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February 28, 2015

Ms. Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

RE: Juneau Hydropower Inc. Submission of Response Comments from Notice of Intent to Prepare Environmental Impact Statement and Soliciting Comments, and Final Recommendations, Terms and Conditions, and Prescriptions dated November 17, 2014 for Project FERC P-13563-003 Sweetheart Lake Hydroelectric Project

Dear Secretary Bose,

Juneau Hydropower, Inc (JHI) is filing a detailed set of response comments for all agencies that submitted comments, terms, conditions and prescriptions.

The format of response is in a table format responding to each comments from each agency.

US Forest Service	115 pages of response
Alaska Department of Fish & Game	29 pages of response
Alaska Department of Natural Resources	7 pages of response
US Department of Interior, OEPC	5 pages of response
US Environmental Protection Agency	1 page of response
US Army Corps of Engineer	no response necessary-agree with comments/request
Alaska Electric Light & Power intervention	no response necessary-placed on stakeholder list
Alaska Energy Authority	no response necessary-agree with comments
Alaska Representative Cathy Munoz	no response necessary-agree with comments
Alaska Senator Dennis Egan	no response necessary-agree with comments
US Senator Lisa Murkowski	no response necessary-agree with comments
US Representative Don Young	no response necessary-agree with comments

Under response of Section q of the November 17, 2014 Notice- JHI states this requirement was met with documents submitted with the Final License Application & PDEA and has confirmed that this requirement was met with FERC personnel.

JHI looks forward to your acceptance of this document and proceeding expeditiously with the Environmental Impact Statement process and timeline published. Upon acceptance of this filing,

JHI will issue a copy of this document to stakeholders of record. If you have any questions, please contact me at (907) 789-2775 or my cell phone at (907) 723-2481.

Sincerely,

Duff W. Mitchell
Managing Director

Comments on Volume 2 PDEA and Appendices of the Final License Application for Sweetheart Lake FERC Project P-13563
USDA Forest Service, Alaska Region, Tongass National Forest

JHI attempted to resolve some issues and comments presented with specific commenters but request to consult was not accepted. However, JHI appreciates the assistance that it did receive by the USFS Hydropower Coordinator and Juneau District Ranger.

	Archeology / Heritage					
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
1	43	1.3.6 National Historic Preservation Act	"While the archaeologist designated by the Applicant can make recommendations to the SHPO regarding eligibility of properties, the SHPO is the only one who can make determinations of eligibility. These recommendations have been reviewed by the SHPO archaeologist, and the SHPO has made a determination of concurring that a finding of no historical properties affected is appropriate".	The Federal Agency makes determinations of eligibility and the SHPO comments or concurs with the determinations. The Forest Service and the Office of History and Archaeology have stressed that the identification efforts for this project were not adequate. The Forest Service asserts that inadequate documentation of intensity of inventory was completed for this level of ground disturbance.	The Forest Service is available to consult on the model used and the survey methodology developed to ensure adequate survey of the area. Sensitivity maps that indicate lands within the high sensitivity area of potential effect should be compiled. Adequate survey within those areas (pedestrian transects spaced at 20 m with soil probes and a systematic shovel testing methodology developed) should be completed within the high sensitivity zones. Following the field identification phase adequate maps could be included so that the intensity and location of the transects and soil probes/tests completed within the APE are shown and the reader can evaluate the survey efforts.	The Section 106 identification phase and the Section 106 determination of effect phase has been finalized. The State Historical and Preservation Office SHPO issued a letter on March 28, 2014 that did not stress that the identification efforts for the Project were not adequate. Secondly, the USFS was presented a copy of the March 12, 2014 document to FERC describing and outlining the intensity of effort of the study conducted. The SHPO had previously issued a letter of eligibility and in its most recent letter stated, "we concur that a finding of no historic properties affected is appropriate for the proposed undertaking". Further, JHI invested time and expenses specifically for the USFS to develop the intensity of effort document. This document was published as a confidential document but demonstrates the intensity of effort and the rationale of the effort. By reference- Please note that as stipulated in 36 CFR 800.3, other consulting parties such as the local

						government and Tribes are required to be notified of the undertaking. Additional information provided by the local government, Tribes or other consulting parties may cause our office to re-evaluate our comments and recommendations. Receipt of our comment letter does not end the 30-day review period provided to other consulting parties. The USFS was provided the SHPO letter addressed to FERC and the letter provided a 30 day response to any concerned agency for a 30 day review period per 36 CFR 800.3. The Project's Heritage Resource Plan in Appendix Z adequately and properly addresses inadvertent finds, human remains, etc. so additional analysis is perhaps moot as JHI has emplaced protection measures to ensure that if new discoveries are made, they will be properly and professionally addressed. Further, The US Forest Service has made comments on the Heritage Resource Plan below which is very much appreciated. JHI requested consultation with USFS Archaeology commenter through correspondence with Juneau Ranger District to discuss Archaeological comments/issues and resolve, but request to USFS was not accepted and therefore JHI as the Section 106 designee (JHI)

						was unfortunately unable to further consult and work to further clarify matters with the USFS.
2	548-49	3.3.8. Cultural, Archaeological, and Historical Resources	"For a property to be eligible for the National Register, it must possess integrity of location, design, setting, materials, workmanship, feeling, and association. In addition, the property must have significance under one or more criteria"	For a property to be eligible for the National Register, it must be significant under one of more of the criteria and must have integrity. There are seven aspects of integrity but a property does not have to have all aspects to be National Register eligible.		Comment noted. To retain historic integrity a property will always possess several, and usually most, of the integrity criteria. Original comment is correct as stated, but can be revised and expanded per USFS suggestion.
3	549	3.3.8. Cultural, Archaeological, and Historical Resources	"The AHRS is primarily a map-based system that consists of an inventory of all reported historic and prehistoric sites within the State of Alaska."	The AHRS is a database that consists of an inventory of all reported historic and prehistoric sites within the State of Alaska.		Comment noted, but Alaska DNR is the agency that maintains the AHRS and describes it as a map based system. http://dnr.alaska.gov/parks/oha/ahrs/ahrs.htm
4	549	3.3.8. Cultural, Archaeological, and Historical Resources	"The fundamental use of the AHRS is to protect cultural resource sites from adverse impacts."	The fundamental use of the AHRS is to keep an inventory of historic and prehistoric resources documented to date.		Commenter should discuss this with the SHPO as this information is from the exact wording from the AHRS website: The fundamental use of the AHRS is to protect cultural resource sites from unwanted destruction. The difference however in language is immaterial.
5	552	3.3.8. Cultural, Archaeological, and Historical Resources	"A full-field archaeological survey was conducted for all infrastructure areas of the Project along with the shoreline of the Project boundary".	There are archaeological surveys and inventories of varying intensity. We are not aware of "full-field" surveys being conducted and uncertain what it entailed. The Programmatic Agreement between the Forest Service in Alaska and the Alaska State Historic Preservation	In May 2011 JHI produced a Draft Cultural Resource Study Plan/Scope of Work. Pages 11- 12 of that document state survey intensity and sub-surface testing methodology to be employed. It states that	The cultural resources meeting record has been well documented. Any differences between the Draft Cultural Resource Study Plan/Scope of Work evolved in the information shared in meetings and with documents produced. The cultural report document

				Officer details Sensitivity Models for the Tongass National Forest, Survey strategies for undertakings and Standards and Guidelines for Conduct of Field Surveys. We suggest these standards be reviewed and adopted or improved upon for the inventories in the Area of Potential Effect (APE).	fieldwork would be recorded with daily survey notes, digital photographs etc. which have not been made available to the Forest Service. Site maps of recorded sites were not completed as detailed in that document.	included summaries of fieldwork, digital photographs, etc. JHI performed additional work and reporting based on USFS input and consultation between the draft and final cultural report and then produced an intensity of investigation letter. It appears that the commenter did not respond in writing to reports or letters previously issued. The Heritage Resources Plan also makes detailed protocol arrangements for any new discoveries.
6	552	Table 3-67 Area Archaeological and Historical Sites – Concurred Determinations of Eligibility and Effect	SUM-097 Friday Mine	Eligibility for National Register and Criterion - Unknown	It was determined "Not eligible" in 2002.	Comment noted.
7	554	Table 3-67 Area Archaeological and Historical Sites – Concurred Determinations of Eligibility and Effect	"…therefore JHI would prefer to not develop the option of archaeological monitoring at this time. However, JHI has and would continue to consult with the DIA, and prior to road construction, would make arrangements for DIA reconnaissance for the 4,400-foot roadway and powerhouse area with other agencies invited.	The Forest Service has commented on several occasions that the archaeological survey of the area was not documented to be of adequate intensity. If inventory standards are not met, the mitigation that could be considered would be to have an archaeological monitor present during ground disturbing activities. The road and the powerhouse areas area are of particular concern as they are in high sensitivity areas. The Forest Service would be pleased to invite the DIA to assist a qualified		Comment noted, JHI has consulted with the Douglas Indian Association the possibility to have a trained DIA archaeological monitor either directly present or immediately on call during initial coastal road and initial powerhouse clearing. Tunnel and dam ground clearing would not require monitoring. Perhaps not recognized with US Forest Service is that JHI has been and continues to consult with DIA. JHI as the Section 106 federal designee fully recognizes its duty and

				archaeologist in the archaeological monitoring.		responsibility for tribal consultations.
8	555	Illicit Artifact Collection	Surface or buried cultural resources may attract the interest of non-specialists during construction or operation of the Project. Construction workers, power plant operators, line inspectors, or repairmen may unintentionally discover previously unknown surface or buried cultural resources. Defacing or removing these artifacts or features diminishes the scientific value of prehistoric and historic resources.	Archaeological properties and artifacts located on public lands are protected under the Archaeological Resource Protection Act (ARPA) and physically altering or removing them carry criminal and civil penalties.		Comment noted. Please note that training occurs in the Heritage Resources Plan (Appendix Z) for JHI contractors and workers.
9	555	Human Remains/Burials	Though unlikely, there is always the possibility that burials or human remains may be encountered during ground-disturbing activities. Alaska state law governs the procedures to be followed in the event of a human remains discovery, regardless of land status.	Native American burial sites, human remains and funerary objects on federal lands are protected under the Native American Graves Protection and Repatriation Act (NAGPRA). In the event that human remains are encountered NAGPRA outlines steps that must occur, including cease work in the area, protect the site, notify the responsible agency, and send written confirmation to the Tribe. Activity in the area can proceed 30 days after the Tribe(s) has received written confirmation of the inadvertent discovery.		Comment noted. USFS should refer to the Heritage Resources Plan in Appendix Z) with these comments. The Heritage Resource Plan describes the execution steps for inadvertent finds and human remains. Also, Under 43 CFR 10, page 220 (2) Resumption of activity. The activity that resulted in the inadvertent discovery may resume thirty (30) days after certification by the notified Federal agency of receipt of the written confirmation of notification of inadvertent discovery if the resumption of the activity is otherwise lawful. The activity may also resume, if

						otherwise lawful, at any time that a written, binding agreement is executed between the Federal agency and the affiliated Indian tribes or Native Hawaiian organizations that adopt a recovery plan for the excavation or removal of the human remains, funerary objects, sacred objects, or objects of cultural patrimony following Sec. 10.3 (b)(1) of these regulations
10	623	Table 5-1 Action vs. No-Action Alternative Table	Proposed Action = No Change	A 'no change' determination is difficult to support without complete inventories in the Area of Potential Effect.		Comment noted. JHI disagrees on determination without being disagreeable. Determination has been made by SHPO letter and published.
11		Appendix R	Letter from Marti Marshall to Judith Bittner 2012	Recommended additional survey and testing when the alternatives are developed and identified on the ground.		Same USFS Letter stated, recommend a determination of "*no historic properties affected*". Transcripts of cultural meetings occurring in 2013 and 2014 did not recommend additional survey and testing-attended by USFS representative. USFS did not respond in 30 days after SHPO determination letter was issued to request additional requirements that regardless, are unnecessary.
	Appendix Z – Heritage Resource Plan					
12	6	4.4. Illicit Artifact Collection	Illicit Artifact Collection	The Archaeological Resources Protection Act protects historic and prehistoric artifacts on public lands. Federal laws prohibit this type of		Comment noted. Thank you for taking the time and effort to review Appendix Z Heritage Resource Plan.

				activity suggest this section be rewritten to clearly articulate this.		
13	6	4.4.1. Human Remains/Burials	Human Remains/Burials	Any project that involves a federal permit, or occurs on federal lands is required to comply with the Native American Graves Protection and Repatriation Act (NAGPRA). These regulations and steps are clearly articulated in the Statue and this section should be re-written to comply with the law.		Comment noted
14	7	4.5. Memorandum of Understanding (MOU)	MOU	Needs to be changed to MOA, the correct vehicle for formalizing the mitigation measures that will occur to mitigate adverse effects. Refer to 36 CFR 800.		Comment noted
15	7	4.5. Memorandum of Understanding (MOU)	"…first measure develop a Memorandum of Understanding…"	The development of a MOA is not the first step to be taken. The resources needs to be evaluated to determine if considered an historic property (significance) and if significant, consultation should occur to determine if effect to significant historic properties can be avoided or if effects would be adverse. If adverse effects cannot be avoided than a MOA needs to be developed to formalize mitigation measures.		Resources were evaluated. Comment noted that MOA, not MOU Direct from SHPO letter: Following our review of the documentation provided, **we concur that a finding of no historic properties affected is appropriate for the proposed undertaking.** We note that the U.S. Forest Service has requested that a condition of project approval include the development of a Heritage Resource Protection Plan. We strongly support this recommended condition as the possibility remains that previously unidentified resources may be located within the project area. Furthermore, we recommend that

						JHI consider the option of archaeological monitoring - in coordination with the U.S. Forest Service archaeologists, our office, the Douglas Indian Association, and other relevant consulting parties - for certain ground-disturbing activities during construction. It appears that the SHPO considered and took under advise USFS concerns.

	Botany and Invasive Plants					
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
16	342-344	3.3.4.1 Vegetation and Botanical Resources	N/A	Scientific names are unfamiliar to many non-specialists. Include both common and scientific names for plant species when first introduced.		Comment Noted.
17	342-343	3.3.4.1 Vegetation and Botanical Resources	The following sensitive plants are a subset of that group that are known or suspected to occur in the Juneau Ranger District in the TNF:	Identify which sensitive plant species are known to occur on the Juneau Ranger District, and which are suspected to occur.		Comment Noted. In the sensitive species document Appendix J - Biological Evaluation for Sensitive Plant Species. – Page 6 this information was included
18	341	3.3.4.1 Vegetation and Botanical Resources	The literature review included E-Flora BC, the Forest Service Sensitive Species List…	Indicate whether or not the Forest Service NRIS TESP-IS database was searched for known sensitive, rare, and invasive plant locations in or near the project area.	The dates the databases were searched should be included in the botany resource reports (Appendix J)	The NRIS database was not available to JHI Contractor as a non-USFS employee but JHI contractor was provided records and up to date list from US Forest Service–Juneau Ranger District (JRD) botanist Ellen Anderson. All other databases were searched by JHI contractor and verified with USFS employee in 2011 - before field work began

19	344	3.3.4.1 Vegetation and Botanical Resources	The Juneau Ranger District rare plant species list has changed since its publication in 2009.	Provide a reference for this publication. As far as we know there is no official list of rare plant species for Juneau Ranger District.		US Forest Service JRD Ellen Anderson provided contractor with a list developed by her. JHI contractor can only be rely that it was an official USFS list from a US Forest Service botanist employee
20	344	3.3.4.1 Vegetation and Botanical Resources	Only one rare plant species – *Carex bicolor* – from the current Juneau Ranger District rare plant list was found to occur in the surveys conducted in 2010 and 2011.	Rare plants are based on the AKNHP list and this species is not on the 2012 AKNHP rare plant tracking list. Provide the rationale for analyzing it as a rare plant.		According to the BRR guidelines (introduction) a TNF rare plant can get on the list in 4 different ways - A rare plant on the Tongass National Forest is defined as a plant that: 1. is on the Alaska Natural Heritage Program (ANHP) Rare Vascular Plant Tracking List that are known or suspected to occur on the Tongass (ANHP, 2012), is considered S1 and S2 in State ranking (some S3 are considered), and is not on the sensitive plant list for the Tongass. 2. is proposed upon consultation and agreement among Tongass ecologists, District botanists, and the Region 10 botanist because of rarity on the Tongass (i.e. plants with range edges or disjunct populations on the Tongass but not yet given a state ranking on the ANHP list). 3. has population viability concerns on the Tongass, but is not on the sensitive plant list. 4. has been or is being raised as an issue because of rarity or

						conservation concerns (through the NEPA process). Again US Forest Service JRD Botanist, Ellen Anderson was the employee that informed contractor which species to include on the rare species list and gave list to contractor the USFS records for the species that were found. JHI appropriately relied on US Forest Service.
21	345	3.3.4.1 Vegetation and Botanical Resources	The Project effect on rare plant species is considered insignificant.	State whether the effect is adverse or beneficial.		comment noted
22	345	3.3.4.1 Vegetation and Botanical Resources	The Project effect on rare plant species is considered insignificant.	Using the term 'significant' in this context should be avoided, as it can be interpreted as statistical significance.	Recommend using none, low, moderate, or high.	Comment noted
23	345	3.3.4.1 Vegetation and Botanical Resources	The FWS lists only one plant species as endangered…	Add "in Alaska" to "endangered".		Comment noted
24	345	3.3.4.1 Vegetation and Botanical Resources	The Project effects on Threatened and Endangered species is nonexistent.	Substitute "no effect" for "nonexistent"	Per language specified in FSM 2672.43 (R10 Supplement).	Comment noted
26	346	3.3.4.1 Vegetation and Botanical Resources	Based on the results of the botanical surveys of the Project-affected area, the only potential Project effect on rare, sensitive, threatened, or endangered plant species…	State the determination of effects for each sensitive species, using language specified in FSM 2672.43 (R10 Supplement).	If all sensitive species have the same determination, then they can be referred to collectively.	Comment noted
27	346	3.3.4.1 Vegetation and Botanical Resources	All habitats were surveyed, but several habitats within the Project boundary were surveyed more intensively due to the potential for specific species to occur	State whether or not the amount and intensity of survey of habitat in the project area for each sensitive species was sufficient that a risk assessment for that species is not warranted.	See Tongass National Forest Guidance for Biological Evaluations (Dillman et. al 2009), section 3.6.	US Forest Service was provided an opportunity to review each and every report and the USFS had significant input on study plans. USFS accepted the reports and provided comments or lack of comments to each report in review periods. However, expert SE

						Alaska Botanist contractor states that the intensity of survey of habitat in the project area was more than sufficient and that a risk assessment for that species is not warranted
28	346	3.3.4.1 Vegetation and Botanical Resources	Although this species is considered rare, the loss of the these plants would not cause the species to be listed as threatened or endangered, and the Project effects would be considered insignificant.	Provide additional rationale for this statement. How is it known that the project would not cause this species to be T&E listed? What about listing as a sensitive species? How would the loss of this population affect viability of this species on the Tongass? According to the project botany resource report (Appendix J), this is the only known occurrence of this species on the Tongass, and a total of five records in SE Alaska.		Although this species was included on the USFS – JRD rare species list, it was and is not on the ANHP rare species list for the state. Because of the instability of the habitat that this plant was found in it is unlikely that the project impacts would be the reason for it's disappearance nor would it cause it to be listed as threatened or endangered. The balance of the comment is hypothetical since the plant is not on the ANHP. Further the records of the USFS are apparently not thorough and only adds to hypothetical speculation. The USFS has no records in their database but 3 of the 5 ALA - ARCTOS records are on the Tongass (Sitkoh Bay - 1 and the Mendenhall Rec. Area –
29	347	3.3.4.1 Vegetation and Botanical Resources	The Project effects for introduction of invasive species would not be significant.	Using the term 'significant' in this context should be avoided, as it can be interpreted as statistical significance.	Recommend using none, low, moderate, or high.	Comment noted. Low.
30	347	3.3.4.1 Vegetation and Botanical Resources	The Project effects for introduction of invasive species would not be significant.	State the overall level of risk for introduction of invasive species, and provide the rationale.	Forest Service Manual 2080, Tongass National Forest Supplement 200-2007, Exhibit 4: "The overall risk of invasive plant establishment as a	Comment noted, The risk assessment table is in Appendix J and risk is low.

					result of the project is high/moderate/low. This determination is based on the following: 1. 2. etc.	
31	347	3.3.4.1 Vegetation and Botanical Resources	Once either native vegetation Forest Service approved vegetative cover	Add "or" to this sentence.		Comment noted.
32	347	3.3.4.1 Vegetation and Botanical Resources	Specifically, the following are the proposed measures to address Project-related botanical related terrestrial effects that are included in the above plans…	Why was salvage of the bicolor sedge population and introduction into nearby habitat not listed as a proposed protection measure?		Due to periodic inundation , such effort may not be possible The species is already susceptible to natural seasonal inundation and wash out from changing stream banks and naturally occurring bank erosion.
33	347	3.3.4.1 Vegetation and Botanical Resources	Specifically, the following are the proposed measures to address Project-related botanical related terrestrial effects that are included in the above plans	Several mitigation measures listed in the project Invasive Plant Risk Assessment (Appendix J) appear to be missing from this section, and they are also not included in the Vegetation Management Plan (Appendix Z).		Comment noted.
34	347	3.3.4.1 Vegetation and Botanical Resources	JHI proposes to survey Project-disturbed sites every 5 years (per TLMP guidelines) and eradicate any invasive species found the Invasive Species Management Plan (ISMP).	The project Invasive Plant Risk Assessment (Appendix J) states that triennial monitoring surveys will be conducted for the life of the project. The PDEA states that surveys will occur every 5 years until vegetative cover is established, then the surveys would discontinue. Need to reconcile these different versions of monitoring frequency and duration.		Comment Noted. JHI previously noted in earlier discussions and comments that the Appendix J was incorrect in the triennial monitoring and that the Project will comport to the 5 year TLMP guideline . Unless the US Forest Service desires to condition the project more strictly than the TLMP guidelines and justification, a survey should be conducted every 5 years per guidelines or until such time that vegetative cover is established.

	Engineering					
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI Response**
35	F	Volume 1 – Exhibit F; Drawings Sheet F-2(7)	In the Drawing, the sediment pond displayed on the drawings shows a base of 20.0 ft MLLW and an overflow elevation of 24.0 ft MLLW. The discharge drainage CPP is shown to have an invert elevation of 19.5 ft MLLW on the inlet end in the sediment pond.	The elevation of the inlet invert should be well above the base of the pond so as to allow time for the sediment to settle. If the drainage pipe is placed above the base of the pond the water will either seep into the soil or rise up and drain out through the pipe. Either way the sediments have a chance to settle out. If the inlet invert elevation is at the base of the pond it defeats the purpose of having a pond because the sediments never have a chance to settle.	Modify the drawings to accommodate the change in pipe elevation.	Comment noted. However, Sheet F-2 (7) is technically correct. The commenter is not considering the invert pipe is above the base of the pond and above sediment. JHI contractor is 2014 Army Corp of Engineer contractor of the year and is very adept at this matter. JHI requested contact name and number of commenter to clarify and consult with USFS expert and commenter to further discuss and resolve this and other engineering matters, but request for specific consultation was not accepted. No drawing modification needed.
36	F	Volume 1 – Exhibit F; Drawings Sheet F-3(1) & F-2(2)	The drawings make multiple references to adhering to Forest Service design criteria for low-volume roads for the access road construction. In the detail drawings of the road construction they list a base material as simply "NFS Gravel Base"	Indeed a Non-Frost Susceptible Gravel base would be the design intent, but at some point in the design process a reference to a specific material type given in the FP-03 Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects. If designing to Forest Service standards the FP-03 would be the reference specification manual to use.	Modify the design drawings to reference a specific set of standards for materials during construction. The preferred design standard is the FP-03	Comment reviewed. JHI current Ex F drawings submitted with FLA do not reference NFS gravel base or FP-03 Design and are not intended to. Coastal road and infrastructure design guidelines is more appropriately ACOE CEM.
37	F	Volume 1 – Exhibit F;	They Typical Loading Float Section shows steel pipe for the main float supports.	The Forest Service has not had the best of luck with unprotected steel floats in marine environments. Without any reference to the		JHI steel float pipe will be coated and have *cathodic protection*. Similar designs are currently installed and successfully

	Engineering					
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI Response**
		Drawings Sheet F-2(2)		type of steel, steel protective surfacing or the installation of cathodic protection it would be of concern that the lifespan of the steel floats would be in serious question. It is suggested that the use of High-Density Polyethylene pipe by used instead of steel or some additional considerations be made for the protection of the steel pipes.		used in Southeast Alaska and provide the highest long term functional and durability success for proposed infrastructure.

	Fisheries					
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
38	87	Volume 2 PDEA; Table 2-5	Water Use - Effect on pre-existing Alaska DFG water reservation - No proposed measure. Zooplankton - Seasonal Reservoir fluctuations- no significant effect	The preceding paragraph states the table includes proposed environmental measures. Yet, for these two environments no measures are proposed.		The table illustrates no proposed environmental measures for resource environments with no significant effects.
39	88	Volume 2 PDEA; Table 2-6	Tributaries of Sweetheart Lake (cont.) - Seasonal Inundation will affect current spawning habitat of rainbow trout and native Dolly Varden species long term effect unknown. Insignificant effect compared to artificial feeding program. 1. Some new habitat in Inlet 1 would be created. 2. Encourage continuation of DIPAC rainbow and Dolly Varden trout feeding program from annual sockeye lake stocking program with sockeye smolt collection and transport system. Feed, not	It is difficult to understand the logic between the effect and the proposed measures. What does "Insignificant effect compared to artificial feeding program" mean? The effect states that spawning habitat is affected, which means that there will likely be less individuals coming into the population due to spawning area being inundated. The document discloses that new "habitat" will be created, but it does not say spawning habitat. Is this spawning habitat? What does "feeding" the fish have to do with spawning area?	Please explain the logic used. How much "new" habitat will be created compared to what is being lost?	JHI Fisheries contractor-Robert Johnson, Trout Fishery Biologist with published papers-Based on 40 years of fish observations and research in Southeast Alaska, access to spawning areas in Sweetheart Lake and inlet number 1 is currently not a limiting factor regarding trout and char densities in Sweetheart Lake. Most likely, marginal temperatures negatively affecting spawning survival are a major limiting factor determining rainbow trout and Dolly Varden Char density within Sweetheart lake. Access to forage fish is likely beneficial for

	Fisheries					
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			spawning habitat, appears to be the limiting factor. Proposed measure is outside the control of the Project.			those fish surviving to a size adequate to prey on sockeye fry. Up to .95 acres of currently available spawning habitat may be inundated post construction (Flory, 2012). Up to .65 acres (max.) and an additional .2 acres (max.) spawning habitat may be made available for rainbow trout and Dolly Varden char, respectively. These calculations assume 950 linear feet of streambed below the canyon (x30' width), and another 1,200 linear feet of streambed (x8' width) in the lower canyon.
40	88	Volume 2 PDEA; Table 2-6	Sweetheart Lake (cont.) - Seasonal inundation-loss of spawning habitat in the pinch point between upper and lower lake - No proposed measure.	How is this different than the row (2 above) that discusses seasonal inundation and loss of spawning habitat? Duplicate information.	Delete this row in table or previous row.	Comment noted. Delete this row in table or previous row.
41	88	Volume 2 PDEA; Table 2-6	Sweetheart Lake (cont.) - Seasonal inundation may affect nutrient levels and Dissolved Oxygen-no significant effect. - No proposed measure.	Nutrient levels within the lake are related to zooplankton. If nutrients change the number of zooplankton will change. The table states there will be no significant effect to the zooplankton.	Peer reviewed (published) scientific references need to be added to support the conclusion of "no effect".	Detailed and thorough research indicates that there is not a great body of limnological investigations available describing the effects of sub-arctic dam construction and resulting inundation, however, post-project observations on five regionally similar projects indicates little to no negative impacts, as well as some possible positive effects to existing pre-project fish populations, and by extrapolation, plankton communities -

	Fisheries					
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
						Fish Friendly Hydroelectric Project Development, An Alaskan Success Story Jim Thrall, and John Morsell
42	89	Volume 2 PDEA; Table 2-6	Sweetheart Creek - The Project will change the temperature regime in Sweetheart Creek-not a significant effect. - The temperature-related changes to Sweetheart Creek will not cause a significant impact; no measures are proposed.	Temperature changes can cause growth changes for the fauna that lives in the lake, e.g. zooplankton and fish.	Peer reviewed (published) scientific references need to be added to support the conclusions of "no effect".	The Key Phrase is specific to Sweetheart Creek, not Sweetheart Lake. Scientific references are provided in the discussion of temperature of Sweetheart Creek.
43	107	3.1. GENERAL DESCRIPTION OF THE RIVER BASIN	Access to the lake is limited to float plane or helicopter, and visitors to the area are the rare guided angler or hunter. Sweetheart Lake is used as a nursery area for sockeye salmon.	The way this paragraph is written suggests that anglers are there to catch sockeye. That is not the case. Anglers typically go to the lake to catch rainbow trout.	Have the first sentence be in a paragraph by itself and add information on what the anglers and hunters actually target during their trip.	The paragraph in question is a general discussion. The second sentence can be its own paragraph. However, it is a false assumption (based on the recreation report and other PDEA data to suggest any hunting occurs at Sweetheart Lake. The evidence provided in the PDEA and accumulated in surveys identified in the Project Recreation reports indicates virtually nonexistent historical or present angling at Sweetheart Lake.
44	108	3.1. GENERAL DESCRIPTION OF THE RIVER BASIN	The Alaska DFG applied for water rights…Figure 3-2 provides the exact portion of Sweetheart Creek below the barrier falls. The red line also indicates what would be Alaska DFG water rights	This paragraph needs to be written in plain language to be clearer.	Provide information on the actual water rights length.	The original sentence is correct. Conservation Water rights are determined by the actual location of the barrier falls not by what is applied for. The commenter may research AS. 16.05.870 and AAC 95.010 for further

