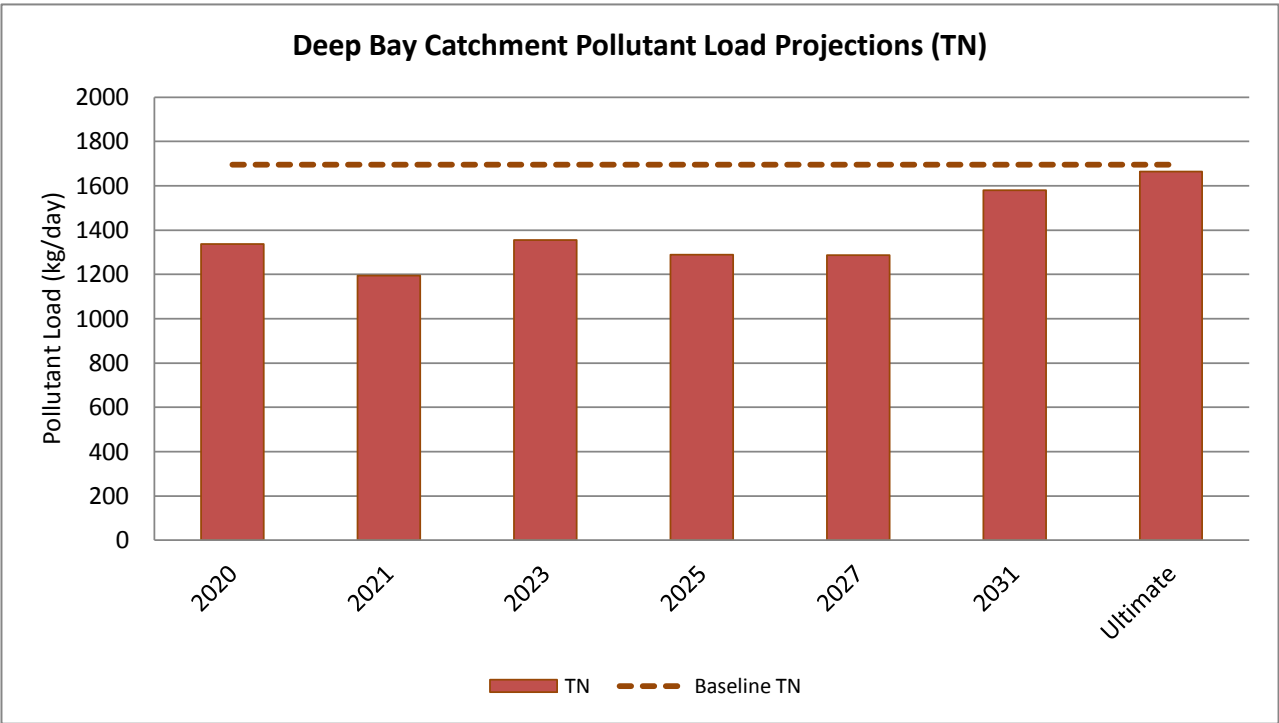
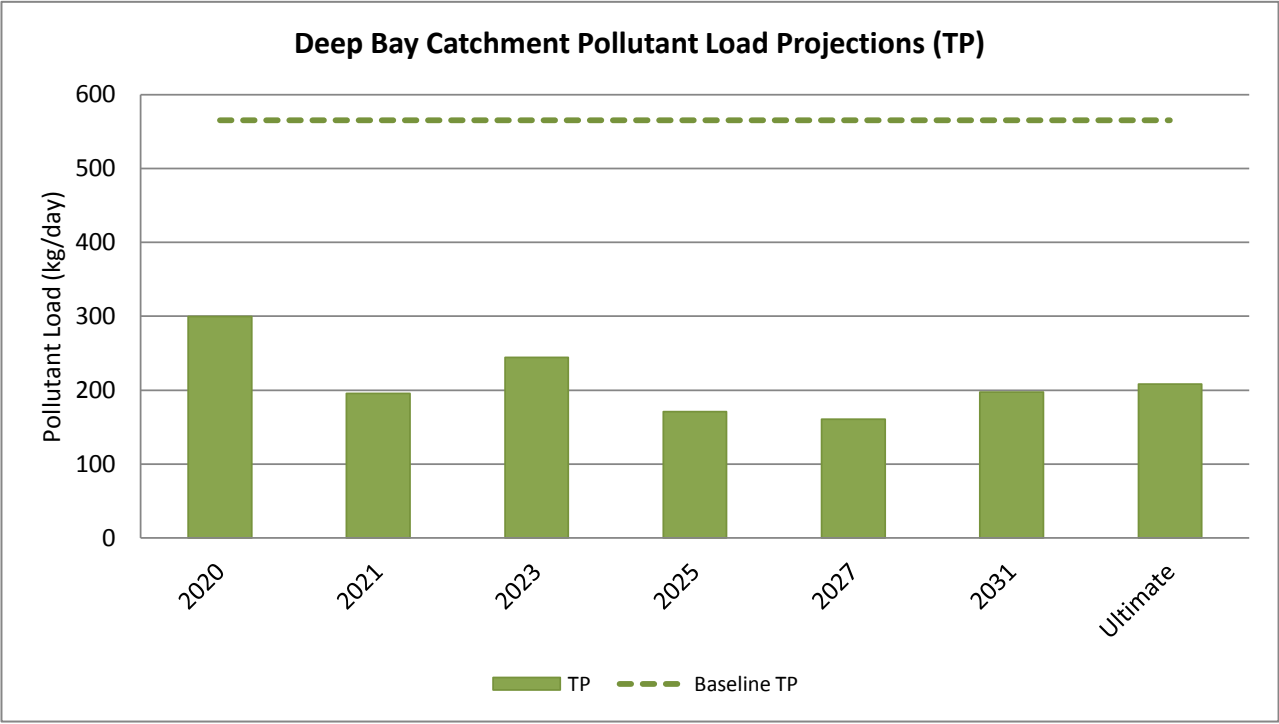
