108,450	127,444	17.5%	120,089	10.7%	130,441	20.3%	15.2%	10.3%	19.1%
Bath	4,858	6,190	27.4%	5,609	15.5%	6,771	39.4%	8.8%	7.9%	13.5%
Bristol	58,384	65,404	12.0%	62,578	7.2%	65,508	12.2%	18.0%	10.5%	18.9%
NSC	13,637	16,493	20.9%	13,704	0.5%	16,609	21.8%	18.1%	9.1%	20.2%
SGC	31,571	39,357	24.7%	38,198	21.0%	41,553	31.6%	13.3%	12.2%	21.9%
External	17,701	21,418	21.0%	20,793	17.5%	21,948	24.0%	-	-	-
			Inter	· Peak Mo	del			Inter	Peak NT	EM
								Car OD		
	Base	V	M	Exc	JSP	Inc	JSP	(Raw)	Exc JSP	Inc JSP
	2013	2036	vs Base	2036	vs Base	2036	vs Base	203	36 vs Bas	e
WoE	93,135	113,575	21.9%	110,257	18.4%	117,112	25.7%	18.6%	14.1%	23.2%
Bath	3,867	4,880	26.2%	4,439	14.8%	5,130	32.7%	16.2%	12.1%	18.0%
Bristol	52,325	61,093	16.8%	58,867	12.5%	61,001	16.6%	18.7%	11.2%	19.6%
NSC	9,558	11,729	22.7%	10,931	14.4%	12,643	32.3%	21.9%	15.7%	27.4%
SGC	27,385	35,873	31.0%	36,020	31.5%	38,338	40.0%	17.7%	18.4%	28.7%
External	14,056	17,985	28.0%	17,726	26.1%	18,267	30.0%			
			PM Pea	k Model	Matrix			PM	Peak NT	EM
	_			-	10.0		100	Car OD		
	Base	VD		Ехс	JSP	Inc	126	(Raw)	Exc JSP	Inc JSP
	2013	2036	vs Base	2036	vs Base	2036	vs Base	203	36 vs Bas	e
WoE	110,278	127,626	15.7%	124,038	12.5%	134,001	21.5%	14.0%	10.0%	18.8%
Bath	4,817	5,568	15.6%	5,006	3.9%	5,942	23.4%	13.1%	8.1%	13.7%
Bristol	59,623	65,541	9.9%	63,035	5.7%	66,527	11.6%	14.1%	6.9%	15.0%
NSC	12,669	14,577	15.1%	13,315	5.1%	15,587	23.0%	16.5%	12.0%	23.3%
SGC	33,169	41,940	26.4%	42,682	28.7%	45,945	38.5%	12.8%	14.3%	24.2%
External	15,528	19,186	23.6%	18,885	21.6%	19,517	25.7%			
			Est 12	Ir Model	Matrix					

		EST IZHT WOULET WATTIX					
	Base	VDM		Exc JSP		Inc JSP	
	2013	2036	vs Base	2036	vs Base	2036	vs Base
WoE	1,105,630	1,319,125	19.3%	1,271,860	15.0%	1,363,777	23.3%
Bath	47,390	<b>5</b> 8,675	23.8%	53,172	12.2%	62,563	32.0%
Bristol	608,968	693,921	14.0%	667,235	9.6%	696,094	14.3%
NSC	123,113	148,049	20.3%	133,134	8.1%	156,348	27.0%
SGC	326,160	418,481	28.3%	418,320	28.3%	448,773	37.6%
External	167,409	209,420	25.1%	205,551	22.8%	213,265	27.4%

GBATS Highway Matrices and NTEM7.2 data. The JSP matrices include the SDL trips

# 2.5. Use of Outputs in Economics

The outputs from G-BATS4 for highway schemes were run through TUBA using scheme parameters as set out in Section 4.4.

Due to the G-BATS only modelling being based on one year, post-TUBA benefit manipulation was completed. Using Value of Time (from WebTAG guidance) and benefits factors (derived from model change in (passenger car units (PCU) hours), the benefits are discounted back to the scheme opening year. Following this, the horizon year was adjusted, allowing the benefits to reflect the effects of the scheme from the opening year and over the 60-year appraisal period.

### 2.6. Model Caveats

To date, the modelling and analysis has been appropriate for the stage of the scheme development and case making, with no significant enhancements to pre-existing models. During the progress of model



applications, a number of model limitations were observed, which are summarised below as recommendations for model enhancements in further stages of work:

- Calibration outside the Bristol urban area is minimal, meaning the model could be enhanced to more fully
  capture the observed/potential delay on key corridors;
- SATURN (the modelling program used) does not fully capture the benefits at junctions, a microsimulation model could be used more widely in future stages to ensure the junctions function correctly and to capture delay and congestion benefits in more detail;
- Capture of the JSP demand in the models is relatively simplistic and reviews of the outputs show that it could be underestimated, also the JSP scenario in G-BATS is also not constrained to NTEM; and
- Currently only one forecast year is modelled, 2036, in future stages a second, more distant future year should be considered.

Potential enhancements to the above limitations is likely to lead to improved benefits capture and a more comprehensive VfM analysis.

### 2.7. VISSIM Modelling for Thornbury

#### 2.7.1. Introduction

For the highway scheme being progressed in the A38 corridor (Work Package 6a), at M5 Junction 14, the G-BATS4 network is considered unsuitable for detailed testing as a strategic model is unlikely to pick up the full extent of the issues and benefits, and because the junction is in the model 'buffer' (less detailed part of the model). Hence a more detailed analysis has been undertaken using Highway's England's micro-simulation (VISSIM) model. This model has been specifically calibrated in the area, and is able to consider more detailed real time vehicle interactions. The expected strategic forecast change in highway travel demand from the G-BATS4 model has been applied to the validated base VISSIM model in order to assess the impact at this junction using the best available data.

#### 2.7.2. Geographic Scope

VISSIM is more suited to junction modelling and for the location of the scheme it is used for in these corridor studies. Figure 3 shows the extent of the VISSIM model.

#### 2.7.3. Time Periods

The VISSIM model was run using an AM Peak (07:30-08:30) and PM Peak (16:30-17:30), with a 30 minute warm up period (07:00-07:30 and 16:00-16:30) and a 30-minute cool down period (08:30-09:00 and 17:30-18:00). Note that there was no inter peak VISSIM model run, therefore annualisation factors were used to account for off peak benefits in the economics.

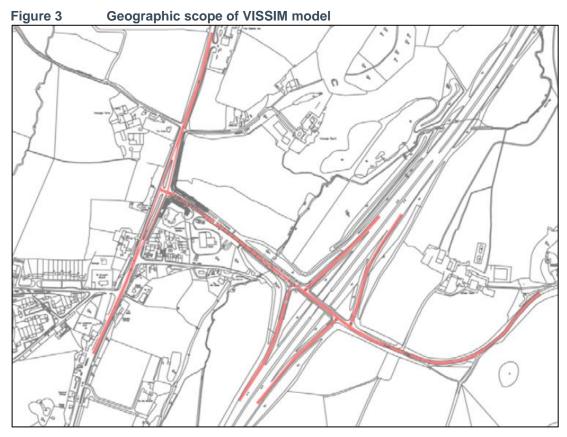
#### 2.7.4. Modelled Flows

Modelled flows were taken from G-BATS4 for consistency. The base year VISSIM matrices were factored by growth from base year to the future year 2036 for all Origin-Destination (OD) movements in the VISSIM network.

### 2.7.5. Use of Outputs in Economics

The VISSIM model outputs were converted to a TUBA format using an Atkins spreadsheet. TUBA and post-TUBA manipulation was then completed.





### 2.7.6. M5 Junction 14 Modelling Limitations

As seen in Figure 3 the scope of the VISSIM model is limited, with no more than the junction and adjacent roads being modelled. This means that wider benefits and impacts are not, at this stage, captured. The VISSIM model has different time periods to that in G-BATS and using different software, meaning it is not directly comparable to the other highway schemes in detail, but the outputs give a broad indication of scheme performance. As with the G-BATS model, the HE VISSIM model has only one modelled year, meaning benefits require adjustment.

When the VISSIM model was run it was found that there was a high level of 'un-met demand'⁸ with one scheme option tested. This is due to higher levels of congestion. This means that some scenarios appeared to be performing better in TUBA as the demand was lower, despite high levels of congestion and vehicles not being able to enter; i.e. the modelling outputs are not realistic and the junction does not perform adequately to accommodate demand. In this instance, the scheme option was considered to not mitigate the impacts of the traffic flow at the junction.

⁸ 'Unmet demand' is when a vehicle cannot enter the network, due to congestion extending along the link preventing the vehicle from entering in their interval, meaning they are removed from the modelling.



# Technical note 3. PT Mode Choice Modelling

### 3.1. Mode Choice Model Overview

The objective of the modelling was to undertake a proportionate assessment to establish which schemes are likely to have a good business case on further development. It is not necessary at this stage to produce detailed forecasts, e.g. for individual bus services. Outputs from the mode choice model were used for economic assessments of the schemes, together with highway impacts taken from G-BATS4. The outputs are for a WECA OBC, which is commensurate with the level of detail of a standard DfT Strategic Outline Business Case.

For PT schemes (MetroBus and Park & Ride), Atkins undertook PT demand modelling to estimate the level of demand for each of the proposed schemes. A bespoke spreadsheet modelling tool was developed to carry out the demand calculations since the existing transport model (G-BATS4) does not have suitably detailed spatial definition required for PT mode choice modelling outside of the existing urban area.

The requirement of the model was to produce patronage forecasts for bus and Park & Ride for the proposed schemes, and also resultant mode shift from highway travel which is input to the G-BATS4 model to forecast the impact on congestion. Rail patronage forecasts are not required.

This section sets out the development and specification of the mode choice model, covering:

- Model specification:
- Model data;
- Geographical scope;
- Time periods modelled;
- Functional scope;
- Calibration;
- Limitations;
- Demand growth;
- MetroBus scheme processing;
- Park & Ride scheme processing; and
- Combining MetroBus and Park & Ride schemes.

### 3.2. Model Specification

#### 3.2.1. Model data

The model uses demand data from the Census Travel to Work (TTW) dataset as an approximation for the AM Peak and the transpose is assumed to be the PM Peak. The volume of all-purpose peak period trips is roughly the same as all day (one way) commuting trips and therefore TTW data is a reasonable approximation. TTW data was used in preference to demand data held within the G-BATS demand model as it was considered to provide a better representation of demand for commuting travel patterns.

The TTW dataset was applied to the G-BATS model zoning system. The mode splits forecast by the model for each O-D movement are applied to the total travel demand for that O-D (taken from the TTW data).

Table 4 lists the elements of journey time and cost in its mode choice calculations considered in the mode choice model.

Table 4	Cost terms considered in mode choice modelling
---------	------------------------------------------------

Public Transport	Highway
In vehicle time (minutes)	In vehicle time (minutes)
Fares (£)	Parking cost (£)
Access time (minutes)	Tolls (£)
Waiting time (minutes)	Car operating costs (£)



Public Transport	Highway
Interchange time (minutes)	
Walk times (minutes)	

Notes:

- Fares, parking costs, tolls and car operating costs are converted to time units (minutes) using standard WebTAG values of time,
- Fares and car operating costs are calculated using unit rates and journey distances, and
- Park & Ride costs are a combination of highway costs and PT costs

Travel time and other data needed for the generalised cost calculation is taken from the G-BATS model for the 2013 base year. This is close to the 2011 Census year and considered a reasonable fit for the data.

For the purpose of modelling the PT schemes, it has been assumed that only PT cost terms would change, and highway costs stay unchanged from the base.

#### 3.2.2. Geographical scope

The PT mode choice model's coverage is approximately equal to the G-BATS model area. For how the geographical scope for each individual scheme is controlled, see Section 3.7.2.

#### 3.2.3. Time periods modelled

The mode choice model considers travel in the AM period and the PM period. In each case, travel time characteristics are taken from the GBATS multi-modal model, which includes an AM Peak (0700-1000) and PM Peak (1600-1900) time period.

#### 3.2.4. Functional scope

The PT mode choice modelling takes the form of a logit choice model, considering the choice between using the car or PT. The model calculates the mode split for each O-D movement, which when applied to the anticipated demand for that movement, will give an expected patronage figure for the scheme. This is an absolute form of model, calculating the mode split based on the time and cost of travel.

On reviewing the mode choice structure of the existing G-BATS4 model, a nested logit model was identified as the most appropriate approach with two levels:

- Main Mode: Highway / PT;
- Sub Mode Highway: car / Park & Ride; and
- Sub Mode PT: bus /rail.

Generalised cost formulation follows the form and weights used in G-BATS. The demand data is held in OD (origin-destination) format, not PA (production-attraction) which is more usual for demand models. This is due to limitations of the demand data.

Disaggregation in the model was carried out by purpose and by time of day. There will be no disaggregation by income or by car availability. The model was specified to estimate the split between available modes applied to forecast demand levels and travel patterns. It will not be specified to forecast the amount of demand, or to calculate the distribution of that demand.

The model does not take into account constraining factors such as car availability or car parking capacity.



### 3.3. Calibration Results

#### 3.3.1. Base Year Calibration

Model calibration was achieved by adjusting the mode choice scale parameters and including a limited number of mode specific constants to achieve the required mode split.

TTW data does not specify Park & Ride usage. It was assumed that all Park & Ride use is reported within the 'car' mode of travel. Counts from the existing Park & Ride sites were used in combination with the TTW data to determine the car/Park & Ride split.

#### 3.3.2. Model Parameters

The final calibrated parameters are:

- Main mode choice (lambda): 0.028;
- Sub mode choice PT (lambda): 0.15;
- Sub mode choice highway (lambda): 0.15;
- Mode specific constant rail (minutes): 30; and
- Mode specific constant Park & Ride (minutes): 5.

The mode splits observed in the TTW data and achieved by the model are reported below. A number of calibration runs have been carried out, varying the mode choice parameters and the rail and Park & Ride mode specific constants.

The best results obtained from the calibration test runs are shown below. Since Park & Ride is not recorded separately in the Census data the Park & Ride trips are included with car in Table 5.

Travel mode	Demand		Mode split %		
	TTW	Model	TTW	Model	
Car and Park & Ride	232,347	230,275	86.16%	85.93%	
Bus	29,975	30,831	11.11%	11.43%	
Rail	6,790	7,815	2.51%	2.90%	
Total	269,112	268,921	100.00%	100.00%	

 Table 5
 Mode choice demand calibration

This shows a good fit between the model and the TTW data at a total travel demand level.

#### 3.3.3. Park & Ride patronage for Existing Sites

Comparison between modelled and observed Park & Ride demand (person trips between 8AM and 9AM) at existing sites is in Table 6.

Table 6	Park & Ride	patronage	(person [·]	trips. AM	Peak hour 8-9AM)	

Site	Model patronage	Model split	Count patronage	Count split
Portway	251	34%	79	14%
Bath Road	318	42%	243	44%
Long Ashton	175	24%	232	42%
Total Park & Ride	744	100%	554	100%

Count patronage is based on figures used in CH2M's validated base year Park & Ride model.



At the mode choice level, Park & Ride patronage is over-predicted (744 trips in the model as compared to 554 trips from counts). The split between sites is more even in the model than in the count data, with the model overestimating use of the Portway site and underestimating use of the Long Ashton site. However, as the objective of this model is to predict patronage for new Park & Ride sites, the overall mode split is the more important measure. It is noted that the counted patronage of 79 trips at Portway appears low.

#### 3.3.4. Realism testing

A realism test, increasing bus fares by 10%, was undertaken to see the effect on cost trip elasticity and is presented in Table 7.

#### Table 7Bus fare realism test

	Bus fare increase 10%
Calculated own cost trip elasticity	-0.42

The elasticity reported is lower (in magnitude) than ideal (WebTAG suggests an elasticity of -0.7 to -0.9), meaning the model is likely to be conservative in estimating the impact of a fare change. However, since the model is only considering mode choice between car and PT and no other responses (such as trip redistribution, not making a trip or switching to walking and cycling) and calibrated only on commuting trips, which are expected to be less elastic than discretionary trips, this is a reasonable result.

PT tests carried out for the specified schemes suggest a reasonable degree of sensitivity of demand response to changing journey times.

### 3.4. Limitations and Next Steps with Model

This model is suitable to assess the likely impact of bus-based improvements on a corridor basis, an appropriate level of robustness to support the OARs. Results from the model can be used to inform operational or economic appraisal to inform decisions on taking schemes forward to a more detailed business case. As with all modelling exercises, and at this stage of development, there are caveats around the model outputs and a list of the limitations of the approach is given below. As appropriate, at subsequent stages of scheme and modelling development commensurate with DfT OBC or Full Business Case (FBC) stage, further modelling refinement will be undertaken either to enhance the PT mode choice model, and/or to enhance G-BATS4 to a greater level of granularity in the specific corridors.

The key limitations of the mode choice model are as follows:

- Forecasts are intended to give a scale of Value for Money, the level of detail is proportionate to the early stage of scheme development;
- There is no trip generation or trip distribution included, the only decision being modelled is the choice of mode applied to forecast demand;
- The modelling does not detail time-of-day choice, peak spreading or period switching;
- The model does not go to the level of boarding and alighting at individual bus stops, or loadings on individual buses;
- Corridor bus patronage is captured at this stage rather than forecasting how demand might move between individual services within each mode, and therefore the modelling is not detailed enough to indicate how many people will switch to MetroBus from existing bus services;
- Patronage forecasts are provided for each key origin for the time period as a whole. This may smooth out the high peak within each peak period;
- Generalised costs are calculated based on assumptions of route choices, and the flows captured for each scheme are manually generated. This may have led to a smaller set of flows captured than would have been if journey time changes are determined through an assignment program;
- The PT mode choice modelling does not consider constraining factors such as car availability or car parking capacity;
- Modelling of PT schemes have only considered changes to PT journey times and costs, and those for car are assumed to be fixed. These are reasonable assumptions for the schemes as specified for this commission; and



• Each element of modelling undertaken was carried out in line with WebTAG guidance. However, given the simplification at this early stage of development, the modelling approach does not consider the full range of responses set out in WebTAG.

Subsequent stages of scheme development should consider addressing some of the above.

## 3.5. Summary of Key Assumptions

Table 8 shows the key assumptions made in the PT and mode choice modelling.

Table 8	Key PT Mode Choice Modelling Assumptions

Assumption	Rationale	Impact	Notes
Park & Ride is modelled in the PT mode choice model for AM only	No reliable Park & Ride data in PM	Park & Ride traffic impacts in PM assumed to be reverse of AM	Highway Benefits: Park & Ride outputs were included in the SATURN PM model and therefore PM benefits are captured in the economic benefits. No IP model was run at this stage therefore benefits may be underestimated. PT Benefits: Annualisation factors were used to uplift the benefits (6.83 for AM or 7.09 for PM). Future Park & Ride modelling would benefit from further data collection (e.g. for inter peak and PM- peak periods) to for better model calibration and forecasting
Growth based on highway matrix rather than mode specific growth	No full forecast matrix available	Growth rates may vary slightly compared to all-modes growth	This is a limitation but is proportionate at this stage of analysis and scheme development
Census TTW data is used for demand	Client request	Only covers commuting demand; no adjustment made for specific time periods or other trip purposes.	The model forecasts for the AM Peak and uses demand that reflects all commuters, however some commuting will occur outside of the AM Peak period. This is a simplifying assumption for this stage of modelling and whilst use of this data would over represent commuting in the AM Peak, this broadly balances with under representation of other trip purposes.
<i>In scope zones - 500m radius at origin end; 1.5km in Bristol</i>	Passengers are unlikely to walk further	There could be a wider catchment from interchange with other buses or cycle therefore patronage may be under estimated a little.	A sensitivity test has been undertaken where this is thought to be a particular issue (Thornbury) to give an indication of an alternative more relaxed assumption.
In scope zones - only where directly served by bus stop	Calculating all potential journeys is not proportionate	Could under estimate patronage slightly.	A sensitivity test gives an indication of an alternative assumption.

Assumption	Rationale	Impact	Notes
No changes to fares	Fares strategy uncertain	Fares are an element of the cost used to calculate mode shift. OpEx revenue calculated separately	This is a limitation but is proportionate at this stage of analysis and scheme development.
Bus quality factor of 15% applied to in vehicle time	MetroBus is higher quality than existing buses	Will make MetroBus more attractive compared to normal bus or car with same journey time	This is an acceptable assumption for this stage of development. It is recommended that further work in later stages of scheme development is undertaken. to confirm the MetroBus 'concept', to what extent this is delivered by the services and infrastructure, the relationship between this and the value of 15% and whether this is the correct proportion.
GBATS used as source of journey times	Best data source for all journeys in Bristol	Model may not be completely accurate in all locations	Alternative sources and more detailed verification could be considered at later stages of scheme development when modelling in more detail.
Yate loop passengers take first bus	Passengers unlikely to wait for following bus	Journey time to stops on circle is average of the two directions, not the quickest direct	Simplification is appropriate for this stage of scheme development and analysis. We recommend a reality check on the potential impact (if any) of this simplifying assumption when forecasting in more detail.



### 3.6. Demand growth

Growth in demand from base year to future year, 2036, is determined by applying factors at the origin zone, calculated from the G-BATS highway matrices as the best available source at the time the analysis was undertaken. This assumes no change in distribution between base and future years which is a simplifying assumption at this stage of scheme development and could be enhanced in the future.

Two scenarios are considered:

- 'Spatially Neutral' where growth in demand is applied evenly across wide areas; and
- 'With JSP' where growth in demand is targeted in specific zones to reflect new development areas.

As the base year data is only available for existing zones and growth is applied multiplicatively, new zones in the 'With JSP' scenario are paired with an appropriate nearby zone sharing the same journey characteristics. The demand from the 'new' zone is moved to the 'old' zone for the purposes of the mode choice calculations, so that all demand is accounted for in the future year scenario.

### 3.7. MetroBus scheme processing

#### 3.7.1. Schemes assessed

The schemes to be tested consist of improvements to bus services on many routes between Bristol City Centre and towns just outside the Bristol urban area. Journey times and bus service details were specified for each section of the route.

#### 3.7.2. Zones affected

As the mode choice model is configured to calculate mode splits for each OD pair, it was necessary to define the zones, and the OD pairs, affected by the new bus routes and Park & Ride sites. The overall principle for this was to capture only the OD pairs directly affected by introducing the new route, and not any others even though they may see a marginal improvement.

The affected zones were defined as:

- Bristol City Centre: any zone within 1.5km of a stop served by MetroBus, according to the Travelwest website; and
- Outside Bristol: any zone within 500m of stops served by the new service. Where the services leave the existing MetroBus corridors, this includes the last stop on the shared section of route and all stops thereafter.

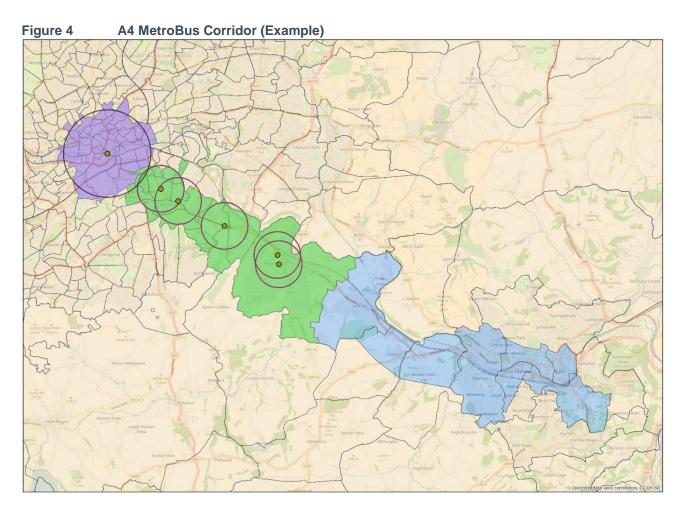
Journeys in scope are:

- Journeys between all OD pairs in the 'outside Bristol' range; and
- Journeys between 'Outside Bristol' and 'Bristol City Centre', but not journeys within 'Bristol City Centre'.

The selection of in-scope zones forming the in-scope OD pairs is referred to as a corridor.

Figure 4 is an example of such a corridor. For the A4 scheme, PT journey time changes are considered for movements between all coloured zones.





#### 3.7.3. Scheme specification

The mode choice model calculates the generalised cost for bus services based on the journey time, frequency, walk and interchange time information provided to it. The data preparation therefore required the relevant information to be updated for those OD pairs in scope of the assessment as set out below. No changes were made to the other journey attributes (distance, fare, access etc).

#### 3.7.3.1. Journey time

The journey time for each OD pair was calculated from the journey time specification provided for the scheme, by linking each zone to the nearest bus stop.

The in-vehicle journey time was reduced by 15%⁹ to reflect the better quality of MetroBus compared to existing bus services, and therefore an improvement in perceived journey quality.

#### 3.7.3.2. Waiting time

The waiting time at each bus stop was specified as half the headway for the service, assuming a random arrival profile at the stop. The bus services provided are relatively frequent (10-20 minute headways), so this is a reasonable assumption. Waiting time changes were applied for schemes intended to deliver improved frequency of services along key corridors.

⁹ This factor was based on the factor used in the Cambridge multi-modal model to represent their highquality and guided bus services.



### 3.7.4. Post-model processing

Output highway demand change matrices are fed back into G-BATS then TUBA is used to calculate highway decongestion benefits. Summary statistics for bus user benefits are fed directly into TUBA.

### 3.8. Park & Ride site processing

The preparation of Park & Ride data was independent of the MetroBus data. The Park & Ride sites modelled are served by the MetroBus schemes being tested, and so share key journey data characteristics with them.