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			distance, instead of the 1.3 miles their application had previously indicated.			reference. The barrier falls is 430ft (130m) upstream from the intertidal zone.
45	165	Water Quality Test Results	It is not uncommon for the zooplankton community to have such variation in structure due to seasonal life cycles, diel migration, and predation.	How was this conclusion reached?	Peer reviewed (published) scientific references need to be added to support the conclusions.	Seasonal life cycles: Forsström L. 2006 Phytoplankton ecology of subarctic lakes in Finnish Lapland, Environmental Change Research Unit, Department of Biological and Environmental Sciences Division of Aquatic Sciences University of Helsinki Diel migration : McDonald J. 1973 Diel vertical movements and feeding habits of underyearling sockeye salmon (O. nerka) at Babine Lk, B.C. Canada, Fish. Res. Bd. Can. Tech. Rep. No. 378. 55p Predation: Groot, et. al 1995 Physiological Ecology of Pacific Salmon, ISBN: 9780774804790, 515p
46	165 - 167	Water Quality Test Results including tables	Sampling for zooplankton was conducted at Sweetheart Lake in July 2013 to help determine zooplankton composition and abundance in the system. Samples were collected at two stations in Lower Sweetheart Lake. Tow 1 was at a midway point in the lake, and Tow 2 nearer the connection between the upper and lower lake systems (Figure 3-26). The samples were examined to identify species,	This paragraph and others are discussing Tow 1 and Tow 2. If these are single tows for zooplankton it is inappropriate to compare one point of data with other data previously collected. This section contains very poor quality science and uses the information inappropriately. Data comparisons in the Table and the Conclusions are inappropriate.		There is no trend comparison intended spatially or temporally - just the results of pre-project sampling in similar locations in Sweetheart Lake several years apart. It is unknown how water level changes may affect plankton abundance, or species composition; however, other hydroelectric projects in cold, oligotrophic lakes in Southeast Alaska have had no unforeseen negative effects (such as nutrient loading causing anoxic conditions) that affect fish populations, and by

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			determine the density (no/m2), the biomass (mg/m2), and the mean wet lengths (mm) of the zooplankton present.	The PDEA needs to address how the water level changes may affect plankton numbers and species composition.		association, plankton viability. See Thrall and Morsell, 2012
47	169-172	Table 3-12, 3-13, 3-14, 3-15		Suggest these tables be removed. Tables need to be meaningful to what is being presented in the PDEA; otherwise they can remain in the appendices.		Comment noted. However, other agency commenters (to include other USFS commenters) have previously asked for material to be located in the EA or EIS to help the reader with situational awareness. These tables appear to be relevant to the discussion.
48	175	Water Temperature	Temperatures in Sweetheart Lake were logged hourly from September 2011 to summer 2012 (Figure 3-28 and Figure 3-28) at two sites…	Typo – "(Figure 3-28 and Figure 3-28)"		Change text to Figure 3-27 and Figure 3-28
49	176-177	Figure 3-27 and Figure 3-28		Suggest these tables be removed. Tables need to be meaningful to what is being presented in the PDEA; otherwise they can remain in the appendices.		Comment noted. Figures appear to be meaningful in the discussion of lake temperatures and might be useful to other fishery oriented readers, but can be moved to appendices.
50	196	Effects on Water Quality	From two published studies, the variation of water temperature … would be 0017 °C to .0061 °C…	Insert missing decimal in the 0017 °C		.0017
51	197	Effects on Water Quality	However each hydropower facility is different and it might be worth monitoring gas levels post construction to ensure that there are no issues ...	Offer the following clarification"…be worth monitoring **dissolved** gas levels post construction… "		Accepted clarification – "dissolved gas levels"
52	198	Zooplankton	There are no adverse effects anticipated by the Project seasonal reservoir fluctuations or	Provide data and peer reviewed (published) scientific references to the zooplankton section to support the conclusions.		Freshwater crustaceans are important food for rearing sockeye salmon (T. Quinn, 2005)

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			operations that would adversely affect the zooplankton densities of Sweetheart Lake. Therefore, there are no proposed measures.			Longer hydraulic residence time benefits freshwater crustacean growth (U. Obertegger et al. 2007) Overall estimates are that hydraulic residence time will increase from the current average range of .7 years to 1.1 years, to a post-project hydraulic residence range of 1.1 to 1.6 years, assuming the current lake is 225,000 acre-feet, and the average flow is 333cfs. More detailed analysis of predicted hydraulic residence time is available. Water clarity (area of the euphotic zone) is relative to plankton abundance in oligotrophic lakes in Alaska. (Edmundson et.al., 2002) Since water clarity is predicted to remain similar pre and post-project in Sweetheart Lake, the surface area of Sweetheart lake post project will be greater (creating an increase in euphotic area), the hydraulic residence time will not be lessened, and there have been no noted negative effects from similar hydro projects in Southeast Alaska, it is seems unlikely that there will be any negative effects on plankton production in the post-project Sweetheart Lake impoundment.

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						Edmundson et.al., 2002 Sockeye salmon production relative to rearing capacity of Crescent Lake, Upper Cook Inlet U. Obertegger et al. 2007 Water residence time and zooplankton structure, Aquat. Sci. 69 pp 575 – 583 T. Quinn The Behavior and Ecology of Pacific Salmon and Trout 2005, University of Washington Press, p 167 Thrall, J. and Morsell - Fish Friendly Hydroelectric Project Development, An Alaskan Success Story,
53	201-215	Fish and Aquatic Resources of Sweetheart Lake Tributaries		This section contains the current habitat conditions; however, the post project conclusions, such as the ones in Table 3-21, are made without any rationale or explanation of why the data is important in this section.		The data could be moved if necessary.
54	202	Fish and Aquatic Resources of Sweetheart Lake Tributaries	Increasing the level of Sweetheart Lake is expected to affect some individual Dolly Varden, but the habitat in Inlet 1 will change but not be adversely affected by the Project…	Provide peer reviewed references to support this conclusion.		This text could be clearer – the intent is that there could likely be some unknown effect on Dolly Varden, however, there will continue to be viable spawning habitat available for Dolly Varden.
55	202	Fish and Aquatic Resources of Sweetheart Lake Tributaries	Spawning on alluvial fans is a high-risk proposition under the best of circumstances.	Provide peer reviewed references to support this statement.		Statement was vague and referred to higher gradient, relatively new alluvial fans, as are the majority at Sweetheart Lake. "Spawning areas located in the lower gradient, downstream portions of AFM channels are "moderately" used by most species of anadromous salmon and Dolly Varden."

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						Alluvial Fan Process Group - USDA Forest Service
56	204	Inlet 1 – Head of Lake Creek	Inlet 1 has suitable habitat for resident Dolly Varden and rainbow trout (Appendix G).	Clarify what kind of habitat is being referenced in this sentence (spawning?).		The text refers to habitat conducive for seasonal appropriate use for both spawning and rearing.
57	212-215	Table 3-22		It is not clear what the data in this table provides. For example, "Distance" is one of the columns titles. Distance from what? "Elevation" column is also confusing. Elevation is typically described as the distance above sea level, yet, the table is not comparing their "Elevation" column to sea level. Tables need to be meaningful to what is being presented in the PDEA; otherwise they can remain in the appendices		From the Chart: Distance (m) Above Lake Elevation (ft) Above Lake
58	219	Figure 3-43		The purpose of the figure is unclear, it is difficult to read and understand what the lines or red area represent. Index information is needed for the reader so they can tell what is being presented.		There is a lot of detailed information presented in this graphic.
59	221	Seasonal Inundation Analysis	On average, rainbow trout require from 300 to 320 accumulated temperature units (ATUs) to hatch, and from 500 to 580 ATUs to emerge from the gravel.	ATUs are accumulated thermal units not temperature units. Make sure the correct scientific terminology is used.		Comment noted. Accumulated thermal units is correct
60	223	Seasonal Inundation Analysis	The likely lake surface elevation places the potential spawning area for Sweetheart Lake Inlet 1 (Figure 3-43) spawning Dolly	This sentence tells the reader to look for the information in Figure 3-43, but the information is not provided in the figure.		There is a lot of detailed information presented in this graphic.

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			Varden in the lower canyon reach of Inlet 1 as described in Appendix D and Appendix G.	See comment above about Figure 3-43.		
61	229	Seasonal Inundation Analysis	In comparison of the Deer Lake fry feeding information to Sweetheart Lake, it is important to note that prior surveys conducted prior to the initiation of the Alaska DFG and subsequent DIPAC stocking sockeye fry in Sweetheart Lake the lake demonstrated zero to very limited numbers of rainbow trout residing in Sweetheart Lake.	The sentence structure is awkward. Suggest rewording to make to clear. Provide the reference to the information and peer reviewed references to support the statement.		Page 229 of the PDEA provides governmental sources to support the statement with references all available for review. "In 1962, the Department of Interior commented on a prior FERC preliminary permit that the "stocking of rainbow trout fry and eyed eggs in the lake has not been successful" (FERC P-2308 Preliminary Permit Order December 19, 1962). A survey in 1972 conducted by the Alaska DFG caught no fish in gillnets or by hook and line (Yanusz and Barto, 1995). Another Alaska DFG survey in 1980 caught many small Dolly Varden and two rainbow trout (Erickson, 1980). Subsequent aquatic studies conducted at Sweetheart Lake by the Alaska DFG prior to sockeye stocking also concluded that the population of rainbow trout was almost nonexistent. In 1989 and 1990, Alaska DFG conducted aquatic studies at Sweetheart Lake related to the stocking of sockeye salmon. In this study Alaska DFG caught (using both gillnet and minnow traps) a total of 442 Dolly Varden and only 8 rainbow trout in a 2-year period of studies (Yanusz and Barto, 1995) No public

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						sport fishery was noted in any Alaska DFG survey.
62	229	Seasonal Inundation Analysis	In 1989 and 1990, Alaska DFG conducted aquatic studies at Sweetheart Lake related to the stocking of sockeye salmon. In this study Alaska DFG caught (using both gillnet and minnow traps) a total of 442 Dolly Varden and only 8 rainbow trout in a 2-year period of studies (Yanusz and Barto, 1995) No public sport fishery was noted in any Alaska DFG survey.	It is fine to include the actual number of fish caught in the Yanusz and Barto study, but the results should be put into a scientific term of catch per unit effort or similar. Numbers of fish have no value scientifically unless you have an effort. As written there could have been 442 Dolly Varden caught in a one hour period of sampling. Put in the form of effort or a population size estimate.		The minnow trap and gill net catches in both pre-stocking surveys were very similar. On October 4, 1989, 15 minnow traps were fished for a total of 345 hours (overnight). A total of 200 Dolly Varden (1.7 Dolly Varden/hour) and 0 rainbow trout were captured. 2 floating and 2 sinking gillnets were also fished near the lake outlet for 46 total hours (overnight) and captured 28 Dolly Varden and 4 rainbow trout. Similarly, on June 6, 1990, 14 minnow traps were fished for a total of 322 hours (overnight). A total of 209 Dolly Varden (1.5 Dolly Varden/hour) and 1 rainbow trout were captured. Two floating and 2 sinking gillnets were also fished near the lake outlet for 46 total hours (overnight) and captured 2 Dolly Varden and 3 rainbow.
63	229-230	Seasonal Inundation Analysis	Therefore, it is rational to suggest based on direct and empirical evidence that the growth of the current rainbow trout population in Sweetheart Lake is likely due to man-made intervention of stocking salmon fry as is the case in Deer Lake also located in Southeast Alaska. In essence, boosting the feedstock biomass for Sweetheart Lake rainbow	It is not clear how the comparisons are being made. There is a lack of scientific data in the conclusions. Provide peer reviewed references to support the statements.		Certainly, rainbow trout survived at some minimal density prior to the stocking of sockeye fry in Sweetheart lake. The inference is that both stocks of rainbow trout and Dolly Varden benefitted by the introduction of sockeye salmon fry.

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			trout and Dolly Varden through sockeye fry stocking that would not otherwise naturally exist.			
64	230	Proposed Measure to Address Project Effect on Tributaries	As presented, it would appear from the empirical evidence that the limiting factor for both rainbow trout and Dolly Varden is the artificial introduction of feedstock (sockeye fry) to Sweetheart Lake by the DIPAC hatchery. Therefore, the single most limiting factor for maintaining a population of resident rainbow trout and larger size (compared to pre-stocking) Dolly Varden is a variable outside the control of the Project under terms and conditions. In comparison, the raising of the lake levels and affecting the tributaries is an insignificant adverse effect when juxtaposed against the impact of an independent variable not controlled by the Project – essentially an artificial feeding program.	Re-evaluate this entire section once appropriate scientific methods are established.		The intent of this section is to point out the unknown effect of introducing a large population of sockeye salmon to compete with a relatively insignificant number of native Dolly Varden. Dunham, et.al. (2008), discusses managing invasive salmon (and rainbow trout) that may threaten native chars. There are concerns about interspecies competition for food (plankton) having deleterious effects on Dolly Varden. Dunham, et.al. 2008, Evolution, ecology, and conservation of Dolly Varden, white-spotted char, and bull trout, Fisheries • vol 33 no 11 • november 2008
65	242	Fish Surveys and Trapping at Sweetheart Lake	Per an August 29, 2013, conversation with DIPAC, the estimated successful saltwater migrants is from 20,000 to 60,000 smolts annually.	The same units of measure need to be used in a paragraph where comparisons are being made. This paragraph begins talking about survival of sockeye smolts in percentages then goes to numbers.		Agreed. This would make the comparisons a bit easier to understand.

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66	242	Zooplankton Sampling	Zooplankton is important for aquatic resources in Sweetheart Lake. Zooplankton sampling was conducted at two stations in Lower Sweetheart Lake in July 2013 to help determine zooplankton composition and abundance in the system. These data were compared to the extensive Alaska DFG studies that occurred from 1989 to 1993 and reported in the Yanusz and Barto document cited in the PDEA. A more thorough discussion of the 2013 zooplankton studies, correlation with previous studies, analysis, effects and proposed measures are presented in Section 3.3.2 – Hydrology and Water Quality.	Inappropriate comparisons are being made with this data. As such, recommend removing this section or collecting data that can be compared with the previous ADFG data.		Comment noted. There is no trend comparison intended spatially or temporally - just the results of pre-project sampling in similar locations in Sweetheart Lake several years apart. It is unknown how water level changes may affect plankton abundance, or species composition; however, other hydroelectric projects in Southeast Alaska have had no unforeseen negative effects (such as nutrient loading causing anoxic conditions) that affect fish populations, and by association, plankton viability. See Thrall and Morsell, 2012 The section could be modified or removed if not necessary.
67	243	Zooplankton Sampling	Although the zooplankton species have evolved and changed between the Alaska DFG report and the subsequent JHI study, the densities of zooplankton collected during July 2013 appear to be analogous to those recorded in July of 1993 – 20 years ago.	Inappropriate comparisons are being made with this data. As such, recommend removing this section or collecting data that can be compared with the previous ADFG data.		Plankton species composition and density are affected by sockeye predation (Koenings and Kyle, 1997) and thus, the pre-stocking and post stocking (current) comparisons may be inappropriate. The data may be removed or disregarded if need be.
68	246	Inundation	The increased lake area is likely to lead to an increase in euphotic volume and therefore the	Provide peer reviewed references to support this statement.		There is a relationship between euphotic volume in a lake and sockeye

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			capacity of the lake for sockeye rearing.			rearing capacity (Koenings and Burkett, 1987).
69	260	Fish Surveys and Trapping at Sweetheart Creek	Very few fish were captured in the canyon creek bypass reach (Reach 2) and anadromous reach (Reach 1) during four sampling periods in June, July, and August 2012, perhaps due partly to high flow and low water temperature (4° C [39.2 ºF] in June) and partly due to low fish density. Ten rainbow trout and eight Dolly Varden were captured over 3 consecutive days in August 2012 with five large Promar traps set overnight on each occasion. Dolly Varden captured in the lower creek ranged from a fork-length 89 to 160 mm (3.5 to 6.3 inches) while rainbow ranged from 124 to 206 mm (4.9 to 8.1 inches).	It is not clear if the information is being used as a presence for species of fish or to claim that not very many fish use this area. Typically when data is presented, it includes a measure such as catch-per-unit-effort not just numbers of fish.		Overnight sets of five traps for three nights (~10 hours X 5 traps = 50 trap-hours) with a catch of 10 rainbow and 8 Dolly Varden equals .2 rainbow and .16 Dolly Varden per trap-hour. Rainbow trout and Dolly Varden are present in the area, however at a low density.
70	262-263	Table 3-29		Missing data in note regarding the * and ** next to life stage of some species.		Those particular asterisks are typos and should be disregarded.
71	268	Outlet of Sweetheart Creek	The emigration timing of smolts is accelerated by warmer water temperatures, which can also lead to reduced marine food availability and higher mortality rates.	Please provide peer reviewed references to support this statement.	.	Earlier Migration Timing, Decreasing Phenotypic Variation, and Biocomplexity in Multiple Salmonid Species. PLoS ONE 8(1): e53807. doi:10.1371/journal.pone.0053807
72	271	Analysis Project Effects for Bypass Canyon	Char and trout have historically been washed into Sweetheart Creek by high water higher water velocity events (Appendix V).	This is the first use of the term Char. To be consistent suggest changing this to Dolly Varden since that terminology is used elsewhere.		Comment noted. This might be appropriate, however, no confusion is intended

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		Reach Instream Flow				
73	275	Analysis of Effects of Maintaining 300 to 486 cfs on Sweetheart Creek Pink Salmon	Of the six variables listed, four (1, 2, 3, and 4) indicate a potential for a marginal increase in pink salmon production; however, variable 5 could have negative effects on any increase in pink salmon production from Sweetheart Creek.	Only five variables are listed in the preceding paragraph.		Typo – the text should read "five" instead of "six"
74	302	Analysis of Project Effects on Essential Fish Habitat (EFH)	During the shoreline road construction phase of the project there will be a measurable, but temporary, alteration of water quality in the active construction area, however, no adverse and permanent effects, perhaps even effects beyond a tide cycle should prevail.	We agree that the effects are short term in nature. However, including statements that minimalize effects of the project, such as, "perhaps even affects beyond a tide cycle should prevail." do not belong in the document.		The changes requested will not change the effects of road construction and could be reworded.
75	302	Analysis of Project Effects on Essential Fish Habitat (EFH)	This change may have an effect on those relatively few pink salmon that spawn above tidal influence.	Although, the area is small, and the numbers of pink salmon are not known, it doesn't mean the area is not important to the pink salmon that spawn there. Delete "relatively few" from the sentence.		The number of pink salmon spawning above the tidal influence have been observed, is limited by suitable spawning substrate (this has been measured), and definitely is "few" relative to the entire spawning population of pink salmon in Sweetheart Creek and intertidal zone. See the text on the page where Figure 3-84 is presented
76	303	Temperature	Personal communication between Duff Mitchell, JHI and Eric Prestegard, Executive Director, DIPAC hatchery on May	Peer reviewed citations would be a better choice for this project. Personal communications can be misquoted, misunderstood or taken out of context.		Additional peer reviewed citations on pink salmon temperatures were provided in section 3.3.3.3the PDEA on page 296. However, Mr. Eric

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			12, 2014 reveal that the proposed temperature changes from the Project should have no effect on pink salmon spawning.			Prestegard is regarded as a national expert in raising pink and other Alaska salmon species.
77	314	Habitat Modeling	The proportion of flow in the main stream channel and side channel at each flow level was examined with a regression analysis (Figure 3-78).	The section should discuss why the regression is important or why the results are important, and what the results are.		Figure 3-78. There was little change in wetted channel flow between the measured flow of 53 cfs and projected flow of 41 cfs."
78	307-315 and 319-325			There are some page numbering problems throughout this section, i.e. each page after page 307 to page 315 has a page number of 314.		Comment noted. These pages should be re-numbered.
79	327	Affected Species: Pacific Herring	As of April 2, 2014, a NOAA press release stated that the Southeast Alaska Distinct Population Segment (DPS) of Pacific herring is not a candidate species that has recently was the subject of a status review (73 CFR 19824).	The wording is clunky.		Comment noted. As of April 2, 2014, a NOAA press release stated that listing Lynn Canal Pacific herring as threatened or endangered under the ESA is not warranted because this population does not constitute a species, subspecies, or distinct population segment (DPS) under the ESA. However, the Lynn Canal population is part of a larger DPS of Pacific herring that may warrant listing under the ESA, and, therefore, we initiate a status review to evaluate its status (73 CFR 19824).
80	674	6.0 FINDING OF NO SIGNIFICANT IMPACT	On the basis of this PDEA, the issuance of an original license for the Sweetheart Lake Hydroelectric Project with JHI's proposed PM&E measures would	Looking at the information provided in this document there is not adequate information to support this conclusion.		Comment noted. Disagee. However perhaps the additional clarification and information provided by addressing these issues will be enough to support the conclusion now.

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			not constitute a major federal action significantly affecting the quality of the human environment.			

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81		Volume 2. – Effects analysis	This is how most of the effects analysis section appear: Current condition, Science used to determine current condition, Effects of the proposed action on the resource, Science used to determine the effects, and, in a few cases, Cumulative effects – what other factors may affect the resource.	What is not in the section are the conclusions, except for the one on page 184, Section 3.3.2.4, 'Based on the research conducted to date, the changes in proposed instream flows of 300 to 486 cfs year round would have no significant impact on marine life and organisms inhabiting the Sweetheart Creek estuary and marine zone of Gilbert Bay Flats.' This one sentence wraps up the resource analysis and lets the reader know the expected results.	We suggest that after you do the science, you take the next step and write a conclusion. The conclusion will help support the contention that there is no effect on the resource.	The science was conducted and shared with ADF&G and USFS and distributed to working groups that is well documented. Commented noted. Conclusions could be clearer.
82	29	Volume 2 – Alternatives Considered	"…National Environmental Protection Act (NEPA)…"	NEPA is the National Environmental Policy Act – please correct.		Comment Noted
83	70	Volume 2 - 2.2.1.10. Smolt Reentry Pool		Please show the Smolt Reentry Pool on Figure 2-6. It is discussed right below the figure and readers will look for it.		The purpose of Figure 2-6 is to show the tailrace and fish exclusion device, not the smolt reentry pool. The narrative

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						adequately describes the Smolt reentry pool. For a detailed figure, please refer to Figure F-9 of Exhibit F of the license application or Sheet 6 of the SWPPP.
84	85	Volume 2. – 2.2.4. Environmental Measures	"(c) Decide on continuation of compliance monitoring; and"	Ending with the word 'and' suggests there should be a letter (d). Please add the letter (d) or delete the word and.		Comment Noted
85	93	Volume 2. – Table 2-9 Proposed Terrestrial Wildlife Resource Measures	Wildlife Movements – "6. The Project footprint has been designed to use minimal area, and the coastal road/trail minimizes disturbance to the forested area."	This section discloses how the selection of the coastal road minimizes disturbance to the forested area but contains no discussion on how the coastal road/trail will impact access to the beach and stream areas for terrestrial wildlife. For example, deer use beach areas for food in the winter and bears eat beach grasses when they leave hibernation, the coastal road/trail may limit access to the beach foods. This analysis on impacts to shore access needs to be included.		Comment noted. While habitat exists, there is a virtual nonexistence of deer in the Project road/trails area. Bears have been proven to not be impacted by coastal roads or trails and are quiet good at overcoming even more substantial obstacles. Man made trails/roads are used by wildlife as much as man uses game trails. The US Forest Service comment is noted, but further analysis does not appear necessary.
86	112	Volume 2. – Table 3-1 TLMP Taku Snettisham Acreage	WARS Rating	Please add a footnote that explains the WARS rating is out of how many possible points. 24 points out a possible 100 is much different from 24 out of a possible 28.		Comment Noted
87	116	Volume 2. Figure 3-5, Regional Geologic Map (1 of 2)		Please add the project location to the map.		Comment Noted
88	117	Volume 2. Figure 3-6 Regional		Please take the north arrow off the Dam Site title to make it easier to find.		Comment Noted

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		Geologic Map (2 of 2)				
89	124	Volume 2. – 3.3.1.4. Lineaments, Faults, and Seismicity of Region and Project Area Lineaments	"The largest, the Coast range megalineament…foliation surfaces, and small faults that parallels the tonalite sill/metamorphic belt contact and the north-northwest striking foliation… consists of two nearly parallel northeast striking lineaments…"	Terms that are not common, such as, lineaments, megalineament, striking foliation, and striking lineaments, should be defined in the text.		Comment noted, but there is a difference of opinion as these terms are general geologic terms and their use is appropriate. However, definitions could be added.
90	124	Volume 2. – 3.3.1.4. Lineaments, Faults, and Seismicity of Region and Project Area Lineaments	"The largest, the Coast range megalineament, is a 2- to 8-mile zone of closely spaced prominent joints, foliation surfaces, and small faults that parallels the tonalite sill/metamorphic belt contact and the north-northwest striking foliation along lower Tracy Arm and lower Endicott Bay where they join Holkham Bay. …The other, the northeast-trending Whiting River-Sweetheart Lake lineament, consists of two nearly parallel northeast striking lineaments…"	What does this mean for the dam site? Does this increase the probability of failure? This needs to be stated here or reference the location where it is stated.		JHI requested consultation to the USFS with specific commenters to assist in clarifying and discussing questions, but request was not accepted. Commenter is therefore directed to review detailed geology report in Exhibit F in its entirety for specific discussion. The answer to this question is that the information provided in section 3.3.1.4 gives the reader a general awareness of the local geology and area that also includes many other local hydropower sites. The geology has no more or no less effect on the Sweetheart damsite than other hydropower sites in the same area. Reference and citations are located in Exhibit F and in the geology report JHI credentialed geologist has worked on various SE Alaska hydropower, construction plans and projects and is a

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						considered an expert in the geologic conditions of the area.
91	127	Volume 2. – Seismicity	"The Fairweather fault system has caused six recent, moderate to large earthquakes: a magnitude 7.1 event in January 1901 (about 150 miles northnorthwest of the site), a magnitude 7.1 in October 1927 (about 90 miles west of the site), a magnitude 8.1 earthquake in August 1949 (about 300 miles south of the site), a magnitude 7.9 event in July 1958 (about 110 miles west of the site), a magnitude 7.6 earthquake in July 1972 (about 120 miles southwest of the site), and a magnitude 7.5 earthquake in January 2013.	For consistency, please add location of the magnitude 7.5 earthquake in January 2013. This is a long sentence (89 words) and may be easier to understand if converted to bullets.		Comment Noted
92	146	Volume 2. – Figure 3-19 Sweetheart Creek HEC-RAS Model		Please increase the size of the text to make it easier to read.		Comment Noted
93	162	Volume 2. – Table 3-8 Water Quality Data for Sweetheart Lake – 2011	"Dissolved Oxygen"	Define the metric for this column (mg/L?)		Comment Noted, but appears self explanatory-milligrams per liter.
94	170	Volume 2. – Table 3-12 Water Quality Data – 1989	"Note: Summary of water quality analysis results within the eplimnion and hypolimnion of	Please define eplimnion and hypolimnion.		Comment Noted. Hypolimnion: the part of a lake below the thermocline made up of water that is stagnant and of

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			Sweetheart Lake during 1989 at SSs 1 and 2."			essentially uniform temperature except during the period of overturn. Epilimnion: the water layer overlying the thermocline of a lake. Epilimnion is incorrectly spelled in PDEA.
95	178	Volume 2. – Figure 3-29 Water Temperature at Sweetheart Gaging Stations (Celsius) 2011-2012		This table is hard to read with a blue background behind green and blue lines.		Comment Noted
96	210 and 211	Volume 2. – Figures 3-40 and 3-41		The text on the maps is very small making interpretation of the map's content difficult.		Comment Noted, but commenter should understand that a plethora of information is located on the map and it is quite readable.
97	219	Volume 2. – Figure 3-43 Inlet 1 Water Levels and New Spawning Area		The section on the map in pink highlight is not explained in the legend. The text on the map, other than that added as titles, is unreadable making it difficult to see the water elevations.		Comment noted. The red/pink horizontal bar on the left of the figure is the predicted reservoir level from mid-March/April with an increasing depth trend. The red/pink horizontal bar on the right of the figure is the predicted reservoir level during October/December, with a declining depth trend. The figure seems to be readable, however there is greater detail if the commenter increases the magnification in the pdf. Text is clear.
98	245	Volume 2. – Figure 3-56 Area of Inundation	Paleo Point, Cottonwood Delta, Wishbone Delta, and Outlet Fans	Adding new names to areas for this section is confusing. In the previous sections, these areas were described as inlets. It is difficult to track where these areas are located along the		Comment noted, However, these names are placed in the botanical and wetland delineation studies so these names are not "new" and are consistent with other

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		around Lake Showing the 25-foot Minimum Inundation Line and the 85-foot Maximum Inundation Line		lake because the names do not match the other analysis areas.		analysis areas of the Project studies. Note that inlets have numbers and these are geographical names for deltas and points. Names of areas should perhaps be taken in context of the whole body of studies conducted.
99	246	Volume 2. – Proposed Measure to Address Project Effects on Sweetheart Lake Inundation	"The Project represents a unique aquatic environment setting – a clear glacial-fed lake that prior to the introduction of rainbow trout and seasonal sockeye stocking and feeding was absent of the current biomass and aquatic life that has been synthetically created today."	This implies that there was no fish before the introduction of rainbow trout and sockeye. Any naturally occurring fish should be included in this discussion.		Comment noted. Natural occurring Dolly Varden were present before the introduction of rainbow trout and seasonally stocked sockeye. However the statement is nonetheless accurate and correct.
100	264	Volume 2. – Figure 3-62 Project Area Sampling Locations		Please clarify what these sampling sites represent. The previous table was about fish sampling and this map follows that discussion. Is this map is about saltwater sampling sites?		Comment noted. Title of figure should be saltwater sampling locations. However the paragraph following the figure clearly explains figure.
101	287	Volume 2. – Figure 3-64 Coastal Road Plan – Sheet 1-4	Text across the maps	The text on the maps is too small to read.		Comment noted. Text and map in PDF appears readable. Size of page can be increased in pdf.
102	291	Volume 2. – Analysis of Project Effects Related to Coastal Road/Trail	"Although the area does not support a relatively high density of shoreline biota, development of a coastal road on the proposed tideland would affect a number of marine communities, including barnacles, blue mussels, and the	Please display effects to terrestrial wildlife while looking at the shoreline biota.		Comment noted, effects on terrestrial wildlife would be low. Appendix U, *2014 Project Effects Analysis on Threatened, Endangered, and Candidate Species; Sensitive Species; Management Indicator Species;*

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			communities associated with them."			*Migratory Birds; and Subsistence Species* contains a discussion. The shoreline photos in the public record and in the PDEA clearly demonstrate the lack of shoreline biota. Further the road would not displace, but only temporary alter the biota. Additional discussion of effects on terrestrial wildlife would not alter determination.
103	331	Volume 2. - Table 3-38 Benthic Macro invertebrates (BMI) Catches by Percent Composition	"Canyon"	The text on page 329 and in Figure 3-85 both use Upper Sample Location and Lower Sample Location. Table 3-38 uses Canyon and Lower Location - please be consistent with the terminology.		Comment Noted. Table 3-38 should replace "canyon" with upper.
104	333	Volume 2. - Table 3-40 Fish and Aquatic Resources Effects and Measures	"Feed, not spawning habitat, appears to be the limiting factor. Proposed measure is outside the control of the Project. '	At this time, feed seems to be the limiting factor for rainbow and Dolly Varden populations, however, they have spawning habitat now. This project removes all current spawning habitats and the analysis clearly states that there is only potential new spawning habitat. How can removing most or all the spawning habitat not be a limiting factor? The analysis does not support the conclusion. Yes, eliminating sockeye stocking would have a greater effect but once the dam is built it is not the only limiting factor.		There seem to be several variables limiting rainbow and Dolly Varden populations within Sweetheart lake. Based on 40 years of freshwater Dolly Varden and rainbow work in Southeast Alaska, marginally low water temperatures during spawning and rearing, and competition with sockeye salmon fry for plankton during early rearing affecting survival are likely to be more problematic than spawning habitat availability (of which a marginal amount of that currently available seems to be currently utilized) - and will continue to be so, project impoundment or not. See Question 52 for plankton discussion response.

