

ATTACHMENT H

Stream Crossing Lists





NOTICE – THIS DOCUMENT CONTAINS CONFIDENTIAL AND PROPRIETARY INFORMATION AND SHALL NOT BE DUPLICATED, DISTRIBUTED, DISCLOSED, SHARED OR USED FOR ANY PURPOSE EXCEPT AS MAY BE AUTHORIZED BY AGDC IN WRITING.
©2015 Alaska Gasline Development Corporation. All rights reserved.

THIS DOCUMENT IS UNCONTROLLED WHEN PRINTED. THIS COPY VALID ONLY AT THE TIME OF PRINTING

ASAP STREAMS AND HYDROLOGIC POINTS OF INTEREST

A summary of probable centerline stream crossings was first reported to the Corps of Engineers in ASAP's 2010 Clean Water Act application leading up to the publication of the Project's Environmental Impact Statement in 2012. This list was developed by ASAP's engineering and wetlands teams through early desktop and field studies between 2009 and 2010 using the best available information at that time. Since then, changes in pipeline routing and the addition of new access roads and other facilities have occurred, and better desktop and field data for streams and wetlands have been collected.

ASAP's waterways engineering team and its wetlands delineation team played key roles in developing a list of field targets visited in 2014 and 2015 to best inform construction modes and methods through areas that could require special design. Many of these selected "stream targets" required on-site visits for engineering purposes to assess surface water features identified during desktop analysis.

In addition to the 312 streams crossed by the Project, ASAP engineers and scientists have identified 179 hydrologic points of interest (HPOIs). The HPOI features do not meet the criteria relative to possessing an ordinary high water mark defined in the USACE Regulatory Guidance Letter (RGL) 05-05, but are jurisdictional areas for which engineers may need to give special design consideration.

From a wetlands perspective, a stream is defined as having seasonally flowing water (at least in most years), and by having bed and bank. The reason is that a riverine classification includes all habitats contained within a channel. These systems can be Relatively Permanent Waters (RPWs) (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally) or Non-RPWs. Channels are defined by overseeing agencies as displaying an ordinary high water mark, which refers to the line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider characteristics of a surrounding area.

Hydrologic features without an ordinary high water mark may be wetlands and may be important considerations for engineers, but these do not meet the wetlands definition for streams. The engineering definition of a stream crossing, either by the pipeline centerline or by an access road, is that there exists surface water that is likely to require application of a special design method or mode (whether meeting the wetlands definition of a stream or not). This includes areas of permanently-flooded emergent wetlands, which can convey water through the landscape and require special design.

In previous submittals, we have combined the engineering- and wetlands-identified streams into a single stream list. After review, however, many of the streams as determined by the engineering staff did not meet the wetlands stream definition and were removed from the stream list. The attached stream list is a complete list of features that meet the wetlands definition of a stream. The additional field targets that were identified by engineering but that do not meet the wetlands definition for a stream are now contained in a second list, termed "Hydrologic Points of Interest", or HPOI's.

