

Ongegund (PPC) Distribution System - Input Variables for Water Requirement Model								
Parameter / Variable	Year	Income Categorization				Com. & Ind. (D)	Other(E)	Total
		HI	MI	LI	Sub- Total			
Units are presented in brackets with the "Parameter Description" - First Column								
Population(A)	2018	219	47	47	314			
	2023	230	52	81	364			
	2028	242	58	122	421			
	2033	254	64	171	489			
	2038	267	70	229	566			
	2043	281	78	298	657			
Growth (%/year)		Growth in Population				Growth in Demand		
	2018-2023	1.00%	2.00%	11.38%	3.00%	4%	2%	
	2023-2028	1.00%	2.00%	8.46%	3.00%	4%	2%	
	2028-2033	1.00%	2.00%	6.96%	3.00%	4%	2%	
	2033-2038	1.00%	2.00%	6.04%	3.00%	4%	2%	
2038-2043	1.00%	2.00%	5.43%	3.00%	4%	2%		
Unit Demand (l/c/d)(B)	2018	220.0	140.0	80.0	-	-	-	-
Average Annual Daily Water Requirement (Kl/d - NRW Excluded)	2018	48	7	4		6	3	68
	2023	51	7	7		7	3	75
	2028	53	8	10		9	4	84
	2033	56	9	14		11	4	93
	2038	59	10	18		13	4	105
	2043	62	11	24		16	5	117
NRW (%) (C)	2018	36.4	36.4	36.4		36.4	36.4	
	2023	30.0	30.0	30.0		30.0	30.0	
	2028	26.3	26.3	26.3		26.3	26.3	
	2033	22.5	22.5	22.5		22.5	22.5	
	2038	18.8	18.8	18.8		18.8	18.8	
	2043	15.0	15.0	15.0		15.0	15.0	
Average Annual Daily Water Requirement (Kl/d)	2018	76	10	6		9	5	106
	2023	72	10	9		10	5	107
	2028	72	11	13		12	5	113
	2033	72	12	18		14	5	120
	2038	72	12	23		16	5	129
	2043	73	13	28		19	6	138
Average Peak Month Daily Water Requirement (Kl/d)	2018	173	24	14		22	11	242
	2023	165	24	21		24	11	244
	2028	164	25	30		27	11	258
	2033	164	26	40		32	12	275
	2038	165	28	51		37	13	293
	2043	166	29	64		43	13	315
Peak Day Water Requirement (Kl/d)	2018	216	30	17		27	13	303
	2023	206	30	26		30	13	305
	2028	205	31	38		34	14	323
	2033	205	33	50		40	15	343
	2038	206	35	64		46	16	367
	2043	207	37	80		54	17	394
Total Annual Water Requirement (Kl/year)	2018	27623	3810	2177		3443	1722	38775
	2023	26377	3822	3390		3806	1727	39123
	2028	26313	4005	4831		4396	1810	41354
	2033	26317	4208	6435		5089	1902	43951
	2038	26383	4432	8230		5906	2003	46954
	2043	26506	4677	10247		6868	2113	50411
Peak Month Factor(F)	2.28							
Peak Day Factor(G)	1.25							

Notes :

→ TO USE THIS SHEET, FILL IN THE VARIABLES IN THE SHADED BLOCKS ABOVE

References:

- (A) - Total population based on Census 2011 data. Future estimated growth agreed with Municipality in January 2014.
- (B) - Residential unit demands estimated.
- (C) - Non Revenue Water (NRW): Calculated NRW from July 2018 to June 2019. Estimated 6.4% reduction of NRW over the next five years.
- (D) - Commercial and Industrial: Calculated from Billed Metered Consumption data for the period July 2016 to June 2017. Average 6 kl/d.
- (E) - Others: Calculated from Billed Metered Consumption data for the period July 2016 to June 2017. Average 3 kl/d.
- (F) - Peak Month Factor: Maximum value calculated from July 2014 to June 2019 data.
- (G) - Peak Day Factor : Estimated

Ongegund (PPC) Distribution System Projected Water Requirements (Kl/a)								
Year *	Measured Potable Water Requirement (System Input Volume)	Projected Water Requirement from model	2% Annual growth on 2016/2017 Water Requirement	4% Annual growth on 2016/2017 Water Requirement	Other Projections			Annual WWTW Flows (Estimated from Billed Metered Consumption Data)
					DWS's Reconciliation Strategy (March 2016)			
					Low	Medium	High	
2001								
2002	53,765							
2003	48,600							
2004	31,170							
2005	43,225							
2006	43,555							
2007	54,875							
2008	57,676							22,528
2009	62,512							24,116
2010	64,439							24,578
2011	63,600							23,018
2012	58,857							25,872
2013	48,614							26,692
2014	48,539							22,678
2015	43,529							17,138
2016	39,286							12,923
2017	27,612							6,574
2018	18,004	38,775	39,286	39,286				6,875
2023		39,123	43,375	47,797	Included with Riebeeck Wes All Towns Reconciliation Strategy			
2028		41,354	47,899	58,153				
2033		43,951	52,874	70,752				
2038		46,954	58,377	86,080				
2043		50,411	64,453	104,730				

Notes: (*) The years in the above table refer to the Municipal Financial Years and is for the period July till June the following year. The measured demand for 2018 is therefore from July 2018 up to June 2019.