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105	403	Volume 2. – Sitka Black-tailed Deer	This sentence is not in the deer analysis, "Approximately 13% of the shoreline would be impacted;" but does appear under the river otter analysis.	Deer use beach and estuary areas in high snow winters. The road/trail affects access to this important winter food and this should be analyzed.		Comment Noted. However, JHI studies and observations determine that are no or very low populations of deer in the area as demonstrated in the wildlife studies. Deer also do not usually travel over cliffs to get to beach areas (coastal road/trail area) because it limits their ability to seek the safety of the forest from predators. Shore zone photos reveal that the coastal road is located just under cliff or high sloped forest. Wildlife meetings have delved over this issue. Perhaps too many bears and bear predation in the area.
106	482	Volume 2. – TUS LUD Overlay Considerations and Effects on Project Area Recreation	"…in relation to the Forest Service management guidelines and Tongass Land Management and Resource Plan as of 2008…"	Please correct this to read '… Tongass Land and Resource Management Plan as of 2008…'		Comment noted.
107	538	Volume 2. - Roadless Rule History and Discussion	"The question arises: do existing Public Land Order Power Site Classifications constitute a reserved or outstanding right? If Power Site Classifications do constitute a reserved and outstanding right, then Paragraph (b) (3) permits the construction and reconstruction of roads to access and transmit electricity from these Power Site	This section poses the question but does not supply an answer. The Secretary of Agriculture will make the determination about how this project falls within the Roadless Area regulations.		Comment noted. PSC's were historically issued from the Secretary of Interior with Presidential authority vested by Congress. The ramifications of and the current wording of Judge Sedwick's order on the Roadless Area/Rule do not preclude the roadbuilding and development associated with hydropower and therefore the question unlikely needs to be answered.

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			Classifications recognized in Alaska Public Land Orders that predate Alaska Statehood, the Roadless Ruling, and administrative regulations for implementing the Tongass Land and Resource Management Plan."			
108	542	Volume 2. - JHI Analysis and Response:	"On March 26, 2014, the 9th Circuit Court issued the following order that read: Because we reverse the district court's findings, we remand the case to the district court to decide whether a Supplemental Environmental Impact Statement is required in the first instance. Reversed and Remanded[33]."	This 9th Circuit Court Ruling is not the final decision from the court. On December 17, 2014, the full 9th Circuit Court met to hear the case as an En Banc. Please update the analysis to reflect their decisions.		Comment noted 1. The 2001 Roadless Case. The Clinton Administration placed 9.6 million acres of the Tongass off limits to development as Roadless areas in 2001. The State of Alaska sued. This was settled with the Bush Administration in 2003, making the Tongass exempt from the Roadless Rule. In March 2011 the Federal District Court for Alaska determined that the administrative process by which the Tongass was exempted was arbitrary and capricious. The State of Alaska renewed its lawsuit and, along with 18 other intervenors. The District Court for the District of Columbia ruled that since the State's second action was brought more than 6 years after the Roadless Rule was promulgated the Statute of Limitations applied. This decision was unanimously overruled in September by the D.C. Circuit and the case was remanded to the District Court for a decision on the merits. In January 2015 the Federal

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						government decided not to appeal the Circuit Court's decision. The State and intervenors are thought to be preparing summary judgment brief. Briefing should be complete within 90 days and a ruling from the District Court for the District of Columbia soon thereafter. 2. The 2003 Tongass Exemption Case. On March 4, 2011 the Federal District Court for the District of Alaska determined that the 2003 (settlement with the Department of Justice and subsequent) rulemaking exempting the Tongass from the 2001 Roadless Rule was arbitrary and capricious. In a 2 to 1 vote a panel of the Ninth Circuit overruled the District Court's arbitrary and capricious decision and remanded the case to the District Court for a decision on the unresolved issue in the case-namely, whether the Department of Agriculture needed to prepare a new SEIS to support the rulemaking. Environmental groups requested and were granted an en banc hearing on the issue before an 11 judge panel. Briefing and oral argument have been completed and the case was submitted to the 11 judge panel in December. The case is pending awaiting a decision.

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						If the Court rules in favor of the State it will issue what is called a mandate and remand the case to the District Court to decide the SEIS issue. If the Court rules against the State it will have to decide (depending upon the basis for the decision) whether or not to file a petition for certiorari with the US Supreme Court. While this is the update on the Roadless Rule legal issues, the Project has taken all steps to mitigate incursion of the Roadless rule with a 9621 ft. tunnel that is subterranean (no roadless rule implications) that will serve as construction conduit to the dam site. The 4400 foot road/trail is largely located on State of Alaska land which also removes and mitigates incursion on the Roadless Rule.

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109	32	PDEA Public Involvement and Major Issues Analyzed: Hydrology and Water Quality	Therefore, there are no major issues related to hydrology and no issues providing Alaska DFG 10(j) recommendations for instream flows for the bypass canyon or the anadromous reach.	We don't agree. While there isn't an issue with resident fish in the bypass reach, there is an issue with sediment transport. Due to the lack of sediment transport to the anadromous spawning reach, there will be issues with maintaining the spawning gravels below bypass reach. We understand there is a gravel		Comment is noted. JHI has worked with Alaska DFG to develop the Aquatic Habitat Restoration and Monitoring Plan (AHRMP) & Fish Mitigation & Monitoring Plan (FMMP) located in

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				augmentation plan proposed. However, the plan lack details, methods and peer-reviewed literature citations. Until that information is provided, we assert the potential loss of fish spawning habitat below bypass reach may be significant.		Appendix Z for monitoring and maintaining existing levels of spawning habitat within the Anadromous Reach. See response to comment 130. It appears that the response is in regard to a State Agencies 10(j) recommendations and jurisdiction of the State of Alaska that JHI has agreed to the Alaska DFG 10(j) recommendation.
110	69	PDEA 2.2.1.9:Tailrace	Downstream of the wildlife crossing, the channel would resemble a natural creek and would provide approximately 250 linear feet of additional channel…	The Forest Service requests to be involved in the design of this channel.		Comment noted. USFS will be provided input and input is welcomed.
111	69	PDEA 2.2.1.9:Tailrace	…discharging into Sweetheart Creek near the base of the anadromous barrier falls.	It would be helpful to know the distance between the falls and the tailrace.		There are several pictures and maps in the PDEA. Exact distance changes with water levels and could range from 30 to 50 feet. Proposed tailrace discharge is likely to back eddy and/or flush into the base of the falls.
112	87	PDEA: Table 2-5 Proposed Water Use and Quality Measures	Water Quality Proposed Measures: Project would institute and follow an approved ESCP and SWPPP.	Many of the resource protection plans, including the storm water and pollution prevention plan (SWPPP), will need to incorporate agency Best Management Practices (BMPs).		Comment noted. The plans in question, to include the SWPPP, have already been submitted for US Forest Service review with the FLA and PDEA. It should be noted, that many resource plans do in fact, include agency BMP's. The ESCP and SWPP as written- refer to

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						BMP's in over 30 places in the document.
113	89	PDEA: Table 2-6 Proposed Aquatic Resource Measures	The Project would decrease flows in bypass canyon reach- reduction in sediment mobilization in pink salmon spawning habitat –not significant.	I consider this effect significant. It would be a significant effect to loose spawning habitat in the anadromous section of stream if the gravel augmentation isn't effective. Gravel augmentation is a difficult and complex endeavor challenging the biological, geomorphic, and engineering sciences. Successful projects require extensive geomorphic and biological understanding and experience and are hampered by our current poor understanding of gravel transport processes coupled with a high degree of uncertainty associated with existing computational models.	Because gravel augmentation can exert a large influence onto the stream system, engaging in this undertaking requires a deep understanding of geomorphic and biological processes as well as experience in gravel augmentation projects.	Comment is noted. Suggested change in conclusion, "may not be significant". See response to comment 109. The Anadromous Reach is predominantly bedrock or large boulders; spawning gravels accumulate in hydraulically sheltered areas and at high tide where the stream cross section is no longer confined. These areas are less sensitive to changes in mobilization over a range of flows. Appendix V discusses the sediment transport limited nature of the bypass reach: the lake traps all sediments, delivering none to the Bypass Reach; the large boulder nature of the Bypass Reach indicates that sediment is transported through the reach, and hillslope features indicate that episodic landslides are likely the only – or primary – source of sediment to the Bypass Reach. Maximum flows along the Anadromous Reach would be

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						reduced from 3,617-cfs to 486-cfs The actual change in sediment transport conditions within the Anadromous Reach is difficult to accurately forecast. Thus, the proposed AHRMP - developed in cooperation with Alaska DFG - accounts for uncertainty in predictions of: 1) sediment supply for reduced Bypass Reach discharge and 2) reduced flows from the tailrace through the Anadromous Reach. To maintain existing levels of Pink Salmon spawning habitat, the AHRMP proposes to assess existing, baseline conditions. Routine future monitoring will identify changes which will be adaptively managed through augmentation of spawning gravels to maintain existing levels of spawning habitats. The determination of "may not be significant" was made with consulting firm, Interfluve which is has a reputation of being the premiere North American expert in the geomorphic and biological processes as well as more extensive gravel augmentation experience than perhaps any other firm in North America.

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114	98, 102	Table 2-11, Table 2-12	Missing Effect	There is missing Aesthetic impact. Suggest that 3cfs coming down Sweetheart Creek contributes to the loss of the waterfall.		Comment noted, but the decrease of level of waterfall which is 3 cfs plus accretion is not an aesthetic factor as determined from the US Forest Service VPR viewpoints. VPR viewpoints are determined from a boat view and incorporated in the study plan approved by US Forest Service personnel. Please refer to Appendix S and T. However, beyond USFS VPR viewpoints, the waterfall will be diminished to 3 cfs plus accretion.
115	103	2.2.4.9 Aesthetic Resources	Table 2-14 Proposed Aesthetic Resources Measures, Effect/Proposed Measures	Sweetheart Creek Falls – the loss of water to a waterfall has an effect to the aesthetics.		Comment noted. See answer to question 114
116	247	3.3.3.3. Sweetheart Creek: Bypass Canyon Reaches	Reach 3 description	Please include the average width of this section of stream, as you did you for Reach 2. Include the width and height of the waterfalls.		Reach 3 is largely inaccessible due to the steep canyon walls on either side, and to the high gradient nature of the reach. Thus, average widths and depths were not collected during the habitat survey. From LiDAR topography, width between the bases of canyon walls generally ranges between 35ft and 65ft.
117	251	PDEA 3.3.3.3 Table 3-26		Please cite the sources for the table.		Bjornn, T.C., and D.W. Reiser. 1991. Habitat requirements of salmonids in streams. In Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats.

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						Edited by William R. Meehan. American Fisheries Society Special Publication 19:83-138
118	251	PDEA 3.3.3.3 Geomorphology and Sediment Supply	The substrate composition downstream of the proposed dam, including spawning and rearing habitat in the anadromous reach (Reach 1), is not expected to change.	If the substrate composition is not expected to change from the proposed dam, then why is sediment/gravel augmentation being proposed? The dam will affect the downstream substrate composition. The reduction of cfs in the bypass reach may change the substrate composition-since the bypass reach is a transport stream. Won't the anadromous reach receive less substrate from the bypass reach because of lack of high flow?		Below the barrier falls, much of the anadromous reach is comprised of bedrock, large boulders or scour pools below water falls. Spawning gravel is limited to hydraulically sheltered areas or wide unconfined stream cross sections as Sweetheart Creek enters the intertidal zone. Sediment supply from the bypass reach will be reduced based on reduction of flows. Appendix V discusses the sediment transport limited nature of the bypass reach: the lake traps all sediments, delivering none to the Bypass Reach, the large boulder nature of the Bypass Reach indicates that sediment is transported through the reach, and hillslope features indicate that episodic landslide are likely the only – or primary – source of sediment to the Bypass Reach. Peak discharges along the anadromous reach will also be reduced from 3,617-cfs to a maximum of 486-cfs. Acknowledging limitations in

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						analytical methods to accurately predict net change, the AHRMP - developed in cooperation with Alaska DFG - includes monitoring and adaptive management to maintain existing levels of pink salmon spawning habitat as noted in the Aquatic Habitat Restoration and Monitoring Plan (AHRMP) & Fish Mitigation & Monitoring Plan (FMMP) located in Appendix Z
119	251-252	PDEA 3.3.3.3 Geomorphology and Sediment Supply	The effect of the project on the anadromous spawning areas should be negligible as the tailrace channel is directed cross-channel and not directly into the thalweg of the stream, preventing scouring of the few gravel patches currently used as spawning areas.	The tailrace is going to need a sediment supply or it will over time lose spawning gravel, right? Unless the tailrace will never reach a cfs thrushes hold to transport spawning gravel. Where will the proponent source the substrate for the tailrace? Could the authors include a figure of the spawning habitat assessment areas, sweetheart creek spawning gravel injection locations and detailed figure of the tailrace? These visualizations would be very helpful to explain the intentions. See comments for Appendix W		Please note that Alaska DFG has commented and JHI has agreed to NOT create new spawning habitat in the tailrace in their conditioning and comments. Flow impingement from Tailrace discharge is not expected to have an adverse effect on spawning habitats which are located downstream. The tailrace discharges into a bedrock/boulder lined water fall scour pool. Steep banks opposite are bedrock. Further, the tailrace is aligned with a recess in the opposite bank allowing additional flow energy dissipation. Flow can flush into and/or back eddy up valley to the base of the barrier falls. As noted in the AHRMP (developed in cooperation with Alaska DFG) to

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						maintain existing levels of spawning habitat, the source and gradation of spawning gravels will be determined based on results of monitoring and quantification of changes from baseline existing habitat conditions. The source of spawning gravels will be determined with the intent to replace lost substrate with similar characteristics. Spawning assessment areas, injection locations are shown in Figures 1 and 2 in Appendix W. Tailrace details are shown on Exhibit F , Figure F-9 and Figure F-12
120	253	PDEA 3.3.3.3 Geomorphology and Sediment Supply	Spawning gravels will not persist in place for the optimal 2- to 5-year time frame to serve as spawning habitats.	Please clarify. Is the author trying to say that 2-5 years and there will not be the cfs flows to transport spawning gravels from the bypass reach to the anadromous reach?		The analysis shows that spawning sized gravels along the bypass reach are frequently mobilized for existing conditions. The 2- to 5-year statement refers to Inter-Fluve's fisheries biologist's opinion that mobilization of spawning gravels for flows less than a 2-year event is too frequent and will negatively impact egg to hatch survival. Mobilization during flows greater than about a 5-year event tend to allow fines to accumulate in

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						the gravels negatively impacting hyporheic flow and egg survival.
121	254	PDEA 3.3.3.3 Geomorphology and Sediment Supply	Sediment flows will mobilize spawning-sized gravels at the lower end of the size spectrum after hydropower operations commence to the anadromous reach (Reach 1) of Sweetheart Creek, albeit at a slower pace dictated by high rain events that affect the accretion of the Bypass Canyon Reach.	Please clarify. Table 3-31 (page 270) only shows cfs 'Totals Post-Project Mean Monthly Flow in Bypass Reach' of max 23.1 cfs in June. Please clarify how the project will achieve 400cfs to mobilize spawning-size gravels? Do authors mean they expect spawning gravels from the bypass reach to fill in areas of the anadromous reach? Authors on Page 274 mention that "Therefore, not only would less sediment and gravel material likely reach the anadromous reach (Reach 1), but also less sediment and gravel material will be flushed or removed from the anadromous reach." These two statements don't line up. Please clarify.		23.1 cfs is the maximum flow expected along the Bypass Reach from accretion flows and precipitation runoff. 23.1-cfs is expected to transport smaller sized spawning gravels – based on incipient motion particle size analysis 2.5-3 inch and smaller sediment is anticipated to be transported along the existing stream geometry (Appendix V, tractive force figure in appendices). This sediment would be supplied to the Anadromous Reach. As hillslope processes deposit material and narrow the Bypass Reach channel, concentration of flows will increase the ability of the Bypass Reach to transport larger material. Gravel from the Bypass Reach will not fill in the Anadromous Reach. 486-cfs is the maximum proposed flow to be conveyed along the tailrace and discharged into the Anadromous Reach. This is approximately 13% of the existing maximum flow of 3,617-cfs. At this lower flow, less sediment will be

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						flushed or removed from the Anadromous Reach.
122	274	PDEA 3.3.3.3 Analysis Project Effect on Bypass Canyon Reach Sediment Mobilization	The Project over time would affect sediment delivery to the anadromous reach as analyzed below and presented in Appendix V…. Removing sediment and spawning gravel from reaching the anadromous reach (Reach 1) could, over time, have a significant adverse effect on future spawning pink salmon.	On page 251 section 3.3.3.3 authors say "The substrate composition downstream of the proposed dam, including spawning and rearing habitat in the anadromous reach (Reach 1), is not expected to change." This statement and the one here on page 274 conflict. Please clarify.		Comment noted, change last sentence to "may or may not have a significant effect". • Bypass Reach flow and sediment supply will be reduced. However as noted in Appendix V the Bypass Reach is sediment supply limited, predominantly via hillslope delivery processes. • Hillslope sediment delivery processes will continue • Flows along the Anadromous Reach will be reduced from a maximum of 3,617-cfs to 486-cfs. • The relative change in sediment supply from the Bypass Reach and transport conditions along the Anadromous Reach are difficult to accurately predict. • Monitoring and adaptive management is proposed as the most reliable approach to maintain existing levels of spawning habitats in the Anadromous Reach as noted in the: Aquatic Habitat Restoration and Monitoring Plan (AHRMP) & Fish Mitigation & Monitoring Plan (FMMP) located in Appendix Z developed in cooperation with Alaska DFG.

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123			This lack of future sedimentation must also be juxtaposed against the lower-controlled instream release of 300 to 486 cfs, which could also reduce the flushing and removal of spawning gravel from the intertidal area that has been historically occurring with high-volume cfs flood events.	Please clarify. It would be helpful if the authors would mention here that the 300-486 cfs is the flow below the trailrace, right? Please clarify if there are any spawning sites above the tailrace- i.e. below the falls? And if so, clarify that there will not be flows expected above 23.1cfs from Table 3-31 in the bypass reach. Therefore, there will not be mobilization of spawning gravels in the bypass reach and no sediment input below the dam to tailrace. If this is not correct please clarify how spawning gravels will transport through the bypass reach to between the falls and the tailrace.		Question 1. Correct, plus the 3 cfs and accretion. Question 2. No spawning currently occurs upstream of tailrace between the tailrace and the waterfalls. The stream bed along this area is bedrock and large boulders. The distance from the tailrace outlet to the barrier falls is approximately 30- to 50-ft. The tailrace is expected to flush into and/ or back eddy to the falls. In addition, the Bypass Reach is expected to convey flows up to 23cfs and gravels (see response to comment 121) to be delivered to the Anadromous Reach.
124	274	PDEA 3.3.3.3 Analysis Project Effect on Bypass Canyon Reach Sediment Mobilization	Therefore, not only would less sediment and gravel material likely reach the anadromous reach (Reach 1), but also less sediment and gravel material will be flushed or removed from the anadromous reach.	Please clarify. It would be helpful for the authors to mention when they are referring to below the trailrace or above. As the figures depict, there is anadromous habitat above the tailrace. Below the tailrace with 300-486cfs sediment will transport and overtime will cause winnowing of the bed without the input from a sediment source. Again, what will the sediment source be for within the tailrace? And the section past the tailrace (main channel) and the sediment/gravel augmentation distribution point showed in Figure 2 of Appendix W?		See responses 122-123. No sediment sources are proposed within the Tailrace Sediment sources to the Anadromous Reach include: smaller sizes supplied from bypass reach (see response 121) and gravel augmentation program based on monitoring and adaptive maintenance (see response 130) Augmentation distribution point shown in Figure 2 of Appendix W

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						was selected based on location of existing spawning habitats, accessibility and minimizing impact during augmentation operations. Refer to Appendix Z Aquatic Habitat Restoration and Monitoring Plan (AHRMP) & Fish Mitigation & Monitoring Plan (FMMP) which were developed and reviewed with input by Alaska DFG.
125	280	PDEA 3.3.3.3 Sweetheart Creek: Measures Regarding Effects on the Anadromous Reach (Reach1).	1. Augmentation with gravel suitable for spawning. The locations, volumes, and size of substrate to be injected into the anadromous reach (Reach 1) will be developed using assessment findings to inform the proposed prescriptions and in cooperation with Alaska DFG.	Please add Forest Service hydrologist to the list of those who will be involved with the gravel augmentation reports and recommendation.		Comment noted. JHI welcomes USFS involvement in Aquatic Habitat Restoration and Monitoring Plan (AHRMP) & Fish Mitigation & Monitoring Plan (FMMP)
126	274	PDEA 3.3.3.3 Sweetheart Creek: Measures Regarding Effects on the Anadromous Reach (Reach1).	Since Project aquatic studies indicate that it is likely that most of the anadromous species spawning occurs lower in the anadromous reach (Reach 1) in the intertidal area of Sweetheart Creek, the reduction in mobilization of future spawning gravels may have minimal to no effect on the spawning gravel volume in the intertidal area as these materials are not maintained in the anadromous reach but are	Please include a reference study to the claim "…most of the anadromous species spawning occurs lower in the anadromous reach (Reach 1)…" Please provide a quantity of potential loss of anadromous habitat in the upper portion of Reach 1.		Existing spawning is shown on Figure 25B of Appendix G (Flory, 2012). Extents of existing spawning habitats within intertidal areas also provided via personal communication with Robert Johnson project fisheries biologist. Further, Alaska DFG 10 (j) comments confirm that "most of the anadromous species spawning occurs lower in the anadromous reach (Reach 1).

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			flushed out of the anadromous reach (Reach 1).			Existing conditions along the upper Anadromous Reach includes water fall scour pools, bed rock and large boulders with one area of spawning gravel in a hydraulically sheltered area below the proposed Tailrace outlet. The statement was not intended to imply that the project will change these conditions. The intent is to monitor and adaptively manage to maintain existing spawning habitats.
127	278	PDEA 3.3.3.3 Measures Regarding Bypass Canyon Reach 1. Instream Flow	There are no proposed project measures except to safeguard flow with synchronous valve at dam site to regulate instream flow releases and to measure releases.	Would it be possible for JHI to release higher flows to mobilized sediment should there be a large landslide into the bypass reach? There is the possibility of the bypass reach filling in with sediment and causing all surface water to go subsurface and no longer contribute cfs or invertebrate to the anadromous reach.		Release of higher flows into the Bypass Reach is not included in the project. Hillslope landslides are a natural process and will continue to occur, delivering sediment and debris to the Bypass Reach stream. Based on the geology and predominance of bedrock throughout the bypass and canyon reach, surface water may be temporarily impeded by this debris but will continue along downstream reaches. Flows would either go subsurface and reemerge in the stream channel downstream of the blockage, or be dammed and overtop the debris. The interruption is anticipated to be minimal.

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						Impact of the invertebrate supply to the anadromous reach is expected to be limited to filtration caused by flows that go subsurface. Should flow overtop a debris blockage, invertebrate sources from upstream may not change significantly.
128	279	PDEA 3.3.3.3 Measures Regarding Bypass Canyon Reach1. Instream Flow	Lower water flows are one variable that are favorable for invertebrate production compared to what flows currently exist. There are no proposed measures affecting transport of benthic invertebrates. Lower water flows could be favorable.	Low flows may not always be favorable for invertebrates. Would it be possible for JHI to release higher flows to mobilized sediment should there be a large landslide into the bypass reach? There is the possibility of the bypass reach filling in with sediment and causing all surface water to go subsurface and no longer contribute cfs or invertebrate to the anadromous reach.		Lower flows are thought to be favorable to invertebrates. Given the high energy within the confined system for existing flows, readily mobilizing sediments, invertebrate mortality is thought to be higher for existing conditions See response to 127.
129	280	PDEA 3.3.3.3 Measures Regarding Effects on the Anadromous Reach (Reach 1)	This plan is identified and outlined in Appendix W, Spawning Habitat Assessment and Maintenance (2014),..	See comments for Appendix W. Revisions are required for clarification.		Comment noted. Appendix W been issued and published and will not be otherwise revised.
130	280	PDEA 3.3.3.3 Sweetheart Creek: Measures Regarding Effects on the Anadromous Reach (Reach1).		The document does not mention where the sediment for the augmentation project will come from. How will the gravel/sediment be sorted and distributed? Please site methods and/or publication for this section.		The specific details of volume, size and character of gravel to replace lost spawning habitats will be developed based on comparison of baseline conditions to routine monitoring to most appropriately address changes. Details have been developed in cooperation with Alaska DFG biologists that helped review and develop the Aquatic

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						Habitat Restoration and Monitoring Plan (AHRMP) & Fish Mitigation & Monitoring Plan (FMMP) located in Appendix Z. Following these details, an appropriate source will be identified. Gravel gradation will be sorted prior to placement either by visual assessment by trained fisheries biologists/fluvial geomorphologist/hydraulic engineers, or by mechanical sieving to meet specifications. Distribution will be by minimal impact manual methods with access and distribution locations shown in Appendix W,
131	280	PDEA 3.3.3.3 Sweetheart Creek: Measures Regarding Effects on the Anadromous Reach (Reach1).	2. All bullet points…	Please add Forest Service hydrologist to the list of participants. Please inform Forest Service when there will be an annual gravel assessment, review documents, etc.		Comment noted.
132	302	3.3.3.5. Essential Fish Habitat (EFH)	Direct adverse effects on EFH by the modification of temperature and flow regimes in Sweetheart Creek should be negligible…	We submit that there is not enough information about sediment supply to tailrace (which will feed spawning areas below) to know if there will be an effect for not. The magnitude of the effect is unknown, that's why the analysis has the tables on page 280 to monitor sediment/spawning issues.		Interesting proposition of questions on EFH posed since the USFS is not the federal agency responsible for the Magnusson Steven's Act - Essential Fish Habitat (EFH). See responses to comments 109, 113, 118, 119, 121, 122, 123, 124, 130, etc.

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						JHI and professional contractors worked with National Marine Fisheries Service (as they are the responsible federal agency) in the development and submission of Appendix Y Essential Fish Habitat Assessment and NMFS worksheet. We respect the opinion of the commenter, but disagree. See comment 133 for Inter fluve credentials.
133	334	PDEA Table 3-40 Fish and Aquatic Resources Effects and Measures	Effect column: The Project would decrease flows in bypass canyon reach- reduction in sediment mobilization in pink salmon spawning habitat –not significant.	It would be a significant effect to loose spawning habitat in the anadromous section of stream if the gravel augmentation isn't effective. Gravel augmentation is a difficult and complex endeavor challenging the biological, geomorphic, and engineering sciences. Successful projects require extensive geomorphic and biological understanding and experience and are hampered by our current poor understanding of gravel transport processes coupled with a high degree of uncertainty associated with existing computational models.	Because gravel augmentation can exert a large influence onto the stream system, engaging in this undertaking requires a deep understanding of geomorphic and biological processes as well as	Comment Noted. Conclusion should be changed to "may not be significant" See responses to comments 113, 130 etc. Inter-Fluve has specialized solely in river sciences since its founding in 1983. Staff working on this project has a combined seven decades of experience specifically in river processes and sciences. We fully appreciate the complexity and importance of understanding these systems. Recognizing the limitations of predictive analyses, the baseline assessment/monitoring/adaptive management approach included in the AHRMP - and reviewed by

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					experience in gravel augmentation projects.	Alaska DFG – is believed to be the most appropriate approach to maintain existing levels of spawning.
134	335	PDEA Table 3-40 Fish and Aquatic Resources Effects and Measures	Effect column: Change in hydrology of Sweetheart Creek-not significant	This effect should be considered <u>significant</u>. By decreasing the flow in the bypass reach all habitat below are affected. There is the possibility of the bypass reach filling in with sediment and causing all surface water to go subsurface and no longer contribute cfs or invertebrate to the anadromous reach. There is also a significant change in the transport of spawning gravels due to the change of flow. If this is not correct please cite the sources for saying there is no significant effect to aquatic resources due to the change in hydrology.		See response to comment 122, etc. Statement should be changed to, "may not be significant".
135	643	PDEA 5.5.11: Alaska DFG 11. Stream Buffers and Location of Facilities	2. As part of AHRMP, gravel augmentation may eventually be required. As such, JHI would require an exemption from this proposed rule to perform this activity.	Need more details on gravel augmentation project and the work proposed within the 100-foot buffer.		This is an Alaska DFG requirement for work in the 100 foot buffer and as such a Habitat Permit will be resolved with Alaska DFG. See also response to comment 130
136	?	Missing from PDEA		I would like to see a schematic of the tailrace. How will a 30ft deep tailrace join into the main channel of Sweetheart Creek? If the flow of the tailrace is perpendicular to Sweetheart Creek, how will that affect the bank across from the tailrace? It's hard to picture.		Tailrace details are shown on Exhibit F, Figure F-9 and Figure F-12. See response to comment 119
137	5	Appendix W:Attachments : Figure 1 Spawning		This map needs to be more detailed and clarified. It shows Sweetheart Creek of to the West of the tailrace? Shouldn't Gilbert Bay be off to the West? And Sweetheart Creek should come in from the North East? The figure should		Comment noted, Figures 1 & 2 are clarified and submitted with comment responses.

