

Appendix F

Sound Study, 2008



Statter Harbor Improvements SOUND STUDY

DH08-081



Prepared For:
CBJ Docks and Harbors Department
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1.0 INTRODUCTION

PND Engineers, Inc. was retained by the City and Borough of Juneau to perform a sound study as part of the Statter Harbor Improvement project, report findings, and propose recommendations.

The purpose of the sound study was to obtain current data regarding noise along the project corridor at Glacier Highway and also at Auke Bay Towers Condos, then to predict changes that would result from the construction of a boat launch ramp facility as proposed in the scope of the Statter Harbor Improvement project. The first phase of the study included taking various sound level readings of current boat launch and retrieve operations occurring at Statter Harbor and various residences along the project corridor. The second phase of the study focused on measuring ambient sound levels at several locations along the project corridor and at Auke Bay Towers Condos.

Statter Harbor is located approximately 10 miles north of downtown Juneau within Auke Bay. The site is accessible by Glacier Highway (58°23'11.44"N, 134°38'47.16"W, Section 23, Township 40 South, Range 65 East of the Copper River Meridian, Juneau B-3 Quadrangle). The site is located adjacent to the existing DeHart's Marina and Store, Fishermen's Bend Marina, and near the University of Alaska Southeast Juneau Campus.

The purpose of the proposed Statter Harbor Improvement Project is to improve safety, reduce congestion, and increase harbor efficiency by incorporating improvement plans identified in the Statter Harbor Master Plan.

Under existing conditions, commercial boats, recreational motor boats, and kayaks share a two-lane boat launch ramp in a congested area, which creates unsafe conditions and results in long waiting times. The existing launch facility is limited at low tide, often backing up traffic in the parking lot. Parking space is limited at the site and users often park along the highway and in other nearby lots, causing pedestrian safety concerns. Additionally, some of the harbor older facilities are in need of repair or replacement. A new two-lane boat launch ramp and boarding float and increased parking are proposed as part of the Statter Harbor Improvements project.

Please refer to Concepts 1 and 2 shown in the Appendix.



2.0 SOUND MEASUREMENT LOCATIONS

The scope of the project includes taking decibel readings utilizing a CBJ decibel meter to measure ambient sound at the project site, measure boat launch and retrieve operations as they occur, and write a report. PND measured the ambient sound at the project site and property lines at the Auke Bay Towers Condos and the Squire's Rest property along Glacier Highway. Sound levels were then taken at a distance comparable to the proposed distance from nearby properties to the location of the new boat launch facility.

Sound was recorded utilizing a SPER Sound Level Meter Cat. No. 840029 with a range of measurement of 30 to 130 dBA and an accuracy of ± 1.5 dBA and designed to meet IEC 651 type 1, DIN 45633, JIS 1502, and ANSI S1.4 type 2. The meter is equipped with an internal oscillation system for calibration. The sound level meter control weighting was measured at A (for noise levels) while the response was set at slow (for average sound levels). To minimize the effect of the Observer's presence, sound levels were measured with the Observer positioning the meter so that an imaginary line between the Observer and the meter was perpendicular to a line between the meter and the sound source.

For the purpose of this study, sound level data has been collected at various receptor locations. These locations were selected due to their direct line of sight to the location where the sound was being generated and residential property lines. The Observer at all receptor sights had visual contact with the boat launch facility operations, except for instances relating to the property at Squire's Rest which does not have visual contact.



Sound Level Meter

3.0 CHARACTERISTICS OF SOUND

Sound is a disturbance of mechanical energy that propagates through matter as a wave. Sound is characterized by the properties of sound waves, which are frequency, wavelength, period, amplitude and velocity or speed.

Humans perceive sound, the vibrations that travel through air, by their sense of hearing. Noise and sound are generally one in the same; however, noise is often referred to as an unwanted sound. Humans can generally hear sound intensities between 0 and 130 decibels (dBA), however, this range varies significantly with age, occupational hearing damage, and gender; and hear sound frequencies between 20 and 20,000 hertz and progressively lose the ability to hear higher frequencies as they get older. Most human speech communication takes place between 35 dBA and 90 dBA; a quiet whisper (produced at a level of about 35 dBA at 1 m), a conversational voice (60-65 dBA at 1 m), and a loud shout (90 dBA at 1 m) are all readily recognized as speech, yet sound substantially different. Sound above the hearing range is known as ultrasound, and that below the hearing range is infrasound.

Sound intensity is measured on a decibel scale and expressed in dBA. This logarithmic scale is comparable to a Richter Scale commonly used to measure the magnitude and intensity of earthquakes. Each 10 dBA increase in sound level corresponds to roughly doubling the loudness of the sound perceived by the listener for any given sound.

