NORTHERN SOUTHEAST REGIONAL AQUACULTURE ASSOCIATION, INC.
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RECIEPT VIA EMAIL

Amy Ainslie
Planning Director
City and Borough of Sitka
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RE: Deliverables Requested for Sawmill Creek Hatchery Tidelands Use

Ms. Ainslie,

In regard to your request for additional information on NSRAA's proposed use of City and Borough of Sitka tidelands neighboring the Gary Paxton Industrial Park, please receive this letter and attachments.

Outfall Description

The additional outfall is required as part of NSRAA's expansion of the Sawmill Creek Hatchery. Block 4, Lot 3 in the GPIP has been leased by NSRAA since 2018, and will be the site of the hatchery expansion. A new drain line running the length of lot 3 and lot 2 will be installed in conjunction with the outfall. Both the new drain and outfall system are required to accommodate the additional water flow when the expanded facility begins operating. The new facility will accommodate rearing for 2,000,000 Chinook and the capacity to incubate up to 50,000,000 chum salmon. The outfall will originate from a collection vault on the uplands lot 2 lease site where the drain lines from both facilities will combine. The new outfall will be made of 30" SDR 21 HDPE pipe and will be approximately 900' long. The outfall will be weighted with concrete collar anchors every 15', each weighing ~2,500#. The 30" outfall will run parallel to the existing 24", with approximately 20' separation. The outfall will terminate at -100' depth as per hatchery permit requirements.

Water Demand Forecast

This information has been provided to the Electric Department before, most recently regarding discussions of a possible back pressure turbine system to supply second use water to NSRAA and/or Public Works (or other industrial uses). See attachment 2 for detailed estimated use by month, which has been revised to include potential increases during the development of the new facility. The original water agreement was for a max of 10cfs. The new agreement allows for a max of 20cfs, with a yearly average of 14cfs. The current facility cannot exceed 10cfs due to outfall restriction. Once the new outfall is in place, the current use will increase slightly as the next flow restriction will be the current 10" penstock supply. The full flow use, up to the water agreement, is projected to occur when the expansion is complete in early 2025.

Flow Meter Status Update

Withdrawal Point 1: Initially, as indicated in the water agreement, NSRAA had intended to upgrade the 10" penstock supply to a 14" and replace the aging infrastructure associated with that supply. Given the scope of that work, NSRAA intended to install a flow meter at that time, rather than install a smaller flow meter on the current line that would not be able to be used for the expansion. Currently the Electric Department and NSRAA have been in discussions regarding alternate methods of supply off the penstock to provide for more efficient use of the industrial water the hatchery needs to operate. Until those details are worked out, and the delivery method

determined to accommodate the up to 20cfs, it is difficult for NSRAA to install a flow meter to monitor this withdrawal point. If the filter plant afterbay is not spilling, the flow meter at the hatchery will provide flow for withdrawal point 1. Currently the afterbay is being operated at a -12" elevation, however, the damboards on the afterbay are not watertight, so some additional flow is not accounted for. That is estimated to be less than 0.5cfs. The current flow meter at the facility provides an output signal to the CBS Public Works SCADA system.

Withdrawal Point 2: The Blue Lake hydro afterbay pump system, as originally installed by the CBS, is incapable of supplying the original 10cfs. NSRAA is currently working on engineering to upgrade the system to accommodate the increased flow requirements, as outlined in the new water delivery agreement. The current, and future pumps are not and will not be capable of overcoming the head pressure to spill the bulk water line/filter plant afterbay. Thus, when NSRAA is pumping water, the flow meter at the hatchery site provides flow data for withdrawal point 2. When NSRAA constructs the expansion facility on lot 3, we will install a flow meter on the main supply for that facility. Our intent, pending CBS approval, would be to totalize the flow at both locations to provide for flow data when pumping.