MAINLINE STREAM CROSSING LIST

Stream Crossing List - Mainline

001-C-22-PER-D-0001, Attachment H

Mainline Stream ID	Stream Name	NHD Stream Type	Anadromous	Proposed Crossing Method	Long. (DD 83)	Lat. (DD 83)	OHW Width (ft)	Perm. Vol. (CY)	Temp. Vol. (CY)
ST_3.1	Putuligayuk River	Perennial	Yes	AS	-148.58862	70.2805546	264	N/A	0
ST_4.7	Unknown	Artificial Path	No	OC	-148.62989	70.2613195	73	1,100	550
ST_27.2	Unknown	Perennial	No	OC	-148.75789	69.9472865	33	300	100
ST_74.5	Unknown	Perennial	No	OC	-148.74327	69.3031662	76	1,100	550
ST_76.5	Unknown	Perennial	No	OC	-148.77265	69.2762727	105	1,800	900
ST_76.7	Unknown	Perennial	No	OC	-148.77454	69.2729679	15	300	100
ST_76.9	Unknown	Perennial	No	OC	-148.77378	69.2712631	32	600	300
ST_82.5	Unknown	Perennial	No	OC	-148.82763	69.1951417	18	300	100
ST_85.1	Unknown	Perennial	No	OC	-148.84205	69.1600577	32	300	100
ST_88.1	Unknown	Perennial	No	OC	-148.86422	69.1235502	33	300	100
ST_90.2	Unknown	Perennial	No	OC	-148.83687	69.0959935	37	300	100
ST_99	Unknown	Perennial	No	OC	-148.88924	68.97641	39	300	100
ST_100.5	Unknown	Perennial	No	OC	-148.89695	68.957104	10	300	100
ST_101.5	Dan Creek	Perennial	No	OC	-148.90002	68.9432864	6	100	100
ST_106.7	Oksrukuyik Creek Tributary	Perennial	No	OC	-148.88075	68.8691732	35	300	100
ST_108.5	Oksrukuyik Creek Tributary	Perennial	No	OC	-148.86019	68.8437823	102	1,300	100
ST_121.5	Unknown	Perennial	No	OC	-149.07951	68.6956947	31	300	100
ST_128.5	Toolik River	Perennial	No	IOC	-149.31946	68.646814	25	400	300
ST_129.2	Imnavait Creek	Perennial	No	IOC	-149.34259	68.6413655	12	300	100
ST_130.8	Kuparuk River	Perennial	No	IOC	-149.38167	68.6237979	45	300	500
ST_132.3	Unknown	Intermittent	No	IOC	-149.41542	68.6081264	5	300	100
ST_160.2	Unknown	Artificial Path	No	IOC	-149.37106	68.4518746	379	2,600	3900
ST_221.3	Unknown	Intermittent	No	IOC	-149.32807	68.4117042	103	1,800	1100
ST_405.3	Unknown	Perennial	No	OC	-149.32301	68.4071322	975	4,100	6900
ST_594.3	Unknown	Perennial	No	OC	-149.31419	68.3734622	54	1,000	400
ST_594.4	Unknown	Perennial	No	IOC	-149.36855	68.2847682	4	100	100
ST_157.4	Trevor Creek	Perennial	No	IOC	-149.37192	68.2835229	24	300	200
ST_158.3	Unknown	Intermittent	No	IOC	-149.39245	68.2723278	68	1,000	700
ST_158.9	Unknown	Intermittent	No	IOC	-149.40356	68.2645287	15	300	200
ST_160.2	Unknown	Intermittent	No	OC	-149.42044	68.2472239	58	1000	400
ST_160.5	Unknown	Intermittent	No	IOC	-149.42127	68.2434816	62	1,000	600
ST_162	Unknown	Perennial	No	IOC	-149.40909	68.2230194	102	1,800	1000
ST_162.6	Atigun River	Artificial Path	No	IOC	-149.41113	68.2156041	747	3,500	7600
ST_163.5	Unknown	Perennial	No	OC	-149.40828	68.2024309	48	400	300
ST_163.7	Unknown	Intermittent	No	OC	-149.41187	68.1996511	18	300	100
ST_165.3	Unknown	Intermittent	No	OC	-149.43006	68.1794408	22	300	200
ST_165.4	Unknown	Intermittent	No	OC	-149.43248	68.1776135	12	200	100
ST_166	Spike Camp Creek	Artificial Path	No	IOC	-149.43874	68.1693836	67	1,000	700
ST_166.5	Unknown	Intermittent	No	OC	-149.43635	68.1642531	48	400	300
ST_167.5	Unknown	Intermittent	No	IOC	-149.44128	68.1485937	25	300	300
ST_168	Unknown	Intermittent	No	OC	-149.44522	68.1416621	28	300	200
ST_168.2	Unknown	Intermittent	No	OC	-149.4462	68.1394854	78	1,100	600
ST_169.9	Unknown	Perennial	No	OC	-149.49115	68.1275229	179	2,000	1300
ST_171.6	Unknown	Perennial	No	IOC	-149.53785	68.1134391	385	3,500	3900
ST_173.1_2	Unknown	Intermittent	No	OC	-149.5503	68.0935418	27	300	200
ST_173.5	Unknown	Perennial	No	OC	-149.55496	68.0886493	118	1,900	800
ST_174.9	Unknown	Intermittent	No	OC	-149.59028	68.0744162	99	1,100	700
ST_178.2	Trib to Dietrich River	Perennial	No	IOC	-149.65447	68.036275	22	300	200
ST_178.3_1	Dietrich River	Perennial	No	IOC	-149.6566	68.0362596	248	2,200	2500
ST_178.3_2	Dietrich River	Perennial	No	IOC	-149.65811	68.0358678	332	2,400	3400
ST_178.4	Dietrich River	Perennial	No	IOC	-149.66261	68.0347091	776	5,200	8000
ST_178.6	Dietrich River	Perennial	No	IOC	-149.66712	68.0335111	417	2,900	4300
ST_178.9	Dietrich River	Perennial	No	IOC	-149.67604	68.0315797	208	3,000	2200
ST_178.9_1	Dietrich River	Perennial	No	IOC	-149.67826	68.0313653	170	2,000	1700
ST_178.9_2	Dietrich River	Perennial	No	IOC	-149.68017	68.031209	398	2,600	4100

