

## **Appendix C: Pump Stations**

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DRAFT

Parameter	STATION							
	Pump Station	CE-1	CE-2	CE-4	CE-6	CW-1	CW-2	CW-3
Type		Dry Well	Dry Well	Dry Well	Dry Well	Dry Well	Wet Well	Wet Well
Notes/Description	32ft diameter segmented caisson		S&LL Package Pump Station	--	Metal	--	--	--
Year Constructed	1985		1973	1989	1989	1984	1999	~1970
Significant Upgrades/Updates	--		--	--	2006	2004/2007	--	--
Pump Manufacturer	Sulzer	Flygt	S&LL	Flygt	Flygt	ABS	Flygt	Zoeller
Number of Pumps	2	2	2	2	3	3	3	2
Pump Type	Dry-pit Submersible	Dry-pit Submersible	Dry-Pit	Dry-pit Submersible	Dry-pit Submersible	Dry-pit Submersible	Submersible	Submersible
Horsepower	128	385	3	160	12	201	75	2
Lead-Lag or Standby?	LL	SB	LL	LL	LL - 3rd Pump Standby	LL - 3rd Pump Standby	LL - 3rd Pump Standby	LS
VFDs? (Y/N)	Y	Y	N	Y	Y	Y	Y	N
Single Pump Capacity (gpm)	2100	7000	200	900	970	2600	1050	50
Operating TDH (ft)	167	167	--	--	33	186	142	--
Maximum Capacity (gpm)	10000		--	1940	1600	3500	1260	50
Maximum TDH (ft)	--		--	238	--	--	--	40
Backup Power	Yes		Portable	Yes	Yes	Yes	Yes	Portable
Basin / Upstream Station	Warren Ave Basin, East Bremerton		Warren Ave Basin	Pacific Avenue Basin, PSNS	Pacific Avenue Basin	Anderson Cove Basin	Anderson Cove Basin	Anderson Cove Basin
CSO Outfalls	OF-13		--	--	OF-16	OF-8, OF-10A, OF-9, OF-11	OF-8	--
Discharge Location	Start of CTP		Park Ave Sewer, gravity to CE-1	Central Bremerton FM to CTP	Gravity Sewer @ 7th & Park	Naval Ave Force Main to CTP	Callow Ave sewer, with intertie to CW-1	Gravity sewer on 26th, flows to CW-2
	Note: Maximum Capacity and Maximum TDH does not include operation of the standby pump (e.g. 3 pumps at a station will include 2 pumps plus 1 standby. The standby pump will not operate unless one of the other pumps fails.)							

Parameter	STATION									
	Pump Station	CW-4	KL-1	KL-2	KL-3	KL-4	MD-1	OB-1	OB-2	OB-3
Type		Wet Well	Wet Well	Dry Well	Dry Well	Dry Well	Wet Well	Dry Well	Dry Well	Dry Well
Notes/Description		--	Converted Wet Well	--	--	--	--	--	--	--
Year Constructed		2020	~1970	~1970	~1970	~1970	1994	1966	1966	1970
Significant Upgrades/Updates		--	2013 (Conversion)	--	--	--	--	--	--	--
Pump Manufacturer		Flygt	Flygt	Flygt	Fairbanks Morse	Fairbanks Morse	Essco	Flygt	Flygt	Fairbanks
Number of Pumps		2	2	2	2	2	2	3	2	2
Pump Type		Submersible	Submersible	Dry-pit Submersible	Dry-pit Submersible	Dry-pit Submersible	Submersible	Dry-pit Submersible	Dry-pit Submersible	Dry-pit Submersible
Horsepower		--	30	85	5	5	40	65	15	5
Lead-Lag or Standby?		LS	LS	LS	LS	LS	LS	LL - 3rd Pump Standby	LS	LL
VFDs? (Y/N)		Y	N	Y	N	N	N	Y	Y	N
Single Pump Capacity (gpm)		250	950	1150	450	475	950	950	750	200
Operating TDH (ft)		45	88	--	14	16	--	212	65	--
Maximum Capacity (gpm)		450	950	1150	450	475	950	--	--	--
Maximum TDH (ft)		45	--	148	--	--	212	--	--	--
Backup Power		Portable	Yes	Yes	Yes	Yes	Portable	Yes	Yes	Portable
Basin / Upstream Station		Anderson Cove Basin	Kitsap Lake Basin, KL-2	Kitsap Lake Basin, KL-3	Kitsap Lake Basin, KL-4	Kitsap Lake Basin	Marine Drive Basin	OB Basin, MD-1, OB-2	OB Basin, OB-3, OB-5	Madrona Point, OB-4
CSO Outfalls		--	--	--	--	--	--	--	--	--
Discharge Location		End of High Ave into beach sewer; intertie to CTP at 13th/Ohio	Gravity Sewer Near Pendergast Field to WWTP	KL-1	KL-2	KL-3	Kitsap Way gravity sewer, flows to OB-1	Gravity Sewer at Bremerton Blvd & Arsenal Way	OB-1	OB-2
		Note: Maximum Capacity and Maximum TDH does not include operation of the standby pump (e.g. 3 pumps at a station will include 2 pumps plus 1 standby. The standby pump will not operate unless one of the other pumps fails.)								