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		habitat study area		show more clearly what is water and what is land. The figure should also show where the barrier falls are and if there's any spawning areas near the falls-before the proposed tailrace, quantity? An intertidal line would also be helpful. Figure 2 does a better job of illustrating the area. However, there should be an arrow pointing to Sweetheart Falls, not just the words.		
138	6	Appendix Z-Aquatic Habitat Restoration and Monitoring Plan (AHRMP) 3.1 first paragraph	JHI will perform an assessment of the relative presence of spawning gravel available for fish.	What methods/protocol will be used to asses spawning gravel (i.e. Wolman pebble count)? Does Alaska DFG have a specific protocol for this sort of evaluation?		The AHRMP – developed in cooperation with Alaska DFG - is described in Appendix W and will include pebble count, and evaluation of flow depths and velocities which are suitable for spawning. Suitable areas will be measured and documented. Applicable methods in ADFG or USFS physical habitat assessment methods are referenced and adapted to best evaluate unique site spawning habitat conditions, e.g.: • Nichols et al, Feb 2013. "A User Guide for Performing Stream Habitat Surveys in Southeast Alaska". ADFG Special Publication No 13-04 • Paustian S. 1992, revised October 2010. "Channel Type User Guide for the Tongass National Forest, Southeast Alaska". USDA Forest Service R10-TP-26.

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						• USFS Region 10, Tier II stream survey protocol, 2001.
139	all	Appendix Z-Aquatic Habitat Restoration and Monitoring Plan (AHRMP)		There are no actual methods or publications mentioned in this section on how the plan will be implemented. We are specifically concerned with the lack of information/methods about the plan for gravel augmentation.		See response to comment #130. The AHRMP was consulted and developed with the Alaska DFG, the appropriate government agency responsible for pink salmon species spawning at Sweetheart Creek. Refer to comments on this matter issued by Alaska DFG. In essence, the Alaska DFG is not willing to "enhance" the pink salmon spawning habitat as this would conflict with fishers targeting sockeye through the personal use fishery administered by the Alaska DFG.

	Minerals					
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140	74	PDEA, Table 2-3	Cut and fill	All mineral materials excavated will need appraisal and sale from the Forest Service with a contract to the purchaser.	Mainly just a clarification/ reminder.	JHI understands this is requirement and suggest that US Forest service initiate appraisal and sale documents to speed project along under EO 13212. Quantities for excavation have been provided in FLA and PDEA.
141	5	Appendix Z, SDP, 3.2	Geo tech drilling	Geotechnical drilling will be performed prior to large-scale excavations to allow for testing of material for ARD potential		The Project has requested, but to date been denied invasive drilling in previous draft SUP requests. The USFS should consider approval of

	Minerals					
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						invasive geotech drilling request under EO 13212. ARD potential exists, but despite any future drill results which may or may not reveal ARD, the Project submitted Acid Rock Disposal Contingency Plan in Appendix Z that adequately addresses ARD potential and contingencies in a professional, usual and customary manner that protects the environment without unnecessary construction delays if ARD is discovered.

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142		General Comment		If this is to be an EIS, it is missing some required NEPA disclosures per CEQ (e.g., Irreversible/Irretrievable Commitments of Resources, Relationship between the Short-term Use of the Environment and the Maintenance of Long-term Productivity, incomplete or unavailable information)		Comment noted. JHI submitted a PDEA in an EA format as required. It is FERC's decision to convert the process to an EIS process and will resolve formatting issues raised by the USFS.
143	37	1.2.1. Purpose of Action	This PDEA assesses the environmental and economic effects of the Project… It also considers the effects of the no-action alternative. Several important issues are addressed in this PDEA, including the following: downstream fish passage and survivability;	Assessing the effects isn't part of the purpose of the action, nor is identifying the issues for analysis.		Comment noted.

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			potential effects on personal-use fishery; effects on aquatic life in Sweetheart Lake; Project transmission line effects on marine life and avian species; loss of wildlife habitat; Project effects on threatened, endangered, and candidate species; Project effects on water quality; public access for recreation; and Project effects on the scenic values of the area.			
144	39-45	1.3. STATUTORY AND REGULATORY EQUIREMENTS		What about executive orders? To name a few… EO 11988: Floodplain Management EO 11990: Protection of Wetlands EO 13112: Invasive Species EO 13175: Consultation and Coordination With Indian Tribal Governments EO 13212: Actions to Expedite Energy-Related Projects		Comment Noted. JHI followed as a guide, other SE Alaska and Alaska FERC license applications of Allison, Whitman and Blue Lake and did not find that USFS requested other applications include Presidential Executive Orders. Interestingly, EO 13212 requires federal agencies shall take appropriate actions, to the extent consistent with applicable law, to expedite projects that will increase the production, transmission, or conservation of energy.
145	41	Volume 2 PDEA Table 1-1	Section 106 of NHPA	The participation of the Forest Service archaeologist in the analysis and determinations should be disclosed.		This section is for identifying law and those responsible. Inclusion of US Forest personnel, tribes and state agencies is discussed in other sections and appendixes. Tables by their very nature are for succinct

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						pieces of information, but comment is noted.
146	41	Volume 2 PDEA Table 1-1	Coastal Zone Management Program	Recommend removing all reference to this program since it no longer exists.		Comment noted. However, the program was in existence when Project was initiated. The program was referendum ballot defeated and defunded as a result of an Alaska ballot initiative. However, federal agency personnel and EIS reviewers in locations other than Alaska need an explanation as Alaska is the only coastal state without this program so it does not appear that the applicant failed to address this otherwise national program in existence everywhere else. Removing the section in its entirety would raise questions as to why JHI did not address this component of law and program in existence everywhere else, but Alaska.
147	43	Volume 2 PDEA Section 1.3.5 CZMA	Coastal Zone Management Program	Explanation why no longer considered. The program has been extinct for long enough now it no longer merits mentioning.		Comment noted. Alaska Proposition 2 was defeated on August 28, 2012 the effectively ended the initiative to create and fund a new Coastal Zone Management Program in Alaska. See question 146 answer for rationale of leaving the CZMA in the document.
148	54	Volume 2 PDEA Section 2.1	No Action Alternative – 3rd paragraph	Discussion on how the project meets the CBJ Climate Action and Implementation Plan is not appropriate under the No Action alternative.	Move this under the	Comment noted

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					Proposed Action	
149	54	2.2. APPLICANT'S PROPOSAL	The Project boundary encloses approximately 2,058.24 acres of land administered by the Forest Service. Approximately 131.18 acres…"	These appear to be exact acreage figures, not approximate. Suggest the better verb to use in the first sentence would be "encompasses."		These numbers are accurate until the project is built and an as-built survey conducted. Submarine cable installations/wire laying could result in a slight difference. As a result, the numbers of acreage are precise for now, but approximate. Therefore the statement is accurate.
150		2.2.1.12. Marine Access Facilities	"…this area is predominantly under the Inventoried Roadless Area Conservation Rule…"	Take out the word "Inventoried" and replace with "2001." Also need to provide the reference to this in bibliography.		Comment noted. JHI used the common reference name. Roadless rule and issues are further explained elsewhere in the EA.
151	84-105	2.2.4. Environmental Measures	Entire section Entire section / Tables	Lots of questionable effects (significant, not significant, negligible) to resources. Disclosing effects in Chapter 2 is procedurally incorrect. Chapter 3 will disclose effects. These tables should also be referred to (not repeated) in Chapter 3 when describing effects. These tables could be greatly shortened to be used JUST for the proposed measures. It is assumed that by placing these in Chapter 2 that these measures would be implemented to minimize or eliminate effects.		Comment noted. Some of the content of the comment is a difference in editorial opinion as well as preferred formatting. However, the shared common goal is to make the document more understandable.
152	89	Volume 2 PDEA Table 2-6 – Proposed Aquatic Resources	Project's Coastal Road would affect 4,400' of intertidal areas – potential not significant	We are not certain that the ensuing analysis supports that the habitat interruption is not significant.		Comment noted, the analysis is a result of agency input that occurred at the study level. Commenter should also review Appendix Y. EFH developed by competent and expert consultants that have completed many EFH

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						determinations. The site and the 4400' of cliff rock coastal road reveal that the habitat interruption is not significant
153	91-92	Volume 2 PDEA Table 2-9 Terrestrial Wildlife	1st 2 pages about Marine Mammals	These do not fit the header of Terrestrial Mammals. May need to introduce a new table OR change the header on this one.		Comment noted
154	102	Volume 2 PDEA Section 2.2.4.8	Cultural Resources	Interesting representation – no artifacts were found in the APE. Heritage typically refers to sites.		Comment noted
155		Chapter 2	General Comment	At the end of Chapter 2, a table that compares the alternatives by resource or issue (i.e., a summary of Chapter 3) would be helpful.		Comment noted
156	112	3.2 SCOPE OF CUMULATIVE EFFECTS ANALYSIS	General Comment	The cumulative effects analysis MUST disclose in this Chapter the spatial and temporal bounds used in the cumulative effects analysis (i.e., scope of the analysis) for each resource (they may be different between resources), any assumptions, as well as what past, present and reasonably foreseeable future actions were considered in the cumulative effects analysis. Then, you must disclose what the cumulative effects are. There are only two more mentions (pp. 344 and 470) of cumulative effects in Chapter 3 and it's not really an analysis…this is required by the NEPA (40 CFR §1508.7).		Comment noted, but disagree. FERC held scoping meetings and made the determination on the Project cumulative effects in Scoping documents and Project record which is described and accurately presented in the EA
157	113	3.3. PROPOSED ACTION AND ACTION ALTERNATIVES	"Only the resources that would be affected, or about which comments have been received, are addressed in detail in this PDEA. Based on this, we have	Some of these item are not consistent with what was stated under PURPOSE (page 37) "Several important issues are addressed in this PDEA, including the following: downstream fish passage and survivability; potential effects on		Comment noted. Difference in semantics the items raised in page 37 are merely different worded ,but are similar and consistent. For example, avian species falls under

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			determined that geology and soils; hydrology and water quality; fish and aquatic resources, terrestrial resources, threatened, endangered, and candidate species; recreation resources; cultural, archaeological and historical resources; aesthetic and scenery resources; socioeconomics; and tribal resources may be affected by the proposed action and action alternatives."	personal-use fishery; effects on aquatic life in Sweetheart Lake; Project transmission line effects on marine life and avian species; loss of wildlife habitat; Project effects on threatened, endangered, and candidate species; Project effects on water quality; public access for recreation; and Project effects on the scenic values of the area."		"terrestrial resources"; public access for recreation falls under "recreation resources".
158	195	Volume 2 PDEA Section 3.3.2.4	Effects on Water Quality – Effects on Water Quality	It is anticipated impacts to water quality from initial Project testing start-up would be less than or similar to naturally occurring stream flow impacts.	This is a bit confusing because under Turbidity above, on page 191 it states that Sweetheart Creek transports very few solids into Gilbert Bay.	Comment noted. However, if the entire paragraphs of the section are put into perspective, the sentence is not confusing.
159	197	Volume 2 PDEA Section 3.3.2.4	Effects on Water Quality – top of the page	It might be worth monitoring gas levels….	Is this then a mitigation measure? If not, don't mention here.	If there are no standards then it is unproductive to consider monitoring. Further, the section clearly explains that there has been agency consultation on this issue and that there is no record of "any"

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						SE hydropower project producing adverse effects. Post project monitoring was only suggested to verify no effect. This is not a mitigation measure and can be removed.
160	220-221	Volume 2 PDEA Section 3.3.3.1	It is unknown if warmer inundating water from the dam pool would accelerate embryo development. It is also unknown whether there will be a net positive or negative effect on egg survival following this Project given that there will be changes in water temperature, oxygen, and current (a velocity of a minimum of .3 meters per second (m/s) (.9 ft/s) is generally recognized as a requirement for low-mortality rainbow trout incubation)."	This should be disclosed under the Incomplete or unavailable information section. Also, when referring to effects, not good to use the words "positive" and "negative" in NEPA as they are considered value judgments. Use "beneficial" and "adverse" instead, and disclose how you moved forward w/ the analysis not knowing this (see 40 CFR §1502.22).		Comment noted, positive and negative can be changed to beneficial or adverse. The section discloses how Project moved forward. Further, JHI and its specialized trout expert contractor has contributed a large body of scientific knowledge to this matter.
161	462	Volume 2 PDEA Section 3.3.6.4	Public Outfitter Guide Services – JHI Analysis & Response	The advent of electrical infrastructure… will either increase or decrease O/G activities in the project area.	What is the point of this section/statement?	Comment noted. Statement is found on page 467 The section/statement accurately reflects the situation and accurately addresses the analysis of commercial recreation opportunities by outfitter guides and clients that will either be attracted to recreation amenities by the project or will avoid the project area to avoid the amenities. Regardless, the area is not heavily

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						used by Public Outfitter Guide Services.
162	470-71	Volume 2 PDEA Section 3.3.6.4	Rec & Tourism – JHI Analysis & Response	Plan to use rock from tunnel to create visual barrier.	Visual simulations might help to determine how long this will take – include an estimate of how long?	Comment noted, but US Forest Service has already read and responded to Scenery Management plan which was produced under specific guidance and approval of the US Forest Service resulting reports. The visual simulations provided were the specific simulations requested by US Forest Service personnel. Therefore, additional visual simulations are not anticipated or scheduled to be provided.
163	483	Volume 2 PDEA Section 3.3.4.6	Roadless Rule Implications on Project Land Use and Prevailing Power Site Classification	This section doesn't address what the unique characteristic are for IRA 302-Taku – Snettisham. The effects to those characteristics are not analyzed through this analysis.	You have done a nice job of identifying how a project can conform to the IRA with minimal impacts for the type of project that it is.	Comment noted. Thanks.
164	484	Volume 2 PDEA Section 3.3.4.6	Discussion of the use of the tunnel	Sequencing question. The road needs to go in for the equipment to construct the tunnel? What will be done with the tunnel rock – used for the dam? Berm for the tailrace?	This is never really clearly stated that I could	Comment noted, it is perhaps clear in this and other sections that tunnel rock will be cannibalized and used in infrastructure: road, dam, berms.

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					find/understand	
165	538	Volume 2 PDEA 3.3.7.2	Land Use Designations	Uncertain of the value of this paragraph. Suggest removal.		The value of the paragraph is clear as to the unknown determination of superiority of federal rights in relation to federal and TLMP land use designations. It should remain.
166		Chapter 3	General Comment	Many of the effects analysis discussions don't provide a conclusion or answer the "so what" question.		Comment noted
167		Chapter 3	General Comment	For the direct and indirect effects analysis, there should be some discussion about the methodology/approach used for the analysis (see 40 CFR §1502.24 Methodology and scientific accuracy). There should be a mention about direct and indirect effects (40 CFR § 1508.8) at the beginning of Chapter 3 so the reader understands the types of effects being analyzed and disclosed.		Comment noted. Some of the comment is formatting or opinion. Detailed methodology is in Appendices.

	Timber					
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168	969	Special Use Authorization	Preliminary 4(e) Terms & Conditions. Condition #22 Resource Management Plan. Vegetative Management Plan	The Forest Service must be involved when the Vegetative Management Plan is developed. The special use authorization must include the language requiring the owner of the Hydro Project to sign a Timber Settlement Contract with the Forest Service to deal with the		The Vegetative Management Plan is developed, produced and submitted with the license application for USFS and other agency review. The USFS is requested and invited to be involved as the plan as already developed with the license

	Timber					
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				inundation/cutting/removal of any merchantable timber in the project area.		application documents and PDEA. The USFS has submitted prior comments that it would send a timber surveyor to determine value and to assist in a Timber Settlement Project. JHI requests that the USFS initiate actions and timely proceed to resolve and complete a preliminary Timber Settlement Contract.

	Recreation					JHI Response
Q	Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions	
169	64	Appendix Q; Recreation Resources Report; 8.5 & 9.0 Cabin	"As stated earlier, JHI proposes to construct and maintain but accepts no liability for a USFS recreational cabin near the dock facility."	The Forest Service is not in a position to accept maintenance and liability of a recreation cabin.		The Appendix Q, Recreation Resources Report was drafted and submitted prior to the USFS deciding against a USFS cabin in the area. JHI is clear with the USFS and public that USFS is not in a position to accept maintenance and liability of a recreation cabin. The Final License Application and EA reflect the USFS position in this matter

	Soils & Wetlands					
Q	Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions	JHI RESPONSE
170	B-12	Exhibit B. Access Road		The stated 0.54 acres of wetland impacted for the coastal road was for a presumed footprint	Suggest updating this number with	The updated number of wetland acres based on current design as presented in EX F and 404 permit

	Soils & Wetlands					
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		Alternatives. Table B-1		of only 25 feet wide. The final design is much wider than the delineated 25 feet.	the actual acres of wetland impacted by the coastal road.	drawings of the coastal road is .76 acres. The updated numbers do not affect the analysis or conclusion derived from Table B-1. Also the "wetlands" as defined: "The CE (*Federal Register* 1982) and the EPA (*Federal Register* 1980) jointly define wetlands as: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Areas of the project located in the waters of the US, special aquatic zones also fall under 404 jurisdiction, but do not meet the definition of wetlands.
171		General Comment to the PDEA		The PDEA does not disclose the irreversible/irretrievable effects to the soil and wetland resources. These effects are the acres converted to infrastructure (road, powerhouse, etc.). There needs to be a section included in the document called Irreversible/Irretrievable. All of what the applicant is proposing is reasonable and acceptable.	The applicant should disclose the actually effects to the soil and wetlands resources in acres of "lost"	Comment noted. As requested we have calculated the acres of lost soils and wetlands areas in the permanent project features that will be "irreversible/irretrievable" through the life of the project to grow vegetation. The permanent project features that effect the

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					(i.e. converted from forestland/wetland/etc. into infrastructure). Much of what is discussed below in comments is directly related to omission of an accurate accounting of: acres of wetlands lost, acres of soil converted to infrastructure, and indirect effects to the soil and wetland resources from the proposed activities.	soil and wetlands include portions of the following: Dam site, powerhouse site, tailrace, access road, caretaker quarters, and transmission towers. The total is 2 acres. This does not include features constructed in waters of the US in Gilbert Bay or area lost to inundation around the Lake.
172		General Comment to the PDEA		This project continues to underestimate the acres of wetlands impacted by the Coastal Road/Trail. It uses the acres from the Wetland resource report (Appendix L) which assumes that the road/trail would only be 25 feet wide.	Recalculate the acres of wetlands impacted by the Coastal	Comment noted, please see response to question 170.

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				This was pointed out in the previous review (Page 49 of the review section 766-1001 in PDEA, comment # 126) and inadequately addressed.	Road/Trail based on the new and expected road footprint.	
173	73	2.2.1.13, Coastal Road Trail, Paragraph 1, last sentence	The road/trail would be constructed with clean shot rock and built in accordance with the USACE Coastal Engineering Manual (CEM) principles.	Unable to find any review or discussion on the effectiveness of these CEM principles or what they were comprised of. Several reviewers questioned the impacts of building a road below mean high tide (# 118, page 46; #160, page 65; page 128 #341). The responses from the document preparers were to reference these CEM principles but not discuss any effects to shoreline processes or coastal erosion.	Please discuss the effectiveness of the CEM principles as related to environmental concerns raised by the reviewers in the document in the appropriate section.	The Coastal Engineering Manual (CEM) provides a single, comprehensive technical document that incorporates tools and procedures to plan, design, construct, and maintain coastal projects. The road base will mostly be place below High Tide Line but the road surface is above extreme high tide (No overtopping). The CEM provides the principles to engineer stable shoreline structure. The coastal road and dock would be constructed similar to other recently construct marine fills in S.E. Alaska (Gustavus Ferry Terminal, OVK Dock, Kake, South Mitkoff Ferry Terminal in Petersburg, Haines Ferry Terminal). Road will be constructed of armor rock over clean rock fill.
174	74	2.2.1.13, Figures 2-7 through 2-10		These figures are very helpful. Would it be possible to overlie the road impacts with the wetland delineation? This way it would		Comment noted. These figures and details are provided in the 404 permit drawings. Note that the US Army Corp of Engineers is

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				be clear how much estuarine wetland is impacted by this new road alignment. The wetland effects section does not have a map of the current proposed road with wetlands.		a cooperating agency with the EIS.
175	86	2.2.4.1, Table 2, First Row		Keeping slopes vegetated is generally considered an ideal practice for preventing and reducing surface erosion.	Please discuss why removing vegetation protects soils from erosion here where elsewhere in the document encouraging vegetation protects soil from vegetation	Comment noted, but table 2-4, first row states, "Proposed measure is to avoid removal of shoreside vegetation to protect soils".
176	91	2.2.4.1 Table 2-8		Add a section on the design standards for the road here and how they address resource concerns.	This would be a good place to discuss that the Coastal Road/Trail would be designed to not dam tidal or freshwater wetlands. This practice is often referenced in the response to comments but not	Comment Noted. However road design and standards are addressed elsewhere in the document and should not go in table 2-8 which is a summary table. Please see answer provided in Question 184.

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					disclosed anywhere else in the PDEA.	
177	138	3.3.1.7	General Comment	Is there a section for coastal erosion from the Coastal Road/Trail? This is a good section describing the effects to the lake shore.	It would be helpful to have a similar discussion related to coastal shoreline erosion.	Comment noted. The NMFS shorezone pictures of rocky beach with cliffs (coastal road route) as well as photos figures of PDEA combined with construction design in Ex. F perhaps makes this discussion not necessary.
178	138	3.3.1.7	General Comment	Converting soils from their natural state into infrastructure is suitable and appropriate for this project. It is important to disclose the acres that will be converted. The number can be rounded (i.e. if there are 47 acres of proposed road/buildings/dam/etc. estimating 50 acres is appropriate). These should be disclosed as irreversible/irretrievable effects to resources. While the entire footprint of the project will not permanently inhibit a soil from producing desired vegetation, it is reasonable to assume the road, dam, and powerhouse will.	Please disclose the acres of land (soil) that will be converted from their natural state into infrastructure. These are the effects to the soil resource, which are not discussed at all in section 3.3.1.7.	Comment noted. As requested we have calculated the acres of lost soils and wetlands areas in the permanent project features that will be "irreversible/irretrievable" through the life of the project to grow vegetation. The permanent project features that effect the soil and wetlands include portions of the following: Dam site, powerhouse site, tailrace, access road, caretaker quarters, and transmission towers. The total is 2 acres. This does not include features constructed in waters of the US in Gilbert Bay or area lost to inundation around the Lake.

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179	142	3.3.1.8, Table 3-2		Effects to soils and geology from the road are missing in this table.	Consider disclosing the effects to soils and geology from building the road. Consider displaying the acres of soils lost in this table. (This would be in addition to discussion of effects in the previous section.)	Comment noted. Table 3-2 should include block for Coastal Road Construction for "environment"; ground disturbance and effects on geology and soils not significant- for "Effect"; and Implement ESCP to prevent erosion and sedimentation. Utilize clean shot rock fill for "Proposed Measure".
180	360	3.3.4.2 Gilbert Bay Wetlands, paragraph 5	"The coastal road/trail is 4,400 feet long and affects 0.29 acres of forested wetland, 0.25 acres of estuarine wetland, and 25 feet of stream."	This is a serious underestimate of impacts to wetland from the coastal road/trail. These acres are based on a 25-foot wide total footprint of the road, not the currently proposed road which is 25-feet wide at the top of fill.	Please revise these numbers to reflect the actual acres of wetlands impacted based on the wider road. (This could be accomplished once Figures 3-97 and 3-98 are revised as suggested below.)	Comment Noted. Please refer to answer provided in question 170. Figures 3-97 and 3-98 are correct and do not require a revision.

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181	362	3.3.4.2 Gilbert Bay Wetlands, Figure 3-97		It appears that the proposed road/trail alignment fills all of es3 and the northern portion of es2.	Please redo this figure with the current coastal road/trail alignment. Figures 2-7 through 2-10 would be a good template to use.	Comment Noted, but not correct. Please refer to answer provided in question 170. Please note that the USFS had 2 + years to comment on wetland delineation that were submitted for agency review in 2012 per the ALP and communications protocol.
182	363	3.3.4.2 Gilbert Bay Wetlands, Figure 3-98		It appears that the road fills in a large portion of es2.	Please redo this figure with the current Coastal Road/Trail alignment and infrastructure. Figures 2-7 through 2-10 would be a good template to use.	Comment Noted. " Large portion" comment is subjective. Please refer to answer provided in question 170. Please note that the USFS had 2 + years to comment on wetland delineation reports that were filed for agency and public review in 2012 per the ALP and communications protocol.
183	368	3.3.4.2, project-related effects on wetland resources	Slopes subject to erosion and disturbed surfaces would be re-vegetated to minimize storm water pollution.	Here, re-vegetation is proposed to prevent erosion while in the geology/soils section vegetation removal is proposed to prevent erosion.	Please clarify this apparent conflict.	Vegetation is not to be removed to prevent erosion, but left in place where applicable. A review of the geology soils section confirms this statement. There should be no conflict and be made consistent.
184	372	3.3.4.2, Table 3-45		There are more effects to wetlands than stated here. There is no discussion of indirect effects to wetlands or effects to adjacent wetlands.	Consider disclosing the effects of the	As requested this narrative addresses the concerns that the constructed access roadway

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				(Sometimes roads or other infrastructure can dam a wetland, separating it hydrologically. Disclose that this can happen and what this project is doing to avoid this.)	road to adjacent wetlands. Show how the chosen construction techniques minimize the effects to adjacent wetlands.	effects the adjacent wetlands. There are two distinct situations; the firs where the road is down slope of the wetland; the other where the roads is upslope of the wetland. In the first where the road is below the wetland there will be no impediment to groundwater reaching the wetland and a culvert under the roadway will be installed to avoid impounding water. In many cased this will also allow natural inundation by tidewaters. Where the road is upslope of the wetland natural drainage patterns will be maintained through installed drainage structures including culverts under the roadway. The road is above or adjacent to an area of wetland approximately 400 feet in length. JHI Vehicle and pedestrian access will be limited by barriers and the traffic routed around sensitive areas. The road will have minimal effects on the adjacent wetland. While this information provides insights, it cannot be easily be represented in this table.

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185	5.3	Unavoidable Adverse Effects		While taking several acres of soils out of productivity may not be seen as an Unavoidable Adverse Effect by the applicant, it is considered an Irreversible/Irretrievable effect to the resource.	Please disclose the acres of soils taken out of productivity by the proposed actions under a heading of Irreversible/Irretrievable Effects.	Comment noted. As requested we have calculated the acres of lost soils and wetlands areas in the permanent project features that will be "irreversible/irretrievable" through the life of the project to grow vegetation. The permanent project features that effect the soil and wetlands include portions of the following: Dam site, powerhouse site, tailrace, access road, caretaker quarters, and transmission towers. The total is 2 acres. This does not include features constructed in waters of the US in Gilbert Bay or area lost to inundation around the Lake.
186	49 (766/1001)	Response to Comments # 126		This response does not actually estimate the acres of wetland impacted by the road, simply the acres of federal vs state land.	Please provide estimates of the quantity of wetland impacted by this new road alignment.	Comment noted. See response to question 170.
187	67 (784/1001)	Response to Comments #292 3.3.1		3.3.1 There are irreversible/irretrievable effects to the soil resource: you are removing several acres from productivity to become road/dam/powerhouse. This is appropriate use.	Please disclose how many acres are impacted by the proposed activities.	Comment noted. As requested we have calculated the acres of lost soils and wetlands areas in the permanent project features that will be "irreversible/irretrievable"

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						through the life of the project to grow vegetation. The permanent project features that effect the soil and wetlands include portions of the following: Dam site, powerhouse site, tailrace, access road, caretaker quarters, and transmission towers. The total is 2 acres. This does not include features constructed in waters of the US in Gilbert Bay or area lost to inundation around the Lake. The net effect of lost wetlands will be resolved with the Army Corp of Engineers in their 404 process.
188	67 (784/1001)	Response to Comments #292 3.3.3.4		Converting these lands to infrastructure is acceptable; simply disclose how many acres are affected. The effects are generally not considered temporary from a soil and wetland perspective.	3.3.3.4 Please explain how filling an area with permanent rock fill, to be used as a road as long as the dam is operation is a temporary effect to the soils or wetlands.	Comment noted. The road is temporary construction use and permanent access and therefore will be allowed to revegetated to the maximum degree possible. The road will become a one lane access road/ trail and will be recolonized with vegetation over time. This is considered temporary, not an irreversible affect to the soils.