Stream Crossing List - Mainline

001-C-22-PER-D-0001, Attachment H

ST_179	Dietrich River	Perennial	No	IOC	-149.68328	68.0309951	480	2,800	4900
ST_179.2_1	Dietrich River	Perennial	No	IOC	-149.68704	68.0307374	256	2,200	2600
ST_179.2_2	Dietrich River	Perennial	No	IOC	-149.68848	68.0306386	145	2,000	1500
ST_179.3	Dietrich River	Perennial	No	IOC	-149.69387	68.0302697	300	2,400	3100
ST_180.3	Unknown	Perennial	No	IOC	-149.72237	68.0227646	25	300	300
ST_181.6	Dietrich River	Perennial	No	IOC	-149.74744	68.0061143	227	2,200	2300
ST_183.5	Unknown	Perennial	No	IOC	-149.76073	67.9828605	10	300	100
ST_184.4	Unknown	Intermittent	No	IOC	-149.76668	67.9703528	80	1,100	800
ST_184.9	Unknown	Perennial	No	IOC	-149.76862	67.9628571	77	1,100	800
ST_185.3	Unknown	Intermittent	No	IOC	-149.77081	67.9572284	12	300	100
ST_187.4	Nutirwik Creek	Artificial Path	No	IOC	-149.81844	67.9344833	106	1,900	1100
ST_189.5	Unknown	Intermittent	No	IOC	-149.81661	67.9052494	50	1,000	500
ST_189.8	Unknown	Intermittent	No	OC	-149.81595	67.9012775	14	300	100
ST_190.5	Unknown	Perennial	No	IOC	-149.81836	67.8907238	210	2,100	2100
ST_193.5	Unknown	Perennial	No	IOC	-149.82821	67.8487877	268	3,300	2800
ST_194.9	Unknown	Intermittent	No	IOC	-149.83079	67.8277718	389	2,600	4000
ST_196.1	Unknown	Perennial	No	IOC	-149.82486	67.8108167	9	100	100
ST_197.6	Unknown	Intermittent	No	OC	-149.80428	67.7925386	56	1,000	400
ST_198.9	Unknown	Intermittent	No	IOC	-149.77857	67.7756954	148	2,000	1500
ST_201.7	Snowden Creek	Perennial	No	IOC	-149.75288	67.7375777	114	1,900	1200
ST_202.7_1	Unknown	Intermittent	No	OC	-149.74046	67.7254736	6	100	100
ST_202.8	Unknown	Intermittent	No	OC	-149.73972	67.7242326	32	300	200
ST_204.6	Unknown	Perennial	No	IOC	-149.72755	67.6982871	100	1,800	1000
ST_207.3	Unknown	Perennial	No	IOC	-149.71857	67.6598206	238	2,200	2400
ST_208.6	Dietrich River	Artificial Path	No	IOC	-149.74054	67.6454777	203	2,100	1050
ST_209	Unknown	Perennial	No	IOC	-149.75345	67.642295	29	300	300
ST_210.9	Middle Fork Koyokuk River 3	Artificial Path	Yes	IOC	-149.78724	67.6192196	2023	8,400	4200
ST_213.1	Unknown	Perennial	No	IOC	-149.7865	67.5881402	23	300	200
ST_218.3	Linda Creek	Perennial	No	IOC	-149.84393	67.5196885	40	300	400