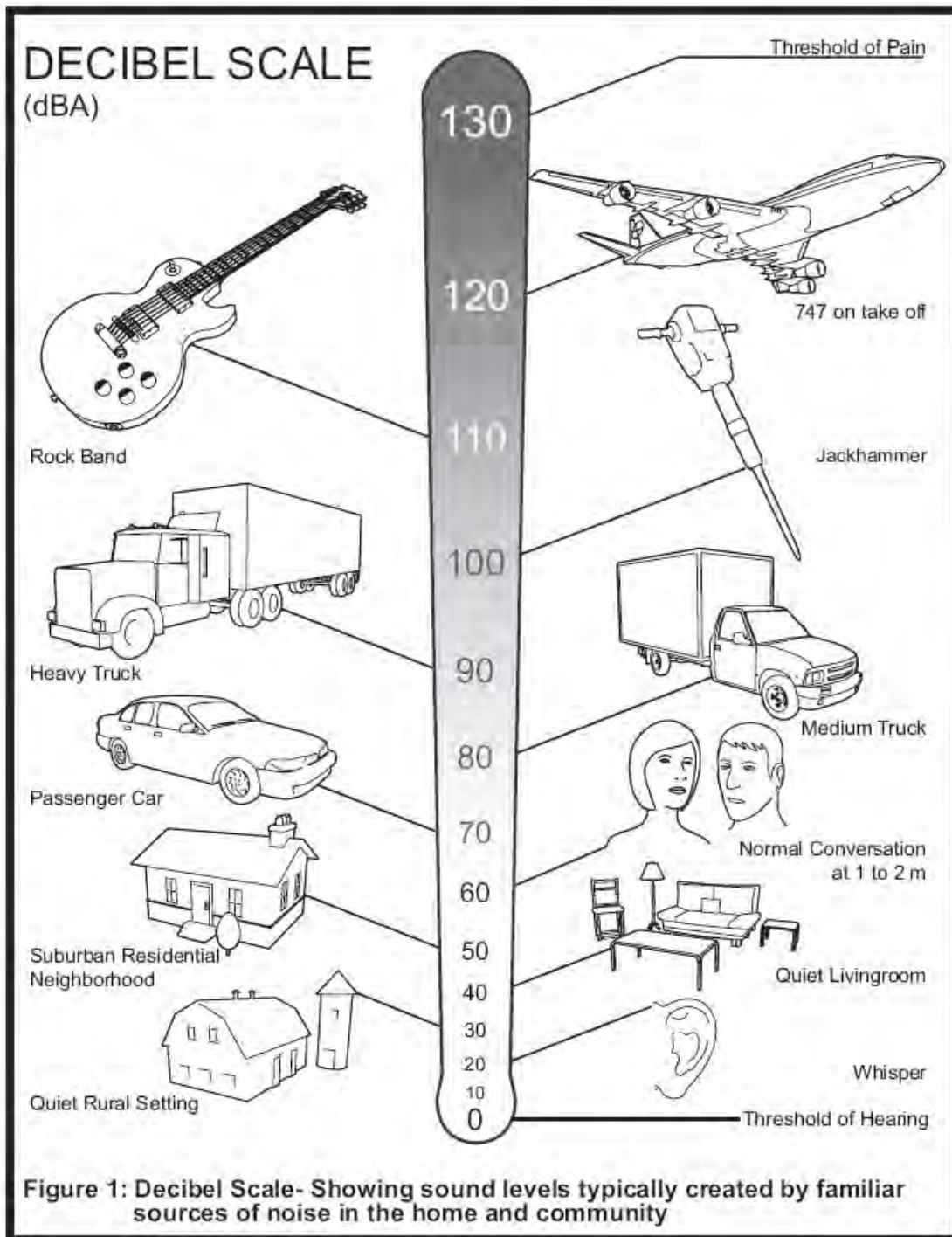
PERCEIVED SOUND LEVEL INCREASES	
<u>Change in Sound Level</u>	<u>Change in Perceived Loudness</u>
+/- 1 dBA	Requires close attention to notice
+/- 3 dBA	Barely perceptible
+/- 5 dBA	Noticeable
+/- 10 dBA	Dramatic: either double or half as loud
+/- 20 dBA	Striking: a fourfold change

Sound levels and human responses are listed on the following pages.

4.0 SOUND LEVELS AND HUMAN RESPONSE

HUMAN RESPONSE TO VARIOUS SOUND LEVELS		
Common Sounds	Sound Levels (dBA)	Effect
Jet Engine (near)	140	
Shotgun Firing Jet Takeoff (100-200 ft.)	130	Threshold of Pain
Thunderclap (near)	120	Threshold of Sensation
Power Saw Pneumatic Drill Rock Music Band	110	Regular exposure of more than 1 min. risks permanent hearing loss
Garbage Truck	100	No more than 15 min. unprotected exposure recommended
Subway Motorcycle Lawnmower	90	Very Annoying
Electric Razor Many Industrial Workplaces	85	Level at which hearing damage begins (8 hours)
Average City Traffic Noise Garbage Disposal	80	Annoying. Interferes with Conversation
Vacuum Cleaner Hair Dryer Inside a Car	70	Intrusive. Interferes with telephone conversation
Normal Conversation	60	-
Quiet Office Air Conditioner	50	Comfortable
Whisper	30	Very Quiet
Normal Breathing	10	Just audible
-	0	Threshold of Normal Hearing (1000-4000 Hertz)

EXPOSURE TIME LIMITS	
Decibels (dBA)	Exposure Time
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes

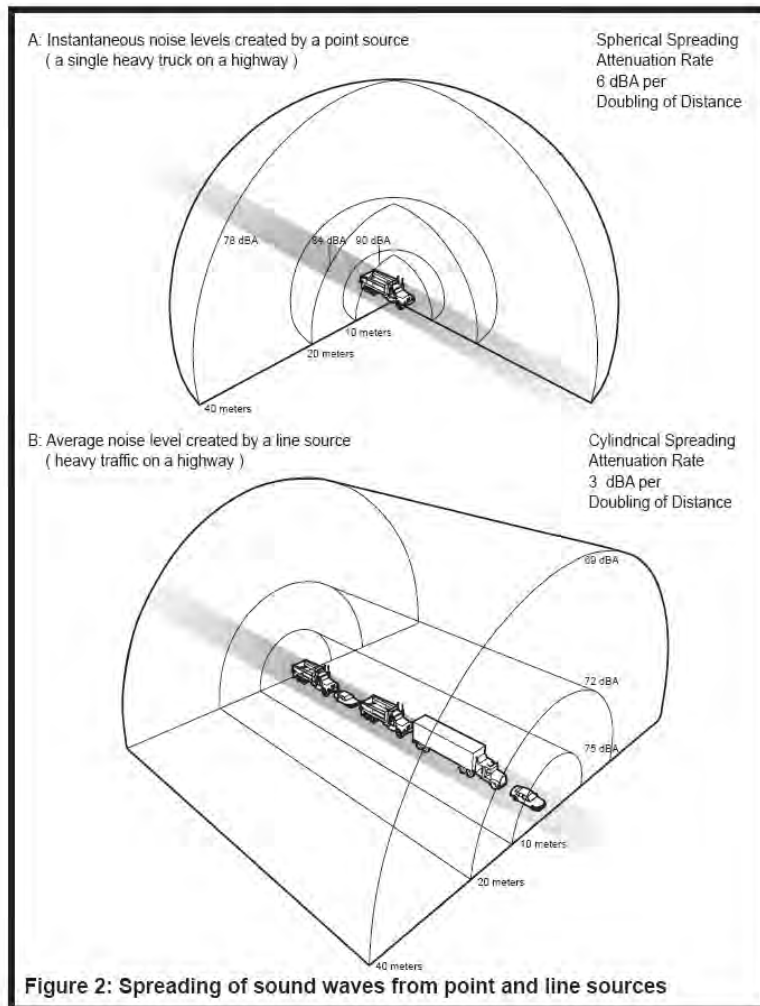


Source: City of Vancouver Sound Smart Brochure

5.0 SOUND WAVES AND DISTANCE

A sound wave is much like a rubber band. When the rubber band is stretched over a given distance, the rubber band becomes thinner. Similarly, as sound waves move away from the source, their intensity, or loudness decreases. This concept is illustrated in the Figure below.

This decrease in sound can be further explained by “point source” and “line source” of sound. Point sources are spread spherically, much like placing the rubber band around a large object. These sounds are physically small in comparison to their distance from the listener, for instance, an airplane in the sky or the siren on a fire truck. This spherical spreading of sound causes the sound to decrease at a rate of 6 dBA per doubling of distance, or at least 35% quieter with each doubling of distance. Alternately, line source sounds, in which sound waves are spread out cylindrically, much like shooting a rubber band off your thumb, spread out more gradually. Sound levels decrease at 3 dBA per doubling of distance, or half the rate of point sources when the sound region is large compared to the distance of the listener’s position, for instance heavy traffic on the roadway.



Source: City of Vancouver Sound Smart Brochure

6.0 SOUND CRITERIA

Sound has been a concern for neighborhoods since Roman times when rulers passed a bill that prohibited chariots driving through the cobblestone streets of Rome at night. Sound levels have increased steadily with increasing advances in technology. Today, sources such as powerful stereos, commercial businesses, car alarms, vehicular traffic and cell phones have added to the noise experienced in neighborhoods like Juneau.

Several references to sound within the CBJ municipal code specify criteria regarding actual sound levels:

CBJ Land Use Ordinance

Section 49.15.330(g) (11) states that under a Conditional Use permit, “conditions may be imposed to discourage production of more than sixty-five (65) dBA of sound at the property line during the day and fifty-five (55) during the night.”

CBJ Administrative Code

Section 04 CBJAC 050.020, contains sound limits applying to property boundaries between an industrial use and a residential areas (the proposed Statter Harbor site, the Auke Bay Towers Condos and Squire’s Rest are all located in a Waterfront Commercial zone). The maximum permissible levels for sound generated on an industrial property and received at residential property are 70 dBA (6 AM to 11:30 PM) and 55 dBA (11:30 PM to 6 AM).

CBJ Comprehensive Plan (1996)

Policy 3.15 of the states:

“It is the policy of the CBJ to minimize the exposure of citizens to the harmful effect of excessive noise, and to control the level of noise pollution in a manner which will be compatible with commerce and public safety; the use, value and enjoyment of property; sleep and repose; and the quality of the environment.”

Furthermore, in CBJ Land Use Ordinance Section 49.15.330(d) (5) (B) it states that the development must not “substantially decrease the value of or be out of harmony with property in the neighboring area.”

The U.S. Environmental Protection Agency (EPA) provides guidelines for the impact of a noise increase versus maximum acceptable levels. In *Noise Guidelines for Environmental Impact Statements* (EPA, 1975), it states that a noise increase at residences of 0 to 5 dBA is considered a slight impact; from 5 to 10 dBA, a significant impact; and over 10 dBA, a serious impact.

7.0 AMBIENT SOUND LEVELS

7.1 Auke Bay Towers Condos – Property Line

The following table details the ambient sound levels taken at Auke Bay Towers Condos at both the high tide and the low tide. Please refer to the diagrams on pages 12 and 16.

