Appendix IIA Sampling Data Sheet A (yearly)

A1- Plant basic information						
Name of WWTP						
WWTP ID						
Plant contact			Fax			
Office Phone			Email			
Address						
Longitude			Latitude			
Air temperature	annual mean		max		min	
Age of Plant		Designed Capacity (m^3/d)				
Actual Influent Flow Rate (m^3/d)						
Influent of the whole plant (yearly average): BOD_____(COD_____) NH$_4$-N_____ TN_____ TP_____			Effluent of the whole plant (yearly average): BOD_____(COD_____) NH$_4$-N_____ TN_____ TP_____			
Industrial wastewater in influent:			□ No □ Yes, percentage_____% □ unknown			
Storm water in influent			□ Never □ Sometimes □ Always if rain □ unknown			
Sludge Age (SRT) (Days)						
HRT in the whole plant						
A2- Tank basic information						
Age of this tank		Designed liquor volume				
Shape and Size						
When did the current activated sludge system set up?						
Anaerobic zone or anaerobic tank ahead/behind? Yes or No Where:_____						
Anoxic zone or anoxic tank ahead/behind? Yes or No Where:_____						
Nitrification? Yes or No		Denitrification? Yes or No		Phosphorus removal? Yes or No		
Activated Sludge Process Type[1]						
Nitrification Process Type[2]						
Denitrification Process Type[3]						
Corresponding investigator			Email			

Additional Notes:

Appendix II Sampling Data Sheet B (weekly)

Sampling Date (MM-DD-YY)	_____-_____-_____	Investigator	

B1- Operational parameters

Parameters	When sampling	Average in last 7 days
Influent flow rate **of the tank** (m^3/d)		
Recycling Ratio(return sludge flow/influent flow)		
Mixed liquor volume in the tank (m^3)		
Waste sludge flow rate (m^3/d)		

If the tank is SBR:	Discharge Volume			Volume exchange ratio		
	Cycle time	Fill time	React time	Settle time	Draw time	Idle time

Shock loading or other abnormal events (e.g. operation stops, excessive use of chemicals etc.) related to this tank in last 7 days	

B2- On-site data

Air temperature (°C)			Weather		
Positions	Sampling time	Sample ID	Liquor temp.	DO	pH
[inf]					
[eff]					
[ML]					

B3- In-lab data

MLSS		MLVSS		SVI		SRT[4]	

Positions	CBOD or COD		NH_4-N	NO_3-N + NO_2-N	TN	TP
[inf]						
[eff]						
Metals						
[inf]						
[eff]						

B4-Weather data in last 7 days

Parameter	-6 d	-5 d	-4 d	-3 d	-2 d	-1 d	Today
Temp. mean							
Temp. max							
Temp. min							
Precipitation							

Cells with grey shading are optional. See Note [4] for how to get SRT. Waste sludge flow rate is not necessary if SRT is already available. Abbr.: [inf], influent sample; [eff], effluent sample; [ML], mixed liquor sample for microbial analyses (microbial sample). Temp, temperature. SBR, sequencing batch reactor.

Welcome additional notes and documents to clarify the answers.

Appendix IIC Notes about the Sampling Data Sheet

[1] List of Active Sludge Process Types:

□ Conventional Plug Flow □ Complete Mix □ Step Aeration
□ Sequencing Batch Reactor (SBR)□ Pure oxygen □ Contact Stabilization
□ Extended Aeration □ Deep shaft □ Deep tank
□ Oxidation ditch □ Step feed
□ Kraus Process (digested sludge added to return sludge) □ Other_____

[2] List of Nitrification Process Types:

□ Combined carbon oxidation and nitrification (the same unit/tank, process as [1])
□ Separate-stage nitrification:
       □ Active sludge process for nitrification_____(select a type from [1])
       □ Trickling Filter □ Rotating Biological Contactor □ Other_____

[3] List of Denitrification Process Types:

□ A^2/O (3-stage PhoRedox Process. Anaerobic/Anoxic/Oxic, return sludge back to Anaerobic, MLSS from Oxic to Anoxic)
□ A^2OAO (5-stage PhoRedox Process/Modified Bardenpho Process. Anaerobic/Anoxic/Oxic/Anoxic/Oxic, return sludge back to Anaerobic, MLSS from 1st Oxic to 1st Anoxic)
□ MLE (Modified Ludzack Ettinger Process. Anoxic/Oxic, return sludge and MLSS back to Anoxic)
□ UCT (University of Cape Town system. Anaerobic/Anoxic/Oxic, return sludge back to Anoxic, MLSS from Oxic to Anoxic and from Anoxic to Anaerobic)
□ VIP (Virginia Initiative Plant system. Anaerobic/Anoxic/Oxic, sludge back to head of Anoxic, MLSS from Oxic to head of Anoxic and from end of Anoxic to Anaerobic)
□ Oxidation ditches
□ Cyclical nitrogen removal (CNR, switching the aerators on and off)
□ Other_____(Wuhrmann process, Ludzack Ettinger process, Bardenpho process, Modified UCT, Schreiber process, BioDenipho, etc.)