CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

DEVELOPMENT PERMIT APPLICATION

NOTE: Development Permit Application forms must accompany all other Community Development Department land use applications. This form and all documents associated with it are public record once submitted.

To be completed by Applicant

PROPERTY LOCATION

Physical Address: 4670 Glacier Highway

Legal Description(s) (Subdivision, Survey, Block, Tract, Lot): Ravenswood Subd

Parcel Number(s): 7B1001150063

☐ This property is located in the downtown historic district
☐ This property is located in a mapped hazard area, if so, which _____

LANDOWNER/ LESSEE

Property Owner: R&S Construction LLC | Contact Person: Rob Worden

Mailing Address: PO Box 210194 | Phone Number(s): 907-321-5015, 907-723-8952

E-mail Address: roblisa@ak.net

LANDOWNER/ LESSEE CONSENT

Required for Planning Permits, not needed on Building/ Engineering Permits.

Consent is required of all landowners/ lessees. If submitted with the application, alternative written approval may be sufficient. Written approval must include the property location, landowner/ lessee's printed name, signature, and the applicant's name.

I am (we are) the owner(s)or lessee(s) of the property subject to this application and I (we) consent as follows:

A. This application for a land use or activity review for development on my (our) property is made with my complete understanding and permission.
B. I (we) grant permission for the City and Borough of Juneau officials/employees to inspect my property as needed for purposes of this application.

R&S Construction LLC — Landowner/Lessee (Printed Name)
owner — Title (e.g.: Landowner, Lessee)

X _____ — Landowner/Lessee (Signature)
March 27/2025 — Date

_____ — Landowner/Lessee (Printed Name)
Title (e.g.: Landowner, Lessee)

X _____ — Landowner/Lessee (Signature)
Date

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours. We will make every effort to contact you in advance, but may need to access the property in your absence and in accordance with the consent above. Also, members of the Planning Commission may visit the property before a scheduled public hearing date.

APPLICANT — If same as LANDOWNER, write "SAME"

Applicant (Printed Name): same | Contact Person:

Mailing Address: | Phone Number(s):

E-mail Address:

X _____ — Applicant's Signature
march 27/2025 — Date of Application

---DEPARTMENT USE ONLY BELOW THIS LINE---

Intake Initials	
Case Number: SMP25-01	Date Received: 4/28/25

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

For assistance filling out this form, contact the Permit Center at 586-0770.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

SUBDIVISION AND DEVELOPMENT PLAN APPLICATION

See subdivision hand-outs for more information regarding the permitting process and the materials required for a complete application.
NOTE: Must be accompanied by a DEVELOPMENT PERMIT APPLICATION form.

To be completed by Applicant

PROJECT SUMMARY

final plan review and preliminary plat review

Number of Existing Parcels 1 Total Land Area 221,678 sq ft Number of Resulting Parcels 43

HAS THE PARCEL BEEN CREATED BY A MINOR SUBDIVISION IN THE PRECEDING 24 MONTHS

◯ NO ◯ YES Case Number _____

TYPE OF SUBDIVISION OR PLATTING APPROVAL REQUESTED

MINOR DEVELOPMENT (changing or creating 13 or fewer lots)	MAJOR DEVELOPMENT (changing or creating 14 or more lots)
◯ Preliminary Plat (MIP)	◉ Preliminary Plat (SMP)
◯ Final Plat (MIF)	◯ Final Plat (SMF)
◯ Panhandle Subdivision	◯ Preliminary Development Plan – PUD (PDP)
◯ Accretion Survey	◯ Final Development Plan – PUD (PDF) Preliminary
◯ Boundary Adjustment	◯ Development Plan – ARS (ARP) Final
◯ Lot Consolidation (SLC)	◯ Development Plan – ARS (ARF)
◯ Bungalow Lot Subdivision	◯ Bungalow Lot Subdivision
◯ Common Wall/Zero Lot Subdivision	◯ Common Wall/Zero Lot Subdivision
◯ Other _____	◯ Other _____

ALL REQUIRED DOCUMENTS ATTACHED

- ☑ **Pre-application conference notes**
- ☑ **Narrative including:**
  - ☑ Legal description(s) of property to be subdivided
  - ☑ Existing structures on the land
  - ☑ Zoning district
  - ☑ Density
  - ☑ Access
  - ☑ Current and proposed use of any structures
  - ☑ Utilities available
  - ☑ Unique characteristics of the land or structure(s)
- ☑ **Preliminary Plat checklist**

---DEPARTMENT USE ONLY BELOW THIS LINE---

SUBDIVISION/PLATTING FEES	Fees	Check No.	Receipt	Date
Application Fees	$ 110.00 x 43			
Admin. of Guarantee	$			
Adjustment	$			
Total Fee	$ 4880.00			

For assistance filling out this form, contact the Permit Center at 586-0770.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

Case Number	Date Received
SMP25-01	4/26/25

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www.vectorengineeringinc.com

DRAINAGE REPORT
Vector Engineering Inc.

To: City of Juneau Community Development
From: Tracy Moore, PE
Date: February 25, 2025
Re: Ravenswood Subdivision

1.0 Site Overview

The site is located at 4670 Glacier HWY and consists of approximately 5.09 acres of mostly cleared and undeveloped land. The Ravenswood Subdivision is a resubdivision of Lot 2, Chilkat View Sub. II, Survey No. 3263 & Tract 1A, U.S. Survey No. 3246.

There is an existing creek that has been rerouted at the southern end of the site. This creek crosses Glacier Highway through a 30" CMP culvert. An existing 24" CMP culvert crosses Glacier Highway at the north of the project, which is where the proposed site drainage will be released.

The proposed development consists of 43 lots, with 42 residential lots and one parent lot (Lot 43) to be owned in common by a homeowners' association.

2.0 Increase in Stormwater Runoff

Drainage calculations have been performed to estimate pre- and post-development flows in accordance with the City and Borough of Juneau Manual of Stormwater Management Practices. The resulting increase in runoff flows in cubic feet per second (CFS) are summarized in Table 1 below:

Table 1 – Stormwater Runoff Summary

Discharge Point	Pre-Development Flow (CFS)*	Post-Development Flow (CFS)*	Increase in Runoff (CFS)*	Discharge Culvert Capacity (CFS)
24" CMP	2.32	11.33	9.01	29.97
SD-1 (Driveway)	N/A	N/A	N/A	11.97

*Results are based on an assumed precipitation intensity(i) = 3.04 inches/hour for a 5-min duration and a 25-year storm event.

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3.0 Connections to Established Channels

The proposed drainage system consists of drainage swales along both sides of the proposed subdivision street. These swales will collect runoff from all proposed hard surfaces including roads, sidewalks, driveways, and roofs. The system will include 12" or 18" culverts under all 42 driveways, most driveways will be shared in order to reduce the number of required culverts. All collected runoff will be conveyed through the ditch system and eventually discharge to the existing 24" CMP culvert crossing Glacier Highway at the north end of the site.

4.0 Evaluation of Downstream Drainage Ways

The Glacier Highway 24" CMP cross-culvert that will receive the increased flow has been evaluated and found to have adequate capacity for the additional demand (see Table 1 above). The culvert capacity of 29.97 CFS exceeds the post-development flow of 11.33 CFS, providing a safety factor of approximately 2.64.

The proposed worst-case driveway culvert (SD-1) with a capacity of 11.97 CFS will be adequate to handle the anticipated flows. Upstream culverts will be analyzed and sized (either 12" or 18") appropriately once final layout has been approved and established.

5.0 Summary of Required Improvements

Following is a summary of the approach to CBJ code requirements for the drainage plan:

a) Plan Requirements
1) Increase in Runoff: See Table 1 above
2) Evaluation of Existing Drainage Ways: See section 4.0 and Table 1 above
3) Public and any required drainage facilities:
- Drainage swales along both sides of the proposed subdivision street
- 18" or 12" culverts under all driveways
- Connection to existing 24" CMP culvert at Glacier Highway
4) Outlet to Established Drainage: The drainage system will outlet to the existing 24" CMP culvert crossing Glacier Highway

b) Easements: The preliminary plat shows existing drainage easements (20' drainage easement as per Plat No. 99-52). Additional easements may be needed depending on final site topography and building locations.

c) Drainage Systems Required: The proposed drainage system includes swales, culverts, and connections to the existing infrastructure as described above.

d) Construction timing: There will be no phasing on this project and construction is planned to begin in 2025.

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6.0 Drainage Summary

The downstream drainage ways have been evaluated for the impact of the proposed improvements and found to be adequate to handle the increase in runoff. The existing 24" CMP culvert crossing Glacier Highway has sufficient capacity (29.97 CFS) to accommodate the post-development flow (11.33 CFS) from a 25-year storm event.

The proposed system of swales and culverts will effectively manage stormwater runoff from the development and direct it to the established drainage channel (24" CMP culvert). This approach satisfies the requirements of the City and Borough of Juneau for stormwater management.

Appendix: Drainage Calculations

Pipe Capacity Calculations
Using the Manning's Equation from the Civil Engineering Reference Manual for the PE Exam:
Q = (1.49/n) A (R^2/3) (S^1/2)

Where:
- Q = Flow rate in CFS (ft^3/s)
- V = Velocity in ft/s
- n = Manning Coefficient
- R = Hydraulic Radius (A/P or D/4 for full pipe conditions)
- A = Cross-section area of the flow ($\pi * (D^2) / 4$ for full pipe)
- P = Wetted perimeter of the flow (π*D for full pipe)
- D = Diameter (ft)
- S = Slope of pipe

Culvert	Q (CFS)	n	D (ft)	R	A	P	S	Description
SD-1	11.97	0.022	1.5	0.38	1.77	4.71	0.037	Worst case driveway culvert
24" CMP	29.97	0.022	2	0.50	3.14	6.28	0.05	Glacier HWY crossing

Peak Flow Calculations
Using the Rational Method per City and Borough of Juneau Stormwater Manual:
$Q = C \times i \times A$

Where:
- Q = Peak flow in CFS
- C = Estimated runoff coefficient
- i = Rainfall intensity (in/hr)

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- A = Drainage area (acres)

*For a Tc = 5 min with a 25-year return period, i = 3.04 in/hour per NOAA Precipitation Table

Developed Site Areas	Size (acre)	C
Driveways	0.3857	0.90
Roofs	1.3884	0.90
Road/Sidewalk	2.0000	0.90
Lawn	1.3159	0.25
Total	5.09	-

Pre-Development	Size (acre)	C
Light Forest	5.09	0.15

Discharge Point	Capacity (CFS)	Flow Condition	Q (CFS)	I (in/hr)	C	Area (acre)
SD-1	11.97	Existing	2.32	3.04	0.15	5.09
		Proposed	11.33	3.04	0.73	5.09
24" CMP	29.97	Existing	2.32	3.04	0.15	5.09
		Proposed	11.33	3.04	0.73	5.09

7.0 Erosion Control

In compliance with the requirements of the Alternate Residential Subdivision (ARS), the proposed development incorporates a parent lot encompassing the perimeter of the site, held in shared ownership by members of the homeowners association. This parent lot provides 22,044 square feet (0.5 acres) of predominantly green space, offering shared recreational and environmental benefits to residents.

The inclusion of this green space serves a critical role in stormwater management by promoting natural infiltration, reducing surface runoff volume, and enhancing on-site water quality treatment. Additionally, the drainage plan integrates multiple Best Management Practices (BMPs) to mitigate runoff impacts. These BMPs are strategically designed to treat contaminants at their source, control erosion, and minimize pollutant discharge to the surrounding environment. By incorporating these measures, the development enhances both water quality and site sustainability, aligning with regulatory and environmental objectives.

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Maintenance of Roadside Ditches

Roadside ditches play a crucial role in managing stormwater by conveying runoff away from roadways and developed areas while promoting infiltration and sediment capture. Proper maintenance ensures these ditches remain free of obstructions, minimizing the risk of localized flooding and erosion. Implementation includes regular inspection and removal of accumulated debris, sediment, and vegetation that may impede flow. Additionally, stabilizing ditch banks with appropriate vegetation or erosion control materials helps prevent scouring and sediment transport downstream.

Maintenance and Repair of Vehicles and Equipment

The maintenance and repair of construction and operational vehicles can introduce pollutants such as oil, grease, heavy metals, and other hazardous fluids into the environment if not properly managed. To minimize stormwater contamination, all maintenance and repair activities should be conducted in designated areas equipped with spill containment measures, absorbent materials, and proper waste disposal facilities. Routine inspections for leaks and prompt cleanup of spills further reduce pollutant discharge, ensuring compliance with environmental regulations.

Landscaping and Lawn/Vegetation Management

Proper landscaping and vegetation management are essential for stabilizing soil, reducing erosion, and enhancing stormwater infiltration. Implementation includes using native and drought-resistant plant species, limiting the application of fertilizers and pesticides, and maintaining vegetative cover in high-risk erosion areas. Additionally, regular mowing, pruning, and removal of invasive species help sustain a healthy vegetative buffer that supports stormwater filtration while maintaining site aesthetics and functionality.

Biofiltration Swale

A biofiltration swale is a vegetated, gently sloped channel designed to slow, filter, and infiltrate stormwater runoff while removing pollutants through natural processes. Implementation involves constructing swales with well-draining soils, selecting deep-rooted vegetation that enhances filtration, and ensuring proper grading to maintain adequate flow velocity for treatment without causing erosion. Routine maintenance, including sediment removal, replanting, and clearing blockages, ensures continued effectiveness in reducing sediment, nutrients, and other contaminants before stormwater is discharged into natural water bodies.

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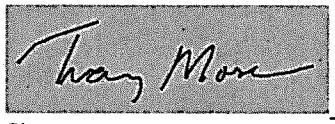
Certification:

"I hereby state that this Drainage Report for the Ravenswood Subdivision has been prepared by me, or under my supervision, and meets the requirements of the City of Juneau Municipal Code and the standard of care and expertise which is usual and customary in this community for professional engineers. I understand that City of Juneau does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities prepared by me."



Signature

Date

Tracy Moore, P.E.
Vector Engineering, Inc.
2724 Black Lake Blvd, Ste 202
Tumwater, WA 98512
(360) 352-2477

Seal:

03/28/2025

Mannings Equation from 19-4 of the Civil Enigneering Reference Manual for the PE Exam

$$Q = \frac{1.49}{n} AR^{2/3} S_o^{1/2}$$

Where,

Q =	Flow rate in CFS (ft3/s)
V =	Velocity in ft/s
n =	Manning Coefficient per App. 19. A
R =	Hydraulic Radius (A/P or D/4 for full pipe condictions)
A =	Cross-section area of the flow (π * (D^2) / 4 for full pipe)
P =	Wetted perimter of the flow (π*D for full pipe)
D =	Diameter (ft)
S =	Slope of pipe

Culvert	Q (CFS)	n	D (ft)	R	A	P	S	Description
SD-1	11.97	0.022	1.5	0.38	1.77	4.71	0.037	Worst case driveway culvert
24" CMP	29.97	0.022	2	0.50	3.14	6.28	0.05	Glacier HWY crossing

Peak Runoff from the Rational Method per City and Borough of Juneau Stormwater Manual

$$Q = CIA$$

Where,

Q =	Peak flow in CFS
C =	Estimated runnoff coefficient per Table D-4
i =	Rainfall intensity (in/hr) - per NOAA data
A =	Drainage area (acres)

*Tc = 5 min with a 25-year retrun period yields i=3.04 in/hour per NOAA Precip Table

Capacity (CFS)	Discharge Point	Q (CFS)	i (in/hr)	C	Area (acre)	Description
11.97	**SD-1**					
	Existing	2.32	3.04	0.15	5.09	
	Proposed	**11.33**		0.73	5.09	
29.97	**24" CMP**					
	Existing	2.32	3.04	0.15	5.09	
	Proposed	**11.33**		0.73	5.09	

Developed Site Areas

Site Area	Size (acre)	C
Driveways	0.3857	0.90
Roofs	1.3884	0.9
Road/Sidewalk	2	0.9
Lawn	1.3159	0.25
Total	5.09 acre	

Developed Site Areas

Site Area	Size (acre)	C
Light Forest	5.09	0.15

PRECIPITATION FREQUENCY ESTIMATES

by duration for ARI (years):	1	2	5	10	25	50	100
5-min:	0.131	0.153	0.187	0.215	0.253	0.282	0.312
10-min:	0.176	0.206	0.251	0.288	0.339	0.379	0.418
15-min:	0.206	0.241	0.293	0.337	0.397	0.443	0.49
30-min:	0.273	0.32	0.389	0.447	0.527	0.588	0.65
60-min:	0.374	0.438	0.533	0.613	0.722	0.806	0.89
2-hr:	0.552	0.647	0.789	0.906	1.07	1.19	1.32
3-hr:	0.729	0.854	1.04	1.2	1.41	1.57	1.73
6-hr:	1.17	1.37	1.67	1.92	2.26	2.52	2.78
12-hr:	1.76	2.06	2.5	2.87	3.38	3.79	4.21
24-hr:	2.54	2.97	3.59	4.1	4.82	5.41	6.04
2-day:	3.45	4.01	4.79	5.42	6.29	7	7.74
3-day:	4.1	4.73	5.61	6.3	7.26	8.03	8.82
4-day:	4.62	5.32	6.28	7.03	8.07	8.88	9.73
7-day:	5.98	6.84	8.02	8.94	10.2	11.2	12.2
10-day:	7.07	8.07	9.44	10.5	12	13.1	14.3
20-day:	10.6	12.1	14.1	15.6	17.6	19.2	20.7
30-day:	14	15.9	18.5	20.4	22.9	24.9	26.8
45-day:	18.5	21.1	24.5	27	30.1	32.5	34.8
60-day:	22.1	25.4	29.5	32.3	35.9	38.4	40.8

200	500	1000
0.35	0.4	0.438
0.47	0.537	0.588
0.549	0.629	0.689
0.729	0.834	0.914
0.999	1.14	1.25
1.48	1.69	1.85
1.95	2.23	2.44
3.13	3.58	3.92
4.73	5.42	5.94
6.78	7.76	8.5
8.59	9.72	10.6
9.72	10.9	11.8
10.7	11.9	12.9
13.4	15	16.1
15.6	17.4	18.7
22.4	24.7	26.4
28.8	31.5	33.5
37.1	40.1	42.4
43	45.8	48

Water Quality Source Control
Site- and Activity-Specific BMPs

Maintenance of Roadside Ditches

Description of Pollutant Sources

Common road debris including eroded soil, oils, vegetative particles and heavy metals can be a source of stormwater pollutants.

Pollutant Control Approach

Roadside ditches should be maintained to preserve the condition and capacity for which they were originally constructed, and to minimize bare or thinly vegetated ground surfaces. Maintenance practices should provide for erosion and sediment control.

Operational BMPs for Maintenance of Roadside Ditches

The following BMPs apply to all activities pertaining to roadside ditches:

- Inspect roadside ditches regularly to identify sediment accumulations and localized erosion.
- Ditches should be kept free of trash and debris. Maintain on a regular basis.
- Do not plow snow or ice into ditches.
- Vegetation in ditches prevents erosion and cleanses runoff waters. Remove vegetation only when flow is blocked or excess sediments have accumulated. Conduct ditch maintenance (seeding, fertilizer application, harvesting) in May or June, where possible. This allows vegetative cover to be re-established by the next wet season, thereby minimizing erosion of the ditch as well as making the ditch effective as a biofilter. See Appendix E "Grasses" for appropriate grass species.
- In the area between the edge of the pavement and the bottom of the ditch, commonly known as the "bare earth zone," use grass wherever possible. Vegetation should be established from the edge of the pavement if possible, or at least from the top of the slope of the ditch.
- Reseed with the following seed mix:
  - Red or tall fescue – 60 to 70%
  - Annual rye grass – 15 to 20%
  - Bering Hairgrass – 15 to 20%
- Ditch cleanings are not to be left on roadway surfaces. Sweep dirt and debris remaining on the pavement at the completion of ditch cleaning operations.
- Roadside ditch cleanings not contaminated by spills or other releases may be screened to remove litter and separated into soil and vegetative matter (leaves, grass, branches, needles, etc.). The soil fraction may be handled as "clean soils" and the vegetative matter can be composted or disposed of in a municipal waste landfill.
- Roadside ditch cleanings contaminated by spills or other releases known or suspected to contain dangerous waste must be handled following state and federal regulations unless testing determines it is not dangerous waste. See Street Sweeping and Disposal of Street Wastes BMP.

- Examine culverts on a regular basis for scour or sedimentation at the inlet and outlet, and repair as necessary. Give priority to culverts conveying perennial or salmon-bearing streams and culverts near streams in areas of high sediment load, such as those near subdivisions during construction.
- Install biofiltration swales and filter strips to treat roadside runoff wherever practical and use engineered topsoils wherever necessary to maintain adequate vegetation. These systems can improve stormwater pollutant control upstream of roadside ditches.

Water Quality Source Control
Site- and Activity-Specific BMPs

Maintenance and Repair of Vehicles and Equipment

Description of Pollutant Sources

Pollutant sources include parts/vehicle cleaning, spills/leaks of fuel and other liquids, replacement of liquids, outdoor storage of batteries/liquids/parts, and vehicle parking.

Pollutant Control Approach

Good control of leaks and spills of fluids using good housekeeping, and cover and containment BMPs.

Operational BMPs for Maintenance and Repair of Vehicles and Equipment

The following BMPs apply to all activities pertaining to maintenance and repair of vehicles and equipment:

- Inspect for leaks all incoming vehicles, parts and equipment stored temporarily outside.
- Use drip pans or containers under parts or vehicles that drip or that are likely to drip liquids, such as during dismantling of liquid-containing parts of removal or transfer of liquids.
- Remove batteries and liquids from vehicles and equipment in designated areas designed to prevent stormwater contamination. Store cracked batteries in a covered non-leaking secondary equipment system.
- Empty oil and fuel filters before disposal of waste oil and fuel.
- Do not pour/convey washwater, liquid waste, or other pollutants into storm drains or to surface water. Check with the local sanitary sewer authority for approval to convey to a sanitary sewer.
- Do not connect maintenance and repair shop floor drains to storm drains or to surface water. To allow for snowmelt during the winter, a drainage trench with a sump for particulate collection can be installed and used only for draining the snowmelt and not for discharging any vehicular or shop pollutants.
- Dispose of hazardous wastes appropriately i.e. CBJ hazardous wastes clean up days.

The following BMPs are optional unless the above minimum BMPs fail to provide adequate source control:

- Consider storing damaged vehicles inside a building or other covered containment until all liquids are removed. Remove liquids from vehicles retired for scrap.
- Clean parts with aqueous detergent based solutions or non-chlorinated solvents such as kerosene or high flash mineral spirits, and/or use wire brushing or sand blasting whenever practicable. Avoid using toxic liquid cleaners such as methylene chloride, 1,1,1-trichloroethane, trichloroethylene or similar chlorinated solvents. Choose cleaning agents that can be recycled.
- Inspect all BMPs regularly, particularly after a significant storm. Identify and correct deficiencies to ensure that the BMPs are functioning as intended.
- Avoid hosing down work areas. Use dry methods for cleaning leaked fluids.

- Recycle greases, used oil, oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic fluids, transmission fluids, and engine oils.
- Do not mix dissimilar or incompatible waste liquids stored for recycling.

Structural Source Control BMPs

- Conduct all maintenance and repair of vehicles and equipment in a building or other covered impervious containment area that is sloped to prevent run-on of uncontaminated stormwater and runoff of contaminated stormwater.
- The maintenance of refrigeration engines in refrigerated trailers may be conducted in a parking area with due caution to avoid the release of engine or refrigeration fluids to storm drains or surface waters.
- Park large mobile equipment, such as log stackers, in a designated contained area.

Treatment

Contaminated stormwater runoff from vehicle staging and maintenance areas must be conveyed to a sanitary sewer, if allowed by the local sewer authority, or to an oil-water separator, applicable filter, or other equivalent oil treatment system.

Water Quality Source Control
Site- and Activity-Specific BMPs

Landscaping and Lawn/Vegetation Management

Description of Pollutant Sources

This activity encompasses all aspects of landscaping and vegetation management, from small-scale yard maintenance to large-scale commercial landscaping businesses and vegetation management programs. It includes vegetation removal, pesticide and herbicide application, fertilizer application, watering, clearing, grading, and other practices. These may contaminate stormwater runoff with the following pollutants: pesticides and other toxic organic compounds; metals, such as arsenic, cadmium, chromium, copper, lead and zinc; oils; suspended solids; and coliform bacteria.

Note: The term pesticide includes insecticides, herbicides, fungicides, etc.

Fertilizer runoff adds nutrients to water, causing excessive plant and algae growth. When too much growth occurs, the dead and/or dying plant material in the water can take the oxygen out of the water and suffocate all other life in the water.

Pollutant Control Approach

- Control fertilizer and pesticide applications, soil erosion, and site debris to prevent contamination of stormwater.
- Consider using the Integrated Pest Management (IPM) approach for pest control, and use pesticides only as a last resort. IPM is an effective pest management approach that uses an array of methods to manage pest damage with the least possible hazard to people and the environment. Using IPM practices can significantly reduce or eliminate the needs for pesticides.

Note: Integrated Pest Management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

Operational BMPs for Landscaping

The following BMPs or equivalent measures, methods or practices apply to landscaping activities:

- Use native species when appropriate.
- Install engineered soil/landscape systems to improve infiltration and the regulation of stormwater in landscaped areas.
- Do not dispose of collected vegetation into waterways or storm drainage systems.
- Conduct mulch-mowing whenever possible or dispose of grass clippings, leaves, sticks, or other collective vegetation by composting, if feasible.

Note: Installing an amended soil/landscape system can preserve both the plant system and the soil system more effectively. This type of approach provides a soil/landscape system with adequate depth, permeability, and organic matter to sustain itself and continue working as an effective stormwater infiltration system and a nutrient cycle.

- Use mulch or other erosion control measures when soils are exposed for more than one week during the dry season or two days during the rainy season.
- If oil or other chemicals are handled, store and maintain appropriate oil and chemical spill cleanup materials in readily accessible locations. Ensure that employees are familiar with proper spill cleanup procedures.

- Till fertilizers into the soil rather than dumping or broadcasting onto the surface. Determine the proper fertilizer application for the types of soil and vegetation encountered.
- Till a topsoil mix or composted organic material into the soil to create a well-mixed transition layer that encourages plant establishment.
- Use manual and/or mechanical methods of vegetation removal rather than applying herbicides, where practical.