AMBIENT SOUND LEVELS		
Location 5 Property Line Harbor Side – High Tide		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	64.1	Dump Truck
2	57.7	Boat at Make Ready, Traffic
3	60.5	Boat Backing, Auto Horn, Traffic
4	58.6	Backing Down Ramp, Skiff Pulling Out
5	54.8	Boat Launching, No Traffic
6	64.3	Dump Truck, Two Boats at Launch, no Engines
7	62.2	Traffic, Wind Rustle in Trees
8	58.4	City Bus/Trailer Pulling Out of Driveway
9	54.2	Boat Approaching, No Traffic
10	58.8	Diesel Backing Down Ramp

AMBIENT SOUND LEVELS		
Location 6 Property Line Road Side – High Tide		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	62.4	Plane, Pulling Boat Out
2	62.6	Large Skiff Leaving
3	59.9	Pulling Out Small Skiff
4	56.7	Cranking onto Trailer
5	57.9	Traffic, Dog Bark
6	58.7	Heavy Traffic
7	56.8	Pulling Out of Driveway, Low Traffic
8	52.2	No Harbor Traffic, No Traffic
9	57.7	Birds, No Traffic
10	58.7	Birds, Wind Chimes

AMBIENT SOUND LEVELS		
Location 5 Property Line Harbor Side – Low Tide		
<u>Time</u> <u>(Minutes)</u>	<u>Sound Level</u> <u>(dBA)</u>	<u>Notes</u>
1	55.5	Plane Overhead
2	54.7	Boat Leaving DeHart's, Birds
3	51.8	Washing Boat at DeHart's, Plane in Background
4	46.3	No Traffic
5	46.2	No Traffic
6	48.6	Boat Leaving DeHart's
7	50.2	Lt. Traffic
8	46.4	No Traffic
9	43	No Traffic
10	44.3	No Traffic

AMBIENT SOUND LEVELS		
Location 6 Property Line Road Side – Low Tide		
<u>Time</u> <u>(Minutes)</u>	<u>Sound Level</u> <u>(dBA)</u>	<u>Notes</u>
1	56.7	Plane Overhead
2	53.6	Plane Overhead
3	53	Traffic
4	52.7	Troller Fishing Boat Leaving Harbor
5	50.4	Lt. Traffic
6	49.1	Lt. Traffic
7	48.6	Lt. Traffic
8	48.4	Lt. Traffic
9	48.9	Lt. Traffic
10	48.8	Lt. Traffic

7.2 Auke Bay Towers Condos – Building Corner

AMBIENT SOUND LEVELS		
Location 7 Building Corner Harbor Side – High Tide		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	54.8	No Traffic
2	57.9	City Bus
3	56	Trailer Backing Down Ramp, Lt. Traffic
4	58.8	Traffic, Boat Approaching Ramp
5	56.4	Boat Riding Up Trailer
6	56.7	Reving Up onto Trailer
7	56.4	Boat at Make Ready
8	59.2	Wind Gust
9	55.8	Backing Down Ramp, Boat Trailering
10	57.1	Driving up Ramp, Birds

AMBIENT SOUND LEVELS		
Location 8 Building Corner Road Side – Low Tide		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	54.4	Traffic
2	52.3	Traffic
3	50.7	Traffic
4	47.7	Lt. Traffic
5	55.8	Traffic
6	49.1	Lt. Traffic
7	47.3	No Traffic
8	46.4	No Traffic
9	47.1	No Traffic
10	45.9	No Traffic

AMBIENT SOUND LEVELS		
Location 7 Building Corner Harbor Side – Low Tide		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	48.8	Lt. Traffic, Birds
2	48.1	Lt. Traffic, Birds
3	46	No Traffic
4	45.4	No Traffic
5	61.6	Plane Overhead
6	64.9	Plane Overhead
7	70.2	Plane Directly Overhead
8	56	Dump Truck
9	48.5	No Traffic
10	51.5	Condo Resident Taking out Garbage

AMBIENT SOUND LEVELS		
Location 8 Building Corner Road Side – High Tide		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	58	Traffic, Wind Chimes, Dog Barking, Birds
2	54.4	No Traffic
3	56.8	Lt. Traffic
4	58.2	Lt. Traffic
5	61.6	Dump Truck
6	59.7	Traffic
7	53.1	No Traffic
8	54.7	Boat at Ramp, Lt. Traffic
9	52.2	Boat at Harbor, No Traffic
10	60.8	Birds



Locations 5 and 6—Auke Bay Towers Condos Property Lines



Locations 7 and 8 —Auke Bay Towers Condos Building Corners

7.3 Squire's Rest

AMBIENT SOUND LEVELS		
Location 10 Squire's Rest – High Tide		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	77.5	Traffic
2	82.4	Traffic
3	79	Traffic
4	79.7	Traffic
5	75	Traffic
6	82.9	Diesel Truck
7	73.4	Traffic
8	60.7	No Traffic, Plane
9	56.4	No Traffic, Plane
10	66.1	Lt. Traffic

AMBIENT SOUND LEVELS		
Location 10 Squire's Rest – Low Tide		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	67.4	Traffic
2	75.1	Traffic
3	53	No Traffic
4	76.9	Traffic
5	60.7	Oncoming Traffic
6	81.4	Two Cars Passing
7	65.1	Pulling in Horton Lot
8	54.9	No Traffic
9	76	Passing Car
10	49.8	No Traffic



Location 10—Squire's Rest

8.0 RECORDED SOUND

8.1 Boat Launch Ramp Sound Recordings

The following table details the sound levels recorded under the circumstances detailed below.