#### 3.8.1. Generalised costs

For Park & Ride sites, the generalised costs are a direct input to the model, and therefore needed to be calculated outside the model.

The generalised cost for a Park & Ride service consists of several elements:

- Car generalised cost from origin to the zone representing the Park & Ride site (with adjustments made to reflect differences between the location of the zone and the Park & Ride site where the two are different);
- Bus in-vehicle time (calculated on the same basis as the MetroBus in-vehicle time);
- Waiting time (half the headway); and
- Interchange time of 10 minutes, reflecting parking time and inconvenience of changing modes.
- Fares are assumed to be the same as MetroBus fares from that location.

The other attributes are unchanged.

#### 3.8.2. Zones in scope

The mode choice model only considers the choice of one Park & Ride site for each OD pair. To calculate which OD pairs should be considered in scope for the purposes of the assessment, the generalised cost of using the new Park & Ride site was calculated for all OD pairs. If this generalised cost was lower than the existing model generalised cost, that OD pair was allocated to the new Park & Ride site and considered in scope. For all OD pairs where the generalised cost with the new site was higher than existing, they were considered out of scope and remained with their existing generalised cost and Park & Ride site option.

### 3.9. Combined scheme (MetroBus and Park & Ride site) testing

A combined scheme, consisting of both MetroBus and Park & Ride site testing is input to the model by including both the Park & Ride and MetroBus scheme inputs. The model uses this information to determine the mode used to travel given the availability of both MetroBus and Park & Ride options.

# 4. Economics Overview

### 4.1. Introduction

This section explains how the costs, benefits and revenues are brought together into the cost-benefit analysis, and the assumptions or approaches that are adopted.

The Economic Assessment has been carried out using standard procedures and economic parameters as defined by TAG Unit A1- Cost Benefit Analysis with efforts made to quantify and monetise costs and other impacts where appropriate.

A VfM Statement is presented in the OAR to provide a summary of the conclusions from the VfM assessment. The VfM categories and their relationship with benefit-cost ratios (BCRs) generated through cost-benefit analysis, is presented in Table 9. Though it should be noted that other non-monetised considerations should be included in VfM assessments.



Table 9 DfT \	/fM categories
DfT Value for Money	v categories
BCR	Category
Less than 1.0	Poor
1.0 to 1.5	Low
1.5 to 2.0	Medium
2.0 to 4.0	High
Greater than 4.0	Very High

# 4.2. Estimation of Scheme Benefits in TUBA (applicable to all schemes)

The impacts of the options on travel times and vehicle operating costs for trips using the scheme were assessed using the DfT's TUBA program  $(v1.9.9)^{10}$ .

TUBA is a bespoke software package developed on behalf of the DfT to estimate the impacts of transport schemes in terms of the costs and benefits experienced by users and providers of the transport system, and the associated indirect taxation impacts.

TUBA estimates costs and benefits by comparing transport conditions in a Do-something scenario against conditions in a Do-minimum scenario. To this end, for the schemes tested, TUBA uses information from the transport models to:

- Calculate user benefits by vehicle type and for each element of journey cost (i.e. travel time and vehicle operating costs - fuel and non-fuel);
- Calculate the changes in the indirect tax income received by the government (for highway schemes this primarily reflects the levels of indirect taxation incurred on fuel cost); and
- Calculate the changes in the greenhouse gases emissions.

For the scheme assessments, the user and provider related costs and benefits in each year produced by TUBA were combined with estimates of costs and discounted to 2010 values.

### 4.3. Economic parameters

TUBA provides a complete set of default economic parameters in its standard economics file, including values for variables such as values of time, vehicle operating cost data, tax rates and economic growth rates.

TUBA v1.9.9 has been used which enables appraisal to be undertaken by varying the Value of Time, either by distance-band or as a continuous function varying by distance for the business users, as defined in the WebTAG data book (v1.8.1). It should be noted that for this analysis TUBA method 1 is selected which uses varying values of time by distance for business users.

¹⁰ The most recent TUBA program (v1.9.10) was released part of the way through the appraisal, however, for consistency, it was decided to continue the appraisal with v1.9.9.



### 4.4. Scheme parameters

The scheme related parameters in the TUBA scheme file were largely determined by the parameters used in the forecasting model, namely:

- First year 2036;
- Last year 2095;
- Modelled years 2036, 2037;
- Current (appraisal) year 2018.

The GBATS model only has one modelled year, 2036, therefore this was taken to be the first year and the second year (required by TUBA) was taken to be 2037. The model outputs were used for both of these years and post-TUBA manipulation was undertaken to account for this and the incorrect opening/first year.

### 4.5. Time slices and annualisation factors for G-BATS4

The TUBA assessment was based on three time slices:

- AM (weekday 07:00 to 10:00);
- IP (weekday 10:00 to 16:00);
- PM (weekday 16:00 to 19:00).

Annualisation factors were applied to expand the G-BATS modelled benefits to represent a 12-hour weekday and full year. The AM and PM Peak hour is multiplied by 3 to get peak periods and is multiplied to account for all working days. For the inter peak, a factor of 1518 was used as there are 6 Inter Peak hours per day. The off-peak periods were omitted, as the majority of benefits from the infrastructure would come from weekday traffic.

### 4.6. Public Transport Benefits

The generalised cost saving (time saving and reduced waiting time) was taken from the PT mode choice model, appropriate values of time from WebTAG were applied and annualisation factors were applied to reflect all time periods. A factor of 6.83 is applied to the AM Peak hour and a factor of 7.09 is applied to the PM Peak hour to convert to a full day and are factored up to cover the full year. The benefits were then factored to adjust for the scheme opening year, as the model used a future year of 2036.

# 4.7. MetroBus and Park & Ride service operating costs and revenues

In order to calculate **bus operating costs**, Atkins used its bespoke bus operating cost model. This model takes key inputs, such as one-way journey time (AM Peak, inter peak and PM Peak), frequency, vehicle type and layover time, and provides outputs around the number of vehicles required at peak (Peak Vehicle Requirement), direct and indirect costs, giving a total cost per annum of operation. In order to do this, it is also necessary to make assumptions around hours of operation, including evenings and weekends. The outputs from this model have been benchmarked with known outturn operating costs elsewhere to ensure consistency.

The process of calculating **revenue** generation begins with the outputs from the PT mode choice model. Using peak hour boarders from the model, Atkins first estimated annual patronage, using known factors from other work to convert from the AM Peak to all day, before converting from all day to annual. It is then necessary to multiply annual patronage by an assumed yield per passenger to derive total revenue. The yield per passenger calculation takes account of the likely mix of users of the service – for example, some users may be children, some may have a concessionary pass (and hence are eligible to travel free of charge during the hours of the scheme – albeit with the bus operator receiving a level of reimbursement for each journey made), and some may be making regular commuting journeys using some form of season or multijourney ticket. To take account of this range of users and ticket types, Atkins used its revenue generation model which is based on a 'basket' of fares, covering adult and child single, return, daily, weekly and monthly tickets (using operator websites to access ticket prices for appropriately comparable journeys). The



assessment also makes an assumption regarding the level of concessionary reimbursement that the operator could be expected to receive.

Having determined operating costs and revenue, a direct comparison can be made to determine the extent to which the service is likely to be commercially viable. If revenue is below operating costs, this may mean that the service is not commercially viable, unless there are other factors to consider such as funding from new development.

### 4.8. Capital and Maintenance and Renewal Costs

Scheme costs were calculated by Atkins based on the scheme concept designs. The costs produce include:

- Construction costs;
- Preparatory costs, including detailed design and business case fees (a variable percentage was applied for detailed design, and business case fees were 10% of construction costs);
- Site supervision costs;
- Land costs; and
- Risk budget, at 40% due to the early stage of the schemes, and Optimism Bias of 44% included in the PVC used in the BCR calculation.

Schemes were costed based on 2D or 3D concept designs. 3D design focused on schemes with the greatest changes in vertical alignment, which allowed the volume of cut and fill to be estimated to inform excavation and disposal costs. It should be noted, that schemes designed in 3D are to concept design level, not detailed design.

Works costs were built up on a 'per m2' or 'per m3' or 'per item' basis for different elements, using rates from similar projects, including:

- Rates derived from live projects under construction in the West of England area;
- Typical industry standard rates where the above were not appropriate;
- Consultation with local industry, and professionals; and
- Peer review and benchmarking against completed schemes.

These unit rates have been used alongside appropriate percentage allowances for preliminary items and design fees. This approach is a proportionate hybrid between a high level 'per km' costing and a full Bill of Quantities. Items such as fencing, landscaping and utility diversions were calculated using an average percentage of the total scheme costs found on similar projects. Land costs were based on an indicative unit rate of £40k/per hectare for all land, there have been no discussions with landowners at this stage.

Structures were calculated at a high level based on the scale of works anticipated, and have amended where necessary dependant on the size and location.

Percentage allowances were included for preparation, site supervision, risk and environmental mitigation.

To derive outturn costs (to include inflation to allow for opening year), schemes costs were profiled evenly over the relevant time period based on the high-level programme in the OAR. The costs were profiled according to the schemes' opening year and period of construction and appropriate inflation and discounting were applied.¹¹ Scheme opening years are generally based on previous work by the councils in relation to the proposed housing trajectories in the JSP. Adjustments were made if the opening year needed to be extended to allow for preparation and design. Appropriate construction and design periods have been specified ahead of opening year, and including a period back to present day for preparatory work on developing a business case and gaining funding, planning permission and land purchase.

¹¹ Inflation values were agreed with the Client Role as 2.5% until 2021 and 4% beyond that. Discounting values were -2.44%.



Relevant Construction Price inflation, at 2.5% until 2021 and 4% thereafter, was included to calculate the outturn cost for the financial case and affordability considerations, where Optimism Bias is also excluded.

Maintenance and renewal costs, taken as 4% of construction costs, over the 60-year appraisal period. At this early stage of scheme design and development Park & Ride operating costs have not been specifically estimated but there is an indicative allowance for maintenance and renewal assumed at 4% of the construction cost.

### 4.9. Cost-benefit Analysis Collation

The monetised benefits output from the PT mode choice model and from TUBA are collated together with the HEAT benefits calculated using the DfT tool. The capital, maintenance and renewal and bus operating costs were collated with generated revenue to give the inputs for the PVC.

The scheme benefits and costs were input into an Atkins spreadsheet to produce the Present Value Costs and Benefits (PVC and PVB) used for the BCR calculation. All present values reported are in 2010 prices, discounted over a 60-year appraisal period and are quoted in the market price unit of account unless otherwise stated.

### 4.10. Sensitivity Tests

Two sensitivity tests have been provided to provide a range due to the potential uncertainties around the modelling.

#### Catchment Sensitivity Test (Thornbury only)

The central assumption for capturing MetroBus trips was based on being within approximately a 10 minute walk of the MetroBus stop at the 'home' end. In Bristol city centre, a distance equating to a 20 minute walk was assumed, on the basis that people are more inclined to walk further in city centres to access their chosen mode. In this sensitivity test, the catchment of bus passengers was relaxed to capture access via bus services feeding into the newly proposed services.

#### JSP 'Off-Model' Sensitivity Test (Thornbury and Whitchurch only)

Given the reasonably coarse level of granularity of the models as developed to date, the full extent of the demand from JSP developments is not considered to be fully demonstrated. To estimate the impact of the JSP demand more fully, a relatively simplistic uplift has been applied using an 'off-model' estimation of trips generated by the JSP. This trip generation estimate uses a DfT dataset for the number of bus trips in South Gloucestershire, which is converted to trips per head based on population, and then used to factor from size of dwelling for the developments. The impact on modelled benefit to capture this uplift is a simple pro rating on the basis of difference in demand rather than modelling the relationship between additional trips and benefit generation, therefore is a simple approximation at this stage. There is a small element of over-estimation with the simplistic sensitivity analysis approach as the Spatially Neutral scenario includes some of the JSP demand but not in the specific locations.

# 5. Summary

This appendix has set out the modelling and economics methodology.

For the highway schemes in WP1 and WP3 the G-BATS4 model was used and for WP6a HE's VISSIM model was used. These models were run in a Spatially Neutral scenario, where growth was added across the area based on existing housing, and in a 'With JSP' scenario, where the growth for each SDL was added to the specific location. Limitations at this stage of scheme development have been noted, including granularity of coverage for the areas, the presence of only one future year forecast and there are some additional benefits that could be captured at later stages of scheme development such as reliability, accidents and Wider Economic Impacts. Economic results were obtained using the DfT's programme TUBA, and adjusted to reflect the relevant opening year and appraisal period.

PT schemes were modelled using a bespoke spreadsheet tool to estimate the mode shift to MetroBus/Park & Ride services. This gave an estimate of the PT patronage and the generalised cost savings, which was used to calculate the economic benefit of the scheme to PT users. These results, as well as the increase in cyclists and the associated health benefits, calculated using the DfT's Propensity to Cycle Tool, were then used to adjust the G-BATS4 highway model and obtain decongestion benefits in TUBA. Finally, Atkins PT operating cost model was used to obtain PT operating costs and revenues.

The benefits calculated were combined with the costs, extrapolated over the 60 year appraisal period with appropriate growth and discounted to 2010 prices, to produce BCRs, which helps to inform the VfM of the schemes.

Appendix 6.3 Environmental Assessment worksheets

# SE Bristol and Whitchurch Options Assessment Report - Environmental Worksheets Work Package 1 (SE Bristol and Whitchurch)

#### Contents

This workbook provides WebTAG worksheets, and proformas consistent with WebTAG principles for the following scheme options:

Orbital Route A4-A37	North Alignment 1 and South Alignment 1 (Option A)
Orbital Route A4-A37	North Alignment 1 and South Alignment 2 (Option B)
Orbital Route West of A37	Washing Pound Lane (Option C)
Orbital Route West of A37	Half Acre Lane (Option D)
Hicks Gate Junction Improvement	At-grade improvement A4174-A4 (Option E)

Scheme option worksheets are grouped by environmental impact:

Section 1	Noise (NO)
Section 2	Air Quality (AQ)
Section 3	Landscape (LA)
Section 4	Townscape (TO)
Section 5	Historic Environment (HE)
Section 6	Biodiversity (BI)
Section 7	Water Environment (WE)

#### NOISE ASSESSMENT - Option A&B - Orbital Route A4-A37 - Blue Route

How many households will be affected by the scheme?	
<ul> <li>Could the scheme lead to a change in traffic flow &gt;25% or change in average speeds &gt;10kph?</li> </ul>	Assessment
There are no noise important areas within 200m of the proposed link road route alignment, although a number of noise	Likely Slightly
important areas are located on roads that may experience a change in traffic flow volume due to the scheme.	Adverse
There are approximately 65 noise sensitive receptors located within 200m of the proposed route alignment, and facades of these receptors could be exposed to an increase in noise directly from the scheme, however a number of these same noise sensitive receptors may also benefit from decreases in noise on other facades due to the rerouting of traffic. There is the potential for minor to moderate increases in noise at properties located in Bifield Road due to the bypass itself, with the potential for nearby properties located on Stockwood Lane to experience a minor decrease due to traffic rerouting.	
There are approximately 6600 noise sensitive receptors located within 200m of roads that may be expected to experience a decrease in road traffic volume due to the scheme, including ~230 which are located within designated noise important areas.	
There are just over 2000 noise sensitive receptors located within 200m of roads that may be expected to experience an increase in road traffic volume due to the scheme (A4174, A4175, A37), including ~400 which are located within designated noise important areas.	
It is anticipated that these changes in road traffic volume in the wider area are likely to result in a negligible change in road traffic noise experienced at the majority of these noise sensitive receptors.	

#### NOISE ASSESSMENT - Option C - Orbital Route West of A37 (Washing Pound Lane) - Grey route

<ul> <li>How many households will be affected by the scheme?</li> <li>Could the scheme lead to a change in traffic flow &gt;25% or change in average speeds &gt;10kph?</li> </ul>	Assessment
There is 1 noise important area within 200m of the proposed link road route alignment, this same noise important area is located on a road that is anticipated to experience a decrease in road traffic volume due to the scheme.	Likely Slightly
There are approximately 340 noise sensitive receptors within 200m of the proposed route alignment, and could be exposed to an increase in noise directly from the scheme, of which ~16 are located within a designated noise important area. Properties located on Washing Pound Lane, Churchways, Charnwood Road, and Maggs Lane might be expected to experience a minor to moderate increase in noise due to the introduction of the new link.	
There are just over 4200 noise sensitive receptors located within 200m of roads that may be expected to experience a decrease in road traffic volume due to the scheme, including ~69 which are located within designated noise important areas.	
There are just over 1000 noise sensitive receptors located within 200m of roads that may be expected to experience an increase in road traffic volume due to the scheme (Whitchurch Lane).	
It is anticipated that these changes in road traffic volume in the wider area are likely to result in a negligible change in road traffic noise experienced at the majority of these noise sensitive receptors.	

#### NOISE ASSESSMENT - Option D - Orbital Route West of A37 (Half Acre Lane) - Orange route

How many households will be affected by the scheme?	
• Could the scheme lead to a change in traffic flow >25% or change in average speeds >10kph?	Assessment
There are no noise important areas within 200m of the proposed link road route alignment, although	Likely Slightly
there is a noise important area located on a road anticipated to experience a decrease in road traffic flow volume due to the scheme.	Adverse
There are approximately 470 noise sensitive receptors within 200m of the proposed route alignment, and could be exposed to an increase in noise directly from the scheme. Properties located on Stoneberry Road, Church Road, Half Acre Lane, and Charnwood Road might be expected to experience a minor to moderate increase in noise due to the introduction of the new link.	
There are just over 4200 noise sensitive receptors located within 200m of roads that may be expected to experience a decrease in road traffic volume due to the scheme, including ~69 which are located within designated noise important areas.	
There are just over 1000 noise sensitive receptors located within 200m of roads that may be expected to experience an increase in road traffic volume due to the scheme (Whitchurch Lane).	
It is anticipated that these changes in road traffic volume in the wider area are likely to result in a negligible change in road traffic noise experienced at the majority of these noise sensitive receptors.	

<ul> <li>How many households will be affected by the scheme?</li> <li>Could the scheme lead to a change in traffic flow &gt;25% or change in average speeds &gt;10kph?</li> </ul>	Assessment
No noise important areas or noise sensitive receptors are located within 200m of the proposed Hicks Gate roundabout junction improvements (for both the at-grade and grade-separated options).	Neutral

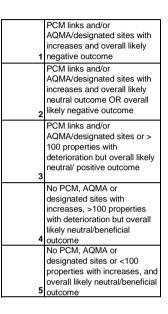
#### AIR QUALITY ASSESSMENT - Option A&B - Orbital Route A4-A37 - Blue Route

Summary of Key Impacts	Assessment (see key)
No AQMA within 200 m of the link road. The Bristol AQMA (encompassing the A4 and the A37) could benefit if traffic is redirected from the A4174 to the link road. There are approximately 65 sensitive properties within 200 m of roads that could be positively affected. There are no designated sites within 200 m of the proposed route. An increase in traffic on the A4174, the A4175 and the A37 could adversely affect air quality at over 2,000 sensitive receptors, 920 of which are within 200 m of Defra's PCM model links with roadside concentrations above the EU Limit Value of 40 µg/m3 in 2015; these receptors are on the A4174 between the A420 and Gallagher Retail Park. The reduction in traffic on alternative routes could positively affect 6,600 sensitive properties, including 540 within the Bristol AQMA and Keynsham High Street AQMA. There may be an overall reduction in NO2 and PM10, depending on the magnitude of traffic changes.	

	PCM links and/or AQMA/designated
	sites with increases and overall likely
1	negative outcome
	PCM links and/or AQMA/designated
	sites with increases and overall likely
	neutral outcome OR overall likely
2	negative outcome
	PCM links and/or AQMA/designated
	sites or > 100 properties with
	deterioration but overall likely
3	neutral/ positive outcome
	No PCM, AQMA or designated sites
	with increases, >100 properties with
	deterioration but overall likely
4	neutral/beneficial outcome
	No PCM, AQMA or designated sites
	or <100 properties with increases,
	and overall likely neutral/beneficial
5	outcome

#### AIR QUALITY ASSESSMENT - Option C - Orbital Route West of A37 (Washing Pound Lane) - Grey route

No AQMAs or designated ecological sites within 200 m of the link road. There are approximately 340 sensitive properties within 200 m of the link road itself which would have an deterioration in air quality.	
which would have an deterioration in air quality.	
The expected reduction in traffic in Hengrove could result in an improvement	
at 4,200 sensitive properties whilst the increase of traffic on Whitchurch Lane	
could adversely affect 1,000 sensitive properties. There may be an overall	
reduction in NO2 and PM10, depending on the magnitude of traffic changes.	



#### AIR QUALITY ASSESSMENT - Option D - Orbital Route West of A37 (Half Acre Lane) - Orange route

Summary of Key Impacts	Assessment	(see key)
No AQMAs or designated ecological sites within 200 m of the link road. There are		4
approximately 470 sensitive properties within 200 m of the link road itself.		
The expected reduction in traffic in Hengrove could result in an improvement at 4,200		
sensitive properties whilst the increase of traffic on Whitchurch Lane could adversely affect		
1,000 sensitive properties. Overall, there may be a positive change in NO2 and PM10,		
depending on the magnitude of traffic changes.		

	PCM links and/or
	AQMA/designated sites with
	increases and overall likely
1	negative outcome
	PCM links and/or
	AQMA/designated sites with
	increases and overall likely
	neutral outcome OR overall
	likely negative outcome
2	
	PCM links and/or
	AQMA/designated sites or >
	100 properties with
	deterioration but overall likely
	neutral/ positive outcome
3	
	No PCM, AQMA or
	designated sites with
	increases, >100 properties
	with deterioration but overall
	likely neutral/beneficial
4	outcome
	No PCM, AQMA or
	designated sites or <100
	properties with increases,
_	and overall likely
5	neutral/beneficial outcome

#### AIR QUALITY ASSESSMENT - Option E - Hicks Gate Junction Improvement - Brown Route

Summary of Key Impacts	Assessment (see key)
No AQMAs, sensitive properties or designated ecological sites within 200 m of	5
the proprosed junction changes. The effect on air quality is therefore	
assessed as neutral at this stage.	

