

**APPENDIX 7.4**  
**TARGET APPRAISAL SHEETS FOR**  
**FRM/MAINS WATER STRATEGIES**

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(iii) QUALITY ASSESSMENT AGAINST OBJECTIVES / TARGETS		MW1		WS3i / WW1 / FD8: Regional water resources strategy with reduced GW abstraction and localised compensation provided through river abstraction d/s of Bybrook. All future wastewater flows to an extend Bybrook WWTW with effluent discharged to the Stour. Full suite of FRM strategies implemented						
Objectives	Option Appraisal targets							Overall	Comments	
	a	b	c	d	e	f				
1.1 No impact on the quality and quantity of water available		▲						▲	Target reduction equates to 4.8Mld, which correlates with additional effluent flows generated by 2015, so 5Mld water treatment plant would permit reduced abstraction, though not by target deadline. Studies indicate no hydraulic continuity between the lower greensand aquifers and the G Stour in Chart Leacon GWMU. The Chalk boreholes may offer more benefit.	
1.2 Ensure sufficient and sustainable water supply	●	●						●	Additional source will offer potential to increase outputs under contingency or emergency conditions (by temporarily restoring GW abstractions to current levels).	
1.3 Reduce average household water usage in Ashford by 30% <sup>1</sup>	▲	▲	▲	▲	▲			▲	Assessment is for Scenario B (Realistic case), where targets, as set, are generally considered to be unachievable. Scenario A: ● Scenario C: ●	
2.1 Improve summer water flows in the River Stour	▲	▲						▲	Water reused from river substituted by increased GW flows. AMP4 studies to look at base flows and aquifers targeted for reduced abstractions -proposed volumes of river water reused < effluent discharges from additional population and thus will not result in decreased river flows.	
2.2 Prevent impact on river water quality from run-off	●	●						●	FRM strategies promoting implementation of SUDS for all development. SUDS should be developed prior to housing development schemes to address water quality issues during construction.	
2.3 Maintain and improve groundwater quality <sup>2</sup>		●	▲					▲	Target (a) is a design level recommendation achieved through good practice. Strategy seeks to reduce abstractions from MKW boreholes for aquifer recovery and increased chalk stream flows. Historic levels of GW not known but upward trend in GW levels assumed based on reduction in abstractions achievable.	
2.4 Attain discharge standard in accordance with standards <sup>3</sup> .	●	▲	●	●				●	SIMCAT modelling has identified parameters to achieve RQO targets. AMP3 quality improvement schemes to address WQ problems d/s of Sellinge and Lenham to be completed late 2005 and 2007 respectively Environment Agency consent parameters modelled to achieve policy of no deterioration from the present conditions achieved higher quality than stipulated by UWWTD.	
2.5 Ensure wastewater capacity is commensurate with growth	●							●	Transport and treatment capacity would be provided before demand	
2.6 Achieve "good water status" by December 2015.	▲	●	▲					▲	Strategies will ensure no deterioration from current river water quality due to new development. AMP 3 quality improvement schemes will be completed at Lenham (2007) and Sellinge (2005). Good ecological status not defined but increased chalk spring inputs to river should increase the buffering capacity of river d/s of reuse point.	
3.1 Ensure no increased flood risk and protect integrity flood storage	■							■	Option 6 spatial plan includes proposal to develop 'canal district' within the floodplain. Proposed compensation area at Cheesman's Green not available. The issue is under review.	
3.2 Ensure standard of service is maintained at appropriate level.	■	■						■	Issue currently under consideration	
3.3 Reduce run-off effects of development for all zones	●							●	Strategy promotes that 100% of new paved areas incorporate SUDS	
3.4 Provide sound and sustainable flood defence measures.	■	▲						▲	Issue currently under debate. Questions remain over loss of floodplain area and adequacy of replacement habitat.	
4.1 Maintain and enhance Ashford's biodiversity interest			▲	▲				▲	Targets (a), (b) (e) and (f) are scheme specific detailed design issues and not delivered by this strategy - targets to be addressed by policy recommendations. (c) Opportunity to create wetland d/s of Bybrook and new STWs. (d) Spatial design includes green ribbon enhancing green corridor. Implementation of SUDS and wetland creation will also be of benefit.	