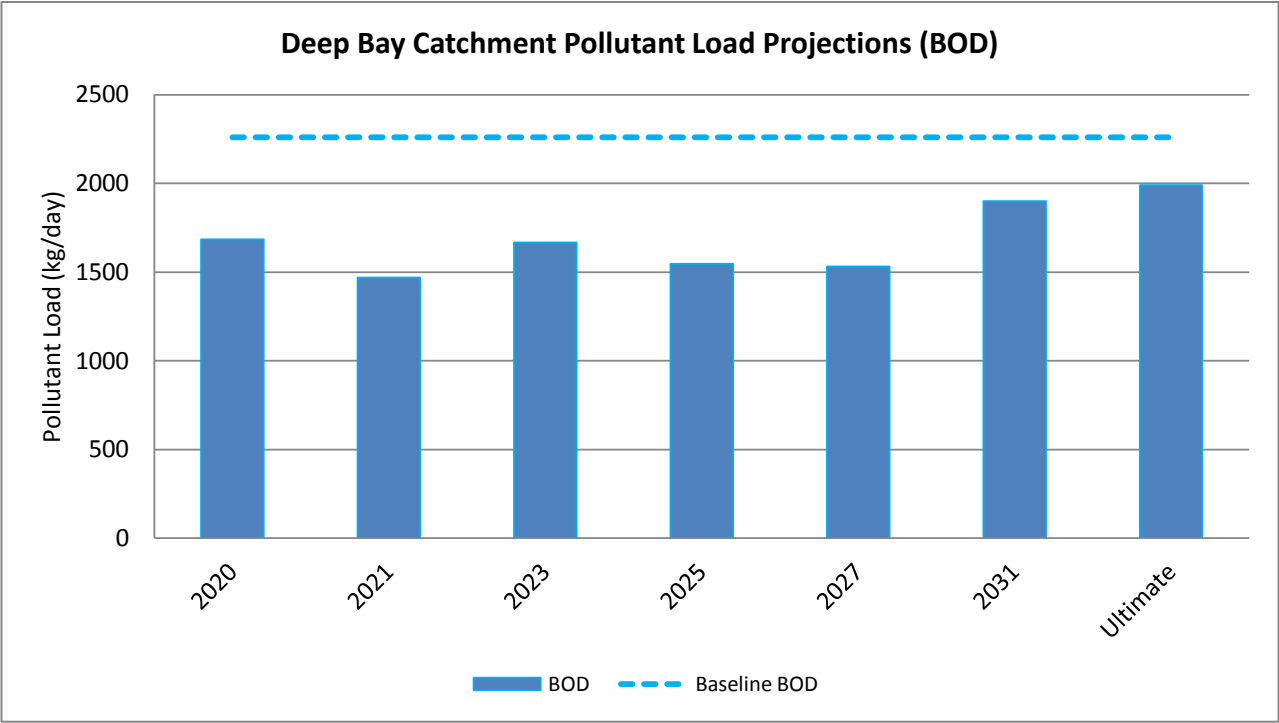


