

Marine Mammal Monitoring Summary Report

Icy Strait Point Cruise Ship Terminal

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MARINE MAMMAL MONITORING SUMMARY REPORT

Icy Strait Point Cruise Ship Terminal

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ICY STRAIT POINT CRUISE SHIP TERMINAL MARINE MAMMAL MONITORING SUMMARY REPORT

1.0 INTRODUCTION

The Hoonah Cruise Ship Dock Company (HCSDC) conducted pile installation activities in 2015 and early 2016 that were associated with construction of a new cruise ship terminal at the existing Icy Strait Point tourist facility in Hoonah, Alaska (see Figure B-1).^{*} These activities occurred according to the provisions of a US Army Corps of Engineers permit (POA-2012-404) and an associated National Marine Fisheries Service (NMFS) biological opinion (NMFS Consultation #AKR-2015-9440) and Incidental Harassment Authorization (IHA) from the National Oceanic and Atmospheric Administration (NOAA) Office of Protected Resources under the Marine Mammal Protection Act (as modified, current version dated December 22, 2015).

This summary report documents the completion of the marine mammal monitoring program, and summarizes the marine mammal interactions that occurred during the in-water construction period.

2.0 AUTHORIZED ACTIVITIES

The marine mammal monitoring plan (BergerABAM 2015) was developed in close coordination with NMFS resource staff. The purpose of the monitoring plan was to avoid Level A harassment of marine mammals within the action area (as identified in the IHA application and biological evaluation) and to monitor and record the extent of Level B harassment.

The project permits authorized pile installation within the waters of Icy Strait/Port Frederick, using a combination of vibratory pile driving, impact pile driving, and down-hole drilling. The permits authorized the following categories of activity:

- Vibratory installation and extraction of falsework piles.
- Vibratory installation of structural piles prior to drilling.
- Down-hole drilling of piles into bedrock to final elevation
- Vibratory and/or impact seating/proofing of structural piles.

The permit assumptions regarding underwater and terrestrial noise levels and the potential for Level B harassment associated with project activities are summarized below.

^{*} The marine mammal monitoring plan for the project is included as Appendix A and contains all the figures mentioned in this report.

2.1 Underwater Noise

2.1.1 Impact Pile Driving

The noise attenuation analysis (BergerABAM 2014) resulted in the determination that during impact pile driving, the 190 dBRMS Level A harassment (injury) threshold for underwater noise for pinniped species could be exceeded at a distance of up to approximately 22 meters (72.2 feet), and the 180 dBRMS Level A harassment (injury) threshold for cetacean species could be exceeded at a distance of up to approximately 100 meters (328 feet). Additionally, the 160 dB RMS Level B harassment (behavioral disruption) for underwater noise for pinniped and cetacean species could be exceeded at a distance of up to approximately 2,150 meters (1.34 miles) during impact pile driving (see Figure B-2).

In order to avoid injuring marine mammals within the action area, the area within 100 meters (328 feet) of pile driving activity was established as a marine mammal buffer area; no impact pile driving activity would be conducted in that area if any marine mammals were observed to be present.

The Level B harassment zone for impact driving was also monitored, but impact pile driving activity was not required to stop if marine mammals were present. Any marine mammal documented within the 2,150-meter (1.34-mile) Level B harassment zone during impact driving was recorded as a Level B take (harassment).

2.1.2 Vibratory Pile Driving

The noise attenuation analysis (BergerABAM 2014) indicated that the 120 dBRMS Level B threshold for harassment (behavioral disruption) by underwater noise for pinniped and cetacean species could be exceeded throughout the underwater portion of the action area during vibratory pile driving.

The area within 10 meters (33 feet) of pile during vibratory pile driving activity was established as a marine mammal buffer area in which no pile installation would be conducted if any marine mammals were observed to be present.

The larger vibratory Level B harassment zone (see Figure B-3) was monitored for the presence of marine mammals during all vibratory pile driving activity (both installation and removal). Marine mammals documented within the Level B harassment zone during vibratory pile driving were recorded and reported as Level B take (harassment), consistent with the permits.

2.1.3 Down-hole Drilling

The down-hole drilling method was incorporated into the project in February 2015 at NOAA's request. The alternate method was proposed to reduce impacts to marine mammals from the method that was originally proposed – impact pile driving. NOAA determined in the biological opinion and IHA that underwater noise from down-hole drilling was not expected to result in underwater noise that would rise to the threshold of Level B harassment of marine mammals, and did not require monitoring for Level B harassment during down-hole drilling.

However, HCSDC chose to take a conservative approach and conducted monitoring during all down-hole drilling activities. The monitoring plan that was implemented during down-hole

drilling was the same as the vibratory pile driving monitoring plan described in section 2.1.2 above.

2.2 Terrestrial Noise

The noise attenuation analysis (BergerABAM 2014) indicated that the 100 dBRMS threshold for terrestrial noise effects to non-harbor seal pinnipeds could be exceeded out to a distance of approximately 38 meters (125 feet), while the 90 dBRMS threshold for harbor seals could be exceeded out to a distance of approximately 97 meters (318 feet). This area is entirely within the marine mammal buffer area that was maintained during impact driving.

3.0 MONITORING PROTOCOLS

Marine mammal monitoring was conducted during all pile installation activity according to the protocol summarized in section 3.1 below. In addition, as discussed in section 2.1.3, although neither the permits nor the monitoring plan required its use, the vibratory pile driving monitoring protocol described in section 3.2 was implemented during all down-hole drilling activity.

3.1 Impact Pile Driving Monitoring Protocol

The protocol for monitoring impact pile driving consisted of the following elements.

1. At all times during impact pile driving activities, three trained marine mammal observers were stationed at three designated locations as follows:
 - On-Site – This observer was stationed either on the pile driving rig, or at a land-based location within the immediate vicinity of the pile being driven. This observer was the Lead Observer, in charge of communication with the construction manager and other observers.
 - Halibut Island – This observer was stationed on Halibut Island across Port Frederick approximately 1.5 miles from the pile driving activity.
 - Boat-Based Transects – This observer was stationed on a boat traveling along a transect within the 2,150-meter (1.34-mile) Level B harassment zone (see Figure B-2).
2. During impact pile driving, the observers maintained a 100-meter (328-foot) marine mammal buffer zone (see Figure B-2) at all times. No impact pile driving was conducted if a marine mammal was observed within this buffer zone.
3. The observers scanned the waters for 30 minutes before the beginning of any pile removal/driving activities. If no marine mammals were observed within the marine mammal buffer zone (the 100-meter radius) during this 20-minute clearance period, the area was considered clear, and pile driving began.
4. Each day, pile driving began with soft-start measures to allow marine mammals to move away from the noise source and reduce the likelihood of noise-related injury. In addition, each day's pile driving began with a gradual ramping up of piling power over 3 sets of 3 strikes until full operational power was achieved. This same ramping up procedure was followed after every stoppage of 30 minutes or longer.

5. The observers monitored the designated area actively throughout all pile driving activities until the observers were notified that pile driving activities had ended for the driving period. The observers continued monitoring for 30 minutes after the end of pile driving activities and after each stoppage of 30 minutes or longer.
6. If monitoring was suspended for longer than 30 minutes, the 30-minute clearance period was repeated before pile driving began again.
7. During impact pile driving, if a marine mammal entered or was observed within the marine mammal buffer zone (the 100-meter radius) during the 20-minute clearance period or during pile driving, the Lead Observer notified the construction manager to either not begin pile driving, or to cease pile driving activities until, 1) the animal had moved outside the area of the marine mammal buffer zone (the 100-meter radius) or 2) the animal had not been observed for 20 minutes.
8. During impact pile driving, if a marine mammal was observed within the 2,150 meter Level B harassment zone, the Observer closest to the animal recorded this occurrence on the data sheet. To the extent possible, the species and sex of the animal were identified and its observable behaviors were recorded. The Observer also noted the time of the observation and the animal's approximate position relative to the Observer's position. The Observer maintained visual contact until the animal was seen to leave the Level B harassment area. The Observer then documented the event as a single Level B "take" for purposes of reporting.
9. If the animal was observed leaving the 100-meter marine mammal buffer zone, or if it was not observed within the buffer zone for a period of 30 minutes, the area was considered clear and pile driving activities were allowed to resume.
10. At the end of each pile driving period (following the 30-minute post-pile driving monitoring period), the Lead Observer told the other monitoring staff that monitoring was complete for the driving period, and coordinated de-mobilization consistent with the field safety plan.
11. The Lead Observer was responsible for collecting data sheets at the end of each day and for filing data sheets and storing monitoring supplies.