Parameter	STATION								
Pump Station	OB-4	OB-5		OB-6	OB-7	PB-1	PB-2	PP-1 (PG)	SB-1
Type	Dry Well	Dry Well		Dry Well	Wet Well	Dry Well	Dry Well	Wet Well	Wet Well
Notes/Description	--	May be upgraded in near future		--	--	S&LI Package Pump Station	S&LI Package Pump Station	--	--
Year Constructed	1971	1966		1966	~1970	~1970	~1970	~1990	--
Significant Upgrades/Updates	--	--		--	--	--	--	--	--
Pump Manufacturer	Fairbanks	Flygt	Flygt	Flygt	Essco	Flygt	Fairbank-Morse	Essco	Flygt
Number of Pumps	2	1	1	2	2	2	2	2	2
Pump Type	Dry-pit Submersible	Dry-pit Submersible	Dry-pit Submersible	Dry-pit Submersible	Submersible	Dry-pit Submersible	Dry-pit	Submersible	Submersible
Horsepower	5	12	15	15	50	20	--	8	105
Lead-Lag or Standby?	LL	Lead	Lag	LL	LL	LL	LL	LL	LL
VFDs? (Y/N)	N	Y	Y	N	N	N	N	N	Y
Single Pump Capacity (gpm)	150	350	--	490	375	150	--	--	--
Operating TDH (ft)	46	--	--	40	70	100	--	--	--
Maximum Capacity (gpm)	--	500		--	--	--	350	140	--
Maximum TDH (ft)	--	--		--	--	--	--	45	--
Backup Power	Portable	Portable		Portable	No	Portable	Portable	Portable	Yes
Basin / Upstream Station	Madrona Point	Oyster Bay Basin, OB-6		Oyster Bay Basin	Erlands Point Apartment	Phinney Bay Basin	Phinney Bay Basin	Services Pendergast ONLY	--
CSO Outfalls	--	--		--	--	--	--	--	--
Discharge Location	OB-3	OB-2		OB-5	Gravity sewer on Austin Dr 600' NW of Olding RD	Callow Avenue gravity sewer	PB-1	KL-1 discharge gravity sewer, south of Francis St.	SW Bremerton Force Main
	Note: Maximum Capacity and Maximum TDH does not include operation of the standby pump (e.g. 3 pumps at a station will include 2 pumps plus 1 standby. The standby pump will not operate unless one of the other pumps fails.)								