## Flow Basis and Development Programme

Year	% Sewage Flow			SWHSTW Base Flow [CE61/2007]	Total Flow to SWHSTW
	LMCL [CE53/2008]	NENT-NDAs [CE61/2007]			
		FLN-NDA	KTN-NDA		
2011				90,800	90,800
2018				111,425	111,425
2019				117,025	117,025
2020	42%			122,403	122,403
2021	49%			127,724	127,724
2022	56%			129,515	129,515
2023	63%	Sewage Flow to be delivered to SWHSTW	Sewage Flow to be delivered to SWHSTW	137,063	137,063
2024	69%			142,544	142,544
2025	76%			144,641	144,641
2026	83%			145,881	145,881
2027	83%			145,756	145,756
2028	83%			147,777	147,777
2029	83%			156,839	156,839
2030	83%			165,501	165,501
2031	83%			182,508	182,508
Ultimate	100%				
Flow	18,000	-	-		

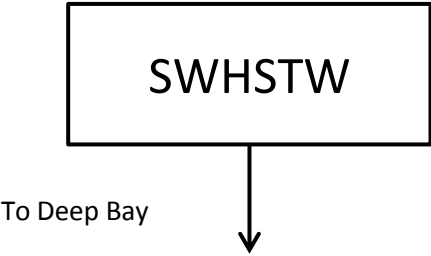
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Deep Bay Catchment - Sewerage Infrastructure Planning and Proposed Effluent Discharge Standards

Base Case<sup>1)</sup>

Base Case Discharge Standard- SWHSTW	
Flow	113000 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

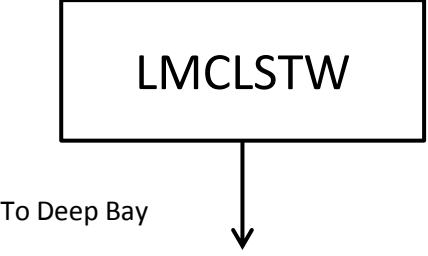


Base Case Sewage Flow to Deep Bay	
Flow	113000 m <sup>3</sup> /day
Base Case Pollutant Load to Deep Bay	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

Year 2020<sup>1)</sup>

Under LMCL Development

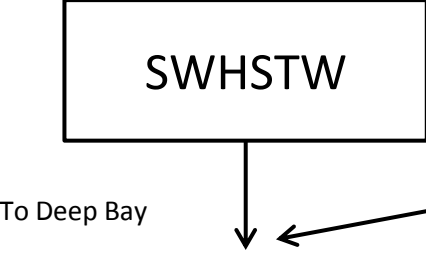
Future Discharge Standard - LMCLSTW	
Flow	7500 m <sup>3</sup> /day
BOD	5 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - LMCLSTW <sup>2)</sup>	
BOD	37.5 kg/day
TN	60 kg/day
TP	7.5 kg/day



Future Sewage Flow to Deep Bay	
Flow	129903 m <sup>3</sup> /day
Future Pollutant Load to Deep Bay <sup>4)</sup>	
BOD	1686 kg/day
TN	1336 kg/day
TP	300 kg/day