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189	page 118 (835/1 001)	Response to comments #313	The road will be constructed in such a way that there will be no damming of freshwater or tidal water in either direction.	There is not any discussion or citations in the preceding document that supports this statement.	Please disclose how the applicant would ensure that wetlands would not be dammed. This could be included under the conclusions and recommendations or as design criteria for wetlands.	The statement by JHI is correct. Please refer to details provided in Exhibit F. As requested this narrative addresses the concerns that the constructed access roadway effects the adjacent wetlands. There are two distinct situations; the first where the road is down slope of the wetland; the other where the roads is upslope of the wetland. In the first where the road is below the wetland there will be no impediment to groundwater reaching the wetland and a culvert under the roadway will be installed to avoid impounding water. In many cased this will also allow natural inundation by tidewaters. Where the road is upslope of the wetland natural drainage patterns will be maintained through installed drainage structures including culverts under the roadway. The road is above or adjacent to an area of wetland approximately 400 feet in length. JHI Vehicle and pedestrian access will be limited by barriers and the traffic routed around sensitive areas. The road

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						will have minimal effects on the adjacent wetland.
190	page 118 (835/1001)	Response to comments #314	The road will be constructed in such a way that there will be no damming of freshwater or tidal water in either direction.	See previous comment	Please disclose how the applicant would ensure that wetlands would not be dammed. This could be included under the conclusions and recommendations or as design criteria for wetlands.	Please refer to details provided in Exhibit F. See response to question 189, but also understand that this an Army Corp of Engineer responsibility that is addressed in the 404 process that will adequately alleviate concerns. Note that the Army Corp of Engineer is a cooperating agency.

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191	34	Volume 2 PDEA; Aesthetic and Scenery Resources, Line 6	"…Scenery Management and Monitoring … details the improvements and maintenance necessary to sustain the visual quality of the area through ...repainting of structures (if necessary)"	Phrases like the one underlined here occur many times in the scenery portion of the document. Clearly state when the mitigation measures will be required.		Comment Noted. Scenic resources are subjective applied to objective standards. JHI and contractor has developed Scenery Management Monitoring Plan which is an integral component to the PDEA and is located in Appendix Z and addresses the question raised. The commenter is referred to this plan. "if" and "when" are nature driven. The intent is to be proactive and provide opportunity for the likely range of conditions.
192	98	Volume 2 – PDEA; Table 2-11; Proposed Measures	"The finalization of visual landform barriers would be completed within 1 year of COD."	Please clarify what "finalization" entails, i.e. shaping, planting, or something else?		Finalization means completion of man made activities. Upon completion of project the extent (height, shape, length) of the landform barriers and plantings will be field verified to ensure the SIO are met. Nature of course, will continue its due course.
193	98	Volume 2 – PDEA; Table 2-11; Construction vessel ramp and Boat Dock; Proposed Measures	Entire text in "Proposed Measures."	The measures proposed don't address aesthetics.	Include discussion of color and materials.	Comment noted. This is a table, and therefore more detailed discussion is provided in text. Discussion of color and materials is more appropriately addressed in the Appendix Z, Scenery Management and Monitoring Plan.

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194	98	Volume 2 – PDEA; Table 2-11; Construction of Boat Dock; Proposed Measures	Entire row	Appears to have been addressed in previous row.	Eliminate	Comment noted. Please note, first row is boat "ramp" Second row is boat dock. Both should remain separate with revision for clarity.
195	99	Volume 2 – PDEA; Table 2-11; Improved Public Access	"Mooring buoys would be … maintained in good working condition."	Include the fact that JHI will maintain these through the life of facility operation.		This s a table, more detailed discussion is provided in text. See page 503: "JHI would be responsible for the design, construction, and maintenance of the mooring buoys for the term of the license". Concern is also addressed in Recreation Management Plan (developed with consultation with JRD) in Appendix Z where same language is placed.
196	103	Volume 2 – PDEA; Table 2-14; Site Structures	"JHI would attempt to soften edges of the clearing limits…"	A Forest Service landscape architect can be available for consultation during final design.		Thank you and Appreciate the offer for assistance. JHI intends to consult at the appropriate time.
197	560	Volume 2 – PDEA; 3.3.9.1	3rd paragraph; "As shown on Figure 2-1, new construction in the Sweetheart Lake watershed would include a dam…"	Figure 2-1 doesn't show the level of detail described in the text.	Please supply and reference a more detailed illustration.	Comment noted. Figure 2-1 is a project location map and is not intended to provide the level of detail. Please see Exhibit F drawings for clarity and level of detail requested. Figure 2-3 and Figure 2-4 show project features from both shores of Gilbert Bay. The dam is located in a seldom seen/unseen landscape and not visible from a VPR
198	560	Volume 2 – PDEA; 3.3.9.1	3rd paragraph; "…visual impacts resulting from	Recommend "unseen/seldom seen" wording as used elsewhere or even,		Comment noted.

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			raising the lake levels are located in an unseen landscape."	"unseen/seldom seen landscape where the only recreation-related viewers would be traveling off-trail through difficult terrain."		
199	560	Volume 2 – PDEA; 3.3.9.1	4th paragraph; "…the travel VPUs and use areas…"	Typo - Should this be VPRs?		Comment noted. Should be VPRs
200	563	Volume 2 – PDEA; 3.3.9.1; VCU 570; 1st paragraph	"...powerhouse and switchyard would be located in a partially excavated area... The material excavated to construct the powerhouse would be recycled during the construction of an access road... excavation would occur within the caretaker's area..."	Providing a section through the proposed excavated areas showing back wall height, structures, and screening elements would be super helpful. Now that the proposed agency recreation cabin has been dropped, will the excavation around the caretaker's area be smaller?	Can proponent provide a section through the proposed excavated areas showing back wall height, structures, and screening elements?	Comment noted. Please see Exhibit F drawings for details that answer these questions. Cabin is dropped, see EX F sheets for caretaker cabin.
201	563	Volume 2 – PDEA; 3.3.9.1; VCU 570; 2nd paragraph	Transition facility (mentioned twice)	What will these look like? Recommend PDEA include drawings or photos of similar structures.		Comment noted. Transition facility representation was incorporated in simulations. Transition Facility is made of precast concrete and partially buried into the shore. As discussed these facilities would have beach rock placed to blend in with shore area. A request for a drawing or photo would have been easily incorporated if requested in the previous PDEA or in the Scenery Draft report.
202	569	Volume 2 – PDEA; 3.3.9.2; 2nd paragraph	5th line down, "...unseen landscape..."	Change to "unseen/seldom seen" as used elsewhere.		Comment noted

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203	572	Volume 2 – PDEA; 3.3.9.2; 4th paragraph	"The balance of the simulations do not depict the proposed measures."	Insert the word "mitigation" to read, "proposed mitigation measures."		Comment noted
204	574-577	Visual Simulations	none	When printed at two rows per 8.5x11 page size, the photo size doesn't portray an appropriate viewing distance.	Suggest the final document print these at one viewpoint per 11x17 page size.	Comment noted. However, it will be up to FERC and its formatting requirements for EIS publication if this is request is doable.
205	578	Volume 2 – PDEA; 3.3.9.3; VCU 610	"No visual impacts are expected in VCU 610."	There will be effects that are visible if someone chooses to hike back there, and given the LUD, the assumption is that they might. Maybe the more accurate statement is that, "No visual impacts within this VCU would be seen from VPRs."		Comment noted.
206	578	Volume 2 – PDEA; 3.3.9.3; VCU 610	"Expected SIO effects would be within an unseen landscape."	Please change to read "unseen/seldom seen." If helpful, clarify by stating, "an unseen/seldom seen landscape where the only recreation-related viewers would be traveling off-trail through difficult terrain."		Comment noted
207	578	Volume 2 – PDEA; 3.3.9.3; VCU 570	"Additionally, the Sweetheart Creek Falls in this VCU would be unseen..."	After "unseen" please add, "from a VPR" or some similar wording, since you state elsewhere that some people do hike in to look at the falls and have expressed concern for the flow rate.		Comment noted
208	579	Volume 2 – PDEA; 3.3.9.3; VCU 610	"In VCU 610, no visual impacts are expected. Expected Scenery Integrity effects would be within an unseen landscape."	Please change as above for page 578, VCU 610 "…visual impacts are not expected to affect VPRs… unseen/seldom seen…"		Comment noted
209	580	Volume 2 – PDEA; 3.3.9.4; 1st paragraph	"Further, JHI is proposing more <u>scenic avoidance</u> through design and minimization measures <u>to avoid and or minimize</u>	Redundant within and between sentences. Is the statement regarding extent of effort a fact?		Comment noted. Based on other USFS comments and measures in other recent FERC Projects in TNF. It is a fact based on the review of the

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			scenic impacts than many developments in the TNF. JHI has worked closely with its scenery contractor during the permitting process and has gone to great lengths to reduce and minimize scenic impacts compared to other projects in the TNF."			published record. Buried transmission line segments? Partially excavated area and berms to hide powerhouse? Reverse slope of roadway/trail? These are but a few innovative examples to reduce and minimize scenic impacts compared to other projects in the TNF.
210	581	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures	"JHI would configure the layout of the upland facilities to maximize opportunities for vegetative screening between the water's edge and the caretaker facilities."	Take advantage of any opportunity to construct vegetated earthen berms within this excavated area to help screen the caretaker's facilities. If the excavation is not a quarry, and not sized to provide a certain volume of rock, can it be down-sized to be just large enough to accommodate the caretaker's facilities?		Comment noted. JHI will not plan to screen caretaker facility because view of dock and access is necessary for security and safety reasons.
211	582	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures; 3rd bullet from top of page	"JHI would use rounded natural rock and stone along the coastal road where fill would be exposed to Gilbert Bay…"	Where will this rounded rock come from? This doesn't sound like excavated crushed rock. Is it necessary to use rounded rock (if not practical or economical)? Elsewhere it's stated that oversized rock or boulders would be randomly placed on these fill slopes to break up the even texture of consistently-sized riprap. This may be more effective than using round rock.		Comment noted. These would be a combination of native local rocks with a natural shape that would blend into surrounding landscape
212	582	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures; 4th bullet from bottom of page	"JHI would excavate and… construct the powerhouse 'in ground/partially buried'... and/or use reclaimed rock... to construct a visual barrier mound around the	The drawings and other text all indicate that the "visual barrier mound" is included in the design. Please replace the "and/or" with an "and."		Comment noted.

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			powerhouse switchyard area..."			
213	582	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures; 3rd bullet from bottom of page	"…using as much existing vegetation as possible."	If vegetation removed from excavated areas will be replanted elsewhere, please plan for appropriate "holding areas" where these plants can be kept in a healthy condition so re vegetation efforts are successful.		Comment noted
214	583	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures; 2nd paragraph from top	"JHI would select appropriate colors to paint the structures (towers and transition facilities) to match the surrounding landscape…"	Please include wording to indicate that a landscape architect will be consulted in the selection of colors.		Comment noted
215	583	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures; paragraph above Table 3-72	"…JHI has proposed additional recreation improvements... <u>but JHI has not been requested in the Forest Service in their Preliminary 4e conditions</u>..."	As written this sentence is confusing. Please rewrite.		Comment noted.
216	8	Appendix T: Final Scenery Res. Report, March 2014; VCU 570, 1st paragraph	"Some excavation will occur within the Caretaker's area (See Appendix A-4 and B-2)."	The reference to Appendix A-4 & B-2 appears to be incorrect. Should this refer to <u>Exhibit</u> A, Figure A-4? If so, then this figure shows project elements at a quad map scale, which is insufficient detail for what's being described. If the reference to Figure B-2 means to look in Exhibit. B, that section has no Figure. B-2 – it starts with Fig. B-5.		Comment noted. However all comments for this report was properly filed and provided to agencies. The Scenery report had a draft and a final report. It should be noted that JHI made significant investment of time and financial resources to professionally respond to previous USFS comments provided in the FLA and PDEA as well as providing updates and revisions from the draft

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						scenery report to the final scenery draft report.
217	18	Appendix T: Final Scenery Res. Report, March 2014; Distance Zones, bottom of page	"As an aside, over 64% of VCU 610 is classified as unseen, but not included in calculation."	Should read, "…classified as unseen/seldom seen,"		Comment noted.
218	19	Appendix T: Final Scenery Res. Report, March 2014; Distance Zones, Fig. 5		Should read, "…Not seen/seldom seen,"		Comment noted.
219	24-25	Appendix T: Final Scenery Res. Report, March 2014; Visual Absorption Capacity. See also page 40, 3rd paragraph under "Design Activities."	Visual Absorption Capability:	Typo in the title and the table on this page, and the Fig.ure 7 map on page 25; VAC is "capacity" not "capability." Easy mistake – I do it too. See also page 40 as noted.		Comment noted.
220	41	Appendix T: Final Scenery Res. Report, March 2014; Scenery Effects, VCU 570, 1st paragraph	"The powerhouse and switchyard will be in a partially excavated area…" The caretaker's facility is also said to be located in an excavated area.	Why has proponent dropped the mention of quarries, and even says quarries are no longer needed, when the drawings and text still discuss "excavated areas" which are the same size as in previous versions of the document? Technically they still appear to be rock pits (or quarries).		Comment noted. Please refer to EX F drawings.
221	41	Appendix T: Final Scenery Res. Report, March 2014; Scenery Effects, VCU 570, last line on page.	"…transmission corridor will travel north perpendicular to the shoreline…"	Should this read "parallel to"?		Comment noted
222	41-42	Appendix T: Final Scenery Res. Report, March 2014; Scenery Effects	General comment	What will typical towers, and overhead/submarine transition facilities look like in terms of overall shape, materials, and colors?		See page 64 of Appendix T
223	43-45	Appendix T: Final Scenery Res. Report, March 2014;	General comment re information given in bullet statements.	It may be helpful to include SIO as a bullet statement, even if the in-depth discussion follows in the next section. ISA is not		Comment noted

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		Prominence & Sensitivity of Proposed…		necessary in my opinion, and could be dropped, unless the author is seeing a purpose for having it here that's not clear to me.		
224	43	Appendix T: Final Scenery Res. Report, March 2014; Prominence & Sensitivity of Proposed…, VCU 610, P&S of this Segment	• Dam, penstock and elevated lake levels: Unseen/seldom seen landscape, High ESI (Class 1), Distinctive ISA, High VAC.	These points are listed individually in the other VCU discussions. A consistent format would be helpful.		Comment noted.
225	43	Appendix T: Final Scenery Res. Report, March 2014; Prominence & Sensitivity of Proposed…, VCU 610, P&S of this Segment	• Due to facilities being in an unseen/seldom seen landscape and having a High VAC, the sensitivity of these facilities in a High ESI and Distinctive ISA are negligible.	The other VCUs do not draw a conclusion. This could be removed to be more consistent, as this discussion of negligible effects is addressed elsewhere.		This conclusion (best professional judgment) was requested by J. Beard as simulations were not required for these facilities as they were in an unseen/ seldom seen landscape
226	44	Appendix T: Final Scenery Res. Report, March 2014; Prominence & Sensitivity of Proposed…, E. Side of Gilbert Bay…	"…the two lane gravel access road will be decommissioned to a one lane gravel service road and the pullouts also decommissioned and re-vegetated."	Will the inside (land side) of the road be decommissioned or the outside (water side)? Decommissioning the outside lane is recommended for scenery reasons as this would help screen the road from the water.		Outside lane typical, unless distance zones do not allow
227	47	Appendix T: Final Scenery Res. Report, March 2014; Landscape Character Effects	"The Project effects to these identifiable landscape characteristics… determine the extent and magnitude of the deviation from the Landscape Character; and if these impacts meet the Scenic Integrity Objectives (SIO..."	Nicely stated. In general, this report is quite well done.		Thank you. Both JHI had contractor appreciate the comment.

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228	49	Appendix T: Final Scenery Res. Report, March 2014; Landscape Character Effects; N. of Port Snettisham; Scenery	"…considered on a case-by-case basis. Use designs and materials that"(end of paragraph)	Missing rest of sentence.		Comment noted. "Use designs and materials that" should be removed.
229	52	Appendix T: Final Scenery Res. Report, March 2014; Landscape Character Effects; Project Wide; Scenery	"Desired Conditions and Scenery Requirements establish acceptable aesthetic conditions allowable and an acceptable range (if any) in which the Project effects may deviate from the Landscape Character."	To clarify we suggest the following - "Desired Conditions and SIOs establish the allowable range within which project effects may deviate from the Landscape Character."		Comment noted
230	55	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects	"Scenic integrity represents the landscape at a <u>micro level</u> from areas of concern."	Not sure what this means. Maybe it's straight from a reference book and I'm not recognizing it, but will the public understand the meaning?	Delete sentence?	Comment noted. Remove
231	55	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects; last lines in paragraph above VCU 570	"No visual simulations were developed for VCU 610 as the proposed facilities are located in an unseen/seldom seen landscape. <u>Additionally, there are no VPRs that provide visual access to the Project facilities in VCU 610 from which to base the visual simulation</u>."	Because the Semi-Remote Recreation LUD in this VCU is intended to manage for random recreational use which may follow no established travel route, there are no VPRs in VCU 610 from which to base the visual simulation." …or something to that effect.		Comment noted
232	58	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects; VCU 550; Sentinel Point-South etc.; top of page 58	"Poles will be steel T and straight-shaped towers."	Someone unfamiliar with types of power line poles will wonder if these are two different types or one. Photos of similar structures would be helpful. Same comment for transition facilities.		Comment noted

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233	59	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects; VCU 550; Impacts to Scenic Integrity etc.	3rd bullet statement says, "…effects will be consistent with a Low …SIO… and will not exceed the visual impacts for a Very Low SIO as allowable in the Forest Plan." And yet 4th bullet statement says, "Expected impacts do not take advantage of existing… pattern and texture… This is not consistent with the Forest Plan."	If the design does not take advantage of existing pattern and texture, it most likely will not meet SIOs. If there's a reason to state the effects the way they are worded in the document, please explain. In other words, how can it both meet the SIO but not meet Forest Plan design requirements?		While the project will impose a linear form upon the landscape it will not exceed the impacts for a Very Low SIO (the least restrictive SIO)
234	59	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects; VCU 610, Visual Sim. Photo Points	"There are no VPRs that provide a typical Forest user to view the facilities associated with the Project in this VCU."	Typo – "provide... a view of" might work better. Also, it may help to briefly explain the LUD within this VCU by saying something like, "While there are no designated VPRs in this VCU, the intent of a Semi-Remote Rec LUD is to provide natural-appearing landscapes in which recreationists may explore. To allow for this random recreational experience, the adopted SIO is Moderate for all distance zones. It is assumed that the presence of a large man-made structure near an area of known sports fishing use (lower creek) may attract adventuresome hikers to take a look, even though the terrain is challenging." And go on to say, "…no visual simulations were created… although effects are discussed in terms of the expected appearance of proposed structures." (color, size, shape/form, etc.)		Comment noted

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235	61	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects; VCU 610, Impacts to Scenic Integrity of VCU 610 etc., 2nd bullet statement	"• Dam, penstock and elevated lake levels will be not visible from VPRs."	...but may be seen if a determined recreationist chooses to make the difficult hike in to see it.		Not visible from a VPR.
236	62	Appendix T: Final Scenery Res. Report, March 2014; Cumulative Effects, bottom paragraph, last line	"…the clearing limits will be the main visual modification."	Suggest it would it be more accurate to say, "…clearing limits <u>and towers</u> will be…"		Comment noted, but typically only true in foreground conditions. Towers are only located in middle ground distance zone for this project.
237	63	Appendix T: Final Scenery Res. Report, March 2014; Cumulative Effects, middle of 2nd paragraph	"…will meet the requirements for <u>Class 3, Moderate</u>, where the modifications begin to dominate the landscape."	If the intersection of the proposed line and the existing Snettisham line is an obvious "T" due to vegetative clearing, and if the proposed transition station is obviously visible, then it may be a Class 4. Low.		Comment noted, located in middle ground with small low transition station and smaller scale transmission structure compared to AEL&P facilities.
238	63	Appendix T: Final Scenery Res. Report, March 2014; Scenery Protection Measures, etc.; Project-Wide, 1st paragraph	"where appropriate or feasible" … "if required"	Again, when will this be decided? How do we know full effects of the proposal if we don't know which mitigation measures will be adopted? Mitigation should include color recommendations with enough specificity to convey intent (i.e., not just 'grey' but 'medium grey').		Comment noted. The intent is to provide mitigation for the likely range of conditions.
240	63	Appendix T: Final Scenery Res. Report, March 2014; Scenery Protection Measures, etc.; Project-Wide, 3rd paragraph	"feather edges" … "hardline clearing"	Do these terms need to be defined to insure the person laying out the work understands what is being asked for? If everyone understands this, then no worries.		Comment noted. Typical tree clearing terminology.
241	64	Appendix T: Final Scenery Res. Report, March 2014; Scenery Protection Measures, etc.; Project-Wide, bottom paragraph	"Allow vegetation to reestablish …facilities."	After this sentence I would suggest adding something like, "If larger trees must be removed, only take those necessary to maintain access to buried lines; require		Comment noted

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				selective tree removal to avoid creating a perfectly straight cleared corridor."		
242	4	Appendix T: Final Scenery Res. Report, March 2014; Scenery Protection Measures, etc.; VCU 570	"Utilize natural rock and stone along the coastal road where fill will be exposed to ~~the~~ Gilbert Bay"	What is meant by this? Would this be rock other than from excavation, i.e., beach rock?		These would be native local rocks with a natural shape that would blend into surrounding landscape
243	6	Appendix Z: Scenery Mgmt. & Monitoring Plan; 2.0 Project Description; end of top paragraph	"... (13) A shelter facility at the dam site; (14) appurtenant facilities."	Please provide information about structures proposed to remain after initial construction activities are complete; size, materials, color(s), etc.		Please refer to Ex F. Drawing 3 (2) and further dimensions in PDEA page 59. JHI expects to use similar construction as the Gilbert Bay facility.
244	7	Appendix Z: Scenery Mgmt. & Monitoring Plan; 4.4. Switchyard	"…next to the Existing Snettisham Transmission lines."	Will this facility be visible, and if so, please indicate its location in the corresponding visual simulation.		Discussions with J. Beard and C. Jensen indicated that a simulation would not be needed at this location due to present day scenic impacts of existing AEL&P-State of Alaska facility
245	7	Appendix Z: Scenery Mgmt. & Monitoring Plan; 5.3. Powerhouse; 3rd bulleted statement	"Rock spoil... used to create a visual screen berm may create a visual that can be seen from the VPR..."	Suggest "...may contrast with the characteristic landscape when viewed from..."		Comment noted
246	8	Appendix Z: Scenery Mgmt. & Monitoring Plan; 5.3. Powerhouse; 3rd bulleted statement	"...newly exposed rock that does not have a weathered patina..."	Drawings of this berm show and describe it as being vegetated. (see PDEA, p.497, Fig. 3-121, Note 1).		Comment noted
247	8	Appendix Z: Scenery Mgmt. & Monitoring Plan; 5.4. Transmission Line Poles and Corridor Clearing; 2nd bulleted statement	"Clearing of vegetation along the transmission route will be necessary to not just install the transmission line but also to keep in place a single-lane	This makes it sound as though a maintenance road will be constructed for all power line routes, but this isn't mentioned anywhere else for the west side of Gilbert Bay. Will a maintenance road be built there?		The drawings, maps and documents clearly depict only an east shore Gilbert Bay road/trail.

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			access road for maintenance."			
248	9	Appendix Z: Scenery Mgmt. & Monitoring Plan; 6.0 Project Wide Proposed Mitigation Measures; 1st bulleted statement	"Prior to beginning construction... verify Project conditions… Modifications, including minor ones...may have a... scenery impact."	Please add: "Verify with landscape architect that changes will comply with scenery management standards, or incorporate appropriate modifications to achieve the desired result" (or similar wording).		Comment noted
249	9	Appendix Z: Scenery Mgmt. & Monitoring Plan; 7.0 Specific Mitigation Measures, 2nd paragraph	"Plant vegetative screening between the water's edge and the caretaker's facilities."	Would a raised berms with vegetation (similar to the one proposed at the powerhouse) be appropriate here to partially screen the facility from the water?		This suggested feature would not be appropriate. Caretaker must have visual on dock for safety, emergencies as well as to monitor activities for security reasons.
250	9	Appendix Z: Scenery Mgmt. & Monitoring Plan; 7.0 Specific Mitigation Measures, 3rd paragraph	"Utilize rock along the coastal road where fill would be exposed to Gilbert Bay."	Is a particular kind of rock meant?		Comment noted, it would be available rock.
251	All	Appendix Z: Scenery Mgmt. & Monitoring Plan; 7.0 Specific Mitigation Measures, 3rd paragraph	"Use the correct native plants for the soil available."	If vegetation removed from excavated areas will be replanted elsewhere, please plan for appropriate "holding areas" where these plants can be kept in a healthy condition so re-vegetation efforts are successful.		Comment noted.
252		General	Mitigation	Need to be clear what mitigation will be required so this section can be more definitive.		Comment noted

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253	29	Volume 2. Executive Summary, Alternatives Considered, Alternative Comparison Table,	No change	The analysis indicates that there will be changes to wildlife resources (e.g., loss of habitat, disturbance, etc.), although they may not be substantial.	Change "No change" to other wording indicative of the level of effect.	Comment noted.

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		Terrestrial Resources, Wildlife, Proposed Action				
254	29	Volume 2. Executive Summary, Alternatives Considered, Alternative Comparison Table, Threatened, Endangered and Candidate Species, Proposed Action	No change	The analysis indicates that there will impacts to whales.	Change "No change" to other wording indicative of the level of effect	Comment noted
255	33	Volume 2. Executive Summary, Threatened, Endangered, and Candidate Species	Only one threatened species…	The western DPS of Steller sea lions is considered to occur regularly in northern SE AK, including the project area	Include reference to the endangered western DPS of the Steller sea lion here.	According to the National Marine Fisheries Service, western DPS Steller sea lions may occur in the vicinity of the project however return to the natal breeding locations. (NOAA, National Marine Fisheries Service. 2008. Recovery Plan for the Seller Sea Lion, Eastern and Western Distinct Population Segments) (National Marine Fisheries Service. 2013. Alaska Region Occurrence of Western Distinct Population Segment Steller Sea Lions East of 144° W. Longitude.)
256	42	Volume 2: 1.3.3. Endangered Species Act	"… The western Steller sea lion … are not found within the proposed Project boundary."	NMFS considers western DPS sea lions to occur all year throughout northern SE AK waters	See white paper on western DPS sea lions in southeast AK on NMFS website for more information	See above response to Q 255. Sea lions were documented occupying the haulout from January through May, with June through December occupancy being unknown because surveys did not occur

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						during those months. Based on count data and brand sightings, the minimum number of sea lions observed at the haulout was 134 in April 2006, 57 in May 2006, 50 in May 2007, and more than 100 in April 2009 (L. Jemison, Alaska DFG, personal communication, 2013). Anecdotal information from a local crab and gillnet fisherman who utilizes Port Snettisham beginning in February through July of every year reports that sightings of Steller sea lions are very rare given the poor quality of the area shoreline habitat as a haulout location, and they are not present during the summer months (Ed Hansen, Commercial Fisherman, personal communication, 2013). Although Alaska DFG date would seem to indicate that Steller sea lions are not present during the summer months, it is not confirmed by summer period surveys.
257	44	Volume 2: 1.3.9.1. ANILCA	Whole section	ANILCA did much more than designate public lands.	Expand to include different parts of ANILCA that apply to this project	Comment noted, but ANILCA is a 184 page document and the section in question is dealing with ANILCA-

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						subsistence. ANILCA discussions in other FERC projects, such as Blue Lake and Whitman lake commented by the USFS have centered on solely on subsistence and therefore that is what was presented.
258	44	Volume 2: 1.3.9.2 Subsistence Resources	Whole section	This section mixes discussion of Federal (ANILCA) subsistence law with State subsistence law. It is thus, rather confusing.	Discuss Federal and State law separately	Comment noted, but the section is on Subsistence Resources and therefore it is appropriate to discuss federal and state laws as they relate to users of subsistence resources that would use the project area.
259	92	Volume 2: Table 2-9. Marine Mammals	In water pile driving … would stop if marine mammals enter the 100-yard safety zone.	Larger exclusion zone may be appropriate. Provide rationale for 100 yard zone.	Larger exclusion zone may be appropriate. Provide rationale for 100 yard zone, I could not find it anywhere in the document.	JHI initially proposed a 50 yards between operating vessels and marine mammals. However, agreed to a 100 yard distance during a conference call on 2-7-14 with a main focus on input from NMFS regarding marine mammals. Additionally, JHI agreed to route its supply routes to project site along the southern shore of Port Snettisham to provide greater distance from known seasonal sea lion haul outs. In attendance were: Duff Mitchell and Jim Holeman representing JHI; Dianne

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						Rodman and John Matkowski representing FERC; Dennis Chester and Melissa Dinsmore representing the Forest Service; and Sadie Wright representing NMFS. A transcript of the meeting was provided to attendees and is part of the Project record
260	96	Volume 2: 2.2.4.5. Threatened and Endangered Species	… one endangered species for the Project: humpback whales	NMFS considers that the Western DPS of the Steller sea lion, while uncommon, occurs throughout northern southeast AK waters all year. Thus, the WDPS of the Steller sea lion is an endangered species occurring within the project area.	Include the Western DPS of the Steller sea lion in the list of endangered species occurring in the project area, and provide analysis of project effects on the species.	According to the National Marine Fisheries Service, (62 FR 24345), " the eastern DPS includes sea lions born on rookeries from California north through Southeast Alaska; the western DPS includes those animals born on rookeries from Prince William Sound westward (Bickham et al. 1996, Loughlin 1997). The regulatory division between DPSs is Cape Suckling (144º west longitude) in the northeast Gulf of Alaska. However, frequent movement is seen across this boundary by animals from both populations, particularly juvenile animals (Raum-Suryan et al. 2002)." (NOAA, National Marine Fisheries Service. 2008. Recovery Plan for the Seller Sea Lion, Eastern