4.2 Enhance conservation status of the Stour and its tributaries	▲		▲					▲	Targets (b) & (d) are not delivered by this strategy - to be addressed by policy recommendations. (a) Wastewater treatment will seek to achieve no deterioration in water quality but current marginal failures may continue. (c) Possible benefits to fisheries from abstraction of 5Mld river water d/s of bybrook and increase of spring flows resulting from corresponding reduction in abstractions from Chalk aquifers	
4.3 Enhance species and habitats of importance	▲							▲	Consent parameters for Bybrook and new STW will be set to ensure Agency's policy of no deterioration is achieved. Reduced GW abstractions chalk over time should lead to increased chalk water inputs to the river. Impact on conservation sites is scheme specific detailed design issue - addressed by policy recommendations	
<b>(iv) SUMMARY: Issues relating to strategy opportunities and constraints.</b>										
The addition of 18ml/d of treated effluent to the Great Stour at Bybrook has the potential to cause deterioration in river water quality through increased biological oxygen demand and nutrient loading. However, indicative consent parameters have been identified through SIMCAT modelling for future treatment standards for Bybrook WWTW that would achieve no deterioration in river water quality standards. Further more detailed analysis will be required at consent application stages. The reductions in GW abstractions achievable through reuse of river water may increase over time as the proportion of effluent to river water rises in line with Ashford's population growth. This element of the strategy has the potential to improve the condition of the chalk river. Targets related to flood risk may not be met if appropriately located additional compensation areas cannot be found (applicable to all integrated strategies).										

(iii) QUALITY ASSESSMENT AGAINST OBJECTIVES / TARGETS	MW2	WS3i / WW4 / FD8: Regional water resources strategy with reduced GW abstraction and localised compensation provided through river abstraction d/s of Bybrook. Extend Bybrook and construct up to four natural technology works south of Ashford with effluent discharged to the Stour. Full suite of FRM strategies implemented.							Comments
		Option Appraisal targets							
Objectives	a	b	c	d	e	f	Overall		
1.1 No impact on the quality and quantity of water available		▲						▲	Target reduction equates to 4.8Mld, which correlates with additional effluent flows generated by 2015, so 5Mld water treatment plant would permit reduced abstraction, though not by target deadline. Studies indicate no hydraulic continuity between the lower greensand aquifers and the G Stour in Chart Leacon GWMU. The Chalk boreholes may offer more benefit.
1.2 Ensure sufficient and sustainable water supply	●	●						●	Additional source will offer potential to increase outputs under contingency or emergency conditions (by temporarily restoring GW abstractions to current levels).
1.3 Reduce average household water usage in Ashford by 30% <sup>1</sup>	▲	▲	▲	▲	▲			▲	Assessment is for Scenario B (Realistic case), where targets, as set, are generally considered to be unachievable. Scenario A: <span style="color:red">■</span> Scenario C: <span style="color:red">■</span> <span style="color:green">●</span>
2.1 Improve summer water flows in the River Stour	▲	▲						▲	Water reused from river substituted by increased GW flows. AMP4 studies to look at base flows and aquifers targeted for reduced abstractions - proposed volumes of river water reused < effluent discharges from additional population and thus will not result in decreased river flows.
2.2 Prevent impact on river water quality from run-off	●	●						●	FRM strategies promoting implementation of SUDS for all development. SUDS should be developed prior to housing development schemes to address water quality issues during construction.
2.3 Maintain and improve groundwater quality <sup>2</sup>		●	▲					▲	Target (a) is design level recommendation. Strategy seeks to reduce abstractions from MKW boreholes for aquifer recovery and increased chalk stream flows. Historic levels of GW not known but upward trend in GW levels assumed based on reduction in abstractions achievable.
n/a	●	▲	●	●				●	SIMCAT modelling has identified parameters to achieve RQO targets. AMP3 quality improvement schemes to address WQ problems d/s of Sellenge and Lenham to be completed late 2005 and 2007 respectively Environment Agency consent parameters modelled to achieve policy of no deterioration from the present conditions achieved higher quality than stipulated by UWWTd.