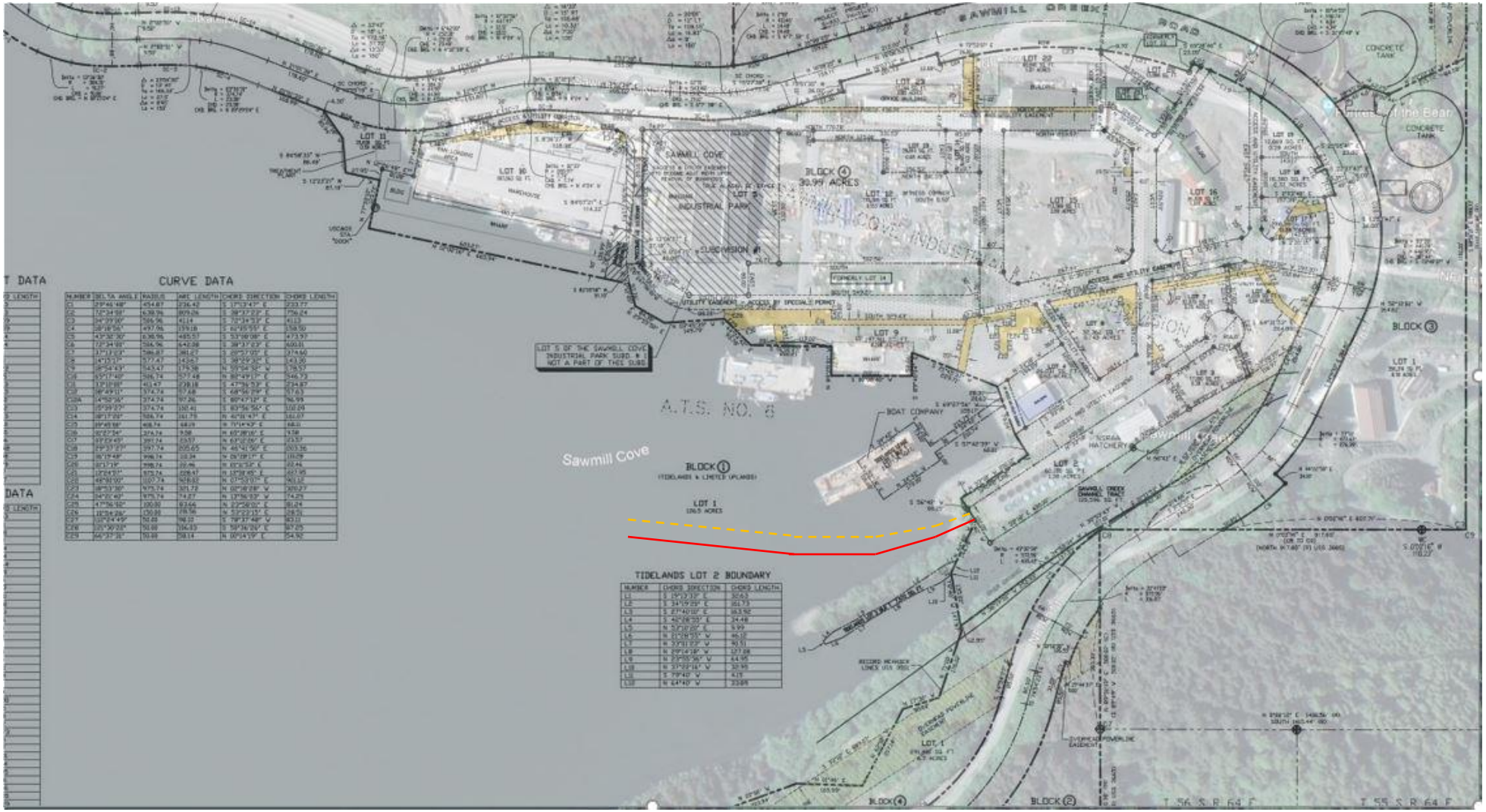
Withdrawal Point 3: This point, as indicated in the appendix to the water agreement, is from Sawmill Creek. That point source was intended to be accessed by opening a slide gate in the spillway of the Blue Lake hydro afterbay, and then utilizing the pumps at withdrawal point 2. That is still an option, however, in conjunction with Public Works, NSRAA has partnered on the Critical Secondary Water project to provide an alternate location to withdraw from Sawmill Creek. NSRAA will have its own wet well and pumping system that will tee into the existing bulk water line that provides industrial water to the GPIP. The pumping system at this location will have an industrial flow meter installed as per CRW Engineering's drawings.