3.2 Vibratory Pile Driving and Down-hole Drilling Monitoring Protocol

The protocol for monitoring vibratory pile driving and down-hole drilling consisted of the following elements.

1. During vibratory pile driving activities, three trained marine mammal observers were stationed at designated locations as follows:
 - On-Site – This observer was stationed either on the pile driving rig or at a land-based location within the immediate vicinity of the pile being driven. This observer was the Lead Observer, in charge of communication with the construction manager and the other observers.

- Halibut Island – This observer was stationed on Halibut Island or another location in the vicinity across Port Frederick approximately 1.5 miles from the pile driving activity.
 - Boat-Based Transects – This observer was stationed on the boat traveling along variable transects within the Level B harassment zone (see Figure B-3). This area included most of Port Frederick and portions of Icy Strait across to Pleasant Island and Excursion Inlet.
2. During vibratory pile driving (and during all construction activities), the observers maintained a 10-meter (33-foot) marine mammal buffer zone at all times. No vibratory pile driving or down-hole drilling was conducted if a marine mammal was observed within 10 meters (33 feet) of the pile.
 3. The observers scanned the waters for 30 minutes before the beginning of any pile removal/driving or drilling activities. If no marine mammals were observed within the 10-meter (33-foot) marine mammal buffer zone during this 30-minute clearance period, the area was considered clear, and pile driving began.
 4. Each day, pile driving/drilling began each day with soft-start measures to allow marine mammals to move away from the noise source and reduce the likelihood of noise-related injury. In addition, each day's pile driving/drilling began with a gradual ramping up of piling power over 3 sets of 3 strikes until full operational power was achieved. This same ramping up procedure was followed after each stoppage of 30 minutes or longer.
 5. The observers monitored the designated area actively throughout all pile driving activities until the observers were notified that pile driving / drilling activities had ended for the day. The observers continued monitoring for 30 minutes after the end of pile driving / drilling activities and after each stoppage of 30 minutes or longer.
 6. If monitoring was suspended for longer than 30 minutes, the 30-minute clearance period was repeated before pile driving began again.
 7. During vibratory pile driving and/or drilling, if a marine mammal entered or was observed within the 10-meter (33-foot) marine mammal buffer zone during the 30-minute clearance period or during pile driving/drilling, the Lead Observer notified the construction manager to either not begin pile driving/drilling, or to cease those activities until 1) the animal had moved outside the area of the 10-meter (33-foot) marine mammal buffer zone or 2) the animal had not been observed for 30 minutes.
 8. During vibratory pile driving/drilling, if a marine mammal was observed within the Level B harassment zone, the Observer closest to the animal recorded this occurrence on the data sheet. To the extent possible, the species and sex of the animal were identified and its observable behaviors were recorded. The Observer also noted the time of the observation and the animal's approximate position relative to the Observer's position. The Observer maintained visual contact until the animal was seen to leave the Level B harassment area. The Observer then documented the event as a single Level B "take" for purposes of reporting.

9. If the animal was observed leaving the 10-meter marine mammal buffer zone or if it was not observed within the buffer zone for a period of 30 minutes, the area was considered clear and pile driving/drilling activities were allowed to resume.
10. At the end of each day (following the 30-minute post-pile driving monitoring period), the Lead Observer told the other monitoring staff that monitoring was complete for the day, and coordinated de-mobilization consistent with the field safety plan.
11. The Lead Observer was responsible for collecting data sheets at the end of each day and for filing data sheets and storing monitoring supplies.

4.0 TAKE AUTHORIZATION

The IHA authorized incidental take (in the form of Level B harassment associated with underwater noise) of nine marine mammal species, subspecies, or distinct population segments (DPSs) with known distribution ranges that include the portion of Icy Strait/Port Frederick in which construction activities occurred. These species were humpback whale (*Megaptera novaeangliae*), Eastern and Western DPS Steller sea lion (*Eumatopius jubatus*), harbor seal (*Phoca vitulina*), Dall's porpoise (*Phocoenoides dalli*), gray whale (*Eschrichtius robustus*), harbor porpoise (*Phocoena phocoena*), killer whale (*Orcinus orca*), minke whale (*Balaenoptera acutorostrata*), and Pacific white-sided dolphin (*Lagenorhynchus obliquidens*).

The biological opinion issued incidental take for the two marine mammal species that are listed under the ESA, humpback whale and Steller sea lion. The biological opinion addresses only impacts to ESA-listed species, so non-ESA-listed species are not discussed in the biological opinion.

Table 1 summarizes the “take” (in the form of Level B harassment associated with underwater noise) that was authorized in the IHA and the biological opinion.

Table 1. Permit-Authorized Incidental Take (Level B Harassment)

Species	IHA Authorized Take*	Biological Opinion Authorized Take†
Humpback Whale – Central North Pacific (CNP) Stock (Southeast Alaska Aggregation)	316	316
Steller Sea Lion (Eastern DPS)	528	528
Steller Sea Lion (Western DPS)		
Harbor Seal	480	N/A
Dall's Porpoise	692	N/A
Gray Whale	12	N/A
Harbor Porpoise	1,288	N/A
Killer Whale‡	412	N/A
Minke Whale	8	N/A
Pacific White-Sided Dolphin	153	N/A

* Note that these numbers assume that every modeled take happens to a different animal, which is unlikely, as both individuals and groups of marine mammals are observed utilizing the same geographic location repeatedly.

† Biological opinion addresses only take of ESA-listed species. Non ESA-listed species listed as N/A.

‡ Combined populations of AK Resident stock; Gulf of Alaska, Aleutian Islands, Bering Sea Transient stock; and West Coast Transient stock.

5.0 RESULTS

5.1 Monitoring Program

BergerABAM conducted a 4-day marine mammal monitoring training program for monitoring staff from May 27–30, 2015. The sessions included classroom and field training in species identification, survey protocol and technique, data collection and management, and safety. During the training, BergerABAM also briefed the construction supervisors and crew, and marine mammal monitoring staff on the monitoring protocols and communication procedures and reviewed permit responsibilities and commitments.

5.2 Monitoring Dates/Times

Marine mammal monitoring was conducted consistent with the protocol and permit requirements on every day that pile driving was conducted. In addition, monitoring was conducted during down-hole drilling activities. Pile driving and drilling activities began on June 1, 2015 and were completed on January 25, 2016. Monitoring was conducted on a total of 135 days during this period. Appendix B includes a table showing the dates on which monitoring was conducted and the number of Level B takes recorded per day by species.

In addition to construction activities associated with pile installation, ordinary human activity in the vicinity during the construction period included traffic by cruise ships and tender vessels, whale watching excursion boats, and kayak tours. Commercial guiding and fishing activities also occurred frequently throughout the construction period.

5.3 Results – Summary and Discussion

Table 2 below documents the total numbers of Level B harassments (takes) incurred, by species, during pile installation.

Table 2. Recorded Instances of Level B Harassment by Species

Species	Authorized Level B Harassments	Recorded Instances of Level B Harassment	Authorized Level B Harassments Not Incurred
Humpback Whale - CNP Stock (Southeast Alaska Aggregation)	316	226	90
Steller Sea Lion (Eastern DPS)	528	180	348
Steller Sea Lion (Western DPS)			
Harbor Seal	480	63	417
Dall's Porpoise	692	2	690
Gray Whale	12	0	12
Harbor Porpoise	1,288	32	1,256
Killer Whale	412	24	388
Minke Whale	8	0	8
Pacific White-Sided Dolphin	153	0	153

Appendix B provides a more detailed summary of the information recorded during each monitoring period. The information includes start and end times for each monitoring period, construction activities conducted during each monitoring period, predominant weather and sea state conditions, and the total numbers of Level B takes by species that were recorded during each monitoring period.