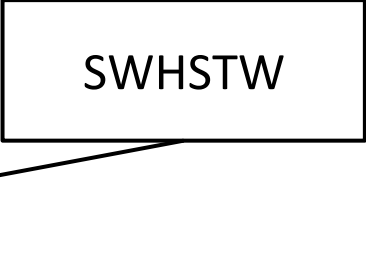
Under NENT-NDAs Study / EPD Study

Future Discharge Standard - SWHSTW	
Flow	80000 m <sup>3</sup> /day
BOD	10 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	800 kg/day
TN	640 kg/day
TP	80 kg/day



Under NENT-NDAs Study / EPD Study

Existing Discharge Standard - SWHSTW	
Flow	42403 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - PCSTW	
BOD	848 kg/day
TN	636 kg/day
TP	212 kg/day



Notes:

1) Only BOD, TN and TP are subject pollutants following "no net increase in pollutant loads to Deep Bay" policy. SS and NH<sub>3</sub>-N are related to impacts on the receiving water bodies, and *E. Coli* are according to EPD's internal guidelines.

2) The residual pollutant load from LMCLSTW is compensated off-site via improvement of SWHSTW.

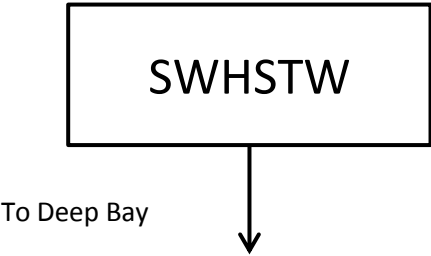
3) 95<sup>th</sup> percentile value.

4) Assuming the worst-case scenario that there will be no reclaimed water uses.

Deep Bay Catchment - Sewerage Infrastructure Planning and Proposed Effluent Discharge Standards

Base Case<sup>1)</sup>

Base Case Discharge Standard- SWHSTW	
Flow	113000 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

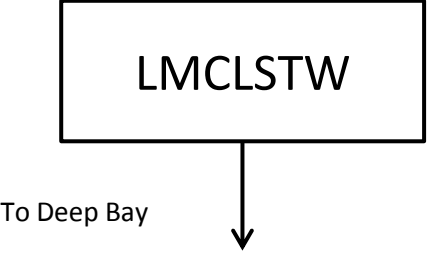


Base Case Sewage Flow to Deep Bay	
Flow	113000 m <sup>3</sup> /day
Base Case Pollutant Load to Deep Bay	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

Year 2021<sup>1)</sup>

Under LMCL Development

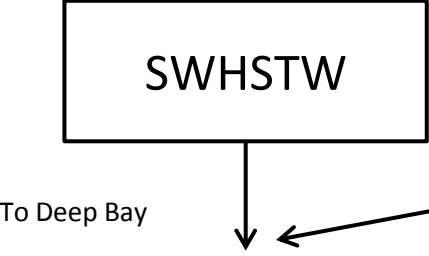
Future Discharge Standard - LMCLSTW	
Flow	8750 m <sup>3</sup> /day
BOD	5 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - LMCLSTW <sup>2)</sup>	
BOD	43.75 kg/day
TN	70 kg/day
TP	8.75 kg/day



Future Sewage Flow to Deep Bay	
Flow	136474 m <sup>3</sup> /day
Future Pollutant Load to Deep Bay <sup>4)</sup>	
BOD	1468 kg/day
TN	1195 kg/day
TP	195 kg/day

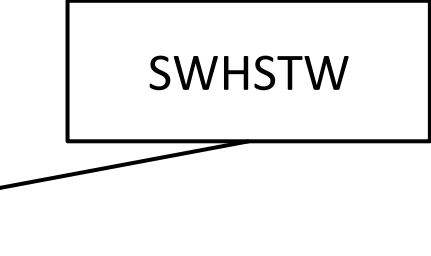
Under NENT-NDAs Study / EPD Study

Future Discharge Standard - SWHSTW	
Flow	113000 m <sup>3</sup> /day
BOD	10 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	1130 kg/day
TN	904 kg/day
TP	113 kg/day



Under NENT-NDAs Study / EPD Study

Existing Discharge Standard - SWHSTW	
Flow	14724 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - PCSTW	
BOD	294 kg/day
TN	221 kg/day
TP	74 kg/day