Operational BMPs for the Use of Pesticides

The following BMPs apply to activities involving pesticide use:

- Develop and implement an IPM and use pesticides only as a last resort.
- Implement a pesticide-use plan and include at a minimum: a list of selected pesticides and their uses; brands, formulations, application methods, and quantities to be used; equipment use and maintenance procedures; safety, storage, and disposal methods; and monitoring, record keeping, and public notice procedures.
- Choose the least toxic pesticide available that is capable of reducing the infestation to acceptable levels. The pesticide should readily degrade in the environment or have properties that strongly bind it to the soil. Any pest control used should be conducted at the life stage when the pest is most vulnerable. For example, if it is necessary to use a *Bacillus thuringiensis* application to control tent caterpillars, it must be applied before the caterpillars cocoon or it will be ineffective. Any method used should be site-specific and not used wholesale over a wide area.
- Apply the pesticide according to label directions. Under no conditions shall pesticides be applied in quantities that exceed manufacturer's instructions.
- Mix the pesticides and clean the application equipment in an area where accidental spills will not enter surface or ground waters, and will not contaminate the soil.
- Store pesticides in enclosed areas or in covered impervious containment. Ensure that pesticide contaminated stormwater or spills/leaks of pesticides are not discharged into storm drains. Do not hose down the paved areas to a storm drain or conveyance ditch. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.
- Clean up any spilled pesticides and ensure that the pesticide-contaminated waste materials are kept in designated covered and contained areas.
- The pesticide application equipment must be capable of immediate shutoff in the event of an emergency.
- Do not spray pesticides within 100 feet of open waters including wetlands, ponds, and streams, sloughs and any drainage ditch or channel that leads to open water except when approved by the local jurisdiction. All sensitive areas including wells, creeks, and wetlands must be flagged prior to spraying.
- As required by the local government, complete public posting of the area to be sprayed prior to the application.
- Spray applications should only be conducted during weather conditions as specified in the label direction and applicable local and state regulation. Do not apply during rain or immediately before expected rain.

The following BMPs are optional unless the previous BMPs fail to provide adequate source control:

- Consider alternatives to the use of pesticides such as covering or harvesting weeds, substitute vegetative growth, and manual weed control/moss removal.
- Once a pesticide is applied, its effectiveness should be evaluated for possible improvement. Records should be kept showing the applicability and inapplicability of the pesticides considered.
- An annual evaluation procedure should be developed including a review of the effectiveness of pesticide applications, impact on buffers and sensitive areas (including potable wells), public concerns, and recent toxicological information on pesticides used/proposed for use.
- Rinse liquid from equipment cleaning and/or triple-rinsing of pesticide containers should be used as products, recycled into product or disposed of properly.
- Consider the use of soil amendments, such as compost, that are known to control some common diseases in plants. The following are three possible mechanisms for disease control by compost addition (U.S. EPA Publication 530-F-9-044):
  - Successful competition for nutrients by antibiotic production;
  - Successful predation against pathogens by beneficial microorganisms;
  - Activation of disease-resistant genes in plants by composts.

Operational BMPs for Lawn/Vegetation Management

The following BMPs apply to all lawn/vegetation management activities:

- Use at least a 3-inch topsoil layer with at least 8 percent organic matter to provide a sufficient vegetation-growing medium. Amending existing landscapes and turf systems by increasing the percent organic matter and depth of topsoil can substantially improve the permeability of the soil and the disease-resistance of the vegetation, and reduce fertilizer, herbicide, and pesticide demand. Organic matter is the least water-soluble form of nutrient that can be added to the soil. Composted organic matter generally releases only about 2 to 10 percent of its total nitrogen annually, and this release corresponds closely to the plant growth cycle. If natural plant debris and mulch are returned to the soil, this system can continue recycling nutrients indefinitely.
- Select the appropriate turfgrass mixture for the climate and soil type.
- Selection of desired plant species can be made by adjusting the soil properties of the subject site. Consult a soil restoration specialist for site-specific conditions.
- Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Aeration should be conducted while grasses in the lawn are growing most vigorously. Remove layers of thatch greater than ¾-inch deep.
- Mowing is a stress-creating activity for turf grass. When grass is mowed too short, its productivity is decreased and there is less growth of roots and rhizomes. The turf becomes less tolerant of environmental stresses and more disease prone and reliant on outside means such as pesticides and fertilizers to remain healthy. Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally, mowing only 1/3 of the grass blade height will prevent stressing the turf.
- Fertilizer management:
  - Turfgrass is most responsive to nitrogen fertilization, followed by potassium and phosphorus. Fertilization needs vary by site, depending on plant, soil and climate

conditions. Evaluation of soil nutrient levels through regular testing ensures the best possible efficiency and economy of fertilization.

- Fertilizers should be applied in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and ground waters. Do not fertilize when the soil is dry. Alternatively, do not apply fertilizers within three days prior to predicted rainfall. The longer the period between fertilizer application and rainfall, the less fertilizer runoff occurs.
- Use slow release fertilizers such as methylene urea, IDBU, or resin-coated fertilizers when appropriate, generally in the spring. Non-synthetic fertilizers are encouraged. Use of slow release fertilizers is especially important in areas with sandy or gravelly soils.
- Time the fertilizer application to periods of maximum uptake. Generally fall and spring applications are recommended.
- Properly trained persons should apply all fertilizers. At commercial and industrial facilities, fertilizers should not be applied to bioswales, filter strips or buffer areas that drain to sensitive water bodies unless approved by the local jurisdiction.

The following BMPs are optional unless previous BMPs fail to provide adequate source control:

- Integrated Pest Management is the most effective BMP measure that can be taken for herbicide, insecticide, and fungicide use. An IPM program might consist of the following steps:

  Step 1: Correctly identify pests and understand their lifecycle.

  Step 2: Establish tolerance thresholds for pests.

  Step 3: Monitor to detect and prevent pest problems.

  Step 4: Modify the maintenance program to promote healthy plants and discourage pests.

  Step 5: Use cultural, physical, mechanical or biological controls first if pests exceed the tolerance thresholds.

  Step 6: Evaluate and record the effectiveness of the control and modify maintenance practices to support lawn or landscape recovery and prevent recurrence.

- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface. Determine the proper fertilizer application for the types of soil and vegetation involved. Soil should be tested for the correct fertilizer usage.
- Use mechanical methods of vegetation removal rather than applying herbicides.
- An effective measure that can be taken to reduce pesticide use, excessive watering, and removal of dead vegetation involves careful soil mixing and layering prior to planting. A topsoil mix or composted organic material should be rototilled into the soil to create a transition layer that encourages plant establishment and water retention. This practice can improve the health of planted vegetation, resulting in better disease resistance.
- Use native plants in landscaping. Native plants do not require extensive fertilizer or pesticide applications

Water Quality Treatment
Basic Treatment BMPs

Biofiltration Swale

Description

Biofiltration swales are open, gently sloped vegetated channels that convey water and also provide treatment. They function by slowing water velocity, allowing sediment to deposit and by filtering water through vegetation and swale substrate material. Swales that dry out between rain events are "basic swales" and should be planted with mixed grasses or other species; swales that remain wet most of the time are "wet swales" and should be planted with wetland vegetation. Wetland vegetation of wet swales must be protected from high flow, therefore wet swales must be designed as an off-line facility.

Application

Biofiltration swales are good to use in combination with end-of-pipe treatment like constructed wetlands or sediment basins and are appropriate along streets, parking lots and perimeters of building sites.

Design

Design Criteria

Design criteria for biofiltration swales are as follows:

- Water quality flow rate (swales are typically designed as on-line): See Appendix D
- Flow depth: 1 to 4 inches
- Flow velocity: 1 ft/s maximum for treatment, 3 ft/s maximum for 100-year event
- Hydraulic residence time for water: 9 minutes minimum
- Freeboard height: 6" minimum
- Longitudinal slope:
  - Basic swales: 1% to 3% or up to 6% with check dams
  - Wet swales: 2% maximum. Use steps, gabion walls, or check dams to reduce slope
- Water inlets (from most preferred to acceptable):
  - Sheet flow from street
  - Multiple dispersed inlets (curb cuts)
  - Single inlet (armored)
- Water table level:

  - Basic swales: water table must be minimum 2 feet below bottom of swale; site can be over-excavated in areas with impermeable or clay soils
  - Wet swales: no restrictions or need for underdrain; not appropriate for areas of highly infiltrative (gravelly, cobbly) soils
- Topsoil:
  - Permit infiltration but not be highly erosive: preferred sandy loam, loamy sand, loam soils
  - Composition: sand 35-60%, clay 10-25%, silt 30-55%, organics 20% (no animal waste)
  - Do not apply fertilizers, pesticides, or insecticides
- Vegetation:
  - Vegetation must be selected to accommodate expected high flow velocities
  - Vegetation must be established before introducing high flows (approximately 6 months)
  - Basic swales:
    - Vegetation and Seed mix: See vegetation recommendations below and Appendix E
    - Seed rate: 200 lbs per acre
  - Wet swales:
    - Vegetation: See vegetation recommendations below and Appendix E
    - Cover: use a combination of plugs, perennial seed, and annual seed to establish 100% cover in first year.
- The required setback is 2 feet from property lines, 10 feet from building foundations, and 50 feet from wetlands, rivers, streams and creeks, unless approved by the CBJ.

Design Procedure

The following is the procedure to be followed to design biofiltration swales:

1. Identify swale type (basic or wetland)
2. Determine water quality design flow rate. Basic swales can be designed as either on-line or off-line facilities. Wet swales may be more appropriate as off-line facilities. (see Appendix D)
3. Establish longitudinal slope of swale and swale bottom width. Swales with longitudinal slopes less than 1% must be designed as wet swales.
4. Use Manning's equation to calculate flow depth and find flow cross sectional area. Assume a Manning's coefficient of 0.2 – 0.35 (approx 0.24 if mowed infrequently)
5. Compute flow velocity at design flow rate (V = Q/A, Q=design flow rate, A=cross sectional area of flow in swale)
6. Iteratively calculate channel length necessary to achieve hydraulic residence time of 9 minutes maximum (L = 60Vt, V = flow velocity, t = residence time of 9 minutes, 60 for conversion of seconds to minutes). If the stormwater does not enter at a single location, hydraulic residence time is calculated as the flow-weighted average.
7. If required length is not available on site, adjust slope and width of swale design.
8. Select vegetation appropriate to swale type.

- Check dams 12-15 inches tall constructed of riprap for longitudinal swale slopes greater than 3%.
- Underdrains of Schedule 40 PVC perforated pipe, 6-inch diameter. Underdrains are required for basic swales with longitudinal slopes less than 1.5% or where poorly infiltrating soils will result in saturated soil conditions. Note: underdrain must infiltrate or drain freely to an acceptable discharge point.

Figure C-1 shows typical cross-sections for a biofiltration swale.

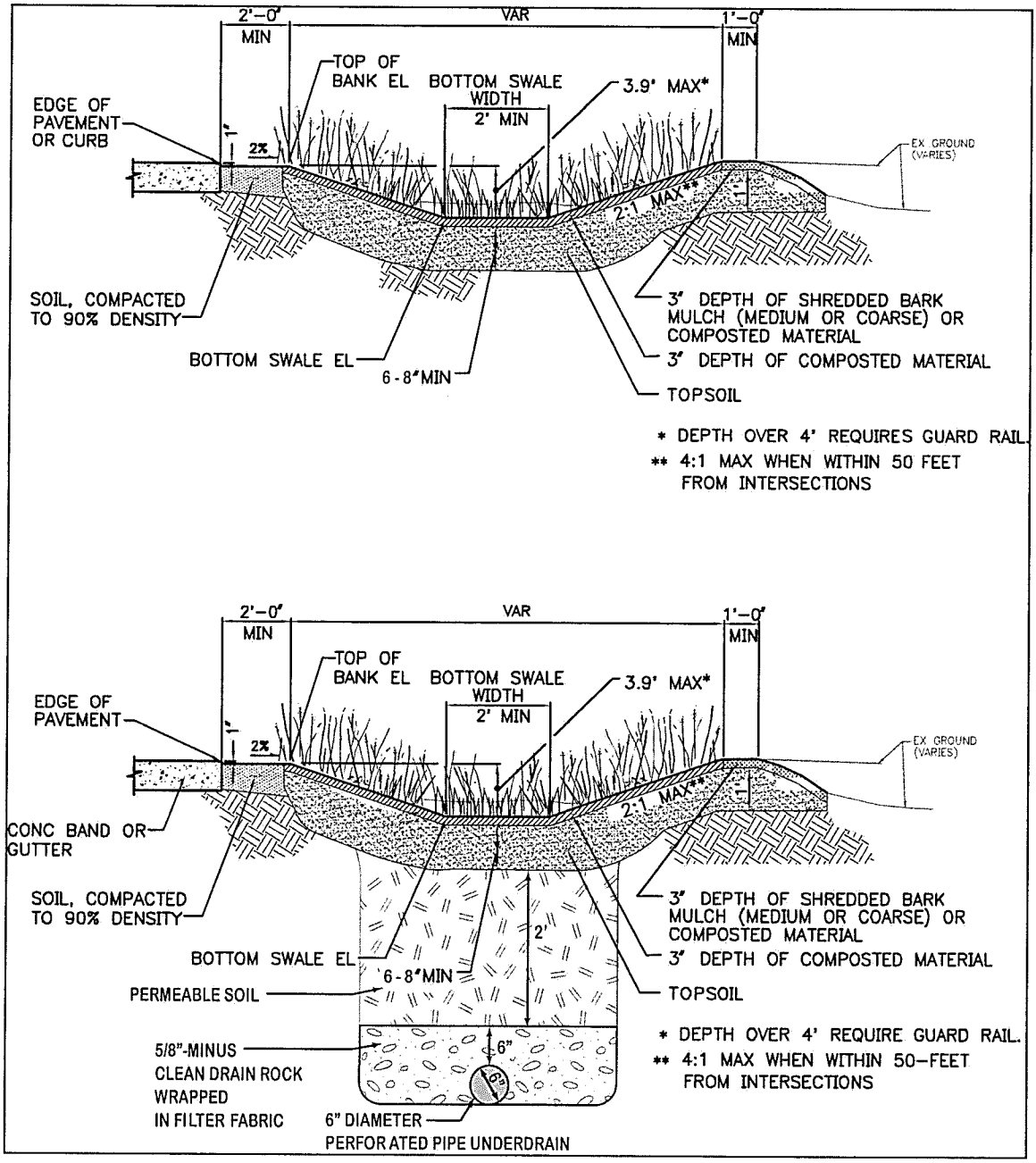


Figure C-1. Biofiltration Swale Sections

Vegetation Recommendations

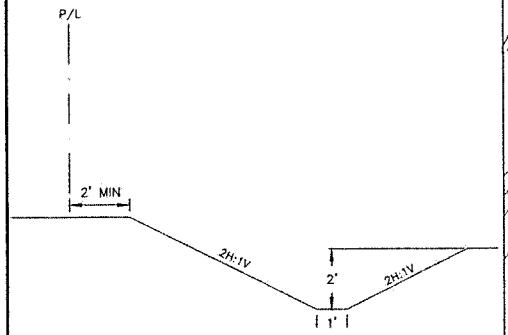
The following recommendations for vegetation should be followed in design of biofiltration swales (see Appendix E for recommended plant list:

- Consider sun/shade conditions for adequate growth
- Grass swale seed mix:
  - Red or tall fescue – 60 to 70%
  - Annual rye grass – 15 to 20%
  - Bering Hairgrass – 15 to 20%
- Wetland plants:
  - Rush – 4" spacing on center
  - Bulrush – 6" to 12" spacing on center
  - Sedge – 6" spacing on center

Maintenance

Maintenance requirements for biofiltration swales are as follows:

- Inspect twice per year for debris and sediment that prevents flow or restricts plant growth
- Grass swale:
  - Mow grass twice per year and remove grass clippings.
  - Perform inspections and maintenance as outlined in Table C-2.
- Wet swale:
  - Do not mow.
  - Perform inspections and maintenance outlined in Table C-2.



ONSITE DRAINAGE DITCH NOTES:

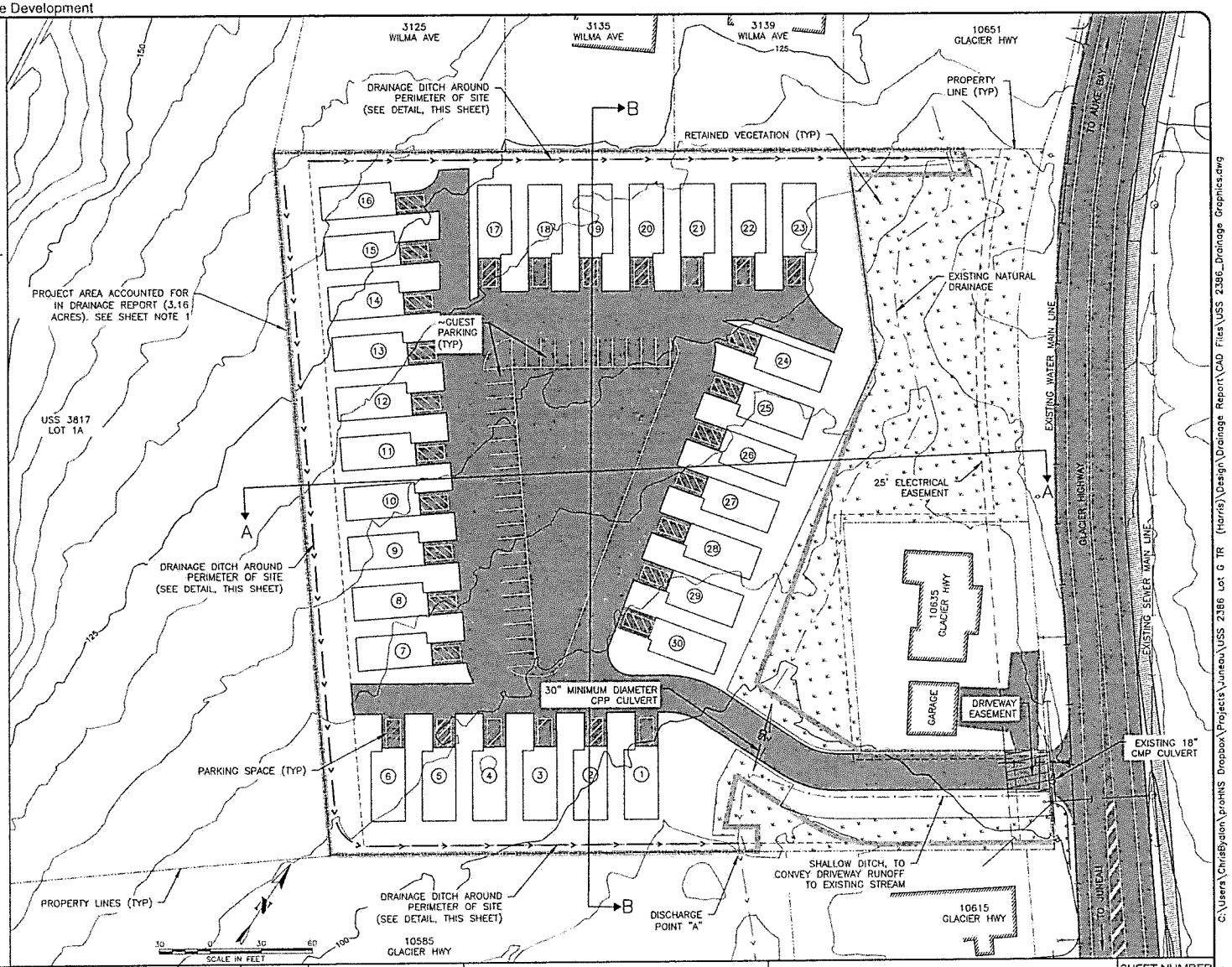
1. ALL DITCHES SHALL BE STABILIZED WITH VEGETATION OR SHOT ROCK.
2. THE TOP OF DITCH SHALL BE A MINIMUM OF 2 FEET AWAY FROM ANY PROPERTY LINES.

SHEET NOTES:

1. LAYOUT SHOWN IS PRELIMINARY. THE CORRESPONDING DRAINAGE REPORT HAS ASSUMED THE ENTIRE 3.16 ACRES WILL BE COVERED IN HARD SURFACES (ASPHALT, ROOFS, ETC.). THE FINAL SITE LAYOUT MAY DIFFER FROM WHAT IS SHOWN, BUT AS LONG AS IT REMAINS WITHIN THE DEVELOPMENT FOOTPRINT SHOWN, AND CONSTRUCTS THE ONSITE CONVEYANCE FEATURES SHOWN, NO FURTHER DRAINAGE ANALYSIS IS NEEDED. ADDITIONAL ONSITE DRAINAGE FEATURES MAY BE INSTALLED, BUT ALL STORMWATER SHALL LEAVE THE SITE AT DISCHARGE POINT "A".
2. EXISTING GROUND CONTOURS SHOWN ARE FROM CBJ'S 2014 LIDAR DATA.

APPLICANT INFO
APPLICANT: RH DEVELOPMENT, LLC
MAILING ADDRESS: PO BOX 32403, JUNEAU, AK 99803
PHONE NUMBER: 907-723-4791

SITE INFO
SITE ADDRESS: NHN GLACIER HWY
PARCEL NUMBER: 4B2201060050
LEGAL DESCRIPTION: USS 2386 LT G TR 2



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

proHNS LLC
CERTIFICATE OF AUTHORIZATION #109562
2201 DUNN ST #2 JUNEAU, AK 99801 (907) 780-4904
solutions@prohns.com www.prohns.com

DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY	L. CHAMBERS

USS 2386 DEVELOPMENT

RICHARD HARRIS

PRELIMINARY GRADING PLAN - PLAN VIEW

SHEET NUMBER 1 OF 2

April 22, 2025

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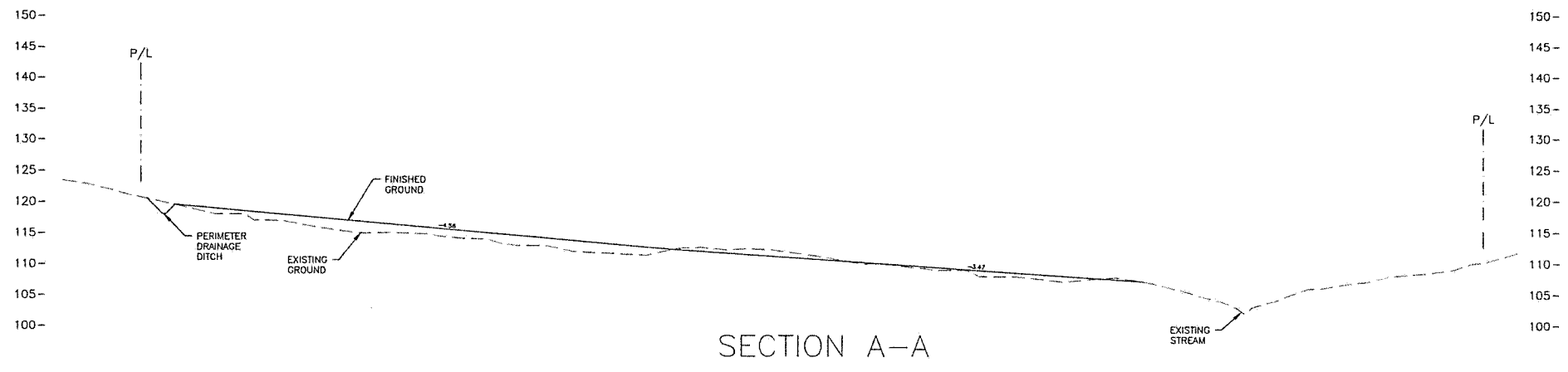
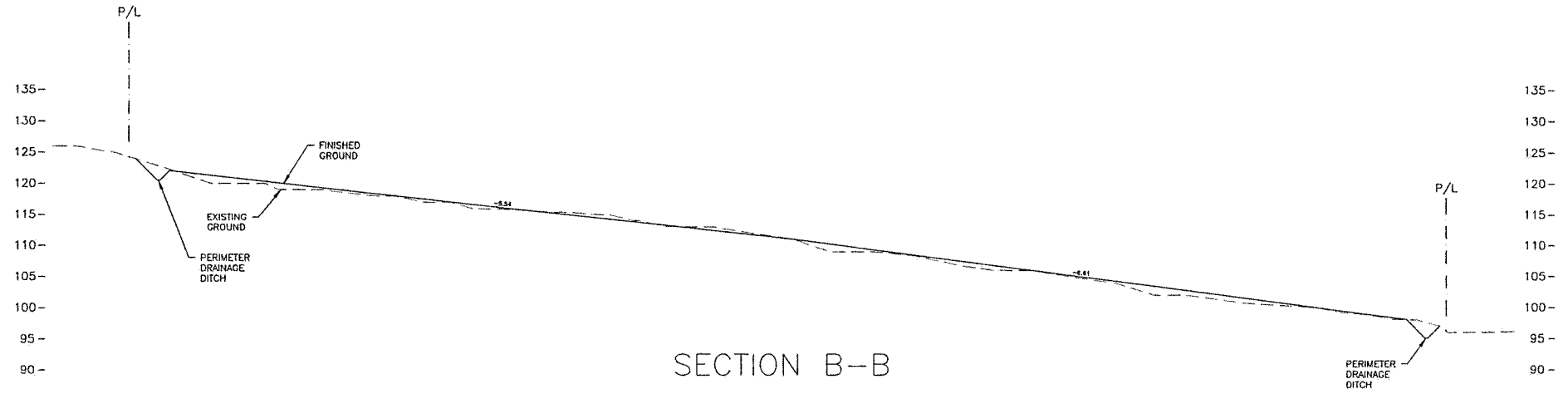


SECTION A–A



SECTION B–B

RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

proHNS LLC
CERTIFICATE OF AUTHORIZATION #160562

DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS

2201 DUNN STREET, STE 2
JUNEAU, AK 99801
(907) 780-4004
solutions@proHNS.com
www.proHNS.com

USS 2386
DEVELOPMENT

RICHARD HARRIS

PRELIMINARY GRADING PLAN - CROSS-SECTIONS

SHEET NUMBER 2 OF 2

April 22, 2025

C:\Users\ChrisBydlon\proHNS Dropbox\Projects\Juneau\USS 2386 Lot G TR (Harris)\Design\Drainage Report\CAD Files\USS 2386_Grading Permit Profiles.dwg

Project Description

File Name ..... USS 2386 Development_SSA Model_Developed_with_onsite_Improvements.S

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	00:00:00	0:00:00
End Analysis On	00:00:00	0:00:00
Start Reporting On	00:00:00	0:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

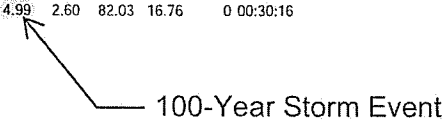
	Qty
Rain Gages	1
Subbasins	3
Nodes	7
Junctions	6
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	6
Channels	3
Pipes	3
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period	Rainfall Depth	Rainfall Distribu

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-Basin_A-1_(Upland_Areas)	54.05	484.00	75.27	4.99	2.46	133.18	25.77	0 00:33:57
2	Sub-Basin_A-2_(Project_Area)	3.81	484.00	93.73	4.99	4.27	16.26	4.23	0 00:05:00
3	Sub-Basin_Below_Project_Area	31.60	484.00	76.79	4.99	2.60	82.03	16.76	0 00:30:16



Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)
1	1-Jun	Junction	100.00	105.00	0.00	0.00	0.00	27.89	101.77	0.00
2	2-Jun	Junction	98.00	105.00	0.00	0.00	0.00	27.89	100.11	0.00
3	3-Jun	Junction	90.00	95.00	0.00	0.00	0.00	44.56	92.06	0.00
4	4-Jun	Junction	89.00	95.00	0.00	0.00	0.00	44.57	91.06	0.00
5	7-Jun	Junction	102.40	105.00	0.00	0.00	0.00	27.90	103.25	0.00
6	8-Jun	Junction	101.00	105.00	0.00	0.00	0.00	27.89	102.77	0.00
7	Outlet_to_Mendenhall_Wetlands	Outfall	64.00					44.57	64.63	