TAG Landscape Impacts Worksheet - Option A&B	- Orbital Route A4-A37 - Blue Route
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o Lanuacap	e Impacts Worksheet - Option A&B - Orbital Ro Step 2	Dide Nodie	Ste	p 3		Step 4
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Impact
Pattern	Undulating landscape with medium scale irregular shaped pastoral fields & meadows, with some arable farmland, bounded by heigerows & woodland copees. Tributary valleys have intimate character enclosed by heiges, trees and side signes. Sinuous & meandering form of the River Avon & River Chew with its associated banksdow explation defines the area N & E of the scheme. Low ridge to the Chema, bound of the Chema and the Stockwood Vale forms the bookcre to the Chema, with slopes down to the Avon Valley and Stockwood Vale.	Local - features are valued at the local level.	-	High at the local level - the pattern of the landscape is distinctive and a key component of the character of this landscape type.	Limited opportunity for substitution, but consideration of design & allowance of mitigation for any loss of features and disturbance of pattern.	The proposed scheme would pass through rural landscape adjacent to urban fringe settlements, linking the A4 with the A47, & with associated earthworks & junctions. Patatoral fields, hedgarows and trees would be severed as a result. The scheme would alter the local pattern of the landscape & kandom in the violitiky. Judged on the scale of the impacts through permanent modification of field patterns, the impacts are considered to be slight - moderate adverse.
Tranquility	The bury transport controls of the A4, A417A, A417E, A37 sh the naiway on the finge of Koynaham, Stockoocd & Brislington, mean that there is a low level of transplity N, W & S of the route. The hedge & the real lead transplit controls provide some visual screening, particularly along A175 & Scotten Lane N & W of the route but with more open views as the ground rises along Stockword Lane. Away from these bury ateas, the wider rural landscape, screening, particularly doing the route passes through is transplit screening. The route passes through is transplit controls. Users of necreational routes (PROVS, River Avon Trail, screening, Increases rapidly away from them & the urban areas.	Local - tranquility is valued at the local level.	Rare et a local level due to busy transport corridors & urban centres.	High at the local level - valued due to the diminiship rural landscape away from urban centres & busy transport corridors.	Limited opportunity for usbehilution, but considentiation of design & mitigation features could aid perception of greater tranquility.	The proposed scheme is located in an area which has variable levels of trangulity. The rural area currently experience higher levels of trangulity. As an result of the scheme, would experience increased levels of disturbance. The impact on trangulity is judged to be slight - moderate adverse.
Cultural	The main settlements of Longwell Green, Keynsham, Brisington, Stockwood & Whitchurch to the NV. W, NW W respectively, dominate the area, with more isolated farms & clusters of dwellings interspersed between them & Glice developments at Durkly Park, & small inclustrial sets linked by busy transport corridors. There area term wares of Common Land Willing Greens, including Hanham Common land & Village Greens, including Hanham Common land & Village Greens, including Hanham Common land within 15km N & 85 cf the scheme. Horseworld is within the scheme eatents on the edge of Whitchurch/Stockwood. There are designated historical textures within twn, including 2 SMK (Roman Settlement at Keynsham Hams & Maes Kroll Camp) located time E & W of the scheme edge of whitchurch/Stockwood. Tamsteads are scattered within the landscape. Local, regional & rational recreational routes are also in the area, including 2 SMK performs active received for a filter Arms texture scheme along the scheme (including these in the vorinity) & Netional Cycle Routes 3 & 16 which preak within 500m scheme, linking with the Twr Nirer Way trail to the E.	Settlements & transport coridors valued at regional level. SMs & Garden valued at rational level. Recreational routes valued at regional & local level.	Modern settlements & transport corridors not rare et all levels. SM's rare at local & national level. Regional recent and the settlement at local or regional level. PRoWs common at all levels.	High importance of settlements & designated features at all levels. Medium importance of recreational routes.	SM's & Reg Park & Garden not substitutable. Limited opportunity for substitution of features associated with modern settlements & recreational routes.	Due to the extent of the scheme, impacts on cultural features would be likely. Main settlements, loaded properties, farmsteads and associated recreational facilities are within then of the scheme, some of which are directly facerational routes within 500m may experience. Scheme inor dergoardisch in visual quality. There is partial visual connocitivity with other cultural features. A they may experience degredation in their visual setting due to the proximity to the scheme. The impact on cultural features is judged to be slight-moderate adverse.
Landcover	Outside the urban areas, landcover comprises medium scale, inegular shaped fields of mainly pastoral farmland. Fields are bounded by pipped or overgrown hedgetows. The LCA area is largely unwooded, however the localised ama linear belts to the valley floors close to the route to be E AV and the desgnated Bickley & Caeve Ancient Woodland & Bickley Wood SSSI which follow the line of the River Avon 0.8km north of the scheme.	SSSI & Ancient Woodland valued at national level.	SSI & Ancient Woodland are rare at national, regional & local levels. Pastoral fields, hedgerows, woodland & linear tree belts common at all levels.	High importance of nationally designated sites & Ancient Woodland as a rapidly diminishing resource. Features & elements such as fields, trees & hedgerows, of medium - high importance within the local landscape.	Opportunity for substitution with incorporation of mitigation planting.	The proposed scheme would result in a loss of pastoral agricultural land, including loss of trees & hedgenown, however mitigation through replacement planting would help create these features over time. No direct impacts are enticipated on the SSSI & Ancient Woodand. Due to the scale of the scheme & presence of leatures affected, the impact on landcover is updard to be sign-moderate adverse.
Summary of character	Landscape in this analis designated as Greenbelt by Bristol City Council, BANES Council & South A medium scales Indicategue, diverse & discordant in nature & influenced by busy transport corridors, adjacent uthan areas, valley flores, low ridges & outlying farms & small settlements. The rural character is of medium scale, with mainly pastoral fields bounded by hedgerows of varying quality. Woodand is Imitato to linear woodand along the Gives throad controls. The latter helping to contain the disruptive rund contains, the latter helping to contain the disruptive settlements.	Some features valued at national level. Ma Indiscape elements valued at mainly local level.	Some features, eg designated sites, are rare at national, regional & local Mary landscape features are commonplace at all levels.	Designated sites are of high importance at national, regional & Many landscape elements are of medium - high importance at the local level.	Designated sites & Ancient Woodland are not substitutiable at Woodland yor substitutiable Some opportunity for substitution of features associated with modern settlements & recreational routes. Some opportunity for substitution of landscape elements, equipted association of appropriate landorms.	No impacts on designated sites are anticipated, although there may be minor impacts on The road is larger in scale, altering the pattern of the landscape in the immediate vicinity, with loss of some landscape elements (hodgrows, trees). Mitigation planning for screening & recreating severed or lost linear elements, would not have speciable beening lor up to 15 years. Instart with the existing road network & other urban influences in close proximity to the scheme. The impacts of the scheme on completion are judged to be sight-moderate adverse.
Deference Arm	1	l		1	1	1
South Gloucestershi Natural England Ordnance Survey M Aerial Mapping Magic - Geographica Sustrans	Character Assessment re Landscape Character Assessment (2014) apping al mapping					
Step 5 - Summary Slight - moderate on Slight adverse 15 ye						
Qualitative Comme	infe					

Cualitative Comments A 2km offset from the scheme boundary has been prescribed for the study area within this local character area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this.
The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal mitigation strategy and to enable the comparison of the impacts of the scheme as a result of its physical presence in the landscape.

#### TAG | andscape Impacts Worksheet - Option C - Orbital Poute West of A37 (Washing Pound | ana) - Grev Poute

	Step 2		Ste	p 3		Step 4
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Impact
Pattern	A roling open landscape with medium scale irregular shaped patcriar fields, bounded by hedgerows & treas. Low ridge to the S & E forms the backbone to the landscape with slopes down to the Avon Valley and Stockwood Vale.	Local - features are valued at the local level.	Pattern of landiscape common at a local level.	Medium at the local level - the pattern of the landscape is commonplace but also a key component of the character of this landscape type.	Some opportunity for substitution, with consideration of design, & allowance of mitigation for any loss of teatures and disturbance of pattern.	The proposed scheme would pass through run landcape adjacent to the uban firing, linking A37 with Church Road & Maggs Lane SE of Whitchurch. The proposals would incorporate associated earthworks & new junctions. Paster fields and their associated hedgrows and trees would be severed. The scheme would alter the social pase adjacent scheme would alter the social pase adjacent scheme would alter the social pase adjacent scheme would alter permanent modification of field pattern dist with the presence of current road network in place and urban influence, the impacts would b considered to be slight adverse.
Tranquillity	Due to the proximity to urban settlements and the presence of the A37 bisecting through Whitehurch & Stockwood, the transmitty is relatively low within this landscape. Away from these settlements, the wider rural landscape, scene of which the route passes through is more transall, bases of recreational postes (FMOV, Three Paeke Walk Trail & National Cycle Route 3) experience limited transally in the uching of these transport corridon and urban areas, however the sense of transpullity & isolation increases away from these areas further S.	Local - tranquility is valued at the local level.	Rare at a local level due to busy transport corridors & urban centres.	High at the local level - valued due to the diminishing rural landscape away from ubar settles & busy transport corridors.	Limited opportunity for substitution, but consideration of design & mitigation features could aid perception of greater tranquility.	The proposed scheme is located in an area which has mixed levels of tranquility. The trutal areas experience higher fevels of tranquility & therefore would experience increased disturbance as a result of the scheme. The impact on tranquility is judged to be slight adverse.
Cultural	The main settlements of Stockwood & Whichurch to the N & W respectively, dominate the area, with more isolated tarms & clusters of dwallings interspensed between them. Horseword is within the study area on the edge of Whichurch/Stockwood. There are designated historical teatures within 1km, including 1 SM (Maes Knoll Camp) located 1km SW of the scheme. Lyons Court Farm & Church Farm are adjacent to the scheme. Local, regional & national recreational routes are also in the area, with 2 FRW's toroking the scheme (including thoses the vicinity) & National Ocie Anter SP assing those with a vicinity) & National Ocie Anter Sea Walk thm SW. Other recreational facilities such as Whitchurch Cricket Ub & Britot Barbarins Rugby Chub & Whitehand Gardon Centre are adjacent or within 300m of the eastern end of the route.	Settlements & transport corridors valued at regional level. SM valued at national level. Recreational routes valued at regional & local level.	Modern settlements & transport corridors not rare at all levels. SM rare at local & national level. Regional recreational routes not rare at local or regional level. PRoWs common at all levels.	Medium importance of settlements & designated features at all levels. Medium importance of recreational routes.	SM not substitutable. Limited opportunity for substitution of features associated with modern settlements & recreational routes.	Due to the scale of the scheme, impacts on cultural features will be likely. Main settlements, isolated properties, fammstead and associated recreational facilities are within tim of the scheme, some of which are directly adjacent, particularly the Rugby Club through which the scheme passes. Recreational rocites within 500m may experience some minor degradation in visual quality. There is partial visual connectivity with other cultural features such as Maes Knoll Camp SM di impacts on its such gar alleks to be adverse due to the proximity to the scheme. The impact on cultural features is judged to be slight-moderate adverse.
Landcover	Outside the urban areas, landcover comprises medium scale, irregular shaped fields of marihy pasteral farmlands. Fields are bounded by clipped or overgrown hedgenovs. The LCA is largely unwooded with some tree betts to field boundaries.	Local - landcover is valued at the local level.	Pastoral fields, hedgerows, woodland & linear tree belts common at all levels.	Features & elements such as fields, trees & hedgerows, of medium - high importance within the local landscape.	Opportunity for substitution with incorporation of mitigation planting.	The proposed scheme would result in a loss of patiental agricultural land, including loss of trees 8 hedgerows, however mitigation through replacement planting would help recreate these listances over time, scalar of the scheme and que judged on use selfected, the impact on landcover is judged to be slight adverse.
Summary of character	Landscape in this area is designated as Greenhelt by Bristol Grip Courcil, BANES Courcell & South Gloucestershire Courcil. A medium scale landscape influenced by busy transport corridors, adjacent urban areas & outjving farms & small settlements. The ural character is of medium scale, with mainly pastoral fields bounded by hedgerows and trees of vaying quality. Tree & Adoges provide screening to settlements & transport routes which help to contain the urban edge influence, allowing ranguli pockets to remain in the rural areas separating the settlements.	Some features valued at national level. Landscape elements valued at mainly local level.	Some features, ag designated sites, are rare at national, regional & local level Many landscape features are commonplace at all levels.	Designated sites are of high importance at national, regional & local level. Many landscape elements are of medium importance at the local level.	Designated sites are not substitutable at any feed Some opportunity for substitution of features associated with modern settlements & recreational routes. Some opportunity for substitution of landscape elements, equipres, linear woodland & grassland, & are- creation of appropriate landforms.	No impacts are anticipated on designated sites, with mixor impacts anticipated on Greenbelt. The roads would cathrough the landscape pattern with limited loss of landscape elements of tranquility & adverse impact on cultural features. Initial mitigation would consist of careful design a location of interescion with existing roads. Mitigation planting for screening & recreating severed or lost limer elements, would not have appreciable benefits for up to 15 years. Overall, the scheme would be seen in context with the esisting road network & other urban rilutences. The impacts of the scheme on completion are judged to be slight adverse.
Poforonco Sources			<u> </u>			
leference Sources	s Character Assessment					
South Gloucestershi Vatural England Ordnance Survey Ma Vagic - Geographica Sustrans	ire Landscape Character Assessment (2014) apping					

Sustans Step 5 - Summary Assessment Score Slight adverse on completion Neutral - slight adverse after 15 years.

 Qualitative Comments

 A Zwn offset from the scheme boundary has been prescribed for the study area within this local character area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this.

 The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal miligation strategy and to enable the comparison of the impacts of the scheme as a result of its physical presence in the landscape.

#### TAG Landscape Impacts Worksheet - Option D - Orbital Route West of A37 (Half Acre Lane) - Orange Route

	Step 2		Ste			Step 4
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Impact
attern	A rolling open landcage with medium scale irregular shaped pastor fields, bounded by hedgerows & trees. Low ridge to the S & E forms the backbone to the landcage with slopes down to the Avon Valley and Stockwood Vale.	Local - features are valued at the local level.	Pattern of landscape common at a local level.	Medium at the local level - the pattern of the landscape is commonplace but also a key component of the character of this landscape type.	Some opportunity for substitution, with consideration of design & allowance of mitigation for any loss of features and disturbance of pattern.	The proposed scheme would pass through rung landscape adjacent to urban finge settlements Linking A37 with Stoneberry Road & Whitchurd Lane SE of Whitchurd. The proposals would incorporate associated earthworks & new junctions. Pastorent fields and threat associated hedgerows and trees would be severed. The address and the scale of the inspacts through Judged on the scale of the inspacts through Judged on the scale of the inspacts would with the presence of current tead network in place and urban che, the impacts would be considered to be slight adverse.
ranquillity	Due to the proximity to urban settlements and the presence of the A37 bisecting through Whichurch & Stockword, the transquility is relatively low within this landscape. Away from these settlements, the wider rural landscape, some of which the route passes through is more transult, depite being near urban carries. Users & transmissional experisions immed transplity in the settlement of the settlement of the settlement of the settlement of the settlement of the settlement of the settlement of the settlement of the urban areas, however the sense of transplity & isolation increases away from these areas lurther S.	Local - tranquility is valued at the local level.	Rare at a local level due to busy transport corridors & urban centres.	High at the local level - valued due to the diminishing rural landscape away from ubar autimation and the start of the transport corridors.	Limited opportunity for substitution, but consideration of design & mitigation features could aid perception of greater tranquility.	The proposed scheme is located in an area which has mixed levels of tranquility. The trunt areas experience higher fevels of tranquility therefore would experience increased disturbance as a result of the scheme. The impact on tranquility is judged to be slight adverse.
Cultural	The main settlements of Stockwood & Whitchurch to the N & W respectively, dominate the area, with more isolated farms & clusters of dvellings interspected between them. Horseworld is within the study area on the edge of Whitchurch/Stockwood. There are designated historical features within 1ten, including 15 M (Maes Kont) Camp) located 1km SW of the Lyons Court Farm & Church Farm are adjacent to the scheme. Local: regional & national recreational routes are also in the vicinity \$ National Cycle Route 3 passing across the easterne and of the route & Three Peaks Walk 1km SW. Cherr encentional facilities such as Whitchurch Cricket Club & Binsiol Barbarians Rugby Club & Whitehall Garden Carter are adjacent or within 300m of the eastern end of the route.	Settlements & transport corridors valued at regional level. SM valued at national level. Recreational routes valued at regional & local level.	Modern settlements & transport corridors not rare at all levels. SM rare at local & national level. Regional recreational routes not rare at local or regional level. PRoWs common at all levels.	Medium importance of settlements & designated features at all levels. Medium importance of recreational routes.	SM not substitutable. Limited opportunity for substitution of features associated with modern settlements & recreational routes.	Due to the scale of the scheme, impacts on cultural returnes would be likely. Main settlements, isolated properties, farmstead and associated recreational facilities are within the other scheme, some of which directly adjacent. Misgaton planting & design consideration vould help roduce these impacts consideration vould help roduce these impacts more monor degradiation in visual quality. There is partial visual connactivity with other cultural features such as Maes Knott Camp SM & impacts on its setting are likely to be adverse due to the provinty to the scheme. The impact on cultural features is judged to be slight adverse.
andcover	Outside the urban areas, landcover comprises medium scale, irregular shaped fields of marity pastoral familand. Fields are bounded by clipped or overgrown hedgerows. The LCA is largely unwooded with some tree belts to field boundaries.	Local - landcover is valued at the local level.	Pastoral fields, hedgerows, woodfand & linear tree belts common at all levels.	Features & elements such as fields, trees & hedgerows, of medium - high importance within the local landscape.	Opportunity for substitution with incorporation of mitigation planting.	The proposed scheme would result in a loss of pastoral agricultural land, including loss of trees & hedgerows. however mitigation through replacement planning would help recreate these features over time would help recreate these features over time schede of the scheme and quarkity of features effects, the impact on landcover is judged to be slight adverse.
Summary of Invaractor	Landscape in this area is designated as Greenbelt by Bristol City Council, B&NES Council & South Gloucestenhine Council. A medium scale landscape influenced by busy transport control to the second scale of the second scale and character is of medium scale, with mainly pastoral fields bundled by hedgrows and trees of varying quality. Tree & hedges provide screening to settlements & transport notes which help to contain the urban edge influence, allowing tranquil pockets to remain in the rural areas separating the settlements.	Some features valued at national level. Landscape elements valued at mainly local level.	Some features, eg designated sites, are rare at national, regional & local level. Many landscape features are commonplace at all levels.	Designated sites are of high importance at national, regional & local level. Many landscape elements are of medium importance at the local level.	Designated sites are not substitutable at any level. Some opportunity for substitution of features associated with mecroational documents. Some opportunity for substitution of landscape elements, og trees, linear woodland & grassland, & re- creation of appropriate landforms.	No impacts are anticipated on any designated altes, with minor impacts anticipated on regionally designated Greenbalt. The route would cut through the landscape impact and the second second second second of tranquility & adverse impact on cultural features. Unter the second second second of tranquility & adverse impact on cultural features. Initial mitigation would consist of careful design location of interestion with wisting roads. Mitigation planning for screening & recreating severed or tosi litera elements, would not have appreciable benefits for up to 15 years. Overall, would be seen in context with the easiting road network & other urban influences. The impacts of the echame on completion are ludged to be sight adverse. With mitigation planting after 15 years impacts judged to be neutral - slight adverse.
	Character Assessment re Landscape Character Assessment (2014) apping				1	I
Slight adverse on co	Assessment Score mpletion se after 15 years.					

A 2km offset from the scheme boundary has been prescribed for the study area within this local character area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unfillely beyond this.
The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal mitigation strategy and to enable the comparison of the impacts of the scheme as a result of its physical presence in the landscape.

#### TAG Landscape Impacts Worksheet - Option E - Hicks Gate Junction Improvement - Brown Route

	Step 2		Ste	ip 3		Step 4
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Impact
Pattern	Relatively file tandacape with medium scale ingular shaped pastoral fields & meadows, with some arable file states of the state of the source of the source Simular & meadowing form of the River Avon with its associated bankside vegetation defines the area N of the scheme. Low ridge to the S forms the backbone to the landscape with slopes down to the Avon Valley and Stockwood Vale. Tree lined transport routes provide localised screening to reads, especially in views from the S.	Local - features are valued at the local level.	Pattern of landscape common at a local level with River Avon a distinctive feature within the landscape.	High at the local level. The pattern of the landscape is distinctive and a key component of the character of this landscape type.	Opportunity for local substitution with consideration of design to advance of mitigation for any loss of features and disturbance of pattern.	The proposed scheme would involve junction improvements to the Hicks Gate roundatout with the scheme scheme scheme scheme scheme landform within the immediate vicinity only. Judged on the scale of the impacts with only minor changes to the roundatout, the impacts on landscape pattern would be considered to be neutral.
Tranquility	The busy transport corridors of the A4, the A4174 & the railway on the finge of Kaynsham, Stockwod & Brisington, mean that there is a low lowed of transpillary in the area. The tree lined transport corridors provide visual corriant in the divinance associated with these routes. The presence of the Keynsham Motocross control is also a discuptive feature in the vicinity. Away from these busy areas, the wider rural landscape is transport, conclusional counter (PKWS, River Avon Trail, two Rivers Way trail & National Cycle Route (6) experience limited transpuly in the vicinity of these transport conclus, however the same of transpolit) & isolation increases rapidly away from them & the urban areas.	Local - tranquility is valued at the local level.	Rare at a local level due to busy transport corridors & urban centres.	High at the local level - valued due to the diminishing rural landscape away from urban centres & busy transport contides.	Limited opportunity for substitution, but consideration of design & mitigation features could aid perception of greater tranquility.	The proposed scheme is located in an area which is not tranquil. It would be evident over a training the scheme source with the scheme the PROVS & Trails which intersect with the sit the AVR First Rescue centre would also have views of the scheme. However, due to the linear vegetation belts alon the transport contidors both within the scheme of dists alon againer trutes, receptors further afield & in the wider landscape would be unlike to experience visual intrusion or loss of tranquility as a result of the scheme. The impact on tranquility is judged to be neutral
Cultural	The main settlements of Longwell Green, Keynsham, Stockwood, & Brislington to the NE, E, SW & W respectively, dominate the area, with more isolated farms & clusters of dwellings interspersed between them & diffice developments at Durley Park, & Sami Industrial estate on the flatter land by the River Avon. These areas are linked by losy transport corridors. There are a few areas of Common Land, including Harham Common within 1 km of the scheme. There are designated historical features within Zen, including a SM formal Settlement at Keynsham Hems) located 900m E of the scheme & Bristington House Registrated Park & dickdan apport. Z00m to the WL inc. In the land in Common Settlement at Keynsham Hems) located 900m E of the scheme & Bristington House Registrated Park & dickdan apport. Z00m to the WL in the land in the scheme & Bristington House Registrated Park & S National Cycles Rouse 16 which intersets with the scheme & the River Avon Trail within 250m of scheme, linking with the Two Rivers Way trail to the E.	Settlements & transport corridors valued at regional level. SM & Reg Park & Garden valued at national level. Recreational routes valued at regional & local level.	Modern settlements & transport corridors not rare at all levels. SM rare at local & national level. Regional recreational routes not rare at local or regional revel. PRoWs common at all levels.	High importance of settlements & designated features at all levels. Medium importance of recreational routes.	SM & Reg Park & Garden not substitutable. Limited opportunity for substitution of features associated with modern settlements & recreational routes.	Due to the localised extent of the scheme, impacts on cultural features will be limited. Settlements are not within 1 km of the scheme, intervening vegetation, roads & distance would reduce the scale of any impacts. Kaynsham Motocross site, which is adjacent to the schem, would experience some impacts due to loss of land & screening. Recreational rouces within 500m may experience some minor degradation in visual quality, but imglation plaring would improve this over time There is limited visual comectivity with other collural features and impacts on their setting an costing A neutral due to the presence of the The impact on cultural features is judged to be neutral-slight adverse.
Landcover	Outside the urban areas, landcover comprises medium scale, irregular chaped fields of mainly pastoral familand. Fields are bounded by clipped or overgrown hedgerows. The area is considered to be mainly un-wooded apart from lickley & Cleve-Ancient Woodland & Bickley Wood SSSI which follow the line of the River Avon 250m north of the scheme.	SSSI & Ancient Woodland valued at national level.	SSI & Ancient Woodland are rare at national, regional & local levels. Pastoral fields, hedgerows & linear tree belts common at all levels.	High importance of nationally designated sites & Ancient Woodland as a rapidly diminishing resource. Features & elements such as fields, trees & hedgerows, of medium - high importance within the local landscape.	Some opportunity for substitution with incorporation of mitigation planting.	The proposed scheme would result in no loss of pastoral agricultural land. Minor loss of land & screening associated with Keynsham Motorcross, including some loss of trees & No impacts are anticipated on the SSSI & Ancient Woodland. The impact on landcover overall is judged to be neutral-sight adverse.
Summary of character	Landscape in this area is designated as Greenbelt by Brinted Ciry Council. BANES Council & South Gloucestenshire Council. A medium scale landscape, diverse & discordant in nature & heavily influenced by busy transport corridons, adjacent tuban areas & outlying farms & anil settlements. The runal character is of medium scale, with mainly pastoral false banded by hadgenous of varying galaxy pastoral false banded by hadgenous of varying galaxy acting a strain the state helging to contain the disruptive influence of the roads over the wider landscape, allowing tranquil pockets to remain in the rural areas separating the settlements.	Some features valued at national level. Many landscape elements valued at mainly local level.	Some features, eg designated sites, are rare at national, regional & local level. Many landscape features are commonplace at all levels.	Designated sites are of high importance at national, regional & local level. Many landscape elements are of medium - high importance at the local level.	Designated sites & Ancient Woodhard are not substitutiable at any level. Some opportunity for substitution of features associated with modern settlements & recreational routes. Some opportunity for substitution of landscape elements, egi trees, linear highway woodland & grassland, & re-creation of appropriate landforms.	The processible are limited in scale & detent & providing linear three belosis along the main road corrition are unaffected, impacts would be contained. There would be minor loss of landscape elements (hedgerows, trees). No impacts are aricipated on designated Strees. Very minor impacts anticipated on regionally designated Greenbelt. Overall, anticipated impacts are of smail acale i the scheme would be seen in contained within a area. The impacts of the scheme on completion are use.
						judged to be neutral.

Magic - Geographical mapping Sustrans Step 5 - Summary Assessment Score Neutral-slight adverse on completion. Neutral after 15 years

Quilitative Comments
A Zurn offset from the scheme boundary has been prescribed for the study area within this local character area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this.
The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal mitigation strategy and to enable the comparison of the impacts of the scheme as a result of its physical preserve in the landscape.

