

Option NCA B2 route 2

Metrics	Units	Temporary	Permanent (SRO intervention)	Permanent (BNG net gain +10%)	Comment
Biodiversity	RAG				<p>Water purification is based on the current and proposed land use, and proximity to waterbody. Therefore, there isn't an expected difference between the SRO intervention and the Biodiversity</p> <p>The WRPG does not require the monetisation of Water Regulation Services. The main benefit is the deployable output, therefore this is not considered as an additional Natural Capital benefit</p> <p>This is out of scope as there is now Air quality management areas across the options</p> <p>Estimating impact from BNG+10% is not current feasible. It is assumed at this stage that what is removed on construction would be re-instated so the permanent impact across options in neg</p> <p>No expected difference between the SRO intervention and the Biodiversity net gain scenario, biodiversity modelling would allocate habitat creation to grassland instead of agriculture</p>
Climate Regulation	£2019/year				
Natural Hazard Regulation	£/year				
Water Purification	RAG				
Water Regulation	na				
Air Quality	na				
Recreation and Tourism	£2019/year				
Agriculture	£2019/year				

Natural Capital Assessment

Biodiversity

Pull numbers from BNG spreadsheet
Tabs used are

Climate regulation

Spreadsheet means that all info should just be pulled from biodiversity tab - check this is correct
May have to add extra habitats in, the climate regulation values with the correct formulas can be found on tab 'A1' which is hidden

Natural hazard regulation

Data needed		
Woodland (ha)	Note - only lowland meadows should be used, due to data used to create value. This includes unimproved neutral grassland. This means if modified grassland included in main valye in biodiversity table then data should be entered manually in the grassland section for natural hazard. More information on classification can be found on: Note - includes open water, wetlands and floodplains	Lowland meadows Buglife
Grasslands (ha)		
Freshwater (ha)		

Option name	
Area coverage (ha)	
Notes	

Biodiversity

Overall Biodiversity metric tool unit score

Broad habitat	Ecosystem services	Temporary habitat lost during construction (ha)	Permanent habitat loss (ha)	On-site re-instatement/creation (ha)	Off-site habitat creation/ BNG uplift (ha)	Biodiversity net loss metric score (Temporary and permanent loss)	Biodiversity metric score rating based on +10% net gain
Arable land	Crops, carbon sequestration, air quality management						
Freshwater	Water abstraction, recreation, flood regulation						
Grassland	Carbon sequestration, air quality management, recreation						
Heathland	Livestock, carbon sequestration, recreation						
Marine	Fisheries, recreation, water desalination						
Shrub	Livestock, carbon sequestration, recreation						
Urban	No environmental benefits						
Woodland (coniferous)	Timber, carbon sequestration, air quality management, recreation						
Woodland (deciduous)	Timber, carbon sequestration, air quality management, recreation						

Habitats that may be included but often aren't so not in main table. Delete this part if unused before sending to client

- Peatland - Undamaged
- Peatland - Overgrazed
- Peatland - Rotationally burnt
- Peatland - Extracted
- Saltmarsh
- Green urban

Natural hazard regulation

Instructions - hide col E when finished

Broad habitat type	Temporary habitat lost during construction (ha)	Baseline value of natural hazard regulation (non-adjusted)	Baseline value of natural hazard regulation (£2019) /year
Woodland			
Semi-natural grasslands			
Freshwater			

Broad habitat type	Permanent habitat loss (ha)	Baseline value of natural hazard regulation (non-adjusted)	Baseline value of natural hazard regulation (£2019) /year
Woodland			
Semi-natural grasslands			
Freshwater			

Broad habitat type	On-site re-instatement (ha)	Baseline value of natural hazard regulation (non-adjusted)	Baseline value of natural hazard regulation (£2019) /year
Woodland			
Semi-natural grasslands			
Freshwater			

Broad habitat type	Off-site habitat succession (ha)	Baseline value of natural hazard regulation (non-adjusted)	Baseline value of natural hazard regulation (£2019) /year
Woodland			
Semi-natural grasslands			
Freshwater			