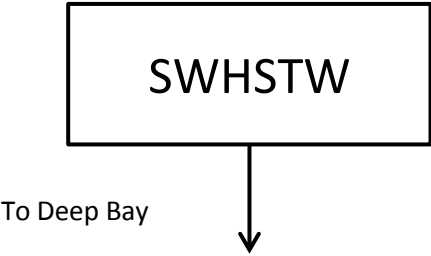


- Notes:
- 1) Only BOD, TN and TP are subject pollutants following "no net increase in pollutant loads to Deep Bay" policy. SS and NH<sub>3</sub>-N are related to impacts on the receiving water bodies, and *E. Coli* are according to EPD's internal guidelines.
  - 2) The residual pollutant load from LMCLSTW is compensated off-site via improvement of SWHSTW.
  - 3) 95<sup>th</sup> percentile value.
  - 4) Assuming the worst-case scenario that there will be no reclaimed water uses.

Deep Bay Catchment - Sewerage Infrastructure Planning and Proposed Effluent Discharge Standards

Base Case<sup>1)</sup>

Base Case Discharge Standard- SWHSTW	
Flow	113000 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

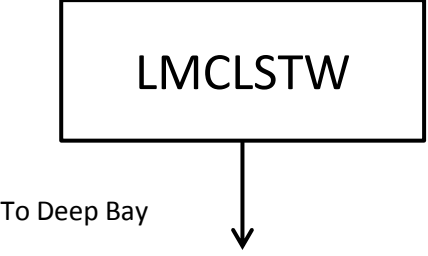


Base Case Sewage Flow to Deep Bay	
Flow	113000 m <sup>3</sup> /day
Base Case Pollutant Load to Deep Bay	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

Year 2023<sup>1)</sup>

Under LMCL Development

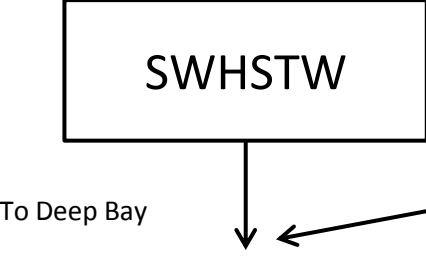
Future Discharge Standard - LMCLSTW	
Flow	11250 m <sup>3</sup> /day
BOD	5 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - LMCLSTW <sup>2)</sup>	
BOD	56.25 kg/day
TN	90 kg/day
TP	11.25 kg/day



Future Sewage Flow to Deep Bay	
Flow	148313 m <sup>3</sup> /day
Future Pollutant Load to Deep Bay <sup>4)</sup>	
BOD	1668 kg/day
TN	1355 kg/day
TP	245 kg/day

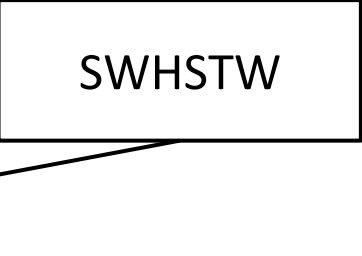
Under NENT-NDAs Study / EPD Study

Future Discharge Standard - SWHSTW	
Flow	113000 m <sup>3</sup> /day
BOD	10 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	1130 kg/day
TN	904 kg/day
TP	113 kg/day



Under NENT-NDAs Study / EPD Study

Existing Discharge Standard - SWHSTW	
Flow	24063 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - PCSTW	
BOD	481 kg/day
TN	361 kg/day
TP	120 kg/day



Notes:

1) Only BOD, TN and TP are subject pollutants following "no net increase in pollutant loads to Deep Bay" policy. SS and NH<sub>3</sub>-N are related to impacts on the receiving water bodies, and *E. Coli* are according to EPD's internal guidelines.

2) The residual pollutant load from LMCLSTW is compensated off-site via improvement of SWHSTW.

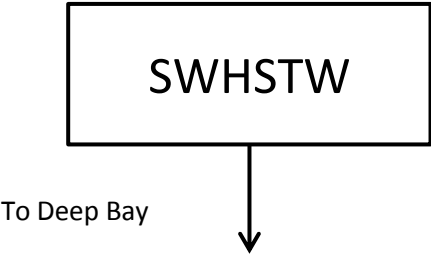
3) 95<sup>th</sup> percentile value.