Step 2 Description The townscape within the study area is characterised as being uburban located on edge of Bristol city bordering the rural software to the study area is characterised as being context. The area is influenced by the busy A4, A4174 A A37 control of S & Bristol to Bath nailway. The area is dominated by uburban busy area include Keynsham, Brislington, Stockwood, busen Charlton & Whitchurch interspersed with isolated roperfies & farmsteads. Density is of low - medium scale within a suburban & rural edge context comprising mainly residential housing linked with road networks intermixed with some retail, industry and commercial se. Built elements are mainly of a domestic scale, generally 1-3 torey including residential properties with some areas retail & dustry use.	Scale it matters Local Local Local	Rarity Common at the local level Common at the local level	Step 3 Importance Low at the local level Medium at the local level	Substitutability Some opportunity for substitution Some opportunity for substitution	Changes in Without- scheme case Medium potential for change to layout, eg introduction of the housing developments & ouch abre elevation scheme the schemestral units. Medium potential for change eg in areas of regeneration, brownfield & alteration to interees & alteration to interees & alteration to interees	Step 4 impact It is not anticipated that there would be ary notable impacts on the layout as a result of the scheme due to its distance from townscape features and passing through open frammand, therefore the impact is judged to be neutral. Density & mix will increase slightly with the introduction of a new visually intrusiv urban element to the edge of Slockwood Whitchurch & Keynsham. It is anticipated that there would be visua
The townscape within the study area is characterised as being uburban located on edge of Bristol city bordering the rural context. The area is influenced by the busy A4, A474 K A37 controls & Bristol to Bath nalway. The area is dominated by electrical study area include Keynstame, Brislington, Stockwood, usen Chartho & Whitchurch Interspersed with isolated troperties & farmsteads. Usensity is of low - medium scale within a suburban & rural edge context comprising mainly residential housing linked with road networks intermixed with some retail, industry and commercial rese. Built elements are mainly of a domestic scale, generally 1-3 torey including residential properties with some areas retail & dustry use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	scheme case Medium potential for change to layout, eg introduction of new housing developments & unter station of the memory such as retall/industrial units. Medium potential for change eg in areas of regeneration, brownfield sites & uthan fringe areas à alteration to mix of	It is not anticipated that there would be any notable impacts on the layout as a result of the scheme due to its distance from townscape leatures and passing through open limited, therefore the impact is judged to be neutral.
context comprising mainty residential housing linked with road tevorks intermixed with some retail, industry and commercial sec.			Medium at the local level		change eg in areas of regeneration, brownfield sites & urban fringe areas & alteration to mix of	the introduction of a new visually intrusiv urban element to the edge of Stockwood Whitchurch & Keynsham.
torey including residential properties with some areas retail & dustry use.	Local					In is allucipated that there would be visual disturbance on townscape features SE o Whitchurch, S of Stockwood & Queen Charlton, therefore the impact is judged to be slight adverse.
		Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the scale as a result of the scheme due to its distance from townscape features and passing through open farmland, therefore the impact is judged to be neutral.
The housing is a mixture of ages with modern, private, commercial offices & retail buildings. Some features/buildings etain historical associations which add to the local listinctiveness of the area.	Local	Common at the local level	Medium at a local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the appearance of the townscape as a result of the scheme due to its distance from townscape features and passing through open familiand, therefore the impact is judged to be neutral.
The primary human interaction is focused around domestic use uch as schools, shops, pubs, churches, community facilities trc. with some retail & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change as a result of land use, density & mix & layout.	It is not anticipated that there would be any notable impacts on human interaction as a result of the scheme due to its distance from townscape features and passing through open farmland, therefore the impact is judged to be neutral.
hare is a mix of council housing & post war development with neres including Listed Buildings within Keynsham. Queen hiersei including Listed Buildings within Keynsham. Queen cheme. The main settlements of Keynsham. Brislington, Stockwood & Whitchurch to the NW, W, NW & W respectively, dominate the energ, with more isolated farms & clusters of dwellings herspersed between them. Difice developments at Duffey Park, & a small industrial estate of the transmission of the state of the state of the state initial state and by the River Avon are also in the localised for the states are linked by buy transport conforts. There are designed historical factures within 1Km, including arious Listed Buildings & 2 SMs (Roman Settlement at Keynsham Hams & Alwas Knoll Camp) located firm E & W of he scheme.	regional level. SMS, Listed Buildings, & CA's valued at national level.	Rare at local level	Medium at local level Medium at Regional & National level	Limited opportunity for substitution	Low potential for change due to limited opportunity for substitution.	It is anticipated that there would be view disturbance on the setting of cultural features close to the scheme due to the introduction of a new urban element, therefore the impact is judged to be sligh adverse.
and use is primarily domestic including residential & ecreational areas with some retail, industry & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to land use.	It is not anticipated that there would be any notable impacts on land use as a result of the scheme due to its distance from townscape features and passing through open familand, therefore the impact is judged to be neutral.
The study area is characterised as a suburban townscape on the odge of Bristol transitioning to rural landscape with primarily esidential settlements with some historic & cultural associations. These are connected with the busy transport corridors & network of rural lanes linking smaller settlements &	Some features valued at national level. Many townscape elements valued at local level.	Some features, eg designated cultural sites, are rare at national, regional & local level. Mary townscept features are commonplace at all levels.	Low to medium at local, regional & national level.	Some opportunity for substitution	Low-madum potential for change as a result of other influences.	This route runs primarity through a rural controlor battween Keynsham & Whishtruch. Melgation for Townscape impacts will be limited to carrell design & sing of the intersection at Whishtruch, this not anticipanting for screening of views from these urban edges. It is not anticipated that there would be many notable impacts on this townscape a result of the scheme due to its distance to urban areas, however minor impacts are anticipated on the density & mix & on the setting of some cultural features. The impacts overall are therefore judged to be slight adverse.
a e Chades so	s cheme. whatm & Queen Charlton are designated as Conservation as. Ind use is primarily domestic including residential & reational areas with some retail, industry & commercial use. The study area is characterised as a suburthan townscape on the pe of diristol transitioning to rural landscape with primarily uidential settlements with some historic & outural sociations. These are connected with the busy transport	e scheme. ynsham & Queen Charlton are designated as Conservation as. Ind use is primarily domestic including residential & reational areas with some retail, industry & commercial use. E study area is characterised as a suburban townscape on the ge of Britot transitioning to rural landscape with primarily sociations. These are connected with the busy transport micos & network of rural landscape with primarily sociations. These are connected with the busy transport sociations. These are connect	s scheme. ynsham & Queen Charlton are designated as Conservation ass. Ind use is primarily domestic including residential & reational areas with some retail, industry & commercial use. Is budy area is characterised as a suburban townscape on the ge of Bristol transitioning to rural landscape with primarily sidential settlements with some historic & cultural scatatom. The budy area is characterised as a suburban townscape on the ge of Bristol transitioning to rural landscape with primarily sidential settlements with some historic & cultural scatatom. These are connected with the budy transport ritors & network of rural lanes linking smaller settlements & metaded.	e scheme. ynsham & Queen Charlton are designated as Conservation ass. Ind use is primarily domestic including residential & reational areas with some retail, industry & commercial use. Is of Britist transitioning to rural landscape with primarily ge of Britist transitioning to rural landscape with primarily sciential settlements with some historic & cultural scientians ettlements with some historic & cultural scientians tertements with some cultural terest. Herements with some cultural terest with some historic & cultural scientians terest with some cultural terest with some cultural scientians terest with some cultural terest with some historic & cultural scientians terest with some cultural terest with some cultural scientians terest with some cultural tere	s scheme. ynsham & Queen Charlton are designated as Conservation ass. Ind use is primarily domestic including residential & reational areas with some retail, industry & commercial use. Is borne features valued at pe of Bristol transitioning to rural landscape with primarily sidential settlements with some historic & cultural scatatom. Tradiconal level. Is borne features valued at substitution are rare at national, level. Is borne features at are rare at national, level. Is borne features at are rare at national. Is borne features at all are rare at national. Is borne features at all areas at a some at a some at all areas at a some at all areas at a some at all areas at a some at a some at a some at a some at all areas at a some	e scheme. ynsham & Queen Charlton are designated as Conservation ass. Ind use is primarily domestic including residential & reational areas with some retail, industry & commercial use. Is observed to the features valued at pe of Dirict including to rural landscape with primarily addential settlements with some historic & Guiltural estudy area is characterised as a suburban townscape on the pe of Dirict including settlements with some historic & Guiltural estudy area is characterised as a suburban townscape on the pe of Dirict including settlements with some historic & Guiltural estudy area is characterised as a suburban townscape on the pe of Dirict including settlements with some historic & Guiltural estelements with some historic & Guiltural evel. Many townscape features metaded. Many townscape fatures are commond pace at all are commond pace at all aread area commond with aread and aread pace at all aread ar

Reference Sources BANES Landsape Character Assessment South Gloucestenshire Landscape Character Assessment (2014) Ordnance Survey Mapping Aerial Mapping Magic - Geographical mapping Bristol City Council

Step 5 - Summary Assessment Score
Slight adverse

Qualitative Comments
A tim offset from the scheme boundary has been prescribed for the study area within this townscape area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this.
The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal mitigation strategy and to enable the comparison of the impacts of the scheme as a result of its physical presence in the townscape.

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#### Work Package 1 (SE Bristol and Whitchurch)

TAG Townscape Impacts Worksheet - Option C - Orbital Route West of A37 (Washing Pound Lane) - Grey Route

-	Step 2			Step 3		A	Step 4
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Changes in Without- scheme case	Impact
Layout	The townscape within the study area is characterised as being suburban located on edge of Bristol City bordering the ural context. The area is influenced by the busy A37 corridor with minor roads connecting surrounding settlements. The area is dominated by residential use with some retail, industry & commercial areas towards Hengrove. Settlements include Stockwood & Whitchurch to the N & W respectively interspersed with isolated properties & farmsteads.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to layout, eg introduction of new housing developments & other urban elements such as retail/industrial units.	It is not anticipated that there would be any notable impacts on the layout as a result of the scheme due to its distance from townscape features and passing through mainly open familand, therefore the impact is judged to be neutral.
Density and mix	Density is of low - medium scale within a suburban & rural edge context comprising mainly residential housing linked with road networks intermixed with some retail, industry and commercial use.	Local	Common at the local level	Medium at the local level	Some opportunity for substitution	Medium potential for change eg in areas of regeneration, brownfield sites & urban fringe areas & alteration to mix of urban elements.	Density & mix will increase slightly with the introduction of a new visually intrusive urbar element to the edge of Whitchurch. It is anticipated that there would be visual disturbance on townscape features S of Whitchurch, therefore the impact is judged to be slight adverse.
Scale	Built elements are mainly of a domestic scale, generally 1-3 storey including residential properties with some areas retail & industry use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the scale as a result of the scheme due to its distance from townscape features and passing through mainly open familand, therefore the impact is judged to be neutral.
Appearance	The housing is a mixture of ages with modern, private, commercial offices & retail buildings. Some features/buildings retain historical associations which add to the local distinctiveness of the area.	Local	Common at the local level	Medium at a local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the appearance of the townscape as a result of the scheme due to its distance from townscape features and passing through mainly open familand, therefore the impact is judged to be neutral.
Human interaction	The primary human interaction is focused around domestic use such as schools, shops, pubs, churches, community facilities etc. with some retail & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change as a result of land use, density & mix & layout.	It is not anticipated that there would be any notable impacts on human interaction as a result of the scheme due to its distance fror townscape features and passing through mainly open familand, therefore the impact is judged to be neutral.
Cultural		Settlements & transport corridors valued at regional level. SM's, Listed Buildings & Reg Park & Garden valued at national level.	Rare at local level	Medium at local level Medium at Regional & National level	Limited opportunity for substitution	Low potential for change due to limited opportunity for substitution.	It is anticipated that there would be visual disturbance on the setting of some cultural features to the edge of Whitchurch due to the introduction of a new urban element, therefore the impact is judged to be slight adverse.
Land use	Land use is primarily domestic including residential & recreational areas with some retail, industry & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to land use.	It is not anticipated that there would be any notable impacts on land use as a result of the scheme due to its distance from townscape features and passing through mainly open familand, therefore the impact is judged to be neutral.
Summary of character	townscape on the edge of Bristol transitioning to rural landscape with primarily residential settlements with some historic & cultural associations. These are		Some features, eg designated cultural sites, are rare an lacional, regional & local level. Many townscape features are commonplace at all levels.	Low to medium at local, regional & national level.	Some opportunity for substitution	Low-medium potential for change as a result of other influences.	Mitigation for this scheme would consist of careful design & location of elements within the urban edge, along with planting for visual screening & to recreate severed landscape features within the rural area. It is not anticipated that there would be many notable impacts on this townscape as a result of the scheme due to its distance from urban areas. However, adverse impacts are anticpated on density & mix & on the setting of cultural features close to the scheme as a result of visual disturbance. The overall impacts therefore judged to be sight adverse.
Reference Sources	3			1	1		
B&NES Landscape Ch	aracter Assessment Landscape Character Assessment (2014) ing						

### Step 5 - Summary Assessment Score Slight adverse

Qualitative Comments

A 1 km offset from the scheme boundary has been prescribed for the study area within this townscape area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this. The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal mitigation strategy and to enable the comparison of the impacts of the scheme as a result of its physical presence in the townscape.

TAG Townscape Impacts Worksheet - Option D - Orbital Route West of A37 (Half Acre Land	e) - Orange Route

Features	Step 2 Description	Scale it matters	Rarity	Step 3 Importance	Substitutability	Changes in Without-	Step 4 Impact
reatures	Description	Scale it matters	Rarity	Importance	Substitutability	scheme case	Impact
_ayout	The townscape within the study area is characterised as being suburban located on edge of Bristol city bordering the rural context. The area is influenced by the busy AS7 corridor with minor rotads connecting surrounding settlements. The area is dominated by residential use with some retail, industry & commercial areas towards Hengrove. Settlements include Stockwood & Whitchurch to the N & W respectively interspersed with isolated properties & farmsteads.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to layout, eg introduction of new housing developments & other urban elements such as retail/industrial units.	It is not anticipated that there would be any notable impacts on the layout as a result of the scheme due to its distance from townscape features and passing through mainly open familand, therefore the impact is judged to be neutral.
Density and mix	Density is of low - medium scale within a suburban & rural edge context comprising mainly residential housing linked with road networks intermixed with some retail, industry and commercial use.	Local	Common at the local level	Medium at the local level	Some opportunity for substitution	Medium potential for change eg in areas of regeneration, brownfield sites & urban fringe areas & alteration to mix of urban elements.	Density & mix will increase slightly with the introduction of a new visually intrusive urban element to the edge of Whitchurch. It is anticipated that there would be visual disturbance on townscape features S of Whitchurch, therefore the impact is judged to be slight adverse.
Scale	Built elements are mainly of a domestic scale, generally 1-3 storey including residential properties with some areas retail & industry use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the scale as a result of the scheme due to its distance from townscape features and passing through mainly open farmland, therefore the impact is judged to be neutral.
Appearance	The housing is a mixture of ages with modern, private, commercial offices & retail buildings. Some features/buildings retain historical associations which add to the local distinctiveness of the area.	Local	Common at the local level	Medium at a local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the appearance of the townscape as a result of the scheme due to its distance from townscape features and passing through mainly open farmland, therefore the impact is judged to be neutral.
Human interaction	The primary human interaction is focused around domestic use such as schools, shops, pubs, churches, community facilities etc. with some retail & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change as a result of land use, density & mix & layout.	It is not anticipated that there would be any notable impacts on human interaction as a result of the scheme due to its distance fror townscape features and passing through mainly open tarmand, therefore the impact is judged to be neutral.
Cultural	There is a mix of council housing & post war development with some more modern features intersperced with rarea of historical interest including Listed Buildings & traditional houses within Whitchurch village N of the scheme. Horseworld is within the study area on the edge of Whitchurch/Stockwood. There are designated historical features within 1km, including 1 SM (Maes Knoll Camp) located 1km SW of the scheme. Lyons Court Farm & Church Farm are adjacent to the scheme.	Settlements & transport corridors valued at regional level. SM's, Listed Buildings & Reg Park & Garden valued at national level.	Rare at local level	Medium at local level Medium at Regional & National level	Limited opportunity for substitution	Low potential for change due to limited opportunity for substitution.	It is anticipated that there would be visual disturbance on the setting of some cultural features to the edge of Whitchurch due to the introduction of a new urban element, therefore the impact is judged to be slight adverse.
and use	Club & Bristol Barbarians Rugby Club & Whitehall Land use is primarily domestic including residential & recreational areas with some retail, industry & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to land use.	It is not anticipated that there would be any notable impacts on land use as a result of the scheme due to its distance from townscape features and passing through mainly open farmland, therefore the impact is judged to be neutral.
Summary of character	The study area is characterised as a suburban townscape on the edge of Bristol transitioning to rural landscape with primarly residential settlements with some historic & cultural associations. These are connected with the busy A37 corridor & network of rural lanes linking smaller settlements & farmsteads.	Some features valued at national level. Many townscape elements valued at local level.	designated cultural	Low to medium at local, regional & national level.	Some opportunity for substitution		Mitigation for this scheme would consist of careful design & location of elements within the urban edge, along with planting for visus screening & to recreate severed landscape leatures within the rural area. It is not anticipated that there would be mar notable impacts on this forwnscape as a michapided not hensity & mix & an anticipated on hensity & mix & an disclopated on hensity & mix & an the settin of cultural features close to the scheme as result of the scheme as. The overall impacts are therefore judged to be slight adverse.
Reference Sources	1		1	I		l	
B&NES Landscape Ch	aracter Assessment Landscape Character Assessment (2014) ping						

Step 5 - Summary Assessment Score Slight adverse

Cualitative Comments
A 1km offset from the scheme boundary has been prescribed for the study area within this townscape area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this.
The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal mitigation strategy and to enable the comparison of the impacts of the scheme eas a result of its physical presence in the townscape.

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# TAG Townscape Impacts Worksheet - Option E - Hicks Gate Junction Improvement - Brown Route

Features	Step 2 Description	Soalo it	Do-H	Step 3	Substitute Lills	Changes in With	Step 4	
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Changes in Without- scheme case	Impact	
ayout	The townscape within the study area of Hicks Gate roundaout is characterised as being suburban located on edge of Bristol city. The area is influenced by the busy A4 & A4174 corridors & Bristol to Bath railway. The area is dominated by residential use with some retail & commercial areas. Settlements within the study area include Kaynsham, Hanham, Brisington, Slockwood, Queen Charlton & Whitchurch interspersed with isolated properties & farmsteads.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to layout within suburban context, eg introduction of new housing developments & other urban elements such as retail/industrial units.	It is not anticipated that there would be any notable impacts on the layout as a result of the scheme due to its scale & distance from townscape features, therefore the impact is judged to be neutral.	
	Density is of low - medium scale within a suburban & rural edge context comprising mainly residential housing linked with read networks intermixed with some retail, industry and commercial use.	Local	Common at the local level	Medium at the local level	Some opportunity for substitution	Medium potential for change eg in areas of regeneration, brownfield sites & urban fringe areas & alteration to mix of urban elements.	It is not anticipated that there would be any notable impacts on the density and mix as a result of the scheme due to its scale & distance from townscape features, therefore the impact is judged to be neutral.	
	Built elements are mainly of a domestic scale, generally 1-3 storey including residential properties with some areas retail & industry use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the scale as a result of the scheme due to its scale & distance from townscape features, therefore the impact is judged to be neutral.	
	The housing is a mixture of ages with modern, private, commercial offices & retail buildings. Some features/buildings retain historical associations which add to the local distinctiveness of the area.	Local	Common at the local level	Medium at a local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the appearance of the townscape as a result of the scheme due to its scale & distance from townscape features, therefore the impact is judged to be neutral.	
	The primary human interaction is focused around domestic use such as schools, shops, pubs, churches, community facilities etc. with some retail & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change as a result of land use, density & mix & layout.	It is not anticipated that there would be any notable impacts on human interaction as a result of the scheme due to its scale & distance from townscape features, therefore the impact is judged to be neutral.	
Cultural	There is post war development mixed with modern features interspersed with areas of historical interest, such as Brislington & Keynsham Conservation Areas and Listed Buildings within the study area. Most notably, Keynsham contains various historical features including Listed Buildings within line Bristol Road & The High Street. Also, The Abbey SM in Keynsham is in close proximity to the scheme alongside the A4. The Park & Garden to Bristing for House is a Reg Park & Garden with associated Listed Buildings within 1km of the scheme. There are also office developments at Durley Park, & a smail industrial estate on the fatter land by the River Avon. These areas are linked by busy transport corridors.	Settlements & transport corridors valued at regional level. SM's, CA's & Listed Buildings valued at national level.	Rare at local level	Medium at local level Medium at Regional & National level	Limited opportunity for substitution	Low potential for change due to limited opportunity for substitution.	It is not anticipated that there would be any notable impacts on outural features as a result of the scheme due to its scale & distance from townscape features, therefore the impact is judged to be neutral.	
and use	Land use is primarily domestic including residential & recreational with some retail, commercial & industry use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to land use.	It is not anticipated that there would be any notable impacts on land use as a result of the scheme due to its scale & distance from townscape features, therefore the impact is judged to be neutral.	
	The study area is characterised as a sububan townscape on the edge of Bristot transitioning to rural landscape with primarly residential settlements with some historic & cultural associations. These are connected with the busy transport corridors & network of rural lanes linking smaller settlements & farmsteads.	Some features valued at national level. Many townscape elements valued at local level.	Some features, eg designated cultural sites, are rare at national, regional & local level. Many townscape features are commonplace at all levels.	Low to medium at local, regional & national level.	Some opportunity for substitution	Low-medium potential for change as a result of other influences.	It is not anticipated that there would be any notable impacts on townscape as a result of the scheme due to its scale & distance from townscape features, therefore the impact is judged to be neutral.	
Reference Sources				I	I	I	ļ	
Reference Sources BNPS Landsoge Character Assessment South Glouceaterathire Landscape Character Assessment (2014) Orchance Sinuey Mapping Aarial Mapping Magi- Geographical mapping Bristol City Council								
Step 5 - Summary Assessment Score								
leutral								

Qualitative Comments
A 1km offset from the scheme boundary has been prescribed for the study area within this townscape area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this.
The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal mitigation strategy and to enable the comparison of the impacts of the scheme as a result of its physical presence in the townscape.

# SE Bristol and Whitchurch Strategic Corridor - Biodiversity AST Assessments

Scheme	Option	Summary of Key Impacts	Assessment
Obrital Highway Route	Option A&B - Orbital Route A4-A37 - Blue Route	The WP1-A4A37 Link Road Scheme (BlueLine) has potential for impacts on the: Mells Valley SAC (19.6km south east), Bath and Bradford on Avon Bats SAC (15km east), North Somerset and Mendip Bat Sites SAC (15km west) or Wye Valley and Forest of Dean Bat Sites SAC (28km south east). This is through loss of commuting or foraging habitat for bats within the local area linked to this SAC. One SSSI is present within 1km of the Scheme which is designated for geographical reasons, considering the geological nature of the site and the distance away from the Scheme eit is considered unlikely that there will be impacts on this site as a result of the Scheme. One LNR and five SNCIs are within 1km distance from the Scheme orute. The River Avon SNCI is situated 540m south east of the route. Considering the distances of the sites away from the Scheme area and the nature of the Scheme it is considered unlikely that the Scheme may result in impacts to these sites. The WP1-A4A37 Link Scheme may result in loss of deciduous woodland, hedgerows and agricultural habitats. Wood pasture, parkland Priority Habitats and traditional orchards are present within 1km of the Scheme enot predicted to be impacted. There is a Granted European Protected Species Application within 1 km of the Scheme, this was granted in 8/10/2015 and ends in 7/10/2020, this is for Common pipistrelle, Lesser horseshoe, Serotine and Whiskered bats. Loss of trees, hedgerow, grassland, scrub habitats and ponds could result in loss of areas potentially suitable for associated protected species. Overall, due to the scale of the off-line scheme and potential impacts to habitats of value to bats over a wide area, impacts to these SACs are possible. Mitigation against the loss of habitat and landscape features incurred as a result of this Scheme could include re-planting of hedgerows lost.	Slight adverse
Orbital Highway Route	Option C - Orbital Route West of A37 (Washing Pound Lane) - Grey Route	The WP1-A4-A37 Whitchurch Option 2 (GreyLine) has potential for impacts to; Mells Valley SAC (13km south east), Bath and Bradford on Avon Bats SAC (16km west) or Wye Valley and Forest of Dean Bat Sites SAC (29km south east). This is through loss of commuting or foraging habitat for bats within the local area linked to this SAC. No designated sites within 1km. Two SNCIs are within 1km from the Scheme route. Considering the distances of the sites away from the Scheme area and the nature of the Scheme it is considered unlikely that the Scheme will result in impacts to these sites. The WP1-A4A37 Link may result in loss of hedgerows and agricultural habitats. There are areas of Priority Habitat (including deciduous woodland, wood pasture and parkland, and traditional orchards) within 1km of the Scheme, these are not predicted to be impacted. No previously granted European Protected Species Applications have been found within 1km of the Scheme. Loss of hedgerow, grassland, scrub habitats and ponds could result in loss of areas potentially suitable for associated protected species. Overall, due to the scale of the off-line scheme and potential impacts to habitats of value to bats over a wide area, impacts to these SACs are possible. Mitigation against the loss of habitat and landscape features incurred as a result of this Scheme could include re-planting of hedgerows lost.	
Orbital Highway Route	Option D - Orbital Route West of A37 (Half Acre Lane) Orange Route	The WP1-A4-A37 (OrangeLine) has potential for impacts on the Mells Valley SAC (13km south east), Bath and Bradford on Avon Bats SAC (16km west) or Wye Valley and Forest of Dean Bat Sites SAC (29km south east). This is through loss of commuting or foraging habitat for bats within the local area linked to this SAC. Two SNCIs are within 1km of the Scheme, considering the distances of the sites away from the Scheme area and the nature of the Scheme it is considered unlikely that the Scheme will result in impacts to these sites. The WP1-A4A37 (Orange Line) Link may result in loss of hedgerows and agricultural habitats. Unlike the Blue option, it does not cut through a section of deciduous woodland. There are areas of Priority Habitats (deciduous woodland, wood pasture and parkland and traditional orchards) within 1km of the Scheme, these are not predicted to be impacted. There are no Granted European Protected Species Applications within 1 km of the Scheme. Loss of hedgerow, grassland, scrub habitats and ponds could result in loss of areas potentially suitable for associated protected species. Overall, due to the scale of the off-line scheme and potential impacts to habitats of value to bats over a wide area, impacts to these SACs are possible. Mitigation against the loss of habitat and landscape features incurred as a result of this Scheme could include re-planting of hedgerows lost.	Slight adverse

### TAG Biodiversity Impacts Worksheet - Option A&B - Orbital Route A4-A37 - Blue Route

Step 2			Ste	Step 4	Step 5		
Area	Description of feature/ attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment Score
Bickley Wood SSSI (approximately 600 m north west of the north end of the Scheme)	(Geographical) Most extensive exposure of carboniferous downend group striation in the Bristol coalfields	National	High - site designated as a SSSI	N/A	High	Neutral	Neutral
Non Valley Woodland LNR (approximately 600m north vest, part of Bickley wood SSSI	Maturing broadleaved woodlands- oak, willow scrub and pasture	Regional	Medium - site designated at a local level for nature	N/A	Medium	Neutral	Neutral
stockwood Open Space SNCI, LNR and Avon Wildlife Trust lature Reserve (approximately 260m west at Scheme line ind-point)	Grassland meadows, thick headgerows and woodland	Regional	Medium - site designated at a local level for nature conservation	N/A	Medium	Neutral	Neutral
stockwood Vale Woods SNCI (approximately 240m west)	Broad leaved woodlands	Regional	Medium - site designated at a local level for nature	N/A	Medium	Neutral	Neutral
Charlton Bottom & Queen Charlton Watercourse SNCI approximately 510m south west)	Running water (streams), with associated marginal habitats, semi- natural broadleaved woodland and scrub.	Regional	Medium - site designated at a local level for nature	N/A	Medium	Neutral	Neutral
Vest Keynsham Field SNCI (approximately 200 m west)	Unimproved and semi-improved neutral grassland, marshy grassland, hedges and scrub.	Regional	Medium - site designated at a local level for nature conservation	N/A	Medium	Neutral	Neutral
stockwood Golf Course SNCI (approximately 240 m north rest)	Unimproved calcareous grassland	Regional	Medium - site designated at a local level for nature conservation	N/A	Medium	Neutral	Neutral
iturminster Road SNCI (approximately 410m east)	Woodland, scrub, tall ruderal vegetation, grassland & stream, with associated marginal vegetation	Regional	Medium - site designated at a local level for nature conservation	N/A	Medium	Neutral	Neutral
tiver Avon SNCI (approximately 540m south east)	Invertebrates and aquatic plants	Regional	Medium - site designated at a local level for nature conservation	N/A	Medium	Neutral	Neutral
fells Valley SAC (approximately 19.6km south east).	Sites known for Greater horseshoe bat populations, cave networks.	International	Very high - internationally designated site	N/A	Very high	Neutral	Neutral
lorth Somerset and Mendip Bat SAC sites (approximately 5km west).	Sites known for Lesser horseshoe and greater horseshoe bat roost populations	International	Very high - internationally designated site	N/A	Very high	Minor negative	Slight adverse
Vye Valley and Forest of Dean Bat Sites SAC approximately 28km south east).	Sites known for Lesser horseshoe and Greater horseshoe bat roost populations	International	Very high - internationally designated site	N/A	Very high	Minor negative	Slight adverse
ath and Bradford on Avon Bats SAC (approximately 15km ast).	Sites known for Greater horseshoe, Lesser horseshoe and Bechstein's bat roost populations	International	Very high - internationally designated site	N/A	Very high	Minor negative	Slight adverse

Reference Sources

Magic Maps - http://www.magic.gov.uk/MagicMap.aspx

http://map.n-somerset.gov.uk/southglos.html

### Summary Assessment Score

Slight adverse

Qualitative Comments

As a result of this assessment, a slight adverse assessment score was given to this Scheme as this was the highest assessment score found within the features assessed.

