Base Scheme Options – LONG LONG LIST **Treatment Plant Location – TP1 Existing Site**

Receiving Environment	Receiving Environment Ref	Secondary Receiving Environment	WWTP Location	Treatment Option	Treatment Enhancements	SFF Options: Treatment (portion of Process Flow* to Council WWTP) SFF2 All	SFF3 Some	SFF4 None	SFF Options: Discharge (combined with Council discharge, or separate) A Combined	B Separate	Scheme Ref	Scheme Long Long list No.	Schemes identified to take forward to Traffic Light Assessment based on: • Receiving Environment • Treat Plant Site and Process • SFF Option	Scheme Long list No.	Comments/Rationale
Ocean	**O3** WMP existing outfall	-	**TP1 Existing Site**	B - BTF							TP1-O3-B SFF:	1	✓	**1**	Likely to stack up environmentally and cost efficiently as the best of these six Ocean discharge options. Dependent on WMP acceptance/ new consent.
				C – Conventional Secondary Treatment							TP1-O3-C	2			See row 1.
				D - Membrane							TP1-O3-D	3			See row 1.
	O4 New WDC outfall	-		B - BTF							TP1-O4-B	4			See row 1. Less desirable than joining WMP existing outfall. But could be considered if WMP option is not able to be taken forward.
				C – Conventional Secondary Treatment							TP1-O4-C	5			See row 1.
				D - Membrane							TP1-O4-D	6			See row 1.
Land West of Airport	**L1B** RIBs/ trenches	-		B - BTF							TP1-L1B-Bc	7			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 8.
				C – Conventional Secondary Treatment							TP1-L1B-C	8	✓	**2**	See row 7.
				D - Membrane							TP1-L1B-D	9			High capital & operating costs; unlikely to be needed environmentally.
Land Airport	**L2B** RIBs/ trenches	-		B - BTF							TP1-L2B-Bc	10			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in C.
				C – Conventional Secondary Treatment							TP1-L2B-C	11	✓	**3**	See row 10.
				D - Membrane							TP1-L2B-D	12			High capital & operating costs; unlikely to be needed environmentally.
Land East of Airport	**L3A** Slow rate irrigation	**O3** WMP existing outfall		B - BTF							TP1-L3A/O3-B	13			RIBs/trenches options 19-21 would be more controllable / cost efficient than this item, would not require large areas of land in an area that is reasonably highly developed, and would not need the secondary receiving environment (Ocean).
				C – Conventional Secondary Treatment							TP1-L3A/O3-C	14			See row 13.
				D - Membrane							TP1-L3A/O3-D	15			See row 13.
		O4 New WDC outfall		B - BTF							TP1-L3A/O4-B	16			See row 13.
				C – Conventional Secondary Treatment							TP1-L3A/O4-C	17			See row 13.
				D - Membrane							TP1-L3A/O4-D	18			See row 13.
	L3B RIBs/ trenches	-		B - BTF							TP1-L3B-Bc	19			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 20.
				C – Conventional Secondary Treatment							TP1-L3B-C	20	✓	**4**	See rows 13 and 19.
				D - Membrane							TP1-L3B-D	21			High capital & operating costs; unlikely to be needed environmentally.

*All human wastewater from SFF will go to Council WWTP. SFF treatment and discharge options still to be worked through.

Key abbreviations: O – Ocean, L – Land, TP – Treatment Plant, BTF – Biological Trickling Filter.