In conjunction with this request, NSRAA is interested in the option to obtain a tidelands lease in the area directly adjacent to lot 2. This will allow for protection of our outfalls where they exit the tidally influenced area as well as provide a footprint to accommodate a potential docking structure in the future if deemed necessary. The general area that would be requested is indicated on attachment 3.

Please let me know if you have any questions or further needs for information.

Respectfully,
Adam Olson

Attachment 1



LEGEND

Existing 24” Outfall

Proposed 30” Outfall

Attachment 2

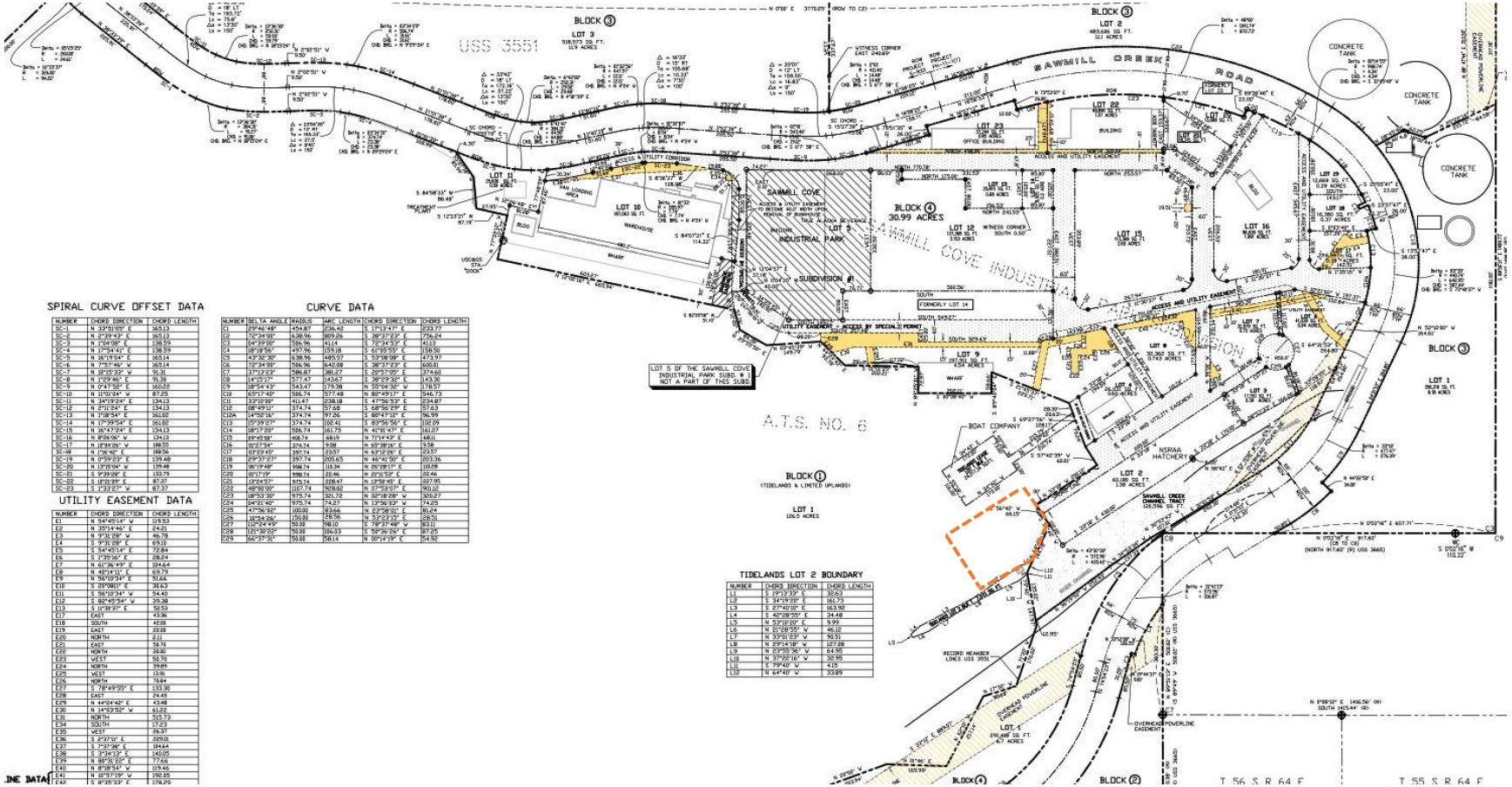
Sawmill Creek Hatchery Monthly Flow Estimates (cfs)