ST_218.9	Gold Creek	Perennial	No	IOC	-149.85107	67.5123506	44	300	500
ST_219.7	Sheep Creek	Perennial	No	IOC	-149.85604	67.5008785	217	2,100	2200
ST_220.2	Wolf Pup Creek	Perennial	No	IOC	-149.85857	67.4935144	12	300	100
ST_221	Nugget Creek	Perennial	No	IOC	-149.86349	67.4834455	23	300	200
ST_221.3	Unknown	Intermittent	No	IOC	-149.87376	67.481322	14	300	100
ST_224.8	Unknown	Intermittent	No	IOC	-149.99369	67.4603247	52	600	500
ST_225.7	Unknown	Intermittent	No	IOC	-150.02512	67.4558472	4	100	100
ST_225.8	Unknown	Ephemeral	No	OC	-150.02908	67.4552765	53	600	400
ST_226.1	Unknown	Intermittent	No	IOC	-150.03717	67.4540362	15	300	200
ST_226.8	Unknown	Intermittent	No	IOC	-150.05287	67.4471355	3	100	100
ST_228.9	Minnie Creek	Perennial	Yes	IOC	-150.07873	67.4201169	63	1,000	600
ST_230.3	Unknown	Intermittent	No	IOC	-150.0947	67.4011931	23	300	200
ST_233.6	Unknown	Intermittent	No	IOC	-150.13057	67.3561068	15	300	200
ST_236.3	Marion Creek	Perennial	Yes	IOC	-150.16095	67.3198955	68	1,000	500
ST_239.5	Clara Creek	Perennial	No	IOC	-150.1634	67.2732127	7	100	100
ST_240.8	Slate Creek	Perennial	Yes	IOC	-150.16658	67.2552692	103	1,800	1100
ST_246	Rosie Creek	Perennial	No	OC	-150.26488	67.1971105	64	700	500
ST_254.2	Chapman Creek	Perennial	No	IOC	-150.35044	67.0967004	5	100	100
ST_260.5	South Fork Koyokuk River	Artificial Path	Yes	IOC	-150.28376	67.0176584	261	3,100	1050
ST_262.6	Unknown	Perennial	No	OC	-150.30141	66.9906869	8	100	100
ST_270.8	Unknown	Intermittent	No	OC	-150.47762	66.8970114	12	300	100
ST_272.2	Jim River	Artificial Path	Yes	IOC	-150.51172	66.883027	217	2,400	2200
ST_274.5	Douglas Creek	Perennial	Yes	OC	-150.55662	66.8559254	86	1,300	700
ST_281.2	Prospect Creek	Perennial	Yes	IOC	-150.66824	66.7782638	68	1,000	700
ST_285.5	Little Nasty Creek	Perennial	No	IOC	-150.65634	66.7164559	210	2,100	2100
ST_288.2	North Fork Bonanza Creek	Perennial	No	IOC	-150.64746	66.6825236	77	1,100	800
ST_289.8	Bonanza Creek	Perennial	No	IOC	-150.65591	66.6602414	71	1,000	700
ST_298.4	Fish Creek	Perennial	No	IOC	-150.71934	66.547764	50	1,000	500
ST_300.1	Unknown	Perennial	No	IOC	-150.71705	66.5249767	19	300	200
ST_301.1	Unknown	Perennial	No	IOC	-150.71205	66.5099555	18	300	200