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Pea V
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(
1	Culvert_Under_Church_Parking_Lot	Pipe	1-Jun	2-Jun	100.00	100.00	99.00	1.0000			27.89	96.34	0.29	
2	Culvert_Under_Engineers_Cutoff_Rd	Pipe	3-Jun	4-Jun	100.00	90.00	89.00	1.0000			44.57	84.88	0.53	
3	ONSITE_CULVERT	Pipe	7-Jun	8-Jun	40.00	101.40	101.00	1.0000			27.89	110.84	0.25	
4	Ditch_below_Engineers_Cutoff	Channel	4-Jun	Outlet_to_Mendenhall_Wetlands	100.00	88.00	64.00	24.0000			44.57	884.37	0.05	
5	Ditch-above_Engineer's_Cutoff	Channel	2-Jun	3-Jun	100.00	97.00	90.00	7.0000			27.89	147.49	0.19	
6	ONSITE_DITCH	Channel	8-Jun	1-Jun	100.00	101.00	100.00	1.0000			27.89	37.29	0.75	

Peak flow in pipe under church parking lot during 100-year storm event

Peak flow in pipe under Engineer's Cutoff Rd during 100-year storm event

Subbasin Hydrology

Subbasin : Sub-Basin_A-1_(Upland_Areas)

Input Data

Area (ac)	54.05
Peak Rate Factor	484
Weighted Curve Number	75.27
Rain Gage ID	Rain Gage-01

Composite Curve Number

32

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	41.8	C	73
1/4 acre lots, 38% impervious	12.25	C	83
Composite Area & Weighted CN	54.05		75.27

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.8	0.05	0
Flow Length (ft) :	300	300	0
Slope (%) :	30	10	0
2 yr, 24 hr Rainfall (in) :	2.54	2.54	0
Velocity (ft/sec) :	0.15	0.87	0
Computed Flow Time (min) :	34.21	5.78	0

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1000	900	0
Slope (%) :	30	10	0
Surface Type :	Woodland	Paved	Unpaved
Velocity (ft/sec) :	2.74	6.43	0
Computed Flow Time (min) :	6.08	2.33	0

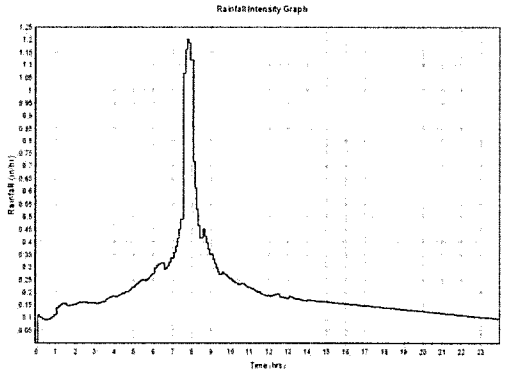
Channel Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.04	0	0
Flow Length (ft) :	1900	0	0
Channel Slope (%) :	30	0	0
Cross Section Area (ft^2) :	12	0	0
Wetted Perimeter (ft) :	10	0	0
Velocity (ft/sec) :	23.04	0	0
Computed Flow Time (min) :	1.37	0	0

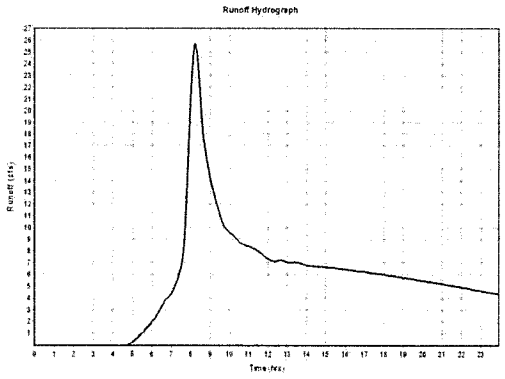
Total TOC (min) 33.95

Subbasin Runoff Results

Total Rainfall (in)	4.99
Total Runoff (in)	2.46
Peak Runoff (cfs)	25.77
Weighted Curve Number	75.27
Time of Concentration (days hh:mm:ss)	0 00:33:57

Subbasin : Sub-Basin_A-1_(Upland_Areas)





Subbasin : Sub-Basin_A-2_(Project_Area)

Input Data

Area (ac)	3.81
Peak Rate Factor	484
Weighted Curve Number	93.73
Rain Gage ID	Rain Gage-01

Composite Curve Number

32

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	3.16	C	98
Woods, Fair	0.65	C	73
Composite Area & Weighted CN	3.81		93.73

These calculation assume 3.16 acres of the project area is converted to pavement. This assumption shows that regardless of the development of the lot, there is a sufficient capacity in the downstream drainage system to accommodate stormwater from the new development of this property.

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.005	0	0
Flow Length (ft) :	300	0	0
Slope (%) :	9	0	0
2 yr, 24 hr Rainfall (in) :	2.54	0	0
Velocity (ft/sec) :	5.24	0	0
Computed Flow Time (min) :	0.96	0	0

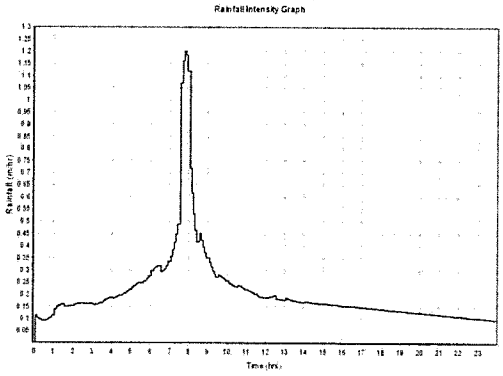
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	216	0	0
Slope (%) :	9	0	0
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	6.1	0	0
Computed Flow Time (min) :	0.59	0	0

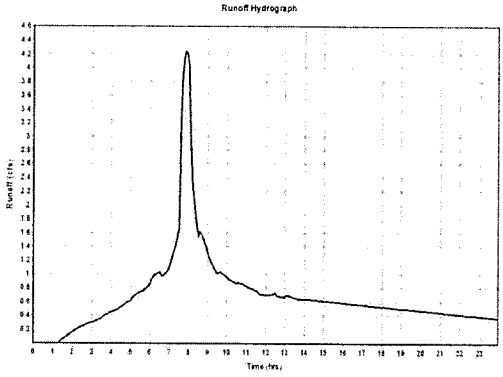
Total TOC (min) 1.55

Subbasin Runoff Results

Total Rainfall (in)	4.99
Total Runoff (in)	4.27
Peak Runoff (cfs)	4.23
Weighted Curve Number	93.73
Time of Concentration (days hh:mm:ss)	0 00:01:33

Subbasin : Sub-Basin_A-2_(Project_Area)





Subbasin : Sub-Basin_Below_Project_Area

Input Data

Area (ac)	31.6
Peak Rate Factor	484
Weighted Curve Number	76.79
Rain Gage ID	Rain Gage-01

Composite Curve Number

32	Area	Soil	Curve
Soil/Surface Description	(acres)	Group	Number
Woods, Fair	19.61	C	73
1/4 acre lots, 38% impervious	11.99	C	83
Composite Area & Weighted CN	31.6		76.79

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.8	0.05	0
Flow Length (ft) :	300	300	0
Slope (%) :	30	10	0
2 yr, 24 hr Rainfall (in) :	2.54	2.54	0
Velocity (ft/sec) :	0.15	0.87	0
Computed Flow Time (min) :	34.21	5.78	0

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1000	1000	0
Slope (%) :	30	10	0
Surface Type :	Woodland	Paved	Unpaved
Velocity (ft/sec) :	2.74	6.43	0
Computed Flow Time (min) :	6.08	2.59	0

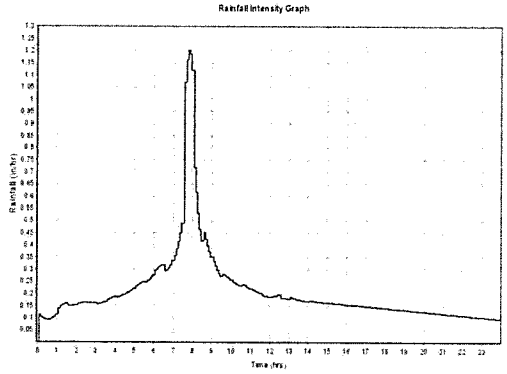
Channel Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.04	0.016	0
Flow Length (ft) :	1117	1734	0
Channel Slope (%) :	30	10	0
Cross Section Area (ft^2) :	12	12	0
Wetted Perimeter (ft) :	10	10	0
Velocity (ft/sec) :	23.04	33.25	0
Computed Flow Time (min) :	0.81	0.87	0

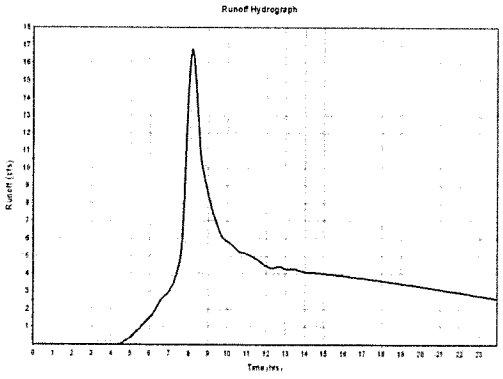
Total TOC (min) 30.27

Subbasin Runoff Results

Total Rainfall (in)	4.99

Subbasin : Sub-Basin_Below_Project_Area





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft²)	Minimum Pipe Cover (in)
1	1-Jun	100.00	105.00	5.00	0.00	-100.00	0.00	-105.00	0.00	
2	2-Jun	98.00	105.00	7.00	0.00	-98.00	0.00	-105.00	0.00	
3	3-Jun	90.00	95.00	5.00	0.00	-90.00	0.00	-95.00	0.00	
4	4-Jun	89.00	95.00	6.00	0.00	-89.00	0.00	-95.00	0.00	
5	7-Jun	102.40	105.00	2.60	0.00	-102.40	0.00	-105.00	0.00	
6	8-Jun	101.00	105.00	4.00	0.00	-101.00	0.00	-105.00	0.00	

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Fl	Vc	(
1	1-Jun	27.89	0.00	101.77	1.77	0.00	3.23	100.81	0.81	0 08:15	0 00:00			
2	2-Jun	27.89	0.00	100.11	2.11	0.00	4.89	99.46	1.46	0 08:16	0 00:00			
3	3-Jun	44.56	16.75	92.06	2.06	0.00	2.94	90.81	0.81	0 08:15	0 00:00			
4	4-Jun	44.57	0.00	91.06	2.06	0.00	3.94	89.81	0.81	0 08:16	0 00:00			
5	7-Jun	27.90	27.90	103.25	0.85	0.00	1.75	102.76	0.36	0 08:15	0 00:00			
6	8-Jun	27.89	0.00	102.77	1.77	0.00	2.23	101.81	0.81	0 08:15	0 00:00			

Channel Input

SN	Element ID	Length	Inlet Invert Elevation	Inlet Invert Offset	Outlet Invert Elevation	Outlet Invert Offset	Total Drop	Average Slope	Shape	Height	Width	Manni Roughr
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)		(ft)	(ft)	
1	Ditch_below_Engineers_Cutoff	100.00	88.00	-1.00	64.00	0.00	24.00	24.0000	Trapezoidal	3.000	8.000	0.0
2	Ditch-above_Engineer's_Cutoff	100.00	97.00	-1.00	90.00	0.00	7.00	7.0000	Trapezoidal	3.000	7.000	0.0
3	ONSITE_DITCH	100.00	101.00	0.00	100.00	0.00	1.00	1.0000	Trapezoidal	2.000	9.000	0.0

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Tot Surc
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	Ditch_below_Engineers_Cutoff	44.57	0 08:16	884.37	0.05	26.82	0.06	0.63	0.21	
2	Ditch-above_Engineer's_Cutoff	27.89	0 08:16	147.49	0.19	8.15	0.20	1.41	0.47	
3	ONSITE_DITCH	27.89	0 08:15	37.29	0.75	3.47	0.48	1.77	0.89	

Showing that the offsite ditches have adequate capacity

Showing that any onsite ditches constructed per the detail in appendix A with a minimum 1% slope will have adequate capacity

Culvert Crossing: Culvert_Under_Church_Parking_Lot

Crossing Summary Table

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
101.45	10.00	10.00	0.00	1
101.75	14.00	14.00	0.00	1
102.01	18.00	18.00	0.00	1
102.25	22.00	22.00	0.00	1
102.61	27.90	27.90	0.00	1
102.74	30.00	30.00	0.00	1
103.01	34.00	34.00	0.00	1
103.30	38.00	38.00	0.00	1
103.62	42.00	42.00	0.00	1
103.98	46.00	46.00	0.00	1
104.07	50.00	46.98	2.98	8
104.00	46.20	46.20	0.00	Overtopping

Peak flow during 100 year storm event

Flow needed to overtop church parking lot during 100 year storm event

Culvert Crossing: Culvert_Under_Engineers_Cutoff_Rd

Crossing Summary Table

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
91.34	10.00	10.00	0.00	1
91.87	19.00	19.00	0.00	1
92.33	28.00	28.00	0.00	1
92.75	37.00	37.00	0.00	1
93.09	44.59	44.59	0.00	1
93.56	55.00	55.00	0.00	1
93.97	64.00	64.00	0.00	1
94.13	73.00	67.41	5.54	8
94.22	82.00	69.36	12.61	6
94.30	91.00	70.98	19.99	5
94.37	100.00	72.40	27.58	5
94.00	64.67	64.67	0.00	Overtopping

Peak flow during 100 year storm event

Flow needed to overtop Engineer's Cutoff Rd during 100 year storm event

Culvert Crossing: 30-inch Culvert - Onsite

Crossing Summary Table

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
112.56	10.00	10.00	0.00	1
112.88	14.00	14.00	0.00	1
113.20	18.00	18.00	0.00	1
113.55	22.00	22.00	0.00	1
114.17	27.90	27.90	0.00	1
114.42	30.00	30.00	0.00	1
114.97	34.00	34.00	0.00	1
115.08	38.00	34.76	3.22	9
115.13	42.00	35.10	6.88	6
115.17	46.00	35.38	10.59	5
115.21	50.00	35.64	14.35	5
115.00	34.22	34.22	0.00	Overtopping

Peak flow during 100 year storm event

Flow needed to overtop onsite driveway during 100 year storm event

Appendix D - Rainfall Data

NOAA Atlas 14, Volume 7, Version 2 AUKE BAY
Station ID: 50-0464
Location name: Juneau, Alaska, USA*
Latitude: 58.3833°, Longitude: -134.65°
Elevation:
Elevation (station metadata): 42 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Douglas Kane, Sarah Dietz, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Svetlana Stuefer, Amy Tidwell, Carl Trypaluk, Dale Unruh, Michael Yekta, Erica Betts, Geoffrey Bonnin, Sarah Heim, Lillian Hiner, Elizabeth Lilly, Jayashree Narayanan, Fenglin Yan, Tan Zhao

NOAA, National Weather Service, Silver Spring, Maryland
and
University of Alaska Fairbanks, Water and Environmental Research Center

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.115 (0.084-0.161)	0.135 (0.098-0.191)	0.163 (0.116-0.234)	0.186 (0.130-0.271)	0.218 (0.150-0.324)	0.242 (0.164-0.365)	0.266 (0.177-0.407)	0.295 (0.194-0.458)	0.333 (0.215-0.527)	0.361 (0.229-0.580)
10-min	0.155 (0.113-0.217)	0.182 (0.131-0.257)	0.219 (0.155-0.315)	0.250 (0.175-0.365)	0.292 (0.200-0.434)	0.325 (0.220-0.491)	0.358 (0.239-0.548)	0.396 (0.260-0.615)	0.447 (0.288-0.708)	0.485 (0.308-0.779)
15-min	0.182 (0.133-0.254)	0.213 (0.154-0.301)	0.256 (0.182-0.368)	0.293 (0.205-0.427)	0.342 (0.235-0.509)	0.380 (0.257-0.574)	0.419 (0.279-0.642)	0.463 (0.304-0.719)	0.523 (0.337-0.828)	0.567 (0.360-0.911)
30-min	0.241 (0.176-0.337)	0.283 (0.204-0.400)	0.340 (0.241-0.489)	0.388 (0.271-0.566)	0.454 (0.311-0.675)	0.504 (0.341-0.761)	0.556 (0.370-0.851)	0.615 (0.404-0.956)	0.694 (0.447-1.10)	0.753 (0.478-1.21)
60-min	0.330 (0.241-0.461)	0.387 (0.280-0.547)	0.466 (0.331-0.670)	0.532 (0.372-0.776)	0.622 (0.427-0.925)	0.691 (0.467-1.04)	0.761 (0.507-1.16)	0.842 (0.553-1.31)	0.950 (0.612-1.50)	1.03 (0.655-1.66)
2-hr	0.484 (0.354-0.676)	0.568 (0.410-0.802)	0.684 (0.486-0.983)	0.780 (0.546-1.14)	0.913 (0.626-1.36)	1.02 (0.686-1.53)	1.12 (0.744-1.71)	1.24 (0.812-1.92)	1.39 (0.898-2.21)	
3-hr	0.636 (0.465-0.889)	0.747 (0.540-1.06)	0.899 (0.638-1.29)	1.03 (0.718-1.50)	1.20 (0.823-1.78)	1.33 (0.902-2.01)	1.47 (0.978-2.25)	1.62 (1.07-2.52)	1.83 (1.18-2.90)	
6-hr	1.02 (0.741-1.42)	1.19 (0.860-1.68)	1.43 (1.02-2.06)	1.64 (1.14-2.38)	1.91 (1.31-2.84)	2.13 (1.44-3.21)	2.34 (1.56-3.58)	2.59 (1.70-4.03)	2.92 (1.88-4.62)	(2.02-5.09)
12-hr	1.51 (1.11-2.12)	1.78 (1.28-2.51)	2.14 (1.52-3.08)	2.44 (1.71-3.56)	2.85 (1.96-4.24)	3.18 (2.15-4.80)	3.51 (2.34-5.36)	3.89 (2.56-6.05)	4.40 (2.83-6.96)	4.78 (3.04-7.67)
24-hr	2.16 (1.78-2.66)	2.54 (2.06-3.16)	3.06 (2.43-3.88)	3.47 (2.72-4.48)	4.05 (3.11-5.34)	4.51 (3.41-6.04)	4.99 (3.71-6.78)	5.52 (4.04-7.63)	6.23 (4.46-8.78)	6.76 (4.77-9.67)
2-day	2.87 (2.36-3.53)	3.35 (2.72-4.17)	4.00 (3.18-5.07)	4.50 (3.52-5.80)	5.18 (3.98-6.83)	5.72 (4.32-7.65)	6.26 (4.65-8.51)	6.84 (5.00-9.44)	7.60 (5.45-10.7)	8.17 (5.77-11.7)
3-day	3.35 (2.75-4.12)	3.89 (3.16-4.85)	4.62 (3.67-5.86)	5.17 (4.05-6.66)	5.91 (4.53-7.78)	6.48 (4.89-8.66)	7.04 (5.24-9.57)	7.63 (5.58-10.5)	8.41 (6.03-11.8)	8.99 (6.35-12.9)
4-day	3.76 (3.09-4.63)	4.36 (3.53-5.42)	5.14 (4.09-6.53)	5.74 (4.49-7.40)	6.52 (5.00-8.58)	7.11 (5.37-9.51)	7.70 (5.72-10.5)	8.29 (6.07-11.4)	9.08 (6.51-12.8)	9.67 (6.83-13.8)
7-day	4.88 (4.01-6.01)	5.63 (4.57-7.02)	6.60 (5.25-8.37)	7.30 (5.72-9.41)	8.20 (6.29-10.8)	8.87 (6.70-11.9)	9.52 (7.07-12.9)	10.1 (7.42-14.0)	11.0 (7.86-15.4)	11.6 (8.18-16.6)
10-day	5.82 (4.78-7.16)	6.70 (5.43-8.34)	7.81 (6.21-9.91)	8.60 (6.74-11.1)	9.61 (7.38-12.7)	10.3 (7.81-13.8)	11.0 (8.20-15.0)	11.7 (8.56-16.1)	12.6 (9.00-17.7)	13.2 (9.33-18.9)
20-day	8.78 (7.20-10.8)	10.1 (8.18-12.6)	11.7 (9.30-14.8)	12.8 (10.0-16.5)	14.2 (10.9-18.7)	15.2 (11.5-20.3)	16.1 (12.0-21.9)	16.9 (12.4-23.3)	18.0 (12.9-25.3)	18.8 (13.3-26.9)
30-day	11.6 (9.50-14.2)	13.3 (10.8-16.6)	15.4 (12.2-19.5)	16.8 (13.2-21.7)	18.6 (14.3-24.5)	19.8 (15.0-26.5)	20.9 (15.6-28.5)	21.9 (16.0-30.3)	23.2 (16.6-32.7)	24.2 (17.1-34.6)
45-day	15.3 (12.6-18.8)	17.6 (14.3-21.9)	20.4 (16.2-25.8)	22.3 (17.4-28.7)	24.6 (18.9-32.4)	26.2 (19.8-35.1)	27.7 (20.6-37.6)	29.0 (21.2-40.0)	30.6 (22.0-43.2)	31.9 (22.5-45.7)
60-day	18.3 (15.0-22.5)	21.0 (17.0-26.2)	24.4 (19.4-31.0)	26.7 (21.0-34.5)	29.6 (22.7-39.0)	31.7 (23.9-42.4)	33.5 (24.9-45.6)	35.2 (25.7-48.6)	37.4 (26.8-52.7)	39.0 (27.6-55.8)

100-year, 24 hour storm event

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

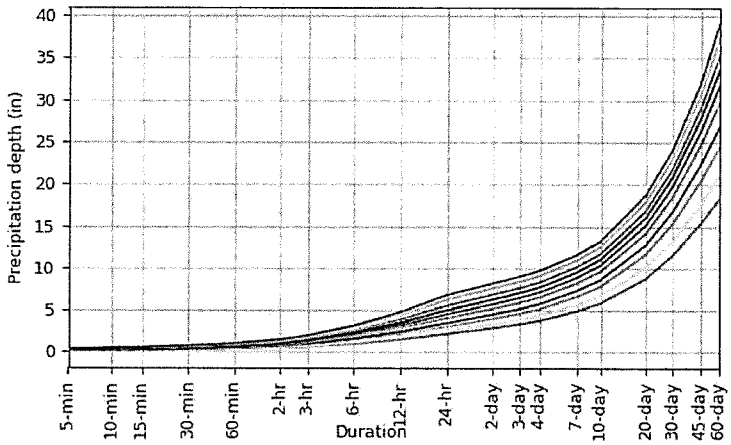
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

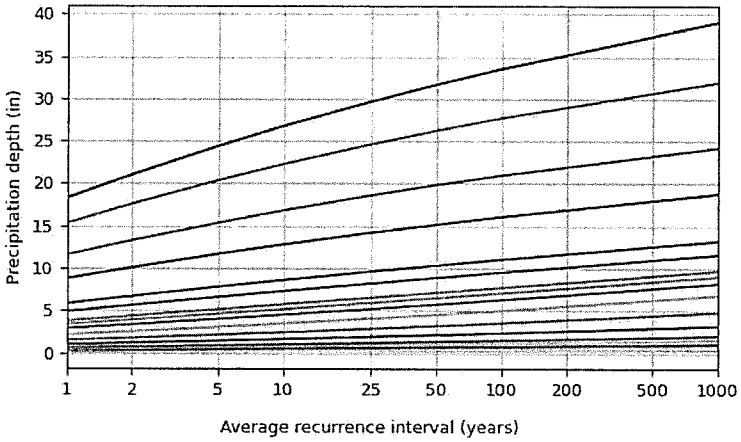
Please refer to NOAA Atlas 14 document for more information.