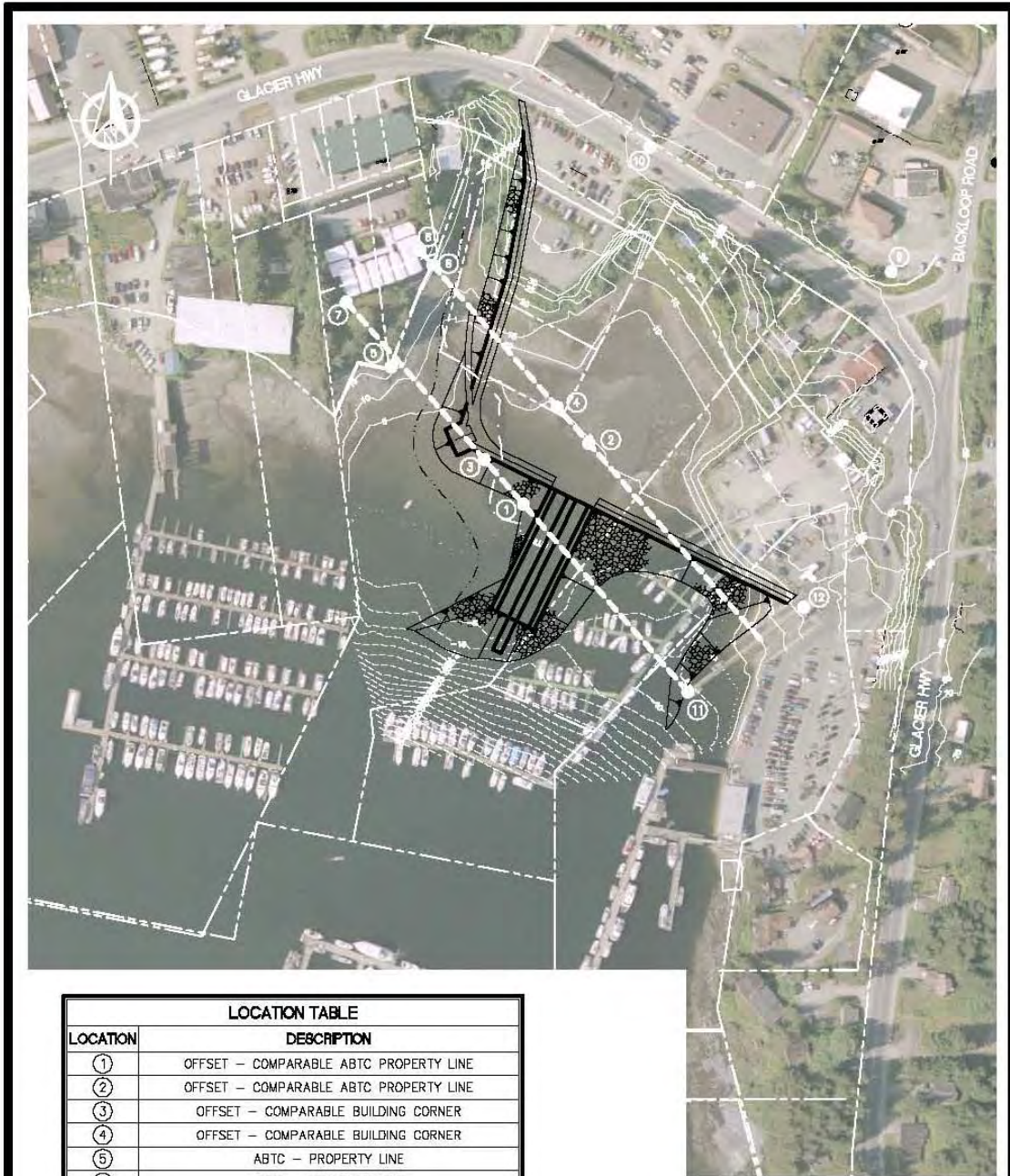
The boat launch ramp received steady use throughout the recording period. This is likely credited to recreational fishermen and hunters. Additionally, boats moored at Tee Harbor are required to remove boats for the season by October 1, therefore it is assumed that some traffic can be attributed to this.

Concepts 1 and 2 of the future Statter Harbor Boat Launch Ramp Facility and the nearby residences is listed in the Appendix.

Weather conditions include:

WEATHER CONDITIONS Saturday, September 27, 2008	
Humidity	97%
Wind	E 3 MPH
Barometric Pressure	29.83" (1010.0 mb)
Dew Point	44°F
Visibility	10 Mi
Overcast	45°F

Source: www.noaa.org – Juneau Airport



LOCATION TABLE	
LOCATION	DESCRIPTION
①	OFFSET - COMPARABLE ABTC PROPERTY LINE
②	OFFSET - COMPARABLE ABTC PROPERTY LINE
③	OFFSET - COMPARABLE BUILDING CORNER
④	OFFSET - COMPARABLE BUILDING CORNER
⑤	ABTC - PROPERTY LINE
⑥	ABTC - PROPERTY LINE
⑦	ABTC - BUILDING CORNER
⑧	ABTC - BUILDING CORNER
⑨	OFFSET - COMPARABLE SQUIRES REST
⑩	SQUIRES REST
⑪	EXISTING BOTTOM OF RAMP
⑫	EXISTING TOP OF RAMP

NOTE:
RECORDING LOCATIONS 1,2,3,4, & 9 ARE COMPARABLE LOCATIONS AND DISTANCES TO PROPOSED IMPROVEMENTS.