2.5 Ensure wastewater capacity is commensurate with growth	●							●	Transport and treatment capacity provided before demand
2.6 Achieve "good water status" by December 2015.	▲	▲	▲					▲	Strategies will ensure no deterioration from current river water quality due to new development but higher 'risk' of failures associated with natural treatment systems. Separate discharges into G and E Stour may reduce direct impact of development on small stretch of river. AMP 3 quality improvement schemes will be completed at Lenham (2007) and Sellenge (2005). Flows from Sellenge could be diverted to new southeastern works. Good ecological status not defined but increased chalk spring inputs to river should increase the buffering capacity of river near Wye.
3.1 Ensure no increased flood risk and protect integrity flood storage	■							■	Option 6 spatial plan includes proposal to develop 'canal district' within the floodplain. Proposed compensation area at Cheeseman's Green not available. The issue is under review.
3.2 Ensure standard of service is maintained at appropriate level.	■	■						■	Issue currently under consideration
3.3 Reduce run-off effects of development for all zones	●							●	Strategy promotes that 100% of new paved areas incorporate SUDS
3.4 Provide sound and sustainable flood defence measures.	■	▲						▲	Issue currently under debate. Questions remain over loss of floodplain area and adequacy of replacement habitat.
4.1 Maintain and enhance Ashford's biodiversity interest			▲	▲				▲	Targets (a), (b) (e) and (f) are scheme specific detailed design issues and not delivered by this strategy - targets to be addressed by policy recommendations. (c) Opportunity to create wetland d/s of Bybrook and new STWs. (d) Spatial design includes green ribbon enhancing green corridor. Implementation of SUDS and wetland creation will also be of benefit.
4.2 Enhance conservation status of the Stour and its tributaries	▲		▲					▲	Targets (b) & (d) are not delivered by this strategy - to be addressed by policy recommendations. (a) Wastewater treatment will seek to achieve no deterioration in water quality but current marginal failures may continue. (c) Possible benefits to fisheries from abstraction of 5Mld/d river water d/s of bybrook and increase of spring flows resulting from corresponding reduction in abstractions from Chalk aquifers
4.3 Enhance species and habitats of importance	▲							▲	Consent parameters for Bybrook and new STW will be set to ensure Agency's policy of no deterioration is achieved. Reduced GW abstractions chalk over time should lead to increased chalk water inputs to the river. Impact on conservation sites is scheme specific detailed design issue - addressed by policy recommendations
<b>(iv) SUMMARY: Issues relating to strategy opportunities and constraints.</b>									
Strategy achieves very similar aspirational benefits as WW1. Possibly less robust in terms of treatment performance and risk of future failure, but for design purposes the quality achieved is the same. More land take in comparison to expansion of Bybrook but this is not reflected in quality targets. Strategy may be favoured due to increased 'naturalness' but also not reflected in quality targets. Likely benefits in river water quality resulting from split discharges between both Great and East Stour due to greater assimilative capacity of rivers and decentralising impact away from one point (like WW1 at Bybrook) - this however has not been quantified. The southern works offers additional scope for effluent re-use if willow coppicing strategy develops on a sufficiently large scale, and also offers scope for water to be discharged into the Beult (medway catchment) if this is shown to be beneficial for the habitat. These opportunities are not reflected in the quality targets									

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(iii) QUALITY ASSESSMENT AGAINST OBJECTIVES / TARGETS		MW3	WS3i / WW7 / FD8: Regional water resources strategy with reduced GW abstraction and localised compensation provided through river abstraction d/s of Bybrook. Extend Bybrook and construct a new conventional works south of Ashford with effluent discharged to the Stour. Full suite of FRM strategies implemented						
Objectives	Option Appraisal targets							Comments	
	a	b	c	d	e	f	Overall		
1.1 No impact on the quality and quantity of water available		▲						▲	Target reduction equates to 4.8Mld, which correlates with additional effluent flows generated by 2015, so 5Mld water treatment plant would permit reduced abstraction, though not by target deadline. Studies indicate no hydraulic continuity between the lower greensand aquifers and the G Stour in Chart Leacon GWMU. The Chalk boreholes may offer more benefit.
1.2 Ensure sufficient and sustainable water supply	●	●						●	Additional source will offer potential to increase outputs under contingency or emergency conditions (by temporarily restoring GW abstractions to current levels).