Treatment Plant Location – TP2 West of Airport

Receiving Environment	Receiving Environment Ref	Secondary Receiving Environment	WWTP Location	Treatment Option	Treatment Enhancements	SFF Options: Treatment (portion of Process Flow* to Council WWTP) SFF2 All	SFF3 Some	SFF4 None	SFF Options: Discharge (combined with Council discharge, or separate) A Combined	B Separate	Scheme Ref	No.	Schemes identified to take forward to Traffic Light Assessment based on: • Receiving Environment • Treat Plant Site and Process • SFF Option	Scheme Long list No.	Comments/Rationale
Ocean	**O3** WMP existing outfall	-	**TP2 West of Airport**	B - BTF							TP2-O3-B	22	✓	**5**	Likely to stack up environmentally and cost efficiently as the best of these six Ocean discharge options. Dependent on WMP acceptance/ new consent.
				C – Conventional Secondary Treatment							TP2-O3-C	23			See row 22.
				D - Membrane							TP2-O3-D	24			See row 22.
	O4 New WDC outfall	-		B - BTF							TP2-O4-B	25			See row 22. Less desirable than joining WMP existing outfall. But could be considered if WMP option is not able to be taken forward.
				C – Conventional Secondary Treatment							TP2-O4-C	26			See row 22.
				D - Membrane							TP2-O4-D	27			See row 22.
Land West of Airport	**L1B** RIBs/trenches	-		B - BTF							TP2-L1B-B	28			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in 29.
				C – Conventional Secondary Treatment							TP2-L1B-C	29	✓	**6**	See row 28.
				D - Membrane							TP2-L1B-D	30			High capital & operating costs; unlikely to be needed environmentally.
Land Airport	**L2B** RIBs/trenches	-		B - BTF							TP2-L2B-B	31			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 32.
				C – Conventional Secondary Treatment							TP2-L2B-C	32	✓	**7**	See row 31.
				D - Membrane							TP2-L2B-D	33			High capital & operating costs; unlikely to be needed environmentally.
Land East of Airport	**L3A** Slow rate irrigation	**O3** WMP existing outfall		B - BTF							TP2-L3A/O3-B	34			RIBs/trenches options 40-42 would be more controllable / cost efficient than this item, would not require large areas of land in an area that is reasonably highly developed, and would not need the secondary receiving environment (Ocean).
				C – Conventional Secondary Treatment							TP2-L3A/O3-C	35			See row 34.
				D - Membrane							TP2-L3A/O3-D	36			See row 34.
		O4 New WDC outfall		B - BTF							TP2-L3A/O4-B	37			See row 34.
				C – Conventional Secondary Treatment							TP2-L3A/O4-C	38			See row 34.
				D - Membrane							TP2-L3A/O4-D	39			See row 34.
	L3B RIBs/trenches	-		B - BTF							TP2-L3B-B	40			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 41.
				C – Conventional Secondary Treatment							TP2-L3B-C	41	✓	**8**	See rows 34 and 40.
				D - Membrane							TP2-L3B-D	42			High capital & operating costs; unlikely to be needed environmentally.

*All human wastewater from SFF will go to Council WWTP. SFF treatment and discharge options still to be worked through.

Key abbreviations: O – Ocean, L – Land, TP – Treatment Plant, BTF – Biological Trickling Filter.

Treatment Plant Location – TP3 Airport

Receiving Environment	Receiving Environment Ref	Secondary Receiving Environment	WWTP Location	Treatment Option	Treatment Enhancements	SFF Options: Treatment (portion of Process Flow* to Council WWTP) SFF2 All	SFF3 Some	SFF4 None	SFF Options: Discharge (combined with Council discharge, or separate) A Combined	B Separate	Scheme Ref	No.	Schemes identified to take forward to Traffic Light Assessment based on: • Receiving Environment • Treat Plant Site and Process • SFF Option	Scheme Long list No.	Comments/Rationale
Ocean	**O3** WMP existing outfall	-	**TP3 Airport**	B - BTF							TP3-O3-B	43	✓	**9**	Likely to stack up environmentally and cost efficiently as the best of these six Ocean discharge options. Dependent on WMP acceptance/ new consent.
				C – Conventional Secondary Treatment							TP3-O3-C	44			See row 43.
				D - Membrane							TP3-O3-D	45			See row 43.
	O4 New WDC outfall	-		B - BTF							TP3-O4-B	46			See row 43. Less desirable than joining WMP existing outfall. But could be considered if WMP option is not able to be taken forward.
				C – Conventional Secondary Treatment							TP3-O4-C	47			See row 43.
				D - Membrane							TP3-O4-D	48			See row 43.
Land West of Airport	**L1B** RIBs/trenches	-		B - BTF							TP3-L1B-B	49			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 50.
				C – Conventional Secondary Treatment							TP3-L1B-C	50	✓	**10**	See row 49.
				D - Membrane							TP3-L1B-D	51			High capital & operating costs; unlikely to be needed environmentally.
Land Airport	**L2B** RIBs/trenches	-		B - BTF							TP3-L2B-B	52			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 53.
				C – Conventional Secondary Treatment							TP3-L2B-C	53	✓	**11**	See row 52.
				D - Membrane							TP3-L2B-D	54			High capital & operating costs; unlikely to be needed environmentally.
Land East of Airport	**L3A** Slow rate irrigation	**O3** WMP existing outfall		B - BTF							TP3-L3A/O3-B	55			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 56.
				C – Conventional Secondary Treatment							TP3-L3A/O3-C	56			RIBs/trenches options 61-63 would be more controllable / cost efficient than this item, would not require large areas of land in an area that is reasonably highly developed, and would not need the secondary receiving environment (Ocean).
				D - Membrane							TP3-L3A/O3-D	57			See row 55.
		O4 New WDC outfall		B - BTF							TP3-L3A/O4-B	58			See row 55.
				C – Conventional Secondary Treatment							TP3-L3A/O4-C	59			See row 55.
				D - Membrane							TP3-L3A/O4-D	60			See row 55.
	L3B RIBs/trenches	-		B - BTF							TP3-L3B-B	61			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in 62.
				C – Conventional Secondary Treatment							TP3-L3B-C	62	✓	**12**	See rows 56 and 61.
				D - Membrane							TP3-L3B-D	63			High capital & operating costs; unlikely to be needed environmentally.
Land Blue Spur	**L4A** Slow rate irrigation	**O3**		B - BTF							TP3-L4A/O3-B	64			Location assessed as being unsuitable for slow rate irrigation discharge due to steep land slopes: run-off risk. Therefore, none of these options taken forward to the 'Long List'.