SOUND STUDY



DESIGN: KIM CHECKED: CRS DRAWN: SCALE: IN FEET
DATE: PJB APPROVED: CRS 0 50 100 FT DATE: 10/22/08

**CITY & BOROUGH OF JUNEAU
STATTER HARBOR IMPROVEMENTS**

DESIGN TITLE: **EXISTING CONDITIONS & RECORDING LOCATIONS** **1**
OF 1

PROJ. NO. 082015 SHEET NO. PH 1 SOUND STUDY

8.1.1 Low Tide Recordings

RECORDED SOUND LEVELS		
Location 1 – Harbor Side Closest to Boat Launch *(Bay Creek Noise in Background)		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	50.3	Trailer Backing Down Ramp, Talking
2	46.6	Launching Boat, Shutting Doors
3	47	Boat in Water
4	45.7	Talking at Ramp
5	50.1	Truck Pulling up Ramp
6	44.4	One Boat in Water, One at Ramp, Talking
7	44.7	One Boat in Water, One at Ramp, Talking
8	50.8	Traffic, Two Boats at Ramp, not running
9	50.5	Traffic, Two Boats at Ramp, not running
10	46.1	Traffic, Two Boats at Ramp, not running
11	47.6	Traffic, Two Boats at Ramp, not running
12	49.3	One Boat in Water, One at Ramp
13	48.4	Lt. Traffic, One Boat Running
14	53.9	No Boats, Eagles
15	47.7	No Boats, Bus
16	47.2	Lt. Traffic, No Boats
17	46.4	Traffic
18	49.1	Traffic
19	47.4	Traffic
20	48.1	Traffic

RECORDED SOUND LEVELS		
Location 2 – Road Side Closest to Boat Launch		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	40.7	No boat, Lt. Traffic, Eagles
2	49.4	Trailer Backing Down to Launch, Lt. Traffic
3	47.1	Boat on Ramp, Cars passing
4	58.2	Eagles and Birds
5	40.7	Boat on Ramp, Dumping Truck Bed, Cars passing
6	48.2	Pulling up Ramp, Lt. Traffic
7	48.3	Yelling at Ramp, Boat Running
8	44.6	Boat Running
9	47.7	Lt. Traffic, Boat Running
10	48.1	Lt. Traffic, Boat Running, Eagles
11	45.1	No Traffic
12	51.4	Old Van
13	50.7	Traffic
14	43.1	No Traffic
15	45.8	Lt. Traffic
16	46.4	Lt. Traffic
17	55.5	Traffic
18	45.9	Lt. Traffic
19	48.7	Lt. Traffic
20	47.2	Lt. Traffic

RECORDED SOUND LEVELS		
Location 3 – Harbor Side Closest to Condos		
<u>Time</u> <u>(Minutes)</u>	<u>Sound Level</u> <u>(dBA)</u>	<u>Notes</u>
1	49.7	No Boats, No Traffic
2	50.2	No Boats, No Traffic
3	49.9	No Boats, No Traffic
4	46.6	No Boats, No Traffic
5	54.2	Boat coming into DeHart's
6	60.6	Plane Overhead
7	47.5	Plane Overhead
8	51.2	Plane Overhead
9	57.8	Backing Down Ramp
10	46.8	Boat at Ramp, not running
11	52.6	Firing Up
12	54.8	Birds, Boat Running
13	50.5	Revsing, Birds
14	57.3	Traffic, Boat Running
15	53.3	Traffic, Boat Running
16	66.3	Motorcycle or Loud Car, Boat Running
17	51.8	Traffic, Boat Running
18	55	Birds, Traffic, Boat Running
19	52.8	Traffic, Boat Running
20	46.9	Lt. Traffic, Boat Running

RECORDED SOUND LEVELS		
Location 4 – Road Side Closest to Condos		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	48.7	Diesel Truck, Bus, Boat at Ramp
2	45.1	Boat Running
3	49.7	Coughing Fit at DeHart's, Boat at Ramp
4	43.8	Boat Running
5	47.8	Coughing Fit at DeHart's, Boat at Ramp
6	50.7	2 Boats Running, 3 Trailers at Make Ready, One Diesel
7	55.6	One Boat Pulling Out, 3 Boats at Make Ready
8	52.4	Boat Running
9	49.4	Boat Revving, 2 Boats at Ramp, 3 Boats at Make Ready
10	49.8	Traffic, 2 Boats Running
11	45.2	Trailer Backing Down Ramp
12	44.7	No Boats, No Traffic
13	45.1	No Boats, No Traffic
14	42	No Boats, No Traffic
15	42.1	No Boats, No Traffic
16	49.6	Birds, No Boats, No Traffic
17	48	Lt. Traffic
18	43	No Boats, No Traffic
19	42.7	No Boats, No Traffic
20	50.6	Traffic, Birds

RECORDED SOUND LEVELS		
Location 9 – Electric Co-op		
<u>Time</u> (Minutes)	<u>Sound Level</u> (dBA)	<u>Notes</u>
1	70.9	Diesel Truck
2	61.2	Traffic
3	68.8	Traffic
4	62.8	Traffic
5	53.7	No Traffic, Coughing and Talking at Bus Stop
6	51.7	No Traffic
7	69.3	Old Loud Car
8	62	Oncoming Car at DeHart's
9	52.9	No Traffic
10	69.6	Flat Bed Truck

8.1.2 High Tide Recordings

RECORDED SOUND LEVELS		
Location 1 – Harbor Side Closest to Boat Launch *(Wind Picks Up)		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	54.6	Two Boats at Launch, no Movement
2	54.7	Maneuvering Trailer at Make Ready
3	57.9	Backing Trailer, Oncoming Plane
4	61	Pulling Up Trailer, Plane Overhead
5	57.6	Cranking Up Trailer
6	55.8	Cranking Up Trailer, Oncoming Jetski
7	56.5	Pulling Out Boat with Diesel Truck
8	57.4	Diesel Tie Down, Oncoming Large Boat
9	57	Make Ready and Tie Down, Two at Ramp
10	55.3	Approaching Skiff, 3 at Ramp, Jet Ski at Make Ready and Tie Down
11	58.4	Trailer Pulling Up Access Road
12	55.1	Talking, 10+ People at Ramp
13	55.2	Retrieving Jet Ski
14	63.2	Dump Truck
15	58.1	Backing Down Ramp
16	60.2	Approaching Ramp, One at Make Ready
17	56.7	Talking, Two Preparing to Retrieve
18	57.2	Tour Bus, Driving Down Ramp
19	57.4	Pulling Up Skiff
20	55.1	Backing Down Ramp