1.3 Reduce average household water usage in Ashford by 30% <sup>1</sup>	▲	▲	▲	▲	▲			▲	Assessment is for Scenario B (Realistic case), where targets, as set, are generally considered to be unachievable. Scenario A: Scenario C: ●
2.1 Improve summer water flows in the River Stour	▲	▲						▲	Water reused from river substituted by increased GW flows. AMP4 studies to look at base flows and aquifers targeted for reduced abstractions -proposed volumes of river water reused < effluent discharges from additional population and thus will not result in decreased river flows.
2.2 Prevent impact on river water quality from run-off	●	●						●	FRM strategies promoting implementation of SUDS for all development. SUDS should be developed prior to housing development schemes to address water quality issues during construction.
2.3 Maintain and improve groundwater quality <sup>2</sup>		●	▲					▲	Target (a) is design level recommendation. Strategy seeks to reduce abstractions from MKW boreholes for aquifer recovery and increased chalk stream flows. Historic levels of GW not known but upward trend in GW levels assumed based on reduction in abstractions achievable.
2.4 Attain discharge standard in accordance with standards <sup>3</sup> .	●	▲	●	●				●	SIMCAT modelling has identified parameters to achieve RQO targets. AMP3 quality improvement schemes to address WQ problems d/s of Sellenge and Lenham to be completed late 2005 and 2007 respectively Environment Agency consent parameters modelled to achieve policy of no deterioration from the present conditions achieved higher quality than stipulated by UWWTD.
2.5 Ensure wastewater capacity is commensurate with growth	●							●	Transport and treatment capacity provided before demand
2.6 Achieve "good water status" by December 2015.	▲	▲	▲					▲	Strategies will ensure no deterioration from current river water quality due to new development but higher risk of failures associated with natural treatment systems. Discharge of effluent into Great Stour u/s of Ashford may decrease spread impact of discharges on Stour. AMP 3 quality improvement schemes will be completed at Lenham (2007) and Sellenge (2005). Flows from Sellenge could be diverted to new southeastern works. Good ecological status not defined but increased chalk spring inputs to river should increase the buffering capacity of river near Wye.
3.1 Ensure no increased flood risk and protect integrity flood storage	■							■	Option 6 spatial plan includes proposal to develop 'canal district' within the floodplain. Proposed compensation area at Cheesman's Green not available. The issue is under review.
3.2 Ensure standard of service is maintained at appropriate level.	■	■						■	Issue currently under consideration
3.3 Reduce run-off effects of development for all zones	●							●	Strategy promotes that 100% of new paved areas incorporate SUDS
3.4 Provide sound and sustainable flood defence measures.	■	▲						▲	Issue currently under debate. Questions remain over loss of floodplain area and adequacy of replacement habitat.
4.1 Maintain and enhance Ashford's biodiversity interest			▲	▲				▲	Targets (a), (b) (e) and (f) are scheme specific detailed design issues and not delivered by this strategy - targets to be addressed by policy recommendations. (c) Opportunity to create wetland d/s of Bybrook and new STWs. (d) Spatial design includes green ribbon enhancing green corridor. Implementation of SUDS and wetland creation will also be of benefit.
4.2 Enhance conservation status of the Stour and its tributaries	▲		▲					▲	Targets (b) & (d) are not delivered by this strategy - to be addressed by policy recommendations. (a) Wastewater treatment will seek to achieve no deterioration in water quality but current marginal failures may continue. (c) Possible benefits to fisheries from abstraction of 5Mld river water d/s of Bybrook and increase of spring flows resulting from corresponding reduction in abstractions from Chalk aquifers
4.3 Enhance species and habitats of importance	▲							▲	Consent parameters for Bybrook and new STW will be set to ensure Agency's policy of no deterioration is achieved. Reduced GW abstractions chalk over time should lead to increased chalk water inputs to the river. Impact on conservation sites is scheme specific detailed design issue - addressed by policy recommendations
<b>(iv) SUMMARY: Issues relating to strategy opportunities and constraints.</b>									
Strategy achieves the same aspirational benefits as MW1 and MW2 with only difference being the single treatment works to the south of Ashford. The single works may possibly have a higher robustness than MW2 due to conventional treatment. Strategy will involve an increased land take relative to MW1 where all expansion is at Bybrook. Benefits may be achieved in river water quality by alternative discharge points decentralising impact away from one point (Bybrook) but not quantified. Southern works offers additional scope for reuse if coppicing strategy develops and also enables water to be discharged into the Beult (medway catchment) if found to be a beneficial to habitat.									