	Month	Existing
2021-2022	January	10.0
	February	10.0
	March	10.0
	April	10.0
	May	6.1
	June	1.6
	July	3.2
	August	7.7
	September	8.5
	October	10.0
	November	10.0
	December	10.0
	AVERAGE	8.1

	Month	Existing
2023-2024	January	11.0
	February	11.0
	March	11.0
	April	11.0
	May	6.1
	June	1.6
	July	3.2
	August	7.7
	September	8.5
	October	11.0
	November	11.0
	December	11.0
	AVERAGE	8.7

	Month	Existing	New	Total
2025+	January	13.0	7.0	20.0
	February	13.0	7.0	20.0
	March	14.0	6.0	20.0
	April	14.0	6.0	20.0
	May	6.1	0.0	6.1
	June	1.6	0.0	1.6
	July	3.2	1.6	4.7
	August	7.7	1.6	9.3
	September	9.0	1.6	10.6
	October	11.0	3.8	14.8
	November	13.0	3.3	16.3
	December	14.0	4.6	18.6
	AVERAGE	10.0	3.5	13.5

Attachment 3



SPIRAL CURVE OFFSET DATA

NUMBER	CHORD DIRECTION	CHORD LENGTH
SC-1	N 33°51'05" E	365.13
SC-2	N 2°39'43" E	365.13
SC-3	N 1°04'05" E	138.59
SC-4	N 17°54'41" E	138.59
SC-5	N 36°19'04" E	365.14
SC-6	N 7°57'46" W	365.14
SC-7	N 35°10'23" W	91.31
SC-8	N 1°39'46" E	91.36
SC-9	N 0°47'53" E	360.20
SC-10	N 11°01'54" W	87.35
SC-11	N 34°19'24" E	134.13
SC-12	N 2°11'34" E	134.13
SC-13	N 1°08'54" E	361.32
SC-14	N 17°39'54" E	361.32
SC-15	N 36°47'24" E	134.13
SC-16	N 8°26'06" W	134.13
SC-17	N 11°34'26" W	138.55
SC-18	N 1°36'40" E	388.56
SC-19	N 0°59'23" E	139.48
SC-20	N 13°29'04" W	139.48
SC-21	S 9°39'08" E	133.79
SC-22	S 18°35'39" E	87.37
SC-23	S 1°33'27" W	87.37