Stream Crossing List - Mainline

001-C-22-PER-D-0001, Attachment H

ST_306.8	Kanuti River	Artificial Path	No	IOC	-150.62725	66.4413715	88	1,100	550
ST_321.7	Dall Creek	Perennial	No	IOC	-150.34789	66.2679836	15	300	200
ST_333.7	No Name Creek	Perennial	No	IOC	-150.16684	66.1162141	37	300	400
ST_366.3	Isom Creek	Perennial	No	IOC	-149.4732	65.7969877	4	100	100
ST_340.2	Fort Hamlin Hills Creek	Perennial	No	IOC	-150.13039	66.0283758	22	300	200
ST_347.2	Unknown	Perennial	No	IOC	-149.96247	65.9622096	17	300	200
ST_356	Yukon River	Artificial Path	Yes	TD	-149.74205	65.8797915	2185	3,800	15500
ST_364.2	Unknown	Perennial	No	IOC	-149.53425	65.8118937	3	100	100
ST_373.1	Unknown	Perennial	No	IOC	-149.29026	65.7391291	2	100	100
ST_374.2	Unknown	Perennial	No	IOC	-149.25952	65.7292097	3	100	100
ST_374.8	Unknown	Perennial	No	OC	-149.24265	65.7246682	2	100	100
ST_376.9	Unknown	Perennial	No	IOC	-149.17976	65.7102664	3	100	100
ST_381	Hess Creek	Artificial Path	No	IOC	-149.07394	65.6728185	139	1,900	1400
ST_384.9	Unknown	Perennial	No	IOC	-148.99262	65.6320829	3	100	100
ST_387.2	Unknown	Perennial	No	IOC	-148.94819	65.6090012	9	100	100
ST_390.5	Erickson Creek	Perennial	No	IOC	-148.87272	65.5740508	4	100	100
ST_394.9	Lost Creek	Perennial	No	IOC	-148.79125	65.5227633	14	200	100
ST_398.1	Unknown	Perennial	No	OC	-148.70596	65.4956347	4	100	0
ST_401.3	East Fork Tolovana River	Perennial	No	IOC	-148.63304	65.4611514	69	1,000	700
ST_404.2	Unknown	Perennial	No	OC	-148.60866	65.4206454	9	100	100
ST_404.4	Winter Creek	Perennial	No	OC	-148.60866	65.4182503	3	100	100
ST_405	Unknown	Perennial	No	OC	-148.60868	65.4095976	4	100	100
ST_405.3	Unknown	Perennial	No	OC	-148.60869	65.4055463	1	300	100
ST_406.6	Unknown	Perennial	No	OC	-148.60873	65.3859178	12	300	100
ST_409.3	Unknown	Ephemeral	No	OC	-148.58353	65.3538351	3	0	100
ST_429.2	Tatalina River	Perennial	No	IOC	-148.67801	65.0985529	64	1,000	500
ST_430.6	Unknown	Perennial	No	IOC	-148.6746	65.0785024	48	400	200
ST_431.3	Washington Creek	Perennial	No	IOC	-148.66908	65.0692416	40	300	100
ST_437.6	Chatanika River	Artificial Path	Yes	IOC	-148.68178	64.9785791	185	2,100	1050
ST_442.1	Unknown	Perennial	No	OC	-148.6866	64.9184321	74	1,100	550
ST_442.8	Unknown	Perennial	No	OC	-148.68066	64.9089224	37	300	100
ST_444.1	Unknown	Perennial	No	OC	-148.68015	64.890698	3	100	100
ST_445.2	Unknown	Perennial	No	OC	-148.69914	64.877333	12	300	100
ST_447.5	Unknown	Perennial	No	OC	-148.7525	64.8547776	5	100	100
ST_448.4	Unknown	Perennial	No	OC	-148.76403	64.8440313	5	100	100
ST_449.3	Unknown	Perennial	No	OC	-148.76752	64.8328011	14	200	100
ST_451	Unknown	Perennial	No	OC	-148.77537	64.8095191	3	100	100
ST_453.8	Goldstream Creek	Perennial	No	IOC	-148.82679	64.7799154	97	1,100	550
ST_464.5	Unknown	Perennial	No	OC	-149.0355	64.6599036	65	600	100
ST_464.6	Little Goldstream Creek	Perennial	No	IOC	-149.03546	64.6581051	33	300	100
ST_471.9	Tanana River	Artificial Path	Yes	TD	-149.11786	64.5688532	2283	3,900	1950
ST_475	Nenana River	Artificial Path	Yes	IOC	-149.14882	64.5271224	301	2,400	1200
ST_484.5	Unknown	Perennial	No	IOC	-149.26218	64.4009349	51	1,000	500
ST_488.2	Nenana River	Artificial Path	Yes	IOC	-149.30109	64.3509717	43	300	100
ST_493.4	Unknown	Perennial	No	OC	-149.30209	64.2769682	3	100	100
ST_500.5	Birch Creek	Perennial	No	IOC	-149.29158	64.1760518	9	100	100
ST_501.1	Unknown	Perennial	No	IOC	-149.28451	64.1683683	2109	7,000	21600
ST_503.7	Bear Creek	Perennial	Yes	IOC	-149.25134	64.1352779	57	600	600
ST_503.9	June Creek	Perennial	Yes	IOC	-149.24801	64.1325248	16	300	200
ST_511.7	Rock Creek	Perennial	No	OC	-149.14265	64.0319503	30	300	200
ST_514.7	Slate Creek	Perennial	No	IOC	-149.12111	63.989618	44	300	500
ST_518.6	Little Panguingue Creek	Perennial	No	IOC	-149.09961	63.9367266	28	300	300
ST_519.9	Panguingue Creek	Perennial	Yes	OC	-149.07805	63.9201293	57	1,000	500
ST_522.4	Unknown	Perennial	No	IOC	-149.08009	63.8859937	8	100	100
ST_524.8	Dry Creek	Artificial Path	No	OC	-149.06511	63.8525229	610	3,200	4300
ST_529.2	Antler Creek	Perennial	No	IOC	-148.97761	63.8154297	38	300	400
ST_530.3	Bison Gulch	Perennial	No	IOC	-148.95426	63.8042918	24	300	200
ST_530.9	Nenana River	Artificial Path	No	AS	-148.93332	63.8028195	192	1,800	0