Water Purification

Overall RAG score -1.32

weight = temp = 0.25 perm = 0.75 will auto update

*more is permanent loss of this option than temporary

Component	Permanent or temporary	WFD Status and waterbody	Assessment	RAG rating	Assigned weight
WRP Parcel 72*	Permanent	Heritage Stream - Moderate Status	Water purification services are currently provided by grassland and woodland habitats. Hermitage Stream flows adjacent to the land parcel and the WFD waterbody is currently achieving Moderate status. The construction of water recycling plant will change the land cover which could potentially decline water purification services.	-2	0.75
Pipeline from [redacted] to WRP	Permanent	N/a	[redacted] WTW currently discharges water via the [redacted] LSO. The WRP waste stream will be mixed with the remaining final effluent at [redacted] WTW before being transferred to [redacted] Outfall. Therefore, this could potentially decline water purification of the receiving waterbody as dilution of pollutants downstream will decline. No change to water purification to the WRP as the water will be transferred via a pipeline from [redacted] WTW.	-2	0.75
Pipeline route 2 to Lake [redacted] buffer from WRP	Temporary	Heritage Stream and River Itchen - Moderate Status	The water will be transferred to [redacted] Lake which will be created as an environmental buffer lake. The lake will not be in hydraulic continuity with the groundwater. River Itchen flows nearby and the WFD waterbody is achieving a Moderate status. During an emergency when drawdown of the lake is required, water will be discharged to River Itchen. Therefore, this will temporarily improve water purification with the increased flow during an emergency.	2	0.25
Lake [redacted] Environmental Buffer	Permanent	River Itchen - Moderate Status	[redacted] Lake will be an environmental buffer lake. The lake will have some vegetation planting around the lake be lined and will therefore have no effect on water purification services. Water from the lake will be discharged to River Itchen in emergency scenarios.	0	0.75
Pre-disinfection ceramic membrane plant at [redacted] WSW	Permanent	River Itchen - Moderate Status	Water purification services are currently provided by greenfield and grassland habitats. The pre-disinfection ceramic membrane plant will be constructed. River Itchen is in close proximity of the plant and the change in land cover has a potential to decline water purification services.	-2	0.75
Pumping Station: WfLH [redacted] WBS	Permanent	N/a	Water purification services are currently provided by greenfield and grassland habitats. A WBS will be constructed. There are no waterbodies within close proximity of the WBS however, the change in land cover has a potential to decline water purification services.	-1	0.75
Break Pressure Tank: WfLH [redacted] BPT	Permanent	River Hamble (Upper Hamble) - Moderate Status	Water purification services are currently provided by arable, and greenfield habitats. River Hamble (Upper Hamble) flows nearby and the WFD waterbody is currently achieving Moderate status. As a BPT will be constructed, the change in land cover has a potential to decline water purification services.	-2	0.75

-6.25
4.75

-1.315789474

Criteria

Water purification	
0	No change
1 / -1	Negligible changes in land cover which will have a relatively minor impact to water quality based on the absence of a nearby waterbody
2 / -2	Change in land cover (e.g. farmland, green urban, heath or other grassland/shrub habitats) which will have a minor impact to water quality and/or minor change in dilution which could affect water quality
3 / -3	Change in land cover (woodland, salt marsh or undamaged peatland) which will have a moderate/major impact to water quality and/or major change in dilution which could affect water quality

Water Regulation

No Assessment

The WRPG does not require the monetisation of Water Regulation Services. The main benefit is the deployable output, therefore this is not considered as an additional Natural Capital benefit to avoid double counting, and Water Regulation has been screened out of the assessment.

Recreation and Tourism

Total -£3,172,780 -939,242 Total -£422,778 -124,187

Component	Location	Type of recreation/ Tourism impacted	Welfare Value (per year)	Estimated visits (per year)	Conditional multiplier (based on number of path intersections or construction area / area of recreation)	Adjusted welfare Value (£2019 per year)	Adjusted estimated visits (per year)
WRP Parcel 72		Path					
Pipeline from [redacted] to [redacted] WTW area WRP		Path					
		Path					
	Path along [redacted]	Path					
		Path					
Pipeline route 2 to Lake [redacted] Line	[redacted] Branch	Woodland					
buffer from WRP		Path					
		path					
		Path					
		path					
		path					
Lake [redacted] Environmental Buffer and Pre- disinfection ceramic membrane plant at [redacted] WSW	N/a						
Pumping Station: WfLH North [redacted] WBS	N/a						
Break Pressure Tank: WfLH Lower [redacted] BPT	N/a						

Air Quality

No Assessment
The configuration does not fall within an Air Quality Management Area, and due to the temporary nature of habitat impacts during construction, Air Quality has been screened out of the assessment.

Agriculture

Arable 2019 price



Configuration	Permanent arable land loss (ha)	Estimated Permanent Agriculture value (£) / year	Temporary arable land loss (ha)	Estimated Temporary Agriculture value (£)/ year