		WMP existing outfall		C – Conventional Secondary Treatment							TP3-L4A/O3-C	65			See row 64.
				D - Membrane							TP3-L4A/O3-D	66			See row 64.
		O4 New WDC outfall		B - BTF							TP3-L4A/O4-B	67			See row 64.
				C – Conventional Secondary Treatment							TP3-L4A/O4-C	68			See row 64.
				D - Membrane							TP3-L4A/O4-D	69			See row 64.
	L4B RIBs/trenches	-		B - BTF							TP3-L4B-B	70			Location assessed as being unsuitable for RIBs/trenches discharge due to steep land slopes: earthworks unsuitability. Therefore, none of these options taken forward to the 'Long List'.
				C – Conventional Secondary Treatment							TP3-L4B-C	71			See row 70.
				D - Membrane							TP3-L4B-D	72			See row 70.
Land Kaniere	**L5A** Slow rate irrigation	**O3** WMP existing outfall		B - BTF							TP3-L5A/O3-B	73			Discharge to this area deemed a potentially high-risk option, in relation to public health / river water quality and ecology risk, public perception, and risk to WMP/WDC extraction of water from river. Therefore, none of these options taken forward to the 'Long List'.
				C – Conventional Secondary Treatment							TP3-L5A/O3-C	74			See row 73.
				D - Membrane							TP3-L5A/O3-D	75			See row 73.
		O4 New WDC outfall		B - BTF							TP3-L5A/O4-B	76			See row 73.
				C – Conventional Secondary Treatment							TP3-L5A/O4-C	77			See row 73.
				D - Membrane							TP3-L5A/O4-D	78			See row 73.
	L5B RIBs/trenches	-		B - BTF							TP3-L5B-B	79			See row 73.
				C – Conventional Secondary Treatment							TP3-L5B-C	80			See row 73.
				D - Membrane							TP3-L5B-D	81			See row 73.

*All human wastewater from SFF will go to Council WWTP. SFF treatment and discharge options still to be worked through.

Key abbreviations: O – Ocean, L – Land, TP – Treatment Plant, BTF – Biological Trickling Filter.