During the monitoring period, humpback whales and Steller sea lions were the most commonly observed species. Harbor seals and harbor porpoises also were observed fairly frequently. Orca were observed on 11 separate occasions. A single Dall's porpoise was observed on two separate occasions. A single minke whale was also observed.

Humpback whales were observed in relatively consistent numbers throughout the monitoring period, and were distributed fairly uniformly throughout the waters of Port Frederick and Icy Strait. In total, humpback whales were observed on 84 of the 135 days of marine mammal monitoring. Humpback whales were most often seen as lone individuals, but groups of two or

more individuals were common as well. The most frequently observed behaviors were swimming at the surface in transit, circling/milling, and sounding dives. Humpback whales were occasionally observed breaching.

Steller sea lions were observed during all months of the monitoring period, although a distinct peak in the presence of this species occurred between late August and mid-October. In total, Steller sea lions were observed on 47 of the 135 days of marine mammal monitoring. Steller sea lions were frequently observed in groups of two or more individuals, but lone individuals were also observed regularly. The most common behaviors observed were milling/circling, and swimming at surface in transit. Foraging behaviors were also observed.

Harbor seals were primarily observed in summer and early fall (June to September). Harbor seals were documented on 19 days, and were seen singly and in groups of two or more. Their most commonly observed behaviors were transiting and circling/milling. On one occasion, 22 individuals were observed hauled out on Halibut Rock, across Port Frederick approximately 1.5 miles from the location of pile installation activity.

Harbor porpoises also were observed primarily between June and September. Harbor porpoises were observed on 19 days during the monitoring period, both as individuals and in groups of two or more. The most commonly observed behaviors were transiting and circling/milling.

Orca were observed infrequently, occurring on only 11 of the 135 monitoring days. Orca were observed as single individuals and in groups of up to three individuals. They were most often observed foraging in the waters of Port Frederick.

Dall's porpoises were observed on two occasions during monitoring. Both were single individuals transiting within the waters of Port Frederick in the vicinity of Halibut Island.

6.0 SUMMARY

Pile installation activities authorized by the IHA and the biological opinion ended on January 25, 2016. Marine mammal monitoring was conducted consistent with the requirements of the IHA and biological opinion during all impact pile driving, vibratory pile driving, and down-hole drilling activities. The monitoring documented that 1) no marine mammals were exposed to levels of underwater noise that would represent a Level A take, and 2) the authorized numbers of Level B takes were not exceeded for any species.

7.0 REFERENCES

BergerABAM. 2015. Huna Totem Corporation. Icy Strait Point Cruise Ship Terminal - Marine Mammal Monitoring Plan. February 2015.

BergerABAM. 2014. Huna Totem Corporation. Icy Strait Point Cruise Ship Terminal – Biological Assessment. Revised August 2014.

Appendix A:
Marine Mammal Monitoring Plan

APPENDIX B
HUNA TOTEM CORPORATION
ICY STRAIT POINT CRUISE SHIP TERMINAL
MARINE MAMMAL MONITORING PLAN

REVISED FEBRUARY 2015

INTRODUCTION

This monitoring plan has been prepared for the Huna Totem Corporation (HTC) for proposed improvements to the existing Icy Strait Point tourist facility in Hoonah, Alaska (proposed project). The plan has been prepared as an appendix to, and in support of, a request for an Incidental Harassment Authorization (IHA) under the Marine Mammal Protection Act (MMPA) and the Biological Evaluation (BE) for Section 7 consultation with National Marine Fisheries Service (NMFS) under the Endangered Species Act (ESA).

This marine mammal monitoring plan is designed to ensure that the project does not result in Level A harassment to marine mammals within the action area (as identified in the IHA application and BE), and to monitor and record the extent of Level B harassment. For this reason the project will not result in Level A takes, and the project does not require a Letter of Authorization. Please refer to the IHA application and/or BE for a detailed discussion of the project and effects.

Nine marine mammal species, subspecies, or distinct population segments (DPSs) have known distribution ranges that include the portion of Icy Strait/Port Frederick in which construction activities will occur. These are humpback whale (*Megaptera novaeangliae*), Eastern and Western DPS Steller sea lion (*Eumatopius jubatus*), harbor seal (*Phoca vitulina*), Dall's porpoise (*Phocoenoides dalli*), gray whale (*Eschrichtius robustus*), harbor porpoise (*Phocoena phocoena*), killer whale (*Orcinus orca*), minke whale (*Balaenoptera acutorostrata*), and Pacific white-sided dolphin (*Lagenorhynchus obliquidens*).

The project will require pile installation within the waters of Icy Strait/Port Frederick, which has the potential to generate elevated levels of underwater and terrestrial noise that could exceed established injury and disturbance thresholds for marine mammals. In order to ensure that no marine mammals are exposed to levels of underwater noise that exceed the established thresholds for Level A take, the area within approximately 100 meters of pile driving activity (also referred to as the "marine mammal buffer zone") will be monitored during impact pile driving. Impact pile driving will not commence, or will be suspended temporarily, if any

marine mammals are observed within this marine mammal buffer zone. Additionally, the areas within the Level B harassment threshold (see Figure B-2) will be monitored, during both impact and vibratory pile driving, for the purpose of documenting and reporting any Level B takes of marine mammals authorized under the IHA for this project.

DISCUSSION

Tables 1 and 2 show the underwater and terrestrial injury and disturbance thresholds that NMFS has established for marine mammals (Tables 1 and 2).

Table 1. Underwater Injury and Disturbance Threshold Decibel Levels for Marine Mammals

Criterion	Criterion Definition	Threshold*
Level A harassment	PTS (injury) conservatively based on TTS**	190 dB RMS for pinnipeds 180 dB RMS for cetaceans
Level B harassment	Behavioral disruption for impulsive noise (e.g., impact pile driving)	160 dB RMS
Level B harassment	Behavioral disruption for non-pulse noise (e.g., vibratory pile driving, drilling)	120*** dB RMS

*All decibel levels referenced to 1 micropascal (re: 1 μ Pa). Note all thresholds are based off root mean square (RMS) levels

** PTS=Permanent Threshold Shift; TTS=Temporary Threshold Shift

***The 120 dB threshold may be adjusted slightly if background noise levels are at or above this level.

Table 2. Terrestrial Injury and Disturbance Threshold Decibel Levels for Pinnipeds

Criterion	Criterion Definition	Threshold*
Level A harassment	PTS (injury) conservatively based on TTS**	None established
Level B harassment	Behavioral disruption for harbor seals	90 dB RMS
Level B harassment	Behavioral disruption for non-harbor seal pinnipeds	100 dB RMS

*All decibel levels referenced to 20 micropascal (re: 20 μ Pa). Note all thresholds are based off root mean square (RMS) levels

** PTS=Permanent Threshold Shift; TTS=Temporary Threshold Shift

UNDERWATER NOISE

IMPACT PILE DRIVING

Based on the results of the noise attenuation analysis for this project, it has been determined that the 190 dBRMS Level A harassment (injury) threshold for underwater noise for pinniped species could be exceeded at a distance of up to approximately 22 meters during impact pile driving activities, and the 180 dBRMS Level A harassment (injury) threshold for cetacean species could be exceeded at a distance of up to approximately 100 meters during impact pile driving activities. Additionally, the 160 dB RMS Level B harassment (behavioral disruption) for underwater noise for pinniped and cetacean species could be exceeded at a distance of up to approximately 2,150 meters during impact pile driving.