Step 2		Step 3				Step 4	Step 5
Area	Description of feature/ attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment Score
Sturminster Road SNCI (approximately 600m east)	Woodland, scrub, tall ruderal vegetation, grassland & stream, with associated marginal vegetation	Regional	Medium-site designated at a local level for nature conservation	N/A	Medium	Neutral	Neutral
Mells Valley SAC (approximately 13km south east)	Sites designated for greater horseshoe bat populations, cave networks.	International	Very high- internationally designated site	N/A	Very high	Minor negative	Slight adverse
Bath and Bradford on Avon bats SAC (approxiamtely 16km west).	Sites designated for Greater horseshoe, Lesser horseshoe and Bechstein's bat roost populations	International	Very high- internationally designated site	N/A	Very high	Minor negative	Slight adverse
Wye Valley and Forest of Dean Bat Sites SAC (approximately 29km south east).	Sites designated for Lesser horseshoe and Greater horseshoe bat roost populations	International	Very high- internationally designated site	N/A	Very high	Minor negative	Slight adverse
Habitats assemblage consist mainly of trees, hedgerow	<i>i</i> , grassland, scrub habitats and ponds. The S dormouse, great crested newts				ntially suitable for ass	ociated protected sp	ecies, including bats,

### **Reference Sources**

Magic Maps - http://www.magic.gov.uk/MagicMap.aspx, http://map.n-somerset.gov.uk/southglos.html https://isharemaps.bathnes.gov.uk/atmycouncil.aspx

### Summary Assessment Score

Slight adverse

### **Qualitative Comments**

As a result of this assessment, a slight adverse assessment score was given to this Scheme as this was the highest assessment score found within the features assessed.

Step 2		Ste	Step 4	Step 5			
Area	Description of feature/ attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment Score
Sturminster Road SNCI (approximately 560 m east)	Woodland, scrub, tall ruderal vegetation, grassland & stream, with associated marginal vegetation	Regional	Medium-site designated at a local level for nature conservation	N/A	Medium	Neutral	Neutral
Mells Valley SAC (approximately 13km south east)	Sites designated for Greater horseshoe bat populations, cave networks.	International	Very high- internationally designated site	N/A	Very high	Minor negative	Slight adverse
Bath and Bradford on Avon Bats SAC (approximately 16km west).	Sites designated for Greater horseshoe, Lesser horseshoe and Bechstein's bat roost populations	International	Very high- internationally designated site	N/A	Very high	Minor negative	Slight adverse
Wye Valley and Forest of Dean Bat Sites SAC (approximately 29km south east).	Sites designated for Lesser horseshoe and Greater horseshoe bat roost populations	International	Very high- internationally designated site	N/A	Very high	Minor negative	Slight adverse

Habitats assemblage consist mainly of trees, hedgerow, grassland, scrub habitats and ponds. The Scheme could result in loss of areas these areas which are potentially suitable for associated protected species, including bats, dormouse, great crested newts and other amphibians, reptiles, birds and invertebrates.

### **Reference Sources**

Magic Maps - http://www.magic.gov.uk/MagicMap.aspx

http://map.n-somerset.gov.uk/southglos.html

Summary Assessment Score

Slight adverse

**Qualitative Comments** 

As a result of this assessment, a slight adverse assessment score was given to this Scheme as this was the highest assessment score found within the features assessed.

Step 2		Step 3				Step 4	Step 5
Area	Description of feature/ attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessmen Score
tickley Wood ancient and semi-natural woodland SSSI approximately 540m north)	(Geographical) Most extensive exposure of carboniferous downend group striation in the Bristol coalfields	National	High-sited designated as a SSSI	N/A	High	Neutral	Neutral
approximately 340m north)		Regional	Medium- site designated at local level for nature conservation	N/A	Medium	Neutral	Neutral
Non valley woodland LNR (520m north).	Maturing broadleaved woodlands						
Stockwood open space LNR (approximately 800m south west),	Old farm meadows, hedgerows, broadleaved & coniferous woodland, scrub, marshland, ponds, a stream, a reedbed and a restored tip.	Regional	Medium- site designated at local level for nature conservation	N/A	Medium	Neutral	Neutral
East Wood and Keynsham Humpy Tumps Comples SNCI	Eleviatically rich opidio grappland	Regional	Medium- site designated at local level for nature conservation	N/A	Medium	Neutral	Neutral
approximately 200m south)	Floristically rich acidic grassland Semi-natural broadleaved woodland and scrub	Regional	Medium- site designated at local level for nature conservation	N/A	Medium	Neutral	Neutral
Stockwood Vale Woods SNCI (approximately 760m south west)							
Charlton Bottom and Queen Charlton watercourse SNCI approximately 810m south west)	Running water (streams), with associated marginal habitats, semi-natural broadleaved woodland and scrub.	Regional	Medium- site designated at local level for nature conservation	N/A	Medium	Neutral	Neutral
River Avon SNCI (approximately 700m east)	Invertebrates and aquatic plants	Regional	Medium- site designated at local level for nature conservation	N/A	Medium	Neutral	Neutral
Vells Valley SAC (approximately 13km south east)	Sites known for Greater horseshoe bat populations, cave networks.	International	Very high- internationally designated site	N/A	Very high	Neutral	Neutral
Bath and Bradford on Avon Bats SAC (approxiantely 16km vest)	Sites known for Greater horseshoe, Lesser horseshoe and Bechstein's bat roost populations	International	Very high- internationally designated site	N/A	Very high	Neutral	Neutral
Vye Valley and Forest of Dean Bat Sites SAC (approximately 9km south east)	Sites known for Lesser horseshoe and Greater horseshoe bat roost populations	International	Very high- internationally designated site	N/A	Very high	Neutral	Neutral
North Somerset and Mendip Bat Sites SAC (approximately 6km south west)	Sites known for Lesser horseshoe and Greater horseshoe bat roost populations	International	Very high- internationally designated site	N/A	Very high	Neutral	Neutral

### Reference Sources

Magic Maps - http://www.magic.gov.uk/MagicMap.aspx, https://isharemaps.bathnes.gov.uk/atmycouncil.aspx http://maps.bristol.gov.uk/policies/

### Summary Assessment Score

Neutral

### Qualitative Comments

As a result of this assessment, a neutral assessment score was given to this Scheme as all features assessed were found to have neutral assessment scores.

### TAG Historic Environment Impacts Worksheet - Option A&B - Orbital Route A4-A37 - Blue Route

TAO HISTORIO EIN	Vironment Impacts Worksheet - Option A&B - Orbital Route A4-A37 Step 2	Blac Hould		Step 4	
Feature	Description	Scale it matters	Step 3 Significance	Rarity	Impact
	There are 11 Grade II listed buildings within an approximate 500m study area surrounding the proposed scheme [1365675, 1384637, 1384612, 1384613, 1384638, 1129499, 1384633, 1136454, 1129500, 1384635, 1365674].	The listed buildings are of medium importance (mostly on a local to regional level).	There are 11 Grade II listed buildings of medium value within the study area.	In general, the form of the listed buildings is not rare regionally, with the exception of Grade II listed Durley Cottage, which has been described as a 'modest but	Negligible - there will be no change to the form of any of the identified designated heritage assets.
	The buildings are scattered across the study area with the majority being located along the boundary between Bristol City Council and Bath and North East Somerset Council at Stockwood. The remaining buildings can either be found towards the north of the scheme (around Hicks Gate Roundabout) or the south (around Whitchurch).	The conservation area is of regional to national importance.	The conservation area presents important local architectural design and a secluded riverside landscape enhanced by an 18th century settlement pattern, and also contains one of the first purpose builtprivate lunatic asylums in Britain and is therefore considered to be of medium to high value.	rare example of the local cottage vernacular as part of its listings entry. The form of the conservation area is not rare in a regional context.	No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Form	The buildings consist of various forms including a mid-17th century manor farmhouse, an 18th century manor house with farmhouse, late 18th to early 19th century houses, an early 19th century farmhouse, mortuary chapels at Keynsham Cemetery, a barn (mid 18th to early 19th century), early 18th century gate piers and a milestone.				
	A small part of the Avon Valley Conservation Area is present within the most western extent of the study area. Predominant architectural features are pantiled and siate roofs, random stone walling, painted, rendered walls with timber window frames and doors, generally proportioned and detailed in the cottage vernacular of the period.				
	The level of survival of the listed buildings is generally good. Aside from some alterations, additions and repairs (internally and externally), which represent	The survival of the listed buildings is a matter of local to regional interest.	The survival of the listed buildings is important in understanding the historic development of the study	The survival of listed buildings similar to those present within the study area is not rare in this region.	Negligible - there will be no change to the survival of any of the identified designated heritage assets.
Survival	multiple phases of development and use, the buildings have mainly retained their characteristic elements.	The survival of the conservation area is a matter of	The survival of the conservation area within the study	The survival of the conservation area similar to those present within the study area is not rare in this region.	No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
	The survival of the conservation area is generally good with limited development within its boundary since its designation in 1980.	regional to national interest.	area is central to its significance as a regionally and nationally important asset.	present within the study area is not rare in this region.	oesignated nentage assets are anticipated.
	The condition of the listed buildings is generally good. The majority of buildings are in residential use (aside from the morturary chapels and the milestone).	The condition of the listed buildings is a matter of local to regional interest.	The condition of the listed buildings is important due to their association with the development of the area.	The condition of the listed buildings is not rare.	<b>Negligible</b> - there will be no change to the condition of any of the identified designated heritage assets.
Condition	The condition of the conservation area is generally good.	The condition of the conservation area is a matter of regional to national interest.	The condition of the conservation area is important to ensure its long term survival.	The condition of the conservation area is not rare.	No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
	The listed buildings are generally of low to moderate complexity. The conservation area is generally of low to moderate complexity.	The complexity of the listed buildings is a matter of local to regional interest.	The complexity of the listed buildings represents some variety in form and function of post-medieval buildings.	The level of complexity of the listed buildings is not rare.	Negligible - there will be no change to the complexity of any of the identified designated heritage assets.
Complexity	The conservation area is generally on low to moderate complexity.	The complexity of the conservation area is a matter of regional to national interest.	The complexity of the conservation area largely represents 18th century settlements patterns stretching alongside the river. This forms an important component of its significance.	The level of complexity of the conservation area is not rare.	No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Context	The landscape surrounding the scheme is predominantly rural, with larger residential areas located at Stockwood (to the west of the scheme), Keynsham (to the east of the scheme) and Whitchurch (to the south of the scheme). The listed buildings mainly reflect the post-medieval village/town development of the area and still retain parts their original context of being sited within a relatively sub-urban area outside of the cities of Bristol and/or Keynsham.	The context of the listed buildings is largely valued at a local level, while the conservation area is valued at a regional to national level. The setting of these assets is also a material consideration under national policy.	The context of the listed buildings and conservation area within the study area reflects the local and wider regional changes in settlement pattern and development.	The context of the listed buildings is not rare. The context of the conservation area is not rare.	Minor Adverse - there is potential for adverse setting impacts to the identified designated heritage assets. The assets are likely to have visibility to and from the proposed scheme, and creating a new link road between Stockwood and Queen Charlton will harm the rural setting that currently still exists between the two settlements.
	The conservation area is primarily formed of a 18th century settlement pattern along the River Avon and has mainly retained this context. The area surrounding it, however, is dominanted by post-medieval and modern developments.				
	All of the listed buildings date to the post-medieval period.	The period captured by the listed buildings and	The listed buildings cover the post-medieval period	The period represented by the listed buildings and	Negligible - there will be no significant change to the periods
Period	The conservation area largely traces the 18th century settlement pattern and therefore primarily dates to the post-medieval area.	conservation area (i.e. post-medieval) is typical and of regional and national interest.	which is well represented within the wider area. Furthermore, the post-medieval period is also well represented within the conservation area.	conservation area is not considered rare in this region.	represented by assets within the scheme study area.
Reference Sources	1	1	representeu within the conservation area.	1	1
		Historic England's The National Heritage List for England (NHLE)	database, Know Your Place (for Conservation Areas in Bristol C	City Council)	
Step 5 - Summary As	ssessment Score	' '			
		This option is likely to have an overa	Il Slight Adverse Effect on Cultural Heritage.		
Qualitative Commen	its				
The adverse effects re	elate to the potential setting impacts on the above identified designated heritage asset	s present within the study area. Appropriate design to reduce	setting impacts (i.e. screening), could potentially reduc	the effect to Neutral	

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The adverse effects relate to the potential setting impacts on the above identified designated heritage assets present within the study area. Appropriate design to reduce setting impacts (i.e. screening), could potentially reduce the effect to Neutral.

### TAG Historic Environment Impacts Worksheet - Option C - Orbital Route West of A37 (Washing Pound Lane) - Grey Route

	Step 2		Step 3		Step 4
Feature	Description	Scale it matters	Significance	Rarity	Impact
Form	There are 8 listed buildings within an approximate 500m study area surrounding the proposed scheme [1136454, 1129499, 1129502, 1136453, 1365675, 1136442, 1129499, 1365674]. Out of these 2 are Grade II" [Church of St Nicholas 1136442; Lyons Court Farmhouse 1136453] and 6 are Grade II. The Grade II" listed church can be found to the east of the scheme at the junction between Bristol Road and Church Road, while the Grade II" farmhouse is located to the west of the scheme south of Church Road. With the exception of Grade II" Lyons Court Farmhouse, which is located to the west of the scheme, the remaining listed buildings are all located within the eastern and south-eastern extent of the study area. The buildings consist of various forms including a milestone, a monument in a churchyard, a church, an 18th century manor house, a 15th and 17th century farmhouse, a 17th century cottage and an 18th century house with gatepiers.	The Grade II [®] listed buildings are of high importance, while the Grade II buildings are of medium importance.	6 Grade II listed buildings of medium	The form of the listed buildings is not rare locally or regionally, however, the Grade II* church is a good example of a potential early-medieval (12th century) church and is not common in both a local and regional context.	Negligible - there will be no change to the form of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Survival	The level of survival of the listed buildings is generally good. Aside from some alterations, additions and repairs (internally and externally) which represent multiple phases of development and use, the buildings have mainly retained their characteristic elements.	The survival of the listed buildings is a matter of regional to national interest.	The survival of the listed buildings is important in understanding the historic developement of the study area.	The survival of the listed buildings is not rare, while good survival of post-Norman conquest churches is not common.	Negligible - there will be no change to the survival of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Condition	The listed buildings are generally in a good condition. The majority of buildings are in residential use (aside from the church, churchyard monuments and milestone).	The condition of the listed buildings is a matter of regional to national interest.	The condition of the listed buildings is important due to their association with the development of their area.	The condition of the listed buildings is not rare.	Negligible - there will be no change to the condition of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Complexity	The listed buildings are generally of low to moderate complexity, with the church and the manor farmhouses presenting moderate complexity levels due to their alterations which either span across multiple centuries or having now been subdivided.	The complexity of the listed buildings is a matter of regional to national interest.	The complexity of the listed buildings represents some variety in form and function of medieval and post-medieval buildings.	The complexity of the listed buildings is not uncommon, however, the church is a good example of an early-medieval church, which has been subject to change over the centuries, representing moderate complexity.	Negligible - there will be no change to the complexity of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Context	The landscape surrounding the scheme is largely rural to the east, south and west. At its northern point, the scheme connects to a residential development at Whitchurch. The context of the majority of the listed buildings presents a mixture between a sub-urban to semi-rural environment which has been subject to development pressures to the north of the scheme.	The context of the listed buildings is largely valued at a local level. The setting of such assets is also a material consideration under national policy.	The context of the listed buildings within the study area reflects the local and wider regional changes in settlement pattern and development.	The context of the listed buildings within the study area is not rare. Even the context of the Grade II ⁺ listed church is not uncommon on a national level.	Minor Adverse - there is potential for adverse impacts on the setting of designated heritage assets. The assets are likely to have visibility to and from the proposed scheme.
Period	With the exception of the medieval church, the remaining listed buildings are of post-medieval date.	The post-medieval period is typical within the area and of regional and national interest. The medieval period (represented by the church) is of regional to national interest.	The medieval and post-medieval periods are well represented within the wider study area.	The medieval and post-medieval periods are not rare.	Negligible - there will be no significant change to the periods represented by assets within the scheme study area.

### Reference Sources

Historic England's The National Heritage List for England (NHLE) database

Step 5 - Summary Assessment Score

This option is likely to have an overall Slight Adverse Effect on Cultural Heritage.

### **Qualitative Comments**

### TAG Historic Environment Impacts Worksheet - Option D - Orbital Route West of A37 (Half Acre Lane) - Orange Route

	Step 2		Step 3		Step 4
Feature	Description	Scale it matters	Significance	Rarity	Impact
	There are 9 listed buildings within an approximate 500m study area surrounding the proposed scheme [1136454, 1129499, 1129502, 1136453, 1365675, 1136442, 1129498, 1365674, 1202259]. Out of these 2 are Grade II" [Church of St Nicholas 1136442; Lyons Court Farmhouse 1136453] and 7 are Grade II. The Grade II" listed church can be found to the east of the scheme at the junction between Bristol Road and Church Road, while the Grade II" farmhouse is located to the west of the the scheme south of Church Road.	The Grade II" listed buildings are of high importance, while the Grade II buildings are of medium importance.	There are 2 Grade II ¹ of high value, and 7 Grade II listed buildings of medium value within the study area.	regionally, however, the Grade II* church is a good example of a potential early-medieval (12th century) church and is not common in both a local and	Negligible - there will be no change to the form of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Form	With the exception of Grade II* Lyons Court Farmhouse and Grade II Bridge Farmhouse, which are located to the west of the scheme, the remaining listed buildings are all located within the eastern and south-eastern extent of the study area.				
	The buildings consist of various forms including a millestone, a monument in a churchyard, a church, an 18th century manor house, a 15th and 17th century farmhouse, a 17th century cottage and an 18th century house with gatepiers.				
Survival	The level of survival of the listed buildings is generally good. Aside from some alterations, additions and repairs (internally and externally) which represent multiple phases of development and use, the buildings have mainly retained their characteristic elements.	The survival of the listed buildings is a matter of regional to national interest.	The survival of the listed buildings is important in understanding the historic developement of the study area.	The survival of the listed buildings is not rare, while good survival of post-Norman conquest churches is not common.	Negligible - there will be no change to the survival of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Condition	The listed buildings are generally in a good condition. The majority of buildings are in residential use (aside from the church, churchyard monuments and milestone).	The condition of the listed buildings is a matter of regional to national interest.	The condition of the listed buildings is important due to their association with the development of their area.	The condition of the listed buildings is not rare.	Negligible - there will be no change to the condition of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Complexity	The listed buildings are generally of low to moderate complexity, with the church and the manor farmhouses presenting moderate complexity levels due to their alterations which either span across multiple centuries or having now been subdivided.	The complexity of the listed buildings is a matter of regional to national interest.	The complexity of the listed buildings represents some variety in form and function of medieval and post-medieval buildings.	The complexity of the listed buildings is not uncommon, however, the church is a good example of an early-medieval church, which has been subject to change over the centuries, representing moderate complexity.	Negligible - there will be no change to the complexity of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Context	The landscape surrounding the scheme is largely rural to the east, south and west. At its northern point, the scheme connects to a residential development at Whitchurch. The context of the majority of the listed buildings presents a mixture between a sub- urban to semi-rural environment which has been subject to development pressures to the north of the scheme.	The context of the listed buildings is largely valued at a local level. The setting of such assets is also a material consideration under national policy.	The context of the listed buildings within the study area reflects the local and wider regional changes in settlement pattern and development.	The context of the listed buildings within the study area is not rare. Even the context of the Grade II* listed church is not uncommon on a national level.	Minor Adverse - there is potential for adverse impacts on the setting of designated heritage assets. The assets are likely to have visibility to and from the proposed scheme.
Period	With the exception of the medieval church, the remaining listed buildings are of post- medieval date.	The post-medieval period is typical within the area and of regional and national interest. The medieval period (represented by the church) is of regional to national interest.	The medieval and post-medieval periods are well represented within the wider study area.	The medieval and post-medieval periods are not rare.	Negligible - there will be no significant change to the periods represented by assets within the scheme study area.

Reference Sources

Historic England's The National Heritage List for England (NHLE) database

Step 5 - Summary Assessment Score

This option is likely to have an overall Slight Adverse Effect on Cultural Heritage.

30

Qualitative Comments

### TAG Historic Environment Impacts Worksheet - Option E - Hicks Gate Junction Improvement - Brown Route

	Step 2		Step 3		Step 4
Feature	Description	Scale it matters	Significance	Rarity	Impact
Form	There are 7 Grade III listed buildings within an approximate 500m study area surrounding the proposed scheme [1384614, 1384612, 1116829, 1409195, 1230936, 1410955, 1384613]. All of the buildings are located to the east of the scheme (either towards Keynsham or north of the River Avon). The buildings consist of various forms including converted hunting lodges, late 18th century to late 19th century houses and/or cottages, a bridge, a stream culvert and mortuary chapels.	The listed buildings are of medium importance (mostly on local to regional level).	There are 7 Grade II listed buildings of medium value within the study area.	The form of the listed buildings is not rare regionally, with the exception of the Grade II culvert designed by I.K. Brunel which is a rare example of a culvert to survive intact from the earliest phase of the Great Western Railway.	Negligible - there will be no change to the form of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Survival	The level of survival of the listed buildings is generally good. Aside from some alterations, additions and repairs (internally and externally) which represent multiple phases of development and use, the buildings have largely retained their characteristic elements.	The survival of the listed buildings is a matter of local to regional interest.	The survival of the listed buildings is important in understanding the historic developement of the study area.	As a collection, the survival of the listed buildings within the study area is not rare.	Negligible - there will be no change to the survival of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticiated.
Condition	The listed buildings are generally in a good condition. The majority of buildings are in residential use (aside from the bridge, the culvert and the morturary chapels).	The condition of the listed buildings is a matter of local to regional national interest.	The condition of the listed buildings is important due to their association with the development of their area.	The conditions of the listed buildings are not rare.	Negligible - there will be no change to the condition of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Complexity	The listed buildings are generally of low to moderate complexity.	The complexity of the listed buildings is a matter of local to regional interest.	The complexity of the listed buildings represents some variety in form and function of post-medieval buildings.	The level of complexity represented by the listed buildings within the study area is not uncommon for the area.	Negligible - there will be no change to the complexity of any off the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticiated.
Context	The landscape surrounding the scheme is largely rural, with the larger towns of Longwell Green, Keynsham and Stockwood to the north, east and south, and the City of Bristol to the west (between 1-1.5km distances). The context of the listed buildings is semi-rural in character, which has previously been impacted by the addition of the major road network (A4174 and A4) between Bristol and Keynsham.	The context of the listed buildings is largely valued at a local level. The setting of listed buildings is also a material consideration under national policy.	The context of the listed buildings within the study area reflects the local and wider regional changes in settlement pattern and development.	The context of the listed buildings is not rare.	Minor Adverse: there is potential for temporary impacts on the setting of listed buildings during construction, particularly those which may have visibility to and from the proposed scheme. The assets are likely to have visibility to and from the proposed scheme. Creating a new link road between Stockwood and Queen Chartton will change the rural setting that currently still exists between the two settlements. No significant adverse setting impacts on designated heritage assets are anticipated.
Period	All of the listed buildings are of post-medieval origin.	The period captured by the listed buildings (i.e. post-medieval) is typical within the area and of regional and national interest.	The listed buildings identified stretch across the post-medieval period which is well represented within the wider study area.	Post-medieval listed buildings are not rare within the study area or wider landscape.	Negligible - there will be no significant change to the periods represented by assets within the scheme study area.