Treatment Plant Location – TP4 East of Airport

Receiving Environment	Receiving Environment Ref	Secondary Receiving Environment	WWTP Location	Treatment Option	Treatment Enhancements	SFF Options: Treatment (portion of Process Flow* to Council WWTP) SFF2 All	SFF3 Some	SFF4 None	SFF Options: Discharge (combined with Council discharge, or separate) A Combined	B Separate	Scheme Ref	No.	Schemes identified to take forward to Traffic Light Assessment based on: • Receiving Environment • Treat Plant Site and Process • SFF Option	Scheme Long list No.	Comments/Rationale
Ocean	**O3** WMP existing outfall	-	**TP4 East of Airport**	A - Ponds							TP4-O3-A	82			Ponds in this area deemed a potentially high-risk option, in relation to airport flight safety. Therefore, this option not taken forward to the 'Long List'.
				B - BTF							TP4-O3-B	83	✓	**13**	Likely to stack up environmentally and cost efficiently as the best of these eight Ocean discharge options. Dependent on WMP acceptance/ new consent.
				C – Conventional Secondary Treatment							TP4-O3-C	84			See row 83.
				D - Membrane							TP4-O3-D	85			See row 83.
	O4 New WDC outfall	-		A - Ponds							TP4-O4-A	86			See row 83.
				B - BTF							TP4-O4-B	87			See row 83. Less desirable than joining WMP existing outfall. But could be considered if WMP option is not able to be taken forward.
				C – Conventional Secondary Treatment							TP4-O4-C	88			See row 83.
				D - Membrane							TP4-O4-D	89			See row 83.
Land West of Airport	**L1B** RIBs/trenches	-		A - Ponds							TP4-L1B-A	90			See row 82.
				B - BTF							TP4-L1B-B	91			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 92.
				C – Conventional Secondary Treatment							TP4-L1B-C	92			Does not make sense to send flows back to this location from East of the Airport. Therefore, not taken forward to the 'Long List'.
				D - Membrane							TP4-L1B-D	93			High capital & operating costs; unlikely to be needed environmentally.
Land Airport	**L2B** RIBs/trenches	-		A - Ponds							TP4-L2B-A	94			See row 82.
				B - BTF							TP4-L2B-B	95			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 96.
				C – Conventional Secondary Treatment							TP4-L2B-C	96	✓	**14**	See row 95.
				D - Membrane							TP4-L2B-D	97			High capital & operating costs; unlikely to be needed environmentally.
Land East of Airport	**L3A** Slow rate irrigation	**O3** WMP existing outfall		A - Ponds							TP4-L3A/O3-A	98			See row 82.
				B - BTF							TP4-L3A/O3-B	99			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 100.
				C – Conventional Secondary Treatment							TP4-L3A/O3-C	100			RIBs/trenches options 106-109 would be more controllable / cost efficient than this item, would not require large areas of land in an area that is reasonably highly developed, and would not need the secondary receiving environment (Ocean).
				D - Membrane							TP4-L3A/O3-D	101			See row 99.
		O4 New WDC outfall		A - Ponds							TP4-L3A/O4-A	102			See row 82.
				B - BTF							TP4-L3A/O4-B	103			See row 99.
				C – Conventional Secondary Treatment							TP4-L3A/O4-C	104			See row 99.
				D - Membrane							TP4-L3A/O4-D	105			See row 99.
	L3B RIBs/trenches	-		A - Ponds							TP4-L3B-A	106			See row 82.
				B - BTF							TP4-L3B-B	107			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 108.
				C – Conventional Secondary Treatment							TP4-L3B-C	108	✓	**15**	See row 107.
				D - Membrane							TP4-L3B-D	109			High capital & operating costs; unlikely to be needed environmentally.

Land Blue Spur	**L4A** Slow rate irrigation	**O3** WMP existing outfall		A - Ponds							TP4-L3A/O3-A	110			Location assessed as being unsuitable for slow rate irrigation discharge due to steep land slopes: run-off risk. Therefore, none of these options taken forward to the 'Long List'.
				B - BTF							TP4-L3A/O3-B	111			See row 110.
				C – Conventional Secondary Treatment							TP4-L4A/O3-C	112			See row 110.
				D - Membrane							TP4-L4A/O3-D	113			See row 110.
		O4 New WDC outfall		A - Ponds							TP4-L4A/O4-A	114			See row 110.
				B - BTF							TP4-L4A/O4-B	115			See row 110.
				C – Conventional Secondary Treatment							TP4-L4A/O4-C	116			See row 110.
				D - Membrane							TP4-L4A/O4-D	117			See row 110.
	L4B RIBs/trenches	-		A - Ponds							TP4-L4B-A	118			Location assessed as being unsuitable for RIBs/trenches discharge due to steep land slopes: earthworks unsuitability. Therefore, none of these options taken forward to the 'Long List'.
				B - BTF							TP4-L4B-B	119			See row 118.
				C – Conventional Secondary Treatment							TP4-L4B-C	120			See row 118.
				D - Membrane							TP4-L4B-D	121			See row 118.
Land Kaniere	**L5A** Slow rate irrigation	**O3** WMP existing outfall		A - Ponds							TP4-L5A/O3-A	122			Discharge to this area deemed a potentially high-risk option, in relation to public health / river water quality and ecology risk, public perception, and risk to WMP/WDC extraction of water from river. Therefore, none of these options taken forward to the 'Long List'.
				B - BTF							TP4-L5A/O3-B	123			See row 73.
				C – Conventional Secondary Treatment							TP4-L5A/O3-C	124			See row 73.
				D - Membrane							TP4-L5A/O3-D	125			See row 73.
		O4 New WDC outfall		A - Ponds							TP4-L5A/O4-A	126			See row 73.
				B - BTF							TP4-L5A/O4-B	127			See row 73.
				C – Conventional Secondary Treatment							TP4-L5A/O4-C	128			See row 73.
				D - Membrane							TP4-L5A/O4-D	129			See row 73.
	L5B RIBs/trenches	-		A - Ponds							TP4-L5B-A	130			See row 73.
				B - BTF							TP4-L5B-B	131			See row 73.
				C – Conventional Secondary Treatment							TP4-L5B-C	132			See row 73.
				D - Membrane							TP4-L5B-D	133			See row 73.