In order to avoid injury of marine mammals within the action area, the area within 100 meters of pile driving activity will be monitored and maintained as marine mammal buffer area in which pile installation, will not commence or will be suspended temporarily if any marine

mammals are observed within the area of potential disturbance. This area will be monitored by one qualified field monitor stationed either on the pile driving rig or in the immediate vicinity.

The area within the Level B harassment threshold for impact driving (see Figure 2) will be monitored by the field monitor stationed either on the pile driving rig or in the immediate vicinity, and by a second qualified field monitor stationed on or in the vicinity of Halibut Island near the 2,150 meter limit of the Level B harassment zone. A third qualified observer will monitor from a boat that is conducting a transect along the 2,150 meter limit of the Level B harassment zone. Marine mammal presence within this Level B harassment zone, if any, will be monitored, but impact pile driving activity will not be stopped if marine mammals are found to be present. Any marine mammal documented within the Level B harassment zone during impact driving would constitute a Level B take (harassment), and will be recorded and reported as such.

The impact pile driving monitoring plan is shown graphically on Figure 2.

VIBRATORY PILE DRIVING

A conservative assessment of underwater noise attenuation indicates that the 120 dB RMS Level B harassment (behavioral disruption) for underwater noise for pinniped and cetacean species could potentially be exceeded throughout the underwater portion of the action area during vibratory pile driving.

The area within the Level B harassment threshold for vibratory driving (see Figure 3) will be monitored by three qualified marine mammal observers. One field monitor will be stationed either on the pile driving rig or in the immediate vicinity; a second qualified field monitor will be stationed on or in the vicinity of Halibut Island across Port Frederick; and a third qualified observer will monitor from a boat that is conducting meander transects throughout the Level B harassment zone.

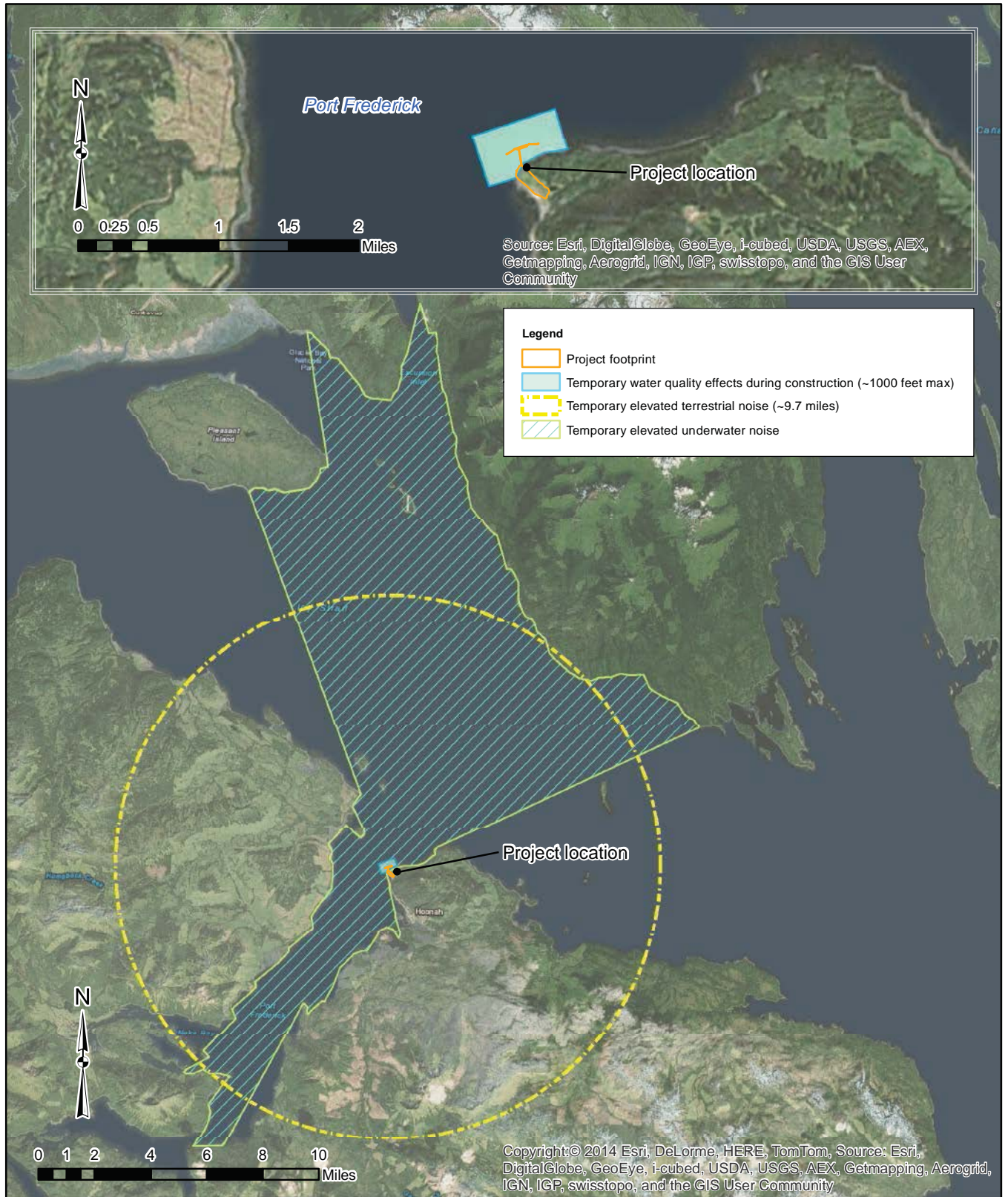
Marine mammal presence within this vibratory Level B harassment zone, if any, will be monitored, but vibratory pile driving activity will not be stopped if marine mammals are found to be present. Any marine mammal documented within the Level B harassment zone during vibratory driving would constitute a Level B take (harassment), and will be recorded and reported as such.

The vibratory pile driving monitoring plan is shown graphically on Figure 3.

TERRESTRIAL NOISE

The loudest piece of equipment to be used at the site is an impact pile driver, which typically produce peak terrestrial noise levels of approximately 110 dB peak (BergerABAM 2014). The Level B harassment threshold for harbor seals is 90 dB RMS and for non-harbor seal pinnipeds is 100 dB RMS. A terrestrial noise attenuation analysis was performed using a Practical Spreading Loss model (BergerABAM 2014). The results of the analysis indicated that the 100 dB RMS threshold for non-harbor seal pinnipeds could be exceeded out to a distance of approximately 38 meters, while the 90 dB RMS threshold for harbor seals could be exceeded out

to a distance of approximately 97 meters. Since this area is entirely within the area that would be maintained as a marine mammal buffer area, no marine mammals would be exposed to any terrestrial noise levels above the established Level B harassment threshold.



PROPOSED PROJECT:
Proposed Hoonah Berthing Facility and Upland Improvements. Includes in-water and upland construction, upland demolition, and other activities.

