

APPENDIX 6.1
PERFORMANCE CHARACTERISTICS FOR
APPRAISAL

(i) Reference number and TITLE of component or system based strategy		<i>Description of the component or system based grouping - physical factors and locations, where applicable. NB: individual intervention measure ID codes relate back to Phase 1 and 2 reports</i>	
(ii) PERFORMANCE: Assessment of options against performance characteristics <i>(component alternatives/Strategies to be scored against each performance characteristic on scale of 1 – 5. The scoring for each characteristic should be individually defined. Overall strategy performance indicated by adding scores for all 25 performance characteristics (giving a score / 135)</i>			
Performance characteristic		Score (1 – 5)	Justification for scoring
	Proximity principle		
TECHNICAL	Robustness		
	Reliability of design		
	Reliability of technology		
	Flexibility of design		
	Potential for extension		
	Potential for achieving higher design standard		
	Constructability		
	Ease of maintenance		
	Ability to construct in phases		
	Sustainability		
	Disruption to existing infrastructure		
	Reliability for achieving discharge consent		
	Land take		
Need for crossings of the major transport corridors (M20 and CTRL)			
ECONOMIC	Whole life cost		
	Capex		
	Opex		
	Cost / benefit ratio		
OTHER	Visual impact		
	Benefit to communities		
	Likely political will		
	Consistency with policies		
	Funding availability		
	Safeguarding access to the countryside		
	Benefits to biodiversity		
	NIMBY- Public acceptability		
Total Score for Component		Summary comments on component/strategy performance	

Table 1: Performance characteristics for appraisal of system-based strategies for FRM

PERFORMANCE CHARACTERISTIC	RATING INDICATORS		
	'1' SCORE	'3' SCORE	'5' SCORE
<i>TECHNICAL</i>			
Compliance with proximity principle	Option involves works outside the study area	Option involves works that transfers flows across catchment boundaries, but within the study area	Option involves works that keeps flows within their original watercourses/catchments
Robustness of design (to take higher/lower flows)	Higher than design flows (say +20%) may not be mitigated and could cause significant flooding	Higher than design flows (say +20%) may cause limited flooding	Option is not sensitive to (say +20%) higher than design flows
Reliability of design (to achieve design standards)	Level/flow control likely to be sensitive to design parameters	Sensitivity of level/flow control to design parameters may be avoided by adopting conservative values	Level/flow control likely to be insensitive to design parameters (robust design)
Reliability of technology (to perform without undue technical problems)	Option reliant on mechanical/electrical plant or equipment to operate (e.g. pumps, penstocks, mechanical gates)	Option includes automatically operating equipment (e.g. flap gates)	Option does not rely on any moving parts
Flexibility of design (to accommodate changes in development during 25 year development period)	Option addresses only the planned development in its contributing catchments	Option can accommodate future changes in development within its contributing catchments	Option is not particularly sensitive to future changes in planned development areas
Potential for extension of design (beyond 2030? – climate change)	Any increase in design flows cannot be accommodated without significant re-build of option components	Option can deal with higher flows by a moderate amount of re-engineering	Option lends itself to dealing with higher flows by simple measures (e.g. heightening)
Potential for achieving higher design standards (should it prove necessary)	Any higher design standard (flood return period/reduced flood level) cannot be achieved without significant additional works	Any higher design standard (flood return period/reduced flood level) may result in impacts elsewhere that would require modest additional works	Higher design standard (flood return period/reduced flood level) can be achieved without adverse impact upstream
Constructability	The option would require substantial preparatory/temporary works and/or adversely affect private property or other infrastructure	The option requires manageable preparatory/temporary works and/or limited adverse impact on private property/existing infrastructure that can be mitigated	The option is straightforward to construct
Ease of maintenance	The option contains elements that are difficult to maintain at all times	The option contains elements that may be difficult to maintain at times (e.g. when submerged or at times of expected high flows)	The option contains no elements that are difficult to maintain.
Ability to be constructed in phases	The option must be constructed in its entirety for it to function	There is limited opportunity for phasing of construction	Construction of the option may be phased to suit the development of Ashford
Sustainability (use of resources during both construction and operation)	Heavy reliance on importing materials for construction and/or power for operation (e.g. pumps)	Some construction materials may be locally sourced. No significant energy consumption during operation.	Construction can take advantage of local materials (e.g. locally sourced fill for embankments) and no energy consumption in operation
Disruption to existing infrastructure during construction	Major disruption to existing infrastructure (e.g. road/pipeline/cable diversion) unavoidable	Limited disruption to existing infrastructure during construction	No disruption to existing infrastructure during construction
Reliability for achieving discharge consent	N/A	N/A (all options to score 3)	N/A
Land take	Major land requirement/ restriction to land use (e.g. need for inundation)	Limited land take (e.g. for bunds, access)	Negligible land take (temporary easements may be needed)
Need for crossings of the major transport corridors (M20 and CTRL)	Works require a crossing of M20 or CTRL	Works require crossing of a road	No road crossings
Capex	High indicated capital cost, relative to other FRM options	Medium indicated capital cost, relative to other FRM options	Low indicated capital cost, relative to other FRM options
Opex	High indicated operating costs, relative to other FRM options	Medium indicated operating costs, relative to other FRM options	Low indicated operating costs, relative to other FRM options
Benefit and resulting cost/benefit ratio for above costs	High indicated whole life costs, relative to other FRM options, with no additional benefits	Medium indicated whole life costs, relative to other FRM options, with no additional benefits, or high indicated cost but with significant additional benefits	Low indicated whole life costs, relative to other FRM options, or medium indicated cost but with significant additional benefits
<i>POLITICAL / OTHER</i>			
Visual impact (effect on landscape character)	Potential for significant adverse visual impact on landscape character	Limited adverse visual impact of scheme on landscape character	Minimal adverse visual impact of scheme on landscape character
Benefit to communities within Ashford (indirect, intangible)	No benefit beyond flood protection	Limited additional benefits	Significant additional benefits (e.g. opportunities for enhancement of the ecological water management system)
Likely political support/will	Likely to attract negative reactions (either locally or outside Ashford)	Politically neutral	Positive attributes should ensure political support