4) Assuming the worst-case scenario that there will be no reclaimed water uses.

Deep Bay Catchment - Sewerage Infrastructure Planning and Proposed Effluent Discharge Standards

Base Case<sup>1)</sup>

Base Case Discharge Standard- SWHSTW	
Flow	113000 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

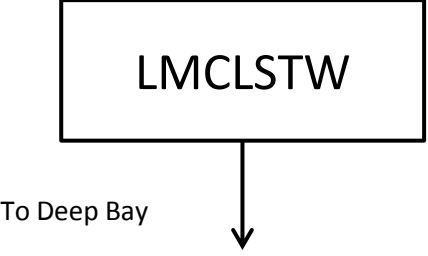


Base Case Sewage Flow to Deep Bay	
Flow	113000 m <sup>3</sup> /day
Base Case Pollutant Load to Deep Bay	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

Year 2025<sup>1)</sup>

Under LMCL Development

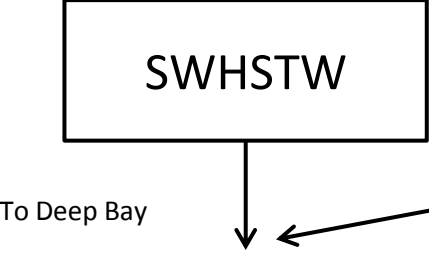
Future Discharge Standard - LMCLSTW	
Flow	13750 m <sup>3</sup> /day
BOD	5 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - LMCLSTW <sup>2)</sup>	
BOD	68.75 kg/day
TN	110 kg/day
TP	13.75 kg/day



Future Sewage Flow to Deep Bay	
Flow	158391 m <sup>3</sup> /day
Future Pollutant Load to Deep Bay <sup>4)</sup>	
BOD	1547 kg/day
TN	1289 kg/day
TP	171 kg/day

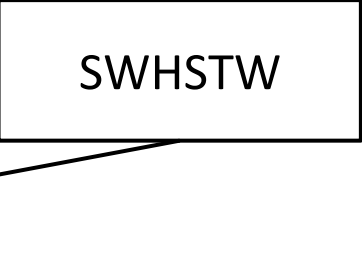
Under NENT-NDAs Study / EPD Study

Future Discharge Standard - SWHSTW	
Flow	141500 m <sup>3</sup> /day
BOD	10 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	1415 kg/day
TN	1132 kg/day
TP	142 kg/day



Under NENT-NDAs Study / EPD Study

Existing Discharge Standard - SWHSTW	
Flow	3141 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - PCSTW	
BOD	63 kg/day
TN	47 kg/day
TP	16 kg/day



Notes:

1) Only BOD, TN and TP are subject pollutants following "no net increase in pollutant loads to Deep Bay" policy. SS and NH<sub>3</sub>-N are related to impacts on the receiving water bodies, and *E. Coli* are according to EPD's internal guidelines.

2) The residual pollutant load from LMCLSTW is compensated off-site via improvement of SWHSTW.

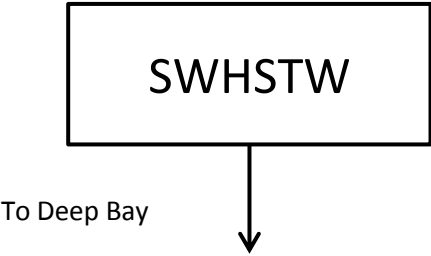
3) 95<sup>th</sup> percentile value.

4) Assuming the worst-case scenario that there will be no reclaimed water uses.