ADJACENT PROPERTY OWNERS:

- 1) US Forest Service (Tongass)
- 2) City of Hoonah
- 3) Alaska Department of Natural Resources

USACE REFERENCE NO: NWS-POA-2012-0404

APPLICANT: Huna Totem Corporation

LOCATION: 108 Cannery Road, Hoonah, Alaska 99829

LAT/LONG: 58.1315306 / 135.465197

IN: Icy Strait & Port Frederick

NEAR: Hoonah, AK (1.5 miles NW)

COUNTY: Hoonah Angoon Borough **STATE:** AK

Appendix B - Marine Mammal Monitoring Plan

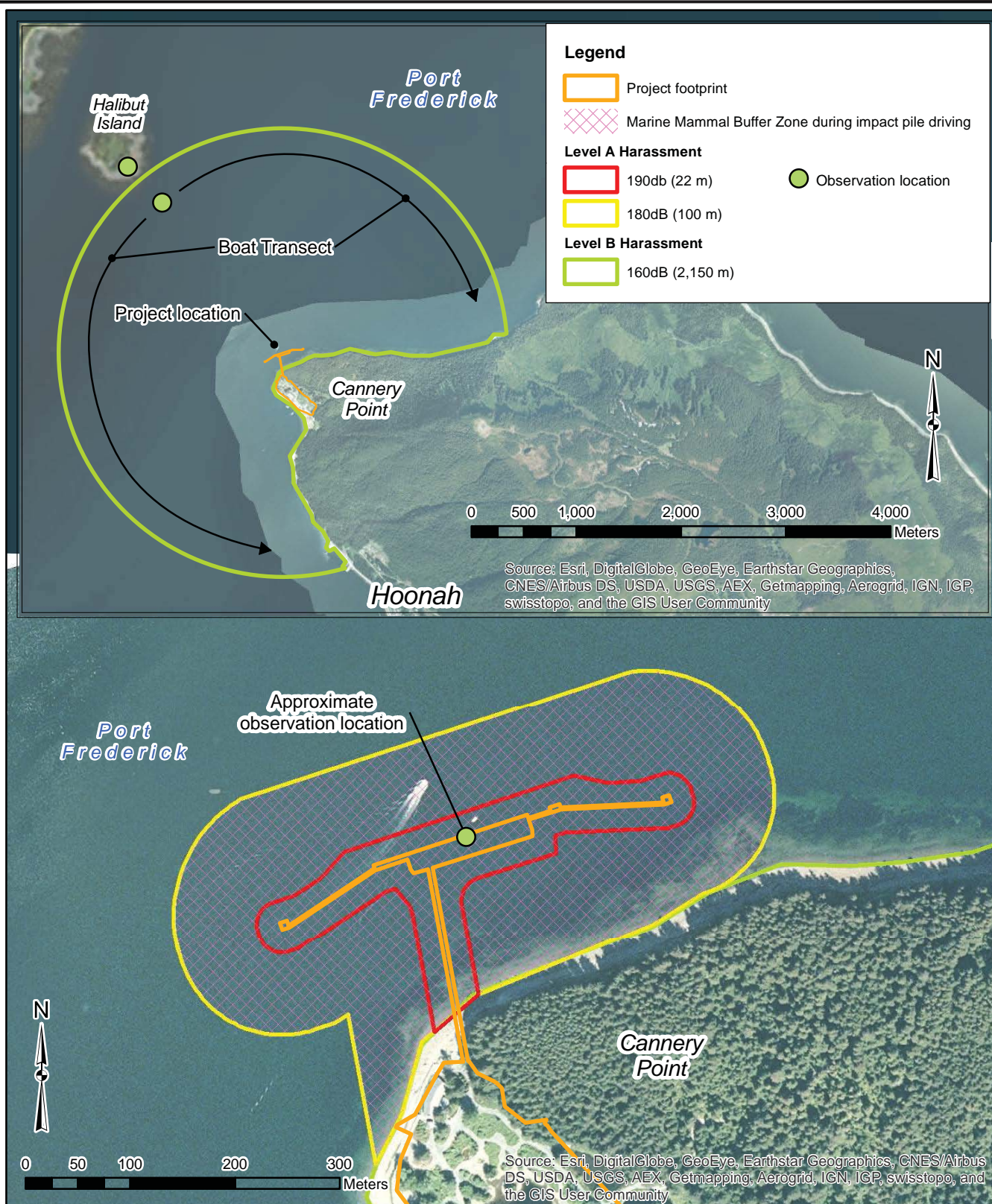
Figure B-1: Action Area

MONITORING PROTOCOL

Marine mammal monitoring during the project will consist of the following procedure.

1. Three individuals meeting the minimum qualifications identified below will be present on site (on land or dock) at all times during all pile driving activities.
2. Pile driving will commence each day with soft-start measures to allow for any marine mammals to move away from the noise source and reduce the likelihood of noise-related injury. Pile driving will commence each day, and after each stoppage of 30 minutes or greater, with a gradual ramping up of piling power over 3 sets of 3 strikes until full operational power is achieved.
3. During impact pile driving, the area will be monitored by three qualified observers (Figure B-2). One individual will be stationed either on the pile driving rig or in the immediate vicinity, and will have clear line of sight views of the entire marine mammal buffer zone. This individual will be in charge of monitoring the marine mammal buffer zone (the 100 meter radius). A second individual will be stationed on either Halibut Island or a location in the vicinity near the perimeter of the Level B harassment zone (the 2,150 meter radius). A third observer will be located on a vessel traveling approximately along the perimeter of the Level B harassment zone. The monitoring staff will record any presence of marine mammals by species, will document any behavioral responses noted, and record Level B takes when sightings overlap with pile installation activities.
4. During vibratory pile driving, the area will be monitored by three qualified observers (Figure B-2). One individual will be stationed either on the pile driving rig or in the immediate vicinity, a second individual will be stationed on either Halibut Island or a location in the vicinity, and a third observer will be located on a vessel that is conducting meander transects throughout the Level B harassment zone. The monitoring staff will record any presence of marine mammals by species, will document any behavioral responses noted, and record Level B takes when sightings overlap with pile installation activities.
5. The individuals will scan the waters within each monitoring zone activity using binoculars (Vector 10X42 or equivalent), spotting scopes (Swarovski 20-60 zoom or equivalent), and visual observation.
6. The area within which the Level A harassment thresholds could be exceeded during impact pile driving (the 100 meter radius) will be maintained as a marine mammal buffer zone, in which impact pile driving will be shut down immediately if any marine mammal is observed within the area.
7. The area within which the Level B harassment thresholds could be exceeded during impact pile driving (Figure B-2) and vibratory pile driving (Figure B-3) will also be monitored for the presence of marine mammals during all impact and vibratory pile driving. Marine mammal presence within these zones, if any, will be monitored but pile driving activity will not be stopped if marine mammals were found to be present. Any marine mammal documented within the Level B harassment zone will constitute a Level B take, and will be recorded and used to document the number of take incidents.

8. If waters exceed a sea-state which restricts the observers' ability to make observations within the marine mammal buffer zone (the 100 meter radius) (e.g. excessive wind or fog), impact pile installation will cease until conditions allow the resumption of monitoring.
9. The waters will be scanned 20 minutes prior to commencing pile driving at the beginning of each day, and prior to commencing pile driving after any stoppage of 30 minutes or greater. If marine mammals enter or are observed within the designated marine mammal buffer zone (the 100m radius) during or 20 minutes prior to impact pile driving, the monitors will notify the on-site construction manager to not begin until the animal has moved outside the designated radius.
10. The waters will continue to be scanned for at least 30 minutes after pile driving has completed each day, and after each stoppage of 30 minutes or greater.



PROPOSED PROJECT:
Proposed Hoonah Berthing Facility and Upland Improvements. Includes in-water and upland construction, upland demolition, and other activities.

ADJACENT PROPERTY OWNERS:

- 1) US Forest Service (Tongass)
- 2) City of Hoonah
- 3) Alaska Department of Natural Resources

USACE REFERENCE NO: NWS-POA-2012-0404

APPLICANT: Huna Totem Corporation

LOCATION: 108 Cannery Road, Hoonah, Alaska 99829

LAT/LONG: 58.1315306 / 135.465197

IN: Icy Strait & Port Frederick

NEAR: Hoonah, AK (1.5 miles NW)