(iii) QUALITY ASSESSMENT AGAINST OBJECTIVES / TARGETS		MW4		WS4i / WW1 / FD8: Regional water resources strategy with reduced GW abstraction and compensation provided through new regional supplies such as desalination on east Kent coast. All wastewater to Bybrook with effluent discharged to the Stour. Full suite of FRM strategies implemented					
Objectives	Option Appraisal targets							Comments	
	a	b	c	d	e	f	Overall		
1.1 No impact on the quality and quantity of water available		●						●	No constraint on construction of regional water supply sources - Desalination plant could be up and running by 2010 permitting reductions in abstractions by target date. Studies indicate no hydraulic continuity between the lower greensand aquifers and the G Stour in Chart Leacon GWMU. The Chalk boreholes may offer more benefit.
1.2 Ensure sufficient and sustainable water supply	●	●						●	Additional water source will offer potential to increase outputs under contingency or emergency conditions (by temporarily restoring GW abstractions to current levels).
1.3 Reduce average household water usage in Ashford by 30% <sup>1</sup>	▲	▲	▲	▲	▲			▲	Assessment is for Scenario B (Realistic case), where targets, as set, are generally considered to be unachievable. Scenario A: Scenario C: ●
2.1 Improve summer water flows in the River Stour	●	▲						▲	Additional water is new water from outside stour system hence should be considered as additional water. Flows in river will increase relative to rise in population. AMP4 studies to look at base flows and aquifers targetted for reduced abstractions.
2.2 Prevent impact on river water quality from run-off	●	●						●	FRM strategies promoting implementation of SUDS for all development. SUDS should be developed prior to housing development schemes to address water quality issues during construction.
2.3 Maintain and improve groundwater quality <sup>2</sup>		●	▲					▲	Target (a) is a design level recommendation achieved through good practice. Strategy seeks to reduce abstractions from MKW boreholes for aquifer recovery and increased chalk stream flows. Historic levels of GW not known but upward trend in GW levels assumed based on reduction in abstractions achievable.
2.4 Attain discharge standard in accordance with standards <sup>3</sup> .	●	▲	●	●				●	SIMCAT modelling has identified parameters to achieve RQO targets. AMP3 quality improvement schemes to address WQ problems d/s of Sellinge and Lenham to be completed late 2005 and 2007 respectively Environment Agency consent parameters modelled to achieve policy of no deterioration from the present conditions achieved higher quality than stipulated by UWWTD.
2.5 Ensure wastewater capacity is commensurate with growth	●							●	Transport and treatment capacity would be provided before demand
2.6 Achieve "good water status" by December 2015.	▲	●	▲					▲	Strategies will ensure no deterioration from current river water quality due to new development. AMP 3 quality improvement schemes will be completed at Lenham (2007) and Sellinge (2005). Good ecological status not defined but increased chalk spring inputs to river should increase the buffering capacity of river d/s of reuse point.
3.1 Ensure no increased flood risk and protect integrity flood storage	■							■	Option 6 spatial plan includes proposal to develop canal district within the floodplain. Proposed compensation area at Cheeseman's Green not available. The issue is under review.
3.2 Ensure standard of service is maintained at appropriate level.	■	■						■	Issue currently under consideration
3.3 Reduce run-off effects of development for all zones	●							●	Strategy promotes that 100% of new paved areas incorporate SUDS
3.4 Provide sound and sustainable flood defence measures.	■	▲						▲	Issue currently under debate. Questions remain over loss of floodplain area and adequacy of replacement habitat.
4.1 Maintain and enhance Ashford's biodiversity interest			▲	▲				▲	Targets (a), (b) (e) and (f) are scheme specific detailed design issues and not delivered by this strategy - targets to be addressed by policy recommendations. (c) Opportunity to create wetland d/s of Bybrook and new STWs. (d) Spatial design includes green ribbon enhancing green corridor. Implementation of SUDS and wetland creation will also be of benefit.