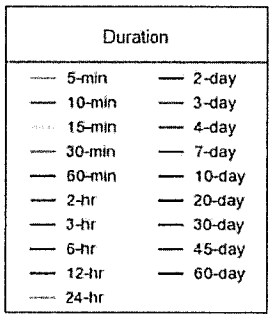
Back to Top

PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 58.3833°, Longitude: -134.6500°







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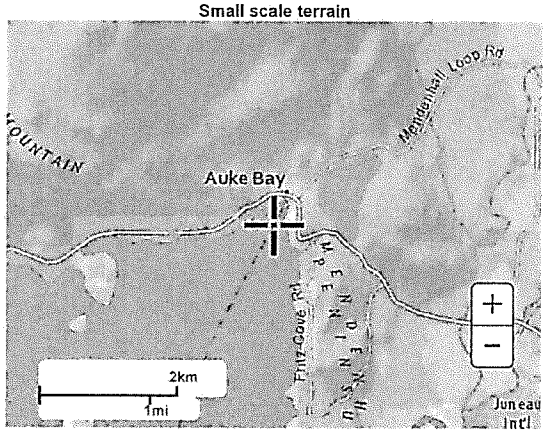
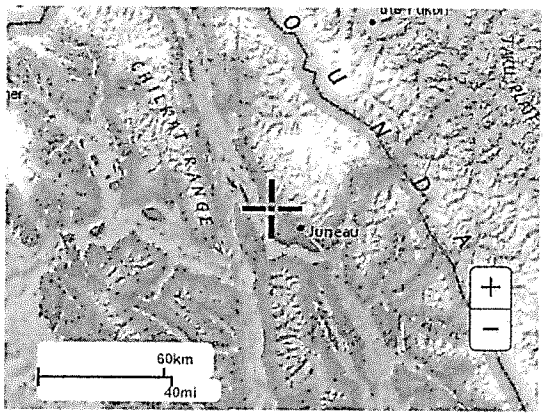
Back to Top

Maps & aerials

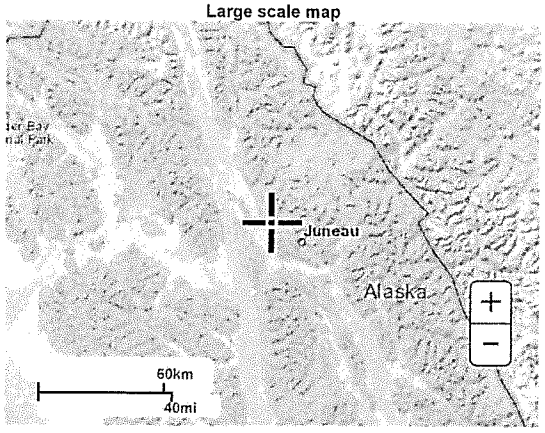
Small scale terrain



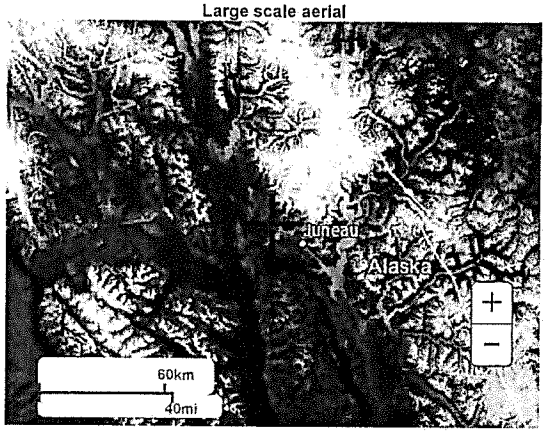
Large scale terrain



Large scale map



Large scale aerial



Back to Top

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Chatham Area, Alaska

E20C—Alexander Archipelago-Gulf of Alaska Coast-Maritime Lowland-Coastal Plains, Deltas and Mud Flats

Map Unit Setting

National map unit symbol: 314jr
Elevation: -10 to 30 feet
Mean annual precipitation: 60 to 143 inches
Mean annual air temperature: 36 to 42 degrees F
Frost-free period: 110 to 185 days

Map Unit Composition

E20-maritime submergent-silty subaqueous and similar soils: 42 percent
E20-maritime water, saline: 34 percent
Minor components: 24 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of E20-maritime Submergent-silty Subaqueous

Setting

Landform: Tidal flats
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty and clayey marine deposits

Typical profile

Cg - 0 to 60 inches: gravelly silt loam

Properties and qualities

Slope: 0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.71 to 1.42 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Very slightly saline to strongly saline (2.0 to 20.0 mmhos/cm)
Sodium adsorption ratio, maximum: 12.0
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Description of E20-maritime Water, Saline

Typical profile

W - 0 to 60 inches: water

Properties and qualities

Slope: 0 percent
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Unranked

Minor Components

E20-maritime beaches, gravelly

Percent of map unit: 10 percent
Landform: Beaches
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Unranked

E20-maritime wet meadow-silty coastal plains, depressions

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

E20-maritime wet meadow-silty low coastal plains

Percent of map unit: 5 percent
Landform: Coastal plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

E20-maritime scrub-gravelly low flood plains

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

E20-maritime scrub/sphagnum-organic high coastal plains

Percent of map unit: 2 percent
Landform: Coastal plains

Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Chatham Area, Alaska
Survey Area Data: Version 24, Sep 16, 2024

Chatham Area, Alaska

E20M1—Alexander Archipelago-Gulf of Alaska Coast-Maritime Upland and Subalpine-Rounded Mountains

Map Unit Setting

National map unit symbol: 314jw
Elevation: 20 to 4,790 feet
Mean annual precipitation: 60 to 220 inches
Mean annual air temperature: 39 to 48 degrees F
Frost-free period: 110 to 185 days

Map Unit Composition

E20-maritime forest-loamy colluvial slopes, shallow and similar soils: 30 percent
E20-maritime sedge-scrub-organic depressions and similar soils: 21 percent
E20-maritime forest-loamy colluvial and till slopes and similar soils: 19 percent
E20-maritime forest-organic slopes and similar soils: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of E20-maritime Forest-loamy Colluvial Slopes, Shallow

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Organic material over loamy colluvium derived from sandstone over gravelly colluvium derived from sandstone

Typical profile

Oe - 0 to 4 inches: moderately decomposed plant material
E - 4 to 6 inches: silt loam
Bhs - 6 to 10 inches: very fine sandy loam
Bs - 10 to 20 inches: very gravelly fine sandy loam
R - 20 to 60 inches: bedrock

Properties and qualities

Slope: 76 to 100 percent
Depth to restrictive feature: 16 to 26 inches to lithic bedrock
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 20 to 39 inches
Frequency of flooding: None
Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of E20-maritime Sedge-scrub-organic Depressions

Setting
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Organic material

Typical profile
Oi - 0 to 12 inches: peat
Oe - 12 to 60 inches: mucky peat

Properties and qualities
Slope: 0 to 55 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.71 to 3.54 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 25.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of E20-maritime Forest-loamy Colluvial And Till Slopes

Setting
Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Center third of mountainflank
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Organic material over loamy colluvium and/or loamy drift

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
E - 2 to 3 inches: gravelly silt loam
Bhs - 3 to 6 inches: gravelly sandy loam
Bs - 6 to 14 inches: very gravelly coarse sandy loam
C - 14 to 60 inches: very gravelly sandy loam

Properties and qualities

Slope: 35 to 90 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.71 to 1.42 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B/D
Hydric soil rating: No

Description of E20-maritime Forest-organic Slopes

Setting

Landform: Hills
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Organic material over gravelly glaciofluvial deposits

Typical profile

Oi - 0 to 5 inches: peat
Oa - 5 to 28 inches: muck
Cg - 28 to 60 inches: very gravelly sandy loam

Properties and qualities

Slope: 5 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.71 to 3.54 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Very high (about 13.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

E20-maritime forest-organic well drained slopes, shallow

Percent of map unit: 10 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

E20-maritime rock outcrop and rubbleland

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Unranked

Data Source Information

Soil Survey Area: Chatham Area, Alaska
Survey Area Data: Version 24, Sep 16, 2024

Soil Map—Chatham Area, Alaska

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:31,700.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chatham Area, Alaska
Survey Area Data: Version 24, Sep 16, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 25, 2013—Oct 17, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
E20C	Alexander Archipelago-Gulf of Alaska Coast-Maritime Lowland-Coastal Plains, Deltas and Mud Flats	315.9	37.4%
E20M1	Alexander Archipelago-Gulf of Alaska Coast-Maritime Upland and Subalpine-Rounded Mountains	529.7	62.6%
Totals for Area of Interest		**845.6**	**100.0%**

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

DEVELOPMENT PERMIT APPLICATION

NOTE: Development Permit Application forms must accompany all other Community Development Department land use applications. This form and all documents associated with it are public record once submitted.

To be completed by Applicant

PROPERTY LOCATION

Physical Address

Legal Description(s) (Subdivision, Survey, Block, Tract, Lot)

Parcel Number(s)

☐ This property is located in the downtown historic district
☐ This property is located in a mapped hazard area, if so, which _____

LANDOWNER/ LESSEE

Property Owner	Contact Person
Mailing Address	Phone Number(s)
E-mail Address	

LANDOWNER/ LESSEE CONSENT

Required for Planning Permits, not needed on Building/ Engineering Permits.

Consent is required of all landowners/ lessees. If submitted with the application, alternative written approval may be sufficient. Written approval must include the property location, landowner/ lessee's printed name, signature, and the applicant's name.

I am (we are) the owner(s)or lessee(s) of the property subject to this application and I (we) consent as follows:

A. This application for a land use or activity review for development on my (our) property is made with my complete understanding and permission.
B. I (we) grant permission for the City and Borough of Juneau officials/employees to inspect my property as needed for purposes of this application.

_____
Landowner/Lessee (Printed Name) **Title (e.g.: Landowner, Lessee)**

X _____ _____
Landowner/Lessee (Signature) **Date**

_____
Landowner/Lessee (Printed Name) **Title (e.g.: Landowner, Lessee)**

X _____ _____
Landowner/Lessee (Signature) **Date**

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours. We will make every effort to contact you in advance, but may need to access the property in your absence and in accordance with the consent above. Also, members of the Planning Commission may visit the property before a scheduled public hearing date.

APPLICANT

If same as LANDOWNER, write "SAME"

Applicant (Printed Name)	Contact Person
Mailing Address	Phone Number(s)
E-mail Address	

X _____ _____
Applicant's Signature **Date of Application**

----------DEPARTMENT USE ONLY BELOW THIS LINE----------

	Intake Initials
Case Number	Date Received

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

For assistance filling out this form, contact the Permit Center at 586-0770.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

SUBDIVISION AND DEVELOPMENT PLAN APPLICATION

See subdivision hand-outs for more information regarding the permitting process and the materials required for a complete application.
NOTE: Must be accompanied by a DEVELOPMENT PERMIT APPLICATION form.

To be completed by Applicant

PROJECT SUMMARY

Number of Existing Parcels _____ Total Land Area _____ Number of Resulting Parcels _____

HAS THE PARCEL BEEN CREATED BY A MINOR SUBDIVISION IN THE PRECEDING 24 MONTHS

◯ NO ◯ YES Case Number _____

TYPE OF SUBDIVISION OR PLATTING APPROVAL REQUESTED

MINOR DEVELOPMENT
(changing or creating 13 or fewer lots)

- ◉ Preliminary Plat (MIP)
- ◯ Final Plat (MIF)
- ◯ Panhandle Subdivision
- ◯ Accretion Survey
- ◯ Boundary Adjustment
- ◯ Lot Consolidation (SLC)
- ◯ Bungalow Lot Subdivision
- ◯ Common Wall/Zero Lot Subdivision
- ◯ Other _____

MAJOR DEVELOPMENT
(changing or creating 14 or more lots)

- ◯ Preliminary Plat (SMP)
- ◯ Final Plat (SMF)
- ◯ Preliminary Development Plan – PUD (PDP)
- ◯ Final Development Plan – PUD (PDF) Preliminary
- ◯ Development Plan – ARS (ARP) Final
- ◯ Development Plan – ARS (ARF)
- ◯ Bungalow Lot Subdivision
- ◯ Common Wall/Zero Lot Subdivision
- ◯ Other _____

ALL REQUIRED DOCUMENTS ATTACHED

- ☐ **Pre-application conference notes**
- ☐ **Narrative including:**
  - ☐ Legal description(s) of property to be subdivided
  - ☐ Existing structures on the land
  - ☐ Zoning district
  - ☐ Density
  - ☐ Access
  - ☐ Current and proposed use of any structures
  - ☐ Utilities available
  - ☐ Unique characteristics of the land or structure(s)
- ☐ **Preliminary Plat checklist**

----------DEPARTMENT USE ONLY BELOW THIS LINE----------

SUBDIVISION/PLATTING FEES	Fees	Check No.	Receipt	Date
Application Fees	$_____			
Admin. of Guarantee	$_____			
Adjustment	$_____			
Total Fee	$_____			

For assistance filling out this form, contact the Permit Center at 586-0770.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

Case Number	Date Received

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

SUBDIVISION AND DEVELOPMENT PLAN APPLICATION

See subdivision hand-outs for more information regarding the permitting process and the materials required for a complete application.

NOTE: Must be accompanied by a DEVELOPMENT PERMIT APPLICATION form.

To be completed by Applicant

PROJECT SUMMARY

Number of Existing Parcels _____ Total Land Area _____ Number of Resulting Parcels _____

HAS THE PARCEL BEEN CREATED BY A MINOR SUBDIVISION IN THE PRECEDING 24 MONTHS

◯ NO ◯ YES Case Number _____

TYPE OF SUBDIVISION OR PLATTING APPROVAL REQUESTED

MINOR DEVELOPMENT
(changing or creating 13 or fewer lots)

- ◉ Preliminary Plat (MIP)
- ◯ Final Plat (MIF)
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- ◯ Boundary Adjustment
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- ◯ Bungalow Lot Subdivision
- ◯ Common Wall/Zero Lot Subdivision
- ◯ Other _____

MAJOR DEVELOPMENT
(changing or creating 14 or more lots)

- ◯ Preliminary Plat (SMP)
- ◯ Final Plat (SMF)
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- ◯ Final Development Plan – PUD (PDF) Preliminary
- ◯ Development Plan – ARS (ARP) Final
- ◯ Development Plan – ARS (ARF)
- ◯ Bungalow Lot Subdivision
- ◯ Common Wall/Zero Lot Subdivision
- ◯ Other _____

ALL REQUIRED DOCUMENTS ATTACHED

- ☐ **Pre-application conference notes**
- ☐ **Narrative including:**
  - ☐ Legal description(s) of property to be subdivided
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  - ☐ Access
  - ☐ Current and proposed use of any structures
  - ☐ Utilities available
  - ☐ Unique characteristics of the land or structure(s)
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----------DEPARTMENT USE ONLY BELOW THIS LINE----------

SUBDIVISION/PLATTING FEES	Fees	Check No.	Receipt	Date
Application Fees	$_____			
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Adjustment	$_____			
Total Fee	$_____			

For assistance filling out this form, contact the Permit Center at 586-0770.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

Case Number	Date Received

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

(907) 586-0715
CDD_Admin@juneau.gov
www.juneau.org/community-development
155 Heritage Way • Juneau, AK 99801

Ravenswood Subdivision

Case Number:	PAC2024 0057
Applicant:	Rob and Lisa Worden
Property Owner:	R&S Construction LLC; Misty Sea Charters & Lodging
Property Address:	4670 Glacier Highway
Parcel Code Number:	7B100115063
Site Size:	221,678 square feet/5.01 acres
Zoning:	D15 Multifamily
Existing Land Use:	Residence

Conference Date:	November 20, 2024
Report Issued:	December 4, 2024

DISCLAIMER: Pre-application conferences are conducted for the purpose of providing applicants with a preliminary review of a project and timeline. Pre-application conferences are not based on a complete application and are not a guarantee of final project approval.

List of Attendees

Note: Copies of the Pre-Application Conference Report will be emailed, instead of mailed, to participants who have provided their email address below.

Name	Title	Email address
Rob Worden	Applicant	RobLisa@AK.net
David Peterson	Planning	David.Peterson@juneau.gov
Jeff Hedges	Building	Jeffrey.Hedges@juneau.gov
Bridget LaPenter	General Engineering	Bridget.LaPenter@juneau.gov
Sydney Hawkins	Permitting	Sydney.Hawkins@juneau.gov

Conference Summary

Questions/issues/agreements identified at the conference that weren't identified in the attached reports. The following is a list of issues, comments and proposed actions, and requested technical submittal items that were discussed at the pre-application conference.

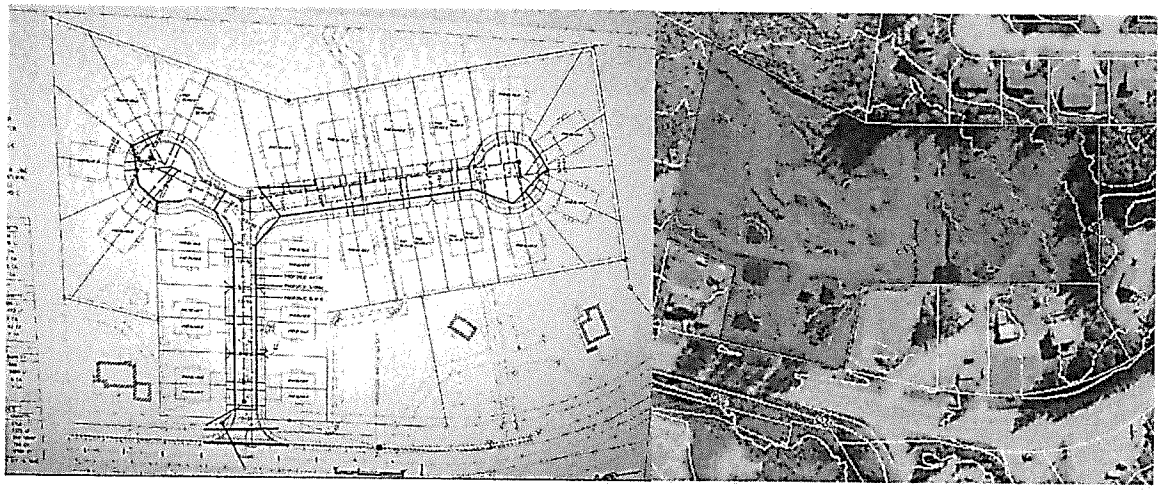
Project Overview

The applicant is proposing a common wall subdivision with 42 dwelling units. Any subdivision involving more than 13 lots is classified as a Major Subdivision and requires approval from the Planning Commission.

A common wall subdivision follows a two-part process. Per 49.65.710, a conditional use permit will be required to approve the development, while a major subdivision preliminary plat will also be required for the subdivision portion.

Staff recommends considering alternative housing products such as condominiums, single-family detached homes, or townhomes, which may be more economically feasible.

Per the table found in T49 49.35.240, a development of 22–52 dwellings, ROW improvements will be required, including a sidewalk on at least one side of the street. For developments of 53–75 dwellings, sidewalks will be required on both sides. Additional infrastructure requirements include a Traffic Impact Analysis, a 24-foot travel way width, streetlights at all intersections, a 60-foot platted ROW width, and paved roads that will be publicly maintained.



Planning Division

1. **Zoning** – Lot is zoned (D15) Multi Family.
    a. Minimum lot size is 5,000 square feet for standard lots and 3,000 square feet for Bungalow lots.
    b. Minimum lot width for standard lots is 50 feet. Minimum lot width for Common Wall dwellings is 30 feet. Minimum lot width for bungalow lots is 25 feet.
2. **Table of Permissible Uses** – D15 zoned lots are intended to accommodate densities of 15 dwelling units per acre.

3. **Subdivision – 49.15.402 Major subdivisions.**
A conditional use permit will be required for the Alternative Residential Subdivision with a major subdivision permit is required for platting the subdivision creating.

Pre-application conference and sketch plat. A pre-application conference and sketch plat (CBJ 49.15.410) is required prior to submitting an application for a major subdivision.

Application for a preliminary plat and conditional use permit shall be on a form provided by the department, accompanied by a draft preliminary plat and the appropriate fee. The draft plat shall meet the standards set forth in CBJ 49.15.411.

Alternative Residential Subdivision

The proposed ARS shall be reviewed according to the requirements of a conditional use permit as an ARP/ARF case type. (See Article IX attachment)

Planning Commission:
Public notice of the application will be sent to neighbors within 500 feet of the property.

The planning commission will confirm the development coincides with the Comprehensive Area Plan and will determine if any of the following will also be required:

1. A Development Schedule.
2. Verify the use coincides with the comprehensive plan.
3. Whether an Owners Association would be required.
4. Any dedications are required.
5. Any bonds for improvements in addition to boning for utilities or improvements.
6. The PC may require a letter from the public utility or public agency legally committing to serve the development.
7. Screening requirements.
8. Lighting requirements.

In issuing its notice of decision on a preliminary plat, the commission may accept, amend, or reject the director's proposed recommendations. The decision of the commission approving or denying a preliminary plat application will be set forth in a notice of decision and will specify any conditions or plat notes required for final plat approval. If the preliminary plat is denied, the applicant may submit a revised plat application, without paying additional application fees, within 180 days from the date of the notice of decision.

Construction plans will be required upon approval of the preliminary plat. Construction plans for all required improvements will be submitted to the department for review by the director of engineering and public works for compliance with CBJ 49.35.140.
An application for a final plat shall be on a form provided by the department, accompanied by a final plat and the appropriate fee. The final plat shall meet the conditions of the preliminary plat and standards set forth in CBJ 49.15.412.

Once the application is deemed complete, the director shall schedule the final plat for commission action. If commission action on the final plat will occur more than 12 months after approval of the preliminary plat, public notice of impending commission action on the final plat may be required.

The director shall prepare and submit a report to the commission that addresses compliance of the final plat with this title and the criteria for final plat approval, and that specifies any conditions of approval or plat notes recommended by the director.

Once it has been confirmed that the applicant has complied with any conditions, plat notes, and standards set forth in CBJ 49.15.412, a Notice of Decision will be sent to the Applicant.
The applicant has constructed all required improvements or provided a financial guarantee.

The chair of the commission shall sign the plat upon a determination that the final plat meets all of the requirements of this title, that all plat certificates have been signed and notarized, and that all required documents have been submitted for recording with the final plat in accordance with CBJ 49.15.412. Once property taxes have been paid in full for the current year, the department shall ship the original plat, at the applicant's expense, to be recorded with the State Recorder's Office in Anchorage.

4. **Setbacks** – Minimum setback requirement from property lines are:
    i. Front: 20 feet
    ii. Rear: 15 feet
    iii. Side yard: 5 feet
    iv. Street Side: 13 feet
    v. Note: Zero-foot setback for the portion of the dwelling with a common wall, five-foot setback or five-foot wide easement for the portion of the dwelling at the common lot line without a common wall, and five-foot setback for the remaining side yards of the lot.
5. **Height** – Maximum permitted height for primary structures is 35 feet, and 25 feet for accessory and bungalow structures.
6. **Access** – Lots shall have direct and practical access to a publicly maintained right-of-way through their frontage. If not already accepted for public maintenance, shall be improved to the applicable standards for public acceptance and maintenance. It shall be the responsibility of the subdivider to pay the cost of the right-of-way improvements. (49.35.250)
7. **Parking & Circulation** –
    a. Single-family and duplex: 2 spaces per each dwelling unit.
    b. Multi family units:
        i. 1 per one-bedroom unit
        ii. 1.5 per two-bedroom unit
        iii. 2 per three-bedroom unit
8. **Lot Coverage** – Maximum lot coverage for permissible and conditional uses is 50%.
9. **Vegetative Coverage** – Minimum vegetative coverage in D15 zones is 30%.
10. **Lighting** – Exterior lighting may not shed light or glare above the roofline of the building or beyond the property line of the site. Industrial and exterior lighting shall not be used in a manner that produces glare on public highways or neighboring property.

Prior to issuance of a building permit, the applicant shall submit a lighting plan illustrating the location and type of exterior lighting proposed for the development. Exterior lighting shall be designed and located to minimize offsite glare. Approval of the plan shall at the discretion of the Community Development Department, according to the requirements at §49.40.230(d) [and Historic District Design Guidelines, if applicable].

All exterior lighting fixtures shall be of a "full cutoff" design.

11. **Noise** – *Construction of buildings and projects.* It is unlawful to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or similar heavy construction equipment, before 7:00 a.m. or after 10:00 p.m., Monday through Friday, or before 9:00 a.m. or after 10:00 p.m., Saturday and Sunday, unless a permit shall first be obtained from the City and Borough building official.
12. **Flood** – Per panel 02110C1551E eff. 9/18/2020, N/A.
13. **Hazard/Mass Wasting/Avalanche/Hillside Endorsement** – A Hillside Endorsement is required if/when excavation of any slope in excess of 18%, or creation of a new slope in excess of 18%.
14. **Wetlands** – N/A
15. **Habitat** – Check with the U.S. Fish and Wildlife on the presence of eagle nests in the area. The presence of eagle nests may impact construction scheduling. No anadromous waterbodies are on the subject parcel, or within 50 feet.
16. **Plat or Covenant Restrictions** – N/A
17. **Traffic** – Per 49.40.300(a)(3) - A development projected to generate more than 250 Average Daily Trips (ADT) but fewer than 500 ADT shall be required to have a *traffic* impact analysis if the Community Development Department Director determines that an analysis is necessary based on the type of development, its location, the likelihood of future expansion, and other factors found relevant by the director.

    Per the Trip Generation Manual, 9th Edition, Volume 2, pg.296, the ADT anticipated to be generated by single family housing is expected to be 9.52 ADT/dwelling.

    42 dwelling units X 9.52 ADT = 399.84 total ADT generated by this subdivision.

    CBJ classifies Glacier Highway as a Collector.

    Per 49.35.210(c) (1) Major *collectors*. If a new subdivision involves frontage along a major *collector* street:

    (A) The plat shall note that no lots shall access directly onto the major *collector*.
    (B) Access shall be provided onto an interior access street or a separate frontage road.
    (C) Exception a parcel of land with less than 500 feet of frontage or less than 350 feet of depth may be subdivided so as to allow access directly onto a major *collector* street.
18. **Nonconforming situations** – N/A

Building Division

19. **Building** – No issues with this subdivision.
20. **Outstanding Permits** – BLD20170425 – "Grading, pioneer road, and other work to prepare for development."

General Engineering/Public Works

21. **Engineering** –
    a. To adhere to 49.15.402 (C) (4) (E) we are requesting a submittal of a preliminary construction plan with typical section of the streets, pedestrian ways, and storm water management proposed. At the preliminary phase, these items do not need to be designed by an engineer.
    b. At the time of preliminary plat submittal, submit an erosion control report explaining the method by which the applicant proposes to control erosion and manage runoff, and potential impacts to adjacent properties or water bodies. The report shall include a plan for preservation of ground cover in areas where runoff and resulting erosion need to be minimized.
    c. *Construction plans to be submitted after the approval of the preliminary plat and before final plat submission. Construction plans must adhere to* 49.35.140 and must be signed and stamped by Alaska-licensed engineers for each discipline. Construction plans for this layout of development does not need to include all phases of full buildout of development. For specific requirements, please refer to CBJ code by visiting: http://www.juneau.org/cddftp/ordinances.php and referencing chapter 49.35 – Public and Private Improvements.
    d. *Prior to final plat, an Engineer's estimate for the installation of public improvements must be submitted. Once this is received, a performance bond amount will be determined and must be paid/posted prior to recording of the final plat. Further discussion regarding the bond can take place once the project phasing is determined. For all options regarding the financial guarantee please refer to 49.55 – Financial Responsibility.*
    e. *Dependent on the construction plan and schedule an inspection deposit will be required and a private inspector may be hired and managed by CBJ.*
    f. *Street lighting is required and shall not exceed 250' between poles.*
22. **Drainage** – Drainage report with the submittal of the preliminary plat does not need to be engineered. At time of construction plan submittals, a drainage plan must be submitted and must be signed and stamped by an Alaska-licensed engineer.
23. **Utilities** – (water, power, sewer, etc.) At time of preliminary plat, a draft plan for the proposed water and sewer lines shall be submitted showing existing installed utilities including line sizing and connection points with elevations.

Fire Marshal

24. **Fire Items/Access** – Fire turn-around and fire hydrant locations.

Other Applicable Agency Review

25. Alaska Department of Transportation is requiring a Traffic Impact Analysis (TIA).

List of required applications

Based upon the information submitted for pre-application review, the following list of applications must be submitted in order for the project to receive a thorough and speedy review.

1. Development Permit Application (DPA)
2. Subdivision Application
3. Conditional Use Permit Application

Additional Submittal Requirements

Submittal of additional information, given the specifics of the development proposal and site, are listed below. These items will be required in order for the application to be determined Counter Complete.

1. A copy of this pre-application conference report.
2. Preliminary plat (include topography)
3. Hillside endorsement (tentative if slopes in excess of 18% are present).
4. Drainage report
5. Traffic Impact Analysis (TIA)
6. Construction Drawings (After preliminary NOD)

Exceptions to Submittal Requirements

Submittal requirements that staff has determined **not** to be applicable or **not** required, given the specifics of the development proposal, are listed below. These items will **not** be required in order for the application to be reviewed.

1. N/A

Fee Estimates

The preliminary plan review fees listed below can be found in the CBJ code section 49.85.

Based upon the project plan submitted for pre-application review, staff has attempted to provide an accurate estimate for the permits and permit fees which will be triggered by your proposal.

1. 49.85.100(3) and (4) –
    a. Preliminary Plat is $110 per lot.
    b. Final Plat is $70 per lot.
    c. Conditional Uses, Class IV uses, $1,000.

For informational handouts with submittal requirements for development applications, please visit our website at www.juneau.org/community-development.

Submit your Completed Application

You may submit your application(s) online via email to permits@juneau.gov
OR in person with payment made to:

City & Borough of Juneau, Permit Center
230 South Franklin Street
Fourth Floor Marine View Center
Juneau, AK 99801

Phone: (907) 586-0715
Web: www.juneau.org/community-development

Attachments:
Article IX. Alternative Residential Subdivisions 49.15.900
Development-Permit Application (DPA)
Subdivision-Application
Preliminary Plat Checklist

Conditional Use Application (USE)

ARTICLE IX. ALTERNATIVE RESIDENTIAL SUBDIVISIONS

49.15.900 Purpose.

The general purpose of this article is to provide reasonable minimum standards and procedures for unit-lot residential communities in which all or some of the lots do not substantially conform to the minimum requirements for a traditional subdivided lot. This article provides a housing option to allow dwellings on unit-lots to be conveyed by long-term leases, less than fee-simple ownership, or fee-simple ownership, including condominium and other common-interest communities. The specific purpose of this article is to permit flexibility in the regulation and use of land in order to promote its most appropriate use for unit-lot residential communities; to encourage residential developments that are planned, designed and developed to function as integral units with common facilities; to encourage developments that provide different types of housing options; to encourage development of quality affordable housing; to facilitate the adequate and economical provisions of access and utilities; and to encourage developments that are in harmony with the surrounding area.