Stream Crossing List - Mainline

001-C-22-PER-D-0001, Attachment H

ST_531.2	Coyote Creek	Perennial	No	OC	-148.92725	63.800431	5	100	100
ST_531.6	Dragonfly Creek	Perennial	No	OC	-148.92246	63.7959531	22	300	200
ST_531.9	Eagle Creek	Perennial	No	OC	-148.91927	63.7904192	3	100	100
ST_532.7	Coyote Creek	Perennial	No	OC	-148.90932	63.7803017	39	300	300
ST_533.1	Grizzly Creek	Perennial	No	OC	-148.90971	63.7753861	3	100	100
ST_533.7	Hornet Creek	Perennial	No	OC	-148.90876	63.76647	58	1,000	400
ST_533.9	Ice Worm Gulch	Perennial	No	OC	-148.90708	63.7639294	80	1,100	600
ST_534.9	Junco Creek	Perennial	No	OC	-148.89934	63.7503354	7	100	100
ST_535.7	Kingfisher Creek	Perennial	No	OC	-148.89017	63.7404052	34	300	200
ST_536.7	Lynx Creek	Perennial	No	AS	-148.86428	63.7333186	13	200	100
ST_537.4	Montana Creek	Perennial	No	IOC	-148.85995	63.7238479	9	100	100
ST_540.3	Unknown	Perennial	No	OC	-148.78895	63.6978555	11	300	100
ST_540.9	Unknown	Perennial	No	IOC	-148.77857	63.69216	19	400	200
ST_541.2	Unknown	Perennial	No	IOC	-148.77636	63.6880948	5	100	100
ST_541.6	Yanert Fork	Artificial Path	No	IOC	-148.77234	63.6819757	150	2,000	1000
ST_550.1	Carlo Creek	Perennial	No	OC	-148.80196	63.5699815	8	100	100
ST_550.7	Unknown	Intermittent	No	OC	-148.80529	63.5619788	3	100	100
ST_554.9	Slime Creek	Perennial	No	IOC	-148.80852	63.5068606	32	300	300
ST_558.6	Nenana River	Artificial Path	No	AS	-148.80444	63.456288	357	2,500	1250
ST_559.5_1	Unknown	Perennial	No	OC	-148.81359	63.4463878	8	100	100
ST_559.5_2	Unknown	Perennial	No	IOC	-148.81453	63.4457971	15	300	200
ST_559.6	Unknown	Perennial	No	IOC	-148.81557	63.4451393	33	300	300
ST_560.9	Unknown	Perennial	No	IOC	-148.83658	63.4283604	146	2,000	1500
ST_564	Unknown	Perennial	No	OC	-148.87929	63.391129	23	300	200
ST_564.7	Jack River	Perennial	No	IOC	-148.89152	63.3838904	140	1,900	1400
ST_565	Unknown	Perennial	No	OC	-148.89465	63.3813886	3	100	100
ST_565.1	Unknown	Perennial	No	OC	-148.89879	63.3814133	11	100	100
ST_566.6	Pass Creek	Perennial	No	IOC	-148.94754	63.3742776	344	2,500	3500
ST_579	Unknown	Perennial	No	IOC	-149.24152	63.2716358	5	100	100
ST_580.3	Unknown	Perennial	No	IOC	-149.26764	63.256637	8	100	100
ST_580.8	Squaw Creek	Perennial	No	IOC	-149.27955	63.2525747	26	300	300
ST_581.4	Unknown	Intermittent	No	OC	-149.29163	63.2458333	3	0	0
ST_581.8	Unknown	Perennial	No	IOC	-149.29917	63.2412554	15	300	200
ST_582.9	Unknown	Perennial	No	IOC	-149.32224	63.2285183	8	100	100
ST_583.7	Unknown	Perennial	No	IOC	-149.33161	63.2191572	307	2,400	3100
ST_584.2	Middle Fork Chulitna River	Perennial	Yes	IOC	-149.32668	63.2118484	93	1,100	550
ST_584.7	Fourth of July Creek	Perennial	No	IOC	-149.33414	63.2060041	13	300	100
ST_587.6	East Fork Chulitna River	Perennial	Yes	IOC	-149.36076	63.1722421	117	1,900	1200
ST_588.5	Unknown	Intermittent	No	IOC	-149.36999	63.1619972	11	300	100
ST_591.4	Hardage Creek	Perennial	No	IOC	-149.42675	63.1293147	26	300	300
ST_591.8	Unknown	Perennial	No	IOC	-149.43288	63.1238494	60	1,000	600
ST_594.2	Antimony Creek	Perennial	No	IOC	-149.47038	63.0970397	4	100	100
ST_594.3	Unknown	Perennial	No	OC	-149.47121	63.0956441	2	300	100
ST_594.4	Unknown	Perennial	No	OC	-149.47162	63.0949525	2	300	100
ST_596.1	Honolulu Creek	Perennial	Yes	TD	-149.482	63.0708854	114	1,900	950
ST_597	Unknown	Perennial	No	IOC	-149.49439	63.0595523	3	100	100
ST_598.6	Unknown	Perennial	No	IOC	-149.51468	63.0389515	4	100	100
ST_599.4	Little Honolulu Creek	Perennial	No	IOC	-149.52386	63.0295037	4	100	100
ST_601.1	Hurricane Gulch	Perennial	No	IOC	-149.54673	63.0076392	40	300	400
ST_604.5	Granite Creek	Perennial	No	IOC	-149.62539	62.9764973	6	100	100
ST_607.3	Division Creek	Perennial	No	OC	-149.66964	62.9432692	8	100	100
ST_607.8	Unknown	Perennial	No	OC	-149.67545	62.9359494	8	100	100
ST_610	Pass Creek	Perennial	No	IOC	-149.71352	62.9105732	32	300	100
ST_610.3	Unknown	Perennial	No	OC	-149.71949	62.9078185	2	100	100
ST_612.1	Little Coal Creek	Perennial	No	IOC	-149.77079	62.8954632	17	300	200
ST_614.1	Unknown	Perennial	No	IOC	-149.81847	62.8790003	13	300	100
ST_615.6	Horseshoe Creek	Perennial	Yes	IOC	-149.86292	62.8707414	18	300	200
ST_631.8	Byers Creek	Perennial	Yes	IOC	-150.19992	62.7101086	66	1,000	700