RECORDED SOUND LEVELS		
Location 2 – Road Side Closest to Boat Launch		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	51.7	Lt. Traffic
2	52.6	Wind in Tarps at Haulout
3	48.2	Wind in Tarps at Haulout
4	50.3	Wind in Tarps at Haulout
5	57.2	Bus Traffic
6	60.2	Helicopter Overhead and Plane Overhead
7	55.5	Boat Launching, Yelling on DeHart's Floats
8	55.7	Boat Launching, Talking on DeHart's Floats
9	52.9	Baking In and Yelling on DeHart's Floats
10	59.2	Walking Boat on Ramp - USCG Talking on Loud Speaker
11	63.3	USCG Radio Beeps
12	59.1	Dump Truck, Boats at Ramp
13	57.2	Birds, Boats at Ramp, No Engines
14	55.5	Boat Running, Dog Barking, Plane Overhead
15	61.2	Dump Truck, Boats at Ramp
16	52.6	Boat at Ramp
17	49.8	Starting Boat, Pulling Cord
18	49.3	Trying to Start Boat
19	56.6	Boat Running
20	52.9	Boat Running

RECORDED SOUND LEVELS		
Location 3 – Harbor Side Closest to Condos		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	58.4	Diesel Retrieving, 3 Boats at the Float, Plane Overhead
2	58.1	Cranking Boat onto Trailer
3	58.2	Cranking Boat onto Trailer, 2 Boats at Float
4	59.6	Two Dump Trucks Oncoming
5	61.3	Two Dump Trucks Passing
6	57	3 Boats Making Ready
7	55	Driving Down Float
8	53.8	Backing Down Float, No Traffic
9	57.4	Tour Bus
10	56.4	Tour Boat Coming In, Man Running Up Float
11	58.3	Backing Down Float
12	58.4	Boat at Make Ready, Boat at Retrieve
13	63.8	Birds, Crash at DeHart's
14	59.5	Cranking Boat onto Trailer, Plane Oncoming
15	60.1	Cranking Boat onto Trailer, Boat Running at Float, Plane Overhead
16	61	Cranking Boat onto Trailer, Tour Boat, Traffic
17	60.1	Car Door, Tour Boat, Tour Bus
18	58.1	Diesel Retrieving
19	56.1	Boat Pulling Up to Float
20	57.1	Boat at Tie Down, Traffic

RECORDED SOUND LEVELS		
Location 4 – Road Side Closest to Condos		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	54.9	Driving Up Ramp, Traffic, Tour Bus
2	58	Bus, People at Ramp, No Engines
3	57.9	Dump Truck, Floating at Ramp
4	53.1	Lt. Traffic, No Boats
5	50.6	Boat Pulling out of DeHart's
6	52.1	Boat Driving out of DeHart's
7	61.4	Dump Truck, Dock Barking and Yelling at DeHart's
8	51.7	Boat Approaching Ramp
9	51.8	Boat Tying to Float
10	60	Dump Truck
11	54.6	Birds, Two Boats at Ramp
12	56.2	Crashing Noise at DeHart's
13	54.6	Retrieving Boat
14	57.1	Retrieving Boat, Plane
15	55.7	Putting Boat on Trailer
16	53.6	Putting Boat on Trailer
17	52.3	Putting Boat on Trailer
18	54.3	Closing Truck Doors
19	57	Plane
20	54.9	Pulling Up to Dock

RECORDED SOUND LEVELS		
Location 9 – Electric Co-op		
<u>Time</u> (Minutes)	<u>Sound Level</u> (dBA)	<u>Notes</u>
1	59.7	Approaching Stop Sign from Backloop
2	64.3	Lt. Traffic
3	69.3	Lt. Traffic
4	70	Diesel Truck
5	63.8	Lt. Traffic
6	65	Lt. Traffic
7	66	Accelerating Up Backloop Hill
8	67.8	Motorcycle
9	66.8	Truck
10	67	Traffic

8.1.3 Boat Launch Activity – Low Tide

RECORDED SOUND LEVELS		
Location 1 – Boat Launch Activity, Bottom of Ramp		
<u>Time</u> <u>(Minutes)</u>	<u>Sound Level</u> <u>(dBA)</u>	<u>Notes</u>
1	64	Boats Running
2	64.4	Boats Running
3	62.2	Boats Running
4	62.8	Boats Running
5	71.8	Boat Revving Up, Dump Truck on Road

RECORDED SOUND LEVELS		
Location 2 – Boat Launch Activity, Top of Ramp		
<u>Time</u> <u>(Minutes)</u>	<u>Sound Level</u> <u>(dBA)</u>	<u>Notes</u>
1	56.4	Launching and Retrieving
2	57.7	Launching and Retrieving
3	69.2	Launching and Retrieving - Truck at Observer
4	58	Launching One Boat, Talking on Ramp
5	65.1	Truck at Observer

8.1.4 Boat Launch Activity – High Tide

RECORDED SOUND LEVELS		
Location 1 – Boat Launch Activity, Bottom of Ramp, On Board		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	70.2	Lt. Traffic
2	69.2	Lt. Traffic
3	70.2	Lt. Traffic
4	82.7	Reving Up
5	55.5	Not Running, Boats Loading on Statter Main Float

RECORDED SOUND LEVELS		
Location 2 – Boat Launch Activity, Top of Ramp		
<u>Time (Minutes)</u>	<u>Sound Level (dBA)</u>	<u>Notes</u>
1	51.9	Lt. Traffic
2	54.8	Lt. Traffic, Talking on Seawalk
3	62.8	Dump Truck Breaking
4	50.1	Lt. Traffic
5	58.6	Bus Traffic

9.0 KEY FINDINGS

The Juneau Police Department did not receive any phone complaints from nearby residents concerning noise during the study at any of the recorded locations. A total of four noise complaints have been received by the Juneau Police Department in the nearby vicinity over the past year. It is unknown if these complaints were related to launch noise or other sources.