Consistency with local /national policy	Contrary to local/national policies	Generally conforms with local/national policies	Fully meets local/national policies
Likely success of achieving planning permission	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies
Likely success of being consented to by the EA (abstraction or discharge)	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies
Funding availability	N/A	N/A (score 3 for all options)	N/A
Safeguarding access to the countryside	Option has some inhibitory aspect (e.g. interferes in some way with access to countryside / Rights of Ways)	No impact on access to countryside (temporary flooding of land ignored)	Scheme enhances access to countryside in some way
Benefits to biodiversity	Option has some disbenefit to biodiversity (e.g. fragments river corridor)	No significant impact on biodiversity	Option provides significant benefit to biodiversity (e.g. preserves river corridor)
General public acceptability (NIMBY)	Option likely to be objected to locally	Option unlikely to be objected to except by a very limited number of affected residents	Option likely to be welcomed by the general public as a sensible approach (provided the cost is not to be borne by council tax payers)

Table 2 Performance characteristics for appraisal of system-based strategies for Mains Water - supply

PERFORMANCE CHARACTERISTIC	RATING INDICATORS		
	'1' SCORE	'3' SCORE	'5' SCORE
TECHNICAL			
Compliance with proximity principle	Strategy involves source development outside the SE region	Strategy involves source development within the SE region, but outside the study area	Strategy involves source development within the study area
Robustness of design (to take higher/lower flows)	Strategy unlikely to be able to meet Scenario B (Realistic) demands	Strategy unlikely to be able to meet Scenario A (Do Nothing) demands	Strategy able to meet Scenario A (Do nothing) demands
Reliability of design (to achieve design standards)	Reliable yield of new/replacement source likely to be less than required, or is presently unknown	Reliable yield of new/replacement source may be limited	Reliable yield of new/replacement source unlikely to be a problem
Reliability of technology (to perform without undue technical problems)	Novel/complex technology requiring enhanced level of technical control	Conventional technology needing moderate level of technical control	Simple technology with little to go wrong
Flexibility of design (to accommodate changes in development during 25 year development period)	Strategy addresses only the planned growth in demand in Ashford	Strategy can accommodate future changes in demand in Ashford	Strategy is not particularly sensitive to future changes in demand in Ashford or elsewhere in the SE region
Potential for extension of design (beyond 2030? – climate change)	Any increase in design capacity cannot be accommodated without significant re-build of source works	Strategy can deal with higher demands by a moderate amount of re-engineering	Strategy lends itself to dealing with higher demands by simple measures (e.g. heightening)
Potential for achieving higher design standards (should it prove necessary)	Any higher design standard (water quality, reliable yield) cannot be achieved without significant additional works	Any higher design standard (water quality, reliable yield) may require modest additional works	Higher design standard (water quality, reliable yield) can be achieved without adverse impact
Constructability	The strategy would adversely affect private property or other infrastructure during construction of the source works	Construction of the source works may have limited adverse impact on private property/existing infrastructure that can be mitigated	The source works are straightforward to construct
Ease of maintenance	The strategy contains elements that are difficult to maintain at all times	The strategy contains elements that may be difficult to maintain at times (e.g. during peak demand periods)	The strategy contains no elements that are difficult to maintain.
Ability to be constructed in phases	The source works must be constructed in their entirety for it to function	There is limited opportunity for phasing of construction	Construction of the source works may be phased to suit the development of Ashford (or other areas in the region served by them)