Reference Sources

Historic England's The National Heritage List for England (NHLE) database

### Step 5 - Summary Assessment Score

This option is likely to have a Slight Adverse Effect on Cultural Heritage.

### Qualitative Comments

### TAG Water Environment Impacts Worksheet - Option A&B - Orbital Route A4-A37 - Blue Route

Description of study area/ summary of potential impacts	Key environmental resource	Features	Quality	Scale	Rarity	Substitutability	Importance	Magnitude	Significance																	
Study area: A4 Whitchurch to A37 Hicks Gate Bristol. Highway Orbital Route A4/A37 - Blue Route																										
Potential Impacts:																										
The route is located entirely within Flood Zone 1. The RoFSW flood maps indicate that the route would cross a number of small watercourses and overland flow routes. Dependent on the proposals within these floodplain areas there is a potential for a loss of floodplain storage, although based on the RoFSW floodplain extents the impacts are not likely to be large (i.e. there are not large areas of floodplains across the route length). Mitigation (such as compensatory floodplain storage areas) measures may be required to ensure that flood risk is not increased; such mitigation would need to take into account the impacts of climate change. Nearby watercourses include Charlton Bottom (approximately 0.6km East) the River Avon (approximately 1M North East), the Queen Charlton watercourse (approximately 1.7km East) and the River Chew (approximately 4.2km East).		Conveyance of flood flows and floodplain storage	The Proposed scheme crosses Surface Water floodplain and could potentially reduce conveyance and storage	Local	At a local level the floodplain provided by the site is important in helping to reduce flooding to residential and commercial properties. Charlton Bottom	At this stage of design assumed to not be possible for this site	Medium	Moderate Adverse	Low Significance																	
The scheme appears to cross several small watercourses/ditches and surface water flow paths therefore new culverts or watercourse diversions are likely to be necessary as part of the Scheme. These would need to ensure conveyance of flows is maintained and floodplain storage is not reduced.	Charlton Bottom watercourse (tributary of the River Avon) and	Conveyance of flood flows and floodplain storage	The Proposed scheme crosses crosses Surface Water floodplain and could potentially reduce conveyance and storage		and the Queen Charlton watersourses are both designated	and the Queen Charlton watersourses are both designated	and the Queen Charlton watersourses are both designated	and the Queen Charlton watersourses are both designated	and the Queen Charlton watersourses are both designated	and the Queen Charlton watersourses are both designated	Charlton watersourses are both designated as Sites of Nature Conservation Importance	Charlton watersourses are both designated as Sites of Nature Conservation Importance (SNCI). They	Charlton watersourses are both designated as Sites of Nature Conservation Importance (SNCI). They	and the Queen Att Charlton de watersourses are to both designated fo as Sites of Nature At Conservation de Importance to (SNCI). They fo	and the Queen Charlton watersourses are both designated as Sites of Nature Conservation Importance (SNCI). They	and the Queen Charlton watersourses are both designated as Sites of Nature Conservation Importance (SNCI). They	and the Queen Charlton watersourses are both designated	and the Queen Charlton watersourses are both designated	and the Queen Charlton watersourses are both designated	and the Queen Charlton watersourses are both designated	and the Queen Charlton watersourses are both designated	and the Queen Charlton watersourses are both designated	Queen At this stage of design assumed burses are to not be possibl signated for this site	e	Moderate Adverse	Low Significance
Increased runoff resulting from increase in impermeable area from the proposed link road. Mitigation will be required to ensure runoff rates are not increased as a result of the scheme, SuDS should be used where appropriate. A Drainage Strategy would be required if this site is taken forward.	floodplain	Surface water runoff	The River Avon is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.	Natur Conse Impor (SNC	Nature Conservation Importance (SNCI). They	ed Natu cal Cons ty Impo (SNC	Natu Con Impo (SN	-		Nature Conservation Importance (SNCI). They							At this stage of design assumed to not be possible for this site	Medium	Major Adverse	Significant						
Discharge of pollutants from road runoff; potential impacts on water quality of the watercourse, with potential implications on Water Framework Directive (WFD) status. The Scheme crosses several watercourses/ditches and therefore new culverts or watercourse diversions are likely to be necessary, this also has the potential to impact WFD status. SuDS should be used to ensure pollutants are managed on site, both during construction and operation. A Drainage Strategy would be required if this site is taken forward.		Water quality / WFD	The River Avon is used for recretional fish and boat navigation. The River Avon is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.		source of recreational value to the area. For the reasons stated above the site is considered	At this stage of design assumed to not be possible for this site	Medium	Moderate Adverse	Low Significance																	

**Reference Sources** 

https://flood-map-for-planning.service.gov.uk/ http://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/9

West Keynsham Development Concept Options Report, Arup (2013): http://www.bathnes.gov.uk/sites/default/files/sitedocuments/Planning-and-Building-Control/Planning-Policy/Core-Strategy/ConceptOptions/COR-West-Keynsham.pdf Bing Maps

Google Maps

### Summary Assessment Score

The scheme is considered to have a Significant adverse impact on the water environment (excluding mitigation)

### **Qualitative Comments**

Because the scheme has the potential to increase flood risk to residential and commercial properties, and potentially have impacts on water quality, a more detailed assessment would be required, including a Flood Risk Assessment and potentially hydrological and hydraulic modelling. A WFD assessment may be needed for the minor watercourse crossings/diversions. Mitigation measures such as SuDS and potentially flood compensatory storage would be required as part of the scheme - these would need to be tested as part of the Flood Risk Assessment and Drainage Strategy.

### TAG Water Environment Impacts Worksheet - Option C - Orbital Route West of A37 (Washing Pound Lane) - Grey Route

Description of study area/ summary of potential impacts	Key environmental resource	Features	Quality	Scale	Rarity	Substitutability	Importance	Magnitude	Significance
Study area: Highway Orbital Route West of A37 - Grey Route Whitchurch, South Bristol.									
Potential Impacts:									
The route length sits within the upper reaches of the Brislington Brook catchment, a tributary of the River Avon. The entire route length is within Flood Zone 1. Aerial mapping and the RoFSW maps indicate that at least 3 Ordinary Watercourses/ditches are crossed by the route. The route is therefore within the 3.3% AEP event floodplain in a number of locations. The RoFSW flood maps indicate a number of overland flow and Ordinary Watercourse crossings across the route. Dependent on the proposals within these floodplain areas there is a potential for a loss of floodplain storage. Mitigation (such as compensatory floodplain storage areas) measures may be required to ensure that flood risk upstream and downstream is not increased; such mitigation vould need to take into account the impacts of climate change. Some form of hydraulic modelling and mitigation testing will be required to assess the potential impacts on the Ordinary Watercourses.		Conveyance of flood flows and floodplain storage	The Proposed scheme crosses crosses Surface Water Flood Zones and could potentially reduce conveyance and storage	Local	At a local level the floodplain provided by the site is important in helping to reduce flooding to residential and commercial properties. For the reasons stated above the	At this stage of design assumed to not be possible for this site	High	Major Adverse	Highly Significant
There appear to be at least three watercourse/ditch crossings along the route length, therefore new culverts or watercourse diversions are likely to be required necessary as part of the Scheme. If required these would need to ensure conveyance of flows is maintained and floodplain storage is not reduced.	Upper reaches of Brislington Brook watercourse	Conveyance of flood flows and floodplain storage	The Proposed scheme crosses crosses Surface Water Flood Zones and could potentially reduce conveyance and storage		site is considered to have a high rarity.	At this stage of design assumed to not be possible for this site	High	Moderate Adverse	Significant
Increased runoff resulting from increase in impermeable area from the new highway, the increase in runoff is likely to be greater than for Option 1 owing to the longer route length. Mitigation will be required to ensure runoff rates are not increased as a result of the scheme, SuDS should be used where appropriate. A Drainage Strategy would be required if this site is taken forward.	(tributary of the River Avon) and floodplain	Surface water runoff	The Brislington Brook is a tributary of the River Avon, which is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.			At this stage of design assumed to not be possible for this site	High	Major Adverse	Significant
Discharge of pollutants from road runoff; potential impacts on water quality of the watercourse, with implications on Water Framework Directive status. There appears to be at least three watercourses/dirches along the route length, therefore new culverts or watercourse diversions are likely to be required, and thus a WFD assessment may be needed. SuDS should be used to ensure pollutants are managed on site, both during construction and operation. A Drainage Strategy would be required if this site is taken forward.		Water quality / WFD	The Brislington Brook is a tributary of the River Avon is used for recretional fish and boat navigation. The River Avon is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.			At this stage of design assumed to not be possible for this site	High	Moderate Adverse	Significant

### Reference Sources

https://flood-map-for-planning.service.gov.uk/ http://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/9 Bing Maps Google Maps

Summary Assessment Score

The scheme is considered to have a Highly Significant adverse impact on the water environment (excluding mitigation)

### **Qualitative Comments**

Because the scheme has the potential to increase flood risk to residential and commercial properties, and potentially have impacts on water quality, a more detailed assessment would be required, including a Flood Risk Assessment and potentially hydrological and hydraulic modelling. A WFD assessment is likely to be required given the required as part of the scheme - these would need to be tested as part of the Flood Risk Assessment and Drainage Strategy.

### TAG Water Environment Impacts Worksheet - Option D - Orbital Route West of A37 (Half Acre Lane) - Orange Route

Description of study area/ summary of potential impacts	Key environmental resource	Features	Quality	Scale	Rarity	Substitutability	Importance	Magnitude	Significance
Study area: Highway Orbital Route Wst of A37 - Orange Route Whitchurch, South Bristol	resource								
Potential Impacts:									
The route length sits within the upper reaches of the Brislington Brook catchment, a tributary of the River Avon. The entire route length is within Flood Zone 1. Aerial mapping and the RoFSW maps indicate that at least 3 Ordinary Watercourses/ditches are crossed by the route. The route is therefore within the 3.3% AEP event floodplain in a number of locations. The RoFSW flood maps indicate a number of overland flow and Ordinary Watercourse crossings across the route. Dependent on the proposals within these floodplain areas there is a potential for a loss of floodplain storage. Mitigation (such as compensatory floodplain storage areas) measures may be required to ensure that flood risk upstream and downstream is not increased; such mitigation would need to take into account the impacts of climate change. Some form of hydraulic modelling and mitigation testing will be required to assess the potential impacts on the Ordinary Watercourses.		Conveyance of flood flows and floodplain storage	The Proposed scheme crosses crosses Surface Water Flood Zones and could potentially reduce conveyance and storage	Local	At a local level the floodplain provided by the site is important in helping to reduce flooding to residential and commercial properties. For the reasons	At this stage of design assumed to not be possible for this site	High	Major Adverse	Highly Significan
There appear to be at least three watercourse/ditch crossings along the route length, therefore new culverts or watercourse diversions are likely to be required necessary as part of the Scheme. If required these would need to ensure conveyance of flows is maintained and floodplain storage is not reduced.	Upper reaches of Brislington Brook	Conveyance of flood flows and floodplain storage	The Proposed scheme crosses crosses Surface Water Flood Zones and could potentially reduce conveyance and storage			At this stage of design assumed to not be possible for this site	High	Moderate Adverse	Significant
Increased runoff resulting from increase in impermeable area from the new highway. Mitigation will be required to ensure runoff rates are not increased as a result of the scheme, SuDS should be used where appropriate. A Drainage Strategy would be required if this site is taken forward.	watercourse (tributary of the River Avon) and floodplain	Surface water runoff	The Brislington Brook is a tributary of the River Avon, which is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.			At this stage of design assumed to not be possible for this site	High	Major Adverse	Significant
Discharge of pollutants from road runoff; potential impacts on water quality of the watercourse, with implications on Water Framework Directive status. There appears to be at least three watercourses/ditches along the route length, therefore new culverts or watercourse diversions are likely to be required, and thus a WFD assessment may be needed. SUDS should be used to ensure pollutants are managed on site, both during construction and operation. A Drainage Strategy would be required if this site is taken forward.		Water quality / WFD	The Brislington Brook is a tributary of the River Avon is used for recretional fish and boat navigation. The River Avon is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.			At this stage of design assumed to not be possible for this site	High	Moderate Adverse	Significant

### Reference Sources

https://flood-map-for-planning.service.gov.uk/ http://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/9 Bing Maps Google Maps

### Summary Assessment Score

The scheme is considered to have a Highly Significant adverse impact on the water environment (excluding mitigation)

### **Qualitative Comments**

Because the scheme has the potential to increase flood risk to residential and commercial properties, and potentially have impacts on water quality, a more detailed assessment would be required, including a Flood Risk Assessment and potentially hydrological and hydraulic modelling. A WFD assessment is likely to be required given the requirement for watercourse crossings/diversions. Mitigation measures such as SuDS and potentially flood compensatory storage would be required as part of the scheme - these would need to be tested as part of the Flood Risk Assessment and Drainage Strategy.

### TAG Water Environment Impacts Worksheet - Option E - Hicks Gate Junction Improvements - Brown Route

Description of study area/ summary of potential impacts	Key environmental resource	Features	Quality	Scale	Rarity	Substitutability	Importance	Magnitude	Significance
Study area: Hicks Gate Junction Improvement - Brown Route									
Potential Impacts:									
A small proportion of the embankment works on the north-west side of the existing roundabout falls within Flood Zone 2 and 3, and the scheme crosses the Scotland Bottom watercourse (extension of an existing crossing). The majority of the site however is in Flood Zone 1. The RoFSW flood maps indicate limited vortand flow routes across the site. The proposals within these floodplain areas will lead to a potential loss of floodplain storage. Mitigation (such as compensatory floodplain storage areas) may be required to ensure that flood risk upstream and downstream is not increased; such mitigation would need to take into account the impacts of climate change. Works are located in Flood Zone 2 and 3 and require an extension of an existing culvert, thus hydrological and hydraulic modelling and mitigation testing will be required. Other nearby watercourses include the Brislington Brook (2.6km North), the River Avon (4km North East) and the River Chew (approximately 3.1km South).	Scotland Bottom watercourse (tributary of the River Avon) and floodplain	Conveyance of flood flows and floodplain storage	The Proposed scheme crosses Flood Zones 2 and 3, and surface water floodplains, and could potentially reduce conveyance and storage	Local	the floodplain provided by the site is important in helping to reduce flooding to residential and commercial properties. For the reasons stated above the	design assumed to not be possible for this site	High	Major Adverse	Highly Significani
The Scotland Bottom watercourse is crossed by the scheme and will therefore require a culvert extension or watercourse diversion. This would need to ensure conveyance of flows is maintained and floodplain storage is not reduced.		Conveyance of flood flows and floodplain storage	The Proposed scheme crosses Flood Zones 2 and 3, and surface water floodplains, and could potentially reduce conveyance and storage		site is considered	At this stage of design assumed to not be possible for this site	High	Major Adverse	Highly Significan
Increased runoff resulting from increase in impermeable area from the new road embankment. Mitigation will be required to ensure runoff rates are not increased as a result of the scheme, SuDS should be used where appropriate. A Drainage Strategy would be required if this site is taken forward.		Surface water runoff	The River Avon is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.			At this stage of design assumed to not be possible for this site	High	Moderate Adverse	Significant
Discharge of pollutants from road runoff; potential impacts on water quality of the watercourse, with potential implications on Water Framework Directive status. There is a watercourse crossing required, therefore a culvert extension or watercourse diversion is likely to be necessary. A WFD assessment is likely to be needed. SuDS should be used to ensure pollutants are managed on site, both during construction and operation. A Drainage Strategy would be required if this site is taken forward.		Water quality / WFD	The River Avon is used for recreational fish and boat navigation. The River Avon is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.				High	Moderate Adverse	Significant

Reference Sources

https://flood-map-for-planning.service.gov.uk/ http://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/9 Bing Maps Google Maps

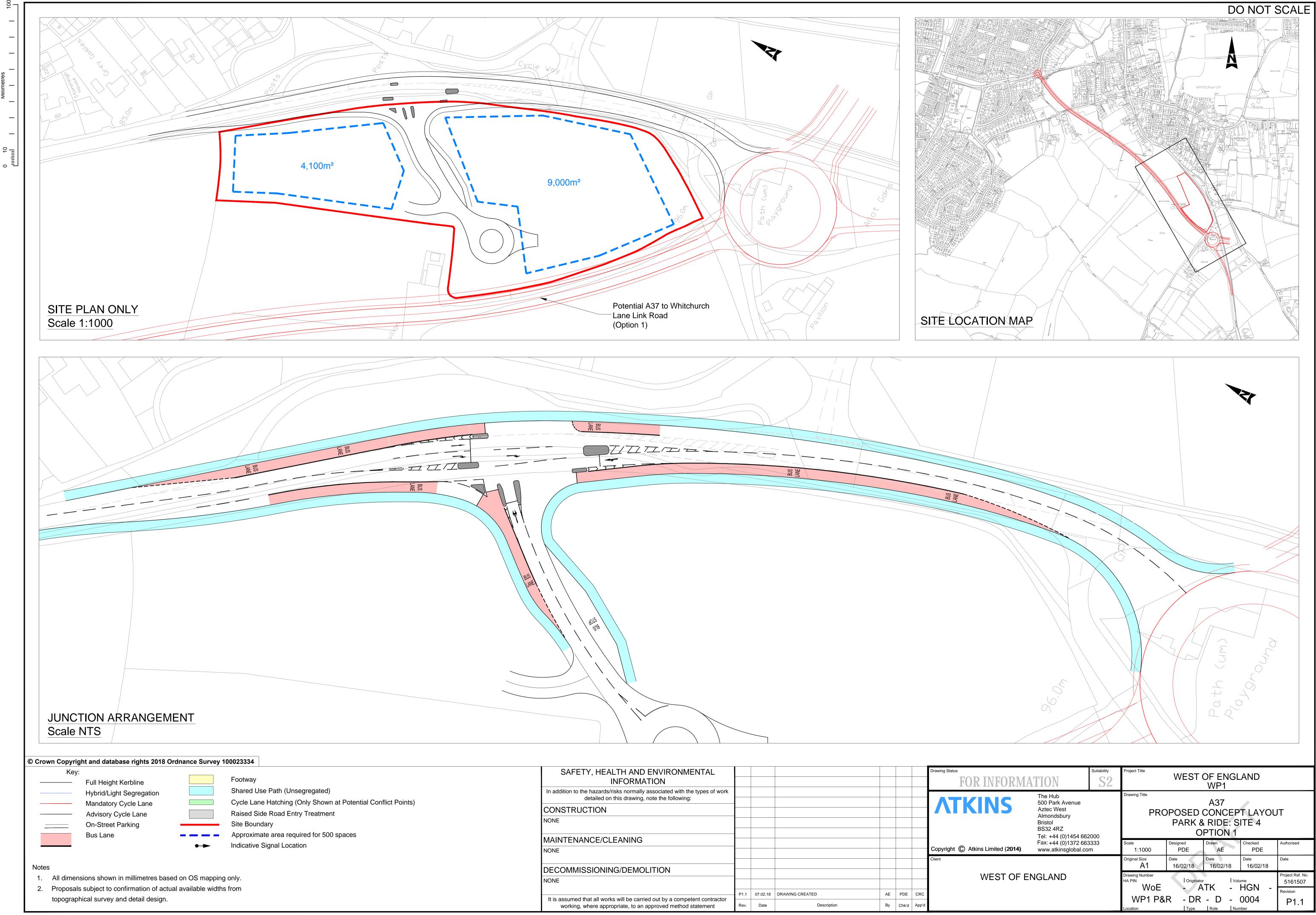
Summary Assessment Score

The scheme is considered to have a Highly Significant adverse impact on the water environment (excluding mitigation)

**Qualitative Comments** 

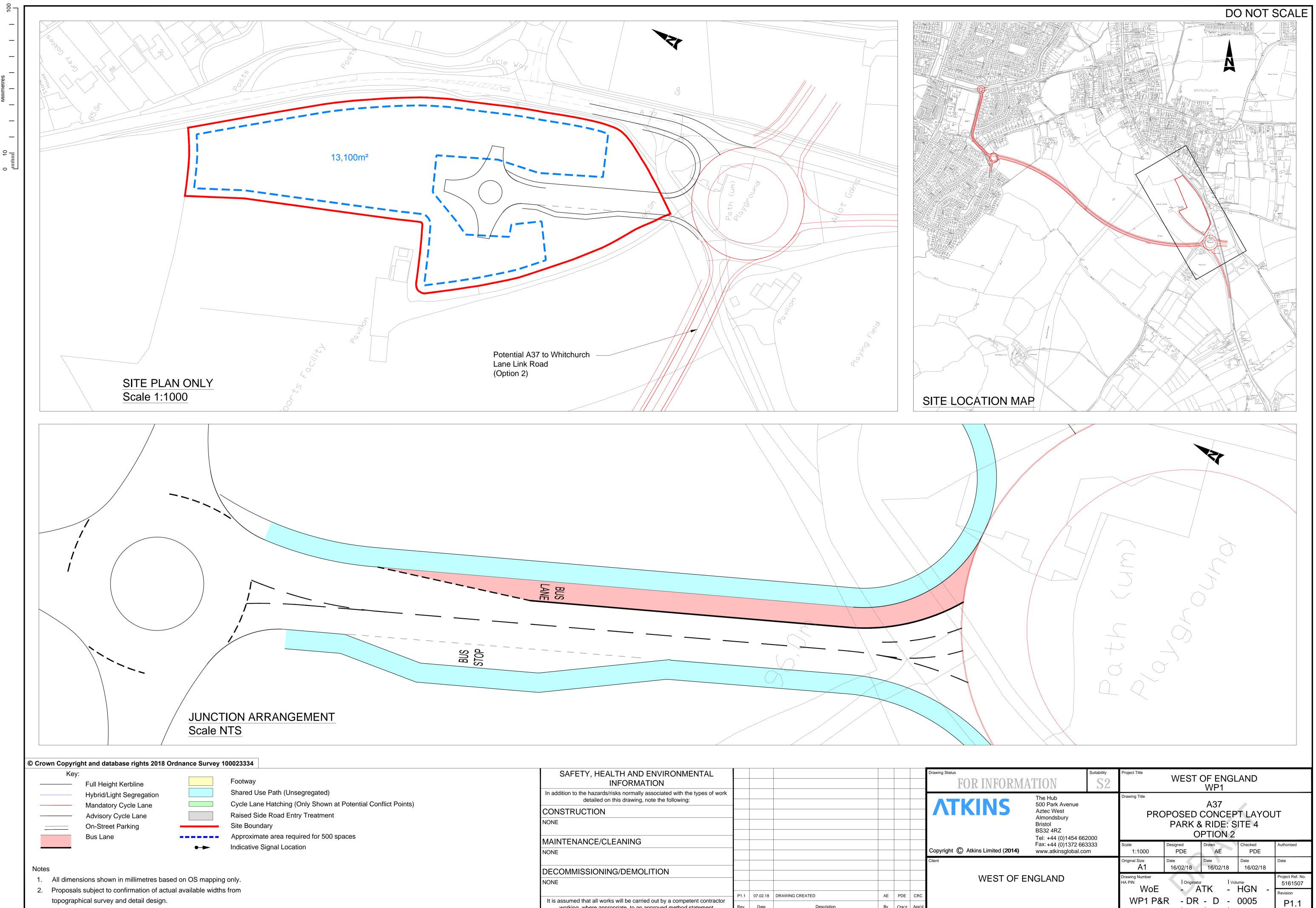
Because the scheme has the potential to increase flood risk to residential and commercial properties, and potentially have impacts on water quality, a more detailed assessment would be required, including a WFD and a Flood Risk Assessment, and hydrological and hydraulic modelling. Mitigation measures such as SuDS and potentially flood compensatory storage would be required as part of the scheme - these would need to be tested as part of the Flood Risk Assessment and Drainage Strategy. The extended watercourse crossing needs to ensure that conveyance of flows instained and floodplain storage is not reduced.

