Appendix 5.2 Key Assumptions for Compiling Pollution Loading of Point Source Discharge to North Western WCZ

The loading of point source discharge at Urmston Road Outfall was compiled by applying the typical effluent concentrations / effluent standards for different treatment processes to the flow capacities of the sewage treatment works (STW). The effluent concentrations adopted for different treatment processes are summarized in the **Table A5.2-1** below.

Table A5.2-1 Effluent Concentrations Assumed for Different Treatment Processes

Parameter	Unit	Preliminary Treatment (for Existing San Wai STW)	CEPT with Disinfection (for Upgraded San Wai STW	Secondary Treatment with Disinfection and 75% Nitrogen Removal (for HSK STW)
Biochemical Oxygen Demand (BOD)	mg/L	226	100	20
Suspended Solids (SS)	mg/L	206	55	30
Ammonia Nitrogen (NH_3-N)	mg/L	21.77	25	2
Organic Nitrogen (Org-N)	mg/L	18	8.8	2
Total Inorganic Nitrogen (TIN)	mg/L	23.95	25	8
Total Nitrogen (TN)	mg/L	41.95	33.8	10
Total Phosphorus (TP)	mg/L	5.73	2.26	2.26
E.coli	no./100mL	1.76E+12	2.00E+4	1.00E+3

The effluent concentrations adopted for the existing San Wai STW (preliminary treatment) and upgraded San Wai STW (CEPT plus UV disinfection) are based on the information provided in the approved EIA for "Upgrading and expansion of San Wai STW and expansion of Ha Tsuen Pumping Station (SW STW)".

The new Hung Shui Kiu (HSK) STW is assumed to adopt secondary treatment plus UV disinfection and 75% nitrogen (N) removal. The typical effluent standards for secondary treatment (at 95th percentile) were applied to estimate the BOD and SS loading from HSK STW. The TN and NH_3-N loading from HSK STW was compiled using the typical effluent standards for 75% N removal (at annual average). The loading from HSK STW for other selected parameters was compiled using the typical effluent concentrations for secondary treatment plus disinfection and N removal as presented in the approved EIA for SW STW. The effluent standards assumed for HSK STW is preliminary in nature for illustration purpose only and subject to review under the further detailed EIA studies.