(Serial No. 2018-41(c), § 2, 12-17-2018, eff. 1-17-2019)

49.15.910 Application.

The provisions of this article apply when a parent lot is subdivided into developable unit-lots and where a portion of the parent lot remains.

(Serial No. 2018-41(c), § 2, 12-17-2018, eff. 1-17-2019)

49.15.920 General provisions.

(a) *General.* The requirements of this title apply except as provided in this article.

(b) *Zoning districts.* An alternative residential subdivision is only allowed in the following zoning districts: RR, D-1, D-3, D-5, D-10SF, D-10, D-15, D-18, and LC.

(c) *Lot size.* The parent lot shall be at least 150 percent of the minimum lot size for the zoning district in which it is located. There is no minimum size for the unit-lots.

(d) *Other dimensional standards.* The minimum lot dimensions, lot coverage, and vegetative coverage shall be applied to the parent lot and not the unit-lots.

(e) *Density.*

(1) The number of dwelling units permitted in the development shall be calculated by multiplying the maximum number of dwelling units per gross acre permitted in the underlying zoning district by the number of acres in the alternative residential subdivision and rounding to the nearest whole number.

(2) Land and water bodies used in calculating the number of dwelling units permitted shall be delineated on the preliminary and final plans in a manner allowing confirmation of acreage and density computations.

(3) The commission may award a density bonus as an incentive for enhancements to the development. The total bonus shall not exceed 50 percent in the RR, D1, D3, D5, D10 zoning districts, and 25 percent in the D-10SF, D15, D18 and LC zoning districts of the density provided in subsection (e)(1) of this section and rounded to the nearest whole number and shall be the sum of individual density bonuses as follows:

(A) Five percent for each ten percent increment of open space in excess of that required in the zoning district to a maximum bonus of 15 percent for open space in excess of that required;

(B) Five percent for a continuous setback greater than 50 feet or ten percent for a continuous setback greater than 50 feet on both sides of a stream, if applicable, designated in the plan as undisturbed open space along important natural water bodies, including anadromous fish streams, lakes, and wetlands;

(C) Fifteen percent for a mixture of housing units restricted by a recorded document for a period of 30 years from the first sale:

(i) In which ten percent of the dwelling units are set aside for lower income households earning no more than 80 percent of the area median income; or

(ii) In which 20 percent of the dwelling units are set aside for workforce households earning no more than 120 percent of the area median income.

(D) Up to ten percent for provision of common facilities and additional amenities that provide an unusual enhancement to the general area, such as siting, landscaped buffers, or the creation or preservation of view corridors;

(E) Ten percent for dedication of a public right-of-way accessible to all unit-lots consistent with chapter 49.35;

(F) Five percent in the RR, D-1, D-3, D-5, and D-10SF zoning districts, and ten percent in the D-10, D-15, D-18 and LC zoning districts for providing shared use pathways to facilitate safe pedestrian and bicycle movement within the development and to ensure non-vehicular access to open space, common facilities and to public services;

(G) Five percent for designing all dwelling structures to a five-star plus energy efficiency rating; ten percent for designing all dwelling structures to a six-star energy efficiency rating; and

(H) Up to ten percent for using high-efficiency primary heating methods, such as heat pumps, in all dwelling structures.

(4) A density bonus may be limited or denied if it will more probably than not:

(A) Materially endanger public health or safety;

(B) Substantially be out of harmony with property in the neighboring area;

(C) Lack general conformity with the comprehensive plan or another adopted plan; or

(D) Create an excessive burden on roads, sewer, water, schools, or other existing or proposed public facilities.

(f) *Frontage and access.* The parent lot shall front on and be accessed by a publically maintained right-of-way. Access within the development may be exempted from [chapter] 49.35 and be privately owned and maintained if it complies with the following requirements:

(1) The access shall be located completely on the parent lot;

(2) The access does not endanger public safety or welfare and provides for safe pedestrian and vehicular traffic circulation;

(3) The access complies with the emergency service access requirements of CBJ [chapter] 19.10;

(4) Access to and within the development is paved;

(5) The developer submits adequate evidence that upon approval of the development, a homeowners' association will be formed, can obtain liability insurance, and is solely responsible for maintaining the private access—including winter maintenance; and

(6) The alternative residential subdivision does not abut a developable parcel that lacks alternative and practical frontage on a publically maintained right-of-way.

(g) *Utilities.* An alternative subdivision is required to connect each dwelling unit to public sewer and water. A master meter for water shall be installed by the developer.

(h) *Parking.* Parking required for each dwelling unit may be located on either the parent lot or the unit-lot.

(i) *Open space.* Open space is required as follows: 25 percent in the RR and D-1 zoning districts; 20 percent in the D-3, D-5 and D-10 zoning districts; 15 percent in the D-10SF district. Open space is not required in the D-15, D-18, or LC zoning districts.

(j) *Buffer.* There are no setback requirements on the unit-lots. A perimeter buffer is required in lieu of the setback requirements of this title on the parent lot. The presumptive buffer width shall not be less than the setback set by the underlying zoning district to ensure neighborhood harmony and minimize off-site impacts. The commission may enlarge a buffer or a portion of a buffer up to 25 feet in total width, and the commission may reduce a buffer or a portion of a buffer by 75 percent of the setback for the underlying zoning district. The commission may only enlarge or reduce the buffer width upon considering, but not limited to: type of buffer, location of the subdivision structures and uses therein; the location and type of surrounding uses or development; topography; and the presence of existing visual and sound buffers. A buffer shall be vegetated unless the commission requires non-vegetated screening. A buffer may include fencing, natural berm, or other similar features. No parking areas, dwelling units, unit-lots, or permissible uses may be located within the perimeter buffer. Access to the development may cross a portion of the buffer.

(k) *Parent lot.* Portions of the parent lot not subdivided into unit-lots shall be owned in common by a homeowners' association, or similar entity, comprised of the owners of the unit-lots located within the parent lot.

(l) *Stormwater management.* Facilities for the control and disposal of stormwater must be adequate to serve the development and areas draining through the development. Management shall be in accordance with the Stormwater Best Management Practices manual. Where appropriate, natural drainage channels, swales, or other similar areas within the open space may be used for stormwater management at the development. The developer shall provide the CBJ Engineering and Public Works Department with an evaluation of offsite drainage outfalls for the additional runoff contributed by the alternative residential subdivision. The commission may require construction of offsite drainage improvements necessary to accommodate additional runoff from the development.

(m) *Permitted uses.* No primary uses are permitted on the parent lot except a recreational center, community facility, or a child care center. Consistent with the table of permissible uses, 49.25.300, only residential uses and associated accessory structures are allowed on the unit-lots. Accessory dwelling units are prohibited on the parent lot and on any unit-lots. A home occupation or a child care home is permissible on the unit-lots. If an alternative residential subdivision creates a lot that complies with the table of dimensional standards, 49.25.400, for the underlying zoning district, the accessory dwelling unit prohibition of this subsection does not apply.

(n) *Street sign.* Street signage is required. The developer shall install a street sign provided by the City and Borough of Juneau at the developer's expense. The director shall determine the type of street sign—

addresses or street name—upon considering public health, safety, and welfare given the size of the subdivision.

(o) *Mailboxes.* Upon consultation with the United States Postal Service, the director shall determine the placement location of mailboxes. The director may require additional improvements and design changes to enable efficient mail delivery and to minimize traffic interferences and compliance with CBJ standard details.

(Serial No. 2018-41(c), § 2, 12-17-2018, eff. 1-17-2019)

49.15.930 Alternative residential subdivision review process.

(a) *General procedure.* A proposed alternative residential subdivision shall be reviewed according to the requirements of section 49.15.330, conditional use permit, and in the case of an application proposing a change in the number or boundaries of unit-lots, section 49.15.402, major subdivisions, except as otherwise provided in this article. Approval shall be a two-step process, preliminary plan approval and final plan approval. In cases involving a change in the number or boundaries of unit-lots, the preliminary and final plat submissions required by section 49.15.402 shall be included with the preliminary and final plan submissions required by this chapter.

(b) *Preapplication conference.* Prior to submission of an application, the director shall conduct an informal preapplication conference with the developer to discuss the proposed alternative residential subdivision. The purpose of the preapplication conference shall be to exchange general and preliminary information and to identify potential issues and bonuses. The developer may discuss project plans and the director may provide an informal assessment of project permit eligibility, but no statement made by either party shall be regarded as binding, and the result of the conference shall not constitute preliminary approval by the department. The conference shall include a discussion of the zoning, size, topography, accessibility, and adjacent uses of the development site; the uses, density and layout of buildings, parking areas, the open space and landscaping proposed for the development; the common facilities; provision of utilities, including solid waste and recycling collection; the access, the vehicle and pedestrian circulation, and winter maintenance including snow removal locations; the development schedule and the alternative residential subdivision permit procedures. The developer shall provide a sketch of the proposed alternative residential subdivision.

(Serial No. 2018-41(c), § 2, 12-17-2018, eff. 1-17-2019)

49.15.940 Preliminary alternative residential subdivision plan approval.

(a) *Application.* The developer shall submit to the department one copy of a complete alternative residential subdivision application, which shall include an application form, the required fee, any information required in subsection 49.15.402, the information required by this section, and any other information specified by the director.

(b) *Required submissions.* The application shall include the following material:

(1) *Ownership.* The application shall identify, and shall be signed by or upon, the included written authorization of, all owners, lessees, and optionees of land within the boundaries of all phases of the alternative residential subdivision.

(2) *Preliminary development plan.* The application shall include a preliminary development plan, explaining how the proposed alternative residential subdivision will achieve the purposes set forth in section 49.15.900. The preliminary development plan shall summarize the different land uses proposed, including the amount of land for housing, open space, buffer, access, parking and pedestrian circulation; the number and types of housing units and proposed density; the natural features to be protected and hazards to be avoided; and the public, if any, and private services to be provided.

(3) *Design.* The application shall describe the design of the alternative residential subdivision, with particular attention to building siting, massing, access, parking, and architectural features; provision of utilities including drainage and trash collection; provision of winter maintenance for access and parking areas; and the circulation of traffic and pedestrians.

(4) *Open space, common facilities, and general landscaping.* The preliminary plat shall show and describe common facilities, pedestrian circulation to common facilities and amenities, open space, buffers, landscaping, and similar features.

(5) *Request for density bonuses.* If a density bonus is being applied for, the application shall include a narrative describing the justification for the requested bonus, and the application shall show the nature and extent of the requested bonus.

(6) *Description of phased development.* The preliminary development plan for a phased alternative residential subdivision shall include:

(A) A drawing and development schedule for each phase and for the entire alternative residential subdivision;

(B) The size and general location of proposed land uses for each phase at the maximum level of density, including maximum allotment of density bonuses;

(C) A description of the access (pedestrian and vehicular) connecting all the phases and where they will connect at the alternative residential subdivision boundaries;

(D) A description of how the developer will address the cumulative impacts of the phased development on the neighborhood and the natural environment;

(E) A description of the overall design theme unifying the phases;

(F) An analysis of how each phase in the project will meet the requirements of subsection 49.15.960(b); and

(G) A sketch plat consistent with section 49.15.410.

(c) *Department review.* The director shall advise the developer whether the alternative residential subdivision application is complete, and, if not, what the developer must do to make it complete. Within 45 days after determining an application is complete, the director shall schedule the preliminary plan for a public hearing before the commission. The director shall give notice to the developer and the public according to section 49.15.230.

(d) *Commission action.* The commission may approve an alternative residential subdivision preliminary plan if it meets the following requirements:

(1) The development protects natural features and avoids natural hazards by reserving them as open space;

(2) The development is consistent with the land use code;

(3) The development incorporates perimeter buffers sufficient to minimize off-site impacts of the subdivision and to maximize harmony with the neighborhood;

(4) Utilities proposed for connection to the City and Borough system meet City and Borough standards, and all others are consistent with sound engineering practices, as determined by the City and Borough Engineering and Public Works Department;

(5) The configuration of the development provides for economy and efficiency in utilities, housing construction, access, parking and circulation;

(6) If the approval is for a phased development, that each phase is consistent with the preliminary development plan and design of the entire alternative residential subdivision;

(7) Adequately addresses the cumulative impacts of the phased development on the neighborhood and the natural environment; and

(8) If the approval includes an allotment of a density bonus, the density bonus complies with section 49.15.920(e)(4).

(e) *Expiration.* Approval of a preliminary plan shall expire 18 months after the commission notice of decision unless a final plan for the entire project or, in the case of a phased development, the first phase thereof, is submitted to the department for commission action. An application for extension of a preliminary plan shall be according to section 49.15.250, development permit extension.

(Serial No. 2018-41(c), § 2, 12-17-2018, eff. 1-17-2019)

49.15.950 Final alternative residential subdivision plan approval.

(a) *Application.* Upon completion of all conditions of the preliminary plan, the developer shall submit an application, fee, and a final plan for commission approval.

(b) *Homeowners' association.* The formation of a homeowners' association, or similar entity, is required.

(1) The articles of incorporation and bylaws of the homeowners' association, required under A.S. 34.08 or this chapter, shall be prepared by a lawyer licensed to practice in the state.

(2) The homeowners' association shall be responsible for the maintenance of open space, water and sewer utilities, and stormwater control features and drainages. The association documents shall specify how any other common facilities shall be operated and maintained. The association documents shall require homeowners to pay periodic assessments for the operation, maintenance and repair of common facilities. The documents shall require that the governing body of the association adequately maintain common facilities.

(3) If the alternative residential subdivision is phased, the association documents shall specify how the cost to build, operate, and maintain improved open space and common facilities shall be apportioned among homeowners of the initial phase and homeowners of later phases.

(4) The homeowners' association documents shall be recorded with the approved final plat.

(c) *Commission action.* The commission may approve the final plan if it substantially conforms to the approved preliminary plan and all requirements of this article.

(d) *Expiration.* An approved final plan shall expire 18 months after recording if the applicant fails to obtain an associated building permit and make substantial construction progress. An application for extension of a final plan shall be according to section 49.15.250, development permit extension.

(Serial No. 2018-41(c), § 2, 12-17-2018, eff. 1-17-2019)

49.15.960 Phased development.

(a) *Phasing allowed.* An applicant may develop an alternative residential subdivision in phases, provided the initial application includes a preliminary development plan sufficient to assess the cumulative effects of the entire alternative residential subdivision on the neighborhood and the environment according to the standards in subsection 49.15.940.

(b) *Completion of an individual phase.* Each phase shall be so designed and implemented that, when considered with reference to any previously constructed phases but without reference to any subsequent phases, it meets the design and density standards applicable to the entire alternative residential subdivision. Construction and completion of open space and common facilities serving each phase in an alternative residential subdivision shall proceed at a rate no slower than that of other structures in that phase. No phase shall be eligible for final plan approval until all components of all preceding phases are substantially complete and homeowners' association documents have been approved.

(c) *Standards for phases.* Each phase of an alternative residential subdivision shall be reviewed according to the provisions of this chapter then current. Each phase of an alternative residential subdivision shall maintain design continuity with earlier phases. At no point during a phased development shall the cumulative density exceed that established in the approved preliminary plan.

(Serial No. 2018-41(c), § 2, 12-17-2018, eff. 1-17-2019)

49.15.970 Amendments to approved alternative residential subdivision plan.

(a) *Request for amendment.* The developer of an alternative residential subdivision may request an amendment to an approved preliminary or final alternative residential subdivision plan. The request shall state the reasons for the amendment and shall be submitted in writing to the director, who shall inform the developer within 15 days whether the request shall be processed as a minor amendment or major amendment.

(b) *Minor amendment.* A minor amendment may be submitted without a filing fee and may be approved by the director. For purposes of this section, a minor amendment is a change consistent with the conditions of the original plan approval, and would result in:

(1) Insignificant change in the outward appearance of the development;

(2) Insignificant impacts on surrounding properties;

(3) Insignificant modification in the location or siting of buildings or open space;

(4) No reduction in the number of parking spaces below that required;

(5) A delay of no more than one year in the construction or completion schedule for the project or, in the case of a phased project, the phase for which the amendment is requested.

(c) *Major amendment.* All other amendments shall be reviewed by the commission upon payment of a filing fee and in accordance with the requirements of the original plan approval.

(Serial No. 2018-41(c), § 2, 12-17-2018, eff. 1-17-2019)

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

DEVELOPMENT PERMIT APPLICATION

NOTE: Development Permit Application forms must accompany all other Community Development Department land use applications. This form and all documents associated with it are public record once submitted.

To be completed by Applicant

PROPERTY LOCATION

Physical Address

Legal Description(s) (Subdivision, Survey, Block, Tract, Lot)

Parcel Number(s)

☐ This property is located in the downtown historic district
☐ This property is located in a mapped hazard area, if so, which _____

LANDOWNER/ LESSEE

Property Owner	Contact Person
Mailing Address	Phone Number(s)
E-mail Address	

LANDOWNER/ LESSEE CONSENT

Required for Planning Permits, not needed on Building/ Engineering Permits.

Consent is required of all landowners/ lessees. If submitted with the application, alternative written approval may be sufficient. Written approval must include the property location, landowner/ lessee's printed name, signature, and the applicant's name.

I am (we are) the owner(s)or lessee(s) of the property subject to this application and I (we) consent as follows:

A. This application for a land use or activity review for development on my (our) property is made with my complete understanding and permission.
B. I (we) grant permission for the City and Borough of Juneau officials/employees to inspect my property as needed for purposes of this application.

_____
Landowner/Lessee (Printed Name) **Title (e.g.: Landowner, Lessee)**

X _____ _____
Landowner/Lessee (Signature) **Date**

_____
Landowner/Lessee (Printed Name) **Title (e.g.: Landowner, Lessee)**

X _____ _____
Landowner/Lessee (Signature) **Date**

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours. We will make every effort to contact you in advance, but may need to access the property in your absence and in accordance with the consent above. Also, members of the Planning Commission may visit the property before a scheduled public hearing date.

APPLICANT

If same as LANDOWNER, write "SAME"

Applicant (Printed Name)	Contact Person
Mailing Address	Phone Number(s)
E-mail Address	

X _____ _____
Applicant's Signature **Date of Application**

----------DEPARTMENT USE ONLY BELOW THIS LINE----------

	Intake Initials
Case Number	Date Received

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

For assistance filling out this form, contact the Permit Center at 586-0770.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

SUBDIVISION AND DEVELOPMENT PLAN APPLICATION

See subdivision hand-outs for more information regarding the permitting process and the materials required for a complete application.

NOTE: Must be accompanied by a DEVELOPMENT PERMIT APPLICATION form.

To be completed by Applicant

PROJECT SUMMARY

Number of Existing Parcels _____ Total Land Area _____ Number of Resulting Parcels _____

HAS THE PARCEL BEEN CREATED BY A MINOR SUBDIVISION IN THE PRECEDING 24 MONTHS

◯ NO ◯ YES Case Number _____

TYPE OF SUBDIVISION OR PLATTING APPROVAL REQUESTED

MINOR DEVELOPMENT (changing or creating 13 or fewer lots)	MAJOR DEVELOPMENT (changing or creating 14 or more lots)
◯ Preliminary Plat (MIP)	◯ Preliminary Plat (SMP)
◯ Final Plat (MIF)	◯ Final Plat (SMF)
◯ Panhandle Subdivision	◯ Preliminary Development Plan – PUD (PDP)
◯ Accretion Survey	◯ Final Development Plan – PUD (PDF) Preliminary
◯ Boundary Adjustment	◯ Development Plan – ARS (ARP) Final
◯ Lot Consolidation (SLC)	◯ Development Plan – ARS (ARF)
◯ Bungalow Lot Subdivision	◯ Bungalow Lot Subdivision
◯ Common Wall/Zero Lot Subdivision	◯ Common Wall/Zero Lot Subdivision
◯ Other _____	◯ Other _____

ALL REQUIRED DOCUMENTS ATTACHED

- ☐ **Pre-application conference notes**
- ☐ **Narrative including:**
  - ☐ Legal description(s) of property to be subdivided
  - ☐ Existing structures on the land
  - ☐ Zoning district
  - ☐ Density
  - ☐ Access
  - ☐ Current and proposed use of any structures
  - ☐ Utilities available
  - ☐ Unique characteristics of the land or structure(s)
- ☐ **Preliminary Plat checklist**

----------DEPARTMENT USE ONLY BELOW THIS LINE----------

SUBDIVISION/PLATTING FEES	Fees	Check No.	Receipt	Date
Application Fees	$_____			
Admin. of Guarantee	$_____			
Adjustment	$_____			
Total Fee	$_____			

For assistance filling out this form, contact the Permit Center at 586-0770.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

Case Number	Date Received

PRELIMINARY PLAT CHECK LIST

Name of Proposed Subdivision: _____

The following items must be included with the initial submittal of a Preliminary Plat:

- ☐ Application, filled out completely
- ☐ Application fee (see fee schedule)
- ☐ Project Narrative
- ☐ Five (5) – 24" by 36" Copies
- ☐ Pre-application Conference Report
- ☐ Lot Closure Report
- ☐ Disclosure of all known environmental hazards and any proposed mitigation measures recommended in the applicable environmental document.
- ☐ Preliminary Plat Checklist: I have reviewed the checklist and all submittals for completeness and accuracy.

_____ _____

Applicant or Surveyor - Signature Date

_____

Applicant or Surveyor - Print Name

GENERAL REQUIREMENTS

- ☐ The preliminary plat shall be prepared by a professional land surveyor, registered in the State of Alaska
- ☐ The preliminary plat shall be submitted on 22 by 34 inch sheets. The director of engineering and public works may approve alternate sheet sizes
- ☐ The preliminary plat shall be drawn with black ink to a scale of one-inch to 100 feet or less, or other suitable scale approved by the director of engineering and public works
- ☐ The preliminary plat shall be oriented with north toward the top of the sheet.
- ☐ A vicinity map shall be located in the upper right-hand corner of the sheet
- ☐ The vicinity map shall be oriented in the same direction as the plat
- ☐ A suitable north arrow shall be shown for the plat and vicinity map
- ☐ All line work and lettering must be of professional quality, and all line widths and lettering sizes must be of such size that all information can be clearly shown without overlap or confusion

GRAPHIC REQUIREMENTS - A preliminary plat shall contain the following information:

Title block - An enclosed title block in the lower right-hand corner containing the following information:

- ☐ The proposed name of the subdivision
- ☐ The legal description of the parcel to be subdivided including U.S. Survey, U.S. Mineral Survey, A.T.S. number or section, township, and range number, as applicable
- ☐ "City and Borough of Juneau, Alaska"
- ☐ "State Recorder's Office at Juneau"
- ☐ The date the preliminary plat was prepared and revised
- ☐ The horizontal scale
- ☐ The name and address of the owner of record
- ☐ The name, address, and telephone number of the surveyor preparing the preliminary plat

Lot, block, and street information:

- ☐ The area of each lot
- ☐ The dimensions in feet and hundredths of a foot
- ☐ An identifying number and letter for lots and blocks
- ☐ Lots numbered consecutively, commencing with the number "1," with no omissions or duplications
- ☐ If the remainder of an original parcel being subdivided is relatively large, it shall be designated as a "tract" with an identifying number
- ☐ All parcels of land intended to be dedicated for public use or reserved for the use of all of the property owners in the proposed subdivision shall be shown as lots, and consecutively numbered. The purpose and any conditions or limitations on the use of the parcel shall be noted on the plat
- ☐ Abutting properties shall be shown with dashed lines, numbers, and/or letters
- ☐ For resubdivisions or public way vacations, the lines and legal description of the previous lots shall be shown with light dashed lines, numbers, and/or letters, or by a separate plat on the same sheet showing the previous lot lines
    - ☐ The minimum data shown for each curve shall be as follows:
        - ☐ Length
        - ☐ Central angle
        - ☐ Radius
        - ☐ Bearing and distance of long chord
    - ☐ Setbacks shall be shown on all corner lots and any lots with multiple frontage. Setbacks shall be shown on typical lots

Boundary lines:

- ☐ All boundary lines of the subdivision with bearings and distances described
- ☐ All retraced boundary lines shall show record and measured bearings and distances where they differ. Record dimension information shall be shown within parentheses and include a record source identification
- ☐ The exterior boundary lines of the subdivision shall be a solid black opaque line that is of a width that distinguishes it from all other property lines shown on the plat
- ☐ If phasing is proposed, then the boundaries and number of each phase, sequential lot numbering, and a subdivision name consistent with previous phases shall be shown

Monumentation:

- ☐ The monuments used to establish the basis of bearing
- ☐ Each monument found or set shall be identified on the plat by a symbol
- ☐ A complete description of the monument, including type and all information printed on the cap. A typical drawing shall be shown for each type of monument cap set
- ☐ A legend showing the symbols for all the types of monuments
- ☐ The identification, description location, elevation, and datum of the benchmark used to establish vertical control

Site access, circulation, and utilities:

- ☐ The widths and names of existing rights-of-way within the subdivision and within 100 feet of the subdivision boundary
- ☐ Proposed rights-of-way, including their widths and proposed names
- ☐ The grades of existing and proposed streets within these rights-of-way
- ☐ The width, ownership, use, and record reference of all proposed and existing easements within the subdivision and within 100 feet of the subdivision boundary
- ☐ The width, ownership, and use of all proposed easements

- ☐ All proposed and existing easements shall have sufficient dimensions shown to determine their location on the ground
- ☐ Existing trails or pathways within the subdivision and within 100 feet of the subdivision boundary, including the width of any associated rights-of way or easements
- ☐ Proposed trails or pathways and widths of their rights-of-way
- ☐ If the plat submitted covers only a part of the tract under the control of the applicant, a sketch plat of the prospective street system of the unplatted part shall be submitted
- ☐ The location of any existing or proposed driveways/curb cuts that access or are proposed to access any existing or proposed street

Topographic information:

- ☐ For slopes of less than five percent, show one foot contour lines and include spot elevations at all breaks in grade, along all drainage channels or swales, and at selected points not more than 100 feet apart in all directions
- ☐ For slopes between five percent and ten percent, show two foot contour lines
- ☐ For slopes greater than ten percent, show five foot contour lines
- ☐ Every fifth elevation contour shall be distinctive and clearly labeled
- ☐ Dashed lines shall represent existing contours
- ☐ Mapping shall include any significant features which can materially affect the design of the subdivision, including, but not limited to, structures, fences, walls, and utility poles
- ☐ If irregular slopes or special features are present, additional contour information may be required by the director of engineering and public works for planning or construction purposes. Additional required information may include projecting the topography of the site after grading has taken place, showing such items as:
    - ☐ Pad elevations and drainage patterns for each lot
    - ☐ Tops and toes of all manufactured slopes, including daylight lines
    - ☐ Existing and proposed retaining wall locations and heights
- ☐ For subdivisions located in hillside areas with slopes greater than eighteen percent, additional requirements apply in accordance with CBJ 49.70, Article II

Sewer and water:

- ☐ Existing sewer and water mains within the tract with pipe sizes and grades
- ☐ A draft plan for proposed water and sewer lines showing the size, approximate slope, and connection points with elevations for the purpose of determining the feasibility of construction

Multisheet plats:

- ☐ When a plat requires more than one sheet, exclusive of a certificate sheet, an index sheet shall be included. When a plat requires more than three sheets, a cover sheet shall also be included, showing the subdivision title, a key map, and all certificates. Each additional sheet shall include the following data:
    - ☐ North arrow
    - ☐ Legend
    - ☐ Surveyor's seal and signature
    - ☐ Title block
    - ☐ Sheet _____ of _____
    - ☐ Scale
    - ☐ All plat notes
    - ☐ Vicinity map

ADDITIONAL MAPPING OR REPORTS- *At the pre-application meeting, it will be determined if any of the following additional mapping or reports are required to be submitted with the preliminary plat. If required, the following additional mapping or reports shall be submitted:*

Hazard and Special Habitat Areas:

- ☐ Any portion of a special flood hazard area, landslide or avalanche area, habitat area as defined by CBJ 49.70.310, or watersheds, either existing at the proposed subdivision site or shown on the overlay maps, adopted pursuant to this title, to exist at the proposed subdivision site, must be depicted on the preliminary plat
- ☐ The boundaries of any wetland areas must be depicted on the preliminary plat. Boundaries must be determined by a person qualified to perform wetland delineations

Soils report:

- ☐ A soils report prepared by an engineer licensed by the State of Alaska shall be required if the proposed subdivision is located farther from the existing public sewer system than specified in CBJ 49.35, and the applicant chooses to provide on-lot waste disposal rather than to connect to the public system. A soils report shall include the following:
  - ☐ Certification that the proposed lots are large enough and have soil of sufficient permeability to permit the construction of approved waste treatment systems for on-lot waste disposal
  - ☐ The location and size of drain fields for each lot
  - ☐ The locations and logs of test borings, percolation test results, and a hydrological evaluation of on-site sewage disposal
  - ☐ If the soils report indicates that the soils found on the site are not of sufficient permeability or the lots are not large enough to permit the construction of systems for on-lot waste disposal, the size of the proposed lots must be increased or alternate methods for waste disposal proposed
  - ☐ The soils report shall describe the nature of the subsurface soils and any soil conditions that would affect the design of the proposed development. The soils report shall state whether the proposed subdivision plan is feasible and provide general solutions for all known geotechnical conditions or problems

Drainage report:

- ☐ A preliminary report specifying the method by which the applicant proposes to manage surface and subsurface drainage for the subdivision and the effect of such method on adjacent areas. Unlike the drainage plan required by CBJ 49.35.510, the preliminary drainage report does not need to be prepared by a licensed engineer. The report must address the following:
  - ☐ A calculation of the increase in stormwater runoff resulting from the proposed development as well as the runoff from all drainage areas associated with the site. Runoff calculations shall be based on a fully-developed subdivision and a 25-year storm event
  - ☐ How drainage from the proposed subdivision will join an established drainage channel or channels, unless the director of engineering and public works approves use of an alternative drainage way
  - ☐ An evaluation of existing drainage ways and structures located between the subdivision and the receiving water body, and verification that the existing drainage ways can accommodate the increased runoff. If the increased runoff cannot be handled, the plan must propose solutions to the problem
  - ☐ All required improvements, on or off site, that are shown on the construction plans in accordance with CBJ 49.35, Article V, and that will be constructed as part of the subdivision

Water:

- ☐ For subdivisions of five or more lots, including major subdivisions, the following shall be included, where applicable, in accordance with CBJ 49.15.412:
  - ☐ If a proposed subdivision is located at greater distance from the existing public water system than specified in CBJ 49.35, Article III, and the applicant chooses not to connect to the public system, a statement that the applicant will provide a community water system or that individual wells will be used

☐ A report by a registered engineer or geologist that clearly supports the legal and physical availability of adequate water. Methods for proof of water availability and the standards for quantity are listed in CBJ 49.35, Article III

☐ A copy of the State application for a permit to appropriate water in the quantity required to meet the subdivisions demands

☐ This does not apply to remote subdivisions unless: the subdivider of the remote subdivision chooses to provide potable water, a public water system is available and the subdivision falls within the criteria outlined in CBJ 49.35.310(a), or the subdivision has four or fewer lots.

☐ The director for minor subdivisions, and the planning commission for major subdivisions, may, for good cause, temporarily waive the requirement to provide a water report and proof of water, and condition the approval of the preliminary plat upon the provision of both documents as part of the final plat application and approval process.

Erosion control:

☐ A report explaining the method by which the applicant proposes to control erosion and manage runoff, and potential impacts to adjacent properties or water bodies. The report shall include a plan for preservation of ground cover in areas where runoff and resulting erosion need to be minimized.

Traffic study:

☐ A traffic impact analysis may be required with the preliminary plat in accordance with CBJ 49.40.300.

Shadow plats:

☐ For subdivisions of five or more lots in transition areas, a shadow plat shall be submitted according to CBJ 49.70.710. The shadow plat shall consist of a sketch superimposed on the proposed subdivision layout. This sketch shall reflect any future resubdivision of the parcels into smaller lots consistent with the higher density and the lot size allowed under the transition zoning.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

ALLOWABLE/CONDITIONAL USE PERMIT APPLICATION

See reverse side for more information regarding the permitting process and the materials required for a complete application.

NOTE: Must be accompanied by a DEVELOPMENT PERMIT APPLICATION form.

To be completed by Applicant

PROJECT SUMMARY

TYPE OF ALLOWABLE OR CONDITIONAL USE PERMIT REQUESTED

- ◯ Accessory Apartment – Accessory Apartment Application (AAP)
- ◯ Use Listed in 49.25.300 – Table of Permissible Uses (USE)
  Table of Permissible Uses Category: _____

IS THIS A MODIFICATION or EXTENSION OF AN EXISTING APPROVAL? ◯ YES – Case # _____ ◯ NO

UTILITIES PROPOSED WATER: ☐ Public ☐ On Site SEWER: ☐ Public ☐ On Site

SITE AND BUILDING SPECIFICS

Total Area of Lot _____ square feet Total Area of Existing Structure(s) _____ square feet

Total Area of Proposed Structure(s) _____ square feet

EXTERNAL LIGHTING

Existing to remain	◯ No	◯ Yes – Provide fixture information, cutoff sheets, and location of lighting fixtures
Proposed	◯ No	◯ Yes – Provide fixture information, cutoff sheets, and location of lighting fixtures

ALL REQUIRED DOCUMENTS ATTACHED

☐ **Narrative including:**

- ☐ Current use of land or building(s)
- ☐ Description of project, project site, circulation, traffic etc.
- ☐ Proposed use of land or building(s)
- ☐ How the proposed use complies with the Comprehensive Plan

If this is a modification or extension include:

- ☐ Notice of Decision and case number
- ☐ Justification for the modification or extension
- ☐ Application submitted at least 30 days before expiration date

☐ **Plans including:**

- ☐ Site plan
- ☐ Floor plan(s)
- ☐ Elevation view of existing and proposed buildings
- ☐ Proposed vegetative cover
- ☐ Existing and proposed parking areas and proposed traffic circulation
- ☐ Existing physical features of the site (e.g.: drainage, habitat, and hazard areas)

----------DEPARTMENT USE ONLY BELOW THIS LINE----------

ALLOWABLE/CONDITIONAL USE FEES

	Fees	Check No.	Receipt	Date
Application Fees	$_____			
Admin. of Guarantee	$_____			
Adjustment	$_____			
Pub. Not. Sign Fee	$_____			
Pub. Not. Sign Deposit	$_____			
Total Fee	$_____			

This form and all documents associated with it are public record once submitted.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

For assistance filling out this form, contact the Permit Center at 586-0770.

Case Number	Date Received

Allowable/Conditional Use Permit Application Instructions

Allowable Use permits are outlined in CBJ 49.15.320, Conditional Use permits are outline in CBJ 49.15.330

Pre-Application Conference: A pre-application conference is required prior to submitting an application. There is no fee for a pre-application conference. The applicant will meet with City & Borough of Juneau and Agency staff to discuss the proposed development, the permit procedure, and to determine the application fees. To schedule a pre-application conference, please contact the Permit Center at 586-0770 or via e-mail at permits@juneau.org.

Application: An application for an Allowable/Conditional Use Permit will not be accepted by the Community Development Department until it is determined to be complete. The items needed for a complete application are:

1. **Forms:** Completed Allowable/Conditional Use Permit Application and Development Permit Application forms.
2. **Fees:** Fees generally range from $350 to $1,600. Any development, work, or use done without a permit issued will be subject to double fees. All fees are subject to change.
3. **Project Narrative:** A detailed narrative describing the project.
4. **Plans:** All plans are to be drawn to scale and clearly show the items listed below:
    - A. Site plan, floor plan and elevation views of existing and proposed structures
    - B. Existing and proposed parking areas, including dimensions of the spaces, aisle width and driveway entrances
    - C. Proposed traffic circulation within the site including access/egress points and traffic control devices
    - D. Existing and proposed lighting (including cut sheets for each type of lighting)
    - E. Existing and proposed vegetation with location, area, height and type of plantings
    - F. Existing physical features of the site (i.e. drainage, eagle trees, hazard areas, salmon streams, wetlands, etc.)

Document Format: All materials submitted as part of an application shall be submitted in either of the following formats:

1. Electronic copies in the following formats: .doc, .txt, .xls, .bmp, .pdf, .jpg, .gif, .xlm, .rtf (other formats may be preapproved by the Community Development Department).
2. Paper copies 11" X 17" or smaller (larger paper size may be preapproved by the Community Development Department).

Application Review & Hearing Procedure: Once the application is determined to be complete, the Community Development Department will initiate the review and scheduling of the application. This process includes:

Review: As part of the review process the Community Development Department will evaluate the application for consistency with all applicable City & Borough of Juneau codes and adopted plans. Depending on unique characteristics of the permit request the application may be required to be reviewed by other municipal boards and committees. During this review period, the Community Development Department also sends all applications out for a 15-day agency review period. Review comments may require the applicant to provide additional information, clarification, or submit modifications/alterations for the proposed project.

Hearing: All Allowable/Conditional Use Permit Applications must be reviewed by the Planning Commission for vote. Once an application has been deemed complete and has been reviewed by all applicable parties the Community Development Department will schedule the requested permit for the next appropriate meeting.

Public Notice Responsibilities: Allowable/Conditional Use requests must be given proper public notice as outlined in CBJ 49.15.230:

The Community Development Department will give notice of the pending Planning Commission meeting and its agenda in the local newspaper a minimum of 10-days prior to the meeting. Furthermore, CDD will mail notices to all property owners within 500-feet of the project site.

The Applicant will post a sign on the site at least 14 days prior to the meeting. The sign shall be visible from a public right-of-way or where determined appropriate by CDD. Signs may be produced by the Community Development Department for a preparation fee of $50, and a $100 deposit that will be refunded in full if the sign is returned within seven days of the scheduled hearing date. If the sign is returned between eight and 14 days of the scheduled hearing $50 may be refunded. The Applicant may make and erect their own sign. Please contact the Community Development Department for more information.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

SUBDIVISION OWNERSHIP CERTIFICATE

I, CERTIFY THAT MISTY SEA CHARTERS & LODGING LLC, AN ALASKA LIMITED LIABILITY COMPANY, IS THE OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT I, AS MANAGING MEMBER OF MISTY SEA LODGING AND CHARTERS LLC, HAVING THE AUTHORITY TO DO SO, HEREBY ADOPT THIS PLAT OF SUBDIVISION WITH MY FREE CONSENT AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS, AND OTHER OPEN SPACES TO THE PUBLIC OR PRIVATE USE AS NOTED.

NAME _____ DATE _____, 2025

_____
SIGNATURE

NOTARY ACKNOWLEDGEMENT
UNITED STATES OF AMERICA)
) SS
STATE OF ALASKA)

THIS IS TO CERTIFY THAT ON THE _____ DAY OF _____, 2025, BEFORE ME, THE UNDERSIGNED A NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED _____ TO ME KNOWN TO BE THE PERSON DESCRIBED IN AND WHO EXECUTED THE ABOVE AND FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE/SHE SIGNED AND SEALED THE SAME FREELY AND VOLUNTARILY FOR THE USES AND PURPOSES THEREIN MENTIONED. WITNESS MY HAND AND OFFICIAL SEAL THE DAY AND YEAR IN THIS CERTIFICATE FIRST ABOVE WRITTEN.

NOTARY PUBLIC FOR ALASKA _____

MY COMMISSION EXPIRES _____

SUBDIVISION OWNERSHIP CERTIFICATE

I, CERTIFY THAT R&S CONSTRUCTION, LLC, AN ALASKA LIMITED LIABILITY COMPANY, IS THE OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT I, AS MANAGING MEMBER OF R&S CONSTRUCTION, LLC, HAVING THE AUTHORITY TO DO SO, HEREBY ADOPT THIS PLAT OF SUBDIVISION WITH MY FREE CONSENT AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS, AND OTHER OPEN SPACES TO THE PUBLIC OR PRIVATE USE AS NOTED.

NAME _____ DATE _____, 2025

_____
SIGNATURE

NOTARY ACKNOWLEDGEMENT
UNITED STATES OF AMERICA)
) SS
STATE OF ALASKA)

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NOTARY PUBLIC FOR ALASKA _____

MY COMMISSION EXPIRES _____

PLANNING COMMISSION PLAT APPROVAL

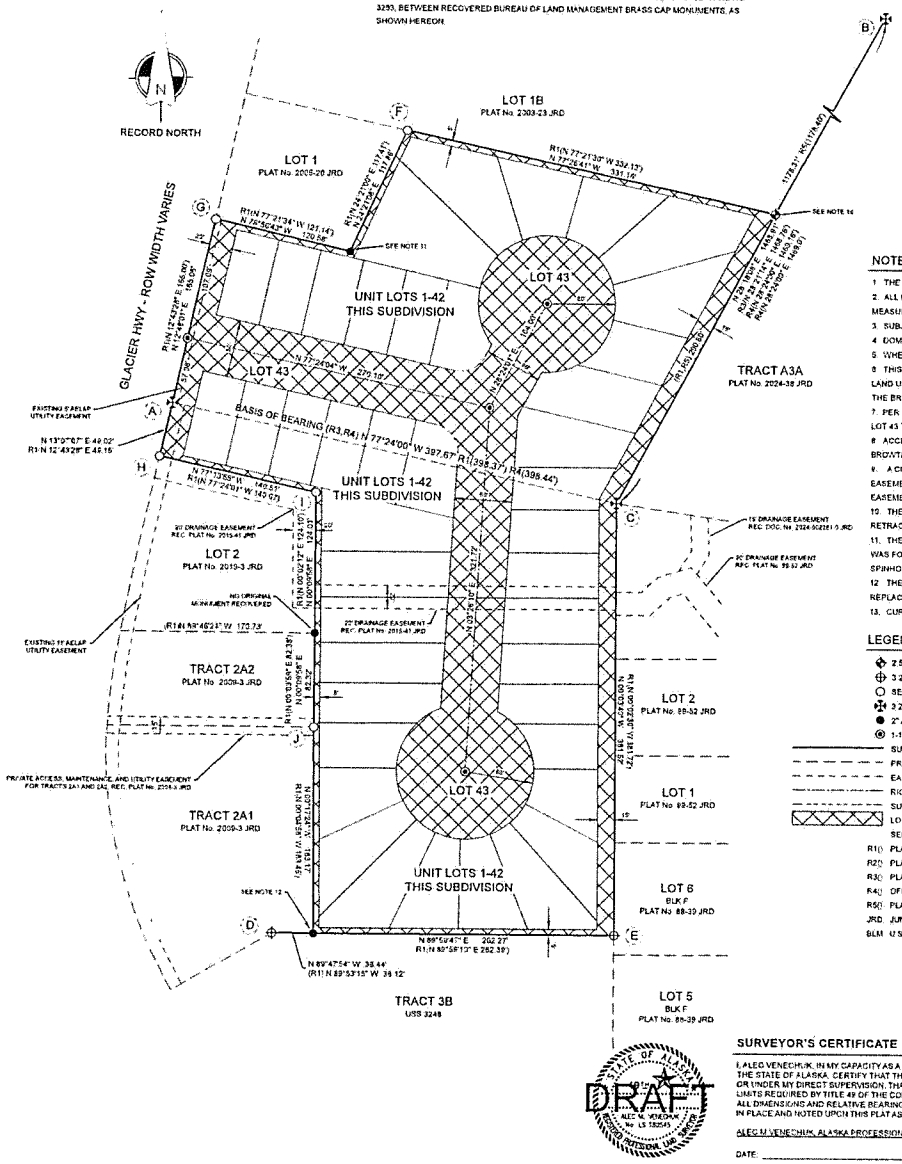
I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS OF THE CITY AND BOROUGH OF JUNEAU, ALASKA AND THAT THIS PLAT HAS BEEN APPROVED BY THE PLANNING COMMISSION BY PLAT RESOLUTION No. _____, DATED _____, 2025, AND THAT THE PLAT SHOWN HEREON HAS BEEN APPROVED FOR RECORDING IN THE JUNEAU RECORDING DISTRICT OFFICE, LOCATED IN ANCHORAGE, ALASKA.

_____ DATE _____, 2025.
CHAIRPERSON OF THE PLANNING COMMISSION
CITY & BOROUGH OF JUNEAU

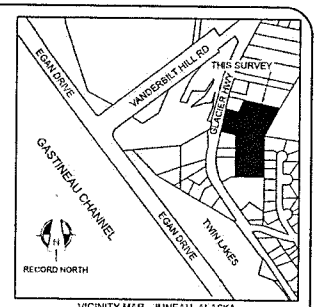
ATTEST: _____
MUNICIPAL CLERK
CITY AND & BOROUGH OF JUNEAU

BASIS OF BEARING

THE BASIS OF BEARING FOR THIS PLAT IS THE RECORD BEARING OF N 77° 24' 00" W, AS DELINEATED IN THE OFFICIAL PLAT OF CHILKAT VIEW SUBDIVISION II, RECORD PLAT No. 2315-41 JUNEAU RECORDING DISTRICT, AND THE OFFICIAL PLATS OF U.S. SURVEYS No. 3246 AND No. 3283, BETWEEN RECOVERED BUREAU OF LAND MANAGEMENT BRASS CAP MONUMENTS, AS SHOWN HEREON.



LOT AREA TABLE		
LOT	AREA (SF)	AREA (AC)
BROWTINE SUBDIVISION	221,331	5.08
LOT 43 THIS SURVEY	70,320	1.61
UNIT LOTS 1-42 THIS SURVEY	151,011	3.47



VICINITY MAP - JUNEAU, ALASKA
SOURCE: CITY AND BOROUGH OF JUNEAU GIS
NOT TO SCALE

NOTES

1. THE ERROR OF CLOSURE OF THIS SURVEY DOES NOT EXCEED 1:5,000
2. ALL BEARINGS SHOWN ARE TRUE BEARINGS RELATIVE TO THE BASIS OF BEARING. AS SHOWN HEREON. SURVEY COURSE DISTANCES SHOWN ARE MEASURED IN U.S. SURVEY FEET AND REDUCED TO HORIZONTAL FIELD DISTANCES.
3. SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.
4. DOMESTIC WATER AND SANITARY SEWER PROVIDED BY THE CITY AND BOROUGH OF JUNEAU PUBLIC UTILITIES.
5. WHEN DIFFERENT FROM MEASURED, RECORD BEARINGS AND DISTANCES ARE SHOWN IN PARENTHESIS AND REFERENCED TO A RECORD PLAT (R#)
6. THIS PLAT CREATES AN ALTERNATIVE RESIDENTIAL SUBDIVISION (ARS) PURSUANT TO AND GOVERNED BY THE CITY AND BOROUGH OF JUNEAU LAND USE CODE TITLE 49 ARTICLE IX. EACH OWNER OF A UNIT-LOT IS REQUIRED TO, AND SHALL BE, THROUGHOUT THEIR OWNERSHIP, A MEMBER OF THE BROWTINE SUBDIVISION HOA, AND REQUIRED TO PAY ASSESSMENTS ASSESSED BY THE BROWTINE SUBDIVISION HOA.
7. PER CBJ 49.15.922(J), NO PARKING AREAS, DWELLING UNITS, UNIT-LOTS, OR PERMISSIBLE USES MAY BE LOCATED WITHIN THE ARS PARENT LOT, OR LOT 43 THIS SURVEY.
8. ACCESS TO LOTS SHALL BE VIA ACCESS EASEMENTS SHOWN ON THIS PLAT AND IS SUBJECT TO THE REQUIREMENTS IN THE BYLAWS OF THE BROWTINE SUBDIVISION HOA.
9. A COMBINED BLANKET EASEMENT FOR DRAINAGE, UTILITIES, AND INGRESS AND EGRESS IS CREATED ACROSS LOT 43, AS SHOWN HEREON. THE EASEMENT CREATED IS PRIVATE AND FOR THE BENEFIT OF THE UNIT LOTS CREATED WITH THIS SUBDIVISION. THE LAND ON WHICH THE PRIVATE EASEMENT IS LOCATED IS OWNED AND MANAGED BY THE BROWTINE SUBDIVISION HOA.
10. THE PRIMARY MONUMENT AT THE NORTHEAST CORNER OF THIS SUBDIVISION WAS FOUND DISTURED DURING THE INTIAL BOUNDARY RETRACEMENT, AND RESET PER RECORD DISTANCE ALONG THE ORIGINAL U.S. SURVEY BOUNDARY.
11. THE TONER-NORDLING YELLOW PLASTIC CAP SECONDARY MONUMENT RECOVERED ALONG THE NORTHERLY BOUNDARY OF THIS SUBDIVISION WAS FOUND BENT AND DISTURED DURING THE INTIAL BOUNDARY RETRACEMENT, AND RESET WITH A TYPICAL SECONDARY MONUMENT AT THE SPINHOLE LOCATION OF THE FOUND ORIGINAL MONUMENT.
12. THE SOUTHWESTERLY CORNER OF THIS SUBDIVISION WAS MARKED WITH A #5 REBAR WITH NO CAP. THE LOCATION OF THE REBAR WAS HELD AND REPLACED WITH A TYPICAL SECONDARY MONUMENT.
13. CURVE DATA IS FOUND ON SHEET 2 OF THIS PLAT. MONUMENT SKETCH DETAILS ARE FOUND ON SHEET 3 OF THIS PLAT.

LEGEND

- 2.5" PRIMARY MONUMENT RESET THIS SURVEY
- 3.25" ALUMINUM CAP PRIMARY MONUMENT RECOVERED
- SECONDARY MONUMENT RECOVERED
- 3.25" BLM BRASS CAP MONUMENT RECOVERED
- 2" ALUMINUM CAP MONUMENT SET THIS SURVEY, SEE TYPICAL DETAIL
- 1-1/8" BRASS CENTERLINE MONUMENT WITH MAGNET SET THIS SURVEY

SUBDIVISION BOUNDARY LINE, THIS SURVEY
PROPERTY LINE NOT SURVEYED
EASEMENT BOUNDARY
RIGHT-OF-WAY CENTERLINE
SURVEY TIE
LOT 43 THIS SURVEY, ARS PARENT LOT WITH BLANKEY EASEMENT, SEE NOTE 7, 8, AND 9

R1() PLAT No. 2019-3 JRD
R2() PLAT No. 2015-41 JRD
R3() PLAT No. 2024-6 JRD
R4() OFFICIAL PLAT US SURVEY No. 3283
R5() PLAT No. 2005-26 JRD
JRD JUNEAU RECORDING DISTRICT
BLM U.S. BUREAU OF LAND MANAGEMENT

SCALE
1 INCH = 50 FEET
0 50 100 150 200 FEET
0 25 50 METERS

SURVEYOR'S CERTIFICATE

I, ALEC VENECHUK, IN MY CAPACITY AS A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA, CERTIFY THAT THIS PLAT REPRESENTS THE SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION; THAT THE ACCURACY OF THE SURVEY IS WITHIN THE LIMITS REQUIRED BY TITLE 49 OF THE CODE OF THE CITY AND BOROUGH OF JUNEAU; THAT ALL DIMENSIONS AND RELATIVE BEARINGS ARE CORRECT; AND THAT MONUMENTS ARE SET IN PLACE AND NOTED UPON THIS PLAT AS PRESENTED.