The highest recorded sound levels recorded at the monitoring sites occur from passing vehicular traffic and overhead air traffic. Both of these activities result in short bursts of sound with the peak lasting less than 5 seconds on average.

No significant change in recorded sound levels were observed from boats operating at the boat launch ramp.

Sound spikes were primarily attributed to slight wind gusts, birds, wind chimes, and passing vehicular traffic.

10.0 RECOMMENDATIONS

The results generated showed that the average maximum levels of sound generated during the study period were at or below the 55 dBA permissible level for sound generated on waterfront commercial zoning at all hours of the day. It is recommended that the CBJ propose an around-the-clock operation period for the future Statter Harbor boat launch ramp facility.

11.0 WORKS CITED

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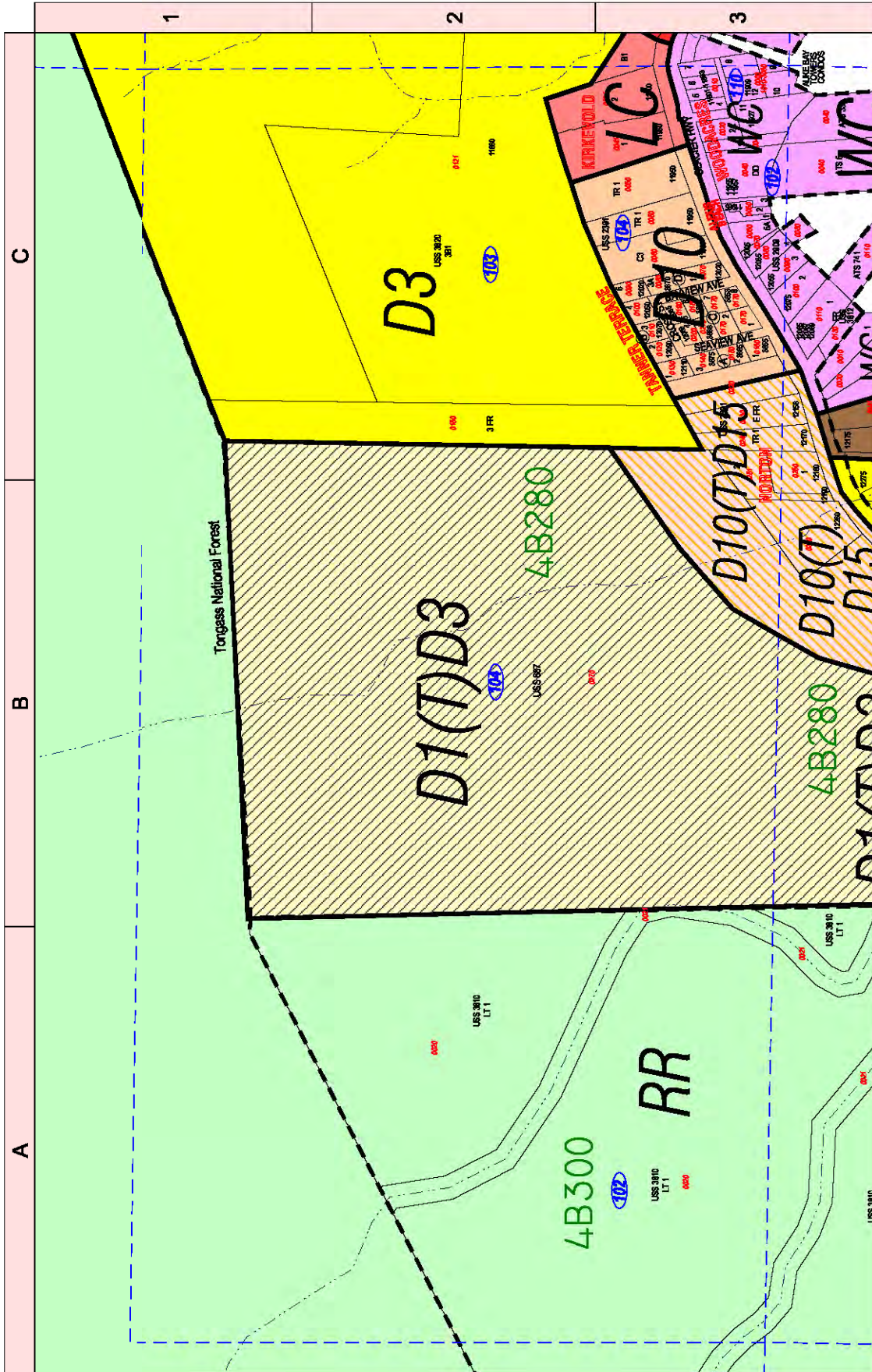
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CBJ Assessors's Database, <http://www.juneau.org/assessordata/sqlassessor.php>

APPENDIX

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CBJ/GIS 2006



Assessor Tax Code

16D0901	102	0030
Parcel Code	Block Number	Lot Number

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