Stream Crossing List - Mainline

001-C-22-PER-D-0001, Attachment H

ST_635.6	Unknown	Perennial	Yes	IOC	-150.22568	62.6648111	30	300	300
ST_638.4	Troublesome Creek	Perennial	Yes	TD	-150.23	62.6267069	158	1,700	1100
ST_639.2	Chulitna River	Artificial Path	Yes	TD	-150.2512	62.6194927	1745	3,300	1650
ST_640.3	Unknown	Perennial	No	IOC	-150.27399	62.611601	3	100	100
ST_647.8	Unknown	Perennial	Yes	OC	-150.25999	62.5137957	37	300	100
ST_650.5	Unknown	Perennial	No	OC	-150.27887	62.4772196	10	300	100
ST_652.2	Unknown	Perennial	Yes	OC	-150.27556	62.454044	26	600	100
ST_656.4	Unknown	Perennial	Yes	OC	-150.26462	62.3946393	4	0	100
ST_658.9	Unknown	Perennial	No	OC	-150.26333	62.3591799	6	100	100
ST_661.2	Trapper Creek	Perennial	Yes	OC	-150.27334	62.3307884	73	1,100	550
ST_667.5	Sawmill Creek	Perennial	Yes	OC	-150.25477	62.2435863	50	900	450
ST_669.8	Trib to Rabideux Creek	Perennial	No	OC	-150.23822	62.2132364	19	300	0
ST_670	Unknown	Perennial	No	OC	-150.23793	62.2094003	4	100	0
ST_670.9	Queer Creek	Perennial	Yes	IOC	-150.23702	62.1975209	25	300	300
ST_672	Rabideux Creek	Perennial	Yes	IOC	-150.21044	62.1884678	71	1,000	700
ST_673	Unknown	Perennial	Yes	OC	-150.1889	62.1792503	5	100	100
ST_673.5	Susitna River	Artificial Path	Yes	AS	-150.17523	62.1756758	923	2,500	1250
ST_677.4	Unknown	Perennial	Yes	OC	-150.09915	62.1361024	34	300	100
ST_680.7	Montana Creek	Perennial	Yes	AS	-150.0603	62.1044462	97	1,000	500
ST_683.7	Goose Creek	Perennial	Yes	IOC	-150.061	62.0615291	72	1,000	500
ST_685.4	Susitna Slough	Perennial	Yes	IOC	-150.08856	62.0419631	93	1,100	550
ST_687.3	Susitna Slough	Perennial	Yes	IOC	-150.09726	62.0163175	148	2,000	1000
ST_690.4	Sheep Creek Slough	Perennial	Yes	IOC	-150.08054	61.9744484	132	1,900	950
ST_692.5	Caswell Creek	Perennial	Yes	IOC	-150.07531	61.9458283	69	1,000	500
ST_694.5	Kashwitna River	Artificial Path	Yes	TD	-150.08094	61.9200951	194	1,800	900
ST_695.8	197 1/2 Mile Creek	Perennial	Yes	OC	-150.06377	61.9070928	251	2,200	1100
ST_696.4	Unknown	Intermittent	No	OC	-150.0625	61.8997041	16	300	100
ST_697	196 Mile Creek	Perennial	Yes	IOC	-150.06449	61.8910044	309	2,400	1200
ST_702.7	North Fork Little Willow Creek	Perennial	Yes	OC	-150.11232	61.8156389	9	100	100
ST_702.9	Little Willow Creek	Perennial	Yes	IOC	-150.1152	61.8139099	78	1,100	550
ST_703	Little Willow Creek Slough	Perennial	Yes	OC	-150.11713	61.8124038	33	300	100
ST_705.5	Willow Creek	Artificial Path	Yes	TD	-150.12284	61.7769499	169	1,700	1650
ST_713.1	Rolly Creek	Perennial	No	IOC	-150.15897	61.6786595	35	300	100
ST_719.7	Fish Creek	Perennial	Yes	IOC	-150.22536	61.5918018	175	2,000	1000
ST_729.1	Little Susitna River	Artificial Path	Yes	IOC	-150.14125	61.4708419	197	2,100	1050
							Total	242,700	220,550

Notes:

AS = Aerial Span (Bridge)
 IOC = Isolated Open Cut
 OC = Open Cut
 TD = Trenchless Drilling (HDD)

FAIRBANKS STREAM CROSSING LIST

Fairbanks Lateral Stream ID	Stream Name	NHD Stream Type	Anadromous	Proposed Crossing Method	Long. (DD 83)	Lat. (DD 83)	OHW Width (FT)	Perm. Vol. (CY)	Temp. Vol. (CY)
ST_1.4	Unknown	Intermittent	No	OC	-148.648	64.9484	4	20	20
ST_7	Hard Luck Creek	Perennial	No	IOC	-148.4813	64.9494	3	50	30
ST_21.3	West Fork Moose Creek	Perennial	No	IOC	-148.0518	64.9464	3	310	500
ST_24.8	Goldstream Creek	Perennial	No	IOC	-147.9794	64.9158	49	60	30
ST_25.3	Happy Creek	Perennial	No	OC	-147.9732	64.9091	10	50	30
ST_29.2	Sheep Creek	Perennial	No	OC	-147.9031	64.8688	4	270	170
ST_30.3	Ace Creek	Perennial	No	IOC	-147.8753	64.8602	24	40	20
							Total	800	800
Notes:									
IOC = Isolated Open Cut									
OC = Open Cut									