ALEC M. VENECHUK, ALASKA PROFESSIONAL LAND SURVEYOR No. 190549

DATE: _____

DRAFT

LAST FRONTIER
SURVEYING & ENGINEERING LLC

SURVEYOR: ALEC VENECHUK, PLS
PO BOX 32346
JUNEAU AK 99803

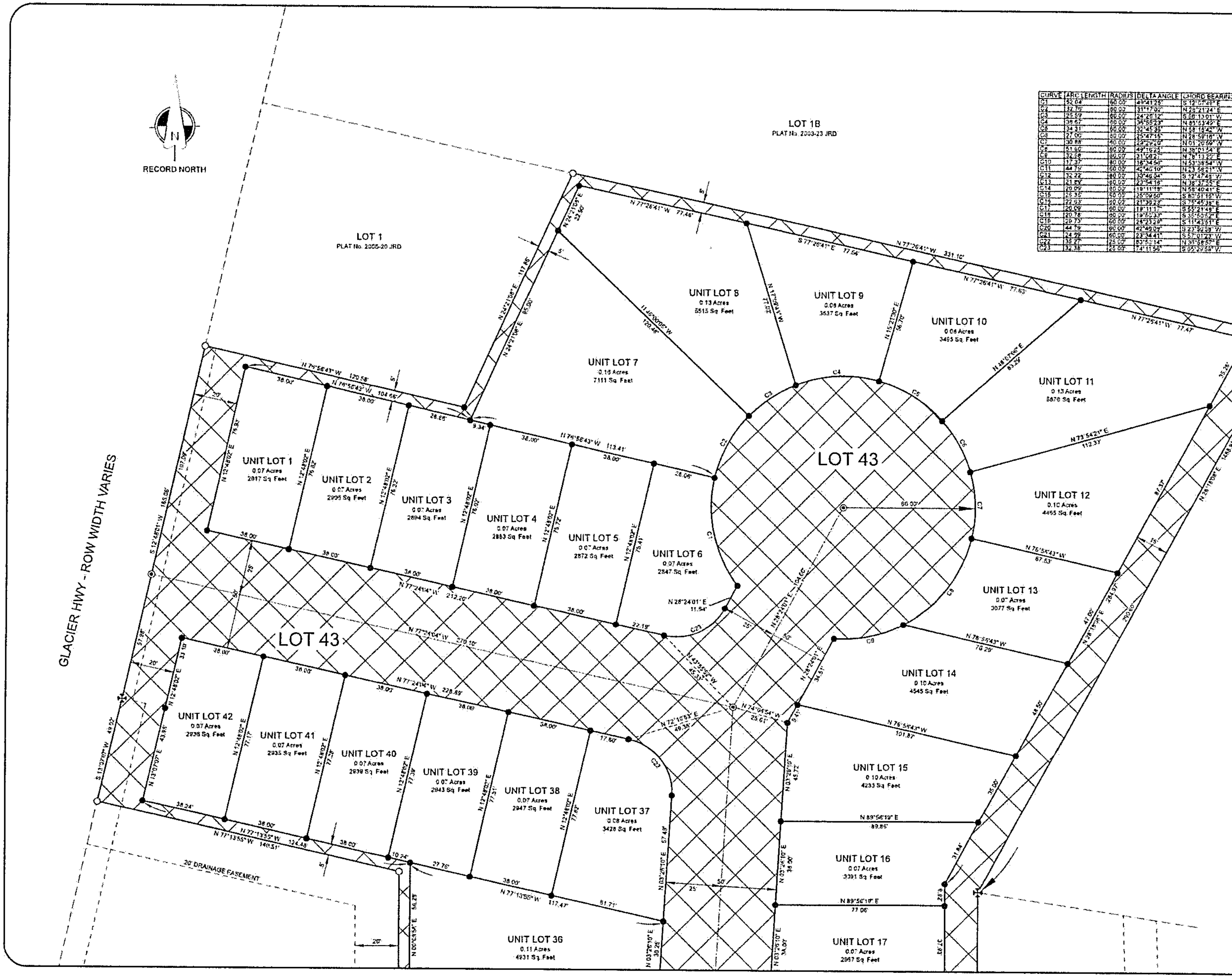
OWNERS: MISTY SEA CHARTERS AND LODGING LLC
AND R & S CONSTRUCTION, LLC
PO BOX 210194
AUKE BAY, AK 99821

A PLAT OF
BROWTINE SUBDIVISION

A SUBDIVISION OF
LOT 1 RAVENWOOD SUBDIVISION
AS SHOWN ON RECORD PLAT 2019-3 JUNEAU RECORDING DISTRICT
WITHIN U.S. SURVEY No. 3246 AND U.S. SURVEY No. 3283

- STATE RECORDERS OFFICE AT ANCHORAGE -
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
CBJ CASE No.: ARP 2024-0001

DRAWN BY: AMV DATE: 03/24/2025 SHEET 1 OF 3



CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	52.04'	60.00'	49°41'25"	S 12°57'48" E	50.42'
C2	32.75'	60.00'	31°17'02"	N 28°21'24" E	32.35'
C3	25.59'	60.00'	24°26'12"	S 60°13'01" W	25.40'
C4	38.67'	60.00'	36°55'23"	N 85°53'42" E	38.00'
C5	34.31'	60.00'	32°45'35"	N 58°15'42" W	33.84'
C6	27.00'	60.00'	25°47'15"	N 28°59'16" W	26.78'
C7	30.88'	60.00'	29°29'20"	N 01°20'59" W	30.54'
C8	51.60'	60.00'	49°16'25"	N 38°01'54" E	50.02'
C9	32.58'	60.00'	31°06'27"	N 78°13'20" E	32.18'
C10	17.37'	60.00'	16°34'56"	N 53°38'54" W	17.30'
C11	44.78'	60.00'	42°46'10"	N 23°58'21" W	43.75'
C12	32.22'	60.00'	30°46'04"	S 12°47'45" W	31.83'
C13	21.89'	60.00'	20°54'16"	N 38°37'55" E	21.77'
C14	20.09'	60.00'	19°11'15"	N 58°40'41" E	20.00'
C15	25.35'	60.00'	25°09'50"	S 83°51'15" W	25.14'
C16	22.63'	60.00'	21°36'22"	S 75°45'38" E	22.49'
C17	20.09'	60.00'	19°11'17"	S 55°21'49" E	20.00'
C18	20.78'	60.00'	19°50'33"	S 35°50'52" E	20.68'
C19	29.73'	60.00'	28°23'28"	S 11°43'51" E	29.43'
C20	44.79'	60.00'	42°46'09"	S 23°50'58" W	43.75'
C21	24.59'	60.00'	23°34'41"	S 57°01'23" W	24.52'
C22	35.27'	25.00'	80°50'14"	N 33°58'57" E	32.42'
C23	32.38'	25.00'	74°11'56"	S 55°27'58" W	30.15'

SCALE
1 INCH = 20 FEET

LAST FRONTIER
SURVEYING & ENGINEERING LLC

SURVEYOR: ALEC VENECHUK PLS
PO BOX 32346
JUNEAU AK 99803

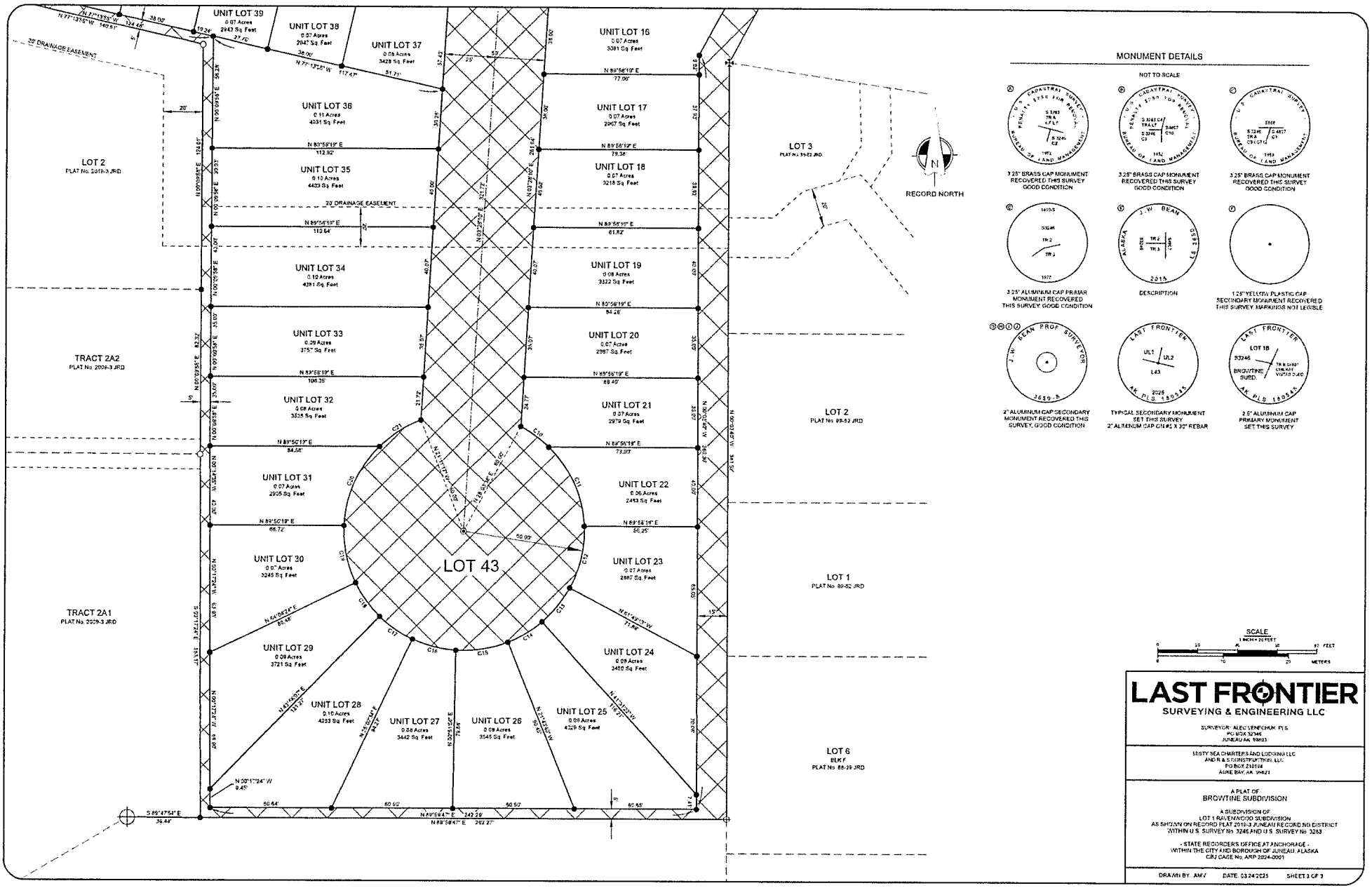
MISTY SEA CHARTERS AND LODGING LLC
AND R & S CONSTRUCTION, LLC
PO BOX 210194
AUKE BAY, AK 99821

A PLAT OF
BROWTINE SUBDIVISION

A SUBDIVISION OF
LOT 1 RAVENWOOD SUBDIVISION
AS SHOWN ON RECORD PLAT 2019-3 JUNEAU RECORDING DISTRICT
WITHIN U.S. SURVEY No. 3246 AND U.S. SURVEY No. 3263

- STATE RECORDERS OFFICE AT ANCHORAGE -
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
CBJ CASE No. ARP 2024-0001

DRAWN BY: AMV   DATE: 03/24/2025   SHEET 2 OF 3



MONUMENT DETAILS

NOT TO SCALE

3.25" BRASS CAP MONUMENT RECOVERED THIS SURVEY GOOD CONDITION

3.25" BRASS CAP MONUMENT RECOVERED THIS SURVEY GOOD CONDITION

3.25" BRASS CAP MONUMENT RECOVERED THIS SURVEY GOOD CONDITION

3.25" ALUMINUM CAP PRIMAR MONUMENT RECOVERED THIS SURVEY GOOD CONDITION

DESCRIPTION

1.25" YELLOW PLASTIC CAP SECONDARY MONUMENT RECOVERED THIS SURVEY. MARKINGS NOT LEGIBLE

2" ALUMINUM CAP SECONDARY MONUMENT RECOVERED THIS SURVEY, GOOD CONDITION

TYPICAL SECONDARY MONUMENT SET THIS SURVEY 2" ALUMINUM CAP OR #5 X 30" REBAR

2.5" ALUMINUM CAP PRIMARY MONUMENT SET THIS SURVEY

SCALE
1 INCH = 20 FEET
0 10 20 40 60 FEET
0 5 10 20 METERS

LAST FRONTIER
SURVEYING & ENGINEERING LLC

SURVEYOR: ALEC LENECHUK, PLS
PO BOX 32346
JUNEAU AK 99803

SISTY SEA CHARTERS AND LODGING LLC
AND R & S CONSTRUCTION, LLC
PO BOX 210104
AUKE BAY, AK 99821

A PLAT OF
BROWTINE SUBDIVISION

A SUBDIVISION OF
LOT 1 RAVEN/ODD SUBDIVISION
AS SHOWN ON RECORD PLAT 2019-3 JUNEAU RECORDING DISTRICT
WITHIN U.S. SURVEY No. 3246 AND U.S. SURVEY No. 3263

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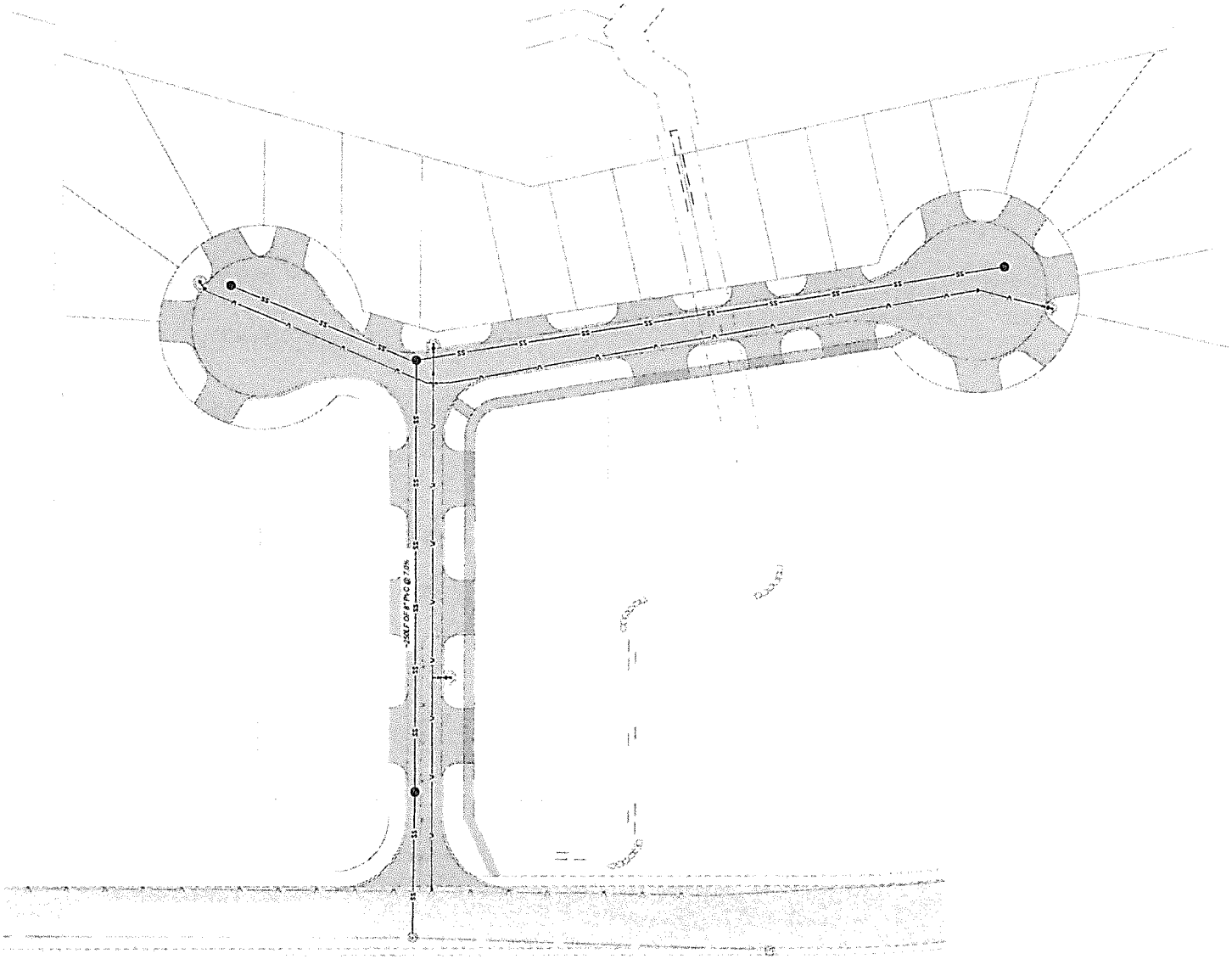
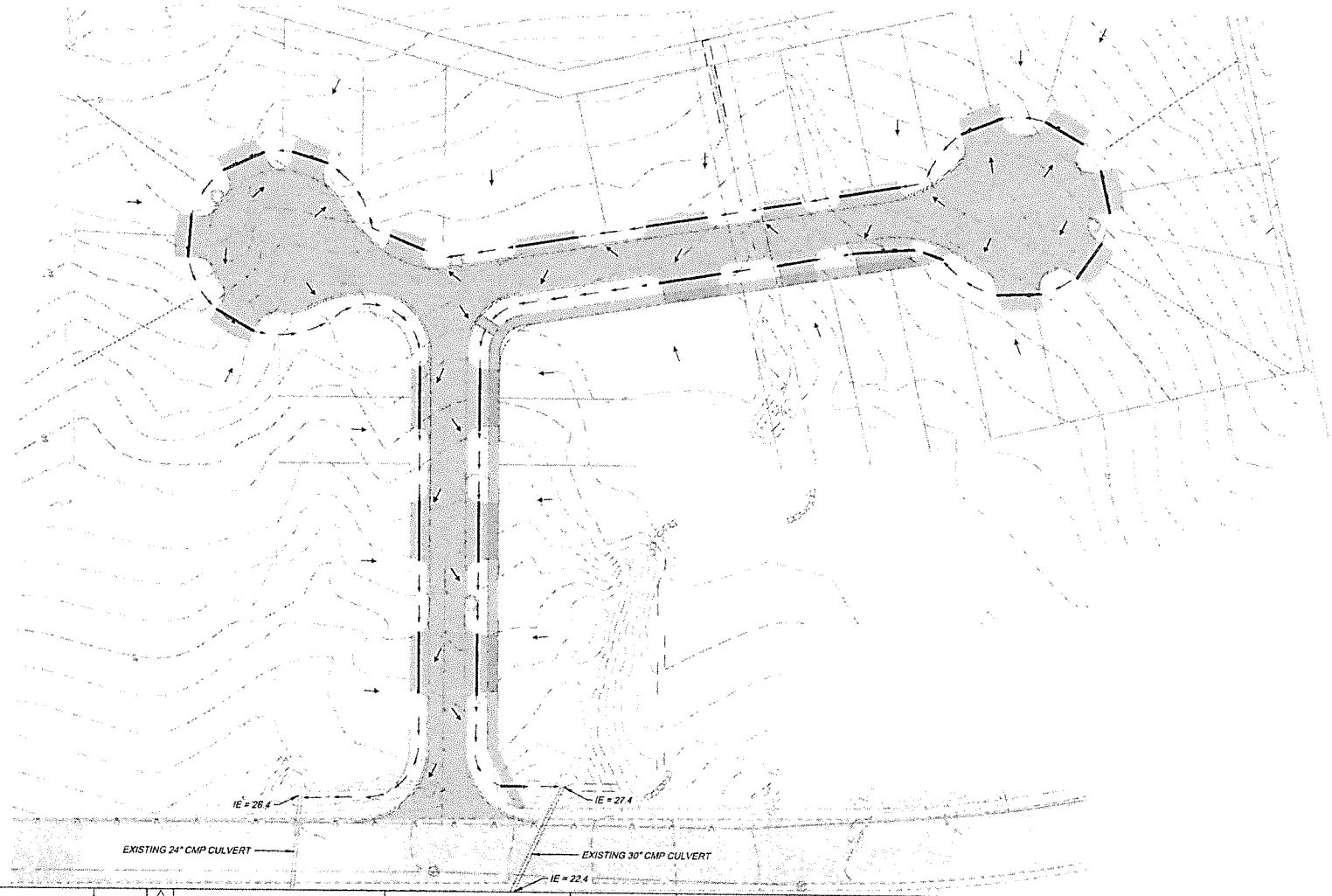



IE = 26.4
IE = 27.4
EXISTING 24" CMP CULVERT
EXISTING 30" CMP CULVERT
IE = 22.4

NO.					
1				Vector E	

SUBDIVISION OWNERSHIP CERTIFICATE

I, CERTIFY THAT MISTY SEA CHARTERS & LODGING LLC, AN ALASKA LIMITED LIABILITY COMPANY, IS THE OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT I, AS MANAGING MEMBER OF MISTY SEA LODGING AND CHARTERS LLC, HAVING THE AUTHORITY TO DO SO, HEREBY ADOPT THIS PLAT OF SUBDIVISION WITH MY FREE CONSENT AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS, AND OTHER OPEN SPACES TO THE PUBLIC OR PRIVATE USE AS NOTED.

NAME: _____ DATE: _____, 2025

_____
SIGNATURE

NOTARY ACKNOWLEDGEMENT
UNITED STATES OF AMERICA)
) SS
STATE OF ALASKA)

THIS IS TO CERTIFY THAT ON THE _____ DAY OF _____, 2025, BEFORE ME, THE UNDERSIGNED A NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED _____, TO ME KNOWN TO BE THE PERSON DESCRIBED IN AND WHO EXECUTED THE ABOVE AND FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE/SHE SIGNED AND SEALED THE SAME FREELY AND VOLUNTARILY FOR THE USES AND PURPOSES THEREIN MENTIONED. WITNESS MY HAND AND OFFICIAL SEAL THE DAY AND YEAR IN THIS CERTIFICATE FIRST ABOVE WRITTEN.

NOTARY PUBLIC FOR ALASKA _____

MY COMMISSION EXPIRES _____

SUBDIVISION OWNERSHIP CERTIFICATE

I, CERTIFY THAT R&S CONSTRUCTION, LLC, AN ALASKA LIMITED LIABILITY COMPANY, IS THE OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT I, AS MANAGING MEMBER OF R&S CONSTRUCTION, LLC, HAVING THE AUTHORITY TO DO SO, HEREBY ADOPT THIS PLAT OF SUBDIVISION WITH MY FREE CONSENT AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS, AND OTHER OPEN SPACES TO THE PUBLIC OR PRIVATE USE AS NOTED.

NAME: _____ DATE: _____, 2025

_____
SIGNATURE

NOTARY ACKNOWLEDGEMENT
UNITED STATES OF AMERICA)
) SS
STATE OF ALASKA)

THIS IS TO CERTIFY THAT ON THE _____ DAY OF _____, 2025, BEFORE ME, THE UNDERSIGNED A NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED _____, TO ME KNOWN TO BE THE PERSON DESCRIBED IN AND WHO EXECUTED THE ABOVE AND FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE/SHE SIGNED AND SEALED THE SAME FREELY AND VOLUNTARILY FOR THE USES AND PURPOSES THEREIN MENTIONED. WITNESS MY HAND AND OFFICIAL SEAL THE DAY AND YEAR IN THIS CERTIFICATE FIRST ABOVE WRITTEN.

NOTARY PUBLIC FOR ALASKA _____

MY COMMISSION EXPIRES _____

PLANNING COMMISSION PLAT APPROVAL

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS OF THE CITY AND BOROUGH OF JUNEAU, ALASKA AND THAT THIS PLAT HAS BEEN APPROVED BY THE PLANNING COMMISSION BY PLAT RESOLUTION No. _____, DATED _____, 2025, AND THAT THE PLAT SHOWN HEREON HAS BEEN APPROVED FOR RECORDING IN THE JUNEAU RECORDING DISTRICT OFFICE , LOCATED IN ANCHORAGE, ALASKA.

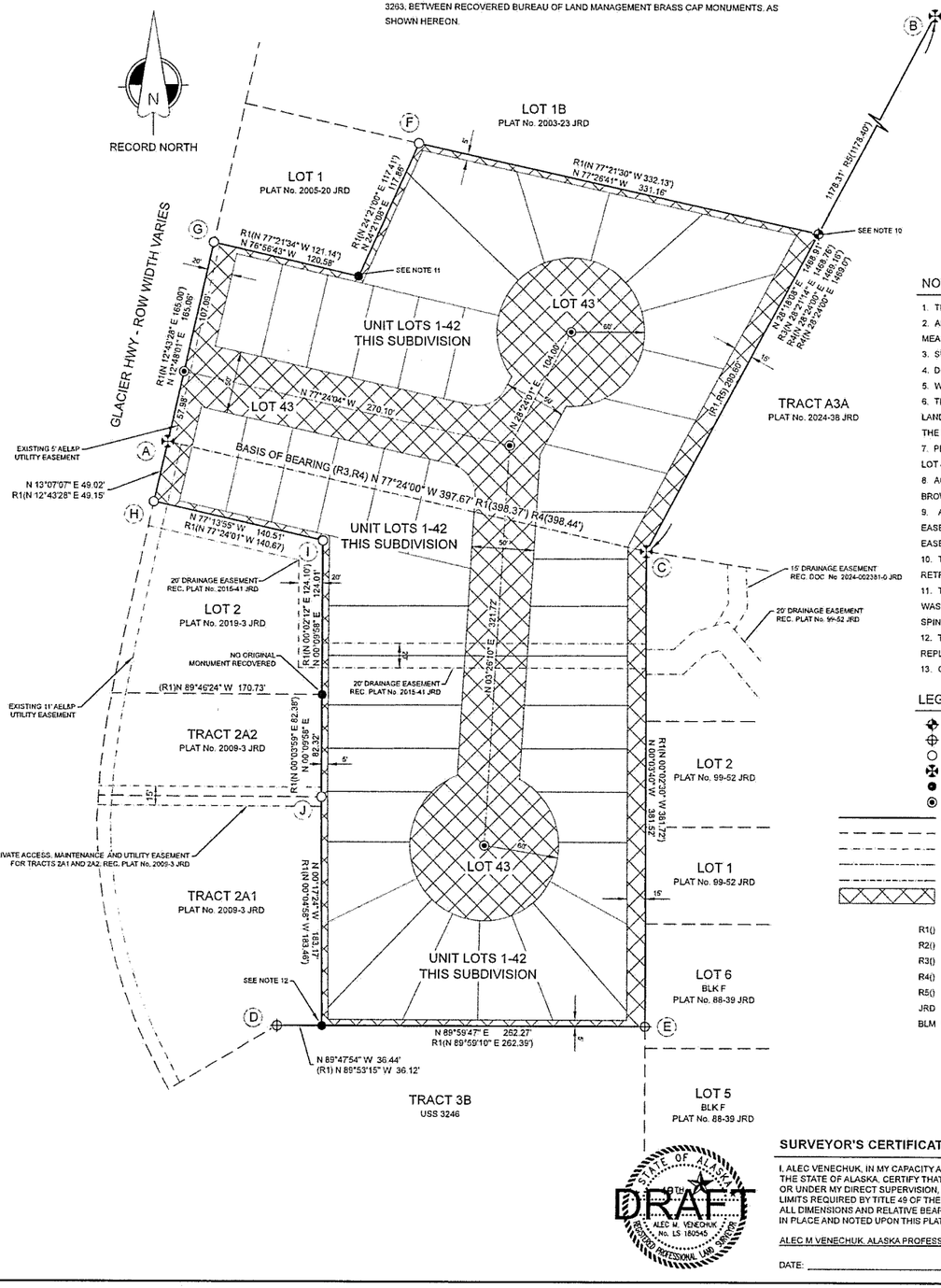
_____DATE _____, 2025
CHAIRPERSON OF THE PLANNING COMMISSION
CITY & BOROUGH OF JUNEAU

ATTEST:

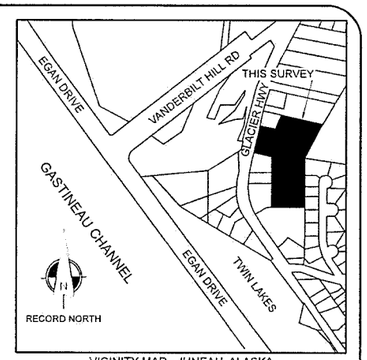
_____
MUNICIPAL CLERK
CITY AND & BOROUGH OF JUNEAU

BASIS OF BEARING

THE BASIS OF BEARING FOR THIS PLAT IS THE RECORD BEARING OF N 77° 24' 00" W, AS DELINEATED IN THE OFFICIAL PLAT OF CHILKAT VIEW SUBDIVISION II, RECORD PLAT No. 2015-41 JUNEAU RECORDING DISTRICT, AND THE OFFICIAL PLATS OF U.S. SURVEYS No. 3246 AND No. 3263, BETWEEN RECOVERED BUREAU OF LAND MANAGEMENT BRASS CAP MONUMENTS, AS SHOWN HEREON.