4.2 Enhance conservation status of the Stour and its tributaries	▲		▲					▲	Targets (b) & (d) are not delivered by this strategy - to be addressed by policy recommendations. (a) Wastewater treatment will seek to achieve no deterioration in water quality but current marginal failures may continue. (c) Possible benefits to fisheries from abstraction of 5Ml/d river water d/s of bybrook and increase of spring flows resulting from corresponding reduction in abstractions from Chalk aquifers
4.3 Enhance species and habitats of importance	▲							▲	Consent parameters for Bybrook and new STW will be set to ensure Agency's policy of no deterioration is achieved. Reduced GW abstractions chalk over time should lead to increased chalk water inputs to the river. Impact on conservation sites is scheme specific detailed design issue - addressed by policy recommendations
<b>(iv) SUMMARY: Issues relating to strategy opportunities and constraints.</b>									
The strategy is the same as MW1 but the input of water from remote sites brings some additional benefits - (1) there's no constraint on timing of construction of regional water supply sources and (2) the additional water source from outside the system brings more flexibility to the Stour system. There's insufficient detail on potential remote sites to predict possible impacts of development upon ecological interests. Water demands will be the same for both strategies and will be based upon assumptions on levels of demand management interventions.									

(iii) QUALITY ASSESSMENT AGAINST OBJECTIVES / TARGETS		MW5		WS4i / WW4 / FD8: Regional water resources strategy with reduced GW abstraction and compensation provided through new regional supplies such as desalination on east Kent coast. Extend Bybrook and construct up to four natural technology works south of Ashford with effluent discharged to the Stour. Full suite of FRM strategies implemented					
Objectives	Option Appraisal targets							Comments	
	a	b	c	d	e	f	Overall		
1.1 No impact on the quality and quantity of water available		●						●	No constraint on construction of regional water supply sources - Desalination plant could be up and running by 2010 permitting reductions in abstractions by target date. Studies indicate no hydraulic continuity between the lower greensand aquifers and the G Stour in Chart Leacon GWMU. The Chalk boreholes may offer more benefit.
1.2 Ensure sufficient and sustainable water supply	●	●						●	Additional water source will offer potential to increase outputs under contingency or emergency conditions (by temporarily restoring GW abstractions to current levels).
1.3 Reduce average household water usage in Ashford by 30% <sup>1</sup>	▲	▲	▲	▲	▲			▲	Assessment is for Scenario B (Realistic case), where targets, as set, are generally considered to be unachievable. Scenario A: Scenario C: ●
2.1 Improve summer water flows in the River Stour	●	▲						▲	Additional water is new water from outside stour system hence should be considered as additional water. Flows in river will increase relative to rise in population - AMP4 studies to look at base flows and aquifers targeted for reduced abstractions.
2.2 Prevent impact on river water quality from run-off	●	●						●	FRM strategies promoting implementation of SUDS for all development. SUDS should be developed prior to housing development schemes to address water quality issues during construction.
2.3 Maintain and improve groundwater quality <sup>2</sup>		●	▲					▲	Target (a) is design level recommendation. Strategy seeks to reduce abstractions from MKW boreholes for aquifer recovery and increased chalk stream flows. Historic levels of GW not known but upward trend in GW levels assumed based on reduction in abstractions achievable.
n/a	●	▲	●	●				●	SIMCAT modelling has identified parameters to achieve RQO targets. AMP3 quality improvement schemes to address WQ problems d/s of Sellenge and Lenham to be completed late 2005 and 2007 respectively Environment Agency consent parameters modelled to achieve policy of no deterioration from the present conditions achieved higher quality than stipulated by UWWTD.
2.5 Ensure wastewater capacity is commensurate with growth	●							●	Transport and treatment capacity provided before demand
2.6 Achieve "good water status" by December 2015.	▲	▲	▲					▲	Strategies will ensure no deterioration from current river water quality due to new development but higher 'risk' of failures associated with natural treatment systems. Separate discharges into G and E Stour may reduce direct impact of development on small stretch of river. AMP 3 quality improvement schemes will be completed at Lenham (2007) and Sellenge (2005). Flows from Sellenge could be diverted to new southeastern works. Good ecological status not defined but increased chalk spring inputs to river should increase the buffering capacity of river near Wye.
3.1 Ensure no increased flood risk and protect integrity flood storage	■							■	Option 6 spatial plan includes proposal to develop 'canal district' within the floodplain. Proposed compensation area at Cheesman's Green not available. The issue is under review.
3.2 Ensure standard of service is maintained at appropriate level.	■	■						■	Issue currently under consideration
3.3 Reduce run-off effects of development for all zones	●							●	Strategy promotes that 100% of new paved areas incorporate SUDS
3.4 Provide sound and sustainable flood defence measures.	■	▲						▲	Issue currently under debate. Questions remain over loss of floodplain area and adequacy of replacement habitat.