Sustainability (use of resources during both construction and operation)	Heavy reliance on importing materials for construction and/or energy for operation	Some construction materials may be locally sourced. No significant energy consumption during operation.	Construction can take advantage of local materials (e.g. locally sourced fill for embankments) and little or no energy consumption in operation
Disruption to existing infrastructure during construction	Major disruption to existing infrastructure (e.g. road/pipeline/cable diversion) unavoidable	Limited disruption to existing infrastructure during construction	No disruption to existing infrastructure during construction
Reliability for achieving discharge consent	N/A	N/A (all options to score 3)	N/A
Land take	Major land requirement (e.g. need for new reservoir)	Limited land take (e.g. for desalination plant)	Negligible land take (temporary easements may be needed)
Need for crossings of the major transport corridors (M20 and CTRL)	Works require a crossing of M20 or CTRL	Works require crossing of a road	No road crossings
ECONOMIC			
Whole life costs	High indicated whole life costs, relative to other water supply options	Medium indicated whole life costs, relative to other water supply options	Low indicated whole life costs, relative to other water supply options
Capex	High indicated capital cost, relative to other water supply options	Medium indicated capital cost, relative to other water supply options	Low indicated capital cost, relative to other water supply options
Opex	High indicated operating costs, relative to other water supply options	Medium indicated operating costs, relative to other water supply options	Low indicated operating costs, relative to other water supply options
Benefit and resulting cost/benefit ratio for above costs	High indicated whole life costs, relative to other water supply options, with no additional benefits	Medium indicated whole life costs, relative to other water supply options, with no additional benefits, or high indicated cost but with significant additional benefits	Low indicated whole life costs, relative to other water supply options, or medium indicated cost but with significant additional benefits
POLITICAL / OTHER			
Visual impact (effect on landscape character)	Potential for significant adverse visual impact on landscape character	Limited adverse visual impact of scheme on landscape character	Minimal adverse visual impact of scheme on landscape character
Benefit to communities within Ashford (indirect, intangible)	No benefit beyond meeting demand	Limited additional benefits	Significant additional benefits (e.g. opportunities for enhancement of the ecological water management system)

Likely political support/will	Likely to attract negative reactions (either locally or outside Ashford)	Politically neutral	Positive attributes should ensure political support
Consistency with local /national policy	Contrary to local/national policies or current water supply strategy	Generally conforms with local/national policies and current water supply strategy	Fully meets local/national policies and current water supply strategy
Likely success of achieving planning permission	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies
Likely success of being consented to by the EA (abstraction or discharge)	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies
Funding availability	N/A	N/A (score 3 for all options)	N/A
Safeguarding access to the countryside	Option has some inhibitory aspect (e.g. interferes in some way with access to countryside / Rights of Ways)	No impact on access to countryside (temporary flooding of land ignored)	Scheme enhances access to countryside in some way
Benefits to biodiversity	Option has some disbenefit to biodiversity (e.g. reduces summer low flows in river)	No significant impact on biodiversity	Option provides significant benefit to biodiversity (e.g. enhances summer low flows in river)
General public acceptability (NIMBY)	Option likely to be objected to locally	Option unlikely to be objected to except by a very limited number of affected residents	Option likely to be welcomed by the general public as a sensible approach (provided the cost is not to be borne by consumers)