Deep Bay Catchment - Sewerage Infrastructure Planning and Proposed Effluent Discharge Standards

Base Case<sup>1)</sup>

Base Case Discharge Standard- SWHSTW	
Flow	113000 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

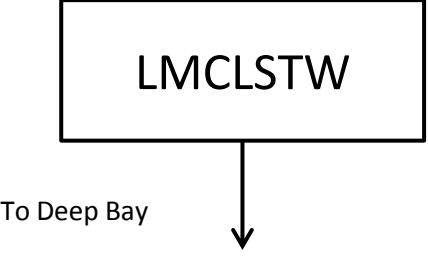


Base Case Sewage Flow to Deep Bay	
Flow	113000 m <sup>3</sup> /day
Base Case Pollutant Load to Deep Bay	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

Year 2027<sup>1)</sup>

Under LMCL Development

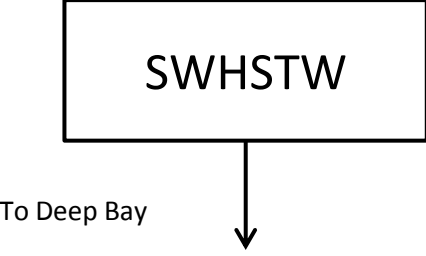
Future Discharge Standard - LMCLSTW	
Flow	15000 m <sup>3</sup> /day
BOD	5 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - LMCLSTW <sup>2)</sup>	
BOD	75 kg/day
TN	120 kg/day
TP	15 kg/day



Future Sewage Flow to Deep Bay	
Flow	160756 m <sup>3</sup> /day
Future Pollutant Load to Deep Bay <sup>4)</sup>	
BOD	1533 kg/day
TN	1286 kg/day
TP	161 kg/day

Under NENT-NDAs Study / EPD Study

Future Discharge Standard - SWHSTW	
Flow	145756 m <sup>3</sup> /day
BOD	10 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	1458 kg/day
TN	1166 kg/day
TP	146 kg/day

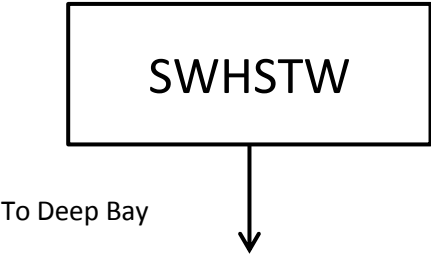


- Notes:
- 1) Only BOD, TN and TP are subject pollutants following "no net increase in pollutant loads to Deep Bay" policy. SS and NH<sub>3</sub>-N are related to impacts on the receiving water bodies, and *E. Coli* are according to EPD's internal guidelines.
  - 2) The residual pollutant load from LMCLSTW is compensated off-site via improvement of SWHSTW.
  - 3) 95<sup>th</sup> percentile value.
  - 4) Assuming the worst-case scenario that there will be no reclaimed water uses.

Deep Bay Catchment - Sewerage Infrastructure Planning and Proposed Effluent Discharge Standards

Base Case<sup>1)</sup>

Base Case Discharge Standard- SWHSTW	
Flow	113000 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

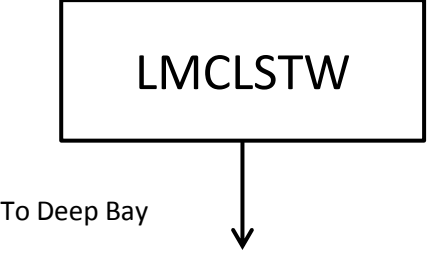


Base Case Sewage Flow to Deep Bay	
Flow	113000 m <sup>3</sup> /day
Base Case Pollutant Load to Deep Bay	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

Year 2031<sup>1)</sup>

Under LMCL Development

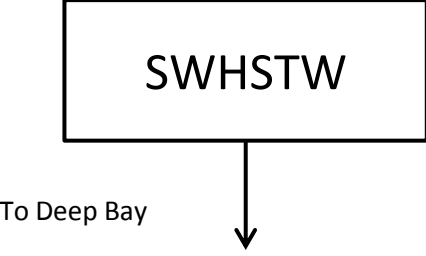
Future Discharge Standard - LMCLSTW	
Flow	15000 m <sup>3</sup> /day
BOD	5 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - LMCLSTW <sup>2)</sup>	
BOD	75 kg/day
TN	120 kg/day
TP	15 kg/day



Future Sewage Flow to Deep Bay	
Flow	197508 m <sup>3</sup> /day
Future Pollutant Load to Deep Bay <sup>4)</sup>	
BOD	1900 kg/day
TN	1580 kg/day
TP	198 kg/day

Under NENT-NDAs Study / EPD Study

Future Discharge Standard - SWHSTW	
Flow	182508 m <sup>3</sup> /day
BOD	10 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	1825 kg/day
TN	1460 kg/day
TP	183 kg/day



Notes:

1) Only BOD, TN and TP are subject pollutants following "no net increase in pollutant loads to Deep Bay" policy. SS and NH<sub>3</sub>-N are related to impacts on the receiving water bodies, and *E. Coli* are according to EPD's internal guidelines.