*All human wastewater from SFF will go to Council WWTP. SFF treatment and discharge options still to be worked through.

Key abbreviations: O – Ocean, L – Land, TP – Treatment Plant, BTF – Biological Trickling Filter.

Treatment Plant Location – TP5 South side

Receiving Environment	Receiving Environment Ref	Secondary Receiving Environment	WWTP Location	Treatment Option	Treatment Enhancements	SFF Options: Treatment (portion of Process Flow* to Council WWTP) SFF2 All	SFF3 Some	SFF4 None	SFF Options: Discharge (combined with Council discharge, or separate) A Combined	B Separate	Scheme Ref	No.	Schemes identified to take forward to Traffic Light Assessment based on: • Receiving Environment • Treat Plant Site and Process • SFF Option		Comments/Rationale
Ocean	**O3** WMP existing outfall	-	TP5 South side	A - Ponds							TP5-O3-A	134	✓	**16**	Included for comparative assessment purposes.
				B - BTF							TP5-O3-B	135	✓	**17**	Likely to stack up environmentally and cost efficiently as the best of these eight Ocean discharge options. Dependent on WMP acceptance/ new consent.
				C – Conventional Secondary Treatment							TP5-O3-C	136			See row 135.
				D - Membrane							TP5-O3-D	137			See row 135.
	O4 New WDC outfall	-		A - Ponds							TP5-O4-A	138			See row 135.
				B - BTF							TP5-O4-B	139			See row 135. Less desirable than joining WMP existing outfall. But could be considered if WMP option is not able to be taken forward.
				C – Conventional Secondary Treatment							TP5-O4-C	140			See row 135.
				D - Membrane							TP5-O4-D	141			See row 135.
Land South side	**L6A** Slow rate irrigation	**O3** WMP existing outfall		A - Ponds	Algae removal						TP5-L6A/O3-A	142	✓	**18**	Included for comparative assessment purposes. RIBs/trenches options 150-153 would be more controllable / cost efficient than this item, would not require large areas of land, and would not need the secondary receiving environment (Ocean).
				B - BTF							TP5-L6A/O3-B	143			See row 142. Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in 144.
				C – Conventional Secondary Treatment							TP5-L6A/O3-C	144	✓	**19**	See row 143. Rows 142 and 144 taken forward to the Long List for assessment.
				D - Membrane							TP5-L6A/O3-D	145			High capital & operating costs; unlikely to be needed environmentally.
		O4 New WDC outfall		A - Ponds							TP5-L6A/O4-A	146			See row 143.
				B - BTF							TP5-L6A/O4-B	147			See row 143.
				C – Conventional Secondary Treatment							TP5-L6A/O4-C	148			See row 144.
				D - Membrane							TP5-L6A/O4-D	149			High capital & operating costs; unlikely to be needed environmentally.
	L6B RIBs/trenches	-		A - Ponds	Algae removal						TP5-L6B-A	150	✓	**20**	Included for comparative assessment purposes.
				B - BTF							TP5-L6B-B	151			Clarifier required with BTF for the land discharge option. BTF with clarifier is a sub-option of C (Conventional), therefore this option is covered in row 152.
				C – Conventional Secondary Treatment							TP5-L6B-C	152	✓	**21**	See row 151.
				D - Membrane							TP5-L6B-D	153			High capital & operating costs; unlikely to be needed environmentally.

*All human wastewater from SFF will go to Council WWTP. SFF treatment and discharge options still to be worked through.

Key abbreviations: O – Ocean, L – Land, TP – Treatment Plant, BTF – Biological Trickling Filter.