CURVE DATA

NUMBER	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH
C1	29°46'48"	454.87	236.42	S 17°13'47" E	233.77
C2	72°34'39"	638.96	809.26	S 38°37'22" E	756.24
C3	04°39'06"	506.96	41.14	S 72°34'53" E	41.13
C4	18°18'56"	497.96	159.18	S 61°05'55" E	158.50
C5	43°32'39"	638.96	485.57	S 53°18'08" E	473.97
C6	72°34'39"	506.96	642.08	S 38°37'22" E	600.81
C7	27°13'23"	596.87	283.67	S 20°23'05" E	274.60
C8	14°15'17"	577.47	143.67	S 36°29'35" E	143.30
C9	18°54'43"	543.47	179.38	N 55°04'35" W	178.57
C10	63°51'40"	586.74	577.48	N 80°49'31" E	546.73
C11	33°10'55"	411.47	238.18	S 47°55'53" E	234.87
C12	98°49'31"	374.74	517.68	S 68°55'39" E	574.3
C12A	14°52'16"	374.74	97.26	S 89°47'12" E	96.99
C13	05°29'27"	374.74	100.41	S 83°56'56" E	102.09
C14	98°17'28"	586.74	161.75	N 47°16'47" E	161.07
C15	89°45'08"	468.74	6819	N 7°14'43" E	68.11
C16	01°27'54"	374.74	9.58	N 45°38'16" E	9.58
C17	63°22'45"	397.74	2353	N 61°12'26" E	223.57
C18	29°37'27"	397.74	205.65	N 46°41'50" E	203.36
C19	96°19'48"	998.74	110.34	N 26°08'17" E	110.28
C20	01°17'9"	998.74	22.46	N 21°11'52" E	22.46
C21	13°54'51"	1073.74	208.47	N 13°38'45" E	207.95
C22	48°39'00"	1107.74	929.62	N 01°53'07" E	901.12
C23	18°53'30"	975.74	321.72	N 02°18'28" W	320.27
C24	04°21'40"	975.74	74.27	N 13°36'33" W	74.25
C25	47°56'52"	100.00	83.66	N 23°28'01" E	81.24
C26	105°54'26"	150.00	277.26	N 52°23'15" E	239.51
C27	53°54'49"	50.00	98.10	S 78°37'48" W	83.11
C28	101°30'02"	50.00	116.33	S 58°36'26" E	97.25
C29	66°37'35"	50.00	58.14	N 00°14'39" E	54.92

UTILITY EASEMENT DATA

NUMBER	CHORD DIRECTION	CHORD LENGTH
E1	N 54°45'14" W	119.53
E2	N 35°14'46" E	24.21
E3	N 9°31'08" W	46.78
E4	S 9°31'08" E	69.10
E5	S 54°45'14" E	72.84
E6	S 1°35'36" E	28.24
E7	N 61°36'49" E	184.64
E8	N 48°14'11" E	69.79
E9	N 56°03'54" E	91.04
E10	S 28°08'01" E	38.63
E11	S 56°10'34" W	54.40
E12	S 82°45'54" W	39.38
E13	S 11°39'27" E	58.53
E17	EAST	43.36
E18	SOUTH	42.08
E19	EAST	22.08
E20	NORTH	2.11
E21	EAST	58.76
E22	NORTH	29.80
E23	WEST	59.70
E24	NORTH	39.89
E25	WEST	13.96
E26	NORTH	79.84
E27	S 78°49'55" E	133.10
E28	EAST	24.45
E29	N 44°24'42" E	43.48
E30	N 14°53'52" W	61.82
E31	NORTH	515.73
E34	SOUTH	17.23
E35	WEST	26.37
E36	S 2°27'31" E	229.01
E37	S 7°37'36" E	194.64
E38	S 3°34'12" E	140.05
E39	N 88°31'55" E	77.66
E40	N 8°18'54" W	119.46
E41	N 18°57'19" W	190.85
E42	S 9°35'33" E	178.29

TIDELANDS LOT 2 BOUNDARY

NUMBER	CHORD DIRECTION	CHORD LENGTH
L1	S 19°13'33" E	32.63
L2	S 34°19'26" E	161.73
L3	S 27°40'09" E	163.92
L4	S 40°28'55" E	34.48
L5	N 59°18'20" E	9.99
L6	N 01°28'55" W	46.12
L7	N 33°01'23" W	90.51
L8	N 29°14'18" W	127.88
L9	N 29°55'36" W	64.95
L10	N 37°02'16" W	32.95
L11	S 79°40' W	4.15
L12	N 64°40' W	93.89

LEGEND

Potential Lease Area (est)