2) The residual pollutant load from LMCLSTW is compensated off-site via improvement of SWHSTW.

3) 95<sup>th</sup> percentile value.

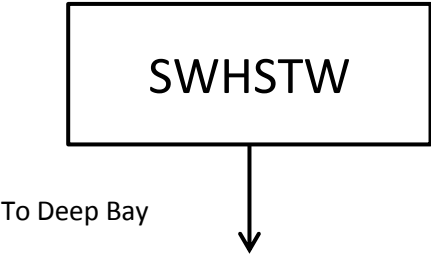
4) Assuming the worst-case scenario that there will be no reclaimed water uses.



Deep Bay Catchment - Sewerage Infrastructure Planning and Proposed Effluent Discharge Standards

Base Case<sup>1)</sup>

Base Case Discharge Standard- SWHSTW	
Flow	113000 m <sup>3</sup> /day
BOD	20 mg/L
TN	15 mg/L
TP	5 mg/L
SS	30 mg/L
NH <sub>3</sub> -N	2 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

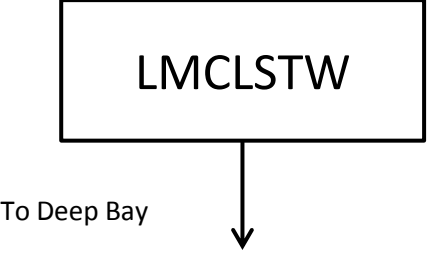


Base Case Sewage Flow to Deep Bay	
Flow	113000 m <sup>3</sup> /day
Base Case Pollutant Load to Deep Bay	
BOD	2260 kg/day
TN	1695 kg/day
TP	565 kg/day

Ultimate Scenario<sup>1)</sup>

Under LMCL Development

Future Discharge Standard - LMCLSTW	
Flow	18000 m <sup>3</sup> /day
BOD	5 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - LMCLSTW <sup>2)</sup>	
BOD	90 kg/day
TN	144 kg/day
TP	18 kg/day

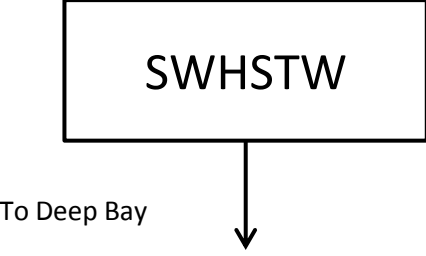


Future Sewage Flow to Deep Bay	
Flow	208000 m <sup>3</sup> /day
Future Pollutant Load to Deep Bay <sup>4)</sup>	
BOD	1990 kg/day
TN	1664 kg/day
TP	208 kg/day

\* No net increase in pollutant load to Deep Bay is achieved

Under NENT-NDAs Study / EPD Study

Future Discharge Standard - SWHSTW	
Flow	190000 m <sup>3</sup> /day
BOD	10 mg/L
TN	8 mg/L
TP	1 mg/L
SS	10 mg/L
NH <sub>3</sub> -N	1.9 mg/L
<i>E. Coli</i> <sup>3)</sup>	1500 cfu/100mL
Residual Pollutant Load - SWHSTW	
BOD	1900 kg/day
TN	1520 kg/day
TP	190 kg/day



Notes:  
1) Only BOD, TN and TP are subject pollutants following "no net increase in pollutant loads to Deep Bay" policy. SS and NH<sub>3</sub>-N are related to impacts on the receiving water bodies, and *E. Coli* are according to EPD's internal guidelines.  
2) The residual pollutant load from LMCLSTW is compensated off-site via improvement of SWHSTW.  
3) 95<sup>th</sup> percentile value.  
4) Assuming the worst-case scenario that there will be no reclaimed water uses.