COUNTY: Hoonah Angoon Borough

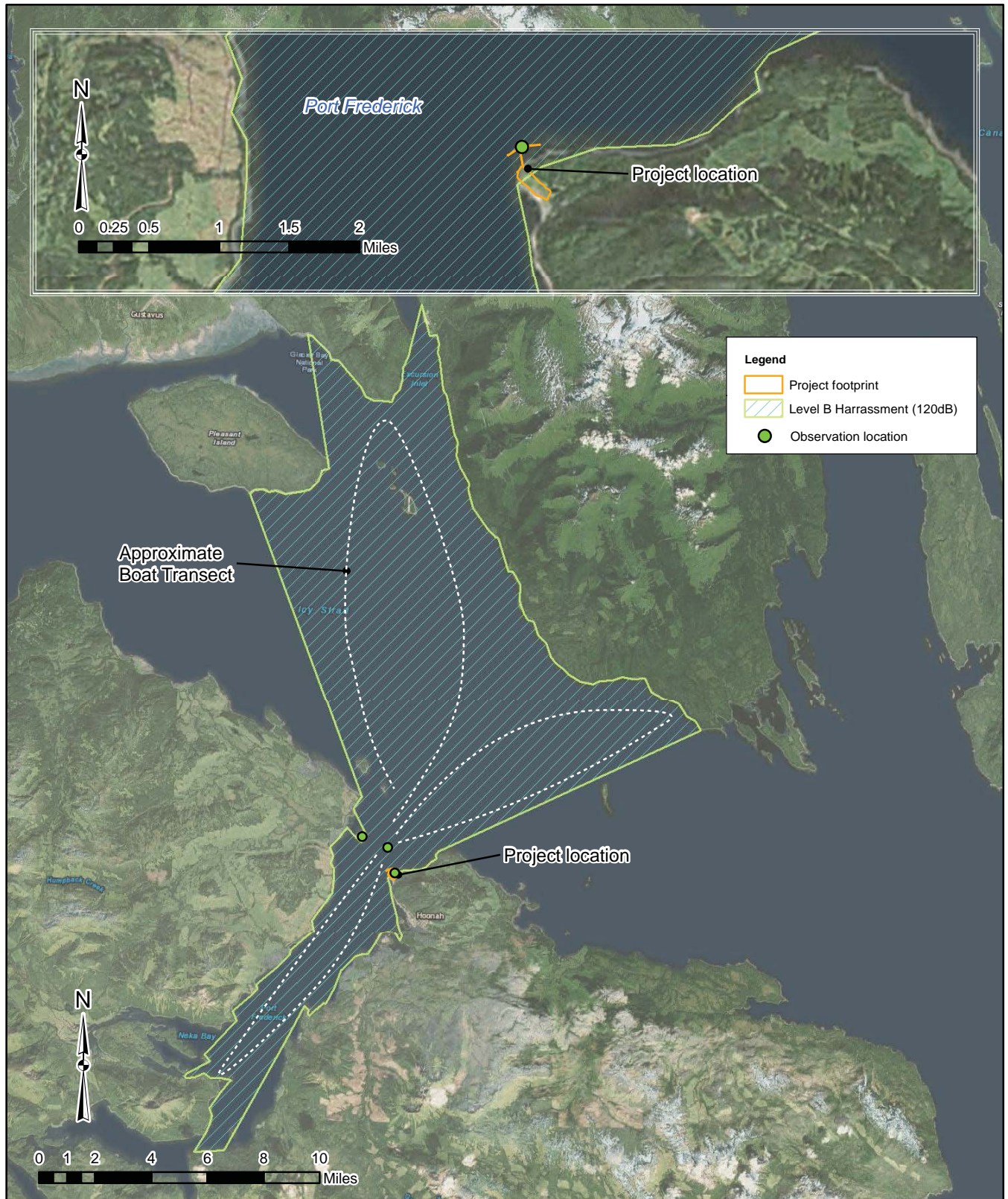
STATE: AK

Appendix B - Marine Mammal Monitoring Plan

Figure B-2: Impact Pile Driving Monitoring Plan

Sheet 2 OF 3

Date: 2/26/15



PROPOSED PROJECT:
Proposed Hoonah Berthing Facility and Upland Improvements. Includes in-water and upland construction, upland demolition, and other activities.

ADJACENT PROPERTY OWNERS:

- 1) US Forest Service (Tongass)
- 2) City of Hoonah
- 3) Alaska Department of Natural Resources

USACE REFERENCE NO: NWS-POA-2012-0404
APPLICANT: Huna Totem Corporation
LOCATION: 108 Cannery Road, Hoonah, Alaska 99829
LAT/LONG: 58.1315306 / 135.465197
IN: Icy Strait & Port Frederick
NEAR: Hoonah, AK (1.5 miles NW)
COUNTY: Hoonah Angoon Borough STATE: AK

Appendix B - Marine Mammal Monitoring Plan

Figure B-3: Vibratory Pile Driving Monitoring Plan

MINIMUM QUALIFICATIONS FOR MARINE MAMMAL OBSERVERS

1. Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with the ability to estimate target size and distance. Use of binoculars may be necessary to correctly identify the target.
2. Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).
3. Experience or training in the field identification of marine mammals (i.e. pinnipeds).
4. Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
5. Writing skills sufficient to prepare a report of observations that will include such information as the number and types of marine mammals observed; the behavior of marine mammals in the project area during construction; the dates and times when observations were conducted; the dates and times when in-water construction activities were conducted; the dates and times when marine mammals were present at or within the defined disturbance zone; the dates and times when in-water construction activities were suspended to avoid incidental harassment by disturbance from construction noise; etc.
6. Ability to communicate orally, by radio or in person, with project personnel to provide real time information on marine mammals observed in the area.

REFERENCES

BergerABAM. 2014. Biological Evaluation. Icy Strait Point Cruise Ship Terminal. Hoonah, Alaska. August 2014

Appendix B:
Marine Mammal Monitoring Data - Daily Summaries and Totals

Icy Strait Point Terminal Construction - Marine Mammal Monitoring Daily Summaries and Totals