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						and Western Distinct Population Segments). The National Marine Fisheries Service (National Marine Fisheries Service, 2013. Alaska Region Occurrence of Western Distinct Population Segment Steller Sea Lions East of 144° W. Longitude.) also indicates that individuals from the Western DPS may occur in the area of the Project but likely return to the natal breeding sites. JHI proposed that vessels transiting Port Snettisham maintain a distance of 3,000 feet from the sea lion haulout location in Port Snettisham east of Mist Island to the extent this distance can be maintain safely depending on weather and sea conditions. Because western DPS Steller sea lions and other marine mammals may occur in the vicinity of the Project, JHI proposed measures to avoid marine mammals, JHI concluded that Project effects would be limited to potential

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						encounters with individuals. Therefore the Project construction and operations may adversely impact individuals but not likely to result in a loss of viability in the Project-affected area.
261	97	Volume 2: Table 2-10. Humpback Whale Collision Avoidance	In water pile driving … would stop if marine mammals enter the 100-yard safety zone.	Provide rationale for 100 yard safety zone, a larger safety zone may be appropriate.		Response provided above in Q 260.
262	101	Volume 2: Table 2-12	Buried transmission line is laid … and Old-growth Habitat LUD.	The OG LUD is mentioned in passing but apparently no measures for mitigation or protection are proposed in this LUD.	Clarify that OG LUD occurs in the project area (it appears that the north shore where the transmission line joins the Snettisham line is in OG LUD. Clarify whether or not mitigation measures will be developed for the OG LUD.	Clearing for the overhead portions of the transmission line will be kept to the minimum required to maintain safe operation of the transmission line. The shoreline photos and scenery simulations in the PDEA demonstrate that the buried transmission line on the northern shore of Port Snettisham is located in a predominately open area with little tree vegetation. The route and location was selected to minimize effect on the OG LUD
263	110-112	Volume 2: 3.1.1 Land Use	Whole section	While the climate information presented in this section is pertinent to the project, it isn't Land Use. There are only a couple of sentences related to Land Use, which is inadequate.	Move this information to an appropriately named section and include information in this	Comment Noted. Information is generally descriptive and helpful for describing the characteristics of the River Basin of Section 3.1. Suggest

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					section on Tongass National Forest land use designations and management direction as well as State management direction for State lands.	title be changed from land use to climate description.
264	327	Volume 2: 3.3.3.6. Special Status Species	As of April 2, 2014, a NOAA press release stated that the Southeast Alaska Distinct Population Segment (DPS) of Pacific Herring is not a candidate species that has recently was the subject of a status review.	This sentence is confusing.	Please revise. This DPS was listed as a candidate while it was under review, but NOAA/NMFS has determined that this DPS does not warrant listing under the ESA.	The sentence should be as follows. As of April 2, 2014, a NOAA press release stated that the Southeast Alaska Distinct Population Segment (DPS) of Pacific herring was recently the subject of a status review (73 CFR 19824) and is no longer considered a candidate species.
265	375	Volume 2: 3.3.4.3 Wildlife Resources, Existing Wildlife Habitat	It should be noted that there are no special interest areas, legacy forest structure, or old growth reserves within the analysis area.	There are Old-growth reserves in VCU 550 and 570.	Correct this statement.	As described on page 373, the proposed analysis area for the Project includes: • Lower Sweetheart Lake basin • Sweetheart Creek • Gilbert Bay • Port Snettisham, not including north of Sharp Point • Stephens Passage between Port Snettisham and Juneau, including Gastineau Channel • Stephens Passage south to Seattle along existing

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						barge routes between Seattle and Juneau. To the best of the knowledge of JHI there are not old growth reserves within the described analysis area.
266	377-380	Volume 2: 3.3.4.3 Wildlife Resources, Figure 3-104. 3-105, 3-106, and 3-107	Low Value POG, High Value POG	The correct terminology is Low and High Volume POG	Correct terminology.	Comment noted.
267	381	Volume 2: 3.3.4.3. Wildlife Resources, Analysis of Project Effects	Whole paragraph	Uncertain of the intent of this paragraph. The verbiage is not introductory in nature and it doesn't even begin to summarize the projects effects.	Keep the heading and delete the paragraph, or make the wording appropriate.	The purpose of the paragraph is to describe and put into context the Project-affected area within the Forest Service designated Wildlife Analysis Area 2833 and identify the portions of the Forest Service designated VCU 570 and VCU 550.
268	381	Volume 2: 3.3.4.3. Wildlife Resources, Sensitive Species	Whole section	This section is essentially cut and pasted from Appendix U.	Apply comments from Appendix U sensitive species section (see below) to the sensitive species section of the PDEA also.	Comment noted
269	387	Volume 2: 3.3.4.3. Wildlife Resources, Management Indicator Species	Whole Section	This section is essentially cut and pasted from Appendix U.	Apply comments from Appendix U management indicator species section (see below) to the management indicator species section of the PDEA also.	Comment noted

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270	411	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals	Whole Section	The Project Effects discussions are exceedingly brief. While this may be suitable for species that are not in the range of the project, it is not acceptable for those that may be encountered by project activities.	Include more in depth discussion on project effects for species in the range of the project. Just saying we'll implement mitigation measures is not a sufficient analysis.	Comment noted. However section appears thorough and adequate.
271	414	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Dalls Porpoise, Project Effects	This dolphin species is found in areas along the shipping routes from Seattle to Juneau and likely to be encountered by vessels transporting materials to the project site in Gilbert Bay. This species is attracted to fast moving vessels and commonly bow ride.	This paragraph does not contain a project effects analysis.	Discuss project effects on the species.	Although it is possible that Dalls porpoise are likely to be encountered along the shipping routes, it is unlikely that the Project would have any effect on this species due to its bow riding behavior.
272	415	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Harbor Porpoise, Project Effects		This paragraph does not contain a project effects analysis.	Discuss project effects on the species.	Although there are no reported sightings of harbor porpoise in Gilbert Bay, they may be present and encounters may occur. However, there are not anticipated Project effects on this species.
273	417	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Pacific white-sided dolphin, Project Effects	It is unlikely that the project would affect this species of dolphin. Pacific white-side dolphins are primarily pelagic species and unlikely	They are generally known as pelagic but this species definitely occurs in the inside waters of southeast Alaska.	Further research and analysis on this species may be needed to accurately	As with other dolphin species they may be encountered in the shipping lanes by vessels transporting materials to the Project. However, these are

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			to occur in the narrow passages of the shipping routes to Port Snettisham and Gilbert Bay		portray the project risk.	highly mobile species and frequently swim alongside and bow ride vessels. Therefore it is not anticipated that the Project would affect this species.
274	421	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Humpback whale, project effects	Whole section	This paragraph does not contain a project effects analysis.	Summarize and refer to analysis in the biological evaluation in Appendix U. Apply comments below relating to humpback whales in Appendix U.	Comment noted. However, section is believed to provide an effect analysis.
275	421	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Harbor seal, project effects	Whole section	This paragraph does not contain a project effects analysis.	Discuss project effects on the species.	Comment noted. However, section is believed to provide an effect analysis
276	421	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Steller sea lion, project effects	Whole section	There really is no discussion of effects here, just potential and mitigations.	Discuss project effects on the species. Apply comments below relating to Steller sea lions in Appendix U.	Comment noted. However section is believed to provide an effect analysis
277	428	Volume 2: 3.3.4.3 Wildlife Resources, Subsistence	Whole section	This section is essentially cut and pasted from Appendix U.	Apply comments from Appendix U Subsistence section (see below) to the subsistence section of the PDEA also.	Comment noted
278	432	Volume 2: 3.3.4.3 Wildlife Resources, Other species of concern, Harbor Seal	Whole section	Seems like this discussion could be incorporated into the harbor seal discussion in the marine mammal section		Comment noted

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279	433	Volume 2: 3.3.4.3 Wildlife Resources, Other species of concern, Great Blue Heron	However, collisions may still occur during period of low visibility and therefore there may be some collision related great blue heron mortality. This Project effect is considered to be minor.	Mortality of individuals would meet the definition of moderate effect described in Appendix U.	Change effect determination.	Comment noted
280	439	Volume 2: 3.3.5. Threatened Endangered and Candidate species	Whole section	This section is essentially cut and pasted from Appendix U.	Apply comments from Appendix U Threatened, Endangered and Candidate species section (see below) to this section of the PDEA also. Need to include a discussion of the Western DPS of Steller sea lion.	Discussion provided above in Q 260.
281	App U	Volume 5: Entire Appendix		The misused word forms, missing words, extraneous words, and mangled sentences detract from its readability and add confusion.	Please subject this Appendix to a thorough proofreading and editing.	Comment noted.
282	2	Volume 5, Appendix U: 1.0 Introduction	One exception is Pacific herring, which is listed as a candidate species under the Endangered Species Act (ESA).	The final determination on Pacific Herring was made in April 2014. They are no longer a Candidate species.	Update this information. Also, Southeast AK Pacific Herring is no longer required to be addressed in the biological evaluation.	Comment noted
283	6	Volume 5, Appendix U: 2.2 Proposed Mitigation and Protection Measures	Establish a marine mammal safety zone of 100 yards	What is basis for 100 yard protection zone? Other similar projects have used greater distances. One hundred yards is less than	Please provide the rationale for the 100 yard zone.	JHI initially proposed a 50 yards between operating vessels and marine mammals.

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			around in water construction activities	the disturbance distance information provided in the analysis.		However, agreed to a 100 yard distance during a conference call on 2-7-14 with a main focus on input from NMFS regarding marine mammals. In attendance were: Duff Mitchell and Jim Holeman representing JHI; Dianne Rodman and John Matkowski representing FERC; Dennis Chester and Melissa Dinsmore representing the Forest Service; and Sadie Wright representing NMFS. A transcript of the meeting was provided to attendees and is part of the Project record.
284	9	Volume 5, Appendix U: 3.1 Description of the Analysis Area	It should be noted that there are no special interest areas, legacy forest structure, or old growth reserves within the analysis area.	There are old-growth reserves in VCUs 550 and570.	Correct this statement.	As described on page 373, the proposed analysis area for the Project includes: • Lower Sweetheart Lake basin • Sweetheart Creek • Gilbert Bay • Port Snettisham, not including north of Sharp Point • Stephens Passage between Port Snettisham and Juneau, including Gastineau Channel

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						• Stephens Passage south to Seattle along existing barge routes between Seattle and Juneau. To the best of the knowledge of JHI there are not old growth reserves within the described analysis area.
285	12-15	Volume 5, Appendix U: 3.1.1 Wildlife Habitats, Figures 4a, 4b, 5, 6	Low Value POG High Value POG	The correct terminology is high and low volume POG	Change value to volume on each figure.	Comment noted
286	18	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Effects of the Action	One endangered, managed by NMFS know to occur in Gilbert Bay and vicinity: humpback whale (endangered).	Western DPS Steller sea lions are also assumed to occur in the project area based on a white paper by NMFS.	Include WDPS sea lions in the list of species occurring in the project area and complete an analysis of project effects on the DPS.	According to the National Marine Fisheries Service, (62 FR 24345), " the eastern DPS includes sea lions born on rookeries from California north through Southeast Alaska; the western DPS includes those animals born on rookeries from Prince William Sound westward (Bickham et al. 1996, Loughlin 1997). The regulatory division between DPSs is Cape Suckling (144º west longitude) in the northeast Gulf of Alaska. However, frequent movement is seen across this boundary by animals from both populations, particularly juvenile animals (Raum-Suryan et al. 2002)." (NOAA, National Marine Fisheries

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						Service. 2008. Recovery Plan for the Seller Sea Lion, Eastern and Western Distinct Population Segments). The National Marine Fisheries Service (National Marine Fisheries Service, 2013. Alaska Region Occurrence of Western Distinct Population Segment Steller Sea Lions East of 144° W. Longitude.) also indicates that individuals from the Western DPS may occur in the area of the Project but likely return to the natal breeding sites. JHI proposed that vessels transiting Port Snettisham maintain a distance of 3,000 feet from the sea lion haulout location in Port Snettisham east of Mist Island to the extent this distance can be maintain safely depending on weather and sea conditions. Because western DPS Steller sea lions and other marine mammals may occur in the vicinity of the Project, JHI proposed measures to avoid marine mammals, JHI

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						concluded that Project effects would be limited to potential encounters with individuals. Therefore the Project construction and operations may adversely impact individuals but not likely to result in a loss of viability in the Project-affected area.
287	18	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale	The humpback whale (endangered) is the only species listed under the ESA know to occur in Gilbert Bay and vicinity.	Western DPS Steller sea lions are also assumed to occur in the project area based on a white paper by NMFS.	Change or delete this sentence as appropriate.	Comment noted
288	18	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale	Although humpback whales are currently listed as endangered, the NMFS has announced a 90-day finding on a petition to identify the North Pacific population as a DPS and delist the DPS and have initiated a status review under the ESA (FR Doc. 2013-21066. Filed 8-28-13).	This information needs to be updated as a second petition has been filed and 90 day finding has been done.	Update.	Comment noted
289	19	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale	While a population trend for the central North Pacific Stock has not yet been estimated, it is clear that the abundance has increased in southeast Alaska (Allen and Angliss 2012a)	A population trend has been estimated. See Allen and Angliss 2013. Also, Hendrix et al 2012 estimated the population trend for humpback whales in southeast Alaska.	Update information.	Comment noted

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Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI Response**
290	19	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale, Analysis of Project Effects, Action Area	...protection zone of 250 yards into Gilbert Bay	This is the only location that discusses the 250 yard zone; all other references are to a 100 yard zone.	Make consistent. None of the proposed safety zones appear sufficient based on information presented.	Comment Noted. The 250 yard protection zone proposed is specific to the on shore activities and construction of the dock and landing. Construction of these features may require pile driving and blasting therefore the protection zone was increased for the construction of these features. The 100 yard protection zone is proposed specifically for laying the marine transmission line.
291	21	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale, Analysis of Project Effects, Construction Noise	Humpback whales would only be exposed to Level B noise if they were within 2,625 feet of vibrating pile driving or 1,148 feet of impact pile driving during the construction of the Project landing and dock facilities. Humpback whales within these distances would be exposed to underwater sound thresholds that could have an effect on individual humpback whales.	This paragraph indicates humpbacks could be affected at rather greater distances than are proposed for the mitigation measure of stopping in-water construction activities when they are within 100 yards.	Adjust mitigation distances or justify the shorter distance.	JHI initially proposed a 50 yards between operating vessels and marine mammals. However, agreed to a 100 yard distance during a conference call on 2-7-14 with a main focus on input from NMFS regarding marine mammals. In attendance were: Duff Mitchell and Jim Holeman representing JHI; Dianne Rodman and John Matkowski representing FERC; Dennis Chester and Melissa Dinsmore representing the Forest Service; and Sadie Wright representing NMFS. A transcript of the meeting was

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						provided to attendees and is part of the Project record.
292	21	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale, Analysis of Project Effects, Construction Noise	It is expected that if the noise generating activities occur before whales are in the areas of construction, than whales would avoid the area during the noise generating activities and the Project construction would have no effect	Avoidance is an effect.	Revise discussion to acknowledge effect.	The last sentence of the paragraph does acknowledge the potential for project effects, "Project construction noise may affect but not likely to have adverse effects on humpback whales."
293	21	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale, Analysis of Project Effects, Construction Noise	Safety zone of 100 yards	Based on information presented earlier, the 100 yard safety zone is insufficient.	Justify use of 100 yard zone, or change to larger distance.	JHI initially proposed a 50 yards between operating vessels and marine mammals. However, agreed to a 100 yard distance during a conference call on 2-7-14 with a main focus on input from NMFS regarding marine mammals. In attendance were: Duff Mitchell and Jim Holeman representing JHI; Dianne Rodman and John Matkowski representing FERC; Dennis Chester and Melissa Dinsmore representing the Forest Service; and Sadie Wright representing NMFS. A transcript of the meeting was provided to attendees and is part of the Project record.
294	25	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species	There is one candidate species for listing under the ESA, Pacific herring	Candidates are not a category under the ESA; they are an agency (FWS & NMFS) designation. Herring are no longer a	Correct wording and update the list. The project may still want	Comment noted

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				candidate species. The pinto abalone is now a candidate species that occur in SE AK and may or may not have habitat within the project area.	to keep Herring in the analysis but it is no longer required to be in the biological evaluation.	
295	25	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species	… four sensitive species identified by the US Forest Service for the Tongass NF in Region 10 (USDA Forest Service 2008a)	Sensitive species are identified by the Regional Forester, not the Forest Plan. The R10 list has five species, the four listed plus Kittlitz's murrelet (which is no longer a Candidate species but is still on the Regional Foresters Sensitive species list). The correct reference for the sensitive species list is Goldstein et al 2009.	Use correct reference and include Kittlitz's murrelet in the analysis. Also, the Eastern DPS of Steller sea lions is considered a sensitive species based on its recent delisting from the ESA. Please include it in the list of sensitive species.	Comment noted
296	25	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species	The (proposed action/alternative) may adversely impact individuals but not likely to result in a loss of viability in the Project affected area, nor cause a trend toward federal listing for the species; and The (proposed action/alternative) is likely to result in a loss of viability in the Project affected area, or in a trend toward federal listing for the species.	The wording for these determinations is incorrect.	Change "Project-affected area" to "Planning Area". The Planning Area refers to the Forest Plan (i.e. TNF) not the project analysis area. Planning Area viability is ensured by making sure the project is consistent with Forest Plan standards and guidelines.	Project-affected area refers to the area of affect relating to the Project not the Forest Service's "Planning Area" which is a much larger area.

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Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI Response**
					Note: there are numerous other places in the document where this erroneous wording is used. Please correct them all.	
297	25-26	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species, Table 9, Black oystercatcher, Dusky Canada goose, Queen Charlotte goshawk	The proposed Project may adversely impact individuals but not likely to result in a loss of viability in the Project affected area, nor cause a trend toward federal listing for goshawk.	The wording for these determinations is incorrect.	Change "Project-affected area" to "Planning Area".	Project-affected area refers to the area of affect relating to the project not the Forest Service's "Planning Area" which is a much larger area.
298	26	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species, Pacific Herring	Whole section	Pacific Herring is no longer a Candidate species and therefore, no longer required to be addressed in the biological evaluation.	This section may be deleted (or kept). If kept, please update the status.	Comment noted
299	27	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species, Steller sea lion	…the Mist haul-out which is actually located on the northern shore Port Snettisham west of Mist Island	The haul-out is east of Mist island	Change west to east.	Comment noted
300	28	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species, Steller sea lion, Analysis of Project Effects	Whole section	There is no analysis here. There is a list of possible effects and a conclusion. The last sentence makes no sense.	Display analysis of potential effects. Clarify effect level (last sentence).	JHI is does not understand the comment since there is an analysis of Project effects presented for each species.
301	28	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species, Black oystercatcher	and may nest in the rocky intertidal habitat area	As pointed out later in the paragraph, they do not nest in the intertidal area.	Delete this wording as it is unnecessary and incorrect.	The text should read, "… *near* rocky intertidal habitat areas."

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Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI Response**
302	32	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Alexander Archipelago Wolf	A healthy beaver population occupies Sweetheart Lake and tributary streams.	No mention is made of what effect the project will have on the beaver population and indirectly on the wolf population. We may expect substantial disruption if not elimination of the beaver population.	Include discussion of effects on beaver related to wolves.	The text describing Alexander Archipelago wolves identifies beaver as an important prey species. The *Analysis of Project Effects* includes the following language, "Project effects could include direct habitat removal, removal of habitat important for prey species, and increased access and use of the area which may result in increased legal and nonlegal harvest."
303	36	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Bald Eagle, Analysis of Project Effects	The FWS National Bald Eagle Guidelines for complying with the Bald and Golden Eagle Protection Act recommend a 330 foot buffer (no construction) from a nest when the activity cannot be seen from the nest, and 660 foot buffer from the nest when the activity can be seen from the nest (FWS 2007).	The Guidelines also include a ½ mile buffer for blasting and other loud intermittent noises.	Include information on the ½ mile blasting buffer zone.	Comment noted. Although no active bald eagle nest were identified during wildlife studies, JHI acknowledges that bald eagle nests and that it will perform preconstruction surveys for bald eagle nests. If active nests are found, JHI will consult with the FWS to develop measures to avoid or minimize Project affects.
304	37	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Black Bear, Analysis of Project Effects	would remove approximately 440 acres of potential black bear denning habitat	How is denning habitat defined in this analysis? Why are these acres different than the affected acres in the previous paragraph?	Define analysis criteria.	Approximately 440 acres would be seasonally lost as a result of increasing the Sweetheart Lake elevation from 551 feet to 636 feet.

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Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI Response**
						However, a portion of this acreage would be permanent. It is assumed that any of this area could contain potential denning habitat. ADFG & JHI bear hair snare sampling program that included wide use of game cameras indicates a low black bear population in and around Sweetheart Lake
305	38	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Black Bear, Analysis of Project Effects	Construction noise from drilling, blasting, and use of heavy equipment at the dam site would occur during.	Incomplete sentence	Complete the sentence.	Comment noted
306	39	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Brown Bear, Analysis of Project Effects	The effect of mortality through defense of life interactions would be considered minor.	Based on the definitions of level of effect, DLP mortality would be considered moderate – i.e. “long-term consequences to individuals” and “negative impacts to feeding, reproduction or other factors affecting short-term population levels”	Revise	Comment noted
307	39	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Brown creepers, Hairy woodpeckers and/or Red-breasted sapsuckers, Analysis of Project Effects	such as vegetation clearing and noise producing activities during nesting season would also be considered minor	The analysis suggests that vegetation clearing during nesting season could result in nest destruction. By definition this would equate to a moderate effect.	Revise	Comment noted. The vegetation reduction would be minor and temporary until revegetation occurred and would be moderate only if it did effect a nest. Noise would only occur during construction and both could be considered minor and temporary effects.
308	44	Volume 5, Appendix U: 3.2.3 Management Indicator Species, River	Therefore, the Project, <u>regardless of alternative</u> would remove	There are two alternatives, one of which would not remove any POG.	Reword	It should be noted that there is only one alternative proposed for the Project that

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Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI Response**
		otter, Analysis of Project Effects				includes the coastal road and trail, transmission line, and powerhouse locations.
309	51	Volume 5, Appendix U: 3.2.5 Subsistence	Gilbert Bay/Sweetheart Creek falls within District 11 of the federal subsistence regulations and there is no subsistence fishing with the district.	This is incorrect. District 11 is included in "Remainder of the Southeastern Alaska area". This area has a customary and traditional use determination of "Residents of Southeastern Alaska and Yakutat areas" for Dolly Varden, trout, smelt and eulachon. For salmon the C&T determination is All rural residents.	Revise	Comment noted.
310	51	Volume 5, Appendix U: 3.2.5 Subsistence	While it cannot be determined if the harvest was under subsistence or sport hunting regulations, the harvest report lends to the likely low use of the Project affected area by all harvesters.	The 2008 Forest Plan Amendment FEIS provides information on important subsistence deer hunting areas. This is the standard reference for whether a project area is an important subsistence area.	Refer to community discussions starting on page 3-576 of the 2008 Forest Plan FEIS. Ensure that the project area is not within the community use area of any subsistence community. Also, refer to the deer harvest table for each subsistence community to ensure that the project WAA is not one of the WAA for which residents obtain approximately 75% of their average annual deer harvest (i.e. it's not an	Comment noted

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					important deer harvest area).	
311	52	Volume 5, Appendix U: 3.2.5 Subsistence, Analysis of Project Effects	This analysis of the Sweetheart Lake Hydroelectric Project concludes that the proposed effects to subsistence would be minor.	Forest Service handbook direction requires a Finding using specific language. Also note that the actual analysis is written before this section.	Change this paragraph to the following: "This evaluation concludes that the action shall not result in a significant restriction of subsistence uses."	Comment noted

Comments on Volume 2 PDEA and Appendices of the Final License Application for Sweetheart Lake FERC Project P-13563
Alaska Department of Fish and Game, State of Alaska

	General Comments					
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
1				We would like to acknowledge the efforts by Juneau Hydropower Inc. (JHI, applicant) to consult with our agency and to address ADF&G comments previously filed on the Draft License Application (DLA). Through these efforts the majority of issues raised in ADF&G's DLA comments have been answered in the FLA filing. JHI has agreed to the majority of the Preliminary Terms and Conditions (T&C), as is stated in their FLA filing.		Comment noted. Thanks.
2				JHI has also stated a position that several of our T&C do not need to be addressed in the license order since they have already been agreed to by JHI in the FLA. In discussions with FERC project and regional staff, we raised this question of license inclusion. We have been told by FERC staff that the license order is the controlling document which will be used by FERC to determine project compliance. While FERC staff encourages side agreements to work out conflicts within a project, those side agreements are not enforceable by FERC. Therefore, we		Comment noted.

				have included all of our 10(j) recommendations to be considered by FERC for inclusion in the License Order.		
Required Plan Comments						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
3				Included in the JHI FLA filing are the majority of plans identified in ADF&G's preliminary Recommended Terms and Conditions. While most of the plans have been discussed during consultations with the applicant, there will likely need to be further consultation and revisions. We plan to provide a preliminary review of these plans in the near future but we will be unable to complete our review until issuance of the FERC Environmental Impact Statement and License Order. We are concerned that these plans may be interpreted as final versions. We appreciate that the applicant provided the plans with the FLA, since this facilitates our review of the project. If there are minor or no changes to the project design or operation, we believe with continued consultation with the applicant the plans can be nearly complete prior to FERC issuance of the License Order, and finalized a short time thereafter.		Comment noted. While JHI encourages minor revisions to plans and further consultation, the primary issue is timing. JHI requests that consultation and plans be completed during the EIS periods and prior to licensing. This will ensure that there is no delay in ground disturbance activities and construction immediately following license issuance and notice to proceed.

Ramping Rates						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
4				The bypass reach, located above the anadromous barrier, has a steep gradient and applicant studies have shown that it offers minimal habitat for resident fish. Sampling of the lower end of the bypass reach found a few rainbow trout and Dolly Varden char which were tested and found to be genetically similar to resident fish in the lake. The JHI study concluded that these fish most probably came from the lake. The study also indicated that these fish are not a reproducing population since no spawning habitat was identified and no young of year fish were captured. After the dam is built, JHI states that there will be no further recruitment from the lake to the bypass reach. JHI predicts that fish presence in the bypass reach will eventually become reduced and cease to exist.		Comment Noted
5				The project tailrace drains to lower Sweetheart Creek in the area of an existing pool at the base of the anadromous barrier. This is also the upper extent of tidal influence. The spawning area identified for pink and chum salmon at Sweetheart Creek is generally intertidal, of		Comment noted and agreed

				short length, and would not benefit from ramping rates.		
6				Therefore, a ramping rate for the bypass reach has been determined as unnecessary; however, a small flow release is needed for ecological functions in the bypass reach, the lower stream reach, and tidal area.		Comment Noted
Sockeye Salmon Smolt Collection and Transport						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
7				Sockeye salmon fry are planted in Sweetheart Lake by Douglas Island Pink and Chum (DIPAC) under a permit issued by ADF&G. Fry rear in the lake, growing to become smolts which naturally migrate from Sweetheart Lake after breakup each spring by swimming out of the lake and down Sweetheart Creek to tidewater. The construction of a dam at the lake outlet will prevent natural outmigration of sockeye salmon smolts from the lake to Sweetheart Creek. The project proposes to trap and haul smolts from Sweetheart Lake to lower Sweetheart Creek, near tidewater. JHI has worked with DIPAC to design a smolt collection device. The success of sockeye smolt collection in Sweetheart Lake remains to be determined since this device is conceptual in nature,		Comment noted. As JHI has reported, there are other successful smolt collection devices and helicopter hauling systems in the western United States. Therefore project would implement tried and proven technology and methods with DIPAC guidance.

				has not been built, and therefore is speculative in anticipating success.		
8				Sweetheart Lake has a history of fish stocking, which included efforts a number of years ago by ADF&G to stock one million fry or more per year. The lake was unable to support this level of stocking due to limited of food resources for the sockeye salmon fry. This caused a biomass crash and resulted in poor success. In the past years DIPAC, under an ADF&G permit, has stocked the lake annually with 500,000 sockeye salmon fry. These efforts have produced returns which contribute to commercial fisheries and allow for the current personal use fishery.		Comment noted, but the DIPAC strategy for stocking is primarily intended for personal use fishery purposes. http://dfg.alaska.gov/static/fishing/PDFs/hatcheries/dipac_report_09.pdf
9				It is imperative that the sockeye smolt collection system collect the majority of smolts trying to migrate from the lake, otherwise they will remain in the lake and become landlocked. This could have the same result as the overstocking scenario discussed above, with high mortality due to starvation. If this happens, it could have an adverse impact on the contribution to the commercial fishery and popular personal use fishery.		Comment noted. Collection and removal of all smolts is important.
10				Adverse weather conditions could affect the deployment of the collection device in the reservoir, affecting the collection and holding		Comment noted. Holding smolts in adjacent pens in the advent of adverse weather conditions delaying

				of sockeye salmon smolts pending transportation. The proposed transportation of the smolts by could prove to be problematic. For example, if there are periods of spring storms during the outmigration window, use of a helicopter could be hindered and transport of the smolts could be compromised. Helicopters will likely be needed for several days or even weeks, to complete the transportation of captured smolts. The current project design provides no road from the dam site to the powerhouse site and appurtenant facilities; the only proposed access is by helicopter or float plane. Personnel necessary to work the collection device must be transported daily to the site. This will also require additional staffing and helicopter time.		transportation would be incorporated in design. The strong natural predisposition of sockeye salmon to outmigrate is habitual and is genetically programmed into the specie and there is not a natural tendency for the stocked salmon to become Kokanee. The multiple decades of stocking by ADF&G and DIPAC have not revealed any evidence of Kokanee in the Sweetheart Lake further demonstrating the strong smolt predisposition to outmigrate. The personnel necessary and required to work the collection device will be on working and living on site at Sweetheart Lake for the duration of the outmigration season (caretaker facility at lake) and therefore these personnel will not require additional helicopter time for daily access to operate the smolt collection device. Smolt collection personnel will temporarily reside at Sweetheart Lake and will be able to collect and hold smolts even in inclement weather.
11				JHI has stated that in the event of failure of the collection device or the inability to transport smolts, their backup plan is to have DIPAC raise additional sockeye smolt which could be acclimated and released into Sweetheart Creek.		The recognized level of surviving smolts from existing natural outmigration is extremely low due to treacherous falls and bypass reach geologic conditions. Although there is risk of systemic issues or breakdowns that could occur during smolt

				This appears to be a simplistic view, in that a year of production would likely be lost before the determination is made that smolt collection has failed. It also raises questions about the ability of DIPAC to raise and transport the smolts from a DIPAC hatchery facility to Sweetheart Creek.		collection, JHI in consultation with DIPAC have determined that it is unlikely that a year class would be lost.
Stream Buffers and Location of Facilities						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
12				JHI has agreed to the 100 foot siting requirement with the understanding that the recreational trails along Sweetheart Creek would not be included in the Term and Condition requirement. ADF&G is agreeable to this exemption and recommends the applicant consult with the U. S. Forest Service for compliance with Tongass National Forest requirements.		Comment noted and appreciate consideration for understanding IF a gravel augmentation plan should be implemented that would require temporary operations within the 100 foot siting requirement to place gravel if needed.
Penstock Burial						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
13				JHI has agreed that burial of the penstock will be accomplished with the exception of penstock located within the switchyard.		Comment noted.
Exhibit A Page A-11, Tailrace						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
14				The application states that the tailrace excavation at the		The turbines empty into the afterbay and then through the velocity barrier

				powerhouse would be 32 feet deep and 90 feet wide. It describes a transition over the next 120 feet to a base width of 30 feet. There is no mention of tailrace depth transition		and to a maximum operating depth of 4 feet in the tailrace. This information is from EX. F sheet F12 (2).