Table 3: Performance characteristics for appraisal of components for Mains Water – Wastewater treatment options

PERFORMANCE CHARACTERISTIC	RATING INDICATORS		
	'1' SCORE	'3' SCORE	'5' SCORE
TECHNICAL			
Compliance with proximity principle	Option locates WWTW(s) remote from flow generators and/or receivers	Option locates WWTW(s) at or near one or more centres of development	Option involves WWTW(s) located close to generators and receivers
Robustness of design (to take higher/lower flows)	Performance of WWTW(s) designed for Scenario B (realistic) flows seriously compromised by Scenario A (Do nothing) or Scenario C (reduced) flows	WWTW(s) (designed for Scenario B (realistic) flows) may be able to cope with Scenario A (Do nothing) or Scenario C (reduced) flows	WWTW(s) (designed for Scenario B (realistic) flows) very likely to be able to cope with Scenario A (Do nothing) or Scenario C (reduced) flows
Reliability of design (to achieve design standards)	WWTW performance considered sensitive to design parameters	WWTW performance considered not particularly sensitive to design parameters	WWTW performance considered insensitive to design parameters
Reliability of technology (to perform without undue technical problems)	Novel/complex technology requiring enhanced level of technical control/management	Conventional technology needing moderate level of technical control/management	Simple technology requiring limited maintenance or management
Flexibility of design (to accommodate changes in development during 25 year development period)	WWTW(s), once constructed, are sized/located only to deal with the planned growth in demand in Ashford	WWTW(s), once constructed, can accommodate future changes in demand in Ashford	WWTW(s), once constructed, is/are not particularly sensitive to future changes in demand in Ashford
Potential for extension of design (beyond 2030? – climate change)	Any increase in design capacity cannot be accommodated without significant re-build of WWTW	WWTW(s) can deal with higher flows by a moderate amount of re-engineering	WWTW(s) can deal with higher flows by simple measures (e.g. modular expansion)
Potential for achieving higher design standards (should it prove necessary)	Any higher design standard (effluent quality) cannot be achieved without significant additional works	Any higher design standard (effluent quality) may require moderate additional works	Higher design standard (effluent quality) can be achieved with limited additional works
Constructability	The option would adversely affect private property or other infrastructure during construction of the WWTW(s)	Construction of the WWTW(s) may have limited adverse impact on private property/existing infrastructure that can be mitigated	The WWTW(s) are straightforward to construct
Ease of maintenance	The WWTW(s) contain units/streams that are difficult to maintain at all times	The WWTW(s) contain units/streams that may be difficult to maintain at times (e.g. during peak flow periods)	The WWTW(s) contain no units/streams that are difficult to maintain.
Ability to be constructed in phases	The WWTW(s) must be constructed in its/their entirety for it to function	There is limited opportunity for phasing of construction	Construction of the WWTW(s) may be phased to suit the development of Ashford (or serviced catchment)
Sustainability (use of resources during both construction and operation)	Heavy reliance on importing materials for construction and/or energy for operation	Some construction materials may be locally sourced. Moderate energy consumption during operation.	Construction can take advantage of local materials (e.g. locally sourced fill) and limited consumption in operation
Disruption to existing infrastructure during construction	Major disruption to existing infrastructure (e.g. existing WWTW) unavoidable	Limited disruption to existing infrastructure during construction/commissioning	No significant disruption to existing infrastructure during construction/commissioning
Reliability for achieving discharge consent	Process sensitive to variations in inflow and/or load	Process can be sensitive to variations in inflow and/or load	Process insensitive to variations in inflow and/or load
Land take	Major net land requirement in aggregate (e.g. need for all new WWTW site(s))	Net land take commensurate with growth in flows (e.g. footprint area/Mld capacity similar to Bybrook WWTW)	Efficient footprint area (e.g. area/Mld less than conventional process requirement)
Need for crossings of the major transport corridors (M20 and CTRL)	N/A	N/A (score 3 for all options)	N/A
ECONOMIC			
Whole life costs	High indicated whole life costs, relative to other WWTW options	Medium indicated whole life costs, relative to other WWTW options	Low indicated whole life costs, relative to other WWTW options
Capex	High indicated capital cost, relative to other WWTW options	Medium indicated capital cost, relative to other WWTW options	Low indicated capital cost, relative to other WWTW options
Opex	High indicated operating costs, relative to other WWTW options	Medium indicated operating costs, relative to other WWTW options	Low indicated operating costs, relative to other WWTW options
Benefit and resulting cost/benefit ratio for above costs	High indicated whole life costs, relative to other WWTW options, with no additional benefits	Medium indicated whole life costs, relative to other WWTW options, with no additional benefits, or high indicated cost but with significant additional benefits	Low indicated whole life costs, relative to other WWTW options, or medium indicated cost but with significant additional benefits
POLITICAL / OTHER			
Visual impact (effect on landscape character)	Potential for significant adverse visual impact on landscape character	Limited adverse visual impact of scheme on landscape character	Minimal adverse visual impact of scheme on landscape character
Benefit to communities within Ashford (indirect, intangible)	No benefit beyond meeting demand	Limited additional benefits	Significant additional benefits (e.g. opportunities for enhancement of the ecological water management system)
Likely political support/will	Likely to attract negative reactions (either locally or outside)	Politically neutral	Positive attributes should ensure political support