4.1 Maintain and enhance Ashford's biodiversity interest			▲	▲				▲	Targets (a), (b) (e) and (f) are scheme specific detailed design issues and not delivered by this strategy - targets to be addressed by policy recommendations. (c) Opportunity to create wetland d/s of Bybrook and new STWs. (d) Spatial design includes green ribbon enhancing green corridor. Implementation of SUDS and wetland creation will also be of benefit.
4.2 Enhance conservation status of the Stour and its tributaries	▲		▲					▲	Targets (b) & (d) are not delivered by this strategy - to be addressed by policy recommendations. (a) Wastewater treatment will seek to achieve no deterioration in water quality but current marginal failures may continue. (c) Possible benefits to fisheries from abstraction of 5M/d river water d/s of bybrook and increase of spring flows resulting from corresponding reduction in abstractions from Chalk aquifers
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<b>(iv) SUMMARY: Issues relating to strategy opportunities and constraints.</b>									
Input of water from remote sites brings some additional benefits - (1) there's no constraint on timing of construction of regional water supply sources and (2) the additional water source from outside the system brings more flexibility to the Stour system. There's insufficient detail on potential sites to predict possible impacts on ecological interests. Water demand will be the same for both strategies and will be based upon assumptions on levels of demand management interventions. Strategy possibly less robust than MW1 and MW3 in terms of treatment performance and risk of future failure, but for design purposes the river water quality standards achieved are the same. More land take is likely relative to Bybrook but this is not reflected in the quality targets. The strategy may be favoured due to increased 'naturalness' but this is also not reflected in the quality targets. Possible benefits to river water quality by discharges to both Great and East Stour decentralising impact away from one point (Like Bybrook) but this is not quantified. Southern works offers additional scope for effluent re-use if coppicing strategy develops and also enables water to be discharged into the beult (midway catchment) if found to be beneficial.									

(iii) QUALITY ASSESSMENT AGAINST OBJECTIVES / TARGETS	MW6	WS4i / WW7 / FD8: Regional water resources strategy with reduced GW abstraction and compensation provided through new regional supplies such as desalination on east Kent coast. Extend Bybrook and construct a new conventional works south of Ashford with effluent discharged to the Stour. Full suite of FRM strategies implemented							
Objectives	Option Appraisal targets							Comments	
	a	b	c	d	e	f	Overall		
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1.2 Ensure sufficient and sustainable water supply	●	●						●	Additional water source will offer potential to increase outputs under contingency or emergency conditions (by temporarily restoring GW abstractions to current levels).
1.3 Reduce average household water usage in Ashford by 30% <sup>1</sup>	▲	▲	▲	▲	▲	▲	▲	▲	Assessment is for Scenario B (Realistic case), where targets, as set, are generally considered to be unachievable. Scenario A: Scenario C: ●
2.1 Improve summer water flows in the River Stour	●	▲						▲	Additional water is new water from outside stour system hence should be considered as additional water. Flows in river will increase relative to rise in population. AMP4 studies to look at base flows and aquifers targeted for reduced abstractions.
2.3 Maintain and improve groundwater quality <sup>2</sup>		●	▲					▲	Target (a) is design level recommendation. Strategy seeks to reduce abstractions from MKW boreholes for aquifer recovery and increased chalk stream flows. Historic levels of GW not known but upward trend in GW levels assumed based on reduction in abstractions achievable.
2.4 Attain discharge standard in accordance with standards <sup>3</sup> .	●	▲	●	●				●	SIMCAT modelling has identified parameters to achieve RQO targets. AMP3 quality improvement schemes to address WQ problems d/s of Sellinge and Lenham to be completed late 2005 and 2007 respectively Environment Agency consent parameters modelled to achieve policy of no deterioration from the present conditions achieved higher quality than stipulated by UWWTD.