Date	Monitoring Start/End Times		Construction Activities			Predominant Weather/Sea State Conditions			Level B Takes (by species)								
	Start Time	End Time	Impact Hammer	Vibratory Hammer	Down-hole Drill	Cloud Cover	Precip.	Sea State	Humpback Whale	Gray Whale	Minke Whale	Orca	Pacific White-sided Dolphin	Dall's Porpoise	Harbor Porpoise	Harbor Seal	Steller Sea Lion
6/1/2015	7:00 AM	9:00 AM	No	Yes	No	2	0	0	0	0	0	0	0	0	0	0	0
6/3/2015	11:30 AM	6:30 PM	No	No	Yes	2	0	1	5	0	0	0	0	0	1	2	0
6/4/2015	9:53 AM	3:10 PM	No	No	Yes	2	0	2	2	0	0	0	0	0	0	0	0
6/5/2015	11:00 AM	4:35 PM	No	No	Yes	4	1	2	1	0	0	0	0	0	1	0	0
6/7/2015	1:30 PM	5:45 PM	No	No	Yes	2	1	1	0	0	0	0	0	0	3	2	0
6/10/2015	9:20 AM	5:25 PM	No	No	No	4	1	4	0	0	0	0	0	0	0	0	0
6/11/2015	12:15 PM	5:32 PM	No	Yes	Yes	3	0	0	0	0	0	1	0	0	1	0	1
6/12/2015	1:30 PM	6:42 PM	No	No	Yes	2	0	0	3	0	0	1	0	0	0	0	0
6/13/2015	2:10 PM	4:08 PM	No	No	Yes	4	0	0	0	0	0	0	0	0	0	1	0
6/15/2015	7:45 AM	2:10 PM	No	No	Yes	2	0	0	0	0	0	0	0	0	0	0	0
6/17/2015	8:20 AM	11:33 AM	No	Yes	Yes	4	0	0	1	0	0	0	0	0	1	1	1
6/18/2015	10:10 AM	1:41 PM	No	Yes	Yes	4	1	0	0	0	0	0	0	0	0	0	0
6/19/2015	1:56 PM	4:46 PM	No	Yes	Yes	2	0	1	2	0	0	0	0	0	0	0	0
6/20/2015	8:47 AM	6:32 PM	No	Yes	Yes	2	0	1	1	0	0	0	0	0	0	0	0
6/21/2015	1:20 PM	4:45 PM	No	Yes	No	2	0	0	1	0	0	0	0	0	1	2	0
6/22/2015	7:30 AM	8:58 AM	No	Yes	No	1	0	0	0	0	0	0	0	0	0	0	0
6/23/2015	3:35 PM	4:20 PM	No	Yes	No	2	0	1	0	0	0	0	0	0	0	0	0
6/24/2015	10:45 AM	3:23 PM	No	No	Yes	3	0	1	1	0	0	0	0	0	1	0	0
6/29/2015	8:56 AM	6:45 PM	No	No	Yes	3	0	2	1	0	0	0	0	1	0	1	1
7/1/2015	7:10 AM	8:10 AM	No	Yes	No	3	1	2	0	0	0	0	0	0	0	0	0
7/7/2015	8:30 AM	4:40 PM	No	Yes	Yes	2	0	2	2	0	0	1	0	0	0	0	0
7/8/2015	7:30 AM	6:08 PM	No	Yes	Yes	2	0	1	4	0	0	0	0	0	4	4	2
7/9/2015	4:00 PM	5:10 PM	No	Yes	No	3	0	1	0	0	0	0	0	0	0	0	0
7/11/2015	7:45 AM	7:00 PM	No	Yes	Yes	4	2	2	0	0	0	0	0	0	0	0	0
7/12/2015	8:45 AM	6:40 PM	No	No	Yes	3	2	0	1	0	0	0	0	0	0	0	0
07/13/15	8:55 AM	5:25 PM	No	Yes	No	3	2	1	0	0	0	0	0	0	0	0	0
07/14/15	9:42 AM	4:42 PM	No	Yes	Yes	2	0	2	0	0	0	0	0	0	0	1	0
07/15/15	8:15 AM	4:45 PM	No	Yes	No	2	0	2	1	0	0	0	0	0	0	0	0
07/16/15	12:00 PM	1:20 PM	No	Yes	No	3	0	2	1	0	0	0	0	0	0	0	0
07/17/15	9:28 AM	2:43 PM	No	Yes	Yes	4	0	3	1	0	0	0	0	0	0	0	0
07/18/15	8:55 AM	4:43 PM	No	No	Yes	2	0	1	1	0	0	0	0	0	0	2	0
07/20/15	1:28 PM	9:15 PM	No	Yes	Yes	2	0	0	3	0	0	4	0	0	0	0	0
07/21/15	7:30 AM	3:00 PM	No	Yes	No	1	0	0	0	0	0	0	0	0	0	0	0
07/22/15	5:15 AM	3:15 PM	No	Yes	Yes	1	0	0	2	0	0	0	0	1	0	1	2
07/24/15	8:40 AM	2:09 PM	No	Yes	Yes	2	0	1	0	0	0	0	0	0	1	1	0
07/25/15	11:45 AM	3:15 PM	No	No	Yes	2	0	1	0	0	0	0	0	0	0	1	0
07/26/15	9:00 AM	10:45 AM	No	No	Yes	3	0	2	0	0	0	0	0	0	0	0	0
07/29/15	2:20 PM	5:46 PM	No	Yes	No	4	1	1	0	0	0	1	0	0	0	0	0
07/30/15	12:20 PM	6:15 PM	No	Yes	No	1	0	0	2	0	0	1	0	0	0	0	0
08/01/15	12:08 PM	9:00 PM	No	Yes	Yes	3	0	0	1	0	0	0	0	0	2	1	0
08/03/15	9:05 AM	3:47 PM	No	Yes	Yes	1	0	3	2	0	0	0	0	0	0	0	0
08/04/15	2:20 PM	5:05 PM	No	Yes	No	1	0	1	2	0	0	0	0	0	0	0	0
08/05/15	8:50 AM	6:10 PM	No	Yes	Yes	1	0	2	6	0	0	0	0	0	0	0	0
08/06/15	8:32 AM	3:03 PM	No	Yes	Yes	4	1	1	1	0	0	0	0	0	0	0	0
08/07/15	10:15 AM	5:45 PM	No	No	Yes	1	0	0	3	0	0	0	0	0	0	0	0
08/09/15	1:30 PM	3:15 PM	No	Yes	No	2	0	1	0	0	0	0	0	0	0	0	0
08/10/15	11:50 AM	7:40 PM	No	No	Yes	4	1	1	0	0	0	0	0	0	0	0	0
08/11/15	9:12 AM	5:37 PM	No	Yes	Yes	4	0	1	0	0	0	0	0	0	0	0	0
08/12/15	9:48 AM	6:40 PM	No	Yes	Yes	4	1	1	1	0	0	0	0	0	0	0	0
08/13/15	7:00 AM	3:40 PM	No	Yes	Yes	2	4	1	0	0	0	0	0	0	0	0	0
08/14/15	7:40 AM	6:44 PM	Yes	No	Yes	2	0	1	3	0	0	1	0	0	1	0	0