	Ashford)		
Consistency with local /national policy	Contrary to local/national policies or current WW strategy	Generally conforms with local/national policies and current WW strategy	Fully meets local/national policies and current WW strategy
Likely success of achieving planning permission	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies
Likely success of discharge being consented to by the EA	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies
Funding availability	N/A	N/A (score 3 for all options)	N/A
Safeguarding access to the countryside	N/A	N/A (score 3 for all options)	N/A
Benefits to biodiversity	Option has some potential disbenefit to biodiversity (e.g. elevated temperature of effluent for discharge)	No significant impact on biodiversity	Option provides significant benefit to biodiversity (e.g. potential to enhance summer low flows in river without elevated temperature of effluent)
General public acceptability (NIMBY)	Option likely to be objected to locally	Option unlikely to be objected to except by a very limited number of affected residents	Option likely to be welcomed by the general public as a sensible approach (provided the cost is not to be borne by consumers)

Table 4 Performance characteristics for appraisal of components for Water Mains – Effluent discharge options

PERFORMANCE CHARACTERISTIC	RATING INDICATORS		
	<i>'1' SCORE</i>	<i>'3' SCORE</i>	<i>'5' SCORE</i>
TECHNICAL			
Compliance with proximity principle	Receiver is remote from development area	Receiver is adjacent to development area	Receiver is within the development area
Robustness of design (to take higher/lower flows)	Receiver is very sensitive to changes in flow/load	Receiver is moderately sensitive to changes in flow/load	Receiver is relatively insensitive to changes in flow/load
Reliability of design (to achieve design standards)	N/A	N/A (score 3 for all options)	N/A
Reliability of technology (to perform without undue technical problems)	N/A	N/A (score 3 for all options)	N/A
Flexibility of design (to accommodate changes in development during 25 year development period)	Very sensitive to high or low flow scenarios	Moderately sensitive to high or low flow scenarios	Relatively insensitive to high or low flow scenarios
Potential for extension of design (beyond 2030? – climate change)	Any increase in design capacity cannot be accommodated without significant change	System can deal with higher flows/loads with a moderate amount of change	System can deal with higher flows by simple measures
Potential for achieving higher design standards (should it prove necessary)	Higher standards very difficult to achieve	Moderate difficulty in achieving higher standards	Potential to achieve higher standards at reasonable cost
Constructability	The option would adversely affect private property or other infrastructure during construction of the conveyance system	Construction of the Effluent discharge system may have limited adverse impact on private property/existing infrastructure that can be mitigated	The Effluent discharge system is straightforward to construct
Ease of maintenance	Extensive maintenance required to maintain viability of the system	Limited maintenance required to maintain viability of the system	Little or no maintenance required to maintain viability of the system
Ability to be constructed in phases	Arrangement requires major engineering structures	Arrangement requires minor engineering structures	No engineering structures required
Sustainability (use of resources during both construction and operation)	Major construction and energy consumption	Limited construction and energy consumption	Little or no construction and energy consumption
Disruption to existing infrastructure during construction	Major disruption to existing infrastructure (e.g. roads, existing sewerage) unavoidable	Limited disruption to existing infrastructure (e.g. roads, existing sewerage) during construction	No disruption to existing infrastructure (e.g. roads, existing sewerage) during construction
Reliability for achieving discharge consent	N/A	N/A (score 3 for all options)	N/A
Land take	Significant land requirement for system (e.g. major wetland area, long open channel)	Moderate land requirement (e.g. reed beds)	No land requirement (e.g. direct piped discharge to watercourse)
Need for crossings of the major transport corridors (M20 and CTRL)	Works require a crossing of M20 or CTRL	Works likely to require crossing(s) of one or more roads	No road crossings
ECONOMIC			
Whole life costs	High indicated whole life costs, relative to other effluent discharge system options	Medium indicated whole life costs, relative to other effluent discharge system options	Low indicated whole life costs, relative to other effluent discharge options
Capex	High indicated capital cost, relative to other effluent discharge system options	Medium indicated capital cost, relative to other effluent discharge system options	Low indicated capital cost, relative to other effluent discharge system options
Opex	High indicated operating costs, relative to other effluent discharge system options	Medium indicated operating costs, relative to other effluent discharge system options	Low indicated operating costs, relative to other effluent discharge system options
Benefit and resulting cost/benefit ratio for above costs	High indicated whole life costs, relative to other effluent discharge system options	Medium indicated whole life costs, relative to other effluent discharge system options	Low indicated whole life costs, relative to other effluent discharge system options
POLITICAL / OTHER			
Visual impact (effect on landscape character)	Potential for significant adverse visual impact on landscape character	Limited adverse visual impact of scheme on landscape character	Minimal adverse visual impact of scheme on landscape character
Benefit to communities within Ashford (indirect, intangible)	Potential disbenefit to ecological water management system	No benefit beyond dealing with WW flows	Significant additional benefits (e.g. opportunities for enhancement of the ecological water management system)