2.5 Ensure wastewater capacity is commensurate with growth	●							●	Transport and treatment capacity provided before demand
2.6 Achieve "good water status" by December 2015.	▲	▲	▲					▲	Strategies will ensure no deterioration from current river water quality due to new development but higher risk of failures associated with natural treatment systems. Discharge of effluent into Great Stour u/s of Ashford may decrease spread impact of discharges on Stour. AMP 3 quality improvement schemes will be completed at Lenham (2007) and Sellinge (2005). Flows from Sellinge could be diverted to new southeastern works. Good ecological status not defined but increased chalk spring inputs to river should increase the buffering capacity of river near Wye.
3.1 Ensure no increased flood risk and protect integrity flood storage	■							■	Option 6 spatial plan includes proposal to develop 'canal district' within the floodplain. Proposed compensation area at Cheeseman's Green not available. The issue is under review.
3.2 Ensure standard of service is maintained at appropriate level.	■	■						■	Issue currently under consideration
3.3 Reduce run-off effects of development for all zones	●							●	Strategy promotes that 100% of new paved areas incorporate SUDS
3.4 Provide sound and sustainable flood defence measures.	■	▲						▲	Issue currently under debate. Questions remain over loss of floodplain area and adequacy of replacement habitat.
4.1 Maintain and enhance Ashford's biodiversity interest			▲	▲				▲	Targets (a), (b) (e) and (f) are scheme specific detailed design issues and not delivered by this strategy - targets to be addressed by policy recommendations. (c) Opportunity to create wetland d/s of Bybrook and new STWs. (d) Spatial design includes green ribbon enhancing green corridor. Implementation of SUDS and wetland creation will also be of benefit.
4.2 Enhance conservation status of the Stour and its tributaries	▲		▲					▲	Targets (b) & (d) are not delivered by this strategy - to be addressed by policy recommendations. (a) Wastewater treatment will seek to achieve no deterioration in water quality but current marginal failures may continue. (c) Possible benefits to fisheries from abstraction of 5MI/d river water d/s of bybrook and increase of spring flows resulting from corresponding reduction in abstractions from Chalk aquifers
4.3 Enhance species and habitats of importance	▲							▲	Consent parameters for Bybrook and new STW will be set to ensure Agency's policy of no deterioration is achieved. Reduced GW abstractions chalk over time should lead to increased chalk water inputs to the river. Impact on conservation sites is scheme specific detailed design issue - addressed by policy recommendations
<b>(iv) SUMMARY: Issues relating to strategy opportunities and constraints.</b>									
Input of water from remote sites brings some additional benefits - (1) there's no constraint on timing of construction of regional water supply sources and (2) the additional water source from outside the system brings more flexibility to the Stour system. There's insufficient detail on potential sites to predict possible impacts on ecological interests. Water demand will be the same for both strategies and will be based upon assumptions on levels of demand management interventions. Possibly greater robustness than MW2 and MW5 due to conventional treatment. Increased land take relative to MW1 where all expansion is at Bybrook. Likely benefits achieved to river water quality through alternative discharge points decentralising impact away from one point (Bybrook) - this is not quantified. Southern works offers additional scope for reuse if coppicing strategy develops and also enables water to be discharged into the beult (medway catchment) if found to be beneficial.									

Summary						
Objectives	WS3(i)+W W1	WS3(i)+W W4	WS3(i)+W W7	WS4(i)+ WW1	WS4(i)+W W4	WS4(i)+W W7
1.1 No impact on the quality and quantity of water available						
1.2 Ensure sufficient and sustainable water supply						
1.3 Reduce average household water usage in Ashford by 30% <sup>1</sup>						
2.1 Improve summer water flows in the River Stour						
2.2 Prevent impact on river water quality from run-off						
2.3 Maintain and improve groundwater quality <sup>2</sup>						
2.4 Attain discharge standard in accordance with standards <sup>3</sup> .						
2.5 Ensure wastewater capacity is commensurate with growth						
2.6 Achieve “good water status” by December 2015.						
3.1 Ensure no increased flood risk and protect integrity flood storage						
3.2 Ensure standard of service is maintained at appropriate level.						
3.3 Reduce run-off effects of development for all zones						
3.4 Provide sound and sustainable flood defence measures.						
4.1 Maintain and enhance Ashford’s biodiversity interest						
4.2 Enhance conservation status of the Stour and its tributaries						
4.3 Enhance species and habitats of importance						
<b>Summary score</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>16</b>	<b>16</b>	<b>16</b>

<b>Scoring of quality assessment based on the following:</b>		+2 points
		+1 point
		-2 points

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