Parameter	STATION									
Pump Station	SB-2	SB-3	SB-4	WB-1	WB-2	WB-3		WB-4	WB-6	
Type	Wet Well	Wet Well	Wet Well	Wet Well	Dry Well	Dry Well	Dry Well	Dry Well	Wet Well	
Notes/Description	--	--	--	Maintained by KCSD#1	Maintained by KCSD#1	--	--	S&LI Package Pump Station	CSO Flow Only	
Year Constructed	--	--	--	1989	1989	2002/03		1971	2003	
Significant Upgrades/Updates	--	--	--	--	--	--	--	--	--	
Pump Manufacturer	Flygt	Flygt	Flygt	--	--	Flygt	Fairbanks	Smith & Loveless	Flo-Serve	
Number of Pumps	2	2	2	2	2	2	3	2	3	
Pump Type	Submersible	Submersible	Submersible	Submersible	--	Dry-pit Submersible	Dry-pit Submersible	Dry-pit	Submersible	
Horsepower	11	23	24	--	--	20	238	5	200	
Lead-Lag or Standby?	LL	LL	LL	LL	LL	LL	LL - 3rd Pump Standby	LL	LL - 3rd Pump Standby	
VFDs? (Y/N)	Y	Y	Y	--	--	Y	Y	N	Y	
Single Pump Capacity (gpm)	--	--	--	230	780	950	5300	100	3750	
Operating TDH (ft)	--	--	--	50	70	55	110	42	130	
Maximum Capacity (gpm)	--	--	--	--	--	10000			--	
Maximum TDH (ft)	--	--	--	--	--	--			--	
Backup Power	Yes	Yes	Yes	No	No	Yes			Yes	
Basin / Upstream Station	--	--	--	Sinclair Park, Beachfront	KCSD #1	Callow Ave, PSNS, Phinney Bay, Anderson Cove		Callow Ave Basin	WB-3 Overflow	
CSO Outfalls	--	--	--	--	--	OF-17			OF-17	
Discharge Location	SB-1	SW Bremerton Force Main	SW Bremerton Force Main	Crosstown Pipeline	Crosstown Pipeline	Crosstown Pipeline		Farragut St gravity sewer that goes to WB-3	Crosstown Pipeline	
	Note: Maximum Capacity and Maximum TDH does not include operation of the standby pump (e.g. 3 pumps at a station will include 2 pumps plus 1 standby. The standby pump will not operate unless one of the other pumps fails.)									

Parameter	STATION									
	Pump Station	EB-2		EB-3	EB-4	EB-5	EB-6	EB-7	EB-8	EB-9
Type		High Flow (Wet Well)	Normal Flow (Wet Well)	Dry Well	Wet Well	Wet Well	Wet Well	--	Dry Well	Wet Well
Notes/Description		Active for high flow	Active for low flow	--	Converted Wet Well	Converted to Wet Well	--	Pending (2025)	S&LI Package Pump Station	--
Year Constructed		1973		1972	~1940	~1970	1947	--	1971	~1970
Significant Upgrades/Updates		2003		1984, 2005	--	1995	2004	--	--	--
Pump Manufacturer		Flowserve	Flygt	Flygt	Flygt	Zoeller	Flygt	--	Smith & Loveless	Flygt
Number of Pumps		3	2	2	2	2	3	--	2	2
Pump Type		Submersible	Submersible	Dry-pit Submersible	Submersible	Submersible	Submersible	--	Dry-pit	Submersible
Horsepower		75	5	30	7.5	2	45	--	10	10
Lead-Lag or Standby?		LL - 3rd Pump Standby	LL	LS	LL	LL	LL - 3rd Pump Standby	--	LL	LL
VFDs? (Y/N)		Y	N	Y	N	N	Y	--	N	N
Single Pump Capacity (gpm)		2175	450	750	100	245	650	--	200	100
Operating TDH (ft)		91	30	64	80	50	102	--	51	75
Maximum Capacity (gpm)		4100		1400	--	--	1200	--	--	--
Maximum TDH (ft)		--		--	--	--	--	--	--	--
Backup Power		Yes		Yes	Portable	Portable	Yes	--	Portable	Portable
Basin / Upstream Station		Trenton Ave Basin		Trenton Ave Basin	Trenton Ave Basin	Trenton Ave Basin	Tracyton Beach Basin	--	Pine Road Basin	Pine Road Basin
CSO Outfalls		OF-7		OF-7	--	--	OF-6	--	--	--
Discharge Location		Eastside Beachmain		Gravity sewer on E. 10th, flows to EB-2	Gravity sewer on Jacobsen Blvd by Trenton Ave	Trenton Ave at Holman St gravity sewer	Gravity sewer at Lebo BLVD and Hefner St	--	Gravity sewer at Sugar Pine Dr and Pinecone Dr	Gravity sewer on NE Pinecrest Dr
		Note: Maximum Capacity and Maximum TDH does not include operation of the standby pump (e.g. 3 pumps at a station will include 2 pumps plus 1 standby. The standby pump will not operate unless one of the other pumps fails.)								