Likely political support/will	Likely to attract negative reactions (either locally or outside Ashford)	Politically neutral	Positive attributes should ensure political support
Consistency with local /national policy	Results in water loss from the local area	Water discharged in local area	Water available for re-use
Likely success of achieving planning permission	N/A	N/A (score 3 for all options)	N/A
Likely success of discharge being consented to by the EA	EA unlikely to agree to discharge	Not a favoured discharge route by EA	Favoured discharge route by EA
Funding availability	N/A	N/A (score 3 for all options)	N/A
Safeguarding access to the countryside	N/A	N/A (score 3 for all options)	N/A
Benefits to biodiversity	Likely to limit biodiversity	Neutral to biodiversity	Likely to enhance biodiversity
General public acceptability (NIMBY)	Option likely to be objected to locally	Option unlikely to be objected to except by a very limited number of affected residents	Option likely to be welcomed by the general public as a sensible approach

Table 5 Performance characteristics for appraisal of system-based strategies for Ecological Water

PERFORMANCE CHARACTERISTIC	RATING INDICATORS		
	'1' SCORE	'3' SCORE	'5' SCORE
TECHNICAL			
Compliance with proximity principle	Intervention requires movement of water over a long distance	Intervention involves movement of water over a short distance	Intervention provides a local solution to a local problem
Robustness of design (to take higher/lower flows)	Performance (e.g. flow enhancement/water quality) is sensitive to under/over supply of water	Performance (e.g. flow enhancement/water quality) may be impaired but remains satisfactory by under/over supply of water	Intervention is insensitive to under/over supply of water
Reliability of design (to achieve design standards)	Lack of a track record of the intervention working in similar environmental conditions	Adequate history of successful applications working in similar environmental conditions	Tried and tested design criteria available
Reliability of technology (to perform without undue technical problems)	Novel/complex technology requiring enhanced level of technical control/management	Conventional technology needing moderate level of technical control/management	Simple technology requiring limited maintenance or management
Flexibility of design (to accommodate changes in development during 25 year development period)	Successful operation dependent on development (timing/location) being in accordance with design assumptions	Successful operation not particularly dependent on development (timing/location) being in accordance with design assumptions	Intervention once constructed, is not sensitive to future changes in development of Ashford
Potential for extension of design (beyond 2030? – climate change)	Any increase in design flow/capacity cannot be accommodated without significant reconstruction	Intervention can deal with higher demands/flows by a moderate amount of re-engineering	Intervention can deal with higher demands/flows by simple measures (e.g. modular expansion)
Potential for achieving higher design standards (should it prove necessary)	Any higher design standard (e.g. required flow enhancement/water quality) cannot be achieved without significant additional works	Any higher design standard (e.g. required flow enhancement/water quality) may require moderate additional works	Higher design standard (e.g. required flow enhancement/water quality) can be achieved with limited additional works
Constructability	The option would adversely affect private property or other infrastructure during construction	Construction may have limited adverse impact on private property/existing infrastructure that can be mitigated	The intervention works are straightforward to construct
Ease of maintenance	The intervention incorporates works that are difficult to maintain at all times	The intervention incorporates works that may be difficult to maintain at times (e.g. during flood periods)	The intervention incorporates no works that are difficult to maintain.
Ability to be constructed in phases	The intervention works must be constructed in its/their entirety for it to function	There is limited opportunity for phasing of construction	Construction of the intervention works may be phased to suit the development of Ashford (or affected catchment)