Page A-12, Smolt Reentry Pool						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
15	A-12			While dimensions and volumes are provided for the smolt reentry pool, the source of water and flow quantity is missing. Also, the 500 cubic foot volume specified appears to be a maximum volume, which would not be considered a useable volume. The pool construction is not defined, nor is the mechanism to be used to hold and release smolts from this pool.		Comment noted. JHI consulted with DIPAC on the size and water volume of the smolt re-entry pool as they have decades of experience in hatchery raising operations. The smolt re-entry pool would use usual and customary hatchery mechanisms and devices for water volume, water flow and release mechanisms.
Page A-14, Marine Access Facilities						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
16				This section identifies that rock for the marine ramps, staging area, and access corridor would come from powerhouse and tunnel excavation. It is unclear how this would be possible, given that it is our understanding that these facilities must be in place first in order to allow the project access to the powerhouse and tunnel excavation areas.		It is anticipated that initial infrastructure would be pioneer infrastructure that would be built up and supplemented by tunnel excavation rock. JHI's dock and road contractor is a capable contractor with decades of specialized experience in marine and coastal construction.
Page A-15 &16, Project Cut and Fill						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**

17				It is stated that this project is designed to be balanced in cut and fill, and that no outside borrow areas would be utilized. Based on Table A-1, it is our understanding that this project is dependent on cut at the dam site, power tunnel excavation quantities, diversion tunnel quantities, and powerhouse excavations to provide materials for the marine access facilities and the road to the powerhouse site. If our understanding is correct, then it is unclear how this would be possible given that the construction of the marine access site and the 4,400 lineal feet of road would be needed to move equipment and supplies to the powerhouse site and lower end of the tunnel portal.		As stated above in Q 16, the project would initiate with pioneer ramp and road infrastructure that would be supplemented and built up with tunnel excavation rock.
Exhibit B Page B-22 Instream flow releases						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
18				Instream flow releases identified by ADF&G in our preliminary 10(j) Terms and Conditions have been modified. See attached ADF&G Final Recommended 10(j) Terms and Conditions.		Comment noted. JHI appreciates ADF&G consideration on this matter.
Exhibit D: Project Statement of Costs and Financing						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
19				We question the relevance of including the cost of development and construction of the smolt collection device as a cost of		DIPAC's sockeye stocking of Sweetheart Lake is for the recreation and personal use fishery. The smolt collection system designed by DIPAC and JHI is intended to increase the fishery

				recreation versus inclusion as a project cost in this section?		and therefore is properly allocated as a cost of recreation versus a project cost in this section.
Page 276 Instream flow releases						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
20				The applicant listed ADF&G recommended Preliminary 10(j) Terms and Conditions for instream flow releases, which have been modified. See attached ADF&G's Final Recommended 10(j) Terms and Conditions.		Thank you. ADF& G consideration in this matter is appreciated.
Page 277 Spawning Habitat						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
21				The following statement that 2.5 times the available spawning habitat for pink and chum salmon will become available, appears unsupported. Figure 3-82 shows water surface elevations for Transect 1 in the side channel, which according to the accompanying text, only carries 12% of Sweetheart Creek flow. This information does not appear to support the statement above regarding the level of increased spawning habitat.		Comment noted. The statement on page 277 relates to 2.5 times the "incubation" habitat, not spawning habitat. This is reference from page 95 of Appendix G, 2011-2012 Aquatic Resource Studies at Sweetheart Creek and Sweetheart Lake: The proposal to maintain stream flow at 335cfs year round involves an alteration of the mean monthly flow regime by increasing winter flows and reducing summer flows. Instream flow analysis for pink salmon, chum salmon and steelhead spawning and incubation showed that usable habitat was greater for each species at a flow of 335cfs due to provision of suitable

						velocities and depths compared to average monthly flows during spawning and incubation. Pink and chum salmon spawn from July through September while steelhead are thought to spawn in May or June. Reduction of flows during these months lead to around 20% more habitat for pink and chum salmon and 50% more habitat for steelhead during spawning. The area of habitat suitable for incubation of eggs in winter is also increased by maintaining a flow of 335cfs. Mean monthly flows in February and March are 70-80cfs, which only provide around 40% of the habitat available for incubation of eggs compared to 335cfs. ***The 335cfs flow provides 2.5 times more habitat for pink salmon incubation during these months than natural flows.*** (Emphasis added).
Page 488 Proposed Effects on Fishing, Hunting, and Trapping						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
22				JHI has agreed to limiting hunting, fishing, and trapping by employees of JHI, contractors and subcontractors to areas a minimum of ½ mile from project features. We support this decision and believe it is an important policy to maintain current levels of fish and wildlife resources.		Comment noted. Term and condition should reflect “limiting hunting fishing and trapping during construction period.”

Pages 503 & 504 Smolt Collection and Transportation System						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
23				JHI states that they have "an agreement with DIPAC to work out a plan to provide smolt from the Snettisham Hatchery as a backup plan should there be an event that the smolt collection and transfer facility would not produce the requisite amount of successful smolts to be transferred to Sweetheart Creek. A backup plan agreed to with DIPAC is that the smolt reentry pool that can also serve as a sockeye imprinting pond" In a letter sent to Duff Mitchell (JHI), from Eric Prestegard, Executive Director of DIPAC, dated April 3, 2014, a backup plan is discussed: Our board has reviewed your request for assistance in providing a viable back up to insure continuity of the Sweetheart Creek Personal Use fishery should the collection and transport system fail. DIPAC supports your plan to build and operate a sockeye smolt collection system for the Sweetheart Lake sockeye program. Therefore a back up plan is not necessary at this time." DIPAC has also stated that should the collection and transport system not provide the required results, production of sockeye smolts could		JHI plans to work closely with DIPAC and ADF&G as well as all interested agencies during construction to ensure that the system is functional and operational at periods necessary. ADF&G understands that DIPAC also does not want a lull or missing year class and is therefore is committed as JHI and ADF&G in this matter.

				be undertaken at the Snettisham hatchery as a "last resort." Also, sockeye smolts could not be available until the year following the problem, resulting in a probable failure of the Personal Use fishery a couple of years into the future when returning adults might be expected. It is our hope that there is no need for a backup plan and that the collection and transport system is successful. However, we are concerned since the smolt capture and transport system has never been built or operated. There is risk to the sockeye fishery, especially during the early years of project operation during which JHI will likely be modifying and fine tuning this system		
Page 504 Rock Tailrace						
Q	**Page**	**Section and Header**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
24				JHI states that the tailrace has two purposes, to return water from the powerhouse to Sweetheart Creek, and to increase the fishing areas available for recreational fishermen and wildlife. A third purpose is as a release corridor for sockeye smolt from the holding pond to Sweetheart Creek. JHI has not included comprehensive design plats and descriptions for the tailrace.		JHI has provided tailrace design in Exhibit F. drawings F9 and F12.

				Therefore, ADF&G requests inclusion in discussions of the final designs for the tailrace.		

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1		**Instream Flow Release-Bypass Reach:**		
		The licensee shall continuously release 3 cfs from the dam site into the downstream bypass reach. This flow may be temporarily modified, if required, by operating emergencies beyond the control of the licensee, or for short periods upon agreement between the licensee, ADF&G, and other requesting agencies. If the flow is so modified, the licensee shall notify the Commission, ADF&G, and other requesting agencies as soon as possible, but no later than 10 days after the modification.	*Bypass flows are necessary to maintain ecological functions, processes, and connectivity important for sustaining aquatic resources in the bypass reach, lower Sweetheart Creek and tidal areas.*	Recommendation 1-Agreed
2		**Instream Flow-Anadromous Reach**		
		The licensee shall operate the project to maintain instantaneous instream flows in the anadromous reach of Sweetheart Creek, as measured at the streamgage required by Article 4, pursuant to the schedule below: Dates minimum flow (cfs) measured at gage January-February 40 March 45 April 119 May-October 300 November-December 117 The licensee has agreed to evaluate the need for releasing pulsing flows from the powerhouse into the Sweetheart Creek anadromous reach. If the evaluation of pulsing flows indicates they are needed to stimulate salmon to migrate upstream, particularly for sockeye to migrate upstream into	*Seasonal instream flows are necessary to maintain usable habitat and passage for the fish species and life stages using the anadromous reach of Sweetheart Creek. Flow recommendations from November through April are based on the flows requested by ADF&G in their Reservation of Water application on file with the Alaska Department of Natural Resources (see Volume 3, Appendix I of the Preliminary Draft Environmental Assessment). The purpose of ADF&G's reservation application is to protect fish habitat, migration, and propagation in the anadromous reach. From May through October, the recommended flow of 300 cfs is the proposed operational flow of the project. Based on the hydrology of the system, and results of JHI's instream flow study, we believe that 300 cfs during this*	Recommendation 2-Agreed

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		the series of pools above the intertidal reach, then these instream flow provisions may be modified accordingly. These instream flow provisions may be temporarily modified, if required, by operating emergencies beyond the control of the licensee, or for short periods upon agreement between the licensee, ADF&G, and other requesting agencies. If the flow is so modified, the licensee shall notify the Commission, ADF&G, and other requesting agencies as soon as possible, but no later than 10 days after the modification.	*time period will protect fish habitat, migration, and propagation in the anadromous reach.* *Pulsing flows may be needed to stimulate adult pink and sockeye salmon to migrate upstream during July and August (migrating salmon will often wait to move upstream stream until they detect increasing flows). ADF&G will work with the licensee to develop a plan to evaluate the need for pulsing flows, and if needed, the timing, duration, and magnitude of pulsing flows. These pulsing flows would likely be short term in duration (probably less than a day and would involve increasing flows from the proposed operational flow of 300 up to 486 cfs.*	
3		**Ramping Rates**		
		No ramping is requested	*Ramping rates are intended to protect aquatic resources in areas where rapid fluctuation may cause stranding or flushing of fish and aquatic invertebrates (causing reduced fitness and mortality), increased predation, dewatering of redds, restricted fish passage, and reduced prey availability. Those conditions do not exist at this project if built as proposed. Tidal influences would also reduce impacts of fluctuating flows in the anadromous reach.*	Recommendation 3-Agreed
4		**Streamgaging and Instream Flow Compliance**		
		The licensee shall operate and maintain a streamgage in the project tailrace. The gage shall be operated and maintained according to U.S. Geological Survey standards. All data shall be recorded at a frequency of not greater than 15-minute intervals and filed with the Commission by April 1st of each year, documenting the previous water year. Copies of the data shall be provided upon request to interested parties.	*Instream flow provisions are needed to protect fish resources in Sweetheart Creek. Monitoring of instream flow release is necessary to ensure project compliance with these provisions. For the bypass reach, a plan is needed to assess the method and protocols that will be employed to ensure compliance; similarly, for the anadromous reach, a plan is needed with information*	Recommendation Article 4 1st paragraph Agreed. Time requirement of 6 months before land clearing activities is burdensome and

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		A minimum of 6 months before the start of any land-disturbing or land-clearing activities, the licensee shall consult with resource agencies regarding the licensee's plan describing how the licensee will monitor and ensure compliance with the instream flow provisions of the license (Articles 1, and 2). Resource agencies shall be allowed a minimum of 60 days after issuance of the License Order to review the plan and provide comments and recommendations. The final plan shall be submitted to FERC for written approval at least 30 days before the scheduled date to initiate construction activities. Along with the plan, the licensee shall document agency consultation, provide copies of agency comments and recommendations, and describe how agency recommendations were addressed in the plan. If the licensee does not accept an agency recommendation, the filing shall include the licensee's reasons for non-acceptance.	*on the streamgage installation and operation for compliance purposes.*	perhaps unreasonable since Stream flow measurement plan has already been submitted for agency review and consultation. Rationale: JHI has submitted stream flow measurement plan (SMP) as a component of the Water Management Plan (WMP). ADF&G and all agencies are required/requested to review and comment on plans submitted with FLA and PDEA. Therefore time requirement of 6 months before land disturbance and 60 days after license issuance is irregular as FERC has requested that JHI submit plans with Application to allow agencies to comment on the execution of terms and conditions. JHI requests Alaska DFG cooperation

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				with FERC acquiescence that agencies resolve plan and plan implementation issues during the EIS periods and before license issuance so that construction can immediately commence after license issuance and notice to proceed.
5		**Bypass Flow Fail-Safe Provisions**		
		Fail-safe provisions shall be provided in project design and operation to ensure that flow releases stated in Article 2 are provided continuously to the bypass and anadromous reaches of Sweetheart Creek during routine maintenance periods, emergency project shutdowns, and interruptions to the power grid.	*Instream flow provisions are needed to protect ecological functions and anadromous fish in Sweetheart Creek.*	Recommendation 5-Agreed.
6		**Fish Exclusion and Tailrace Design**		
		The powerhouse tailrace shall be designed and constructed to exclude fish from entering the powerhouse and to avoid or minimize the potential for fish injury or mortality. The tailrace shall be designed to provide habitat unsuited for pink and chum spawning. The licensee shall consult with resource agencies regarding final designs. Resource agencies shall be allowed 60 days after the License Order is issued to review the design and provide comments and recommendations.	*Tailrace discharges have the potential to attract and subsequently injure or kill fish, particularly migrating adult salmonids. The tailrace must be designed to reduce this potential. Impacts to fish at hydroelectric plant tailraces are documented in "Impacts of Hydroelectric Plant Tailraces on Fish Passage: A Report on Effects of Tailraces on Migratory Fish and Use of Barriers, Modified Project Operations, and Spills for Reducing Impacts. Paper No. DPR-9, June, 1995. Federal Energy Regulatory Commission. 1995.*	Recommendation 6 content agreed. Time requirements request to be modified. Per FLA the Project is a phased construction project. Therefore suggested time requirement to hold the initiation of construction is

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		Final designs shall be submitted to FERC for written approval at least 30 days before the scheduled date to initiate construction activities. The licensee shall document agency consultation, provide copies of agency comments and recommendations, and describe how the agencies' recommendations were addressed in the final design. If the licensee does not accept an agency recommendation, the filing shall include the licensee's reasons for non-acceptance.	*Providing suitable pink and chum salmon spawning habitat in the tailrace could alter the makeup of the existing Sweetheart Creek salmon runs and could adversely impact the quality of the sockeye personal use fishery (e.g., increased numbers of pink and chum could displace sockeye in the pools where the personal use sockeye fishery occurs).* *Fish exclusion and tailrace designs are detailed and described in Volume 2, section 2.2.1.9 in the FLA (page 69).*	burdensome and not cost effective. Tailrace construction can be initiated after agency approval, but request that approval not be contingent or hold up construction activities that are non-related to the tailrace. Exhibit F drawings already include initial tailrace and fish exclusion designs that should be reviewed and commented on by agencies at this juncture.
7		**Intake Screening**		
		The licensee shall install a fish screen in front of the power tunnel intake structure in Sweetheart Lake to exclude the entrainment and impingement of salmonid fry. The screen shall be designed based on NMFS fish screening criteria, including an approach velocity of no more than 0.4 feet per second and screen mesh shall not exceed 3/32 inch	*Intake screening is needed to protect the 500,000 sockeye salmon fry that are stocked annually in Sweetheart Lake as well as for resident Dolly Varden and rainbow trout fry. Sockeye fry rear in the lake for one year (sometimes two) before outmigrating into Gilbert Bay. As adults, sockeye return to Sweetheart Creek, contributing to the commercial fishing harvest, and providing a popular personal use fishery for Alaskan residents.*	Recommendation 7-Agreed
8		**Sockeye Salmon Smolt Collection and Transport Plan**		
		The licensee shall prepare a Sockeye Smolt Collection and Transportation Plan. Resource agencies shall be allowed 60 days after issuance of the License Order to review the plan and provide comments and recommendations. The plan shall	*The Sweetheart Lake Hydroelectric Project will block the outfall of Sweetheart Lake preventing the natural outmigration of sockeye salmon smolts. As such, a smolt collection and transport system is needed to*	Recommendation 8 content agreed.

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		address how sockeye smolts will be captured, held, transported, and released into Sweetheart Creek. The plan shall describe how the survival rate of smolts will be monitored at each step in the process. The plan shall also include backup provisions to ensure that sockeye smolts are successfully released and imprinted to Sweetheart Creek in situations where the collection and transfer system fails. After review, a final plan shall be submitted to FERC for written approval at least 30 days before initiation of construction activities. Along with the plan, the licensee shall document agency consultation, provide copies of agency comments and recommendations, and describe how the agencies' recommendations were addressed in the plan. If the licensee does not accept an agency recommendation, the filing shall include the licensee's reasons for non-acceptance	*maintain the commercial harvest and personal use fishery at Sweetheart Creek. Historically, sockeye fry are planted into Sweetheart Lake where they overwinter for one to two years. As smolts, they migrate from Sweetheart Lake down Sweetheart Creek and into Gilbert Bay. These smolts return as adults, contributing to commercial harvest as well as providing a popular personal use fishery in Sweetheart Creek. The personal use sockeye fishery at Sweetheart Creek is the most accessed personal use fishery with the largest harvest, utilized by Alaska residents from the Juneau-Douglas area.*	Time requirements request to be modified. Per FLA the Project is a phased construction project. Therefore suggested time requirement to hold the initiation of construction is burdensome and not cost effective. Sockeye Salmon Smolt barge and equipment construction can be initiated after agency approval, but request that approval not be contingent or hold up construction activities that are not-related to the sockeye smolt collection and transport equipment.
9		**Biotic Monitoring Plan**		
		At least 6 months before the start of any land-disturbing or land-clearing activities, the licensee shall consult with resource agencies regarding the licensee's Biotic Monitoring Plan. The plan shall include the following components: • Anadromous reach monitoring of pink and chum salmon spawning in the anadromous reach and intertidal areas of Sweetheart Creek;	*Post-licensing monitoring of fisheries resources is needed to ensure that the regulated instream flow and lake level regimes are sufficient to support post-project salmon use of habitat in the anadromous reach of Sweetheart Creek, and Dolly Varden and rainbow trout spawning and recruitment success in Sweetheart Lake and its inlet streams.*	Recommendation 9. Partially Agreed as this plan is already incorporated in FMMP and another duplicate plan is not practical and perhaps unnecessary. Therefore request

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		• Sweetheart Lake monitoring of resident Dolly Varden char and rainbow trout spawning and young of year recruitment in the lake and inlet streams. Each component of the plan shall include defined sampling protocols, methods, schedules, and effort, as well as evaluation metrics. Monitoring shall continue for a minimum of five years post construction, with annual reporting and review, and evaluation of potential study plan modifications, as necessary. The licensee shall consult with resource agencies regarding the licensee's plan. Resource agencies shall be allowed 60 days after issuance of the License Order to review the plan and provide comments and recommendations. The final plan shall be submitted to FERC for written approval at least 30 days before initiation of construction activities. Along with the plan, the licensee shall document agency consultation, provide copies of agency comments and recommendations, and describe how the agencies' recommendations were addressed in the plan. If the licensee does not accept an agency recommendation, the filing shall include the licensee's reasons for non-acceptance.		consideration to place BMP content in Fish Mitigation and Monitoring Plan (FMMP) submitted in Appendix Z for agency approval. Note that all content of the proposed Biotic Monitoring Plan is and can be incorporated in the Fish Mitigation and Monitoring Plan (FMMP). As with other conditions, plans should be reviewed and approved by agencies before license issuance. Therefore suggested time requirement to hold the initiation of construction is burdensome and not cost effective Recommend approval of the FMMP that incorporates content terms of this 10 (j) condition in conjunction with EIS and license process. Also note that

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				consultation of FMMP has initiated/ occurred with both US Forest Service and Alaska DFG.
10		**Timing of Instream Activities**		
		Timing windows for instream construction activities and stream crossings shall be established by the ADF&G Habitat Biologist assigned to the project. Timing windows will be conditioned in the ADF&G issued Title 16 permit.	*Timing windows are needed to ensure that instream construction activities do not adversely impact aquatic resources*	Recommendation 10 agreed. Also note that JHI has received a copy of a Draft Habitat Fish Permit from Alaska DFG. Thank you.
11		**Stream Buffers and Location of Facilities**		
		Construction activities should be sited a minimum of 100 feet, measured horizontally, away from ordinary high water of Sweetheart Creek and its tributaries. Clearings and road/trail corridors for the powerhouse and appurtenant facilities, penstock, and tailrace, as well as recreational trails, are excluded from this requirement. Except for stream crossings, the transmission line corridor and clearing shall be sited a minimum of 100 feet, measured horizontally, away from ordinary high water of all streams identified in the latest (2011) edition of ADF&G's Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes.	*Stream buffers protect fish habitat and water quality and serve as habitat and transportation corridors for wildlife.*	Recommendation 11 agreed. However, JHI, with concurrence of Alaska DFG approval may be required to implement AQUATIC HABITAT RESTORATION AND MONITORING PLAN (AHRMP) & FISH MITIGATION & MONITORING PLAN (FMMP). The gravel augmentation may require gravel distribution activities within a 100 feet buffer.

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12		**Avian Protection**		
		Transmission line power poles shall conform to guidelines accepted by the USFWS and described in "Suggested Practices for Avian Protection on Power Lines– State of the Art in 2006"1 Coordination with requirements of the USFS Scenery Management and Monitoring Plan is also recommended	*Designs identified by the APLIC and USFWS are necessary to avoid the electrocution of raptors and other birds. See also, Avian Protection Plan (APP) Guidelines2, a joint document prepared by Avian Powerline Interaction Committee (APLIC) and the U.S. Fish and Wildlife Service, April 2005.*	Recommendation 12 agreed.
13		**Bear Safety Plan**		
		At least 6 months before the start of any land-disturbing or land-clearing activities, the licensee shall consult with resource agencies regarding the licensee's final Bear Safety Plan to minimize bear-human conflicts. At a minimum, the plan shall provide instructions for: • identifying and utilizing operating practices that minimize possible conflict when in bear country, including avoidance of areas often used by bears, if possible; • keeping construction sites and refuse areas clean of substances that attract bears; • installing bear-proof garbage receptacles and other measures during construction to prevent bears from obtaining food or garbage; • dealing with problem bears; and • providing timely notification to authorities of any bear-human conflict, as identified in the plan. The licensee shall consult with resource agencies regarding the licensee's plan. Resource agencies shall be allowed 60 days after issuance of the License Order to review the plan and provide comments and recommendations. The final plan shall be submitted to FERC for written approval at least 30	*Bears are common in the project area. The proposed plan will minimize the potential for human/bear interactions*	Recommendation 13 content agreed. Time requirement for consultation and approval is burdensome to halt or delay commencement of construction awaiting agency approval. Bear Safety Plan has been submitted in Appendix Z in PDEA for agency review and approval and meets conditions and terms set forth. JHI requests agency approval of Bear Safety Plan in conjunction with EIS process and approval with license

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		days before the scheduled date to initiate construction activities. Along with the plan, the licensee shall document agency consultation, provide copies of agency comments and recommendations, and describe how the agencies' recommendations were addressed in the plan. If the licensee does not accept an agency recommendation, the filing shall include the licensee's reasons for non-acceptance.		issuance to not delay construction.
14		**Helicopter and Plane Controls to Minimize Impacts to Mountain Goats**		
		Aircraft shall maximize their distance away from mountain goat habitat and observed mountain goats. To the extent possible, a 1500 foot vertical or horizontal clearance should be maintained from mountain goat habitat and observed mountain goats. Of particular concern is use of kidding habitat between May 15 and June 15.	*Mountain goats typically elicit strong negative responses to close range aircraft disturbance. Disturbance can cause mountain goat groups to splinter and individuals to panic, resulting in injuries and/or mortality. After being disturbed, goats may stay alert without foraging for several hours, resulting in increased energy expenditures, reduced fat accumulation, and adverse physiological changes. The licensee is expected to work closely with the agencies to address this issue as the project moves forward.*	Recommendation 14 Agreed. However, JHI would need to operate Smolt Collection Barge and Helicopter operations during ice break up which is, and can be a similar timing window and could impede the 1500 vertical or horizontal clearance. Therefore, JHI requests waiver with ADFG concurrence should such a resource conflict arise on a seasonal basis.
15		**Penstock Burial to Maintain Wildlife Migration Corridor**		
		The project penstock shall be located underground (other than in the switchyard).	*In the FLA, the project has proposed an underground penstock, with the exception of in the switchyard. Since bears are common in the project area, an above ground penstock would impede normal movements. Burial or elevation of the penstock in a sufficient*	Recommendation 15 agreed.

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			number of places should ensure that wildlife movement is minimally affected.	
16		**Hunting, Fishing or Trapping Restrictions**		
		The licensee and their employees, contractors and subcontractors, shall be restricted from hunting, sport fishing or trapping within ½ mile of project features	*Because of restricted access of the public to project property, the likelihood that a large workforce will be located at the project, and to prevent overharvest of natural resources due to increased access, the applicant has agreed that JHI employees, contractors, and subcontractors will be restricted from hunting, fishing, and trapping within ½ mile of project features during construction of the project. Of specific concern would be overharvest of brown bears frequenting Sweetheart Creek. A significant increase in the harvest of fish or wildlife from project personnel could result in area closure by ADF&G through issuance of an Emergency Order. This is an undesirable approach to management because it would restrict harvest opportunities for all users throughout the entire management area. This restriction will not affect project personnel qualified to participate in the Personal Use Fishery at Sweetheart Creek.*	Recommendation 16 agreed, but add to sentence "… during construction" to coincide with rationale. Also, please add last sentence of Rationale Statement to Article 16- This restriction will not affect project personnel qualified to participate in the Personal Use Fishery at Sweetheart Creek.
17		**Erosion and Sediment Control Plan (ESCP):**		
		At least six months before the start of any land disturbance or land clearing activities, the licensee shall file with the Commission for approval, a Final Erosion and Sediment Control Plan. The plan shall provide specific descriptions of features incorporated into the final project design and measures that would be employed during construction to limit project effects on environmental resources, and shall include, at a minimum, detailed descriptions of the following:		Recommendation 17 content agreed. Time requirement for consultation and approval is burdensome to halt or delay commencement of construction. As with other plans, the ESCP

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		• site characteristics to include: soils, landscape, vegetation, topography, nearby waters including springs and seeps; • preventative measures based on site-specific conditions; • location of areas for storage or deposition of removed overburden including identification of erosion control measures to be utilized in those areas. A 100 foot setback from streams and intertidal areas shall be observed for storage or deposition activities. • Functional design drawings, and specific topographic locations of all control measures shall be provided, including: o Rip-rap placement; o Stream set back and proposed stabilization measures for spoil material; o prescriptions for treatment of all disturbed areas including: ▯ methods for treatment of overburden deposition sites; and ▯ identification of plants and methods to be used for vegetation activities. The licensee shall consult with resource agencies regarding the licensee's plan. Resource agencies shall be allowed 60 days after issuance of the License Order to review the plan and provide comments and recommendations. The final plan shall be submitted to FERC for written approval at least 30 days before initiation of construction. Along with the plan, the licensee shall document agency consultation, provide copies of agency comments and recommendations, and describe how the agencies' recommendations were addressed in the plan. If the licensee does not accept an		was submitted with the FLA and PDEA and should be resolved with the License and EIS process. ESCP has been submitted in Appendix Z in PDEA for agency review and approval and meets conditions and terms set forth. JHI requests agency approval of ESCP n in conjunction with EIS process and license issuance.