LOT AREA TABLE		
LOT	AREA (SF)	AREA (AC)
BROWTINE SUBDIVISION	221,331	5.08
LOT 43 THIS SURVEY	70,320	1.61
UNIT LOTS 1-42 THIS SURVEY	151,011	3.47



VICINITY MAP - JUNEAU, ALASKA
SOURCE: CITY AND BOROUGH OF JUNEAU GIS
NOT TO SCALE

NOTES

1. THE ERROR OF CLOSURE OF THIS SURVEY DOES NOT EXCEED 1:5,000.
2. ALL BEARINGS SHOWN ARE TRUE BEARINGS RELATIVE TO THE BASIS OF BEARING, AS SHOWN HEREON. SURVEY COURSE DISTANCES SHOWN ARE MEASURED IN U.S. SURVEY FEET AND REDUCED TO HORIZONTAL FIELD DISTANCES.
3. SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.
4. DOMESTIC WATER AND SANITARY SEWER PROVIDED BY THE CITY AND BOROUGH OF JUNEAU PUBLIC UTILITIES.
5. WHEN DIFFERENT FROM MEASURED, RECORD BEARINGS AND DISTANCES ARE SHOWN IN PARENTHESIS AND REFERENCED TO A RECORD PLAT (R#).
6. THIS PLAT CREATES AN ALTERNATIVE RESIDENTIAL SUBDIVISION (ARS) PURSUANT TO AND GOVERNED BY THE CITY AND BOROUGH OF JUNEAU LAND USE CODE TITLE 49 ARTICLE IX. EACH OWNER OF A UNIT-LOT IS REQUIRED TO, AND SHALL BE, THROUGHOUT THEIR OWNERSHIP, A MEMBER OF THE BROWTINE SUBDIVISION HOA, AND REQUIRED TO PAY ASSESSMENTS ASSESSED BY THE BROWTINE SUBDIVISION HOA.
7. PER CBJ 49.15.920(j), NO PARKING AREAS, DWELLING UNITS, UNIT-LOTS, OR PERMISSABLE USES MAY BE LOCATED WITHIN THE ARS PARENT LOT, OR LOT 43 THIS SURVEY.
8. ACCESS TO LOTS SHALL BE VIA ACCESS EASEMENTS SHOWN ON THIS PLAT AND IS SUBJECT TO THE REQUIREMENTS IN THE BYLAWS OF THE BROWTINE SUBDIVISION HOA.
9. A COMBINED BLANKET EASEMENT FOR DRAINAGE, UTILITIES, AND INGRESS AND EGREES IS CREATED ACROSS LOT 43, AS SHOWN HEREON. THE EASEMENT CREATED IS PRIVATE AND FOR THE BENEFIT OF THE UNIT LOTS CREATED WITH THIS SUBDIVISION. THE LAND ON WHICH THE PRIVATE EASEMENT IS LOCATED IS OWNED AND MANAGED BY THE BROWTINE SUBDIVISION HOA.
10. THE PRIMARY MONUMENT AT THE NORTHEAST CORNER OF THIS SUBDIVISION WAS FOUND DISTURED DURING THE INTIAL BOUNDARY RETRACEMENT, AND RESET PER RECORD DISTANCE ALONG THE ORIGINAL U.S. SURVEY BOUNDARY.
11. THE TONER-NORDLING YELLOW PLASTIC CAP SECONDARY MONUMENT RECOVERED ALONG THE NORTHERLY BOUNDARY OF THIS SUBDIVISION WAS FOUND BENT AND DISTURED DURING THE INTIAL BOUNDARY RETRACEMENT, AND RESET WITH A TYPICAL SECONDARY MONUMENT AT THE SPINHOLE LOCATION OF THE FOUND ORIGINAL MONUMENT.
12. THE SOUTHWESTERLY CORNER OF THIS SUBDIVISION WAS MARKED WITH A #5 REBAR WITH NO CAP. THE LOCATION OF THE REBAR WAS HELD AND REPLACED WITH A TYPICAL SECONDARY MONUMENT.
13. CURVE DATA IS FOUND ON SHEET 2 OF THIS PLAT. MONUMENT SKETCH DETAILS ARE FOUND ON SHEET 3 OF THIS PLAT.

LEGEND

- 2.5" PRIMARY MONUMENT RESET THIS SURVEY
- 3.25" ALUMINUM CAP PRIMARY MONUMENT RECOVERED
- SECONDARY MONUMENT RECOVERED
- 3.25" BLM BRASS CAP MONUMENT RECOVERED
- 2" ALUMINUM CAP MONUMENT SET THIS SURVEY, SEE TYPICAL DETAIL
- 1-1/8" BRASS CENTERLINE MONUMENT WITH MAGNET SET THIS SURVEY
- SUBDIVISION BOUNDARY LINE, THIS SURVEY
- PROPERTY LINE NOT SURVEYED
- EASEMENT BOUNDARY
- RIGHT-OF-WAY CENTERLINE
- SURVEY TIE
- LOT 43 THIS SURVEY, ARS PARENT LOT, WITH BLANKEY EASEMENT, SEE NOTE 7, 8, AND 9
- R1() PLAT No. 2019-3 JRD
- R2() PLAT No. 2015-41 JRD
- R3() PLAT No. 2024-5 JRD
- R4() OFFICIAL PLAT US SURVEY No 3263
- R5() PLAT No. 2005-20 JRD
- JRD JUNEAU RECORDING DISTRICT
- BLM U.S. BUREAU OF LAND MANAGEMENT

SCALE
1 INCH = 50 FEET
0 50 100 150 200 FEET
0 25 50 METERS

SURVEYOR'S CERTIFICATE

I, ALEC VENECHUK, IN MY CAPACITY AS A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA, CERTIFY THAT THIS PLAT REPRESENTS THE SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE ACCURACY OF THE SURVEY IS WITHIN THE LIMITS REQUIRED BY TITLE 49 OF THE CODE OF THE CITY AND BOROUGH OF JUNEAU, THAT ALL DIMENSIONS AND RELATIVE BEARINGS ARE CORRECT, AND THAT MONUMENTS ARE SET IN PLACE AND NOTED UPON THIS PLAT AS PRESENTED.

ALEC M VENECHUK, ALASKA PROFESSIONAL LAND SURVEYOR No. 180545

DATE: _____

STATE OF ALASKA
ALEC M. VENECHUK
No. LS 180545
REGISTERED PROFESSIONAL LAND SURVEYOR

DRAFT

LAST FRONTIER
SURVEYING & ENGINEERING LLC
SURVEYOR: ALEC VENECHUK PLS
PO BOX 32346
JUNEAU AK 99803

OWNERS: MISTY SEA CHARTERS AND LODGING LLC
AND R & S CONSTRUCTION, LLC
PO BOX 210194
AUKE BAY, AK 99821

A PLAT OF
BROWTINE SUBDIVISION

A SUBDIVISION OF
LOT 1 RAVENWOOD SUBDIVISION
AS SHOWN ON RECORD PLAT 2019-3 JUNEAU RECORDING DISTRICT
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DRAWN BY: AMV DATE: 03/24/2025 SHEET 1 OF 3

RECORD NORTH

GLACIER HWY - ROW WIDTH VARIES

LOT 1
PLAT No. 2005-20 JRD

LOT 1B
PLAT No. 2003-23 JRD

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	52.04'	60.00'	49°41'25"	S 12°07'49" E	50.42'
C2	32.76'	60.00'	31°17'02"	N 28°21'24" E	32.35'
C3	25.59'	60.00'	24°26'12"	S 56°13'01" W	25.40'
C4	38.67'	60.00'	36°55'23"	N 86°53'49" E	38.00'
C5	34.31'	60.00'	32°45'36"	N 58°15'42" W	33.84'
C6	27.00'	60.00'	25°47'15"	N 28°59'16" W	26.78'
C7	30.88'	60.00'	29°29'20"	N 01°20'50" W	30.54'
C8	51.60'	60.00'	49°16'25"	N 38°01'54" E	50.02'
C9	32.58'	60.00'	31°06'27"	N 78°13'20" E	32.18'
C10	17.37'	60.00'	16°34'56"	N 53°38'54" W	17.30'
C11	44.75'	60.00'	42°45'10"	N 23°58'21" W	43.76'
C12	32.22'	60.00'	30°46'04"	S 12°47'46" W	31.83'
C13	21.89'	60.00'	20°54'16"	N 38°37'55" E	21.77'
C14	20.05'	60.00'	19°11'18"	N 58°40'41" E	20.00'
C15	26.35'	60.00'	25°09'50"	S 80°51'15" W	26.14'
C16	22.63'	60.00'	21°36'23"	S 75°45'38" E	22.49'
C17	20.09'	60.00'	19°11'17"	S 55°21'48" E	20.00'
C18	20.78'	60.00'	19°50'33"	S 35°50'52" E	20.68'
C19	29.73'	60.00'	28°23'29"	S 11°43'51" E	29.43'
C20	44.79'	60.00'	42°46'09"	S 23°50'58" W	43.76'
C21	24.69'	60.00'	23°34'41"	S 57°01'23" W	24.52'
C22	35.27'	25.00'	80°50'14"	N 39°58'57" E	32.42'
C23	32.38'	25.00'	74°11'56"	S 65°29'59" W	30.16'

UNIT LOT 1
0.07 Acres
2917 Sq. Feet

UNIT LOT 2
0.07 Acres
2906 Sq. Feet

UNIT LOT 3
0.07 Acres
2894 Sq. Feet

UNIT LOT 4
0.07 Acres
2883 Sq. Feet

UNIT LOT 5
0.07 Acres
2872 Sq. Feet

UNIT LOT 6
0.07 Acres
2847 Sq. Feet

UNIT LOT 7
0.16 Acres
7111 Sq. Feet

UNIT LOT 8
0.13 Acres
5515 Sq. Feet

UNIT LOT 9
0.09 Acres
3537 Sq. Feet

UNIT LOT 10
0.08 Acres
3495 Sq. Feet

UNIT LOT 11
0.13 Acres
5876 Sq. Feet

UNIT LOT 12
0.10 Acres
4465 Sq. Feet

UNIT LOT 13
0.07 Acres
3077 Sq. Feet

UNIT LOT 14
0.10 Acres
4545 Sq. Feet

UNIT LOT 15
0.10 Acres
4233 Sq. Feet

UNIT LOT 16
0.07 Acres
3091 Sq. Feet

UNIT LOT 17
0.07 Acres
2967 Sq. Feet

UNIT LOT 36
0.11 Acres
4931 Sq. Feet

UNIT LOT 37
0.08 Acres
3428 Sq. Feet

UNIT LOT 38
0.07 Acres
2947 Sq. Feet

UNIT LOT 39
0.07 Acres
2543 Sq. Feet

UNIT LOT 40
0.07 Acres
2939 Sq. Feet

UNIT LOT 41
0.07 Acres
2935 Sq. Feet

UNIT LOT 42
0.07 Acres
2936 Sq. Feet

LOT 43

TRACT A3A
PLAT No. 2024-38 JRD

20' DRAINAGE EASEMENT

SCALE
1 INCH = 20 FEET
0 20 40 60 80 FEET
0 10 20 METERS

LAST FRONTIER
SURVEYING & ENGINEERING LLC

SURVEYOR: ALEC VENECHUK PLS
PO BOX 32346
JUNEAU AK 99503

MISTY SEA CHARTERS AND LODGING LLC
AND R & S CONSTRUCTION, LLC
PO BOX 210194
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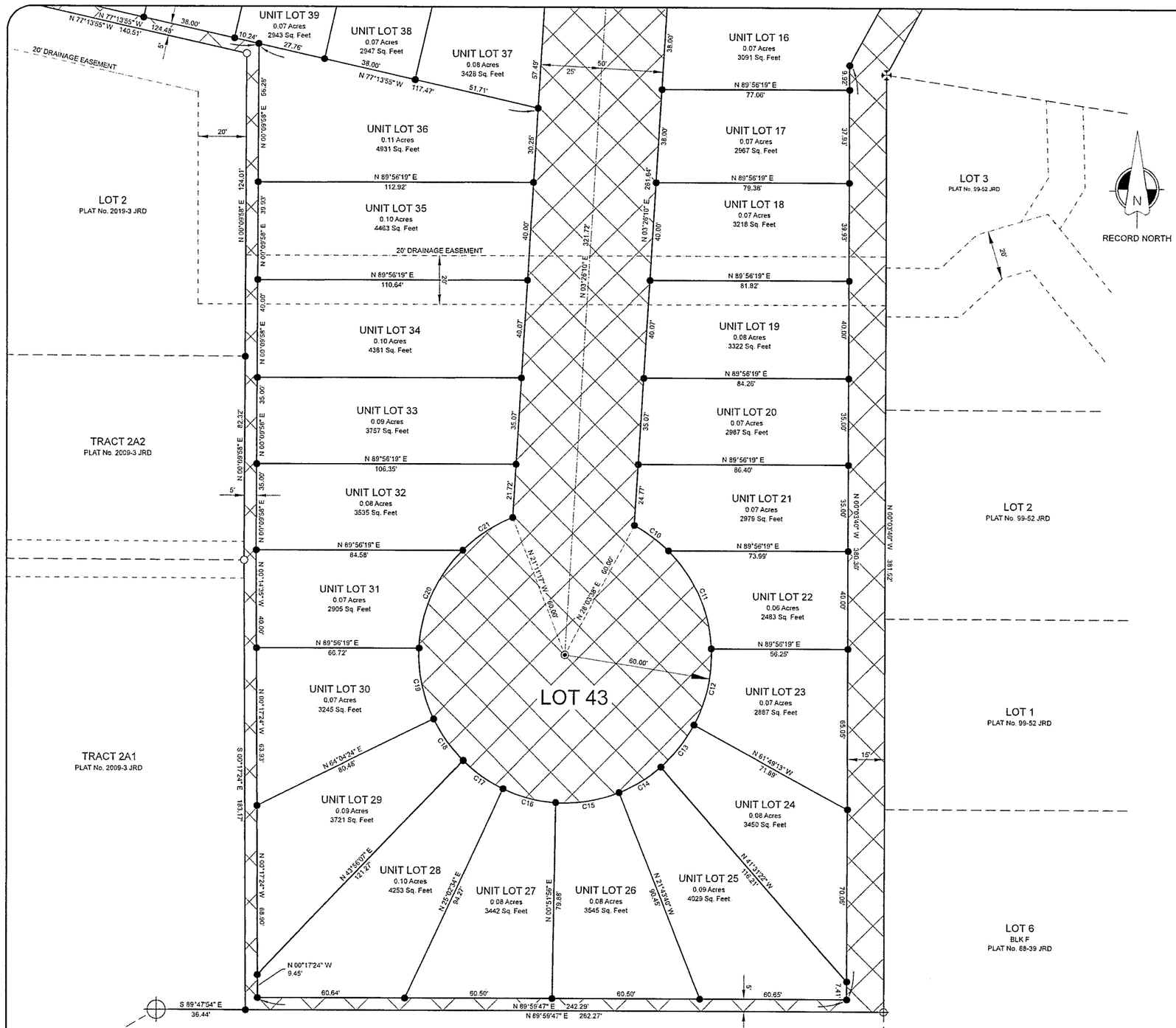
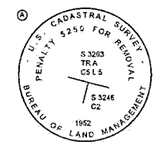


MONUMENT DETAILS

NOT TO SCALE



3.25" BRASS CAP MONUMENT RECOVERED THIS SURVEY GOOD CONDITION

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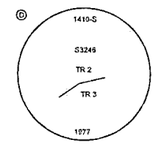
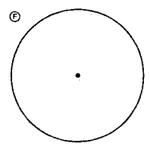
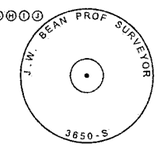


3.25" ALUMINUM CAP PRIMAR MONUMENT RECOVERED THIS SURVEY. GOOD CONDITION

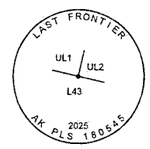
DESCRIPTION



1.25" YELLOW PLASTIC CAP SECONDARY MONUMENT RECOVERED THIS SURVEY, MARKINGS NOT LEGIBLE



2" ALUMINUM CAP SECONDARY MONUMENT RECOVERED THIS SURVEY, GOOD CONDITION



TYPICAL SECONDARY MONUMENT SET THIS SURVEY
2" ALIMINUM CAP ON #5 X 30" REBAR

2.5" ALUMINUM CAP PRIMARY MONUMENT SET THIS SURVEY

LAST FRONTIER
SURVEYING & ENGINEERING LLC

SURVEYOR: ALEC VENECHUK PLS
PO BOX 32346
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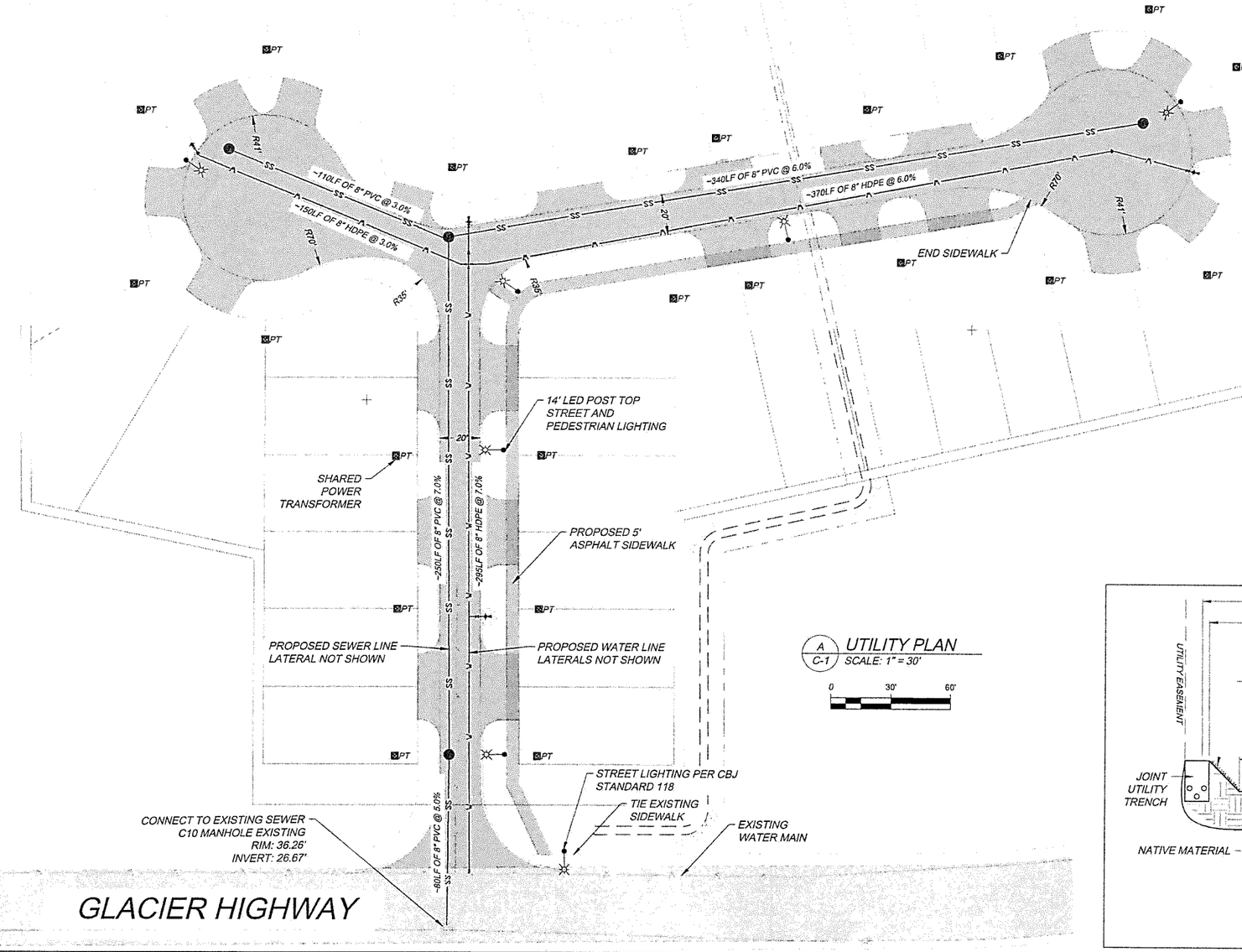
BROWTINE SUBDIVISION
4670 GLACIER HWY
JUNEAU, AK

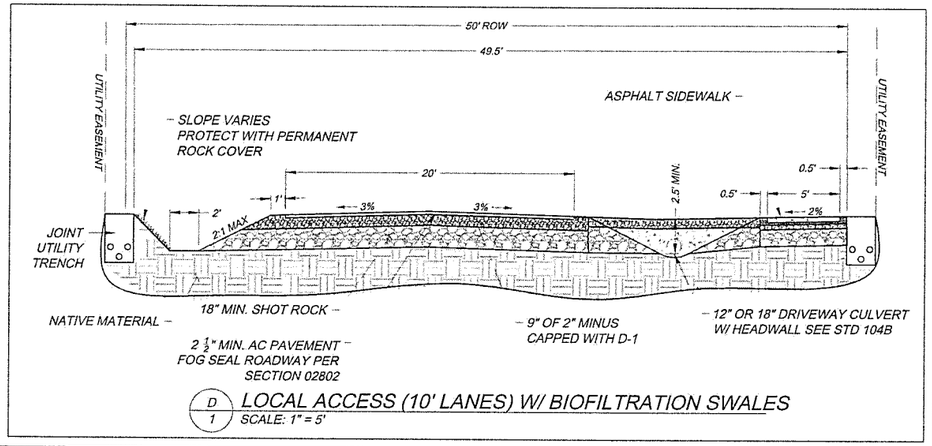


A C-1 UTILITY PLAN
SCALE: 1" = 30'

0 30' 60'

LEGEND

- EXISTING CREEK
- EXISTING SEWER LINE
- EXISTING WATER LINE
- PROPOSED 8" PVC SEWER LINE
- PROPOSED 8" HDPE WATER LINE
- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED POWER TRANSFORMER
- PROPOSED STREET LIGHTING



D 1 LOCAL ACCESS (10' LANES) W/ BIOFILTRATION SWALES
SCALE: 1" = 5'

FILE: ARS Preliminary Plan - 3.27.25.dwg		5		
PROJECT: RAVENSWOOD		4		
		3		
CHECKED BY: TWM		2		
DETAILED BY: KML		1		
DESIGNED BY: KML	DATE	NO.	REVISION	BY

PRELIMINARY

STATE OF ALASKA 49th Tracy V. Moore CE-4932 REGISTERED PROFESSIONAL ENGINEER 3.27.25

Vector ENGINEERING INC.
2724 Black Lake Boulevard SW Suite 202
Tumwater, WA 98512
ph: (360) 352-2477 fax: (360) 352-0179 E-mail: admin@vectorengineeringinc.com

BROWTINE SUBDIVISION
ALTERNATE RESIDENTIAL SUBDIVISION
JUNEUA, ALASKA

SMP SUBMITTAL

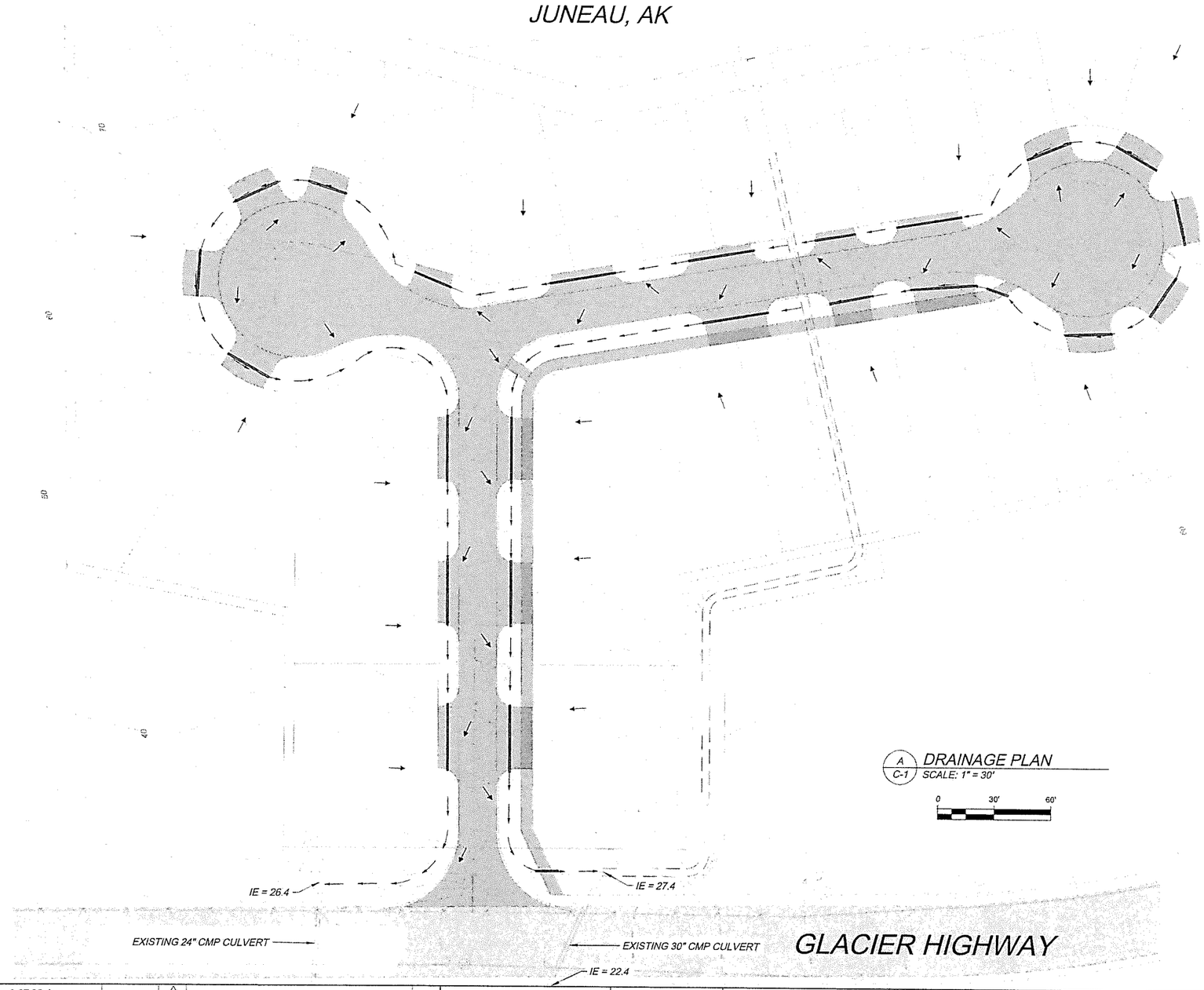
C-1
PRELIMINARY UTILITY PLAN
SHT 1 OF 2

X:\2024 Jobs\Ravenswood_Juneau\Engineering\Drawings\Preliminary Drawings\ARS Preliminary Plan - 3.27.25.dwg - Mar 28, 2025 - 1:52pm

BROWTINE SUBDIVISION

4670 GLACIER HWY

JUNEAU, AK



A / C-1 DRAINAGE PLAN
SCALE: 1" = 30'

0 30' 60'

LEGEND

- EXISTING CREEK
- DITCH FLOWLINE
- PROPOSED CULVERT
- EXISTING CULVERT
- PROPOSED FLOW DIRECTION

FILE: ARS Preliminary Plan - 3.27.25.dwg		5		
PROJECT: RAVENSWOOD		4		
		3		
CHECKED BY: TWM		2		
DETAILED BY: KML		1		
DESIGNED BY: KML	DATE	NO.	REVISION	BY

PRELIMINARY

STATE OF ALASKA 49th Tracy V. Moore CE-4932 PROFESSIONAL ENGINEER 3.27.25

Vector ENGINEERING INC.
2724 Black Lake Boulevard SW Suite 202
Tumwater, WA 98512
ph: (360) 352-2477 fax: (360) 352-0179 E-mail: admin@vectorengineeringinc.com

BROWTINE SUBDIVISION
ALTERNATE RESIDENTIAL SUBDIVISION
JUNEUA, ALASKA

SMP SUBMITTAL
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C-2
PRELIMINARY DRAINAGE PLAN
SHT 2 OF 2

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