Sustainability (use of resources during both construction and operation)	Heavy reliance on importing materials for construction and/or energy for operation	Some construction materials may be locally sourced. Moderate energy consumption during operation.	Construction can take advantage of local materials (e.g. locally sourced fill) and limited power consumption in operation
Disruption to existing infrastructure during construction	Major disruption to existing infrastructure unavoidable	Limited disruption to existing infrastructure during construction	No significant disruption to existing infrastructure during construction
Reliability for achieving discharge consent	Intervention sensitive to variations in inflow and/or load	Intervention can be sensitive to variations in inflow and/or load	Intervention insensitive to variations in inflow and/or load
Land take	Major land requirement (e.g. need for acquisition to create large wetlands area)	Moderate land requirement (e.g. to create buffer strips beside river bank)	Low land requirement (e.g. minor realignment of river bank)
Need for crossings of the major transport corridors (M20 and CTRL)	Works require a crossing of M20 or CTRL	Works require crossing of a road	No road crossings
ECONOMIC			
Whole life costs	High indicated whole life costs, relative to other ecological water options	Medium indicated whole life costs, relative to other ecological water options	Low indicated whole life costs, relative to other ecological water options
Capex	High indicated capital cost, relative to other ecological water options	Medium indicated capital cost, relative to other ecological water options	Low indicated capital cost, relative to other ecological water options
Opex	High indicated operating costs, relative to other ecological water options	Medium indicated operating costs, relative to other ecological water options	Low indicated operating costs, relative to other ecological water options
Benefit and resulting cost/benefit ratio for above costs	High indicated whole life costs, relative to other ecological water options, with no additional benefits	Medium indicated whole life costs, relative to other ecological water options, with no additional benefits, or high indicated cost but with significant additional benefits	Low indicated whole life costs, relative to other ecological water options, or medium indicated cost but with significant additional benefits
POLITICAL / OTHER			
Visual impact (effect on landscape character)	Potential for adverse visual impact on landscape character	Neutral visual impact of scheme on landscape character	Positive visual impact of scheme on landscape character
Benefit to communities within Ashford (indirect, intangible)	No benefit to communities within Ashford	Limited additional benefits	Significant additional benefits (e.g. facilitates development/maintenance of green corridors)
Likely political support/will	Likely to attract negative reactions (either locally or outside Ashford)	Politically neutral	Positive attributes should ensure political support
Consistency with local /national policy	Contrary to local/national policies, BAP or WFD	Generally conforms with local/national policies, BAP or WFD	Fully meets local/national policies, BAP or WFD

Likely success of achieving planning permission	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies
Likely success of discharge being consented to by the EA	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies	Not assessed by consultant, for system-based strategies
Funding availability	No clear responsibility of any organisation to implement	One or more organisation may be persuaded to implement/contribute to the implementation of the option	Option clearly falls within the remit of an organisation
Safeguarding access to the countryside	Option has some inhibitory aspect (e.g. interferes in some way with access to countryside / Rights of Ways)	No impact on access to countryside	Scheme enhances access to countryside in some way
Benefits to biodiversity	Option has some potential disbenefit to biodiversity (e.g. elevated temperature of effluent for discharge)	No significant impact on biodiversity	Option provides significant benefit to biodiversity (e.g. potential to enhance summer low flows in river without elevated temperature of effluent)
General public acceptability (NIMBY)	Option likely to be objected to locally	Option unlikely to be objected to except by a very limited number of affected residents	Option likely to be welcomed by the general public as a sensible approach (provided the cost is not to be borne by consumers)