# Appendix 7.1 Whitchurch P&R concept plans

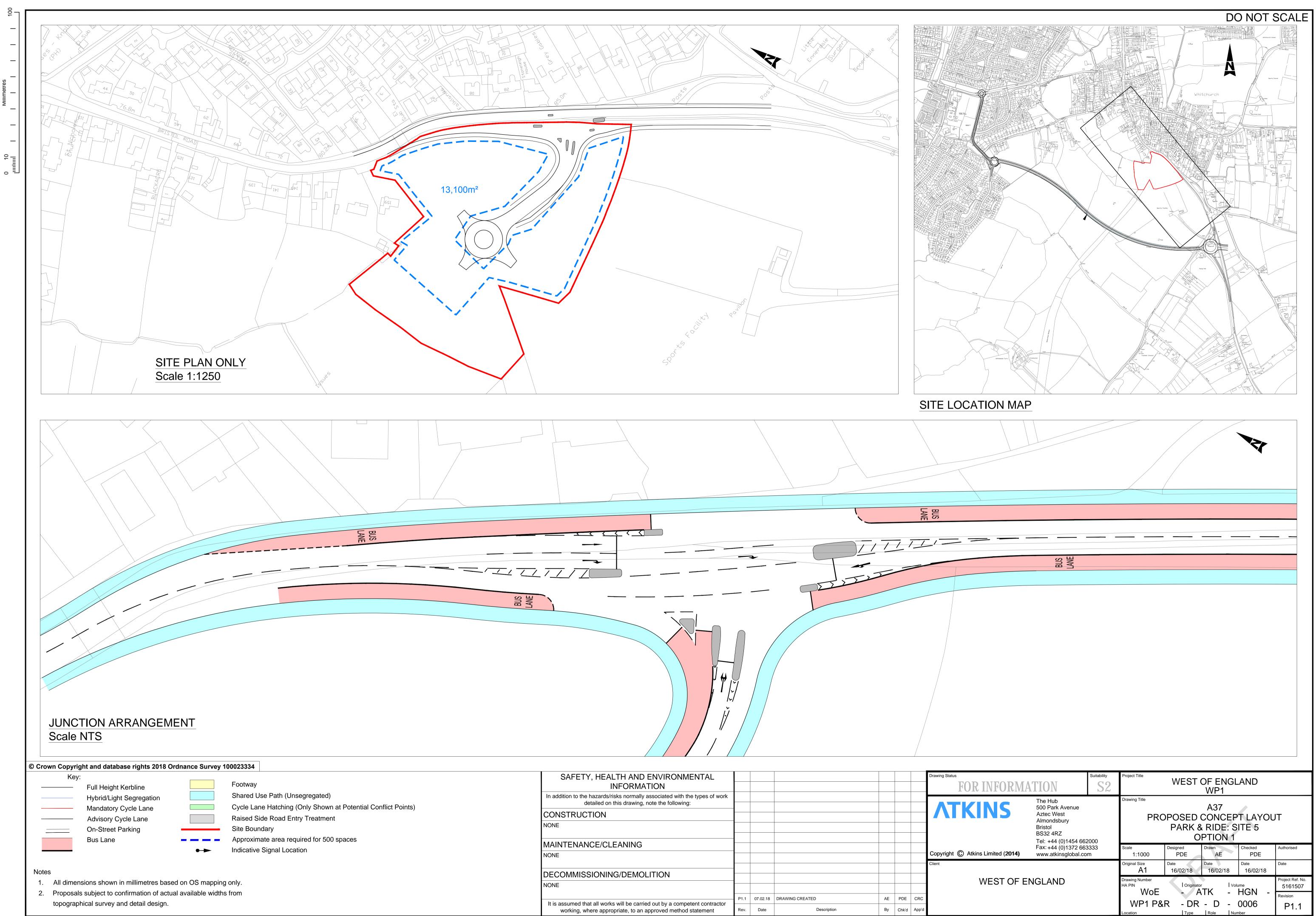


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INFORMATION							FOR INFO
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							ATIZINIC
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NONE							-
MAINTENANCE/CLEANING							
NONE							Copyright C Atkins Limited (2
DECOMMISSIONING/DEMOLITION							Client
NONE	-						WEST
	- P1.1	07.02.18	DRAWING CREATED	AE	PDE	CRC	1
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	Chk'd	App'd	

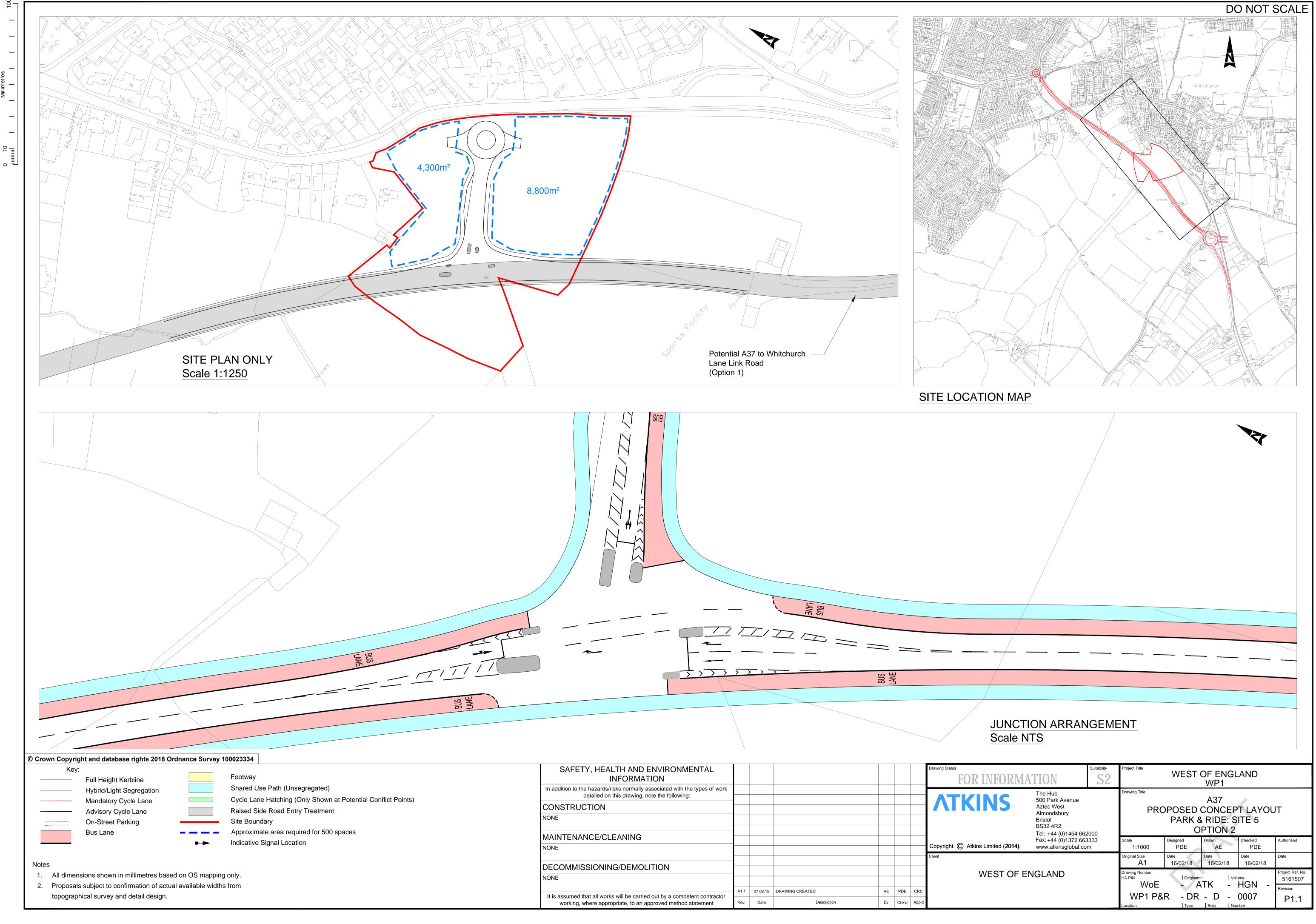
Suitability     Sitability     S2			WEST OF ENGLAND WP1									
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In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:								The Hub 500 Park Avenue		Drawing Title		A37		
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						-		Bristol BS32 4RZ Tel: +44 (0)1454 66	2000			& RIDE: S		
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DECOMMISSIONING/DEMOLITION						Client				Original Size	Date 16/02/18	Date 16/02/18	Date 16/02/18	Date
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It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	P1.1 07.02.18 DRAWING CRE	EATED	AE By	PDE Chk'd	CRC App'd	-				WP1 P8		R - D -		Revision P1.1



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							
CONSTRUCTION							<b>ATKINS</b>
NONE							
MAINTENANCE/CLEANING							
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DECOMMISSIONING/DEMOLITION							Client WEST C
	P1.1	07.02.18	DRAWING CREATED	AE	PDE	CRC	
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	Chk'd	App'd	



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							Drawing Status
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:							ATVINC
CONSTRUCTION	]						<b>ATKINS</b>
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DECOMMISSIONING/DEMOLITION							Client
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It is assumed that all works will be carried out by a competent contractor	P1.1	07.02.18	DRAWING CREATED	AE	PDE	CRC	
working, where appropriate, to an approved method statement	Rev.	Date	Description	Ву	Chk'd	App'd	

Appendix 7.2 Environmental Assessment worksheets: A37 schemes

# SE Bristol and Whitchurch Options Assessment Report - Environmental Worksheets Work Package 1 (SE Bristol and Whitchurch)

# Contents

This workbook provides WebTAG worksheets, and proformas consistent with WebTAG principles for the following scheme options:						
Enhanced bus service on the A37	Option J. No assessments undertaken as scheme involves no infrastructure change.					
Whitchurch P&R	Site 4 (Option K1)					
Whitchurch P&R	Site 5 (Option K2)					

Scheme option worksheets are grouped by environmental impact:

Section 1	Noise (NO)				
Section 2	Air Quality (AQ)				
Section 3	Landscape (LA)				
Section 4	Townscape (TO)				
Section 5	Historic Environment (HE)				
Section 6	Biodiversity (BI)				
Section 7	Water Environment (WE)				

# NOISE ASSESSMENT - Option K1&2 - Whitchurch P&R

	• How many households will be affected by the scheme?	
Option	Could the scheme lead to a change in traffic flow >25% or change in average speeds >10kph?	Assessment
Option K1 (Site 4)	There are no noise important areas within 200m of the proposed park and ride, although there are 10 noise important areas located on roads anticipated to experience a decrease in road traffic flow volume due to model shifts induced by the scheme.	Likely Neutral
	There ~76 noise sensitive receptors within 200m of the proposed site, and could be exposed to an increase in noise directly from the scheme. Additionally, noise from the park and ride itself would likely be sufficiently different in nature to be notable at the very nearest NSRs.	
	There are just over 23800 noise sensitive receptors located within 200m of roads that may be expected to experience a decrease in road traffic volume due to modal shifts induced by the scheme, including just over 1250 which are located within designated noise important areas, although it is anticipated that these changes in road traffic volume are likely to result in a negligible change in road traffic noise experienced at the majority of these noise sensitive receptors.	
Option K2 (Site 5)	There is 1 noise important area within 200m of the proposed park and ride, and a further 9 noise important areas are located on roads anticipated to experience a decrease in road traffic flow volume due to model shifts induced by the scheme.	Likely Neutral
	There are ~186 noise sensitive receptors within 200m of the proposed site, and could be exposed to an increase in noise directly from the scheme, including 15 which are located within designated noise important areas. Additionally, noise from the park and ride itself would likely be sufficiently different in nature to be notable at the very nearest NSRs.	
	There are just over 23800 noise sensitive receptors located within 200m of roads that may be expected to experience a decrease in road traffic volume due to modal shifts induced by the scheme, including just over 1250 which are located within designated noise important areas, although it is anticipated that these changes in road traffic volume are likely to result in a negligible change in road traffic noise experienced at the majority of these noise sensitive receptors.	

# AIR QUALITY ASSESSMENT - Option K1&2 - Whitchurch P&R

Option	Summary of Key Impacts	Assessment	(see key)
(Site 4)	There are no AQMAs or designated ecological sites within 200 m of the option. There are approximately 75 sensitive properties within 200 m of the site which could be affected by a deterioration in air quality arising from additional traffic emissions. The anticipated reduction of traffic on the roads within 1km of the A37 bus route which would serve the P&R could positively affect up to 23,800 sensitive properties. Overall, there may be neutral impact on NO2 and PM10 depending on the magnitude of changes in traffic flow.		5
(Site 5)	No AQMAs or designated ecological sites within 200 m of the option. There are approximately 185 sensitive properties within 200 m which could be affected which could be affected by a deterioration in air quality arising from additional traffic emissions. The anticipated reduction of traffic induced on the roads within 1km of the A37 bus route which would serve the P&R could positively affect up to 23,800 sensitive properties. Overall, there may be neutral impact on NO2 and PM10 depending on the magnitude of changes in traffic flow.		4

	PCM links and/or
	AQMA/designated sites with
	increases and overall likely
1	negative outcome
	PCM links and/or
	AQMA/designated sites with
	increases and overall likely
	neutral outcome OR overall likely
2	negative outcome
	PCM links and/or
	AQMA/designated sites or > 100
	properties with deterioration but
	overall likely neutral/ positive
3	outcome
	No PCM, AQMA or designated
	sites with increases, >100
	properties with deterioration but
	overall likely neutral/beneficial
4	outcome
	No PCM, AQMA or designated
	sites or <100 properties with
	increases, and overall likely
5	neutral/beneficial outcome

		0.1.1			0.1.15	
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Impact
attern	A rolling open landscape with medium scale irregular shaped pastral fields, bounded by bridgerows & trees. Low ridge to the S & E forms the backbone to the landscape with slope adown to the Avon Valley and Stockwood Vale.	Local - features are valued at the local level.	Pattern of landscape common at a local level.	Medium at the local level - the pattern of the landscape is commonplace but also a key component of the character of this landscape type.	Opportunity for substitution, with consideration of design & allowance of mitigation for any loss of features and disturbance of pattern.	The proposed PAR scheme, W of A37 & S of Whithurch, vould involve utilisation of pastoral land adjoined to the Britstol Barbarians Rugby Cub to the S. Cub to the S. State of the landscape and landform within the adjoent vicinity. Judged on the scale of the impacts through minor modification of field pattern, the impacts would be considered to be neutral-slight adverse.
ranquillity	Due to the proximity to uchers settlements and the presence of the XST basicing through Whithburch A. Stockwood, the tranquility is relatively low within this landcape. Away from here settlements, the wider rural landcape is more tranquil. despite being near urban centres. Users of recreational routes (PKoWs, Three Peaks Walk Traial A Mational Cycle Rote 3) experience limited tranquility in the vicinity of these transport corridors and urban areas. Anower the sense of tranquility & isolation increases away from these areas further S.	Local - transpillity is valued at the local level.	Rana at a local level due to busy transport corridors & urban centres.	High at the local level - valued due to the diminishing rund landcage away from urban centres & busy transport corridors.	Limited opportunity for substitution, but consideration of design at mitgation features could at mitgation features could at generation of greater tranquility.	The proposed scheme is located in an area which has mind level of stranguilty, Low levels of tranguilty would be evident mainly to road users & leatures on the edge of large settlements such as Stockwood & Whithourch, nicularing the Rupy Club, Cricket Club. Users of the PRoVIs & Trails which pass close to the urban areas & AS. PROVI's & Industries of the PROVIs A. Trails which pass close to the properties within the rural context experience withan areas & AS. PROVI's & Industries appeared in the rural context experience would appeared in the rural context experience would appeared in the rural context experience and the scheme. The impact on tranguility is judged to be slight adverse.
Sultural	The main settlemente of Stockwood & Whitehut ho the Vi & Wrapscelowick dominate the array, with more isolated farms & clusters of devellings interspensed between them, HoseWorld is within the study area on the edge of Whitchurch/Stockwood. There are develgend historical features within fum. There are develgend historical features within fum. There are develgend historical features within 50% of the Local, regional & Attorian derecentional cross are also scheme & National Cycle Roste 9 passing adjacent to the E of the scheme along the AS7 then Steep Lanes. Three E of the scheme along the AS7 then Steep Lanes. Three Club & Whitehul Cardien Centre are within 50% & Bristol Barbarians Rudy Club adjoining the southerm edge of the scheme.	Settlemente & transport contritors issued a tragional level. SM valued antanional level. Recreational routes valued at regional & tocal level.	Abdom sattemente & transport contidors not rare at all levels. No fare at local & national level Regional recreational routes not rare at local or regional level. PRoVis common at all levels.	Medium importance of settlements & designated features at all levels. Medium importance of recreational routes.	SM not substitutable. Limited opportunity for substitution of features associated with modern settlements & recreational routes.	Due to the relatively localized sector of the scheme, impacts on cultural features will be limited. Main settlements, isolated properties, farmstaded and associated recreational facilities are within Kim of the scheme, score of which dividing values of the scheme, score of which dividing values of the scheme, score of which AST will experience scheme in the scheme, score of which a scheme the scheme, score of the scheme, score of Recreational routes within 500m may experience scheme innor degradation in visual quality. Journer visual connectivity with other due to the productly to the scheme. The impact on cultural features is judged to be neutral-slight adverse.
andcover	Outside the urban areas, landcover comprises medium scale, irregular shaped fields of mainly pastoral farmland. Fields are bounded by clipped or vergrown hedgerows. The LCA is largely unwooded with some tree belts to field boundaries.	Local - landcover is valued at the local level.	Pastoral fields, hedgerows, woodland & linear tree belts common at all levels.	Features & elements such as fields, trees & hedgerows, of medium - high importance within the local landscape.	Opportunity for substitution with incorporation of mitigation planting.	The proposed scheme would result in a loss of pastoral agricultural land, including loss of trees & hedgerows. When judged on the scale of the scheme and quantity of features effected, the impact on landcover is judged to be slight adverse.
lummary of haracter	Landscape in this area is designated as Greenbelt by Braids City-Council & South Gloucesterhine Council. & South Gloucesterhine Council. A medianeed by busy transport corriforts, adjacent urban areas & outlying farms & small settements. In the settement is of median reading with marking patteral fields bounded by hedgeroxe and trees of varying quality. Tree & Anderge provide screening to settlements & transport routes which help to contain the urban edge influence, allowing transpil costella to remain in the rural areas separating the settlements.	Some textures valued at national level. Landscape elements valued at mainty local level.	Some features, e.g. designated sites, are rare at national, regional & local level. Many landscape factures a re commonplace at all levels.	Designated sites are of high importance at national, regional & local level. Many landscape elements are of medium importance at the local level.	Designated sites are not substitutable at wrijkent. Some opportunity for substitution of features associated with modern settlements & recreational routes, neutralitation of landscape elements, e.g. trees, inner woodland & grassiand, & ere creation of appropriate landforms.	screening & recreating severed or lost linear elements, would on have appreciable benefits for up to 15 years. Not up to 15 years. Not up to 15 years would be limited, however the schemer would be seven in occritest with the existing road network & other urban influences in close proximity to the scheme. The impacts of the scheme on completion are judged to be slight adverse.
						judged to be neutral-slight adverse
teference Source						
ANEO L da	haracter Assessment Landscape Character Assessment (2014)					
arite's Landscape Cr iouth Gloucestershire latural England Ordnance Survey Map erial Mapping tagic - Geographical justrans						

# TAG Landscape Impacts Worksheet - Option K1 - Whitchurch P&R (Site 4)

Cualitative Comments
A 2km offset from the scheme boundary has been prescribed for the study area within this local character area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this.
The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal mitigation strategy and to enable the comparison of the impacts of the scheme as a result of its physical presence in the landscape.

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	Step 2		Ste		<b>0</b> 1 - 10 - 10 10	Step 4
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Impact
Pattern	A rolling open landscape with medium scale irregular shaped pastral fields, bounded by headrows & trees. Low ridge to the S & E forms the backbone to the landscape with slopes down to the Avon Valley and Stockwood Vale.	Local - features are valued at the local level.	Pattern of landscape common at a local level.	Medium at the local level - the pattern of the landscape is commonplace but also a key component of the character of this landscape type.	Opportunity for substitution, with consideration of design & allowance of mitigation for any loss of features and disturbance of pattern.	The proposed PAR scheme, W of A37 & S of Whichurch, would involve utilisation of pastral land and adjoins residential housing at the southern edge of Whichurch. The scheme would slightly alter the local pattern of the landscape and landform within the adjoent vicinity. Judged on the scale of the impacts through minor modification of field pattern, the impacts would be considered to be neutral - slight adverse.
Tranquillity	Due to the proximity to urban settlements and the presence of the A37 base/citig through Whachurch & Stondardsock, the resulting is relatively to writhin the stondardsock, the resulting is relatively to writhin the Away from these settlements, the vider rural landscape is more trancial, despite being near urban centers. Users of recreational routes (PRoVs, Three Peak Walk Tranal & Nationa Cycle Rote 3) experience limited tranquility in the vicinity of these transport controlors and urban areas, however the sense of tranquility & solation increases away from these areas further S.	Local - tranquility is valued at the local level.	Rare at a local level due to busy transport corridors & urban centres.	High at the local level - valued due to the diminishing rural landscape away from ubare centre & busy transport corridors.	Limited opportunity for subsitution, but consideration of design & mitgation features could on features could utility.	The proposed scheme is located in an area which has mixed levels of tranquility. Low too more than the provided of the provided of the read users & factorisms on the edge of large settlements such as Stockwood & Whichurch, nicularig the Rugby Club, Cricket Cuth. Users of the PRoWs & Trails which pass close to the properties within the rural context experience uthan areas & AS-7 PROW's & Isolated properties within the rural context experience would area the scheme. The impact on tranquility is judged to be slight adverse.
Cultural	The main settlements of Stockwood & Whichturch to the N & Wrespectively, dominate the array with more isolated farms & clusters of dwellings interspensed between them. Properties to the southern edge of Whitchurch adjoin the site to the N. HorseWorld is within the study area on the edge of Whitchurch/Stockwood. There are designed thistorical features within 1km, including 1 SM (Mees Knoll Camp) located 1ms SW of the Local, regords A standmart encertaintor Torus are also to the area, with 2. PRoWs passing within 500m of the scheme & National Cycle Route 3 passing close to the SI of the scheme along the A37 then Sleep Lane & Three Paels Walk then SW. Other recreational facilities such as Whitchurch Cricket Club, Bristol Bartisman Rudy Club. & Whitehall Garden Centre are within S00m of the scheme.	Settlements & transport contridors valued at regional level. SN valued at racional level. Recreational routes valued at regional & local level.	Moders settlements & transport corridors not rare at all levels. SM rare at local & national level. Regional recreational routes not rare at local or regional level. PRoWs common at all levels.	Medium importance of settlements & designated features at all levels. Medium importance of recreational routes.	SM not substitutable. Limited opportunity for substitution of features associated with modern settlements & recreational routes.	Due to the relatively localized extent of the scheme, impacts on cultural features will be limited. Main settlements, isolated properties, tarmsteads and associated recreational facilities are within K and of the scheme, score of which directly adjacent, particularly properties to the scheme adjoins & properties along AS7 will Recreational cultures within 500m may experience some minor degradation in visual quality. There is some visual connectivity with other ultural features auch as Maes Knoll Camp SM & impacts on its setting are likely to be minor due to the proteinity to the scheme. The impact on cultural features is judged to be neutral-slight adverse.
Landcover	Dublid the unitera sense. Indextower comprises medium results insighter about fields of more particular the results are bounded by clipped or overgrown hedgerows. The LCA is largely unwooded with some tree belts to field boundaries.	Local - landcover is valued at the local level.	Pastoral fields, hedgerows, woodland & linear tree belts common at all levels.	Features & elements such as fields, trees & hedgerows, of medium - high importance within the local landscape.	Opportunity for substitution with incorporation of mitigation planting.	The proposed scheme would result in is bace of parkord agricultural land, including loss of the & hedgrows. Jurnal and including loss of the dynamic scheme and quantity of features effected, the impact on landcover is judged to be slight adverse.
Summary of character	Landscape in this are is designated as Creambelt by Bristic Dity Common BAMES Council & South Cloucestesthine Council. A medium scale indicace influenced by busy transport corridors, adjacent urban areas & outlying farms & small settiments. The runt character is of medium scales, with mainly parally. The & hadges provide screening to settlements & influence, allowing transpl pockets to remain in the rural areas separating the settlements.	Some feetures valued at mational level. Landscape elements valued at mainly local level.	Some features, eg designated aites, are are an antonol, regional à local Many landscape de tautres are commonplace at al levels.	Designated aites are of high impedient at national, regional & Many landcage elements are of medium importance at the local level.	Designated lites are not destinutate in the substitution of enture associated with modern settlements & recreational routes. Some opportunity for substitution of landscape elements, eg trees, linear woodland & grassland, & re- creation of appropriate landforms.	The proposals are medium in reasels with alteration pattern of landscape 4 kmg d interaction pattern of landscape 4 kmg d integrated pattern of landscape 4 kmg d Minor impacts anticipated on any designated cites Winor impacts anticipated on regionally designated Creentscher Statistics thill al mitigation would consist of careful design attrast or are viscanters. Mitigation planting for screening 4 for recreating severed or loss lines dements, would on how appreciable benefits for op to 15 years. Owenin, anticipated a neurol would be limited with the existing road network 6 scher urban inducences in close proximity to the scheme. The impacts of the scheme on completion are updget to be alight adverse. With mitigation planting dater 15 years impacts updget to be neutral-slight adverse
					•	
Reference Source	s	•				
Natural England Ordnance Survey Map Aerial Mapping Magic - Geographical Sustrans	ranacter Assessment Landscape Character Assessment (2014) oping mapping					
B&NES Landscape C South Gloucestershire Natural England Ordnance Survey Map Aerial Mapping Magic - Geographical Sustrans	- aracter Assessment Landscape Character Assessment (2014) pping					
38NES Landscape C South Gloucestershire Vatural England Ordnance Survey Mag Verial Mapping Magic - Geographical Sustrans Step 5 - Summary Slight adverse on corr	varacter Assessment Landscipp Character Assessment (2014) pring mapping Assessment Score					

# TAG Landscape Impacts Worksheet - Option K2 - Whitchurch P&R (Site 5)

A 2em offset from the scheme boundary has been prescribed for the study area within this local character area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this. The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal mitigation strategy and to enable the comparison of the impacts of the scheme as a result of its physical presence in the indicacepe.