ACCESS ROAD STREAM CROSSING LIST

Crossing Description									
Access Rd Stream Crossing ID	Stream Name	Anadromo us	Long. (DD 83)	Lat. (DD 83)	Road Name	Type	Crossing Type	OHW Width (ft)	Fill (CY)
0000-01	Unknown	No	-148.573	70.3268	GCF Access Road	Perm.	Culvert	32	100
0000-02	Unknown	No	-148.582	65.3535	AR-N-409.6	Perm.	Culvert	3	100
0000-03	Unknown	Yes	-149.468	63.073	AR-NSF-595.5	Perm.	Culvert	113	100
0000-04	Unknown	Yes	-149.116	64.5566	AR-BV-YD-E-472.73	Perm.	Bridge	593	0
0000-05	Unknown	No	-149.634	62.9769	AR-YD-N-604.36	Perm.	Culvert	12	100
0000-06	Unknown	No	-148.774	63.6886	AR-BV-MS-536.86	Perm.	Culvert	10	100
0000-07	Unknown	No	-149.473	63.0743	AR-NSF-595.5	Perm.	Culvert	15	100
0032-01	Unknown	No	-148.704	70.0425	Ar BV-20.27	Perm.	Culvert	57	195
0385-01	Unknown	No	-149.436	68.1666	AR-N-166.24	Perm.	Culvert	25	100
0410-01	Unknown	No	-149.533	68.1153	AR-171.37	Temp.	Bridge	111	0
0460-01	Dietrich River	No	-149.709	68.0242	AR-MS-180.03	Perm.	Bridge	39	578
0465-01	Dietrich River	No	-149.74	68.0101	AR-181.36	Temp.	Bridge	297	0
0466-01	Unknown	No	-149.739	68.0083	AR-181.36	Temp.	Culvert	4	5
0466-03	Unknown	No	-149.744	68.0054	AR-181.76	Temp.	Culvert	5	16
0785-01	Unknown	No	-150.631	66.8242	AR-CAMP-YD-277.83	Perm.	Bridge	3	306
0845-02	Unknown	No	-150.78	66.5355	AR-MS-299.52	Perm.	Bridge	23	433
1049-01	West Fork Tolovana River	Yes	-148.666	65.4602	AR-MS-401.56	Perm.	Bridge	151	474
1049-05	Tolovana River	No	-148.639	65.4587	AR-MS-401.56	Perm.	Bridge	164	664
1135-04	Unknown	Yes	-149.168	64.4884	AR-MS-477.94	Temp.	Bridge	42	0
1135-06	Unknown	No	-149.163	64.4883	AR-MS-477.94	Temp.	Culvert	65	510
1180-02	Unknown	No	-149.322	64.2846	AR-BV-MS-492.73	Perm.	Culvert	10	34
1321-03	Yanert Fork	No	-148.771	63.6822	AR-MS-543.1	Perm.	Bridge	187	485
1321-05	Unknown	No	-148.777	63.695	AR-MS-543.1	Perm.	Culvert	3	10
1321-06	Unknown	No	-148.788	63.6979	AR-MS-543.1	Perm.	Culvert	4	10
1321-08	Montana Creek	No	-148.858	63.7237	AR-BV-MS-536.86	Perm.	Bridge	11	376
1321-09	Unknown	No	-148.777	63.688	AR-BV-MS-536.86	Perm.	Culvert	12	27
1329-02	Unknown	No	-148.807	63.5619	AR-550.72	Temp.	Culvert	6	12
1491-02	Unknown	No	-149.575	63.0053	AR-MR-601.78	Perm.	Culvert	3	45
1491-03	Unknown	No	-149.588	63.0084	AR-MS-601.78	Perm.	Culvert	2	14
1600-01	Queer Creek	Yes	-150.22	62.1914	AR-MS-671.36	Perm.	Bridge	26	526
1612-03	Unknown	Yes	-150.097	62.1436	AR-MS-676.59	Perm.	Culvert	24	116
1636-01	Sheep Creek Slough	Yes	-150.067	61.9879	MS-689.51	Perm.	Bridge	72	491
1669-01	Unknown	Yes	-150.11	61.8156	AR-MS-702.65	Perm.	Culvert	17	99
1692-02	Unknown	No	-150.222	61.5975	AR-BV-718.7	Perm.	Culvert	2	22
1692-03	Fish Creek	Yes	-150.211	61.5946	AR-BV-718.7	Perm.	Bridge	126	416
1695-08	Unknown	Yes	-150.109	61.5658	AR-BV-MS-721.68	Perm.	Bridge	48	410
1695-09	Little Susitna River	Yes	-150.098	61.5642	AR-BV-MS-721.68	Perm.	Bridge	102	867
1695-10	Unknown	Yes	-150.012	61.5518	AR-BV-MS-721.68	Perm.	Bridge	26	393
1695-11	Unknown	Yes	-150	61.5508	AR-BV-MS-721.68	Perm.	Culvert	6	111
1695-12	Unknown	Yes	-149.978	61.5616	AR-BV-MS-721.68	Perm.	Culvert	21	150
Total								2,473	8,497