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		agency recommendation, the filing shall include the licensee's reasons for non-acceptance.		
18		**Environmental Compliance Monitor (ECM)**		
		At least thirty days before the start of any land disturbance or land clearing activities, the licensee shall employ a qualified environmental compliance monitor (ECM). The ECM shall: • be employed through the duration of project construction; • have the authority to issue cease work orders in the field as deemed necessary; • document compliance of the licensee with the conditions of the license; and • be responsible for preparation of construction reports to be filed with FERC, ADF&G, and other requesting agencies, per the Environmental Compliance Monitoring Plan. The ECM should have a background in the biological sciences with experience in water quality monitoring and erosion/sediment control measures. The licensee shall allow a minimum of 30 days for the agencies to review proposed ECM candidate qualifications, for acceptance	*This project is located at a remote location with access being only by boat, helicopter, or fixed wing aircraft. A full time, on site, ECM is necessary to monitor activities during project construction to ensure compliance with environmental measures. Additionally, an ECM will help to ensure that the erosion and sediment control plans and fuel and hazardous substance spill plans are effective, and that all other environmental plans are being followed by the licensee and contractors. This may also include human/bear interactions, observations of construction activity impact on mountain goats, as well as impacts on fish and aquatic resources. The ECM shall assist the licensee to obtain additional permits when design or construction plans need to be modified.*	Recommendation 18 Agreed. However, request that the following be considered and placed at the end of last sentence"…in which acceptance will not be unreasonably withheld."
19		**Turbidity Monitoring**		
		The effectiveness of the erosion and sediment control measures identified in Article 17, of the ESCP, shall be monitored by the ECM through turbidity monitoring. From the initiation of construction, turbidity shall be monitored, as identified in the ESCP for construction activities related to the Sweetheart Lake Hydroelectric Project. Monitoring should occur upstream and downstream of all construction activities and/or discharge points for overland flows that cross construction areas and discharge into Sweetheart	*Monitoring turbidity is essential to ensure that Alaska water quality standards are not exceeded to protect aquatic resources in Sweetheart Creek.*	JHI Response: JHI agrees with this recommendations for standards for non-water supply quality standards specifically written for the growth and propagation of fish, shellfish, other aquatic

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		Creek. Water samples shall be analyzed for turbidity as soon as possible, or daily. Turbidity measurements shall be made using equipment identified in the ESCP. If turbidity 100 feet downstream of the construction area exceeds Alaska water quality standards, then related construction activities shall cease immediately, sediment sources shall be located, and appropriate sediment control measures shall be implemented.		life, and wildlife under Alaska regulations 18 AAC 70. JHI agrees that the turbidity monitoring would be conducted as part of the submitted ESCP when activities may impact Sweetheart Creek.
20		**Fuel and Hazardous Substance Spill Plan**		
		At least 6 months before the start of any land-disturbing or land-clearing activities, the licensee shall consult with resource agencies regarding the licensee's final Fuel and Hazardous Substance Spill Plan. The plan shall be designed to help prevent and minimize any impacts associated with the handling of hazardous substances during project construction and operation. Fuel storage and handling, including refueling of equipment, shall occur at sites identified in the plan. A 100 foot setback from streams and intertidal areas should be observed for these activities. The licensee filed a draft Hazard Substance Plan with the FLA. ADF&G will review this plan. Resource agencies shall be allowed 60 days after issuance of the License Order to review a final plan and provide comments. The final plan shall be submitted to FERC for written approval at least 30 days before the scheduled date to initiate construction activities. Along with the plan, the licensee shall document agency consultation, provide copies of agency comments and recommendations, and describe how the agencies' recommendations were addressed in the plan. If the licensee	*Petroleum products can have a significant adverse impact on aquatic resources. This plan will help to ensure that Best Management Practices are observed for their use and help to prevent accidents*	Recommendation 20-Agreed content. Time requirement for consultation and approval is burdensome to halt or delay commencement of construction. As with other plans, the Project d Hazardous Substance Plan (HSP) was submitted with the FLA and PDEA and should be resolved with the License and EIS process. HSP has been submitted in Appendix Z in PDEA for agency review and approval and meets conditions and terms set forth. JHI requests agency

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		does not accept an agency recommendation, the filing shall include the licensee's reasons for non-acceptance		approval of HSP n in conjunction with EIS and licensing process.
21		**Notification of Non-Compliance Event**		
		Within 10 days of detecting events that are out-of-compliance with license requirements, the licensee shall notify the Commission, ADF&G, and other requesting agencies that the event occurred. The licensee shall take immediate steps to correct the out-of-compliance event including causes of such events so that they do not recur, and shall document those steps in a detailed description of the event to be filed with FERC and requesting agencies, no later than 30 days following detection of the event.	*Notification of non-compliance events that affect fish and wildlife resources is necessary to monitor project operations and to assess and respond to potential impacts of the event. Notification and consultation is important to address issues and reduce reoccurrences of non-compliance events which may impact fish and wildlife resources.*	Recommendation 21-Agreed.
22		**Access to Site by ADF&G Employees**		
		The licensee shall provide representatives of ADF&G free and unrestricted access to, through and across project lands and waters, and project works, in the performance of their official duties upon appropriate advance notification.	*ADF&G must be allowed access to the project area in order to evaluate and manage fish and wildlife resources in the Sweetheart Creek watershed.*	Recommendation 22-agreed. JHI agrees with this condition such that Alaska DFG and any other agency must agree to comply with worksite safety rules, wear required worksite safety gear, carry approved worksite communication gear, and obey worksite safety direction. Further, agency personnel must provide their own employee liability and indemnify the Project for any actions or activities

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				taken by ADF&G employees.

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Alaska Department of Natural Resources

On January 16, 2015, Alaska DNR submitted comments related to supporting the Alaska DFG 10(j) Final Recommended Terms and Conditions. Alaska DNR concurs with Alaska DFG comments, in which comments have been responded to. In addition, Alaska DNR wanted to emphasize that they concur with recommendations:2,4,17, 20, and 22. These recommendations and JHI's response to Alaska DFG are repeated below.

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Recommendation#		**TERMS & CONDITION**	**Rationale**	**JHI RESPONSE**
2		**Instream Flow-Anadromous Reach**		
		The licensee shall operate the project to maintain instantaneous instream flows in the anadromous reach of Sweetheart Creek, as measured at the streamgage required by Article 4, pursuant to the schedule below: Dates minimum flow (cfs) measured at gage January-February 40 March 45 April 119 May-October 300 November-December 117 The licensee has agreed to evaluate the need for releasing pulsing flows from the powerhouse into the Sweetheart Creek anadromous reach. If the evaluation of pulsing flows indicates they are needed to stimulate salmon to migrate upstream, particularly for sockeye to migrate upstream into the series of pools above the intertidal reach, then these instream flow provisions may be modified accordingly. These instream flow provisions may be temporarily modified, if required, by operating emergencies beyond the control of the licensee, or for short periods upon agreement between the licensee, ADF&G, and other requesting agencies. If the flow is so modified, the licensee shall notify the Commission, ADF&G, and other requesting agencies as soon as possible, but no later than 10 days after the modification.	*Seasonal instream flows are necessary to maintain usable habitat and passage for the fish species and life stages using the anadromous reach of Sweetheart Creek. Flow recommendations from November through April are based on the flows requested by ADF&G in their Reservation of Water application on file with the Alaska Department of Natural Resources (see Volume 3, Appendix I of the Preliminary Draft Environmental Assessment). The purpose of ADF&G's reservation application is to protect fish habitat, migration, and propagation in the anadromous reach. From May through October, the recommended flow of 300 cfs is the proposed operational flow of the project. Based on the hydrology of the system, and results of JHI's instream flow study, we believe that 300 cfs during this time period will protect fish habitat, migration, and propagation in the anadromous reach.* *Pulsing flows may be needed to stimulate adult pink and sockeye salmon to migrate upstream during July and August (migrating salmon will often wait to move upstream stream until they detect increasing flows). ADF&G will work with the licensee to develop a plan to evaluate the need for pulsing flows, and if needed, the timing, duration, and magnitude of pulsing flows. These pulsing flows would likely be short term in*	Recommendation 2-Agreed

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			duration (probably less than a day and would involve increasing flows from the proposed operational flow of 300 up to 486 cfs.	
4		**Streamgaging and Instream Flow Compliance**		
		The licensee shall operate and maintain a streamgage in the project tailrace. The gage shall be operated and maintained according to U.S. Geological Survey standards. All data shall be recorded at a frequency of not greater than 15-minute intervals and filed with the Commission by April 1st of each year, documenting the previous water year. Copies of the data shall be provided upon request to interested parties. A minimum of 6 months before the start of any land-disturbing or land-clearing activities, the licensee shall consult with resource agencies regarding the licensee's plan describing how the licensee will monitor and ensure compliance with the instream flow provisions of the license (Articles 1, and 2). Resource agencies shall be allowed a minimum of 60 days after issuance of the License Order to review the plan and provide comments and recommendations. The final plan shall be submitted to FERC for written approval at least 30 days before the scheduled date to initiate construction activities. Along with the plan, the licensee shall document agency consultation, provide copies of agency comments and recommendations, and describe how agency recommendations were addressed in the plan. If the licensee does not accept an agency recommendation, the filing shall include the licensee's reasons for non-acceptance.	*Instream flow provisions are needed to protect fish resources in Sweetheart Creek. Monitoring of instream flow release is necessary to ensure project compliance with these provisions. For the bypass reach, a plan is needed to assess the method and protocols that will be employed to ensure compliance; similarly, for the anadromous reach, a plan is needed with information on the streamgage installation and operation for compliance purposes.*	Recommendation Article 4 1st paragraph Agreed. Time requirement of 6 months before land clearing activities is burdensome and perhaps unreasonable since Stream flow measurement plan has already been submitted for agency review and consultation. Rationale: JHI has submitted stream flow measurement plan (SMP) as a component of the Water Management Plan (WMP). ADF&G and all agencies are required/requested to review and

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				comment on plans submitted with FLA and PDEA. Therefore time requirement of 6 months before land disturbance and 60 days after license issuance is irregular as FERC has requested that JHI submit plans with Application to allow agencies to comment on the execution of terms and conditions. JHI requests Alaska DFG cooperation with FERC acquiescence that agencies resolve plan and plan implementation issues during the EIS periods and before license issuance so that construction can immediately commence after license issuance and notice to proceed.

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Recommendation#		**TERMS & CONDITION**	**Rationale**	**JHI RESPONSE**
17		**Erosion and Sediment Control Plan (ESCP):**		
		At least six months before the start of any land disturbance or land clearing activities, the licensee shall file with the Commission for approval, a Final Erosion and Sediment Control Plan. The plan shall provide specific descriptions of features incorporated into the final project design and measures that would be employed during construction to limit project effects on environmental resources, and shall include, at a minimum, detailed descriptions of the following: • site characteristics to include: soils, landscape, vegetation, topography, nearby waters including springs and seeps; • preventative measures based on site-specific conditions; • location of areas for storage or deposition of removed overburden including identification of erosion control measures to be utilized in those areas. A 100 foot setback from streams and intertidal areas shall be observed for storage or deposition activities. • Functional design drawings, and specific topographic locations of all control measures shall be provided, including: o Rip-rap placement; o Stream set back and proposed stabilization measures for spoil material; o prescriptions for treatment of all disturbed areas including: ▯ methods for treatment of overburden deposition sites; and ▯ identification of plants and methods to be used for vegetation activities. The licensee shall consult with resource agencies regarding the licensee's plan. Resource agencies shall be allowed 60		Recommendation 17 content agreed. Time requirement for consultation and approval is burdensome to halt or delay commencement of construction. As with other plans, the ESCP was submitted with the FLA and PDEA and should be resolved with the License and EIS process. ESCP has been submitted in Appendix Z in PDEA for agency review and approval and meets conditions and terms set forth. JHI requests agency approval of ESCP n in conjunction with EIS process and license issuance.

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		days after issuance of the License Order to review the plan and provide comments and recommendations. The final plan shall be submitted to FERC for written approval at least 30 days before initiation of construction. Along with the plan, the licensee shall document agency consultation, provide copies of agency comments and recommendations, and describe how the agencies' recommendations were addressed in the plan. If the licensee does not accept an agency recommendation, the filing shall include the licensee's reasons for non-acceptance.		
20		**Fuel and Hazardous Substance Spill Plan**		
		At least 6 months before the start of any land-disturbing or land-clearing activities, the licensee shall consult with resource agencies regarding the licensee's final Fuel and Hazardous Substance Spill Plan. The plan shall be designed to help prevent and minimize any impacts associated with the handling of hazardous substances during project construction and operation. Fuel storage and handling, including refueling of equipment, shall occur at sites identified in the plan. A 100 foot setback from streams and intertidal areas should be observed for these activities. The licensee filed a draft Hazard Substance Plan with the FLA. ADF&G will review this plan. Resource agencies shall be allowed 60 days after issuance of the License Order to review a final plan and provide comments. The final plan shall be submitted to FERC for written approval at least 30 days before the scheduled date to initiate construction activities. Along with the plan, the licensee shall document agency consultation, provide copies of agency comments and recommendations, and describe how the agencies' recommendations were addressed in the plan. If the licensee does not accept an agency recommendation, the filing shall include the licensee's reasons for non-acceptance	*Petroleum products can have a significant adverse impact on aquatic resources. This plan will help to ensure that Best Management Practices are observed for their use and help to prevent accidents*	Recommendation 20-Agreed content. Time requirement for consultation and approval is burdensome to halt or delay commencement of construction. As with other plans, the Project d Hazardous Substance Plan (HSP) was submitted with the FLA and PDEA and should be resolved with the License and EIS process. HSP has been submitted in Appendix Z in PDEA for agency

	Alaska Department of Fish & Game Final Terms and Conditions 10(j) January 16, 2015			
Recommendation#		**TERMS & CONDITION**	**Rationale**	**JHI RESPONSE**
				review and approval and meets conditions and terms set forth. JHI requests agency approval of HSP n in conjunction with EIS and licensing process.
21		**Notification of Non-Compliance Event**		
		Within 10 days of detecting events that are out-of-compliance with license requirements, the licensee shall notify the Commission, ADF&G, and other requesting agencies that the event occurred. The licensee shall take immediate steps to correct the out-of-compliance event including causes of such events so that they do not recur, and shall document those steps in a detailed description of the event to be filed with FERC and requesting agencies, no later than 30 days following detection of the event.	*Notification of non-compliance events that affect fish and wildlife resources is necessary to monitor project operations and to assess and respond to potential impacts of the event. Notification and consultation is important to address issues and reduce reoccurrences of non-compliance events which may impact fish and wildlife resources.*	Recommendation 21- Agreed.
22		**Access to Site by ADF&G Employees**		
		The licensee shall provide representatives of ADF&G free and unrestricted access to, through and across project lands and waters, and project works, in the performance of their official duties upon appropriate advance notification.	*ADF&G must be allowed access to the project area in order to evaluate and manage fish and wildlife resources in the Sweetheart Creek watershed.*	Recommendation 22-agreed. JHI agrees with this condition such that Alaska DFG and any other agency must agree to comply with worksite safety rules, wear required worksite safety gear, carry

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				approved worksite communication gear, and obey worksite safety direction. Further, agency personnel must provide their own employee liability and indemnify the Project for any actions or activities taken by ADF&G employees.

Comments on Volume 2 PDEA and Appendices of the Final License Application for Sweetheart Lake FERC Project P-13563
US Department of Interior, Office of Environmental Policy and Compliance

	Recreational Management					
Q	**Page**	**Section**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
1	2 of 4 first paragraph	Recreation Management Plan (RMP)	RMP review schedule	USDI supports license requirement to finalize and periodically update RMP, but recommends review more frequently than 20 years, especially following commencement of Project Operations.	Recommends schedule for revision four to eight years after initially completed and 10 year intervals thereafter.	JHI developed the RMP in coordination with the USFS. JHI attempted to balance what is responsible and considered usual and customary at other Tongass development projects in coordination with the Project recreation values and guidelines of the Tongass Land Management and Resources Plan (TLMP). The use pattern of visitors to the Project area not been steadily increasing in the last 10 years. In fact, some year's visitation has decreased and our JHI game cameras installed by JHI confirm during study periods that visitors are virtually all fishers. JHI would defer to US Forest Service input in consultation with USDI and JHI on 10 versus 20 years as this change will also require USFS investment in time and resources.

2	2 of 4 second paragraph	Recreation Management Plan (RMP)	The FLA characterizes recreational demand for experiences that could be provided by the Project as being relatively low and stable (albeit with higher inter-annual variability), in part because access is mainly via boat from Juneau and fuel prices are (or were, when JHI conducted its analysis) high.	JHI predicts a modest five percent increase in recreational use due to the development of Project facilities.	The Department recommends that the Commission analyze the likely increase in recreational use in future Project related documents, including the EIS.	JHI does not anticipate any increase of more than 5% in recreational use due to the development of Project facilities. The facilities make visitation "safer" for visitors. It is still a very long vessel distance from population centers and requires generally good weather for small craft safe travel which is the predominate travel means for visitors. Interesting, fuel prices in Juneau have not fallen as much as the rest of the US due in part to higher fuel transportation costs. Further, the long term forecast is that fuel prices will likely continue to increase over time.
3	2 of 4 third paragraph	Recreation Management Plan (RMP)	Underlying these conclusions in the FLA is the assumption that demand is a linear function of the region's population size and that factors, such as a significant drop in fuel prices or the development of new types of recreational activities will not influence the level of recreational use demand	Licensing decisions should not be based on an untested assumption that the public interest in recreation at hydropower projects is static, remaining at close to current levels over the 50-year term associated with original licenses.	Therefore the Department recommends the inclusion of measures in the final Project license to periodically assess and accommodate changes in recreational demand with time.	JHI requested patterns and growth models from the USFS in which none exist for the Juneau Ranger District or used in the Tongass Forest. The model used by JHI is reasonable and was reviewed by USFS in the development of the RMP. JHI believes the RMP provides measures to assess and accommodate changes in recreation demand should changes occur over time.

4	3 of 4 first paragraph	Recreation Management Plan (RMP)	While the Form 80 requirement partially fulfills this need, the primary focus of Form 80 is to assess how close a project's various recreational facilities are to their physical capacity.	The Department recommends that JHI include measures to periodically monitor visitor use and satisfaction in the requirement for an RMP, as well as consider measures to address changes in demand.	The monitoring interval should be shorter than the 20-year cycle proposed in the draft RMP	JHI will defer to consultation between USFS, USDI and JHI as a shorter period will require time and resources from the USFS. See comment #1.
5	3 of 4 second paragraph	Recreation Management Plan (RMP)	JHI proposes to complete most of the recreational facilities at the Project area after construction is completed, so there will be at least two seasons during which boaters and anglers may experience short-term disruptions to their ability to access the area and changes in the quality of their recreational use.	The Department also recommends that JHI be required to establish and maintain, with frequent summer season updates, a website describing construction progress on the Project and any associated issues that potential recreational visitors may encounter as a consequence.	Offering information about the kind of conditions visitors are likely to encounter at the Project while it is under construction would improve public safety and decrease potential conflicts between visitors and Project staff.	This is a good idea and will provide public benefits during construction periods.

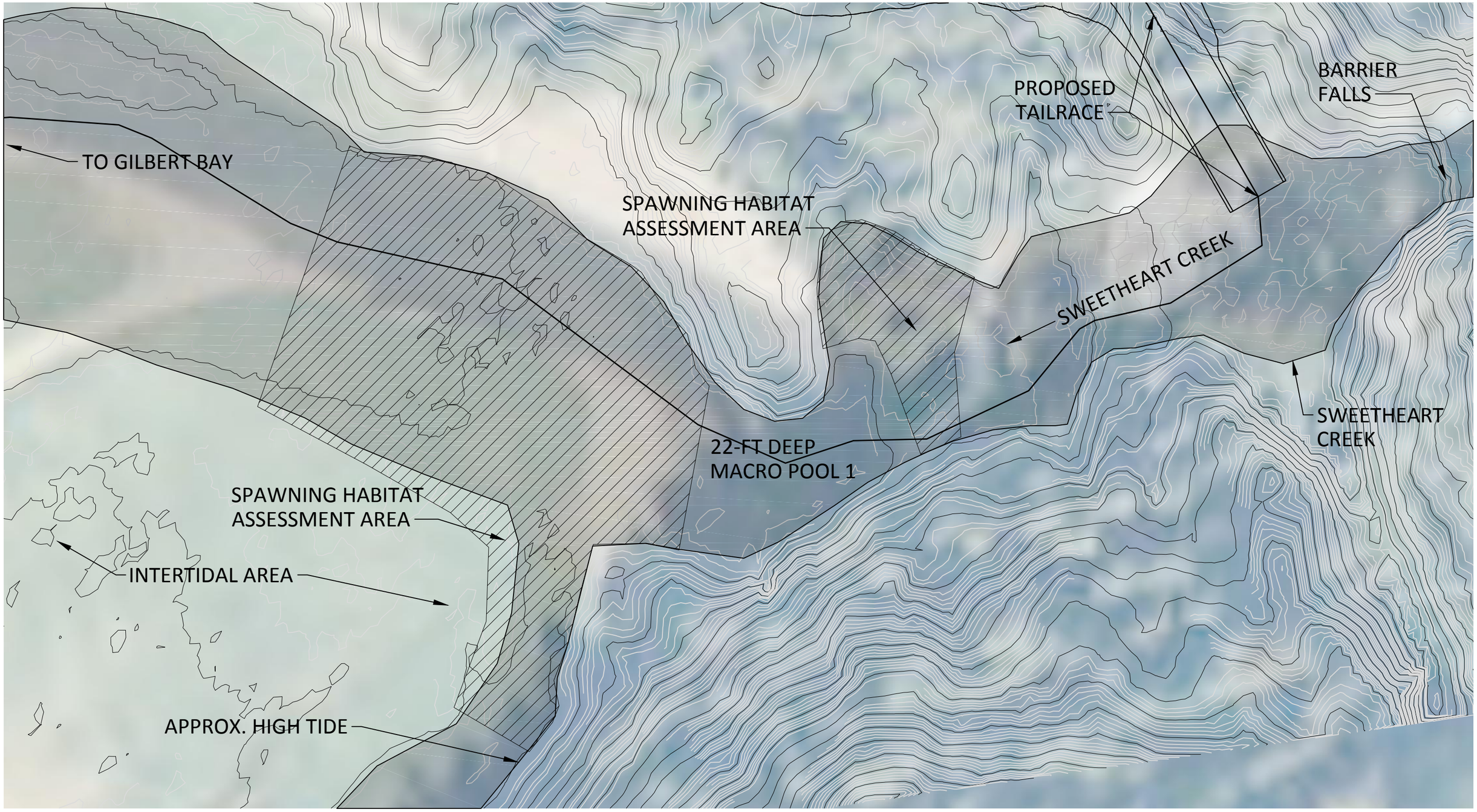
	Impact Assessment and Cost of Environmental Measures					
Q	**Page**	**Section**	**Key Phrase**	**Review Comments**	**Notes & Suggestions**	**JHI RESPONSE**
6	3 of 4 3rd paragraph	Impact Assessment and Cost of Environmental Measures	Although JHI's response to the Commission's AIR somewhat clarified the rationale used to derive annual and capital costs associated with various environmental measures, the Department believes the FLA and AIR response continue to overstate the cost of some recreational measures.	.The Department recommends that these costs and measures be scrutinized by the Commission and be categorized more accurately where appropriate.		JHI believes that it has accurately identified costs and measures that are recreation related.
17	3 of 4 4th paragraph	Impact Assessment and Cost of Environmental Measures	The Department notes that the $10,000 annual cost estimate for litter control at the site appears to be very high, especially given the fact JHI does not intend to provide trash receptacles at Project access sites (JHI's AIR response, p. 116).	We recommend that the Commission carefully review this cost estimate and assess if it can be justified.		Litter left behind is a bear hazard that not only impacts visitors but can negatively impact the Project. Transportation cost of a boat from Juneau can run $200 to $500 a trip. A float plane round trip to bring in a litter crew can run up to $1500 dollars a round trip. Labor, fuel, litter clean up on all associated trails will be expensive. Further certified divers are needed to remove snagged and discarded nets that "ghost fish" and continue to catch anadromous species throughout the year. Part of this expense is to

						periodically remove entangled nets and litter from the anadromous reach. $10,000 budget is for a remote location for these litter related activities might very well prove conservative.
18	4 of 4 1st paragraph	Impact Assessment and Cost of Environmental Measures	JHI has not provided satisfactory explanations regarding its proposed 3 cubic foot per second (cfs) environmental flow release and the impact of this very low flow on Sweetheart Creek's scenic integrity. In the PDEA (p. 137), JHI states that the 3 cfs it proposes to release is intended to serve as a "base flow for ecological maintenance."	However, JHI has not provided an assessment of the relationship between flows and ecological processes in the creek, so this statement cannot be validated.	The Department recommends that the Commission consider the need to mitigate such impacts when balancing the power and non-power benefits of Sweetheart Lake and Sweetheart Creek in the EIS and license for the Project.	Commenter is encouraged to read Appendix W and V as these professionally prepared documents do provide the relationship between flows and the ecological processes in Sweetheart Creek. Also, consider that 3cfs is the minimum and with natural accretion of 3% would raise the flows to 23.1 cfs. As previously communicated, JHI conducted its Scenery Plan and studies in accordance to and based upon USFS Visual Priority Routes as required by US Forest Service, the underlying federal land manager for the Tongass National Forest. JHI has appreciated the assistance, input and consultation by USDOI personnel throughout the study process.

Comments on Volume 2 PDEA and Appendices of the Final License Application for Sweetheart Lake FERC Project P-13563
US Environmental Protection Agency

The Alaska Operations Office of the US Environmental Protection Office (EPA) submitted comments in a response letter dated January 15, 2015 to the Federal Energy Regulatory Commission titled: EPA Scoping Comments. Up until this recent submission of comments, the EPA has not participated in scoping, study plans or commented on draft licenses and previously submitted Preliminary Draft Environmental Assessments. It would appear that the EPA has not commented on any other recent FERC Southeast Alaska hydropower projects. JHI believes that it has developed a sound and environmentally responsible hydropower project protecting the waters of the United States and therefore welcomes the participation of the EPA such that the EIS process integrity of timelines is not extended or that unreasonable delays occur that would have otherwise been avoided with earlier EPA participation in accordance with FERC's Alternative Licensing Process. Most of the EPA comments appear to be functional in that EPA is recommending EIS scoping comments/parameters. The EPA also states that it will review and comment in writing on the US Army Corps of Engineers Public Notice for the Project. It should be noted that the US Army Corps of Engineers submitted a request to FERC to be a coordinating agency.

The EPA acknowledges that the conversion from an Environmental Assessment to an Environmental Impact Statement was a decision by FERC.



SWEETHEART CREEK - ANADROMOUS REACH SPAWNING HABITAT ASSESSMENT AREAS
(REVISED 2/17/2015)

inter·fluve

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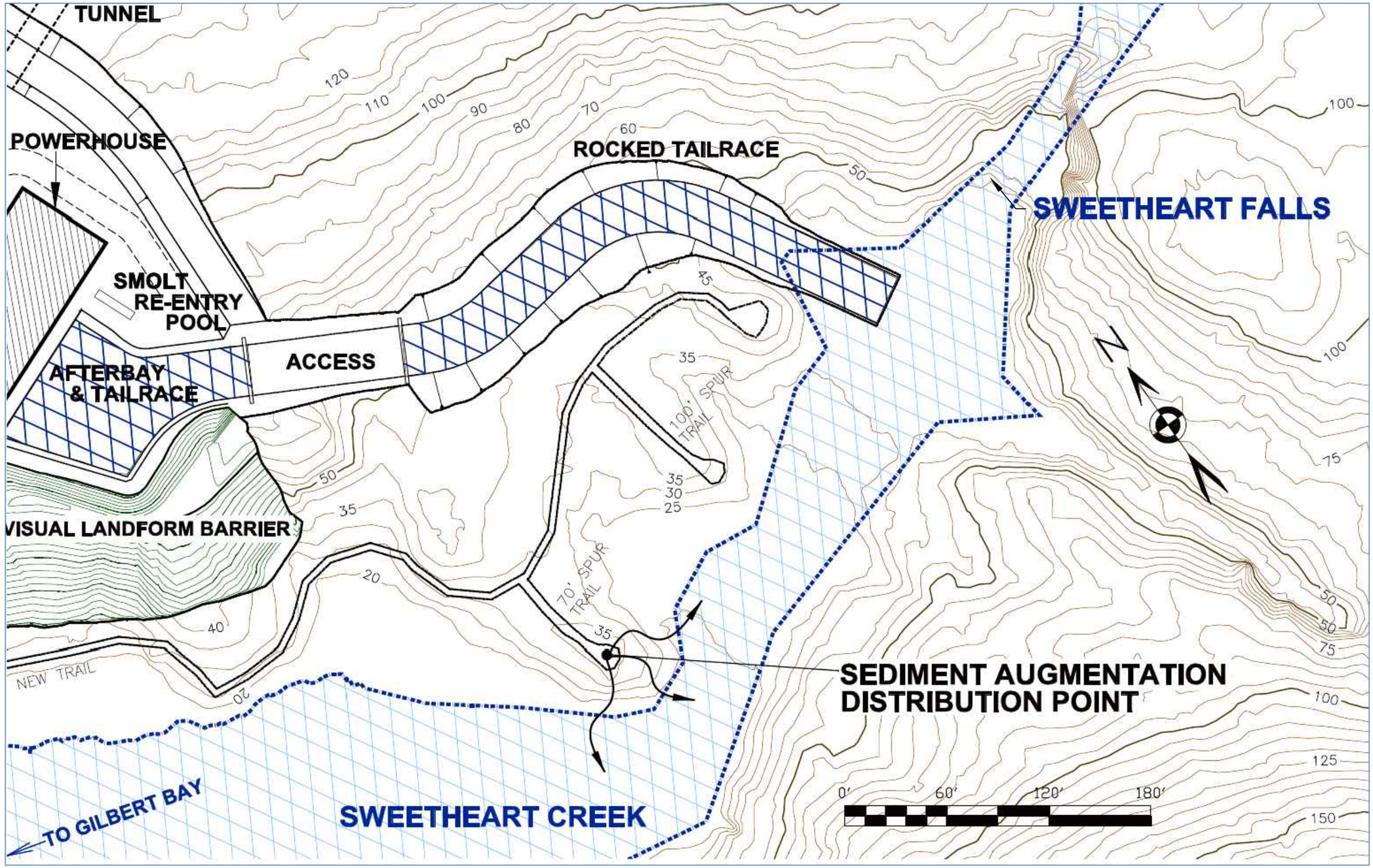
GRAPHIC SCALE
0 25 50
(in feet)

FIGURE 1 - SWEETHEART CREEK
SPAWNING HABITAT ASSESSMENT AREAS



GRAPHIC PREPARED AND
PROVIDED BY: ALL POINTS NORTH

FIGURE 2 - SWEETHEART CREEK
SPAWNING GRAVEL INJECTION LOCATION