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# TAG Townscape Impacts Worksheet - Option K1 - Whitchurch P&R (Site 4)

ti c avout S	Description The townscape within the study area is characterised as being suburban located on edge of Bristol city bordering	Scale it matters	Rarity	Importance	Substitutability	Changes in Without- scheme case	Impact
ti c avout s	The townscape within the study area is characterised as being suburban located on edge of Bristol city bordering	Lesel					
H t	the rural context. The area is influenced by the busy A37 contidor with minor roads convecting surrounding settlements. The area is dominated by residential use with some retail, industry & commercial areas towards Hengrove. Settlements include Stockwood & Whitchurch to the N & W respectively interspersed with isolated properties & farmsteads.	LOCAI	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to layout, e.g.	It is not anticipated that there would be any notab impacts on the layout as a result of the scheme due to its proximity from townscape features, therefore the affect is judged to be neutral.
e	Density is of low - medium scale within a suburban & rural edge context comprising mainly residential housing linked with cad networks intermixed with some retail, industry and commercial use.	Local	Common at the local level	Medium at the local level	Some opportunity for substitution	Medium potential for change e.g. in areas of regeneration, brownfield sites & urban fringe areas & alteration to mix of urban elements.	Density & mix will increase slightly with the introduction of a new visually intrusive urban element to the edge of Whitchurch. It is anticipated that there would be visual disturbance on properties SE of Whitchurch, therefore the affect is judged to be slight adverse
3	Buit elements are manihy of a domestic scale, generally t - 3 storey including residential properties with some areas retail & industry use .	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notab impacts on the scale as a result of the scheme due to its proximity from townscape features, therefore the affect is judged to be neutral.
c	The housing is a mixture of ages with modern, private, commercial offices & retail buildings. Some leatures/buildings retain historical associations which add to the local distinctiveness of the area.	Local	Common at the local level	Medium at a local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the appearance of the townscape as a result of the scheme due to its proximity from townscape features, therefore the affect is judged to be neutral.
c	The primary human interaction is focused around domestic use such as schools, shops, pubs, churches, community facilities etc. with some retail & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change as a result of land use, density & mix & layout.	It is not anticipated that there would be any notab impacts on human interaction as a result of the scheme due to its proximity from townscape features, therefore the affect is judged to be neutral.
v c H V Cultural ii S C C C C C C C C C C C C C C C C C	with some more modern features interspersed with areas of historical interest including Listed Buildings & traditional houses within Whitchurch village N of the scheme. HorseWorld is within the study area on the edge of Whitchurch/Stockwood. There are designated historical features within 1 km,	Settlements & transport corridors valued at regional level. SM's & Listed Buildings valued at national level.	Rare at local level	Medium at local level Medium at Regional & National level	Limited opportunity for substitution	Low potential for change due to limited opportunity for substitution.	It is anticipated that there would be visual disturbance on the setting of some cultural features to the edge of Whichurch as a result of the introduction of a new visually intrusive urban element SE of Whichurch, therefore the affect is judged to be neutral - slight adverse.
L r	Land use is primarily domestic including residential & recreational with some retail, industry & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to land use.	It is not anticipated that there would be any notab impacts on land use as a result of the scheme du to its proximity from townscape features, therefor the affect is judged to be neutral.
c F C A	on the edge of Bristol transitioning to rural landscape with primarily residential settlements with some historic & cultural associations. These are connected with the busy A37 corridor & network of rural lanes linking smaller	Some features valued at national level. Many townscape elements valued at local level.	Some features, e.g. designated cultural sites, are rare at national, regional & local level. Many townscape features are commonplace at all levels.	Low to medium at local, regional & national level.	Some opportunity for substitution		Mitigation for this scheme would consist of carefu design of layout & implementation of planting to screen the site from nearby urban elements. It is not anticipated that there would be many notable impacts on this lownscape as a result of the scheme due to its distance from urban areas. However, there may be adverse impacts on density & mix & on the settings of cultural features close to the scheme. Impacts are judged to be neutral - slight adverse.
Reference Sources BANES Landscape Char Bouth Gloucestershire Li Drdnance Survey Mappir verial Mapping Magic - Geographical ma tristol City Council	andscape Character Assessment (2014) ing						
Step 5 - Summary A	ssessment Score						
leutral - slight adverse							

A time dise from the scheme boundary has been prescribed for the study area within this townscape area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this. The assessment considers the scheme design and alignment and considers the impacts of the scheme design and alignment and considers the impacts of the scheme as a result of its physical presence in the townscape.

# TAG Townscape Impacts Worksheet - Option K2 - Whitchurch P&R (Site 5)

	Step 2			Step 3			Step 4
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Changes in Without- scheme case	Impact
Layout	The townscape within the study area is characterised as being suburban located on edge of Bristol city bordering the rural context. The area is influenced by the busy A37 corridor with minor roads connecting surrounding settlements. The area is dominated by residential use with some retail, industry & commercial areas towards Hengrove. Settlements include Stockwood & Whitchurch to the N & W respectively interspersed with isolated properties & farmsteads.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to layout, e.g., introduction of new housing developments & other urban elements such as retail/industrial units.	It is not anticipated that there would be any notable impacts on the layout as a result of the scheme due to its distance from townscape features, therefore the impact is judged to be neutral.
Density and mix	Density is of low - medium scale within a suburban & rural edge context comprising mainly residential housing linked with cad networks intermixed with some retail, industry and commercial use.	Local	Common at the local level	Medium at the local level	Some opportunity for substitution	Medium potential for change e.g. in areas of regeneration, brownfield sites & urban fringe areas & alteration to mix of urban elements.	Density & mix will increase slightly with the introduction of a new visually intrusive urban element to the edge of Whitchurch. It is anticipated that there would be visual disturbance on properties SE of Whitchurch, therefore the impact is judged to be slight adverse.
Scale	Built elements are mainly of a domestic scale, generally 1- 3 storey including residential properties with some areas retail & industry use .	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the scale as a result of the scheme due to its distance from townscape features, therefore the impact is judged to be neutral.
Appearance	The housing is a mixture of ages with modern, private, commercial offices & retail buildings. Some features/buildings retain historical associations which add to the local distinctiveness of the area.	Local	Common at the local level	Medium at a local level	Some opportunity for substitution	Medium potential for change to built environment.	It is not anticipated that there would be any notable impacts on the appearance of the townscape as a result of the scheme due to its distance from townscape features, therefore the impact is judged to be neutral.
Human interaction	The primary human interaction is focused around domestic use such as schools, shops, pubs, churches, community facilities etc. with some retail & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change as a result of land use, density & mix & layout.	It is not anticipated that there would be any notable impacts on human interaction as a result of the scheme due to its distance from fownscape features, therefore the impact is judged to be neutral.
Cultural	There is a mix of council housing & post war development with some more modern features interspersed with areas of historical interest including Listed Buildings & traditional houses within Whitchurch village N of the scheme. HorseWorld is within the study area on the edge of Whitchurch/Stockwood. There are designated historical features within 1km, including 1 SM (Maes Knoll Camp) located 1km SW of the scheme. Other recreational facilities such as Whitchurch Cricket Club, Bristol Barbanars Rugby Club & Whitehall Garden Centre are within 500m of the scheme.	Settlements & transport corridors valued at regional level. SM's & Listed Buildings valued at national level.	Rare at local level	Medium at local level Medium at Regional & National level	Limited opportunity for substitution	Low potential for change due to limited opportunity for substitution.	It is anticipated that there would be visual disturbance on the setting of some cultural features to the edge of Whichurch as a result of the introduction of a new visually intrusive urban element SE of Whichurch, therefore the impact is judged to be neutral - slight adverse.
Land use	Land use is primarily domestic including residential & recreational with some retail, industry & commercial use.	Local	Common at the local level	Low at the local level	Some opportunity for substitution	Medium potential for change to land use.	It is not anticipated that there would be any notable impacts on land use as a result of the scheme due to its distance from townscape features, therefore the impact is judged to be neutral.
Summary of character	The study area is characterised as a suburban townscape on the edge of Bristol transitioning to rural landscape with primarily residential settlements with some historic & cultural associations. These are connected with the busy A37 corridor & network of rural lanes linking smaller settlements & tarmsteads.	Some features valued at national level. Many townscape elements valued at local level.	Some features, e.g. designated cultural sites, are rare at national, regional & local level. Many townscape features are commonplace at all levels.	Low to medium at local, regional & national level.	Some opportunity for substitution	Low-medium potential for change as a result of other influences.	Mitigation for this scheme would consist of careful design of layout & implementation of planning to screen the site from nearby urban elements. It is not anticipated that three would be many notable impacts on this townscape as a result of the scheme due to its distance from urban areas. However, there may be adverse impacts on density & mix & on the settings of cultural features close to the scheme. Impacts are judged to be neutral - slight adverse.
Reference Sources			1	1	1	I	
Ordnance Survey Mapp Aerial Mapping Magic - Geographical n Bristol City Council	Landscape Character Assessment (2014) ing						

Step 5 - Summary Assessment Score Neutral - slight adverse

Cualitative Comments
A 1km offset from the scheme boundary has been prescribed for the study area within this townscape area of which baseline assessment only has been conducted due to the early stages of this design & optioneering stage. It is considered that significant effects are unlikely beyond this.
The assessment considers the scheme design and alignment and considers the impacts as at year one of opening. This approach has been undertaken due to the absence of a formal mitigation strategy and to enable the comparison of the impacts of the scheme as a result of its physical presence in the townscape.

### TAG Biodiversity Impacts Worksheet - Option K1 - Whitchurch P&R (Site 4)

Step 2		Ste		Step 4	Step 5		
Area	Description of feature/ attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment Score
Sturminster Road SNCI (approximately 110m north)	Woodland, scrub, tall ruderal vegetation, grassland & stream, with associated marginal vegetation	Regional	Medium- site designated at local level for nature conservation	N/A		Neutral	Neutral
Stockwood Open Space LNR SNCI (approximately 200m north)	Mature grassland and unploughed meadows on lime-rich clay soils.	Regional	Medium- site designated at local level for nature conservation	N/A	Medium- site designated at local level for nature conservation	Neutral	Neutral
Charlton Bottom and Queen Charlton watercourse SNCI (approximately 400m north west)	Running water (streams), with associated marginal habitats, semi-natural broadleaved woodland and scrub.	Regional	Medium- site designated at local level for nature conservation	N/A	Medium- site designated at local level for nature conservation	Neutral	Neutral
Mells Valley SAC (approximately 9.8km south east).	Sites known for Greater horseshoe bat populations, cave networks.	International	Very high- internationally designated site	N/A	Very high- internationally designated site	Neutral	Neutral
Bath and Bradford on Avon Bats SAC (approximately 14km east).	Sites known for Greater horseshoe, Lesser horseshoe and Bechstein's bat roost populations	International	internationally designated site	N/A	internationally designated site	Neutral	Neutral
Wye Valley and forest of Dean Bat Sites SAC (29km south east).	Sites known for lesser horseshoe and greater horseshoe bat populations	International	Very high- internationally designated site	N/A	Very high- internationally designated site	Neutral	Neutral
North Somerset and Mendip Bats SAC (approximately 11km south west)	Sites known for Lesser horseshoe and greater horseshoe bat populations	International	Very high- internationally designated site	N/A	Very high- internationally designated site	Neutral	Neutral

Habitats present that could be lost include arable farmland, hedgerow, grassland, scrub habitats and ponds could result in loss of areas potentially suitable for associated protected species.

### Reference Sources

Magic Maps - http://www.magic.gov.uk/MagicMap.aspx, http://map.n-somerset.gov.uk/southglos.html https://isharemaps.bathnes.gov.uk/atmycouncil.aspx

### Summary Assessment Score

Neutral

### **Qualitative Comments**

As a result of this assessment, a neutral assessment score was given to this Scheme as all features assessed were found to have neutral assessment scores.

# TAG Biodiversity Impacts Worksheet - Option K2 - Whitchurch P&R (Site 5)

Step 2	Step 2			ep 3		Step 4	Step 5
Area	Description of feature/ attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment Score
Sturminster Road SNCI (approximately 120m north)	Woodland, scrub, tall ruderal vegetation, grassland & stream, with associated marginal vegetation	Regional	Medium- site designated at local level for nature conservation	N/A	Medium- site designated at local level for nature conservation	Neutral	Neutral
Stockwood Open Space LNR SNCI (approximately 210m north)	Old grassland and unploughed meadows on lime-rich clay soils.	Regional	Medium- site designated at local level for nature conservation	N/A	Medium- site designated at local level for nature conservation	Neutral	Neutral
Charlton Bottom and Queen Charlton Watercourse SNCI (approximately)	Running water (streams), with associated marginal habitats, semi-natural broadleaved woodland and scrub.	Regional	Medium- site designated at local level for nature conservation	N/A	Medium- site designated at local level for nature conservation	Neutral	Neutral
Mells Valley SAC (approximately 9.8km south east)	Sites known for Greater horseshoe bat populations, cave networks.	International	Very high- internationally designated site	N/A	Very high- internationally designated site	Neutral	Neutral
Bath and Bradford on Avon Bats SAC (approximately 14km east)	Sites known for Greater horseshoe, Lesser horseshoe and Bechstein's bat roost populations	International	Very high- internationally designated site	N/A	Very high- internationally designated site	Neutral	Neutral
Wye Valley and Forest of Dean Bat Sites SAC (approximately 29km south east)	Sites known for Lesser horseshoe and Greater horseshoe bat populations	International	Very high- internationally designated site	N/A	Very high- internationally designated site	Neutral	Neutral
North Somerset and Mendip Bats SAC (approximately 11km south west)	Sites known for Lesser horseshoe and Greater horseshoe bat populations	International	Very high- internationally designated site	N/A	Very high- internationally designated site	Neutral	Neutral

Habitats present that could be lost include arable farmland, hedgerow, grassland, scrub habitats and ponds could result in loss of areas potentially suitable for associated protected species.

### Reference Sources

Magic Maps - http://www.magic.gov.uk/MagicMap.aspx, http://map.n-somerset.gov.uk/southglos.html https://isharemaps.bathnes.gov.uk/atmycouncil.aspx

Summary Assessment Score

Neutral

### **Qualitative Comments**

As a result of this assessment, a neutral assessment score was given to this Scheme as all features assessed were found to have neutral assessment scores.

### TAG Historic Environment Impacts Worksheet - Option K1 - Whitchurch P&R (Site 4)

	Step 2		Step 3		Step 4	
Feature	Description	Scale it matters	Significance	Rarity	Impact	
Form	There are 6 listed buildings within an approximate 500m study area surrounding the proposed scheme (1 Grade II* and 5 Grade II) [1365675, 1129498, 1129499, 1136442, 1365674]. The Grade II* building [Church of St Nicholas 1136442] is located just within the northern extent of the study area at the junction of Bristol Road and Church Road. With the exception of a listed milestone which is located to the east of the scheme on Queen Charlotte Lane, the remaining buildings are located to the north of the scheme within Whitchurch. The buildings consist of various forms including a 17th century and an 18th century manor farmhouse, unidentified monuments within a churchyard, an 18th century house with gatepiers, a church of possible early-medieval origin and a milestone.	The Grade II* listed buildings are of high importance, while the Grade II buildings are of medium importance.	buildings of medium value, and one	The form of the listed buildings is not rare locally or regionally, however, the Grade II* church is a good example of a potential early- medieval (12th century) church and is not common in both a local and regional context.	Negligible - there will be no change to the form of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.	
Survival	The level of survival of the listed buildings is generally good. Aside from some alterations, additions and repairs (internally and externally) which represent multiple phases of development and use, the buildings have mainly retained their characteristic elements.	The survival of the listed buildings is a matter of regional to national interest.		The survival of the listed buildings is not rare, while good survival of post-Norman conquest churches is not common.	Negligible - there will be no change to the survival of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.	
Condition	The listed buildings are generally in a good condition. The majority of buildings are in residential use (aside from the church, churchyard monuments and milestone).	The condition of the listed buildings is a matter of regional to national interest.	The condition of the listed buildings is important due to their association with the development of their area.	The condition of the listed buildings is not rare.	Negligible - there will be no change to the condition of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.	
Complexity	The listed buildings are generally of low to moderate complexity, with the church and the manor farmhouses presenting moderate complexity levels due to their alterations which either span across multiple centuries or having now been subdivided.		The complexity of the listed buildings represents some variety in form and function of medieval and post-medieval buildings.	The complexity of the listed buildings is not uncommon, however, the church is a good example of an early-medieval church, which has been subject to change over the centuries, representing moderate complexity.	Negligible - there will be no change to the complexity of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.	
Context	The landscape surrounding the scheme is largely rural to the east, south and west. At its northern point, the scheme connects to a residential development at Whitchurch. The context of the majority of the listed buildings presents a mixture between a sub-urban to semi-rural environment which has been subject to development pressures to the north of the scheme.	The context of the listed buildings is largely valued at a local level. The setting of such assets is also a material consideration under national policy.			Minor Adverse - there is potential for adverse impacts on the setting of designated heritage assets. The assets are likely to have visibility to and from the proposed scheme.	
Period	With the exception of the medieval church, the remaining listed buildings are of post-medieval date.	The post-medieval period is typical within the area and of regional and national interest. The medieval period (represented by the church) is of regional and national interest.		The medieval and post-medieval periods are not rare.	Negligible - there will be no significant change to the periods represented by assets within the scheme study area.	

### Reference Sources

Historic England's The National Heritage List for England (NHLE) database

Step 5 - Summary Assessment Score

This option is likely to have an overall Slight Adverse Effect on Cultural Heritage.

Qualitative Comments

### TAG Historic Environment Impacts Worksheet - Option K2 - Whitchurch P&R (Site 5)

	Step 2		Step 4		
Feature	Description	Scale it matters	Significance	Rarity	Impact
Form		The Grade II* listed building is of high importance, while the Grade II listed buildings are of medium importance.	There are 5 Grade II listed buildings of medium value, and a Grade II* listed building of high value within the study area.	The form of the listed buildings is not rare regionally, however, the Grade II* church is a good example of a potential early-medieval (12th century) church and is not common in both a local and regional context.	Negligible - there will be no change to the form of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Survival	The level of survival of the listed buildings is generally good. Aside from some alterations, additions and repairs (internally and externally) which represent multiple phases of development and use, the buildings have mainly retained their characteristic elements.		The survival of the listed buildings is important in understanding the historic development of the study area.	The survival of the listed buildings is not rare, while good survival of post-Norman conquest churches is not common.	Negligible - there will be no change to the survival of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Condition	The listed buildings are generally in a good condition. The majority of buildings are in residential use (aside from the church, churchyard monuments and milestone).	The condition of the listed buildings is a matter of regional to national interest.	The condition of the listed buildings is important due to their association with the development of their area.	The condition of the listed buildings is not rare.	Negligible - there will be no change to the condition of any of the identified designated heritage assets. No physical impacts or significant adverse setting impacts on designated heritage assets are anticipated.
Complexity	The listed buildings are generally of low to moderate complexity, with the church and the manor farmhouses presenting moderate complexity levels due to their alterations which either span across multiple centuries or having now been subdivided.	The complexity of the listed buildings is a matter of regional to national interest.	The complexity of the listed buildings represents some variety in form and function of medieval and post- medieval buildings.	The complexity of the listed buildings is not uncommon, however, the church is a good example of an early-medieval church, which has been subject to change over the centuries, representing moderate complexity.	Negligible - there will be no change to the complexity of any of the identified designated heritage assets.
Context	The landscape surrounding the scheme is largely rural to the east, south and west. At its northern point, the scheme connects to a residential development at Whitchurch. The context of the majority of the listed buildings presents a mixture between a sub-urban to semi- rural environment which has been subject to development pressures to the north of the scheme.	The context of the listed buildings is largely valued at a local level. The setting of such assets is also a material consideration under national policy.	The context of the listed buildings within the study area reflects the local and wider regional changes in settlement pattern and development.	The context of the listed buildings within the study area is not rare. Even the context of the Grade II ^I listed church is not uncommon on a national level.	Minor Adverse - there is potential for adverse impacts on the setting of designated heritage assets. The assets are likely to have visibility to and from the proposed scheme.
Period	With the exception of the medieval church, the remaining listed buildings are of post-medieval date.	The p post-medieval period is typical within the area and of regional and national interest. The medieval church is of regional to national interest.	The medieval and post-medieval periods are well represented within the wider study area.	The medieval and post-medieval periods are not rare.	Negligible - there will be no significant change to the periods represented by assets within the scheme study area.

### Reference Sources

Historic England's The National Heritage List for England (NHLE) database

Step 5 - Summary Assessment Score

This option is likely to have an overall Slight Adverse Effect on Cultural Heritage.

**Qualitative Comments** 

### TAG Water Environment Impacts Worksheet - Option K1 - Whitchurch P&R (Site 4)

Description of study area/ summary of potential impacts	Key environmental resource	Features	Quality	Scale	Rarity	Substitutability	Importance	Magnitude	Significance
Study area: Whitchurch Park and Ride Site 4									
Potential Impacts:									
The site is in Flood Zone 1. The RoFSW flood maps indicate there are no overland flow routes across the site, but there are floodplains shown approximately 300m north of the site. Mapping indicates there are no watercourses/ditches crossed by the site. However, the design proposals are limited to a dot on a plan so exact boundaries are not available. Other major nearby watercourses include the River Avon (4km North East) and the River Chew (approximately 3.5km South).	Brislington Brook watercourse (tributary of the River Avon) and floodplain	Conveyance of flood flows and floodplain storage	The Proposed scheme is in Flood Zone 1 and is not within any Surface Water floodplain.	provided by the site is important in helping to reduce flooding to commercial properties. For the reasons	At this stage of design assumed to not be possible for this site	High	Minor Adverse	Low Significanc	
There do not appear to be any watercourses/ditches within the site boundary therefore new culverts or watercourse diversions are not considered necessary as part of the Scheme. If required these would need to ensure conveyance of flows is maintained and floodplain storage is not reduced.		Conveyance of flood flows and floodplain storage	The Proposed scheme is in Flood Zone 1 and is not within any Surface Water floodplain.		At this stage of design assumed to not be possible for this site	High	Minor Adverse	Low Significance	
Increased runoff resulting from increase in impermeable area from Park and Ride. Mitigation will be required to ensure runoff rates are not increased as a result of the scheme, SuDS should be used where appropriate. A Drainage Strategy would be required if this site is taken forward.		Surface water runoff	The River Avon is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.		considered to have a high	At this stage of design assumed to not be possible for this site	Medium	Major Adverse	Significant
Discharge of pollutants from road / parking runoff; potential impacts on water quality of the watercourse, with potential implications on Water Framework Directive status. SuDS should be used to ensure pollutants are managed on site, both during construction and operation. A Drainage Strategy would be required if this site is taken forward.		Water quality / WFD	The River Avon is used for recreational fish and boat navigation. The River Avon is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.				Medium	Moderate Adverse	Low Significance

### Reference Sources

https://flood-map-for-planning.service.gov.uk/ http://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/9 Bing Maps Google Maps

### Summary Assessment Score

The scheme is considered to have a Significant adverse impact on the water environment (excluding mitigation)

### **Qualitative Comments**

Because the scheme has the potential to increase flood risk to residential and commercial properties, and potentially have impacts on water quality, a more detailed assessment would be required, including a Flood Risk Assessment and potentially hydrological and hydraulic modelling. Mitigation measures such as SuDS would be required as part of the scheme - these would need to be tested as part of the Flood Risk Assessment and Drainage Strategy.

### TAG Water Environment Impacts Worksheet - Option K2 - Whitchurch P&R (Site 5)

Description of study area/ summary of potential impacts	Key environmental resource	Features	Quality	Scale	Rarity	Substitutability	Importance	Magnitude	Significance
Study area: Whitchurch Park and Ride Site 5									
Potential Impacts:									
The site is in Flood Zone 1. The RoFSW flood maps and OS mapping indicate the scheme crosses a small watercourse/ditch, which has floodplains associated with it. However, the design proposals are limited to a dot on a plan so exact boundaries are not available. Dependent on the proposals within these floodplain areas there is a potential for a loss of floodplain storage. Mitigation (such as compensatory floodplain storage areas) measures may be required to ensure that flood risk upstream and downstream is not increased; such mitigation would need to take into account the impacts of climate change. Other major nearby watercourses include the River Avon (4km North East) and the River Chew (approximately 3.5km South).	_	Conveyance of flood flows and floodplain storage	The Proposed scheme is in Flood Zone 1 but crosses Surface Water floodplains and could potentially reduce conveyance and storage	the floodp provided H site is imp in helping reduce flo to comme properties For the re	the floodplain provided by the	At this stage of design assumed to not be possible for this site	High		Highly Significant
It appears that new culverts or watercourse diversions are likely to be necessary as part of the Scheme. If required these would need to ensure conveyance of flows is maintained and floodplain storage is not reduced.		flood flows and	The Proposed scheme is in Flood Zone 1 but crosses Surface Water floodplains and could potentially reduce conveyance and storage		to commercial properties. For the reasons stated above the site is	design assumed sons to not be	High	Moderate Adverse	Significant
Increased runoff resulting from increase in impermeable area from Park and Ride. Mitigation will be required to ensure runoff rates are not increased as a result of the scheme, SuDS should be used where appropriate. A Drainage Strategy would be required if this site is taken forward.	River Avon) and	Surface water runoff	The River Avon is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.		considered to have a high rarity.	At this stage of design assumed to not be possible for this site	Medium	Major Adverse	Significant
Discharge of pollutants from road / parking runoff; potential impacts on water quality of the watercourse, with potential implications on Water Framework Directive status. As new culverts or watercourse diversions may be necessary a WFD assessment may be required to ensure no detriment to waterbodies. SuDS should be used to ensure pollutants are managed on site, both during construction and operation. A Drainage Strategy would be required if this site is taken forward.		Water quality / WFD	The River Avon is used for recreational fish and boat navigation. The River Avon is currently classified by the EA as 'Moderate' for ecological and 'Good' for chemical water quality ratings.			At this stage of design assumed to not be possible for this site	Medium	Moderate Adverse	Low Significance

#### Reference Sources

https://flood-map-for-planning.service.gov.uk/ http://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/9 Bing Maps Google Maps

Summary Assessment Score

The scheme is considered to have a Highly Significant adverse impact on the water environment (excluding mitigation)

### Qualitative Comments

Because the scheme has the potential to increase flood risk to residential and commercial properties, and potentially have impacts on water quality, a more detailed assessment would be required, including a Flood Risk Assessment and potentially hydrological and hydraulic modelling. A WFD assessment may be required if culverting or water quality a more detailed assessment would be required as part of the scheme - these would need to be tested as part of the Flood Risk Assessment and Drainage Strategy.