08/15/15	10:34 AM	2:30 PM	No	No	Yes	1	0	1	1	0	0	0	0	0	0	0	0
08/16/15	8:37 AM	12:00 PM	No	No	Yes	4	1	0	2	0	0	0	0	0	0	0	0
08/19/15	12:22 PM	5:46 PM	No	No	Yes	4	2	0	1	0	0	0	0	0	1	0	0
08/20/15	7:10 AM	6:40 PM	No	Yes	Yes	4	2	0	2	0	0	0	0	0	3	1	1
08/21/15	8:40 AM	2:55 PM	No	Yes	Yes	4	4	0	3	0	0	0	0	0	0	0	0
08/22/15	11:50 AM	4:38 PM	No	Yes	No	3	1	4	1	0	0	0	0	0	0	0	3
08/23/15	9:27 AM	5:05 PM	No	Yes	Yes	4	0	5	1	0	0	0	0	0	0	0	2
08/24/15	8:40 AM	10:03 AM	No	Yes	No	4	0	0	0	0	0	0	0	0	0	0	0
08/25/15	2:40 PM	4:00 PM	No	Yes	No	1	0	0	0	0	0	0	0	0	0	0	0
08/26/15	10:20 AM	6:40 PM	No	Yes	Yes	1	0	0	2	0	0	0	0	0	0	0	1
08/27/15	10:00 AM	3:00 PM	Yes	Yes	No	3	0	2	0	0	0	0	0	0	0	0	0
08/30/15	10:25AM	data missing	No	No	No	4	1	1	0	0	0	0	0	0	0	0	1
08/31/15	8:20 AM	data missing	No	No	No	4	0	0	0	0	0	0	0	0	0	0	0
09/01/15	3:39 AM	data missing	No	No	No	2	0	1	1	0	0	0	0	0	0	1	2
09/02/15	8:21 AM	data missing	No	Yes	Yes	2	0	2	4	0	0	0	0	0	1	0	4
09/03/15	1:46 AM	1:50 PM	No	No	Yes	1	0	0	0	0	0	0	0	0	0	0	0
09/09/15	10:22 AM	4:35 PM	No	Yes	Yes	3	0	1	15	0	0	8	0	0	2	2	26
09/10/15	7:30 AM	12:20 PM	No	Yes	Yes	4	2	2	8	0	0	4	0	0	0	0	7
09/11/15	2:40 AM	6:00 PM	No	Yes	Yes	2	0	1	2	0	0	0	0	0	2	0	0
09/12/15	7:47 AM	6:00 PM	No	Yes	No	4	0	1	8	0	0	0	0	0	2	0	2
09/13/15	7:50 AM	9:03 AM	No	Yes	No	2	0	0	2	0	0	0	0	0	0	22	2
09/14/15	11:19 AM	4:55 PM	No	Yes	Yes	4	0	1	1	0	0	0	0	0	0	0	3
09/15/15	10:40 AM	2:10 PM	No	Yes	Yes	2	0	2	4	0	0	0	0	0	0	0	0
09/16/15	8:45 AM	3:06 PM	No	No	No	4	1	1	0	0	0	0	0	0	0	0	0
09/17/15	8:21 AM	3:36 PM	No	Yes	Yes	4	0	1	3	0	0	2	0	0	0	0	12
09/18/15	9:40 AM	5:00 PM	No	No	Yes	4	0	1	4	0	0	0	0	0	0	0	6
09/19/15	2:45 PM	5:07 PM	No	Yes	No	4	2	1	9	0	0	0	0	0	0	0	8
09/21/15	2:37 AM	6:20 AM	No	Yes	Yes	2	0	2	8	0	0	0	0	0	0	0	0
09/22/15	8:13 AM	4:16 PM	No	Yes	No	2	0	1	8	0	0	0	0	0	0	0	18
09/24/15	8:27 AM	4:19 PM	No	Yes	Yes	2	0	0	2	0	0	0	0	0	1	0	4
09/28/15	1:20 PM	4:52 PM	No	Yes	No	4	1	2	3	0	0	0	0	0	0	0	1
09/29/15	3:30 PM	4:59 PM	No	Yes	No	4	3	3	1	0	0	0	0	0	0	0	1
09/30/15	10:10 AM	3:15 PM	No	Yes	No	4	2	1	1	0	0	0	0	0	0	0	0
10/01/15	7:25 AM	5:50 PM	Yes	Yes	No	2	0	1	9	0	0	0	0	0	0	1	3
10/02/15	8:12 AM	5:05 PM	Yes	Yes	Yes	1	0	0	18	0	0	0	0	0	0	0	10
10/03/15	9:46 AM	5:13 PM	No	Yes	Yes	3	0	0	12	0	0	0	0	0	0	0	2
10/05/15	4:06 PM	5:50 PM	No	No	Yes	1	0	1	2	0	0	0	0	0	3	16	1
10/06/15	7:15 AM	5:50 PM	No	Yes	Yes	3	0	2	2	0	0	0	0	0	0	0	2
10/07/15	10:40 AM	4:37 PM	No	Yes	Yes	3	0	2	8	0	0	0	0	0	0	0	33
10/10/15	11:35 AM	2:04 PM	No	Yes	No	1	0	1	3	0	0	0	0	0	0	0	5
10/13/15	8:45 AM	4:45 PM	No	Yes	No	3	2	1	5	0	0	0	0	0	0	0	3
10/14/15	1:10 PM	2:30 PM	No	Yes	No	2	0	0	5	0	0	0	0	0	0	0	5
10/15/15	9:04 AM	1:07 PM	No	No	Yes	4	1	2	1	0	0	0	0	0	0	0	0
10/19/15	9:05 AM	4:30 PM	No	Yes	Yes	4	1	0	5	0	0	0	0	0	0	0	2
10/20/15	3:11 PM	6:12 PM	No	Yes	No	4	0	2	0	0	0	0	0	0	0	0	1
10/21/15	9:05 AM	11:45 AM	No	Yes	No	4	1	0	0	0	0	0	0	0	0	0	1
10/22/15	1:25 PM	7:05 PM	No	Yes	Yes	3	1	1	4	0	0	0	0	0	0	0	0
10/23/15	9:00 AM	12:00 PM	No	Yes	Yes	2	0	1	0	0	0	0	0	0	0	0	0
10/24/2015	9:00 AM	4:30 PM	No	Yes	No	2	0	0	0	0	0	0	0	0	0	0	0
10/25/2015	8:10 AM	9:37 AM	No	Yes	No	2	0	0	0	0	0	0	0	0	0	0	0
10/26/2015	7:38 AM	5:35 PM	No	Yes	Yes	2	0	0	3	0	0	0	0	0	0	0	1
10/27/2015	8:35 AM	5:29 PM	No	Yes	Yes	2	0	2	11	0	0	0	0	0	0	0	1
10/28/2015	8:45 AM	5:30 PM	No	Yes	Yes	3	1	2	7	0	0	0	0	0	0	0	0
10/29/2015	7:10 AM	5:51 PM	No	Yes	Yes	3	0	0	0	0	0	0	0	0	0	0	0
10/30/2015	10:30 AM	5:31 PM	No	Yes	Yes	3	1	1	0	0	0	0	0	0	0	0	0
11/1/2015	10:30 AM	5:30 PM	No	Yes	Yes	3	0	1	0	0	0	0	0	0	0	0	9

11/6/2015	7:15 AM	2:29 PM	No	No	Yes	3	2	3	0	0	0	0	0	0	0	0	0
11/7/2015	8:45 AM	9:55 AM	Yes	No	No	4	1	3	0	0	0	0	0	0	0	0	8
11/8/2015	10:36 AM	2:31 PM	No	No	Yes	4	0	1	0	0	0	0	0	0	0	0	4
11/9/2015	8:00 AM	3:34 PM	No	Yes	Yes	3	1	3	1	0	0	0	0	0	0	0	0
11/11/2015	9:15 AM	9:50 AM	No	No	Yes	3	0	3	1	0	0	0	0	0	0	0	0
11/12/2015	7:30 AM	5:10 PM	No	No	Yes	4	2	1	1	0	0	0	0	0	0	0	1
11/16/2015	1:55 PM	4:20 PM	No	No	Yes	4	0	2	1	0	0	0	0	0	0	0	0
11/17/2015	1:35 PM	3:30 PM	No	No	Yes	3	0	1	0	0	0	0	0	0	0	0	0
11/18/2015	8:00 AM	11:18 AM	Yes	No	No	4	0	2	0	0	0	0	0	0	0	0	1
12/1/2015	12:00 PM	3:15 PM	No	No	Yes	4	0	1	1	0	0	1	0	0	0	0	0
12/2/2015	8:40 AM	12:50PM	No	Yes	Yes	3	0	0	7	0	0	0	0	0	0	0	0
12/3/2015	9:00 AM	4:10 PM	No	Yes	No	3	0	1	6	0	0	0	0	0	0	0	0
12/4/2015	7:45 AM	2:00 PM	No	Yes	No	2	0	2	1	0	0	0	0	0	0	0	1
12/5/2015	9:30 AM	5:15 PM	No	Yes	No	2	0	0	1	0	0	0	0	0	0	0	2
12/6/2015	9:59 AM	4:10 PM	No	No	Yes	3	2	0	1	0	0	0	0	0	0	0	2
12/7/2015	7:00 AM	3:25 PM	No	Yes	Yes	4	0	1	0	0	0	0	0	0	0	0	0
12/8/2015	7:00 AM	10:00 AM	No	Yes	No	4	0	0	0	0	0	0	0	0	0	0	0
12/11/2015	12:26 PM	3:30 PM	No	No	Yes	4	0	2	2	0	0	0	0	0	0	0	2
12/12/2015	7:15 AM	2:28 PM	No	Yes	No	4	0	0	4	0	0	0	0	0	0	0	0
12/13/2015	7:15 AM	3:55 PM	No	Yes	Yes	4	0	1	3	0	0	0	0	0	0	0	0
12/14/2015	9:00 AM	3:10 AM	No	Yes	Yes	4	5	2	0	0	0	0	0	0	0	0	0
12/15/2015	12:00 PM	3:13 PM	No	No	Yes	2	0	1	2	0	0	0	0	0	0	0	0
12/16/2015	7:30 AM	2:44 PM	No	Yes	Yes	3	0	0	7	0	0	0	0	0	0	0	0
12/17/2015	8:55 AM	11:59 AM	No	Yes	No	4	5	5	0	0	0	0	0	0	0	0	0
12/18/2015	8:00 AM	2:55 PM	No	No	Yes	4	0	2	1	0	0	0	0	0	0	0	0
12/19/2015	8:00 AM	12:58 PM	No	Yes	Yes	4	5	4	0	0	0	0	0	0	0	0	0
1/12/2016	9:40 AM	11:32 AM	No	Yes	No	2	0	2	0	0	0	0	0	0	0	0	0
1/25/2016	11:40 AM	1:56 PM	No	Yes	No	4	2	4	0	0	0	0	0	0	0	0	0
Summary	Authorized Level B Takes								316	12	8	412	153	692	1288	480	528
	Total Level B Takes Incurred								226	0	0	24	0	2	32	63	179
	Authorized Level B Takes not Incurred								90	12	8	388	153	690	1256	417	349